

Detailed Propagation Tables for  
Brazil (Porto Alegre)

| SSN<br>Ultra High         | SSN<br>Very High          | SSN<br>High               | SSN<br>Medium             | SSN<br>Low                | SSN<br>Very Low           |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| <a href="#">January</a>   | <a href="#">January</a>   | <a href="#">January</a>   | <a href="#">January</a>   | <a href="#">January</a>   | <a href="#">January</a>   |
| <a href="#">February</a>  | <a href="#">February</a>  | <a href="#">February</a>  | <a href="#">February</a>  | <a href="#">February</a>  | <a href="#">February</a>  |
| <a href="#">March</a>     | <a href="#">March</a>     | <a href="#">March</a>     | <a href="#">March</a>     | <a href="#">March</a>     | <a href="#">March</a>     |
| <a href="#">April</a>     | <a href="#">April</a>     | <a href="#">April</a>     | <a href="#">April</a>     | <a href="#">April</a>     | <a href="#">April</a>     |
| <a href="#">May</a>       | <a href="#">May</a>       | <a href="#">May</a>       | <a href="#">May</a>       | <a href="#">May</a>       | <a href="#">May</a>       |
| <a href="#">June</a>      | <a href="#">June</a>      | <a href="#">June</a>      | <a href="#">June</a>      | <a href="#">June</a>      | <a href="#">June</a>      |
| <a href="#">July</a>      | <a href="#">July</a>      | <a href="#">July</a>      | <a href="#">July</a>      | <a href="#">July</a>      | <a href="#">July</a>      |
| <a href="#">August</a>    | <a href="#">August</a>    | <a href="#">August</a>    | <a href="#">August</a>    | <a href="#">August</a>    | <a href="#">August</a>    |
| <a href="#">September</a> | <a href="#">September</a> | <a href="#">September</a> | <a href="#">September</a> | <a href="#">September</a> | <a href="#">September</a> |
| <a href="#">October</a>   | <a href="#">October</a>   | <a href="#">October</a>   | <a href="#">October</a>   | <a href="#">October</a>   | <a href="#">October</a>   |
| <a href="#">November</a>  | <a href="#">November</a>  | <a href="#">November</a>  | <a href="#">November</a>  | <a href="#">November</a>  | <a href="#">November</a>  |
| <a href="#">December</a>  | <a href="#">December</a>  | <a href="#">December</a>  | <a href="#">December</a>  | <a href="#">December</a>  | <a href="#">December</a>  |

Each of the month names in the above table is a hyperlink to the corresponding page of this document. Click on the one you want to jump to.



160 Meters: Jan., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 1  | -  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2       | 5  | 5  | 4  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | 2  | 3  | 3  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | -  | 4  | 5  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 5  | 5  | 5  | 4  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 4  | 4  | 4  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 1       | 2  | 3  | 3  | 2  | 3  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 4       | 3  | 3  | 3  | 3  | 3  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| P4 = 09  | 3       | 4  | 4  | 3  | 3  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | 3       | 6  | 6  | 6  | 5  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  |
| G = 14   | 4       | 5  | 4  | 4  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 2       | 5  | 2  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA3 = 16 | -       | 3  | 1  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | -       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 3       | 5  | 3  | 3  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| SU = 34  | 1       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 6       | 6  | 5  | 4  | 3  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |    |
| D2 = 36  | 4       | 5  | 4  | 3  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |    |
| 5Z = 37  | 4       | 5  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |    |
| ZS6 = 38 | 5       | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |    |
| FR = 39  | 4       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| FJL = 40 | -       | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Jan., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | 2  | 4  | 3  | 5  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 8  | 8  | 7  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 = 03  | -       | -  | 5  | 6  | 6  | 6  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 2       | 3  | 7  | 8  | 7  | 7  | 5  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 4       | 8  | 8  | 8  | 7  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 2  | 7  | 7  | 7  | 8  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 4       | 5  | 6  | 6  | 5  | 6  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 7       | 6  | 6  | 6  | 6  | 6  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| P4 = 09  | 6       | 7  | 7  | 6  | 6  | 7  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 6       | 9  | 9  | 9  | 8  | 7  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 9  |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9+ | 9+ |
| G = 14   | 7       | 8  | 7  | 7  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| I = 15   | 5       | 8  | 5  | 5  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| UA3 = 16 | 2       | 6  | 4  | 2  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | 1       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 5       | 7  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | -       | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | 1       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 2  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 6       | 8  | 6  | 6  | 5  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  |
| SU = 34  | 4       | 7  | 1  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 6W = 35  | 9       | 9  | 8  | 7  | 6  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| D2 = 36  | 7       | 8  | 7  | 6  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| 5Z = 37  | 7       | 8  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| ZS6 = 38 | 8       | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| FR = 39  | 7       | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| FJL = 40 | 2       | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Jan., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01           | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2  | 5            | 4  | 7  | 7  | 6  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8  | 9            | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| W6 = 03  | 4  | 7            | 8  | 6  | 7  | 8  | 8  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 8  | 8            | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| W3 = 05  | 8  | 9            | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| XE1 = 06 | 8  | 9            | 9  | 9  | 7  | 8  | 8  | 8  | 7  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| TI = 07  | 7  | 8            | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| VP2 = 08 | 9  | 9            | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| P4 = 09  | 9  | 9            | 8  | 8  | 8  | 8  | 9  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  |
| HC = 10  | 9  | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| PY1 = 11 | 9+ | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | -  | -  | -  | 1  | 4  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ |
| LU = 13  | 9+ | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 2  | 1  | 1  | 1  | 5  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9  | 8            | 8  | 8  | 7  | 7  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| I = 15   | 7  | 8            | 6  | 7  | 7  | 5  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  |
| UA3 = 16 | 8  | 8            | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| UN = 17  | 8  | 8            | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| UA9 = 18 | 7  | 7            | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| UA0 = 19 | -  | -            | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 8  | 8            | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 7  |
| HZ = 21  | 7  | 7            | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 6  |
| VU = 22  | 8  | 8            | 5  | 1  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| JT = 23  | 6  | 2            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| VR2 = 24 | 1  | -            | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  |
| JA1 = 25 | -  | -            | -  | -  | -  | -  | -  | 1  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  |
| HS = 26  | 2  | -            | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| DU = 27  | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -  | -            | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 1  | 1  | 1  |
| VK6 = 29 | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -            | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | 6  | 8            | -  | 2  | 6  | 6  | 7  | 6  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -            | -  | -  | 1  | 5  | 5  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 8            | 7  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3  | 5  | 8  |
| SU = 34  | 8  | 8            | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  |
| 6W = 35  | 9  | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 9  |
| D2 = 36  | 9  | 9            | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  |
| 5Z = 37  | 8  | 8            | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 7  | 6  |
| ZS6 = 38 | 9  | 9            | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  |
| FR = 39  | 8  | 8            | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  |
| FJL = 40 | 7  | 7            | 7  | 7  | 7  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| Zone     | 00 | 01           | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 5  | 6  | 7  | 7  | 7  | 7  | 5  | 5  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| VO2 = 02 | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 8  |
| W6 = 03  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| W9 = 04  | 7  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  |
| W3 = 05  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| XE1 = 06 | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  |
| TI = 07  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| VP2 = 08 | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  |
| P4 = 09  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 9  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 2  | 1  | 2  | 4  | 7  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 7  | 8  | 8  | 7  | 5  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 7  | 8  |
| I = 15   | 8  | 7  | 7  | 7  | 8  | 8  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  |
| UA3 = 16 | 8  | 8  | 8  | 7  | 6  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 8  |
| UN = 17  | 8  | 7  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| UA9 = 18 | 4  | 2  | 4  | 4  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| UA0 = 19 | 2  | 1  | 1  | 1  | -  | -  | 1  | 4  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3  | 4  |
| 4X = 20  | 8  | 8  | 8  | 8  | 7  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 6  | 8  |
| HZ = 21  | 8  | 8  | 8  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  |
| VU = 22  | 8  | 5  | 7  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| JT = 23  | 5  | 6  | 3  | 1  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 5  |
| VR2 = 24 | 4  | 1  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  |
| JA1 = 25 | -  | -  | -  | -  | -  | 1  | 2  | 6  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 5* | 2* |
| HS = 26  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | -  | -  | -  | -  | 2  | 6  | 6  | 7  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 2  |
| YB = 28  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  | 4  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | 7  | 8  | 4  | 6  | 6  | 6  | 7  | 8  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | 1  | 3  | 7  | 8  | 7  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| SU = 34  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 6  | 7  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  | 9  |
| 5Z = 37  | 8  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 8  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  |
| FR = 39  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 8  |
| FJL = 40 | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



## 20 Meters: Jan., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 8   | 9   | 9  | 9  | 9  | 2  | -  | 1* | 1  | 3  | 4  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 7  | 7  | 7  |
| VO2 = 02 | 9+  | 9+  | 9  | 7  | 8  | 9  | 8  | 6  | 2  | 3  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9   | 9   | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  |
| W9 = 04  | 9+  | 9+  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 4  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 8  | 9  |
| W3 = 05  | 9+  | 9+  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 9  | 9+ |
| XE1 = 06 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 9  | 6  | -  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 6  | 3  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9+ |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9+ | 9+ |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 2  | 1  | -  | -  | -  | -  | 1  | 5  | 7  | 9  | 9  | 9+ |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 7  | 5  | 3  | 1  | 2  | 2  | 4  | 6  | 8  | 9  | 9  | 9+ |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9   | 7   | 7  | 8  | 7  | 1  | 2* | 8  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  | 9  | 9  | 9  | 9  |
| I = 15   | 9+  | 9+  | 9+ | 9+ | 9  | 5  | 8  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 9  | 9  | 9  | 9+ |
| UA3 = 16 | 7   | 7   | 6  | 3  | 2* | 2  | 8  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 7  | 5  | 3  | 3  | 3  |
| UN = 17  | 6   | -   | 3  | 8  | 8  | 6  | 4  | 1  | -  | 1* | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  |
| UA9 = 18 | 1*  | 2*  | 4* | 5  | 7  | 8  | 7  | 6  | 6  | 6  | 8  | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | 2* | 2* |
| UA0 = 19 | 8   | 8   | 6  | 5  | 8  | 7  | 6  | 7  | 7  | 9  | 4  | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 8  |
| 4X = 20  | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9   | 9   | 9  | 8  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 8  | 9  | 9  | 9  |
| VU = 22  | 5   | 1*  | 8  | 8  | 7  | 3  | 1  | -  | -  | 1* | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 9  | 9  | 9  |
| JT = 23  | 3*  | 5   | 8  | 7  | 5  | 2  | 4  | 4  | 5* | 6* | 5* | 5* | 3* | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 2  | 1* | 3* | 3* |
| VR2 = 24 | 8   | 8   | 5  | -  | -  | -  | -  | 5* | 7* | 9  | 7* | 6* | 3* | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 9  | 9  |
| JA1 = 25 | 5*  | 2*  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 7  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 5* | 2* | -  | 8  | 8* |
| HS = 26  | 9   | 9   | 8  | 1  | -  | -  | -  | -  | -  | 3* | 6* | 3* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 9  | 9  | 9  |
| DU = 27  | 7   | 3   | -  | -  | -  | -  | -  | 2* | 4* | 8  | 5* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 8  |
| YB = 28  | 8   | 7   | 1  | -  | -  | -  | -  | -  | -  | 1* | 4* | 5* | 4* | 1* | -  | -  | -  | -  | -  | 1  | 2  | 7  | 8  | 8  | 9  | 9  |
| VK6 = 29 | 5   | 4   | 2  | -  | 1  | 1  | 1  | 1  | 3  | 5  | 6  | 6  | 2  | 1  | 1  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 7  | 8  | 8  |
| VK3 = 30 | 1   | 1   | -  | -  | 3  | 4  | 5  | 8  | 8  | 9  | 8  | 8  | 5  | 2  | 2  | 1  | 1  | 1  | 1  | 1  | 3  | 4  | 5  | 2  | 1  | 1  |
| KH6 = 31 | 2   | 6   | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -   | -   | 2  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9  | 9+ | 9+ |
| SU = 34  | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | 1  | 3  | 6  | 9  | 9  | 9+ | 9+ | 9+ |
| D2 = 36  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+  | 9+  | 9+ | 9  | 9  | 9  | 8  | 5  | 1  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 9  | 9  |
| ZS6 = 38 | 9+  | 9+  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 7  | 9  | 9  | 9  | 9+ | 9+ |
| FR = 39  | 9   | 9   | 6  | 8  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  | 9  | 9  |
| FJL = 40 | 9   | 9   | 9  | 9  | 9  | 8  | 2  | 2* | 1  | 5  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 5  | 7  | 9  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Jan., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 9  | 5  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 7  | 8  | 9  |
| VO2 = 02 | 9+      | 9  | 1  | -  | -  | 1  | 2  | 1  | -  | -  | -  | 9  | 8  | 2  | 2  | 1  | 1  | 3  | 4  | 8  | 8  | 9  | 9  | 9+ |
| W6 = 03  | 9       | 9+ | 9+ | 9+ | 9  | 8  | 5  | 5  | 7  | 7  | 4  | -  | -  | -  | 3  | 1  | -  | 1  | -  | 2  | 1  | 5  | 8  | 9  |
| W9 = 04  | 9+      | 9+ | 9  | 6  | 4  | 2  | -  | 2  | 3  | 1  | -  | -  | 8  | 5  | 2  | 2  | 1  | 1  | 1  | 5  | 9  | 9  | 9  | 9+ |
| W3 = 05  | 9+      | 9+ | 9  | 8  | 8  | 8  | 7  | 6  | 5  | 1  | 2  | 9  | 8  | 5  | 3  | 2  | 1  | 2  | 4  | 8  | 8  | 9  | 9+ | 9+ |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | -  | -  | 8  | 7  | 6  | 5  | 2  | 2  | 2  | 5  | 5  | 9  | 9  | 9+ |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 2  | 9  | 9  | 8  | 7  | 5  | 4  | 4  | 5  | 6  | 8  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 4  | 1  | 9+ | 9  | 9  | 7  | 5  | 4  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 3  | 8  | 9  | 9  | 8  | 6  | 5  | 5  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 8  | 9+ | 9  | 9  | 8  | 7  | 6  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 6* | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4  | 5* | 5* | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 1       | -  | -  | -  | -  | -  | -  | 5* | 9  | 9  | 8  | 6  | 4  | 1  | 1  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 6  |
| I = 15   | 9+      | 9+ | 9  | 9  | 6  | 1* | 5* | 9  | 9  | 8  | 6  | 3  | 1  | -  | 1  | -  | 1  | 3  | 5  | 9  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | 1       | 1  | -  | -  | 3* | 2* | 7  | 9  | 8  | 7  | 5  | 8  | 1  | -  | -  | -  | 1  | 2  | 6  | 4  | 1  | -  | -  | -  |
| UN = 17  | 1*      | 1* | 1* | 6  | 9  | 8  | 8  | 6  | 5  | 5* | 8  | 8  | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| UA9 = 18 | 2*      | 1* | 2* | 3* | 7  | 8  | 9  | 8  | 7  | 8* | 8* | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7* | 6* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  |
| 4X = 20  | 9+      | 9+ | 9+ | 9  | 7  | 9  | 8  | 9  | 7  | 5  | 1  | 1  | 1  | 1  | -  | -  | 1  | 4  | 6  | 9  | 9  | 9  | 9  | 9+ |
| HZ = 21  | 9+      | 9  | 7  | 1  | 9  | 9  | 8  | 7  | 5  | 2  | 1  | 2  | 1  | 1* | -  | -  | 2  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| VU = 22  | 2*      | 1* | 2* | 9  | 8  | 8  | 5  | 2  | 3* | 4* | 4* | 9  | 2* | 1* | -  | -  | 1  | 3  | 7  | 9  | 9  | 9  | 9  | 8  |
| JT = 23  | 2*      | 3* | 6  | 8  | 8  | 7  | 8  | 6  | 7* | 8* | 9* | 8* | 5* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* |
| VR2 = 24 | 9       | 9  | 8  | 6  | 4  | 4* | 6* | 7* | 8  | 9* | 9* | 8  | 7* | 4* | 1  | 1  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  |
| JAL = 25 | 8*      | 7* | 6  | 8  | 8  | 9  | 9  | 9+ | 9  | 8  | 5* | 7* | -  | -  | -  | -  | -  | 1* | 3* | 2* | 4  | 7  | 6  | 9* |
| HS = 26  | 9       | 9  | 9  | 8  | 5  | 1* | 1* | 4* | 6* | 8  | 8  | 8  | 3* | 2* | 1  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| DU = 27  | 8       | 7  | 5  | 1* | 2* | 2* | 5* | 5* | 8  | 8  | 7  | 6  | 6* | 2  | 1  | 1  | 1  | 2  | 5  | 8  | 8  | 8  | 9  | 9  |
| YB = 28  | 9       | 8  | 6  | 2  | -  | -  | -  | 2* | 5* | 8  | 8* | 8  | 5* | 2  | 2  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| VK6 = 29 | 9       | 9  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 5  | 5  | 4  | 2  | 3* | 5  | 6  | 7  | 8  |
| VK3 = 30 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 5  | 3  | 2  | 2  | 5  | 7  | 7  | 7  | 8  |
| KH6 = 31 | 7       | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | -  | -  | -  | -  | -  | -  | 2* | 1* | 1  | 1  | 3  |
| KH8 = 32 | 3       | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 6  | 5  | 2  | 1  | 1  | 2  | 2* | 1  | -  | 1  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9  | 7  | 4  | 5  | 9  | 9  | 8  | 6  | 2  | 1  | 1  | 2  | 2  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9+ | 9  | 9  | 7  | 9  | 9  | 9  | 8  | 5  | 2  | 1  | 1  | 1  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9  | 9  | 9+ |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 9  | 9+ | 9  | 8  | 7  | 4  | 3  | 3  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9  | 9  | 7  | 6  | 4  | 2  | 3  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+      | 9+ | 9  | 8  | 8  | 9  | 9  | 8  | 5  | 3  | 1  | 2  | 1  | 1  | 1  | 2  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| ZS6 = 38 | 9+      | 8  | 3  | 2* | 4  | 9  | 9  | 9  | 9  | 8  | 6  | 6  | 5  | 5  | 5  | 4  | 6  | 8  | 9  | 9  | 9+ | 9  | 9  | 9+ |
| FR = 39  | 8       | 3* | 4* | 3* | 9  | 9  | 8  | 6  | 4  | 3  | 2  | 3  | 2  | 2  | 2  | 2  | 5  | 7  | 9  | 9  | 9  | 9  | 9  | 9  |
| FJL = 40 | 1       | 6  | 6  | 6  | 4  | 2* | 2* | 3* | 5* | 7* | 6* | 6  | 6  | 1  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Jan., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 9   | 9  | 6  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 3  | 4  | 6  | 8  | 8  | 9  |
| VO2 = 02 | 9   | 4   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 7  | 5  | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| W6 = 03  | 9   | 9+  | 9+ | 9  | 8  | 2  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | 7  | 5  | 3  | 2  | 2  | 8  | 6  | 7  | 8  | 9  |
| W9 = 04  | 9+  | 9   | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 5  | 4  | 3  | 3  | 6  | 6  | 8  | 9  | 9  | 9  | 9+ |
| W3 = 05  | 9+  | 9   | 7  | 1  | 1  | 2  | -  | 1  | -  | -  | -  | -  | 8  | 9  | 8  | 5  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| XE1 = 06 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 2  | -  | -  | 1  | 8  | 7  | 6  | 5  | 5  | 4  | 5  | 8  | 9  | 9  | 9  | 9+ |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  | -  | 6  | 9  | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | 3  | 9+ | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 8  | 2  | -  | -  | 9+ | 9  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 9+  | 9+  | 8  | 9  | 9+ | 9  | 8  | 8  | 6  | 1  | 1  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 8  | 4  | 5* | 6* | 6* | 8  | 9  | 9  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 6* | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 6   | 5*  | 7  | 8  | 7  | 5  | 4* | 5* | 6* | 6* | 5  | 8  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| G = 14   | -   | -   | -  | -  | -  | -  | -  | 4* | 9  | 9  | 9  | 8  | 5  | 4  | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 8  | 4  | -  | -  | -  |
| I = 15   | 9   | 9   | 8  | 5  | -  | -  | 6* | 9  | 8  | 8  | 8  | 8  | 6  | 8  | 2  | 2  | 3  | 4  | 4  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| UA3 = 16 | -   | -   | -  | -  | 3* | 5* | 4* | 9  | 8  | 8  | 6  | 5  | 6  | 2  | 1  | 2  | 3  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -   | 2*  | 1* | 2* | 9  | 8  | 8  | 6  | 6* | 7* | 8* | 7* | 6  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 2*  | 1*  | 1* | 1* | 3  | 9  | 9  | 8  | 8  | 8* | 7* | 4  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 9   | 9   | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 7* | 8* | 7* | 6* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 9  |
| 4X = 20  | 9+  | 9   | 9  | 5  | 5* | 8  | 9  | 8  | 7  | 6  | 5  | 4  | 9  | 2  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ |
| HZ = 21  | 9+  | 9   | -  | 2* | 5  | 9  | 9  | 7  | 6  | 5  | 5  | 8  | 8  | 2  | 2  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| VU = 22  | -   | 3*  | 2* | 9  | 8  | 7  | 6  | 5  | 4  | 5  | 6  | 6  | 7  | 5* | 2  | 2  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 4  |
| JT = 23  | 2*  | 2*  | 2* | 8  | 9  | 8  | 7  | 6  | 8* | 9* | 9* | 7* | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* |
| VR2 = 24 | 9   | 9   | 9  | 7  | 6* | 6* | 7* | 8* | 8* | 8* | 9* | 9* | 7* | 5  | 4  | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 5  | 6* | 6* |
| JA1 = 25 | 9*  | 8   | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 5* | 4* | 4* | 5* | 5* | 4* | 3* | 3* | 4* | 1* | -  | -  | -  | 6  | 7  | 9* | 9* |
| HS = 26  | 9   | 9   | 9  | 8  | 6  | 4  | 3* | 5* | 7  | 6  | 7* | 7* | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| DU = 27  | 9   | 8   | 6  | 5* | 5* | 5* | 6* | 6* | 7* | 8* | 8  | 8* | 7  | 6  | 5  | 5  | 5  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9* |
| YB = 28  | 9   | 8   | 8  | 6  | 4  | 1  | 2  | 3  | 6* | 6  | 8* | 8* | 6  | 6  | 5  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 8  |
| VK6 = 29 | 8   | 8   | 8  | 8  | 8  | 8  | 6  | 6  | 6  | 5  | 6* | 6  | 6  | 5  | 4  | 3  | 2  | 1  | 2* | 4* | 5* | 6* | 6* | 6* | 6  | 6  |
| VK3 = 30 | 8   | 8   | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 3  | 1  | -  | -  | 1* | 3* | 4  | 6  | 7  | 7  | 7  | 7  |
| KH6 = 31 | 8   | 9   | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 5  | -  | -  | -  | 2  | 3  | 2  | 8  | 8  | 3  | 4  | 6  | 6  |
| KH8 = 32 | 4   | 6   | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 6  | 5  | 4  | 2  | 7  | 7  | 2* | 1  | 2  | 2  |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9  | 1  | -  | 5* | 9  | 9  | 9  | 7  | 6  | 3  | 4  | 3  | 5  | 7  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| SU = 34  | 9+  | 9   | 9  | 7  | 5* | 8  | 9  | 8  | 8  | 7  | 4  | 4  | 5  | 2  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 6  | 4* | 4* | 9  | 9  | 9  | 8  | 7  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+  | 9+  | 9+ | 9  | 8  | 5  | 6  | 9+ | 9  | 9  | 7  | 7  | 6  | 5  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+  | 9   | 8  | 4* | 5* | 8  | 9  | 8  | 8  | 7  | 4  | 4  | 5  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| ZS6 = 38 | 8   | 2   | -  | -  | 5* | 4* | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 6  | 7  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 9  |
| FR = 39  | 3*  | 4*  | 5* | 5* | 5  | 9  | 8  | 7  | 6  | 6  | 5  | 5  | 8  | 5  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 5  |
| FJL = 40 | -   | -   | 1* | 2* | 2* | 1* | 2* | 4* | 5* | 8* | 6* | 2  | 5  | 5  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Jan., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 9   | 8  | 4* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 6  | 7  | 8  | 9  | 9  | 9  |
| VO2 = 02 | 6   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9  | 9  |
| W6 = 03  | 9   | 9+  | 9  | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 6  | 5  | 4  | 4  | 6  | 8  | 8  | 9  |
| W9 = 04  | 9   | 8   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 8  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 9+ | 9  |
| W3 = 05  | 9   | 8   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| XE1 = 06 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 3  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ |
| TI = 07  | 9   | 8   | 8  | 8  | 9  | 9  | 8  | 7  | 1  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| VP2 = 08 | 8   | 8   | 8  | 9  | 9+ | 8  | 8  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 9  | 8  | 5  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9  |
| P4 = 09  | 7   | 6   | 7  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | 9  | 9  | 9  | 9  | 5  | 4  | 5  | 8  | 6  | 7  | 9  | 9  | 8  | 8  |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 4  | 3  | 1  | 1  | -  | -  | -  | -  | 1  | 7  | 6  | 9  | 9  | 2  | 9  | 9  | 9  | 9  | 4  | 5  | 9+ | 9+ |
| PY1 = 11 | 6*  | 5   | 6  | 7  | 4  | 4* | 4* | -  | -  | 7* | 4* | 5  | 5  | 2  | 5  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7* |
| CE = 12  | 9+  | 9   | 9+ | 9+ | 9+ | 9+ | 8  | 5* | 6* | 6* | 6  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 7*  | 6*  | 5* | 4* | 3* | 4* | 5* | 5* | 5* | 6* | 6* | 5* | 3* | 2  | 3  | 1  | 5  | 7  | 7  | 5  | 4  | 4  | 5  | 6* | 7* | 7* |
| G = 14   | -   | -   | -  | -  | -  | -  | -  | -  | -  | 6* | 7  | 8  | 8  | 6  | 6  | 7  | 6  | 7  | 8  | 8  | 8  | 8  | 6  | 1  | -  | -  |
| I = 15   | 7   | 3   | -  | -  | -  | -  | 4* | 7  | 5  | 6  | 7  | 7  | 7  | 6  | 6  | 4  | 5  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9  | 9  | 9  |
| UA3 = 16 | -   | -   | -  | -  | 2* | 6* | 6* | 7  | 6  | 7  | 7  | 6  | 6  | 4  | 3  | 5  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -   | 2*  | 2* | 4* | 7  | 9  | 8  | 6  | 6* | 6* | 8* | 6* | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 2*  | 2*  | 2* | 2* | 3* | 7  | 9  | 8  | 8* | 8* | 7  | 7  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 9   | 9   | 9  | 8  | 9  | 9  | 9  | 9  | 6* | 8* | 8* | 8* | 8* | 5* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  |
| 4X = 20  | 9+  | 9   | 5  | -  | 5* | 5  | 9  | 8  | 4  | 6  | 6  | 6  | 5  | 4  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ |
| HZ = 21  | 9   | 6   | -  | 6* | 4* | 9  | 8  | 7  | 6  | 6  | 6  | 5  | 5  | 5  | 5* | 5  | 5  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -   | 5*  | 4* | 8  | 9  | 8  | 6  | 5  | 4  | 5  | 5  | 6* | 7* | 5  | 5  | 5  | 7  | 8  | 8  | 8  | 9  | 9  | 8  | 7  | -  | -  |
| JT = 23  | 3*  | 2*  | 2* | 4  | 8  | 9  | 7  | 8* | 8* | 9* | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| VR2 = 24 | 8   | 9   | 9  | 8  | 7  | 7* | 8* | 8* | 8* | 8* | 8* | 7  | 8* | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 7  | -  | 8* |
| JA1 = 25 | 9*  | 8   | 8  | 9  | 9  | 9  | 9  | 8  | 4* | 5* | 6* | 6* | 6* | 5* | 5* | 2* | 1* | -  | -  | -  | -  | -  | 7  | 8  | 8  | 8  |
| HS = 26  | 6*  | 8   | 9  | 8  | 7  | 4  | 4* | 6* | 7* | 5  | 6  | 7* | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 6  |
| DU = 27  | 9   | 8   | 7  | 5  | 5* | 5* | 6* | 7* | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 6  | 2  | 1  | 8* | 8* |
| YB = 28  | 8*  | 8   | 8  | 6  | 5  | 2  | 2  | 5* | 6* | 6  | 7  | 8* | 7  | 6  | 6  | 6  | 6  | 6  | 6  | 7  | 5  | 4  | 2  | -  | 7* | 7* |
| VK6 = 29 | 6   | 5*  | 6  | 2  | 3  | 3  | 2  | 2* | 2* | 1* | 5* | 7* | 5* | 4* | 2* | 1* | 1* | 1* | 2* | 3* | 4* | 5* | 5* | 5* | 5* | 6* |
| VK3 = 30 | 3   | 5   | 5  | 5  | 4  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 3  | 1* | 1* | 1* | 1* | 2* | 2* | 4* | 4* | 5* | 5* | 5* | 5* |
| KH6 = 31 | 8   | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 8  | 5  | -  | -  | -  | -  | -  | 5  | 5  | 5* | 5* | 5  | 6  | 7  | 7  |
| KH8 = 32 | 7   | 8   | 8  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 6  | 6  | 6  | 5  | 4  | 5  | 6  | 6  |
| CN = 33  | 9+  | 9+  | 9+ | 9  | 5  | -  | -  | 2* | 8  | 8  | 8  | 8  | 8  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9+  | 9+  | 9  | 1  | 3* | 7* | 9  | 7  | 4  | 6  | 6  | 5  | 5  | 4  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9   | 9+  | 9+ | 9+ | 9  | 6  | -  | -  | 4* | 3* | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 6  | 7  | 8  | 8  | 8  | 7  | 7  | 8  | 8  |
| D2 = 36  | 9+  | 9   | 7  | 5  | 2  | 5* | 4* | 6  | 7  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9   | 7   | 1  | 2* | 5* | 5* | 8  | 7  | 7  | 8  | 7  | 7  | 7  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  |
| ZS6 = 38 | 1*  | -   | -  | -  | 2* | 5* | 4* | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 5  | 6* | 5* | 4* | 4* |
| FR = 39  | 2*  | 2*  | 6* | 6* | 5* | 6  | 6  | 6  | 6  | 8  | 8  | 7  | 7  | 5  | 6  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 5* | 5* | 4* | 4* |
| FJL = 40 | -   | -   | -  | 2* | 4* | 4* | 5* | 6* | 6* | 7* | 1* | -  | -  | -  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Jan., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9            | 8  | 5* | 4* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 9  | 9  |
| VO2 = 02 | 1            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  |
| W6 = 03  | 9+           | 9  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 7  | 6  | 6  | 5  | 6  | 8  | 8  | 9  |
| W9 = 04  | 8            | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | 8            | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9+ | 9  |
| XE1 = 06 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | 9  | 9  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 6*           | 6* | 2  | 3  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | 9  | 7  | 2  | 1  | 2  | 2  | 2  | 3  | 5  | 6  | 7  | 6  |
| VP2 = 08 | 4            | 2  | 3  | 5  | 5  | 2  | 2  | -  | -  | -  | -  | 9  | 9  | 6  | 1  | 1  | 2  | 3  | 4  | 4  | 5  | 6  | 6  | 7* |
| P4 = 09  | 6*           | -  | 1  | 2  | 2  | 1  | -  | -  | -  | -  | -  | 2  | 9  | 5  | -  | -  | -  | 1  | 1  | 1  | 2  | 4  | 5* | 6* |
| HC = 10  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | -  | -  | -  | -  | -  | 1  | 1  | 9+ | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| PY1 = 11 | 6*           | 5* | 3* | 4* | 4* | 4* | -  | -  | -  | 4* | 4* | 3* | 1  | -  | -  | 3  | 5  | 2  | 2  | 3* | 5* | 6* | 8* | 8* |
| CE = 12  | 7            | 7* | 6  | 8  | 8  | 6  | 2* | 2* | 2* | 1* | 1  | 5  | 7  | 8  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| LU = 13  | 7*           | 5* | 5* | 4* | 4* | 5* | 5* | 2* | 1* | 3* | 1* | 1* | 1  | 1  | -  | -  | 1  | 1  | -  | 1* | 3* | 5* | 7* | 7* |
| G = 14   | -            | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | 7  | 8  | 7  | 4  | 7  | 7  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  |
| I = 15   | 1            | -  | -  | -  | -  | -  | 1* | 6* | 2* | 1  | 5  | 5  | 4  | 3  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 6  |
| UA3 = 16 | -            | -  | -  | -  | -  | 6* | 6* | 5* | 3* | 3  | 7  | 7  | 5  | 5  | 6  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -            | 2* | 6* | 4* | 4* | 9  | 7  | 4* | 2* | 2  | 6  | 6  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 1*           | 5* | 3* | 3* | 4* | 4* | 8  | 6* | 7* | 2  | 7  | 7  | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 8            | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 4* | 6* | 8* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7* |
| 4X = 20  | 9            | 8  | -  | -  | 3* | 7* | 8  | 5* | 1* | 4  | 6  | 5  | 5  | 6  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |
| HZ = 21  | 8            | 1  | -  | 5* | 5* | 9  | 7  | 4* | 1  | 5  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -            | 4* | 6* | 6* | 6  | 8  | 6  | 5* | 3* | 1  | 4  | 5  | 6  | 5  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 6  | 2  | -  |
| JT = 23  | 5*           | 3* | 3* | 4* | 8  | 8  | 7  | 7* | 6* | 8* | 7  | 8  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 8*           | 9  | 9  | 8  | 7  | 7* | 8* | 8* | 6* | 7  | 8  | 7  | 7  | 7  | 6  | 7  | 7  | 8  | 8  | 8  | 7  | 1  | -  | 7* |
| JA1 = 25 | 9            | 9  | 8  | 9  | 9  | 9  | 9  | 5  | 2* | 6* | 6* | 7* | 7* | 6* | 4* | -  | -  | -  | -  | -  | -  | 1  | 9  | 9  |
| HS = 26  | 8*           | 7* | 8  | 8  | 6  | 5* | 5* | 5* | 3  | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 8  | 5  | -  |
| DU = 27  | 8            | 8  | 7  | 6  | 6* | 5* | 4* | 5* | 5  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | 7* |
| YB = 28  | 8*           | 7* | 7  | 6  | 3  | 2* | 2* | 4* | 3* | 6  | 7  | 8* | 7* | 6* | 5  | 5  | 5  | 5  | 4  | 1* | -  | -  | -  | 2* |
| VK6 = 29 | 6*           | 6* | 4* | 3* | 2* | 1* | 1* | 1* | -  | -  | 2* | 7* | 5* | 5* | 3* | 2* | 2* | 3* | 4* | 4* | 4* | 4* | 4* | 5* |
| VK3 = 30 | 4*           | 2* | 2* | 2* | 2* | 4  | 5  | 6  | 6  | 6  | 5* | 6* | 5* | 4* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 4* | 4* | 5* |
| KH6 = 31 | 8            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | -  | 3  | 1  | -  | -  | -  | -  | -  | 7  | 6  | 5  | 6* | 6  | 7  | 8  |
| KH8 = 32 | 7            | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 8  | 8  | 8  | 6  | 7  | 6  | 6  | 6  | 6  | 7  | 7  | 7  | 7  | 6  |
| CN = 33  | 9+           | 9+ | 9  | 6  | 1  | -  | -  | 6* | 5  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  |
| SU = 34  | 9+           | 9  | 7  | -  | -  | 7* | 9  | 3* | 1* | 4  | 6  | 5  | 5  | 6  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 5            | 6  | 7  | 6  | 5  | -  | -  | -  | 4* | 2* | 2  | 4  | 2  | 1  | 1  | 1  | 1  | 2  | 3  | 4* | 5* | 6* | 4* | 4  |
| D2 = 36  | 9            | 6  | 2  | 1  | -  | 1* | 6* | 2* | 1  | 5  | 5  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| 5Z = 37  | 6            | 1  | -  | -  | 6* | 5* | 5  | 2* | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| ZS6 = 38 | -            | -  | -  | -  | -  | 3* | 4* | 5  | 4  | 7  | 6  | 6  | 8  | 7  | 6  | 6  | 6  | 8  | 8  | 5  | 5* | 5* | 4* | -  |
| FR = 39  | -            | -  | 4* | 6* | 6* | 4* | 1  | 1  | 2  | 6  | 7  | 7  | 6  | 7  | 6  | 5  | 5  | 7  | 6  | 5* | 6* | 5* | 4* | 1* |
| FJL = 40 | -            | -  | -  | 1* | 4* | 4* | 2* | 3* | 3* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Feb., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 1  | 5  | 5  | 4  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -  | -  | 1  | -  | -  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -  | 1  | 3  | 2  | 3  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1  | 4  | 5  | 4  | 4  | 4  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -  | -  | 2  | 4  | 2  | 2  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 1  | 1  | 3  | 2  | 1  | 2  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 4  | 3  | 4  | 2  | 2  | 2  | 1  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| P4 = 09  | 3  | 3  | 4  | 2  | 2  | 3  | 2  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | 3  | 5  | 6  | 5  | 5  | 4  | 3  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| PY1 = 11 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  |
| CE = 12  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 9  |
| LU = 13  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  |
| G = 14   | 3  | 4  | 3  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | -  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | -  | 3  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | -  | -  |
| UA9 = 18 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 2  | 3  | 3  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| SU = 34  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 5  | 5  | 5  | 4  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | -  |
| D2 = 36  | 4  | 4  | 4  | 3  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| 5Z = 37  | -  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| ZS6 = 38 | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | -  |
| FR = 39  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Feb., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 2  | 1  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4       | 8  | 8  | 7  | 7  | 7  | 6  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W6 = 03  | -       | -  | 4  | 2  | 3  | 5  | 6  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 2       | 4  | 6  | 5  | 6  | 7  | 6  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 4       | 7  | 8  | 7  | 7  | 7  | 5  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 1  | 5  | 7  | 5  | 5  | 6  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 4       | 4  | 6  | 5  | 4  | 5  | 5  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 7       | 6  | 7  | 5  | 5  | 5  | 4  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| P4 = 09  | 6       | 6  | 7  | 5  | 5  | 6  | 5  | 5  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 6       | 8  | 9  | 8  | 8  | 7  | 6  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 9+ | 9+ |
| G = 14   | 6       | 7  | 6  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| I = 15   | 1       | 5  | 5  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| UA3 = 16 | 2       | 6  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 1       | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 3       | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 2  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 6  | 6  | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  |
| SU = 34  | 1       | 3  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 8       | 8  | 8  | 7  | 7  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  |
| D2 = 36  | 7       | 7  | 7  | 6  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  |
| 5Z = 37  | 2       | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| ZS6 = 38 | 8       | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| FR = 39  | 7       | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| FJL = 40 | 2       | 5  | 5  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Feb., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1  | 1  | 2  | 4  | 5  | 6  | 6  | 6  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  |
| W6 = 03  | 1  | 3  | 6  | 7  | 7  | 7  | 7  | 6  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| W3 = 05  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| XE1 = 06 | 6  | 8  | 8  | 9  | 7  | 9  | 8  | 6  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| TI = 07  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| VP2 = 08 | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| P4 = 09  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 1  | -  | -  | -  | -  | 4  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 2  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 2  | 1  | 1  | 1  | 4  | 9  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 7  | 7  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  |
| I = 15   | 7  | 8  | 6  | 6  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| UA3 = 16 | 6  | 6  | 6  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| UN = 17  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| UA9 = 18 | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 8  | 8  | 7  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  |
| HZ = 21  | 7  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  |
| VU = 22  | 5  | 6  | 4  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |
| JT = 23  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  |
| HS = 26  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| YB = 28  | -  | -  | -  | 5  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 7  | 4  | 1  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | -  | 4  | 6  | 7  | 7  | 5  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 7  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| SU = 34  | 8  | 8  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 7  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| 5Z = 37  | 7  | 7  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 9  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  |
| FR = 39  | 9  | 9  | 8  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  |
| FJL = 40 | 6  | 6  | 6  | 7  | 7  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Feb., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 3       | 3  | 6  | 7  | 8  | 8  | 7  | 7  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| W6 = 03  | 4       | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W9 = 04  | 8       | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| W3 = 05  | 9       | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| XE1 = 06 | 8       | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| TI = 07  | 8       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 5  | 3  | 4  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 4  | 2  | 1  | 1  | 3  | 6  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 8  | 8  |
| UA3 = 16 | 8       | 8  | 8  | 8  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 7  | 8  |
| UN = 17  | 5       | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 8  |
| UA9 = 18 | 7       | 6  | 5  | 3  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| UA0 = 19 | 1       | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 1  |
| 4X = 20  | 8       | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 7  | 8  |
| HZ = 21  | 8       | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 7  | 8  |
| VU = 22  | 7       | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  |
| JT = 23  | 7       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 7  |
| VR2 = 24 | 2       | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 3  | 4  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 4* | 5* | -  |
| HS = 26  | 6       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 6  | 7  | -  | -  | -  | -  | 3  | 6  | 6  | 7  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 1  |
| YB = 28  | 4       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  |
| VK6 = 29 | 2       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 5  | 3  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  |
| KH6 = 31 | -       | -  | 1  | 4  | 5  | 7  | 7  | 7  | 7  | 7  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 1  | 3  | 7  | 6  | 7  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 9  | 9  | 9  | 8  | 8  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 8  |
| SU = 34  | 8       | 8  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 9  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 9  | 9  |
| FR = 39  | 9       | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 9  |
| FJL = 40 | 8       | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 8  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 20 Meters: Feb., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 8  | 9  | 9  | 9  | 9  | 6  | 4  | 5  | 5  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2  | 4  | 6  |
| VO2 = 02 | 9+      | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 9  | 7  | 2  | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  | 9  | 9  |
| W6 = 03  | 8       | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | -  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| W9 = 04  | 9       | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  |
| W3 = 05  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9+ |
| XE1 = 06 | 9       | 9+ | 9+ | 9  | 9+ | 9+ | 9  | 9  | 9+ | 9  | 8  | 1  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | 4  | 8  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 5  | 1  | -  | -  | -  | -  | 1  | 5  | 7  | 9  | 9  | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 2  | 1  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 6  | 2  | 1  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9+      | 9+ | 9+ | 9+ | 9  | 8  | 6  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 9  | 9  | 9  | 9+ |
| I = 15   | 9+      | 9  | 9+ | 9+ | 9  | 7  | 8  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9+ | 9+ |
| UA3 = 16 | 9       | 9  | 9  | 8  | 7  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 9  | 8  | 9  | 9  |
| UN = 17  | 9       | 8  | 8  | 8  | 8  | 2  | 2  | -  | -  | 1* | 3* | 1* | 1* | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  | 9  |
| UA9 = 18 | 2       | 1  | 5  | 8  | 8  | 6  | 2  | 4  | 2  | 4* | 4* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 6  | 5  |
| UA0 = 19 | 6       | 5  | 4  | 2  | 3  | 4  | 8  | 6  | 6  | 8  | 7  | 4  | 1* | -  | -  | -  | -  | -  | -  | 2* | 4  | 7  | 8  | 6  |
| 4X = 20  | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 9  |
| HZ = 21  | 9       | 9  | 9  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  | 8  | 9  | 9  |
| VU = 22  | 9       | 1* | 7  | 8  | 5  | 2  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 9  | 9  |
| JT = 23  | 8       | 8  | 7  | 5  | 1  | 1  | 1  | 1  | 3* | 6* | 7  | 5* | 1* | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 6  | 6  |
| VR2 = 24 | 8       | 7  | 4  | -  | -  | -  | -  | 1* | 6* | 6* | 6* | 4* | 2* | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 9  | 8  |
| JA1 = 25 | 4*      | -  | -  | -  | 1  | 4  | 8  | 8  | 8  | 9  | 8  | 8  | 5  | -  | -  | -  | -  | -  | 1* | 5* | 5* | 8  | 8  | 7* |
| HS = 26  | 9       | 8  | 7  | 2  | -  | -  | -  | -  | 1* | 4* | 4* | 3* | -  | -  | -  | 6  | -  | -  | -  | 6  | 8  | 9  | 9  | 9  |
| DU = 27  | 6       | 2  | -  | -  | -  | -  | -  | 1* | 5* | 8  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 7  | 8  | 7  |
| YB = 28  | 8       | 7  | 3  | -  | -  | -  | -  | -  | -  | 4* | 4* | 5* | 1* | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9  |
| VK6 = 29 | 8       | 5  | 3  | 1  | -  | -  | 1  | 2  | 4  | 7  | 8  | 4  | 4  | 1  | 1  | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  | 8  |
| VK3 = 30 | 2       | 1  | 1  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 8  | 8  | 7  | 4  | 2  | 1  | 1  | 1  | 2  | 4  | 4  | 9  | 4  | 2  |
| KH6 = 31 | 1       | 4  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | 2  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 9  | 9+ | 9+ | 9+ | 9  | 9  | 8  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 9  | 9  | 9  | 9  |
| SU = 34  | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  | 8  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+      | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 9  | 9+ | 9+ |
| ZS6 = 38 | 9+      | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| FR = 39  | 9+      | 9  | 7  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  | 9  | 9  |
| FJL = 40 | 9       | 9  | 9  | 9  | 7  | 6  | 6  | 6  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9  | 9  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC --> \* = Longpath

Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Feb., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 9   | 9  | 9  | 9  | 6  | 1* | 1* | 2* | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 6  | 7  | 8  |    |
| VO2 = 02 | 9+  | 9+  | 8  | 8  | 9  | 9  | 9  | 7  | 3  | 2  | 8  | 9  | 8  | 3  | 1  | -  | -  | -  | 1  | 3  | 7  | 8  | 9  | 9+ | 9+ |    |
| W6 = 03  | 9   | 9+  | 9+ | 9  | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 1  | -  | -  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  |    |
| W9 = 04  | 9+  | 9+  | 9+ | 9  | 9  | 7  | 5  | 7  | 6  | 3  | 1  | 1  | 8  | 6  | 2  | 1  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9+ | 9+ |    |
| W3 = 05  | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | 4  | 7  | 9  | 8  | 5  | 2  | 1  | -  | 1  | 2  | 6  | 8  | 9  | 9+ | 9+ | 9+ |    |
| XE1 = 06 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 3  | -  | 8  | 7  | 5  | 3  | 2  | 1  | 1  | 4  | 5  | 8  | 9  | 9+ | 9+ |    |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | -  | 9  | 9  | 7  | 5  | 2  | 2  | 2  | 2  | 5  | 8  | 9  | 9+ | 9+ | 9+ |    |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 1  | 9+ | 9  | 9  | 6  | 3  | 2  | 2  | 3  | 6  | 8  | 9  | 9+ | 9+ | 9+ |    |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | 4  | 9  | 9  | 8  | 4  | 2  | 2  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ |    |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 5  | 9+ | 9  | 9  | 8  | 6  | 4  | 5  | 6  | 7  | 8  | 9  | 9+ | 9+ |    |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5* | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 5* | 5* | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| G = 14   | 9+  | 9   | 9  | 9  | 8  | 2  | 3* | 8  | 9  | 9  | 7  | 4  | 1  | -  | -  | 1  | -  | 3  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| I = 15   | 9+  | 9+  | 9+ | 9+ | 8  | 2* | 3  | 9  | 9  | 8  | 4  | 2  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| UA3 = 16 | 7   | 6   | 5  | 3  | 2  | 5  | 9  | 8  | 8  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 5  | 4  | 5  | 5  |    |
| UN = 17  | 3   | 1   | 5  | 8  | 8  | 8  | 6  | 4  | 3* | 3* | 5* | 8  | 3* | 1* | -  | -  | -  | 1  | 1  | -  | 1  | 2  | 5  | 6  | 6  |    |
| UA9 = 18 | -   | 1*  | 1* | 7  | 8  | 8  | 8  | 7  | 6  | 6* | 6* | 7* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |    |
| UA0 = 19 | 8   | 7   | 7  | 5  | 6  | 7  | 7  | 8  | 8  | 9  | 8  | 6* | 5* | 2* | 1* | -  | -  | 1* | 2* | -  | -  | 1  | 9  | 9  | 9  |    |
| 4X = 20  | 9+  | 9+  | 9+ | 9  | 4  | 9  | 9  | 8  | 7  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |
| HZ = 21  | 9+  | 9+  | 9  | 3  | 9  | 9  | 8  | 7  | 4  | 1  | -  | 1* | 1  | -  | -  | -  | -  | 4  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |
| VU = 22  | 5   | 1*  | 1* | 9  | 8  | 6  | 3  | 1  | 1* | 5* | 4* | 8  | 2* | -  | -  | -  | -  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| JT = 23  | 1   | 7   | 8  | 8  | 8  | 4  | 4  | 7  | 7* | 8* | 8* | 6* | 5* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 3* | 1* | 1* |    |
| VR2 = 24 | 9   | 9   | 8  | 6  | 1  | -  | 1* | 6* | 8  | 9* | 9* | 7  | 5* | 2* | 1  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 8  | 8  |    |
| JA1 = 25 | 8*  | 5   | 5  | 6  | 5  | 7  | 8  | 9  | 9  | 9  | 8  | 4  | 1  | 1  | -  | -  | -  | 1* | 6* | 5* | 8  | 6  | 6  | 9* | 9* |    |
| HS = 26  | 9   | 9   | 9  | 7  | 2  | -  | -  | 1* | 6* | 8  | 7  | 7  | 4* | 1  | 1  | 1  | 2  | 4  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |
| DU = 27  | 8   | 7   | 2  | -  | -  | -  | 1* | 5* | 7  | 8* | 8* | 6  | 5  | 3  | 1  | -  | 1  | 1  | 4  | 7  | 8  | 9  | 9  | 8  | 8  |    |
| YB = 28  | 9   | 8   | 6  | 3  | 1  | -  | -  | -  | 5* | 8  | 8* | 5  | 6* | 2  | 1  | 1  | 2  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| VK6 = 29 | 9   | 8   | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 8  | 8  | 6  | 5  | 3  | 5  | 5  | 4  | 2  | 4  | 6  | 8  | 8  | 8  | 8  |    |
| VK3 = 30 | 7   | 7   | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 4  | 2  | 1  | 1  | 5  | 8  | 8  | 8  | 8  | 8  |    |
| KH6 = 31 | 4   | 7   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 8  | 5  | -  | -  | -  | -  | 1* | 1* | 1* | -  | 1  | 1  |    |
| KH8 = 32 | 1   | 4   | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 5  | 2  | 1  | 1  | 1* | 1* | -  | -  | 1  | 1  |    |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 4  | 4  | 9  | 9  | 8  | 5  | 1  | -  | -  | 1  | 2  | 4  | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ |    |
| SU = 34  | 9+  | 9+  | 9+ | 9  | 7  | 9  | 9  | 8  | 7  | 3  | 1  | -  | -  | 1  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ |    |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9  | 8  | 5  | 3  | 2  | 2  | 4  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| D2 = 36  | 9+  | 9+  | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 3  | 1  | 1  | 4  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| 5Z = 37  | 9+  | 9+  | 9  | 6  | 6  | 9  | 9  | 7  | 5  | 2  | 1  | 1  | -  | -  | 1  | 1  | 4  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |    |
| ZS6 = 38 | 9   | 7   | 1  | 1* | 5  | 9  | 9  | 9  | 8  | 7  | 5  | 4  | 2  | 4  | 3  | 4  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  |    |
| FR = 39  | 7   | 2*  | 1* | 1  | 9  | 9  | 8  | 6  | 3  | 2  | 2  | 1  | 2  | 1  | 1  | 2  | 5  | 7  | 9  | 9  | 9  | 9  | 9  | 8  | 8  |    |
| FJL = 40 | 6   | 8   | 8  | 4  | 1* | 1* | 2* | 3* | 5  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | 1  | 4  | 7  | 8  | 6  | 1  | 5  | 5  |    |
| Zone     | 00  | 01  | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Feb., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |  |
| KL7 = 01 | 9       | 9  | 9  | 9  | 8  | 2  | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 5  | 5  | 7  | 8  | 9  |  |  |
| VO2 = 02 | 9+      | 8  | 2  | 2  | 6  | 5  | 5  | 1  | -  | -  | -  | 9  | 8  | 5  | 4  | 2  | 2  | 3  | 6  | 8  | 9  | 9  | 9+ | 9+ |  |  |
| W6 = 03  | 9       | 9+ | 9+ | 9+ | 9  | 8  | 5  | 4  | 5  | 5  | 2  | -  | -  | -  | 7  | 2  | 1  | 1  | 1  | 1  | 4  | 6  | 8  | 9  |  |  |
| W9 = 04  | 9+      | 9+ | 9  | 8  | 3  | -  | -  | 1  | 1  | -  | -  | -  | 9  | 8  | 5  | 3  | 2  | 1  | 5  | 6  | 8  | 9  | 9  | 9+ |  |  |
| W3 = 05  | 9+      | 9+ | 9  | 9  | 9  | 9  | 7  | 7  | 2  | -  | 1  | 9  | 9  | 7  | 5  | 4  | 3  | 4  | 5  | 8  | 8  | 9  | 9+ | 9+ |  |  |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | -  | -  | 2  | 8  | 7  | 5  | 4  | 3  | 3  | 5  | 7  | 9  | 9  | 9+ |  |  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | -  | -  | 1  | 9  | 9  | 8  | 6  | 6  | 6  | 6  | 7  | 9  | 9  | 9+ | 9+ |  |  |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 1  | -  | 2  | 9+ | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |  |  |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | 9+ | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ |  |  |
| HC = 10  | 9+      | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | -  | -  | 9  | 9  | 9  | 8  | 8  | 6  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ |  |  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5* | 6* | 4* | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |  |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6* | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |  |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 4* | 5* | 7* | 3  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |  |
| G = 14   | 8       | 3  | 3  | 5  | 4  | -  | 1* | 6* | 9  | 9  | 8  | 6  | 3  | 1  | 1  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |  |  |
| I = 15   | 9+      | 9+ | 9  | 9  | 4  | 2* | 4* | 9  | 8  | 8  | 7  | 5  | 2  | 2  | -  | 1  | 2  | 4  | 8  | 8  | 9  | 9+ | 9+ | 9+ |  |  |
| UA3 = 16 | 2       | 1  | 1  | 1* | 2* | 2* | 7  | 9  | 8  | 7  | 6  | 4  | 5  | 1  | 1  | 1  | 2  | 5  | 7  | 6  | 3  | -  | -  | -  |  |  |
| UN = 17  | -       | -  | 1* | 8  | 8  | 8  | 7  | 6  | 4  | 4* | 5* | 5* | 5  | 4* | 1* | -  | 2  | -  | -  | -  | -  | -  | -  | -  |  |  |
| UA9 = 18 | 1*      | 1* | 1* | 2  | 8  | 8  | 8  | 7  | 6  | 6  | 8* | 7* | 4* | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |  |  |
| UA0 = 19 | 8       | 8  | 7  | 6  | 7  | 7  | 7  | 8  | 9  | 8  | 8* | 7* | 6* | 5* | 4* | 2* | 2* | 2* | -  | -  | -  | -  | 7  | 9  |  |  |
| 4X = 20  | 9+      | 9+ | 9+ | 7  | 1* | 8  | 9  | 8  | 6  | 6  | 3  | 2  | 1  | 1  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ |  |  |
| HZ = 21  | 9+      | 9  | 8  | 1* | 8  | 9  | 8  | 7  | 5  | 5  | 2  | 2  | 7  | 1  | 1  | 1  | 3  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ |  |  |
| VU = 22  | 1*      | 1* | 1* | 9  | 8  | 7  | 5  | 3  | 2  | 3  | 5* | 5* | 4  | 2* | 1* | 1* | 1  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |  |  |
| JT = 23  | 1*      | 1  | 8  | 8  | 8  | 6  | 5  | 6  | 7  | 8* | 8* | 8* | 8* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 1* |  |  |
| VR2 = 24 | 9       | 9  | 8  | 7  | 5  | 3  | 5* | 7  | 8* | 8* | 9* | 7* | 6* | 5* | 4* | 2  | 5  | 5  | 6  | 8  | 8  | 9  | 5* | 4* |  |  |
| JA1 = 25 | 8*      | 7  | 8  | 7  | 6  | 8  | 8  | 9  | 9+ | 9  | 4  | 4* | 5* | 4* | 3* | 1* | 4* | 5* | 5* | -  | 4  | 5  | 5  | 9* |  |  |
| HS = 26  | 9       | 9  | 9  | 8  | 6  | 2  | 1  | 4* | 6  | 6  | 7* | 7* | 5* | 4  | 3  | 3  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9  |  |  |
| DU = 27  | 8       | 7  | 6  | 4  | 1  | 1  | 4  | 5  | 7* | 7  | 8  | 8  | 8  | 5  | 4  | 5  | 4  | 5  | 8  | 8  | 9  | 9  | 9  | 9  |  |  |
| YB = 28  | 9       | 9  | 8  | 6  | 2  | 1  | 1  | 3* | 6* | 6  | 8* | 6  | 6  | 6  | 5  | 5  | 5  | 6  | 8  | 8  | 8  | 8  | 7  | 8  |  |  |
| VK6 = 29 | 8       | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 9  | 9  | 8  | 7  | 5  | 4  | 3  | 2  | 1  | 1* | 4* | 5* | 5* | 6* | 7  |  |  |
| VK3 = 30 | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | 1  | -  | -  | 1* | 2* | 6  | 8  | 8  | 8  |  |  |
| KH6 = 31 | 6       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | -  | -  | -  | 2  | 1  | -  | 7  | 7  | 1  | 1  | 4  |  |  |
| KH8 = 32 | 3       | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 5  | 3  | 2  | 7  | 6  | 2* | 1  | 2  |  |  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9  | 7  | 1* | 6* | 8  | 9  | 9  | 7  | 4  | 2  | 2  | 3  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |  |  |
| SU = 34  | 9+      | 9+ | 9  | 9  | 4* | 7  | 9  | 8  | 6  | 7  | 2  | 2  | 2  | 1  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ |  |  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4* | 7  | 9  | 9+ | 9+ | 9  | 8  | 6  | 5  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |  |  |
| D2 = 36  | 9+      | 9+ | 9+ | 9  | 7  | 4  | 7  | 9  | 9  | 9  | 8  | 6  | 5  | 4  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |  |  |
| 5Z = 37  | 9       | 9  | 7  | 3* | 2* | 9  | 9  | 8  | 7  | 5  | 3  | 2  | 2  | 3  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |  |  |
| ZS6 = 38 | 4       | -  | -  | 1* | 2* | 5  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 6  | 7  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 6  |  |  |
| FR = 39  | 2*      | 2* | 4* | 2* | 8  | 9  | 8  | 7  | 5  | 5  | 4  | 4  | 8  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 8  | 2* | 1* |  |  |
| FJL = 40 | 1*      | 2  | 2* | 1* | 1* | 1* | 2* | 4* | 5* | 6* | 7  | 7  | 6  | 2  | 1  | 1  | 1  | 3  | 7  | 7  | 1  | -  | -  | -  |  |  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |  |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Feb., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 9  | 5  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 5  | 7  | 8  | 8  | 9  |
| VO2 = 02 | 9       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 7  | 6  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| W6 = 03  | 9       | 9+ | 9+ | 9  | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 5  | 4  | 4  | 4  | 5  | 7  | 8  | 9  |
| W9 = 04  | 9+      | 9  | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 7  | 5  | 5  | 5  | 7  | 8  | 8  | 9  | 9  | 9+ |
| W3 = 05  | 9+      | 9  | 8  | 7  | 5  | 4  | -  | -  | -  | -  | -  | 5  | 9  | 8  | 7  | 5  | 5  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| XE1 = 06 | 9+      | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9  | 8  | 1  | -  | -  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| TI = 07  | 9       | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | -  | -  | -  | 9  | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 | 8       | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | -  | -  | -  | 9+ | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9  |
| P4 = 09  | 7       | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 8  | -  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 8  |
| HC = 10  | 9+      | 9+ | 6  | 9+ | 9+ | 9+ | 8  | 6  | -  | -  | -  | 1  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 5* | 3* | 5* | 5* | 3  | 8  | 9  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2* | 6* | 6  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 7       | 6  | 7  | 8  | 7  | 4  | 4* | 4* | 2* | 6* | 4* | 4  | 7  | 8  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| G = 14   | 1       | -  | -  | -  | -  | -  | -  | 6* | 8  | 9  | 9  | 7  | 5  | 5  | 4  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 8  | 6  |
| I = 15   | 9       | 9  | 8  | 5  | -  | -  | 6* | 7  | 6  | 8  | 8  | 7  | 5  | 5  | 4  | 4  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9  |
| UA3 = 16 | -       | -  | -  | -  | 4* | 4* | 4* | 8  | 5* | 7  | 7  | 6  | 4  | 4  | 3  | 3  | 5  | 8  | 7  | -  | -  | -  | -  | -  |
| UN = 17  | 1*      | 1* | 1* | 3  | 8  | 8  | 7  | 4  | 4* | 5  | 5* | 8* | 6* | 4* | 2  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 2*      | 1* | 1* | 1* | 6  | 8  | 9  | 7  | 6  | 7  | 8* | 6  | 4  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 1* |
| UA0 = 19 | 9       | 8  | 8  | 8  | 7  | 7  | 9  | 9  | 7  | 8* | 8* | 8* | 7* | 6* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | 9  |
| 4X = 20  | 9       | 9  | 9  | 1  | 5* | 5* | 9  | 5  | 2* | 6  | 6  | 4  | 4  | 4  | 4  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 2  | 2* | 2  | 9  | 8  | 4  | 2  | 5  | 5  | 4  | 3* | 4  | 4  | 5  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -       | 2* | 3* | 8  | 8  | 7  | 5  | 3* | 4* | 4  | 5* | 5* | 5* | 4  | 4* | 4  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 7  |
| JT = 23  | 2*      | 1* | 2  | 7  | 8  | 6  | 7  | 7  | 7* | 7* | 8* | 9* | 8* | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VR2 = 24 | 8       | 9  | 9  | 7  | 6  | 5  | 4* | 7* | 8* | 8* | 8* | 8* | 8* | 6  | 6  | 6  | 7  | 8  | 7  | 8  | 9  | 8  | -  | 6* |
| JA1 = 25 | 9*      | 8* | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 5  | 5* | 6* | 6* | 5* | 5* | 5* | 6* | 5* | -  | -  | -  | 7  | 7  | 8  |
| HS = 26  | 6       | 9  | 9  | 8  | 6  | 4  | 2  | 4* | 6* | 7* | 6* | 7* | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| DU = 27  | 9       | 8  | 6  | 5  | 4  | 4  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  |
| YB = 28  | 8       | 9  | 8  | 7  | 5  | 3  | 2  | 5* | 6* | 6  | 7  | 8* | 7  | 7  | 6  | 6  | 6  | 7  | 7  | 6  | 4  | 1  | -  | 6* |
| VK6 = 29 | 6*      | 8  | 8  | 8  | 4  | 3  | 2* | 3* | 2  | 7  | 8  | 7* | 4  | 3* | 2* | 1* | 1* | 2* | 4* | 4* | 3* | 5* | 7* | 7* |
| VK3 = 30 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1* | -  | 1* | 1* | 2* | 2* | 2* | 6  | 8  | 8  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 7  | -  | -  | -  | -  | 5  | 4  | 4* | 5* | 4  | 5  | 6  |
| KH8 = 32 | 5       | 8  | 8  | 9  | 9  | 9  | 9+ | 9  | 9  | 8  | 9  | 9  | 9  | 7  | 6  | 6  | 6  | 6  | 5  | 5* | 3  | 5  | 4  | 5  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 8  | 1  | -  | 6* | 5  | 8  | 9  | 8  | 6  | 6  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9  | 9+ |
| SU = 34  | 9       | 9  | 9  | 6  | 5* | 4* | 9  | 5  | 2* | 6  | 6  | 3  | 4  | 4  | 4  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 8  | 1  | 1* | 3* | 8  | 9+ | 9  | 9  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 8  | 8  | 8  | 8  |
| D2 = 36  | 9+      | 9  | 7  | 4  | 1  | 4* | 4* | 4* | 4  | 8  | 9  | 8  | 8  | 7  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9       | 5  | 1  | 3* | 4* | 6  | 7  | 5  | 6  | 7  | 5  | 6  | 6  | 6  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  |
| ZS6 = 38 | -       | -  | -  | -  | 3* | 3* | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 7  | 5* | 4* | 1* |
| FR = 39  | -       | 1* | 5* | 5* | 2* | 7  | 6  | 3  | 6  | 6  | 7  | 6  | 6  | 6  | 7  | 7  | 8  | 8  | 8  | 6  | 5* | 5* | 4* | 2* |
| FJL = 40 | -       | 1* | 2* | 2* | 1* | 2* | 3* | 4* | 6* | 7* | 8* | 5* | 5  | 5  | 5  | 4  | 5  | 5  | 2  | -  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Feb., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 9   | 9  | 6  | 1  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 7  | 8  | 9  | 9  |
| VO2 = 02 | 5   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 8  | -  | 8  | 8  | 6  | 7  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9   | 9   | 9+ | 9  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 6  | 6  | 5  | 5  | 7  | 8  | 8  | 9  |
| W9 = 04  | 9   | 8   | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | 9   | 9   | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9  |
| XE1 = 06 | 9   | 9   | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 3  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| TI = 07  | 6   | 5   | 7  | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| VP2 = 08 | 5*  | 1   | 6  | 9+ | 9+ | 9+ | 8  | 1  | -  | -  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 6* |
| P4 = 09  | 5*  | 5*  | 4  | 9+ | 9+ | 9+ | 7  | 2  | -  | -  | -  | -  | 1  | 9  | 9  | 6  | 5  | 5  | 6  | 6  | 6  | 7  | 7  | 7  | 6  | 6* |
| HC = 10  | 9+  | 9+  | 9+ | 5  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | 7  | 9  | 3  | 1  | 1  | 1  | 9  | 2  | 4  | 4  | 4  | 9+ | 9+ |
| PY1 = 11 | 7   | 8   | 8  | 8  | 7  | 4* | 5* | -  | -  | 1* | 3* | 4  | 6  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 1  | -  | 5* | 1  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 7*  | 6*  | 5* | 2* | 3* | 4* | 5* | 1* | -  | 4* | -  | 2* | 2  | 4  | 1  | 5  | 8  | 9  | 8  | 7  | 6  | 6  | 6  | 7* | 7* | 7* |
| G = 14   | -   | -   | -  | -  | -  | -  | -  | 2* | 4  | 7  | 9  | 8  | 7  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 1  |
| I = 15   | 8   | 6   | 4  | -  | -  | -  | 6* | 3  | 1  | 5  | 8  | 8  | 6  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  |
| UA3 = 16 | -   | -   | -  | -  | 4* | 5* | 4* | 5  | 2* | 3  | 8  | 7  | 6* | 5  | 4  | 4  | 5  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -   | 4*  | 2* | 4* | 8  | 9  | 7  | 5* | 2* | 2  | 5  | 7* | 5* | 4  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 4   | 2*  | 2* | 2* | 3* | 7  | 9  | 7  | 2  | 6  | 7  | 6  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 9   | 8   | 8  | 9  | 9  | 9  | 9  | 8  | 3* | 6* | 8* | 8* | 8* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8* |
| 4X = 20  | 9   | 9   | 7  | -  | 5* | 5* | 9  | 4* | 1* | 4  | 6  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9   | 8   | -  | 6* | 4* | 9  | 6  | 1* | -  | 5  | 6  | 6  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -   | 5*  | 5* | 5* | 8  | 6  | 2* | 4* | 2* | 4  | 5  | 5  | 5  | 6* | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 3  |
| JT = 23  | 3*  | 2*  | 2* | 7  | 8  | 6  | 7  | 6* | 4* | 4  | 7  | 8  | 7* | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* |
| VR2 = 24 | 8*  | 9   | 8  | 6  | 5  | 4* | 6* | 8* | 8* | 6  | 8  | 8* | 8* | 7* | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 8  | 1  | -  | 8* | 8* |
| JA1 = 25 | 9*  | 8   | 8  | 8  | 9  | 8  | 9  | 9  | 8  | 5* | 7* | 7* | 7* | 6* | 6* | 5* | 5* | 2* | -  | -  | -  | -  | 8  | 8  | 8  | 8  |
| HS = 26  | 7*  | 7   | 8  | 7  | 4  | 3* | 5* | 5* | 7* | 5  | 7  | 7  | 7  | 7  | 7  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 2  |
| DU = 27  | 8   | 7   | 6* | 5  | 4* | 4* | 5* | 6* | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 6  | 3  | 3  | 8  | 8  |
| YB = 28  | 8*  | 8   | 7  | 5  | 4* | 3* | 4* | 5* | 4* | 6  | 7  | 8  | 7  | 6  | 5  | 5  | 5  | 6  | 5  | 2* | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 7*  | 6   | 7  | 6  | 2* | 1* | 2* | 3* | -  | 1  | 2  | 7* | 6* | 4* | 2* | 2* | 2* | 2* | 3* | 3* | 3* | 3* | 2* | 4* | 4* | 6* |
| VK3 = 30 | 6   | 6   | 6  | 6  | 6  | 7  | 8  | 8  | 5  | 8  | 8  | 7  | 5* | 3* | 2* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 4* | 6* | 6  | 6  |
| KH6 = 31 | 8   | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 4  | 7  | 3  | -  | -  | -  | -  | 2  | 5  | 4  | 6* | 5  | 5  | 5  | 7  | 7  |
| KH8 = 32 | 6   | 8   | 8  | 9  | 9  | 9  | 9  | 9  | 7  | 3  | 7  | 9  | 8  | 2  | 5  | 5  | 5  | 6  | 6  | 6  | 5  | 6* | 5  | 5  | 6  | 6  |
| CN = 33  | 9+  | 9   | 9+ | 9  | 4  | -  | -  | 4* | 2* | 4  | 9  | 9  | 8  | 7  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9   | 9   | 9  | -  | 4* | 5* | 9  | 2* | 1* | 4  | 6  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 7   | 9   | 9+ | 9+ | 8  | 2  | -  | -  | 1* | 1  | 9  | 9  | 9  | 6  | 5  | 5  | 6  | 7  | 7  | 7  | 6  | 5* | 4* | 6* | 5* | 5* |
| D2 = 36  | 9   | 6   | 2  | 1  | -  | 4* | 5* | 4* | 1* | 5  | 9  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 5   | -   | -  | -  | 4* | 4* | 4* | 2* | 1  | 7  | 7  | 6  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| ZS6 = 38 | -   | -   | -  | -  | 2* | 4* | 3* | 2* | 5  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 8  | 9  | 8  | 9  | 8  | 5* | 5* | 1* | -  | -  |
| FR = 39  | -   | -   | 5* | 6* | 5* | 2* | 1* | 1* | 3  | 7  | 7  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 7  | 4* | 5* | 5* | 4* | -  | -  | -  |
| FJL = 40 | -   | -   | 2* | 4* | 4* | 4* | 3* | 2* | 2* | 3* | 7* | 1* | -  | 2  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Mar., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2       | 4  | 5  | 5  | 5  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | -  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 3  | 2  | 4  | 4  | 4  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 4  | 5  | 5  | 4  | 4  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 2  | -  | 1  | 3  | 4  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | -       | 2  | 3  | 2  | 1  | 2  | 2  | 3  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 4       | 4  | 4  | 2  | 2  | 2  | 2  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| P4 = 09  | 3       | 4  | 4  | 2  | 2  | 3  | 2  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | 3       | 5  | 5  | 3  | 3  | 3  | 3  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 9  | 9  |
| G = 14   | 3       | 4  | 4  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | -       | 2  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | -       | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 2       | 3  | 3  | 2  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 5       | 5  | 3  | 3  | 2  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | -  |
| D2 = 36  | 3       | 4  | 4  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 5Z = 37  | 3       | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| ZS6 = 38 | 5       | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | -  |
| FR = 39  | 4       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Mar., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 1  | 1  | 1  | 2  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 7  | 8  | 8  | 8  | 8  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W6 = 03  | -       | -  | -  | 1  | 2  | 7  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 6  | 5  | 7  | 7  | 7  | 7  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 4       | 7  | 8  | 8  | 7  | 7  | 7  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 1  | 5  | 2  | 4  | 6  | 7  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 3       | 5  | 6  | 5  | 4  | 5  | 5  | 6  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 7       | 7  | 7  | 5  | 5  | 5  | 5  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 6       | 7  | 7  | 5  | 5  | 6  | 5  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 6       | 8  | 8  | 6  | 6  | 6  | 6  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | -  | -  | -  | 1  | 7  | 9+ | 9+ | 9+ |
| G = 14   | 6       | 7  | 7  | 8  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| I = 15   | 1       | 5  | 7  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| UA3 = 16 | 3       | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UN = 17  | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | -  | 1  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 1       | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 5       | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 1  | 1  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 6  | 6  | 5  | 2  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| SU = 34  | 1       | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 6W = 35  | 8       | 8  | 6  | 6  | 5  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| D2 = 36  | 6       | 7  | 7  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  |
| 5Z = 37  | 6       | 7  | 7  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  |
| FR = 39  | 7       | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  |
| FJL = 40 | 2       | 3  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Mar., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | 1  | 2  | 3  | 5  | 7  | 7  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | -  |
| VO2 = 02 | 7       | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| W6 = 03  | -       | 3  | 4  | 7  | 7  | 7  | 8  | 8  | 7  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 7       | 7  | 7  | 8  | 9  | 9  | 9  | 8  | 7  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W3 = 05  | 8       | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| XE1 = 06 | 6       | 8  | 8  | 9  | 8  | 8  | 8  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| TI = 07  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| VP2 = 08 | 9       | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| P4 = 09  | 9       | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 2  | -  | -  | -  | 1  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 3  | -  | -  | -  | -  | 1  | 7  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | 1  | 1  | 1  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  |
| I = 15   | 7       | 7  | 7  | 7  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  |
| UA3 = 16 | 8       | 8  | 8  | 7  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  |
| UN = 17  | 6       | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | 2  | 6  | 6  | 6  |
| UA9 = 18 | 6       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 8       | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| HZ = 21  | 7       | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  |
| VU = 22  | 5       | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| JT = 23  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 2  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  |
| YB = 28  | -       | -  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 1  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 1  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | 4  | 5  | 7  | 7  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | 1  | 4  | 5  | 6  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 7  | 7  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| SU = 34  | 8       | 7  | 7  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  |
| FR = 39  | 9       | 9  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| FJL = 40 | 7       | 7  | 8  | 7  | 7  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Mar., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1       | 1  | 4  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  |
| W6 = 03  | 4       | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 6  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  |
| W3 = 05  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| XE1 = 06 | 8       | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| TI = 07  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | 3  | 4  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 4  | 1  | 1  | 1  | 3  | 7  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  |
| I = 15   | 8       | 8  | 8  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 8  | 8  |
| UA3 = 16 | 8       | 8  | 8  | 8  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  |
| UN = 17  | 6       | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 7  |
| UA9 = 18 | 7       | 7  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | 1  | 3  | 5* | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2  | 1  |
| 4X = 20  | 8       | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 8  |
| HZ = 21  | 8       | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 8  |
| VU = 22  | 6       | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  |
| JT = 23  | 5       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 7  |
| VR2 = 24 | 2       | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 3  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 4* | 4* | -  |
| HS = 26  | 6       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 7  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 7  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 2  |
| YB = 28  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 6  |
| VK6 = 29 | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 6  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | 1  | 4  | 6  | 5  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  |
| KH6 = 31 | -       | -  | 1  | 4  | 6  | 6  | 7  | 7  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 1  | 5  | 6  | 7  | 7  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 8  |
| SU = 34  | 8       | 8  | 8  | 8  | 7  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 6  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  |
| FR = 39  | 8       | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 8  |
| FJL = 40 | 8       | 8  | 8  | 8  | 7  | 8  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 8  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



## 20 Meters: Mar., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 7   | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 7  | 3  | 2  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1  | 3  | 5  |
| VO2 = 02 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  | 9  | 9  |
| W6 = 03  | 9   | 9   | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  |
| W9 = 04  | 9   | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  |
| W3 = 05  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 8  | 9  | 9  |
| XE1 = 06 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 4  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 2  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 9  | 9+ | 9+ |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 2  | 1  | -  | -  | -  | -  | 2  | 4  | 7  | 9  | 9  | 9+ |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 1  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9+ |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 9  | 9  | 9  | 9+ |
| I = 15   | 9   | 9   | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9+ |
| UA3 = 16 | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  |
| UN = 17  | 9   | 9   | 9  | 8  | 5  | 2  | 1  | -  | -  | -  | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 9  | 9  | 9  |
| UA9 = 18 | 8   | 8   | 8  | 8  | 6  | 3  | 2  | 2  | 1  | 5* | 4* | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  |
| UA0 = 19 | 5   | 4   | 2  | 1  | 1  | 4  | 5  | 5  | 7  | 8  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 7* | 7* | 7  | 7  |
| 4X = 20  | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 9  | 9  |
| HZ = 21  | 9   | 9   | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  | 9  | 9  |
| VU = 22  | 9   | 9   | 9  | 8  | 5  | 2  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  |
| JT = 23  | 8   | 8   | 7  | 1  | 1  | -  | -  | -  | 2* | 6* | 8  | 5* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 9  | 9  | 9  |
| VR2 = 24 | 7   | 5   | 4  | -  | -  | -  | -  | -  | 3* | 5* | 8  | 5* | 2* | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 8  |
| JA1 = 25 | 3*  | -   | -  | -  | -  | 2  | 4  | 7  | 8  | 8  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | 1* | 5* | 8* | 9* | 8* | 7* |
| HS = 26  | 9   | 8   | 7  | 2  | -  | -  | -  | -  | -  | 3* | 4* | 4* | -  | 4  | 5  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 9  | 9  | 9  |
| DU = 27  | 7   | 4   | -  | -  | -  | -  | -  | -  | 2  | 8  | 8  | 5* | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 8  |
| YB = 28  | 9   | 8   | 5  | 1  | -  | -  | -  | -  | -  | 4* | 8  | 4* | 1  | -  | -  | -  | -  | -  | -  | 1  | 1  | 6  | 8  | 9  | 9  | 9  |
| VK6 = 29 | 8   | 7   | 5  | 3  | 1  | -  | 1  | 3  | 7  | 8  | 6  | 7  | 4  | 2  | 1  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 6  | 8  | 8  |
| VK3 = 30 | 3   | 2   | 2  | 2  | 4  | 6  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | 1  | 2  | 4  | 6  | 6  | 7  | 5  |
| KH6 = 31 | -   | 4   | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -   | 1   | 4  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  |
| SU = 34  | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  | 9  | 9  |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| D2 = 36  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+  | 9+  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  | 9+ |
| ZS6 = 38 | 9+  | 9   | 9  | 7  | 8  | 9+ | 9+ | 9  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| FR = 39  | 5   | 1   | -  | 7  | 9  | 9  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 9  | 9  | 9  | 9  | 8  |
| FJL = 40 | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 9  | 9  | 9  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Mar., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 7  | 7  | 5  | 4  | -  | -  | -  | -  | -  | -  | 1  | 2  | 9  | 7  | 8  | 9  |
| VO2 = 02 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 9  | 9  | 8  | 2  | -  | -  | -  | 1  | 4  | 8  | 8  | 9  | 9+ | 9+ |
| W6 = 03  | 9       | 9  | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 8  | 3  | 1  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| W9 = 04  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 9  | 9  | 6  | 2  | -  | -  | -  | 2  | 5  | 6  | 8  | 9  | 9+ |
| W3 = 05  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9+ | 9+ |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 6  | 8  | 8  | 5  | 1  | 1  | 1  | 1  | 4  | 5  | 8  | 9  | 9+ |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9+ | 9  | 8  | 5  | 3  | 2  | 2  | 4  | 5  | 8  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 7  | 9+ | 9+ | 9  | 7  | 4  | 2  | 2  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 9+ | 9+ | 9  | 8  | 4  | 2  | 4  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 8  | 9+ | 9  | 8  | 6  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 3* | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5* | 4* | 2* | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9+      | 9+ | 9+ | 9+ | 9  | 8  | 9  | 9  | 9  | 8  | 8  | 3  | -  | -  | -  | -  | 1  | 2  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| I = 15   | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 1  | -  | -  | -  | 1  | -  | 2  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | 9       | 9  | 8  | 7  | 6  | 8  | 9  | 8  | 7  | 5  | 3  | 1  | 1* | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  | 9  |
| UN = 17  | 8       | 7  | 8  | 9  | 8  | 7  | 5  | 1  | 2* | 5* | 4* | 8  | 3* | 2* | 1* | -  | -  | 2  | 7  | 8  | 8  | 9  | 9  | 9  |
| UA9 = 18 | 4       | 5  | 7  | 8  | 8  | 7  | 7  | 6  | 7  | 6* | 6* | 5* | 5* | 4* | 1* | 1* | -  | 1  | 5  | 5  | 5  | 5  | 4  | 5  |
| UA0 = 19 | 8       | 8  | 8  | 6  | 7  | 7  | 8  | 7  | 8  | 9  | 9  | 7  | 7  | 3  | 1* | -  | -  | 1* | 5* | 7* | 8* | 8* | 8  | 9  |
| 4X = 20  | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 9  | 9  | 9  | 9+ |
| HZ = 21  | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | 1* | -  | -  | -  | 1  | 4  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| VU = 22  | 9       | 9  | 9  | 9  | 8  | 7  | 3  | 1  | 1* | 3* | 4* | 8  | 3* | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  | 8       | 8  | 8  | 8  | 6  | 4  | 4  | 4  | 7  | 8* | 7* | 7* | 4* | 5* | 2* | -  | -  | 1  | 4  | 5  | 7  | 7  | 5  | 6  |
| VR2 = 24 | 9       | 9  | 8  | 4  | 1  | -  | 1* | 5* | 6* | 8* | 9* | 7  | 5* | 3* | 1  | 1  | 1  | 2  | 5  | 8  | 8  | 9  | 9  | 9  |
| JA1 = 25 | 7*      | 5* | 2  | 2  | 1  | 5  | 7  | 8  | 9  | 9  | 9+ | 9  | 8  | 6  | 2  | -  | -  | 2* | 6* | 8* | 9* | 9* | 9* | 9* |
| HS = 26  | 9+      | 9  | 9  | 7  | 2  | 1  | -  | -  | 4* | 6* | 7  | 7  | 4* | 1  | 1  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| DU = 27  | 8       | 8  | 3  | 1  | -  | -  | 1* | 4  | 7  | 8* | 8* | 6  | 6  | 4  | 1  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  |
| YB = 28  | 9       | 9  | 8  | 5  | 1  | -  | -  | 1  | 4* | 7  | 8* | 6* | 5  | 3  | 2  | 1  | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 9  |
| VK6 = 29 | 9       | 9  | 8  | 8  | 6  | 6  | 7  | 8  | 8  | 9  | 8  | 8  | 8  | 6  | 4  | 2  | 2  | 2  | 2  | 4* | 5* | 6* | 8  | 8  |
| VK3 = 30 | 8       | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 3  | 2  | 1  | 3  | 7  | 8  | 8  | 8  | 8  |
| KH6 = 31 | 4       | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 4  | -  | -  | -  | 1* | 1  | 1* | -  | -  | 1  |
| KH8 = 32 | 2       | 4  | 7  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 4  | 2  | 1  | 1* | 1* | 1* | -  | -  | 1  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | 2  | 4  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| SU = 34  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | 1  | -  | 1  | 4  | 8  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9  | 9  | 6  | 4  | 2  | 3  | 4  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 9+ | 9+ | 9  | 8  | 9  | 9+ | 9  | 9  | 7  | 4  | 1  | 2  | 1  | 4  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 3  | 1  | 1  | -  | -  | 1  | 1  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| ZS6 = 38 | 8       | 6  | 5  | -  | -  | 8  | 9  | 9+ | 9  | 8  | 6  | 4  | 4  | 4  | 4  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9  |
| FR = 39  | 1*      | 1* | 1* | -  | 9  | 9  | 8  | 6  | 4  | 2  | 2  | 2  | 2  | 2  | 2  | 3  | 5  | 7  | 9  | 9  | 9  | 8  | 1  | 1* |
| FJL = 40 | 8       | 9  | 8  | 7  | 5  | 2  | 2* | 3* | 6  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 9  | 8  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Mar., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 9  | 9  | 7  | 3  | 1  | 3  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 6  | 5  | 7  | 8  | 8  |
| VO2 = 02 | 9+      | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 4  | 9  | 9  | 8  | 6  | 2  | 1  | 3  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| W6 = 03  | 9       | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | -  | 7  | 5  | 2  | 1  | 1  | 1  | 1  | 3  | 5  | 8  | 9  |
| W9 = 04  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 8  | 7  | 5  | 6  | 2  | 5  | 9  | 8  | 5  | 1  | -  | 2  | 5  | 6  | 8  | 9  | 9  | 9+ |
| W3 = 05  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 8  | 4  | 1  | 2  | 3  | 5  | 8  | 9  | 9  | 9+ | 9+ |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | 1* | 9  | 8  | 7  | 4  | 3  | 4  | 4  | 5  | 7  | 9  | 9  | 9+ |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 1  | 9+ | 9  | 9  | 7  | 7  | 6  | 6  | 6  | 7  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 4  | 2  | 9+ | 9+ | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9       | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 4  | 1  | 1  | 9+ | 9  | 9  | 8  | 6  | 6  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 6  | 8  | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 4* | 2  | 9+ | 9+ | 9  | 8  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 9+ | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6* | 4* | 2* | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6* | 4* | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | 5* | 2* | 2* | 1* | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 9  | 9  | 8  | 7  | 3  | 5* | 9  | 9  | 9  | 8  | 6  | 2  | 1  | 1  | 1  | 2  | 4  | 8  | 9  | 9  | 9+ | 9+ | 9  |
| I = 15   | 9+      | 9+ | 9+ | 9+ | 9  | 6  | 8  | 9  | 8  | 9  | 6  | 3  | 1  | -  | 1  | 1  | 1  | 4  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | 8       | 7  | 5  | 2* | 1  | 6  | 8  | 8  | 8  | 7  | 5  | 4  | 4  | 2* | 1* | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 8  | 7  |
| UN = 17  | 2       | 1  | 6  | 9  | 8  | 8  | 6  | 4  | 4  | 5  | 4* | 6* | 5* | 3* | 3* | -  | 3  | 6  | 6  | 7  | 7  | 7  | 7  | 5  |
| UA9 = 18 | -       | 1* | 2  | 7  | 8  | 8  | 7  | 8  | 7  | 6  | 6* | 6* | 6* | 4* | 3* | 1* | 1  | 4  | -  | -  | -  | -  | 1* | 1* |
| UA0 = 19 | 8       | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 8  | 8* | 9  | 8  | 7* | 5* | 3* | 3* | 3* | 4* | 5* | 7* | 7* | 8* | 9* | 9  |
| 4X = 20  | 9+      | 9+ | 9  | 9  | 8  | 9  | 9  | 9  | 7  | 5  | 2  | 2  | 1  | 1* | -  | 2  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ |
| HZ = 21  | 9+      | 9+ | 9  | 8  | 9  | 9  | 9  | 7  | 5  | 2  | 1  | 1  | 7  | 1* | 1  | 2  | 5  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| VU = 22  | 9       | 6  | 9  | 9  | 8  | 7  | 5  | 4  | 2  | 4* | 4  | 6* | 5* | 2* | 1  | -  | 3  | 6  | 7  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  | 4       | 6  | 8  | 8  | 7  | 6  | 5  | 6  | 7* | 7* | 7* | 7* | 6* | 5* | 2* | 2* | 1  | 2* | 4* | 5* | 1  | 2* | 3* | 1  |
| VR2 = 24 | 9       | 9  | 8  | 6  | 2  | 2* | 4* | 5* | 8* | 8* | 9* | 8* | 7* | 5* | 3* | 4  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9  |
| JA1 = 25 | 8*      | 6* | 6  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9  | 7  | 4  | 2* | 3* | 4* | 5* | 7* | 9* | 8* | 8* | 9* | 9* |
| HS = 26  | 9       | 9  | 9  | 8  | 4  | 1  | -  | 2* | 7  | 6  | 7* | 7* | 5* | 3  | 2  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9  |
| DU = 27  | 9       | 8  | 6  | 2  | 1  | 1* | 3* | 5* | 7* | 7  | 8  | 8  | 7  | 6  | 4  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  |
| YB = 28  | 9       | 9  | 8  | 6  | 1  | -  | -  | 2* | 5* | 5  | 8* | 7* | 6  | 5  | 4  | 5  | 5  | 6  | 6  | 7  | 8  | 6  | 5  | 8  |
| VK6 = 29 | 8       | 9  | 8  | 8  | 6  | 5  | 6  | 6  | 7  | 8  | 9  | 8  | 7  | 5  | 2  | 1  | 1  | 1  | 1* | 3* | 4* | 5* | 6* | 5  |
| VK3 = 30 | 8       | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 7  | 5  | 2  | 1  | 1  | -  | 1* | 3* | 5  | 8  | 8  | 8  |
| KH6 = 31 | 6       | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | -  | -  | 1  | 1  | 1* | 7  | 7  | 1  | 2  | 3  |
| KH8 = 32 | 4       | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 5  | 3  | 4  | 5  | 5  | 1  | 2  | 2  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 9  | 9  | 9  | 7  | 4  | 2  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9+ | 9  | 9  | 8  | 9  | 9  | 9  | 8  | 5  | 2  | 1  | -  | -  | -  | 2  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 5* | 9  | 9+ | 9+ | 9  | 8  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 9  | 8  | 7  | 5  | 7  | 9  | 9  | 9  | 8  | 7  | 4  | 3  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+      | 9  | 9  | 6  | 6  | 9  | 9  | 8  | 7  | 5  | 4  | 2  | 1  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| ZS6 = 38 | 5       | 1  | -  | 1* | 1* | 2  | 8  | 9  | 9  | 8  | 8  | 6  | 6  | 6  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9  | 7  | 6  |
| FR = 39  | 1*      | 1* | 2* | 1* | 8  | 8  | 5  | 5  | 5  | 5  | 5  | 5  | 7  | 5  | 5  | 5  | 7  | 8  | 8  | 8  | 5  | 3* | 2* | 1* |
| FJL = 40 | 1       | 5  | 4  | 2* | 2* | 2* | 3* | 5* | 5* | 6* | 7* | 6  | 5  | 4  | 1* | 1  | 2  | 3  | 5  | 5  | 2  | 1  | 3  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Mar., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 9  | 7  | 2  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 6  | 7  | 8  | 9  | 9  |
| VO2 = 02 | 9       | 7  | 4  | 5  | 6  | 6  | 4  | -  | -  | -  | -  | 9  | 9  | 7  | 6  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| W6 = 03  | 9       | 9  | 9  | 9+ | 9  | 9  | 8  | 8  | 7  | 7  | 3  | 1  | -  | -  | 8  | 6  | 5  | 5  | 3  | 4  | 7  | 7  | 8  | 9  |
| W9 = 04  | 9       | 9  | 9  | 7  | 6  | 5  | 2  | 1  | -  | 1  | -  | -  | 9  | 8  | 7  | 5  | 5  | 5  | 5  | 8  | 9  | 9  | 9  | 9+ |
| W3 = 05  | 9       | 9  | 9  | 9+ | 9  | 9  | 9  | 7  | 2  | 4  | 2  | 9  | 9  | 8  | 7  | 5  | 5  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| XE1 = 06 | 9+      | 9+ | 9+ | 9  | 9+ | 9+ | 9  | 9  | 8  | 7  | 1  | -  | 1  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ |
| TI = 07  | 8       | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | 9+ | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9  |
| VP2 = 08 | 5       | 5  | 8  | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | -  | 9+ | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 8  | 7  |
| P4 = 09  | 5*      | 4* | 7  | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | -  | 9+ | 9+ | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 7  | 6* |
| HC = 10  | 9+      | 9+ | 9+ | 8  | 9+ | 9+ | 8  | 5  | 3* | -  | -  | 2  | 9+ | 9  | 9  | 8  | 8  | 4  | 1  | 9  | 4  | 4  | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5* | 6* | -  | 1* | 1  | 8  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 4* | 5* | 1* | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9       | 9  | 9+ | 9+ | 9+ | 9  | 4  | 1* | -  | -  | -  | 1* | -  | -  | 1  | 1  | 4  | 6  | 8  | 9  | 9  | 9  | 9+ | 9  |
| G = 14   | 7       | 6  | 5  | 3  | 1  | -  | 2* | 7  | 8  | 8  | 8  | 7  | 5  | 4  | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 8  |
| I = 15   | 9+      | 9  | 9  | 9  | 5  | 4* | 5* | 9  | 8  | 8  | 7  | 5  | 3  | 3  | 3  | 4  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | 3       | 1  | -  | 2* | 4* | 4* | 7  | 9  | 6  | 6  | 7  | 5  | 4  | 3* | 2  | 3  | 5  | 6  | 8  | 9  | 8  | 6  | 2  | 1  |
| UN = 17  | 1*      | -  | 1* | 8  | 8  | 8  | 7  | 6  | 5  | 6  | 4  | 5* | 5* | 5* | 2  | 4  | 6  | 5  | 4  | 2  | 2  | 2  | 1  | -  |
| UA9 = 18 | 2*      | 1* | 1* | 1  | 8  | 8  | 8  | 8  | 7  | 8  | 6  | 8* | 6* | 4  | 3  | 3  | 4  | -  | -  | -  | -  | -  | -  | 2* |
| UA0 = 19 | 8       | 8  | 8  | 8  | 7  | 8  | 9  | 8  | 5  | 5* | 9  | 8* | 7* | 6* | 5* | 4* | 4* | 5* | 5* | 5* | 2* | 5* | 8* | 8  |
| 4X = 20  | 9       | 9  | 9  | 8  | 3  | 8  | 9  | 8  | 7  | 7  | 5  | 5  | 3  | 2  | 4  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 9  | 4  | 8  | 9  | 9  | 8  | 6  | 6  | 5  | 4  | 4* | 3  | 4  | 6  | 7  | 8  | 9  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  | 4       | 1* | 7  | 9  | 8  | 7  | 6  | 4  | 4  | 5  | 2  | 5* | 5* | 4* | 4  | 5  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  | 1*      | 1  | 8  | 8  | 8  | 7  | 6  | 7  | 6  | 6  | 4  | 8* | 7* | 6* | 4* | 4* | 3* | 3* | 2* | -  | -  | -  | 4* | 2* |
| VR2 = 24 | 9       | 9  | 8  | 5  | 4* | 4* | 5* | 5* | 8* | 7* | 7  | 9* | 8* | 7* | 6  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 7  | 7  |
| JA1 = 25 | 8*      | 7* | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 7* | 6* | 5* | 4* | 4* | 5* | 6* | 8* | 8* | 6  | 6  | 8* | 9* |
| HS = 26  | 9       | 9  | 9  | 6  | 3  | 1* | 2* | 4* | 5* | 6* | 7* | 8* | 6  | 5  | 5  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| DU = 27  | 9       | 7  | 6* | 3* | 2* | 4* | 4* | 6* | 4* | 6  | 8  | 8  | 8  | 7  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  |
| YB = 28  | 9       | 8  | 6  | 4* | 1* | 1* | 2* | 4* | 2* | 5  | 7  | 8  | 7  | 6  | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 1  | 5* | 7* |
| VK6 = 29 | 6       | 8  | 8  | 6  | 2  | 1  | 1  | 2* | 2  | 6  | 8  | 8  | 6  | 3  | 2* | 1* | 1* | 2* | 2* | 4* | 3* | 4* | 6* | 7* |
| VK3 = 30 | 8       | 8  | 8  | 8  | 6  | 5  | 5  | 4* | 2* | 4* | 8  | 7  | 4  | 2* | 1* | -  | -  | 1* | 1* | 2* | 4* | 6  | 8  | 8  |
| KH6 = 31 | 7       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4* | 9  | 8  | 1* | -  | -  | 4  | 5  | 3  | 5* | 5* | 4  | 4  | 6  |
| KH8 = 32 | 6       | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 2* | 9  | 9  | 8  | 5  | 4  | 6  | 6  | 4  | 4  | 4  | 4  | 5  | 5  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 4  | 4* | 7  | 7  | 9  | 8  | 7  | 5  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9  | 9+ |
| SU = 34  | 9+      | 9  | 9  | 9  | 5* | 8  | 9  | 8  | 7  | 7  | 6  | 5  | 4  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9       | 9+ | 9+ | 9+ | 9+ | 8  | -  | 6* | 6  | 9  | 9+ | 9  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9+ | 9+ | 8  | 8  | 8  |
| D2 = 36  | 9+      | 9  | 8  | 5  | 2  | 3* | 4* | 5  | 7  | 9  | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9       | 8  | 6  | 2* | 4* | 8  | 6  | 5  | 7  | 7  | 6  | 5  | 6  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| ZS6 = 38 | -       | -  | -  | -  | 2* | 2* | 2  | 5  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 5  | -  | -  |
| FR = 39  | -       | 1* | 3* | 3* | 2* | 1  | -  | -  | 4  | 6  | 7  | 7  | 7  | 6  | 6  | 7  | 8  | 8  | 7  | 2* | 4* | 4* | 3* | 1* |
| FJL = 40 | -       | -  | 3* | 2* | 1* | 1* | 1* | 1* | -  | 1* | 6* | 7* | 4* | 2* | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Mar., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |  |
| KL7 = 01 | 8       | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 9  |  |  |
| VO2 = 02 | 7       | 2  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 8  | 6  | 8  | 8  | 9  | 9  | 9+ | 9  | 9  |  |  |
| W6 = 03  | 8       | 8  | 9  | 9  | 8  | 7  | 6  | 4  | 2  | 3  | -  | -  | -  | -  | 7  | 7  | 6  | 5  | 5  | 5  | 6  | 8  | 8  | 8  |  |  |
| W9 = 04  | 9       | 8  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |  |  |
| W3 = 05  | 8       | 8  | 9  | 8  | 8  | 8  | 6  | 1  | -  | 1  | -  | 4  | 9  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |  |  |
| XE1 = 06 | 9       | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 7  | 3  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 9  |  |  |
| TI = 07  | 5*      | 4* | 7  | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 5  | 6  | 7  | 7  | 7  | 5  |  |  |
| VP2 = 08 | 5*      | 1* | 5  | 8  | 9+ | 9+ | 7  | 1  | -  | -  | -  | 9+ | 9  | 9  | 9  | 8  | 8  | 5  | 5  | 6  | 5  | 5* | 6* | 6* |  |  |
| P4 = 09  | 5*      | 3* | 3  | 7  | 9+ | 9+ | 7  | 1  | -  | -  | -  | 6  | 9+ | 9  | 9  | 9  | 5  | 2  | 2  | 2  | 2  | 4* | 5* | 5* |  |  |
| HC = 10  | 9       | 9  | 9  | 3  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | 9+ | 9  | 9  | 4  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |  |  |
| PY1 = 11 | 9       | 9+ | 9+ | 9+ | 9+ | 8  | 4  | -  | 1* | -  | -  | 2* | 1* | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |  |  |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2* | 1* | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |  |
| LU = 13  | 6*      | 4  | 9  | 8  | 7  | 6  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 2  | 2  | 3  | 4* | 6  | 7* |  |  |
| G = 14   | 1       | -  | -  | -  | -  | -  | -  | 1  | 5  | 3  | 9  | 8  | 6  | 5  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 8  | 5  |  |  |
| I = 15   | 9       | 9  | 9  | 6  | -  | -  | 3* | 8  | 6  | 5  | 8  | 6  | 6  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  |  |  |
| UA3 = 16 | -       | -  | -  | -  | 2* | 1* | 3  | 8  | 4  | 1  | 7  | 7  | 5  | 4  | 4  | 4  | 7  | 7  | 8  | 8  | 5  | -  | -  | -  |  |  |
| UN = 17  | 2*      | 3* | 2* | 4  | 8  | 8  | 7  | 5  | 3  | 5  | 6  | 5* | 8* | 5  | 5  | 5  | 5  | 1  | 1  | -  | -  | -  | -  | -  |  |  |
| UA9 = 18 | 5*      | 2* | 1* | 2* | 5  | 7  | 9  | 8  | 5  | 5  | 8  | 7* | 7* | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | 1* |  |  |
| UA0 = 19 | 7       | 7  | 8  | 8  | 8  | 9  | 9  | 7  | 1  | -  | 6* | 8* | 8* | 7* | 5* | 5* | 4* | 5* | 3* | 1* | -  | -  | 8* | 8* |  |  |
| 4X = 20  | 9       | 9  | 9  | 3  | 6* | 6  | 9  | 7  | 3  | 6  | 6  | 5  | 4  | 3  | 4  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |  |  |
| HZ = 21  | 9       | 9  | 6  | 2* | 5* | 9  | 8  | 5  | 3  | 6  | 6  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |  |  |
| VU = 22  | 2*      | 2* | 4* | 9  | 8  | 6  | 4* | 4* | 4* | 5  | 5  | 4  | 6* | 5* | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |  |  |
| JT = 23  | 2*      | 2* | 4  | 7  | 7  | 8  | 8  | 7  | 4  | 3  | 7  | 7* | 8* | 6* | 5* | 4* | 1* | 1* | -  | -  | -  | -  | 1* | 6* |  |  |
| VR2 = 24 | 9       | 8  | 7* | 5* | 5* | 5* | 6* | 7* | 8* | 5  | 8  | 9* | 8* | 7  | 7* | 7  | 7  | 8  | 8  | 9  | 9  | 8  | 6* | 7* |  |  |
| JA1 = 25 | 9*      | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 6  | 7* | 8* | 7* | 6* | 6* | 5* | 6* | 7* | 8* | 7* | 5  | 8  | 8  | 9* |  |  |
| HS = 26  | 6       | 9  | 7  | 4* | 3* | 2* | 2* | 6* | 6* | 5  | 7  | 8* | 7  | 6  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 7  |  |  |
| DU = 27  | 8       | 5* | 5* | 5* | 5* | 5* | 4* | 5* | 1* | 1  | 8  | 9* | 8  | 8  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 7  | 8  | 9  |  |  |
| YB = 28  | 7       | 6  | 5* | 5* | 3* | 2* | 3* | 3* | 1* | 2  | 7  | 8  | 7  | 6  | 5  | 4  | 3  | 3* | 4* | 4* | 2* | -  | 2* | 7* |  |  |
| VK6 = 29 | 4*      | 7  | 4  | 1* | 1* | 1* | 1* | 1* | -  | 1  | 8  | 8  | 4  | 4* | 2* | 2* | 2* | 2* | 3* | 2* | 2* | 2* | 5* | 7* |  |  |
| VK3 = 30 | 8       | 7  | 5  | 2  | 1* | 3* | 4* | 3* | 1* | 2* | 7* | 5  | 4* | 3* | 2* | 1* | 1* | 1* | 1* | 1* | 2* | 6* | 7* | 7  |  |  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 3* | 5* | 6  | 8  | 1* | -  | -  | -  | 5  | 5  | 5* | 6* | 4  | 5  | 7  |  |  |
| KH8 = 32 | 7       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 3* | 5* | 7  | 8  | 5  | 1  | 1* | 5  | 6  | 5  | 5  | 5  | 5  | 6  | 6  |  |  |
| CN = 33  | 9+      | 9+ | 9+ | 9  | 8  | 6  | -  | 1* | 4  | 1  | 9  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |  |  |
| SU = 34  | 9       | 9  | 9  | 6  | 6* | 5  | 9  | 7  | 2  | 6  | 7  | 5  | 4  | 3  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |  |  |
| 6W = 35  | 5       | 8  | 9+ | 9+ | 9  | 2  | -  | 3* | 1  | -  | 9+ | 9  | 9  | 6  | 5  | 5  | 6  | 9  | 7  | 5  | 3* | 4  | 4* | 5* |  |  |
| D2 = 36  | 9       | 7  | 4  | 1  | -  | 2* | 4* | 5* | 2  | 9  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |  |
| 5Z = 37  | 8       | 5  | 2  | 2* | 5* | 6  | 4* | 2* | 3  | 7  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |  |  |
| ZS6 = 38 | -       | -  | -  | -  | 2* | 3* | 2* | 2* | 4  | 8  | 8  | 8  | 9  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 6  | 1* | -  | -  |  |  |
| FR = 39  | -       | -  | 4* | 5* | 3* | 2* | 1* | -  | 2  | 6  | 7  | 7  | 7  | 6  | 7  | 7  | 8  | 5  | 2* | 4* | 5* | 5* | 4* | 1* |  |  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 6* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |  |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Apr., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | 4  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 1  | 1  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 2  | 2  | 2  | 4  | 4  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 4  | 4  | 5  | 5  | 5  | 4  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 2  | 3  | 3  | 3  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2       | 2  | 3  | 3  | 2  | 2  | 2  | 1  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 4       | 5  | 4  | 3  | 3  | 2  | 2  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| P4 = 09  | 4       | 5  | 4  | 4  | 3  | 3  | 2  | 2  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | 4       | 5  | 5  | 4  | 3  | 3  | 3  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 3  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 9  | 9  |
| G = 14   | -       | 4  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | -       | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 1       | 2  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| SU = 34  | 3       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 6       | 5  | 4  | 3  | 2  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  |
| D2 = 36  | 3       | 5  | 5  | 6  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| 5Z = 37  | 3       | 3  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| ZS6 = 38 | 5       | 5  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| FR = 39  | 5       | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Apr., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 3  | 7  | 8  | 8  | 8  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -  | -  | -  | 2  | 4  | 4  | 5  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -  | 5  | 5  | 5  | 7  | 7  | 7  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 2  | 7  | 7  | 8  | 8  | 8  | 7  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | 1  | 1  | 5  | 6  | 6  | 6  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5  | 5  | 6  | 6  | 5  | 5  | 5  | 4  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 7  | 8  | 7  | 6  | 6  | 5  | 5  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| P4 = 09  | 7  | 8  | 7  | 7  | 6  | 6  | 5  | 5  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| HC = 10  | 7  | 8  | 8  | 7  | 6  | 6  | 6  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | -  | -  | -  | -  | -  | -  | -  | 2  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 9  | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | -  | -  | -  | -  | 3  | 9  | 9+ | 9+ | 9+ |
| G = 14   | 2  | 7  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| I = 15   | 1  | 4  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA3 = 16 | 1  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| UN = 17  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | -  | -  | -  |
| UA9 = 18 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  |
| HZ = 21  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  |
| VU = 22  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  |
| JT = 23  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 4  | 5  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| SU = 34  | 6  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  |
| 6W = 35  | 9  | 8  | 7  | 6  | 5  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  |
| D2 = 36  | 6  | 8  | 8  | 9  | 8  | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| 5Z = 37  | 6  | 6  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| ZS6 = 38 | 8  | 8  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  |
| FR = 39  | 8  | 8  | 7  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 8  | 8  |
| FJL = 40 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Apr., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | 1  | 2  | 4  | 4  | 7  | 7  | 6  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| W6 = 03  | 1       | 3  | 5  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 6       | 8  | 6  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| W3 = 05  | 8       | 8  | 8  | 8  | 8  | 9  | 9  | 7  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| XE1 = 06 | 7       | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| TI = 07  | 8       | 9  | 9  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| P4 = 09  | 9       | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 3  | 1  | -  | 1  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | -  | -  | 1  | 4  | 8  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 2  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 9  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| UA3 = 16 | 8       | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  |
| UN = 17  | 4       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 5  | 6  | 4  |
| UA9 = 18 | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 5  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 8       | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  |
| HZ = 21  | 7       | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 7  |
| VU = 22  | 6       | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | -  | -  | 1  | 4  | 5  | 5  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  |
| VK6 = 29 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 4  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | 4  | 7  | 7  | 7  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | 2  | 5  | 6  | 7  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 9  | 8  | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 8  | 8  |
| SU = 34  | 8       | 7  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 9  | 9  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  |
| FR = 39  | 8       | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 8  |
| FJL = 40 | 7       | 6  | 6  | 5  | 5  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Apr., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 1            | 1  | 2  | 5  | 7  | 8  | 8  | 8  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 =   | 02 | 8            | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  |
| W6 =    | 03 | 4            | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 =    | 04 | 8            | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| W3 =    | 05 | 8            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  |
| XE1 =   | 06 | 8            | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| TI =    | 07 | 9            | 9  | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| VP2 =   | 08 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  |
| P4 =    | 09 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  |
| HC =    | 10 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 3  | 2  | 3  | 5  | 8  | 9  | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 9            | 9  | 9  | 9  | 8  | 8  | 8  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 8  |
| I =     | 15 | 8            | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  |
| UA3 =   | 16 | 8            | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  |
| UN =    | 17 | 7            | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 7  |
| UA9 =   | 18 | 5            | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 7  |
| UA0 =   | 19 | -            | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | -  |
| 4X =    | 20 | 8            | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 8  | 8  |
| HZ =    | 21 | 8            | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  | 8  |
| VU =    | 22 | 7            | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | -  | 1  | 4  | 6  | 6  | 6  |
| JT =    | 23 | 3            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 6  | 6  |
| VR2 =   | 24 | 1            | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 4  | 5  |
| JA1 =   | 25 | -            | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 4* | 2* | -  |
| HS =    | 26 | 6            | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 7  | 7  |
| DU =    | 27 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 2  |
| YB =    | 28 | 5            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 6  |
| VK6 =   | 29 | 5            | 2  | 1  | -  | -  | -  | -  | -  | 2  | 2  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 6  |
| VK3 =   | 30 | -            | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  | 1  |
| KH6 =   | 31 | -            | -  | -  | 4  | 6  | 6  | 7  | 7  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 9            | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 8  |
| SU =    | 34 | 8            | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  | 8  |
| 6W =    | 35 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 9  | 9  |
| D2 =    | 36 | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  |
| 5Z =    | 37 | 8            | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  |
| ZS6 =   | 38 | 9            | 9  | 9  | 8  | 6  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  |
| FR =    | 39 | 8            | 8  | 6  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 8  |
| FJL =   | 40 | 6            | 7  | 7  | 7  | 7  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 6  | 6  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 20 Meters: Apr., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 6       | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | 1* | 2* | 1  | 2  | 4  |
| VO2 = 02 | 9       | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | 3  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 9  | 9  |
| W6 = 03  | 8       | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| W9 = 04  | 9       | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | 4  | 5  | 8  | 9  |
| W3 = 05  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 9  | 9  |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 8  | 5  | 1  | -  | -  | 1  | 1  | 2  | 5  | 8  | 9  | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 7  | 2  | -  | -  | 1  | 1  | 2  | 5  | 8  | 9  | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9+ | 9  | 8  | 4  | 1  | 1  | 1  | 1  | 2  | 5  | 8  | 9  | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9  | 9  | 8  | 5  | 2  | 1  | 1  | 1  | 4  | 7  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 1* | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 1  | 1* | 1* | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 8  | 9  | 9  | 9+ |
| I = 15   | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 9  | 9  | 9  | 9+ |
| UA3 = 16 | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  |
| UN = 17  | 9       | 9  | 8  | 8  | 3  | 2  | 1  | -  | -  | -  | 1* | 3* | 1* | 1* | -  | -  | -  | -  | 3  | 8  | 8  | 9  | 9  | 9  |
| UA9 = 18 | 8       | 8  | 8  | 6  | 1  | 1  | 2  | 1  | 1  | 2* | 5* | 3* | 2* | 1* | -  | -  | -  | -  | 1  | 6  | 8  | 9  | 9  | 9  |
| UA0 = 19 | 2       | 2  | 2  | 1  | -  | 1  | 5  | 6  | 8  | 8  | 7  | 6* | 3* | 1* | -  | -  | -  | -  | 2* | 5* | 7* | 7  | 6  | 6  |
| 4X = 20  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  | 9       | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | 1* | 3* | -  | -  | -  | -  | 6  | 6  | 4  | 7  | 8  | 9  | 9  | 9  |
| JT = 23  | 8       | 7  | 5  | 1  | 1  | -  | -  | -  | 2* | 6* | 5* | 5* | 1* | 1* | -  | -  | -  | -  | 1  | 7  | 8  | 9  | 9  | 9  |
| VR2 = 24 | 6       | 5  | 4  | -  | -  | -  | -  | -  | 4* | 7* | 8  | 5* | 3* | 1* | -  | -  | -  | 1  | 3  | 7  | 8  | 8  | 8  | 8  |
| JA1 = 25 | 2*      | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | 4* | 7* | 8* | 8  | 8* | 6* |
| HS = 26  | 9       | 8  | 7  | 1  | -  | -  | -  | -  | -  | 5* | 5* | 4* | 1* | -  | -  | -  | -  | -  | 5  | 8  | 9  | 9  | 9  | 9  |
| DU = 27  | 6       | 3  | -  | -  | -  | -  | -  | -  | 5* | 8  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 7  |
| YB = 28  | 9       | 8  | 5  | 1  | -  | -  | -  | -  | 1* | 4* | 7  | 8  | 2  | 1  | 1  | -  | 1  | 1  | 5  | 7  | 8  | 9  | 9  | 9  |
| VK6 = 29 | 8       | 8  | 7  | 5  | 3  | 2  | 3  | 6  | 8  | 8  | 8  | 7  | 5  | 4  | 3  | 2  | 2  | 3  | 5  | 6  | 6  | 6  | 7  | 8  |
| VK3 = 30 | 5       | 5  | 4  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 3  | 3  | 3  | 4  | 5  | 7  | 7  | 7  | 7  | 6  |
| KH6 = 31 | -       | 2  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 9  | 9+ | 9+ |
| SU = 34  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 4  | 1  | -  | -  | -  | 1  | 3  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 9+ | 9+ | 9  | 6  | 9  | 9  | 9  | 7  | 4  | 1  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+      | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| ZS6 = 38 | 7       | 8  | 8  | -  | -  | 8  | 9  | 9  | 8  | 6  | 2  | 1  | -  | -  | -  | 1  | 4  | 6  | 9  | 9  | 9+ | 9  | 9  | 8  |
| FR = 39  | 1       | -  | -  | 7  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | 1  | -  | 1  | 2  | 5  | 8  | 9  | 9  | 8  | 1  | -  |
| FJL = 40 | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 4* | 2  | 1* | -  | -  | -  | -  | -  | -  | 2  | 8  | 9  | 9  | 9  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Apr., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 2* | 1* | 2  | 2  | 1  | 1  | 2  | 4  | 4  | 6  | 8  | 8  |
| VO2 = 02 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 8  | 9  | 9  | 7  | 4  | 1  | -  | 1  | 2  | 5  | 6  | 8  | 9  | 9+ | 9+ |
| W6 = 03  | 9   | 9+  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 9  | 8  | 5  | 2  | 1  | 1  | 1  | 1  | 1  | 4  | 7  | 9  |
| W9 = 04  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 9  | 9  | 8  | 6  | 5  | -  | 1  | 2  | 2  | 5  | 6  | 9  | 9  | 9+ |
| W3 = 05  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9+ | 9  | 8  | 6  | 2  | 1  | 2  | 2  | 4  | 6  | 8  | 9  | 9+ | 9+ |
| XE1 = 06 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9  | 8  | 5  | 2  | 1  | 2  | 4  | 5  | 6  | 8  | 9  | 9+ |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 8  | 9  | 9+ | 9  | 8  | 5  | 3  | 4  | 4  | 5  | 6  | 8  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 6* | 9+ | 9+ | 9  | 7  | 5  | 4  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 5* | 9  | 9+ | 9  | 8  | 6  | 5  | 5  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4* | 4  | 9+ | 9  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 2* | 2* | 5  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4* | 3* | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 1* | 4* | 1* | -  | 4  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 7  | 3  | 2  | -  | -  | 1  | 3  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| I = 15   | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 6  | 4  | 1  | 1  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| UA3 = 16 | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 1  | 2* | -  | 1* | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| UN = 17  | 9   | 9   | 9  | 8  | 8  | 6  | 4  | 2  | 1  | 1* | 5* | 4* | 4* | 2* | 1* | 1  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| UA9 = 18 | 9   | 9   | 8  | 8  | 8  | 6  | 6  | 5  | 4  | 6  | 6  | 5* | 5* | 2* | 1* | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| UA0 = 19 | 8   | 7   | 7  | 5  | 5  | 6  | 7  | 9  | 8  | 8* | 9  | 8* | 7* | 5* | 2* | 1  | 2* | 4* | 6* | 8* | 8* | 9* | 8  | 8  | 8  | 8  |
| 4X = 20  | 9+  | 9+  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HZ = 21  | 9+  | 9   | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 1  | -  | 1* | 1  | -  | 1* | 1  | 3  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| VU = 22  | 9   | 9   | 9  | 8  | 8  | 5  | 2  | -  | -  | 2* | 2* | 8  | 4* | 2* | 2* | 1  | 3  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  | 9   | 8   | 8  | 6  | 4  | 3  | 2  | 5  | 5  | 5* | 7* | 7* | 6* | 7* | 2* | 1* | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VR2 = 24 | 8   | 8   | 8  | 2  | -  | -  | -  | 5* | 5* | 8* | 9* | 8* | 8* | 6* | 2  | 3  | 4  | 4  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| JA1 = 25 | 7*  | 4*  | 2  | 2  | 3  | 7  | 7  | 8  | 9  | 9  | 9+ | 9  | 9  | 8  | 5  | 3  | 3* | 4* | 7* | 9* | 9* | 9* | 9* | 9* | 8* | 8* |
| HS = 26  | 9+  | 9   | 8  | 6  | 2  | -  | -  | 4* | 5* | 7* | 7* | 6* | 3* | 2  | 3  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| DU = 27  | 8   | 7   | 3  | -  | -  | -  | 1* | 5* | 6* | 7  | 8  | 8  | 7  | 5  | 3  | 2  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| YB = 28  | 9   | 9   | 7  | 4  | 1  | -  | -  | 1* | 4* | 5  | 8* | 6  | 6  | 5  | 4  | 4  | 4  | 6  | 7  | 8  | 8  | 8  | 6  | 9  | 9  | 9  |
| VK6 = 29 | 9   | 9   | 8  | 7  | 6  | 4  | 2  | 2  | 6  | 9  | 9  | 8  | 8  | 7  | 5  | 2  | 2  | 3  | 4  | 4  | 4  | 3  | 4* | 5* | 7  | 7  |
| VK3 = 30 | 8   | 8   | 8  | 7  | 7  | 7  | 6  | 6  | 6  | 8  | 9  | 9  | 8  | 8  | 6  | 5  | 5  | 4  | 4  | 4  | 6  | 8  | 8  | 8  | 8  | 8  |
| KH6 = 31 | 2   | 7   | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 7  | 6  | 1  | 1  | 1  | 2* | 2* | 2* | -  | -  | 1  | 1  | 1  |
| KH8 = 32 | 3   | 6   | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 9  | 9  | 9  | 7  | 5  | 5  | 3  | 3  | 2* | 2* | 1  | 1  | 1  | 1  | 1  |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| SU = 34  | 9+  | 9+  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 3  | 1  | -  | -  | 1  | 1  | 3  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 8  | 6  | 4  | 3  | 4  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+  | 9+  | 9+ | 9  | 5  | 1  | 7  | 6  | 9  | 9  | 8  | 5  | 2  | 1  | 3  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+  | 9+  | 9  | 6  | 6  | 9  | 7  | 3  | 6  | 4  | 1  | 1  | 1  | 2  | 1  | 3  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| ZS6 = 38 | -   | 1   | -  | -  | -  | -  | 6  | 6  | 9  | 8  | 7  | 5  | 4  | 4  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9  | 1* | 1* | 1* | 1* |
| FR = 39  | 1*  | 1*  | 1* | -  | 9  | 6  | 1  | 1  | 5  | 4  | 4  | 3  | 5  | 3  | 3  | 5  | 6  | 8  | 9  | 9  | 8  | 1* | 1* | 1* | 1* | 1* |
| FJL = 40 | 9   | 9   | 8  | 8  | 7  | 5  | 7  | 9  | 8  | 8  | 8  | 6  | 8  | 3* | 1  | 1  | 1  | 3  | 6  | 6  | 9  | 9  | 9  | 9  | 9  | 9  |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Apr., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |     | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 6* | 5* | 1  | -  | -  | -  | 1  | 2  | 4  | 8  | 7  | 6  | 8  | 8  | 9  |
| VO2 = 02 |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 5  | 9  | 9  | 8  | 6  | 4  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ |
| W6 = 03  |     | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 4  | 4  | 2  | 2  | 4  | 6  | 8  | 9  |
| W9 = 04  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | 2  | 6  | 9  | 9  | 8  | 6  | 4  | 4  | 4  | 5  | 5  | 7  | 9  | 9  | 9+ |
| W3 = 05  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 8  | 5  | 9  | 9  | 9  | 7  | 5  | 4  | 5  | 5  | 6  | 7  | 9  | 9  | 9+ | 9+ |
| XE1 = 06 |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 8  | 8  | 9  | 9  | 7  | 6  | 5  | 6  | 5  | 6  | 8  | 9  | 9+ | 9+ |
| TI = 07  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 6* | 5* | 9+ | 9  | 9  | 8  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  | 5* | 6  | 9+ | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | 5* | 5* | 9+ | 9  | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  |     | 9  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 3  | 5* | 5* | 9+ | 9+ | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4* | 1* | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 3* | 5* | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | 1* | 1* | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |     | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 6  | 6  | 2  | 2  | 4  | 4  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| I = 15   |     | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 3  | 1  | 2  | 2  | 2  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 |     | 9  | 9  | 8  | 7  | 8  | 8  | 9  | 8  | 6  | 8  | 5  | 3* | 6  | 8  | 1  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| UN = 17  |     | 8  | 8  | 9  | 9  | 8  | 8  | 7  | 4  | 3  | 4  | 5  | 5* | 5* | 5* | 3* | 2* | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| UA9 = 18 |     | 6  | 6  | 8  | 8  | 9  | 8  | 7  | 8  | 6  | 7  | 5  | 6* | 6* | 7  | 3* | 4* | 4  | 6  | 8  | 8  | 7  | 6* | 4* | 6  |
| UA0 = 19 |     | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 5  | 6* | 9  | 8  | 8* | 6* | 5* | 4* | 4* | 5* | 7* | 8* | 9* | 9* | 9* | 8  |
| 4X = 20  |     | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 7  | 6  | 5  | 2  | 1  | 1* | 1  | 1  | 3  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ |
| HZ = 21  |     | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 5  | 2  | 1  | 1  | 6  | 1  | 2  | 4  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ |
| VU = 22  |     | 9  | 9  | 9  | 9  | 8  | 7  | 2  | 1* | 1  | 1  | 5  | 4  | 5* | 7  | 3* | 4  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  |     | 9  | 8  | 8  | 8  | 7  | 6  | 5  | 6  | 5  | 7  | 3  | 7* | 7* | 6  | 4* | 5* | 4  | 7  | 8  | 8  | 7  | 7  | 7  | 8  |
| VR2 = 24 |     | 9  | 8  | 7  | 2  | 1* | 1* | 3* | 4* | 8* | 8* | 8* | 9* | 8* | 6  | 5  | 6  | 6  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| JA1 = 25 |     | 8* | 6* | 6  | 6  | 7  | 7  | 8  | 8  | 9  | 8  | 9  | 9  | 8  | 7  | 7  | 5  | 5* | 6* | 8* | 9* | 9* | 9* | 9* | 9* |
| HS = 26  |     | 9  | 9  | 8  | 5  | 1  | -  | -  | 2* | 6* | 6* | 7* | 7* | 6* | 5  | 5  | 6  | 7  | 7  | 8  | 9  | 9  | 9+ | 9  | 9  |
| DU = 27  |     | 8  | 6  | 2* | 1* | -  | -  | 3* | 4* | 5* | 7  | 8  | 8  | 8  | 6  | 6  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| YB = 28  |     | 9  | 8  | 4* | 1* | -  | -  | -  | 2* | 4* | 6  | 7  | 8  | 7  | 6  | 6  | 5  | 5  | 5  | 6  | 7  | 7  | 4  | 5* | 6  |
| VK6 = 29 |     | 8  | 8  | 6  | 2  | 1  | -  | -  | 2* | 1* | 8  | 9  | 9  | 8  | 7  | 4  | 1  | 1  | 1  | 1  | 2* | 2* | 3* | 5* | 4  |
| VK3 = 30 |     | 8  | 8  | 7  | 5  | 4  | 1  | 1* | 1* | 2* | 4* | 8  | 9  | 8  | 6  | 5  | 3  | 2  | 2  | 2* | 2* | 4  | 8  | 9  | 8  |
| KH6 = 31 |     | 5  | 7  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 8  | 3  | 9  | 9  | 8  | 7  | 5  | 4  | 3  | 8  | 6  | 7  | 1  | 1  | 4  |
| KH8 = 32 |     | 5  | 8  | 8  | 9  | 9  | 9  | 9+ | 9  | 9  | 4  | 1* | 9  | 9  | 8  | 4  | 2  | 5  | 6  | 6  | 3  | 4  | 4  | 3  | 4  |
| CN = 33  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | 9  | 9  | 7  | 4  | 3  | 2  | 3  | 5  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  |     | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 2  | 1  | 1  | 1  | 1  | 3  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9  | 9+ |
| 6W = 35  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 2  | 7  | 9+ | 9+ | 9  | 8  | 6  | 5  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  |     | 9+ | 9+ | 9  | 7  | 1  | 2* | 4  | 1  | 7  | 9  | 8  | 7  | 5  | 4  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  |     | 9+ | 9  | 8  | 1* | 1  | 8  | 2  | -  | 5  | 6  | 4  | 3  | 2  | 8  | 4  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| ZS6 = 38 |     | -  | -  | -  | -  | 1* | 1* | 1* | -  | 8  | 9  | 8  | 7  | 6  | 8  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 5  | 1* | -  |
| FR = 39  |     | -  | 1* | 2* | 1* | 7  | -  | -  | -  | 3  | 6  | 5  | 6  | 5  | 6  | 5  | 7  | 8  | 9  | 9  | 9  | 2* | 3* | 2* | 1* |
| FJL = 40 |     | 4  | 6  | 4  | 2  | 1  | -  | -  | 5  | 5  | 8  | 7  | 6  | 5  | 7  | 2  | 2  | 2  | 4  | 5  | 6  | 8  | 9  | 8  | 6  |
| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Apr., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| Zone     | 00  | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
| KL7 = 01 | 9   | 9  | 9  | 9  | 8  | 5  | 5  | 3  | 1  | 2* | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 8  | 8  | 9  |  |
| VO2 = 02 | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 1  | -  | 6  | 9  | 9  | 7  | 6  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ |  |
| W6 = 03  | 9   | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 2  | -  | 6  | -  | 6  | 8  | 5  | 5  | 4  | 6  | 4  | 7  | 8  | 9  | 9  |  |
| W9 = 04  | 9   | 9+ | 9  | 9+ | 9  | 8  | 7  | 8  | 2  | -  | -  | 3  | 9  | 8  | 7  | 5  | 5  | 5  | 5  | 8  | 9  | 9  | 9  | 9  |  |
| W3 = 05  | 9+  | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 4  | 1  | 4  | 9  | 9  | 8  | 7  | 5  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ |  |
| XE1 = 06 | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 2  | 1* | 1* | 9  | 9  | 8  | 7  | 8  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ |  |
| TI = 07  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | 4* | 1* | 8  | 9+ | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ |  |
| VP2 = 08 | 8   | 8  | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | 2* | 9+ | 9+ | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 8  |  |
| P4 = 09  | 6   | 6  | 8  | 9+ | 9+ | 9+ | 9  | 4  | -  | 2* | 2* | 9+ | 9+ | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 8  | 8  |  |
| HC = 10  | 9+  | 9+ | 5  | 8  | 9+ | 9+ | 8  | 5  | -  | 5* | -  | -  | 9+ | 9  | 9  | 8  | 9  | 5  | 6  | 9  | 8  | 7  | 9+ | 9+ |  |
| PY1 = 11 | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 2  | -  | -  | -  | -  | 2  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| CE = 12  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 4  | 1* | 2* | -  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| LU = 13  | 9+  | 9+ | 9+ | 9  | 8  | 6  | -  | -  | -  | -  | -  | -  | 1* | 8  | 9  | 9  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| G = 14   | 9   | 9  | 9  | 9  | 8  | 6  | 8  | 8  | 5  | 8  | 8  | 8  | 6  | 4  | 3  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |  |
| I = 15   | 9+  | 9+ | 9+ | 9  | 9  | 7  | 8  | 8  | 5  | 8  | 8  | 6  | 5  | 4  | 3  | 4  | 5  | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ |  |
| UA3 = 16 | 7   | 6  | 5  | 2  | 4  | 7  | 8  | 7  | 4  | 7  | 6  | 5  | 4  | 3* | 2  | 4  | 6  | 7  | 8  | 9  | 9  | 8  | 8  | 7  |  |
| UN = 17  | 3   | 4  | 7  | 8  | 8  | 8  | 7  | 3  | 2  | 6  | 3  | 2  | 7* | 5* | 3* | 4  | 6  | 7  | 8  | 8  | 8  | 7  | 6  | 5  |  |
| UA9 = 18 | 2*  | 1  | 5  | 8  | 8  | 8  | 8  | 7  | 4  | 8  | 6  | 7* | 7* | 5* | 4* | 4  | 5  | 7  | 6  | 2  | -  | 2* | 5* | 3* |  |
| UA0 = 19 | 8   | 8  | 8  | 8  | 8  | 8  | 9  | 7  | 1  | 1* | 7* | 8  | 8* | 7* | 6* | 5* | 5* | 6* | 8* | 8* | 8* | 9* | 9* | 8  |  |
| 4X = 20  | 9   | 9  | 9  | 9  | 8  | 9  | 9  | 2  | 2  | 7  | 4  | 5  | 4  | 2* | 2  | 4  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |  |
| HZ = 21  | 9   | 9  | 9  | 9  | 9  | 9  | 6  | 1* | 2  | 6  | 5  | 5  | 4* | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |  |
| VU = 22  | 8   | 8  | 9  | 9  | 8  | 6  | 2* | 2* | 3* | 5  | 3  | 3  | 5* | 5* | 5* | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |  |
| JT = 23  | 8   | 9  | 8  | 8  | 7  | 6  | 8  | 5  | 3  | 7  | 5  | 7* | 8* | 7* | 6* | 5* | 5  | 6  | 5* | 6* | 4* | 6* | 5* | 5  |  |
| VR2 = 24 | 9   | 8  | 6* | 4* | 4* | 4* | 5* | 7* | 7* | 6  | 7  | 9* | 8* | 8* | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |  |
| JA1 = 25 | 8*  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 6* | 7* | 8* | 7* | 6  | 5* | 5* | 6* | 8* | 8* | 9* | 9* | 9* | 9* | 9* |  |
| HS = 26  | 9   | 9  | 5  | 3* | 1* | 1* | 1* | 5* | 6* | 6  | 6  | 8* | 7  | 6  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9+ | 9  | 8  |  |
| DU = 27  | 7   | 6* | 5* | 4* | 3* | 4* | 5* | 5* | 1* | 3  | 8  | 9* | 8  | 8  | 6  | 5  | 5  | 7  | 8  | 8  | 9  | 8  | 8  | 9  |  |
| YB = 28  | 8   | 6* | 5* | 4* | 2* | 1* | 2* | 3* | 2* | 5  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | 1  | 1  | 4  | 4* | 5* | 5* | 5* |  |
| VK6 = 29 | 6   | 3* | 2* | 1* | 1* | 1* | 1* | 2* | -  | 1  | 8  | 8  | 7  | 6  | 2* | 1* | 1* | 2* | 2* | 2* | 1* | 1* | 5* | 5* |  |
| VK3 = 30 | 8   | 8  | 2  | 1* | -  | 1* | 1* | 2* | -  | 2* | 5* | 8  | 5  | 3  | 1  | 1  | 1* | 1* | 1* | 1* | 2* | 6  | 8  | 9  |  |
| KH6 = 31 | 7   | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 3* | 4* | 8  | 9  | 8  | 1  | 1  | 3  | 3  | 4* | 5* | 5* | 4* | 3  | 5  |  |
| KH8 = 32 | 7   | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 5  | 3* | 2* | 2  | 9  | 5  | -  | 1* | 3  | 6  | 6  | 5  | 5  | 5  | 5  | 7  |  |
| CN = 33  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 4  | 7  | 9  | 8  | 6  | 4  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |  |
| SU = 34  | 9   | 9  | 9+ | 9  | 8  | 9  | 9  | 2  | 2  | 8  | 5  | 3  | 4  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9  | 9  |  |
| 6W = 35  | 9+  | 9+ | 9+ | 9+ | 9+ | 8  | -  | -  | 1  | 9+ | 9+ | 9  | 9  | 8  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9  | 8  | 8  |  |
| D2 = 36  | 9+  | 8  | 6  | 2  | 2* | 3* | 3* | 2* | 2  | 9  | 9  | 8  | 7  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| 5Z = 37  | 9   | 8  | 4  | 2* | 3* | 3* | 2* | 1* | 2  | 7  | 6  | 6  | 5  | 6  | 4  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| ZS6 = 38 | -   | -  | -  | -  | 2* | 2* | 2* | 1* | 4  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 2* | -  | -  |  |
| FR = 39  | -   | -  | 3* | 2* | 2* | 1* | -  | -  | -  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 3  | 4* | 4* | 3* | 1* |  |
| FJL = 40 | 1*  | 2* | 1* | -  | -  | -  | -  | -  | 1  | 4  | 1* | 6* | 6  | 4  | 3* | 2* | 1* | -  | -  | -  | 2  | 2  | 1  | -  |  |
| Zone     | 00  | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Apr., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| Zone     | 00  | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
| KL7 = 01 | 8   | 8  | 8  | 7  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 6  | 8  |  |
| VO2 = 02 | 8   | 8  | 8  | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | 8  | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |  |
| W6 = 03  | 9   | 9  | 9+ | 9  | 8  | 8  | 8  | 7  | 5  | -  | -  | 1  | -  | -  | 7  | 8  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 9  |  |
| W9 = 04  | 9   | 9  | 8  | 9  | 9  | 5  | 2  | 6  | -  | -  | -  | -  | 7  | 8  | 8  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |  |
| W3 = 05  | 9   | 9  | 9  | 9  | 9  | 9  | 8  | 7  | -  | -  | -  | 9  | 9  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |  |
| XE1 = 06 | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | 3  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ |  |
| TI = 07  | 5   | 6  | 8  | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  |  |
| VP2 = 08 | 2   | 1  | 7  | 9  | 9+ | 9  | 6  | -  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 5  | 5  | 5  | 5* |  |
| P4 = 09  | 1   | -  | 5  | 8  | 9+ | 8  | 6  | -  | -  | -  | -  | 5  | 9+ | 9  | 9  | 9  | 5  | 5  | 9  | 9  | 6  | 5* | 5* | 4* |  |
| HC = 10  | 9+  | 9+ | 9+ | 6  | 7  | 7  | 5  | 1  | -  | 2* | -  | -  | 9+ | 9  | 9  | 5  | 9  | 9  | 9  | -  | 1* | 9+ | 9+ | 9+ |  |
| PY1 = 11 | 9+  | 9+ | 9+ | 9+ | 9  | 3  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 7  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| CE = 12  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| LU = 13  | 9   | 7  | 9  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2* | -  | 1  | 1  | 1  | 1  | 7  | 9  | 9  | 9  | 9  | 9  |  |
| G = 14   | 8   | 8  | 8  | 6  | 3  | 2  | 2  | 6  | 1  | 1  | 9  | 8  | 7  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |  |
| I = 15   | 9   | 9  | 9  | 9  | 6  | 2  | 6  | 6  | 2  | 6  | 8  | 6  | 5  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |  |
| UA3 = 16 | 4   | 2  | 1  | -  | -  | 4  | 8  | 5  | 1  | 2  | 7  | 6  | 5  | 4  | 5  | 6  | 7  | 8  | 8  | 8  | 7  | 5  | 3  | 2  |  |
| UN = 17  | 3*  | 2* | 3  | 8  | 9  | 8  | 7  | 1  | 1  | 6  | 5  | 4  | 8* | 5* | 4  | 6  | 6  | 7  | 6  | 5  | 4  | 2  | 1  | 2* |  |
| UA9 = 18 | 4*  | 2* | 1  | 3  | 8  | 8  | 8  | 5  | 1  | 5  | 8  | 6  | 7* | 5  | 5  | 5  | 6  | 5  | -  | -  | -  | -  | 5* | 6* |  |
| UA0 = 19 | 5   | 6  | 7  | 8  | 8  | 8  | 8  | 5  | -  | -  | 4* | 8* | 8* | 8* | 6* | 6* | 6* | 7* | 8* | 6* | 6* | 8* | 8* | 6* |  |
| 4X = 20  | 9   | 9  | 9  | 6  | 5  | 9  | 7  | -  | -  | 7  | 6  | 5  | 4  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |  |
| HZ = 21  | 9   | 9  | 9  | 7  | 9  | 8  | 2* | 1* | -  | 6  | 5  | 5  | 5  | 5  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |  |
| VU = 22  | 5   | 3  | 7  | 9  | 8  | 4* | 3* | 3* | 1* | 5  | 5  | 5  | 8* | 6* | 5  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |  |
| JT = 23  | 4   | 7  | 8  | 8  | 8  | 7  | 8  | 3  | 1  | 3  | 8  | 6  | 8* | 7* | 6* | 5  | 5  | 5* | 5* | 1* | -  | 4* | 6* | 5* |  |
| VR2 = 24 | 8   | 7* | 6* | 6* | 5* | 5* | 6* | 8* | 5* | 5  | 8  | 8  | 9* | 8* | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  |  |
| JA1 = 25 | 8   | 8  | 8  | 8  | 9  | 8  | 9  | 9  | 7  | 4* | 8* | 8* | 8* | 7* | 7* | 7* | 8* | 8* | 9* | 9* | 7* | 8  | 8  | 8  |  |
| HS = 26  | 7   | 6  | 5* | 6* | 2* | 2* | 2* | 5* | 4* | 5  | 7  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 6* |  |
| DU = 27  | 6*  | 6* | 6* | 5* | 5* | 5* | 5* | 4* | -  | -  | 8  | 9* | 8  | 8  | 7  | 7  | 6  | 7  | 8  | 8  | 8  | 7* | 8* | 8  |  |
| YB = 28  | 7*  | 5* | 5* | 5* | 3* | 3* | 3* | 2* | -  | -  | 8  | 8  | 8  | 7  | 5  | 4* | 3* | 4* | 4* | 5* | 4* | 2* | 5* | 7* |  |
| VK6 = 29 | 4*  | 3* | 2* | 1* | 1* | 1* | 2* | 1* | -  | -  | 6  | 8  | 5  | 4  | 2* | 2* | 2* | 2* | 2* | 1* | -  | -  | 4* | 7* |  |
| VK3 = 30 | 8   | 2  | 1* | 1* | 1* | 1* | 4* | 1* | -  | 1* | 7* | 6* | 2  | 2* | 2* | 1* | 1* | 1* | 1* | 1* | 1* | 6* | 8  | 8  |  |
| KH6 = 31 | 7   | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 3* | 5* | 5* | 9  | 4  | 1* | -  | 6  | 4  | 4  | 5* | 5* | 4  | 6  | 7  |  |
| KH8 = 32 | 8   | 8  | 9  | 9  | 9  | 9  | 8  | 4  | -  | 4* | 4* | 3* | 8  | 1* | 1* | 2* | 2* | 7  | 7  | 6  | 6  | 6  | 7  | 7  |  |
| CN = 33  | 9+  | 9+ | 9+ | 9  | 9  | 8  | 6  | 4  | -  | 1  | 9  | 8  | 7  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |  |
| SU = 34  | 9   | 9  | 9  | 7  | 5* | 8  | 7  | -  | -  | 7  | 6  | 5  | 4  | 3  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  |  |
| 6W = 35  | 6   | 9  | 9+ | 9+ | 9  | 2  | -  | -  | -  | -  | 9+ | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 6  | 4* | 5* |  |
| D2 = 36  | 8   | 5  | 2  | -  | -  | 5* | 5* | 4* | 1* | 8  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  |  |
| 5Z = 37  | 8   | 5  | -  | 2* | 4* | 4* | 4* | 2* | -  | 7  | 7  | 7  | 6  | 7  | 6  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  |  |
| ZS6 = 38 | -   | -  | -  | -  | 3* | 3* | 2* | 1* | 1* | 8  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 3  | -  | -  | -  |  |
| FR = 39  | -   | -  | 3* | 3* | 3* | 2* | 1* | -  | -  | 3  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 7  | 4* | 5* | 5* | 3* | -  |  |
| FJL = 40 | -   | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 6* | 6* | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |  |
| Zone     | 00  | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: May, Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | 3  | 4  | 5  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | -  | 2  | 2  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | -  | 2  | 2  | 4  | 4  | 3  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 2  | 4  | 5  | 5  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 2  | 2  | 2  | 1  | 3  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2       | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 4       | 5  | 4  | 3  | 3  | 2  | 2  | 2  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| P4 = 09  | 4       | 5  | 4  | 3  | 3  | 2  | 2  | 2  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 4       | 5  | 5  | 5  | 4  | 4  | 3  | 3  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  | 9  |
| G = 14   | 4       | 4  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 4       | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| UA3 = 16 | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 3  | 5  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| SU = 34  | 3       | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 6       | 5  | 3  | 4  | 3  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | -  |
| D2 = 36  | 6       | 5  | 5  | 6  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | -  |
| 5Z = 37  | 3       | 3  | 3  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  |
| ZS6 = 38 | 5       | 5  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | -  |
| FR = 39  | 5       | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: May, Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2       | 6  | 7  | 8  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 1  | 2  | 5  | 5  | 6  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 3  | 5  | 5  | 7  | 7  | 6  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 2       | 5  | 7  | 8  | 8  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | 1       | 2  | 5  | 5  | 5  | 4  | 6  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5       | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 7       | 8  | 7  | 6  | 6  | 5  | 5  | 5  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| P4 = 09  | 7       | 8  | 7  | 6  | 6  | 5  | 5  | 5  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| HC = 10  | 7       | 8  | 8  | 8  | 7  | 7  | 6  | 6  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | -  | -  | -  | -  | -  | -  | 6  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ |
| G = 14   | 7       | 7  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| I = 15   | 7       | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  |
| UA3 = 16 | 5       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 2  |
| HZ = 21  | 2       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 1  | 2  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 6  | 8  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| SU = 34  | 6       | 3  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 2  |
| 6W = 35  | 9       | 8  | 6  | 7  | 6  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| D2 = 36  | 9       | 8  | 8  | 9  | 8  | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| 5Z = 37  | 6       | 6  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 3  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| FR = 39  | 8       | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 8  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: May, Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | -  | -  | 1  | 2  | 3  | 6  | 5  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 7  | 7  | 8  | 9  | 8  | 8  | 8  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  |
| W6 = 03  | -  | 1  | 4  | 5  | 8  | 8  | 8  | 8  | 6  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 5  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| W3 = 05  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| XE1 = 06 | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| TI = 07  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| VP2 = 08 | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| P4 = 09  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 2  | 1  | 2  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 2  | -  | -  | 1  | 2  | 6  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| I = 15   | 8  | 8  | 8  | 8  | 8  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| UA3 = 16 | 6  | 6  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  |
| UN = 17  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 5  | 5  |
| UA9 = 18 | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 1  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 7  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  |
| HZ = 21  | 7  | 6  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| VU = 22  | 6  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  | -  | 2  | 5  | 5  | 8  |
| JT = 23  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | -  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  | -  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | -  | -  |
| YB = 28  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  |
| VK6 = 29 | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 6  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  |
| KH6 = 31 | -  | -  | -  | -  | 4  | 7  | 7  | 7  | 7  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 7  | 7  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 9  | 9  | 9  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| SU = 34  | 7  | 6  | 7  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 7  | 8  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 9  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  |
| 5Z = 37  | 8  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 8  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9  |
| FR = 39  | 9  | 8  | 5  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 9  |
| FJL = 40 | 2  | 4  | 3  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: May, Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | -            | 1  | 1  | 3  | 6  | 6  | 6  | 7  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 =   | 02 | 7            | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 8  |
| W6 =    | 03 | 2            | 4  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 =    | 04 | 7            | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| W3 =    | 05 | 7            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |
| XE1 =   | 06 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| TI =    | 07 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| VP2 =   | 08 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |
| P4 =    | 09 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |
| HC =    | 10 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 5  | 4  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | 1  | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 8            | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| I =     | 15 | 8            | 8  | 8  | 8  | 8  | 7  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| UA3 =   | 16 | 7            | 7  | 7  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 7  |
| UN =    | 17 | 6            | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| UA9 =   | 18 | 4            | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 5  | 5  |
| UA0 =   | 19 | -            | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  | -  |
| 4X =    | 20 | 8            | 8  | 7  | 7  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 8  |
| HZ =    | 21 | 8            | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| VU =    | 22 | 7            | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 5  | 2  | 5  | 6  | 6  | 6  |
| JT =    | 23 | 1            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 4  | 3  |
| VR2 =   | 24 | 1            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 2* | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 4  | 3  |
| JA1 =   | 25 | -            | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | 2* | 4* | 4* | -  | -  |
| HS =    | 26 | 6            | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 7  | 7  |
| DU =    | 27 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 3  |
| YB =    | 28 | 6            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 6  | 7  |
| VK6 =   | 29 | 7            | 4  | 1  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 6  | 7  |
| VK3 =   | 30 | 1            | 1  | -  | -  | 1  | 4  | 5  | 7  | 8  | 8  | 8  | 7  | 4  | 1  | 1  | -  | -  | -  | -  | 2  | 4  | 5  | 4  | 3  |
| KH6 =   | 31 | -            | -  | 1  | 3  | 7  | 5  | 6  | 7  | 7  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | -  | 1  | 4  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 9            | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  | 8  |
| SU =    | 34 | 8            | 8  | 7  | 7  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 8  |
| 6W =    | 35 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  |
| D2 =    | 36 | 9            | 9  | 9  | 9  | 9  | 6  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9  |
| 5Z =    | 37 | 9            | 8  | 8  | 7  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 8  |
| ZS6 =   | 38 | 8            | 9  | 8  | 8  | 1  | 5  | 5  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 8  | 8  | 8  |
| FR =    | 39 | 1            | -  | -  | 6  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | -  | -  | -  | -  |
| FJL =   | 40 | 5            | 6  | 6  | 6  | 5  | 2  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 20 Meters: May, Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 2   | 4   | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | 1  | -  | -  | -  | 1* | -  | -  | -  | -  | 1  |
| VO2 = 02 | 9   | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 3  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 8  | 8  | 9  |
| W6 = 03  | 6   | 8   | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| W9 = 04  | 9   | 9   | 9+ | 9+ | 9  | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 4  | 3  | 6  | 9  |
| W3 = 05  | 9   | 9   | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 9  | 9  |
| XE1 = 06 | 9   | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 8  | 5  | 1  | 1  | -  | -  | -  | 1  | 1  | 5  | 8  | 9  | 9+ |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 3  | 1  | -  | 1  | 2  | 4  | 6  | 8  | 9  | 9+ | 9+ |    |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 8  | 5  | 1  | -  | -  | 2  | 4  | 6  | 8  | 9  | 9+ | 9+ |    |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 7  | 9  | 9  | 6  | 3  | 2  | 1  | 2  | 3  | 5  | 7  | 9  | 9  | 9+ |    |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 1  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 4  | -  | 1* | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 1  | 1  | -  | -  | -  | -  | -  | -  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ |
| I = 15   | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 8  | 9  | 9  | 9  | 9+ |
| UA3 = 16 | 9   | 9   | 9  | 9  | 9  | 8  | 6  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 9  | 9  | 9  |
| UN = 17  | 9   | 9   | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | -  | -  | 1  | 4  | 8  | 8  | 9  | 9  | 9  |
| UA9 = 18 | 8   | 7   | 6  | 2  | 1  | 1  | 1  | 1  | 1  | -  | -  | -  | 2* | 1* | 2* | 1* | -  | -  | -  | 3  | 7  | 8  | 8  | 8  | 8  | 8  |
| UA0 = 19 | 1   | 1   | 1  | 1  | 1  | 1  | 1  | 2  | 8  | 8  | 7* | 7* | 5* | 2* | -  | -  | -  | -  | 1* | 4* | 6* | 8  | 8  | 6* | 2  |    |
| 4X = 20  | 9   | 9   | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9   | 9   | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  | 9   | 8   | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 9  | 9  | 9  |
| JT = 23  | 6   | 6   | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 4* | 2* | 1* | -  | -  | -  | 3  | 7  | 7  | 8  | 8  | 8  | 8  |
| VR2 = 24 | 6   | 1   | -  | -  | -  | -  | -  | -  | -  | 4* | 6* | 8  | 8  | 7* | 2* | -  | -  | -  | -  | 2  | 5  | 6  | 8  | 8  | 8  | 8  |
| JA1 = 25 | -   | -   | -  | -  | -  | -  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | 2* | 5* | 8* | 8* | 8* | 8* | 5* |
| HS = 26  | 6   | 3   | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 6* | 8  | 5* | 1* | -  | -  | -  | -  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| DU = 27  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 5  | 6  | 5  | 4  | 2  | -  | -  | -  | 2  | 4  | 7  | 8  | 8  | 8  | 7  |
| YB = 28  | 6*  | -   | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 4* | 6  | 5  | 4  | 2  | 1  | -  | 1  | 4  | 6  | 8  | 8  | 8  | 4  | 9  |
| VK6 = 29 | 3   | -   | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 6  | 6  | 4  | 3  | 3  | 4  | 6  | 8  | 8  | 6  | 5  | 8  |    |
| VK3 = 30 | 7   | 4   | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 9  | 9  | 8  | 7  | 5  | 4  | 4  | 4  | 4  | 4  | 4  | 5  | 8  | 8  | 8  |
| KH6 = 31 | -   | 3   | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| KH8 = 32 | 1   | 3   | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | -  | 9  | 9  | 7  | 3  | -  | -  | 2  | 1  | -  | 1* | 1  | -  | -  | -  |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 9  | 9  | 9+ |
| SU = 34  | 9   | 9   | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 5  | 1  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| D2 = 36  | 9+  | 9+  | 9+ | 9  | 5  | 2  | 1  | 2  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+  | 9+  | 9  | 1  | 6  | 6  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| ZS6 = 38 | 1   | 5   | 5  | 2  | -  | -  | -  | -  | 1  | 7  | 7  | 4  | 1  | 1  | 1  | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 1  | -  | 1  |
| FR = 39  | -   | -   | -  | -  | 5  | -  | -  | -  | -  | 2  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 2  | 4  | 7  | 5  | -  | -  | 1* | 1* | -  |
| FJL = 40 | 9   | 9   | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 5  | 1  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 8  | 8  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: May, Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 8   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 8  | 6  | 4* | 2* | 2  | 2  | 1  | 2  | 3  | 3  | 4* | 6  | 7  | 8  |
| VO2 = 02 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 9  | 9  | 7  | 4  | 1  | -  | 2  | 3  | 6  | 6  | 8  | 9  | 9  | 9  |
| W6 = 03  | 9   | 9   | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 9  | 9  | 8  | 5  | 2  | 1  | 1  | 2  | -  | -  | 2  | 5  | 8  |
| W9 = 04  | 9   | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 9  | 9  | 8  | 7  | 1  | 1  | 2  | 2  | 4  | 4  | 5  | 8  | 8  | 9  |
| W3 = 05  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9  | 8  | 7  | 2  | 1  | 2  | 2  | 4  | 4  | 7  | 9  | 9  | 9+ |
| XE1 = 06 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 9+ | 9  | 8  | 6  | 4  | 3  | 3  | 4  | 4  | 6  | 8  | 9  | 9+ |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4* | 2* | 9+ | 9  | 8  | 6  | 5  | 3  | 4  | 4  | 4  | 7  | 8  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 5  | 9+ | 9+ | 9  | 8  | 4  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 4* | 5* | 9+ | 9  | 8  | 7  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 4* | 5* | 6  | 9+ | 9  | 7  | 6  | 6  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 8  | 1  | -  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1* | 1* | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+  | 9+  | 9+ | 9  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| I = 15   | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 6  | 8  | 4  | 1  | 1  | -  | -  | 1  | 2  | 6  | 6  | 6  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| UA3 = 16 | 9+  | 9+  | 9  | 9  | 9  | 9  | 9  | 5  | 4  | 5  | 1  | -  | 1* | 1* | 1* | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| UN = 17  | 9   | 9   | 9  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | 9  | 5* | 3* | 2* | 2  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| UA9 = 18 | 8   | 8   | 8  | 8  | 6  | 5  | 4  | 3  | 2  | 5  | 2  | 8  | 8  | 5* | 4* | 2* | 2* | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| UA0 = 19 | 6   | 5   | 4  | 1  | 2  | 5  | 6  | 8  | 8  | 8  | 9  | 8* | 8* | 6* | 4* | 3* | 4* | 5* | 7* | 8* | 9* | 8* | 8* | 8* | 7  | 7  |
| 4X = 20  | 9+  | 9   | 9  | 9+ | 9  | 9  | 8  | 1  | 5  | 2  | 1  | -  | -  | -  | 1  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HZ = 21  | 9+  | 9   | 9  | 9  | 9  | 8  | 1  | -  | -  | 1  | -  | -  | 1  | 1* | 1* | 2  | 4  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| VU = 22  | 9   | 9   | 9  | 8  | 7  | 1  | -  | -  | -  | -  | -  | 1  | 8  | 2* | 3* | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  | 8   | 8   | 7  | 5  | 1  | 2  | 2  | 1  | 1  | 4  | 7  | 6  | 8  | 6* | 4* | 2* | 2* | 5  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 8  |
| VR2 = 24 | 5*  | -   | -  | -  | -  | -  | -  | 4* | 6* | 8  | 6  | 9* | 8* | 7* | 4* | 4  | 5  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 6  |
| JA1 = 25 | 1   | 1   | 1  | 1  | 2  | 4  | 8  | 8  | 9  | 8  | 7  | 9+ | 9  | 8  | 6  | 4  | 4* | 7* | 8* | 9* | 9* | 9* | 8* | 8* | 1  | 1  |
| HS = 26  | 2*  | 1*  | 1* | -  | -  | -  | -  | 4* | 4* | 6  | 8* | 5* | 6* | 3  | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ | 9  | 9  | 6  |
| DU = 27  | 5*  | 1*  | -  | -  | -  | -  | -  | 4* | 6* | 6  | 8  | 8  | 7  | 6  | 4  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 3* |
| YB = 28  | 1*  | 2*  | 1* | -  | -  | -  | -  | 1* | 3* | 6  | 8  | 8  | 7  | 6  | 5  | 3  | 2  | 2  | 4  | 6  | 6  | 2  | 2* | 2* | 2* | 2* |
| VK6 = 29 | 2*  | 1*  | -  | -  | -  | -  | -  | 1* | 3* | 4* | 8  | 9  | 8  | 7  | 4  | 1  | 2  | 4  | 6  | 7  | 6  | 2  | 3* | 5  | 5  | 5  |
| VK3 = 30 | 5   | -   | -  | -  | -  | -  | -  | 1* | 1* | 1* | 2  | 9  | 8  | 6  | 5  | 4  | 3  | 2  | 1  | 1  | 2* | 7  | 9  | 8  | 8  | 8  |
| KH6 = 31 | 3   | 7   | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1* | 9  | 9  | 8  | 5  | 2  | 1  | 1  | 2* | 2* | 1* | -  | -  | 1  | 1  |
| KH8 = 32 | 5   | 7   | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 1* | -  | 2  | 8  | 5  | -  | -  | 2  | 4  | 5  | 7  | 8  | 2  | 2  | 3  | 3  |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 7  | 6  | 9  | 8  | 3  | 3  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| SU = 34  | 9+  | 9+  | 9  | 9  | 9  | 9  | 8  | 1  | 5  | 2  | 1  | -  | -  | 1  | 1  | 4  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 5  | 9+ | 9+ | 8  | 6  | 4  | 3  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+  | 9   | 8  | 6  | -  | 1* | 1* | -  | 8  | 9  | 8  | 5  | 3  | 2  | 2  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+  | 9   | 5  | -  | -  | -  | -  | -  | 5  | 5  | 1  | 1  | 2  | 2  | 1  | 3  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| ZS6 = 38 | -   | -   | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 6  | 5  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 4  | -  | -  | -  | -  | -  |
| FR = 39  | -   | -   | -  | -  | -  | -  | -  | -  | 2  | 6  | 5  | 4  | 8  | 4  | 5  | 6  | 8  | 8  | -  | 1* | 1* | 1* | 1* | 1* | -  | -  |
| FJL = 40 | 9   | 9   | 8  | 8  | 8  | 8  | 8  | 9  | 7  | 8  | 7  | 6  | 8  | 3* | 2* | 1  | 1  | 3  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: May, Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 9   | 8  | 8  | 8  | 8  | 7  | 6  | 7  | 4  | 6* | 4* | 2* | -  | -  | 1  | 2  | 5  | 6  | 5  | 6  | 7  | 8  |    |    |    |
| VO2 = 02 | 9   | 9+  | 9+ | 9+ | 9  | 9  | 9+ | 9  | 6  | 6  | 9  | 9  | 8  | 8  | 7  | 5  | 5  | 6  | 6  | 8  | 8  | 9  | 9  | 9  |    |    |
| W6 = 03  | 9   | 9   | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9  | 5  | 3* | 9  | 8  | 8  | 8  | 5  | 6  | 1  | 2  | 2  | 2  | 6  | 6  | 9  |    |    |
| W9 = 04  | 9   | 9   | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 7  | 4  | -  | 8  | 8  | 7  | 8  | 6  | 6  | 5  | 5  | 5  | 8  | 9  | 9  | 9  |    |    |
| W3 = 05  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 8  | 9  | 9  | 8  | 6  | 6  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ |    |    |
| XE1 = 06 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 5  | 5* | 9  | 9  | 9  | 8  | 6  | 5  | 6  | 5  | 7  | 8  | 9  | 9+ | 9+ |    |    |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | 4* | 6* | 2  | 9  | 9  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 9+ | 9+ | 9+ |    |    |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | -  | 4* | 9+ | 9  | 9  | 8  | 6  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |    |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | 1* | 4* | 9+ | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |    |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | -  | 4* | 6* | 4* | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  |    |    |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9  | 1  | -  | -  | -  | -  | -  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 7  | 1  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |
| LU = 13  | 9   | 6   | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |
| G = 14   | 9+  | 9+  | 9+ | 9+ | 9  | 9  | 9  | 6  | 4  | 8  | 8  | 5  | 4  | 1  | 2  | 4  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |    |
| I = 15   | 9+  | 9+  | 9+ | 9+ | 9  | 9  | 9  | 5  | 4  | 8  | 5  | 2  | 1  | -  | 1  | 4  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |    |
| UA3 = 16 | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 2  | 1  | 7  | 5  | 4  | 7  | 8  | 2  | 2  | 5  | 5  | 8  | 8  | 9  | 9  | 9  | 9  |    |    |
| UN = 17  | 9   | 9   | 9  | 8  | 9  | 7  | 3  | -  | 1  | 4  | 5  | 5  | 7* | 6  | 4* | 3  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |    |    |
| UA9 = 18 | 7   | 7   | 8  | 8  | 8  | 7  | 7  | 3  | 2  | 7  | 5  | 4  | 7* | 5  | 4* | 3* | 5  | 6  | 8  | 8  | 8  | 6  | 6  | 7  |    |    |
| UA0 = 19 | 5   | 5   | 5  | 4  | 6  | 6  | 8  | 8  | 6  | 5  | 9  | 8  | 8* | 7* | 6* | 5* | 5* | 6* | 8* | 8* | 9* | 9* | 8  | 7  |    |    |
| 4X = 20  | 9   | 9   | 9  | 9  | 9  | 9  | 2  | -  | 1  | 5  | 2  | 1  | 1* | 8  | 1  | 3  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |    |    |
| HZ = 21  | 9   | 9   | 9+ | 9  | 9  | 6  | -  | -  | -  | 4  | 2  | 2  | 7  | 6  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ |    |    |
| VU = 22  | 9   | 9   | 9  | 7  | 4  | 1* | -  | -  | -  | 2  | 6  | 4  | 5* | 4* | 4* | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |    |
| JT = 23  | 8   | 8   | 8  | 8  | 6  | 5  | 5  | 1  | 1  | 6  | 2  | 3  | 8* | 7* | 5* | 4* | 5  | 6  | 8  | 8  | 8  | 7  | 8  | 8  |    |    |
| VR2 = 24 | 2*  | 4*  | 2* | 1* | -  | 1* | 3* | 6* | 6* | 6  | 6  | 9* | 8* | 7* | 7  | 7  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 2* |    |    |
| JA1 = 25 | 6   | 6   | 6  | 6  | 7  | 8  | 8  | 9  | 8  | 5  | 7* | 9+ | 9  | 8  | 6  | 5  | 6* | 8* | 9* | 9* | 9* | 9* | 6* | 6  |    |    |
| HS = 26  | 1*  | 1*  | 1* | 1* | -  | -  | -  | 2* | 4* | 4  | 5  | 8* | 6  | 5  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9+ | 8  | 3* |    |    |
| DU = 27  | 4*  | 5*  | 3* | 1* | -  | 1* | 3* | 5* | 5* | 3* | 8  | 9  | 8  | 7  | 5  | 5  | 5  | 6  | 8  | 8  | 9  | 8  | 5  | 5* |    |    |
| YB = 28  | 2*  | 4*  | 2* | 1* | -  | -  | 1* | 2* | 2* | 4  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | 2  | 3* | 4* | 5* | 3* |    |    |
| VK6 = 29 | 4*  | 2*  | 1* | -  | -  | -  | 1* | 2* | 2* | 2* | 4  | 9  | 8  | 5  | 1  | 1* | 1  | 1  | 3  | 4  | 2  | -  | 4* | 3* |    |    |
| VK3 = 30 | 2*  | 1*  | -  | -  | -  | -  | -  | 1* | 1* | 4* | 5* | 8  | 5  | 2  | 1  | 1  | -  | -  | -  | 1* | 5* | 9  | 3* |    |    |    |
| KH6 = 31 | 5   | 8   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 2* | 2* | 8  | 9  | 9  | 7  | 6  | 5  | 4  | 5  | 7  | 4* | 2* | 2  | 3  |    |    |
| KH8 = 32 | 7   | 8   | 8  | 8  | 8  | 8  | 7  | 7  | 3  | 1* | 1* | -  | 3  | -  | -  | -  | 1* | 7  | 5  | 5  | 4  | 5  | 5  | 6  |    |    |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 3  | 1  | 8  | 8  | 6  | 3  | 1  | 1  | 3  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |    |
| SU = 34  | 9+  | 9   | 9  | 9  | 9  | 9  | 2  | -  | 1  | 6  | 2  | 1  | 1  | 9  | 1  | 4  | 6  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9  |    |    |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 4  | -  | -  | 9+ | 9+ | 9  | 8  | 7  | 6  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |
| D2 = 36  | 8   | 6   | 5  | 2  | 1* | 1* | 1* | -  | 1  | 9  | 9  | 8  | 5  | 4  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |    |    |
| 5Z = 37  | 9   | 8   | 1  | 1* | 2* | 2* | 1* | -  | 1  | 6  | 4  | 3  | 4  | 6  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  |    |    |
| ZS6 = 38 | -   | -   | -  | -  | 1* | 1* | 1* | -  | 3  | 9  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 8  | -  | -  | -  | -  |    |    |
| FR = 39  | -   | -   | 1* | 1* | 1* | -  | -  | -  | -  | 7  | 8  | 6  | 6  | 6  | 7  | 8  | 8  | 1  | 1* | 1* | 2* | 1* | -  | -  |    |    |
| FJL = 40 | 3   | 5   | 5  | 4  | 4  | 2  | 4  | 7  | 4  | 7  | 7  | 6  | 5  | 5  | 2  | 2  | 3  | 2* | 3  | 7  | 7  | 7  | 7* | 5  |    |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: May, Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 7   | 8   | 6  | 5  | 6  | 4  | 3  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 3* | 1  | 3  |    |
| VO2 = 02 | 9   | 9   | 9  | 9  | 8  | 7  | 9  | 7  | 1  | 1  | 1  | 2  | 7  | 8  | 8  | 8  | 7  | 8  | 6  | 7  | 8  | 9  | 9  | 9  | 9  |    |
| W6 = 03  | 9   | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 1* | -  | 5  | -  | 1  | 7  | 6  | 6  | 5  | 6  | 6  | 6  | 6  | 8  | 8  | 9  |    |
| W9 = 04  | 9   | 9   | 9  | 9  | 9  | 8  | 7  | 8  | 2  | -  | -  | -  | 5  | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  |    |
| W3 = 05  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 5  | 1  | -  | 9  | 9  | 8  | 8  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ |    |
| XE1 = 06 | 9+  | 9+  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1* | -  | 1* | 6  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ |    |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | 2* | 1* | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ |    |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9  | 9  |    |
| P4 = 09  | 8   | 8   | 8  | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | 1* | 2* | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 8  | 7  |    |
| HC = 10  | 4   | 5   | 6  | 8  | 8  | 8  | 7  | 1  | -  | 1* | 5* | 1* | 7  | 9  | 9  | 9  | 5  | 9  | 5  | 6  | 6  | 5  | 1  | 9+ | 9+ |    |
| PY1 = 11 | 9+  | 9+  | 9  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9  | 8  | -  | -  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  | 2   | -   | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 3  | 2  | 4  | 8  | 9  | 9  | 9  | 8  | 8  | 5  |    |
| G = 14   | 9   | 9   | 9  | 9  | 9  | 8  | 8  | 1  | -  | 3  | 8  | 7  | 8  | 5  | 3  | 4  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| I = 15   | 9+  | 9+  | 9  | 9  | 9  | 9  | 7  | -  | -  | 6  | 8  | 6  | 5  | 3  | 2  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ |    |
| UA3 = 16 | 8   | 8   | 7  | 7  | 8  | 8  | 6  | -  | -  | 2  | 7  | 5  | 4  | 2  | 2  | 3  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |    |
| UN = 17  | 7   | 7   | 8  | 9  | 9  | 7  | 1  | -  | -  | 4  | 4  | 4  | 7* | 5* | 4* | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  |    |
| UA9 = 18 | 2   | 3   | 5  | 5  | 6  | 8  | 7  | 1  | -  | 4  | 7  | 5  | 7* | 6* | 5* | 4  | 5  | 5  | 5  | 5  | 1  | 5* | 6* | 3* | 3* |    |
| UA0 = 19 | 2   | -   | -  | 1  | -  | 4  | 6  | 6  | 2  | 1  | 1  | 8  | 8* | 8* | 7* | 7* | 7* | 7* | 8* | 8* | 8* | 8* | 2  | 2  | 2  |    |
| 4X = 20  | 9   | 9   | 9  | 8  | 8  | 8  | -  | -  | -  | 6  | 6  | 5  | 4  | 2  | 2  | 4  | 6  | 8  | 8  | 9  | 9+ | 9+ | 9  | 9  | 9  |    |
| HZ = 21  | 9   | 9   | 9  | 9  | 7  | 1* | -  | -  | -  | 4  | 5  | 5  | 4  | 4  | 4  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| VU = 22  | 9   | 9   | 7  | 4* | 4* | 2* | 1* | 1* | -  | 5  | 4  | 3  | 7* | 5* | 5* | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| JT = 23  | 7   | 8   | 7  | 7  | 6  | 8  | 4  | -  | -  | 2  | 5  | 4  | 8* | 8* | 6* | 6* | 5  | 5  | 6* | 7* | 7* | 7* | 7* | 6  | 6  |    |
| VR2 = 24 | 6*  | 6*  | 5* | 4* | 4* | 4* | 6* | 6* | 2* | 4  | 8  | 8  | 9* | 8* | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 5* | 5* | 5* |    |
| JA1 = 25 | 7   | 7   | 8  | 8  | 7  | 7  | 9  | 9  | 6  | 1  | 8* | 9  | 8  | 8* | 7* | 7* | 8* | 8* | 9* | 9* | 9* | 9* | 7  | 7  | 7  |    |
| HS = 26  | 5*  | 5*  | 2* | 3* | 1* | 1* | 2* | 4* | 1* | 1  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 4* | 4* |    |
| DU = 27  | 7*  | 6*  | 5* | 4* | 3* | 4* | 5* | 4* | 1* | -  | 5  | 8  | 8  | 8  | 7  | 6  | 7  | 8  | 8  | 8  | 8  | 7* | 7* | 7* | 7* |    |
| YB = 28  | 6*  | 5*  | 5* | 3* | 1* | 1* | 2* | 2* | 1* | -  | 7  | 8  | 8  | 7  | 4* | 3* | 2* | 1* | 1* | 4* | 4* | 4* | 5* | 6* | 6* |    |
| VK6 = 29 | 5*  | 4*  | 1* | 1* | -  | 1* | 1* | 1* | -  | -  | 1* | 8  | 7  | 3* | 1* | 1* | 1* | 1* | 1  | 1  | -  | -  | 2* | 6* | 6* |    |
| VK3 = 30 | 2*  | 1*  | 1* | 1* | 1* | 1* | 2* | -  | -  | 2* | 5* | 4  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 5* | 7  | 6* | 6* |    |
| KH6 = 31 | 7   | 8   | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 2* | 5* | 5* | 9  | 9  | 2* | 1  | 5  | 5  | 3  | 5* | 5* | 5  | 4  | 6  | 6  |    |
| KH8 = 32 | 8   | 8   | 8  | 6  | 4  | 2  | -  | -  | -  | 2* | 2* | 2* | 1* | 1* | 1* | 1* | 2* | 7  | 7  | 6  | 6  | 6  | 6  | 7  | 7  |    |
| CN = 33  | 9   | 9   | 9+ | 9  | 9+ | 9  | 7  | -  | -  | -  | 9  | 8  | 6  | 4  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ |    |
| SU = 34  | 9   | 9   | 9  | 9  | 8  | 7  | -  | -  | -  | 6  | 6  | 5  | 5  | 3  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  |    |
| 6W = 35  | 8   | 9+  | 9+ | 9+ | 9+ | 6  | -  | -  | -  | -  | 9+ | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 8  |    |
| D2 = 36  | 4   | 2   | 1  | -  | 2* | 2* | 1* | 2* | -  | 9  | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 8  | 7  | 7  |    |
| 5Z = 37  | 7   | 2   | -  | 1* | 3* | 4* | 2* | 1* | -  | 6  | 7  | 6  | 5  | 5  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  |    |
| ZS6 = 38 | -   | -   | -  | -  | 2* | 1* | 2* | 1* | -  | 8  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | -  | -  | -  | -  | -  | -  |    |
| FR = 39  | -   | -   | 2* | 1* | 2* | 1* | -  | -  | -  | 3  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 1* | 2* | 2* | 2* | -  | -  | -  | -  |    |
| FJL = 40 | -   | -   | -  | -  | -  | -  | -  | 3  | -  | 4  | 1  | 1  | 6* | 4* | 2* | 2* | 1* | -  | -  | -  | -  | -  | 4* | -  | -  |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: May, Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 3       | 5  | 1  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  |
| VO2 = 02 | 8       | 8  | 7  | 6  | 5  | 2  | 6  | 2  | -  | -  | -  | -  | 1  | 2  | 3  | 6  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9  | 8  | 7  | 6  | 7  | 1  | -  | -  | 1  | -  | -  | 1  | 5  | 5  | 5  | 6  | 8  | 8  | 8  | 8  | 9  |
| W9 = 04  | 9       | 8  | 8  | 8  | 6  | 4  | 6  | 5  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 7  | 9  | 8  | 8  | 8  | 9  |
| W3 = 05  | 9       | 9  | 9  | 9  | 9  | 9  | 7  | 6  | 1  | -  | -  | 6  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9+      | 9+ | 9+ | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | 8  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ |
| TI = 07  | 7       | 8  | 8  | 9  | 9  | 9  | 6  | -  | -  | -  | -  | -  | -  | 9  | 9  | 5  | 5  | 5  | 5  | 6  | 9  | 9  | 7  | 6  |
| VP2 = 08 | 5       | 5  | 7  | 7  | 8  | 7  | 4  | -  | -  | -  | -  | 1* | 9  | 9  | 9  | 9  | 5  | 9  | 9  | 9  | 7  | 3  | 4  | 4  |
| P4 = 09  | 2       | 2  | 5  | 6  | 7  | 7  | 3  | -  | -  | -  | -  | -  | 3  | 6  | 5  | 4  | 5  | 4  | 5  | 6  | 5  | 1  | 2  | 1  |
| HC = 10  | 9+      | 9+ | -  | 4  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | 9  | 7  | 1  | -  | 9  | 9  | 9  | 1* | 9+ | 9+ | 9+ |
| PY1 = 11 | 9       | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 7  | 2  | 2  | 5  | 9  | 9+ | 9+ | 9+ | 9+ | 9  |
| CE = 12  | 9+      | 9+ | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2* | 5* | 5* |
| G = 14   | 8       | 8  | 8  | 6  | 6  | 5  | 6  | -  | -  | -  | 6  | 5  | 7  | 6  | 7  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 8  |
| I = 15   | 9       | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | 8  | 7  | 6  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | 6       | 5  | 3  | 3  | 5  | 7  | 3  | -  | -  | -  | 7  | 7  | 6  | 5  | 5  | 5  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 5  |
| UN = 17  | 2*      | 3  | 7  | 8  | 8  | 5  | -  | -  | -  | -  | 6  | 5  | 5  | 5  | 5  | 5  | 6  | 6  | 7  | 7  | 7  | 6  | 4  | 2  |
| UA9 = 18 | -       | -  | 1  | 1  | 3  | 5  | 5  | -  | -  | -  | 5  | 5  | 6* | 5* | 4* | 2* | 2* | 1* | -  | -  | -  | -  | 1* | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | 2  | 3  | -  | -  | -  | 5  | 8* | 8* | 8* | 7* | 7* | 8* | 8* | 8* | 7* | 5* | -  | -  |
| 4X = 20  | 9       | 9  | 9  | 5  | 3  | 2  | -  | -  | -  | 1  | 7  | 5  | 4  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  |
| HZ = 21  | 9       | 9  | 8  | 6  | 3  | 1* | -  | -  | -  | -  | 6  | 6  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 8       | 7  | 5* | 5* | 4* | 2* | -  | -  | -  | 1  | 6  | 5  | 6* | 6* | 5  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  | 3       | 5  | 6  | 6  | 6  | 7  | 2  | -  | -  | -  | 7  | 5  | 7* | 8* | 7* | 6* | 5* | 6* | 6* | 2* | 2* | 7* | 7* | 1  |
| VR2 = 24 | 7*      | 7* | 7* | 6* | 5* | 6* | 6* | 5* | -  | -  | 8  | 8  | 9* | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 6* | 6* |
| JA1 = 25 | 5       | 6  | 7  | 7  | 8  | 8  | 9  | 8  | 2  | -  | 7* | 8* | 8* | 8* | 8* | 8* | 8* | 9* | 9* | 9* | 8* | 6  | 7  | 6  |
| HS = 26  | 6*      | 6* | 6* | 5* | 4* | 3* | 3* | 3* | -  | -  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 1* | 5* |
| DU = 27  | 7*      | 7* | 5* | 4* | 4* | 4* | 4* | 2* | -  | -  | -  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 6  | 7* | 8* | 7* |
| YB = 28  | 6*      | 6* | 5* | 4* | 3* | 2* | 2* | 1* | -  | -  | 2  | 8  | 8  | 7* | 5* | 4* | 4* | 4* | 4* | 5* | 4* | 2* | 4* | 7* |
| VK6 = 29 | 4*      | 4* | 2* | 1* | 1* | 1* | 1* | 1* | -  | -  | -  | 6* | 6* | 4* | 2* | 1* | 1* | -  | -  | -  | -  | -  | 1* | 6* |
| VK3 = 30 | 4*      | 3* | 1* | 1* | 1* | 2* | 2* | -  | -  | -  | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 7* | 5* |
| KH6 = 31 | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | -  | -  | 5* | 6* | 9  | 6  | 2* | 1* | 3  | 7  | 6  | 5  | 5  | 5  | 6  | 7  |
| KH8 = 32 | 8       | 8  | 5  | 4* | 3* | -  | -  | -  | -  | -  | 4* | 3* | 3* | 2* | 1* | 2* | 2* | 5  | 7  | 8  | 7  | 7  | 7  | 8  |
| CN = 33  | 9       | 9  | 9  | 9  | 9  | 8  | 3  | -  | -  | -  | 9  | 8  | 8  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |
| SU = 34  | 9       | 9  | 9  | 6  | 3  | 1  | -  | -  | -  | 1  | 8  | 6  | 4  | 5  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| 6W = 35  | 4       | 7  | 8  | 8  | 6  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 6  | 5  | 5  | 6  | 7  | 8  | 8  | 8  | 7  | 5  | 2  |
| D2 = 36  | 1       | -  | -  | -  | -  | 5* | 4* | -  | -  | 1  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 8  | 4  | 3  |
| 5Z = 37  | 4       | -  | -  | 4* | 5* | 5* | 3* | 1* | -  | 2  | 7  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  |
| ZS6 = 38 | -       | -  | -  | -  | 1* | 3* | 2* | 1* | -  | -  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | 1* | 3* | 3* | 2* | 1* | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | 2* | 2* | 1* | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 4* | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Jun., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 1       | 3  | 3  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | -  | 2  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | -  | 1  | 2  | 4  | 4  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 2  | 3  | 5  | 5  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 2  | 2  | 1  | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | -       | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 3  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 2       | 3  | 3  | 3  | 3  | 2  | 2  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| P4 = 09  | 3       | 3  | 3  | 3  | 3  | 2  | 2  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 5       | 6  | 6  | 6  | 5  | 5  | 3  | 3  | 3  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  | 9  |
| G = 14   | 4       | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| I = 15   | 2       | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 4       | 4  | 4  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| SU = 34  | 3       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| 6W = 35  | 5       | 5  | 3  | 4  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| D2 = 36  | 5       | 5  | 6  | 5  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| 5Z = 37  | 4       | 3  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  |
| ZS6 = 38 | 4       | 3  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| FR = 39  | 3       | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Jun., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4       | 6  | 6  | 8  | 8  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 2  | 5  | 6  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 2  | 4  | 5  | 7  | 7  | 7  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 5  | 6  | 8  | 8  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | 1       | 3  | 5  | 5  | 4  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 3       | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 6  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 5       | 6  | 6  | 6  | 6  | 5  | 5  | 5  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| P4 = 09  | 6       | 6  | 6  | 6  | 6  | 5  | 5  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| HC = 10  | 8       | 9  | 9  | 9  | 8  | 8  | 6  | 6  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 3  | -  | -  | -  | -  | -  | 2  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | -  | -  | -  | -  | 1  | 7  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | -  | -  | -  | 3  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7       | 7  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| I = 15   | 5       | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 2  |
| UA3 = 16 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  |
| HZ = 21  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 1  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 1  | 3  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 1  | 2  | 4  | 4  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 7       | 7  | 7  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| SU = 34  | 6       | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  |
| 6W = 35  | 8       | 8  | 6  | 7  | 7  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| D2 = 36  | 8       | 8  | 9  | 8  | 9  | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  |
| 5Z = 37  | 7       | 6  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  |
| ZS6 = 38 | 7       | 6  | 8  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  |
| FR = 39  | 6       | 8  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 8  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Jun., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | 1  | 2  | 3  | 6  | 6  | 2  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 6       | 7  | 7  | 8  | 8  | 7  | 7  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| W6 = 03  | -       | -  | 3  | 5  | 6  | 7  | 7  | 5  | 8  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 4       | 5  | 7  | 8  | 8  | 6  | 8  | 6  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W3 = 05  | 6       | 7  | 7  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| XE1 = 06 | 5       | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| TI = 07  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| VP2 = 08 | 9       | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| P4 = 09  | 9       | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 2  | 2  | 4  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 2  | 1  | 2  | 4  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7       | 8  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 7  |
| I = 15   | 8       | 7  | 7  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  |
| UA3 = 16 | 5       | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  |
| UN = 17  | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 5  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 1  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 8       | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 8  |
| HZ = 21  | 6       | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 7  |
| VU = 22  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 8  | 3  | 5  | 5  | 6  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 4  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | -  | -  |
| YB = 28  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 6  |
| VK6 = 29 | 5       | 1  | 1  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 7  |
| VK3 = 30 | -       | -  | -  | -  | 1  | 2  | 5  | 6  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 1  |
| KH6 = 31 | -       | -  | -  | -  | 3  | 6  | 7  | 7  | 7  | 5  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 1  | 5  | 6  | 7  | 7  | 8  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 9  | 9  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| SU = 34  | 8       | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  |
| FR = 39  | 8       | 2  | -  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 2  | 6  | 9  |
| FJL = 40 | 1       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Jun., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | -  | -  | 1  | 1  | 3  | 6  | 6  | 6  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 =   | 02 | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  |
| W6 =    | 03 | 2  | 4  | 5  | 6  | 6  | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 =    | 04 | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| W3 =    | 05 | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| XE1 =   | 06 | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  |
| TI =    | 07 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  |
| VP2 =   | 08 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  |
| P4 =    | 09 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  |
| HC =    | 10 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |
| PY1 =   | 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9  | 8  | 7  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | -  | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  |
| I =     | 15 | 8  | 8  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 8  | 8  |
| UA3 =   | 16 | 7  | 6  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  | 7  |
| UN =    | 17 | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  |
| UA9 =   | 18 | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 5  | 4  |
| UA0 =   | 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | -  | -  | -  |
| 4X =    | 20 | 8  | 8  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  | 8  |
| HZ =    | 21 | 7  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 8  | 8  |
| VU =    | 22 | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | -  | 1  | 3  | 5  | 6  | 6  | 5  |
| JT =    | 23 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 3  | 3  | 1  |
| VR2 =   | 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 4* | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 4  | 2  |
| JA1 =   | 25 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 6  | 1  | -  | -  | -  | -  | -  | 1* | 3* | 3* | 2* | -  | -  |
| HS =    | 26 | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 7  | 7  | 7  |
| DU =    | 27 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  | 1  |
| YB =    | 28 | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 6  | 7  | 5  | 6  |
| VK6 =   | 29 | 7  | 5  | 4  | 1  | -  | -  | 1  | 3  | 6  | 6  | 6  | 5  | 4  | 1  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  | 6  | 7  |
| VK3 =   | 30 | 4  | 2  | 1  | 1  | 4  | 6  | 6  | 7  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | 1  | 2  | 4  | 5  | 6  | 6  | 5  |
| KH6 =   | 31 | -  | -  | -  | 2  | 6  | 5  | 6  | 7  | 7  | 7  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 8  |
| SU =    | 34 | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 8  |
| 6W =    | 35 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  |
| D2 =    | 36 | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9  |
| 5Z =    | 37 | 9  | 9  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 7  | 8  | 8  |
| ZS6 =   | 38 | 6  | 8  | 9  | 8  | 2  | 5  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 8  | 7  |
| FR =    | 39 | -  | -  | -  | -  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 3  | -  | -  | -  | -  |
| FJL =   | 40 | 2  | 2  | 2  | 2  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| Zone    |    | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



20 Meters: Jun., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|--|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 |  | 4            | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| VO2 = 02 |  | 9            | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | 4  | 5  | 7  | 9  | 9  |
| W6 = 03  |  | 8            | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| W9 = 04  |  | 9            | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 7  | 9  |
| W3 = 05  |  | 9            | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 3  | 3  | 6  | 8  | 9  |
| XE1 = 06 |  | 9            | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2  | 1  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |    |
| TI = 07  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9+ | 9  | 8  | 6  | 2  | 1  | 1  | 1  | 1  | 2  | 6  | 9  | 9  | 9+ |
| VP2 = 08 |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9  | 8  | 4  | 1  | -  | 1  | 1  | 5  | 7  | 8  | 9  | 9+ | 9+ |
| P4 = 09  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9  | 8  | 5  | 2  | 1  | 1  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ |
| HC = 10  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 2  | 9+ | 9  | 7  | 4  | 4  | 3  | 4  | 5  | 6  | 8  | 9  | 9  | 9+ |
| PY1 = 11 |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 2  | -  | 5  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 3  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |  | 9+           | 9+ | 9+ | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | 4  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |  | 9+           | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 8  | 9  | 9  | 9+ |
| I = 15   |  | 9+           | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 9  | 9  | 9  | 9+ |
| UA3 = 16 |  | 9            | 9  | 9  | 9  | 8  | 7  | 4  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9  |
| UN = 17  |  | 9            | 9  | 7  | 4  | 2  | 1  | -  | -  | -  | -  | -  | 1* | 1* | 2* | 1* | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  |
| UA9 = 18 |  | 7            | 3  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | 4* | 2* | 2* | 1* | 1* | 1* | 1* | 4  | 7  | 7  | 8  | 8  | 8  |
| UA0 = 19 |  | 1            | 1  | -  | 1  | -  | 1  | 1  | 1  | 2  | 6  | 7* | 8* | 6* | 5* | 2* | 1* | 2* | 3* | 5* | 7* | 7* | 6* | 5* | 2* |
| 4X = 20  |  | 9            | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  |  | 9            | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  |  | 9            | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | 1* | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  |  | 2            | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 5* | 4* | 2* | 1* | 1* | 1* | 4  | 4  | 7  | 8  | 8  | 6  |
| VR2 = 24 |  | 8            | 3  | -  | -  | -  | -  | -  | -  | 2* | 6* | 8  | 8* | 6* | 3* | 1  | 1  | 3  | 4  | 6  | 8  | 8  | 8  | 8  | 8  |
| JA1 = 25 |  | -            | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  | 9  | 9  | 8  | 4  | 1  | 1* | 2* | 5* | 7* | 8* | 9  | 8* | 7* | 3* |
| HS = 26  |  | 8            | 6  | 1  | -  | -  | -  | -  | -  | -  | 2* | 5* | 8  | 3* | 1  | -  | -  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| DU = 27  |  | 5            | -  | -  | -  | -  | -  | -  | -  | 3* | 7  | 7  | 7  | 7  | 4  | 2  | 1  | 2  | 4  | 6  | 8  | 9  | 8  | 9  | 8  |
| YB = 28  |  | 8            | 2  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 6  | 5  | 4  | 2  | 4  | 5  | 6  | 7  | 8  | 6  | 2* | 2* |
| VK6 = 29 |  | 8            | 2  | -  | -  | -  | 1  | -  | -  | 4  | 8  | 9  | 9  | 8  | 7  | 5  | 2  | 2  | 4  | 6  | 7  | 5  | 1  | 3* | 8  |
| VK3 = 30 |  | 8            | 7  | 2  | -  | 1  | 2  | -  | 1* | 1  | 8  | 9  | 9  | 8  | 7  | 6  | 5  | 5  | 5  | 5  | 4  | 4  | 8  | 9  | 8  |
| KH6 = 31 |  | -            | 2  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 1* | 9  | 8  | 6  | 2  | 1  | -  | -  | 1* | -  | -  | -  | -  | -  |
| KH8 = 32 |  | 2            | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 7  | -  | 9  | 9  | 8  | -  | -  | 4  | 2  | 1  | -  | -  | -  | -  | 1  |
| CN = 33  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 9  | 9  | 9  | 9  | 9+ |
| SU = 34  |  | 9            | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 7  | 8  | 9  | 9  | 9+ | 9  |
| 6W = 35  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 2  | 1  | -  | 1  | 2  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  |  | 9+           | 9+ | 9  | 9  | 5  | 2  | 2  | 5  | 9  | 8  | 5  | 1  | -  | 1  | -  | 2  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  |  | 9+           | 9+ | 9  | 6  | 8  | 8  | 1  | 1  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ |
| ZS6 = 38 |  | -            | 1  | 6  | 2  | -  | -  | 1  | 1  | 8  | 8  | 5  | 3  | 1  | 1  | 2  | 4  | 7  | 9  | 9  | 9  | 9  | -  | -  | -  |
| FR = 39  |  | -            | -  | -  | -  | 5  | 3  | -  | -  | 3  | 2  | 3  | 1  | 2  | 1  | 2  | 4  | 6  | 8  | 1  | -  | 1* | -  | -  | -  |
| FJL = 40 |  | 8            | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 7  | 8  | 8  |
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |  |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |  | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Jun., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |     |     | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 7* | 7* | 5* | 3* | 3  | 2  | 1  | 2  | 2  | 2  | 4  | 6  | 7  | 8  |
| VO2 = 02 |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 9  | 8  | 6  | 6  | 4  | 1  | 1  | 5  | 6  | 7  | 8  | 8  | 9  | 9+ |
| W6 = 03  |     |     | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 8  | 6* | 9  | 9  | 8  | 5  | 4  | 1  | -  | 2  | -  | 1  | 2  | 6  | 8  |
| W9 = 04  |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 9  | 9  | 8  | 8  | 5  | 4  | 1  | 4  | 6  | 5  | 7  | 7  | 9  | 9  |
| W3 = 05  |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 9  | 9  | 8  | 7  | 5  | 2  | 2  | 4  | 6  | 5  | 8  | 8  | 9+ | 9+ |
| XE1 = 06 |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 3  | 9+ | 9  | 8  | 7  | 5  | 4  | 3  | 5  | 5  | 7  | 8  | 9  | 9+ |
| TI = 07  |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 4* | 3* | 7  | 9  | 8  | 7  | 6  | 5  | 6  | 6  | 7  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 6  | 9+ | 9+ | 9  | 8  | 7  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 4* | 5* | 9+ | 9  | 8  | 7  | 6  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  |     |     | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4  | 4* | 5* | 3* | 9+ | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9+ | 9+ | 8  | 8  |
| PY1 = 11 |     |     | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | -  | -  | 3  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |     |     | 7  | 4  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  |
| G = 14   |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 8  | 5  | 3  | 1  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| I = 15   |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 6  | 7  | 3  | 1  | -  | -  | -  | -  | 3  | 6  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 |     |     | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 3  | 4  | 1  | -  | 1* | 1* | 1* | 1  | 1  | 5  | 6  | 8  | 9  | 9  | 9  | 9  |
| UN = 17  |     |     | 9  | 9  | 9  | 8  | 6  | 4  | 2  | -  | -  | -  | -  | -  | 9  | 5* | 4* | 2* | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| UA9 = 18 |     |     | 8  | 8  | 6  | 6  | 5  | 4  | 3  | 2  | 1  | 4  | 1  | 1  | 8  | 5* | 4* | 3* | 4* | 5  | 7  | 8  | 8  | 8  | 9  | 9  |
| UA0 = 19 |     |     | 7  | 4  | 4  | 1  | 1  | 5  | 5  | 7  | 7  | 7  | 9  | 9* | 8* | 8* | 7* | 5* | 5* | 6* | 8* | 8* | 9* | 8* | 8* | 6  |
| 4X = 20  |     |     | 9+ | 9  | 9+ | 9  | 9  | 9  | 7  | 2  | 5  | 2  | -  | -  | -  | -  | 1* | 1  | 3  | 7  | 8  | 9  | 9+ | 9  | 9  | 9+ |
| HZ = 21  |     |     | 9+ | 9  | 9  | 9  | 9  | 8  | 2  | -  | 2  | 1  | 1  | -  | 1* | 1  | 1  | 1  | 4  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| VU = 22  |     |     | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | 8  | 4* | 4* | 2* | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  |     |     | 8  | 7  | 5  | 4  | 1  | 1  | 1  | -  | -  | 3  | 8  | 7  | 8* | 7* | 6* | 4* | 5* | 5  | 7  | 8  | 8  | 8  | 8  | 8  |
| VR2 = 24 |     |     | 1  | -  | -  | -  | -  | -  | -  | 4* | 6* | 8  | 6  | 9* | 8* | 7* | 5  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| JA1 = 25 |     |     | 1  | 1  | 1  | 1  | 2  | 6  | 7  | 8  | 8  | 7  | 6* | 9+ | 9  | 7  | 6  | 5* | 6* | 8* | 9* | 9* | 9* | 8* | 8* | 3* |
| HS = 26  |     |     | 2* | 4* | -  | -  | -  | -  | -  | -  | 2* | 4  | 6  | 8* | 6* | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9  | 8  |
| DU = 27  |     |     | 3* | 1* | -  | -  | -  | -  | -  | 3* | 5* | 7  | 9  | 8  | 8  | 7  | 6  | 5  | 6  | 6  | 8  | 9  | 9  | 5  | 9  | 4* |
| YB = 28  |     |     | 2* | 3* | -  | -  | -  | -  | -  | 1* | 2* | 8  | 8  | 9  | 8  | 8  | 7  | 4  | 2  | 1  | 1  | 2* | 3* | 4* | 2* | 2* |
| VK6 = 29 |     |     | 1* | 1* | -  | -  | -  | -  | -  | 1* | 2* | 4* | 9  | 9  | 9  | 7  | 2  | -  | -  | 1  | 2  | 3  | -  | -  | 2* | 4  |
| VK3 = 30 |     |     | 5  | 1  | -  | -  | -  | -  | -  | 1* | 1* | -  | 2  | 8  | 5  | 4  | 5  | 5  | 4  | 3  | 2  | -  | 1* | 5  | 9  | 9  |
| KH6 = 31 |     |     | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 2  | 2* | 8  | 9  | 9  | 5  | 6  | 2  | 2* | 2* | 4* | 2* | -  | -  | 2  |
| KH8 = 32 |     |     | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 1* | 1* | -  | 9  | 2  | -  | -  | 1* | 6  | 6  | 6  | 7  | 3  | 4  | 4  |
| CN = 33  |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 6  | 9  | 8  | 5  | 2  | -  | -  | 1  | 3  | 6  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  |     |     | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 2  | 5  | 2  | 1  | -  | -  | -  | -  | 2  | 3  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| 6W = 35  |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | 3  | 5  | 9+ | 9+ | 8  | 7  | 5  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  |     |     | 8  | 8  | 7  | 5  | -  | -  | -  | 1* | 7  | 9  | 8  | 6  | 4  | 5  | 4  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  |     |     | 9+ | 9  | 7  | -  | 4  | 2  | -  | -  | 5  | 5  | 2  | 1  | 2  | 3  | 1* | 4  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| ZS6 = 38 |     |     | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 6  | 7  | 7  | 8  | 9  | 9  | 9+ | 9  | -  | -  | -  | -  |
| FR = 39  |     |     | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 6  | 8  | 7  | 6  | 7  | 8  | 8  | 1  | 1* | 1* | 1* | 1* | 1* | -  |
| FJL = 40 |     |     | 8  | 7  | 6  | 6  | 6  | 6  | 7  | 7  | 6  | 7  | 6  | 5  | 3  | 2  | 1  | 2* | 1  | 2  | 8  | 6  | 6  | 6  | 8  | 8  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Jun., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 7       | 8  | 8  | 8  | 6  | 5  | 4  | 3  | 7  | 4  | 5* | 5* | 4* | 2* | 1* | 1  | 3  | 4  | 2  | 3  | 3  | 2  | 4  | 5  |
| VO2 = 02 | 9+      | 9+ | 9  | 9+ | 9+ | 9  | 8  | 9  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9+ | 9  | 9+ | 9+ | 9  | 8  | 4  | 3* | 9  | 8  | 8  | 6  | 5  | 8  | 8  | 4  | 1  | 2  | 6  | 8  | 9  |
| W9 = 04  | 9       | 9+ | 9  | 9  | 9+ | 9  | 9  | 9  | 6  | 5  | 1  | 6  | 7  | 7  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  |
| W3 = 05  | 9+      | 9+ | 9  | 9+ | 9+ | 9  | 9  | 8  | 5  | 4  | 8  | 9  | 9  | 8  | 9  | 6  | 5  | 7  | 7  | 8  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5* | 4* | 7  | 9  | 9  | 9  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ |
| TI = 07  | 9       | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1  | 4* | 5* | 2* | 7  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9  |
| VP2 = 08 | 7       | 8  | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | 1  | 4* | 9+ | 9  | 9  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 7  | 6  |
| P4 = 09  | 5       | 7  | 8  | 9  | 9+ | 9+ | 9  | 6  | -  | -  | 5* | 5  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 4  |
| HC = 10  | 9+      | 3  | 5  | 8  | 8  | 8  | 8  | 4  | -  | 4* | 5* | 4* | 9+ | 9  | 9  | 8  | 5  | 6  | 5  | 9  | 4  | 2  | -  | 9+ |
| PY1 = 11 | 9+      | 9+ | 9  | 7  | 3  | 2  | -  | -  | -  | -  | -  | 2  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9  | 8  | 7  | 2  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 1*      | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 6  | 3  | 4  | 8  | 9  | 9+ | 7  | 3  | 1* |
| G = 14   | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 6  | 5  | 7  | 8  | 6  | 5  | 2  | 3  | 5  | 8  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| I = 15   | 9+      | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | 3  | 7  | 6  | 5  | 1  | -  | 3  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| UA3 = 16 | 9       | 9  | 9  | 8  | 8  | 9  | 7  | 2  | 1  | 4  | 5  | 7  | 8  | 8  | 1  | 3  | 5  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| UN = 17  | 8       | 8  | 8  | 9  | 8  | 6  | 2  | -  | 1  | 4  | 6  | 5  | 6* | 5  | 6  | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| UA9 = 18 | 5       | 6  | 7  | 6  | 5  | 6  | 6  | 4  | 2  | 5  | 2  | 3  | 7* | 6* | 5* | 4* | 4* | 5  | 7  | 8  | 8  | 7  | 6  | 6  |
| UA0 = 19 | 4       | 5  | 5  | 5  | 5  | 4  | 6  | 7  | 5  | 5  | 8  | 9* | 9* | 8* | 7* | 7* | 7* | 7* | 8* | 8* | 9* | 8* | 4  | 1  |
| 4X = 20  | 9+      | 9  | 9  | 8  | 9  | 8  | 3  | -  | 2  | 6  | 2  | 1  | 1  | 8  | 8  | 6  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9  |
| HZ = 21  | 9+      | 9+ | 9  | 9  | 8  | 5  | -  | -  | 2  | 4  | 3  | 2  | 7  | 6  | 6  | 5  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| VU = 22  | 9       | 9  | 7  | 3  | 1  | 1* | -  | -  | -  | 2  | 6  | 5  | 6* | 4* | 5* | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  | 8       | 7  | 6  | 5  | 5  | 6  | 5  | 1  | 1  | 4  | 2  | 3  | 8* | 8* | 7* | 5* | 5* | 6  | 8  | 8  | 8  | 8  | 8  | 8  |
| VR2 = 24 | 3*      | 4* | 2* | 2* | 1* | 2* | 4* | 5* | 4* | 6  | 6  | 7  | 9* | 8* | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ | 8  | 2* |
| JA1 = 25 | 5       | 5  | 6  | 7  | 7  | 8  | 8  | 8  | 7  | 5* | 8* | 9  | 9  | 8  | 7  | 7* | 8* | 8* | 9* | 9* | 9* | 9* | 5  | 5  |
| HS = 26  | 2*      | 2* | 2* | 1* | -  | -  | 1* | 2* | 2* | 5  | 6  | 7  | 7  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9+ | 9  | 7  | 2* |
| DU = 27  | 5*      | 5* | 2* | 1* | 1* | 1* | 3* | 4* | 3* | 3* | 9  | 9  | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 6  | 6* | 6* | 4* |
| YB = 28  | 2*      | 3* | 2* | 1* | -  | -  | 1* | 1* | 2* | 3  | 9  | 9  | 9  | 8  | 5  | 1  | 1* | 1* | 2* | 3* | 3* | 5* | 2* | 2* |
| VK6 = 29 | 2*      | 1* | -  | -  | -  | 1* | 1* | 2* | 1* | 2* | 4  | 9  | 8  | 5  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VK3 = 30 | 2*      | -  | 1* | -  | -  | -  | -  | 1* | -  | 2* | 4* | 3  | 1  | 1* | 2  | 1  | 1  | 1  | -  | -  | -  | 5* | 8  | 3* |
| KH6 = 31 | 6       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2* | 3* | 4* | 9  | 9  | 4  | 4  | 2  | 3  | 5  | 7  | 4* | 2  | 3  | 4  |
| KH8 = 32 | 8       | 8  | 8  | 8  | 6  | 4  | 5  | 5  | 2  | 2* | 1* | 1* | 2  | -  | 1* | 1* | 1* | 8  | 6  | 6  | 5  | 5  | 6  | 6  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 8  | 3  | 2  | 5  | 9  | 7  | 4  | 1  | 1  | 5  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| SU = 34  | 9+      | 9+ | 9  | 8  | 8  | 9  | 4  | -  | 2  | 6  | 2  | 1  | 1  | 8  | 8  | 7  | 6  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| 6W = 35  | 5       | 6  | 7  | 8  | 7  | 2  | -  | -  | -  | 6  | 9+ | 9  | 8  | 6  | 5  | 6  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 8  | 5  |
| D2 = 36  | 6       | 4  | 2  | 1  | 1* | 1* | 1* | 1* | 4  | 9  | 9  | 8  | 6  | 8  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 8  |
| 5Z = 37  | 9       | 8  | 2  | -  | 1* | 1* | 1* | -  | 1  | 7  | 5  | 6  | 8  | 6  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| ZS6 = 38 | -       | -  | -  | -  | 1* | 1* | 1* | -  | 4  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 3  | -  | -  | -  | -  |
| FR = 39  | -       | -  | 1* | 1* | 1* | 1* | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 1* | 1* | 2* | 2* | 1* | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | 1  | 6  | 2  | 5  | -  | 1* | 5* | 2  | 2* | 1  | 5  | 1* | 2* | 2* | 2* | 1* | 5* | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Jun., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 3   | 3   | 4  | 5  | 1  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | -  | -  | 1  |
| VO2 = 02 | 9   | 9   | 8  | 9  | 9  | 6  | 2  | 6  | 1  | 2  | 1  | 4  | 3  | 2  | 4  | 5  | 5  | 5  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  |
| W6 = 03  | 9   | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | -  | -  | 2  | 1  | 3  | 6  | 6  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  |
| W9 = 04  | 9   | 9   | 8  | 9  | 9  | 7  | 5  | 6  | 2  | -  | -  | -  | -  | 2  | 2  | 7  | 8  | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 8  |
| W3 = 05  | 8   | 9   | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  |
| XE1 = 06 | 9   | 9   | 9  | 9  | 9  | 9  | 9  | 7  | 3  | 1* | 1* | -  | 3  | 9  | 9  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 3   | 5   | 7  | 7  | 7  | 7  | 6  | 1  | -  | -  | 3* | 2* | 1* | 4  | 2  | -  | -  | 1  | 3  | 5  | 9  | 6  | 4  | 2  | -  | 2  |
| VP2 = 08 | -   | 1   | 6  | 6  | 7  | 7  | 6  | 1  | -  | -  | 1* | 2  | 7  | 9  | 9  | 8  | 4  | 6  | 9  | 7  | 5  | 1  | -  | -  | -  | -  |
| P4 = 09  | -   | -   | 5  | 5  | 6  | 6  | 5  | 1  | -  | -  | 1* | 2* | 1  | 3  | 1  | 1  | 1  | 2  | 5  | 4  | 1  | -  | -  | -  | -  | -  |
| HC = 10  | 9   | 9+  | 9+ | 2  | 3  | 3  | 2  | -  | -  | -  | 5* | 2* | 2* | 9  | 6  | -  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| PY1 = 11 | 3   | 8   | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 3  | 2  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 7  | 4  | 4  |
| CE = 12  | 9+  | 9   | 9  | 6  | 2  | -  | 1  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 1*  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2* | 4* | 3* | 3* |
| G = 14   | 9   | 9   | 8  | 8  | 7  | 9  | 8  | 2  | 1  | -  | 8  | 6  | 6  | 4  | 3  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| I = 15   | 9   | 9   | 9  | 8  | 7  | 8  | 6  | 1  | 1  | 1  | 7  | 5  | 4  | 2  | 2  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | 7   | 5   | 4  | 4  | 7  | 8  | 5  | -  | -  | -  | 7  | 5  | 4  | 2  | 2  | 4  | 5  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  |
| UN = 17  | 6   | 7   | 8  | 9  | 8  | 5  | 1  | -  | -  | 2  | 4  | 4  | 3  | 5* | 4* | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  |
| UA9 = 18 | -   | -   | 1  | 1  | 1  | 2  | 5  | 1  | -  | -  | 2  | 1  | 5* | 5* | 5* | 5* | 4* | 5* | 5* | 2  | 3* | 4* | 6* | 1* | 1* | 1* |
| UA0 = 19 | -   | -   | -  | 1  | -  | -  | -  | 5  | 1  | 1  | -  | 7* | 9* | 8* | 8* | 8* | 7* | 8* | 8* | 8* | 9* | 2* | -  | -  | -  | -  |
| 4X = 20  | 9   | 9   | 8  | 3  | 5  | 6  | -  | -  | -  | 6  | 5  | 5  | 4  | 2  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9   | 9   | 6  | 6  | 3  | -  | -  | -  | -  | 2  | 5  | 4  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 8   | 8   | 3* | 4* | 2* | 1* | -  | -  | -  | 4  | 3  | 3  | 5* | 6* | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  |
| JT = 23  | 2   | 5   | 5  | 5  | 5  | 6  | 3  | -  | -  | -  | 4  | 3  | 7* | 6* | 7* | 6* | 5* | 6* | 6* | 6* | 6* | 6* | 8* | 7* | 2* | 2* |
| VR2 = 24 | 5*  | 5*  | 5* | 5* | 4* | 4* | 4* | 4* | 1* | 4  | 8  | 8  | 9* | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9  | 4* | 4* | 4* |
| JA1 = 25 | 5   | 6   | 6  | 6  | 7  | 8  | 8  | 7  | 4  | 1* | 8* | 9* | 9* | 8* | 8* | 8* | 8* | 9* | 9* | 9* | 9* | 8* | 6* | 5  | 5  | 5  |
| HS = 26  | 4*  | 4*  | 4* | 4* | 2* | 1* | 1* | 2* | -  | 1  | 8  | 8  | 9* | 8* | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 3* | 4* | 4* |
| DU = 27  | 4*  | 5*  | 4* | 2* | 2* | 2* | 4* | 3* | 1* | -  | 5  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5* | 7* | 5* | 4* | 4* |
| YB = 28  | 3*  | 4*  | 3* | 2* | 1* | 1* | 1* | 1* | 1* | -  | 7  | 9  | 8  | 6  | 4* | 3* | 2* | 3* | 3* | 4* | 4* | 2* | 5* | 3* | 3* | 3* |
| VK6 = 29 | 1*  | 2*  | 1* | -  | -  | 1* | 1* | 1* | -  | -  | -  | 7  | 7  | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 3* |
| VK3 = 30 | 1*  | 1*  | -  | 1* | -  | 2* | -  | -  | -  | 1* | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 5  | 3* | 3* |
| KH6 = 31 | 7   | 8   | 9  | 9  | 9  | 9  | 9  | 8  | 2  | 2* | 5* | 5* | 9  | 5  | 2* | 1* | 4  | 6  | 5  | 5  | 5  | 5* | 4  | 5  | 5  | 5  |
| KH8 = 32 | 8   | 8   | 6  | 3* | 2* | 1* | 1  | -  | -  | 2* | 2* | 2* | 1* | 1* | 1* | 1* | -  | 7  | 8  | 7  | 7  | 7  | 7  | 7  | 6  | 6  |
| CN = 33  | 9   | 9+  | 9  | 9  | 9  | 8  | 5  | -  | -  | -  | 8  | 8  | 8  | 5  | 4  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9   | 9   | 7  | 5  | 5  | 6  | -  | -  | -  | 6  | 6  | 5  | 4  | 4  | 4  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  |
| 6W = 35  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 6  | 6  | 7  | 8  | 8  | 8  | 7  | 6* | 5* | 2* | 2* |
| D2 = 36  | 1   | -   | -  | -  | 2* | 1* | 2* | 1* | -  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 7  | 5  | 5  |
| 5Z = 37  | 6   | 3   | -  | 2* | 4* | 3* | 1* | -  | -  | 7  | 7  | 7  | 7  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 8  | 8  |
| ZS6 = 38 | -   | -   | -  | -  | 2* | 2* | 1* | 1* | -  | 8  | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 8  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -   | -   | 2* | 2* | 2* | 1* | -  | -  | -  | 3  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 2* | 2* | 2* | 2* | 1* | -  | -  | -  | -  |
| FJL = 40 | -   | -   | -  | -  | -  | -  | -  | 2  | -  | 2  | -  | -  | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | -  | -  | -  | 1* | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Jun., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  |
| VO2 = 02 |         | 5  | 7  | 7  | 7  | 7  | 2  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 2  | 4  | 5  | 6  | 5  |
| W6 = 03  |         | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  | 5  | 6  | 8  | 8  | 6  | 5  |
| W9 = 04  |         | -  | 7  | 6  | 6  | 7  | 2  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 6  | 7  | 7  | 8  | 8  | 6  | 4  |
| W3 = 05  |         | 4  | 6  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | 4  | 6  | 6  | 7  | 6  | 8  | 8  | 8  | 8  | 8  | 5  | 4  | 2  |
| XE1 = 06 |         | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | 3  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 8  | 8  | 7  |
| TI = 07  |         | -  | -  | 3  | 2  | 3  | 2  | 1  | -  | -  | -  | 1* | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 1  | -  | -  | -  |
| VP2 = 08 |         | -  | -  | 1  | 1  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 1* | -  | -  | -  |
| P4 = 09  |         | -  | -  | -  | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  |         | 7  | 8  | 8  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | 1* | 1* | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 7  |
| PY1 = 11 |         | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 1* | 2  | 5  | 6  | 6* | 4* | 1* |
| CE = 12  |         | 5  | 2  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  |    |
| LU = 13  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | 1* | 1* | 3* | 4* | 4* | 2* |
| G = 14   |         | 7  | 7  | 5  | 2  | 1  | 8  | 5  | -  | -  | -  | 5  | 3  | 4  | 5  | 4  | 5  | 6  | 6  | 7  | 8  | 8  | 7  | 6  | 6  |
| I = 15   |         | 8  | 8  | 6  | 5  | 2  | 3  | 2  | -  | -  | -  | 5  | 5  | 6  | 4  | 4  | 5  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 8  |
| UA3 = 16 |         | 2  | 1  | -  | -  | 1  | 4  | 1  | -  | -  | -  | 6  | 4  | 2  | 1  | 1  | 1  | 3  | 5  | 6  | 7  | 7  | 6  | 5  | 4  |
| UN = 17  |         | 2  | 3  | 5  | 8  | 6  | 3  | -  | -  | -  | -  | 6  | 3  | 2  | 5* | 3* | 4  | 4  | 5  | 6  | 6  | 6  | 5  | 4  | 2  |
| UA9 = 18 |         | -  | -  | -  | -  | -  | -  | 3  | -  | -  | -  | 1  | -  | -  | 4* | 3* | 4* | 4* | 3* | 2* | -  | -  | -  | 1* | -  |
| UA0 = 19 |         | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | 1  | 9* | 8* | 8* | 8* | 7* | 7* | 6* | 4* | 7* | -  | -  | -  |
| 4X = 20  |         | 9  | 8  | 4  | -  | -  | 1  | -  | -  | -  | -  | 7  | 6  | 5  | 5  | 6  | 6  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  |         | 9  | 7  | 1  | 1  | -  | -  | -  | -  | -  | -  | 6  | 6  | 6  | 6  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  |         | 3  | 4  | 4* | 3* | 1* | -  | -  | -  | -  | 1  | 6  | 5  | 5  | 6  | 6  | 8  | 8  | 7  | 6  | 8  | 8  | 7  | 4  | 4  |
| JT = 23  |         | -  | -  | -  | 1  | 1  | 5  | 1  | -  | -  | -  | 2  | 1  | 1  | 8* | 6* | 5* | 5* | 5* | 4* | -  | 1* | 8* | 4* | -  |
| VR2 = 24 |         | 4* | 5* | 5* | 5* | 5* | 4* | 4* | 2* | -  | -  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 4* | 5* | 5* |
| JA1 = 25 |         | 4  | 5  | 5  | 4  | 2  | 8  | 7  | 5  | 1  | -  | 7* | 9* | 9* | 8* | 8* | 8* | 9* | 9* | 8* | 7* | 7* | 5  | 4  | 2  |
| HS = 26  |         | 5* | 5* | 5* | 5* | 3* | 2* | 2* | 1* | -  | -  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 1  | 2* | 4* |
| DU = 27  |         | 1* | 2* | 4* | 2* | 2* | 2* | 2* | 1* | -  | -  | -  | 7  | 9  | 9  | 8  | 8  | 9  | 8  | 7  | 5  | 3* | 5* | 3* | 1* |
| YB = 28  |         | 1* | 1* | 2* | 2* | 1* | 1* | 1* | 1* | -  | -  | 1  | 8  | 8* | 6* | 4* | 4* | 4* | 4* | 4* | 2* | 1* | -  | 1* | 1* |
| VK6 = 29 |         | -  | 1* | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | 5* | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| VK3 = 30 |         | -  | -  | 1* | 1* | 1* | 1* | 1* | -  | -  | -  | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 4* | 2* |
| KH6 = 31 |         | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 5  | -  | -  | 6* | 5* | 7  | 1* | 1* | -  | -  | 7  | 6  | 5  | 5* | 6  | 6  | 7  |
| KH8 = 32 |         | 6  | 3  | 3* | 2* | 1* | -  | -  | -  | -  | -  | 5* | 3* | 2* | 1* | 1* | 1* | -  | 5  | 8  | 8  | 8  | 7  | 7  | 5  |
| CN = 33  |         | 9  | 9  | 8  | 8  | 5  | 2  | 1  | -  | -  | -  | 6  | 9  | 7  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  |         | 9  | 8  | 1  | -  | -  | 1  | -  | -  | -  | -  | 8  | 6  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 6  | 2  | 1  | -  | -  | 1  | 1  | 3* | 7* | 5* | 2* | -  |
| D2 = 36  |         | 1* | 1* | -  | -  | -  | 1* | 1* | -  | -  | 2  | 7  | 9  | 8  | 9  | 8  | 8  | 9  | 9  | 9+ | 9  | 9  | 6  | 2* | 2* |
| 5Z = 37  |         | 2  | -  | -  | 2* | 4* | 2* | 1* | -  | -  | 2  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | -  |
| ZS6 = 38 |         | -  | -  | -  | -  | -  | 3* | 2* | -  | -  | 2  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 1  | -  | -  | -  | -  | -  |
| FR = 39  |         | -  | -  | 1* | 3* | 2* | 1* | -  | -  | -  | -  | 8  | 9  | 9  | 8  | 9  | 6  | 2* | 2* | 1* | 1* | 1* | -  | -  | -  |
| FJL = 40 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |

Zone UTC --> \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Jul., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | 3  | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | -  | 2  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | -  | 2  | 3  | 4  | 4  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 2  | 4  | 5  | 5  | 4  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 2  | 1  | 3  | 4  | 4  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | -       | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 2       | 4  | 3  | 3  | 3  | 2  | 2  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| P4 = 09  | 3       | 4  | 4  | 3  | 3  | 3  | 2  | 2  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 5       | 5  | 6  | 6  | 6  | 6  | 6  | 6  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | 4  | 9  | 9  | 9  | 9  |
| G = 14   | 4       | 4  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 2       | 3  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 4       | 4  | 4  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| SU = 34  | 3       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 5       | 5  | 4  | 4  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| D2 = 36  | 4       | 3  | 3  | 3  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| 5Z = 37  | 4       | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  |
| ZS6 = 38 | 5       | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |
| FR = 39  | 5       | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Jul., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2       | 6  | 8  | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 1  | 3  | 5  | 6  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 3  | 5  | 6  | 7  | 7  | 7  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 5  | 7  | 8  | 8  | 7  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | 1       | 2  | 5  | 4  | 6  | 7  | 7  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2       | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 5       | 7  | 6  | 6  | 6  | 5  | 5  | 5  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| P4 = 09  | 6       | 7  | 7  | 6  | 6  | 6  | 5  | 5  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| HC = 10  | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | -  | -  | -  | -  | 1  | 7  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7       | 7  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| I = 15   | 5       | 6  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 2  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  |
| HZ = 21  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 1  | 3  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 7       | 7  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| SU = 34  | 6       | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 2  |
| 6W = 35  | 8       | 8  | 7  | 7  | 7  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| D2 = 36  | 7       | 6  | 6  | 6  | 9  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| 5Z = 37  | 7       | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| FR = 39  | 8       | 8  | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Jul., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 1  | 2  | 3  | 4  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 7       | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  |
| W6 = 03  | -       | 1  | 3  | 5  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 5       | 5  | 7  | 8  | 8  | 8  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W3 = 05  | 7       | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| XE1 = 06 | 6       | 8  | 8  | 8  | 9  | 9  | 8  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| TI = 07  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  |
| VP2 = 08 | 9       | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| P4 = 09  | 9       | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4  | 1  | 1  | 2  | 5  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 2  | -  | -  | -  | 2  | 6  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 5  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 7  | 8  | 7  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| UA9 = 18 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 1  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 7       | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| HZ = 21  | 7       | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  | 7  |
| VU = 22  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  | 8  | 2  | 4  | 5  | 5  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | -  | -  |
| YB = 28  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  |
| VK6 = 29 | 4       | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 5  |
| VK3 = 30 | -       | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | -  |
| KH6 = 31 | -       | -  | -  | -  | 3  | 7  | 6  | 7  | 6  | 6  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 1  | 4  | 6  | 7  | 7  | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| SU = 34  | 7       | 7  | 6  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 7  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  |
| FR = 39  | 8       | 8  | -  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 4  | 4  | 8  |
| FJL = 40 | 2       | 2  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | 1  | 1  | 2  | 5  | 5  | 6  | 6  | 6  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  |
| W6 = 03  | 1  | 4  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  |
| W3 = 05  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  |
| XE1 = 06 | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| TI = 07  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  |
| VP2 = 08 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  |
| P4 = 09  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 9  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 2  | 9+ | 9+ | 9+ | 9  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9+ | 9+ | 9  | 7  | 5  | 4  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 4  | -  | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  |
| I = 15   | 8  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  |
| UA3 = 16 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  | 7  |
| UA9 = 18 | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  | -  |
| 4X = 20  | 8  | 8  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 7  | 8  |
| HZ = 21  | 7  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 5  | 7  | 7  |
| VU = 22  | 5  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 5  | 5  |
| JT = 23  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5* | 4  | 2  |
| VR2 = 24 | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 2* | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 4  | 3  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | 2* | 4* | 4* | -  | -  |
| HS = 26  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 7  | 7  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 3  |
| YB = 28  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 5  | 6  |
| VK6 = 29 | 7  | 5  | 1  | -  | -  | -  | -  | 1  | 4  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 5  | 7  |
| VK3 = 30 | 1  | 1  | -  | -  | 1  | 4  | 6  | 7  | 7  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | 2  | 2  | 5  | 5  | 4  |
| KH6 = 31 | -  | -  | 1  | 3  | 7  | 6  | 6  | 7  | 7  | 6  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | 1  | 4  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  | 8  |
| SU = 34  | 8  | 8  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 7  | 8  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 8  | 6  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 8  | 8  | 8  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  | 8  | 9  |
| ZS6 = 38 | 7  | 8  | 8  | 7  | 5  | 6  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 7  | 6  | 6  |
| FR = 39  | 5  | -  | -  | -  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | 5  | 4  | 3  | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2       | 4  | 5  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 9       | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | 4  | 4  | 7  | 8  | 9  |
| W6 = 03  | 6       | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| W9 = 04  | 9       | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 8  |
| W3 = 05  | 9       | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 9  | 9  |
| XE1 = 06 | 9       | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | 3  | 5  | 8  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 9  | 8  | 5  | 2  | 1  | 1  | 1  | 1  | 2  | 5  | 8  | 9  | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 7  | 3  | 1  | -  | -  | 1  | 5  | 7  | 8  | 9  | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 8  | 4  | 1  | 1  | 1  | 1  | 2  | 5  | 8  | 9  | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 9+ | 9  | 6  | 4  | 2  | 2  | 3  | 4  | 6  | 8  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | 1* | -  | 2  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 8  | 5  | 4  | 4  | -  | 1* | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 9  | 9  | 9+ |
| I = 15   | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 8  | 9  | 9  | 9  | 9+ |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | 9       | 8  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 9  | 9  | 9  |
| UA9 = 18 | 8       | 7  | 2  | 2  | 2  | 1  | 1  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | 1  | 7  | 6  | 8  | 8  | 8  |
| UA0 = 19 | 1       | 1  | -  | 1  | 1  | 1  | -  | 1  | 2  | 7  | 7* | 7* | 5* | 2* | -  | -  | -  | 2* | 4* | 6* | 8  | 7* | 6* | 1  |
| 4X = 20  | 9       | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 9  | 9  | 9  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  | 9       | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  | 6       | 2  | 1  | 1  | -  | -  | -  | -  | -  | 1* | 1* | 5* | 4* | 2* | -  | -  | -  | -  | 4  | 8  | 6  | 8  | 8  | 8  |
| VR2 = 24 | 5       | 1  | -  | -  | -  | -  | -  | -  | 1* | 6* | 8  | 8  | 5* | 1* | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  | 9  | 8  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  | 7  | 3  | -  | -  | -  | 3* | 6* | 8* | 8* | 8* | 8* | 1* |
| HS = 26  | 5       | 3  | -  | -  | -  | -  | -  | -  | -  | 3* | 4* | 8  | 2* | 1* | -  | -  | -  | 4  | 7  | 8  | 9  | 9  | 9  | 8  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 6  | 4  | 2  | -  | -  | -  | 2  | 5  | 7  | 8  | 6  | 9  | 3  |
| YB = 28  | 2       | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 5  | 4  | 2  | 1  | 1  | 1  | 4  | 5  | 7  | 8  | 6  | 2* | 4  |
| VK6 = 29 | 2       | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 9  | 8  | 7  | 5  | 1  | 1  | 1  | 2  | 5  | 5  | 2  | -  | 3* | 7  |
| VK3 = 30 | 6       | 5  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9  | 8  | 7  | 5  | 4  | 3  | 2  | 2  | 2  | 1  | 2* | 6  | 8  | 8  |
| KH6 = 31 | -       | 2  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 1* | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | 1       | 3  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | -  | 6  | 9  | 7  | 3  | -  | 1  | 1  | 1  | -  | -  | -  | -  | -  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | 2  | 4  | 8  | 9  | 9  | 9  | 9+ |
| SU = 34  | 9       | 9  | 9  | 9  | 9  | 8  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 9  | 8  | 5  | 1  | -  | -  | -  | 2  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9       | 9  | 8  | 5  | 5  | 2  | 3  | 1  | 7  | 8  | 4  | 1  | -  | -  | -  | 1  | 6  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9  |
| 5Z = 37  | 9       | 9  | 8  | 2  | 4  | 8  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 8  | 9  | 9  | 9+ | 9  | 9  |
| ZS6 = 38 | -       | 2  | -  | -  | -  | -  | 4  | 3  | 8  | 7  | 4  | 1  | -  | -  | 1  | 2  | 5  | 8  | 9  | 8  | 1  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | 2  | 5  | 1  | 1  | 2  | 1  | 1  | -  | 1  | 1  | 1  | 2  | 5  | -  | -  | -  | -  | 1* | -  | -  |
| FJL = 40 | 9       | 9  | 9  | 8  | 8  | 8  | 7  | 6  | 6  | 4  | 2  | 1  | 1* | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  | 8  | 8  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Jul., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |
| KL7 = 01 | 8       | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 7* | 6* | 4* | 2  | 3  | 2  | 1  | 2  | 2  | 2  | 4* | 5  | 7  | 8  |    |
| VO2 = 02 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 1  | 1  | 2  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ |    |
| W6 = 03  | 9       | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9  | 6  | 9  | 8  | 8  | 5  | 5  | 1  | 1  | 1  | -  | -  | 2  | 5  | 7  |    |
| W9 = 04  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 6  | 2  | 1  | 2  | 3  | 5  | 5  | 6  | 7  | 9  | 9  |    |
| W3 = 05  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 7  | 9  | 9  | 6  | 3  | 1  | 2  | 3  | 2  | 5  | 7  | 9  | 9  | 9+ |    |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 6  | 9  | 9  | 8  | 8  | 5  | 4  | 3  | 2  | 5  | 5  | 8  | 9  | 9+ |    |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 2* | 1* | 9  | 8  | 7  | 6  | 5  | 5  | 6  | 7  | 8  | 9  | 9+ | 9+ |    |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 8  | 9+ | 9  | 8  | 6  | 5  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 4* | 9+ | 9  | 8  | 7  | 6  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4* | 5* | 2* | 9+ | 9  | 8  | 6  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| PY1 = 11 | 9+      | 9+ | 9+ | 9  | 6  | 6  | 1  | -  | -  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 5  | 1* | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  | 6       | 4  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  |    |
| G = 14   | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 8  | 6  | 4  | 2  | -  | -  | 1  | 1  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ |    |
| I = 15   | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 6  | 5  | 7  | 3  | 1  | 1  | -  | -  | 1  | 3  | 6  | 6  | 8  | 9  | 9+ | 9+ | 9+ |    |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| UN = 17  | 9       | 9  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 9  | 2* | 2* | 1* | 2  | 6  | 7  | 8  | 9  | 9  | 9  | 9  |    |
| UA9 = 18 | 8       | 8  | 7  | 7  | 5  | 5  | 5  | 4  | 2  | 4  | 2  | 8  | 8  | 4* | 2* | 1* | 2* | 4  | 7  | 9  | 8  | 9  | 9  | 9  |    |
| UA0 = 19 | 6       | 7  | 4  | 2  | 5  | 5  | 6  | 8  | 8  | 8  | 9  | 9* | 8* | 7* | 5* | 4* | 4* | 5* | 7* | 8* | 9* | 8* | 7  | 7  |    |
| 4X = 20  | 9+      | 9  | 9+ | 9  | 9  | 9  | 5  | -  | 1  | 2  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9+ | 9+ | 9  | 9+ |    |
| HZ = 21  | 9       | 9  | 9  | 9  | 8  | 7  | 1  | -  | -  | 1  | 1  | 1  | 1* | 1  | -  | 2  | 3  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| VU = 22  | 9+      | 9  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 8  | 2* | 2* | 1  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| JT = 23  | 8       | 7  | 6  | 5  | 3  | 1  | 1  | 1  | 1  | 4  | 7  | 6  | 8  | 5* | 4* | 2* | 2* | 5  | 7  | 8  | 8  | 9  | 9  | 8  |    |
| VR2 = 24 | 6*      | -  | -  | -  | -  | -  | -  | 4* | 7* | 8  | 6  | 9* | 8* | 7* | 3  | 4  | 5  | 8  | 8  | 8  | 9  | 9+ | 7  | 4* |    |
| JA1 = 25 | 1       | 1  | 1  | 1  | 2  | 7  | 8  | 8  | 9  | 8  | 5* | 9+ | 8  | 8  | 5  | 3  | 5* | 7* | 8* | 9* | 9* | 9* | 8  | 2  |    |
| HS = 26  | 2*      | 3* | -  | -  | -  | -  | -  | -  | 3* | 3  | 6  | 7* | 5* | 6* | 1  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 6  | 3* |
| DU = 27  | 4*      | 1* | -  | -  | -  | -  | -  | 4* | 6* | 7  | 8  | 8  | 7  | 5  | 4  | 4  | 4  | 6  | 7  | 8  | 6  | 6* | 4* | 3* |    |
| YB = 28  | 1*      | 2* | 1* | -  | -  | -  | -  | 1* | 3* | 7  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | 1  | 2  | 4  | 3* | 4* | 2* |    |
| VK6 = 29 | 2*      | -  | -  | -  | -  | -  | -  | 1* | 2* | 4  | 9  | 9  | 8  | 3  | -  | -  | -  | 1  | 2  | 1  | -  | -  | 1* | 2  |    |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 2  | 5  | 1  | -  | 2  | 1  | 1  | -  | 2* | 2* | 3* | 5* | 8  | 2  |    |
| KH6 = 31 | 4       | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 2  | 1* | 5  | 9  | 8  | 5  | 4  | 1  | 1  | 2* | 4* | 2* | -  | 1  | 1  |    |
| KH8 = 32 | 5       | 7  | 8  | 8  | 7  | 7  | 8  | 8  | 7  | 1  | 1* | -  | 8  | 6  | -  | -  | -  | 5  | 3  | 7  | 8  | 2  | 2  | 3  |    |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 5  | 9  | 8  | 4  | 2  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |
| SU = 34  | 9+      | 9  | 9+ | 9  | 9  | 9  | 5  | -  | 1  | 3  | 1  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9+ | 9+ | 9  | 9+ |    |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 3  | 4  | 2  | 9+ | 9  | 8  | 6  | 4  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| D2 = 36  | 7       | 5  | 1  | -  | 1* | -  | -  | -  | 5  | 9  | 8  | 5  | 2  | 1  | 2  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  |    |
| 5Z = 37  | 7       | 6  | 3  | -  | 1* | 1  | -  | -  | 2  | 5  | 2  | 1  | 1  | 1  | -  | 3  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  |    |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 6  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | -  | -  | -  | -  | -  |    |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 4  | 8  | 5  | 5  | 6  | 6  | -  | -  | -  | 1* | 1* | -  | -  |    |
| FJL = 40 | 9       | 9  | 8  | 8  | 8  | 6  | 8  | 8  | 7  | 7  | 7  | 5  | 8  | 2* | 1* | 1  | 2  | 4  | 5  | 6  | 7  | 8  | 9  | 9  |    |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Jul., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 8  | 8  | 8  | 8  | 6  | 5  | 4  | 2  | 6  | 8* | 5* | 4* | 2* | 1  | 1  | 2  | 6  | 6  | 6  | 5  | 6  | 7  | 8  |
| VO2 = 02 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 7  | 8  | 9  | 8  | 8  | 6  | 6  | 5  | 7  | 7  | 8  | 9  | 9  | 9  | 9+ |
| W6 = 03  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 3* | 8  | 5  | 8  | 7  | 5  | 4  | 9  | 4  | 1  | 2  | 5  | 8  | 9  |
| W9 = 04  | 9+      | 9+ | 9+ | 9  | 9  | 9+ | 9  | 9  | 8  | 6  | -  | 2  | 8  | 7  | 5  | 6  | 6  | 4  | 6  | 7  | 8  | 9  | 9  | 9  |
| W3 = 05  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 5  | -  | 9  | 8  | 7  | 7  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9+ |
| XE1 = 06 | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 2* | 3  | 7  | 9  | 8  | 8  | 7  | 5  | 6  | 7  | 8  | 9  | 9+ | 9+ |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 4* | 3* | 2* | 2  | 9  | 8  | 4  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 2  | 1  | 3* | 9+ | 9  | 9  | 8  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 2  | -  | 2* | 2* | 9  | 9  | 8  | 5  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 7       | 8  | 9  | 9+ | 9+ | 9+ | 8  | 7  | 2  | 5* | 4* | 2* | 9+ | 9  | 8  | 8  | 8  | 6  | 7  | 9  | 8  | 8  | 6  | 6  |
| PY1 = 11 | 9       | 9+ | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9  | 5  | 3  | 2  | -  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 5  | 6  | 9  | 9  | 9  | 7  | 1  | 2* |
| G = 14   | 9+      | 9+ | 9+ | 9  | 9  | 9  | 9  | 6  | 5  | 8  | 8  | 6  | 4  | 1  | 1  | 2  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ |
| I = 15   | 9+      | 9+ | 9+ | 9  | 9  | 9  | 8  | 4  | 2  | 7  | 5  | 5  | 1  | -  | 1  | 5  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | 8       | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | 2  | 6  | 5  | 5  | 6  | 3* | 2  | 5  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| UA9 = 18 | 6       | 5  | 7  | 6  | 6  | 8  | 6  | 3  | 1  | 4  | 3  | 3  | 6* | 5  | 4* | 3* | 3  | 6  | 8  | 9  | 8  | 8  | 8  | 7  |
| UA0 = 19 | 6       | 4  | 4  | 5  | 4  | 7  | 8  | 8  | 6  | 6  | 7  | 8  | 8* | 7* | 6* | 6* | 6* | 7* | 8* | 8* | 9* | 6* | 6  | 7  |
| 4X = 20  | 9       | 9  | 9  | 9  | 9  | 8  | 1  | -  | -  | 5  | 2  | 1  | 2  | 8  | 2  | 2  | 6  | 8  | 8  | 9  | 9+ | 9+ | 9  | 9  |
| HZ = 21  | 9       | 9  | 8  | 6  | 4  | 2  | -  | -  | -  | 3  | 3  | 2  | 7  | 8  | 2* | 4  | 7  | 8  | 9  | 9  | 9  | 9+ | 9  | 9  |
| VU = 22  | 9       | 9  | 2  | 3* | 1* | -  | -  | -  | -  | 2  | 6  | 5  | 5* | 4  | 4* | 3  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |
| JT = 23  | 8       | 7  | 7  | 6  | 6  | 6  | 5  | 1  | -  | 5  | 3  | 3  | 8* | 5  | 5* | 4* | 4  | 6  | 8  | 8  | 8  | 8  | 8  | 8  |
| VR2 = 24 | 4*      | 5* | 3* | 2* | 1* | 2* | 3* | 6* | 7* | 6  | 6  | 8* | 8* | 7* | 6  | 3* | 7  | 8  | 9  | 9  | 9  | 9  | 4* | 2* |
| JA1 = 25 | 5       | 5  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 6  | 7* | 9  | 9  | 8  | 6  | 5  | 7* | 8* | 9* | 9* | 9* | 8* | 5  | 5  |
| HS = 26  | 2*      | 3* | 2* | 1* | -  | -  | -  | 2* | 4* | 5  | 5  | 7* | 7* | 5  | 3* | 3  | 7  | 8  | 9  | 9  | 9+ | 9  | 2* | 2* |
| DU = 27  | 6*      | 5* | 3* | 2* | 1* | 2* | 3* | 5* | 5* | 5* | 8  | 9  | 8  | 7  | 6  | 5  | 6  | 7  | 8  | 8  | 5* | 6* | 6* | 6* |
| YB = 28  | 2*      | 4* | 3* | 1* | -  | -  | 1* | 2* | 4* | 4  | 8  | 9  | 8  | 7  | 2* | 1* | 1* | 1* | 1* | 2* | 2* | 2* | 4* | 3* |
| VK6 = 29 | 3*      | 2* | -  | -  | -  | -  | 1* | 2* | 2* | 3* | 5* | 9  | 7  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VK3 = 30 | 1*      | 1* | -  | -  | -  | -  | -  | 1* | 1* | 1* | 4* | 1* | 1* | -  | -  | -  | -  | -  | 1* | 1* | 1* | 5* | 7  | 3* |
| KH6 = 31 | 6       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2* | 3* | 3* | 9  | 8  | 6  | 5  | 5  | 4  | 5  | 7  | 4* | 2  | 3  | 4  |
| KH8 = 32 | 8       | 8  | 8  | 3  | 2* | 1  | 3  | 2  | 1  | 1* | 1* | -  | 1  | -  | -  | -  | 1* | 6  | 5  | 5  | 5  | 5  | 5  | 5  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 8  | 2  | 1  | 6  | 9  | 6  | 3  | 1  | 1  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| SU = 34  | 9+      | 9+ | 9  | 8  | 8  | 8  | 1  | -  | -  | 6  | 4  | 3  | 2  | 3  | 3  | 2  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9  | 9+ |
| 6W = 35  | 9+      | 9+ | 9+ | 9  | 8  | 4  | -  | -  | -  | 5  | 9+ | 9  | 8  | 7  | 5  | 6  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  |
| D2 = 36  | 2       | 1  | -  | -  | 1* | 1* | 1* | 1* | 1  | 9  | 8  | 7  | 5  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9  | 9+ | 9  | 7  |
| 5Z = 37  | 2       | 1  | -  | -  | 1* | 1* | 1* | -  | 2  | 6  | 6  | 5  | 8  | 8  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 7  |
| ZS6 = 38 | -       | -  | -  | -  | 1* | 1* | -  | -  | 4  | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 1  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 1* | 1* | -  | -  | -  | -  | 7  | 7  | 6  | 7  | 6  | 7  | 8  | -  | 1* | 1* | 1* | -  | -  | -  | -  |
| FJL = 40 | 5       | 3  | 2  | 1  | 1  | -  | 1  | 6  | 4  | 6  | 7  | 5  | 5* | 5  | 1* | 1* | 1* | 2* | 3  | 5  | 5  | 8  | 7  | 6  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Jul., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 6       | 4  | 5  | 4  | 4  | 1  | -  | -  | -  | 2  | 5* | 1* | 1* | -  | -  | -  | 1* | 1* | 2* | 2  | 3  | 4  | 5  |    |
| VO2 = 02 | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | 3  | -  | 6  | 7  | 5  | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  |    |
| W6 = 03  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 2  | -  | 1  | -  | 1  | 6  | 6  | 5  | 5  | 7  | 7  | 6  | 8  | 9  | 9  |
| W9 = 04  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | 1  | 6  | 5  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | 9       | 9+ | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | 1  | -  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | 6  | 9  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ |
| TI = 07  | 8       | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 6  | 7  | 8  | 8  |
| VP2 = 08 | 7       | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | 1  | 7  | 9  | 8  | 8  | 5  | 8  | 9  | 9  | 9+ | 9+ | 7  | 6  |
| P4 = 09  | 5       | 6  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | 1* | 1* | 1  | -  | -  | 3  | 6  | 7  | 7  | 6  | 5  | 4  |    |
| HC = 10  | 9+      | 1  | 2  | 6  | 6  | 5  | 3  | 2  | -  | -  | 1* | -  | -  | 9  | 9  | 2  | -  | 9  | 9  | 9+ | -  | -  | 9+ | 9+ |
| PY1 = 11 | 2       | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 9+ | 8  | 5  | 8  | 9  | 9+ | 9+ | 9  | 6  | 2  |
| CE = 12  | 9+      | 9  | 9  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  |
| LU = 13  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2* | 3* | 4* | 3* |
| G = 14   | 9       | 9  | 9  | 8  | 7  | 6  | 8  | 2  | 1  | 1  | 8  | 6  | 6  | 4  | 6  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| I = 15   | 9       | 9  | 9  | 9  | 8  | 7  | 6  | -  | -  | 1  | 8  | 5  | 4  | 2  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | 6       | 6  | 7  | 8  | 6  | 4  | -  | -  | -  | -  | 5  | 4  | 3  | 5* | 3* | 5  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 7  |
| UA9 = 18 | -       | -  | 1  | 2  | 4  | 7  | 5  | 1  | -  | -  | 4  | 3  | 2  | 7* | 6* | 5* | 4  | 6  | 7  | 6  | 5  | 7* | 2* | -  |
| UA0 = 19 | 1       | -  | -  | -  | -  | 1  | 6  | 5  | 2  | 2  | -  | 6  | 8* | 8* | 8* | 7* | 7* | 7* | 8* | 8* | 8* | 1  | 1  | 1  |
| 4X = 20  | 9       | 9  | 8  | 4  | 5  | 3  | -  | -  | -  | 1  | 5  | 4  | 3  | 2* | 4  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  |
| HZ = 21  | 9       | 8  | 2* | 1* | -  | -  | -  | -  | -  | -  | 5  | 4  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 8       | 5  | 3* | 3* | 1* | -  | -  | -  | -  | 2  | 3  | 3  | 3  | 5* | 4  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  | 3       | 5  | 6  | 7  | 7  | 7  | 4  | -  | -  | -  | 5  | 3  | 2  | 8* | 7* | 6* | 5* | 5  | 8  | 7  | 5  | 8* | 5* | 2  |
| VR2 = 24 | 5*      | 5* | 5* | 5* | 4* | 4* | 5* | 6* | 4* | 4  | 8  | 8  | 9* | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 4  | 4* | 5* |
| JA1 = 25 | 5       | 6  | 6  | 7  | 7  | 8  | 8  | 8  | 7  | 2  | 8* | 8* | 8  | 8* | 7* | 8* | 8* | 9* | 9* | 9* | 9* | 5  | 6  | 5  |
| HS = 26  | 4*      | 5* | 4* | 3* | 2* | 1* | 1* | 3* | 2* | 1  | 7  | 7  | 8* | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 2  | 1* | 3* |
| DU = 27  | 7*      | 5* | 5* | 3* | 2* | 3* | 4* | 4* | 2* | 1* | 3  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 5* | 5* | 6* | 7* | 7* |
| YB = 28  | 5*      | 5* | 4* | 3* | 1* | 1* | 1* | 2* | 2* | 1* | 6  | 8  | 8  | 5* | 4* | 2* | 2* | 3* | 3* | 3* | 1* | 2* | 2* | 6* |
| VK6 = 29 | 4*      | 3* | 1* | -  | -  | 1* | 1* | 1* | 1* | 1* | -  | 6* | 5* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 6* |
| VK3 = 30 | 3*      | 1* | -  | -  | -  | -  | 2* | -  | -  | 2* | 4* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 6* | 5* |
| KH6 = 31 | 7       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 2  | 2* | 5* | 5* | 9  | 7  | 1  | 1  | 5  | 2  | 5  | 4  | 5* | 4  | 4  | 5  |
| KH8 = 32 | 7       | 8  | 4  | 2* | 1* | -  | -  | -  | -  | -  | 3* | 2* | 2* | 1* | 1* | 1* | 1* | 2  | 7  | 7  | 6  | 6  | 6  | 6  |
| CN = 33  | 9+      | 9  | 9  | 9  | 9  | 8  | 6  | -  | -  | -  | 9  | 8  | 5  | 4  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9       | 9  | 8  | 5  | 4  | 3  | -  | -  | -  | 1  | 6  | 5  | 4  | 3  | 4  | 4  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| 6W = 35  | 3       | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 8  | 5  | 2  |
| D2 = 36  | -       | -  | -  | -  | -  | 2* | 1* | -  | -  | 6  | 8  | 8  | 7  | 6  | 7  | 8  | 9  | 9  | 9+ | 9  | 9+ | 9  | 5  | 2  |
| 5Z = 37  | -       | -  | -  | 2* | 2* | 3* | 1* | -  | -  | 6  | 7  | 6  | 6  | 7  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 2* | 1* | -  | -  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | 1* | 2* | 2* | 1* | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 6  | 1* | 1* | 1* | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | 2  | 1  | 4  | 3  | 2  | 3* | 3* | 2* | 1* | 1* | 1* | 1* | 1* | 1* | 1  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Jul., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone         | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
|--------------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| KL7 = 01     | 1   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | 1  |  |
| VO2 = 02     | 8   | 8   | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 2  | 4  | 4  | 6  | 6  | 7  | 8  | 8  | 8  |  |
| W6 = 03      | 9   | 9   | 8  | 7  | 7  | 6  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 6  | 6  | 8  | 8  | 8  | 8  |  |
| W9 = 04      | 8   | 7   | 6  | 5  | 5  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 7  | 7  | 8  | 8  | 8  | 6  | 7  | 7  |  |
| W3 = 05      | 9   | 9   | 9  | 9  | 9  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | 6  | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |  |
| XE1 = 06     | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 8  | 9  | 9  | 8  | 9  | 9  | 9  | 8  |  |
| TI = 07      | 3   | 5   | 7  | 6  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | 1  | 2  | 1  |  |
| VP2 = 08     | 1   | 1   | 5  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | 1  | -  | -  | 4  | 6  | 6  | 2  | 1  | -  |  |
| P4 = 09      | -   | -   | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  |  |
| HC = 10      | 9   | 9   | 9+ | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  |  |
| PY1 = 11     | -   | 1   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | -  | -  | 2  | 6  | 6* | 6* | 2* | -  |  |
| CE = 12      | 4   | 2   | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 5* |  |
| LU = 13      | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 3* | 3* | 1* |  |
| G = 14       | 8   | 8   | 8  | 5  | 1  | 1  | 5  | -  | -  | -  | 5  | 4  | 3  | 4  | 5  | 4  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  |  |
| I = 15       | 9   | 9   | 8  | 7  | 2  | 2  | 2  | -  | -  | -  | 4  | 5  | 6  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |  |
| UA3 = 16     | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| UN = 17      | 1   | 1   | 3  | 7  | 4  | 1  | -  | -  | -  | -  | 6  | 4  | 3  | 7* | 3  | 4  | 6  | 6  | 7  | 7  | 7  | 7  | 6  | 4  | 2  | 2  |  |
| UA9 = 18     | -   | -   | -  | -  | -  | 7  | 3  | -  | -  | -  | 2  | 1  | 1  | 6* | 8* | 7* | 5* | 3* | 2  | 1  | -  | 2* | -  | -  | -  | -  |  |
| UA0 = 19     | -   | -   | -  | -  | -  | -  | 5  | 2  | -  | -  | -  | 2  | 6* | 8* | 8* | 8* | 8* | 6* | 5* | 6* | -  | -  | -  | -  | -  | -  |  |
| 4X = 20      | 9   | 8   | 5  | -  | -  | -  | -  | -  | -  | -  | 7  | 6  | 5  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |  |
| HZ = 21      | 7   | 4   | 1* | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |  |
| VU = 22      | 1   | 3*  | 3* | 2* | -  | -  | -  | -  | -  | -  | 6  | 4  | 5  | 5  | 5  | 7  | 8  | 7  | 9  | 9  | 8  | 8  | 8  | 9  | 5  | 5  |  |
| JT = 23      | -   | -   | 1  | 2  | 3  | 5  | 1  | -  | -  | -  | 4  | 3  | 1  | 7* | 5* | 5* | 5* | 5* | 4  | 1  | -  | 4* | -  | -  | -  | -  |  |
| VR2 = 24     | 5*  | 5*  | 5* | 5* | 5* | 5* | 5* | 5* | -  | -  | 8  | 9  | 9* | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 2* | 5* | 5* | 5* |  |
| JA1 = 25     | 2   | 3   | 4  | 4  | 4  | 6  | 8  | 8  | 4  | -  | 6* | 9* | 8* | 8* | 8* | 8* | 8* | 8* | 8* | 8* | 8* | 4* | 5  | 5  | 4  | 4  |  |
| HS = 26      | 4*  | 5*  | 4* | 4* | 4* | 2* | 2* | 2* | -  | -  | 6  | 8  | 8  | 8  | 8  | 6  | 7  | 8  | 8  | 8  | 9  | 6  | -  | -  | 1* | 1* |  |
| DU = 27      | 5*  | 5*  | 5* | 4* | 3* | 2* | 2* | 2* | 1* | -  | -  | 3  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4* | 2* | 4* | 6* | 6* | 6* | 6* |  |
| YB = 28      | 4*  | 5*  | 5* | 4* | 2* | 1* | 1* | 1* | 1* | -  | -  | 6  | 8* | 5* | 4* | 4* | 4* | 4* | 4* | 4* | 2* | 1* | -  | -  | 6* | 6* |  |
| VK6 = 29     | 4*  | 2*  | 1* | 1* | 1* | 1* | 1* | -  | -  | -  | 2* | 5* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 4* |  |
| VK3 = 30     | 2*  | 1*  | -  | 1* | 2* | 1* | 1* | -  | -  | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 5* | 3* | 3* |  |
| KH6 = 31     | 7   | 8   | 9  | 9  | 9  | 9  | 8  | 5  | -  | -  | 5* | 6* | 8  | 2* | -  | -  | 1  | 5  | 6  | 3  | 6* | 5  | 5  | 6  | 6  | 6  |  |
| KH8 = 32     | 5   | 3   | 1  | -  | -  | -  | -  | -  | -  | -  | 4* | 3* | 2* | 1* | 1* | 1* | -  | -  | 7  | 7  | 7  | 7  | 6  | 2  | 2  | 2  |  |
| CN = 33      | 9   | 9   | 9  | 8  | 5  | 6  | 2  | -  | -  | -  | 8  | 8  | 8  | 7  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |  |
| SU = 34      | 9   | 8   | 2  | -  | -  | -  | -  | -  | -  | -  | 7  | 6  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  |  |
| 6W = 35      | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 4  | 1  | -  | 1  | 3  | 4  | 5* | 6* | 5* | -  | -  | -  | -  |  |
| D2 = 36      | 1*  | -   | -  | -  | -  | 1* | -  | -  | -  | -  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ | 9  | 8  | 5  | 4* | 2* | 2* |    |  |
| 5Z = 37      | -   | -   | -  | 3* | 4* | 2* | 1* | -  | -  | 1  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | 1* | -  | -  |  |
| ZS6 = 38     | -   | -   | -  | -  | -  | 4* | 2* | -  | -  | 1  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 2  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| FR = 39      | -   | -   | -  | 4* | 2* | 2* | 1* | -  | -  | -  | 8  | 8  | 9  | 7  | 5  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| FJL = 40     | -   | -   | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| Zone         | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
| * = Longpath |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Aug., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 1       | 3  | 5  | 5  | 5  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 1  | 4  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 1  | 3  | 4  | 4  | 3  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 2  | 5  | 5  | 5  | 5  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 2  | -  | 2  | 3  | 3  | 3  | 1  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 1       | 3  | 3  | 3  | 2  | 2  | 2  | 2  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3       | 4  | 4  | 3  | 3  | 2  | 2  | 3  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| P4 = 09  | 3       | 4  | 4  | 3  | 3  | 3  | 2  | 3  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 5       | 5  | 6  | 6  | 5  | 5  | 6  | 6  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 3  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 2  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  |
| G = 14   | 3       | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| I = 15   | 2       | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| UA3 = 16 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 4       | 5  | 4  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| SU = 34  | -       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 5       | 4  | 4  | 3  | 3  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  |
| D2 = 36  | 5       | 5  | 6  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| 5Z = 37  | 2       | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| ZS6 = 38 | 5       | 5  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| FR = 39  | 5       | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Aug., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4  | 6  | 8  | 8  | 8  | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -  | -  | -  | 2  | 4  | 7  | 5  | 6  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 1  | 4  | 6  | 7  | 7  | 6  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1  | 5  | 8  | 8  | 8  | 8  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | 1  | 5  | 3  | 5  | 6  | 6  | 6  | 4  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 4  | 6  | 6  | 6  | 5  | 5  | 5  | 5  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 6  | 7  | 7  | 6  | 6  | 5  | 5  | 6  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| P4 = 09  | 6  | 7  | 7  | 6  | 6  | 6  | 5  | 6  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| HC = 10  | 8  | 8  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9+ | 9+ | 9+ |
| G = 14   | 6  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| I = 15   | 5  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 2  |
| UA3 = 16 | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | -  | -  |
| UA9 = 18 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  |
| HZ = 21  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| VU = 22  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 7  | 8  | 7  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| SU = 34  | 2  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  |
| 6W = 35  | 8  | 7  | 7  | 6  | 6  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  |
| D2 = 36  | 8  | 8  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| 5Z = 37  | 5  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  |
| ZS6 = 38 | 8  | 8  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| FR = 39  | 8  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 8  |
| FJL = 40 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 40 Meters: Aug., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | 1  | 2  | 3  | 4  | 5  | 6  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  |
| W6 = 03  | -       | 2  | 5  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 5       | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| W3 = 05  | 8       | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| XE1 = 06 | 7       | 8  | 9  | 8  | 9  | 8  | 8  | 9  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| TI = 07  | 8       | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | 1  | -  | 1  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | 1  | 5  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | 2  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7       | 7  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| UA3 = 16 | 8       | 5  | 5  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| UN = 17  | 6       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  |
| UA9 = 18 | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 3  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 8       | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  |
| HZ = 21  | 7       | 6  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| VU = 22  | 6       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 1  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | -  | -  |
| YB = 28  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 5  |
| VK6 = 29 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 4  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 1  | -  |
| KH6 = 31 | -       | -  | -  | 1  | 2  | 6  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  |
| SU = 34  | 7       | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 7  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9  | 9  |
| FR = 39  | 8       | 8  | 7  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  | 8  | 8  |
| FJL = 40 | 2       | 3  | 5  | 2  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  |

Zone UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | 1  | 2  | 3  | 7  | 6  | 7  | 7  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 7  |
| W6 = 03  | 2  | 5  | 8  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  |
| W3 = 05  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 8  |
| XE1 = 06 | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| TI = 07  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  |
| VP2 = 08 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  |
| P4 = 09  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9+ | 9+ | 9+ | 9  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 8  | 5  | 3  | 2  | 4  | 6  | 8  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 5  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  |
| I = 15   | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 7  | 8  | 8  |
| UA3 = 16 | 7  | 7  | 7  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| UN = 17  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| UA9 = 18 | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 5  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  | -  |
| 4X = 20  | 8  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 8  |
| HZ = 21  | 8  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 8  | 8  |
| VU = 22  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 6  |
| JT = 23  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 5  | 4  |
| VR2 = 24 | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 3  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 4* | -  | -  |
| HS = 26  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 7  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 2  |
| YB = 28  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  | 6  |
| VK6 = 29 | 5  | 2  | 1  | -  | -  | -  | -  | -  | 2  | 3  | 6  | 2  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  | 6  |
| VK3 = 30 | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 2  | 2  |
| KH6 = 31 | -  | -  | 1  | 4  | 5  | 6  | 7  | 8  | 8  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| SU = 34  | 8  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 7  | 8  | 8  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 9  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 9  | 9  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| ZS6 = 38 | 8  | 9  | 9  | 8  | 6  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 8  | 9  | 7  |
| FR = 39  | 1  | -  | -  | 3  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | -  | -  | -  | -  | -  |
| FJL = 40 | 6  | 7  | 5  | 6  | 6  | 5  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 4  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



20 Meters: Aug., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 6   | 6   | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 7  | 5  | 3  | 2  | -  | -  | -  | -  | -  | 1* | -  | -  | 1  | 4  |
| VO2 = 02 | 9   | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 7  | 1  | -  | -  | -  | -  | -  | -  | 4  | 5  | 8  | 9  | 9  |
| W6 = 03  | 7   | 8   | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 7  |
| W9 = 04  | 9   | 9   | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 4  | 3  | 8  | 9  |
| W3 = 05  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 9  | 9  |
| XE1 = 06 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | 1  | -  | -  | 1  | 4  | 6  | 9  | 9  | 9+ |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 2  | 1  | -  | -  | 2  | 4  | 6  | 8  | 9  | 9+ | 9+ |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9  | 8  | 5  | 1  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9+ | 9+ |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 6  | 9+ | 9  | 6  | 3  | 1  | 1  | 1  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 3  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 3  | 1* | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1* | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 8  | 9  | 9  | 9+ |
| I = 15   | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 9  | 9  | 9  | 9+ |
| UA3 = 16 | 9   | 9   | 9  | 9  | 9  | 8  | 6  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  |
| UN = 17  | 9   | 9   | 8  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 3* | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 9  | 9  | 9  |
| UA9 = 18 | 8   | 8   | 7  | 2  | 2  | 1  | 1  | -  | -  | -  | -  | 3* | 2* | -  | 1* | -  | -  | -  | -  | -  | 3  | 7  | 8  | 9  | 8  | 8  |
| UA0 = 19 | 2   | 1   | -  | 1  | 1  | 1  | 1  | 5  | 7  | 8  | 7* | 6* | 3* | -  | -  | -  | -  | -  | -  | -  | 3* | 6* | 7* | 8  | 6* | 2  |
| 4X = 20  | 9   | 9   | 9  | 9  | 9  | 9  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9   | 9   | 9  | 9  | 9  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  | 9   | 8   | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 9  | 9  | 9  |
| JT = 23  | 7   | 6   | 1  | 1  | -  | -  | -  | -  | -  | 1* | 1* | 5* | 5* | 1* | 1* | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  | 8  | 8  |
| VR2 = 24 | 8   | 5   | -  | -  | -  | -  | -  | -  | -  | 2* | 6* | 8  | 5* | 4* | 1* | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  | 8  | 7  |
| JA1 = 25 | -   | -   | -  | -  | -  | -  | 4  | 8  | 8  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | 1* | 5* | 7* | 8* | 9  | 8* | 5* |
| HS = 26  | 9   | 8   | 4  | -  | -  | -  | -  | -  | -  | -  | 4* | 5* | 4* | 2* | -  | -  | -  | -  | -  | 1  | 6  | 8  | 9  | 9  | 9  | 9  |
| DU = 27  | 5   | -   | -  | -  | -  | -  | -  | -  | -  | 3* | 8  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 7  | 8  | 8  |
| YB = 28  | 8   | 5   | -  | -  | -  | -  | -  | -  | -  | 1* | 4* | 7  | 5  | 2  | 1  | 1  | 1  | -  | -  | 1  | 5  | 7  | 8  | 6  | 2* | 7  |
| VK6 = 29 | 8   | 4   | 1  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 8  | 8  | 5  | 4  | 2  | 1  | 2  | 3  | 6  | 7  | 7  | 6  | 6  | 8  | 8  |
| VK3 = 30 | 6   | 5   | 4  | 1  | 1  | 3  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 5  | 3  | 2  | 2  | 2  | 2  | 2  | 1  | 4  | 8  | 8  | 6  |
| KH6 = 31 | 1   | 4   | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -   | 3   | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 9  | 8  | 6  | 2  | -  | 1  | -  | -  | -  | 1* | -  | -  | -  | -  |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9+ |
| SU = 34  | 9   | 9   | 9  | 9  | 9  | 9  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+  | 9+  | 9  | 9  | 6  | 4  | 8  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9   | 9   | 8  | 5  | 8  | 9  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 9  | 9  | 9+ | 9+ | 9+ |
| ZS6 = 38 | 1   | 5   | 6  | 1  | -  | 5  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 6  | 2  | -  | -  |
| FR = 39  | -   | -   | -  | -  | 8  | 6  | 4  | 2  | 1  | -  | -  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 1  | -  | -  | 1* | 1* | -  |
| FJL = 40 | 9   | 9   | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 5  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Aug., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |         | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 5* | 6* | 5* | 3* | 1* | -  | 1  | 1  | 2  | 2  | 2  | 4  | 5  | 7  | 8  |
| VO2 = 02 |         | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2  | 1  | 1  | 1  | 4  | 7  | 7  | 9  | 9  | 9  | 9+ |
| W6 = 03  |         | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 9  | 8  | 7  | 4  | 2  | -  | 1  | 1  | -  | 2  | 4  | 5  | 9  |
| W9 = 04  |         | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 5  | 2  | 1  | 1  | 2  | 3  | 4  | 6  | 7  | 9  | 9  |
| W3 = 05  |         | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 1  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9+ |
| XE1 = 06 |         | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 7  | 9  | 7  | 5  | 4  | 3  | 3  | 4  | 4  | 7  | 9  | 9  | 9+ |
| TI = 07  |         | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5* | 2* | 4  | 9  | 8  | 6  | 5  | 5  | 5  | 6  | 7  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 |         | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 5  | 9+ | 9+ | 9  | 8  | 6  | 3  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  |         | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 4* | 4  | 9+ | 9  | 8  | 7  | 5  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  |         | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 5* | 4* | 2  | 9+ | 9  | 8  | 7  | 6  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 |         | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |         | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 3  | 1* | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |         | 9+ | 9+ | 9+ | 9  | 8  | 5  | 5  | -  | -  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |         | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | 1  | 5  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| I = 15   |         | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 7  | 2  | 1  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 9+ | 9+ | 9+ | 9+ |
| UA3 = 16 |         | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 4  | 1  | 2* | 1* | 1* | -  | -  | 1  | 4  | 8  | 8  | 9  | 9  | 9  | 9  |
| UN = 17  |         | 9  | 9  | 9  | 8  | 5  | 4  | 2  | 1  | -  | -  | -  | 4* | 2* | 4* | 1* | 1* | 1  | 6  | 8  | 8  | 9  | 9  | 9  | 9  |
| UA9 = 18 |         | 8  | 8  | 8  | 7  | 6  | 5  | 4  | 5  | 4  | 5  | 7  | 4* | 5* | 1* | 1* | 1  | 4  | 8  | 8  | 9  | 9  | 9  | 8  | 8  |
| UA0 = 19 |         | 7  | 7  | 5  | 1  | 5  | 6  | 7  | 8  | 8  | 8  | 9  | 8* | 7* | 4* | 2* | 2* | 2* | 5* | 7* | 8* | 8* | 9* | 8* | 8  |
| 4X = 20  |         | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 2  | -  | -  | -  | -  | 1  | 1  | 3  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| HZ = 21  |         | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 3  | 1  | -  | -  | -  | 1* | -  | -  | 1  | 4  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VU = 22  |         | 9  | 9  | 9  | 8  | 8  | 3  | -  | -  | -  | -  | -  | 8  | 2* | 1* | 1* | 1* | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  |         | 8  | 8  | 7  | 5  | 1  | 1  | 1  | 1  | 3  | 7  | 5  | 7* | 6* | 6* | 2* | 1* | 1  | 4  | 8  | 8  | 9  | 8  | 8  | 9  |
| VR2 = 24 |         | 8  | 2  | -  | -  | -  | -  | -  | 2* | 6* | 7  | 6  | 8* | 7* | 4* | 2  | 3  | 5  | 5  | 7  | 8  | 9  | 9  | 9+ | 9  |
| JA1 = 25 |         | 2* | 1  | 1  | 1  | 2  | 7  | 8  | 8  | 9  | 9  | 7  | 9  | 8  | 7  | 4  | 2  | 4* | 6* | 8* | 9* | 9* | 9* | 9* | 7* |
| HS = 26  |         | 8  | 5  | -  | -  | -  | -  | -  | -  | 5* | 8  | 7  | 7* | 5* | 2  | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9  |
| DU = 27  |         | 5* | 1* | -  | -  | -  | -  | -  | 5* | 6* | 7  | 8  | 8  | 7  | 5  | 2  | 2  | 3  | 4  | 7  | 8  | 8  | 6* | 8  | 6  |
| YB = 28  |         | 2  | 3* | 1* | -  | -  | -  | -  | -  | 4* | 6  | 7  | 8* | 7  | 5  | 4  | 3  | 2  | 2  | 3  | 5  | 4  | 3* | 4* | 2* |
| VK6 = 29 |         | 2* | 2* | -  | -  | -  | -  | -  | 1* | 3* | 5* | 9  | 9  | 8  | 5  | 2  | 1  | 1  | 3  | 6  | 6  | 2  | 1  | 2  | 7  |
| VK3 = 30 |         | 8  | 1  | -  | -  | -  | -  | -  | 2* | 1* | 6  | 9  | 6  | 2  | 2  | 1  | 1  | 1  | -  | -  | 1* | 7  | 8  | 8  |    |
| KH6 = 31 |         | 4  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 1* | 9  | 9  | 7  | 4  | 2  | 1  | 1  | 1* | 2* | 1* | -  | -  | 1  |
| KH8 = 32 |         | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 2  | 1* | 8  | 9  | 5  | -  | -  | -  | 4  | 3  | 9  | 1  | 1  | 1  | 2  |
| CN = 33  |         | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 9  | 8  | 4  | 1  | -  | -  | 1  | 2  | 6  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  |         | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 2  | -  | -  | -  | -  | 1  | 1  | 3  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| 6W = 35  |         | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 1  | -  | 8  | 9+ | 9  | 8  | 6  | 4  | 3  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  |         | 9  | 8  | 6  | 5  | 1  | 1* | 4  | 4  | 7  | 8  | 7  | 4  | 2  | 1  | 2  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  |         | 9  | 8  | 4  | -  | 4  | 7  | 2  | 1  | 4  | 4  | 1  | 1  | -  | 2  | -  | 2  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| ZS6 = 38 |         | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 7  | 5  | 5  | 4  | 5  | 7  | 8  | 9  | 9  | 8  | -  | -  | -  | -  | -  |
| FR = 39  |         | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 3  | 4  | 4  | 3  | 3  | 5  | 8  | 5  | -  | 1* | 1* | 1* | 1* | -  | -  |
| FJL = 40 |         | 9  | 8  | 7  | 6  | 7  | 6  | 7  | 8  | 8  | 8  | 6  | 5* | 4  | 1  | -  | -  | 1  | 2  | 6  | 6  | 8  | 8  | 9  | 9  |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Aug., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 9   | 8  | 9  | 8  | 6  | 4  | 2  | -  | 2* | 5* | 3* | 2* | -  | -  | 1  | 1  | 2  | 7  | 6  | 5  | 6  | 7  | 8  |    |    |
| VO2 = 02 | 9+  | 9+  | 9+ | 9  | 9  | 9  | 8  | 9  | 6  | 7  | 9  | 9  | 8  | 8  | 6  | 4  | 6  | 4  | 7  | 8  | 9  | 9  | 9+ | 9+ |    |    |
| W6 = 03  | 9   | 9   | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1* | 6  | 1  | 6  | 6  | 4  | 4  | 4  | 2  | 2  | 2  | 4  | 8  | 9  |    |    |
| W9 = 04  | 9+  | 9+  | 9  | 9  | 9  | 9  | 8  | 5  | 6  | 5  | 1  | 2  | 8  | 7  | 6  | 5  | 2  | 2  | 5  | 7  | 8  | 9  | 9  | 9  |    |    |
| W3 = 05  | 9+  | 9+  | 9  | 9+ | 9+ | 9+ | 9+ | 8  | 8  | 7  | 9  | 8  | 8  | 7  | 6  | 3  | 4  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ |    |    |
| XE1 = 06 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 6  | 2* | 1* | 6  | 8  | 7  | 7  | 5  | 6  | 6  | 6  | 8  | 9  | 9+ | 9+ |    |    |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 3  | 4* | 2* | 1* | 9  | 9  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ |    |    |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 1  | -  | 2* | 9+ | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |    |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | 1* | 2* | 6  | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |    |
| HC = 10  | 7   | 8   | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | 5* | 2* | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 8  | 7  |    |    |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9  | 9  | 6  | -  | -  | -  | -  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1* | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |
| LU = 13  | 7   | 3   | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 4  | 5  | 5  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  |    |    |
| G = 14   | 9+  | 9   | 9  | 9  | 8  | 8  | 9  | 9  | 7  | 8  | 8  | 7  | 4  | 2  | 1  | 4  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |    |    |
| I = 15   | 9+  | 9+  | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 8  | 5  | 3  | 1  | 1  | 2  | 4  | 3  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |    |    |
| UA3 = 16 | 9   | 8   | 7  | 6  | 8  | 8  | 9  | 7  | 4  | 7  | 5  | 4  | 7  | 1  | 1  | 2  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |    |    |
| UN = 17  | 7   | 8   | 8  | 8  | 8  | 8  | 5  | 2  | 1  | 3  | 5  | 5  | 5* | 4* | 1* | 2  | 5  | 7  | 8  | 8  | 8  | 9  | 8  | 8  |    |    |
| UA9 = 18 | 2*  | 2   | 5  | 7  | 7  | 6  | 7  | 6  | 5  | 7  | 4  | 3* | 7* | 4* | 2* | 2* | 2  | 5  | 7  | 8  | 6  | 4  | 4* | 3* |    |    |
| UA0 = 19 | 7   | 7   | 7  | 5  | 6  | 6  | 8  | 8  | 5  | 6  | 8  | 9* | 8* | 6* | 5* | 5* | 5* | 6* | 8* | 8* | 8* | 9* | 6* | 8  |    |    |
| 4X = 20  | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 3  | 2  | 4  | 1  | 1  | 2* | 2  | -  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |    |    |
| HZ = 21  | 9   | 9   | 9  | 8  | 9  | 8  | 5  | 1  | -  | 3  | 2  | 2  | 7  | 1  | 1  | 4  | 6  | 7  | 9  | 9  | 9  | 9  | 9+ | 9+ |    |    |
| VU = 22  | 9   | 9   | 9  | 8  | 7  | 3  | -  | -  | -  | 2  | 6  | 4  | 5* | 2* | 3* | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |    |    |
| JT = 23  | 6   | 8   | 7  | 7  | 6  | 5  | 6  | 5  | 3  | 6  | 3  | 3* | 8* | 5* | 5* | 4* | 4* | 5  | 7  | 7  | 6* | 5* | 4* | 4  |    |    |
| VR2 = 24 | 3*  | 5*  | 4* | 1* | 1* | 1* | 3* | 7* | 7* | 6  | 5  | 9* | 8* | 6  | 5  | 6  | 7  | 7  | 8  | 9  | 9  | 9+ | 9  | 7  |    |    |
| JA1 = 25 | 5   | 5   | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 6  | 6* | 9  | 8  | 7  | 5  | 5* | 6* | 7* | 9* | 9* | 9* | 9* | 8* | 6  |    |    |
| HS = 26  | 2*  | 4*  | 4* | 1* | -  | -  | -  | 2* | 4* | 5  | 5  | 7* | 6* | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9+ | 9  | 7  |    |    |
| DU = 27  | 5*  | 5*  | 3* | 1* | -  | 1* | 3* | 5* | 4* | 4* | 8  | 8  | 8  | 6  | 5  | 5  | 6  | 6  | 8  | 8  | 4  | 6* | 5* | 6* |    |    |
| YB = 28  | 4*  | 5*  | 4* | 1* | -  | -  | 1* | 2* | 2* | 3  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | 1* | 1* | 2* | 2* | 3* | 3* |    |    |
| VK6 = 29 | 4*  | 2*  | 1* | -  | -  | -  | 1* | 2* | 1* | 2* | 6  | 9  | 8  | 4  | 1* | -  | -  | 1  | 3  | 2  | -  | -  | -  | 6* |    |    |
| VK3 = 30 | 1   | 1*  | -  | -  | -  | -  | -  | 3* | 2* | 2* | 5* | 6  | 1  | 1* | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 4  |    |    |
| KH6 = 31 | 6   | 8   | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2* | 3* | 4  | 9  | 8  | 1  | 1  | 5  | 4  | 6  | 8  | 4* | 2* | 2  | 4  |    |    |
| KH8 = 32 | 7   | 8   | 9  | 9  | 9  | 8  | 9  | 8  | 4  | 1* | 1* | 1* | 4  | -  | -  | -  | 1* | 6  | 5  | 4  | 4  | 4  | 4  | 5  |    |    |
| CN = 33  | 9   | 9+  | 9+ | 9+ | 9+ | 9  | 6  | 8  | 7  | 9  | 8  | 6  | 4  | 2  | 1  | 3  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9  | 9+ |    |    |
| SU = 34  | 9+  | 9   | 9+ | 9  | 9  | 9  | 8  | 3  | 2  | 5  | 2  | 1  | 1* | 1  | -  | 3  | 6  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9  |    |    |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 5  | -  | -  | 4  | 9+ | 9+ | 9  | 8  | 7  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |
| D2 = 36  | 6   | 4   | 2  | 1  | -  | 2* | 1  | -  | 4  | 9  | 8  | 7  | 5  | 4  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  |    |    |
| 5Z = 37  | 7   | 3   | -  | 1* | 1* | 2* | -  | -  | 2  | 6  | 4  | 3  | 4  | 3  | 3  | 5  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  |    |    |
| ZS6 = 38 | -   | -   | -  | -  | 1* | 1* | 1* | -  | 6  | 8  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | -  | -  | -  | -  |    |    |
| FR = 39  | -   | -   | 1* | 1* | 1* | -  | -  | -  | 1  | 5  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | -  | 1* | 1* | 2* | 1* | -  | -  |    |    |
| FJL = 40 | 4   | 1   | -  | -  | -  | -  | -  | 4  | 5  | 8  | 6  | 5  | 5* | 6  | 2* | 1  | 2  | 4  | 5  | 6  | 7  | 7  | 5  | 6  |    |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Aug., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |         | 7  | 7  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 3  | 4  | 5  | 7  |
| VO2 = 02 |         | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 6  | 1  | 2  | 2  | 7  | 8  | 7  | 6  | 6  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  |
| W6 = 03  |         | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 6  | 1  | -  | 1  | -  | -  | 6  | 6  | 5  | 7  | 7  | 6  | 7  | 8  | 9  | 9  |
| W9 = 04  |         | 9  | 9  | 9  | 8  | 8  | 7  | 4  | -  | 2  | -  | -  | -  | 2  | 5  | 6  | 6  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  |
| W3 = 05  |         | 9+ | 9+ | 9  | 9+ | 9  | 9  | 9  | 6  | 4  | 2  | -  | -  | 8  | 8  | 8  | 7  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ |
| XE1 = 06 |         | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | 7  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ |
| TI = 07  |         | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | 1* | -  | -  | 1  | 9  | 5  | 1  | 1  | 4  | 6  | 9  | 9  | 9  | 9  | 8  |
| VP2 = 08 |         | 7  | 8  | 9+ | 9+ | 9+ | 9+ | 8  | 1  | -  | -  | -  | 6  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9  | 8  |
| P4 = 09  |         | 5  | 7  | 9  | 9+ | 9+ | 9+ | 7  | 1  | -  | -  | -  | -  | 5  | 6  | 3  | 2  | 3  | 5  | 9  | 7  | 9  | 8  | 7  | 5  |
| HC = 10  |         | 9+ | 9+ | 5  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | 3  | 9  | 9  | 4  | 9  | 9  | 9  | 9  | 1  | 1  | 9+ | 9+ |
| PY1 = 11 |         | 9+ | 9+ | 9  | 8  | 5  | 4  | -  | -  | -  | -  | -  | -  | 5  | 2  | 2  | 2  | 2  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |         | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 1  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |         | 2* | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3* | 4* | 3* |
| G = 14   |         | 9  | 8  | 8  | 6  | 2  | 4  | 6  | 7  | 4  | 7  | 8  | 8  | 6  | 6  | 5  | 4  | 6  | 7  | 9  | 9  | 9  | 9  | 9  | 9  |
| I = 15   |         | 9  | 9  | 9  | 9  | 6  | 5  | 7  | 6  | 2  | 7  | 7  | 6  | 4  | 2  | 2  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 |         | 6  | 2  | 1  | -  | 2  | 7  | 8  | 5  | 2  | 5  | 7  | 7  | 5  | 2  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 8  | 7  |
| UN = 17  |         | 2  | 2  | 5  | 8  | 9  | 7  | 4  | -  | -  | 3  | 4  | 4  | 5* | 4* | 2* | 4  | 6  | 7  | 8  | 7  | 7  | 5  | 4  | 2  |
| UA9 = 18 |         | -  | -  | -  | 2  | 6  | 7  | 8  | 5  | 3  | 6  | 5  | 5  | 7* | 4* | 4* | 3* | 4  | 5  | 5  | 2  | -  | -  | 3* | 4* |
| UA0 = 19 |         | 3  | 3  | 3  | 2  | 3  | 5  | 4  | 6  | 1  | 1  | 1  | 8* | 8* | 7* | 6* | 6* | 6* | 7* | 8* | 8* | 6* | 8* | 1  | 3  |
| 4X = 20  |         | 9  | 9  | 9  | 6  | 5  | 9  | 5  | -  | -  | 4  | 5  | 5  | 3  | 1  | 2  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9  | 9  |
| HZ = 21  |         | 9  | 9  | 6  | 4  | 8  | 6  | 1  | -  | -  | 1  | 5  | 4  | 3  | 3  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  |         | 5  | 7  | 8  | 5  | 4* | 2* | 1* | 1* | -  | 3  | 3  | 3  | 5* | 4* | 3  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 7  |
| JT = 23  |         | -  | 2  | 5  | 6  | 6  | 6  | 7  | 3  | 2  | 5  | 5  | 4  | 8* | 7* | 5* | 4* | 3* | 4* | 5* | 2* | 1* | 5* | 7* | 4* |
| VR2 = 24 |         | 6* | 6* | 5* | 5* | 4* | 4* | 5* | 6* | 4* | 2  | 7  | 7  | 9* | 7* | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 5  | 5* |
| JA1 = 25 |         | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 7  | 2  | 7* | 8* | 7* | 6* | 6* | 6* | 7* | 8* | 9* | 9* | 8* | 8* | 6  | 6  |
| HS = 26  |         | 5* | 5* | 5* | 4* | 1* | 1* | 2* | 4* | 2* | 1  | 6  | 7  | 8* | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 4  | 4* |
| DU = 27  |         | 8* | 7* | 5* | 4* | 4* | 4* | 4* | 4* | 1* | -  | 6  | 9  | 8  | 8  | 7  | 6  | 7  | 8  | 8  | 7  | 3* | 6* | 8* | 8* |
| YB = 28  |         | 6* | 6* | 5* | 3* | 1* | 1* | 2* | 2* | 1* | -  | 7  | 8  | 8  | 6  | 3* | 2* | 2* | 1* | 3* | 4* | 3* | -  | 2* | 6* |
| VK6 = 29 |         | 4* | 3* | 2* | -  | 1* | 1* | 1* | 1* | -  | -  | 1* | 9  | 6  | 3* | 1* | 1* | -  | -  | 1  | -  | -  | -  | -  | 6* |
| VK3 = 30 |         | 3* | 1* | 1* | 1* | 1* | 2* | 3* | 2* | -  | 2* | 6* | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 6  | 5* |
| KH6 = 31 |         | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | 2* | 5* | 5* | 9  | 2  | -  | -  | 4  | 2  | 4  | 4  | 5* | 4  | 5  | 6  |
| KH8 = 32 |         | 8  | 8  | 8  | 8  | 6  | 4  | 5  | 4  | -  | 1* | 2* | 2* | 1* | -  | -  | 1* | 1* | 1  | 6  | 6  | 5  | 5  | 6  | 7  |
| CN = 33  |         | 9  | 9+ | 9  | 9  | 9  | 8  | -  | 5  | 2  | 2  | 9  | 8  | 6  | 4  | 4  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  |         | 9  | 9  | 9  | 7  | 6  | 9  | 5  | -  | -  | 4  | 6  | 5  | 4  | 3  | 2  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| 6W = 35  |         | 6  | 8  | 9+ | 8  | 4  | -  | -  | -  | -  | 2  | 9+ | 9  | 9  | 8  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 8  | 5  |
| D2 = 36  |         | 2  | -  | -  | -  | 1* | 3* | 1* | 1* | -  | 5  | 8  | 8  | 7  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 8  | 5  |
| 5Z = 37  |         | 2  | -  | -  | 3* | 2* | 4* | 2* | 1* | -  | 5  | 7  | 6  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| ZS6 = 38 |         | -  | -  | -  | -  | 2* | 1* | 1* | -  | 1  | 7  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 8  | -  | -  | -  | -  | -  |
| FR = 39  |         | -  | -  | 2* | 2* | 2* | 1* | -  | -  | -  | 4  | 7  | 8  | 7  | 7  | 7  | 8  | 1  | 1* | 2* | 2* | 2* | 1* | -  | -  |
| FJL = 40 |         | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 4  | 2  | 5* | 2* | 2* | -  | -  | 1  | 1  | 1  | 1  | -  | -  | -  |
| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Aug., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 3       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 2  |
| VO2 = 02 | 8       | 7  | 6  | 6  | 4  | 1  | -  | 2  | -  | -  | -  | 1  | 2  | 2  | 2  | 4  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 8  |
| W6 = 03  | 9       | 9  | 9  | 8  | 7  | 6  | 5  | 7  | 2  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 8  |
| W9 = 04  | 8       | 8  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 4  | 5  | 7  | 8  | 8  | 8  | 9  |
| W3 = 05  | 9       | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | 7  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 2  | -  | -  | -  | -  | 3  | 6  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 2       | 5  | 8  | 9  | 9  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 4  | 2  |
| VP2 = 08 | 1       | 3  | 7  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | 3  | 2  | 1  | 4  | 2  | 3  | 4  | 4  | 5  | 5  | 5  | 2  |
| P4 = 09  | -       | 1  | 6  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | 1  | -  |
| HC = 10  | 9       | 9+ | 9+ | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | 5  | 3  | -  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  |
| PY1 = 11 | 5       | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 4* | 6* | 7  | 8  | 8  |
| CE = 12  | 9+      | 9  | 9  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 4* | 5* | 4* | 3* |
| G = 14   | 6       | 5  | 5  | 2  | -  | -  | 1  | 4  | 1  | -  | 7  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 8  | 7  | 7  |
| I = 15   | 9       | 9  | 8  | 6  | 1  | -  | 2  | 2  | -  | -  | 8  | 7  | 6  | 5  | 5  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | 1       | -  | -  | -  | -  | 2  | 4  | 1  | -  | -  | 7  | 5  | 4  | 3  | 3  | 4  | 6  | 7  | 8  | 8  | 8  | 6  | 4  | 2  |
| UN = 17  | 1*      | -  | 1  | 7  | 8  | 7  | 2  | -  | -  | -  | 6  | 5  | 4  | 4* | 3  | 4  | 5  | 5  | 4  | 4  | 2  | 1  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | 1  | 2  | 7  | 2  | 1  | 1  | 4  | 2  | 2  | 3* | 2* | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | 3  | -  | -  | -  | 5* | 8* | 8* | 7* | 7* | 5* | 5* | 6* | 5* | 2* | -  | -  | -  |
| 4X = 20  | 9       | 9  | 7  | 1  | 1  | 7  | 1  | -  | -  | -  | 7  | 5  | 4  | 4* | 4  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 6  | 4* | 3* | 5  | 2  | -  | -  | -  | -  | 6  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 2*      | 4* | 5  | 5* | 4* | 2* | 1* | -  | -  | -  | 6  | 5  | 5  | 7* | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 6  | 2  |
| JT = 23  | -       | -  | -  | 3  | 5  | 4  | 5  | 1  | -  | -  | 5  | 1  | 5* | 8* | 5* | 4* | 4* | 4* | 3* | -  | -  | -  | 6* | 1* |
| VR2 = 24 | 6*      | 6* | 6* | 6* | 5* | 5* | 6* | 5* | -  | -  | 8  | 8  | 9* | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 5* | 6* |
| JA1 = 25 | 5       | 6  | 7  | 7  | 7  | 8  | 9  | 8  | 4  | -  | 6* | 8* | 8* | 8* | 7* | 7* | 8* | 8* | 8* | 7* | 5* | 6  | 6  | 6  |
| HS = 26  | 5*      | 6* | 6* | 5* | 4* | 3* | 3* | 3* | -  | -  | 7  | 8  | 8  | 8  | 7  | 5  | 6  | 8  | 8  | 9  | 9  | 5  | -  | 4* |
| DU = 27  | 7*      | 7* | 6* | 5* | 4* | 4* | 4* | 2* | -  | -  | -  | 8  | 9  | 8  | 8  | 8  | 6  | 8  | 7  | 4  | 1* | 3* | 7* | 8* |
| YB = 28  | 5*      | 6* | 5* | 5* | 3* | 2* | 2* | 1* | -  | -  | 1  | 8  | 8* | 6* | 4* | 4* | 4* | 4* | 4* | 4* | 1* | -  | -  | 6* |
| VK6 = 29 | 3*      | 3* | 2* | 1* | -  | 1* | 1* | 1* | -  | -  | -  | 6* | 6* | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 6* |
| VK3 = 30 | 2*      | 2* | 1* | 2* | 2* | 2* | 3* | 1* | -  | 1* | 5* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 6* | 3* |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | -  | -  | 6* | 5* | 7  | 1* | -  | -  | -  | 6  | 6  | 6  | 5  | 5  | 6  | 7  |
| KH8 = 32 | 8       | 7  | 5  | 5* | 5* | 2* | 1  | -  | -  | -  | 4* | 3* | 2* | 1* | 1* | 1* | -  | -  | 7  | 7  | 6  | 6  | 8  | 8  |
| CN = 33  | 9       | 9  | 9  | 8  | 7  | 4  | -  | 1  | -  | -  | 9  | 9  | 8  | 7  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9       | 9  | 7  | 2  | 1  | 7  | 1  | -  | -  | -  | 7  | 6  | 5  | 3  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | -       | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 6  | 5  | 5  | 6  | 7  | 8  | 7  | 6  | 6* | 5* | 1* |
| D2 = 36  | 1*      | 1* | -  | -  | -  | 5* | 4* | 1* | -  | -  | 9  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  | 6  | 4* | 2  |
| 5Z = 37  | -       | -  | -  | 2* | 5* | 5* | 2* | -  | -  | -  | 7  | 7  | 7  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 4  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 4* | 2* | 1* | -  | 1  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 1  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | 1* | 4* | 3* | 2* | 1* | -  | -  | -  | 8  | 8  | 8  | 8  | 7  | 4  | 1* | 2* | 2* | 3* | 2* | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Sep., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2       | 5  | 5  | 4  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 2  | 1  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | -  | 3  | 4  | 5  | 5  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 4  | 5  | 5  | 5  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 1  | 2  | 4  | 3  | 3  | 4  | 1  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 3       | 3  | 2  | 2  | 3  | 2  | 2  | 3  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 5       | 5  | 3  | 2  | 3  | 3  | 2  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 5       | 5  | 4  | 2  | 3  | 3  | 3  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 5       | 5  | 5  | 5  | 4  | 4  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  |
| G = 14   | 4       | 5  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 2       | 4  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | -  | 6  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 3       | 5  | 4  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| SU = 34  | -       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 5       | 4  | 3  | 3  | 2  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |    |
| D2 = 36  | 5       | 6  | 6  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |    |
| 5Z = 37  | 3       | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| ZS6 = 38 | 6       | 5  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |    |
| FR = 39  | 5       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |    |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Sep., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | 1  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 8  | 8  | 7  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W6 = 03  | -       | -  | -  | 2  | 5  | 4  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 1       | 2  | 6  | 7  | 8  | 8  | 6  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 3       | 7  | 8  | 8  | 8  | 7  | 7  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | 1       | 4  | 5  | 7  | 6  | 6  | 7  | 4  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 6       | 6  | 5  | 5  | 6  | 5  | 5  | 6  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 8       | 8  | 6  | 5  | 6  | 6  | 5  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| P4 = 09  | 8       | 8  | 7  | 5  | 6  | 6  | 6  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| HC = 10  | 8       | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | -  | -  | -  | -  | -  | -  | 2  | 8  | 9+ | 9+ | 9+ |
| G = 14   | 7       | 8  | 7  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| I = 15   | 5       | 7  | 5  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| UA3 = 16 | 7       | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | -  | 9  | 1  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2       | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| HZ = 21  | 4       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 2  | -  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 1  | 1  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 6       | 8  | 7  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| SU = 34  | 3       | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| 6W = 35  | 8       | 7  | 6  | 6  | 5  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| D2 = 36  | 8       | 9  | 9  | 8  | 8  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| 5Z = 37  | 6       | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  |
| ZS6 = 38 | 9       | 8  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 8  |
| FR = 39  | 8       | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| FJL = 40 | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Sep., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | -            | -  | 1  | 2  | 3  | 5  | 6  | 7  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 =   | 02 | 7            | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  |
| W6 =    | 03 | 1            | 5  | 5  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 =    | 04 | 7            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| W3 =    | 05 | 8            | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| XE1 =   | 06 | 8            | 8  | 8  | 8  | 9  | 9  | 8  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| TI =    | 07 | 9            | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  |
| VP2 =   | 08 | 9            | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  |
| P4 =    | 09 | 9            | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  |
| HC =    | 10 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 1  | -  | -  | 1  | 2  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 1  | -  | -  | -  | 1  | 3  | 8  | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | 1  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 8            | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| I =     | 15 | 7            | 7  | 7  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| UA3 =   | 16 | 7            | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| UN =    | 17 | 6            | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 6  |
| UA9 =   | 18 | 4            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  |
| UA0 =   | 19 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X =    | 20 | 8            | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 8  |
| HZ =    | 21 | 8            | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  |
| VU =    | 22 | 5            | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |
| JT =    | 23 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 2  | 2  |
| VR2 =   | 24 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | -  |
| JA1 =   | 25 | -            | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  |
| HS =    | 26 | 1            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |
| DU =    | 27 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  |
| YB =    | 28 | -            | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 1  |
| VK6 =   | 29 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 1  |
| VK3 =   | 30 | -            | -  | -  | -  | -  | -  | 2  | 5  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 =   | 31 | -            | -  | -  | 1  | 5  | 6  | 6  | 7  | 7  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | -  | -  | 2  | 6  | 7  | 7  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 8            | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  |
| SU =    | 34 | 8            | 7  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 8  |
| 6W =    | 35 | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  |
| D2 =    | 36 | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  | 9  |
| 5Z =    | 37 | 8            | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  |
| ZS6 =   | 38 | 9            | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 9  | 9  |
| FR =    | 39 | 9            | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| FJL =   | 40 | 6            | 7  | 6  | 5  | 5  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1       | 2  | 3  | 6  | 7  | 7  | 7  | 7  | 8  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 7  |
| W6 = 03  | 5       | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 8       | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  |
| W3 = 05  | 9       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| XE1 = 06 | 9       | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 2  | 1  | 1  | 2  | 5  | 9  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  |
| I = 15   | 8       | 8  | 9  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| UA3 = 16 | 8       | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  |
| UN = 17  | 7       | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 7  |
| UA9 = 18 | 6       | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 7  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 5* | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | -  |
| 4X = 20  | 8       | 8  | 8  | 7  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 7  | 8  |
| HZ = 21  | 8       | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 8  | 8  |
| VU = 22  | 7       | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| JT = 23  | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 7  |
| VR2 = 24 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 4  | 5  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | 2  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 4* | 2* | -  |
| HS = 26  | 6       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 7  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 2  |
| YB = 28  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 6  |
| VK6 = 29 | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 5  | 6  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  |
| KH6 = 31 | -       | -  | 2  | 5  | 5  | 6  | 7  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 2  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 9  | 9  | 8  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 8  | 8  | 9  |
| SU = 34  | 8       | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 9  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 9       | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 8  | 9  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 9  | 9  | 9  |
| FR = 39  | 8       | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 8  | 9  |
| FJL = 40 | 7       | 7  | 7  | 7  | 7  | 6  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 20 Meters: Sep., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 2  | 5  |
| VO2 = 02 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  |
| W9 = 04  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  |
| W3 = 05  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 6  | 8  | 9  | 9+ |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 7  | 3  | 1  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 3  | -  | -  | -  | 1  | 1  | 2  | 5  | 8  | 9  | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | -  | -  | -  | 1  | 3  | 5  | 8  | 9  | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 7  | 3  | -  | -  | 1  | 1  | 3  | 5  | 8  | 9  | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9+ | 9  | 8  | 4  | 2  | 1  | -  | 1  | 2  | 5  | 7  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 4  | 5  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 2  | 2  | 7  | 8  | 9  | 9+ | 9+ |
| I = 15   | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 8  | 9  | 9  | 9  | 9+ |
| UA3 = 16 | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  |
| UN = 17  | 9       | 9  | 8  | 8  | 2  | 2  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | 5  | 8  | 9  | 9  | 9  | 9  |
| UA9 = 18 | 8       | 8  | 8  | 6  | 3  | 2  | 1  | 1  | 1  | 2* | 2* | 2* | 1* | -  | -  | -  | -  | -  | 1  | 7  | 7  | 9  | 9  | 9  |
| UA0 = 19 | 4       | 2  | -  | 1  | 1  | 2  | 5  | 7  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 2* | 5* | 7* | 7  | 7  | 6  |
| 4X = 20  | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 9  | 9  |
| VU = 22  | 9       | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  | 9  | 9  |
| JT = 23  | 8       | 7  | 5  | 1  | -  | -  | -  | -  | 2* | 5* | 5* | 3* | 2* | -  | -  | -  | -  | -  | 1  | 7  | 8  | 9  | 9  | 9  |
| VR2 = 24 | 6       | 4  | 1  | -  | -  | -  | -  | -  | 5* | 7* | 8  | 4* | 2* | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 8  | 8  |
| JA1 = 25 | 1*      | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | 3* | 7* | 8* | 8  | 8* | 5* |
| HS = 26  | 9       | 8  | 6  | 2  | -  | -  | -  | -  | 1* | 5* | 5* | 3* | -  | -  | -  | -  | -  | -  | 5  | 8  | 9  | 9  | 9  | 9  |
| DU = 27  | 5       | 1  | -  | -  | -  | -  | -  | -  | 6* | 7  | 6  | 5* | 1  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 8  | 7  |
| YB = 28  | 8       | 7  | 4  | -  | -  | -  | -  | -  | 2* | 5* | 7  | 5* | 1  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 9  | 9  |
| VK6 = 29 | 8       | 7  | 5  | 2  | -  | -  | 1  | 4  | 7  | 7  | 7  | 5  | 3  | 2  | -  | -  | -  | 1  | 3  | 5  | 6  | 8  | 8  | 8  |
| VK3 = 30 | 4       | 2  | 2  | 2  | 4  | 5  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 4  | 2  | -  | -  | 2  | 3  | 5  | 7  | 6  | 7  | 5  |
| KH6 = 31 | 1       | 4  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9+ | 9+ |
| SU = 34  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 8  | 8  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 3  | 1  | -  | -  | -  | -  | 3  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 8  | 5  | 1  | -  | -  | -  | -  | 1  | 3  | 6  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| ZS6 = 38 | 9+      | 9  | 9  | 7  | 8  | 9  | 9  | 8  | 7  | 2  | 1  | -  | -  | -  | -  | 1  | 3  | 6  | 9  | 9  | 9+ | 9+ | 9+ | 9  |
| FR = 39  | 4       | 1  | 3  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 6  |
| FJL = 40 | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Sep., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |     |     | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 8  | 6  | 4  | 2  | 1* | -  | -  | 1  | 1  | 1  | 1  | 2  | 4  | 6  | 8  | 9  |
| VO2 = 02 |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | 1  | 2  | 5  | 9  | 9  | 9  | 9+ | 9+ |
| W6 = 03  |     |     | 9  | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 7  | 2  | 1  | 1  | 1  | 1  | 1  | 1  | 4  | 8  | 9  |
| W9 = 04  |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 5  | 2  | 1  | 1  | 1  | 2  | 1  | 7  | 9  | 9  | 9+ |
| W3 = 05  |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 1  | 1  | 1  | 2  | 4  | 4  | 8  | 9  | 9+ | 9+ |
| XE1 = 06 |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 1  | 8  | 7  | 4  | 1  | 1  | 2  | 3  | 5  | 6  | 9  | 9  | 9+ |
| TI = 07  |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 6  | 9+ | 9  | 8  | 5  | 3  | 2  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ |
| VP2 = 08 |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 7  | 9+ | 9+ | 9  | 7  | 3  | 4  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 5  | 9+ | 9+ | 9  | 7  | 5  | 2  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| HC = 10  |     |     | 8  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 5* | 7  | 9+ | 9  | 8  | 6  | 5  | 6  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9  |
| PY1 = 11 |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 3* | 3* | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 4* | 3* | 2* | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |     |     | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | 3  | 5  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| I = 15   |     |     | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 |     |     | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 7  | 7  | 5  | 2* | 1* | 1* | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| UN = 17  |     |     | 9  | 9  | 9  | 8  | 8  | 5  | 2  | 1  | 1* | 3* | 3* | 8  | 3* | 2* | 1* | -  | 1  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| UA9 = 18 |     |     | 5  | 7  | 8  | 8  | 8  | 6  | 5  | 6  | 6  | 5  | 5  | 6  | 4* | 1* | 1* | -  | 1  | 4  | 7  | 8  | 8  | 6  | 4  | 5  |
| UA0 = 19 |     |     | 8  | 7  | 6  | 5  | 6  | 7  | 7  | 9  | 8  | 9  | 8  | 7* | 5  | 2  | 1* | 1* | 2* | 4* | 6* | 7* | 8* | 9* | 8  | 8  |
| 4X = 20  |     |     | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| HZ = 21  |     |     | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | 1* | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| VU = 22  |     |     | 9  | 9  | 9  | 8  | 8  | 4  | 1  | -  | -  | 2* | 4* | 8  | 2* | -  | -  | -  | 3  | 6  | 8  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  |     |     | 8  | 8  | 8  | 6  | 4  | 2  | 1  | 4  | 5  | 6* | 7* | 6* | 5* | 2* | 1* | -  | 1  | 4  | 7  | 8  | 8  | 6  | 5  | 8  |
| VR2 = 24 |     |     | 8  | 8  | 7  | 4  | -  | -  | -  | 5* | 8* | 8* | 9* | 7* | 5* | 4* | 1  | 1  | 3  | 4  | 8  | 8  | 9  | 9  | 9  | 9  |
| JA1 = 25 |     |     | 6* | 3* | 1  | 1  | 5  | 7  | 7  | 8  | 9  | 9  | 9+ | 9  | 8  | 5  | 2  | 1  | 2* | 4* | 7* | 9* | 9* | 9* | 9* | 8* |
| HS = 26  |     |     | 9  | 9  | 8  | 7  | 3  | -  | -  | 1* | 6* | 7  | 7* | 7  | 4* | 1  | 1  | 2  | 4  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9  |
| DU = 27  |     |     | 8  | 6  | 3  | -  | -  | -  | 1  | 6* | 7  | 8* | 8* | 7  | 6  | 2  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| YB = 28  |     |     | 9  | 9  | 7  | 4  | 1  | -  | -  | 2* | 5* | 6  | 8* | 5  | 6* | 3  | 2  | 2  | 4  | 6  | 7  | 8  | 8  | 8  | 8  | 9  |
| VK6 = 29 |     |     | 9  | 8  | 8  | 6  | 5  | 5  | 6  | 8  | 8  | 8  | 8  | 8  | 5  | 4  | 3  | 4  | 5  | 5  | 6  | 6  | 6  | 8  | 8  | 8  |
| VK3 = 30 |     |     | 7  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 3  | 3  | 2  | 2  | 5  | 7  | 8  | 8  | 8  | 8  |
| KH6 = 31 |     |     | 5  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 2  | 1  | 1  | 2* | 1* | 1* | -  | -  | 1  |
| KH8 = 32 |     |     | 3  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | 3  | 3  | 2  | 2  | 1  | 1* | 1* | 1  | 2  |
| CN = 33  |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 2  | 1  | -  | -  | 1  | 4  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  |     |     | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | 1  | 1  | 2  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| 6W = 35  |     |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 5  | 9+ | 9+ | 9  | 8  | 6  | 4  | 2  | 3  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  |     |     | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 9  | 9+ | 9  | 8  | 6  | 5  | 4  | 3  | 2  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  |     |     | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 3  | 1  | 1  | 1  | 1  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| ZS6 = 38 |     |     | 8  | 7  | 4  | -  | -  | 8  | 9+ | 9  | 8  | 7  | 5  | 4  | 4  | 4  | 4  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| FR = 39  |     |     | -  | 1* | 1* | 5  | 9  | 8  | 8  | 6  | 4  | 2  | 2  | 2  | 3  | 1  | 1  | 4  | 6  | 8  | 9  | 9  | 9  | 8  | 1* | 1* |
| FJL = 40 |     |     | 9  | 8  | 8  | 6  | 6  | 2  | 4  | 7  | 9  | 8  | 8  | 5  | 4* | 1  | -  | -  | 1  | 3  | 6  | 6  | 9  | 9  | 8  | 9  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



15 Meters: Sep., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|--|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 |  | 9            | 9  | 9  | 9  | 8  | 7  | 5  | 2  | 3  | 2* | -  | -  | -  | -  | -  | -  | 1  | 3  | 8  | 7  | 6  | 7  | 8  | 8  |
| VO2 = 02 |  | 9+           | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 7  | 8  | 9  | 9  | 8  | 5  | 5  | 3  | 4  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| W6 = 03  |  | 9            | 9  | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | -  | 8  | 5  | 4  | 3  | 2  | 1  | 2  | 4  | 6  | 8  | 9  |
| W9 = 04  |  | 9+           | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 6  | 3  | 7  | 9  | 7  | 5  | 4  | 3  | 4  | 3  | 6  | 8  | 9  | 9  | 9  |
| W3 = 05  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 7  | 4  | 3  | 3  | 5  | 5  | 7  | 9  | 9  | 9+ | 9+ |
| XE1 = 06 |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 3  | 1* | 9  | 8  | 7  | 5  | 4  | 5  | 5  | 6  | 8  | 9  | 9+ | 9+ |
| TI = 07  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 2* | -  | 9  | 9  | 9  | 7  | 5  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 |  | 7            | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | 1  | 9+ | 9+ | 9  | 8  | 7  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 8  |
| P4 = 09  |  | 5            | 6  | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 2* | -  | 1  | 9+ | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 8  | 7  |
| HC = 10  |  | 9+           | 9+ | 6  | 9+ | 9+ | 9+ | 9  | 7  | 4* | 2* | 1  | 9+ | 9+ | 9  | 8  | 7  | 7  | 8  | 9  | 9  | 8  | 6  | 9+ | 9+ |
| PY1 = 11 |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 3* | 5* | 1* | 2* | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5* | 4* | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 2* | 3* | -  | -  | 1* | 7  | 9  | 9  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |  | 9            | 9  | 9  | 9  | 8  | 7  | 9  | 9  | 8  | 9  | 8  | 5  | 2  | 1  | 2  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9+ | 9  |
| I = 15   |  | 9+           | 9+ | 9+ | 9  | 9  | 8  | 9  | 9  | 8  | 8  | 3  | 2  | 1  | 1  | 2  | 2  | 5  | 7  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 |  | 9            | 8  | 7  | 5  | 6  | 7  | 8  | 7  | 6  | 7  | 5  | 4  | 5  | 1  | -  | 1  | 3  | 6  | 7  | 8  | 9  | 9  | 9  | 9  |
| UN = 17  |  | 4            | 5  | 8  | 9  | 8  | 6  | 6  | 4  | 2  | 2  | 4  | 6* | 4  | 3* | 1* | 1  | 5  | 6  | 7  | 8  | 8  | 8  | 7  | 5  |
| UA9 = 18 |  | 1*           | 2  | 6  | 8  | 8  | 7  | 6  | 7  | 6  | 7  | 6* | 8* | 5* | 4* | 2* | 1  | 4  | 6  | 6  | 4  | 1  | 1* | 3* | 1* |
| UA0 = 19 |  | 8            | 8  | 8  | 8  | 6  | 7  | 9  | 8  | 6  | 8* | 9  | 8* | 6* | 4* | 2* | 2* | 4* | 5* | 6* | 7* | 8* | 9* | 9* | 8  |
| 4X = 20  |  | 9+           | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | 1  | 1  | 1  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ |
| HZ = 21  |  | 9+           | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | 1  | 2  | 7  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| VU = 22  |  | 9            | 9  | 9  | 9  | 8  | 7  | 3  | 1  | 2* | 1  | 4  | 5* | 4* | 2* | 2* | 2  | 5  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  |  | 7            | 8  | 8  | 7  | 6  | 5  | 5  | 6  | 6* | 6  | 8* | 7* | 6* | 4* | 3* | 2* | 2  | 5  | 4* | 4* | 4* | 5* | 1* | 3  |
| VR2 = 24 |  | 9            | 8  | 8  | 5  | 1  | -  | 3* | 6* | 8* | 6* | 8* | 8* | 7* | 5* | 4* | 4  | 6  | 5  | 7  | 8  | 8  | 9  | 9  | 9  |
| JA1 = 25 |  | 7*           | 6* | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 8  | 9  | 9  | 7  | 4  | 2* | 2* | 5* | 6* | 8* | 9* | 9* | 9* | 9* | 9* |
| HS = 26  |  | 9            | 9  | 8  | 6  | 4  | 1  | -  | 4* | 7  | 5  | 7* | 7* | 5* | 4  | 3  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9  | 8  |
| DU = 27  |  | 8            | 7  | 4  | 1  | -  | -  | 4* | 5* | 6  | 7  | 8  | 8  | 7  | 5  | 4  | 3  | 5  | 6  | 7  | 8  | 8  | 8  | 9  | 9  |
| YB = 28  |  | 9            | 9  | 7  | 3  | 1  | -  | -  | 3* | 5  | 6  | 8* | 7  | 6  | 5  | 4  | 4  | 5  | 6  | 7  | 7  | 6  | 4  | 4* | 8  |
| VK6 = 29 |  | 8            | 8  | 8  | 7  | 5  | 4  | 5  | 7  | 8  | 8  | 9  | 8  | 7  | 5  | 2  | 2  | 3  | 3  | 3  | 3  | 3  | 3  | 5  | 7  |
| VK3 = 30 |  | 8            | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 7  | 5  | 3  | 2  | 1  | 1* | 1* | 2  | 6  | 8  | 8  | 8  |
| KH6 = 31 |  | 6            | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 5  | 2  | 9  | 8  | 7  | -  | 1  | 3  | 3  | 2  | 7  | 2* | 1  | 2  | 4  |
| KH8 = 32 |  | 5            | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 5  | 5  | 9  | 9  | 8  | 3  | 1  | 5  | 5  | 7  | 5  | 5  | 2  | 2  | 4  |
| CN = 33  |  | 9+           | 9+ | 9+ | 9+ | 9  | 8  | 9  | 8  | 9  | 8  | 5  | 2  | 1  | 1  | 1  | 4  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  |  | 9+           | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | 1  | 2  | 1  | 1  | 2  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ |
| 6W = 35  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 7  | 4* | 2* | 9  | 9+ | 9+ | 9  | 8  | 6  | 5  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  |  | 9            | 9+ | 9  | 8  | 4  | 2  | 7  | 9  | 9  | 9  | 8  | 8  | 6  | 5  | 6  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  |  | 9+           | 9  | 8  | 6  | 8  | 9  | 9  | 8  | 7  | 5  | 4  | 3  | 2  | 3  | 3  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| ZS6 = 38 |  | 5            | 2  | -  | -  | 1* | 2  | 8  | 9  | 9  | 8  | 7  | 7  | 7  | 7  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9  | 8  | 6  |
| FR = 39  |  | -            | 1* | 1* | 1* | 8  | 6  | 5  | 6  | 5  | 4  | 4  | 8  | 7  | 4  | 5  | 6  | 8  | 8  | 9  | 9  | 8  | 2* | 1* | 1* |
| FJL = 40 |  | 2            | 5  | 2  | 1  | 1  | 1* | 3* | 4* | 7  | 7  | 7  | 5  | 4  | 2  | 1  | 1  | 2  | 5  | 6  | 7  | 6  | 5  | 1  | 4  |
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |  |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |  | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Sep., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00  | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |     | 8   | 8  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 8  | 8  |    |
| VO2 = 02 |     | 8   | 6  | 4  | 6  | 6  | 5  | 4  | 1  | 1  | 4  | 5  | 9  | 8  | 6  | 5  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| W6 = 03  |     | 9   | 9  | 9+ | 9  | 9  | 8  | 8  | 8  | 7  | 4  | 2  | 1  | -  | 3  | 7  | 4  | 4  | 4  | 5  | 4  | 7  | 7  | 8  | 9  |    |
| W9 = 04  |     | 9   | 9  | 7  | 5  | 5  | 4  | 2  | 1  | 2  | 1  | -  | -  | 9  | 8  | 6  | 4  | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 9  |    |
| W3 = 05  |     | 8   | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 4  | 6  | 7  | 9  | 8  | 5  | 5  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| XE1 = 06 |     | 9   | 9+ | 9+ | 9  | 9+ | 9  | 9  | 9  | 7  | 4  | -  | -  | 3  | 8  | 7  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ |    |
| TI = 07  |     | 5*  | 5  | 9  | 9+ | 9+ | 9+ | 9  | 6  | -  | -  | -  | -  | 9+ | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 8  | 7  | 6  |    |
| VP2 = 08 |     | 5*  | 1  | 7  | 9+ | 9+ | 9  | 7  | 2  | -  | -  | -  | 9+ | 9  | 9  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 5  | 5  | 5* |    |
| P4 = 09  |     | 5*  | 2* | 6  | 8  | 9+ | 8  | 7  | 2  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 6  | 4* | 5* | 5* |    |
| HC = 10  |     | 9   | 9  | 9+ | 7  | 7  | 6  | 5  | 1  | 2* | -  | -  | 1  | 9+ | 9  | 9  | 8  | 5  | 3  | -  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| PY1 = 11 |     | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 3  | -  | 1* | -  | -  | 1  | 8  | 8  | 5  | 5  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| CE = 12  |     | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5* | -  | -  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  |     | 8   | 7  | 9  | 9  | 8  | 8  | 1* | 3* | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  | 8  | 8  |    |
| G = 14   |     | 7   | 6  | 6  | 4  | 1  | 1  | 5  | 8  | 8  | 9  | 8  | 8  | 5  | 3  | 4  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |    |
| I = 15   |     | 9   | 9  | 9  | 8  | 5  | 5* | 8  | 8  | 7  | 8  | 6  | 6  | 5  | 3  | 1  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| UA3 = 16 |     | 6   | 4  | 2  | 4* | 3* | 4* | 8  | 6  | 5  | 7  | 6  | 5  | 3  | 2  | 1  | 4  | 6  | 6  | 8  | 9  | 8  | 7  | 6  | 4  |    |
| UN = 17  |     | 1*  | 1* | 6  | 8  | 8  | 7  | 7  | 4  | 4  | 5  | 3  | 7* | 5* | 3* | 2  | 4  | 6  | 5  | 5  | 4  | 3  | 2  | 1  | 1* |    |
| UA9 = 18 |     | 1*  | 1* | 1  | 5  | 7  | 7  | 8  | 6  | 5  | 8  | 6  | 8* | 5* | 3* | 2  | 2  | 4  | 2  | -  | -  | -  | -  | 2* | 4* |    |
| UA0 = 19 |     | 7   | 7  | 7  | 7  | 7  | 8  | 8  | 7  | 2  | 6* | 8* | 8* | 7* | 5* | 4* | 4* | 4* | 6* | 6* | 5* | 4* | 8* | 8* | 8  |    |
| 4X = 20  |     | 9   | 9  | 9  | 8  | 7  | 9  | 9  | 6  | 6  | 7  | 5  | 4  | 1  | 1  | 3  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| HZ = 21  |     | 9   | 9  | 8  | 5  | 9  | 9  | 8  | 5  | 4  | 5  | 4  | 2  | 4* | 2  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| VU = 22  |     | 5   | 6  | 9  | 9  | 8  | 6  | 4  | 2  | 3  | 4  | 1  | 4* | 5* | 3* | 3  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| JT = 23  |     | 1   | 5  | 7  | 7  | 7  | 6  | 7  | 5  | 4  | 8  | 5  | 8* | 7* | 5* | 4* | 3* | 3* | 3* | 2* | -  | -  | 3* | 4* | 2* |    |
| VR2 = 24 |     | 9   | 8  | 7  | 4* | 3* | 4* | 4* | 7* | 6* | 6  | 5  | 9* | 8* | 6* | 5  | 6  | 7  | 6  | 8  | 8  | 9  | 9  | 6  | 8  |    |
| JA1 = 25 |     | 8*  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 8  | 6  | 7* | 7* | 6* | 5* | 4* | 4* | 5* | 8* | 8* | 9* | 7* | 8* | 9* | 9* |    |
| HS = 26  |     | 8   | 9  | 8  | 4  | 1  | 1* | 2* | 3* | 4  | 5  | 5  | 8* | 6  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 6  |    |
| DU = 27  |     | 8   | 6  | 3* | 3* | 3* | 4* | 4* | 5* | 3  | 7  | 8  | 9* | 8  | 6  | 5  | 4  | 5  | 6  | 8  | 8  | 8  | 6* | 8  | 9  |    |
| YB = 28  |     | 9   | 8  | 4* | 3* | 1* | 1* | 2* | 4* | 4  | 6  | 8  | 8  | 7  | 5  | 5  | 5  | 5  | 3  | 4* | 3* | 1* | 5* | 6* | 6* |    |
| VK6 = 29 |     | 7   | 8  | 7  | 1  | -  | 1* | 1  | 2  | 5  | 6  | 9  | 8  | 7  | 3  | 1  | 1* | 1  | 2* | 2* | 1* | 1* | 6* | 5  | 5  |    |
| VK3 = 30 |     | 8   | 8  | 7  | 5  | 3  | 4  | 4  | 2  | 5* | 8  | 7  | 4  | 2  | 1  | 1  | -  | -  | 1* | 1* | 1* | 3  | 7  | 8  | 8  |    |
| KH6 = 31 |     | 8   | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 3* | 4* | 8  | 8  | 1* | -  | -  | 4  | 4  | 4  | 5* | 4* | 3  | 4  | 6  |    |
| KH8 = 32 |     | 7   | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 6  | 2* | 2* | 9  | 8  | 4  | 1* | -  | 3  | 5  | 5  | 5  | 4  | 4  | 5  | 6  |    |
| CN = 33  |     | 9+  | 9+ | 9+ | 9  | 9  | 9  | 5* | 6  | 6  | 9  | 9  | 7  | 5  | 3  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |    |
| SU = 34  |     | 9   | 9  | 9  | 9  | 8  | 9  | 9  | 6  | 6  | 6  | 4  | 2  | 1  | 1  | 4  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| 6W = 35  |     | 7   | 9  | 9+ | 9  | 7  | -  | 1* | 4* | 5  | 9+ | 9+ | 9  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 8  | 6  | 5  |    |
| D2 = 36  |     | 9+  | 8  | 6  | 3  | 1* | 2* | 3  | 4  | 9  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| 5Z = 37  |     | 9   | 8  | 5  | 2* | 4  | 6  | 5  | 5  | 7  | 7  | 6  | 7  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  |    |
| ZS6 = 38 |     | -   | -  | -  | -  | 2* | 2* | 2  | 6  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 8  | 5  | -  | 1  |    |
| FR = 39  |     | -   | -  | 3* | 2* | 3  | 1  | -  | 1  | 5  | 6  | 7  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 6  | 4* | 3* | 2* | -  |    |
| FJL = 40 |     | -   | 1* | 3* | 1* | -  | -  | 1* | -  | 3  | 1* | 6* | 6* | 3* | 2* | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Sep., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 5       | 6  | 5  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 6  | 4* |
| VO2 = 02 | 5       | 1  | -  | 1  | 1  | -  | -  | -  | -  | 1  | -  | 8  | 8  | 7  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 8  |
| W6 = 03  | 7       | 8  | 9  | 8  | 6  | 5  | 4  | 2  | 4  | -  | -  | -  | -  | -  | 7  | 6  | 6  | 6  | 6  | 5  | 6  | 7  | 7  | 7  |
| W9 = 04  | 6       | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 7  | 6  | 7  | 8  | 8  | 7  | 9  | 9  | 9  | 8  |
| W3 = 05  | 5       | 6  | 8  | 8  | 8  | 6  | 4  | 1  | 1  | -  | 1  | -  | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 8  | 8  | 7  |
| XE1 = 06 | 8       | 8  | 9  | 9+ | 9  | 9  | 9  | 8  | 3  | 1  | -  | -  | -  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  |
| TI = 07  | 4*      | 1* | 5  | 8  | 9+ | 8  | 6  | 1  | -  | -  | -  | -  | 7  | 9  | 9  | 8  | 8  | 5  | 4  | 4  | 2  | 2* | 4* | 5* |
| VP2 = 08 | 2*      | -  | 3  | 6  | 7  | 5  | 2  | -  | -  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 5  | 3* | 5* | 5* | 5* | 5* |
| P4 = 09  | 2*      | 1* | 1  | 5  | 6  | 5  | 2  | -  | -  | -  | -  | 1  | 9  | 9  | 9  | 8  | 4  | 1  | 1  | 1  | 2* | 4* | 5* | 5* |
| HC = 10  | 7       | 7  | 9  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | 7  | 9  | 9  | 2  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  |
| PY1 = 11 | 9       | 9+ | 9+ | 9  | 9  | 3  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | 2  | 4  | 6* | 8  | 8  | 8  |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 5*      | 2* | 7  | 5  | 4  | 2  | -  | 2* | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | 2* | 4* | 6* | 7* | 6* |
| G = 14   | 1       | 1  | 1  | -  | -  | -  | -  | 6  | 4  | 7  | 9  | 8  | 8  | 7  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 8  | 6  | 3  |
| I = 15   | 9       | 9  | 8  | 4  | -  | 2* | 4  | 6  | 5  | 8  | 8  | 7  | 5  | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | 1       | -  | -  | 1* | 2* | 1* | 6  | 4  | 2  | 6  | 8  | 7  | 5  | 4  | 5  | 5  | 7  | 7  | 7  | 7  | 5  | 1  | -  | -  |
| UN = 17  | 2*      | 4* | 2* | 8  | 9  | 8  | 6  | 2  | 2  | 6  | 6  | 5  | 7* | 4  | 4  | 5  | 4  | -  | 1  | -  | -  | -  | -  | -  |
| UA9 = 18 | 4*      | 2* | 2* | 1* | 5  | 8  | 8  | 5  | 4  | 8  | 8  | 7* | 5* | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | 5* |
| UA0 = 19 | 4       | 5  | 4  | 5  | 5  | 8  | 7  | 4  | -  | 1* | 8* | 8* | 7* | 6* | 5* | 5* | 5* | 5* | 4* | -  | -  | 6* | 8* | 6* |
| 4X = 20  | 9       | 9  | 9  | 5  | 5* | 8  | 8  | 2  | 3  | 7  | 5  | 4  | 4* | 3  | 3  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 5* | 2* | 7  | 8  | 5  | 1  | 1  | 5  | 4  | 5  | 5* | 4  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 3*      | 3* | 7  | 8  | 7  | 4  | 2* | 2* | 2  | 5  | 4  | 3  | 7* | 4  | 4  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 6  |
| JT = 23  | 2*      | 2* | 5  | 6  | 6  | 8  | 7  | 2  | 2  | 7  | 8  | 8* | 8* | 5* | 4* | 3* | 1* | 1* | -  | -  | -  | -  | 6* | 5* |
| VR2 = 24 | 9       | 8  | 7* | 6* | 4* | 5* | 6* | 7* | 2  | 7  | 7  | 8  | 9* | 7* | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 7  | 7* | 7* |
| JA1 = 25 | 7       | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 6  | 6* | 8* | 8* | 7* | 6* | 5* | 6* | 7* | 8* | 8* | 7* | 5  | 8  | 8  | 8  |
| HS = 26  | 7*      | 8  | 6* | 5* | 2* | 2* | 4* | 5* | 3  | 6  | 7  | 8* | 8* | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 6  | 6* |
| DU = 27  | 5       | 2* | 4* | 4* | 4* | 4* | 4* | 2* | -  | 5  | 8  | 9* | 8  | 7  | 6  | 6  | 7  | 7  | 8  | 7  | 5  | 5* | 8* | 8  |
| YB = 28  | 7       | 2  | 4* | 4* | 2* | 2* | 3* | 2* | -  | 6  | 8  | 8  | 7  | 6  | 5  | 4  | 3  | 4* | 4* | 4* | 1* | -  | 1* | 5* |
| VK6 = 29 | 4       | 7  | 1* | 1* | 1* | 1* | 1* | 1* | -  | 1  | 8  | 6  | 5  | 4* | 2* | 1* | 2* | 2* | 2* | 1* | -  | -  | 4* | 3* |
| VK3 = 30 | 8       | 5  | 2  | 2* | 2* | 2* | 2* | 1* | -  | 3* | 7  | 5  | 4* | 2* | 1* | 1* | 1* | 1* | 1* | -  | 2* | 6* | 7  | 8  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 1  | 4* | 5* | 5* | 8  | 1* | -  | -  | 3  | 4  | 5  | 5  | 6  | 6  | 6  | 7  |
| KH8 = 32 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 1* | 4* | 4* | 4  | 5  | 1* | 1* | 1* | -  | 6  | 6  | 6  | 6  | 6  | 6  | 8  |
| CN = 33  | 9+      | 9  | 9  | 9  | 9  | 7  | -  | 1  | 3  | 4  | 9  | 8  | 7  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| SU = 34  | 9       | 9  | 9  | 7  | 6* | 8  | 8  | 1  | 3  | 7  | 6  | 4  | 3  | 3  | 3  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  |
| 6W = 35  | 3*      | 4  | 5  | 4  | 1  | -  | -  | 1* | -  | 6  | 9+ | 9  | 9  | 8  | 5  | 5  | 6  | 7  | 7  | 6  | 5* | 6* | 6* | 5* |
| D2 = 36  | 8       | 5  | 2  | 1  | 1* | 3* | 5* | 3* | 5  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  |
| 5Z = 37  | 7       | 5  | 1  | 4* | 4* | 4* | 4* | 1  | 6  | 7  | 8  | 8  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  |
| ZS6 = 38 | -       | -  | -  | -  | 3* | 2* | 2* | 1  | 7  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 8  | 5  | 2* | -  | -  |
| FR = 39  | -       | -  | 4* | 3* | 3* | 2* | 1* | -  | 5  | 8  | 8  | 7  | 7  | 6  | 7  | 8  | 8  | 7  | 4  | 4* | 4* | 3* | 1* | -  |
| FJL = 40 | -       | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 5* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Oct., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2       | 4  | 4  | 4  | 5  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | -  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 1  | -  | 1  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 3  | 5  | 4  | 5  | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 1  | 4  | 2  | 2  | 3  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 3       | 4  | 4  | 2  | 3  | 3  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 5       | 5  | 3  | 2  | 3  | 3  | 3  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 5       | 5  | 4  | 3  | 3  | 3  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 4       | 6  | 6  | 5  | 4  | 3  | 3  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 9  | 9  |
| G = 14   | 4       | 4  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 4       | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | 3       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | 2       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 3       | 4  | 3  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| SU = 34  | 3       | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 6       | 5  | 4  | 3  | 3  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | -  |
| D2 = 36  | 6       | 6  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| 5Z = 37  | 3       | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| ZS6 = 38 | 5       | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | -  |
| FR = 39  | 4       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Oct., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | 1  | 2  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 7  | 7  | 7  | 8  | 7  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W6 = 03  | -       | -  | 1  | 2  | 2  | 6  | 5  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 1       | 4  | 2  | 4  | 8  | 7  | 6  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 4       | 6  | 8  | 7  | 8  | 7  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | 1       | 4  | 7  | 5  | 5  | 6  | 6  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 6       | 7  | 7  | 5  | 6  | 6  | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 8       | 8  | 6  | 5  | 6  | 6  | 6  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| P4 = 09  | 8       | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| HC = 10  | 7       | 9  | 9  | 8  | 7  | 6  | 6  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | -  | -  | -  | -  | -  | -  | 1  | 7  | 9+ | 9+ | 9+ |
| G = 14   | 7       | 7  | 7  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| I = 15   | 7       | 5  | 6  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| UA3 = 16 | 6       | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 1  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 5       | 1  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  |
| HZ = 21  | 5       | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| VU = 22  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 6       | 7  | 6  | 6  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| SU = 34  | 6       | 3  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 6W = 35  | 9       | 8  | 7  | 6  | 6  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| D2 = 36  | 9       | 9  | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 7  |
| 5Z = 37  | 6       | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  |
| ZS6 = 38 | 8       | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  |
| FR = 39  | 7       | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  |
| FJL = 40 | 1       | 1  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | 1  | 2  | 4  | 5  | 6  | 6  | 6  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  |
| W6 = 03  | 2       | 5  | 5  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 8       | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| W3 = 05  | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  |
| XE1 = 06 | 8       | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 1  | -  | -  | -  | 2  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | -  | -  | -  | -  | -  | 2  | 7  | 9  | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | -  | 1  | 2  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  |
| I = 15   | 8       | 8  | 8  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  |
| UA3 = 16 | 7       | 7  | 7  | 7  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| UN = 17  | 6       | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| UA9 = 18 | 6       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 8       | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| HZ = 21  | 7       | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  |
| VU = 22  | 5       | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| JT = 23  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 5  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | 5  | 2  | 1  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 2  | 4  | 1  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | 1  | 5  | 6  | 7  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | 2  | 5  | 8  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| SU = 34  | 8       | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| 6W = 35  | 9       | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 9  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  |
| FR = 39  | 9       | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| FJL = 40 | 6       | 6  | 6  | 6  | 6  | 6  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 30 Meters: Oct., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 3       | 2  | 6  | 7  | 8  | 8  | 7  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| W6 = 03  | 5       | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W9 = 04  | 8       | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| W3 = 05  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 9  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 4  | 3  | 4  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 3  | 1  | -  | 2  | 4  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  |
| I = 15   | 8       | 8  | 7  | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  |
| UA3 = 16 | 8       | 8  | 8  | 8  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 7  |
| UN = 17  | 7       | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 7  |
| UA9 = 18 | 8       | 6  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 8  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | 1  | 4  | 5* | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  |
| 4X = 20  | 8       | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| HZ = 21  | 8       | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| VU = 22  | 7       | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 7  |
| JT = 23  | 7       | 2  | 1  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 7  |
| VR2 = 24 | 2       | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 4  | 4  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 5* | 4* | -  |
| HS = 26  | 6       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 7  | 6  | 6  | 7  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 1  |
| YB = 28  | 4       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  |
| VK6 = 29 | 2       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 5  | 3  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  |
| KH6 = 31 | -       | -  | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 9  |
| SU = 34  | 8       | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 9  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 9       | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 9  | 9  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9  |
| FR = 39  | 9       | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 9  |
| FJL = 40 | 7       | 8  | 8  | 8  | 7  | 7  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 20 Meters: Oct., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 9   | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 1  | 4  | 6  |
| VO2 = 02 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 9  | 9  | 9  |
| W6 = 03  | 9   | 9   | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| W9 = 04  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 9  | 9  |
| W3 = 05  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9+ |
| XE1 = 06 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 3  | 1  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9+ |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9+ | 9+ |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 2  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9+ | 9+ |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 3  | 1  | -  | -  | -  | -  | 1  | 3  | 6  | 9  | 9  | 9+ |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| I = 15   | 9+  | 9+  | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  | 9  |
| UN = 17  | 9   | 9   | 9  | 8  | 5  | 2  | 1  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 9  | 9  | 9  |
| UA9 = 18 | 8   | 8   | 8  | 8  | 6  | 2  | 4  | 3  | 2  | 5* | 4* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 9  | 9  | 9  |
| UA0 = 19 | 5   | 4   | 4  | 1  | 1  | 2  | 7  | 6  | 6  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 4* | 6* | 6  | 6  | 6  | 8  |
| 4X = 20  | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9   | 9   | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  | 9   | 9   | 8  | 8  | 3  | 1  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  |
| JT = 23  | 9   | 8   | 7  | 2  | 1  | 1  | 1  | 1  | 3* | 5* | 8  | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  |
| VR2 = 24 | 7   | 5   | 3  | -  | -  | -  | -  | 1* | 6* | 8  | 8  | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| JA1 = 25 | 3*  | -   | -  | -  | -  | 4  | 6  | 8  | 8  | 8  | 9  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | 2* | 6* | 8* | 8  | 8* | 6* |
| HS = 26  | 9   | 8   | 6  | 1  | -  | -  | -  | -  | 1* | 4* | 5* | 4* | -  | -  | -  | 5  | 7  | -  | -  | -  | 4  | 7  | 8  | 9  | 9  | 9  |
| DU = 27  | 5   | 2   | -  | -  | -  | -  | -  | 1* | 4* | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 7  |
| YB = 28  | 8   | 7   | 2  | -  | -  | -  | -  | -  | 1* | 2* | 8  | 2* | 1* | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 9  | 9  |
| VK6 = 29 | 8   | 5   | 2  | -  | 1  | -  | -  | 1  | 4  | 8  | 6  | 5  | 2  | 2  | -  | -  | -  | -  | 1  | 2  | 4  | 6  | 7  | 8  | 8  | 8  |
| VK3 = 30 | 1   | 1   | 1  | 1  | 3  | 5  | 7  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | 1  | -  | 1  | 1  | 2  | 4  | 4  | 7  | 5  | 3  | 3  | 3  |
| KH6 = 31 | 1   | 5   | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -   | 1   | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | 6  | 9  | 9  | 9+ | 9+ |
| SU = 34  | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9+ | 9+ | 9+ |
| D2 = 36  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+  | 9+  | 9+ | 9+ | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| ZS6 = 38 | 9+  | 9+  | 9  | 8  | 9+ | 9  | 9  | 9  | 6  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| FR = 39  | 9+  | 9   | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| FJL = 40 | 9   | 9   | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9  | 9  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Oct., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 9   | 9  | 9  | 9  | 8  | 5  | 1  | 3* | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 8  | 7  | 7  | 8  |
| VO2 = 02 | 9+  | 9+  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | 8  | 9  | 9  | 6  | 3  | 1  | -  | 1  | 1  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| W6 = 03  | 9   | 9+  | 9+ | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | 1  | 7  | 3  | 1  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |    |
| W9 = 04  | 9+  | 9+  | 9+ | 9  | 9+ | 9  | 9  | 9  | 9  | 7  | 1  | 3  | 9  | 8  | 5  | 1  | -  | -  | -  | 3  | 5  | 8  | 9  | 9  | 9+ | 9+ |
| W3 = 05  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 9  | 9  | 8  | 5  | 1  | 1  | -  | 1  | 4  | 6  | 9  | 9  | 9+ | 9+ | 9+ |
| XE1 = 06 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 2  | 1* | 9  | 7  | 4  | 2  | 1  | 1  | 2  | 4  | 6  | 9  | 9  | 9+ | 9+ |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9  | 9+ | 9  | 8  | 6  | 2  | 2  | 2  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 7  | 9+ | 9+ | 9  | 7  | 3  | 2  | 2  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9+ | 9+ | 9  | 7  | 4  | 2  | 2  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9  | 9+ | 9  | 8  | 5  | 5  | 5  | 5  | 6  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 7  | 5  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9+  | 9   | 9  | 9+ | 9  | 5  | 7  | 9  | 9  | 8  | 8  | 4  | 1  | -  | -  | 1  | 1  | 5  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| I = 15   | 9+  | 9+  | 9+ | 9+ | 9  | 7  | 9  | 9  | 8  | 6  | 3  | 2  | -  | 1  | -  | -  | 1  | 5  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| UA3 = 16 | 9   | 9   | 9  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 4  | 2  | 1* | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| UN = 17  | 8   | 8   | 9  | 9  | 8  | 7  | 5  | 2  | 2* | 4* | 5* | 8  | 3* | 1* | -  | -  | -  | 1  | 5  | 6  | 7  | 8  | 8  | 9  | 8  | 8  |
| UA9 = 18 | 2   | 2   | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6* | 6* | 5* | 6* | 2* | -  | -  | -  | 4  | 7  | 8  | 9  | 9  | 8  | 6  | 6  | 6  |
| UA0 = 19 | 8   | 9   | 8  | 7  | 5  | 6  | 8  | 8  | 8  | 9  | 8  | 7  | 5  | 2  | -  | -  | -  | 2* | 5* | 6* | 7* | 8  | 9  | 8  | 8  | 8  |
| 4X = 20  | 9+  | 9+  | 9+ | 9+ | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HZ = 21  | 9+  | 9+  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | 1  | 1* | 1  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| VU = 22  | 9   | 7   | 9  | 9  | 8  | 5  | 2  | -  | 1* | 5* | 5* | 8  | 2* | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  | 9   | 8   | 8  | 8  | 6  | 3  | 3  | 6* | 6* | 7* | 8* | 6* | 5* | 4* | 1* | -  | -  | 4  | 6  | 8  | 8  | 8  | 7  | 8  | 8  | 8  |
| VR2 = 24 | 8   | 8   | 8  | 5  | 2  | 1* | 1  | 6* | 8  | 8* | 8* | 7  | 5* | 2* | 1  | 1  | 1  | 3  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| JA1 = 25 | 7*  | 4   | 4  | 5  | 5  | 7  | 8  | 9  | 9  | 9+ | 9  | 8  | 3  | 1  | -  | -  | -  | 3* | 7* | 8* | 8* | 8* | 9* | 9* | 9* | 9* |
| HS = 26  | 9   | 9   | 8  | 7  | 4  | -  | -  | 1  | 4* | 7  | 7  | 7  | 4* | 1  | 1  | 1  | 3  | 5  | 8  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  |
| DU = 27  | 8   | 7   | 4  | 1  | -  | -  | 1  | 5* | 7  | 8* | 7* | 6  | 5  | 2  | 1  | -  | 1  | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 8  | 8  |
| YB = 28  | 9   | 8   | 7  | 3  | 1  | -  | -  | 1  | 5* | 7  | 6  | 6* | 5* | 3  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VK6 = 29 | 9   | 8   | 8  | 7  | 4  | 4  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | 2  | 2  | 4  | 4  | 5  | 6  | 8  | 8  | 8  | 9  | 9  |
| VK3 = 30 | 6   | 6   | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 3  | 2  | 1  | 3  | 6  | 7  | 8  | 8  | 8  | 7  | 7  | 7  |
| KH6 = 31 | 5   | 8   | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 5  | -  | -  | -  | -  | 2* | 1* | 1* | -  | -  | 2  | 2  | 2  |
| KH8 = 32 | 3   | 5   | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 6  | 3  | 2  | 1  | 1  | 1  | 1* | 1  | 1  | 1  | 1  | 1  |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9  | 8  | 5  | 9  | 9  | 9  | 8  | 5  | 1  | 1  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| SU = 34  | 9+  | 9+  | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 2  | 1  | -  | -  | 1  | -  | -  | 2  | 6  | 8  | 9  | 9+ | 9  | 9+ | 9+ | 9+ | 9+ |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 8  | 8  | 9+ | 9+ | 9  | 8  | 5  | 3  | 2  | 2  | 4  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+  | 9+  | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9  | 8  | 6  | 5  | 1  | 2  | 3  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+  | 9+  | 9+ | 9  | 9+ | 9  | 9  | 8  | 5  | 2  | 1  | 2  | -  | 2  | 1  | 2  | 5  | 7  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| ZS6 = 38 | 9   | 8   | 4  | -  | 7  | 9+ | 9+ | 9  | 8  | 7  | 5  | 4  | 4  | 4  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| FR = 39  | 8   | 5   | 6  | 9  | 9  | 9  | 8  | 6  | 4  | 2  | 2  | 1  | 2  | 1  | 1  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 9  |
| FJL = 40 | 9   | 9   | 8  | 5  | 2  | 1  | 1  | 5  | 8  | 9  | 8  | 6  | 4* | 1* | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9  | 9  | 9  | 9  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Oct., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |  |
| KL7 = 01 | 9       | 9  | 9  | 9  | 8  | 5  | 1* | 2* | 3* | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 7  | 5  | 5  | 7  | 8  | 9  |  |  |
| VO2 = 02 | 9       | 9  | 8  | 9  | 9  | 9  | 9  | 6  | 1  | 3  | 9  | 9  | 8  | 6  | 2  | 2  | 3  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ |  |  |
| W6 = 03  | 9       | 9  | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 8  | 5  | -  | -  | 8  | 5  | 2  | 1  | 1  | 1  | 2  | 4  | 6  | 8  | 9  |  |  |
| W9 = 04  | 9+      | 9+ | 9  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | 6  | 9  | 7  | 4  | 1  | 1  | 2  | 5  | 6  | 8  | 9  | 9  | 9+ |  |  |
| W3 = 05  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 2  | -  | 8  | 9  | 9  | 7  | 5  | 3  | 3  | 4  | 6  | 7  | 9  | 9+ | 9+ | 9+ |  |  |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 6  | -  | -  | 8  | 8  | 6  | 4  | 5  | 4  | 4  | 5  | 8  | 9  | 9+ | 9+ |  |  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | 3  | 9+ | 9  | 9  | 7  | 6  | 6  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ |  |  |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | -  | -  | 9+ | 9+ | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |  |  |
| P4 = 09  | 8       | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 1  | 9+ | 9+ | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9  |  |  |
| HC = 10  | 9+      | 9+ | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 2  | 8  | 9+ | 9  | 9  | 8  | 7  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 8  |  |  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 4* | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |  |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |  |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5* | 5* | 3* | 2  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |  |
| G = 14   | 9       | 8  | 8  | 9  | 6  | 2* | 4* | 9  | 9  | 9  | 8  | 5  | 6  | 2  | 1  | 1  | 2  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9  |  |  |
| I = 15   | 9+      | 9+ | 9  | 9  | 5  | 5* | 9  | 9  | 8  | 7  | 6  | 5  | 2  | 3  | -  | 1  | 2  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |  |  |
| UA3 = 16 | 8       | 8  | 7  | 5  | 5  | 8  | 9  | 9  | 8  | 7  | 6  | 4  | 5  | 1  | 1* | 1  | 2  | 6  | 8  | 8  | 9  | 8  | 8  | 8  |  |  |
| UN = 17  | 2       | 3  | 8  | 9  | 8  | 8  | 6  | 6  | 3  | 4* | 6* | 5* | 4  | 3* | 1* | 1  | 2  | 6  | 4  | 3  | 4  | 5  | 4  | 3  |  |  |
| UA9 = 18 | 1*      | 1* | 3  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 7* | 8* | 4* | 2* | -  | -  | 1  | 5  | 5  | 5  | 5  | 4  | 2* | 1  |  |  |
| UA0 = 19 | 8       | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 8  | 8* | 6* | 4* | 1* | 1* | 2* | 4* | 5* | 6* | 4* | 7* | 9  | 9  |  |  |
| 4X = 20  | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 2  | 2  | 9  | 1* | -  | 1  | 3  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ |  |  |
| HZ = 21  | 9+      | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 2  | 2  | 2  | 7  | 1  | 1  | 3  | 5  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ |  |  |
| VU = 22  | 4       | 1  | 9  | 9  | 8  | 6  | 5  | 2  | 4* | 3* | 5* | 5* | 6  | 2* | 1* | -  | 3  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |  |  |
| JT = 23  | 7       | 8  | 8  | 8  | 6  | 5  | 5  | 5* | 7* | 8* | 8* | 7* | 6* | 4* | 3* | 1* | 1* | 2  | 4* | 2  | 2  | 1  | 1* | 4  |  |  |
| VR2 = 24 | 9       | 9  | 8  | 7  | 5  | 3  | 5* | 5* | 8* | 8* | 9* | 7* | 6* | 5* | 4* | 2  | 3  | 6  | 7  | 8  | 8  | 9  | 9  | 9  |  |  |
| JA1 = 25 | 8*      | 7  | 7  | 7  | 6  | 7  | 8  | 9  | 9+ | 9  | 9  | 4* | 3* | 2* | 1* | 1* | 2* | 6* | 8* | 8* | 7* | 5  | 9* | 9* |  |  |
| HS = 26  | 9       | 9  | 9  | 8  | 6  | 1  | 1  | 3* | 6  | 7* | 7* | 7* | 4  | 3  | 3  | 3  | 5  | 7  | 8  | 9  | 9  | 9+ | 9  | 9  |  |  |
| DU = 27  | 8       | 7  | 5  | 2  | 1  | 1  | 4  | 4  | 7* | 7  | 8  | 7  | 6  | 5  | 2  | 2  | 2  | 6  | 7  | 8  | 9  | 9  | 9  | 9  |  |  |
| YB = 28  | 9       | 9  | 8  | 5  | 2  | 1  | 1  | 2  | 6  | 6  | 7* | 6  | 5  | 5  | 3  | 3  | 4  | 6  | 7  | 8  | 8  | 8  | 8  | 9  |  |  |
| VK6 = 29 | 8       | 9  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 4  | 3  | 3  | 2  | 2  | 4* | 5* | 5  | 7  | 8  |  |  |
| VK3 = 30 | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 3  | 2  | 1  | 2* | 4  | 7  | 8  | 8  | 8  |  |  |
| KH6 = 31 | 7       | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | -  | -  | -  | 1  | 1  | 2  | 6  | 2* | 1  | 2  | 4  |  |  |
| KH8 = 32 | 5       | 7  | 8  | 9  | 9  | 9  | 9+ | 9  | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 4  | 2  | 8  | 5  | 6  | 2* | 2  | 3  |  |  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9  | 2  | 5* | 8  | 9  | 9  | 8  | 7  | 4  | 2  | 2  | 2  | 3  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |  |  |
| SU = 34  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 3  | 2  | 2  | -  | 1  | 1  | 4  | 7  | 9  | 9  | 9+ | 9  | 9  | 9+ |  |  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 1  | 2  | 9+ | 9+ | 9+ | 9  | 7  | 6  | 5  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |  |  |
| D2 = 36  | 9+      | 9+ | 9+ | 9  | 7  | 7  | 9  | 9+ | 9  | 9  | 8  | 6  | 5  | 5  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |  |
| 5Z = 37  | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 3  | 2  | 3  | 1  | 3  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |  |  |
| ZS6 = 38 | 6       | 2  | 1* | 2* | 1* | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 6  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9+ | 9  | 9  | 8  |  |  |
| FR = 39  | 1*      | 2* | 2* | 8  | 9  | 9  | 8  | 7  | 6  | 4  | 4  | 4  | 7  | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 3  |  |  |
| FJL = 40 | 5       | 6  | 4  | 1* | 1* | 1* | 2* | 4* | 5  | 8  | 8  | 7  | 5  | 2  | -  | -  | 1  | 5  | 6  | 8  | 8  | 6  | 7  | 6  |  |  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |  |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Oct., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 8  | 5  | 1* | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 5  | 7  | 8  | 8  | 9  |
| VO2 = 02 | 8       | 5  | 2  | 5  | 7  | 7  | 5  | -  | -  | -  | 1  | 9  | 8  | 7  | 5  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9  |
| W6 = 03  | 9       | 9  | 9+ | 9  | 9  | 7  | 5  | 5  | 4  | 2  | -  | -  | -  | 3  | 6  | 4  | 5  | 5  | 4  | 4  | 7  | 8  | 8  | 9  |
| W9 = 04  | 9       | 9  | 8  | 4  | 2  | 2  | 1  | -  | -  | -  | -  | -  | 9  | 8  | 6  | 6  | 5  | 5  | 6  | 8  | 8  | 9  | 9+ | 9  |
| W3 = 05  | 9       | 9+ | 9  | 9  | 9  | 9  | 8  | 4  | -  | -  | 2  | 9  | 9  | 8  | 7  | 5  | 5  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9  |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | -  | -  | -  | 8  | 9  | 7  | 6  | 7  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| TI = 07  | 6       | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 3  | -  | -  | 9+ | 9+ | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 8  |
| VP2 = 08 | 5*      | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  | -  | 9  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 8  | 6* |
| P4 = 09  | 5*      | 4  | 9  | 9+ | 9+ | 9+ | 9+ | 8  | -  | -  | 1  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 7  | 6* |
| HC = 10  | 9+      | 9+ | 9+ | 8  | 9+ | 9+ | 9+ | 7  | 1  | -  | 2  | 9+ | 9+ | 9  | 8  | 8  | 8  | 6  | 6  | 6  | 7  | 5  | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 7* | 4* | 2* | 1  | 2  | 4  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 8  | 5* | 2  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5* | 5* | 2* | 4* | 2* | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 4       | 1  | 2  | 3  | -  | -  | 5* | 8  | 9  | 9  | 8  | 7  | 5  | 2  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 8  |
| I = 15   | 9       | 9  | 9  | 7  | -  | 6* | 4  | 9  | 9  | 9  | 7  | 7  | 5  | 3  | 1  | 2  | 4  | 7  | 9  | 9  | 9  | 9+ | 9+ | 9  |
| UA3 = 16 | 4       | 2  | 1  | 4* | 2* | 5  | 8  | 8  | 8  | 8  | 7  | 5  | 4  | 2  | 2  | 3  | 5  | 7  | 8  | 8  | 6  | 2  | 1  | 1  |
| UN = 17  | 1*      | 1* | 5  | 9  | 8  | 8  | 7  | 5  | 4  | 5* | 5* | 7* | 5* | 2  | 2  | 4  | 5  | 1  | -  | -  | -  | -  | -  | 1* |
| UA9 = 18 | 1*      | 1* | 1* | 5  | 8  | 8  | 8  | 7  | 6  | 7  | 8* | 8* | 5* | 1  | 2  | 3  | 4  | 1  | -  | -  | -  | -  | -  | 4* |
| UA0 = 19 | 9       | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8* | 8* | 7* | 5* | 4* | 4* | 4* | 4* | 3* | 1* | -  | 2* | 8  | 9  |
| 4X = 20  | 9       | 9  | 9  | 8  | 7  | 9  | 9  | 9  | 8  | 6  | 4  | 3  | 2  | 4  | 2  | 3  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 7  | 6  | 9  | 9  | 9  | 8  | 5  | 5  | 4  | 4* | 4* | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 2*      | 1* | 6  | 9  | 8  | 8  | 6  | 5  | 3  | 4* | 5* | 7* | 5* | 3  | 2  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  |
| JT = 23  | 1       | 4  | 7  | 8  | 7  | 6  | 5  | 6  | 7* | 8* | 8* | 9* | 7* | 5* | 3* | 1* | -  | 1* | -  | -  | -  | -  | 4* | 1* |
| VR2 = 24 | 9       | 9  | 8  | 7  | 5  | 3  | 4  | 6* | 8* | 8* | 9* | 9* | 8* | 7  | 6  | 6  | 7  | 6  | 7  | 8  | 9  | 9  | 7  | 9  |
| JA1 = 25 | 8*      | 8* | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 6* | 6* | 6* | 5* | 5* | 5* | 6* | 8* | 8* | 7* | 6  | 6  | 7  | 9* |
| HS = 26  | 9       | 9  | 9  | 8  | 6  | 5  | 4  | 4  | 6* | 7* | 7* | 7* | 6  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| DU = 27  | 8       | 8  | 6  | 5  | 4  | 3  | 4  | 6* | 7  | 8  | 9* | 8  | 7  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| YB = 28  | 9       | 9  | 8  | 6  | 4  | 3  | 4  | 5  | 6  | 7  | 8  | 7  | 7  | 5  | 5  | 5  | 5  | 5  | 6  | 5  | 5  | 6* | 8  | 8  |
| VK6 = 29 | 8       | 8  | 8  | 8  | 7  | 5  | 5  | 7  | 8  | 8  | 8  | 8  | 7  | 4  | 2  | 1  | 1  | 1* | 3* | 4* | 5* | 5* | 7* | 7  |
| VK3 = 30 | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 2  | 1  | -  | 1* | 2* | 3* | 5  | 7  | 8  | 8  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 9  | 8  | -  | -  | -  | 4  | 5  | 2  | 5* | 4* | 4  | 4  | 6  |
| KH8 = 32 | 6       | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 6  | 6  | 6  | 4  | 4  | 4  | 4  | 4  | 5  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 8  | -  | 4* | 6* | 9  | 9  | 9  | 8  | 6  | 5  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9       | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 8  | 6  | 4  | 2  | 2  | 4  | 2  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 4  | -  | 6* | 8  | 9+ | 9+ | 9  | 8  | 7  | 6  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9  | 9+ |
| D2 = 36  | 9+      | 9  | 8  | 6  | 3  | 3  | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9       | 9  | 8  | 7  | 8  | 9  | 9  | 8  | 8  | 7  | 6  | 5  | 4  | 4  | 5  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| ZS6 = 38 | 1       | -  | -  | 4* | 2* | 5  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 5* | 4* | 3  |
| FR = 39  | 2*      | 3* | 3* | 3* | 9  | 8  | 8  | 8  | 7  | 6  | 6  | 7  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 8  | 5  | 4* | 2* |
| FJL = 40 | 1*      | 3* | 3* | 2* | 1* | 2* | 4* | 5* | 5* | 7* | 8* | 7  | 6  | 5  | 4  | 4  | 5  | 6  | 7  | 6  | 1  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Oct., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 8   | 9   | 8  | 4  | 1  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 9  | 8  |
| VO2 = 02 | 3   | -   | -  | -  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9  | 8  |
| W6 = 03  | 8   | 9   | 9  | 9  | 6  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 7  | 7  | 6  | 5  | 6  | 7  | 8  | 8  | 8  |
| W9 = 04  | 8   | 8   | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 7  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | 8   | 9   | 8  | 6  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | 1  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| XE1 = 06 | 8   | 8   | 9  | 9+ | 9  | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 4*  | 5*  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  | -  | -  | -  | 1  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 7  | 6  | 4* |
| VP2 = 08 | 2*  | 1   | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 2  | -  | -  | -  | -  | 9+ | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 5* | 6* | 6* |
| P4 = 09  | 5*  | 3*  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 5  | -  | -  | -  | -  | 9+ | 9  | 9  | 9  | 9  | 6  | 6  | 9  | 9  | 6  | 5* | 6* | 9  |
| HC = 10  | 9   | 9   | 9+ | 5  | 8  | 8  | 8  | 3  | -  | -  | -  | -  | -  | 5  | 9+ | 9  | 9  | 3  | -  | -  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2* | 7* | 2* | 4* | 2* | 1* | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5* | -  | -  | -  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 8   | 8   | 9+ | 9+ | 9+ | 9+ | 9  | 3* | 5* | -  | -  | -  | 1* | 3* | 1* | -  | -  | -  | -  | -  | 2  | 4  | 4  | 6* | 8  | 8  |
| G = 14   | -   | -   | -  | -  | -  | -  | 1* | 7* | 8  | 9  | 9  | 8  | 6  | 5  | 5  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 8  | 6  | 3  |
| I = 15   | 9   | 8   | 7  | 1  | -  | 5* | 6* | 9  | 8  | 9  | 8  | 8  | 6  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  |
| UA3 = 16 | -   | -   | -  | 3* | 5* | 4* | 6  | 8  | 7  | 8  | 8  | 6  | 5  | 4  | 4  | 5  | 6  | 7  | 7  | 4  | 1  | -  | -  | -  | -  |    |
| UN = 17  | 3*  | 1*  | 3* | 8  | 8  | 8  | 7  | 6  | 5  | 7  | 6  | 8* | 6* | 4* | 5  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| UA9 = 18 | 3*  | 2*  | 2* | 2* | 7  | 8  | 9  | 7  | 7  | 8  | 7  | 7* | 6  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| UA0 = 19 | 7   | 8   | 9  | 9  | 9  | 8  | 9  | 8  | 7* | 7* | 8* | 8* | 7* | 6* | 4* | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | 8* | 8  |
| 4X = 20  | 9   | 9   | 9  | 4  | 4* | 9  | 9  | 8  | 8  | 7  | 5  | 5  | 4  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9   | 9   | 5* | 2* | 8  | 9  | 9  | 8  | 6  | 7  | 5  | 5  | 5  | 5  | 5  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 3*  | 2*  | 4* | 9  | 9  | 8  | 6  | 5  | 5  | 6  | 5  | 5  | 5* | 6* | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 4  |
| JT = 23  | 2*  | 3*  | 6  | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 8* | 8* | 8* | 8* | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 4* |
| VR2 = 24 | 9   | 9   | 8  | 6  | 5* | 4* | 5* | 8* | 8* | 7  | 8  | 9* | 8* | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 6* | 7* |    |
| JA1 = 25 | 9*  | 8   | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 7* | 8* | 7* | 6* | 5* | 6* | 7* | 8* | 7* | 5* | 6  | 7  | 8  | 9* |    |
| HS = 26  | 7   | 9   | 9  | 7  | 5  | 2  | 3  | 5  | 7* | 6  | 7  | 8* | 7* | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 5  |
| DU = 27  | 8   | 7   | 5  | 4  | 5* | 4* | 5* | 6* | 6  | 8  | 8  | 9* | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  |
| YB = 28  | 9   | 8   | 7  | 5* | 3* | 2* | 4* | 5* | 6  | 7  | 8  | 8  | 7  | 6  | 5  | 5  | 4  | 3  | 2  | 5* | 2  | 1  | 4* | 7* | 7* |    |
| VK6 = 29 | 6   | 7   | 8  | 7  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 7  | 6* | 4* | 3* | 2* | 2* | 3* | 4* | 3* | 3* | 5* | 5* | 6* | 6  |    |
| VK3 = 30 | 7   | 7   | 7  | 7  | 7  | 6  | 8  | 8  | 7  | 8  | 8  | 7  | 4  | 2* | 1* | 1* | 1* | 1* | 1* | 2* | 2* | 5* | 7* | 7  | 8  |    |
| KH6 = 31 | 8   | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4* | 5* | 9  | 5  | -  | -  | -  | 2  | 6  | 5  | 5  | 5* | 5  | 6  | 7  |    |
| KH8 = 32 | 8   | 8   | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 8  | 5  | 7  | 9  | 8  | 6  | 2  | 3  | 6  | 6  | 5  | 5  | 5  | 5  | 7  | 7  |    |
| CN = 33  | 9+  | 9+  | 9+ | 9  | 3  | -  | -  | 5* | 8  | 9  | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ |
| SU = 34  | 9   | 9   | 9  | 8  | 6* | 9  | 9  | 8  | 8  | 7  | 5  | 5  | 4  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  |
| 6W = 35  | 8   | 9   | 9  | 9  | 6  | -  | -  | 6* | 2  | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 8  | 7  | 6  | 7  |
| D2 = 36  | 9   | 7   | 5  | 2  | 2* | 5* | 5  | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  |
| 5Z = 37  | 8   | 8   | 6  | 5* | 5  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  |
| ZS6 = 38 | -   | -   | -  | 4* | 3* | 3* | 8  | 9  | 9  | 8  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5* | 5* | 1* | -  |
| FR = 39  | 1*  | 3*  | 5* | 4* | 7  | 5  | 6  | 7  | 7  | 8  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 6  | 5* | 5* | 4* | 2* |    |
| FJL = 40 | -   | 1*  | 4* | 3* | 2* | 2* | 4* | 5* | 5* | 6* | 8* | 5  | 6  | 6  | 5  | 5  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Nov., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | 1  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 3       | 4  | 3  | 3  | 4  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 2  | 3  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 4  | 5  | 4  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 2       | 5  | 5  | 4  | 4  | 5  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 1  | 4  | 3  | 2  | 4  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2       | 4  | 4  | 3  | 2  | 3  | 3  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 5       | 5  | 4  | 3  | 2  | 3  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| P4 = 09  | 4       | 5  | 4  | 4  | 3  | 4  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | 5       | 6  | 6  | 6  | 6  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  |
| G = 14   | -       | 4  | 3  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | -       | 2  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | -       | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | 2       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 2       | 3  | -  | 3  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| SU = 34  | -       | 1  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 6       | 5  | 4  | 3  | 3  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | -  |
| D2 = 36  | 4       | 4  | 4  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| 5Z = 37  | 1       | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| ZS6 = 38 | 4       | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | -  |
| FR = 39  | 3       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Nov., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | 2  | 1  | 4  | 4  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 6       | 7  | 6  | 6  | 7  | 7  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W6 = 03  | -       | 2  | 2  | 5  | 6  | 6  | 4  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 2       | 7  | 8  | 7  | 8  | 7  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 5       | 8  | 8  | 7  | 7  | 8  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | 1       | 4  | 7  | 6  | 5  | 7  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5       | 7  | 7  | 6  | 5  | 6  | 6  | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 8       | 8  | 7  | 6  | 5  | 6  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| P4 = 09  | 7       | 8  | 7  | 7  | 6  | 7  | 7  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| HC = 10  | 8       | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 9  |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9+ | 9+ |
| G = 14   | 3       | 7  | 6  | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| I = 15   | 1       | 5  | 7  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| UA3 = 16 | 2       | 6  | 5  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | 1       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 1  |
| UA9 = 18 | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| HZ = 21  | 5       | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| VU = 22  | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | 1  | 3  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 6  | 2  | 6  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  |
| SU = 34  | -       | 4  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 6W = 35  | 9       | 8  | 7  | 6  | 6  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| D2 = 36  | 7       | 7  | 7  | 8  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| SZ = 37  | 4       | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| ZS6 = 38 | 7       | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| FR = 39  | 6       | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| FJL = 40 | 2       | 5  | 2  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1       | 4  | 4  | 5  | 5  | 6  | 4  | 5  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| W6 = 03  | 3       | 6  | 6  | 8  | 7  | 7  | 7  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 8       | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| W3 = 05  | 8       | 9  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| XE1 = 06 | 8       | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 7  | 7  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | -  | -  | -  | 1  | 4  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | -  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 2  | -  | 1  | 2  | 5  | 9  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 7  | 7  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 7  |
| I = 15   | 8       | 8  | 6  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| UA3 = 16 | 7       | 7  | 7  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| UN = 17  | 8       | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| UA9 = 18 | 7       | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 7       | 7  | 7  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| HZ = 21  | 6       | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  |
| VU = 22  | 6       | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| JT = 23  | 5       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 4  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | 5  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 1  | 1  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | 1  | 5  | 5  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | 2  | 4  | 6  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 7  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  |
| SU = 34  | 7       | 7  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| 6W = 35  | 9       | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  | 8  |
| FR = 39  | 8       | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  |
| FJL = 40 | 7       | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Nov., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 5       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| VO2 = 02 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 8  |
| W6 = 03  | 6       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| W9 = 04  | 8       | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  |
| W3 = 05  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 8  | 9  | 8  | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 4  | 3  | 4  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 3  | 1  | -  | 2  | 4  | 7  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 7  | 8  |
| I = 15   | 7       | 7  | 7  | 7  | 8  | 7  | 6  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 6  | 7  |
| UA3 = 16 | 8       | 8  | 8  | 8  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  |
| UN = 17  | 8       | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 7  | 8  |
| UA9 = 18 | 8       | 7  | 5  | 4  | 1  | 1  | 1  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| UA0 = 19 | 1       | 1  | 1  | -  | -  | -  | 1  | 2  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3  | 2  |
| 4X = 20  | 8       | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  |
| HZ = 21  | 8       | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  |
| VU = 22  | 7       | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  |
| JT = 23  | 7       | 6  | 1  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  |
| VR2 = 24 | 4       | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 3  | 4  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 3* | 1* |
| HS = 26  | 6       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 1  |
| YB = 28  | 4       | -  | -  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 2  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | 3  | 5  | 7  | 7  | 8  | 8  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 1  | 4  | 7  | 7  | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 9  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3  | 7  | 8  | 9  |
| SU = 34  | 8       | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 7  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  |
| FR = 39  | 8       | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  |
| FJL = 40 | 7       | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



20 Meters: Nov., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 9  | 9  | 9  | 9  | 8  | 5  | 5  | 7  | 7  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2  | 5  | 8  |
| VO2 = 02 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 9  | 9  | 7  | 2  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 9  | 9  | 9+ |
| W6 = 03  | 9       | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| W9 = 04  | 9+      | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 9  | 9  |
| W3 = 05  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9+ |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | 2  | 5  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 2  | -  | -  | -  | -  | 1  | 5  | 7  | 9  | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 1  | 1  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 3  | 5  | 9  | 9  | 9  | 9+ |
| I = 15   | 9+      | 9  | 9  | 9+ | 9  | 9  | 9  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  | 9  | 9  | 9  |
| UA3 = 16 | 9       | 9  | 9  | 8  | 8  | 8  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 8  | 9  | 9  |
| UN = 17  | 9       | 8  | 9  | 8  | 8  | 3  | 2  | 1  | -  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  | 9  | 9  |
| UA9 = 18 | 7       | 6  | 8  | 8  | 8  | 7  | 6  | 5  | 4  | 4* | 4* | 2* | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 9  | 9  | 8  |
| UA0 = 19 | 8       | 6  | 5  | 3  | 4  | 6  | 6  | 7  | 7  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | 2* | 4  | 7  | 6  | 7  |
| 4X = 20  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 8  | 9  | 9  | 9  |
| VU = 22  | 9       | 8  | 9  | 8  | 6  | 2  | -  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  | 9  | 9  |
| JT = 23  | 8       | 9  | 8  | 6  | 2  | 2  | 2  | 1  | 4* | 5  | 5* | 4* | 1* | -  | -  | -  | -  | -  | 1  | 6  | 8  | 9  | 7  | 7  |
| VR2 = 24 | 8       | 8  | 5  | -  | -  | -  | -  | 2* | 5* | 8  | 5* | 6* | 1* | -  | -  | -  | -  | -  | 1  | 4  | 8  | 7  | 8  | 9  |
| JA1 = 25 | 5*      | 1  | 1  | 1  | 3  | 5  | 7  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | 1* | 5* | 8* | 8* | 8  | 7* |
| HS = 26  | 9       | 8  | 7  | 2  | -  | -  | -  | -  | 1* | 4* | 4* | 3* | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 9  | 9  | 9  |
| DU = 27  | 6       | 2  | -  | -  | -  | -  | -  | 1* | 4* | 8  | 4* | 2  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 7  | 7  | 6  |
| YB = 28  | 8       | 7  | 1  | -  | -  | -  | -  | -  | 1* | 2* | 3* | 3* | 1* | -  | -  | -  | -  | 1  | 1  | 6  | 8  | 8  | 9  | 8  |
| VK6 = 29 | 5       | 4  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 4  | 2  | 1  | -  | -  | -  | 1  | 2  | 5  | 7  | 7  | 7  | 7  |
| VK3 = 30 | 1       | 1  | -  | -  | 1  | 2  | 5  | 7  | 7  | 8  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | 1  | 3  | 3  | 5  | 2  | 1  |
| KH6 = 31 | 1       | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9+ | 9+ |
| SU = 34  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  | 9  | 9  | 9+ |
| ZS6 = 38 | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | 2  | 4  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| FR = 39  | 9+      | 9  | 9  | 9  | 9  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9+ |
| FJL = 40 | 9       | 9  | 9  | 9  | 9  | 9  | 3  | 2  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 9  | 9  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Nov., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 9  | 9  | 2  | -  | 2* | 1  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 6  | 8  | 9  |
| VO2 = 02 | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 7  | 2  | 6  | 9  | 9  | 7  | 2  | 1  | 1  | -  | 1  | 4  | 8  | 8  | 9  | 9  | 9+ |
| W6 = 03  | 9       | 9+ | 9+ | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 6  | -  | -  | 6  | 2  | -  | -  | 1  | -  | 1  | 2  | 5  | 8  | 9  |
| W9 = 04  | 9+      | 9+ | 9+ | 9  | 9  | 8  | 8  | 7  | 6  | 2  | 2  | 8  | 8  | 5  | 1  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9+ |
| W3 = 05  | 9+      | 9+ | 9+ | 9+ | 9  | 8  | 8  | 8  | 6  | 4  | 8  | 9  | 8  | 4  | 2  | 1  | -  | 1  | 2  | 8  | 7  | 9  | 9+ | 9+ |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 1  | 4  | 9  | 6  | 4  | 2  | 1  | 1  | 1  | 4  | 6  | 9  | 9  | 9+ |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 4  | 2  | 2  | 2  | 2  | 6  | 8  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 8  | 9+ | 9  | 8  | 5  | 3  | 2  | 2  | 3  | 5  | 8  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 6  | 3  | 2  | 2  | 3  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 8  | 5  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7       | 3  | 6  | 8  | 7  | -  | 4* | 9  | 9  | 9  | 8  | 8  | 2  | -  | 1  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9+ | 9  |
| I = 15   | 9+      | 9+ | 9+ | 9  | 7  | 3* | 9  | 9  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | 8       | 7  | 7  | 5  | 1  | 5  | 9  | 9  | 8  | 7  | 5  | 8  | 1  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 6  | 5  | 5  |
| UN = 17  | 7       | 5  | 8  | 9  | 9  | 8  | 6  | 4  | 5* | 5* | 7  | 8  | 3* | 1* | -  | -  | 1  | 2  | 4  | 4  | 5  | 7  | 8  | 8  |
| UA9 = 18 | 1       | 1* | 3  | 8  | 9  | 8  | 8  | 8  | 7  | 6  | 6* | 6  | 5* | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 2  | 2  |
| UA0 = 19 | 8       | 8  | 7  | 8  | 6  | 7  | 8  | 8  | 9  | 9  | 6* | 5* | 2* | 1* | -  | -  | -  | 1* | 2* | 5* | 1  | 8  | 9  | 8  |
| 4X = 20  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 1  | 2  | -  | 1  | -  | -  | 2  | 4  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| HZ = 21  | 9+      | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 1  | -  | 2  | 1  | -  | -  | -  | 1  | 3  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| VU = 22  | 4       | 1  | 9  | 9  | 8  | 6  | 2  | 1  | 1* | 4* | 5* | 5* | 3* | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  | 2       | 7  | 8  | 8  | 6  | 7  | 6  | 5  | 7* | 8* | 8* | 8* | 6  | 5* | 2* | -  | -  | -  | -  | 3  | 5  | 2  | 3* | 1* |
| VR2 = 24 | 9       | 8  | 8  | 5  | 2  | 1* | 2* | 5* | 8  | 8* | 8* | 8  | 6* | 3* | -  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  |
| JA1 = 25 | 8*      | 5  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7* | -  | -  | -  | -  | -  | 2* | 5* | 8* | 7  | 6  | 9* | 9* |
| HS = 26  | 9       | 9  | 8  | 7  | 4  | -  | -  | 1* | 5* | 8  | 8  | 8  | 4* | 1  | 1  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| DU = 27  | 8       | 7  | 3  | 1* | -  | -  | 2* | 4* | 8* | 8* | 7* | 5  | 4* | 2  | 1  | 1  | 1  | 2  | 4  | 7  | 8  | 8  | 9  | 9  |
| YB = 28  | 9       | 8  | 6  | 2  | 1  | -  | -  | 1* | 3* | 7  | 7  | 6  | 5* | 1  | 1  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| VK6 = 29 | 9       | 9  | 8  | 5  | 5  | 4  | 4  | 7  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | 2  | 3  | 3  | 5  | 5  | 6  | 7  | 8  | 8  |
| VK3 = 30 | 6       | 5  | 5  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 2  | 2  | 2  | 4  | 5  | 6  | 6  | 7  | 7  |
| KH6 = 31 | 6       | 8  | 9  | 9  | 9+ | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | 2  |
| KH8 = 32 | 2       | 4  | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 7  | 5  | 3  | 2  | 1  | 1  | 1  | 1  | 1* | 1  | 1  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9+ | 6  | 4* | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | 1  | 1  | 4  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 3  | 1  | 2  | 1  | 1  | -  | -  | 2  | 4  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 2  | 2  | 2  | 4  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 5  | 3  | 2  | 2  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 5  | 2  | 1  | 2  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| ZS6 = 38 | 9+      | 9  | 8  | 8  | 9  | 9+ | 9  | 9  | 8  | 7  | 5  | 5  | 3  | 4  | 4  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| FR = 39  | 9       | 8  | 8  | 9  | 9  | 9  | 8  | 5  | 4  | 2  | 2  | 2  | 2  | 2  | 2  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| FJL = 40 | 8       | 9  | 9  | 9  | 8  | 2  | 2* | 3* | 5* | 8  | 8  | 7  | 3  | -  | -  | -  | -  | 2  | 5  | 6  | 1  | 2  | 2  | 2  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Nov., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 9  | 6  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 4  | 6  | 8  | 8  | 9  |
| VO2 = 02 | 9       | 8  | 7  | 6  | 8  | 8  | 6  | 1  | -  | 1  | 8  | 9  | 8  | 5  | 2  | 2  | 2  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| W6 = 03  | 9       | 9  | 9+ | 9+ | 9  | 8  | 5  | 3  | 5  | 5  | -  | -  | -  | 6  | 4  | 2  | 1  | 1  | 1  | 2  | 5  | 8  | 8  | 9  |
| W9 = 04  | 9+      | 9+ | 9  | 8  | 5  | 3  | 1  | 1  | 1  | -  | -  | -  | 8  | 6  | 3  | 2  | 1  | 1  | 5  | 7  | 8  | 9  | 9  | 9+ |
| W3 = 05  | 9+      | 9+ | 9  | 9  | 6  | 4  | 1  | 4  | -  | -  | 5  | 9  | 8  | 7  | 5  | 3  | 1  | 3  | 8  | 7  | 8  | 9  | 9+ | 9+ |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 5  | -  | -  | 8  | 8  | 7  | 5  | 4  | 4  | 4  | 5  | 8  | 9  | 9+ | 9+ |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 8  | 9+ | 9  | 8  | 8  | 6  | 4  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | -  | 1  | 9+ | 9+ | 9  | 8  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 8       | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 9+ | 9+ | 9  | 8  | 7  | 6  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 8  | 9+ | 9+ | 9+ | 9+ | 8  | 7  | 9+ | 9+ | 9+ | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 4* | 4  | 7  | 6  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 6* | 6* | 4* | 1* | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 1       | -  | -  | 3  | 1  | -  | 2* | 8  | 9  | 9  | 9  | 7  | 5  | 2  | 1  | 1  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 7  |
| I = 15   | 9+      | 9  | 9  | 8  | 1  | 5* | 7  | 9  | 9  | 9  | 8  | 5  | 8  | 1  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | 2       | 2  | 2  | 2* | 1* | 3* | 8  | 9  | 8  | 8  | 6  | 4  | 5  | 1  | -  | 1  | 2  | 5  | 7  | 5  | 4  | -  | -  | -  |
| UN = 17  | 1       | 1* | 5  | 9  | 9  | 8  | 7  | 6  | 4  | 5* | 6* | 5* | 6  | 3* | 1* | 1  | 2  | -  | 1  | -  | -  | 2  | 4  | 3  |
| UA9 = 18 | 1*      | 1* | 1* | 5  | 8  | 8  | 8  | 8  | 8  | 7  | 7* | 7* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| UA0 = 19 | 8       | 8  | 8  | 8  | 8  | 7  | 8  | 9  | 9  | 8  | 7* | 7* | 6* | 4* | 1* | 1* | 1* | 3* | 4* | 1* | -  | 3  | 9  | 8  |
| 4X = 20  | 9+      | 9+ | 9  | 8  | 7  | 9  | 9  | 8  | 7  | 5  | 2  | 2  | 9  | 1  | 1  | 1  | 3  | 5  | 8  | 8  | 9  | 9  | 9  | 9+ |
| HZ = 21  | 9+      | 9  | 7  | 5  | 9  | 9  | 8  | 7  | 5  | 3  | 1  | 8  | 8  | 1  | 1  | 2  | 4  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| VU = 22  | 1*      | 1* | 8  | 9  | 9  | 7  | 6  | 4  | 3  | 6  | 6* | 6* | 6  | 2* | 1* | 1* | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  | 1*      | 2  | 8  | 9  | 7  | 6  | 6  | 7  | 8* | 8* | 8* | 7* | 7* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | 2* | 1* |
| VR2 = 24 | 9       | 9  | 8  | 7  | 5  | 4* | 4* | 6  | 8* | 9* | 9* | 7* | 5* | 6* | 2  | 2  | 3  | 6  | 8  | 8  | 8  | 9  | 9  | 9  |
| JA1 = 25 | 8*      | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9+ | 9  | 3* | 3* | 5* | 1* | 1* | 1* | 2* | 6* | 8* | 7* | 6  | 5  | 9* | 9* |
| HS = 26  | 9       | 9  | 9  | 8  | 6  | 1  | 1* | 3* | 6  | 7* | 7* | 7* | 5* | 4* | 2  | 3  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| DU = 27  | 8       | 7  | 5  | 3* | 3* | 4* | 4  | 6* | 8* | 8* | 7  | 7  | 7  | 5  | 2  | 2  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| YB = 28  | 9       | 9  | 8  | 4  | 1  | 1  | 1  | 3* | 6* | 7* | 7* | 6  | 6  | 5  | 2  | 2  | 3  | 6  | 8  | 8  | 8  | 8  | 8  | 9  |
| VK6 = 29 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 7  | 5  | 4  | 4  | 4  | 4  | 3  | 4* | 5  | 6* | 6  | 7  |
| VK3 = 30 | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 5  | 3  | 2  | 1  | 2  | 4  | 6  | 7  | 7  | 7  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | -  | -  | -  | 1  | 1  | 2* | 7  | 8  | 1  | 2  | 4  |
| KH8 = 32 | 4       | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 8  | 7  | 4  | 3  | 2  | 2* | 6  | 7  | 2* | 1  | 2  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9  | -  | 1* | 8  | 9  | 9  | 9  | 7  | 4  | 2  | 2  | 2  | 5  | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9+ | 9  | 9  | 8  | 9  | 9  | 8  | 7  | 6  | 3  | 2  | 2  | 1  | 1  | 1  | 3  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 9+ | 9+ | 9  | 9  | 8  | 6  | 5  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  | 8  | 7  | 5  | 5  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 4  | 2  | 2  | 4  | 3  | 5  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| ZS6 = 38 | 9       | 7  | 5  | 3* | 5  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 7  | 6  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  |
| FR = 39  | 2       | 4* | 3* | 8  | 9  | 9  | 8  | 7  | 5  | 4  | 4  | 4  | 8  | 4  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 5  |
| FJL = 40 | 1       | 7  | 7  | 5  | 2  | 1* | 2* | 4* | 5* | 5* | 8  | 8  | 5  | 2  | 1  | 1  | 1  | 4  | 6  | -  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Nov., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 6  | 1  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 6  | 7  | 8  | 9  | 9  |
| VO2 = 02 | 8       | 4  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | 9  | 8  | 8  | 5  | 5  | 4  | 7  | 8  | 8  | 9  | 9+ | 9  | 9  |
| W6 = 03  | 9       | 9  | 9+ | 9  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 4  | 3  | 5  | 5  | 5  | 6  | 8  | 9  | 9  |
| W9 = 04  | 9+      | 9  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 6  | 5  | 4  | 5  | 7  | 8  | 8  | 9  | 9  | 9+ |
| W3 = 05  | 9+      | 9  | 8  | 7  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 8  | 7  | 5  | 4  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | -  | -  | -  | 9  | 8  | 8  | 7  | 6  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| TI = 07  | 7       | 6  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | 1  | 9+ | 9  | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9  |
| VP2 = 08 | 5       | 6  | 8  | 9+ | 9+ | 9+ | 9+ | 4  | -  | -  | 8  | 9+ | 9  | 9  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 8  |
| P4 = 09  | 6*      | 4* | 7  | 8  | 9+ | 9+ | 9+ | 8  | 3  | -  | 4  | 9+ | 9  | 9  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9+ | 8  | 6  |
| HC = 10  | 9+      | 9+ | 9+ | 5  | 7  | 7  | 8  | 7  | 4  | 1  | 6  | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 7  | 5* | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6* | 7* | 6* | 4* | 1* | -  | -  | 3  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 7  | 5* | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 8       | 8  | 9+ | 9+ | 9+ | 9  | 5* | 6* | 7* | 7* | 5* | 2* | 1* | -  | 1  | 5  | 5  | 6  | 5  | 5  | 6  | 9  | 8  |    |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | 6* | 9  | 9  | 9  | 8  | 7  | 5  | 4  | 3  | 6  | 8  | 9  | 9  | 9  | 8  | 6  | 1  |
| I = 15   | 9       | 9  | 7  | 2  | -  | 1* | 7* | 9  | 9  | 9  | 8  | 7  | 5  | 5  | 4  | 3  | 5  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| UA3 = 16 | -       | -  | -  | 1* | 5* | 4* | 5  | 9  | 8  | 8  | 7  | 6  | 4  | 4  | 2  | 3  | 5  | 7  | 5  | -  | -  | -  | -  | -  |
| UN = 17  | 1*      | 1* | 2* | 8  | 9  | 8  | 8  | 6  | 5  | 5  | 6* | 6* | 6* | 3* | 2  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 3*      | 1* | 1* | 2* | 8  | 8  | 8  | 8  | 7  | 8  | 8* | 6* | 3  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8* | 8* | 8* | 6* | 5* | 3* | -  | -  | -  | -  | -  | -  | -  | 8* | 9  |
| 4X = 20  | 9       | 9  | 9  | 3  | 2* | 9  | 9  | 9  | 8  | 6  | 5  | 3  | 4  | 4  | 2  | 4  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 4* | 3* | 9  | 9  | 9  | 8  | 6  | 6  | 3  | 2  | 4  | 4  | 3  | 4  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 2*      | 2* | 5  | 9  | 9  | 8  | 6  | 5  | 5  | 5  | 6* | 6* | 5* | 4* | 4* | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 5  |
| JT = 23  | 2*      | 2* | 6  | 8  | 7  | 7  | 8  | 7  | 8* | 8* | 8* | 8* | 7* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* |
| VR2 = 24 | 9       | 9  | 9  | 8  | 6  | 5  | 6* | 8* | 8* | 9* | 9* | 8* | 8* | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 6  | 8  |
| JA1 = 25 | 9*      | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 6  | 5* | 5* | 6* | 6* | 5* | 5* | 6* | 7* | 7* | 5* | 5  | 6  | 8  | 9* |
| HS = 26  | 9       | 9  | 9  | 8  | 6  | 5  | 4  | 5  | 6* | 7* | 8* | 7* | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| DU = 27  | 9       | 8  | 6  | 5  | 5* | 4  | 5* | 6  | 7  | 8  | 8  | 8  | 7  | 7  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| YB = 28  | 9       | 9  | 8  | 7  | 5  | 3  | 4  | 5  | 6  | 7  | 7  | 7  | 6  | 6  | 5  | 5  | 6  | 7  | 7  | 7  | 7  | 6  | 7  | 8  |
| VK6 = 29 | 6       | 5* | 3* | 5  | 5  | 5  | 4  | 3* | 3* | 7  | 7  | 7  | 5  | 4  | 2  | 2  | 2  | 2* | 4* | 5* | 5* | 6* | 6* | 7* |
| VK3 = 30 | 7       | 5  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 4  | 2  | 1  | -  | 1* | 3* | 4* | 5* | 6  | 6  | 6  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | -  | -  | -  | 5  | 5  | 4  | 5* | 4* | 5  | 6  | 7  |
| KH8 = 32 | 6       | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 4  | 6  | 5  | 5  | 4  | 4  | 5  |
| CN = 33  | 9+      | 9+ | 9+ | 9  | 7  | -  | -  | 7* | 8  | 9  | 9  | 8  | 6  | 5  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9       | 9  | 9  | 7  | 2  | 9  | 9  | 9  | 8  | 8  | 6  | 5  | 4  | 4  | 2  | 4  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  |
| 6W = 35  | 8       | 9+ | 9+ | 9+ | 9+ | 9  | 1  | 6* | 8  | 9+ | 9+ | 9  | 8  | 7  | 5  | 6  | 7  | 8  | 9  | 9+ | 8  | 7  | 5  | 6  |
| D2 = 36  | 9+      | 9+ | 9  | 8  | 6  | 6  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9       | 9  | 9  | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 6  | 7  | 6  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| ZS6 = 38 | 5       | 2  | 1* | 5* | 5* | 6  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 7  | 7  |
| FR = 39  | 4*      | 5* | 6* | 5* | 9  | 9  | 9  | 8  | 7  | 7  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 8  | 8  | 5  | 5* | 4* |
| FJL = 40 | -       | 1  | 2* | 3* | 2* | 2* | 4* | 5* | 6* | 8* | 7* | 7  | 6  | 6  | 4  | 4  | 5  | 5  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Nov., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC -->              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00                   | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8                    | 9  | 8  | 4* | 2* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  | 8  | 8  | 9  | 9  | 8  |
| VO2 = 02 | 4                    | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9+ | 9  | 9  | 8  |
| W6 = 03  | 8                    | 8  | 9  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 7  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9  |
| W9 = 04  | 9                    | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ |
| W3 = 05  | 9                    | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 9+ | 9  |
| XE1 = 06 | 9                    | 8  | 9  | 9  | 9+ | 9+ | 9  | 8  | 2  | -  | -  | -  | 6  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ |
| TI = 07  | 4*                   | 6* | 5  | 7  | 8  | 9  | 9  | 7  | 4  | -  | -  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 5  |
| VP2 = 08 | 2*                   | -  | 5  | 7  | 8  | 8  | 9  | -  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 6* |
| P4 = 09  | 9                    | 1* | 2  | 5  | 6  | 7  | 7  | 4  | -  | -  | -  | 9+ | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 5  | 6* | 8  |
| HC = 10  | 9                    | 8  | 9  | 9+ | 9+ | 3  | 4  | 3  | -  | -  | 1  | 7  | 9+ | 9  | 4  | 9  | 9  | 5  | 4  | 2  | 1  | 9+ | 9+ | 9+ |
| PY1 = 11 | 9                    | 9+ | 9+ | 9+ | 9+ | 8  | 5* | 4* | 7* | 5* | 4* | 2* | 1* | -  | -  | 1  | 3  | 4  | 4  | 5  | 7  | 9  | 9  | 9  |
| CE = 12  | 9+                   | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6* | 5* | 2* | 1* | 1  | 3  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 7*                   | 5* | 9  | 9  | 8  | 7  | 5* | 6* | 6* | 5* | 5* | 4* | 1* | -  | -  | -  | -  | -  | -  | 1* | 3* | 5* | 7* | 7* |
| G = 14   | -                    | -  | -  | -  | -  | -  | -  | 2* | 8  | 8  | 9  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 8  | 5  | 1  | -  |
| I = 15   | 8                    | 5  | 1  | -  | -  | -  | 7* | 9  | 8  | 8  | 8  | 8  | 6  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | -                    | -  | -  | -  | 6* | 5* | 5* | 8  | 7  | 7  | 8  | 7  | 6  | 6  | 4  | 5  | 7  | 6  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -                    | 2* | 3* | 4  | 9  | 8  | 8  | 7  | 6  | 7  | 6  | 8* | 5  | 4  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 4*                   | 2* | 2* | 3* | 4  | 8  | 9  | 7  | 8  | 8  | 8* | 6  | 5  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 8                    | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 7* | 8* | 8* | 8* | 7* | 5* | -  | -  | -  | -  | -  | -  | -  | -  | 6* | 9  |
| 4X = 20  | 9                    | 9  | 8  | 1* | 6* | 8  | 9  | 8  | 7  | 8  | 7  | 6  | 5  | 5  | 5  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9                    | 7  | 4* | 3* | 6  | 9  | 9  | 8  | 7  | 6  | 6  | 6  | 5  | 5  | 5  | 7  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 2*                   | 3* | 5* | 9  | 9  | 8  | 6  | 5  | 5  | 5  | 6  | 5  | 5  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | -  |
| JT = 23  | 4*                   | 3* | 3* | 8  | 8  | 8  | 7  | 8  | 7  | 8* | 8* | 8* | 7* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6* |
| VR2 = 24 | 9                    | 9  | 9  | 8  | 6  | 6* | 7* | 8* | 8* | 8* | 8  | 9* | 8* | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 7  | 6* | 7* |
| JA1 = 25 | 9*                   | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6* | 7* | 7* | 7* | 6* | 6* | 5* | 5* | 5* | 5* | 1* | 1  | 8  | 8  | 9  |
| HS = 26  | 7                    | 9  | 9  | 8  | 6  | 5* | 5* | 5  | 6* | 8* | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  |
| DU = 27  | 8                    | 8  | 7  | 5  | 4  | 4  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  |
| YB = 28  | 8                    | 8  | 8  | 7  | 4  | 2  | 4* | 5* | 6  | 7  | 7  | 7  | 7  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 3  | 2  | 3  | 8* |
| VK6 = 29 | 5*                   | 5* | 4* | 2* | 2* | 1* | 2* | 2* | 1* | 6  | 7* | 7* | 6* | 5* | 2* | 2* | 3* | 5* | 5* | 4* | 5* | 6* | 6* | 7* |
| VK3 = 30 | 6                    | 3* | 2  | 2* | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 6  | 5* | 3* | 2* | 1* | 1* | 2* | 2* | 3* | 4* | 6* | 6* | 6  |
| KH6 = 31 | 8                    | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 8  | 2  | -  | -  | -  | 4  | 6  | 5  | 5  | 5  | 5  | 6  | 7  |
| KH8 = 32 | 8                    | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 7  | 6  | 5  | 5  | 5  | 5  | 7  | 7  |
| CN = 33  | 9+                   | 9+ | 9  | 8  | 2  | -  | -  | 6* | 7  | 7  | 9  | 8  | 7  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9                    | 9  | 9  | 2  | 6* | 7  | 9  | 8  | 8  | 8  | 7  | 6  | 5  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  |
| 6W = 35  | 2                    | 6  | 8  | 9  | 9  | 5  | -  | 5* | 4* | 9  | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 6  | 5* | 6* | 6* | 4* |
| D2 = 36  | 9+                   | 9  | 7  | 5  | 2  | 6* | 6  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9                    | 9  | 8  | 6  | 7  | 9  | 8  | 8  | 8  | 7  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| ZS6 = 38 | 1                    | -  | -  | 3* | 5* | 5* | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 5* | 5* | 2* | 2  | 2  |
| FR = 39  | 4*                   | 5* | 6* | 6* | 5  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 7  | 5  | 5* | 5* | 5* | 4* |
| FJL = 40 | -                    | -  | 1* | 4* | 4* | 3* | 4* | 5* | 6* | 8* | 5* | 1  | 6  | 6  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  |
| Zone     | 00                   | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          | UTC --> * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Dec., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 2  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2       | 5  | 2  | 4  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | 1  | 4  | 3  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 4  | 4  | 4  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 2       | 5  | 5  | 5  | 5  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 4  | 5  | 4  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 1       | 3  | 4  | 3  | 3  | 3  | 2  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 4       | 5  | 4  | 4  | 3  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| P4 = 09  | 4       | 5  | 5  | 4  | 3  | 4  | 3  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | 3       | 5  | 6  | 5  | 5  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 9  | 9  |
| G = 14   | 3       | 5  | 4  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 3       | 4  | 3  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA3 = 16 | -       | 4  | 3  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | -       | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 2       | 5  | 1  | 4  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| SU = 34  | 1       | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 6       | 5  | 4  | 3  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |    |
| D2 = 36  | 3       | 5  | 5  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| 5Z = 37  | 4       | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| ZS6 = 38 | 4       | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Dec., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | 2  | 2  | 5  | 4  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5  | 8  | 5  | 7  | 7  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 = 03  | -  | 1  | 4  | 7  | 6  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 2  | 7  | 7  | 7  | 7  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 5  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | 1  | 2  | 7  | 8  | 7  | 7  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 4  | 6  | 7  | 6  | 6  | 6  | 5  | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 7  | 8  | 7  | 7  | 6  | 7  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| P4 = 09  | 7  | 8  | 8  | 7  | 6  | 7  | 6  | 8  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 6  | 8  | 9  | 8  | 8  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 9  |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 9+ | 9+ |
| G = 14   | 6  | 8  | 7  | 7  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| I = 15   | 6  | 7  | 6  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| UA3 = 16 | 2  | 7  | 6  | 7  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | 2  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 2  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VU = 22  | -  | 2  | -  | -  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | -  | -  | -  | -  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | -  | 1  | 2  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5  | 8  | 4  | 7  | 5  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| SU = 34  | 4  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 6W = 35  | 9  | 8  | 7  | 6  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  |
| D2 = 36  | 6  | 8  | 8  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| SZ = 37  | 7  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| ZS6 = 38 | 7  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |
| FR = 39  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| FJL = 40 | 2  | 3  | 5  | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Dec., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 4            | 6  | 5  | 6  | 6  | 7  | 6  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 =   | 02 | 8            | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  |
| W6 =    | 03 | 4            | 7  | 6  | 7  | 7  | 8  | 7  | 7  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 =    | 04 | 8            | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| W3 =    | 05 | 8            | 9  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| XE1 =   | 06 | 7            | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| TI =    | 07 | 8            | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| VP2 =   | 08 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| P4 =    | 09 | 9            | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| HC =    | 10 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 2  | -  | -  | -  | 1  | 4  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 1  | -  | -  | -  | -  | 1  | 5  | 8  | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 3  | 1  | 1  | 2  | 5  | 8  | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| I =     | 15 | 7            | 7  | 6  | 7  | 7  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  |
| UA3 =   | 16 | 7            | 8  | 7  | 7  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| UN =    | 17 | 8            | 8  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| UA9 =   | 18 | 7            | 7  | 6  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  |
| UA0 =   | 19 | 1            | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 4X =    | 20 | 8            | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| HZ =    | 21 | 7            | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| VU =    | 22 | 7            | 7  | 5  | 1  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| JT =    | 23 | 6            | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  |
| VR2 =   | 24 | 1            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| JA1 =   | 25 | -            | -  | -  | -  | -  | -  | -  | 2  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS =    | 26 | 2            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 4  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| DU =    | 27 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB =    | 28 | -            | -  | -  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | -  | -  | -  | -  | -  | 8  | 8  | -  | -  | -  |
| VK6 =   | 29 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 =   | 30 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 =   | 31 | -            | -  | -  | 3  | 5  | 7  | 7  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | -  | -  | -  | -  | 4  | 6  | 6  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 8            | 8  | 8  | 8  | 7  | 8  | 7  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| SU =    | 34 | 8            | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| 6W =    | 35 | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  | 9  |
| D2 =    | 36 | 8            | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| 5Z =    | 37 | 8            | 8  | 8  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  |
| ZS6 =   | 38 | 9            | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  |
| FR =    | 39 | 8            | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| FJL =   | 40 | 7            | 6  | 6  | 6  | 7  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Dec., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 6       | 7  | 5  | 5  | 6  | 6  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| VO2 = 02 | 8       | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| W6 = 03  | 6       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| W9 = 04  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| W3 = 05  | 9       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| XE1 = 06 | 8       | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 5  | 2  | 2  | 2  | 4  | 7  | 9  | 9  | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  |
| I = 15   | 7       | 7  | 6  | 7  | 7  | 8  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  |
| UA3 = 16 | 8       | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  |
| UN = 17  | 8       | 8  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  |
| UA9 = 18 | 8       | 8  | 7  | 5  | 4  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| UA0 = 19 | 3       | 2  | 2  | 2  | -  | 1  | 1  | 2  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| 4X = 20  | 8       | 8  | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 6  | 7  |
| HZ = 21  | 8       | 8  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  |
| VU = 22  | 7       | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  |
| JT = 23  | 7       | 7  | 5  | 1  | 1  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  |
| VR2 = 24 | 4       | 1  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  |
| JA1 = 25 | -       | -  | -  | -  | -  | 2  | 4  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 4* | 2* |
| HS = 26  | 6       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 5  | 5  | -  | -  | -  | -  | 2  | 5  | 6  | 6  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  |
| YB = 28  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 4  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 1  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | 3  | 6  | 5  | 6  | 7  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 1  | 3  | 7  | 7  | 7  | 8  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| SU = 34  | 8       | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 6  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 8  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 6  | 7  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 9  |
| FR = 39  | 8       | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| FJL = 40 | 8       | 7  | 8  | 8  | 8  | 8  | 6  | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 20 Meters: Dec., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone         | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|              | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01     | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 7  | 8  |
| VO2 = 02     | 9       | 9+ | 9  | 9  | 9+ | 9  | 9  | 9  | 8  | 8  | 9  | 7  | 2  | -  | -  | -  | -  | -  | 1  | 3  | 8  | 9  | 9  | 9  |
| W6 = 03      | 9       | 9  | 9+ | 9+ | 9  | 9+ | 9  | 9  | 9  | 9  | 8  | 4  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 9  |
| W9 = 04      | 9       | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 9  | 9  |
| W3 = 05      | 9+      | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 9  | 9  | 8  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | 1  | 1  | 6  | 8  | 9  | 9+ |
| XE1 = 06     | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  |
| TI = 07      | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9+ |
| VP2 = 08     | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9+ | 9+ |
| P4 = 09      | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | 2  | 1  | -  | -  | -  | 1  | 5  | 8  | 9  | 9+ | 9+ |
| HC = 10      | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 4  | 2  | 1  | 1  | 1  | 2  | 4  | 6  | 8  | 9  | 9+ |
| PY1 = 11     | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12      | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13      | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14       | 9+      | 9  | 9  | 9  | 9  | 7  | 3  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 9  | 9  | 9  | 9+ |
| I = 15       | 9       | 9  | 9  | 9+ | 9  | 7  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 9  | 9  |
| UA3 = 16     | 9       | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 8  | 8  |
| UN = 17      | 8       | 4  | 8  | 9  | 8  | 8  | 5  | 2  | 1  | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9  |
| UA9 = 18     | 7       | 5  | 6  | 8  | 8  | 8  | 7  | 6  | 5  | 4* | 3* | 2* | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 9  | 9  | 8  |
| UA0 = 19     | 8       | 7  | 8  | 8  | 7  | 7  | 8  | 7  | 7  | 7  | 6  | 1* | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 7  | 8  | 8  |
| 4X = 20      | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 9  | 9+ |
| HZ = 21      | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 9  | 9  |
| VU = 22      | 9       | 8  | 9  | 8  | 7  | 3  | -  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 9  | 9  |
| JT = 23      | 5       | 8  | 9  | 8  | 6  | 4  | 3  | 5  | 5* | 5* | 5* | 3* | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 7  | 5  |
| VR2 = 24     | 8       | 8  | 4  | -  | -  | -  | 1* | 5* | 7* | 9  | 7* | 5* | 1* | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 9  | 9  |
| JA1 = 25     | 6*      | 2  | 2  | 5  | 6  | 8  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | 5* | 6* | 7* | 8  | 8* |
| HS = 26      | 9       | 8  | 7  | 1  | -  | -  | -  | -  | 4* | 4* | 4* | 2* | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 9  | 9  |
| DU = 27      | 5       | 2  | -  | -  | -  | -  | 1* | 2* | 4* | 8  | 4* | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 7  | 7  |
| YB = 28      | 8       | 6  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 8  |
| VK6 = 29     | 4       | 2  | 1  | -  | 1  | -  | -  | -  | 1  | 2  | 5  | 2  | 1  | -  | -  | -  | -  | 1  | 1  | 4  | 6  | 6  | 6  | 7  |
| VK3 = 30     | -       | -  | -  | -  | 1  | 2  | 4  | 6  | 8  | 8  | 8  | 7  | 3  | 2  | 1  | 1  | -  | -  | 1  | 1  | 3  | 1  | 1  | -  |
| KH6 = 31     | 2       | 6  | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32     | -       | -  | 2  | 5  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33      | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 8  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9  | 9+ |
| SU = 34      | 9+      | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 9  | 9  | 9  | 9+ |
| 6W = 35      | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 1  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| D2 = 36      | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | 1  | 4  | 6  | 9  | 9  | 9+ | 9+ | 9+ |
| 5Z = 37      | 9       | 9  | 9  | 9  | 9  | 9  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 9  | 9  | 9  | 9  |
| ZS6 = 38     | 9+      | 9+ | 9+ | 9  | 9  | 9  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 9  | 9  | 9  | 9+ | 9+ |
| FR = 39      | 9       | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  | 9  |
| FJL = 40     | 9       | 9+ | 9  | 9  | 9  | 8  | 2  | 2* | 6  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 9  |
| Zone         | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|              | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| * = Longpath |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Dec., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 9   | 9  | 9  | 9+ | 9  | 5  | 1  | 1  | 3  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 8  | 9  |    |
| VO2 = 02 | 9+  | 9+  | 9+ | 8  | 6  | 8  | 9  | 9  | 5  | 1  | 3  | 8  | 9  | 7  | 4  | 1  | 1  | 2  | 2  | 5  | 8  | 8  | 9  | 9+ | 9+ |    |
| W6 = 03  | 9   | 9+  | 9+ | 9+ | 9+ | 9  | 8  | 5  | 6  | 6  | 3  | -  | -  | 1  | 2  | 1  | 1  | -  | -  | 2  | 3  | 5  | 8  | 9  |    |    |
| W9 = 04  | 9+  | 9+  | 9+ | 9  | 8  | 7  | 5  | 6  | 4  | 2  | 2  | 5  | 8  | 5  | 2  | 1  | 1  | 1  | 2  | 4  | 7  | 9  | 9  | 9  |    |    |
| W3 = 05  | 9+  | 9+  | 9+ | 9+ | 9  | 7  | 4  | 7  | 4  | 2  | 8  | 9  | 8  | 5  | 3  | 2  | 2  | 2  | 3  | 8  | 8  | 9  | 9  | 9+ |    |    |
| XE1 = 06 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | 7  | 9  | 7  | 5  | 5  | 2  | 2  | 2  | 4  | 6  | 8  | 9  | 9+ |    |    |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 7  | 5  | 3  | 2  | 5  | 5  | 6  | 8  | 9  | 9+ | 9+ |    |    |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 5  | 9+ | 9  | 9  | 7  | 4  | 2  | 5  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ |    |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9  | 9  | 8  | 6  | 5  | 5  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| HC = 10  | 9+  | 9   | 8  | 8  | 8  | 7  | 8  | 9+ | 9+ | 8  | 9+ | 9+ | 9  | 9  | 8  | 7  | 6  | 7  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 8  | 5  | 5* | 5* | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  | 9   | 9   | 9  | 9  | 9  | 6  | 2* | 5* | 5* | 4* | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |    |
| G = 14   | 8   | 5   | 6  | 7  | 6  | -  | 1* | 6  | 9+ | 9  | 8  | 7  | 3  | 2  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9  |    |
| I = 15   | 9+  | 9+  | 9+ | 9  | 6  | 2* | 6  | 9  | 9  | 8  | 6  | 4  | 1  | 1  | -  | -  | 1  | 4  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| UA3 = 16 | 6   | 5   | 5  | 3  | 1  | 2* | 7  | 9  | 8  | 8  | 5  | 8  | 1  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 4  | 1  | 1  |    |    |
| UN = 17  | 1*  | 1*  | 1  | 9  | 9  | 8  | 7  | 7  | 5  | 7  | 7  | 4* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  |    |    |
| UA9 = 18 | 1*  | 1*  | 1* | 6  | 9  | 9  | 8  | 8  | 7  | 6  | 6* | 8  | 5* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | 2  |    |    |
| UA0 = 19 | 9   | 8   | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 5* | 4* | 1* | 1* | 1* | -  | -  | 1* | 1* | -  | -  | -  | 9  | 9  |    |    |
| 4X = 20  | 9+  | 9+  | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 3  | 2  | 2  | 1  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ |    |    |
| HZ = 21  | 9+  | 9+  | 9  | 8  | 9  | 9  | 8  | 7  | 4  | 1  | 1  | 2  | 1  | -  | -  | -  | 1  | 5  | 5  | 8  | 9  | 9  | 9  | 9+ |    |    |
| VU = 22  | 8   | 2   | 9  | 9  | 8  | 8  | 4  | 2  | 4* | 3* | 8  | 5* | 2* | 1* | -  | -  | -  | 1  | 4  | 8  | 9  | 9  | 9  | 9  |    |    |
| JT = 23  | 2*  | 2*  | 9  | 9  | 8  | 8  | 8  | 7  | 7  | 8* | 7* | 7  | 5* | 1* | -  | -  | -  | -  | -  | -  | 2  | 1  | 2* | 2* |    |    |
| VR2 = 24 | 9   | 9   | 8  | 6  | 3  | 3* | 5* | 7* | 8  | 9* | 8  | 6* | 6* | 2* | -  | 1  | 1  | 2  | 4  | 8  | 9  | 9  | 9  | 9  |    |    |
| JA1 = 25 | 8*  | 7   | 7  | 8  | 8  | 9  | 9  | 9  | 9+ | 9  | 8  | 3  | -  | -  | -  | -  | -  | 1* | 4* | 7* | 8  | 6  | 9* | 9* |    |    |
| HS = 26  | 9   | 9   | 8  | 7  | 4  | -  | 1* | 4* | 5* | 8  | 8  | 5* | 4* | 1  | 1  | 1  | 2  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |    |    |
| DU = 27  | 8   | 7*  | 3  | 1* | 2* | 3* | 5* | 6* | 8* | 8* | 8* | 5  | 4* | 1  | 1  | 1  | 1  | 2  | 5  | 8  | 8  | 8  | 9  | 8  |    |    |
| YB = 28  | 9   | 8   | 5  | 1  | -  | -  | -  | 1* | 5* | 8  | 7  | 4  | 4* | 1  | 1  | 1  | 1  | 3  | 5  | 8  | 8  | 9  | 9  | 9  |    |    |
| VK6 = 29 | 9   | 8   | 8  | 8  | 5  | 5  | 8  | 8  | 8  | 8  | 8  | 5  | 5  | 4  | 2  | 2  | 3  | 3  | 3  | 5* | 6* | 6  | 8  |    |    |    |
| VK3 = 30 | 7   | 8   | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 4  | 1  | -  | 1  | 2  | 4  | 6  | 8  | 6  | 7  |    |    |
| KH6 = 31 | 7   | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 8  | 5  | -  | -  | -  | -  | 1* | 1* | 1* | -  | 3  |    |    |
| KH8 = 32 | 1   | 4   | 7  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 8  | 7  | 5  | 2  | 1  | 1  | 1  | 1  | 1  | 1* | -  | 1  |    |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 3  | 8  | 9  | 9  | 8  | 7  | 2  | 1  | 1  | 1  | 2  | 2  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |
| SU = 34  | 9+  | 9+  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | 2  | 1  | 1  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ |    |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9  | 8  | 6  | 4  | 2  | 3  | 4  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| D2 = 36  | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 9  | 8  | 7  | 5  | 4  | 2  | 2  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| 5Z = 37  | 9+  | 9+  | 9+ | 9  | 9  | 9  | 9  | 7  | 5  | 2  | 1  | 2  | 1  | 1  | 1  | 1  | 2  | 4  | 5  | 7  | 9  | 9  | 9  | 9+ | 9+ |    |
| ZS6 = 38 | 9+  | 9   | 5  | 5  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 5  | 5  | 5  | 4  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| FR = 39  | 3*  | 4*  | 4* | 8  | 9  | 9  | 9  | 7  | 6  | 4  | 2  | 2  | 2  | 2  | 2  | 1  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 7  | 4  |    |
| FJL = 40 | 7   | 9   | 9  | 7  | 5  | 1  | 2* | 2* | 4* | 4  | 8  | 7  | 5  | 1  | -  | -  | -  | 2  | 5  | 1  | -  | -  | -  | -  | -  |    |
| Zone     | 00  | 01  | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Dec., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 9  | 7  | 1  | 1* | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 7  | 8  | 9  | 9  |
| VO2 = 02 | 9       | 8  | 2  | -  | 1  | 4  | 5  | -  | -  | -  | 1  | 9  | 8  | 6  | 4  | 3  | 4  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| W6 = 03  | 9+      | 9+ | 9+ | 9+ | 9  | 6  | -  | -  | 1  | 1  | -  | -  | -  | -  | 6  | 4  | 3  | 2  | 2  | 8  | 8  | 7  | 8  | 9  |
| W9 = 04  | 9+      | 9+ | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 8  | 7  | 5  | 4  | 3  | 4  | 6  | 6  | 8  | 9  | 9+ | 9+ |
| W3 = 05  | 9+      | 9+ | 9  | 9  | 8  | -  | -  | 2  | -  | -  | 3  | 9  | 9  | 7  | 5  | 4  | 4  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | -  | -  | 8  | 8  | 7  | 5  | 5  | 4  | 5  | 6  | 8  | 9  | 9+ | 9+ |
| TI = 07  | 9+      | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 6  | 5  | 9  | 9  | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9  | 8  | 7  | 6  | 8  | 8  | -  | -  | 9+ | 9+ | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9       | 8  | 7  | 7  | 5  | 4  | 6  | 7  | 4  | 1  | 8  | 9+ | 9  | 8  | 8  | 7  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 1  | 4  | 4  | 1  | 5  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| PY1 = 11 | 8       | 8  | 8  | 7  | 4  | 3* | 5* | 6* | 7* | 5* | 7  | 8  | 8  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| CE = 12  | 9+      | 9+ | 9  | 9+ | 9+ | 9+ | 9  | 6  | 6* | 6* | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 6*      | 5  | 5  | 5  | 2  | 2* | 4* | 6* | 6* | 6* | 4* | 6  | 7  | 8  | 7  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 5  | 6* |
| G = 14   | 1       | -  | -  | -  | 1  | -  | -  | 5* | 9  | 9  | 9  | 8  | 6  | 4  | 3  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 6  |
| I = 15   | 9+      | 9+ | 9  | 8  | -  | 1* | 6* | 9  | 9  | 9  | 8  | 5  | 8  | 2  | 2  | 1  | 2  | 5  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | 1       | 1  | -  | 1* | 3* | 4* | 4  | 9  | 8  | 8  | 7  | 5  | 7  | 2  | 1  | 2  | 3  | 5  | 8  | 2  | 2  | -  | -  | -  |
| UN = 17  | -       | 1* | 1* | 6  | 9  | 9  | 8  | 6  | 5  | 5  | 6* | 5  | 7  | 3* | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 2*      | 1* | 1* | 1  | 8  | 9  | 8  | 8  | 8  | 8  | 7* | 7* | 4* | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 9       | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 6* | 7* | 6* | 6* | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | 6* | 9  |
| 4X = 20  | 9+      | 9+ | 9  | 8  | 6  | 9  | 9  | 8  | 7  | 6  | 5  | 4  | 9  | 2  | 1  | 2  | 4  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| HZ = 21  | 9+      | 9+ | 8  | 4  | 9  | 9  | 8  | 7  | 6  | 5  | 4  | 7  | 8  | 2  | 2  | 2  | 4  | 5  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| VU = 22  | 5       | 1* | 7  | 9  | 9  | 7  | 6  | 4  | 4  | 5  | 5  | 5  | 7  | 2* | 1* | 1* | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  | 2*      | 2* | 5  | 9  | 8  | 8  | 7  | 7  | 8* | 8* | 8* | 7* | 7* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* |
| VR2 = 24 | 9       | 9  | 8  | 7  | 6* | 5* | 6* | 8* | 8* | 8* | 8* | 8* | 6* | 6* | 3* | 2  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  |
| JA1 = 25 | 9*      | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  | 6  | 2* | 4* | 4* | 1* | 1* | 4* | 6* | 7* | 4* | 4  | 5  | 7  | 9* |
| HS = 26  | 9       | 9  | 9  | 8  | 6  | 3  | 4* | 4* | 6  | 6  | 7* | 6  | 6  | 4  | 2  | 2  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| DU = 27  | 8       | 7  | 5  | 5* | 4* | 5* | 5* | 6* | 7* | 7* | 8* | 6  | 6  | 5  | 5  | 3  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 8  |
| YB = 28  | 9       | 8  | 8  | 5  | 2  | -  | 1* | 3  | 5  | 6* | 8* | 7* | 5  | 5  | 5  | 3  | 5  | 6  | 8  | 8  | 8  | 8  | 8  | 9  |
| VK6 = 29 | 6*      | 7  | 6  | 8  | 8  | 7  | 6  | 5  | 6  | 5* | 6* | 5* | 4  | 4  | 2  | 2  | 1  | 1* | 2* | 4* | 6* | 6* | 7* | 6* |
| VK3 = 30 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 6  | 5  | -  | -  | -  | 1* | 1* | 3* | 4* | 5  | 6  | 5  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 1* | -  | -  | 4  | 2  | 2  | 8  | 8  | 2* | 2  | 6  |
| KH8 = 32 | 4       | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 4  | 2  | 2  | 7  | 8  | 2* | 1  | 2  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9  | 6  | -  | 6* | 9  | 9  | 8  | 7  | 6  | 3  | 4  | 3  | 5  | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9+ | 9  | 9  | 6  | 9  | 9  | 8  | 8  | 7  | 5  | 4  | 2  | 2  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6* | 9  | 9+ | 9  | 9  | 8  | 6  | 3  | 4  | 5  | 7  | 9  | 9  | 9+ | 9  | 8  | 8  |
| D2 = 36  | 9+      | 9+ | 9+ | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 5  | 5  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 5  | 4  | 5  | 4  | 5  | 6  | 7  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| ZS6 = 38 | 8       | 2  | 2* | 4* | 5* | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 9+ | 9  | 9  | 9  |
| FR = 39  | 4*      | 5* | 6* | 5* | 8  | 9  | 8  | 7  | 6  | 5  | 5  | 4  | 8  | 4  | 5  | 5  | 6  | 7  | 8  | 8  | 7  | 4  | 4* | 4* |
| FJL = 40 | -       | 5  | 6  | 2* | 1* | 1* | 2* | 4* | 5* | 7* | 7  | 8  | 6  | 4  | 2  | 2  | 4  | 5  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Dec., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 6  | 1  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 5  | 6  | 8  | 8  | 9  | 9  |
| VO2 = 02 | 8       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9+      | 9+ | 9+ | 9  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 7  | 5  | 5  | 4  | 5  | 6  | 8  | 8  | 9  |
| W9 = 04  | 9       | 9  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 9+ | 9  |
| W3 = 05  | 9       | 9  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | 8  | 9  | 9  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| XE1 = 06 | 9+      | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 8  | 1  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ |
| TI = 07  | 7       | 6* | 4* | 2  | 1  | 1  | 1  | 3  | 2  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  |
| VP2 = 08 | 5       | 4  | 3  | 1  | -  | -  | 1  | 1  | -  | -  | 2  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  |
| P4 = 09  | 6*      | 4* | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 8  | 5  | 5  | 5  | 6  | 7  | 8  | 7  | 7  | 6* |
| HC = 10  | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | -  | -  | -  | -  | 5  | 9  | 6  | 9  | 1  | 1  | 9  | 8  | 9  | 3  | 4  | 9+ | 9+ |
| PY1 = 11 | 6*      | 4* | 3* | 2* | 3* | 5* | 6* | 5* | 6* | 5* | 3* | 3  | 3  | -  | 3  | 7  | 8  | 6  | 7  | 8  | 8  | 5  | 7* | 7* |
| CE = 12  | 8       | 8  | 9  | 9  | 8  | 7  | 4* | 5* | 6* | 5* | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| LU = 13  | 7*      | 6* | 5* | 4* | 4* | 4* | 5* | 6* | 5* | 6* | 7* | 5* | 2* | 1  | 1  | 2  | 4  | 4  | 1  | 1  | 1* | 3* | 6* | 7* |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | 3* | 8  | 9  | 9  | 8  | 7  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 8  | 4  | -  |
| I = 15   | 9       | 9  | 8  | 1  | -  | -  | 6* | 9  | 8  | 8  | 8  | 7  | 6  | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | -       | -  | -  | -  | 4* | 6* | 5* | 9  | 7  | 8  | 8  | 7  | 6  | 5  | 4  | 4  | 6  | 7  | 3  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 3* | 2* | 3* | 9  | 8  | 7  | 6  | 6  | 5  | 5  | 8* | 6* | 3  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 2*      | 1* | 1* | 2* | 4  | 9  | 9  | 8  | 8  | 7  | 8* | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 9       | 8  | 8  | 8  | 5  | 5  | 7  | 8  | 6* | 7* | 8* | 7* | 6* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | 1* | 8  |
| 4X = 20  | 9+      | 9+ | 9  | 5  | 6* | 8  | 8  | 7  | 6  | 6  | 6  | 5  | 6  | 4  | 4  | 5  | 6  | 8  | 9  | 8  | 9  | 9  | 9+ | 9+ |
| HZ = 21  | 9       | 9  | 2  | 4* | 7  | 9  | 8  | 7  | 6  | 5  | 5  | 4  | 5  | 4  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -       | 2* | 4* | 9  | 8  | 7  | 5  | 4  | 4  | 5  | 5  | 5* | 5* | 5* | 4  | 4  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 8  |
| JT = 23  | 2*      | 2* | 2* | 8  | 9  | 8  | 7  | 7  | 7  | 8* | 8* | 8* | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* |
| VR2 = 24 | 9       | 9  | 9  | 8  | 6  | 6* | 7* | 8* | 8* | 7* | 8* | 8* | 6  | 6  | 6  | 6  | 7  | 7  | 8  | 9  | 9  | 8  | 4  | 7  |
| JA1 = 25 | 9*      | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 5  | 5* | 5* | 5* | 6* | 5* | 5* | 5* | 6* | 5* | -  | -  | 8  | 8  | 9* |
| HS = 26  | 7*      | 9  | 9  | 8  | 6  | 4  | 4* | 5* | 6* | 6* | 7* | 6* | 5  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 7  |
| DU = 27  | 8       | 7  | 6  | 5  | 3  | 3  | 5  | 6  | 7  | 7  | 8  | 8  | 7  | 7  | 6  | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 8  |
| YB = 28  | 8       | 8  | 7  | 5  | 4  | 2  | 2  | 4  | 5  | 6  | 6  | 8* | 6  | 6  | 6  | 6  | 6  | 7  | 7  | 7  | 5  | 2  | 3* | 8* |
| VK6 = 29 | 6*      | 5* | 2  | 4  | 5  | 5  | 4  | 1  | 1  | 2* | 6* | 6* | 5* | 3* | 2* | 1* | 1* | 2* | 4* | 5* | 6* | 6* | 7* | 7* |
| VK3 = 30 | 5       | 6  | 6  | 6  | 5  | 3  | 7  | 8  | 8  | 7  | 7* | 6* | 4* | 2* | 1* | 1* | 1* | 2* | 2* | 4* | 5* | 5* | 5* | 5* |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 9  | 7  | -  | -  | -  | 3  | 5  | 4  | 5* | 4* | 3  | 5  | 6  |
| KH8 = 32 | 6       | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 7  | 6  | 6  | 5  | 5  | 5  | 5  | 5  | 6  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 8  | -  | -  | 5* | 6  | 9  | 9  | 8  | 8  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| SU = 34  | 9+      | 9+ | 9+ | 6  | 5* | 8  | 9  | 7  | 6  | 7  | 6  | 5  | 6  | 3  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| 6W = 35  | 5       | 8  | 9  | 9  | 9+ | 8  | 1  | 4* | 3* | 7  | 9  | 9  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 8  | 5  | 5* | 5* | 4* |
| D2 = 36  | 9+      | 9  | 8  | 5  | 3* | 6* | 5  | 7  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9       | 9  | 7  | 5* | 6  | 9  | 8  | 7  | 8  | 8  | 8  | 6  | 8  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  |
| ZS6 = 38 | 1       | -  | -  | 2* | 5* | 5* | 7  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 7  | 5* | 4  | 4  |
| FR = 39  | 5*      | 6* | 7* | 6* | 4* | 6  | 7  | 7  | 6  | 8  | 6  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 4* | 5* | 5* | 5* | 5* |
| FJL = 40 | -       | -  | 1* | 3* | 4* | 4* | 3* | 5* | 6* | 7* | 2* | 5  | 7  | 6  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Dec., Brazil (Porto Alegre), for SSN = Ultra High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 8   | 7   | 8  | 3* | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 7  | 8  | 8  | 8  | 8  |
| VO2 = 02 | 2   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 9  | 8  | 7  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 8  |
| W6 = 03  | 9+  | 9   | 9  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 5  | 6  | 6  | 6  | 6  | 8  | 8  | 9  |
| W9 = 04  | 8   | 5   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| W3 = 05  | 9   | 6   | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 9  | 8  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 8   | 7   | 7  | 7  | 7  | 6  | 5  | 6  | 4  | -  | -  | -  | -  | 2  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| TI = 07  | 5*  | 5*  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 9  | 7  | 4  | 2  | 2  | 2  | 2  | 3  | 5  | 5  | 5  | 4* |
| VP2 = 08 | 3*  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 6  | 2  | 2  | 2  | 2  | 4  | 5  | 5  | 4  | 5* | 6* |
| P4 = 09  | 5*  | 1*  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 5  | 1  | -  | -  | -  | 1  | 2  | 2  | 4* | 5* | 5* |
| HC = 10  | 9   | 8   | 7  | 7  | 6  | 5  | 5  | -  | -  | -  | -  | -  | -  | 2  | 1  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| PY1 = 11 | 5*  | 3*  | 2* | 3* | 4* | 5* | 2* | -  | 1* | 1* | 3* | 2* | 1* | -  | -  | 1  | 2  | -  | 1  | 2* | 4* | 6* | 7* | 6* | 6* |    |
| CE = 12  | 7*  | 6   | 7  | 6  | 5  | 1  | 1* | 1* | 3* | -  | -  | 3  | 5  | 6  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 7* |    |
| LU = 13  | 5*  | 4*  | 2* | 4* | 5* | 4* | 4* | 2* | 2* | 5* | 2* | 2* | 1  | 1  | 1  | 1  | -  | -  | -  | -  | 1* | 2* | 4* | 6* | 6* |    |
| G = 14   | -   | -   | -  | -  | -  | -  | -  | -  | -  | 6* | 7  | 8  | 7  | 5  | 4  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 6  | 2  | -  | -  |
| I = 15   | 8   | 6   | 1  | -  | -  | -  | 3* | 6  | 5  | 5  | 6  | 5  | 4  | 3  | 5  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | -   | -   | -  | -  | 2* | 5* | 4* | 7  | 2  | 7  | 7  | 7  | 7  | 6* | 4  | 5  | 6  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -   | 2*  | 1* | 2* | 8  | 7  | 5  | 2  | 2  | 4  | 5  | 8* | 5* | 6  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 1*  | 1*  | 1* | 2* | 4* | 7  | 8  | 6  | 5  | 6  | 7  | 6  | 8  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 9   | 7   | 7  | 5  | 4* | 2* | 3* | 4* | 5* | 7* | 8* | 8* | 6* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6* |
| 4X = 20  | 9   | 9+  | 8  | -  | 5* | 5  | 5  | 1  | 1  | 5  | 6  | 5  | 5  | 5  | 5  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9   | 8   | -  | 7* | 5* | 6  | 4  | 2  | 2  | 5  | 6  | 6  | 6  | 6  | 6  | 6  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -   | 5*  | 2* | 9  | 5  | 3* | 2* | 1  | 1  | 5  | 5  | 5  | 5  | 5  | 6* | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 5  |
| JT = 23  | 4*  | 2*  | 3* | 5  | 9  | 8  | 6  | 4  | 4* | 5* | 8* | 8  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* |
| VR2 = 24 | 9   | 9   | 8  | 7  | 7* | 7* | 6* | 6* | 6  | 7  | 7  | 7  | 7  | 8* | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 4  | -  | 8* |
| JA1 = 25 | 8   | 8   | 8  | 8  | 7  | 7  | 7  | 9  | 5  | 6* | 6* | 6* | 6* | 6* | 6* | 6* | 5* | 4* | 3* | 1* | -  | -  | 8  | 8  | 9  |    |
| HS = 26  | 7*  | 8   | 9  | 7  | 5* | 4* | 2  | 2  | 5  | 6  | 7  | 6  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 8  | 5* |    |
| DU = 27  | 7   | 7   | 6  | 5  | 2  | 2  | 3  | 5  | 7  | 7  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 5  | 3  | 2  | 9* |    |
| YB = 28  | 7*  | 6   | 7  | 4  | 2  | -  | -  | 1  | 5  | 6  | 7  | 8* | 6  | 6  | 5  | 5  | 6  | 6  | 5  | 3* | -  | -  | -  | -  | 8* |    |
| VK6 = 29 | 6*  | 3*  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 4* | 6* | 6* | 5* | 3* | 1* | 2* | 3* | 5* | 5* | 6* | 5* | 6* | 6* | 6* |
| VK3 = 30 | 3*  | 2*  | 2* | 1  | -  | 1* | 4  | 5  | 5  | 5  | 6* | 7* | 5* | 5* | 4* | 2* | 2* | 2* | 2* | 2* | 2* | 4* | 5* | 5* | 5* | 5* |
| KH6 = 31 | 8   | 8   | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | 4* | 5  | 7  | 3  | -  | -  | -  | -  | 6  | 5  | 5  | 5* | 5  | 7  | 8  |    |
| KH8 = 32 | 6   | 5   | 6  | 8  | 9  | 9  | 8  | 4  | 1  | 4* | 7  | 8  | 6  | 4  | 7  | 7  | 7  | 7  | 7  | 8  | 7  | 7  | 6  | 6  | 6  |    |
| CN = 33  | 9+  | 9+  | 9  | 9  | 5  | -  | -  | 2* | 1  | 8  | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  |
| SU = 34  | 9   | 9   | 9  | 1  | 3* | 4* | 5  | 1  | 1  | 5  | 5  | 5  | 5  | 5  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 2*  | 2   | 4  | 5  | 6  | 2  | -  | -  | 1* | 1  | 4  | 4  | 2  | 1  | 2  | 2  | 3  | 5  | 5  | 3* | 4* | 6* | 5* | 5* | 5* | 5* |
| D2 = 36  | 9   | 7   | 4  | 1  | -  | 5* | 4* | 1  | 2  | 5  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| 5Z = 37  | 8   | 5   | 1  | 2* | 7* | 6  | 3* | 1  | 4  | 6  | 6  | 7  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| ZS6 = 38 | -   | -   | -  | -  | 4* | 5* | 2* | 5  | 6  | 6  | 6  | 8  | 7  | 7  | 6  | 6  | 7  | 7  | 8  | 5  | 4* | 2* | -  | -  | -  | -  |
| FR = 39  | -   | 2*  | 7* | 5* | 4* | 2* | 2  | 3  | 5  | 5  | 5  | 6  | 6  | 6  | 6  | 4  | 4  | 4  | 2  | 4* | 5* | 6* | 5* | 4* | 2* | 2* |
| FJL = 40 | -   | -   | -  | 4* | 4* | 3* | 2* | 3* | 4* | 5* | -  | -  | 4  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Jan., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | 1  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 3       | 4  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | 3  | 1  | 3  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 4  | 3  | 4  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 5  | 5  | 5  | 5  | 4  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 3  | 4  | 4  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2       | 2  | 3  | 3  | 3  | 4  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 4       | 3  | 3  | 3  | 3  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| P4 = 09  | 4       | 3  | 3  | 4  | 4  | 4  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | 3       | 5  | 6  | 6  | 5  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  |
| G = 14   | 4       | 5  | 4  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 2       | 3  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | -       | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 5  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2       | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | 2       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 3       | 5  | 3  | 5  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| SU = 34  | 3       | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 5       | 5  | 4  | 4  | 3  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| D2 = 36  | 4       | 5  | 4  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  |
| 5Z = 37  | 3       | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| ZS6 = 38 | 5       | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  |
| FR = 39  | 4       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Jan., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | 1  | 2  | 2  | 4  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 6       | 7  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 = 03  | -       | 2  | 6  | 4  | 6  | 7  | 6  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 2       | 7  | 6  | 7  | 7  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 2       | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | 1       | 2  | 6  | 7  | 7  | 8  | 7  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5       | 5  | 6  | 6  | 6  | 7  | 6  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 7       | 6  | 6  | 6  | 6  | 7  | 6  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| P4 = 09  | 7       | 6  | 6  | 7  | 7  | 7  | 6  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| HC = 10  | 6       | 8  | 9  | 9  | 8  | 8  | 7  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 3  | -  | -  | -  | -  | -  | -  | 1  | 7  | 9  | 9+ | 9+ |
| G = 14   | 7       | 8  | 7  | 7  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  |
| I = 15   | 5       | 6  | 7  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| UA3 = 16 | 2       | 5  | 6  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | 3       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 8  |
| UA9 = 18 | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 5       | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 5       | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | 1       | 1  | -  | -  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 2  | 1  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 3  | 2  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 6       | 8  | 6  | 8  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  |
| SU = 34  | 6       | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 6W = 35  | 8       | 8  | 7  | 7  | 6  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  |
| D2 = 36  | 7       | 8  | 7  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| 5Z = 37  | 6       | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  |
| ZS6 = 38 | 8       | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| FR = 39  | 7       | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| FJL = 40 | 2       | 3  | 3  | 3  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Jan., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1  | 3  | 7  | 7  | 7  | 7  | 8  | 8  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| W6 = 03  | 4  | 5  | 5  | 6  | 8  | 8  | 8  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 7  | 8  | 8  | 6  | 8  | 8  | 8  | 8  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| W3 = 05  | 8  | 8  | 9  | 8  | 9  | 8  | 8  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| XE1 = 06 | 6  | 8  | 9  | 9  | 8  | 9  | 8  | 8  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| TI = 07  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| VP2 = 08 | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| P4 = 09  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 2  | 1  | 1  | 2  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 3  | -  | -  | -  | -  | -  | 2  | 7  | 9  | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 3  | 2  | 4  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  |
| I = 15   | 7  | 8  | 8  | 6  | 5  | 5  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  |
| UA3 = 16 | 5  | 5  | 5  | 5  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| UN = 17  | 8  | 7  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  |
| UA9 = 18 | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 4X = 20  | 8  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| HZ = 21  | 7  | 7  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  |
| VU = 22  | 6  | 7  | 5  | 1  | -  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 6  |
| JT = 23  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  |
| HS = 26  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -  | -  | -  | 5  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | -  | 1  | 1  | 2  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | 3  | 5  | 7  | 7  | 6  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | 2  | 5  | 6  | 5  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  |
| SU = 34  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| 5Z = 37  | 7  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| FR = 39  | 9  | 8  | 8  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  |
| FJL = 40 | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Jan., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 3            | 6  | 7  | 8  | 7  | 7  | 5  | 5  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| VO2 =   | 02 | 8            | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 7  |
| W6 =    | 03 | 6            | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| W9 =    | 04 | 7            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  |
| W3 =    | 05 | 8            | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  |
| XE1 =   | 06 | 8            | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  |
| TI =    | 07 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| VP2 =   | 08 | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  |
| P4 =    | 09 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  |
| HC =    | 10 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 4  | 3  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 8            | 8  | 8  | 8  | 8  | 8  | 5  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 7  | 8  |
| I =     | 15 | 8            | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 8  | 7  |
| UA3 =   | 16 | 8            | 8  | 8  | 7  | 6  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 8  |
| UN =    | 17 | 8            | 7  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| UA9 =   | 18 | 5            | 2  | 4  | 4  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 7  |
| UA0 =   | 19 | 2            | 2  | 1  | -  | -  | 1  | 1  | 2  | 5* | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 4  |
| 4X =    | 20 | 8            | 8  | 8  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  |
| HZ =    | 21 | 8            | 8  | 8  | 7  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 8  |
| VU =    | 22 | 8            | 4  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 7  |
| JT =    | 23 | 5            | 7  | 4  | 1  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 5  |
| VR2 =   | 24 | 3            | 1  | -  | -  | -  | -  | -  | -  | 1* | 1* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 4  | 5  |
| JA1 =   | 25 | -            | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 4* | 2* |
| HS =    | 26 | 6            | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 6  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| DU =    | 27 | -            | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | 2  |
| YB =    | 28 | 4            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  | 5  |
| VK6 =   | 29 | 1            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  | 3  |
| VK3 =   | 30 | -            | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 =   | 31 | -            | -  | 2  | 6  | 5  | 6  | 7  | 7  | 7  | 7  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | -  | -  | 2  | 3  | 6  | 7  | 7  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 8            | 9  | 9  | 8  | 8  | 8  | 8  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 8  |
| SU =    | 34 | 8            | 8  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 6  | 8  |
| 6W =    | 35 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  |
| D2 =    | 36 | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  | 9  |
| 5Z =    | 37 | 8            | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  |
| ZS6 =   | 38 | 9            | 9  | 9  | 9  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  | 9  | 9  |
| FR =    | 39 | 9            | 8  | 7  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  |
| FJL =   | 40 | 7            | 8  | 8  | 8  | 7  | 7  | 5  | 2  | 4  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 7  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 20 Meters: Jan., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 9   | 9  | 9  | 8  | 1  | -  | 1* | 1  | 3  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 8  | 6  | 8  |    |
| VO2 = 02 | 9   | 9   | 8  | 5  | 7  | 8  | 8  | 7  | 3  | 2  | 6  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 9  |    |
| W6 = 03  | 9   | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | -  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3  | 9  |    |
| W9 = 04  | 9   | 9   | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 4  | 4  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  |    |
| W3 = 05  | 9+  | 9+  | 9  | 9  | 9  | 9  | 8  | 9  | 9  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  |    |
| XE1 = 06 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 9  | 2  | -  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  |    |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 9  | 7  | 5  | 2  | 1  | 1  | 1  | 1  | 1  | 2  | 6  | 8  | 9  | 9+ |    |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 9  | 9  | 7  | 3  | 1  | 1  | 1  | 1  | 2  | 6  | 8  | 9  | 9+ | 9+ |    |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 9  | 9  | 8  | 4  | 2  | 1  | 1  | 1  | 2  | 5  | 8  | 9  | 9+ | 9+ |    |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 5  | 4  | 2  | 3  | 5  | 7  | 8  | 9  | 9+ | 9+ |    |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 5  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| G = 14   | 8   | 6   | 7  | 8  | 8  | 1  | 1* | 7  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 9  | 9  | 9  |    |
| I = 15   | 9+  | 9+  | 9+ | 9  | 9  | 4  | 7  | 8  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 9  | 9  | 9+ |    |
| UA3 = 16 | 7   | 7   | 6  | 4  | 2  | 2  | 8  | 8  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 4  | 5  | 3  | 4  |    |
| UN = 17  | 6   | 1*  | 3  | 8  | 8  | 5  | 4  | 2  | 1  | 2* | 2* | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  |    |
| UA9 = 18 | 1*  | 1*  | 2* | 4  | 7  | 7  | 7  | 6  | 7  | 4  | 5  | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | 2* |    |
| UA0 = 19 | 7   | 8   | 6  | 6  | 7  | 5  | 6  | 7  | 8  | 8  | 4* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  |    |
| 4X = 20  | 9   | 9   | 9  | 9  | 8  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 9  | 9  |    |
| HZ = 21  | 9   | 9   | 9  | 5  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 9  | 9  |    |
| VU = 22  | 2   | 1*  | 7  | 8  | 7  | 4  | 1  | -  | -  | 1* | 2* | 2* | 1* | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 9  | 9  |    |
| JT = 23  | 3*  | 4   | 8  | 7  | 5  | 4  | 3  | 4  | 6  | 6* | 7  | 5* | 4* | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 2  | -  | 2* |    |
| VR2 = 24 | 8   | 8   | 5  | 1  | -  | -  | 1* | 2* | 7* | 8  | 8* | 6* | 4* | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 8  | 8  | 9  |    |
| JA1 = 25 | 6*  | 3*  | 2  | 5  | 6  | 6  | 8  | 8  | 9  | 9  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | 2* | 5* | 1  | 8  | 7  | 8* |    |
| HS = 26  | 9   | 9   | 8  | 5  | -  | -  | -  | -  | 2* | 4* | 5* | 2* | 2* | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  |    |
| DU = 27  | 7   | 4   | -  | -  | -  | -  | -  | 2* | 4* | 8  | 8  | 5* | 1  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  | 8  | 7  |    |
| YB = 28  | 8   | 8   | 3  | -  | -  | -  | -  | -  | 1* | 5* | 6* | 5* | 1* | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 9  |    |
| VK6 = 29 | 8   | 5   | 3  | 1  | 1  | 1  | 1  | 2  | 4  | 5  | 9  | 7  | 4  | 2  | 1  | 1  | 1  | 1  | 1  | 2  | 5  | 7  | 8  | 8  | 8  |    |
| VK3 = 30 | 2   | 2   | 1  | 1  | 3  | 4  | 6  | 8  | 8  | 8  | 8  | 8  | 5  | 4  | 2  | 1  | 1  | 1  | 2  | 4  | 5  | 5  | 4  | 2  | 2  |    |
| KH6 = 31 | 2   | 6   | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  |    |
| KH8 = 32 | -   | 1   | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | 1* | -  | -  | -  | -  |    |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 2  | 8  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  | 9  |    |
| SU = 34  | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 8  | 9  | 9  |    |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | 1  | 1  | 4  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| D2 = 36  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 4  | 1  | 1  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| 5Z = 37  | 9+  | 9   | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | 1  | -  | -  | -  | 1  | -  | 1  | 3  | 6  | 8  | 8  | 9  | 9  | 9  | 9+ |    |
| ZS6 = 38 | 9+  | 9+  | 9  | 8  | 9  | 9  | 9  | 8  | 7  | 5  | 4  | 2  | 1  | 1  | 1  | 1  | 2  | 4  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ |    |
| FR = 39  | 9   | 8   | 3  | 8  | 9  | 8  | 6  | 2  | 1  | -  | -  | -  | 1  | -  | -  | -  | -  | 1  | 5  | 7  | 9  | 9  | 9  | 9  | 9  |    |
| FJL = 40 | 5   | 8   | 8  | 7  | 6  | 3  | 2* | 2* | 1* | 2  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 1  | 2  | 3  |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Jan., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9+ | 8  | 1  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 5  | 3  | 6  | 8  | 9  |
| VO2 = 02 | 9       | 7  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 9  | 8  | 5  | 4  | 2  | 4  | 5  | 5  | 8  | 9  | 9  | 9+ | 9+ |
| W6 = 03  | 9+      | 9+ | 9+ | 9  | 9  | 6  | 2  | 2  | 6  | 6  | 4  | -  | -  | -  | 6  | 2  | 1  | 1  | 1  | 1  | 3  | 4  | 8  | 8  |
| W9 = 04  | 9+      | 9+ | 8  | 2  | -  | -  | -  | 2  | 3  | -  | -  | -  | 8  | 6  | 4  | 2  | 2  | 2  | 3  | 6  | 7  | 9  | 9  | 9+ |
| W3 = 05  | 9+      | 9+ | 8  | 5  | 5  | 1  | -  | 6  | 4  | 1  | 2  | 6  | 9  | 6  | 5  | 3  | 3  | 4  | 5  | 6  | 8  | 9  | 9  | 9+ |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 5  | -  | -  | 6  | 8  | 6  | 5  | 4  | 3  | 4  | 4  | 7  | 9  | 9  | 9+ |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  | -  | 9  | 9  | 8  | 8  | 6  | 6  | 6  | 6  | 7  | 8  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  | -  | 7  | 9+ | 9  | 8  | 7  | 5  | 6  | 6  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 3  | -  | 1  | 9+ | 9  | 8  | 7  | 6  | 6  | 6  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | 2  | 9+ | 9  | 9  | 9  | 8  | 8  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 4* | 6* | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9       | 8  | 8  | 9  | 8  | 6  | 2* | 4* | 5* | 6* | 7  | 9  | 9  | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | 4* | 9  | 9  | 8  | 7  | 5  | 3  | 1  | 1  | 2  | 5  | 7  | 9  | 9  | 9  | 8  | 4  |
| I = 15   | 9       | 9  | 9  | 8  | 4  | -  | 5* | 9  | 8  | 8  | 7  | 5  | 2  | 2  | 1  | 1  | 2  | 3  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | 1       | 1  | -  | -  | 3* | 2* | 4* | 9  | 8  | 7  | 6  | 5  | 2  | 1  | 1  | 1  | 2  | 4  | 5  | -  | -  | -  | -  | -  |
| UN = 17  | 1*      | 1* | 2* | 5  | 9  | 8  | 7  | 7  | 5  | 5  | 6  | 7  | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| UA9 = 18 | 3*      | 2* | 2* | 2* | 6  | 8  | 9  | 7  | 7  | 8* | 8* | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 9       | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 7* | 7* | 7* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 9  |
| 4X = 20  | 9+      | 9  | 9  | 6  | 4* | 9  | 9  | 8  | 7  | 5  | 2  | 1  | 1  | 1  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| HZ = 21  | 9       | 9  | 1  | 1* | 7  | 9  | 8  | 8  | 5  | 2  | 1  | 2  | 1  | 1  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| VU = 22  | 1*      | 1* | 1* | 9  | 8  | 8  | 5  | 4  | 4* | 3* | 8  | 8  | 4* | 2* | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 7  |
| JT = 23  | 2*      | 3* | 3* | 8  | 8  | 8  | 7  | 6  | 7  | 8* | 9* | 8* | 5* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VR2 = 24 | 9       | 9  | 8  | 7  | 5  | 3* | 7* | 7* | 8* | 8* | 8* | 9* | 7* | 5* | 1  | 1  | 2  | 3  | 7  | 8  | 9  | 9  | 5  | 5  |
| JA1 = 25 | 8       | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9  | 6  | 5* | 4* | 1* | 1* | 1* | 1* | 1* | 2* | 4* | -  | 1  | 6  | 5  | 9* |
| HS = 26  | 9       | 9  | 9  | 8  | 6  | 1  | 2* | 5* | 5* | 8  | 8  | 8  | 4* | 2  | 2  | 2  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| DU = 27  | 8       | 7  | 6  | 3* | 3* | 2* | 5* | 6* | 7  | 7  | 8* | 7  | 6  | 4  | 2  | 2  | 2  | 4  | 7  | 8  | 8  | 8  | 8  | 9  |
| YB = 28  | 9       | 9  | 8  | 4  | 1  | -  | -  | 2* | 5* | 7  | 8* | 7* | 6  | 4  | 3  | 2  | 3  | 5  | 8  | 8  | 9  | 9  | 8  | 9  |
| VK6 = 29 | 9       | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 4  | 3  | 1  | -  | 3* | 5* | 5  | 7  | 8  |
| VK3 = 30 | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 3  | 2  | 1  | 1  | 5  | 7  | 7  | 8  | 8  |
| KH6 = 31 | 6       | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 7  | -  | -  | -  | 3  | 1  | -  | 2* | 2* | 1* | 1  | 3  |
| KH8 = 32 | 3       | 5  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 4  | 2  | 2  | 2* | 2* | 2* | 1  | 1  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9  | 3  | -  | 5* | 8  | 9  | 8  | 7  | 4  | 2  | 2  | 4  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9  | 9+ | 8  | 4* | 8  | 9  | 8  | 8  | 6  | 2  | 1  | 2  | 2  | 1  | 1  | 2  | 5  | 7  | 9  | 9  | 9  | 9+ | 9+ |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 5* | 6  | 9+ | 9  | 9  | 8  | 7  | 5  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 9+ | 9+ | 9  | 7  | 8  | 9+ | 8  | 9  | 8  | 7  | 5  | 4  | 5  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+      | 9  | 8  | 5  | 6  | 9  | 9  | 8  | 8  | 4  | 2  | 1  | 1  | 1  | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| ZS6 = 38 | 9       | 6  | -  | 2* | 4* | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 6  | 6  | 7  | 7  | 8  | 9  | 9  | 9+ | 9  | 9  | 9  |
| FR = 39  | 3       | 3* | 4* | 4* | 9  | 9  | 8  | 7  | 6  | 4  | 4  | 4  | 4  | 5  | 3  | 4  | 5  | 7  | 9  | 9  | 9  | 9  | 9  | 8  |
| FJL = 40 | -       | 1* | 2* | 2* | 2* | 2* | 2* | 3* | 5* | 7* | 6* | 7  | 7  | 4  | 1  | 1  | 2  | 3  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Jan., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 9   | 9  | 3* | 3* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 7  | 8  | 9  | 9  |
| VO2 = 02 | 8   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9   | 9+  | 9+ | 9  | 4  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | 6  | 6  | 5  | 4  | 8  | 7  | 5  | 8  | 8  | 9  |
| W9 = 04  | 9+  | 8   | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 7  | 6  | 4  | 5  | 6  | 8  | 8  | 9  | 9  | 9+ |
| W3 = 05  | 9   | 8   | 2  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 9  | 8  | 7  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| XE1 = 06 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 5  | -  | -  | -  | -  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 1  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | -  | -  | -  | -  | -  | 9+ | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 8  | 8  | 4  | -  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 9   | 8   | 6  | 7  | 8  | 7  | 5  | 4  | -  | -  | -  | 6  | 9+ | 9  | 6  | 4  | 5  | 5  | 6  | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 | 8   | 8   | 8  | 8  | 6  | 3* | 4* | -  | 3* | 6* | 5  | 8  | 8  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 5* | 6* | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 6*  | 5*  | 4* | 2* | 2* | 2* | 4* | 5* | 5* | 6* | 5* | 5  | 6  | 7  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  |
| G = 14   | -   | -   | -  | -  | -  | -  | -  | 1* | 8  | 8  | 9  | 8  | 6  | 8  | 4  | 5  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 1  | -  |
| I = 15   | 9   | 7   | 5  | 2  | -  | -  | 5* | 9  | 6  | 8  | 8  | 7  | 6  | 4  | 3  | 4  | 4  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | -   | -   | -  | -  | 3* | 6* | 5* | 8  | 5  | 7  | 7  | 6  | 5  | 4  | 3  | 3  | 4  | 5  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -   | 2*  | 2* | 2* | 2* | 8  | 8  | 8  | 6  | 5  | 6* | 8* | 6* | 5  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 2*  | 2*  | 1* | 2* | 2* | 8  | 9  | 8  | 8* | 8* | 7  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 9   | 9   | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8* | 8* | 7* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  |
| 4X = 20  | 9   | 9   | 8  | 1  | 5* | 6  | 9  | 8  | 6  | 6  | 5  | 4  | 7  | 3  | 3  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9   | 7   | -  | 5* | 4* | 9  | 8  | 7  | 6  | 6  | 4  | 6  | 7  | 4  | 4  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -   | 4*  | 4* | 9  | 9  | 8  | 6  | 5  | 4  | 4  | 5* | 5* | 7* | 5* | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 1  | 1  |
| JT = 23  | 2*  | 2*  | 1* | 7  | 9  | 8  | 7  | 7  | 8* | 9* | 8* | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VR2 = 24 | 9   | 9   | 9  | 8  | 6  | 5* | 6* | 8* | 8* | 7* | 7* | 8* | 7* | 6  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 7  | -  | 7* | 7* |
| JA1 = 25 | 9*  | 8   | 8  | 8  | 9  | 9  | 9  | 9  | 6  | 5* | 5* | 5* | 6* | 5* | 5* | 5* | 2* | 1* | 1* | -  | -  | -  | -  | 7  | 7  | 9* |
| HS = 26  | 5   | 9   | 9  | 8  | 7  | 5  | 4  | 4  | 6* | 6  | 6  | 6* | 6  | 6  | 6  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 5  |
| DU = 27  | 9   | 8   | 6  | 6* | 5* | 4  | 6* | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 6  | 2  | 4  | 8  |
| YB = 28  | 8   | 8   | 8  | 7  | 5  | 3  | 2  | 4  | 6  | 6  | 7  | 8* | 7  | 7  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 7  | 7  | 5  | 3  | 7* |
| VK6 = 29 | 8   | 8   | 8  | 6  | 5  | 6  | 5  | 5  | 6  | 6  | 6* | 6  | 6  | 5  | 1  | 1  | 1* | 1* | 2* | 4* | 4* | 5* | 6* | 6* | 6  | 6  |
| VK3 = 30 | 7   | 8   | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | 1* | 1* | 2* | 3* | 4* | 6  | 7  | 7  | 7  |
| KH6 = 31 | 8   | 9   | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 2  | -  | -  | -  | 1  | 4  | 7  | 7  | 5  | 4  | 5  | 7  | 7  |
| KH8 = 32 | 5   | 8   | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 5  | 5  | 6  | 6  | 4* | 2  | 4  | 4  |
| CN = 33  | 9+  | 9+  | 9+ | 9  | 8  | -  | -  | 4* | 5  | 7  | 9  | 8  | 7  | 6  | 6  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  |
| SU = 34  | 9   | 9   | 9  | 2  | 4* | 4* | 9  | 8  | 6  | 7  | 5  | 4  | 8  | 3  | 4  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 8  | -  | 2* | 3* | 7  | 9  | 9  | 8  | 8  | 8  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+  | 9   | 9  | 8  | 5  | 5* | 5* | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9   | 8   | 3  | 4* | 5* | 7  | 9  | 8  | 7  | 7  | 5  | 4  | 9  | 6  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  |
| ZS6 = 38 | 4   | -   | -  | -  | 5* | 3* | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 9  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 6  |
| FR = 39  | 3*  | 4*  | 6* | 5* | 4  | 9  | 8  | 8  | 8  | 6  | 6  | 7  | 7  | 6  | 5  | 7  | 7  | 8  | 9  | 9  | 9  | 8  | 5  | 5* | 4* | 4* |
| FJL = 40 | -   | -   | 1* | 2* | 3* | 4* | 3* | 4* | 7* | 7* | 3* | -  | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Jan., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 5* | 4* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 6  | 8  | 8  | 9  | 9  |
| VO2 = 02 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| W6 = 03  | 9       | 9  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 7  | 6  | 6  | 5  | 7  | 8  | 9  | 9  |
| W9 = 04  | 9       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ |
| W3 = 05  | 5       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9+      | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 9+ |
| TI = 07  | 8       | 7  | 6  | 6  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | 9  | 9  | 5  | 3  | 4  | 5  | 5  | 8  | 9  | 9  | 9+ | 9  |
| VP2 = 08 | 8       | 7  | 7  | 7  | 7  | 4  | 2  | -  | -  | -  | -  | 9+ | 9  | 9  | 4  | 2  | 4  | 5  | 6  | 9  | 9  | 9+ | 9+ | 9  |
| P4 = 09  | 7       | 5  | 4  | 5  | 5  | 2  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 2  | 1  | 2  | 3  | 4  | 6  | 8  | 9  | 8  | 8  |
| HC = 10  | 5*      | 9+ | 9+ | 9+ | 1  | -  | -  | -  | -  | -  | -  | 5  | 4  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 2  | 5  | 5  | 5  |
| PY1 = 11 | 6*      | 5* | 3* | 4* | 4* | 4* | -  | -  | -  | 5* | 4* | 2  | 2  | -  | 1  | 6  | 8  | 7  | 7  | 7  | 8  | 6* | 7* | 7* |
| CE = 12  | 9       | 8  | 8  | 9  | 9  | 8  | 2  | 2* | 3* | 1* | 3  | 7  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 7*      | 6* | 5* | 5* | 4* | 4* | 4* | 2* | 1* | 4* | 2* | 2* | 1* | 1  | -  | 1  | 5  | 5  | 2  | 1  | 2* | 5* | 6* | 7* |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | 4* | 4  | 8  | 8  | 8  | 5  | 5  | 6  | 7  | 8  | 9  | 7  | 3  | -  | -  | -  |
| I = 15   | 2       | -  | -  | -  | -  | -  | 2* | 7* | 3* | 3  | 7  | 7  | 5  | 4  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 6  |
| UA3 = 16 | -       | -  | -  | -  | 1* | 6* | 6* | 5* | 4* | 4* | 7  | 7  | 6  | 5  | 5  | 6  | 6  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 2* | 4* | 4* | 5  | 8  | 6  | 5* | 3* | 4  | 6* | 5  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 1*      | 5* | 2* | 3* | 3* | 5  | 8  | 5* | 7* | 5  | 8  | 8  | 7  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 5* | 7* | 8* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7* |
| 4X = 20  | 9       | 8  | 1  | -  | 3* | 7* | 8  | 4* | 1* | 5  | 6  | 5  | 7  | 6  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |
| HZ = 21  | 8       | 1  | -  | 5* | 3* | 9  | 7  | 4  | 2  | 6  | 6  | 6  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -       | 4* | 5* | 7  | 8  | 7  | 3  | 4* | 1  | 5  | 5  | 5* | 7* | 5* | 5  | 5  | 7  | 8  | 8  | 8  | 7  | 6  | 3  | -  |
| JT = 23  | 5*      | 3* | 3* | 4* | 8  | 8  | 6  | 7* | 7* | 8* | 8  | 8  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 8*      | 9  | 8  | 7  | 7* | 6* | 7* | 7* | 4* | 6  | 7  | 7  | 7  | 7  | 6  | 6  | 7  | 8  | 8  | 8  | 7  | -  | -  | 8* |
| JA1 = 25 | 9       | 9  | 8  | 8  | 9  | 9  | 9  | 6  | 4* | 5* | 6* | 7* | 7* | 6* | 3* | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  |
| HS = 26  | 8*      | 7  | 9  | 8  | 6  | 5* | 4* | 5* | 4  | 6  | 6  | 7  | 7  | 7  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 8  | 1  | -  |
| DU = 27  | 8       | 7  | 6  | 6  | 5  | 5* | 4* | 5* | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 6  | 6  | 6  | 4  | -  | -  | -  | 8* |
| YB = 28  | 8*      | 8  | 8  | 7  | 4  | 2* | 3* | 4* | 4  | 6  | 7  | 8* | 7  | 6  | 6  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | 1* |
| VK6 = 29 | 6*      | 7  | 6  | 2* | 1* | 1* | 1* | -  | -  | 2* | 7* | 5* | 4* | 2* | 2* | 2* | 2* | 3* | 3* | 3* | 3* | 4* | 4* | 6* |
| VK3 = 30 | 6       | 2  | 2  | 2  | 6  | 6  | 7  | 8  | 8  | 8  | 7  | 6* | 5* | 4* | 2* | 1* | 2* | 2* | 3* | 2* | 2* | 4* | 5* | 5  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 1  | 5  | 1  | -  | -  | -  | -  | 6  | 5  | 5  | 5* | 5  | 6  | 7  |    |
| KH8 = 32 | 7       | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 7  | 6  | 8  | 9  | 9  | 8  | 7  | 6  | 5  | 6  | 6  | 6  | 6  | 5  | 5  | 6  |
| CN = 33  | 9+      | 9+ | 9  | 7  | 1  | -  | -  | 1* | 5* | 3* | 8  | 8  | 8  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9  | 7  | -  | -  | 7* | 8  | 4* | 1* | 5  | 6  | 5  | 7  | 6  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 7       | 8  | 8  | 7  | 5  | -  | -  | -  | 3* | 2* | 6  | 7  | 5  | 4  | 4  | 4  | 5  | 6  | 8  | 8  | 7  | 6  | 7  | 7  |
| D2 = 36  | 9       | 7  | 4  | 1  | -  | 3* | 6* | 4* | 3  | 6  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| 5Z = 37  | 6       | 2  | -  | -  | 6* | 6* | 4* | 3  | 5  | 7  | 8  | 7  | 7  | 8  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| ZS6 = 38 | -       | -  | -  | -  | 1* | 5* | 4* | 4  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 5* | 5* | 2* | -  |
| FR = 39  | -       | -  | 5* | 6* | 5* | 4  | 2  | 1  | 5  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 6  | 5* | 5* | 4* | 1* |
| FJL = 40 | -       | -  | -  | 2* | 4* | 4* | 4* | 4* | 5* | 5* | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Jan., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9            | 5  | 3* | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 9  | 9  | 9  | 9  |
| VO2 = 02 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 3  |
| W6 = 03  | 9            | 9  | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 6  | 7  | 8  | 9  | 9  | 9  |
| W9 = 04  | 5            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| W3 = 05  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 8  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 6  |
| XE1 = 06 | 9            | 8  | 8  | 8  | 8  | 7  | 7  | -  | -  | -  | -  | -  | 7  | 7  | 5  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| TI = 07  | 4*           | 1  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 6  | 4  | 1* | -  | -  | -  | 1  | 1  | 5  | 6  | 6  | 5  |
| VP2 = 08 | 2            | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | 5  | 7  | 4  | -  | -  | -  | -  | 1  | 2  | 5  | 5  | 5  | 5  |
| P4 = 09  | 2*           | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 2  | -  | -  | -  | -  | -  | 1* | 2  | 4* | 5* | 6* |
| HC = 10  | 9+           | 9  | 9  | 9  | 9  | -  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| PY1 = 11 | 6*           | 4* | 2* | 4* | 2* | -  | -  | -  | -  | 1* | 3* | 2* | 1* | -  | -  | -  | 2  | 1  | 1  | 4* | 5* | 7* | 8* | 7* |
| CE = 12  | 6            | 6* | 4* | 4* | 3* | 1  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 4  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| LU = 13  | 6*           | 4* | 2* | 3* | 4* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 4* | 5* | 7* | 7* |
| G = 14   | -            | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 5  | 7  | 6  | 3* | 2  | 8  | 8  | 9  | 8  | 1  | -  | -  | -  | -  |
| I = 15   | -            | -  | -  | -  | -  | -  | -  | 5* | -  | -  | 5  | 5  | 4  | 4* | 4  | 6  | 8  | 8  | 9  | 9  | 9  | 7  | 3  | 1  |
| UA3 = 16 | -            | -  | -  | -  | -  | 4* | 3* | 1* | -  | -  | 6  | 7  | 6  | 5  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -            | -  | 5* | 3* | 4* | 7  | 3* | 1* | -  | 1  | 5  | 5  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -            | 4* | 1* | 2* | 3* | 2* | 5  | 1* | 4* | -  | 5  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 6            | 9  | 8  | 7  | 6  | 5  | 3  | 1  | 1* | 5* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6* |
| 4X = 20  | 8            | 3  | -  | -  | 1* | 6* | 3* | 1* | -  | 2  | 5  | 6  | 5  | 5  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  |
| HZ = 21  | 5            | -  | -  | 2* | 7* | 5  | 2* | -  | -  | 4  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| VU = 22  | -            | 2* | 8* | 5* | 5  | 4* | 4* | 1* | -  | 3  | 5  | 6  | 5  | 6  | 6  | 7  | 8  | 8  | 8  | 5  | 3  | 1  | -  | -  |
| JT = 23  | 6*           | 3* | 3* | 5* | 6  | 6  | 4* | 2* | 1* | 6* | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 9*           | 8* | 7* | 7* | 7* | 7* | 4* | 1* | -  | 5  | 6  | 7  | 7  | 7  | 7  | 5  | 5  | 5  | 6  | 5  | 1  | -  | -  | 4* |
| JA1 = 25 | 9            | 9  | 8  | 8  | 9  | 8  | 6  | 1  | -  | 5* | 6* | 7* | 8* | 6* | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  |
| HS = 26  | 8*           | 7* | 7  | 6  | 5* | 4* | 2* | 1* | 1  | 5  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 7  | 2  | -  | -  | -  |
| DU = 27  | 9*           | 6* | 5* | 5  | 3* | 2* | 1* | 1* | 1  | 7  | 8  | 7  | 8  | 7  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | 2* |
| YB = 28  | 8*           | 5* | 5  | 4  | 2* | 1* | 1* | 1* | -  | 5  | 7  | 6  | 5  | 5  | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  |
| VK6 = 29 | 5*           | 6* | 5* | 2* | 1* | -  | -  | -  | -  | -  | -  | 6* | 5* | 5* | 4* | 3* | 3* | 2* | 2* | 2* | 1* | 1* | 2* | 5* |
| VK3 = 30 | 3*           | 3* | 2* | 2* | 2  | 2  | 5  | 5  | 5  | 3  | 6* | 5* | 4* | 2* | 2* | 2* | 2* | 2* | 2* | 1* | 1* | 2* | 3* | 4* |
| KH6 = 31 | 8            | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 6  | 6  | 6  | 7  | 8  | 8  |
| KH8 = 32 | 7            | 6  | 6  | 8  | 9  | 9  | 8  | 5  | 1  | 2* | 5  | 7  | 5  | 4* | 4  | 5  | 5  | 7  | 8  | 8  | 8  | 7  | 7  | 7  |
| CN = 33  | 9            | 8  | 6  | 1  | -  | -  | -  | -  | 5* | -  | 7  | 8  | 7  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  |
| SU = 34  | 9            | 8  | 2  | -  | -  | 6* | 2* | 1* | -  | 2  | 6  | 6  | 5  | 5  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |
| 6W = 35  | 1            | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1* | 1  | -  | -  | -  | -  | 1* | 2  | 2  | 4* | 4* | 2* | 1  | 1  |
| D2 = 36  | 6            | 2  | -  | -  | -  | -  | 4* | -  | -  | 4  | 4  | 7  | 6  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 7  |
| 5Z = 37  | 1            | -  | -  | -  | 5* | 6* | 4* | -  | -  | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 4  |
| ZS6 = 38 | -            | -  | -  | -  | -  | 2* | 3* | -  | 1  | 6  | 5  | 5  | 6  | 6  | 6  | 5  | 5  | 7  | 7  | 3* | 4* | 1* | -  | -  |
| FR = 39  | -            | -  | -  | 6* | 5* | 4* | 1* | -  | -  | 5  | 6  | 6  | 5  | 6  | 5  | 5  | 5  | 4  | 5* | 5* | 5* | 2* | -  | -  |
| FJL = 40 | -            | -  | -  | -  | 2* | 1* | 1* | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Feb., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 1       | 5  | 5  | 5  | 2  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 3  | 1  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 2  | 4  | 4  | 3  | 5  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 2       | 3  | 5  | 5  | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 3  | 1  | 3  | 5  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 1       | 2  | 2  | 2  | 2  | 3  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 4       | 3  | 3  | 3  | 2  | 3  | 2  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| P4 = 09  | 3       | 3  | 3  | 3  | 3  | 4  | 3  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | 3       | 5  | 6  | 5  | 5  | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  |
| G = 14   | 3       | 5  | 5  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 2       | 4  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | -       | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | 3       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 3       | 5  | 3  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| SU = 34  | -       | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 5       | 5  | 4  | 4  | 3  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  |
| D2 = 36  | 4       | 4  | 4  | 3  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  |
| 5Z = 37  | 4       | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  |
| ZS6 = 38 | 5       | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| FR = 39  | 5       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Feb., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 1  | 1  | 4  | 4  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4       | 8  | 8  | 8  | 5  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W6 = 03  | -       | 1  | 2  | 6  | 4  | 7  | 5  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 2       | 5  | 7  | 7  | 6  | 8  | 6  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 5       | 6  | 8  | 8  | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 2  | 6  | 4  | 6  | 8  | 6  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 4       | 5  | 5  | 5  | 5  | 6  | 6  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 7       | 6  | 6  | 6  | 5  | 6  | 5  | 5  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| P4 = 09  | 6       | 6  | 6  | 6  | 6  | 7  | 6  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| HC = 10  | 6       | 8  | 9  | 8  | 8  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | -  | 2  | 8  | 9+ | 9+ | 9+ |
| G = 14   | 6       | 8  | 8  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| I = 15   | 5       | 7  | 5  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | 2       | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 8  | 8  | 2  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 1       | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 6       | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VU = 22  | 3       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JAL = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 2  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 6       | 8  | 6  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| SU = 34  | 3       | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 6W = 35  | 8       | 8  | 7  | 7  | 6  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  |
| D2 = 36  | 7       | 7  | 7  | 6  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| SZ = 37  | 7       | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| ZS6 = 38 | 8       | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 7  |
| FR = 39  | 8       | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  |
| FJL = 40 | 2       | 3  | 3  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone                 | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------------------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|                      | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01             | 1       | 2  | 4  | 7  | 5  | 6  | 6  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02             | 8       | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  |
| W6 = 03              | 2       | 4  | 6  | 7  | 7  | 8  | 7  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04              | 5       | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| W3 = 05              | 8       | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| XE1 = 06             | 5       | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| TI = 07              | 7       | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| VP2 = 08             | 8       | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| P4 = 09              | 8       | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| HC = 10              | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  |
| PY1 = 11             | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 4  | 1  | 1  | 1  | 2  | 6  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12              | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 4  | 1  | -  | -  | -  | 3  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13              | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 2  | 2  | 4  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14               | 8       | 8  | 7  | 7  | 8  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 7  |
| I = 15               | 8       | 8  | 8  | 8  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 7  |
| UA3 = 16             | 6       | 6  | 6  | 6  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| UN = 17              | 6       | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  |
| UA9 = 18             | 6       | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| UA0 = 19             | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20              | 8       | 8  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| HZ = 21              | 7       | 7  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 6  |
| VU = 22              | 6       | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| JT = 23              | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| VR2 = 24             | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  |
| JA1 = 25             | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26              | 4       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| DU = 27              | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| YB = 28              | -       | -  | -  | -  | -  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  |
| VK6 = 29             | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  |
| VK3 = 30             | -       | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31             | -       | -  | -  | 2  | 5  | 6  | 7  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32             | -       | -  | -  | -  | 2  | 5  | 8  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33              | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 8  | 8  |
| SU = 34              | 8       | 8  | 7  | 7  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| 6W = 35              | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  |
| D2 = 36              | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  | 9  |
| 5Z = 37              | 7       | 8  | 7  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 7  |
| ZS6 = 38             | 9       | 9  | 9  | 9  | 9  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| FR = 39              | 9       | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| FJL = 40             | 7       | 7  | 8  | 8  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| Zone                 | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> * = Longpath |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2       | 4  | 6  | 7  | 8  | 8  | 7  | 7  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VO2 = 02 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 7  |
| W6 = 03  | 5       | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| W9 = 04  | 8       | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  |
| W3 = 05  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| XE1 = 06 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  |
| TI = 07  | 8       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 4  | 2  | 3  | 5  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 7  | 8  |
| UA3 = 16 | 8       | 8  | 8  | 8  | 7  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  |
| UN = 17  | 7       | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 6  | 7  |
| UA9 = 18 | 6       | 6  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 7  |
| UA0 = 19 | 1       | 1  | -  | -  | -  | -  | 1  | 1  | 2  | 4* | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 2  |
| 4X = 20  | 8       | 8  | 8  | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 8  |
| HZ = 21  | 8       | 8  | 8  | 7  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  |
| VU = 22  | 7       | 5  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 7  |
| JT = 23  | 5       | 5  | 2  | 1  | -  | -  | -  | -  | -  | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 7  |
| VR2 = 24 | 3       | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 3  | 4  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 4* | 4* | 2* |
| HS = 26  | 6       | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5* | 2  |
| YB = 28  | 4       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  |
| VK6 = 29 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 2  | 4  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  |
| KH6 = 31 | -       | -  | 2  | 4  | 5  | 6  | 7  | 7  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 1  | 4  | 5  | 7  | 7  | 7  | 7  | 7  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  |
| FR = 39  | 9       | 8  | 7  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 9  |
| FJL = 40 | 8       | 7  | 8  | 7  | 7  | 6  | 5  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



## 20 Meters: Feb., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 8   | 9   | 9  | 9  | 9  | 9  | 8  | 5  | 2  | 3  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 2  | 2  | 6  |    |
| VO2 = 02 | 9+  | 9+  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 8  | 7  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 8  | 8  | 9  | 9  |
| W6 = 03  | 8   | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | -  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 3  | 8  |    |
| W9 = 04  | 9   | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | 5  | 6  | 8  | 9  |    |
| W3 = 05  | 9+  | 9+  | 9+ | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 8  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | 1  | 1  | 6  | 8  | 9  | 9  |
| XE1 = 06 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9  | 9  | 6  | -  | 7  | 5  | 2  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |    |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | 9  | 7  | 5  | 2  | 1  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9+ |    |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 9  | 9  | 7  | 3  | 1  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9+ | 9+ |    |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 9  | 9  | 8  | 4  | 1  | 1  | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9+ |    |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 3  | 2  | 1  | 1  | 1  | 3  | 6  | 8  | 9  | 9+ |    |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 3  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| G = 14   | 9   | 9   | 9  | 9  | 9+ | 9  | 8  | 5  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 9  | 9+ | 9+ |    |
| I = 15   | 9+  | 9+  | 9+ | 9+ | 9  | 6  | 8  | 8  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 9  | 9+ | 9+ |    |
| UA3 = 16 | 9   | 9   | 8  | 8  | 6  | 8  | 8  | 8  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 8  | 9  |    |
| UN = 17  | 9   | 8   | 8  | 8  | 7  | 5  | 2  | 1  | -  | 1* | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  | 9  | 9  |    |
| UA9 = 18 | 1   | 1*  | 2  | 7  | 7  | 7  | 6  | 4  | 4* | 4* | 6  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 2  | 3  |    |
| UA0 = 19 | 6   | 5   | 2  | 3  | 4  | 6  | 6  | 6  | 6  | 9  | 7  | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | 2* | 1  | 7  | 8  | 7  |    |
| 4X = 20  | 9   | 9   | 9  | 9  | 7  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  | 9  | 9  |    |
| HZ = 21  | 9   | 9   | 9  | 7  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 9  | 9  | 9  |    |
| VU = 22  | 8   | -   | 5  | 8  | 5  | 3  | 1  | -  | -  | 1* | 3* | 1* | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9  |    |
| JT = 23  | 6   | 8   | 8  | 6  | 1  | 2  | 2  | 1  | 6* | 5* | 6  | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 3  | 5  |    |
| VR2 = 24 | 8   | 8   | 5  | 1  | -  | -  | -  | 1* | 4* | 8  | 8  | 5* | 3* | 1* | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |    |
| JA1 = 25 | 5*  | 2*  | 1  | -  | 2  | 5  | 7  | 8  | 8  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | 2* | 6* | 1* | 8  | 8* | 8* |    |
| HS = 26  | 9   | 9   | 7  | 4  | -  | -  | -  | -  | 1* | 4* | 5* | 4* | 1* | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 9  | 9  | 9  |    |
| DU = 27  | 7   | 3   | -  | -  | -  | -  | -  | 1* | 3* | 8  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 7  |    |
| YB = 28  | 8   | 8   | 4  | 1  | -  | -  | -  | -  | 1* | 5* | 8  | 2* | 1  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  |    |
| VK6 = 29 | 8   | 7   | 5  | 2  | 1  | 1  | 1  | 4  | 7  | 7  | 7  | 6  | 4  | 2  | 1  | 1  | 1  | 1  | 2  | 3  | 4  | 5  | 7  | 8  | 8  |    |
| VK3 = 30 | 3   | 2   | 2  | 3  | 4  | 5  | 7  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 3  | 2  | 1  | 1  | 2  | 5  | 6  | 7  | 5  | 4  |    |    |
| KH6 = 31 | 1   | 5   | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| KH8 = 32 | -   | 1   | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 4  | 8  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 8  | 9  | 9  | 9  |    |
| SU = 34  | 9   | 9   | 9  | 9  | 9  | 8  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 8  | 9  | 9  |    |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 6  | 2  | 1  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| D2 = 36  | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 9  | 9  | 6  | 4  | 1  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+  | 9   | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| ZS6 = 38 | 9+  | 9   | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 2  | 1  | -  | 1  | 1  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| FR = 39  | 9   | 8   | 4  | 8  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 1  | 5  | 7  | 9  | 9  | 9  | 9  | 9  |
| FJL = 40 | 7   | 8   | 8  | 5  | 1  | 1* | 2* | 4  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 8  | 7  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Feb., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |
| KL7 = 01 | 9       | 9  | 9  | 9  | 9  | 4  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  | 4  | 5  | 7  | 8  | 9  |    |
| VO2 = 02 | 9+      | 9  | 5  | 5  | 7  | 7  | 7  | 5  | 1  | -  | 5  | 9  | 8  | 5  | 1  | 1  | 1  | 2  | 4  | 7  | 9  | 9  | 9+ | 9+ |    |
| W6 = 03  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 1  | -  | -  | 4  | 2  | 1  | -  | -  | 2  | 1  | 3  | 6  | 9  |    |
| W9 = 04  | 9+      | 9+ | 9+ | 9  | 6  | 3  | 2  | 5  | 6  | 2  | -  | -  | 9  | 7  | 4  | 1  | 1  | -  | 2  | 6  | 7  | 9  | 9  | 9+ |    |
| W3 = 05  | 9+      | 9+ | 9+ | 9  | 9  | 8  | 5  | 5  | 7  | 2  | 5  | 8  | 9  | 6  | 4  | 2  | 2  | 3  | 4  | 6  | 8  | 9  | 9+ | 9+ |    |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | -  | -  | 7  | 8  | 5  | 5  | 3  | 2  | 2  | 5  | 6  | 8  | 9  | 9+ |    |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 1  | -  | 7  | 9  | 8  | 6  | 4  | 3  | 3  | 6  | 7  | 8  | 9  | 9+ | 9+ |    |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 2  | -  | 7  | 9+ | 9  | 8  | 5  | 4  | 4  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ |    |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | -  | -  | 9+ | 9  | 8  | 7  | 6  | 5  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ |    |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | 1  | 9+ | 9  | 9  | 8  | 8  | 5  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ |    |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 4* | 6* | 5  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 3* | 5* | 6* | 6  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| G = 14   | 9       | 7  | 7  | 8  | 8  | 1  | 2* | 7  | 9  | 9  | 8  | 5  | 1  | 1  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9+ | 9+ | 9  |    |
| I = 15   | 9+      | 9+ | 9+ | 9+ | 8  | 3* | 3* | 9  | 8  | 8  | 5  | 2  | 1  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9+ | 9+ | 9+ |    |
| UA3 = 16 | 6       | 5  | 4  | 2  | 1  | 3  | 8  | 9  | 7  | 7  | 6  | 5  | 1  | 1* | -  | -  | 1  | 4  | 7  | 8  | 3  | 2  | 1  | 1  |    |
| UN = 17  | 1       | 1* | 4  | 8  | 8  | 7  | 8  | 5  | 5* | 4* | 7  | 6  | 4* | 2* | -  | -  | 1  | 1  | -  | -  | -  | -  | 1  | 2  | 4  |
| UA9 = 18 | 1*      | 1* | 2* | 4  | 8  | 8  | 8  | 7  | 7  | 6  | 7* | 7* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| UA0 = 19 | 8       | 7  | 7  | 6  | 7  | 7  | 8  | 7  | 9  | 9  | 7* | 7* | 5* | 3* | 2* | 1* | 1* | 2* | 2* | -  | -  | -  | 8  | 9  |    |
| 4X = 20  | 9+      | 9+ | 9  | 8  | -  | 8  | 9  | 8  | 7  | 4  | 1  | -  | 1  | 1  | -  | 1  | 2  | 2  | 7  | 8  | 9  | 9  | 9+ | 9+ |    |
| HZ = 21  | 9+      | 9+ | 9  | 1* | 8  | 9  | 8  | 7  | 5  | 1  | 1* | 1* | 2  | -  | 1  | 1  | 2  | 3  | 7  | 8  | 9  | 9  | 9+ | 9+ |    |
| VU = 22  | 2       | -  | 1* | 9  | 8  | 8  | 5  | 3  | 2  | 2* | 4* | 7  | 3* | 2* | 1* | -  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |    |
| JT = 23  | 1*      | 2* | 7  | 8  | 6  | 7  | 6  | 6  | 7  | 8* | 8* | 7* | 5* | 5* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1* | 1* |    |
| VR2 = 24 | 9       | 9  | 8  | 6  | 2  | 1  | 2* | 5* | 8* | 8* | 9* | 7* | 6* | 5* | 1  | 1  | 1  | 3  | 6  | 8  | 8  | 9  | 5* | 4* |    |
| JA1 = 25 | 8*      | 6* | 6  | 5  | 8  | 8  | 8  | 9  | 9+ | 9  | 7  | 2  | 2* | 1* | 1* | 1* | 1* | 4* | 6* | 1* | 7  | 6  | 5  | 9* |    |
| HS = 26  | 9       | 9  | 9  | 8  | 4  | 1  | -  | 2* | 5* | 7  | 7* | 7  | 4* | 2  | 1  | 2  | 3  | 5  | 7  | 9  | 9  | 9  | 9+ | 9  |    |
| DU = 27  | 8       | 7  | 4  | 1  | -  | 1* | 1  | 5  | 7* | 7  | 8* | 6  | 6  | 4  | 2  | 1  | 1  | 3  | 7  | 8  | 8  | 9  | 9  | 8  |    |
| YB = 28  | 9       | 9  | 8  | 5  | 2  | 1  | 1  | 1  | 5* | 6  | 8* | 5  | 5  | 3  | 3  | 3  | 3  | 5  | 8  | 8  | 9  | 8  | 8  | 9  |    |
| VK6 = 29 | 8       | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 4  | 2  | 2  | 1  | -  | 3* | 4* | 5* | 6* | 7  |    |
| VK3 = 30 | 8       | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | 1  | -  | -  | 3  | 8  | 8  | 8  | 8  |    |
| KH6 = 31 | 5       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2  | -  | -  | 2  | 1  | -  | 2* | 2* | 1* | 1  | 2  |    |
| KH8 = 32 | 2       | 5  | 7  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 3  | 2  | 1  | 1  | 1* | 1  | 1  | 2  |    |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9+ | 5  | 1* | 3* | 9  | 9  | 8  | 6  | 4  | 2  | 1  | 1  | 2  | 4  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |
| SU = 34  | 9+      | 9+ | 9+ | 9  | 1  | 8  | 9  | 8  | 7  | 4  | 1  | -  | -  | 1  | -  | 1  | 2  | 3  | 7  | 8  | 9  | 9  | 9+ | 9+ |    |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5* | 9  | 9+ | 9  | 9  | 7  | 4  | 3  | 4  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| D2 = 36  | 9+      | 9+ | 9+ | 9+ | 8  | 6  | 9  | 9  | 9  | 8  | 7  | 5  | 4  | 4  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| 5Z = 37  | 9+      | 9  | 8  | 1  | 2  | 9  | 9  | 8  | 7  | 4  | 2  | 1  | 1  | 1  | 1  | 3  | 5  | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ |    |
| ZS6 = 38 | 8       | 4  | -  | 1* | 1  | 8  | 9  | 9  | 9  | 8  | 6  | 5  | 5  | 5  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| FR = 39  | 2*      | 2* | 1* | 1* | 9  | 9  | 8  | 7  | 4  | 3  | 3  | 2  | 3  | 2  | 3  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 5  | 2  |    |
| FJL = 40 | 2*      | 2* | 2* | 1* | 1* | 1* | 2* | 4* | 5* | 5* | 8  | 8  | 7  | 2  | -  | -  | 1  | 2  | 5  | 8  | 4  | -  | -  | -  |    |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Feb., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9+ | 9  | 6  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 4  | 6  | 8  | 8  | 9  |
| VO2 = 02 | 9       | 4  | -  | -  | 1  | 1  | 2  | -  | -  | -  | -  | 9  | 9  | 7  | 4  | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| W6 = 03  | 9       | 9+ | 9  | 9  | 9  | 4  | 1  | 1  | 4  | 4  | 1  | -  | -  | -  | 7  | 4  | 2  | 1  | 8  | 7  | 5  | 6  | 8  | 9  |
| W9 = 04  | 9+      | 9+ | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 6  | 4  | 3  | 4  | 5  | 6  | 8  | 9  | 9  | 9+ |
| W3 = 05  | 9+      | 9  | 9  | 8  | 7  | -  | -  | -  | 1  | -  | -  | 1  | 9  | 8  | 6  | 5  | 5  | 6  | 7  | 7  | 9  | 9  | 9+ | 9+ |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 3  | -  | -  | -  | 9  | 8  | 6  | 6  | 5  | 5  | 6  | 8  | 9  | 9+ | 9+ |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | -  | 9  | 9  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  | -  | -  | 9+ | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | -  | -  | -  | 9+ | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | 6  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 4  | 3* | 5* | 4* | 7  | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 4* | 6* | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9       | 8  | 8  | 8  | 8  | 5  | 2* | 4* | 4* | 7* | 3* | 6  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 3       | -  | -  | 1  | 2  | -  | -  | 6* | 8  | 9  | 8  | 7  | 4  | 8  | 2  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 8  |
| I = 15   | 9       | 9  | 9  | 8  | 2  | 1* | 6* | 9  | 7  | 8  | 7  | 5  | 4  | 8  | 1  | 2  | 2  | 5  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | 1       | -  | -  | 1* | 4* | 3* | 5  | 8  | 5  | 7  | 7  | 6  | 5  | 7  | 2  | 2  | 4  | 6  | 8  | 1  | -  | -  | -  | -  |
| UN = 17  | -       | 1* | 1* | 6  | 8  | 8  | 7  | 5  | 3* | 5* | 5* | 5* | 5  | 6  | 1  | 1  | 4  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 1*      | 1* | 1* | 1* | 7  | 8  | 8  | 7  | 7  | 7  | 8* | 6* | 4  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | 2* |
| UA0 = 19 | 8       | 8  | 8  | 6  | 7  | 8  | 7  | 9  | 8  | 7* | 8* | 8* | 7* | 6* | 4* | 2* | 1* | -  | -  | -  | -  | -  | 2* | 9  |
| 4X = 20  | 9+      | 9  | 9  | 2  | 1* | 5  | 9  | 7  | 4  | 7  | 5  | 4  | 7  | 8  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| HZ = 21  | 9       | 9  | 4  | 2* | 1  | 9  | 8  | 6  | 5  | 5  | 4  | 6  | 6  | 7  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| VU = 22  | -       | 1* | 2* | 9  | 8  | 7  | 6  | 4  | 4* | 4  | 4* | 5* | 4  | 4* | 3* | 2  | 4  | 6  | 8  | 8  | 8  | 9  | 9  | 8  |
| JT = 23  | 1*      | 2* | 5  | 8  | 6  | 6  | 5  | 7  | 7* | 7  | 7* | 8* | 6* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| VR2 = 24 | 9       | 9  | 8  | 7  | 5  | 4  | 4* | 6* | 8* | 8* | 8* | 8* | 8* | 6* | 4  | 5  | 6  | 7  | 8  | 8  | 9  | 8  | 1* | 5* |
| JA1 = 25 | 8*      | 7  | 7  | 8  | 7  | 8  | 8  | 9  | 9  | 7  | 5* | 5* | 5* | 4* | 4* | 5* | 5* | 6* | 2* | -  | -  | 5  | 6  | 9* |
| HS = 26  | 8       | 9  | 9  | 8  | 6  | 4  | 3  | 3  | 5  | 7* | 7* | 7* | 6  | 5  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| DU = 27  | 9       | 8  | 7  | 5  | 3  | 3  | 4  | 6* | 7* | 7  | 8  | 8  | 8  | 7  | 6  | 5  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 9  |
| YB = 28  | 9       | 9  | 8  | 7  | 5  | 3  | 3  | 4  | 6  | 6  | 6  | 7  | 7  | 7  | 5  | 6  | 6  | 7  | 8  | 8  | 6  | 4  | 2  | 6  |
| VK6 = 29 | 6       | 8  | 9  | 8  | 8  | 6  | 5  | 6  | 8  | 9  | 9  | 7  | 5  | 3* | 1  | -  | -  | 1* | 2* | 3* | 4* | 4* | 6* | 6* |
| VK3 = 30 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 1* | -  | -  | 1* | 2* | 2* | 4  | 8  | 8  | 9  |
| KH6 = 31 | 7       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 8  | -  | -  | -  | 1  | 2  | 7  | 6  | 6  | 2  | 3  | 5  |
| KH8 = 32 | 5       | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 6  | 5  | 5  | 5  | 4  | 3  | 2  | 3  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9  | -  | -  | 6* | 6  | 9  | 9  | 8  | 5  | 4  | 5  | 4  | 5  | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9+ | 9  | 7  | 5* | 3  | 9  | 7  | 4  | 7  | 5  | 4  | 8  | 8  | 1  | 2  | 4  | 6  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 2  | 3* | 3* | 9+ | 9+ | 9  | 8  | 6  | 5  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 8  | 7  | 2  | 3* | 4  | 6  | 8  | 9  | 8  | 7  | 5  | 5  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9       | 7  | 3  | 4* | 3* | 8  | 8  | 6  | 7  | 7  | 5  | 4  | 8  | 9  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| ZS6 = 38 | 1       | -  | -  | -  | 2* | 2* | 9  | 8  | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 7  | 4  | 4  |
| FR = 39  | 1*      | 1* | 4* | 3* | 6  | 8  | 6  | 6  | 6  | 5  | 5  | 6  | 6  | 5  | 5  | 6  | 7  | 8  | 9  | 8  | 6  | 4* | 4* | 2* |
| FJL = 40 | -       | 2* | 2* | 2* | 1* | 1* | 2* | 4* | 5* | 5* | 7* | 6  | 5  | 4  | 4  | 3  | 2  | 5  | 5  | 1  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Feb., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 6  | 1  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 8  | 9  | 9  |
| VO2 = 02 | 6       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9+ | 9  |
| W6 = 03  | 9       | 9  | 9+ | 9  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 6  | 5  | 5  | 5  | 7  | 8  | 9  | 9  |
| W9 = 04  | 9+      | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 8  | 6  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9+ |
| W3 = 05  | 9       | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| XE1 = 06 | 9+      | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| TI = 07  | 9       | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | -  | -  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 | 8       | 7  | 9  | 9+ | 9+ | 9+ | 9  | 1  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 7       | 5  | 8  | 9+ | 9+ | 9+ | 8  | 3  | -  | -  | -  | 4  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  |
| HC = 10  | 6*      | 5* | 4  | 8  | 9+ | 8  | 5  | 1  | -  | -  | -  | -  | 9  | 9  | 6  | 9  | 9  | 2  | 9  | 5  | 7  | 8  | 8  | 7  |
| PY1 = 11 | 9       | 8  | 8  | 8  | 6  | 4* | 4* | -  | -  | 2* | 3* | 6  | 8  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | -  | 3* | 2  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 6*      | 5* | 3* | 2* | 3* | 3* | 4* | 1* | -  | 5* | 1* | 1* | 3  | 5  | 3  | 6  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 6* |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | 3* | 4  | 8  | 9  | 8  | 7  | 6  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 8  | 4  | 1  |
| I = 15   | 8       | 7  | 5  | 1  | -  | -  | 6* | 5  | 2  | 7  | 8  | 8  | 6  | 5  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | -       | -  | -  | -  | 4* | 5* | 4* | 5  | 1  | 5  | 7  | 7  | 5  | 5  | 4  | 4  | 5  | 7  | 2  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 3* | 2* | 3* | 8  | 8  | 7  | 3* | 3* | 5  | 5  | 7* | 5* | 3  | 3  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 4*      | 2* | 2* | 2* | 3* | 8  | 9  | 7  | 3* | 7  | 7  | 6  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 9       | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 4* | 6* | 8* | 8* | 8* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 8  |
| 4X = 20  | 9       | 9  | 8  | -  | 5* | 5* | 9  | 2* | 1* | 6  | 6  | 4  | 5  | 5  | 5  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 8  | -  | 6* | 3* | 9  | 7  | 1  | 1* | 4  | 5  | 4  | 3  | 4  | 4  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -       | 5* | 4* | 6  | 8  | 6  | 2  | 2* | 3* | 4  | 4  | 5* | 5* | 4  | 4  | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 4  |
| JT = 23  | 3*      | 2* | 2* | 8  | 8  | 6  | 7  | 5* | 5* | 6  | 7  | 8* | 7* | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* |
| VR2 = 24 | 7*      | 9  | 8  | 6  | 4* | 4* | 5* | 8* | 8* | 6  | 7  | 8* | 8* | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 8  | 1  | -  | 7* |
| JA1 = 25 | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 5* | 6* | 7* | 7* | 6* | 6* | 5* | 5* | 2* | -  | -  | -  | 7  | 8  | 8  |
| HS = 26  | 7*      | 8  | 9  | 7  | 4  | 2* | 3* | 4* | 6* | 5  | 6  | 6  | 7  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 1  |
| DU = 27  | 8       | 8  | 6  | 5* | 4* | 4* | 5* | 6* | 3  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 5  | 1  | 2  | 8  |
| YB = 28  | 8*      | 8  | 8  | 6  | 4* | 3* | 4* | 5* | 3  | 6  | 7  | 8  | 7  | 7  | 6  | 5  | 5  | 6  | 6  | 2  | -  | -  | -  | 2* |
| VK6 = 29 | 6*      | 6* | 8  | 7  | 5  | 1* | 2* | 3* | 1  | 5  | 6  | 7* | 6* | 4* | 2* | 1* | 2* | 2* | 3* | 2* | 2* | 2* | 5* | 6* |
| VK3 = 30 | 8       | 7  | 8  | 7  | 8  | 8  | 8  | 7  | 6  | 7  | 8  | 8  | 4* | 3* | 2* | 1* | 1* | 1* | 1* | 1* | 1* | 4* | 7  | 7  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 3* | 5  | 8  | 3  | -  | -  | -  | -  | 5  | 3  | 4* | 6* | 4  | 5  | 6  |
| KH8 = 32 | 7       | 8  | 9  | 9  | 9  | 9+ | 9  | 9  | 8  | 5  | 8  | 9  | 8  | 5  | 6  | 5  | 6  | 6  | 5  | 5  | 4  | 6  | 6  | 7  |
| CN = 33  | 9       | 9+ | 9+ | 9  | 5  | -  | -  | 4* | 2* | 6  | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  |
| SU = 34  | 9       | 9  | 9  | 1  | 4* | 5* | 9  | 2* | 1* | 6  | 6  | 4  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9       | 9+ | 9+ | 9+ | 9  | 3  | -  | -  | 2* | 3  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 8  |
| D2 = 36  | 9       | 6  | 2  | 1  | -  | 2* | 6* | 4* | 1  | 8  | 9  | 7  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 5       | 1  | -  | 1* | 4* | 4* | 4* | 2* | 2  | 8  | 8  | 6  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  |
| ZS6 = 38 | -       | -  | -  | -  | 3* | 4* | 3* | 2  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 5  | 5* | 1* | -  |
| FR = 39  | -       | -  | 5* | 5* | 4* | 2  | 1  | 1  | 5  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 7  | 4* | 5* | 5* | 4* | -  |
| FJL = 40 | -       | -  | 2* | 4* | 3* | 2* | 4* | 3* | 3* | 5* | 7* | 1* | 1  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Feb., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 9   | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| VO2 = 02 | 1   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| W6 = 03  | 9   | 9+  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  |
| W9 = 04  | 9   | 5   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| W3 = 05  | 7   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 9  | 8  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9   | 9   | 9  | 9+ | 9  | 9  | 9  | 9  | 4  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| TI = 07  | 5   | 4   | 5  | 9  | 9+ | 9  | 9  | 9  | 1  | -  | -  | -  | -  | 4  | 9  | 9  | 9  | 4  | 4  | 5  | 5  | 8  | 9  | 9  | 9  | 7  |
| VP2 = 08 | 2   | 1   | 4  | 8  | 9  | 7  | 4  | -  | -  | -  | -  | -  | 4  | 9  | 9  | 4  | 3  | 4  | 5  | 6  | 7  | 8  | 8  | 7  | 6* |    |
| P4 = 09  | 5*  | 1*  | 2  | 6  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | 9  | 7  | 3  | 1  | 1  | 2  | 3  | 5  | 6  | 6  | 5  | 5* |    |
| HC = 10  | 9+  | 9+  | 9+ | 2  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | -  | -  | 8  | 9  | 9  | -  | 1  | 3* | 5* | 5* | 5* |
| PY1 = 11 | 6*  | 5*  | 3* | 2* | 2* | 5* | -  | -  | -  | -  | -  | -  | 1* | 2* | 2  | -  | 1  | 5  | 8  | 8  | 8  | 8  | 8  | 7  | 7* | 7* |
| CE = 12  | 9+  | 9   | 9  | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 7*  | 5*  | 4* | 3* | 2* | 1* | 3* | -  | -  | 1* | -  | -  | -  | 1* | 1* | -  | 1  | 4  | 6  | 4  | 4  | 3  | 5* | 7* | 7* | 7* |
| G = 14   | -   | -   | -  | -  | -  | -  | -  | -  | 1* | -  | 2  | 9  | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 7  | 2  | -  | -  |
| I = 15   | 2   | 1   | -  | -  | -  | -  | 4* | 1  | -  | 2  | 8  | 8  | 7  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  |
| UA3 = 16 | -   | -   | -  | -  | -  | 2* | 4* | 1* | 1  | -  | -  | 7  | 8  | 6  | 5  | 5  | 7  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -   | 4*  | 3* | 4* | 7  | 8  | 5  | 2* | -  | 1  | 6  | 7  | 5  | 6  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 4*  | 4*  | 2* | 3* | 3* | 6  | 8  | 3  | -  | 3  | 8  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 8   | 8   | 8  | 9  | 9  | 9  | 8  | 6  | -  | -  | 7* | 8* | 7* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7* |
| 4X = 20  | 9   | 9   | 2  | -  | 5* | 6* | 4  | 1* | -  | 3  | 6  | 6  | 6  | 6  | 6  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9   | 6   | -  | 5* | 4* | 6  | 2* | 2* | -  | 1  | 5  | 7  | 7  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -   | 5*  | 4* | 5* | 5  | 4* | 2* | 4* | -  | 3  | 5  | 5  | 5  | 6* | 5  | 6  | 7  | 8  | 9  | 8  | 8  | 8  | 8  | 6  | -  | -  |
| JT = 23  | 5*  | 3*  | 2* | 5  | 8  | 8  | 7  | 1  | -  | 1  | 8  | 8  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VR2 = 24 | 8*  | 8   | 7* | 7* | 6* | 6* | 7* | 7* | 3* | 5  | 8  | 7  | 8* | 6  | 6  | 5  | 6  | 8  | 8  | 8  | 8  | 6  | -  | -  | -  | 7* |
| JA1 = 25 | 8   | 8   | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | 5* | 6* | 7* | 7* | 7* | 6* | 5* | 1* | -  | -  | -  | -  | 4  | 9  | 8  | 8  |
| HS = 26  | 7*  | 7*  | 7  | 5* | 4* | 4* | 4* | 5* | 2* | 5  | 7  | 7  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 2  | -  | -  |
| DU = 27  | 7*  | 6*  | 6* | 5* | 5* | 4* | 5* | 4* | -  | 6  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | 8* |    |
| YB = 28  | 8*  | 6   | 6* | 6* | 4* | 3* | 4* | 3* | -  | 5  | 7  | 8  | 7  | 6  | 4  | 4  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 7*  | 5*  | 5  | 5  | 2* | 2* | 2* | 1* | -  | -  | -  | 7* | 6* | 5* | 4* | 2* | 2* | 2* | 2* | 2* | 1* | 1* | -  | 2* | 6* |    |
| VK3 = 30 | 5   | 4   | 5  | 5  | 5  | 5  | 7  | 1  | -  | 1  | 6  | 5* | 5* | 4* | 2* | 2* | 2* | 1* | 1* | 1* | -  | -  | 2* | 5  | 5  |    |
| KH6 = 31 | 8   | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 1  | 1* | -  | 4  | -  | -  | -  | -  | -  | 3  | 6  | 5  | 5  | 5  | 6  | 7  |    |
| KH8 = 32 | 8   | 8   | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 1  | 1* | 5* | 8  | 5* | 4* | 3  | 4  | 5  | 6  | 6  | 6  | 6  | 6  | 6  | 6  |    |
| CN = 33  | 9   | 9+  | 9  | 8  | 1  | -  | -  | 1* | -  | -  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  |    |
| SU = 34  | 9   | 9   | 8  | -  | 1* | 7* | 7  | 1* | -  | 3  | 6  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 5   | 7   | 8  | 7  | 4  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 3  | 2  | 2  | 4  | 5  | 6  | 5  | 5* | 4* | 5* | 2  | 2  |    |
| D2 = 36  | 5   | 1   | -  | -  | -  | 1* | 6* | 4* | -  | 4  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 8  |    |
| 5Z = 37  | -   | -   | -  | -  | 5* | 6* | 5* | 2* | -  | 6  | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  |
| ZS6 = 38 | -   | -   | -  | -  | -  | 4* | 5* | 2* | 1  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 9  | 7  | 4* | 2* | -  | -  |    |
| FR = 39  | -   | -   | 1* | 6* | 5* | 4* | 2* | 1* | -  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 4* | 5* | 5* | 4* | -  | -  |    |
| FJL = 40 | -   | -   | -  | 2* | 2* | 1* | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Mar., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2  | 5  | 5  | 5  | 5  | 5  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -  | -  | -  | -  | 1  | 3  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -  | 2  | 2  | 4  | 4  | 4  | 4  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1  | 3  | 5  | 5  | 5  | 4  | 4  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -  | -  | 2  | -  | 3  | 2  | 4  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 1  | 2  | 2  | 2  | 2  | 3  | 2  | 1  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 4  | 3  | 3  | 3  | 2  | 3  | 2  | 3  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| P4 = 09  | 3  | 3  | 3  | 3  | 2  | 3  | 3  | 2  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | 4  | 5  | 5  | 4  | 4  | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| PY1 = 11 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  |
| CE = 12  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  |
| LU = 13  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  |
| G = 14   | 3  | 5  | 5  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 2  | 4  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 6  | -  |
| UA9 = 18 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 1  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VU = 22  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | -  | -  | -  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | -  | -  | -  | 2  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 1  | 5  | 4  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| SU = 34  | 1  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 5  | 5  | 4  | 3  | 3  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  |
| D2 = 36  | 4  | 5  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  |
| 5Z = 37  | 3  | 3  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| ZS6 = 38 | 5  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  |
| FR = 39  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  |
| FJL = 40 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Mar., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | 1  | 2  | 3  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W6 = 03  | -       | -  | 1  | 2  | 4  | 6  | 6  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 5  | 5  | 7  | 7  | 7  | 7  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 4       | 6  | 8  | 8  | 8  | 7  | 7  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 2  | 5  | 3  | 6  | 5  | 7  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 4       | 5  | 5  | 5  | 5  | 6  | 5  | 4  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 7       | 6  | 6  | 6  | 5  | 6  | 5  | 6  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| P4 = 09  | 6       | 6  | 6  | 6  | 5  | 6  | 6  | 5  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 7       | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 9  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | -  | -  | -  | -  | -  | -  | 2  | 8  | 9+ | 9+ | 9+ |
| G = 14   | 6       | 8  | 8  | 7  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| I = 15   | 5       | 7  | 5  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | 2       | 5  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 9  | 1  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 4       | 6  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| HZ = 21  | 5       | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| VU = 22  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 2  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 2  | 5  | 3  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 4       | 8  | 7  | 7  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| SU = 34  | 4       | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| 6W = 35  | 8       | 8  | 7  | 6  | 6  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| D2 = 36  | 7       | 8  | 8  | 8  | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| 5Z = 37  | 6       | 6  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| FR = 39  | 8       | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| FJL = 40 | 2       | 3  | 2  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Mar., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01           | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | 1            | 2  | 4  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8  | 8            | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  |
| W6 = 03  | 1  | 3            | 5  | 6  | 7  | 7  | 8  | 8  | 7  | 6  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 7  | 7            | 7  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W3 = 05  | 7  | 8            | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| XE1 = 06 | 5  | 7            | 7  | 8  | 8  | 8  | 7  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| TI = 07  | 7  | 8            | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| VP2 = 08 | 8  | 9            | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| P4 = 09  | 8  | 9            | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| HC = 10  | 8  | 9            | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  |
| PY1 = 11 | 9+ | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 3  | 1  | 1  | 1  | 2  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | -  | -  | -  | -  | 3  | 8  | 9  | 9+ | 9+ |
| LU = 13  | 9+ | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 2  | 2  | 3  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8            | 8  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  |
| I = 15   | 7  | 6            | 6  | 7  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 7  |
| UA3 = 16 | 8  | 8            | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  |
| UN = 17  | 7  | 6            | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 6  |
| UA9 = 18 | 5  | 4            | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| UA0 = 19 | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 8  | 7            | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| HZ = 21  | 7  | 7            | 7  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  |
| VU = 22  | 6  | 5            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |
| JT = 23  | 1  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 4  |
| VR2 = 24 | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  |
| JA1 = 25 | -  | -            | -  | -  | -  | -  | -  | -  | 1  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  |
| HS = 26  | 4  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |
| DU = 27  | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| YB = 28  | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 5  |
| VK6 = 29 | 1  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 3  |
| VK3 = 30 | -  | -            | -  | -  | -  | -  | -  | 1  | 4  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -            | -  | 1  | 4  | 6  | 7  | 7  | 7  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -            | -  | -  | 1  | 4  | 6  | 6  | 6  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 8            | 8  | 9  | 8  | 7  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| SU = 34  | 8  | 7            | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  |
| 6W = 35  | 9  | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 9  |
| D2 = 36  | 9  | 9            | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 9  | 9  |
| 5Z = 37  | 8  | 8            | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  | 8  |
| ZS6 = 38 | 9  | 9            | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 9  | 9  |
| FR = 39  | 9  | 9            | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  |
| FJL = 40 | 7  | 8            | 8  | 7  | 7  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| Zone     | 00 | 01           | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Mar., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1  | 2  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  |
| W6 = 03  | 4  | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| W3 = 05  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| XE1 = 06 | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| TI = 07  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  |
| VP2 = 08 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 9  |
| P4 = 09  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 5  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 4  | 2  | 3  | 5  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 9  |
| I = 15   | 8  | 8  | 8  | 9  | 9  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 8  |
| UA3 = 16 | 8  | 8  | 8  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  |
| UN = 17  | 7  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  | 7  |
| UA9 = 18 | 7  | 7  | 5  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 7  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4* | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2  | 1  |
| 4X = 20  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| HZ = 21  | 8  | 8  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 7  | 8  |
| VU = 22  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 7  |
| JT = 23  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 5  |
| VR2 = 24 | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 4  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 3* | 5* | 5* | -  |
| HS = 26  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5* | 3  |
| YB = 28  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 6  |
| VK6 = 29 | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 6  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 5  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  |
| KH6 = 31 | -  | -  | 1  | 4  | 6  | 6  | 6  | 7  | 7  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | 2  | 5  | 7  | 7  | 8  | 8  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 8  | 7  | 8  |
| SU = 34  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 8  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9  |
| FR = 39  | 9  | 8  | 7  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 9  |
| FJL = 40 | 8  | 8  | 8  | 7  | 8  | 7  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



## 20 Meters: Mar., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 5  | 4  | 1* | -  | -  | -  | -  | -  | -  | 1* | 1  | 2* | 1  | 4  |
| VO2 = 02 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | 1  | 8  | 8  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  |
| W9 = 04  | 9       | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 2  | -  | -  | -  | -  | -  | -  | 4  | 5  | 8  | 9  |
| W3 = 05  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 7  | 2  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 9  | 9  |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 5  | 1  | 1  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 8  | 3  | 1  | -  | -  | 1  | 3  | 5  | 8  | 9  | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9+ | 9  | 8  | 4  | 1  | 1  | 1  | 1  | 3  | 5  | 8  | 9  | 9  | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9  | 9  | 8  | 5  | 2  | 1  | 1  | 1  | 2  | 5  | 6  | 8  | 9  | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 2  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 9  | 9+ | 9+ |
| I = 15   | 9+      | 9  | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9+ | 9+ |
| UA3 = 16 | 9       | 9  | 9  | 8  | 8  | 9  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 9  | 9  | 9  |
| UN = 17  | 9       | 9  | 9  | 8  | 6  | 4  | 1  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 9  | 9  | 9  |
| UA9 = 18 | 7       | 7  | 8  | 8  | 7  | 3  | 2  | 4  | 2  | 4* | 4* | 3* | 2* | 1* | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 8  |
| UA0 = 19 | 6       | 5  | 1  | 1  | 1  | 5  | 7  | 6  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | 5* | 7* | 7* | 8  | 8  |
| 4X = 20  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 9  | 9  | 9  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 7  | 9  | 9  | 9  |
| VU = 22  | 9       | 9  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  |
| JT = 23  | 8       | 8  | 8  | 3  | 1  | 1  | 1  | 1  | 3* | 5* | 6  | 4* | 1* | 1* | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 8  | 8  |
| VR2 = 24 | 8       | 8  | 5  | 1  | -  | -  | -  | 1* | 3* | 5* | 8  | 5* | 3* | 1* | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 8  |
| JA1 = 25 | 4*      | 1* | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 9  | 8  | 7  | 3  | 1  | -  | -  | -  | 2* | 6* | 8* | 8  | 8  | 7* |
| HS = 26  | 9       | 9  | 7  | 5  | -  | -  | -  | -  | 1* | 4* | 5* | 3* | 1* | -  | -  | -  | -  | -  | 4  | 7  | 8  | 9  | 9  | 9  |
| DU = 27  | 7       | 5  | -  | -  | -  | -  | -  | 1* | 6* | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| YB = 28  | 9       | 8  | 5  | 1  | -  | -  | -  | -  | 1* | 5* | 7  | 4* | 1  | 1  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 9  | 9  |
| VK6 = 29 | 8       | 8  | 7  | 4  | 2  | 2  | 6  | 6  | 6  | 6  | 6  | 7  | 5  | 3  | 1  | 1  | 1  | 2  | 4  | 5  | 5  | 6  | 6  | 8  |
| VK3 = 30 | 5       | 4  | 3  | 3  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 3  | 2  | 1  | 1  | 2  | 4  | 6  | 6  | 7  | 5  |
| KH6 = 31 | 1       | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | 1  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9  |
| SU = 34  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 8  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 2  | 1  | -  | -  | 1  | 3  | 6  | 9  | 9  | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+      | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 9  | 9  | 9  | 9+ |
| ZS6 = 38 | 9       | 9  | 8  | 6  | 7  | 9  | 9+ | 9  | 8  | 5  | 2  | 1  | 1  | 1  | 1  | 1  | 3  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9  |
| FR = 39  | 2       | 1* | -  | 5  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 6  |
| FJL = 40 | 9       | 9  | 8  | 7  | 6  | 4  | 5  | 8  | 8  | 8  | 7  | 8  | 1  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 8  | 9  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Mar., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 9  | 9  | 8  | 5  | 2  | 3* | 4* | 1  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 3  | 8  | 5  | 8  | 8  |
| VO2 = 02 | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 8  | 9  | 9  | 8  | 4  | 1  | -  | 1  | 2  | 6  | 7  | 8  | 9  | 9+ | 9+ |
| W6 = 03  | 9       | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 9  | 7  | -  | 8  | 5  | 2  | 1  | -  | -  | 1  | 1  | 5  | 8  | 9  |
| W9 = 04  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 8  | 9  | 7  | 4  | 1  | 1  | 1  | 1  | 6  | 6  | 9  | 9  | 9  |
| W3 = 05  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 9  | 9  | 9  | 7  | 2  | 1  | 2  | 2  | 4  | 6  | 8  | 9  | 9  | 9+ |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 1* | 8  | 8  | 6  | 3  | 3  | 3  | 2  | 5  | 6  | 8  | 9  | 9+ |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 2  | 9+ | 9  | 8  | 6  | 5  | 4  | 5  | 5  | 7  | 8  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 3  | 9+ | 9+ | 9  | 8  | 7  | 4  | 5  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 1  | 5  | 9+ | 9  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 4* | 4  | 9+ | 9  | 9  | 7  | 7  | 6  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5* | 3* | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 5* | 4* | 2* | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 9  | 9  | 9  | 9  | 6  | 7  | 9  | 9  | 9  | 8  | 5  | 4  | -  | -  | -  | 1  | 4  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| I = 15   | 9+      | 9+ | 9+ | 9+ | 9  | 8  | 9  | 9  | 8  | 8  | 5  | 2  | 1  | -  | -  | 1  | -  | 2  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | 8       | 8  | 7  | 5  | 5  | 8  | 9  | 8  | 8  | 6  | 5  | 2  | 1  | 1* | 1* | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 8  |
| UN = 17  | 6       | 5  | 8  | 9  | 8  | 7  | 5  | 3  | 3* | 4* | 4* | 6  | 4* | 2* | 2* | -  | 1  | 3  | 7  | 8  | 8  | 8  | 8  | 8  |
| UA9 = 18 | 1       | 1  | 5  | 8  | 8  | 8  | 7  | 6  | 7  | 6  | 6* | 6* | 8  | 5* | 1* | 1* | -  | 2  | 2  | 1  | 1  | -  | 2* | 2* |
| UA0 = 19 | 8       | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 8  | 8  | 9  | 8  | 6* | 4* | 2* | 1* | 2* | 4* | 5* | 6* | 7* | 8* | 9* | 9  |
| 4X = 20  | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | 1  | -  | 1  | 2  | 4  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| HZ = 21  | 9+      | 9+ | 9  | 8  | 9  | 9  | 8  | 7  | 4  | 1  | 1  | 1* | 1  | 1* | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VU = 22  | 9       | 8  | 9  | 9  | 8  | 7  | 4  | 2  | 1  | 4* | 3* | 7  | 4* | 2* | 1* | 1  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  | 6       | 8  | 8  | 8  | 7  | 6  | 5  | 6  | 6* | 7* | 7* | 7* | 7  | 6* | 2* | 1* | 1* | 1  | 3* | 5* | 2  | 3* | 3* | 3  |
| VR2 = 24 | 9       | 9  | 8  | 4  | 1  | -  | 2* | 6* | 8  | 8* | 9* | 7* | 6* | 5* | 2* | 1  | 2  | 5  | 7  | 8  | 8  | 9  | 9  | 9  |
| JA1 = 25 | 8*      | 6* | 5  | 5  | 7  | 6  | 8  | 8  | 9  | 9  | 9+ | 9  | 8  | 6  | 2  | 1* | 1* | 5* | 7* | 8* | 8* | 8* | 9* | 9* |
| HS = 26  | 9+      | 9  | 9  | 8  | 3  | 1  | -  | 1* | 4* | 7  | 7* | 6  | 5* | 3* | 2  | 2  | 3  | 2  | 8  | 9  | 9  | 9  | 9+ | 9  |
| DU = 27  | 9       | 7  | 4  | 1  | -  | -  | 1* | 5* | 7* | 7  | 8* | 7  | 6  | 5  | 2  | 1  | 2  | 5  | 6  | 8  | 8  | 9  | 9  | 9  |
| YB = 28  | 9       | 9  | 8  | 5  | 2  | 1  | 1  | 1  | 5* | 6  | 8* | 6* | 6  | 4  | 3  | 3  | 5  | 6  | 7  | 8  | 8  | 8  | 7  | 8  |
| VK6 = 29 | 8       | 9  | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 8  | 7  | 5  | 3  | 2  | 2  | 2  | 2  | 4* | 5* | 5* | 6  | 6  |
| VK3 = 30 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 2  | 1  | -  | 1  | 2  | 6  | 8  | 8  | 8  |
| KH6 = 31 | 5       | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | -  | -  | -  | 1  | 2* | 2* | 2* | 1* | 1  | 2  |
| KH8 = 32 | 3       | 6  | 8  | 9  | 9  | 9  | 9+ | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 4  | 2  | 2* | 2* | 2* | 1* | 1  | 2  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 8  | 9  | 9  | 8  | 6  | 4  | 1  | -  | 1  | 3  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 8  | 4  | 2  | 1  | -  | 1  | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9+ |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4  | 9+ | 9+ | 9+ | 9  | 7  | 5  | 4  | 4  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 9+ | 9  | 7  | 6  | 7  | 9+ | 9  | 9  | 8  | 5  | 3  | 2  | 3  | 4  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+      | 9  | 9  | 7  | 8  | 9  | 9  | 8  | 6  | 5  | 2  | 1  | 1  | 1  | -  | 3  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| ZS6 = 38 | 7       | 6  | 3  | 1* | 1* | 7  | 9  | 9  | 9  | 8  | 8  | 5  | 6  | 5  | 5  | 5  | 7  | 9  | 9  | 9+ | 9  | 9+ | 8  | 8  |
| FR = 39  | 1*      | 1* | 1* | 1* | 9  | 8  | 7  | 6  | 5  | 4  | 3  | 3  | 4  | 3  | 3  | 4  | 6  | 8  | 9  | 9  | 8  | 3  | 1* | 1* |
| FJL = 40 | 1*      | 3  | 3* | 2* | 1* | 1* | 2* | 3* | 4* | 6* | 8  | 7  | 5  | 2* | -  | -  | -  | 1  | 6  | 7  | 7  | 5  | 2  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Mar., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 9  | 8  | 4  | 1  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 5  | 7  | 8  | 8  | 9  |
| VO2 = 02 | 9       | 8  | 6  | 7  | 8  | 8  | 6  | 1  | -  | 5  | 2  | 9  | 9  | 7  | 4  | 5  | 5  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| W6 = 03  | 9       | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 3  | -  | 2  | 7  | 4  | 2  | 4  | 8  | 2  | 4  | 7  | 8  | 9  |
| W9 = 04  | 9+      | 9+ | 9  | 8  | 7  | 6  | 5  | 4  | 6  | 3  | -  | -  | 9  | 8  | 6  | 4  | 2  | 4  | 8  | 7  | 8  | 9  | 9  | 9+ |
| W3 = 05  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | 1  | 5  | 7  | 9  | 8  | 5  | 2  | 5  | 5  | 7  | 8  | 8  | 9  | 9  | 9+ |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 1  | -  | 7  | 9  | 8  | 6  | 5  | 5  | 6  | 6  | 8  | 9  | 9  | 9+ |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 1* | -  | 4  | 9  | 9  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  | -  | 1  | 9+ | 9  | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9       | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  | -  | -  | 9+ | 9+ | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 7       | 5  | 8  | 9+ | 9+ | 9+ | 9+ | 8  | 4* | 1* | -  | 7  | 9+ | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4* | 5* | 1* | 1* | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 5* | 2* | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 3* | 5* | -  | -  | 2* | 1  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 7  | 7  | 7  | 4  | -  | 3* | 8  | 8  | 9  | 8  | 7  | 4  | 8  | 2  | 2  | 3  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| I = 15   | 9+      | 9+ | 9+ | 9  | 7  | 5* | 6  | 9  | 8  | 9  | 7  | 4  | 4  | 8  | 2  | 1  | 2  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| UA3 = 16 | 5       | 4  | 2  | 2* | 3* | 5  | 8  | 8  | 7  | 7  | 6  | 5  | 3  | 7  | 1  | 1  | 3  | 6  | 8  | 8  | 9  | 8  | 5  | 3  |
| UN = 17  | -       | 1* | 3  | 8  | 8  | 8  | 7  | 6  | 5  | 5  | 2  | 5* | 5* | 5  | 2* | 1  | 5  | 6  | 5  | 4  | 4  | 4  | 4  | 2  |
| UA9 = 18 | -       | 1* | 1* | 4  | 8  | 8  | 8  | 8  | 6  | 6  | 6  | 6* | 6* | 5  | 3* | 2  | 3  | 1  | -  | -  | -  | -  | -  | 2* |
| UA0 = 19 | 8       | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 5  | 6* | 9  | 8* | 7* | 5* | 4* | 4* | 4* | 5* | 5* | 5* | 2* | 6* | 8* | 8  |
| 4X = 20  | 9+      | 9+ | 9  | 8  | 4  | 9  | 9  | 8  | 7  | 7  | 4  | 2  | 7  | 7  | 1  | 3  | 4  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| HZ = 21  | 9+      | 9  | 8  | 2  | 8  | 9  | 9  | 6  | 5  | 4  | 2  | 3  | 4  | 6  | 2  | 4  | 5  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| VU = 22  | 6       | 2  | 8  | 9  | 8  | 7  | 6  | 4  | 4* | 4  | 2  | 5* | 5* | 4* | 2  | 2  | 4  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  | 1       | 4  | 7  | 8  | 8  | 7  | 5  | 7  | 6  | 6  | 6* | 7* | 7* | 6* | 4* | 2* | 2* | 3* | 3* | -  | -  | -  | 4* | 1* |
| VR2 = 24 | 9       | 9  | 8  | 5  | 3* | 3* | 5* | 5* | 8* | 8* | 8* | 8* | 8* | 7* | 6* | 5  | 6  | 6  | 7  | 8  | 9  | 9  | 7  | 8  |
| JA1 = 25 | 8*      | 7  | 7  | 7  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 7  | 5* | 4* | 3* | 5* | 5* | 6* | 8* | 8* | 6  | 4  | 9* | 9* |
| HS = 26  | 9       | 9  | 9  | 6  | 4  | 1  | 1  | 3* | 5* | 6* | 6* | 7* | 5  | 5  | 4  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9  | 9  |
| DU = 27  | 9       | 8  | 5  | 4* | 1* | 2* | 4* | 5* | 5* | 7  | 8  | 8  | 7  | 6  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 8  | 9  | 9  |
| YB = 28  | 9       | 9  | 7  | 3  | -  | -  | 1* | 4* | 3  | 6  | 7  | 7  | 7  | 6  | 5  | 5  | 5  | 6  | 6  | 6  | 6  | 4  | 4* | 5  |
| VK6 = 29 | 6       | 8  | 9  | 6  | 5  | 3  | 3  | 5  | 6  | 6  | 9  | 8  | 6  | 2  | 1  | -  | -  | 1* | 2* | 4* | 4* | 4* | 6* | 5* |
| VK3 = 30 | 9       | 8  | 8  | 7  | 6  | 5  | 6  | 6  | 5  | 6  | 9  | 8  | 5  | 3  | 1  | -  | -  | 1* | 2* | 2* | 4  | 8  | 8  | 9  |
| KH6 = 31 | 7       | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 8  | 6  | 9  | 9  | 1* | -  | -  | 5  | 2  | 7  | 5  | 5  | 2* | 3  | 5  |
| KH8 = 32 | 5       | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 8  | 6  | 9  | 9  | 8  | 7  | 5  | 6  | 5  | 5  | 3  | 4  | 2  | 3  | 4  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9  | 6  | 3* | 5  | 8  | 9  | 9  | 8  | 5  | 4  | 2  | 5  | 5  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9+ | 9  | 9  | 5  | 9  | 9  | 9  | 7  | 6  | 4  | 2  | 1  | 8  | 1  | 4  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | -  | 5* | 7  | 9+ | 9+ | 9  | 8  | 7  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9  | 8  | 7  | 4  | 2* | 5  | 7  | 9  | 8  | 8  | 7  | 6  | 5  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9       | 9  | 7  | 2  | 3  | 9  | 8  | 6  | 7  | 6  | 5  | 3  | 7  | 8  | 2  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| ZS6 = 38 | 1       | -  | -  | -  | 2* | 2* | 5  | 7  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 7  | 2  | 4  |
| FR = 39  | -       | -  | 2* | 2* | 5  | 4  | 1  | 2  | 5  | 6  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 4  | 3* | 3* | 2* | 1* |
| FJL = 40 | -       | 2* | 2* | 1* | 1* | 1* | 2* | 2* | 2* | 1* | 6* | 7* | 5  | 4  | 2  | 2  | 2  | 3  | 2  | 1  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Mar., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 8  | 8  | 9  |
| VO2 = 02 | 8       | 4  | -  | 1  | 1  | 1  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 6  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9+ | 9  |
| W6 = 03  | 9       | 9  | 9+ | 9  | 8  | 6  | 5  | 4  | 3  | 3  | 1  | -  | -  | -  | 8  | 7  | 6  | 5  | 5  | 5  | 6  | 8  | 9  | 9  |
| W9 = 04  | 9       | 9  | 7  | 2  | 1  | -  | -  | -  | 1  | -  | -  | -  | 7  | 9  | 8  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | 9       | 9  | 9  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | 9  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| XE1 = 06 | 9+      | 9+ | 9+ | 9  | 9+ | 9+ | 9  | 9  | 7  | 3  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| TI = 07  | 8       | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 8  | -  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9  |
| VP2 = 08 | 5       | 4  | 8  | 9+ | 9+ | 9+ | 9  | 2  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9  | 7  |
| P4 = 09  | 5*      | 2* | 7  | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | 9  | 9+ | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  |
| HC = 10  | 9+      | 9+ | -  | 7  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | 9+ | 9  | 9  | 9  | 2  | -  | 9  | -  | 2  | 3  | 5* | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 8  | 4  | -  | 1* | -  | -  | 2* | 1  | 2  | 2  | 4  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2* | 1* | -  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 6       | 4  | 9  | 8  | 7  | 5  | -  | 9  | 3* | -  | -  | -  | 1* | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 9  | 8  |
| G = 14   | 1       | 1  | 1  | -  | -  | -  | -  | 3  | 5  | 5  | 9  | 8  | 6  | 4  | 4  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 8  | 5  |
| I = 15   | 9       | 9  | 9  | 7  | 1  | 1* | 3* | 8  | 6  | 7  | 7  | 6  | 4  | 5  | 4  | 3  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | 1       | -  | -  | 1* | 2* | 1* | 5  | 8  | 4  | 4  | 7  | 6  | 5  | 4  | 3  | 4  | 5  | 7  | 8  | 6  | 6  | 1  | -  | -  |
| UN = 17  | 1*      | 1* | 2* | 6  | 8  | 8  | 7  | 5  | 3  | 6  | 5  | 4  | 7* | 4* | 4* | 5  | 6  | 1  | 1  | -  | -  | -  | -  | -  |
| UA9 = 18 | 4*      | 2* | 1* | 1* | 6  | 8  | 8  | 7  | 2  | 4  | 8  | 7* | 7* | 5  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | 2* |
| UA0 = 19 | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 7  | 1  | 1  | 7* | 8* | 8* | 6* | 5* | 4* | 4* | 5* | 4* | -  | -  | 1* | 8* | 8* |
| 4X = 20  | 9       | 9  | 9  | 2  | 6* | 7  | 9  | 7  | 4  | 7  | 6  | 4  | 3  | 3  | 5  | 5  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 4* | 1* | 5  | 9  | 8  | 2* | 1  | 5  | 5  | 4  | 5* | 3  | 5  | 5  | 6  | 7  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 2*      | 2* | 3  | 9  | 8  | 6  | 3  | 4* | 2  | 5  | 3  | 3  | 5* | 5* | 5* | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  |
| JT = 23  | 2*      | 2* | 5  | 7  | 8  | 8  | 7  | 7  | 3  | 6  | 6  | 8* | 8* | 6* | 5* | 4* | 2* | 1* | 1* | -  | -  | -  | 2* | 2* |
| VR2 = 24 | 9       | 8  | 6  | 5  | 5* | 3* | 4* | 6* | 8* | 6  | 7  | 9* | 8* | 7  | 7* | 7  | 7  | 7  | 8  | 9  | 8  | 6* | 6* |    |
| JA1 = 25 | 8*      | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 6  | 7* | 8* | 7* | 6* | 5* | 5* | 6* | 7* | 8* | 6* | 5  | 7  | 7  | 9* |
| HS = 26  | 7       | 9  | 7  | 4* | 2* | 2* | 2* | 4* | 6* | 4  | 6  | 7* | 7  | 6  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 7  |
| DU = 27  | 8       | 6* | 5* | 4* | 4* | 4* | 4* | 5* | 1* | 3  | 8  | 9* | 8  | 7  | 6  | 5  | 6  | 6  | 8  | 8  | 8  | 7  | 8* | 9  |
| YB = 28  | 8       | 7  | 6* | 5* | 2* | 1* | 3* | 4* | 1* | 4  | 7  | 8  | 7  | 6  | 5  | 5  | 4  | 3  | 3* | 4* | 1  | -  | 1* | 7* |
| VK6 = 29 | 5*      | 7  | 4  | 1* | 1* | -  | 2* | 2* | -  | -  | 7  | 7  | 4  | 4* | 2* | 1* | 1* | 2* | 2* | 3* | 2* | 2* | 5* | 7* |
| VK3 = 30 | 8       | 8  | 5  | 3  | 1  | 1* | 1* | 1* | -  | 2* | 7* | 6  | 2* | 2* | 1* | 1* | 1* | 1* | 1* | 2* | 3* | 6* | 7  | 8  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 4* | 5* | 8  | 8  | 1* | -  | -  | 1  | 4  | 3  | 5* | 5* | 4* | 5  | 6  |
| KH8 = 32 | 7       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 3* | 3* | 8  | 9  | 6  | 1  | 1* | 5  | 6  | 5  | 5  | 5  | 5  | 5  | 6  |
| CN = 33  | 9+      | 9+ | 9+ | 9  | 8  | 1  | -  | 1* | 4  | 1  | 9  | 8  | 7  | 7  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9       | 9  | 9  | 6  | 6* | 6  | 9  | 7  | 3  | 7  | 6  | 4  | 3  | 4  | 5  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 8       | 9+ | 9+ | 9+ | 9  | 3  | -  | 2* | 1  | 2  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 8  | 8  | 7  |
| D2 = 36  | 9       | 7  | 4  | 2  | 1  | 4* | 4* | 4* | 4  | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 8       | 6  | 2  | 2* | 4* | 8  | 2* | 2* | 5  | 8  | 7  | 7  | 5  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  |
| ZS6 = 38 | -       | -  | -  | -  | 2* | 3* | 2* | 1  | 6  | 9  | 8  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 2* | -  | -  |
| FR = 39  | -       | -  | 4* | 4* | 2* | 1* | 1* | -  | 1  | 7  | 8  | 7  | 7  | 7  | 7  | 7  | 8  | 7  | 2* | 3* | 4* | 4* | 3* | 1* |
| FJL = 40 | -       | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | 2* | 7* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Mar., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 7            | 7  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  |    |
| VO2 = 02 | 5            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 8  | 7  | 7  | 6  | 7  | 8  | 9  | 9  | 9  | 8  |    |
| W6 = 03  | 8            | 8  | 9  | 8  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 7  | 7  | 6  | 6  | 7  | 8  | 8  |    |
| W9 = 04  | 8            | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| W3 = 05  | 8            | 8  | 7  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| XE1 = 06 | 9            | 8  | 9  | 9+ | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | 9  | 8  | 8  | 9  | 9  | 8  | 8  | 9  | 9  | 9  |    |
| TI = 07  | 2*           | 1  | 6  | 8  | 9+ | 9+ | 9  | 3  | -  | -  | -  | -  | 9  | 9  | 9  | 9  | 5  | 3  | 3  | 5  | 6  | 7  | 7  |    |
| VP2 = 08 | 2*           | -  | 4  | 7  | 9  | 8  | 5  | -  | -  | -  | -  | 7  | 9+ | 9  | 9  | 4  | 2  | 1  | 3  | 4  | 5  | 5* | 5* |    |
| P4 = 09  | 2*           | -  | 2  | 6  | 8  | 7  | 5  | -  | -  | -  | -  | -  | 9+ | 9  | 6  | 1  | -  | -  | 1  | 2* | 4* | 5* | 5* |    |
| HC = 10  | 9            | 9  | 9  | 2  | 5  | 5  | 2  | -  | -  | -  | -  | -  | 5  | 9+ | 4  | -  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| PY1 = 11 | 7            | 9  | 9  | 9  | 8  | 2  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 8  |    |
| CE = 12  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | -  | -  | -  | -  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  | 6*           | 3* | 4  | 3  | 1  | -  | -  | -  | 1* | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | 1* | 4* | 4* | 7* | 7* |    |
| G = 14   | -            | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 9  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 4  |    |
| I = 15   | 8            | 8  | 6  | 1  | -  | -  | -  | 7  | 2  | -  | 9  | 7  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| UA3 = 16 | -            | -  | -  | -  | -  | -  | 2  | 5  | 1  | -  | 8  | 7  | 6  | 6  | 6  | 6  | 6  | 8  | 6  | -  | 1  | -  | -  |    |
| UN = 17  | -            | 5* | 2* | 3* | 8  | 8  | 7  | 3  | 1  | 1  | 7  | 5  | 6* | 6  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  |    |
| UA9 = 18 | 4*           | 2* | 1* | -  | 1  | 7  | 8  | 4  | -  | -  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  |    |
| UA0 = 19 | 5            | 7  | 8  | 8  | 8  | 9  | 8  | 5  | -  | -  | 2* | 8* | 8* | 7* | 6* | 4* | 3* | 1* | -  | -  | -  | -  | 6* |    |
| 4X = 20  | 9            | 9  | 8  | -  | 6* | 3  | 8  | 2  | -  | 2  | 7  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| HZ = 21  | 9            | 8  | 2* | 6* | 4* | 8  | 4  | 2* | -  | -  | 6  | 5  | 5  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| VU = 22  | 1*           | 5* | 4* | 9  | 6  | 4* | 2* | 4* | -  | 2  | 5  | 4  | 4  | 7* | 5  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 4  |    |
| JT = 23  | 4*           | 3* | 1  | 5  | 7  | 7  | 8  | 4  | 1  | -  | 8  | 8  | 8* | 5  | 4* | 1* | -  | -  | -  | -  | -  | -  | 6* |    |
| VR2 = 24 | 8            | 8* | 7* | 6* | 4* | 4* | 5* | 7* | 4* | 1  | 8  | 8  | 9* | 7  | 7  | 6  | 8  | 8  | 8  | 9  | 8  | 4  | 5* |    |
| JA1 = 25 | 8            | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 7  | 1  | 7* | 8* | 8* | 8* | 7* | 7* | 7* | 7* | 6* | 2* | -  | 8  | 8  |    |
| HS = 26  | 7*           | 8  | 6* | 5* | 4* | 3* | 2* | 5* | 3* | -  | 7  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 2  |    |
| DU = 27  | 6*           | 4* | 5* | 4* | 4* | 4* | 5* | 3* | -  | -  | 6  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 7  | 2  | 7* |    |
| YB = 28  | 5            | 4* | 5* | 5* | 4* | 4* | 4* | 2* | -  | -  | 7  | 8  | 8  | 6  | 4  | 4* | 3* | 4* | 4* | 3* | -  | -  | 6* |    |
| VK6 = 29 | 4*           | 4  | 2* | 1* | 1* | 2* | 2* | 1* | -  | -  | 2  | 8* | 6* | 5* | 3* | 2* | 2* | 2* | 2* | 1* | 1* | 1* | 3* |    |
| VK3 = 30 | 7            | 7  | 1* | 2* | 2* | 3* | 3* | -  | -  | 1* | 6* | 5* | 4* | 3* | 2* | 1* | 1* | 1* | 1* | 1* | 1* | 5* | 6  |    |
| KH6 = 31 | 8            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2* | 5* | 4* | 5  | -  | -  | -  | -  | 4  | 6  | 6* | 6* | 5* | 6  |    |
| KH8 = 32 | 8            | 8  | 9  | 9  | 9  | 9  | 9  | 7  | 1  | -  | 5* | 4* | 5  | 3* | 2* | 1* | 1  | 7  | 6  | 6  | 6  | 7  | 7  |    |
| CN = 33  | 9+           | 9+ | 9  | 9  | 5  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ |    |
| SU = 34  | 9            | 9  | 9  | 1  | 6* | 5* | 8  | 1  | -  | 2  | 7  | 6  | 5  | 5  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| 6W = 35  | 4            | 7  | 9  | 8  | 5  | -  | -  | -  | -  | -  | 9+ | 9  | 6  | 4  | 2  | 4  | 5  | 6  | 7  | 5  | 3  | 4  | 4* |    |
| D2 = 36  | 6            | 4  | 1  | -  | -  | 3* | 5* | 5* | -  | 4  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 8  |    |
| 5Z = 37  | 5            | 1  | -  | 2* | 5* | 5* | 3* | 4* | 1* | 5  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |    |
| ZS6 = 38 | -            | -  | -  | -  | 1* | 4* | 3* | 3* | 1  | 5  | 8  | 8  | 9  | 8  | 8  | 9  | 8  | 8  | 9  | 7  | 1* | -  | -  |    |
| FR = 39  | -            | -  | 1* | 5* | 4* | 2* | 1* | 1* | -  | 2  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 2* | 3* | 4* | 4* | 4* | 1* |    |
| FJL = 40 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| Zone     | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Apr., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2       | 4  | 5  | 5  | 5  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 1  | 3  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 1  | 3  | 4  | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 3  | 5  | 5  | 5  | 5  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 3  | -  | 3  | 4  | 4  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 1       | 2  | 3  | 2  | 2  | 3  | 2  | 2  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3       | 4  | 4  | 3  | 2  | 3  | 2  | 2  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| P4 = 09  | 3       | 4  | 4  | 3  | 3  | 3  | 3  | 2  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 4       | 5  | 5  | 5  | 4  | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  |
| G = 14   | 4       | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 4       | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| HZ = 21  | 3       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 3       | 5  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| SU = 34  | -       | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| 6W = 35  | 5       | 5  | 3  | 4  | 3  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| D2 = 36  | 5       | 6  | 6  | 5  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| 5Z = 37  | 4       | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| ZS6 = 38 | 5       | 5  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| FR = 39  | 5       | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Apr., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | 1  | 1  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 7  | 8  | 8  | 8  | 7  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W6 = 03  | -       | -  | -  | 2  | 4  | 6  | 5  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 1       | 4  | 6  | 7  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 6  | 8  | 8  | 8  | 8  | 8  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 2  | 6  | 2  | 6  | 7  | 7  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 4       | 5  | 6  | 5  | 5  | 6  | 5  | 5  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 6       | 7  | 7  | 6  | 5  | 6  | 5  | 5  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| P4 = 09  | 6       | 7  | 7  | 6  | 6  | 6  | 6  | 5  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| HC = 10  | 7       | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | -  | -  | 5  | 9  | 9+ | 9+ | 9+ |
| G = 14   | 7       | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| I = 15   | 7       | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA3 = 16 | 5       | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  | 1  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2       | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  |
| HZ = 21  | 6       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| VU = 22  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 2  | 3  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 1  | 1  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 6       | 8  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| SU = 34  | 3       | 3  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  |
| 6W = 35  | 8       | 8  | 6  | 7  | 6  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| D2 = 36  | 8       | 9  | 9  | 8  | 8  | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| 5Z = 37  | 7       | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  |
| FR = 39  | 8       | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| FJL = 40 | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Apr., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | -  | 1  | 2  | 4  | 7  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| W6 = 03  | 1  | 3  | 4  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 8  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| W3 = 05  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| XE1 = 06 | 6  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| TI = 07  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| VP2 = 08 | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| P4 = 09  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 2  | 1  | 2  | 4  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 2  | -  | -  | 1  | 5  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 9  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| I = 15   | 8  | 8  | 8  | 8  | 8  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| UA3 = 16 | 7  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| UN = 17  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 6  |
| UA9 = 18 | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 8  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  |
| HZ = 21  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| VU = 22  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  |
| JT = 23  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | -  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | -  |
| YB = 28  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 5  |
| VK6 = 29 | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 5  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | 1  | 4  | 6  | 7  | 7  | 6  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | 3  | 5  | 7  | 7  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 9  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  | 8  |
| SU = 34  | 8  | 7  | 7  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  | 9  |
| 5Z = 37  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  |
| FR = 39  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 9  |
| FJL = 40 | 6  | 7  | 6  | 6  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Apr., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|--|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 |  | 1            | 2  | 3  | 6  | 7  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 |  | 8            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 8  |
| W6 = 03  |  | 4            | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  |  | 8            | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  |
| W3 = 05  |  | 8            | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  |
| XE1 = 06 |  | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| TI = 07  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| VP2 = 08 |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  |
| P4 = 09  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  |
| HC = 10  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| PY1 = 11 |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 5  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |  | 9            | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| I = 15   |  | 8            | 9  | 9  | 8  | 8  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| UA3 = 16 |  | 8            | 8  | 8  | 8  | 6  | 6  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| UN = 17  |  | 7            | 6  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  |
| UA9 = 18 |  | 6            | 5  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 6  | 6  |
| UA0 = 19 |  | -            | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | 1  |
| 4X = 20  |  | 8            | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| HZ = 21  |  | 8            | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| VU = 22  |  | 6            | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  |
| JT = 23  |  | 4            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 5  |
| VR2 = 24 |  | 1            | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 5  |
| JA1 = 25 |  | -            | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 4* | 2* | -  |
| HS = 26  |  | 6            | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  |
| DU = 27  |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 3  |
| YB = 28  |  | 5            | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 6  | 7  |
| VK6 = 29 |  | 5            | 2  | 1  | -  | -  | -  | -  | -  | 2  | 2  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 6  |
| VK3 = 30 |  | -            | -  | -  | -  | 1  | 2  | 4  | 6  | 7  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 2  |
| KH6 = 31 |  | -            | -  | 1  | 4  | 5  | 6  | 7  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 |  | -            | -  | -  | 3  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  |  | 9            | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 8  |
| SU = 34  |  | 8            | 8  | 8  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  |
| 6W = 35  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| D2 = 36  |  | 9            | 9  | 9  | 9  | 9  | 8  | 9  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  |
| 5Z = 37  |  | 8            | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| ZS6 = 38 |  | 9            | 9  | 9  | 8  | 7  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| FR = 39  |  | 8            | 7  | 5  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  |
| FJL = 40 |  | 7            | 7  | 7  | 7  | 7  | 6  | 6  | 5  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |  |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |  | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 20 Meters: Apr., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 4   | 8   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 5  | 1* | 1  | 1  | -  | -  | -  | -  | 1* | 1  | -  | 1  | 2  |
| VO2 = 02 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  |
| W6 = 03  | 9   | 9   | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| W9 = 04  | 9   | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9  | 9  | 9  | 7  | 2  | -  | -  | -  | -  | -  | -  | 4  | 5  | 8  | 9  |
| W3 = 05  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9  | 9  | 9  | 7  | 2  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 9  | 9  |
| XE1 = 06 | 9   | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 1  | 1  | 1  | -  | -  | 1  | 4  | 6  | 9  | 9  |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9+ | 9  | 8  | 5  | 2  | 1  | 1  | 1  | 2  | 2  | 4  | 6  | 8  | 9  | 9+ |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9+ | 9  | 8  | 3  | 1  | 1  | 1  | 1  | 2  | 4  | 6  | 8  | 9  | 9+ | 9+ |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 9+ | 9  | 8  | 5  | 2  | 2  | 2  | 2  | 2  | 4  | 6  | 8  | 9  | 9+ | 9+ |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 8  | 9  | 8  | 6  | 3  | 2  | 2  | 2  | 2  | 5  | 7  | 9  | 9  | 9  | 9+ |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | 1* | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 1* | 1* | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 6  | 8  | 9  | 9+ | 9+ |
| I = 15   | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 8  | 9  | 9  | 9  | 9+ |
| UA3 = 16 | 9   | 9   | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 2  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  |
| UN = 17  | 9   | 9   | 8  | 8  | 5  | 3  | 1  | -  | -  | -  | 1* | 3* | 1* | 1* | 1* | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  |
| UA9 = 18 | 8   | 8   | 8  | 7  | 2  | 2  | 1  | 2  | 1  | 4* | 4* | 3* | 4* | 2* | 1* | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  | 8  | 8  |
| UA0 = 19 | 4   | 3   | 1  | 1  | 1  | 1  | 5  | 7  | 8  | 8  | 7  | 6  | 4* | 2* | -  | -  | -  | -  | -  | 1* | 3* | 6* | 8  | 8* | 7  | 7  |
| 4X = 20  | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9   | 9   | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  | 9   | 9   | 8  | 7  | 5  | 2  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 9  | 9  | 9  |
| JT = 23  | 8   | 8   | 6  | 1  | -  | 1  | 1  | 1* | 2* | 5* | 6* | 8  | 5* | 2* | 1* | -  | -  | -  | -  | -  | 2  | 7  | 8  | 8  | 8  | 8  |
| VR2 = 24 | 8   | 7   | 4  | -  | -  | -  | -  | 1* | 3* | 7* | 8* | 8  | 6* | 2* | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  | 8  |
| JA1 = 25 | 4*  | -   | -  | -  | -  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | 1* | 5* | 8* | 8* | 9* | 8* | 6* |
| HS = 26  | 9   | 9   | 7  | 4  | -  | -  | -  | -  | -  | 5* | 5* | 4* | 3* | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 9  | 9  | 9  | 9  |
| DU = 27  | 7   | 4   | -  | -  | -  | -  | -  | -  | 4* | 7  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  | 8  |
| YB = 28  | 9   | 8   | 6  | 1  | -  | -  | -  | -  | 2* | 4* | 6  | 6  | 3  | 2  | 1  | 1  | 1  | 1  | 1  | 5  | 8  | 8  | 8  | 8  | 8  | 9  |
| VK6 = 29 | 8   | 8   | 7  | 6  | 4  | 3  | 5  | 6  | 8  | 8  | 7  | 8  | 6  | 5  | 3  | 2  | 2  | 2  | 2  | 4  | 6  | 6  | 4  | 5  | 8  | 8  |
| VK3 = 30 | 6   | 5   | 6  | 6  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 4  | 4  | 4  | 4  | 4  | 5  | 6  | 8  | 8  | 8  | 8  |
| KH6 = 31 | 1   | 4   | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | 1   | 2   | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 3  | 1  | 1  | -  | 1* | -  | -  | -  | -  | -  |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 9  | 9  | 9+ |
| SU = 34  | 9   | 9   | 9  | 9  | 9  | 9  | 9  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 6  | 2  | 1  | -  | 1  | 1  | 1  | 4  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+  | 9+  | 9+ | 9+ | 7  | 6  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | 1  | 4  | 6  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+  | 9+  | 9  | 8  | 8  | 9  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| ZS6 = 38 | 7   | 8   | 7  | -  | -  | 7  | 9  | 8  | 8  | 7  | 3  | 2  | 1  | 1  | 1  | 1  | 3  | 5  | 7  | 9  | 9+ | 9+ | 9  | 8  | 8  | 8  |
| FR = 39  | -   | -   | -  | 4  | 9  | 8  | 5  | 4  | 2  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 3  | 6  | 8  | 9  | 9  | 5  | -  | -  | -  |
| FJL = 40 | 9   | 9   | 9  | 8  | 8  | 6  | 7  | 8  | 8  | 7  | 6  | 8  | 2* | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 8  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Apr., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |     | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 6* | 5* | 4* | 1* | -  | -  | 1  | 1  | 1  | 4  | 9  | 8  | 6  | 8  | 9  |
| VO2 = 02 |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 7  | 9  | 9  | 8  | 5  | 1  | 2  | 2  | 4  | 6  | 7  | 8  | 9  | 9+ | 9+ |
| W6 = 03  |     | 9  | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9  | 9  | 9  | 8  | 5  | 4  | 2  | 2  | 2  | 1* | 2  | 5  | 8  | 9  |
| W9 = 04  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 8  | 5  | 9  | 9  | 9  | 7  | 3  | 1  | 2  | 3  | 4  | 2  | 6  | 9  | 9  | 9  |
| W3 = 05  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 4  | 9  | 9  | 9  | 7  | 3  | 3  | 3  | 4  | 5  | 6  | 8  | 9  | 9  | 9+ |
| XE1 = 06 |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9  | 9  | 9  | 9  | 7  | 7  | 4  | 4  | 5  | 5  | 6  | 9  | 9  | 9+ |
| TI = 07  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5* | 3* | 9+ | 9  | 8  | 7  | 5  | 6  | 5  | 6  | 7  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 2  | 5* | 9+ | 9+ | 9  | 7  | 6  | 5  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 2  | 5* | 5  | 9+ | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 5* | 5* | 9+ | 9  | 9  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 3* | 2* | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 4* | 1* | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 3  | 2* | 3* | -  | -  | 1* | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |     | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 9  | 7  | 4  | 2  | -  | 1  | 1  | 3  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| I = 15   |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 7  | 5  | 1  | 1  | -  | -  | 2  | 3  | 3  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 |     | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 8  | 6  | 6  | 2  | 3* | 1  | 1  | 1* | 1* | 2  | 5  | 8  | 8  | 9  | 9  | 9  | 9  |
| UN = 17  |     | 9  | 9  | 9  | 8  | 8  | 6  | 6  | 2  | 2* | 1  | 1  | 7  | 8  | 4* | 3* | 2* | 1  | 4  | 8  | 9  | 9  | 9  | 9  | 9  |
| UA9 = 18 |     | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 6  | 4  | 6* | 6  | 5* | 4* | 2* | 2  | 5  | 8  | 8  | 8  | 6  | 5  | 7  |
| UA0 = 19 |     | 8  | 8  | 7  | 6  | 7  | 8  | 8  | 9  | 7  | 7* | 9  | 8* | 7* | 6* | 4* | 3* | 3* | 5* | 6* | 8* | 8* | 9* | 8  | 8  |
| 4X = 20  |     | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 1  | 1  | 1  | 1  | -  | -  | 4  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| HZ = 21  |     | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 3  | 4  | 2  | 1  | 1* | 2  | 1* | 1* | 1  | 4  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VU = 22  |     | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | 1* | 1* | -  | 7  | 8  | 3* | 2* | 1  | 2  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  |     | 8  | 8  | 8  | 7  | 6  | 5  | 4  | 5  | 5  | 4* | 7* | 6* | 5* | 4* | 2* | 2  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 9  |
| VR2 = 24 |     | 9  | 8  | 7  | 2  | -  | -  | 1* | 6* | 8  | 8* | 8* | 7* | 6* | 3  | 3  | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| JAL = 25 |     | 7* | 5* | 2  | 3  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 3  | 6* | 8* | 9* | 9* | 9* | 9* | 9* |
| HS = 26  |     | 9  | 9  | 8  | 5  | 2  | -  | -  | 1* | 6* | 7  | 6  | 7* | 5* | 3  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9  |
| DU = 27  |     | 8  | 6  | 1  | -  | -  | -  | 1* | 6* | 5* | 7  | 8  | 8  | 7  | 5  | 4  | 3  | 3  | 6  | 7  | 8  | 9  | 9  | 9  | 9  |
| YB = 28  |     | 9  | 8  | 5  | 1  | -  | -  | -  | 1* | 4* | 6  | 7  | 7  | 7  | 6  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 7  | 5  | 8  |
| VK6 = 29 |     | 8  | 8  | 4  | 4  | 3  | 1  | -  | 2* | 5  | 8  | 9  | 8  | 8  | 6  | 3  | 1  | 1  | 1  | 2  | 4  | 2  | 3* | 5* | 6  |
| VK3 = 30 |     | 8  | 8  | 8  | 6  | 6  | 5  | 4  | 3  | 4  | 7  | 9  | 9  | 8  | 7  | 5  | 4  | 3  | 2  | 2  | 3* | 5  | 8  | 8  | 8  |
| KH6 = 31 |     | 5  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  | 6  | 9  | 9  | 8  | 5  | 5  | 3  | 2  | 2* | 3  | 2* | 1  | 1  | 2  |
| KH8 = 32 |     | 5  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  | 8  | 1* | 9  | 9  | 8  | 6  | 4  | 5  | 4  | 4  | 7  | 8  | 2  | 2  | 3  |
| CN = 33  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 9  | 9  | 6  | 3  | 1  | 1  | 1  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  |     | 9+ | 9+ | 9  | 9+ | 9  | 9  | 9  | 8  | 6  | 4  | 2  | 1  | 1  | -  | -  | -  | 4  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| 6W = 35  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 5  | 8  | 9+ | 9+ | 8  | 7  | 6  | 5  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  |     | 9+ | 9+ | 9  | 8  | 2  | 1* | 6  | 2  | 9  | 9  | 8  | 6  | 4  | 3  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  |     | 9+ | 9+ | 9  | 2  | 4  | 9  | 5  | 1  | 6  | 5  | 2  | 1  | 3  | 3  | 1  | 3  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| ZS6 = 38 |     | -  | 1  | -  | -  | -  | 1* | 2  | 4  | 9  | 9  | 8  | 6  | 5  | 6  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9  | 8  | 1* | -  |
| FR = 39  |     | -  | 1* | -  | 1* | 8  | 3  | -  | -  | 5  | 5  | 5  | 5  | 8  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 2  | 2* | 1* | 1* |
| FJL = 40 |     | 7  | 7  | 6  | 5  | 4  | 1* | -  | 4  | 7  | 8  | 8  | 6  | 4  | 2* | 1  | 1  | 2  | 4  | 6  | 7  | 8  | 8  | 8  | 5  |
| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Apr., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |     | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 2  | 1  | 4* | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 7  | 8  | 8  | 9  |
| VO2 = 02 |     | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2  | 2  | 9  | 9  | 9  | 7  | 9  | 6  | 6  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| W6 = 03  |     | 9  | 9+ | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 5  | 1  | 7  | 1  | 8  | 6  | 6  | 5  | 5  | 7  | 2  | 5  | 7  | 8  | 9  |
| W9 = 04  |     | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 9  | 4  | 1  | 1  | 7  | 9  | 8  | 6  | 6  | 6  | 4  | 7  | 7  | 8  | 8  | 9  | 9+ |
| W3 = 05  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 2  | -  | 1  | 9  | 9  | 8  | 8  | 6  | 6  | 6  | 6  | 8  | 9  | 9  | 9  | 9+ |
| XE1 = 06 |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 4  | 2  | 1* | 9  | 9  | 8  | 7  | 7  | 7  | 6  | 7  | 8  | 9  | 9+ | 9+ |
| TI = 07  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 2  | 5* | 2* | 9  | 9+ | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | 3* | 9+ | 9+ | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | 1* | 2* | 9+ | 9+ | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  |     | 8  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  | 5* | 1* | 4  | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | 1* | -  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2* | 3* | -  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |     | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | -  | -  | -  | -  | -  | 4  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |     | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 6  | 9  | 8  | 7  | 5  | 7  | 5  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| I = 15   |     | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9  | 8  | 6  | 9  | 6  | 4  | 2  | 8  | 4  | 3  | 6  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| UA3 = 16 |     | 8  | 8  | 6  | 5  | 6  | 7  | 8  | 8  | 4  | 7  | 6  | 5  | 3  | 5  | 2  | 3  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 8  |
| UN = 17  |     | 6  | 7  | 9  | 8  | 8  | 8  | 7  | 4  | 3  | 5  | 3  | 1  | 5* | 6* | 4* | 2* | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 7  |
| UA9 = 18 |     | 2  | 3  | 6  | 8  | 8  | 8  | 7  | 6  | 3  | 8  | 5  | 6* | 6* | 5* | 4* | 4  | 5  | 6  | 7  | 5  | 1  | 5* | 5* | 2  |
| UA0 = 19 |     | 8  | 8  | 8  | 7  | 7  | 7  | 9  | 8  | 3  | 2  | 8  | 9* | 8* | 7* | 5* | 5* | 5* | 6* | 7* | 8* | 8* | 9* | 9* | 8  |
| 4X = 20  |     | 9+ | 9  | 9+ | 9  | 9  | 9  | 9  | 4  | 5  | 6  | 4  | 2  | 6  | 5  | 2  | 2  | 6  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| HZ = 21  |     | 9+ | 9  | 9  | 8  | 9  | 9  | 4  | 1* | 1  | 4  | 2  | 1  | 4  | 4  | 3  | 2  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| VU = 22  |     | 9  | 8  | 9  | 9  | 8  | 7  | 1  | 1* | 2* | 4  | 4  | 2  | 5* | 5* | 5* | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  |     | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 6  | 4  | 8  | 3  | 7* | 7* | 7* | 6* | 4  | 5  | 6  | 6  | 5* | 5* | 6* | 4* | 7  |
| VR2 = 24 |     | 9  | 8  | 4  | 3* | 2* | 3* | 5* | 5* | 7* | 6  | 5  | 9* | 8* | 7* | 6  | 7  | 7  | 6  | 8  | 8  | 9  | 9  | 9  | 9  |
| JA1 = 25 |     | 8* | 7  | 7  | 7  | 8  | 7  | 8  | 9  | 9  | 7  | 6* | 9  | 8  | 7  | 5  | 5* | 6* | 7* | 8* | 9* | 9* | 9* | 9* | 9* |
| HS = 26  |     | 9  | 9  | 6  | 2  | 1  | -  | 1* | 2* | 5* | 5  | 5  | 7* | 6* | 5  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9+ | 9  | 8  |
| DU = 27  |     | 8  | 5* | 5* | 3* | 1* | 2* | 3* | 6* | 2* | 6  | 8  | 8  | 8  | 7  | 5  | 5  | 5  | 6  | 8  | 8  | 9  | 8  | 8  | 9  |
| YB = 28  |     | 9  | 4  | 5* | 2* | -  | -  | 1* | 3* | 2* | 6  | 8  | 8  | 8  | 7  | 5  | 5  | 3  | 3  | 3  | 5  | 5  | 4* | 5* | 4  |
| VK6 = 29 |     | 7  | 4  | 1* | 1* | -  | -  | 1* | 2* | -  | 2  | 8  | 9  | 8  | 5  | 2* | 1* | 1* | 1* | 2* | 2* | 2* | 2* | 5* | 4* |
| VK3 = 30 |     | 8  | 8  | 4  | 1  | -  | 1* | 1* | 1* | 1* | 4* | 7  | 8  | 6  | 4  | 2  | 1  | 1  | 1* | 2* | 2* | 4* | 7  | 8  | 8  |
| KH6 = 31 |     | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 4  | 3* | 9  | 9  | 7  | 1* | 3  | 5  | 5  | 4  | 5  | 5  | 4* | 3  | 5  |
| KH8 = 32 |     | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 2* | 1* | 7  | 9  | 7  | 1  | -  | 5  | 6  | 5  | 5  | 5  | 4  | 5  | 5  |
| CN = 33  |     | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 8  | 5  | 9  | 9  | 8  | 5  | 3  | 4  | 5  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  |     | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 4  | 5  | 7  | 4  | 2  | 1  | 7  | 2  | 2  | 6  | 7  | 8  | 9  | 9+ | 9  | 9  | 9+ |
| 6W = 35  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1* | -  | 3  | 9+ | 9+ | 9  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  |     | 9+ | 9  | 7  | 4  | 1* | 2* | 2  | 1* | 5  | 8  | 9  | 8  | 6  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  |     | 9  | 9  | 5  | 1* | 1* | 5  | 1* | -  | 3  | 7  | 5  | 4  | 5  | 5  | 3  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| ZS6 = 38 |     | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 7  | 9  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9+ | 9  | 9  | 2* | -  | -  |
| FR = 39  |     | -  | -  | 1* | 1* | 3  | 1* | -  | -  | 1  | 7  | 7  | 7  | 6  | 6  | 7  | 7  | 8  | 9  | 9  | 5  | 3* | 3* | 2* | -  |
| FJL = 40 |     | 1* | 3* | -  | -  | -  | -  | -  | -  | 2  | 6  | 4  | 6* | 5* | 2  | 2* | 1  | 1  | 2  | 3  | 2  | 1  | 2  | -  | -  |
| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Apr., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 7       | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 6  | 7  | 7  | 8  |
| VO2 = 02 | 9       | 7  | 6  | 7  | 7  | 6  | 4  | 5  | -  | -  | 2  | 9  | 9  | 8  | 6  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9+ | 9  | 9  | 8  | 8  | 7  | 6  | -  | -  | 1  | -  | -  | 8  | 6  | 6  | 6  | 5  | 5  | 7  | 8  | 9  | 9  |
| W9 = 04  | 9+      | 9  | 8  | 7  | 6  | 5  | 2  | 7  | -  | -  | -  | -  | 8  | 8  | 8  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | 9+      | 9  | 9  | 9  | 9  | 9  | 8  | 5  | -  | -  | -  | 2  | 9  | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| XE1 = 06 | 9+      | 9+ | 9+ | 9  | 9+ | 9  | 9  | 9  | 5  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| TI = 07  | 9       | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | 1* | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 7       | 7  | 9  | 9+ | 9+ | 9+ | 8  | 1  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 8  |
| P4 = 09  | 5       | 5  | 8  | 9+ | 9+ | 9+ | 7  | 1  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 8  | 7  |
| HC = 10  | 2       | 1  | 4  | 8  | 9  | 8  | 7  | 2  | -  | 2* | -  | -  | 9+ | 9+ | 9  | 9  | 9  | 9  | 2  | 5  | 5  | 5  | 4* | 4  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9  | 2  | -  | -  | -  | -  | -  | -  | 7  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 8       | 5  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 3  | 3  | 4  | 6  | 9  | 9+ | 9+ | 9  | 9  | 8  |
| G = 14   | 8       | 8  | 8  | 6  | 4  | 3  | 4  | 6  | 1  | 3  | 9  | 8  | 7  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| I = 15   | 9+      | 9  | 9  | 9  | 6  | 4  | 7  | 6  | 3  | 8  | 7  | 7  | 4  | 5  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ |
| UA3 = 16 | 5       | 3  | 1  | -  | 1  | 2  | 7  | 5  | 1  | 5  | 7  | 6  | 5  | 4  | 3  | 6  | 6  | 7  | 8  | 9  | 8  | 6  | 4  | 2  |
| UN = 17  | 1*      | 2* | 5  | 8  | 9  | 8  | 7  | 1  | 1  | 6  | 5  | 4  | 8* | 5* | 4* | 5  | 6  | 7  | 6  | 6  | 5  | 4  | 2  | 2* |
| UA9 = 18 | 2*      | 2* | 1  | 5  | 7  | 8  | 8  | 3  | -  | 3  | 7  | 5  | 7* | 5* | 5  | 5  | 6  | 6  | 1  | -  | -  | -  | 5* | 6* |
| UA0 = 19 | 4       | 5  | 5  | 6  | 7  | 8  | 9  | 6  | -  | -  | 6* | 8* | 8* | 7* | 6* | 6* | 6* | 7* | 7* | 5* | 5* | 8* | 8* | 6* |
| 4X = 20  | 9       | 9  | 9  | 6  | 5  | 9  | 8  | -  | -  | 7  | 6  | 5  | 4  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 8  | 4  | 9  | 8  | 3* | 1* | -  | 5  | 6  | 4  | 4* | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 5       | 4  | 8  | 9  | 7  | 4* | 3* | 2* | -  | 5  | 4  | 3  | 5* | 6* | 5* | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| JT = 23  | 5       | 5  | 8  | 8  | 7  | 7  | 8  | 3  | 1  | 6  | 6  | 6  | 8* | 7* | 6* | 5* | 5* | 5* | 5* | -  | -  | 5* | 6* | 4* |
| VR2 = 24 | 8       | 6* | 6* | 5* | 5* | 5* | 6* | 7* | 6* | 6  | 7  | 8  | 9* | 8* | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 7  | 8  |
| JA1 = 25 | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 4* | 7* | 8* | 8* | 7* | 7* | 7* | 7* | 8* | 9* | 8* | 6  | 7  | 9* | 8* |
| HS = 26  | 8       | 6  | 5* | 4* | 3* | 2* | 3* | 6* | 5* | 5  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 5  |
| DU = 27  | 7*      | 6* | 6* | 5* | 5* | 5* | 5* | 4* | -  | 1  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 8  | 7* | 8* | 8  |
| YB = 28  | 5*      | 6* | 6* | 5* | 3* | 3* | 3* | 3* | -  | 2  | 8  | 8  | 8  | 7  | 5  | 4* | 3* | 1* | 4* | 4* | 3* | 2* | 5* | 7* |
| VK6 = 29 | 5*      | 3* | 2* | 1* | 1* | -  | 2* | 1* | -  | -  | 5  | 8  | 6  | 4* | 2* | 2* | 2* | 2* | 2* | 1* | -  | -  | 4* | 7* |
| VK3 = 30 | 5       | 2  | 1* | 1* | 1* | 2* | 3* | -  | -  | 1* | 7* | 6  | 2  | 2* | 1* | 1* | 1* | 1* | 1* | 2* | 6* | 7  | 8  |    |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4* | 5* | 5* | 9  | 2* | 1* | -  | 6  | 5  | 4  | 5* | 5  | 6  | 6  | 7  |
| KH8 = 32 | 8       | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | 3* | 2* | 3* | 8  | 1  | 1* | 1* | 2* | 7  | 7  | 6  | 6  | 6  | 6  | 7  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9  | 5  | 1  | 5  | 1  | 1  | 9  | 8  | 7  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9       | 9  | 9  | 7  | 4  | 9  | 8  | -  | -  | 7  | 7  | 6  | 5  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9  | 9  |
| 6W = 35  | 8       | 9+ | 9+ | 9+ | 9  | 2  | -  | -  | -  | 4  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 8  | 7  |
| D2 = 36  | 8       | 5  | 2  | 1  | -  | 3* | 2* | 1* | -  | 9  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  |
| 5Z = 37  | 8       | 6  | -  | 2* | 3* | 4* | 4* | 2* | 1* | 8  | 8  | 7  | 5  | 5  | 5  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  |
| ZS6 = 38 | -       | -  | -  | -  | 2* | 2* | 2* | 1* | 1  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 3  | -  | -  | -  |
| FR = 39  | -       | -  | 3* | 2* | 3* | 2* | 1* | 1* | -  | 6  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 5  | 4* | 4* | 4* | 2* | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | 6* | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Apr., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |         | 3  | 5  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2  |
| VO2 = 02 |         | 6  | 2  | -  | 1  | 1  | -  | -  | 1  | -  | -  | -  | 2  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| W6 = 03  |         | 9  | 9  | 9  | 9  | 6  | 4  | 2  | 1  | 2  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 9  |
| W9 = 04  |         | 9  | 8  | 5  | 2  | 1  | -  | -  | 3  | -  | -  | -  | -  | 1  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  |
| W3 = 05  |         | 8  | 9  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | 7  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| XE1 = 06 |         | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2  | -  | -  | -  | -  | 9  | 8  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  |         | 4  | 4  | 7  | 9  | 9+ | 9+ | 7  | 1  | -  | -  | -  | -  | 9  | 9  | 9  | 9  | 6  | 5  | 9  | 9  | 9  | 8  | 7  | 6  |
| VP2 = 08 |         | 1  | 1  | 5  | 7  | 8  | 7  | 3  | -  | -  | -  | -  | 6  | 9+ | 9  | 9  | 5  | 3  | 4  | 9  | 9  | 7  | 5* | 5  | 3  |
| P4 = 09  |         | -  | -  | 4  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 2  | -  | 1  | 3  | 5  | 4  | 4* | 4* | 1  |
| HC = 10  |         | 9+ | 9  | 9+ | 5  | 6  | 5  | 2  | -  | -  | -  | -  | -  | 5  | 9+ | 6  | -  | 9  | 9  | -  | 1* | 2* | 9+ | 9+ | 9+ |
| PY1 = 11 |         | 9  | 9+ | 9  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 2  | 1  | 2  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| CE = 12  |         | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 1  | -  | -  | -  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |         | 4* | -  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 3  | 4  | 5* |
| G = 14   |         | 2  | 2  | 4  | 2  | -  | -  | -  | 2  | -  | -  | 9  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 4  |
| I = 15   |         | 9  | 9  | 9  | 6  | 1  | -  | 2  | 2  | -  | 1  | 9  | 8  | 5  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 |         | 1  | -  | -  | -  | -  | -  | 4  | 1  | -  | -  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 7  | 6  | 7  | 4  | 1  | -  | -  |
| UN = 17  |         | 5* | 2* | 2* | 7  | 8  | 8  | 5  | -  | -  | 2  | 7  | 5  | 6* | 5* | 4  | 7  | 7  | 3  | 2  | 1  | 1  | -  | -  | 3* |
| UA9 = 18 |         | 4* | -  | -  | -  | 5  | 8  | 7  | 1  | -  | -  | 8  | 6  | 7* | 6  | 5  | 5  | 3  | -  | -  | -  | -  | -  | 1* | 6* |
| UA0 = 19 |         | -  | -  | 1  | 1  | 2  | 4  | 7  | 2  | -  | -  | 1* | 8* | 8* | 7* | 7* | 6* | 6* | 7* | 5* | 1* | -  | 5* | 8* | 1* |
| 4X = 20  |         | 9  | 9  | 8  | 3* | 2* | 8  | 3  | -  | -  | 5  | 6  | 6  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  |         | 9  | 9  | 5* | 5* | 7  | 5  | 1* | -  | -  | -  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  |         | 2* | 2* | 5  | 7  | 4  | 2* | 3* | 1* | -  | 3  | 6  | 5  | 5  | 6* | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 6  |
| JT = 23  |         | 3* | 1  | 5  | 7  | 7  | 8  | 7  | 1  | -  | -  | 7  | 6  | 8* | 6  | 5* | 5* | 5* | 4* | 1* | -  | -  | -  | 6* | 5* |
| VR2 = 24 |         | 7* | 7* | 7* | 6* | 5* | 6* | 7* | 7* | 1* | 1  | 8  | 8  | 9* | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 7  | 7* | 7* |
| JA1 = 25 |         | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 5  | -  | 8* | 9* | 8* | 8* | 8* | 8* | 8* | 8* | 8* | 8* | 6* | 2  | 8  | 8  | 8  |
| HS = 26  |         | 7* | 5* | 7* | 6* | 4* | 3* | 5* | 6* | 1* | -  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 6  | 6* |
| DU = 27  |         | 6* | 6* | 5* | 4* | 5* | 5* | 5* | 2* | -  | -  | 5  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 5  | 5* | 8* | 7* |
| YB = 28  |         | 6* | 5* | 6* | 5* | 4* | 4* | 3* | 1* | -  | -  | 7  | 8  | 8  | 7  | 5* | 5* | 4* | 4* | 5* | 4* | 1* | -  | 2* | 7* |
| VK6 = 29 |         | 5* | 2* | 2* | 1* | 1* | 2* | 2* | -  | -  | -  | -  | 8* | 6* | 5* | 3* | 2* | 2* | 1* | 1* | -  | -  | -  | 2* | 6* |
| VK3 = 30 |         | 2* | 2* | 1* | 1* | 1* | 1* | 1* | -  | -  | -  | 6* | 5* | 4* | 2* | 2* | 1* | 1* | 1* | 1* | -  | 1* | 5* | 5  | 7  |
| KH6 = 31 |         | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 2  | 2* | 6* | 6* | 8  | 2* | -  | -  | 5  | 5  | 5  | 5  | 6  | 5* | 6  | 7  |
| KH8 = 32 |         | 8  | 8  | 8  | 8  | 8  | 7  | 2  | -  | -  | 1* | 5* | 4* | 3* | 2* | 2* | 2* | 1* | 7  | 7  | 7  | 7  | 7  | 7  | 8  |
| CN = 33  |         | 9  | 9  | 9  | 9  | 9  | -  | 1  | -  | -  | -  | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ |
| SU = 34  |         | 9  | 9  | 9  | 2  | 3* | 7  | 2  | -  | -  | 4  | 8  | 6  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9+ | 9  | 9  |
| 6W = 35  |         | 3  | 6  | 8  | 7  | 3  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 6  | 4  | 5  | 6  | 9  | 9  | 8  | 7  | 6  | 5* | 5* |
| D2 = 36  |         | 5  | 2* | -  | -  | -  | 5* | 5* | 3* | -  | 4  | 8  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 7  |
| 5Z = 37  |         | 6  | 1  | -  | 4* | 6* | 5* | 5* | 2* | -  | 4  | 8  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  |
| ZS6 = 38 |         | -  | -  | -  | -  | 3* | 4* | 3* | 2* | -  | 5  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | -  | -  | -  | -  |
| FR = 39  |         | -  | -  | 1* | 4* | 4* | 3* | 1* | 1* | -  | 1  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4* | 4* | 4* | 2* | -  | -  |
| FJL = 40 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: May, Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | 3  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 1  | 3  | 3  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 1  | 2  | 3  | 5  | 5  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 3  | 2  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 2  | 3  | 3  | 4  | 5  | 1  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 1       | 2  | 3  | 3  | 3  | 3  | 3  | 2  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3       | 5  | 4  | 4  | 4  | 3  | 3  | 2  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| P4 = 09  | 3       | 5  | 4  | 4  | 4  | 3  | 3  | 3  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 5       | 5  | 6  | 5  | 5  | 5  | 4  | 4  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | 4  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  | 9  |
| G = 14   | 4       | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 2       | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  |
| HZ = 21  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 2  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 4       | 4  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| SU = 34  | 3       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  |
| 6W = 35  | 5       | 5  | 4  | 4  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | -  |
| D2 = 36  | 5       | 5  | 5  | 5  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | -  |
| 5Z = 37  | 3       | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | -  |
| ZS6 = 38 | 5       | 6  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | -  |
| FR = 39  | 5       | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: May, Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 3       | 6  | 8  | 8  | 8  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 1  | 4  | 6  | 6  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 1       | 4  | 5  | 6  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 6  | 5  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | 1       | 3  | 5  | 6  | 6  | 7  | 8  | 4  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 4       | 5  | 6  | 6  | 6  | 6  | 6  | 5  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 6       | 8  | 7  | 7  | 7  | 6  | 6  | 5  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| P4 = 09  | 6       | 8  | 7  | 7  | 7  | 6  | 6  | 6  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| HC = 10  | 8       | 8  | 9  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | -  | -  | 1  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1  | -  | -  | -  | -  | -  | -  | 6  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | -  | -  | -  | 2  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7       | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  |
| I = 15   | 5       | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  |
| UA3 = 16 | 5       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 5       | 1  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 4  |
| HZ = 21  | 4       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | 1  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 1  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 2  | -  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 1  | 5  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 7       | 7  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  |
| SU = 34  | 6       | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  |
| 6W = 35  | 8       | 8  | 7  | 7  | 7  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  |
| D2 = 36  | 8       | 8  | 8  | 8  | 8  | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 7  |
| 5Z = 37  | 6       | 7  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 6  |
| ZS6 = 38 | 8       | 9  | 8  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| FR = 39  | 8       | 8  | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 8  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: May, Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 1  | 2  | 4  | 6  | 6  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| W6 = 03  | 1       | 1  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 5       | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 6  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| W3 = 05  | 7       | 8  | 8  | 9  | 8  | 9  | 8  | 7  | 7  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| XE1 = 06 | 6       | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| TI = 07  | 8       | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| P4 = 09  | 9       | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 4  | 3  | 4  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 1  | 1  | 1  | 4  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| UA3 = 16 | 6       | 6  | 7  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  |
| UN = 17  | 5       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 6  |
| UA9 = 18 | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 1  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 8       | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  |
| HZ = 21  | 7       | 6  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 7  |
| VU = 22  | 4       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 1  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 2  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  |
| HS = 26  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  | 5  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 2  | -  |
| YB = 28  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 6  | 6  |
| VK6 = 29 | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 7  |
| VK3 = 30 | -       | -  | -  | -  | -  | 1  | 2  | 6  | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | -  |
| KH6 = 31 | -       | -  | -  | -  | 4  | 7  | 7  | 7  | 6  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 1  | 4  | 5  | 6  | 7  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 9  | 9  | 9  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| SU = 34  | 8       | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 8  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  |
| FR = 39  | 9       | 8  | 7  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 9  |
| FJL = 40 | 2       | 3  | 2  | 2  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: May, Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1       | 1  | 2  | 3  | 6  | 6  | 7  | 7  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 7       | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| W6 = 03  | 4       | 5  | 7  | 7  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  |
| W3 = 05  | 8       | 8  | 9  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 7  |
| XE1 = 06 | 8       | 8  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 9  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9  | 8  | 7  | 6  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 2  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 6  | 8  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 8  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  |
| UA3 = 16 | 7       | 7  | 7  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| UN = 17  | 6       | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 7  |
| UA9 = 18 | 5       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 5  | 5  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2* | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | -  | -  |
| 4X = 20  | 8       | 8  | 8  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 7  | 8  | 8  |
| HZ = 21  | 8       | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 8  | 8  |
| VU = 22  | 6       | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 6  |
| JT = 23  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 4  |
| VR2 = 24 | 3       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 3* | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 5  | 2  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | 2* | 4* | 5* | 2* | -  |
| HS = 26  | 7       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 7  | 7  |
| DU = 27  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  | 3  |
| YB = 28  | 6       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 6  | 7  |
| VK6 = 29 | 7       | 4  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | 2  | 4  | 6  | 6  | 6  | 7  |
| VK3 = 30 | 2       | 1  | 1  | -  | 1  | 4  | 6  | 7  | 8  | 8  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | 1  | 2  | 4  | 5  | 5  | 4  |
| KH6 = 31 | -       | -  | 1  | 3  | 5  | 6  | 6  | 7  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | 1  | 4  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 7  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 7  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 8  | 5  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9  | 9  |
| 5Z = 37  | 9       | 8  | 8  | 6  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 2  | 5  | 5  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 8  | 9  | 8  |
| FR = 39  | 3       | -  | -  | 6  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 2  | -  | -  | 1  |
| FJL = 40 | 6       | 5  | 7  | 6  | 3  | 2  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  | 5  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 20 Meters: May, Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 3   | 6   | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 2  | 1  | -  | -  | -  | 1* | -  | -  | -  | 1  | 2  |
| VO2 = 02 | 9   | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | 1  | 5  | 5  | 8  | 8  | 9  |
| W6 = 03  | 8   | 8   | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| W9 = 04  | 9   | 9   | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 2  | -  | -  | -  | -  | -  | 2  | 1  | 5  | 7  | 8  |
| W3 = 05  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 9  | 8  | 8  | 2  | -  | -  | -  | -  | -  | 4  | 3  | 7  | 9  | 9  |
| XE1 = 06 | 9   | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | 1  | 1  | 1  | -  | -  | 1  | 2  | 5  | 8  | 9  |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | 1  | 1  | 1  | 4  | 6  | 9  | 9  | 9+ |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9+ | 9  | 9  | 8  | 5  | 2  | 1  | 2  | 3  | 5  | 7  | 8  | 9  | 9+ | 9+ |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 9+ | 9  | 9  | 8  | 6  | 2  | 1  | 3  | 3  | 5  | 7  | 8  | 9  | 9+ | 9+ |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 3  | 4  | 9+ | 9  | 7  | 4  | 2  | 3  | 3  | 4  | 5  | 8  | 9  | 9  | 9  | 9+ |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 6  | 1* | 1* | -  | 4  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+  | 9+  | 9+ | 9+ | 9  | 8  | -  | 1* | -  | -  | -  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 9  | 9  | 9  | 9+ |
| I = 15   | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 9  | 9  | 9  | 9+ |
| UA3 = 16 | 9   | 9   | 9  | 9  | 9  | 8  | 7  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 9  | 9  | 9  | 9  |
| UN = 17  | 9   | 9   | 8  | 7  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | 2* | 1* | 1* | 1* | -  | -  | 1  | 5  | 8  | 8  | 9  | 9  | 9  |
| UA9 = 18 | 8   | 8   | 4  | 2  | 1  | 3  | 2  | 1  | -  | 1  | -  | 3* | 1* | 2* | 1* | 1* | 1* | -  | 1* | 4  | 8  | 8  | 8  | 8  | 8  | 8  |
| UA0 = 19 | 2   | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 7  | 8  | 7  | 7* | 6* | 4* | 2* | -  | -  | -  | 2* | 5* | 7* | 8  | 8* | 6* | 4* | 4* |
| 4X = 20  | 9   | 9   | 9  | 9  | 9  | 8  | 8  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9   | 9   | 9  | 9  | 8  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 9   | 8   | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | 3* | 2* | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  | 8   | 5   | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 5* | 3* | 1* | 2* | 1* | -  | 1* | 5  | 8  | 6  | 8  | 8  | 8  | 8  |
| VR2 = 24 | 5   | 1   | -  | -  | -  | -  | -  | -  | -  | 3* | 7* | 7  | 7  | 7  | 5* | 3* | -  | 1  | 1  | 3  | 5  | 7  | 8  | 8  | 8  | 8  |
| JA1 = 25 | -   | -   | -  | -  | -  | 1  | 4  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | 3* | 6* | 8* | 9* | 9* | 8* | 5* |
| HS = 26  | 5   | 1   | -  | -  | -  | -  | -  | -  | -  | 1* | 4* | 6* | 7  | 3* | 1  | -  | -  | -  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| DU = 27  | -   | -   | -  | -  | -  | -  | -  | -  | -  | 3* | 6* | 6  | 6  | 5  | 3  | 2  | -  | -  | 2  | 5  | 7  | 8  | 8  | 9  | 6  | 6  |
| YB = 28  | 3*  | -   | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  | 5  | 4  | 1  | 1  | 1  | 4  | 6  | 8  | 8  | 7  | 3  | 8  | 8  |
| VK6 = 29 | 2   | -   | -  | -  | -  | -  | -  | -  | -  | 2* | 8  | 8  | 8  | 8  | 6  | 3  | 2  | 2  | 4  | 5  | 7  | 6  | 4  | 4  | 8  | 8  |
| VK3 = 30 | 6   | 2   | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  | 8  | 7  | 5  | 5  | 4  | 4  | 3  | 5  | 7  | 8  | 8  | 8  | 8  |
| KH6 = 31 | 1   | 4   | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 3  | 9  | 8  | 6  | 2  | 1  | -  | -  | -  | 1* | -  | -  | -  | -  |
| KH8 = 32 | 2   | 4   | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | 9  | 9  | 8  | 2  | -  | 3  | 1  | 1  | 1* | -  | -  | -  | 1  |    |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9+ |
| SU = 34  | 9   | 9   | 9  | 9  | 9  | 8  | 8  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9  | 9  | 9  | 9  | 7  | 3  | 1  | 1  | 1  | 1  | 2  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| D2 = 36  | 9+  | 9+  | 9  | 7  | 3  | 1  | 1  | 1  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+  | 9+  | 8  | -  | 5  | 6  | -  | -  | 3  | 1  | 1  | 1  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| ZS6 = 38 | 1   | 5   | 4  | 1  | -  | -  | -  | -  | 7  | 8  | 5  | 2  | 1  | 1  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 1  | -  | 2  |
| FR = 39  | -   | -   | -  | -  | 5  | -  | -  | -  | 3  | 2  | 2  | 1  | 1  | 1  | 1  | 2  | 3  | 5  | 7  | 3  | -  | 2* | 1* | -  | -  | -  |
| FJL = 40 | 8   | 8   | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 7  | 8  | 8  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: May, Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 8   | 8   | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 7* | 6* | 4* | 1* | -  | 1  | 2  | 2  | 5  | 9  | 6  | 7  | 8  | 8  |    |
| VO2 = 02 | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 7  | 8  | 9  | 9  | 8  | 8  | 3  | 2  | 5  | 6  | 6  | 8  | 9  | 9  | 9  | 9+ |    |
| W6 = 03  | 9   | 9+  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 5* | 9  | 8  | 8  | 6  | 4  | 1  | 2  | 2  | 1  | 1  | 3  | 5  | 9  |    |
| W9 = 04  | 9   | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 6  | 9  | 8  | 7  | 5  | 2  | 4  | 4  | 6  | 5  | 6  | 8  | 9  | 9  |    |
| W3 = 05  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 5  | 5  | 9  | 9  | 9  | 5  | 3  | 3  | 4  | 5  | 6  | 8  | 9  | 9  | 9+ |    |
| XE1 = 06 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 6  | 3* | 9  | 9  | 9  | 7  | 6  | 5  | 5  | 5  | 4  | 6  | 8  | 9  | 9  |    |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 4* | 4* | 9  | 9  | 9  | 7  | 7  | 6  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ |    |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | 1  | 8  | 9+ | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | 3* | 4* | 9+ | 9  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | 4* | 5* | 3* | 9+ | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9  | 2  | -  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 4  | 1* | -  | -  | 5  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  | 9   | 6   | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| G = 14   | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | 5  | 8  | 7  | 5  | 3  | 1  | 1  | 1  | 5  | 6  | 8  | 8  | 9  | 9+ | 9+ | 9+ |    |
| I = 15   | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 5  | 5  | 8  | 4  | 2  | 1  | -  | -  | 1  | 4  | 6  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| UA3 = 16 | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 3  | 2  | 6  | 2  | 1  | 1* | 2* | 1  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |    |
| UN = 17  | 9   | 9   | 9  | 8  | 8  | 7  | 2  | -  | 1  | 1  | 1  | 8  | 7  | 4* | 5* | 3* | 2  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| UA9 = 18 | 8   | 8   | 8  | 8  | 7  | 6  | 6  | 1  | 1  | 6  | 6  | 6  | 7  | 5* | 4* | 3* | 3* | 6  | 6  | 8  | 8  | 9  | 8  | 9  | 9  |    |
| UA0 = 19 | 7   | 7   | 6  | 6  | 5  | 5  | 7  | 8  | 6  | 7  | 9  | 8* | 8* | 7* | 6* | 5* | 5* | 6* | 7* | 8* | 9* | 9* | 7  | 6  | 6  |    |
| 4X = 20  | 9+  | 9   | 9  | 9  | 9  | 9  | 5  | -  | 3  | 3  | 1  | 1  | 1  | -  | -  | 1* | 1  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ |    |
| HZ = 21  | 9+  | 9   | 9  | 9  | 9  | 5  | -  | -  | 1  | 1  | 1  | 1  | 1* | 1* | 1  | 1  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| VU = 22  | 9   | 9   | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | 8  | 6  | 2* | 2* | 1  | 4  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| JT = 23  | 8   | 8   | 8  | 6  | 5  | 4  | 5  | 1  | 1  | 6  | 6  | 5  | 7* | 6* | 5* | 4* | 3  | 6  | 6  | 8  | 8  | 9  | 8  | 8  | 8  |    |
| VR2 = 24 | 2*  | -   | -  | -  | -  | -  | 1* | 6* | 7* | 7  | 6  | 9* | 8* | 7* | 6* | 5  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 2* | 2* |    |
| JA1 = 25 | 2   | 1   | 1  | 2  | 4  | 7  | 8  | 9  | 9  | 7  | 5* | 9+ | 9  | 8  | 7  | 5  | 5* | 7* | 8* | 9* | 9* | 9* | 7* | 5  | 5  |    |
| HS = 26  | 1*  | 1*  | -  | -  | -  | -  | -  | 1* | 5* | 7  | 6  | 6* | 5* | 5* | 4  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9  | 9  | 1  |    |
| DU = 27  | 3*  | 4*  | -  | -  | -  | -  | -  | 5* | 5* | 5  | 8  | 8  | 7  | 6  | 6  | 4  | 5  | 7  | 8  | 8  | 9  | 8  | 8  | 4* | 4* |    |
| YB = 28  | 2*  | 2*  | 1* | -  | -  | -  | -  | 2* | 2* | 6  | 8  | 8  | 8  | 7  | 5  | 2  | 1  | 1  | 2  | 5  | 5  | 3* | 2* | 2* | 2* |    |
| VK6 = 29 | 2*  | 1*  | 1* | -  | -  | -  | -  | 1* | 2* | 3* | 8  | 9  | 8  | 5  | 1  | -  | 1  | 2  | 3  | 4  | 2  | 1* | 4* | 4  | 4  |    |
| VK3 = 30 | 2*  | -   | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 8  | 6  | 4  | 3  | 2  | 1  | 1  | 1* | 1* | 2* | 5* | 8  | 7  | 7  |    |
| KH6 = 31 | 5   | 7   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 2* | 2* | 9  | 9  | 8  | 7  | 2  | 2  | 2* | 2  | 3* | 4* | 1  | 1  | 2  |    |
| KH8 = 32 | 6   | 7   | 8  | 9  | 9  | 8  | 8  | 9  | 6  | -  | -  | -  | 8  | 2  | -  | -  | 1  | 6  | 5  | 6  | 5  | 3  | 4  | 5  | 5  |    |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 3  | 9  | 8  | 6  | 3  | 1  | 1  | 2  | 4  | 7  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| SU = 34  | 9+  | 9+  | 9  | 9  | 9  | 9  | 5  | -  | 3  | 4  | 2  | 1  | -  | -  | -  | 1  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 3  | 1  | 1  | 9+ | 9+ | 9  | 7  | 5  | 5  | 6  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| D2 = 36  | 8   | 7   | 6  | 4  | -  | 1* | 1* | -  | 5  | 9  | 8  | 7  | 5  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  |    |
| 5Z = 37  | 9   | 9   | 2  | -  | 1* | 1* | -  | -  | 3  | 6  | 3  | 2  | 1  | 4  | 2  | 4  | 6  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  |    |
| ZS6 = 38 | -   | -   | -  | -  | -  | 1* | 1* | -  | 7  | 9  | 8  | 7  | 6  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 1  | -  | -  | -  | -  |    |
| FR = 39  | -   | -   | -  | -  | 1* | -  | -  | -  | 1  | 6  | 6  | 5  | 7  | 6  | 6  | 7  | 8  | 4  | 1* | 1* | 1* | 1* | -  | -  | -  |    |
| FJL = 40 | 4   | 5   | 5  | 7  | 7  | 6  | 7  | 7  | 5  | 8  | 7  | 6  | 7  | 4  | 3* | 1  | 2  | 4  | 5  | 7  | 8  | 8  | 7  | 5  | 5  |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: May, Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 7   | 8   | 8  | 8  | 8  | 7  | 6  | 5  | 5  | 1  | 4* | -  | -  | -  | -  | -  | 1  | 2  | 1* | 4  | 3  | 5* | 7  | 8  |    |    |
| VO2 = 02 | 9+  | 9+  | 9  | 9  | 9  | 8  | 8  | 7  | 2  | 4  | 7  | 9  | 8  | 7  | 9  | 7  | 9  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |    |    |
| W6 = 03  | 9   | 9+  | 9+ | 9+ | 9  | 9  | 9  | 9  | 7  | 3* | 1* | 8  | 1  | 8  | 7  | 6  | 5  | 7  | 8  | 2  | 4  | 5  | 8  | 9  |    |    |
| W9 = 04  | 9   | 9+  | 9+ | 9  | 9  | 9  | 8  | 8  | 4  | 1  | -  | 3  | 8  | 8  | 6  | 8  | 9  | 9  | 6  | 7  | 8  | 8  | 9  | 9  |    |    |
| W3 = 05  | 9+  | 9+  | 9+ | 9+ | 9  | 9  | 9  | 8  | 2  | 1  | -  | 8  | 9  | 8  | 8  | 9  | 5  | 6  | 6  | 8  | 9  | 9  | 9  | 9+ |    |    |
| XE1 = 06 | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 6  | 3* | 1* | 2  | 9  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 8  | 9  | 9  | 9+ |    |    |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | 3* | 4* | 1* | 9+ | 9  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |    |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | 2* | 9+ | 9  | 9  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |    |    |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 8  | 4  | -  | -  | 2* | 8  | 9+ | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |    |    |
| HC = 10  | 8   | 8   | 9  | 9+ | 9+ | 9+ | 8  | 3  | -  | 3* | 5* | 2* | 9+ | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 8  |    |    |
| PY1 = 11 | 9+  | 9+  | 9  | 8  | 5  | -  | -  | -  | -  | -  | -  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9  | 8  | 1  | -  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |
| LU = 13  | 2   | -   | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 8  | 9+ | 9+ | 9+ | 9  | 8  | 5  |    |    |
| G = 14   | 9+  | 9   | 9  | 9  | 9  | 9  | 9  | 2  | 1  | 8  | 8  | 7  | 6  | 7  | 8  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ |    |
| I = 15   | 9+  | 9+  | 9+ | 9  | 9  | 9  | 8  | 1  | 2  | 8  | 6  | 4  | 2  | 8  | 8  | 5  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |    |
| UA3 = 16 | 9   | 8   | 8  | 8  | 8  | 9  | 7  | -  | -  | 5  | 7  | 5  | 6  | 6  | 8  | 4  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |    |    |
| UN = 17  | 8   | 9   | 8  | 9  | 9  | 7  | 2  | -  | -  | 5  | 4  | 4  | 5* | 6* | 5* | 5  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 8  |    |    |
| UA9 = 18 | 5   | 6   | 7  | 7  | 7  | 8  | 5  | -  | -  | 4  | 6  | 5  | 7* | 6* | 6  | 4  | 5  | 6  | 7  | 8  | 5  | 6* | 7* | 5  |    |    |
| UA0 = 19 | 6   | 6   | 5  | 5  | 5  | 5  | 7  | 7  | 3  | 3  | 7  | 8  | 8* | 8* | 7* | 6* | 6* | 7* | 8* | 8* | 9* | 8* | 2  | 2  |    |    |
| 4X = 20  | 9   | 9   | 9  | 9  | 9  | 8  | -  | -  | -  | 6  | 4  | 2  | 7  | 7  | 6  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |    |    |
| HZ = 21  | 9   | 9   | 9  | 8  | 6  | 2* | -  | -  | -  | 5  | 4  | 4  | 6  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |    |
| VU = 22  | 9   | 9   | 8  | 5  | 2  | 1* | 1* | 1* | -  | 4  | 4  | 2  | 5* | 4* | 4* | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |    |
| JT = 23  | 8   | 8   | 8  | 7  | 7  | 8  | 5  | -  | -  | 5  | 4  | 3  | 8* | 7* | 6* | 5* | 5  | 6  | 6  | 8  | 7* | 7* | 5* | 8  |    |    |
| VR2 = 24 | 1*  | 5*  | 4* | 3* | 2* | 3* | 5* | 7* | 3* | 5  | 6  | 8* | 8* | 8* | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 5  | 3* |    |    |
| JA1 = 25 | 7   | 7   | 7  | 7  | 8  | 8  | 9  | 9  | 7  | 4* | 8* | 9  | 9  | 8  | 6* | 6* | 7* | 8* | 9* | 9* | 9* | 9* | 6  | 6  |    |    |
| HS = 26  | 1*  | 2*  | 3* | 2* | 1* | -  | 2* | 4* | 2* | 4  | 6  | 7* | 6  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 9+ | 9  | 4  | 3* |    |    |
| DU = 27  | 5*  | 6*  | 4* | 2* | 1* | 2* | 4* | 5* | 2* | 1* | 8  | 8  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 6* | 5* | 5* |    |    |
| YB = 28  | 4*  | 5*  | 4* | 2* | -  | -  | 1* | 2* | 1* | 1  | 8  | 9  | 8  | 7  | 4  | 2* | 1* | 1* | 1* | 3* | 3* | 3* | 5* | 4* |    |    |
| VK6 = 29 | 3*  | 2*  | 1* | 1* | -  | -  | 1* | 1* | -  | 1* | 5* | 9  | 7  | 3* | 1* | 1* | 1* | 1* | 1  | 1  | -  | -  | 3* | 4* |    |    |
| VK3 = 30 | 2*  | 1*  | -  | -  | -  | 1* | 1* | 1* | -  | 2* | 5* | 5  | 3  | 1  | 1* | -  | -  | -  | 1* | -  | 1* | 5* | 7  | 5* |    |    |
| KH6 = 31 | 6   | 8   | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 2* | 4* | 4* | 9  | 8  | 3  | 5  | 7  | 4  | 4* | 6  | 5  | 4* | 3  | 5  |    |    |
| KH8 = 32 | 7   | 8   | 8  | 7  | 5  | 5  | 2  | 3  | -  | 1* | 1* | 1* | 1* | 1* | -  | 1* | 1* | 7  | 6  | 6  | 6  | 6  | 6  | 6  |    |    |
| CN = 33  | 9   | 9+  | 9+ | 9  | 9+ | 9  | 8  | -  | -  | 5  | 9  | 8  | 6  | 2  | 4  | 6  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |    |
| SU = 34  | 9   | 9   | 9  | 9  | 8  | 8  | -  | -  | -  | 7  | 4  | 2  | 2* | 7  | 7  | 5  | 6  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9  |    |    |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 6  | -  | -  | -  | 6  | 9+ | 9  | 8  | 6  | 6  | 6  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |
| D2 = 36  | 5   | 3   | 2  | -  | 2* | 1* | 1* | 1* | -  | 9  | 9  | 8  | 7  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 7  |    |    |
| 5Z = 37  | 8   | 5   | 1* | 1* | 2* | 2* | 2* | 1* | -  | 7  | 5  | 6  | 6  | 4  | 5  | 8  | 8  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  |    |    |
| ZS6 = 38 | -   | -   | -  | -  | 1* | 2* | 1* | -  | 1  | 8  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  |    |    |
| FR = 39  | -   | -   | 1* | 1* | 2* | 1* | 1* | -  | -  | 7  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 1* | 1* | 2* | 2* | 1* | -  | -  |    |    |
| FJL = 40 | -   | 1   | -  | 2  | 2  | 1  | 1  | 4  | 1  | 5  | 1  | 2* | 5* | 3* | 2* | 1* | 1  | 1  | 1  | 1  | 1  | 1* | 1  | 6* | -  |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: May, Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2       | 2  | 4  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | 1  |
| VO2 = 02 | 9       | 9  | 8  | 7  | 5  | 2  | 2  | 2  | -  | -  | -  | 3  | 7  | 5  | 5  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9+ | 9  | 9  | 8  | 7  | 8  | 2  | -  | -  | 1  | -  | -  | 6  | 6  | 6  | 6  | 6  | 8  | 8  | 8  | 9  | 9  |
| W9 = 04  | 9       | 9  | 9  | 8  | 7  | 4  | 1  | 5  | -  | -  | -  | -  | 1  | 4  | 3  | 5  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| W3 = 05  | 9+      | 9+ | 9  | 9  | 9  | 9  | 8  | 3  | -  | -  | -  | -  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| XE1 = 06 | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 7  | 2  | -  | -  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | -  | -  | -  | -  | 1  | 9  | 9  | 6  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9  |
| VP2 = 08 | 8       | 8  | 8  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | 3  | 9+ | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 8  | 8  |
| P4 = 09  | 5       | 6  | 7  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | 2* | 7  | 9  | 6  | 6  | 6  | 6  | 9  | 9  | 9+ | 7  | 7  | 6  |
| HC = 10  | 1       | 1  | 2  | 6  | 6  | 6  | 2  | -  | -  | -  | 1* | -  | 1  | 9+ | 9  | 4  | -  | -  | -  | 1  | 1  | 1  | -  | 1  |
| PY1 = 11 | 8       | 9  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 7  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| CE = 12  | 9+      | 9+ | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 2* | 4* | 3* |
| G = 14   | 9       | 9  | 8  | 7  | 6  | 6  | 6  | -  | -  | -  | 9  | 7  | 7  | 8  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| I = 15   | 9       | 9  | 9  | 9  | 8  | 8  | 5  | -  | -  | 1  | 8  | 6  | 5  | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | 7       | 5  | 4  | 5  | 6  | 8  | 3  | -  | -  | -  | 8  | 6  | 5  | 4  | 4  | 5  | 6  | 6  | 8  | 8  | 9  | 9  | 8  | 6  |
| UN = 17  | 3       | 5  | 8  | 9  | 8  | 5  | -  | -  | -  | 2  | 5  | 5  | 5* | 5* | 4* | 5  | 6  | 7  | 8  | 8  | 8  | 7  | 5  | 4  |
| UA9 = 18 | 1       | 1  | 2  | 3  | 5  | 7  | 3  | -  | -  | -  | 7  | 5  | 6* | 6* | 5* | 4  | 4* | 2  | 1  | 1  | -  | 1* | 6* | -  |
| UA0 = 19 | 1       | -  | -  | -  | 1  | -  | 1  | 4  | -  | -  | -  | 6* | 8* | 8* | 8* | 7* | 7* | 7* | 8* | 8* | 7* | 5* | -  | -  |
| 4X = 20  | 9       | 9  | 9  | 5  | 5  | 3  | -  | -  | -  | 4  | 6  | 5  | 4  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  |
| HZ = 21  | 9       | 8  | 6  | 4  | 1  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 4  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 8       | 7  | 3  | 4* | 2* | 1* | -  | -  | -  | 4  | 5  | 4  | 4* | 5* | 5* | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  | 5       | 6  | 7  | 7  | 8  | 7  | 2  | -  | -  | -  | 6  | 4  | 8* | 8* | 7* | 6* | 6* | 6* | 6* | 3* | 4* | 6* | 7* | 3  |
| VR2 = 24 | 6*      | 4* | 4* | 5* | 4* | 5* | 6* | 5* | -  | 1  | 8  | 8  | 9* | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9+ | 8  | 6* | 6* |
| JA1 = 25 | 7       | 7  | 8  | 8  | 8  | 9  | 8  | 8  | 3  | -  | 8* | 9* | 8* | 8* | 8* | 8* | 8* | 9* | 9* | 9* | 8* | 7  | 7  | 7  |
| HS = 26  | 6*      | 6* | 4* | 3* | 2* | 4* | 3* | 2* | -  | -  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 3* | 5* |
| DU = 27  | 7*      | 7* | 5* | 4* | 4* | 4* | 4* | 2* | -  | -  | 2  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 5  | 7* | 7* | 7* |
| YB = 28  | 6*      | 6* | 5* | 4* | 2* | 2* | 2* | 1* | -  | -  | 5  | 8  | 8  | 6  | 5* | 4* | 3* | 3* | 4* | 4* | 2* | 1* | 4* | 6* |
| VK6 = 29 | 4*      | 3* | 1* | 1* | 1* | 1* | 1* | -  | -  | -  | -  | 7* | 6  | 4* | 2* | 1* | 1* | -  | -  | -  | -  | 1* | 6* | 6* |
| VK3 = 30 | 3*      | 2* | 1* | -  | -  | 1* | 1* | -  | -  | 1* | 5* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 4* | 4* |
| KH6 = 31 | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | -  | 2* | 5* | 5* | 8  | 3* | 2* | 1* | 5  | 3  | 5  | 5  | 6* | 4  | 6  | 6  |
| KH8 = 32 | 6       | 7  | 5  | 3* | 3* | -  | -  | -  | -  | -  | 2* | 1* | 2* | 1* | 1* | 1* | -  | 7  | 7  | 7  | 7  | 7  | 7  | 7  |
| CN = 33  | 9       | 9+ | 9+ | 9  | 9  | 8  | 4  | -  | -  | -  | 9  | 9  | 8  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  |
| SU = 34  | 9       | 9  | 9  | 6  | 4  | 2  | -  | -  | -  | 4  | 7  | 5  | 4  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| 6W = 35  | 6       | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 8  | 6  |
| D2 = 36  | 1       | -  | -  | -  | -  | 3* | 2* | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9  | 9  | 7  | 3  | 3  |
| 5Z = 37  | 4       | -  | -  | 4* | 3* | 4* | 2* | 1* | -  | 6  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  |
| ZS6 = 38 | -       | -  | -  | -  | 2* | 2* | 2* | 1* | -  | 5  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 6  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | 2* | 2* | 2* | 2* | 1* | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 2  | 2* | 2* | 1* | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 6* | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: May, Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |         | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 |         | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 4  | 6  | 4  | 5  | 5  | 7  | 8  | 8  |
| W6 = 03  |         | 9  | 9  | 9  | 8  | 6  | 2  | 1  | 4  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 9  |
| W9 = 04  |         | 8  | 8  | 6  | 4  | 1  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 4  | 5  | 5  | 7  | 8  | 8  | 8  |
| W3 = 05  |         | 9  | 9  | 9  | 9  | 7  | 6  | 4  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| XE1 = 06 |         | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| TI = 07  |         | 4  | 5  | 6  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | 1  | -  | 1  | 1  | 2  | 3  | 6  | 7  | 6  | 6  | 4  |
| VP2 = 08 |         | 1  | 1  | 4  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | 3  | 4  | 6  | 2  | 1  | 1  | 4  | 5  | 4  | 1  | 2  | 1  |
| P4 = 09  |         | -  | -  | 2  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | 1* | -  | 1  | 1  | -  | -  | -  | 1  | 2* | -  | 1  | -  |
| HC = 10  |         | 9  | 9  | -  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  |
| PY1 = 11 |         | 1  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | 1  | 5  | 8  | 8  | 8  | 5  | 2  |
| CE = 12  |         | 8  | 5  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| LU = 13  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 1* | 2* | 4* | 4* | -  |
| G = 14   |         | 6  | 5  | 3  | 1  | 1  | 1  | 2  | -  | -  | -  | 2  | 2  | 6  | 6  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 8  | 7  | 7  |
| I = 15   |         | 8  | 9  | 8  | 6  | 4  | 3  | 1  | -  | -  | -  | 7  | 7  | 7  | 6  | 6  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| UA3 = 16 |         | 2  | 1  | 1  | 1  | 2  | 5  | -  | -  | -  | -  | 7  | 5  | 5  | 4  | 3  | 4  | 5  | 3  | 5  | 3  | 7  | 5  | 2  | 1  |
| UN = 17  |         | -  | -  | 5  | 8  | 7  | 2  | -  | -  | -  | -  | 7  | 6  | 5  | 6* | 5  | 5  | 5  | 4  | 5  | 5  | 4  | 2  | -  | 1* |
| UA9 = 18 |         | -  | -  | -  | -  | 1  | 5  | -  | -  | -  | -  | 1  | 1  | 2* | 5* | 3* | 1* | 1* | -  | -  | -  | -  | -  | 1* | -  |
| UA0 = 19 |         | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 1  | 8* | 8* | 8* | 8* | 8* | 7* | 6* | 4* | 4* | -  | -  | -  |
| 4X = 20  |         | 9  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | 8  | 7  | 5  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  |         | 8  | 5  | 2* | 1* | -  | -  | -  | -  | -  | -  | 6  | 5  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  |         | 4  | 5* | 4* | 2* | 1* | -  | -  | -  | -  | -  | 6  | 5  | 5  | 6  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  |
| JT = 23  |         | 1  | 2  | 5  | 4  | 5  | 5  | -  | -  | -  | -  | 1  | 2  | 3* | 8* | 6* | 5* | 5* | 5* | 3* | -  | -  | 2* | 4* | -  |
| VR2 = 24 |         | 7* | 6* | 7* | 7* | 6* | 6* | 5* | 1* | -  | -  | 7  | 9  | 9* | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 2  | 6* | 6* |
| JA1 = 25 |         | 2  | 3  | 5  | 6  | 7  | 8  | 8  | 5  | -  | -  | 4* | 8* | 9* | 9* | 8* | 8* | 8* | 9* | 9* | 8* | 6* | 4  | 5  | 3  |
| HS = 26  |         | 6* | 6* | 7* | 6* | 5* | 4* | 3* | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 7  | 7  | 9  | 9  | 9  | 9  | 1  | -  | 4* |
| DU = 27  |         | 7* | 6* | 5* | 4* | 4* | 3* | 2* | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2* | 5* | 7* | 7* |
| YB = 28  |         | 6* | 5* | 5* | 4* | 3* | 2* | 1* | -  | -  | -  | -  | 7  | 8* | 6* | 5* | 5* | 5* | 4* | 4* | 3* | 1* | -  | 1* | 6* |
| VK6 = 29 |         | 5* | 2* | 2* | 1* | 2* | 1* | 1* | -  | -  | -  | -  | 4* | 5* | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 6* |
| VK3 = 30 |         | 2* | 2* | 1* | 1* | 1* | 1* | -  | -  | -  | -  | 5* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 6* | 4* |
| KH6 = 31 |         | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 2  | -  | -  | 6* | 5* | 7  | 1* | 1* | -  | -  | 6  | 7  | 7  | 6  | 6  | 7  | 7  |
| KH8 = 32 |         | 3  | 2  | 2* | 2* | 1* | -  | -  | -  | -  | -  | 5* | 3* | 3* | 2* | 2* | 2* | -  | 3  | 7  | 8  | 8  | 8  | 8  | 6  |
| CN = 33  |         | 9  | 9  | 9  | 9  | 8  | 6  | -  | -  | -  | -  | 7  | 8  | 9  | 8  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  |         | 9  | 9  | 7  | 1  | -  | -  | -  | -  | -  | -  | 8  | 7  | 6  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  |         | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 6  | 4  | 2  | 2  | 3  | 4  | 6  | 7  | 7  | 7  | 4* | -  |
| D2 = 36  |         | 1* | 1* | -  | -  | -  | 2* | -  | -  | -  | -  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 9  | 7  | 4* | 4* | 2* |
| 5Z = 37  |         | -  | -  | -  | 3* | 5* | 4* | 1* | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 4  | 4  | 1  |
| ZS6 = 38 |         | -  | -  | -  | -  | -  | 4* | 2* | -  | -  | -  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 9  | -  | -  | -  | -  | -  | -  |
| FR = 39  |         | -  | -  | -  | 4* | 4* | 2* | 1* | -  | -  | -  | 7  | 8  | 9  | 9  | 9  | 8  | 2* | 1* | -  | -  | -  | -  | -  | -  |
| FJL = 40 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Jun., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | 3  | 5  | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | -  | 2  | 3  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | -  | 1  | 4  | 2  | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 2  | 3  | 5  | 5  | 5  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | -  | 3  | 3  | 4  | 5  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | -       | 2  | 3  | 3  | 3  | 3  | 3  | 3  | 2  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 2       | 3  | 4  | 4  | 4  | 3  | 3  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| P4 = 09  | 2       | 3  | 4  | 4  | 4  | 3  | 3  | 3  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 5       | 5  | 6  | 5  | 5  | 5  | 4  | 4  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  | 9  |
| G = 14   | 4       | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| I = 15   | 3       | 2  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HZ = 21  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JAl = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| SU = 34  | 2       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| 6W = 35  | 5       | 4  | 4  | 4  | 4  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  |
| D2 = 36  | 5       | 5  | 5  | 6  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| 5Z = 37  | 3       | 4  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 4  |
| ZS6 = 38 | 5       | 5  | 5  | 5  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |
| FR = 39  | 5       | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Jun., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 3       | 6  | 8  | 8  | 8  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 2  | 5  | 6  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 2  | 4  | 7  | 5  | 7  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 5  | 6  | 8  | 8  | 8  | 8  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 3  | 3  | 6  | 6  | 7  | 8  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 3       | 5  | 6  | 6  | 6  | 6  | 6  | 6  | 5  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 5       | 6  | 7  | 7  | 7  | 6  | 6  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| P4 = 09  | 5       | 6  | 7  | 7  | 7  | 6  | 6  | 6  | 5  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| HC = 10  | 8       | 8  | 9  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | -  | -  | -  | -  | -  | 4  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | -  | -  | 2  | 8  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 2  | -  | -  | 1  | 5  | 9  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7       | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| I = 15   | 6       | 5  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| UA3 = 16 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  |
| HZ = 21  | 4       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | -  | -  | 1  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 1  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 1  | 1  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| SU = 34  | 5       | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  |
| 6W = 35  | 8       | 7  | 7  | 7  | 7  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  |
| D2 = 36  | 8       | 8  | 8  | 9  | 9  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| 5Z = 37  | 6       | 7  | 5  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 7  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 9  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  |
| FR = 39  | 8       | 8  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 8  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 40 Meters: Jun., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | -       | -  | -  | -  | 1  | 2  | 3  | 6  | 5  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 7       | 8  | 8  | 8  | 9  | 8  | 8  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| W6 = 03  | -       | -  | 3  | 5  | 7  | 8  | 5  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 5       | 6  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W3 = 05  | 7       | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| XE1 = 06 | 6       | 7  | 8  | 9  | 9  | 8  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| TI = 07  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| VP2 = 08 | 8       | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| P4 = 09  | 8       | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 4  | 5  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 4  | 2  | 4  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 8  |
| I = 15   | 7       | 7  | 7  | 7  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 7  | 8  |
| UA3 = 16 | 5       | 7  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 5  |
| UN = 17  | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 5  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 1  | 1  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 8       | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 8  |
| HZ = 21  | 6       | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  |
| VU = 22  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 5  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 2  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 6  | 6  | 5  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 1  | -  |
| YB = 28  | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 7  |
| VK6 = 29 | 5       | 2  | 1  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 7  |
| VK3 = 30 | -       | -  | -  | -  | 1  | 3  | 5  | 7  | 7  | 8  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 4  | 5  | 1  |
| KH6 = 31 | -       | -  | -  | -  | 4  | 7  | 7  | 7  | 7  | 6  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 2  | 5  | 6  | 7  | 7  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 9  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 7  | 8  |
| SU = 34  | 8       | 7  | 7  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 8       | 7  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 8  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  | 9  | 9  | 9  |
| FR = 39  | 9       | 5  | -  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 8  | 9  |
| FJL = 40 | 1       | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Jun., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | -       | 1  | 1  | 2  | 3  | 6  | 6  | 6  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| W6 = 03  | 1       | 3  | 5  | 6  | 7  | 7  | 8  | 8  | 7  | 7  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| W3 = 05  | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| XE1 = 06 | 8       | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 2  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 5  | 2  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 7  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  | 8  |
| UA3 = 16 | 7       | 6  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 7  | 7  |
| UN = 17  | 6       | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 7  | 7  |
| UA9 = 18 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 4  | 4  | 5  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 2* | 3* | 1* | -  | -  |
| 4X = 20  | 8       | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| HZ = 21  | 8       | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| VU = 22  | 5       | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  | 6  |
| JT = 23  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 4  | 4  | 2  |
| VR2 = 24 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 4* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  | 2  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | 1* | 3* | 4* | 3* | -  | -  |
| HS = 26  | 6       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 7  |
| DU = 27  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  | 3  |
| YB = 28  | 7       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 6  | 7  |
| VK6 = 29 | 6       | 5  | 3  | 1  | -  | -  | -  | 2  | 5  | 6  | 6  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  | 6  | 7  |
| VK3 = 30 | 4       | 2  | 2  | 3  | 5  | 6  | 6  | 7  | 7  | 7  | 8  | 8  | 7  | 6  | 5  | 2  | 1  | 1  | 1  | 3  | 4  | 5  | 6  | 6  | 6  | 5  |
| KH6 = 31 | -       | -  | -  | 2  | 7  | 6  | 7  | 7  | 7  | 7  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  |
| D2 = 36  | 9       | 9  | 8  | 9  | 7  | 5  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9  |
| 5Z = 37  | 9       | 8  | 8  | 7  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  | 8  |
| ZS6 = 38 | 7       | 8  | 8  | 8  | 2  | 5  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 8  | 8  | 7  |
| FR = 39  | -       | -  | -  | -  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 4  | -  | -  | -  | -  |
| FJL = 40 | 3       | 2  | 2  | 2  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 2  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 20 Meters: Jun., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 2   | 5   | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 3  | 1  | -  | -  | 1* | -  | -  | -  | -  | 1  |    |
| VO2 = 02 | 9   | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 2  | -  | -  | -  | 1  | 2  | 6  | 6  | 8  | 9  | 9  |
| W6 = 03  | 8   | 8   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| W9 = 04  | 9   | 9   | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 3  | 1  | -  | -  | -  | -  | 2  | 1  | 5  | 8  | 9  |
| W3 = 05  | 9   | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 8  | 7  | 2  | 1  | -  | -  | -  | 1  | 4  | 5  | 7  | 9  | 9  |
| XE1 = 06 | 9   | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 7  | 3  | 2  | 1  | 1  | 1  | 2  | 2  | 5  | 8  | 9  |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 6  | 5  | 9  | 9  | 6  | 4  | 2  | 2  | 2  | 2  | 4  | 7  | 9  | 9  | 9+ |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 8  | 8  | 9+ | 9  | 8  | 5  | 2  | 1  | 2  | 3  | 6  | 7  | 9  | 9  | 9+ | 9+ |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 7  | 7  | 9+ | 9  | 8  | 7  | 3  | 2  | 4  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 2  | 2* | 9+ | 9  | 8  | 6  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9   | 8   | 9  | 6  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9+  | 9   | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| I = 15   | 9+  | 9+  | 9+ | 9+ | 9  | 8  | 8  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 6  | 8  | 9  | 9  | 9  |
| UA3 = 16 | 9   | 9   | 9  | 9  | 8  | 7  | 4  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9  |
| UN = 17  | 9   | 8   | 8  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | 1* | -  | -  | 1  | 5  | 7  | 8  | 9  | 9  | 9  |
| UA9 = 18 | 7   | 6   | 2  | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | 4* | 1* | 2* | 2* | 1* | 1* | 1  | 5  | 6  | 7  | 8  | 8  | 8  |
| UA0 = 19 | 1   | 1   | 1  | 1  | 1  | 1  | 1  | 2  | 3  | 6  | 8* | 8* | 7* | 5* | 4* | 3* | 3* | 3* | 4* | 6* | 7* | 8  | 7* | 5* | 2* | 2* |
| 4X = 20  | 9   | 9   | 9  | 9  | 9  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9   | 9   | 9  | 9  | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 8   | 8   | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | 1* | -  | 1  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  | 6   | 2   | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 6* | 4* | 4* | 3* | 1* | 1* | 1  | 2  | 5* | 6  | 8  | 8  | 7  |
| VR2 = 24 | 6   | 2   | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 4* | 7  | 8* | 7* | 4* | 2  | 2  | 4  | 5  | 7  | 8  | 8  | 9  | 8  | 8  |
| JA1 = 25 | 1*  | -   | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 7  | 9  | 8  | 5  | 2  | 2  | 2* | 4* | 5* | 8* | 8* | 8  | 8* | 8* | 8* | 4* |
| HS = 26  | 7   | 4   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1  | 6  | 3* | 2* | 2  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| DU = 27  | 3   | -   | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 7  | 7  | 7  | 6  | 5  | 4  | 3  | 3  | 4  | 6  | 8  | 8  | 6  | 8  | 7  |
| YB = 28  | 6   | -   | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 7  | 7  | 7  | 5  | 5  | 4  | 4  | 5  | 5  | 7  | 8  | 5  | 2* | 2  | 2  |
| VK6 = 29 | 7   | -   | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 9  | 8  | 7  | 4  | 2  | 2  | 4  | 5  | 6  | 4  | 1  | 3* | 8  | 8  |
| VK3 = 30 | 8   | 3   | -  | -  | -  | 1  | 2* | 1* | 1* | 5  | 6  | 9  | 8  | 6  | 6  | 5  | 5  | 5  | 5  | 5  | 2  | 2  | 6  | 9  | 8  | 8  |
| KH6 = 31 | 1   | 3   | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1* | 8  | 8  | 7  | 4  | 1  | -  | 1  | 1* | -  | -  | -  | -  | -  |
| KH8 = 32 | 3   | 6   | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | 6  | 9  | 8  | -  | -  | -  | 4  | 3  | 1  | 1  | 1  | 1  | 1  | 1  |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| SU = 34  | 9   | 9   | 9  | 9  | 9  | 8  | 7  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 5  | 7  | 7  | 9+ | 9  | 6  | 4  | 1  | 1  | 1  | 1  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9   | 9   | 8  | 7  | 2  | 1  | 1  | 2  | 9  | 9  | 6  | 3  | 1  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9   | 9   | 8  | 3  | 7  | 7  | -  | -  | 3  | 2  | -  | 1  | -  | -  | -  | -  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| ZS6 = 38 | -   | 1   | 3  | 2  | -  | -  | -  | 2  | 8  | 8  | 7  | 4  | 3  | 2  | 3  | 2  | 3  | 5  | 8  | 9  | 9  | 9  | 8  | -  | -  | -  |
| FR = 39  | -   | -   | -  | -  | 4  | 2  | -  | -  | 4  | 4  | 2  | 2  | 3  | 2  | 3  | 2  | 3  | 5  | 7  | 7  | -  | -  | 1* | -  | -  | -  |
| FJL = 40 | 8   | 8   | 7  | 8  | 8  | 7  | 7  | 7  | 7  | 5  | 5  | 3  | 2  | 1  | 1* | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Jun., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 8   | 8   | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 7* | 6* | 5* | 3* | 1  | 1  | 1  | 1  | 3  | 4  | 5  | 6  | 7  | 8  |
| VO2 = 02 | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 7  | 8  | 9  | 8  | 7  | 8  | 6  | 5  | 4  | 6  | 8  | 7  | 8  | 9  | 9  | 9  |
| W6 = 03  | 9   | 9   | 9  | 9  | 9  | 9+ | 9+ | 9  | 8  | 5  | 5* | 9+ | 8  | 8  | 8  | 6  | 6  | 4  | 4  | 1  | 1  | 1  | 3  | 7  | 9  |    |
| W9 = 04  | 9   | 9   | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 5  | 9  | 8  | 6  | 7  | 7  | 5  | 5  | 4  | 6  | 7  | 8  | 9  | 9  | 9  |    |
| W3 = 05  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 5  | 4  | 9  | 8  | 9  | 6  | 5  | 4  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9  |    |
| XE1 = 06 | 9   | 9+  | 9  | 9  | 9+ | 9+ | 9  | 9  | 8  | 5* | 2* | 8  | 9  | 9  | 8  | 7  | 6  | 6  | 5  | 5  | 7  | 8  | 9  | 9  | 9  |    |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | 5* | 3* | 2* | 9+ | 9  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 1  | 1  | 5  | 9+ | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1  | 2* | 4* | 9+ | 9  | 9  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  |    |
| HC = 10  | 8   | 8   | 9  | 9+ | 9+ | 9+ | 8  | 5  | -  | 4* | 5* | 3* | 9+ | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9+ | 9+ | 8  | 7  |    |    |
| PY1 = 11 | 9+  | 9+  | 9  | 8  | 4  | 4  | -  | -  | -  | -  | -  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9  | 8  | 8  | 5  | 1* | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  | 1*  | 1*  | 1  | -  | -  | -  | -  | -  | 5  | -  | -  | -  | 3  | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9  | 5  | 1* |    |    |
| G = 14   | 9+  | 9+  | 9+ | 9  | 9  | 9  | 9  | 6  | 4  | 8  | 7  | 5  | 3  | 1  | 1  | 1  | 4  | 7  | 7  | 9  | 9  | 9  | 9  | 9+ | 9+ |    |
| I = 15   | 9+  | 9+  | 9+ | 9  | 9  | 9  | 9  | 5  | 4  | 8  | 4  | 2  | 1  | -  | -  | -  | 5  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| UA3 = 16 | 9   | 9   | 9  | 9  | 9  | 9  | 7  | 2  | 1  | 5  | 2  | 1  | 2* | 1  | 1  | 1  | 2  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| UN = 17  | 9   | 9   | 8  | 8  | 8  | 6  | 2  | -  | -  | 2  | 1  | 1  | 8  | 4* | 4* | 4* | 5  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| UA9 = 18 | 8   | 7   | 7  | 7  | 6  | 7  | 5  | 1  | 1  | 4  | 2  | 7  | 7  | 5* | 5* | 5* | 5* | 6  | 6  | 8  | 8  | 8  | 8  | 9  | 8  |    |
| UA0 = 19 | 5   | 5   | 8  | 8  | 6  | 6  | 7  | 7  | 5  | 6  | 8  | 9* | 9* | 8* | 7* | 6* | 6* | 7* | 8* | 8* | 9* | 8* | 6  | 6  |    |    |
| 4X = 20  | 9   | 9+  | 9  | 9  | 9  | 9  | 4  | -  | 3  | 4  | 1  | 1  | 1* | -  | 2  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| HZ = 21  | 9   | 9   | 9  | 8  | 7  | 4  | -  | -  | 1  | 3  | 2  | 1  | 2* | 2  | 1  | 2  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| VU = 22  | 9   | 9   | 8  | 5  | 3  | 1  | -  | -  | -  | -  | 1  | 8  | 5  | 7  | 3* | 3* | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| JT = 23  | 8   | 7   | 7  | 5  | 5  | 5  | 4  | 1  | 1  | 5  | 7  | 5  | 8* | 7* | 6* | 6* | 6* | 6  | 6  | 7  | 8  | 8  | 8  | 8  | 8  |    |
| VR2 = 24 | 5*  | 2*  | -  | -  | -  | -  | 2* | 5* | 5* | 7  | 6  | 8* | 8* | 7* | 7* | 6  | 8  | 8  | 9  | 9  | 9  | 9+ | 9  | 2* |    |    |
| JA1 = 25 | 4   | 1   | 2  | 2  | 6  | 7  | 8  | 8  | 8  | 5* | 7* | 9  | 9  | 8  | 8  | 6* | 8* | 8* | 9* | 9* | 9* | 9* | 8  | 4  |    |    |
| HS = 26  | 1*  | 2*  | 1* | -  | -  | -  | -  | 1* | 2* | 8  | 6  | 8* | 7* | 5  | 6  | 6  | 5  | 8  | 9  | 9  | 9+ | 9  | 8  | 1  |    |    |
| DU = 27  | 5*  | 3*  | -  | -  | -  | -  | 2* | 4* | 4* | 4  | 9  | 9  | 8  | 8  | 7  | 3  | 7  | 7  | 8  | 8  | 6  | 6* | 6  | 3* |    |    |
| YB = 28  | 1*  | 1*  | 1* | -  | -  | -  | -  | 1* | 2* | 7  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | 1  | 2* | 2* | 3* | 3* | 4* | 2* |    |    |
| VK6 = 29 | 1*  | 1*  | 1* | -  | -  | -  | -  | 1* | 1* | 2* | 8  | 9  | 8  | 5  | 1  | -  | -  | -  | 1  | 2  | -  | -  | 1* | 2  |    |    |
| VK3 = 30 | 1*  | -   | -  | -  | -  | -  | -  | 1* | -  | 2* | 1* | 5  | 1  | 1  | 4  | 2  | 2  | 1  | 1  | 1* | 1* | 5* | 9  | 5  |    |    |
| KH6 = 31 | 5   | 7   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2* | 2* | 3* | 9  | 8  | 6  | 6  | 4  | 4  | 9  | 5* | 4* | 2* | 1  | 3  |    |
| KH8 = 32 | 6   | 8   | 8  | 8  | 7  | 6  | 7  | 7  | 5  | 2* | -  | -  | 7  | 1  | -  | -  | 1* | 7  | 6  | 6  | 5  | 5  | 5  | 5  |    |    |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 8  | 4  | 4  | 7  | 8  | 7  | 5  | 1  | 1  | 2  | 4  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| SU = 34  | 9   | 9+  | 9  | 9  | 9  | 9  | 4  | -  | 3  | 5  | 2  | 1  | -  | -  | 1  | 1  | 4  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |    |    |
| 6W = 35  | 9   | 9   | 9  | 8  | 7  | 2  | -  | -  | 1  | 9+ | 9+ | 9  | 8  | 6  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |
| D2 = 36  | 6   | 5   | 4  | 2  | 1* | -  | -  | 1* | 5  | 9  | 9  | 8  | 5  | 4  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  |    |    |
| 5Z = 37  | 9   | 7   | 4  | -  | 1  | 1* | 1* | -  | 3  | 6  | 4  | 3  | 3  | 5  | 4  | 6  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |
| ZS6 = 38 | -   | -   | -  | -  | -  | 1* | -  | -  | 6  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 7  | -  | -  | -  |    |    |
| FR = 39  | -   | -   | -  | 1* | -  | -  | -  | -  | 1  | 8  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | -  | 1* | 1* | 1* | 1* | -  | -  |    |    |
| FJL = 40 | 1   | 1   | 1  | 5  | 5  | 1  | 3  | 6  | 2  | 6  | 5  | 4  | 6  | 7  | 2* | 1  | 2* | 2  | 5  | 6  | 7  | 6  | 6* | 3  |    |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Jun., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |  |
| KL7 = 01 | 7       | 5  | 5  | 6  | 6  | 5  | 3  | 2  | 4  | 1  | 4* | 2* | 2* | 1* | -  | -  | 1* | 1* | 2  | 2  | 4* | 3  | 5  | 7  |  |  |
| VO2 = 02 | 9       | 9  | 9  | 9  | 9  | 8  | 9  | 6  | 1  | 3  | 5  | 8  | 8  | 7  | 8  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 8  |  |  |
| W6 = 03  | 9       | 9  | 9  | 9+ | 9+ | 9  | 9  | 8  | 5  | 2* | 1* | 6  | 4  | 7  | 7  | 6  | 5  | 8  | 9  | 6  | 5  | 8  | 9  | 9  |  |  |
| W9 = 04  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 2  | 1  | -  | 2  | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |  |  |
| W3 = 05  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | 1  | -  | 9  | 9  | 8  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |  |  |
| XE1 = 06 | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1* | 2* | 2  | 7  | 9  | 9  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ |  |  |
| TI = 07  | 8       | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | 1* | 3* | 2* | 3  | 9  | 9  | 4  | 4  | 5  | 8  | 9  | 9  | 9+ | 9  | 8  |  |  |
| VP2 = 08 | 5       | 7  | 8  | 8  | 8  | 8  | 7  | 1  | -  | -  | 1* | 8  | 9+ | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 7  | 5  |  |  |
| P4 = 09  | 3       | 5  | 8  | 8  | 7  | 7  | 6  | 1  | -  | -  | 2* | 2* | 7  | 9  | 6  | 5  | 8  | 9  | 9  | 9  | 9  | 7  | 5  | 2  |  |  |
| HC = 10  | -       | 1  | 2  | 6  | 6  | 5  | 4  | -  | -  | 2* | 4* | 4* | 5  | 9+ | 9  | 5  | 9  | 9  | 9  | 1  | 1  | 1  | -  | -  |  |  |
| PY1 = 11 | 3       | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  |  |  |
| CE = 12  | 9+      | 9+ | 9  | 8  | 4  | 1  | 1  | -  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |  |  |
| LU = 13  | 2*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 1  | -  | -  | -  | 4  | 7  | 7  | 2* | 4* | 2* |  |  |
| G = 14   | 9       | 9  | 9  | 9  | 8  | 9  | 8  | 2  | 1  | 2  | 8  | 7  | 5  | 9  | 9  | 9  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |  |  |
| I = 15   | 9       | 9  | 9  | 9  | 9  | 9  | 7  | 1  | 1  | 5  | 8  | 5  | 3  | 8  | 8  | 6  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |  |  |
| UA3 = 16 | 9       | 8  | 7  | 7  | 8  | 8  | 5  | 1  | -  | 1  | 6  | 5  | 7  | 7  | 8  | 6  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  |  |  |
| UN = 17  | 8       | 8  | 9  | 9  | 7  | 5  | 1  | -  | -  | 5  | 2  | 4  | 5* | 6* | 5* | 4* | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 8  |  |  |
| UA9 = 18 | 3       | 3  | 5  | 6  | 6  | 6  | 4  | -  | -  | -  | 3  | 2  | 6* | 7* | 6* | 5* | 4  | 6  | 7  | 7  | 6  | 6* | 6* | 3  |  |  |
| UA0 = 19 | 1       | 3  | 5  | 5  | 4  | 2  | 7  | 5  | 1  | 2  | 3  | 8* | 9* | 8* | 8* | 7* | 7* | 8* | 8* | 8* | 9* | 6* | 4  | 4  |  |  |
| 4X = 20  | 9       | 9  | 9  | 6  | 7  | 7  | 1  | -  | -  | 7  | 5  | 4  | 8  | 6  | 6  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |  |  |
| HZ = 21  | 9       | 9  | 7  | 4  | 2  | -  | -  | -  | -  | 5  | 5  | 5  | 5  | 5  | 3  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  |  |  |
| VU = 22  | 9       | 8  | 4  | 2* | 1* | -  | -  | -  | -  | 4  | 3  | 4  | 4* | 5* | 5* | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |  |  |
| JT = 23  | 7       | 7  | 7  | 7  | 8  | 6  | 4  | -  | -  | 1  | 5  | 3  | 8* | 8* | 7* | 6* | 5* | 5  | 6  | 7* | 7* | 8* | 6* | 6  |  |  |
| VR2 = 24 | 4*      | 4* | 4* | 3* | 4* | 4* | 5* | 5* | 1* | 6  | 7  | 8  | 9* | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 4* | 2* |  |  |
| JA1 = 25 | 6       | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 5  | 4* | 8* | 8* | 9  | 8  | 8* | 8* | 8* | 9* | 9* | 9* | 8* | 8* | 5  | 5  |  |  |
| HS = 26  | 3*      | 2* | 2* | 2* | 1* | 1* | 1* | 3* | 1* | 5  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ | 9  | 3* | 2* |  |  |
| DU = 27  | 5*      | 5* | 4* | 2* | 2* | 2* | 4* | 3* | 1* | 1* | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 5* | 6* | 6* | 5* |    |  |  |
| YB = 28  | 2*      | 4* | 3* | 2* | 1* | 1* | 1* | 1* | 1* | -  | 9  | 9  | 8  | 8  | 4* | 2* | 2* | 2* | 3* | 3* | 1* | 4* | 5* |    |  |  |
| VK6 = 29 | 2*      | 1* | 1* | -  | 1* | 1* | 1* | 1* | -  | 1* | 2* | 8  | 8  | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 5* |    |  |  |
| VK3 = 30 | 1*      | 1* | -  | -  | -  | 1* | 1* | -  | -  | 1* | 5* | 1* | 2* | -  | 1  | -  | -  | -  | -  | -  | -  | 4* | 7  | 2* |  |  |
| KH6 = 31 | 7       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | 2* | 4* | 5* | 9  | 4  | 2* | 2  | 3  | 6  | 5  | 6  | 7  | 5  | 5  | 6  |  |  |
| KH8 = 32 | 7       | 5  | 6  | 3  | 2* | 1* | 2  | 1  | -  | 2* | 1* | 1* | 1* | 1* | 1* | 1* | -  | 6  | 8  | 7  | 6  | 6  | 6  | 7  |  |  |
| CN = 33  | 9+      | 9  | 9  | 9  | 9  | 9  | 6  | -  | -  | 1  | 9  | 8  | 6  | 2  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |  |  |
| SU = 34  | 9+      | 9  | 8  | 6  | 7  | 6  | -  | -  | -  | 7  | 6  | 4  | 4  | 7  | 5  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |  |  |
| 6W = 35  | 2       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 8  | 3  |  |  |
| D2 = 36  | 2       | 1  | 1  | -  | 1* | 1* | 2* | -  | 1  | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9  | 9+ | 9  | 7  | 5  |  |  |
| 5Z = 37  | 7       | 1  | -  | 2* | 1* | 1* | 1* | 1* | 1  | 8  | 7  | 7  | 6  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ | 9  | 9+ | 9  | 7  |  |  |
| ZS6 = 38 | -       | -  | -  | -  | 2* | 1* | 1* | 1* | 1  | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | -  | -  | -  | -  | -  |  |  |
| FR = 39  | -       | -  | 1* | 1* | 1* | 1* | -  | -  | -  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 1  | 1* | 1* | 1* | 1* | 1* | -  | -  |  |  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | 2  | -  | 4  | -  | -  | 6* | 2* | 2* | 1  | 1  | 1* | 1  | 2* | 2* | -  | 1* | -  |  |  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |  |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Jun., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone         | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
|--------------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| KL7 = 01     | 1   | -   | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | 1  | 1  |  |
| VO2 = 02     | 4   | 5   | 8  | 8  | 8  | 2  | 6  | 1  | -  | -  | -  | -  | -  | 2  | 1  | 2  | 4  | 5  | 5  | 4  | 5  | 6  | 8  | 6  | 3  | 3  |  |
| W6 = 03      | 8   | 9   | 9  | 9  | 9  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 6  | 6  | 6  | 6  | 8  | 8  | 8  | 8  | 8  |  |
| W9 = 04      | 3   | 5   | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 4  | 4  | 5  | 6  | 8  | 8  | 8  | 8  |  |
| W3 = 05      | 7   | 8   | 9  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  |  |
| XE1 = 06     | 8   | 9   | 9  | 9  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 9  | 8  | 9  | 8  | 9  | 9  | 9  | 8  |  |
| TI = 07      | 1   | 2   | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 2  | 6  | 4  | 3  | 1  |  |
| VP2 = 08     | -   | -   | 4  | 3  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1* | 2  | 3  | 3  | 2  | 1  | 1  | 5  | 5  | 3  | -  | -  | -  |  |
| P4 = 09      | -   | -   | 2  | 2  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 1  | 1  | 1* | -  | -  | -  |  |
| HC = 10      | 9   | 9   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 2  | 1  | -  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  |  |
| PY1 = 11     | -   | 1   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | -  | -  | 2  | 7  | 9  | 9  | 7  | 5* | -  |  |
| CE = 12      | 4   | 2*  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  |  |
| LU = 13      | 1*  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 1* | 1* | 4* | 4* | 2* |  |
| G = 14       | 8   | 8   | 7  | 5  | 3  | 8  | 4  | -  | -  | -  | -  | 8  | 6  | 5  | 5  | 7  | 5  | 5  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 8  |  |
| I = 15       | 9   | 8   | 8  | 6  | 3  | 8  | 2  | -  | -  | -  | -  | 8  | 6  | 5  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |  |
| UA3 = 16     | 5   | 2   | 1  | 1  | 4  | 6  | 1  | -  | -  | -  | -  | 7  | 5  | 4  | 3  | 2  | 3  | 5  | 7  | 6  | 7  | 9  | 8  | 8  | 6  |    |  |
| UN = 17      | 4   | 5   | 7  | 8  | 6  | 3  | -  | -  | -  | -  | -  | 6  | 4  | 3  | 8* | 4  | 5  | 6  | 7  | 8  | 8  | 8  | 7  | 6  | 5  |    |  |
| UA9 = 18     | -   | -   | -  | 1  | 1  | 4  | 1  | -  | -  | -  | -  | 2  | -  | -  | 8* | 5* | 5* | 5* | 4* | 3* | -  | -  | 1* | 1* | -  |    |  |
| UA0 = 19     | -   | -   | -  | -  | -  | -  | 5  | 1  | -  | -  | -  | -  | 3  | 9* | 9* | 8* | 7* | 7* | 7* | 7* | 4* | 6* | -  | -  | -  |    |  |
| 4X = 20      | 9   | 8   | 5  | -  | 1  | 2  | -  | -  | -  | 2  | 5  | 6  | 5  | 4  | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |  |
| HZ = 21      | 7   | 3   | 1  | -  | -  | -  | -  | -  | -  | -  | 6  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |  |
| VU = 22      | 5   | 4   | 3* | 1* | -  | -  | -  | -  | -  | 2  | 3  | 5  | 5  | 6* | 5  | 7  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 6  | 5  |    |  |
| JT = 23      | -   | 2   | 4  | 4  | 6  | 5  | 1  | -  | -  | -  | 4  | 1  | 1  | 9* | 6* | 6* | 5* | 5* | 5* | 5* | 1* | 2* | 8* | 2* | -  |    |  |
| VR2 = 24     | 6*  | 5*  | 5* | 5* | 5* | 4* | 4* | 2* | -  | 1  | 8  | 8  | 9* | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 4* | 5* | 5* |    |  |
| JA1 = 25     | 5   | 6   | 6  | 6  | 8  | 8  | 7  | 5  | 1  | -  | 8* | 9* | 9* | 8* | 8* | 8* | 9* | 8* | 8* | 6* | 6* | 5  | 5  | 5  | 5  |    |  |
| HS = 26      | 5*  | 5*  | 6* | 5* | 2* | 2* | 1* | 1* | -  | -  | 7  | 8  | 9* | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 1  | 2* | 4* |    |  |
| DU = 27      | 4*  | 3*  | 3* | 2* | 2* | 2* | 2* | 1* | -  | -  | -  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 3  | 3* | 6* | 6* | 4* | 4* |    |  |
| YB = 28      | 2*  | 3*  | 3* | 1* | 1* | 1* | 1* | 1* | -  | -  | 3  | 8  | 8  | 6* | 5* | 4* | 3* | 3* | 3* | 2* | -  | -  | 1* | 2* | 2* |    |  |
| VK6 = 29     | 1*  | 1*  | 1* | -  | -  | 1* | 1* | -  | -  | -  | -  | 6* | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* |    |  |
| VK3 = 30     | 1*  | 1*  | 1* | 1* | -  | -  | -  | -  | -  | -  | 5* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 7* | 1* |    |  |
| KH6 = 31     | 7   | 8   | 9  | 9  | 9  | 8  | 8  | 5  | -  | 1* | 6* | 5* | 6  | 2* | 1* | -  | 3  | 5  | 6  | 5* | 5  | 5  | 5  | 5  | 6  |    |  |
| KH8 = 32     | 1   | 2*  | 2  | 1* | 1* | -  | -  | -  | -  | -  | 4* | 2* | 2* | 1* | 1* | -  | -  | 1  | 8  | 8  | 8  | 8  | 7  | 5  | 5  |    |  |
| CN = 33      | 9   | 9   | 9  | 8  | 6  | 4  | 1  | -  | -  | -  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |  |
| SU = 34      | 9   | 8   | 1  | 1  | 1  | 2  | -  | -  | -  | 2  | 8  | 6  | 5  | 5  | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |  |
| 6W = 35      | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 6  | 4  | 2  | 2  | 5  | 7  | 8  | 7  | 5  | 2* | -  | -  |    |  |
| D2 = 36      | 1*  | -   | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 9  | 8  | 4  | 1  | 2* | 2* |    |  |
| 5Z = 37      | 1   | -   | -  | 2* | 3* | 2* | 1* | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  |    |  |
| ZS6 = 38     | -   | -   | -  | -  | 1* | 2* | 1* | -  | -  | 5  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | -  | -  | -  | -  | -  | -  | -  |    |  |
| FR = 39      | -   | -   | 2* | 2* | 2* | 1* | -  | -  | -  | 1  | 8  | 9  | 9  | 8  | 9  | 7  | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  |    |  |
| FJL = 40     | -   | -   | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |  |
| Zone         | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
| * = Longpath |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Jun., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  |
| VO2 = 02 | -       | -  | 5  | 5  | 4  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 4  | 1  | -  | -  |
| W6 = 03  | 5       | 6  | 8  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  | 4  | 5  | 7  | 7  | 5  | 4  | -  |
| W9 = 04  | -       | -  | 5  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 3  | 5  | 2  | -  |
| W3 = 05  | 1       | 4  | 7  | 3  | 2  | 2  | 1  | -  | -  | -  | -  | -  | 4  | 4  | 4  | 5  | 6  | 7  | 8  | 8  | 8  | 4  | 3  | 1  | -  |
| XE1 = 06 | 5       | 6  | 8  | 7  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 4  | 7  | 8  | 8  | 8  | 8  | 7  | 5  | -  |
| TI = 07  | -       | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  |
| HC = 10  | 5       | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 5  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | 1* | 2* | 4* | 5* | 6* | 5* | 1* | -  | -  |
| CE = 12  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9  | 8  | 9  | 9+ | 9+ | 9  | 6* | 3* | -  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | 1* | 1* | 2* | 4* | 5* | 2* | 1* | -  |
| G = 14   | 5       | 3  | 1  | -  | -  | 5  | 1  | -  | -  | -  | -  | 1  | 1  | 3  | 5  | 5  | 4  | 5  | 6  | 6  | 7  | 7  | 6  | 5  | 4  |
| I = 15   | 6       | 5  | 3  | 1  | -  | 5  | -  | -  | -  | -  | -  | 7  | 4  | 5  | 6  | 5  | 6  | 8  | 8  | 9  | 9  | 8  | 7  | 6  | 6  |
| UA3 = 16 | -       | -  | -  | -  | -  | 3  | -  | -  | -  | -  | -  | 4  | 3  | 1  | 1* | -  | -  | 1  | 3  | 1  | 1  | 6  | 5  | 3  | 1  |
| UN = 17  | -       | 1  | 2  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 7  | 3  | 2  | 6* | 3* | 3  | 4  | 4  | 5  | 5  | 5  | 2  | 1  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 7* | 2* | 3* | 3* | 2* | 1* | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | 6* | 8* | 5* | 5* | 5* | 4* | 2* | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 7       | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| HZ = 21  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 7  | 7  | 6  | 7  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 6  |
| VU = 22  | 2*      | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 5  | 7* | 7  | 8  | 8  | 5  | 3  | 4  | 4  | 2  | 1  | -  |
| JT = 23  | -       | -  | -  | -  | 4  | 2  | -  | -  | -  | -  | -  | 1  | -  | -  | 7* | 4* | 4* | 4* | 4* | 2* | -  | -  | 1* | -  | -  |
| VR2 = 24 | 4*      | 3* | 6* | 5* | 4* | 2* | 1* | -  | -  | -  | -  | 6  | 9  | 9  | 9  | 9  | 6* | 4  | 5  | 5  | 6  | 4  | 2* | 4* | 5* |
| JA1 = 25 | 1       | 2  | 1  | 1  | 6  | 6  | 5  | 1  | -  | -  | -  | 3* | 9* | 9* | 7* | 7* | 7* | 8* | 5* | 6* | 2* | 2  | 3  | 2  | 1  |
| HS = 26  | 5*      | 5* | 6* | 5* | 2* | 1* | 1* | -  | -  | -  | -  | 4  | 8  | 9  | 8  | 9  | 7  | 8  | 9  | 9  | 9  | 2  | -  | 1* | 3* |
| DU = 27  | 1*      | -  | 2* | 2* | 1* | 1* | 1* | -  | -  | -  | -  | -  | 1  | 8  | 9  | 9  | 9  | 8  | 6  | 4  | -  | -  | 2* | 3* | 1* |
| YB = 28  | -       | 1* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 7* | 4* | 3* | 3* | 3* | 2* | 1* | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 1* |
| KH6 = 31 | 8       | 8  | 9  | 8  | 8  | 5  | 4  | 1  | -  | -  | -  | 5* | 2* | 2* | -  | -  | -  | -  | 1  | 6  | 5  | 5  | 5  | 8  | 8  |
| KH8 = 32 | 2*      | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 3* | 2* | 1* | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 5  | 2* |
| CN = 33  | 7       | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  |
| SU = 34  | 6       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 9  | 2  | -  | -  | -  | -  | 2* | 4* | 5* | 5* | 1* | -  | -  |
| D2 = 36  | 2*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 7  | 8  | 8  | 8  | 7  | 7  | 9  | 9+ | 7  | 4* | 4* | 5* | 3* |
| 5Z = 37  | -       | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 7  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | 1  | 7  | 9  | 9  | 9  | 9  | 9  | 4  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 3* | 1* | -  | -  | -  | -  | -  | -  | 6  | 9  | 9  | 8  | 6  | 3* | 1* | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Jul., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | 3  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 1  | 2  | 3  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 1  | 2  | 2  | 4  | 4  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 2  | 4  | 5  | 5  | 5  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | -  | 3  | 4  | 4  | 5  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | -       | 2  | 3  | 3  | 3  | 3  | 3  | 3  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 2       | 4  | 4  | 4  | 4  | 3  | 3  | 3  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 2       | 4  | 4  | 4  | 4  | 4  | 3  | 3  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 5       | 5  | 6  | 6  | 6  | 6  | 6  | 6  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  | 9  |
| G = 14   | 4       | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 3       | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 2  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| SU = 34  | 3       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| 6W = 35  | 5       | 4  | 4  | 4  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| D2 = 36  | 4       | 4  | 4  | 4  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  |
| 5Z = 37  | 5       | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| ZS6 = 38 | 5       | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| FR = 39  | 5       | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Jul., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 3       | 6  | 8  | 8  | 8  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 1  | 4  | 5  | 6  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 4  | 5  | 5  | 7  | 7  | 7  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 5  | 7  | 8  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 3  | 3  | 6  | 7  | 7  | 8  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 3       | 5  | 6  | 6  | 6  | 6  | 6  | 6  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 5       | 7  | 7  | 7  | 7  | 6  | 6  | 6  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| P4 = 09  | 5       | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| HC = 10  | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 3  | -  | -  | -  | -  | -  | -  | 2  | 8  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1  | -  | -  | -  | -  | -  | -  | 1  | 7  | 9  | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | -  | -  | 3  | 8  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7       | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| I = 15   | 6       | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| UA3 = 16 | 3       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 5       | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  |
| HZ = 21  | 1       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | -  | -  | 1  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 4  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 1  | 5  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| SU = 34  | 6       | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| 6W = 35  | 8       | 7  | 7  | 7  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| D2 = 36  | 7       | 7  | 7  | 7  | 9  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  |
| 5Z = 37  | 8       | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  |
| FR = 39  | 8       | 8  | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Jul., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 1  | 2  | 4  | 6  | 4  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 8  | 9  | 9  | 7  | 7  | 8  | 8  | 8  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| W6 = 03  | -       | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 5       | 7  | 7  | 8  | 7  | 7  | 8  | 8  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| W3 = 05  | 7       | 8  | 9  | 9  | 8  | 8  | 9  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| XE1 = 06 | 6       | 8  | 8  | 9  | 9  | 9  | 8  | 9  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| TI = 07  | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 3  | 2  | 4  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 4  | 1  | 1  | 1  | 5  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 7  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| UA3 = 16 | 5       | 5  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| UN = 17  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  | 6  |
| UA9 = 18 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 1  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 7       | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  |
| HZ = 21  | 7       | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 7  |
| VU = 22  | 6       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  |
| HS = 26  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  | 5  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 1  | -  |
| YB = 28  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 6  |
| VK6 = 29 | 5       | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 6  | 7  |
| VK3 = 30 | -       | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  | 2  | -  |
| KH6 = 31 | -       | -  | -  | -  | 4  | 7  | 7  | 7  | 7  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 1  | 4  | 6  | 7  | 7  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 9  | 9  | 9  | 9  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 8  |
| SU = 34  | 7       | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  |
| FR = 39  | 8       | 8  | 2  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 7  | 8  |
| FJL = 40 | 2       | 2  | 2  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1       | 1  | 2  | 2  | 6  | 5  | 6  | 7  | 6  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| W6 = 03  | 2       | 4  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| W3 = 05  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| XE1 = 06 | 8       | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 2  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 9+ | 9+ | 9  | 8  | 6  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 9  | 6  | 2  | 1  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  |
| UA3 = 16 | 7       | 7  | 6  | 6  | 6  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| UN = 17  | 6       | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 6  | 7  |
| UA9 = 18 | 4       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | -  | -  |
| 4X = 20  | 8       | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 8  | 8  |
| HZ = 21  | 7       | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  | 7  |
| VU = 22  | 5       | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  | 6  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 4  |
| VR2 = 24 | 3       | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 3* | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  | 2  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | 1* | 3* | 4* | 5* | -  | -  |
| HS = 26  | 6       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 8  | 8  |
| DU = 27  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  | 4  |
| YB = 28  | 6       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 5  | 6  |
| VK6 = 29 | 7       | 5  | 1  | -  | -  | -  | -  | 2  | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 4  | 5  | 7  |
| VK3 = 30 | 3       | 1  | 1  | -  | 3  | 5  | 6  | 7  | 7  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | 1  | 2  | 3  | 5  | 6  | 4  |
| KH6 = 31 | -       | -  | 1  | 3  | 6  | 6  | 8  | 7  | 7  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | 1  | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 6  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 9  | 9  | 9  |
| D2 = 36  | 8       | 8  | 8  | 9  | 7  | 5  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 6  | 7  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  |
| ZS6 = 38 | 7       | 8  | 7  | 6  | 5  | 5  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 7  | 8  | 7  | 6  |
| FR = 39  | 3       | -  | -  | -  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | 6       | 6  | 4  | 3  | 2  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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|          | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 5            | 5  | 6  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | 1* | -  | -  | -  | 1  | 2  |
| VO2 = 02 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 1  | -  | -  | -  | -  | 1  | 5  | 5  | 7  | 9  | 9  |
| W6 = 03  | 5            | 8  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  |
| W9 = 04  | 9            | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | 2  | 2  | 4  | 6  | 9  |
| W3 = 05  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 2  | -  | -  | -  | -  | 1  | 3  | 4  | 6  | 9  | 9  |
| XE1 = 06 | 9            | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | 2  | 1  | -  | -  | 1  | 2  | 6  | 8  | 9  |
| TI = 07  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 9  | 9  | 6  | 4  | 2  | 1  | 1  | 2  | 4  | 6  | 9  | 9  | 9+ |
| VP2 = 08 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9  | 8  | 5  | 2  | 1  | 1  | 2  | 5  | 7  | 9  | 9  | 9+ | 9+ |
| P4 = 09  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9  | 9  | 8  | 7  | 5  | 4  | 2  | 4  | 6  | 7  | 9  | 9  | 9+ | 9+ |
| HC = 10  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 2* | 6  | 9  | 7  | 5  | 3  | 3  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+           | 9+ | 9+ | 9+ | 9  | 9  | 6  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9            | 8  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9+           | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 9  | 9  | 9+ |
| I = 15   | 9+           | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9+ |
| UA3 = 16 | 9            | 9  | 9  | 9  | 9  | 8  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 9  | 9  | 9  |
| UN = 17  | 9            | 9  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  | 9  | 9  |
| UA9 = 18 | 8            | 8  | 4  | 2  | 2  | 1  | 1  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| UA0 = 19 | 2            | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 6  | 7  | 7* | 8* | 6* | 4* | 2* | -  | 1* | 3* | 5* | 7* | 8  | 8  | 6* | 2  |
| 4X = 20  | 9            | 9  | 9  | 9  | 8  | 8  | 7  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9            | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 9            | 9  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 1  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  | 7            | 3  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | 4* | 3* | 3* | 1* | -  | 1* | 1* | 2  | 5  | 7  | 7  | 8  | 8  |
| VR2 = 24 | 1            | -  | -  | -  | -  | -  | -  | -  | 2* | 6* | 7  | 8* | 5* | 3* | 1* | 1  | 1  | 4  | 6  | 7  | 8  | 9  | 9  | 5  |
| JA1 = 25 | -            | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 9  | 8  | 9  | 8  | 5  | 1  | -  | -  | 4* | 7* | 8* | 9* | 8  | 7* | -  |
| HS = 26  | 2*           | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 2* | 7  | 3* | 1  | -  | -  | 1  | 5  | 7  | 8  | 9  | 9  | 9  | 4  |
| DU = 27  | 1*           | -  | -  | -  | -  | -  | -  | -  | 4* | 6  | 6  | 6  | 5  | 3  | 2  | -  | 2  | 3  | 5  | 7  | 8  | 5* | 8  | 1  |
| YB = 28  | 3*           | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 6* | 6  | 5  | 5  | 1  | 1  | 2  | 4  | 5  | 7  | 8  | 5  | 2* | 2  |
| VK6 = 29 | 1*           | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 5  | 1  | -  | 1  | 2  | 4  | 5  | 1  | -  | 2* | 6  |
| VK3 = 30 | 5            | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 6  | 8  | 5  | 4  | 4  | 3  | 2  | 2  | 1  | 1* | 1* | 4  | 8  | 8  |
| KH6 = 31 | 1            | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 6  | 1* | 9  | 8  | 6  | 2  | 1  | -  | -  | 1* | -  | -  | -  | -  | -  |
| KH8 = 32 | 2            | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 5  | -  | 1  | 9  | 8  | 1  | -  | 1  | 2  | 1  | 1* | -  | -  | -  | 1  |
| CN = 33  | 9+           | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 8  | 5  | 1  | -  | -  | -  | 1  | 1  | 5  | 8  | 9  | 9  | 9  | 9+ |
| SU = 34  | 9            | 9  | 9  | 9  | 9  | 9  | 7  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+           | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 7  | 6  | 9  | 9  | 7  | 3  | 1  | 1  | 1  | 3  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 8            | 7  | 6  | 3  | 3  | -  | 1  | -  | 8  | 8  | 5  | 2  | -  | -  | -  | 1  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9  | 9  |
| 5Z = 37  | 8            | 8  | 7  | -  | 2  | 7  | -  | -  | 2  | 1  | 1  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9+ | 9  | 9  |
| ZS6 = 38 | -            | 1  | -  | -  | -  | -  | 1  | 1  | 8  | 8  | 5  | 2  | 1  | 1  | 2  | 3  | 7  | 8  | 8  | 7  | -  | -  | -  | -  |
| FR = 39  | -            | -  | -  | -  | 2  | 3  | -  | -  | 2  | 2  | 1  | 1  | 1  | 1  | 2  | 4  | 6  | -  | -  | -  | 1* | -  | -  | -  |
| FJL = 40 | 8            | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 4  | 2* | 1* | 1* | -  | -  | -  | 1  | 2  | 6  | 5  | 6  | 8  | 8  |
| Zone     | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Jul., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 8   | 8   | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 7  | 7* | 6* | 4* | 2* | 1  | 1  | 3  | 3  | 4  | 3  | 4  | 5  | 8  | 8  | 8  |
| VO2 = 02 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 8  | 7  | 5  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ |
| W6 = 03  | 9   | 9   | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5* | 9  | 8  | 8  | 6  | 6  | 3  | 3  | 3  | 1  | 1  | 4  | 6  | 8  |    |
| W9 = 04  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 7  | 1  | 7  | 8  | 8  | 6  | 4  | 4  | 2  | 5  | 5  | 6  | 9  | 9  | 9  |    |
| W3 = 05  | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 1  | 9  | 9  | 9  | 6  | 4  | 4  | 4  | 7  | 7  | 8  | 9  | 9  | 9  |    |
| XE1 = 06 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 7  | 3* | 7  | 9  | 8  | 8  | 6  | 5  | 5  | 6  | 5  | 6  | 8  | 9  | 9  |    |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 5* | 1* | 1* | 9  | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 9+ | 9+ | 9+ |    |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 3  | 2  | 5* | 9+ | 9  | 8  | 7  | 6  | 6  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 4  | 2* | 4* | 8  | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 4  | 4* | 4* | 2* | 9+ | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |
| PY1 = 11 | 9+  | 9+  | 9  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | 2  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| CE = 12  | 9+  | 9+  | 9+ | 9  | 8  | 6  | 6  | 1  | -  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  | 1*  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9  | 4  | 1* |    |
| G = 14   | 9+  | 9+  | 9+ | 9+ | 9  | 9  | 9  | 9  | 7  | 6  | 8  | 7  | 5  | 3  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |
| I = 15   | 9+  | 9+  | 9+ | 9+ | 9  | 9  | 9  | 9  | 5  | 2  | 7  | 4  | 2  | 1  | -  | -  | 2  | 5  | 7  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| UA3 = 16 | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 2  | 1  | 5  | 2  | 1  | 2* | 1  | 2* | 1  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| UN = 17  | 9   | 9   | 9  | 9  | 8  | 6  | 1  | -  | -  | 1  | 1  | 8  | 8  | 4* | 2* | 2* | 3  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| UA9 = 18 | 8   | 8   | 7  | 7  | 6  | 6  | 5  | 1  | 1  | 5  | 6  | 6  | 7  | 5* | 5* | 2* | 2  | 6  | 6  | 8  | 8  | 8  | 8  | 8  | 9  |    |
| UA0 = 19 | 7   | 7   | 7  | 6  | 6  | 6  | 8  | 7  | 6  | 7  | 8  | 9* | 8* | 7* | 6* | 5* | 5* | 6* | 8* | 8* | 9* | 8* | 7  | 7  | 7  |    |
| 4X = 20  | 9   | 9+  | 9  | 9  | 9  | 8  | 2  | -  | -  | 4  | 1  | 1  | 1* | -  | 1  | 1  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| HZ = 21  | 9   | 9+  | 8  | 5  | 4  | 2  | -  | -  | -  | 3  | 2  | 1  | 2* | 2  | 1  | 2  | 4  | 6  | 9  | 9  | 9+ | 9  | 9  | 9  | 9+ |    |
| VU = 22  | 9+  | 9   | 4  | 1* | -  | -  | -  | -  | -  | -  | 1  | 8  | 7  | 2* | 2* | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |    |
| JT = 23  | 8   | 8   | 8  | 6  | 5  | 4  | 4  | 1  | 1  | 5  | 5  | 5  | 8* | 6* | 7* | 3* | 3  | 6  | 6  | 8  | 8  | 8  | 8  | 8  | 8  |    |
| VR2 = 24 | 4*  | 2*  | 2* | -  | -  | -  | 2* | 6* | 7* | 7  | 6  | 8* | 8* | 7* | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 2* | 2* |    |
| JA1 = 25 | 4   | 4   | 2  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 7  | 6* | 9  | 9  | 8  | 5  | 5  | 6* | 8* | 9* | 9* | 9* | 9* | 8  | 4  |    |
| HS = 26  | 1*  | 2*  | 1* | -  | -  | -  | -  | -  | 1* | 4* | 8  | 6  | 6* | 5  | 5* | 4  | 5  | 6  | 8  | 9  | 9  | 9+ | 9  | 2* | 2* |    |
| DU = 27  | 5*  | 4*  | 2* | -  | -  | -  | 2* | 5* | 5* | 5  | 8  | 8  | 8  | 6  | 5  | 5  | 5  | 6  | 8  | 8  | 5* | 6* | 4* | 4* | 4* |    |
| YB = 28  | 2*  | 4*  | 2* | -  | -  | -  | -  | 2* | 4* | 6  | 8  | 8  | 8  | 6  | 2* | 1* | 1* | -  | 1* | 2  | 2  | 2* | 3* | 2* | 2* |    |
| VK6 = 29 | 1*  | 1*  | 1* | -  | -  | -  | -  | 1* | 2* | 3* | 7  | 9  | 8  | 1  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | 2* | 2* |    |
| VK3 = 30 | 2*  | -   | -  | -  | -  | -  | -  | 1* | -  | 1* | 1* | 1  | 1* | -  | 1  | 1  | -  | -  | 1* | 1* | 2* | 5* | 7  | 3* | 3* |    |
| KH6 = 31 | 5   | 7   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2* | 2* | 2* | 9  | 8  | 7  | 2  | 2  | 3  | 4  | 4* | 3* | 2* | 2  | 3  |    |
| KH8 = 32 | 6   | 8   | 8  | 5  | 2  | 2  | 5  | 5  | 3  | 1* | -  | -  | 6  | 2  | -  | -  | 1* | 5  | 5  | 6  | 4  | 4  | 4  | 5  | 5  |    |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 4  | 2  | 8  | 8  | 5  | 2  | 1  | -  | 2  | 5  | 8  | 8  | 9  | 9  | 9+ | 9  | 9+ |    |
| SU = 34  | 9   | 9+  | 9+ | 9  | 9  | 9  | 2  | -  | -  | 5  | 2  | 1  | -  | -  | 1  | 1  | 5  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| 6W = 35  | 9+  | 9+  | 9+ | 9  | 8  | 3  | -  | -  | -  | 9+ | 9+ | 8  | 8  | 6  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| D2 = 36  | 4   | 2   | -  | -  | 1* | 1* | -  | -  | 3  | 8  | 8  | 7  | 5  | 4  | 4  | 7  | 8  | 9  | 9+ | 9+ | 9  | 9+ | 9  | 7  | 7  |    |
| 5Z = 37  | 4   | 3   | 1  | -  | 1* | 1* | 1* | -  | 3  | 6  | 5  | 3  | 2  | 5  | 5  | 6  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 7  |    |
| ZS6 = 38 | -   | -   | -  | -  | -  | 1* | -  | -  | 6  | 9  | 8  | 7  | 6  | 7  | 6  | 8  | 9  | 9  | 7  | -  | -  | -  | -  | -  | -  |    |
| FR = 39  | -   | -   | -  | -  | 1* | -  | -  | -  | 1  | 6  | 6  | 8  | 7  | 6  | 6  | 7  | 1  | -  | 1* | 1* | -  | -  | -  | -  | -  |    |
| FJL = 40 | 5   | 4   | 2  | 6  | 6  | 5  | 1  | 6  | 5  | 7  | 5  | 4  | 5  | 2* | 2* | 1  | 3  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 7  |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Jul., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 6       | 7  | 8  | 8  | 7  | 6  | 4  | 1  | 6  | 3  | 7* | 4* | 2* | 1* | -  | -  | 2  | 1* | 5  | 4  | 5  | 6  | 7  | 8  |
| VO2 = 02 | 9       | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 4  | 2  | 9  | 8  | 8  | 9  | 7  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 8  | 3  | 1* | 5  | 1  | 6  | 7  | 6  | 5  | 8  | 9  | 5  | 5  | 7  | 8  | 9  |
| W9 = 04  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | 6  | 8  | 7  | 8  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ |
| W3 = 05  | 9       | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | 3  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| XE1 = 06 | 9+      | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 2  | 1* | -  | 5  | 9  | 9  | 8  | 8  | 7  | 7  | 6  | 8  | 9  | 9+ | 9+ |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 1  | 1* | 1* | -  | 1* | 5  | 4  | 1  | 1  | 4  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9       | 9+ | 9+ | 9+ | 9  | 8  | 5  | 1  | -  | -  | -  | 6  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  |
| P4 = 09  | 8       | 8  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | 2* | 5  | 6  | 3  | 1  | 3  | 9  | 9  | 9  | 9+ | 9+ | 9  | 8  |
| HC = 10  | 4       | 5  | 6  | 8  | 8  | 7  | 5  | 2  | -  | 1* | 2* | -  | 3  | 9  | 9  | 6  | 8  | 9  | 9  | 4  | 5  | 5  | 2  | 4  |
| PY1 = 11 | 2       | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  |
| CE = 12  | 9+      | 9+ | 9  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | 4  | 6  | 6  | 2* | 3* | 3* |
| G = 14   | 9       | 9  | 9  | 9  | 8  | 8  | 8  | 2  | 2  | 5  | 8  | 7  | 5  | 9  | 8  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| I = 15   | 9+      | 9  | 9  | 9  | 9  | 8  | 6  | 1  | 1  | 5  | 6  | 5  | 3  | 8  | 8  | 8  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ |
| UA3 = 16 | 9       | 8  | 7  | 6  | 8  | 8  | 6  | -  | -  | 2  | 6  | 5  | 6  | 7  | 7  | 2  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  |
| UN = 17  | 8       | 7  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | 2  | 4  | 4  | 5* | 3  | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  |
| UA9 = 18 | 2       | 2  | 4  | 6  | 7  | 7  | 4  | -  | -  | 1  | 4  | 4  | 2  | 6* | 5  | 4* | 4  | 6  | 6  | 8  | 8  | 8* | 5* | 3  |
| UA0 = 19 | 4       | 1  | 2  | 2  | 2  | 5  | 7  | 6  | 4  | 4  | 2  | 8  | 8* | 8* | 7* | 7* | 7* | 7* | 8* | 8* | 9* | 1  | 4  | 4  |
| 4X = 20  | 9+      | 9  | 9  | 6  | 7  | 5  | -  | -  | -  | 4  | 5  | 5  | 8  | 6  | 6  | 3  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| HZ = 21  | 9       | 9  | 4  | 1* | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  | 5  | 2* | 3  | 6  | 8  | 9  | 9  | 9  | 9+ | 9  | 9+ |
| VU = 22  | 9       | 6  | 1* | 2* | 1* | -  | -  | -  | -  | 4  | 4  | 4  | 5* | 5* | 4* | 3  | 6  | 8  | 8  | 9  | 9  | 9  | 9+ | 9  |
| JT = 23  | 7       | 8  | 7  | 6  | 8  | 6  | 4  | -  | -  | 2  | 3  | 2  | 5* | 5* | 6* | 5* | 4  | 6  | 7  | 8  | 6* | 8* | 5  | 6  |
| VR2 = 24 | 5*      | 4* | 4* | 4* | 3* | 4* | 5* | 6* | 4* | 5  | 7  | 7  | 9* | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 9+ | 7  | 4* | 3* |
| JA1 = 25 | 5       | 6  | 7  | 7  | 7  | 8  | 8  | 9  | 8  | 3* | 7* | 8* | 9  | 8  | 7* | 7* | 8* | 8* | 9* | 9* | 9* | 5  | 5  | 5  |
| HS = 26  | 3*      | 2* | 2* | 2* | 1* | 1* | 1* | 3* | 2* | 3  | 6  | 6  | 7* | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 6  | 2* | 2* |
| DU = 27  | 7*      | 6* | 5* | 3* | 2* | 3* | 4* | 4* | 3* | 2* | 6  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 5  | 5* | 6* | 7* | 7* | 7* |
| YB = 28  | 3*      | 5* | 4* | 2* | 1* | 1* | 1* | 2* | 2* | 1* | 8  | 8  | 8  | 3  | 3* | 2* | 2* | 2* | 2* | 2* | -  | 2* | 5* | 5* |
| VK6 = 29 | 3*      | 2* | 1* | -  | -  | -  | 1* | 1* | 1* | 1* | 1* | 7  | 6  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VK3 = 30 | 2*      | 1* | -  | -  | -  | 1* | 1* | -  | -  | 1* | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 3* | 4* |
| KH6 = 31 | 7       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | 3* | 4* | 5* | 9  | 8  | 3  | 3  | 2  | 4  | 4  | 6  | 7  | 4  | 5  | 5  |
| KH8 = 32 | 6       | 5  | 5  | 1* | 1* | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 1* | 1* | -  | 1  | 7  | 6  | 6  | 6  | 6  | 6  |
| CN = 33  | 9+      | 9+ | 9  | 9  | 9  | 9  | 7  | -  | -  | 1  | 9  | 8  | 6  | 3  | 4  | 5  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9  |
| SU = 34  | 9+      | 9  | 9  | 6  | 6  | 5  | -  | -  | -  | 4  | 6  | 5  | 4  | 7  | 7  | 3  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| 6W = 35  | 6       | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 8  | 7  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 7  |
| D2 = 36  | -       | -  | -  | -  | 1* | 2* | -  | -  | -  | 9  | 9  | 8  | 7  | 6  | 7  | 8  | 9  | 9  | 9+ | 9  | 9+ | 9  | 6  | 3  |
| 5Z = 37  | -       | -  | -  | 2* | 1* | 1* | 1* | -  | -  | 7  | 7  | 7  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 2  |
| ZS6 = 38 | -       | -  | -  | -  | 1* | 2* | 1* | -  | 1  | 8  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | 1* | 1* | 2* | 1* | -  | -  | -  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 1* | 1* | 1* | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | 3  | 1  | 5  | 3  | 2  | 4* | 2* | 2* | 2* | 2* | 1  | 2  | 3  | 4  | 1  | 1  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Jul., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone         | UTC --> |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
|--------------|---------|----|----|----|----|----|----|----|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|
| KL7 = 01     | -       | 1  | 2  | 2  | 1  | -  | -  | -  | 1  | - | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 2  | 2  | 2  |    |   |
| VO2 = 02     | 8       | 8  | 9  | 8  | 8  | 7  | 5  | 1  | -  | - | -  | 3  | 4  | 3  | 4  | 4  | 6  | 6  | 7  | 7  | 8  | 8  | 9  | 8  |   |
| W6 = 03      | 9       | 9  | 9  | 9  | 8  | 9  | 8  | 8  | 4  | - | -  | -  | -  | -  | 4  | 6  | 6  | 6  | 7  | 6  | 8  | 8  | 9  | 9  |   |
| W9 = 04      | 8       | 8  | 8  | 7  | 8  | 8  | 6  | 3  | 1  | - | -  | -  | -  | 3  | 3  | 3  | 3  | 6  | 6  | 7  | 7  | 8  | 9  | 9  |   |
| W3 = 05      | 9       | 9  | 9  | 8  | 8  | 6  | 5  | 1  | -  | - | -  | -  | 1  | 8  | 8  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 9  |   |
| XE1 = 06     | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | - | -  | -  | -  | 4  | 7  | 8  | 8  | 9  | 9  | 8  | 9  | 9  | 9  | 9  |   |
| TI = 07      | 6       | 7  | 8  | 7  | 6  | 5  | 3  | 1  | -  | - | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 9  | 7  | 5  |   |
| VP2 = 08     | 2       | 3  | 6  | 5  | 5  | 2  | -  | -  | -  | - | -  | -  | -  | 2  | 2  | 1  | 3  | 1  | 2  | 7  | 9  | 9+ | 7  | 5  | 2 |
| P4 = 09      | 1       | 1  | 5  | 5  | 4  | 2  | -  | -  | -  | - | -  | -  | -  | 2* | -  | -  | -  | -  | 2  | 5  | 6  | 4  | 2  | 1  |   |
| HC = 10      | 9+      | 9+ | -  | 2  | 2  | 1  | -  | -  | -  | - | -  | -  | -  | 5  | 2  | -  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |   |
| PY1 = 11     | -       | 1  | -  | -  | -  | -  | -  | -  | -  | - | -  | -  | -  | 2  | 5  | 1  | -  | 2  | 6  | 9  | 9  | 7  | 2* | -  |   |
| CE = 12      | 4       | 2  | 3  | -  | -  | -  | -  | -  | -  | - | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  |   |
| LU = 13      | -       | -  | -  | -  | -  | -  | -  | -  | -  | - | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 4* | 4* | 1* |   |
| G = 14       | 9       | 9  | 8  | 6  | 2  | 2  | 5  | -  | -  | - | 8  | 6  | 5  | 5  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |   |
| I = 15       | 9       | 9  | 8  | 7  | 3  | 2  | 2  | -  | -  | - | 7  | 5  | 5  | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |   |
| UA3 = 16     | 5       | 3  | 1  | -  | 1  | 5  | 2  | -  | -  | - | 4  | 5  | 4  | 4* | 2  | 3  | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 6  |   |
| UN = 17      | 2       | 2  | 5  | 7  | 5  | 2  | -  | -  | -  | - | 5  | 4  | 4  | 6* | 4* | 5  | 5  | 7  | 8  | 8  | 8  | 7  | 5  | 4  |   |
| UA9 = 18     | -       | -  | -  | -  | 1  | 5  | 1  | -  | -  | - | 4  | 2  | 1  | 7* | 7* | 6* | 4* | 4  | 5  | 2  | 1  | 5* | -  | -  |   |
| UA0 = 19     | -       | -  | -  | -  | -  | -  | 5  | 2  | -  | - | -  | 4  | 7* | 8* | 8* | 8* | 8* | 6* | 6* | 6* | 1* | -  | -  | -  |   |
| 4X = 20      | 9       | 9  | 6  | -  | 1  | -  | -  | -  | -  | - | 7  | 6  | 5  | 4* | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |   |
| HZ = 21      | 6       | 4  | 1* | -  | -  | -  | -  | -  | -  | - | 6  | 6  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |   |
| VU = 22      | 2*      | 3* | 3* | 1* | -  | -  | -  | -  | -  | - | 5  | 3  | 5  | 6* | 5  | 6  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 5  |   |
| JT = 23      | -       | 1  | 4  | 5  | 7  | 5  | 1  | -  | -  | - | 2  | 2  | 1  | 8* | 8* | 7* | 5* | 5* | 5* | 1  | 1* | 6* | -  | -  |   |
| VR2 = 24     | 7*      | 5* | 5* | 6* | 5* | 5* | 5* | 5* | 1* | - | 8  | 8  | 9* | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 4* | 5* | 5* |   |
| JA1 = 25     | 5       | 5  | 6  | 6  | 7  | 8  | 8  | 8  | 5  | - | 6* | 9* | 9* | 8* | 8* | 8* | 8* | 8* | 8* | 8* | 6* | 5  | 6  | 5  |   |
| HS = 26      | 5*      | 5* | 5* | 5* | 3* | 2* | 2* | 1* | -  | - | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | -  | -  | 3* |   |
| DU = 27      | 8*      | 6* | 5* | 4* | 3* | 2* | 2* | 1* | -  | - | -  | 5  | 9  | 8  | 8  | 8  | 8  | 7  | 6  | 2* | 2* | 5* | 7* | 8* |   |
| YB = 28      | 5*      | 5* | 5* | 3* | 2* | 1* | 1* | 1* | -  | - | 1  | 5  | 8* | 6* | 4* | 3* | 3* | 3* | 3* | 1* | -  | -  | -  | 6* |   |
| VK6 = 29     | 2*      | 2* | 1* | 1* | 1* | 1* | 1* | -  | -  | - | -  | 4* | 5* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* |   |
| VK3 = 30     | 2*      | 1* | 1* | -  | 1* | 1* | -  | -  | -  | - | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 5* | 3* |   |
| KH6 = 31     | 8       | 8  | 9  | 9  | 9  | 9  | 8  | 6  | -  | - | 5* | 6* | 8  | 2* | 1* | -  | 3  | 5  | 7  | 5  | 6* | 5  | 5  | 6  |   |
| KH8 = 32     | 1       | 1* | 1  | -  | -  | -  | -  | -  | -  | - | 4* | 3* | 2* | 1* | 1* | -  | -  | -  | 7  | 7  | 7  | 7  | 7  | 3  |   |
| CN = 33      | 9       | 9  | 9  | 8  | 6  | 7  | 2  | -  | -  | - | 9  | 9  | 8  | 7  | 7  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |   |
| SU = 34      | 9       | 8  | 3  | 1  | 1  | -  | -  | -  | -  | - | 7  | 6  | 5  | 5  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |   |
| 6W = 35      | -       | -  | -  | -  | -  | -  | -  | -  | -  | - | 9+ | 9  | 9  | 8  | 4  | 2  | 4  | 7  | 8  | 9  | 9  | 8  | 3  | -  |   |
| D2 = 36      | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | 1 | 7  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 8  | 9  | 8  | 4  | 1* | 2* |   |
| 5Z = 37      | -       | -  | -  | 3* | 3* | 1* | 1* | -  | -  | 2 | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 5  | 2  | 3  | -  |   |
| ZS6 = 38     | -       | -  | -  | -  | -  | 4* | 1* | -  | -  | 2 | 5  | 8  | 8  | 9  | 8  | 9  | 9  | 4  | -  | -  | -  | -  | -  | -  |   |
| FR = 39      | -       | -  | -  | 3* | 3* | 1* | 1* | -  | -  | - | 8  | 8  | 9  | 8  | 7  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  |   |
| FJL = 40     | -       | -  | -  | -  | -  | -  | -  | -  | 1  | - | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |   |
| Zone         | UTC --> |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
| * = Longpath |         |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Jul., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  |
| VO2 = 02 | 3       | 4  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 3  | 5  | 6  | 8  | 3  |
| W6 = 03  | 8       | 8  | 8  | 6  | 5  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 1  | 4  | 6  | 7  | 7  | 8  | 8  |
| W9 = 04  | 2       | 5  | 3  | 2  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 4  | 5  | 6  | 7  |
| W3 = 05  | 7       | 7  | 8  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 7  | 6  | 9  | 8  | 9  | 9  | 8  | 7  |
| XE1 = 06 | 8       | 8  | 8  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | 3  | 3  | 4  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 8  |
| TI = 07  | -       | 1  | 3  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | 1* | -  | -  | 1  | 1  | -  | -  |
| VP2 = 08 | -       | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  |
| P4 = 09  | -       | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  |
| HC = 10  | 8       | 8  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 9  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 8  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 5* | 5* | 3* | -  | -  |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9  | 3  | -  | -  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 2* | 3* | 2* | 1* | -  |
| G = 14   | 6       | 6  | 4  | 1  | -  | -  | 1  | -  | -  | -  | -  | 1  | 1  | 3  | 4  | 4  | 4  | 5  | 7  | 8  | 8  | 8  | 7  | 6  | 6  |
| I = 15   | 7       | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 8  |
| UA3 = 16 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 1  | 1  | 1* | 1* | 1* | 2* | 2  | 3  | 3  | 5  | 2  | 1  |
| UN = 17  | -       | -  | -  | 4  | 1  | -  | -  | -  | -  | -  | -  | 4  | 4  | 2  | 5* | 4* | 4* | 4  | 5  | 5  | 5  | 5  | 2  | 1  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | 1  | -  | -  | 2* | 7* | 7* | 4* | 2* | 1* | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 1  | 1  | 5* | 7* | 5* | 8* | 5* | 2* | 1* | -  | -  | -  | -  | -  |
| 4X = 20  | 8       | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 2  |
| VU = 22  | 1*      | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 5  | 7* | 7  | 8  | 8  | 5  | 3  | 4  | 5  | 4  | 3  | -  |
| JT = 23  | -       | -  | -  | -  | 5  | 2  | -  | -  | -  | -  | -  | 1  | -  | -  | 2* | 7* | 7* | 5* | 4* | 3* | -  | -  | -  | -  | -  |
| VR2 = 24 | 3*      | 2* | 2* | 6* | 5* | 4* | 4* | 2* | -  | -  | -  | 4  | 8  | 8  | 8  | 9  | 9  | 9  | 6  | 7  | 8  | 1  | 1* | 3* | 5* |
| JA1 = 25 | 1       | 2  | 2  | 1  | 1  | 7  | 7  | 5  | 1  | -  | 1* | 7* | 9* | 9* | 9* | 9* | 9* | 9* | 6* | 6* | 4* | 1  | 3  | 4  | 3  |
| HS = 26  | 4*      | 3* | 2* | 6* | 4* | 2* | 1* | -  | -  | -  | -  | 2  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | -  | -  | -  | 1* |
| DU = 27  | 5*      | 3* | 4* | 3* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | 6* | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | 1* | 4* | 5* |
| YB = 28  | 3*      | 3* | 4* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 7* | 5* | 3* | 3* | 4* | 3* | 1* | -  | -  | -  | -  | 2* |
| VK6 = 29 | 1*      | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| VK3 = 30 | 1*      | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 2* |
| KH6 = 31 | 8       | 9  | 9  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | 3* | 7* | 2  | 1* | -  | -  | -  | 3  | 6  | 5  | 6  | 6  | 7  | 8  |
| KH8 = 32 | 1*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 5* | 3* | 2* | -  | -  | -  | -  | 4  | 8  | 8  | 7  | 4* | 2* |
| CN = 33  | 7       | 7  | 6  | 4  | 1  | 3  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  |
| SU = 34  | 7       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 3  | -  | -  | 1* | 1* | 2* | 3* | 4* | 5* | 1  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 8  | 8  | 7  | 6  | 7  | 9  | 9  | 6  | 5* | 4* | 4* | 2* |
| 5Z = 37  | -       | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 5  | 1* | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 3* | 1* | -  | -  | -  | -  | -  | 4  | 8  | 8  | 7  | 4  | 8  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 5* | 2* | 1* | -  | -  | -  | -  | -  | 4  | 8  | 7  | 4* | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Aug., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2       | 4  | 5  | 5  | 4  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 2  | 1  | 3  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 1  | 3  | 4  | 5  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 3  | 5  | 5  | 5  | 5  | 5  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 3  | -  | 4  | 4  | 3  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | -       | 2  | 3  | 2  | 3  | 3  | 3  | 3  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 2       | 4  | 4  | 3  | 4  | 3  | 3  | 3  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 3       | 4  | 4  | 3  | 4  | 4  | 3  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 5       | 6  | 6  | 6  | 6  | 6  | 6  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | 4  | 9  | 9  | 9  | 9  |
| G = 14   | 4       | 5  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 3       | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 5  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| SU = 34  | 2       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| 6W = 35  | 4       | 4  | 4  | 4  | 4  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 4  |
| D2 = 36  | 5       | 6  | 6  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 5  |
| 5Z = 37  | 5       | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  |
| ZS6 = 38 | 6       | 6  | 5  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  |
| FR = 39  | 5       | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Aug., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | 1  | 1  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 7  | 8  | 8  | 7  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W6 = 03  | -       | -  | -  | 2  | 5  | 4  | 6  | 7  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 4  | 6  | 7  | 8  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 6  | 8  | 8  | 8  | 8  | 8  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 2  | 6  | 3  | 7  | 7  | 6  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 3       | 5  | 6  | 5  | 6  | 6  | 6  | 6  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 5       | 7  | 7  | 6  | 7  | 6  | 6  | 6  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| P4 = 09  | 6       | 7  | 7  | 6  | 7  | 7  | 6  | 7  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| HC = 10  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | -  | -  | -  | -  | -  | 1  | 7  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | -  | -  | -  | -  | 1  | 7  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7       | 8  | 7  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| I = 15   | 6       | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3  |
| UA3 = 16 | 4       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 5       | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  |
| HZ = 21  | -       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | -  | 5  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| SU = 34  | 5       | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  |
| 6W = 35  | 7       | 7  | 7  | 7  | 7  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  |
| D2 = 36  | 8       | 9  | 9  | 9  | 9  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 8  |
| 5Z = 37  | 8       | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |
| ZS6 = 38 | 9       | 9  | 8  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| FR = 39  | 8       | 8  | 7  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  |
| FJL = 40 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Aug., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | -  | 1  | 2  | 4  | 4  | 5  | 6  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 7  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| W6 = 03  | 1  | 3  | 4  | 7  | 7  | 8  | 8  | 7  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| W3 = 05  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| XE1 = 06 | 6  | 8  | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| TI = 07  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  |
| VP2 = 08 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  |
| P4 = 09  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | 1  | 2  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | -  | -  | 1  | 2  | 7  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| I = 15   | 7  | 7  | 7  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  |
| UA3 = 16 | 6  | 5  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  |
| UN = 17  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 6  |
| UA9 = 18 | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 8  | 8  | 7  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 8  |
| HZ = 21  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| VU = 22  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  |
| JT = 23  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 1  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | -  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 2  | -  |
| YB = 28  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  |
| VK6 = 29 | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 5  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  |
| KH6 = 31 | -  | -  | -  | 1  | 4  | 6  | 7  | 7  | 7  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  | 7  | 8  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  | 8  |
| SU = 34  | 8  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 8  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 9  | 9  | 9  |
| 5Z = 37  | 8  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  |
| FR = 39  | 8  | 8  | 6  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 8  | 8  |
| FJL = 40 | 3  | 3  | 3  | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1  | 2  | 2  | 4  | 6  | 6  | 7  | 7  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  |
| W6 = 03  | 5  | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  |
| W3 = 05  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  |
| XE1 = 06 | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| TI = 07  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| VP2 = 08 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 9  |
| P4 = 09  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 3  | 9+ | 9+ | 9+ | 9  | 9  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9  | 7  | 5  | 5  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 2  | -  | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  |
| I = 15   | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  | 8  |
| UA3 = 16 | 7  | 7  | 7  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 7  |
| UN = 17  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 7  |
| UA9 = 18 | 5  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 5  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | 1* | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | 1* | -  |
| 4X = 20  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 7  | 8  | 8  |
| HZ = 21  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 8  | 8  |
| VU = 22  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 7  | 6  |
| JT = 23  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 5  | 5  |
| VR2 = 24 | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 5  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | 2* | 4* | 4* | 2* | -  |
| HS = 26  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 7  | 7  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 2  |
| YB = 28  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 6  | 7  |
| VK6 = 29 | 5  | 3  | 1  | -  | -  | -  | -  | -  | 3  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 6  | 6  |
| VK3 = 30 | 1  | -  | -  | -  | 1  | 4  | 5  | 7  | 7  | 8  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 2  | 3  | 4  | 3  | 3  |
| KH6 = 31 | -  | -  | 2  | 4  | 5  | 6  | 7  | 8  | 8  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  |
| SU = 34  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 7  | 8  | 8  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  |
| D2 = 36  | 9  | 9  | 8  | 9  | 7  | 6  | 7  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 9  | 8  | 8  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| ZS6 = 38 | 8  | 9  | 9  | 7  | 5  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 8  | 9  | 8  |
| FR = 39  | 1  | -  | -  | 4  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 1  | -  | -  | -  | -  |
| FJL = 40 | 5  | 5  | 5  | 5  | 7  | 6  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 3  | 4  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 4   | 6   | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4* | 3* | 1* | 1  | 1  | -  | -  | -  | -  | 1* | -  | -  | 1  | 4  |
| VO2 = 02 | 9   | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 3  | 1  | -  | -  | -  | -  | 1  | 5  | 6  | 8  | 9  | 9  |
| W6 = 03  | 9   | 9   | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 3  | 1  | 1  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| W9 = 04  | 9   | 9   | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 9  | 9  |
| W3 = 05  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 7  | 1  | 1  | -  | -  | -  | 1  | 4  | 4  | 6  | 9  | 9  |
| XE1 = 06 | 9   | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 8  | 5  | 2  | 1  | -  | -  | -  | 1  | 5  | 6  | 8  | 9  |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 6  | 9  | 8  | 6  | 3  | 1  | 1  | 1  | 1  | 1  | 5  | 7  | 9  | 9  | 9+ |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 8  | 9+ | 9  | 8  | 4  | 2  | 1  | 1  | 2  | 5  | 7  | 9  | 9  | 9+ | 9+ |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 9+ | 9  | 8  | 6  | 2  | 1  | 1  | 2  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 4  | 9+ | 9  | 7  | 5  | 4  | 4  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 1* | -  | 5  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 1* | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+  | 9+  | 9+ | 9+ | 9  | 8  | 8  | 4  | -  | -  | 2  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9+  | 9+  | 9  | 9+ | 9  | 9  | 9  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 8  | 8  | 9  | 9  | 9  | 9+ |
| I = 15   | 9+  | 9+  | 9+ | 9+ | 9  | 9  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | 9   | 9   | 9  | 9  | 9  | 8  | 8  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| UN = 17  | 9   | 9   | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 9  | 9  | 9  |
| UA9 = 18 | 8   | 8   | 7  | 2  | 2  | 2  | 1  | 1  | 1  | 1* | 3* | 3* | 1* | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 8  | 8  | 8  |
| UA0 = 19 | 2   | 2   | -  | 1  | 1  | 1  | 2  | 6  | 7  | 8  | 7* | 7* | 5* | 2* | -  | -  | -  | -  | 2* | 4* | 7* | 8  | 8* | 7  | 4* | 4* |
| 4X = 20  | 9   | 9   | 9  | 9  | 9  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9   | 9   | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 9   | 9   | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  | 8   | 8   | 2  | 1  | 1  | -  | -  | -  | 1* | -  | 1* | 5* | 5* | 1* | 1* | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 8  |
| VR2 = 24 | 8   | 5   | -  | -  | -  | -  | -  | 1* | 4* | 7* | 7  | 8  | 4* | 1* | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 9  |
| JA1 = 25 | 2*  | -   | -  | -  | -  | 2  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 7  | 4  | -  | -  | -  | 3* | 6* | 8* | 8* | 9* | 8* | 6* | 6* |
| HS = 26  | 9   | 6   | 1  | -  | -  | -  | -  | -  | 1* | 5* | 8  | 8  | 2* | -  | -  | -  | -  | -  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| DU = 27  | 5   | -   | -  | -  | -  | -  | -  | 1* | 5* | 7  | 7* | 5  | 4  | 1  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 5* | 8  | 8  | 8  |
| YB = 28  | 8   | 2   | -  | -  | -  | -  | -  | -  | 2* | 4* | 6  | 5  | 4  | 2  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 5  | 2* | 7  | 7  |
| VK6 = 29 | 7   | 1   | -  | -  | -  | -  | -  | 3  | 8  | 8  | 8  | 7  | 5  | 2  | 1  | 2  | 4  | 5  | 6  | 5  | 4  | 5  | 8  | 8  | 8  | 8  |
| VK3 = 30 | 7   | 5   | 2  | -  | -  | 1  | 2  | 5  | 6  | 7  | 8  | 8  | 7  | 5  | 3  | 2  | 2  | 2  | 1  | 1  | 4  | 7  | 8  | 7  | 7  | 7  |
| KH6 = 31 | 1   | 5   | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 1* | 8  | 8  | 5  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | 2   | 4   | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | -  | 9  | 9  | 7  | 1  | -  | 1  | 1  | 1  | 1* | 1  | -  | -  | 1  | 1  |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 4  | 2  | 9  | 9  | 9  | 9  | 6  | 3  | 1  | 1  | 1  | 1  | 3  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+  | 9   | 9  | 7  | 4  | 2  | 6  | 6  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9   | 9   | 7  | 2  | 7  | 8  | 5  | 3  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 3  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| ZS6 = 38 | 1   | 4   | 5  | 1  | -  | 4  | 6  | 7  | 8  | 6  | 3  | 1  | 1  | 1  | 1  | 1  | 2  | 6  | 8  | 9  | 9  | 6  | -  | -  | -  | -  |
| FR = 39  | -   | -   | -  | -  | 6  | 5  | 2  | 2  | 2  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 2  | 5  | 7  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | 8   | 9   | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 3* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Aug., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 8  | 9  | 9  | 9  | 9  | 7  | 6  | 2  | 5* | 6* | 5* | 2* | 1* | -  | 1  | 1  | 3  | 5  | 9  | 5  | 6  | 8  | 8  |
| VO2 = 02 | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | 8  | 9  | 9  | 7  | 6  | 4  | 2  | 2  | 4  | 7  | 8  | 8  | 9  | 9  | 9+ |
| W6 = 03  | 9       | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 2  | 8  | 6  | 8  | 5  | 2  | 1  | 2  | 2  | 1  | 1  | 3  | 8  | 9  |
| W9 = 04  | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | 8  | 6  | 4  | 7  | 8  | 6  | 5  | 2  | 2  | 4  | 5  | 6  | 6  | 9  | 9  | 9  |
| W3 = 05  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 5  | 5  | 9  | 8  | 7  | 4  | 2  | 2  | 4  | 6  | 7  | 8  | 9  | 9  | 9+ |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 2  | 2  | 9  | 8  | 6  | 5  | 5  | 5  | 6  | 6  | 6  | 8  | 9  | 9+ |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 4* | 2* | 1* | 9  | 9  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | 2  | 7  | 9+ | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | 2* | 1* | 9+ | 9  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | 5* | 2* | 1* | 9+ | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1* | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1* | -  | -  | 4  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 7       | 3  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 2  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| G = 14   | 9+      | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 7  | 4  | 2  | 1  | -  | 1  | 4  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| I = 15   | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 8  | 4  | 2  | 1  | -  | -  | -  | 2  | 4  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | 9       | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 5  | 2  | 1  | 1  | 1  | 1  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| UN = 17  | 8       | 8  | 9  | 8  | 8  | 5  | 4  | 1  | -  | 1  | 1  | 8  | 8  | 2* | 2* | 1  | 4  | 4  | 8  | 9  | 9  | 9  | 9  | 8  |
| UA9 = 18 | 5       | 6  | 7  | 7  | 8  | 7  | 5  | 5  | 3  | 6  | 2  | 6  | 7  | 4* | 3* | 2* | 2  | 5  | 7  | 8  | 8  | 7  | 5  | 5  |
| UA0 = 19 | 6       | 7  | 7  | 6  | 5  | 6  | 7  | 8  | 6  | 7  | 9  | 9* | 8* | 6* | 4* | 3* | 4* | 6* | 7* | 8* | 8* | 9* | 8* | 7  |
| 4X = 20  | 9+      | 9  | 9+ | 9  | 9  | 9  | 8  | 4  | 4  | 4  | 1  | -  | 1  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| HZ = 21  | 9+      | 9  | 9  | 9  | 9  | 8  | 2  | -  | 1  | 1  | 1  | -  | 2* | 1* | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VU = 22  | 9       | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | 1  | 6  | 8  | 2* | 1* | 1* | 3  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  | 7       | 7  | 7  | 6  | 5  | 4  | 4  | 4  | 3  | 6  | 5  | 5  | 6  | 5* | 3* | 3* | 2  | 5  | 7  | 7  | 8  | 5  | 5  | 8  |
| VR2 = 24 | 2       | 1* | -  | -  | -  | -  | 1* | 5* | 7* | 7  | 6  | 8* | 8* | 7* | 4* | 4  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 8  |
| JA1 = 25 | 3       | 2  | 2  | 2  | 7  | 8  | 8  | 9  | 9  | 7  | 5* | 9+ | 8  | 8  | 5  | 3* | 5* | 7* | 8* | 9* | 9* | 9* | 8* | 5  |
| HS = 26  | 2*      | 1* | 1* | -  | -  | -  | -  | 1* | 5* | 7  | 6  | 7* | 6* | 4* | 2* | 4  | 6  | 8  | 8  | 9  | 9  | 9+ | 9  | 8  |
| DU = 27  | 5*      | 4* | 1* | -  | -  | -  | -  | 5* | 5* | 5  | 8  | 8  | 7  | 5  | 4  | 3  | 5  | 6  | 7  | 8  | 5* | 5* | 5* | 5* |
| YB = 28  | 2*      | 4* | 2* | -  | -  | -  | -  | 1* | 3* | 6  | 8  | 8  | 7  | 6  | 5  | 3  | 1  | 1  | 2  | 3  | 2  | 2* | 3* | 2* |
| VK6 = 29 | 2*      | 1* | -  | -  | -  | -  | -  | 2* | 1* | 3* | 8  | 9  | 8  | 4  | 1  | -  | 1  | 2  | 3  | 3  | -  | -  | 1  | 5  |
| VK3 = 30 | 1*      | -  | -  | -  | -  | -  | -  | 2* | 1* | 1* | 2* | 7  | 3  | 1  | 1  | 1  | 1  | -  | 1* | -  | 1* | 5  | 8  | 7  |
| KH6 = 31 | 5       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 2* | 2* | 8  | 8  | 7  | 2  | 3  | 2  | 2  | 2* | 2* | 1* | -  | 1  | 2  |
| KH8 = 32 | 5       | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1* | -  | 1  | 8  | 1  | -  | -  | -  | 6  | 5  | 7  | 8  | 2  | 3  | 4  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 7  | 9  | 8  | 7  | 2  | 1  | 1  | 1  | 4  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 8  | 4  | 4  | 5  | 1  | 1  | 1  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | 5  | 9+ | 9+ | 9  | 7  | 5  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 7       | 5  | 4  | 3  | -  | 1* | 2  | 1  | 5  | 8  | 8  | 6  | 4  | 3  | 4  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| 5Z = 37  | 8       | 5  | 1  | -  | 1  | 4  | 1  | -  | 5  | 5  | 2  | 2  | 3  | 1  | 2  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9  |
| ZS6 = 38 | -       | -  | -  | -  | 1* | -  | -  | 1  | 7  | 8  | 7  | 6  | 6  | 5  | 6  | 8  | 9  | 9  | 9  | 6  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | 1* | -  | -  | -  | 2  | 5  | 5  | 4  | 8  | 5  | 5  | 6  | 8  | -  | -  | 1* | 1* | -  | 1* | -  |
| FJL = 40 | 3       | 1  | -  | -  | -  | -  | 1  | 8  | 6  | 8  | 7  | 6  | 8  | 4  | 1  | 1  | 2  | 4  | 6  | 6  | 8  | 9  | 8  | 6  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Aug., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00  | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 7   | 7   | 8  | 8  | 6  | 4  | 2  | -  | -  | -  | -  | 3* | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 6  | 7  | 8  |    |
| VO2 = 02 | 9+  | 9   | 9  | 9  | 8  | 8  | 4  | 7  | 2  | 4  | 6  | 9  | 8  | 6  | 7  | 7  | 7  | 7  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ |    |
| W6 = 03  | 9   | 9   | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 3  | -  | 2  | -  | 4  | 7  | 6  | 6  | 8  | 8  | 4  | 3  | 7  | 9  | 9  | 9  |    |
| W9 = 04  | 9+  | 9+  | 9  | 9  | 9  | 8  | 5  | 1  | 4  | 1  | -  | -  | 7  | 7  | 5  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| W3 = 05  | 9+  | 9+  | 9+ | 9  | 9  | 9  | 9  | 9  | 7  | 1  | 1  | -  | 5  | 8  | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9+ | 9  |    |
| XE1 = 06 | 9+  | 9+  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 2  | -  | -  | 5  | 9  | 7  | 8  | 8  | 6  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ |    |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | 2* | -  | -  | 6  | 9  | 8  | 5  | 5  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | 1* | 9+ | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| P4 = 09  | 8   | 9+  | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | 2  | 9  | 9  | 9  | 6  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| HC = 10  | 5   | 6   | 8  | 9  | 9+ | 9+ | 9  | 7  | 2  | -  | 2* | -  | -  | 8  | 9  | 9  | 9  | 5  | 5  | 4  | 9  | 6  | 8  | 6  | 6  |    |
| PY1 = 11 | 9+  | 9+  | 9  | 8  | 5  | 5  | 1  | -  | -  | -  | -  | 1  | 9  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| CE = 12  | 9+  | 9+  | 9+ | 9  | 9  | 8  | 8  | 2  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  | 2*  | -   | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 8  | 5  | 5  | 3* |    |
| G = 14   | 9   | 9   | 8  | 7  | 6  | 6  | 8  | 7  | 4  | 8  | 8  | 7  | 7  | 8  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| I = 15   | 9+  | 9   | 9  | 9  | 7  | 6  | 8  | 6  | 5  | 8  | 6  | 5  | 2  | 8  | 5  | 5  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| UA3 = 16 | 8   | 5   | 2  | 2  | 5  | 5  | 8  | 5  | 1  | 6  | 5  | 4  | 5  | 6  | 4  | 4  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| UN = 17  | 4   | 5   | 8  | 8  | 9  | 7  | 5  | 1  | 1  | 5  | 3  | 4  | 6* | 4  | 3  | 5  | 6  | 6  | 8  | 8  | 8  | 8  | 6  | 5  | 5  |    |
| UA9 = 18 | -   | -   | 2  | 5  | 7  | 6  | 7  | 3  | 1  | 5  | 5  | 3  | 7* | 5* | 4* | 3  | 5  | 6  | 7  | 6  | 2  | 1* | 5* | 2* | 2* |    |
| UA0 = 19 | 2   | 1   | 7  | 7  | 3  | 6  | 8  | 7  | 2  | 3  | 6  | 9* | 8* | 7* | 6* | 5* | 6* | 7* | 8* | 8* | 8* | 9* | 4  | 3  | 3  |    |
| 4X = 20  | 9   | 9   | 9  | 8  | 8  | 9  | 6  | -  | 1  | 6  | 3  | 2  | 7  | 7  | 1  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| HZ = 21  | 9   | 9   | 7  | 6  | 7  | 4  | 1* | -  | -  | 4  | 4  | 7  | 6  | 4  | 2  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| VU = 22  | 7   | 8   | 8  | 6  | 3  | 1  | -  | -  | -  | 4  | 5  | 2  | 4* | 4* | 4* | 3* | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  |    |
| JT = 23  | -   | 3   | 7  | 6  | 6  | 5  | 6  | 3  | 2  | 6  | 4  | 2  | 8* | 5* | 5* | 4* | 4  | 5  | 5* | 5* | 4* | 5* | 6* | 3* | 3* |    |
| VR2 = 24 | 4*  | 6*  | 5* | 3* | 2* | 3* | 5* | 7* | 5* | 5  | 6  | 7* | 8* | 7* | 6  | 5* | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 3* | 3* |    |
| JA1 = 25 | 6   | 6   | 7  | 7  | 8  | 8  | 8  | 9  | 8  | 3  | 6* | 9  | 8  | 6  | 6  | 2* | 7* | 8* | 9* | 9* | 8* | 8* | 6  | 6  | 6  |    |
| HS = 26  | 2*  | 5*  | 4* | 2* | 1* | -  | 1* | 4* | 3* | 3  | 5  | 6  | 7* | 5  | 3  | 4  | 7  | 8  | 9  | 9  | 9+ | 9  | 6  | 3* | 3* |    |
| DU = 27  | 6*  | 7*  | 5* | 3* | 1* | 3* | 4* | 4* | 2* | 1* | 8  | 9  | 8  | 7  | 5  | 6  | 6  | 7  | 8  | 7  | 4* | 6* | 7* | 6* | 6* |    |
| YB = 28  | 4*  | 5*  | 5* | 2* | 1* | -  | 1* | 2* | 1* | 1* | 8  | 8  | 8  | 6  | 3* | 2* | 2* | 1* | 1* | 3* | 3* | -  | 2* | 6* | 6* |    |
| VK6 = 29 | 4*  | 3*  | 1* | 1* | -  | 1* | 1* | 1* | -  | 1* | 4* | 9  | 7  | 3* | 1* | 1* | 1* | -  | 1  | -  | -  | -  | -  | 6* | 6* |    |
| VK3 = 30 | 2*  | 1*  | 1* | -  | -  | -  | 1* | 1* | -  | 3* | 5* | 2  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 3* | 7  | 4* | 4* |    |
| KH6 = 31 | 7   | 8   | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 4* | 4* | 4* | 8  | 5  | 1* | -  | 2  | 5  | 4  | 6  | 7  | 3* | 3  | 5  | 5  |    |
| KH8 = 32 | 8   | 8   | 8  | 8  | 7  | 6  | 6  | 5  | 1  | 2* | 1* | 1* | 1* | -  | -  | 1* | 1* | 5  | 6  | 5  | 5  | 5  | 5  | 6  | 6  |    |
| CN = 33  | 9+  | 9+  | 9  | 9  | 9  | 5  | 2  | 5  | 4  | 6  | 9  | 8  | 5  | 3  | 4  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| SU = 34  | 9   | 9+  | 9  | 8  | 7  | 9  | 6  | -  | 1  | 7  | 4  | 2  | 8  | 8  | 1  | 5  | 6  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| 6W = 35  | 9   | 9+  | 9+ | 8  | 5  | -  | -  | -  | -  | 7  | 9+ | 9  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  |    |
| D2 = 36  | 3   | 1   | -  | -  | 2* | 1* | 1* | 1* | 1  | 9  | 8  | 8  | 6  | 7  | 6  | 8  | 9  | 9  | 9+ | 9  | 9+ | 9+ | 8  | 6  | 6  |    |
| 5Z = 37  | 4   | -   | -  | 1* | 3* | 2* | 1* | 1* | 2  | 7  | 6  | 6  | 7  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9+ | 9  | 9  | 8  | 8  |    |
| ZS6 = 38 | -   | -   | -  | -  | 2* | 1* | 1* | -  | 3  | 9  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | -  | -  | -  | -  | -  | -  |    |
| FR = 39  | -   | -   | 2* | 1* | 1* | 1* | -  | -  | -  | 5  | 7  | 6  | 7  | 6  | 7  | 8  | 5  | 1* | 1* | 2* | 2* | 1* | -  | -  | -  |    |
| FJL = 40 | -   | -   | -  | -  | -  | -  | -  | 6  | 2  | 6  | 6  | 5  | 6* | 2  | 2* | 1  | 2  | 3  | 4  | 5  | 5  | 4  | 1  | -  | -  |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    | </ |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Aug., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 1   | 1  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2* | 2  | 3  | 5  |
| VO2 = 02 | 9   | 8  | 7  | 6  | 4  | 1  | -  | 2  | -  | -  | -  | -  | 3  | 7  | 5  | 5  | 6  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  |
| W6 = 03  | 9   | 9  | 9  | 9  | 8  | 7  | 6  | 8  | 3  | -  | -  | -  | -  | -  | -  | 5  | 7  | 6  | 5  | 8  | 8  | 8  | 8  | 9  | 9  |
| W9 = 04  | 9   | 9  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 2  | 5  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  |
| W3 = 05  | 9   | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | 3  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9   | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 2  | -  | -  | -  | -  | 6  | 8  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 6   | 7  | 8  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | 3  | 1  | -  | -  | -  | 2  | 9  | 9  | 9  | 8  | 6  |
| VP2 = 08 | 4   | 6  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | 2  | 7  | 5  | 4  | 8  | 5  | 6  | 7  | 9  | 9  | 9+ | 8  | 6  |
| P4 = 09  | 1   | 3  | 7  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  | 6  | 3  |
| HC = 10  | 9+  | 9+ | 1  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 7  | 5  | -  | 9  | 9  | 9  | 9+ | 1* | -  | 9+ | 9+ |
| PY1 = 11 | 3   | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  | 9  | 8  | 7  |
| CE = 12  | 9+  | 8  | 9  | 8  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | 2  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 1*  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 3* | 4* | 3* |
| G = 14   | 7   | 7  | 5  | 2  | -  | -  | 1  | 2  | -  | 1  | 9  | 7  | 6  | 5  | 5  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 8  | 8  |
| I = 15   | 9   | 9  | 8  | 6  | 1  | -  | 4  | 1  | 1  | 2  | 8  | 6  | 5  | 4  | 4  | 4  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | 1   | -  | -  | -  | -  | 1  | 7  | 1  | -  | -  | 5  | 4  | 6  | 3  | 3  | 2  | 4  | 6  | 7  | 8  | 8  | 8  | 6  | 3  | 3  |
| UN = 17  | 2*  | -  | 2  | 8  | 8  | 6  | 2  | -  | -  | 1  | 4  | 5  | 3  | 7* | 3* | 5  | 6  | 7  | 6  | 6  | 5  | 2  | 1  | -  | -  |
| UA9 = 18 | -   | -  | -  | -  | 2  | 5  | 5  | -  | -  | -  | 5  | 4  | 5* | 5* | 3* | 2* | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -   | -  | 1  | -  | -  | -  | 7  | 3  | -  | -  | -  | 6* | 8* | 8* | 8* | 7* | 5* | 5* | 5* | 5* | 2* | 2* | 1* | -  | -  |
| 4X = 20  | 9   | 9  | 8  | 1  | 1  | 8  | 1  | -  | -  | 2  | 5  | 4  | 4  | 4* | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9   | 6  | 3* | 2* | 2  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 5* | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 2*  | 4* | 5* | 4* | 2* | 1* | -  | -  | -  | 1  | 3  | 4  | 4  | 4* | 7* | 4  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 6  | 2  |
| JT = 23  | -   | -  | 2  | 2  | 7  | 6  | 5  | 1  | -  | 1  | 5  | 4  | 6* | 8* | 5* | 4* | 4* | 3* | 3* | -  | -  | 1* | 6* | 1* | 1* |
| VR2 = 24 | 6*  | 6* | 6* | 6* | 4* | 5* | 6* | 5* | 1* | -  | 8  | 8  | 9* | 8* | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 5* | 6* |
| JA1 = 25 | 6   | 6  | 8  | 8  | 8  | 9  | 9  | 8  | 4  | -  | 8* | 8* | 8* | 8* | 7* | 7* | 8* | 8* | 8* | 8* | 7* | 4  | 6  | 7  | 6  |
| HS = 26  | 5*  | 6* | 6* | 5* | 2* | 3* | 2* | 4* | -  | -  | 6  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 7  | 1* | 4* |
| DU = 27  | 8*  | 7* | 5* | 5* | 4* | 4* | 4* | 2* | -  | -  | 1  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 3  | 1* | 4* | 7* | 8* |
| YB = 28  | 6*  | 6* | 5* | 4* | 2* | 2* | 2* | 1* | -  | -  | 3  | 8  | 8  | 6* | 4* | 3* | 3* | 3* | 4* | 4* | -  | -  | -  | -  | 6* |
| VK6 = 29 | 4*  | 2* | 2* | 1* | -  | 1* | 1* | -  | -  | -  | -  | 7* | 6* | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 6* |
| VK3 = 30 | 3*  | 1* | 1* | -  | 2* | 1* | 1* | -  | -  | 1* | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 6* | 3* |
| KH6 = 31 | 8   | 9  | 9  | 9  | 9  | 9  | 9  | 8  | -  | 1* | 5* | 5* | 7  | 1* | -  | -  | 3  | 3  | 5  | 5  | 5  | 5  | 5  | 5  | 6  |
| KH8 = 32 | 8   | 6  | 5  | 4* | 4* | 1* | 1  | -  | -  | -  | 2* | 3* | 2* | 1* | 1* | 1* | -  | -  | 7  | 7  | 6  | 6  | 6  | 6  | 7  |
| CN = 33  | 9   | 9  | 9  | 8  | 7  | -  | -  | 1  | -  | -  | 9  | 9  | 8  | 6  | 5  | 7  | 7  | 8  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  |
| SU = 34  | 9   | 9  | 7  | 2  | 2  | 8  | 1  | -  | -  | 2  | 7  | 6  | 4  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  |
| 6W = 35  | 2   | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 7  | 2  | 2  |
| D2 = 36  | 1*  | -  | -  | -  | -  | 4* | 2* | -  | -  | 2  | 7  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 6  | 2  | 2  |
| 5Z = 37  | -   | -  | -  | 3* | 5* | 4* | 2* | -  | -  | 2  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 3  |
| ZS6 = 38 | -   | -  | -  | -  | -  | 2* | 2* | 1* | -  | 3  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 1  | -  | -  | -  | -  | -  |
| FR = 39  | -   | -  | 1* | 3* | 3* | 1* | 1* | -  | -  | 1  | 8  | 8  | 8  | 8  | 8  | 6  | 1* | 1* | 2* | 2* | 1* | -  | -  | -  | -  |
| FJL = 40 | -   | -  | -  | -  | -  | -  | -  | 2  | -  | 2  | 2  | 1  | 6* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Aug., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  |
| VO2 = 02 | 6   | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 2  | 4  | 4  | 5  | 6  | 7  | 7  |
| W6 = 03  | 8   | 9  | 8  | 6  | 4  | 2  | 1  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 4  | 5  | 7  | 8  | 9  | 8  | 8  |
| W9 = 04  | 8   | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 2  | 5  | 6  | 7  | 8  | 8  |
| W3 = 05  | 8   | 9  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| XE1 = 06 | 8   | 8  | 9  | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 8  | 8  | 8  | 9  | 9  | 8  | 8  |
| TI = 07  | -   | 1  | 5  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 1  | 1  | 2  | 1  |
| VP2 = 08 | -   | -  | 4  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 1  | 2  | 2  | -  |
| P4 = 09  | -   | -  | 2  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  |
| HC = 10  | 9   | 9  | 9  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 9+ | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  |
| PY1 = 11 | -   | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 5* | 6* | 6* | 3* | -  |
| CE = 12  | 5*  | 3* | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 8  |
| LU = 13  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 3* | 4* | 3* | 1* |
| G = 14   | 3   | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 2  | 4  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 8  | 7  | 5  | 4  |
| I = 15   | 7   | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 7  | 6  | 6  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  |
| UA3 = 16 | -   | -  | -  | -  | -  | -  | -  | 4  | -  | -  | -  | 2  | 1  | 3  | 2  | 1  | 1* | 1  | 2  | 5  | 5  | 3  | 3  | -  | -  |
| UN = 17  | -   | -  | -  | 5  | 8  | 5  | -  | -  | -  | -  | -  | 6  | 4  | 3  | 6* | 3  | 4  | 4  | 3  | 2  | 1  | -  | -  | -  | -  |
| UA9 = 18 | -   | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | 3  | 1  | 1  | 3* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -   | -  | -  | -  | -  | -  | -  | 5  | -  | -  | -  | -  | 2  | 8* | 8* | 8* | 8* | 4* | 3* | 1* | -  | -  | -  | -  | -  |
| 4X = 20  | 9   | 8  | 4  | -  | -  | 4  | -  | -  | -  | -  | -  | 6  | 5  | 6  | 5  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 5   | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 6  | 5  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 1*  | 5* | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 7  | 5  | 4  | 4  | 2  | 1  | -  |
| JT = 23  | -   | -  | -  | -  | 2  | 2  | 3  | -  | -  | -  | -  | 2  | 1  | -  | 6* | 5* | 3* | 2* | 2* | 1* | -  | -  | -  | 1* | -  |
| VR2 = 24 | 6*  | 5* | 5* | 6* | 6* | 6* | 6* | 2* | -  | -  | -  | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 2  | 5* | 6* |
| JA1 = 25 | 4   | 5  | 5  | 5  | 5  | 6  | 8  | 6  | 1  | -  | 2* | 8* | 8* | 8* | 8* | 8* | 8* | 8* | 7* | 7* | 3* | 1  | 4  | 5  | 5  |
| HS = 26  | 5*  | 6* | 6* | 6* | 5* | 4* | 3* | 1* | -  | -  | -  | 4  | 8  | 8  | 8  | 6  | 8  | 8  | 8  | 9  | 9  | 7  | -  | -  | 3* |
| DU = 27  | 7*  | 6* | 5* | 5* | 4* | 3* | 2* | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | -  | -  | -  | 6* | 7* |
| YB = 28  | 4*  | 4* | 5* | 5* | 2* | 2* | 1* | -  | -  | -  | -  | -  | 4  | 8* | 6* | 5* | 4* | 4* | 4* | 4* | 1* | -  | -  | -  | 3* |
| VK6 = 29 | 4*  | 2* | 2* | 1* | 2* | 1* | 1* | -  | -  | -  | -  | -  | 2* | 6* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VK3 = 30 | 2*  | 1* | 1* | 2* | 2* | 1* | 1* | -  | -  | -  | -  | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 3* |
| KH6 = 31 | 8   | 9  | 9  | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | 4* | 2* | 4  | -  | -  | -  | -  | 4  | 7  | 6  | 6* | 7  | 7  | 7  |
| KH8 = 32 | 4   | 3* | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | 5* | 3* | 3* | 2* | 1* | -  | -  | -  | 5  | 7  | 7  | 8  | 7  | 4  |
| CN = 33  | 8   | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| SU = 34  | 9   | 8  | 1  | -  | -  | 3  | -  | -  | -  | -  | -  | 8  | 7  | 6  | 6  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 7  | 3  | 1  | 1  | -  | 1  | 3  | 5  | 5  | 5  | 5* | 1* | -  |
| D2 = 36  | 1*  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | 9  | 7  | 8  | 8  | 7  | 9  | 9  | 8  | 9+ | 9  | 6  | 5* | 5* | 3* |
| 5Z = 37  | -   | -  | -  | 1* | 5* | 4* | 1* | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 8  | 5  | 5  | -  |
| ZS6 = 38 | -   | -  | -  | -  | -  | 4* | 3* | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 7  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -   | -  | -  | 5* | 3* | 2* | 1* | -  | -  | -  | -  | 5  | 8  | 7  | 7  | 4  | 2* | 2* | 1* | 1* | 1* | -  | -  | -  | -  |
| FJL = 40 | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00  | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |

Zone UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Sep., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 1       | 5  | 5  | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 2  | 3  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 2  | 4  | 4  | 4  | 5  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 2  | 5  | 5  | 5  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 2  | 2  | 3  | -  | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 1       | 3  | 2  | 2  | 2  | 3  | 3  | 3  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 4       | 4  | 3  | 3  | 3  | 3  | 3  | 2  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 4       | 4  | 3  | 3  | 3  | 4  | 3  | 3  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 5       | 5  | 5  | 5  | 4  | 4  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 3  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  |
| G = 14   | 4       | 5  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 5       | 3  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | 4       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 1  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 4       | 5  | 4  | 3  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| SU = 34  | 2       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 6W = 35  | 4       | 4  | 4  | 3  | 3  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  |
| D2 = 36  | 6       | 5  | 5  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  |
| 5Z = 37  | 4       | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  |
| ZS6 = 38 | 5       | 5  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| FR = 39  | 5       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Sep., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | 1  | 1  | 3  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4       | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W6 = 03  | -       | -  | 1  | 2  | 5  | 6  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 5  | 7  | 7  | 7  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 5  | 8  | 8  | 8  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 5  | 5  | 6  | 3  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 4       | 6  | 5  | 5  | 5  | 6  | 6  | 6  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 7       | 7  | 6  | 6  | 6  | 6  | 6  | 5  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| P4 = 09  | 7       | 7  | 6  | 6  | 6  | 7  | 6  | 6  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| HC = 10  | 8       | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9+ | 9+ | 9+ |
| G = 14   | 7       | 8  | 7  | 7  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| I = 15   | 8       | 6  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| UA3 = 16 | 7       | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| UN = 17  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 1  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 5       | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| HZ = 21  | 5       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 2  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 2  | 4  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 7       | 8  | 7  | 6  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| SU = 34  | 5       | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| 6W = 35  | 7       | 7  | 7  | 6  | 6  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| D2 = 36  | 9       | 8  | 8  | 9  | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  |
| 5Z = 37  | 7       | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  |
| ZS6 = 38 | 8       | 8  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| FR = 39  | 8       | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  |
| FJL = 40 | 1       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 40 Meters: Sep., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | 1  | 2  | 3  | 4  | 6  | 7  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 9  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  |
| W6 = 03  | 2       | 5  | 5  | 7  | 7  | 8  | 8  | 8  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| W3 = 05  | 8       | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| XE1 = 06 | 7       | 8  | 9  | 9  | 8  | 8  | 9  | 8  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| TI = 07  | 9       | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 8  | 8  | 8  | 9  | 8  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  |
| P4 = 09  | 9       | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 3  | 1  | -  | 1  | 4  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4  | -  | -  | -  | 1  | 5  | 8  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | 2  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 6  | 8  |
| I = 15   | 6       | 6  | 7  | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| UA3 = 16 | 7       | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  |
| UN = 17  | 6       | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 7  |
| UA9 = 18 | 4       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 5  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 7       | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  |
| HZ = 21  | 8       | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| VU = 22  | 6       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  |
| JT = 23  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 3  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 1  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  |
| HS = 26  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | -  |
| YB = 28  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  |
| VK6 = 29 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 3  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | 2  | 4  | 6  | 6  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  |
| SU = 34  | 7       | 7  | 6  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9  |
| FR = 39  | 9       | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  |
| FJL = 40 | 6       | 6  | 7  | 6  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Sep., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|--|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 |  | 1            | 2  | 3  | 6  | 7  | 7  | 8  | 7  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 |  | 8            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| W6 = 03  |  | 5            | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W9 = 04  |  | 8            | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  |
| W3 = 05  |  | 8            | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| XE1 = 06 |  | 8            | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  |
| TI = 07  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  |
| VP2 = 08 |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 9  |
| P4 = 09  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  |
| HC = 10  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 9  |
| PY1 = 11 |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 3  | 2  | 4  | 6  | 8  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |  | 9            | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| I = 15   |  | 8            | 8  | 8  | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| UA3 = 16 |  | 8            | 8  | 8  | 8  | 6  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  |
| UN = 17  |  | 7            | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| UA9 = 18 |  | 6            | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 6  |
| UA0 = 19 |  | -            | -  | -  | -  | -  | -  | -  | 1  | 3  | 3* | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | 1  | -  |
| 4X = 20  |  | 8            | 8  | 8  | 7  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  | 8  |
| HZ = 21  |  | 8            | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 8  | 8  |
| VU = 22  |  | 7            | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  |
| JT = 23  |  | 5            | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 5  | 5  |
| VR2 = 24 |  | 1            | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 4  |
| JA1 = 25 |  | -            | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 4* | 2* | -  |
| HS = 26  |  | 6            | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  |
| DU = 27  |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 4  | 2  |
| YB = 28  |  | 5            | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 6  |
| VK6 = 29 |  | 4            | 2  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 6  | 6  |
| VK3 = 30 |  | -            | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 1  | -  |
| KH6 = 31 |  | -            | -  | 2  | 5  | 5  | 7  | 7  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 |  | -            | -  | 1  | 4  | 6  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  |  | 9            | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  |
| SU = 34  |  | 8            | 8  | 8  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  |
| 6W = 35  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9  |
| D2 = 36  |  | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9  | 9  |
| 5Z = 37  |  | 9            | 9  | 9  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  | 8  | 8  |
| ZS6 = 38 |  | 9            | 9  | 8  | 9  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9  | 9  |
| FR = 39  |  | 8            | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 8  | 8  |
| FJL = 40 |  | 7            | 7  | 7  | 7  | 7  | 6  | 6  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  |
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |  |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |  | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 20 Meters: Sep., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 7       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | 1  | 5  |
| VO2 = 02 | 9+      | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 7  | 2  | -  | -  | -  | -  | 1  | 1  | 3  | 8  | 8  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 8  | 3  | 1  | 1  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| W9 = 04  | 9+      | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  |
| W3 = 05  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 8  | 4  | 2  | 1  | -  | -  | -  | 1  | 4  | 7  | 9  | 9+ |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 4  | 1  | 1  | -  | 1  | 2  | 4  | 7  | 9  | 9  | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9  | 7  | 2  | 1  | -  | 1  | 2  | 4  | 6  | 8  | 9  | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9  | 7  | 4  | 1  | 1  | 1  | 2  | 4  | 6  | 8  | 9  | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 9  | 9  | 8  | 5  | 2  | 1  | 1  | 2  | 3  | 5  | 8  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 2  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | 1* | 1* | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 8  | 8  | 9  | 9+ | 9+ |
| I = 15   | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 8  | 8  | 9  | 9+ | 9+ |
| UA3 = 16 | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  |
| UN = 17  | 9       | 9  | 8  | 8  | 4  | 3  | 1  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 9  | 9  | 9  |
| UA9 = 18 | 8       | 8  | 8  | 7  | 5  | 2  | 3  | 2  | 1  | 2* | 4* | 2* | 2* | 1* | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 8  | 8  |
| UA0 = 19 | 5       | 4  | 1  | 1  | 1  | 4  | 6  | 7  | 7  | 7  | 7  | 5  | 2* | -  | -  | -  | -  | -  | 3* | 6* | 7  | 8* | 7  | 7  |
| 4X = 20  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  | 9       | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | 2* | 2* | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 9  | 9  |
| JT = 23  | 8       | 8  | 6  | 1  | 1  | -  | -  | 1* | 3* | 6* | 8  | 4* | 3* | 1* | -  | -  | -  | -  | 2  | 8  | 8  | 8  | 9  | 8  |
| VR2 = 24 | 7       | 5  | 4  | -  | -  | -  | -  | 1* | 6* | 8  | 7  | 5* | 4* | 1* | -  | -  | -  | 1  | 4  | 8  | 8  | 8  | 9  | 8  |
| JA1 = 25 | 3*      | -  | -  | -  | -  | 3  | 5  | 7  | 8  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | 1* | 5* | 7* | 8* | 9* | 8* | 6* |
| HS = 26  | 9       | 8  | 7  | 4  | -  | -  | -  | -  | 1* | 4* | 8  | 4* | 1* | -  | -  | -  | -  | -  | 5  | 8  | 9  | 9  | 9  | 9  |
| DU = 27  | 6       | 4  | -  | -  | -  | -  | -  | 1  | 7* | 6  | 6  | 5  | 2  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 8  | 8  |
| YB = 28  | 9       | 8  | 5  | 1  | -  | -  | -  | -  | 2* | 5* | 7  | 4* | 1  | 1  | -  | -  | 1  | 2  | 5  | 8  | 8  | 8  | 8  | 9  |
| VK6 = 29 | 8       | 8  | 6  | 4  | 2  | 1  | 2  | 5  | 7  | 7  | 7  | 7  | 5  | 3  | 1  | 1  | 2  | 3  | 5  | 5  | 6  | 7  | 8  | 8  |
| VK3 = 30 | 5       | 4  | 4  | 4  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 5  | 3  | 2  | 2  | 3  | 5  | 6  | 7  | 8  | 6  |    |
| KH6 = 31 | 2       | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| KH8 = 32 | 1       | 3  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | 1* | -  | -  | -  |    |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9+ | 9+ |
| SU = 34  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9  | 9+ | 9  | 9  | 5  | 2  | 1  | -  | 1  | 1  | 4  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 9+ | 9+ | 9  | 7  | 9  | 9  | 8  | 7  | 3  | 1  | 1  | 1  | 1  | 1  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+      | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 7  | 9  | 9  | 9  | 9+ | 9+ |
| ZS6 = 38 | 9       | 9  | 8  | 6  | 7  | 9  | 9  | 9  | 7  | 4  | 1  | 1  | 1  | 1  | 1  | 2  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9  | 9  |
| FR = 39  | -       | -  | -  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | 1  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 8  | 2  |
| FJL = 40 | 8       | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 9  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Sep., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |     | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 4* | 4* | 2* | -  | -  | -  | -  | 1  | 1  | 2  | 3  | 9  | 6  | 7  | 8  | 9  |
| VO2 = 02 |     | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 7  | 3  | 1  | 1  | 1  | 4  | 6  | 7  | 9  | 9  | 9+ | 9+ |
| W6 = 03  |     | 9  | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 7  | 5  | 8  | 5  | 2  | -  | 1  | 1  | 1  | 2  | 5  | 8  | 9  |
| W9 = 04  |     | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 9  | 8  | 6  | 2  | -  | -  | 2  | 4  | 5  | 6  | 9  | 9  | 9+ |
| W3 = 05  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 7  | 7  | 9  | 9  | 8  | 6  | 1  | 1  | 1  | 3  | 5  | 6  | 8  | 9  | 9  | 9+ |
| XE1 = 06 |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 4  | 1* | 8  | 8  | 5  | 5  | 3  | 2  | 5  | 5  | 8  | 9  | 9+ | 9+ |
| TI = 07  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 4  | 1  | 9+ | 9  | 8  | 6  | 4  | 3  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 3  | 5  | 9+ | 9+ | 9  | 8  | 5  | 5  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | 2  | 9  | 9+ | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  |     | 8  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | 4* | 4  | 9+ | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 3* | 3* | 2* | 3  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 3* | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 2* | 4* | -  | 1* | 1* | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |     | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 9  | 8  | 8  | 8  | 4  | -  | -  | 1  | 1  | 2  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| I = 15   |     | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 2  | 1  | -  | -  | -  | 2  | 1  | 4  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 |     | 9  | 9  | 8  | 7  | 8  | 8  | 9  | 7  | 7  | 6  | 3  | 1  | 2* | 1* | -  | -  | 1  | 5  | 8  | 8  | 9  | 9  | 9  | 9  |
| UN = 17  |     | 7  | 8  | 9  | 8  | 8  | 6  | 5  | 2  | 2* | 2* | 2* | 6  | 4* | 1* | 1* | -  | 3  | 5  | 7  | 8  | 9  | 9  | 8  | 8  |
| UA9 = 18 |     | 2* | 4  | 7  | 8  | 8  | 7  | 6  | 6  | 6  | 5  | 5* | 5  | 5* | 4* | 1* | 1* | 1  | 5  | 8  | 7  | 5  | 3* | 2* | 1  |
| UA0 = 19 |     | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 7  | 8  | 8  | 8* | 6* | 3* | 1* | 2* | 3* | 5* | 6* | 7* | 8* | 8* | 8  | 8  |
| 4X = 20  |     | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 2  | 1  | -  | -  | 1  | -  | 1  | 4  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| HZ = 21  |     | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | 1  | 2* | 1  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VU = 22  |     | 9  | 9  | 9  | 9  | 8  | 5  | 2  | 1  | -  | -  | -  | 6  | 4* | 1* | 1* | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  |     | 6  | 8  | 8  | 8  | 5  | 4  | 4  | 5  | 6  | 6* | 7* | 5* | 6* | 5* | 2* | 1* | 1  | 4  | 4* | 6  | 4  | 4* | 1  | 6  |
| VR2 = 24 |     | 9  | 8  | 8  | 4  | -  | -  | 1* | 6* | 8* | 8* | 8* | 7* | 6* | 6* | 2  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| JA1 = 25 |     | 7* | 5* | 3  | 3  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ | 9  | 8  | 6  | 1  | 2* | 4* | 6* | 8* | 9* | 9* | 9* | 9* | 9* |
| HS = 26  |     | 9  | 9  | 8  | 6  | 3  | 1  | -  | 1* | 4* | 7  | 7* | 7* | 4* | 2  | 2  | 4  | 5  | 6  | 8  | 9  | 9  | 9+ | 9  | 9  |
| DU = 27  |     | 8  | 7  | 4  | 1  | -  | -  | 1  | 4* | 6* | 7  | 8* | 7  | 7  | 4* | 1  | 2  | 4  | 6  | 7  | 8  | 8  | 8  | 9  | 9  |
| YB = 28  |     | 9  | 9  | 7  | 4  | 1  | -  | 1  | 3* | 8  | 6  | 7* | 6  | 6  | 5  | 4  | 4  | 5  | 6  | 7  | 8  | 7  | 6  | 5  | 8  |
| VK6 = 29 |     | 8  | 9  | 8  | 7  | 5  | 5  | 4  | 6  | 8  | 8  | 9  | 8  | 7  | 5  | 2  | 1  | 2  | 2  | 3  | 3  | 3  | 4  | 5  | 8  |
| VK3 = 30 |     | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 3  | 2  | 2  | 1  | 1  | 3  | 7  | 8  | 8  | 8  |
| KH6 = 31 |     | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 7  | 7  | 9  | 8  | 7  | -  | 2  | 2  | 2  | 2* | 2  | 2* | 1  | 1  | 3  |
| KH8 = 32 |     | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9  | 9  | 8  | 8  | 9  | 9  | 8  | 4  | 2  | 4  | 3  | 2  | 8  | 2* | 1  | 2  | 3  |
| CN = 33  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9  | 8  | 9  | 8  | 4  | 2  | 1  | -  | 1  | 5  | 6  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  |     | 9+ | 9+ | 9  | 9+ | 9  | 9  | 9  | 8  | 7  | 3  | 1  | 1  | -  | 1  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| 6W = 35  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4* | 2* | 9  | 9+ | 9  | 8  | 7  | 5  | 4  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  |     | 9  | 9+ | 9  | 8  | 5  | 2  | 7  | 9  | 9  | 9  | 7  | 5  | 6  | 5  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  |     | 9+ | 9  | 9  | 6  | 8  | 9  | 9  | 8  | 7  | 4  | 2  | 1  | 2  | 3  | 1  | 3  | 6  | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| ZS6 = 38 |     | 7  | 6  | 2  | -  | -  | 6  | 9  | 9  | 9  | 8  | 6  | 5  | 5  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9  | 9+ | 9  | 8  |
| FR = 39  |     | -  | 1* | -  | 1  | 8  | 6  | 6  | 6  | 5  | 4  | 3  | 3  | 4  | 3  | 3  | 5  | 7  | 8  | 9  | 9  | 8  | 2  | 1* | 1* |
| FJL = 40 |     | 3* | 3  | 2* | 2* | 2* | 2* | 2* | 5  | 8  | 8  | 8  | 6  | 8  | 1  | 1  | -  | -  | 4  | 7  | 7  | 8  | 8  | 6  | 3  |
| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Sep., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00  | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 9   | 9  | 8  | 7  | 5  | 2  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 4  | 7  | 7  | 8  | 9  |    |
| VO2 = 02 | 9   | 8   | 7  | 8  | 8  | 7  | 5  | 2  | 3  | 6  | 8  | 9  | 8  | 6  | 5  | 4  | 6  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |
| W6 = 03  | 9   | 9   | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 5  | 3  | -  | 7  | 7  | 5  | 5  | 5  | 8  | 4  | 5  | 7  | 9  | 9  |    |
| W9 = 04  | 9+  | 9   | 8  | 7  | 7  | 6  | 5  | 4  | 5  | 3  | -  | 1  | 9  | 8  | 7  | 5  | 3  | 6  | 8  | 7  | 9  | 9  | 9  | 9  | 9  |    |
| W3 = 05  | 9+  | 9+  | 9  | 9  | 9  | 9  | 9  | 8  | 2  | 2  | 7  | 9  | 9  | 9  | 8  | 7  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |    |
| XE1 = 06 | 9+  | 9+  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | -  | -  | 8  | 8  | 8  | 7  | 5  | 7  | 6  | 8  | 8  | 9  | 9+ | 9+ |    |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | -  | -  | 1  | 9  | 9  | 8  | 7  | 6  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ |    |
| VP2 = 08 | 7   | 8   | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | 5  | 9+ | 9  | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 8  |    |
| P4 = 09  | 5   | 5   | 8  | 9+ | 9+ | 9+ | 9  | 8  | 5  | -  | -  | -  | 9+ | 9  | 9  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ | 8  | 7  |    |
| HC = 10  | 9+  | 2*  | 5  | 9  | 9+ | 8  | 8  | 5  | 4* | -  | -  | 7  | 9+ | 9  | 8  | 8  | 8  | 8  | 9  | 7  | 9  | 7  | 5  | 4* | 5* |    |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 5  | -  | 2* | -  | -  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4* | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  | 8   | 7   | 9  | 9  | 9  | 8  | 8  | 1* | 3* | -  | -  | -  | 1* | -  | 3  | 4  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| G = 14   | 8   | 8   | 8  | 6  | 4  | 2  | 7  | 8  | 8  | 9  | 8  | 6  | 4  | 8  | 4  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |    |
| I = 15   | 9   | 9   | 9  | 9  | 6  | 5  | 9  | 8  | 7  | 9  | 6  | 4  | 1  | 2  | 1  | 2  | 3  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| UA3 = 16 | 7   | 6   | 4  | 4* | 3  | 5  | 8  | 6  | 5  | 7  | 6  | 4  | 5  | 8  | 1  | 1  | 4  | 6  | 8  | 8  | 9  | 8  | 8  | 6  | 6  |    |
| UN = 17  | 1   | 2   | 8  | 8  | 8  | 6  | 7  | 4  | 4  | 4  | 2  | 5* | 5* | 6  | 3* | 3  | 6  | 7  | 6  | 6  | 6  | 5  | 3  | 1  | 1  |    |
| UA9 = 18 | 1*  | 1*  | 3  | 7  | 8  | 7  | 8  | 4  | 4  | 6  | 5  | 7* | 5* | 7  | 2  | 2  | 5  | 5  | 2  | 1  | -  | -  | 3* | 4* | 4* |    |
| UA0 = 19 | 8   | 8   | 8  | 8  | 7  | 9  | 9  | 8  | 4  | 7* | 8  | 8* | 7* | 5* | 4* | 4* | 5* | 5* | 7* | 6* | 5* | 8* | 8* | 8  | 8  |    |
| 4X = 20  | 9+  | 9   | 9  | 8  | 8  | 9  | 9  | 7  | 7  | 5  | 2  | 2  | 6  | 2  | 1  | 2  | 6  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |    |
| HZ = 21  | 9+  | 9   | 8  | 7  | 9  | 9  | 6  | 3  | 5  | 3  | 2  | 5  | 4  | 2  | 2  | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |    |
| VU = 22  | 7   | 7   | 9  | 9  | 8  | 6  | 4  | 2  | 2  | 2  | 2  | 5* | 5* | 3* | 3* | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| JT = 23  | 1   | 6   | 8  | 8  | 7  | 6  | 7  | 5  | 4  | 7  | 5  | 7* | 7* | 6  | 5* | 4* | 3* | 4* | 4* | -  | -  | 5* | 2* | 2* | 2* |    |
| VR2 = 24 | 9   | 8   | 6  | 3* | 2* | 3* | 5* | 6* | 7* | 5  | 5  | 9* | 8* | 6  | 5  | 5  | 7  | 6  | 8  | 8  | 9  | 9  | 6  | 9  | 9  |    |
| JA1 = 25 | 8*  | 7   | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 7  | 8  | 7  | 5* | 5* | 4* | 5* | 5* | 6* | 8* | 8* | 8* | 7* | 8* | 9* | 9* |    |
| HS = 26  | 9   | 9   | 7  | 4  | 1  | -  | 1* | 2* | 5* | 5  | 5  | 7* | 5  | 5  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 6  |    |
| DU = 27  | 8   | 6   | 4* | 2* | 1* | 3* | 4* | 5* | 5  | 7  | 8  | 8  | 7  | 6  | 5  | 5  | 5  | 6  | 8  | 8  | 8  | 6* | 8  | 9  | 9  |    |
| YB = 28  | 9   | 8   | 4* | 2* | -  | -  | 1* | 3* | 5  | 6  | 7  | 7  | 7  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 1  | 4* | 5  | 5  |    |
| VK6 = 29 | 8   | 7   | 5  | 1  | -  | -  | 1* | 1  | 3  | 8  | 9  | 8  | 6  | 2  | -  | -  | 1  | 2* | 2* | 2* | 1* | 1  | 5* | 6  | 6  |    |
| VK3 = 30 | 8   | 8   | 7  | 5  | 3  | 3  | 5  | 6  | 5  | 6  | 9  | 8  | 5  | 2  | 1  | 1  | -  | 1* | 1* | 1* | 5  | 7  | 8  | 8  | 8  |    |
| KH6 = 31 | 7   | 8   | 9  | 9  | 9  | 9  | 9+ | 9  | 8  | 2* | 3* | 9  | 8  | 1  | -  | -  | 5  | 4  | 4  | 5  | 6  | 3* | 3  | 5  | 5  |    |
| KH8 = 32 | 7   | 8   | 8  | 9  | 9  | 9  | 9+ | 9  | 8  | 1  | 1* | 9  | 9  | 5  | -  | -  | 4  | 5  | 4  | 3  | 4  | 5  | 4  | 5  | 5  |    |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9  | 8  | 5* | 8  | 7  | 9  | 9  | 7  | 5  | 4  | 2  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| SU = 34  | 9+  | 9+  | 9  | 9  | 8  | 9  | 9  | 7  | 7  | 5  | 3  | 2  | 7  | 2  | 1  | 2  | 6  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |    |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 8  | -  | 3* | 2* | 6  | 9+ | 9+ | 9  | 8  | 7  | 6  | 6  | 6  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| D2 = 36  | 9+  | 8   | 7  | 5  | 1  | 1* | 4  | 6  | 9  | 9  | 8  | 7  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| 5Z = 37  | 9   | 8   | 5  | 1  | 5  | 7  | 6  | 5  | 8  | 6  | 5  | 4  | 7  | 4  | 4  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ |    |
| ZS6 = 38 | 1   | -   | -  | -  | 1* | 1* | 4  | 7  | 8  | 9  | 8  | 7  | 8  | 9  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 3  | 2  | 2  |    |
| FR = 39  | -   | -   | 1* | 1* | 4  | 2  | -  | 2  | 6  | 6  | 5  | 6  | 6  | 6  | 6  | 6  | 8  | 8  | 8  | 5  | 3* | 2* | 1* | -  | -  |    |
| FJL = 40 | -   | 2*  | 1* | -  | -  | -  | 1* | 1* | 4  | 2* | 6* | 5  | 4  | 4  | 4  | 1  | 1  | 2  | 3  | 5  | 5  | 1  | 1  | -  | -  |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Sep., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00  | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |     | 7   | 8  | 7  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3* | 4* | 4  |    |
| VO2 = 02 |     | 7   | 2  | 1  | 1  | 1  | -  | -  | -  | -  | 1  | -  | 9  | 8  | 7  | 6  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| W6 = 03  |     | 9   | 9  | 9  | 9  | 6  | 5  | 5  | 3  | 5  | 1  | -  | -  | -  | -  | 8  | 5  | 6  | 5  | 6  | 6  | 7  | 8  | 8  | 9  |    |
| W9 = 04  |     | 9   | 8  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 7  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| W3 = 05  |     | 8   | 9  | 8  | 8  | 8  | 7  | 4  | 2  | -  | -  | 2  | -  | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| XE1 = 06 |     | 9   | 9  | 9+ | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ |    |
| TI = 07  |     | 3   | 4  | 8  | 9+ | 9+ | 9+ | 7  | 3  | -  | -  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  |    |
| VP2 = 08 |     | 2*  | -  | 6  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 5  | 5  | 4* |    |
| P4 = 09  |     | 2*  | -  | 5  | 7  | 7  | 6  | 4  | -  | -  | -  | -  | 6  | 9+ | 9  | 9  | 8  | 9  | 6  | 6  | 7  | 5  | 4* | 5* | 4* |    |
| HC = 10  |     | 9   | 9  | 9+ | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 5  | 1  | -  | 9  | -  | 9+ | 9+ | 9+ | 9+ |    |
| PY1 = 11 |     | 9   | 9+ | 9  | 9  | 8  | 2  | -  | -  | -  | -  | -  | 1* | 1  | 2  | 1  | 2  | 4  | 7  | 8  | 9  | 9  | 9+ | 9  | 9  |    |
| CE = 12  |     | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  |     | 3*  | 2* | 5  | 4  | 2  | 1  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2* | 5* | 5* |    |
| G = 14   |     | 1   | 1  | 1  | 1  | -  | -  | 1  | 5  | 4  | 8  | 8  | 7  | 5  | 7  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 7  | 4  |    |
| I = 15   |     | 9   | 8  | 7  | 4  | -  | 1* | 5  | 5  | 5  | 8  | 8  | 7  | 5  | 4  | 3  | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| UA3 = 16 |     | 2   | 1  | -  | 3* | 1* | 1  | 7  | 3  | 2  | 7  | 7  | 6  | 5  | 3  | 2  | 4  | 5  | 7  | 8  | 6  | 7  | 3  | 1  | -  |    |
| UN = 17  |     | 3*  | 1* | 2  | 8  | 9  | 8  | 6  | 2  | 2  | 6  | 4  | 4  | 7* | 3* | 5  | 5  | 5  | 2  | 2  | 1  | -  | -  | -  | -  |    |
| UA9 = 18 |     | 3*  | 2* | 1* | 1  | 6  | 8  | 7  | 2  | 1  | 6  | 6  | 7* | 5* | 4  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | 4* |    |
| UA0 = 19 |     | 5   | 6  | 7  | 6  | 7  | 8  | 8  | 5  | -  | 2* | 8* | 8* | 7* | 6* | 5* | 5* | 5* | 5* | 4* | 1* | -  | 6* | 8* | 6* |    |
| 4X = 20  |     | 9   | 9  | 9  | 5* | 3  | 9  | 8  | 1  | 4  | 7  | 5  | 4  | 3  | 3  | 5  | 6  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| HZ = 21  |     | 9   | 9  | 4  | 2* | 8  | 7  | 1  | 1* | 1  | 6  | 5  | 4  | 4  | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| VU = 22  |     | 3*  | 2* | 8  | 8  | 6  | 3  | 2* | 2* | 2  | 5  | 3  | 3  | 5* | 5* | 3  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 6  |    |
| JT = 23  |     | 2*  | 2* | 6  | 7  | 6  | 8  | 6  | 2  | 2  | 8  | 6  | 8* | 7* | 5* | 5* | 3* | 2* | 1* | 1* | -  | -  | -  | 6* | 4* |    |
| VR2 = 24 |     | 9   | 7  | 7* | 5* | 4* | 5* | 5* | 7* | 2  | 6  | 6  | 9* | 8* | 7* | 6  | 7  | 6  | 8  | 9  | 9  | 9  | 6  | 5* | 6* |    |
| JA1 = 25 |     | 8   | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 6  | 5* | 7* | 8* | 7* | 6* | 5* | 6* | 7* | 8* | 8* | 8* | 6* | 5  | 7  | 9* |    |
| HS = 26  |     | 5   | 8  | 5* | 3* | 3* | 2* | 4* | 5* | 1  | 6  | 6  | 7  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 6  | 5* |    |
| DU = 27  |     | 5*  | 5* | 4* | 4* | 4* | 4* | 5* | 3* | -  | 6  | 8  | 9* | 8  | 7  | 6  | 5  | 6  | 7  | 8  | 7  | 5  | 5* | 8* | 8  |    |
| YB = 28  |     | 7   | 4* | 5* | 4* | 2* | 2* | 2* | 2* | 1  | 6  | 8  | 8  | 7  | 6  | 5  | 4  | 3  | 3* | 4* | 4* | 1* | -  | 2* | 7* |    |
| VK6 = 29 |     | 5   | 2* | 1* | 2* | 1* | 1* | 1* | 1* | -  | 1  | 8  | 7  | 3  | 4* | 2* | 1* | 1* | 2* | 2* | 1* | -  | -  | 5* | 4* |    |
| VK3 = 30 |     | 7   | 5  | 2  | 2* | 2* | 2* | 1* | 1* | -  | 4* | 7  | 5  | 1  | 2* | 1* | 1* | 1* | 1* | 1* | -  | 1  | 6* | 6  | 8  |    |
| KH6 = 31 |     | 8   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 1  | 4* | 5* | 5  | 8  | 1* | -  | -  | 5  | 2  | 4  | 5* | 5  | 6  | 6  | 7  |    |
| KH8 = 32 |     | 8   | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 1  | 3* | 3* | 5  | 6  | 1  | 1* | 1* | -  | 6  | 6  | 5  | 5  | 6  | 7  | 7  |    |
| CN = 33  |     | 9   | 9+ | 9+ | 9  | 8  | 1  | 1* | 3  | 3  | 7  | 9  | 8  | 7  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9  | 9  |    |
| SU = 34  |     | 9   | 9  | 9  | 6  | 5* | 9  | 8  | 1  | 4  | 8  | 5  | 4  | 3  | 3  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9  | 9  | 9  |    |
| 6W = 35  |     | 6   | 7  | 7  | 5  | 1  | -  | -  | -  | -  | 9  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 8  | 6  |    |
| D2 = 36  |     | 8   | 5  | 2  | 1  | 1* | 3* | 3* | 1* | 5  | 7  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |    |
| 5Z = 37  |     | 6   | 4  | -  | 2* | 4* | 3* | 2* | 1* | 6  | 8  | 8  | 7  | 8  | 8  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  |    |
| ZS6 = 38 |     | -   | -  | -  | -  | 2* | 2* | 2* | 1  | 7  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 4  | -  | -  | -  |    |
| FR = 39  |     | -   | -  | 4* | 2* | 3* | 1* | 1* | 1* | 5  | 8  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 6  | 2* | 4* | 4* | 3* | -  | -  |    |
| FJL = 40 |     | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 6* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Sep., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2       | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | -  |
| VO2 = 02 | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 8  | 7  |
| W6 = 03  | 7       | 7  | 9  | 5  | 1  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  |
| W9 = 04  | 5       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 7  |
| W3 = 05  | 4       | 7  | 4  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | 6  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 6  |
| XE1 = 06 | 8       | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | 8  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  |
| TI = 07  | -       | -  | 4  | 6  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | 9  | 5  | 4  | 4  | 2  | 1  | 1  | 1  | 2* | 2* | 1* |
| VP2 = 08 | -       | -  | 1  | 3  | 4  | 2  | -  | -  | -  | -  | -  | 2  | 9  | 9  | 9  | 4  | 1  | 1  | 2  | 3* | 4* | 5* | 3* | 1* |
| P4 = 09  | -       | -  | -  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | 6  | 5  | 4  | 4  | -  | -  | -  | 1* | 2* | 5* | 2* | -  |
| HC = 10  | 7       | 6  | 8  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 1  | -  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  | 8  |
| PY1 = 11 | 4*      | 8  | 7  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 2* | 4* | 6* | 7* | 7* | 6* |
| CE = 12  | 9       | 9  | 9+ | 9  | 9  | 9  | 4  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 2*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 1* | 2* | 5* | 6* | 7* | 6* |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | 1  | -  | 1  | 9  | 8  | 7  | 6  | 5  | 7  | 7  | 8  | 9  | 9  | 8  | 6  | 2  | -  |
| I = 15   | 6       | 5  | 3  | -  | -  | -  | 1  | 1  | 1  | 4  | 8  | 8  | 7  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 7  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | 3  | -  | -  | 1  | 6  | 4  | 4  | 2  | 2  | 2  | 4  | 5  | 3  | -  | 1  | -  | -  | -  |
| UN = 17  | 2*      | 5* | 4* | 6  | 8  | 8  | 4  | -  | 1  | 5  | 6  | 6  | 6* | 4  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 2*      | -  | -  | -  | 1  | 5  | 5  | -  | -  | 1  | 7  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 1       | 1  | 1  | 1  | 1  | 6  | 5  | 1  | -  | -  | 5* | 8* | 7* | 6* | 5* | 4* | 3* | 2* | -  | -  | -  | 2* | 6* | 1* |
| 4X = 20  | 9       | 9  | 7  | 3* | 4* | 7  | 2  | -  | -  | 7  | 7  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 6  | 4* | 3* | 4  | 2* | 2* | -  | -  | 4  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 3*      | 6* | 5  | 6  | 3* | 4* | 2* | -  | -  | 5  | 4  | 5  | 6* | 7* | 5  | 7  | 8  | 8  | 8  | 8  | 9  | 8  | 6  | 1  |
| JT = 23  | 2*      | -  | 2  | 5  | 7  | 7  | 5  | 1  | -  | 2  | 6  | 5  | 7* | 5* | 2* | 1* | -  | -  | -  | -  | -  | -  | 4* | 5* |
| VR2 = 24 | 8*      | 8* | 6* | 7* | 5* | 6* | 7* | 5* | -  | 6  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 8  | 2  | 7* | 7* |
| JA1 = 25 | 8       | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 2  | 4* | 8* | 8* | 8* | 8* | 7* | 7* | 7* | 8* | 7* | 2* | -  | 8  | 8  | 8  |
| HS = 26  | 7*      | 8* | 7* | 6* | 3* | 4* | 5* | 3* | -  | 4  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 9  | 9  | 8  | 7  | 1  | 4* |
| DU = 27  | 1*      | 1* | 2* | 3* | 4* | 3* | 2* | 1* | -  | 1  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 5  | 1  | 2* | 7* | 4* |
| YB = 28  | 1*      | 1* | 4* | 4* | 3* | 2* | 2* | 1* | -  | 2  | 8  | 8  | 7  | 5  | 5* | 4* | 4* | 4* | 4* | 3* | -  | -  | -  | 5* |
| VK6 = 29 | 1       | -  | 1* | 1* | 1* | 1* | 1* | -  | -  | -  | 4  | 8* | 6* | 4* | 3* | 2* | 2* | 1* | 1* | -  | -  | -  | 2* | 3* |
| VK3 = 30 | 2*      | 1* | 1* | 2* | 2* | 1* | 1* | -  | -  | 1* | 7* | 5* | 4* | 3* | 1* | 1* | -  | -  | -  | -  | -  | 5* | 6* | 5  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 7  | -  | 5* | 3* | 1* | 5  | -  | -  | -  | -  | 4  | 7  | 7  | 7  | 7  | 7  | 8  |
| KH8 = 32 | 8       | 8  | 9  | 9  | 8  | 8  | 8  | 4  | -  | 2* | 5* | 4* | 2* | 1* | 1* | -  | -  | 5  | 6  | 6  | 6  | 7  | 8  | 8  |
| CN = 33  | 9+      | 9  | 9  | 8  | 3  | -  | -  | -  | -  | -  | 9  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9       | 9  | 8  | 1  | 4* | 6  | 2  | -  | -  | 7  | 8  | 6  | 5  | 5  | 5  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | -       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 5  | 4  | 3  | 3  | 4  | 5  | 6  | 6  | 5* | 5* | 3* | 1* |
| D2 = 36  | 5       | 1  | -  | -  | -  | 5* | 5* | 1* | -  | 9  | 7  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 7  |
| 5Z = 37  | 2       | -  | -  | 3* | 4* | 6* | 4* | 1* | 1  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  |
| ZS6 = 38 | -       | -  | -  | -  | 2* | 4* | 3* | 1* | 1  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 3  | 1* | -  | -  | -  |
| FR = 39  | -       | -  | 4* | 4* | 3* | 2* | 1* | -  | 1  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 3* | 4* | 4* | 2* | 1* | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Oct., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 3       | 5  | 5  | 5  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 3  | 1  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 2  | 4  | 4  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 2       | 5  | 5  | 5  | 5  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 1  | 2  | 4  | 4  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2       | 3  | 3  | 2  | 2  | 3  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 4       | 5  | 3  | 3  | 2  | 3  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 4       | 5  | 4  | 3  | 3  | 3  | 3  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 5       | 5  | 6  | 5  | 4  | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  |
| G = 14   | 4       | 5  | 4  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 2       | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | 3       | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 4       | 5  | 4  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| SU = 34  | 4       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 5       | 5  | 4  | 3  | 3  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |    |
| D2 = 36  | 6       | 6  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |    |
| 5Z = 37  | 3       | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |    |
| ZS6 = 38 | 5       | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |    |
| FR = 39  | 4       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Oct., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 1  | 1  | 3  | 3  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 6       | 8  | 8  | 8  | 7  | 8  | 7  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W6 = 03  | -       | 1  | 2  | 6  | 4  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 3       | 5  | 7  | 7  | 7  | 8  | 7  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 5       | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | 1       | 3  | 4  | 5  | 7  | 7  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5       | 6  | 6  | 5  | 5  | 6  | 5  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 7       | 8  | 6  | 6  | 5  | 6  | 6  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| P4 = 09  | 7       | 8  | 7  | 6  | 6  | 6  | 6  | 7  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| HC = 10  | 8       | 8  | 9  | 8  | 7  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | -  | -  | -  | 3  | 8  | 9+ | 9+ | 9+ |
| G = 14   | 7       | 8  | 7  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| I = 15   | 5       | 7  | 5  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| UA3 = 16 | 6       | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA9 = 18 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 6  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 5       | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 2  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 7       | 8  | 7  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| SU = 34  | 7       | 6  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 6W = 35  | 8       | 8  | 7  | 6  | 6  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| D2 = 36  | 9       | 9  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| 5Z = 37  | 6       | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| ZS6 = 38 | 8       | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| FR = 39  | 7       | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  |
| FJL = 40 | 3       | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1       | 2  | 3  | 4  | 5  | 6  | 6  | 6  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 7       | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| W6 = 03  | 2       | 5  | 5  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 6       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| W3 = 05  | 7       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| XE1 = 06 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 7  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 3  | 1  | -  | 1  | 3  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 3  | 1  | -  | -  | 1  | 5  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | 2  | 2  | 5  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 7  |
| UA3 = 16 | 7       | 7  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| UN = 17  | 6       | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 6  | 6  |
| UA9 = 18 | 5       | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 7       | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| HZ = 21  | 7       | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 7  |
| VU = 22  | 6       | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |
| JT = 23  | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 1  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  |
| YB = 28  | -       | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 1  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | 2  | 5  | 6  | 7  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | 2  | 5  | 7  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  |
| SU = 34  | 8       | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 7  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  |
| FR = 39  | 9       | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| FJL = 40 | 7       | 7  | 7  | 7  | 7  | 6  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Oct., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|--|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 |  | 3            | 3  | 6  | 7  | 8  | 8  | 7  | 8  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 |  | 8            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  |
| W6 = 03  |  | 6            | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W9 = 04  |  | 8            | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| W3 = 05  |  | 8            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| XE1 = 06 |  | 9            | 8  | 9  | 9  | 8  | 8  | 9  | 8  | 9  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  |
| TI = 07  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  |
| VP2 = 08 |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  |
| P4 = 09  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  |
| HC = 10  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  |
| PY1 = 11 |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 5  | 6  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 3  | 2  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |  | 9            | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  |
| I = 15   |  | 8            | 7  | 7  | 7  | 8  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| UA3 = 16 |  | 8            | 8  | 8  | 8  | 7  | 6  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  |
| UN = 17  |  | 7            | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  | 7  |
| UA9 = 18 |  | 6            | 6  | 5  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 8  |
| UA0 = 19 |  | 1            | -  | -  | -  | -  | -  | 1  | 2  | 2  | 3* | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 2  | 1  |
| 4X = 20  |  | 8            | 8  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| HZ = 21  |  | 8            | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  |
| VU = 22  |  | 7            | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 7  |
| JT = 23  |  | 5            | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 6  |
| VR2 = 24 |  | 2            | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 4  |
| JA1 = 25 |  | -            | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 4* | 3* | -  |
| HS = 26  |  | 6            | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 7  |
| DU = 27  |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5* | 2  |
| YB = 28  |  | 4            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 6  |
| VK6 = 29 |  | 2            | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 4  | 4  |
| VK3 = 30 |  | -            | -  | -  | -  | -  | -  | 2  | 4  | 6  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  |
| KH6 = 31 |  | -            | -  | 2  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 |  | -            | -  | 1  | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  |  | 9            | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 8  | 8  | 8  |
| SU = 34  |  | 8            | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| 6W = 35  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9  |
| D2 = 36  |  | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  | 9  | 9  |
| 5Z = 37  |  | 9            | 9  | 9  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| ZS6 = 38 |  | 9            | 9  | 9  | 9  | 8  | 9  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  |
| FR = 39  |  | 9            | 9  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 9  |
| FJL = 40 |  | 7            | 7  | 8  | 7  | 7  | 7  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |  |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |  | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



20 Meters: Oct., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 2* | 3  | 8  |
| VO2 = 02 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 7  | 3  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 8  |
| W9 = 04  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9  | 9  | 7  | 7  | 8  | 6  | 1  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 9  | 9  |
| W3 = 05  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 9  | 9  | 5  | 1  | -  | -  | -  | -  | 1  | 2  | 7  | 8  | 9  | 9+ |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 6  | 6  | 8  | 4  | 1  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9+ |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | 5  | 2  | -  | -  | -  | 2  | 3  | 6  | 9  | 9  | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9  | 6  | 2  | 1  | -  | 1  | 1  | 4  | 6  | 8  | 9  | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 8  | 4  | 1  | 1  | 1  | 1  | 4  | 6  | 8  | 9  | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 3  | 1  | 1  | 1  | 2  | 5  | 7  | 9  | 9  | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 9  | 9  | 9+ |
| I = 15   | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 9  | 9  | 9  |
| UA3 = 16 | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  |
| UN = 17  | 9       | 9  | 9  | 8  | 7  | 3  | 2  | 1  | 1* | 2* | 2* | 1* | 1* | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 8  | 9  | 9  |
| UA9 = 18 | 6       | 6  | 8  | 8  | 7  | 4  | 3  | 4  | 4  | 3* | 8  | 3* | 1* | -  | -  | -  | -  | -  | 4  | 7  | 8  | 9  | 9  | 8  |
| UA0 = 19 | 5       | 5  | 2  | 1  | 2  | 6  | 8  | 7  | 6  | 6  | 7  | 7  | 2  | -  | -  | -  | -  | -  | 2* | 5* | 6* | 7  | 6  | 6  |
| 4X = 20  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  | 9       | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | 1* | 2* | 2* | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  | 9  | 9  |
| JT = 23  | 8       | 8  | 8  | 3  | 1  | 1  | 1  | 1  | 6* | 6* | 6  | 5* | 2* | 1* | -  | -  | -  | -  | 3  | 7  | 8  | 9  | 9  | 8  |
| VR2 = 24 | 7       | 5  | 4  | -  | -  | -  | -  | 2* | 5* | 8  | 8  | 5* | 3* | 1* | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 8  | 8  |
| JA1 = 25 | 4*      | 1* | 1  | -  | 2  | 5  | 7  | 8  | 8  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | 4* | 7* | 8* | 8  | 8  | 7* |
| HS = 26  | 9       | 8  | 7  | 4  | -  | -  | -  | -  | 1* | 4* | 8  | 3* | 1* | -  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  |
| DU = 27  | 5       | 3  | -  | -  | -  | -  | -  | 1  | 4* | 7  | 6  | 6* | 2  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 8  | 7  |
| YB = 28  | 8       | 7  | 5  | 1  | -  | -  | -  | -  | 1* | 3* | 8  | 3* | 1  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 9  | 9  |
| VK6 = 29 | 8       | 6  | 4  | 3  | 2  | 1  | 1  | 2  | 5  | 6  | 6  | 5  | 4  | 3  | 1  | 1  | 1  | 2  | 5  | 6  | 7  | 7  | 8  | 8  |
| VK3 = 30 | 3       | 2  | 2  | 2  | 5  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | 1  | 1  | 1  | 3  | 5  | 6  | 5  | 7  | 4  |
| KH6 = 31 | 2       | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 9  | 9  | 9+ | 9+ |
| SU = 34  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 8  | 5  | 2  | -  | -  | -  | 1  | 3  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 9  | 6  | 4  | 1  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| ZS6 = 38 | 9+      | 9  | 8  | 7  | 9  | 9  | 9  | 9  | 7  | 4  | 1  | 1  | 1  | 1  | 1  | 2  | 4  | 6  | 9  | 9  | 9  | 9+ | 9  | 9  |
| FR = 39  | 9       | 9  | 9  | 9  | 9  | 9  | 7  | 3  | -  | -  | -  | -  | 1  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| FJL = 40 | 9       | 9  | 8  | 6  | 4  | 2  | 7  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 9  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Oct., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 9   | 9  | 9  | 9  | 6  | 2  | 2* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 8  | 4  | 6  | 8  | 9  |    |
| VO2 = 02 | 9+  | 9   | 9  | 9  | 9  | 9  | 9  | 8  | 3  | 6  | 9  | 9  | 8  | 4  | 1  | 1  | 1  | 2  | 6  | 7  | 9  | 9  | 9  | 9+ | 9+ |    |
| W6 = 03  | 9   | 9   | 9  | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 3  | -  | 8  | 3  | 1  | 1  | -  | 1  | 1  | 3  | 6  | 8  | 9  |    |
| W9 = 04  | 9+  | 9+  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | -  | 1  | 8  | 8  | 6  | 2  | 1  | 1  | 1  | 4  | 4  | 8  | 9  | 9  | 9  | 9+ |    |
| W3 = 05  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 2  | 9  | 9  | 8  | 6  | 2  | 1  | 1  | 2  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ |    |
| XE1 = 06 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 1* | -  | 8  | 8  | 5  | 6  | 3  | 3  | 4  | 5  | 8  | 9  | 9  | 9+ | 9+ |    |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 1  | 5  | 9+ | 9  | 8  | 6  | 5  | 4  | 4  | 6  | 7  | 9  | 9  | 9  | 9+ | 9+ |    |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 1  | 1  | 9+ | 9+ | 9  | 8  | 5  | 4  | 4  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 2  | 9+ | 9+ | 9  | 8  | 7  | 6  | 6  | 7  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 9  | 9+ | 9  | 9  | 8  | 6  | 6  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 4* | 4* | 2* | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| G = 14   | 9   | 9   | 9  | 9  | 8  | 2  | 5  | 9  | 9  | 9  | 7  | 5  | 4  | -  | 1  | 1  | 2  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9  | 9  |    |
| I = 15   | 9+  | 9+  | 9+ | 9+ | 8  | 5  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | 2  | -  | 1  | -  | 1  | 4  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |
| UA3 = 16 | 9   | 8   | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 8  | 7  | 5  | 6  | 1  | 1* | -  | -  | 2  | 5  | 7  | 8  | 8  | 9  | 9  | 9  |    |
| UN = 17  | 6   | 7   | 9  | 9  | 8  | 8  | 6  | 3  | 4* | 4* | 8  | 6  | 4* | 2* | 1* | -  | 1  | 5  | 6  | 5  | 6  | 8  | 8  | 7  | 7  |    |
| UA9 = 18 | 1*  | 1*  | 5  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 7* | 5* | 4* | 3* | 1* | -  | 1  | 3  | 6  | 6  | 6  | 5  | 2* | 1  | 1  |    |
| UA0 = 19 | 8   | 7   | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 8  | 7* | 6* | 4* | 1* | 1* | 1* | 2* | 6* | 6* | 6* | 8* | 9  | 8  | 8  |    |
| 4X = 20  | 9+  | 9+  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | 1  | 1  | -  | 1  | 2  | 3  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ |    |
| HZ = 21  | 9+  | 9+  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 1  | 1  | 1* | 1  | -  | -  | -  | 4  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| VU = 22  | 6   | 4   | 9  | 9  | 8  | 6  | 3  | 1  | 2* | 2* | 6* | 6  | 4* | 1* | 1* | 1  | 2  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| JT = 23  | 6   | 8   | 8  | 8  | 8  | 5  | 5  | 6  | 7* | 8* | 8* | 7* | 5* | 5* | 1* | 1* | -  | 1* | 4  | 5  | 5  | 3  | 1  | 5  | 5  |    |
| VR2 = 24 | 9   | 8   | 8  | 6  | 2  | 1* | 2  | 5* | 7  | 9* | 8* | 7* | 6* | 3* | 3* | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| JA1 = 25 | 8*  | 5   | 5  | 5  | 8  | 8  | 8  | 9  | 9  | 9+ | 9  | 7  | 2* | 1* | 1* | 1* | 1* | 2* | 5* | 8* | 8  | 7* | 6  | 9* | 9* |    |
| HS = 26  | 9   | 9   | 9  | 8  | 5  | 1  | -  | 1* | 5* | 6  | 7* | 6  | 4* | 2  | 2  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  |    |
| DU = 27  | 8   | 8   | 5  | 1  | -  | 1* | 2  | 5  | 7* | 8* | 7  | 6  | 7  | 4  | 2  | 1  | 1  | 3  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| YB = 28  | 9   | 9   | 8  | 5  | 2  | 1  | 1  | 1  | 5* | 6  | 6  | 6* | 6  | 3  | 2  | 2  | 4  | 5  | 7  | 8  | 8  | 8  | 8  | 9  | 9  |    |
| VK6 = 29 | 8   | 9   | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 4  | 3  | 4  | 4  | 4  | 4  | 6  | 6  | 8  | 8  | 8  |    |
| VK3 = 30 | 8   | 8   | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 4  | 2  | 1  | 2  | 5  | 7  | 8  | 8  | 8  | 8  |    |
| KH6 = 31 | 6   | 8   | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | -  | -  | -  | -  | 1  | 1* | 2  | 1* | 1  | 1  | 3  |    |
| KH8 = 32 | 4   | 6   | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 3  | 2  | 1  | 9  | 2* | 1  | 2  | 2  |    |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9+ | 4  | 5* | 9  | 9  | 9  | 8  | 6  | 3  | 1  | 1  | 1  | 1  | 2  | 5  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| SU = 34  | 9+  | 9+  | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 1  | 1  | 1  | 1  | 1  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ |    |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 3  | 5  | 9+ | 9+ | 9  | 9  | 7  | 5  | 4  | 4  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| D2 = 36  | 9+  | 9+  | 9+ | 9+ | 8  | 8  | 9+ | 9  | 9  | 9  | 8  | 5  | 4  | 4  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| 5Z = 37  | 9+  | 9+  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 2  | 1  | 1  | 3  | 2  | 4  | 6  | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| ZS6 = 38 | 8   | 6   | 4  | -  | 4  | 9  | 9  | 9  | 9  | 8  | 6  | 6  | 6  | 5  | 6  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  |    |
| FR = 39  | 2   | 1*  | 1  | 9  | 9  | 9  | 8  | 7  | 5  | 3  | 3  | 3  | 4  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 6  |    |
| FJL = 40 | 3   | 5   | 2  | 1* | 1* | 1* | 2* | 4* | 8  | 8  | 8  | 7  | 4  | 1* | -  | -  | 1  | 2  | 5  | 8  | 8  | 8  | 6  | 5  | 5  |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Oct., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 9  | 6  | 1  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 5  | 6  | 8  | 8  | 9  | 9  |
| VO2 = 02 | 8       | 6  | 5  | 7  | 8  | 8  | 7  | 1  | -  | -  | 7  | 9  | 8  | 6  | 4  | 2  | 5  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| W6 = 03  | 9       | 9+ | 9  | 9  | 9  | 8  | 8  | 7  | 8  | 6  | 3  | -  | -  | 7  | 5  | 3  | 2  | 1  | 7  | 7  | 5  | 7  | 9  | 9  |
| W9 = 04  | 9+      | 9+ | 8  | 5  | 4  | 5  | 4  | 2  | -  | -  | -  | -  | 9  | 8  | 5  | 4  | 3  | 4  | 6  | 7  | 8  | 9  | 9  | 9+ |
| W3 = 05  | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 7  | -  | -  | 5  | 9  | 9  | 7  | 6  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 1  | -  | -  | 9  | 8  | 7  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9+ | 9+ |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | -  | -  | 9+ | 9+ | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 8       | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | -  | -  | 7  | 9+ | 9  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 7       | 6  | 8  | 9+ | 9+ | 9+ | 9+ | 9  | 3  | -  | 5  | 9+ | 9+ | 9  | 9  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 5* | 4* | 2  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5* | 6* | 3* | 1* | 1  | 2  | 5  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 5       | 3  | 6  | 7  | 3  | -  | 6* | 9  | 9  | 9  | 8  | 7  | 4  | 8  | 2  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 8  |
| I = 15   | 9       | 9  | 9  | 9  | 2  | 5* | 8  | 9  | 9  | 8  | 6  | 4  | 5  | 9  | 1  | 2  | 3  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| UA3 = 16 | 6       | 5  | 4  | 3* | 2  | 4  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | 7  | 1  | 2  | 4  | 6  | 8  | 8  | 5  | 5  | 4  | 4  |
| UN = 17  | -       | 1  | 7  | 9  | 9  | 8  | 6  | 5  | 3  | 4* | 6* | 5* | 5* | 2* | 2* | 1  | 5  | 3  | 2  | 1  | 1  | 2  | 1  | 1  |
| UA9 = 18 | 1*      | 1* | 1* | 7  | 8  | 8  | 8  | 7  | 6  | 7  | 7* | 6* | 5* | 5  | 2  | 1  | 3  | 2  | -  | -  | -  | -  | 2* | 1* |
| UA0 = 19 | 8       | 8  | 8  | 6  | 7  | 7  | 8  | 9  | 8  | 9  | 8* | 8* | 7* | 5* | 4* | 4* | 4* | 5* | 5* | 3* | 1* | 5* | 8  | 9  |
| 4X = 20  | 9+      | 9+ | 9+ | 8  | 8  | 9  | 9  | 8  | 7  | 6  | 3  | 4  | 5  | 1  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| HZ = 21  | 9+      | 9  | 8  | 7  | 9  | 9  | 8  | 7  | 6  | 3  | 2  | 5  | 4  | 1  | 2  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| VU = 22  | -       | 1* | 8  | 8  | 8  | 7  | 7  | 5  | 3  | 4* | 5* | 6* | 5* | 3* | 2  | 2  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  | 1       | 6  | 8  | 8  | 7  | 6  | 5  | 6  | 7* | 7* | 8* | 7* | 6* | 5* | 4* | 1* | 1* | 1* | 2* | -  | -  | -  | 3* | 1* |
| VR2 = 24 | 9       | 9  | 8  | 7  | 5  | 4  | 4* | 6* | 8* | 8* | 9* | 8* | 7* | 6* | 5  | 5  | 5  | 7  | 7  | 8  | 9  | 9  | 8  | 9  |
| JA1 = 25 | 8*      | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 7  | 5* | 5* | 5* | 5* | 5* | 6* | 8* | 8* | 8* | 6  | 5  | 8* | 9* |
| HS = 26  | 9       | 9  | 9  | 8  | 6  | 5  | 2  | 4  | 5  | 6* | 7* | 7* | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9+ | 9  | 8  |
| DU = 27  | 8       | 8  | 6  | 4  | 2* | 3* | 4  | 6* | 7  | 8  | 8  | 8  | 7  | 6  | 5  | 5  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  |
| YB = 28  | 9       | 9  | 8  | 7  | 3  | 2  | 2  | 5  | 6  | 6  | 8* | 7  | 6  | 5  | 5  | 5  | 6  | 6  | 6  | 7  | 7  | 6  | 6  | 8  |
| VK6 = 29 | 8       | 9  | 9  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 3  | 2  | 2  | 2  | 1  | 2* | 4* | 5* | 5* | 6* | 7  |
| VK3 = 30 | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 3  | 1  | 1  | 1* | 2* | 4* | 6  | 8  | 8  | 9  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | -  | -  | -  | 1  | 2  | 6  | 5  | 5  | 1  | 3  | 5  |
| KH8 = 32 | 6       | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 5  | 4  | 5  | 4  | 4  | 2  | 4  | 5  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 8  | -  | 5* | 7  | 9  | 9  | 9  | 8  | 5  | 4  | 3  | 4  | 5  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 6  | 3  | 2  | 6  | 1  | 1  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 6  | -  | 4* | 9  | 9+ | 9+ | 9  | 8  | 7  | 7  | 7  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9  | 9  | 8  | 5  | 4  | 9  | 9+ | 9  | 9  | 9  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9       | 9  | 9  | 8  | 9  | 9  | 9  | 8  | 8  | 6  | 5  | 4  | 7  | 3  | 3  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| ZS6 = 38 | 5       | -  | -  | 2* | 2* | 7  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 7  |
| FR = 39  | 1*      | 2* | 2* | 5  | 9  | 8  | 8  | 8  | 7  | 5  | 5  | 6  | 6  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 6  | 2* | 2* |
| FJL = 40 | 2*      | 3* | 2* | 1* | 1* | 1* | 3* | 4* | 5* | 6* | 8  | 8  | 6  | 3  | 1  | 1  | 2  | 4  | 6  | 8  | 5  | 2  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Oct., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |         | 9  | 9  | 8  | 5  | 1  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  | 8  | 8  | 8  | 9  |
| VO2 = 02 |         | 4  | -  | -  | 1  | 3  | 3  | 1  | -  | -  | -  | -  | 9  | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| W6 = 03  |         | 9  | 9+ | 9+ | 9  | 5  | 2  | 2  | 1  | 1  | 1  | -  | -  | -  | -  | 6  | 7  | 6  | 6  | 5  | 6  | 7  | 8  | 9  | 9  |
| W9 = 04  |         | 9  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 8  | 7  | 7  | 8  | 7  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  |         | 9+ | 9  | 7  | 5  | 7  | 7  | 6  | 1  | -  | -  | -  | 4  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9  |
| XE1 = 06 |         | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 3  | -  | -  | -  | 2  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| TI = 07  |         | 7  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | -  | -  | -  | 5  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 8  |
| VP2 = 08 |         | 4  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ | 3  | -  | -  | -  | 9+ | 9+ | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 8  | 6* |
| P4 = 09  |         | 5* | 3  | 8  | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 7  | 6* |
| HC = 10  |         | 9+ | 9+ | 2* | 8  | 9+ | 9+ | 8  | 5  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 6  | 3  | 2  | 2  | 4  | 5  | 4  | 5* | 9+ |
| PY1 = 11 |         | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1* | 5* | 2* | 2* | 2* | -  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |         | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5* | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |         | 8  | 8  | 9+ | 9+ | 9  | 9  | 3* | 5* | 1* | -  | 1* | 2* | 1* | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 9  | 9+ | 9  |
| G = 14   |         | -  | -  | -  | -  | -  | -  | 2* | 5  | 8  | 9  | 8  | 8  | 6  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 8  | 7  | 3  |
| I = 15   |         | 9  | 8  | 8  | 4  | -  | 5* | 4* | 9  | 8  | 9  | 7  | 6  | 6  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 |         | 1  | -  | -  | 4* | 5* | 4* | 7  | 8  | 7  | 8  | 8  | 7  | 5  | 4  | 4  | 5  | 6  | 8  | 8  | 1  | -  | -  | -  | -  |
| UN = 17  |         | 3* | 2* | 2  | 8  | 8  | 8  | 7  | 6  | 5  | 5  | 5* | 7* | 5* | 4* | 4  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 |         | 2* | 2* | 2* | 2* | 8  | 8  | 8  | 7  | 8  | 8  | 7  | 8  | 7* | 4  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | 5* |
| UA0 = 19 |         | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 6  | 8* | 8* | 8* | 7* | 6* | 4* | 3* | 2* | 1* | 1* | -  | -  | -  | 8* | 9  |
| 4X = 20  |         | 9  | 9  | 9  | 5* | 4* | 9  | 9  | 8  | 8  | 6  | 6  | 4  | 4  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  |         | 9  | 9  | 4* | 2* | 9  | 9  | 8  | 7  | 6  | 5  | 5  | 4  | 4  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  |         | 1* | 2* | 4* | 9  | 8  | 8  | 6  | 5  | 5  | 3  | 3  | 6* | 6* | 4  | 5  | 5  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 5  |
| JT = 23  |         | 3* | 2* | 7  | 8  | 7  | 7  | 5  | 6  | 7  | 7  | 8* | 9* | 7* | 5  | 2* | -  | -  | -  | -  | -  | -  | -  | 4* | 2* |
| VR2 = 24 |         | 9  | 9  | 8  | 6  | 5* | 4* | 5* | 8* | 8* | 6  | 7* | 9* | 8* | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 9  | 8  | 6* | 7  |
| JA1 = 25 |         | 9* | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7* | 7* | 7* | 6* | 6* | 6* | 7* | 8* | 7* | 5* | 6  | 7  | 8  | 9* |
| HS = 26  |         | 7  | 9  | 9  | 7  | 5  | 3  | 4  | 5  | 5  | 6  | 6  | 7* | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 5* |
| DU = 27  |         | 8  | 7  | 5  | 5* | 5* | 3* | 5* | 6* | 6  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 6  | 8  | 8  | 8  | 8  | 7  | 8  | 9  |
| YB = 28  |         | 9  | 8  | 7  | 5* | 3* | 1  | 4* | 5  | 6  | 7  | 8  | 8  | 7  | 6  | 5  | 5  | 5  | 4  | 2  | 5* | 2  | 1  | 4* | 8* |
| VK6 = 29 |         | 6  | 8  | 8  | 8  | 6  | 5  | 2* | 7  | 8  | 8  | 8  | 7  | 4  | 4* | 3* | 2* | 2* | 3* | 3* | 3* | 3* | 4* | 6* | 6  |
| VK3 = 30 |         | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 7  | 4  | 2* | 2* | 1* | 1* | 1* | 2* | 2* | 5* | 7  | 8  | 8  |
| KH6 = 31 |         | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 4* | 4* | 9  | 5  | -  | -  | -  | 5  | 6  | 4  | 6* | 5* | 5  | 5  | 7  |
| KH8 = 32 |         | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 8  | 9  | 8  | 6  | 2  | 3  | 7  | 6  | 5  | 5  | 5  | 6  | 6  | 6  |
| CN = 33  |         | 9+ | 9+ | 9+ | 9  | 4  | -  | 1* | 5* | 8  | 9  | 9  | 8  | 7  | 6  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  |         | 9  | 9  | 9  | 8  | 5  | 9  | 9  | 8  | 8  | 7  | 5  | 4  | 4  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  |         | 9+ | 9+ | 9+ | 9+ | 8  | -  | -  | 6* | 5  | 9+ | 9+ | 9  | 9  | 8  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  |
| D2 = 36  |         | 9  | 7  | 6  | 3  | 1  | 4* | 5  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  |         | 9  | 8  | 6  | 5* | 6  | 9  | 9  | 8  | 8  | 8  | 7  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  |
| ZS6 = 38 |         | -  | -  | -  | 3* | 3* | 3* | 9  | 9  | 8  | 9  | 8  | 9  | 9  | 8  | 9  | 8  | 9  | 9  | 9  | 5  | 5* | 1* | 1  | 1  |
| FR = 39  |         | 1* | 3* | 4* | 4* | 7  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 8  | 6  | 5* | 5* | 4* | 2* |
| FJL = 40 |         | -  | 1* | 4* | 3* | 3* | 3* | 5* | 5* | 4* | 6* | 8* | 6  | 6  | 5  | 5  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  |
| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Oct., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone         | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
|--------------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| KL7 = 01     | 8   | 8   | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 8  | 8  | 8  | 8  | 9  |  |
| VO2 = 02     | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 5  |  |
| W6 = 03      | 8   | 9+  | 9  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 8  |  |
| W9 = 04      | 9   | 4   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |  |
| W3 = 05      | 9   | 7   | 2  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |  |
| XE1 = 06     | 8   | 8   | 9  | 9+ | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |  |
| TI = 07      | 3*  | 2*  | 6  | 9  | 9+ | 9+ | 9  | 9  | 3  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 9  | 6  | 6  | 9  | 9  | 9  | 7  | 6  | 4* |  |
| VP2 = 08     | -   | -   | 7  | 9  | 9+ | 9+ | 8  | -  | -  | -  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 5  | 5  | 6  | 9  | 9  | 8  | 5* | 6* | 5* |  |
| P4 = 09      | 5*  | -   | 5  | 8  | 9+ | 9+ | 8  | 2  | -  | -  | -  | -  | -  | 9+ | 9+ | 9  | 5  | 2  | 1  | 2  | 4  | 5  | 5  | 5* | 5* | 5* |  |
| HC = 10      | 9   | 9   | 9  | 4  | 6  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 2  | -  | -  | 9  | 9  | 9  | 1* | 9+ | 9+ | 9+ |  |
| PY1 = 11     | 9   | 9+  | 9+ | 9+ | 9+ | 8  | 2  | -  | 1* | -  | 1* | 3* | 1* | -  | -  | -  | 1  | 6  | 8  | 8  | 8  | 9  | 9+ | 9  | 9  | 9  |  |
| CE = 12      | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 1* | -  | -  | -  | 1  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| LU = 13      | 5*  | 4*  | 8  | 8  | 6  | 5  | -  | 4* | -  | -  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | 2* | 4* | 6* | 7* | 7* |  |
| G = 14       | -   | -   | -  | -  | -  | -  | -  | 2* | 7  | 8  | 9  | 8  | 9  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 8  | 5  | 1  | -  |  |
| I = 15       | 6   | 4   | 2  | -  | -  | 1* | 4* | 8  | 7  | 9  | 9  | 9  | 8  | 7  | 6  | 6  | 7  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |  |
| UA3 = 16     | -   | -   | -  | 1* | 2* | 2* | 5  | 7  | 5  | 7  | 8  | 7  | 6  | 6  | 5  | 5  | 7  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  |  |
| UN = 17      | 3*  | 2*  | 4* | 6  | 8  | 8  | 7  | 5  | 5  | 8  | 7  | 7  | 6  | 6  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| UA9 = 18     | 5*  | 3*  | 2* | 3* | 5  | 8  | 8  | 5  | 5  | 7  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |  |
| UA0 = 19     | 8   | 8   | 8  | 9  | 9  | 9  | 9  | 7  | 2  | 6* | 8* | 8* | 7* | 5* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 6* | 7* |  |
| 4X = 20      | 9   | 9   | 8  | 4* | 7* | 8  | 9  | 6  | 7  | 8  | 6  | 6  | 6  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |  |
| HZ = 21      | 9   | 7   | 4* | 3* | 7  | 9  | 7  | 3  | 5  | 7  | 6  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |  |
| VU = 22      | 3*  | 2*  | 5* | 8  | 9  | 7  | 5  | 4  | 5  | 5  | 5  | 5  | 5  | 5  | 7* | 5  | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 7  | -  |  |
| JT = 23      | 4*  | 3*  | 4  | 7  | 8  | 7  | 7  | 6  | 5  | 6  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6* |  |
| VR2 = 24     | 9   | 8   | 7  | 7* | 7* | 5* | 7* | 8* | 6  | 8  | 8  | 9* | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 4  | 6* | 7* |  |
| JA1 = 25     | 8   | 8   | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7* | 8* | 8* | 8* | 7* | 7* | 7* | 7* | 7* | 5* | 1* | 4  | 8  | 8  | 8  | 9* |    |  |
| HS = 26      | 8*  | 9   | 8  | 5  | 5* | 3* | 4* | 5* | 4  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 5  | 2* |    |  |
| DU = 27      | 7   | 5   | 5* | 5* | 6* | 5* | 5* | 5* | 4  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 3  | 7* | 9  |    |  |
| YB = 28      | 8   | 6   | 5* | 5* | 5* | 4* | 5* | 4* | 5  | 7  | 8  | 8  | 7  | 6  | 5* | 4* | 4* | 4* | 5* | 5* | -  | -  | 1* | 7* | 7* |    |  |
| VK6 = 29     | 4*  | 6   | 7  | 3  | 2* | 2* | 3* | 5  | 6  | 7  | 7  | 6  | 7* | 5* | 4* | 2* | 3* | 3* | 2* | 2* | 1* | 2* | 6* | 6* | 5* |    |  |
| VK3 = 30     | 7   | 7   | 7  | 7  | 3* | 4* | 4  | 4  | 3  | 5  | 8* | 6* | 5* | 3* | 2* | 1* | 1* | 1* | 1* | 1* | 3* | 6* | 7  | 7  | 7  |    |  |
| KH6 = 31     | 8   | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 3* | 1* | 8  | 1  | -  | -  | -  | -  | 7  | 6  | 5  | 6* | 5* | 6  | 8  | 8  |    |  |
| KH8 = 32     | 8   | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 5* | 6* | 8  | 5  | 3* | 2* | 1* | 5  | 7  | 6  | 6  | 6  | 6  | 7  | 7  | 7  |    |  |
| CN = 33      | 9   | 9   | 9  | 8  | -  | -  | -  | 2* | 5  | 7  | 9  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ |  |
| SU = 34      | 9   | 9   | 9  | 3  | 7* | 8  | 9  | 6  | 7  | 8  | 6  | 6  | 6  | 6  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |  |
| 6W = 35      | 7   | 7   | 7  | 6  | 1  | -  | -  | 4* | -  | 9  | 9+ | 9  | 9  | 9  | 5  | 5  | 6  | 9  | 9  | 9  | 9  | 9+ | 7  | 6  | 5  | 5  |  |
| D2 = 36      | 7   | 5   | 2  | 1  | -  | 5* | 5* | 5* | 8  | 7  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  |  |
| 5Z = 37      | 7   | 5   | 2  | 5* | 5* | 8  | 5  | 5  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 8  |  |
| ZS6 = 38     | -   | -   | -  | -  | 4* | 4* | 5  | 6  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 6  | 5* | 4* | -  | -  | -  |  |
| FR = 39      | -   | 1*  | 5* | 5* | 4* | 2* | 2  | 5  | 8  | 7  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 5  | 5* | 5* | 5* | 3* | -  | -  |  |
| FJL = 40     | -   | -   | 1* | 2* | -  | -  | 1* | 1* | -  | 2* | 6* | 1* | 4  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| Zone         | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
| * = Longpath |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Nov., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | -  | -  | -  | -  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4  | 5  | 5  | 5  | 4  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -  | -  | 2  | -  | 3  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -  | -  | 4  | 4  | 4  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -  | 4  | 5  | 5  | 5  | 5  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -  | 4  | 2  | 2  | 4  | 5  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2  | 2  | 3  | 3  | 3  | 4  | 3  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 4  | 4  | 4  | 3  | 3  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 4  | 4  | 4  | 4  | 3  | 4  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 4  | 6  | 6  | 6  | 5  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| PY1 = 11 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  |
| CE = 12  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 9  |
| LU = 13  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  |
| G = 14   | 4  | 5  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | -  | 5  | 2  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | -  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 5  | 5  | 6  |
| UA9 = 18 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 3  | 4  | 2  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| SU = 34  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 6  | 5  | 4  | 3  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  |
| D2 = 36  | 4  | 5  | 4  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  |
| 5Z = 37  | 3  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| ZS6 = 38 | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  |
| FR = 39  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Nov., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | 1  | 1  | 3  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 7       | 8  | 8  | 8  | 7  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 = 03  | -       | 2  | 5  | 1  | 6  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 3       | 2  | 7  | 7  | 7  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 3       | 7  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | 1       | 7  | 5  | 5  | 7  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5       | 5  | 6  | 6  | 6  | 7  | 6  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 7       | 7  | 7  | 6  | 6  | 7  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| P4 = 09  | 7       | 7  | 7  | 7  | 6  | 7  | 7  | 8  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| HC = 10  | 7       | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  | 9+ | 9+ |
| G = 14   | 7       | 8  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| I = 15   | 3       | 8  | 5  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | 2       | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | 4       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 8  | 8  | 9  |
| UA9 = 18 | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 4       | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | 5       | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 2  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 6       | 7  | 5  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| SU = 34  | 3       | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 9       | 8  | 7  | 6  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| D2 = 36  | 7       | 8  | 7  | 7  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| 5Z = 37  | 6       | 8  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| ZS6 = 38 | 8       | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| FR = 39  | 7       | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| FJL = 40 | 2       | 3  | 2  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1       | 3  | 3  | 5  | 6  | 7  | 6  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8       | 9  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  |
| W6 = 03  | 2       | 4  | 6  | 7  | 7  | 8  | 8  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| W3 = 05  | 8       | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| XE1 = 06 | 7       | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| TI = 07  | 8       | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 8  | 9  | 7  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 3  | -  | -  | -  | 2  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 2  | -  | -  | -  | -  | -  | 3  | 7  | 9  | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 4  | 2  | 2  | 4  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  |
| I = 15   | 7       | 6  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  |
| UA3 = 16 | 7       | 8  | 7  | 7  | 7  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| UN = 17  | 5       | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  |
| UA9 = 18 | 7       | 6  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 4X = 20  | 8       | 7  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  |
| HZ = 21  | 7       | 7  | 7  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 6  |
| VU = 22  | 6       | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  |
| JT = 23  | 6       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  |
| HS = 26  | 4       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | 1  | 5  | 7  | 7  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | 2  | 4  | 7  | 7  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 8  | 8  |
| SU = 34  | 7       | 7  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  | 8  |
| FR = 39  | 8       | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  |
| FJL = 40 | 6       | 7  | 7  | 7  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC -->  |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|--|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 |  | 2            | 6  | 5  | 7  | 7  | 8  | 7  | 7  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 |  | 8            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  |
| W6 = 03  |  | 6            | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| W9 = 04  |  | 8            | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  |
| W3 = 05  |  | 8            | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  |
| XE1 = 06 |  | 8            | 9  | 9  | 8  | 8  | 9  | 8  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  |
| TI = 07  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| VP2 = 08 |  | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 9  |
| P4 = 09  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |
| HC = 10  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| PY1 = 11 |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 5  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 3  | 2  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |  | 8            | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 8  |
| I = 15   |  | 7            | 7  | 7  | 8  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 7  | 7  |
| UA3 = 16 |  | 8            | 8  | 8  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  |
| UN = 17  |  | 7            | 7  | 5  | 6  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 7  |
| UA9 = 18 |  | 8            | 6  | 5  | 5  | 1  | 1  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  |
| UA0 = 19 |  | 2            | 1  | -  | -  | -  | 1  | 1  | 5  | 4* | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4* | 2  |
| 4X = 20  |  | 8            | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| HZ = 21  |  | 8            | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 8  |
| VU = 22  |  | 7            | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 6  | 7  |
| JT = 23  |  | 7            | 4  | 2  | 1  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 7  |
| VR2 = 24 |  | 2            | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 4  |
| JA1 = 25 |  | -            | -  | -  | -  | -  | -  | 2  | 5  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 4* | 4* | 2* |
| HS = 26  |  | 6            | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  | 7  |
| DU = 27  |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4* | 1  |
| YB = 28  |  | 3            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  | 5  |
| VK6 = 29 |  | 1            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 2  |
| VK3 = 30 |  | -            | -  | -  | -  | -  | -  | -  | 2  | 3  | 6  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 |  | -            | 1  | 3  | 5  | 7  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 |  | -            | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  |  | 8            | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 8  | 8  | 8  |
| SU = 34  |  | 8            | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  |
| 6W = 35  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 9  | 9  |
| D2 = 36  |  | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  |
| 5Z = 37  |  | 8            | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 8  | 8  | 8  |
| ZS6 = 38 |  | 9            | 9  | 9  | 9  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  |
| FR = 39  |  | 8            | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  |
| FJL = 40 |  | 7            | 7  | 8  | 8  | 8  | 7  | 6  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  |
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |  |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |  | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



20 Meters: Nov., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 9  | 9  | 7  | 4  | 4  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1* | 4  | 5  | 6  | 8  |
| VO2 = 02 | 9       | 9+ | 9  | 9  | 9+ | 9  | 9  | 9  | 8  | 8  | 9  | 7  | 3  | 1  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  |
| W9 = 04  | 9+      | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  | 9  |
| W3 = 05  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | 1  | 2  | 7  | 8  | 9  | 9  |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 9  | 5  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 6  | 4  | 1  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 7  | 2  | 1  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 3  | 1  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 5  | 3  | 1  | 1  | 1  | 2  | 4  | 7  | 8  | 9  | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 9  | 9  | 9  | 9  | 7  | 7  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 5  | 6  | 8  | 9  | 9  | 9  |
| I = 15   | 9+      | 9+ | 9+ | 9+ | 9  | 8  | 9  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  | 9  | 9  |
| UA3 = 16 | 9       | 9  | 9  | 6  | 4  | 7  | 8  | 8  | 7  | 5  | 2* | 1* | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 9  | 9  |
| UN = 17  | 9       | 9  | 8  | 8  | 8  | 4  | 4  | 1  | 1* | 2* | 3* | 3* | 1* | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  | 9  | 9  |
| UA9 = 18 | 4       | 4  | 6  | 8  | 8  | 8  | 7  | 6  | 5  | 4  | 6  | 4* | 2* | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 8  | 7  |
| UA0 = 19 | 7       | 5  | 5  | 4  | 5  | 6  | 7  | 7  | 7  | 8  | 7  | 4* | 1* | -  | -  | -  | -  | -  | -  | 4* | 5  | 7  | 7  | 7  |
| 4X = 20  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  | 9  |
| VU = 22  | 8       | 6  | 9  | 8  | 6  | 3  | 1  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  |
| JT = 23  | 5       | 8  | 8  | 7  | 2  | 4  | 3  | 2  | 5* | 6* | 6  | 5* | 1* | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  | 5  | 5  |
| VR2 = 24 | 8       | 8  | 4  | -  | -  | -  | 1* | 3* | 5* | 8  | 6* | 4* | 2* | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 7  | 9  | 8  |
| JA1 = 25 | 5*      | 2  | 2  | 4  | 4  | 6  | 8  | 8  | 8  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | 2* | 6* | 7* | 8  | 9* | 8* |
| HS = 26  | 9       | 8  | 7  | 5  | -  | -  | -  | -  | 1* | 3* | 4* | 3* | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 9  | 9  | 9  |
| DU = 27  | 6       | 4  | -  | -  | -  | -  | -  | 2* | 4* | 7  | 8  | 3* | 1  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 8  | 7  |
| YB = 28  | 8       | 7  | 3  | -  | -  | -  | -  | -  | 1* | 2* | 8  | 5* | 1* | -  | -  | -  | 1  | 1  | 4  | 7  | 8  | 8  | 9  | 9  |
| VK6 = 29 | 8       | 5  | 3  | 1  | -  | -  | 1  | 1  | 2  | 4  | 8  | 4  | 2  | 1  | 1  | -  | 1  | 1  | 2  | 5  | 6  | 7  | 7  | 8  |
| VK3 = 30 | 2       | 1  | 1  | 1  | 2  | 4  | 5  | 7  | 8  | 8  | 8  | 8  | 6  | 4  | 2  | 1  | 1  | 1  | 1  | 2  | 5  | 5  | 4  | 2  |
| KH6 = 31 | 2       | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | 1  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 9  | 9  | 9+ | 9+ |
| SU = 34  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | 1  | 3  | 6  | 9  | 9  | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 5  | 1  | 1  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+      | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | 2  | 1  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9+ |
| ZS6 = 38 | 9+      | 9+ | 9  | 9  | 9+ | 9  | 9  | 8  | 6  | 4  | 2  | 1  | 1  | 1  | 1  | 1  | 3  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| FR = 39  | 9       | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 1  | -  | -  | -  | 1  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| FJL = 40 | 9       | 9  | 9  | 8  | 8  | 4  | 2* | 2* | 7  | 8  | 8  | 3  | 1* | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 8  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



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|          | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9            | 9  | 9  | 9  | 7  | 1* | 1* | -  | 1  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 8  | 4* | 6  | 8  | 9  |    |
| VO2 = 02 | 9+           | 9  | 8  | 8  | 8  | 9  | 8  | 4  | 1  | 4  | 9  | 9  | 8  | 4  | 3  | -  | 1  | 2  | 5  | 7  | 9  | 9  | 9+ | 9+ |
| W6 = 03  | 9            | 9+ | 9+ | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 5  | -  | -  | 7  | 3  | 1  | 1  | -  | 1  | 2  | 1  | 4  | 8  | 9  |
| W9 = 04  | 9+           | 9+ | 9  | 9  | 8  | 6  | 5  | 6  | 5  | 1  | 1  | 5  | 8  | 6  | 3  | 1  | 1  | -  | 1  | 6  | 7  | 8  | 9  | 9+ |
| W3 = 05  | 9+           | 9+ | 9  | 9  | 8  | 7  | 6  | 8  | 5  | 2  | 7  | 9  | 9  | 5  | 2  | 1  | 1  | 2  | 4  | 9  | 8  | 9  | 9  | 9+ |
| XE1 = 06 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 5  | -  | -  | 9  | 7  | 6  | 4  | 3  | 2  | 2  | 5  | 7  | 9  | 9+ | 9+ |
| TI = 07  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 9  | 9+ | 9  | 7  | 6  | 4  | 3  | 3  | 4  | 7  | 8  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 1  | 2  | 9+ | 9+ | 9  | 7  | 5  | 3  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 9+ | 9+ | 9  | 8  | 7  | 4  | 4  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+           | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9+ | 9+ | 9+ | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | 9  | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4  | 5  | 1* | 3  | 4  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 4            | 1  | 4  | 8  | 6  | -  | 3* | 9  | 9  | 9  | 8  | 7  | 2  | 2  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 8  |
| I = 15   | 9+           | 9+ | 9  | 9  | 5  | 4* | 9  | 9  | 8  | 8  | 5  | 5  | 1  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | 6            | 6  | 5  | 2* | 1* | 2* | 8  | 9  | 8  | 8  | 6  | 5  | 1  | 1* | -  | 1  | 2  | 5  | 7  | 6  | 2  | 2  | 1  | 2  |
| UN = 17  | 5            | 2  | 7  | 9  | 9  | 8  | 7  | 5  | 4* | 5  | 6* | 7  | 3* | 1* | -  | -  | 1  | 1  | 2  | 1  | 2  | 5  | 7  | 7  |
| UA9 = 18 | 2*           | 1* | 2* | 7  | 8  | 9  | 8  | 8  | 7  | 7  | 5  | 7* | 4* | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | 2* |
| UA0 = 19 | 8            | 8  | 8  | 8  | 7  | 8  | 8  | 7  | 9  | 8  | 7* | 6* | 6* | 2* | 1* | 1* | 1* | 2* | 4* | 2* | -  | 6  | 9  | 8  |
| 4X = 20  | 9+           | 9+ | 9  | 9  | 8  | 9  | 9  | 8  | 6  | 4  | 1  | 1  | 1* | -  | -  | 1  | 1  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| HZ = 21  | 9+           | 9  | 8  | 7  | 9  | 9  | 8  | 6  | 4  | 1  | 1  | 1* | 1  | 1  | 1  | -  | 3  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| VU = 22  | 1            | 1* | 9  | 9  | 8  | 7  | 4  | 3  | 4* | 4* | 7  | 7  | 2* | 2* | 1* | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  | 2*           | 5  | 8  | 9  | 7  | 6  | 6  | 5  | 7* | 8* | 8* | 6* | 5* | 2* | 1* | -  | -  | -  | -  | 1  | 2  | -  | 2* | 1* |
| VR2 = 24 | 9            | 9  | 8  | 7  | 2* | 3* | 4* | 6* | 7  | 8* | 8* | 7  | 5* | 5* | 1  | 1  | 2  | 4  | 7  | 8  | 8  | 9  | 9  | 9  |
| JA1 = 25 | 8            | 7* | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 5  | 3* | 1* | 1* | 1* | 1* | 1* | 2* | 4* | 8* | 7* | 6  | 6  | 9* | 9* |
| HS = 26  | 9            | 9  | 9  | 8  | 5  | 1  | 1* | 2* | 5* | 7  | 7  | 7  | 4* | 2  | 1  | 2  | 3  | 5  | 5  | 9  | 9  | 9  | 9+ | 9  |
| DU = 27  | 8            | 7  | 5  | 1  | 1* | 1* | 4* | 5  | 8* | 8* | 7* | 6  | 6  | 3  | 2  | 1  | 1  | 3  | 5  | 7  | 8  | 9  | 9  | 9  |
| YB = 28  | 9            | 9  | 7  | 4  | 1  | 1  | -  | 1  | 5* | 7* | 6  | 5  | 4  | 3  | 2  | 2  | 3  | 5  | 7  | 8  | 8  | 9  | 9  | 9  |
| VK6 = 29 | 9            | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 4  | 3  | 4  | 3  | 3  | 4* | 5  | 6  | 7  | 8  |
| VK3 = 30 | 7            | 7  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 4  | 3  | 3  | 4  | 5  | 6  | 7  | 8  | 7  |
| KH6 = 31 | 6            | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | -  | -  | -  | 1  | 2* | 2* | 2* | 1* | 1  | 3  |
| KH8 = 32 | 3            | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 3  | 2  | 1  | 1  | 1  | 1  | 1  | 2  |
| CN = 33  | 9+           | 9+ | 9+ | 9+ | 9+ | 3  | 3* | 8  | 9  | 9  | 8  | 6  | 4  | 1  | 1  | 1  | 2  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9+           | 9+ | 9+ | 9  | 8  | 9  | 9  | 8  | 8  | 4  | 2  | 1  | -  | 2  | -  | 1  | 3  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| 6W = 35  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 9+ | 9+ | 9  | 9  | 7  | 5  | 4  | 4  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+           | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9  | 9  | 8  | 7  | 5  | 4  | 4  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+           | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 2  | 1  | 1  | 1  | 2  | 3  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| ZS6 = 38 | 9            | 8  | 7  | 5  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 6  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| FR = 39  | 7            | 3  | 4  | 9  | 9  | 9  | 8  | 7  | 5  | 3  | 3  | 2  | 3  | 3  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| FJL = 40 | 1            | 6  | 6  | 4  | 1  | 2* | 2* | 4* | 5* | 5  | 8  | 8  | 5  | 1  | -  | -  | 1  | 3  | 5  | 2  | -  | -  | -  | -  |
| Zone     | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Nov., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 7  | 1  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 4  | 3  | 5  | 8  | 9  | 9  |
| VO2 = 02 | 8       | 5  | 1  | 1  | 4  | 4  | 3  | -  | -  | -  | 1  | 9  | 8  | 6  | 5  | 2  | 4  | 5  | 8  | 8  | 9  | 9  | 9  | 9+ |
| W6 = 03  | 9       | 9+ | 9+ | 9  | 9  | 6  | 2  | 1  | 4  | 4  | -  | -  | -  | 2  | 5  | 3  | 2  | 2  | 6  | 5  | 5  | 7  | 9  | 9  |
| W9 = 04  | 9+      | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 5  | 4  | 3  | 4  | 6  | 7  | 8  | 9  | 9+ | 9+ |
| W3 = 05  | 9       | 9  | 9  | 8  | 2  | 1  | -  | 2  | -  | -  | 1  | 9  | 9  | 7  | 6  | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | -  | -  | -  | 8  | 9  | 8  | 7  | 6  | 5  | 6  | 7  | 8  | 9  | 9+ | 9+ |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | 2  | 9+ | 9  | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | -  | -  | 9+ | 9+ | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 8       | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 2  | -  | 8  | 9+ | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 6       | 9+ | 4  | 8  | 8  | 9  | 9  | 8  | 5  | 2  | 7  | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6* | 7* | 4* | 2* | 1  | 1  | 2  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9       | 9  | 9+ | 9+ | 9+ | 9+ | 5  | 5* | 6* | 5* | 3* | 2* | -  | -  | -  | 6  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | -       | -  | -  | 1  | -  | -  | -  | 6  | 9  | 9  | 8  | 8  | 6  | 8  | 2  | 2  | 4  | 6  | 9  | 9  | 9  | 9  | 7  | 3  |
| I = 15   | 9       | 9  | 9  | 7  | -  | 4* | 4  | 9  | 9  | 9  | 8  | 6  | 6  | 2  | 1  | 2  | 3  | 6  | 9  | 9  | 9  | 9+ | 9+ | 9  |
| UA3 = 16 | 1       | 1  | 1  | 2* | 2* | 3* | 7  | 9  | 8  | 8  | 7  | 5  | 5  | 3  | 1  | 2  | 4  | 6  | 6  | -  | -  | -  | -  | -  |
| UN = 17  | 2*      | 1* | 2* | 9  | 8  | 8  | 8  | 6  | 5  | 5* | 7* | 5* | 6* | 4* | 1  | 2  | 2  | -  | -  | -  | -  | -  | 1  | 1  |
| UA9 = 18 | 1*      | 1* | 1* | 1* | 8  | 8  | 8  | 7  | 7  | 8  | 8* | 6* | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| UA0 = 19 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 7* | 8* | 7* | 6* | 5* | 3* | 1* | -  | 1* | 1* | -  | -  | -  | 8  | 9  |
| 4X = 20  | 9+      | 9  | 9  | 5  | 3* | 9  | 9  | 9  | 8  | 6  | 5  | 2  | 7  | 2  | 2  | 2  | 4  | 6  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| HZ = 21  | 9+      | 9  | 3* | 2* | 9  | 9  | 9  | 7  | 6  | 5  | 4  | 4  | 6  | 2  | 2  | 3  | 5  | 6  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| VU = 22  | 2*      | 1* | 6  | 9  | 9  | 8  | 6  | 5  | 5  | 5* | 6* | 6* | 5  | 3* | 2  | 2  | 4  | 6  | 9  | 9  | 9  | 9  | 9  | 7  |
| JT = 23  | 2*      | 2* | 7  | 8  | 8  | 7  | 6  | 7  | 8* | 8* | 8* | 8* | 7* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VR2 = 24 | 9       | 9  | 9  | 7  | 6  | 4  | 5* | 7* | 9* | 9* | 9* | 8* | 6  | 7* | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 6  | 8  |
| JA1 = 25 | 9*      | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9  | 7  | 5* | 5* | 6* | 5* | 5* | 5* | 6* | 7* | 7* | 5* | 5  | 5  | 8* | 9* |
| HS = 26  | 9       | 9  | 9  | 8  | 6  | 5  | 4  | 4  | 6* | 7* | 7* | 7* | 6  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| DU = 27  | 9       | 8  | 6  | 5  | 4* | 6* | 5* | 6* | 7  | 7  | 8  | 7  | 7  | 6  | 5  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 9  | 9  |
| YB = 28  | 9       | 9  | 8  | 7  | 5  | 2  | 4  | 5  | 6  | 6  | 8* | 6  | 7  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 8  | 7  | 8  | 9  |
| VK6 = 29 | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 7  | 8  | 8  | 8  | 6  | 4  | 2  | 2  | 2  | 1  | 2* | 5* | 5* | 5* | 6* | 8  |
| VK3 = 30 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 4  | 2  | 1  | 2  | 4  | 6  | 7  | 7  | 7  | 7  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 7  | -  | -  | -  | 1  | 2  | 5  | 6  | 5  | 3  | 4  | 5  |
| KH8 = 32 | 5       | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 6  | 4  | 3  | 4* | 6  | 4  | 3* | 3  | 4  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 8  | -  | -  | 6* | 9  | 9  | 9  | 8  | 6  | 4  | 5  | 4  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9+ | 9  | 8  | 3  | 9  | 9  | 9  | 7  | 7  | 5  | 4  | 8  | 2  | 2  | 2  | 4  | 6  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 2  | 6* | 9  | 9+ | 9+ | 9  | 8  | 8  | 6  | 6  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 9  | 9  | 8  | 7  | 9  | 9+ | 9  | 9  | 8  | 8  | 8  | 6  | 6  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 4  | 8  | 6  | 4  | 6  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| ZS6 = 38 | 7       | 6  | 2* | 4* | 4* | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9  | 8  | 9  |
| FR = 39  | 3*      | 4* | 4* | 5  | 9  | 9  | 8  | 8  | 6  | 6  | 5  | 7  | 7  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 7  | 4* | 3* |
| FJL = 40 | -       | 1  | 2* | 2* | 1* | 2* | 3* | 5* | 5* | 8* | 7* | 8  | 6  | 4  | 2  | 2  | 2  | 5  | 2  | -  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Nov., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 9   | 8  | 3* | 2* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 5  | 7  | 8  | 8  | 9  | 9  | 9  |
| VO2 = 02 | 4   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| W6 = 03  | 9   | 9+  | 9  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 7  | 6  | 6  | 5  | 4  | 6  | 8  | 9  | 9  |
| W9 = 04  | 9   | 7   | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 7  | 7  | 6  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| W3 = 05  | 8   | 8   | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9+  | 9+  | 9  | 9+ | 9+ | 9  | 9  | 8  | 2  | -  | -  | -  | -  | 7  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| TI = 07  | 7   | 6*  | 7  | 8  | 9+ | 9+ | 9  | 8  | 2  | -  | -  | -  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9  |
| VP2 = 08 | 5   | 4   | 7  | 8  | 8  | 9  | 9  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 7  |
| P4 = 09  | 5*  | 1   | 5  | 7  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | 9+ | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 8  | 6  |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 5  | 5  | 5  | 4  | -  | -  | 2  | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5* | 9+ |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 8  | 5* | 2* | 7* | 5* | 4* | 2* | -  | -  | -  | -  | 4  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6* | 5* | 3* | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 7*  | 6*  | 9  | 9  | 8  | 6  | 5* | 6* | 6* | 5* | 3* | 1* | -  | -  | -  | -  | 1  | 2  | 3  | 2  | 5* | 6  | 7* | 7* | 7* |    |
| G = 14   | -   | -   | -  | -  | -  | -  | -  | -  | 3* | 8  | 9  | 9  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 8  | 6  | 1  | -  | -  |
| I = 15   | 8   | 6   | 4  | -  | -  | -  | 7* | 9  | 8  | 9  | 8  | 8  | 6  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | -   | -   | -  | -  | 6* | 4* | 5* | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 5  | 5  | 6  | 6  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | 1*  | 2*  | 2* | 6  | 9  | 8  | 8  | 6  | 6  | 6  | 6  | 6* | 8* | 5* | 4  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 4*  | 2*  | 2* | 3* | 5  | 8  | 9  | 8  | 7  | 8  | 7  | 6  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 9   | 8   | 8  | 8  | 8  | 9  | 9  | 9  | 7* | 8* | 8* | 8* | 7* | 5* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7* | 9  |
| 4X = 20  | 9   | 9   | 9  | 2* | 3* | 8  | 9  | 8  | 8  | 7  | 5  | 5  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9   | 8   | 3* | 4* | 7  | 9  | 9  | 6  | 6  | 6  | 6  | 5  | 5  | 5  | 5  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 2*  | 3*  | 5* | 9  | 9  | 8  | 7  | 5  | 5  | 5  | 5  | 5* | 6* | 6* | 6* | 5  | 5  | 7  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 1  |
| JT = 23  | 3*  | 3*  | 2  | 8  | 7  | 6  | 8  | 8  | 7  | 8  | 8* | 8* | 7* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VR2 = 24 | 9   | 9   | 9  | 8  | 6  | 6* | 7* | 8* | 8* | 8* | 8* | 9* | 8* | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 6* | 7* |    |
| JA1 = 25 | 9*  | 8   | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 6* | 6* | 7* | 7* | 6* | 6* | 6* | 5* | 4* | 5* | 1* | 4  | 7  | 8  | 9* | 9* |    |
| HS = 26  | 8   | 9   | 9  | 8  | 6  | 5* | 4  | 5  | 6* | 7* | 7* | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  |    |
| DU = 27  | 8   | 8   | 6  | 5  | 5* | 5* | 5* | 6* | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 8  | 9  |    |
| YB = 28  | 8   | 8   | 8  | 7  | 5  | 3  | 4  | 5  | 6  | 7  | 8* | 7  | 7  | 6  | 5  | 5  | 6  | 6  | 6  | 6  | 6  | 5  | 4  | 4  | 8* |    |
| VK6 = 29 | 7   | 7   | 6  | 2* | 2  | 2  | 2* | 6  | 7  | 7  | 7  | 6  | 6* | 5* | 2* | 2* | 2* | 3* | 4* | 5* | 4* | 5* | 6* | 6* | 7* |    |
| VK3 = 30 | 7   | 7   | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 8  | 7  | 5  | 3  | 2* | 1* | 1* | 2* | 3* | 3* | 4* | 6  | 6  | 7  | 7  |    |
| KH6 = 31 | 8   | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 3  | -  | -  | -  | 5  | 6  | 5  | 6* | 5* | 5  | 5  | 7  |    |
| KH8 = 32 | 8   | 8   | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 7  | 6  | 5  | 5  | 5  | 6  | 6  | 6  |    |
| CN = 33  | 9+  | 9+  | 9  | 9  | 4  | -  | -  | 6* | 8  | 9  | 9  | 8  | 7  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ |    |
| SU = 34  | 9   | 9   | 9  | 3  | 6* | 8  | 9  | 8  | 8  | 8  | 6  | 6  | 5  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| 6W = 35  | 7   | 9   | 9  | 9+ | 9  | 5  | -  | 6* | 4* | 9+ | 9+ | 9  | 9  | 9  | 8  | 7  | 7  | 8  | 9  | 9  | 9+ | 8  | 7  | 5  | 5  |    |
| D2 = 36  | 9+  | 9   | 8  | 6  | 3  | 5* | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| 5Z = 37  | 9   | 9   | 8  | 6  | 7  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ |    |
| ZS6 = 38 | 2   | -   | -  | 4* | 5* | 4* | 8  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 7  | 5* | 3* | 4  |    |
| FR = 39  | 3*  | 5*  | 6* | 6* | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 5* | 5* | 4* |    |
| FJL = 40 | -   | -   | 1* | 4* | 4* | 3* | 4* | 5* | 7* | 8* | 4* | 4  | 7  | 6  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Nov., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 8  | 4* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 9  | 9  | 9  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 5  |
| W6 = 03  | 8       | 9  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9  |
| W9 = 04  | 7       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| W3 = 05  | 4       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| XE1 = 06 | 8       | 8  | 8  | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  |
| TI = 07  | 5*      | 5* | 3  | 5  | 6  | 6  | 6  | 4  | -  | -  | -  | -  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  |
| VP2 = 08 | -       | -  | 3  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | 9+ | 9  | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 9+ | 8  | 5  | 4* |
| P4 = 09  | 2*      | -  | 1  | 2  | 3  | 4  | 3  | -  | -  | -  | -  | 9+ | 9+ | 9  | 6  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 5* | 5* |
| HC = 10  | 9       | 8  | 8  | 9  | 9  | 1  | 1  | -  | -  | -  | -  | -  | 7  | 2  | -  | -  | 1  | 1  | 1  | -  | 1* | 4* | 9+ | 9+ |
| PY1 = 11 | 6*      | 9  | 9  | 9  | 8  | 5* | 2* | -  | 3* | 3* | 4* | 2* | 1* | -  | -  | -  | -  | 1  | 2  | 3  | 5* | 8  | 8  | 7* |
| CE = 12  | 9+      | 9  | 9+ | 9+ | 9+ | 9+ | 8  | 3* | 5* | -  | -  | -  | -  | 1* | 2  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 6*      | 5* | 5  | 5  | 3  | 4* | 5* | 5* | 5* | 1* | 2* | 2* | 2* | 1* | -  | -  | -  | -  | 1* | 2* | 4* | 5* | 7* | 7* |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | 6  | 7  | 9  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 8  | 5  | 1  | -  | -  |
| I = 15   | 3       | 1  | -  | -  | -  | -  | 5* | 8  | 7  | 8  | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  |
| UA3 = 16 | -       | -  | -  | -  | 5* | 5* | 4* | 7  | 5  | 6  | 8  | 8  | 7  | 6  | 6  | 6  | 7  | 1  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 5* | 4* | 4* | 8  | 9  | 7  | 6  | 5  | 6  | 7  | 6  | 6  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 4*      | 3* | 3* | 3* | 4* | 6  | 8  | 5  | 4  | 7  | 8  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 8       | 7  | 8  | 8  | 8  | 8  | 8  | 6  | 5* | 7* | 7* | 8* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 7  |
| 4X = 20  | 9       | 9  | 6  | -  | 7* | 5  | 9  | 6  | 6  | 7  | 8  | 7  | 6  | 6  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 3  | 1* | 3* | 5* | 9  | 8  | 3* | 3  | 7  | 7  | 6  | 6  | 6  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 1*      | 2* | 5* | 9  | 8  | 7  | 5  | 3  | 5  | 6  | 6  | 6  | 6  | 6  | 5  | 6  | 8  | 8  | 9  | 8  | 7  | 6  | 4  | -  |
| JT = 23  | 4*      | 3* | 3* | 6  | 9  | 8  | 7  | 6  | 5  | 7  | 7  | 8  | 5* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6* |
| VR2 = 24 | 9       | 9  | 8  | 7* | 7* | 7* | 8* | 8* | 7* | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 2  | 1* | 8* |
| JA1 = 25 | 9       | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 5* | 7* | 8* | 8* | 8* | 7* | 6* | 3* | 1* | -  | 1* | -  | -  | 8  | 8  | 9  |
| HS = 26  | 7*      | 8  | 8  | 7  | 5  | 4* | 4* | 5* | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 9  | 8  | 6  | 6* |
| DU = 27  | 7       | 6  | 5  | 5* | 5* | 5* | 6* | 5* | 5  | 7  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 7  | 4  | 6  | 8  |
| YB = 28  | 7       | 8  | 7  | 5  | 3* | 3* | 3* | 3* | 5  | 7  | 8  | 7  | 7  | 6  | 4  | 4  | 4  | 4  | 4* | 2  | 1  | -  | 1  | 7* |
| VK6 = 29 | 5*      | 4  | 4  | 2* | 2* | 1* | 2* | 2  | 4  | 5  | 6* | 6* | 7* | 4* | 4* | 2* | 3* | 3* | 4* | 3* | 2* | 3* | 5* | 7* |
| VK3 = 30 | 5       | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 8* | 6* | 5* | 4* | 2* | 2* | 2* | 2* | 2* | 2* | 3* | 5  | 6* | 5  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 3  | -  | 6  | -  | -  | -  | -  | -  | 7  | 6  | 6  | 5  | 6  | 7  | 8  |
| KH8 = 32 | 8       | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 7  | 6  | 6  | 9  | 8  | 6  | 5  | 6  | 7  | 7  | 7  | 7  | 7  | 6  | 7  | 7  |
| CN = 33  | 9+      | 9  | 9  | 7  | -  | -  | -  | 2* | 5  | 4  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| SU = 34  | 9       | 9  | 8  | -  | 5* | 4* | 9  | 6  | 6  | 8  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 1       | 3  | 5  | 6  | 4  | -  | -  | 2* | 2* | 4  | 9+ | 9  | 6  | 6  | 5  | 5  | 9  | 9  | 8  | 5  | 5* | 5* | 3* | -  |
| D2 = 36  | 9       | 7  | 5  | 2  | -  | 5* | 6* | 5* | 6  | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  |
| 5Z = 37  | 9       | 8  | 5  | 4* | 5* | 8  | 5* | 5  | 7  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  |
| ZS6 = 38 | -       | -  | -  | -  | 5* | 5* | 5  | 6  | 8  | 9  | 9  | 9  | 8  | 9  | 8  | 9  | 8  | 9  | 9  | 6  | 5* | 3* | -  | -  |
| FR = 39  | -       | 3* | 6* | 6* | 5* | 4* | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 5* | 5* | 5* | 5* | 2* |
| FJL = 40 | -       | -  | -  | 4* | 4* | 3* | 3* | 4* | 5* | 7* | -  | -  | 1  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Dec., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | -  | -  | -  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 3  | 5  | 5  | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -  | 1  | 1  | 3  | 3  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -  | 2  | 4  | 4  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -  | 5  | 5  | 5  | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -  | 4  | 4  | 4  | 2  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2  | 2  | 3  | 3  | 3  | 4  | 3  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 5  | 4  | 4  | 4  | 4  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| P4 = 09  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | 3  | 5  | 6  | 5  | 5  | 5  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| PY1 = 11 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  |
| CE = 12  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  |
| LU = 13  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  |
| G = 14   | 4  | 4  | 4  | 4  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 2  | 3  | 4  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | -  | -  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | -  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 1  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -  | -  | -  | -  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | -  | -  | -  | -  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 3  | 4  | 2  | 3  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| SU = 34  | 2  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 5  | 5  | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  |
| D2 = 36  | 4  | 5  | 5  | 3  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| 5Z = 37  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| ZS6 = 38 | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| FR = 39  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Dec., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | 2  | 2  | 3  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 6       | 8  | 8  | 7  | 7  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 = 03  | -       | 4  | 4  | 6  | 6  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 1       | 5  | 7  | 7  | 7  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 2       | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| XE1 = 06 | 1       | 7  | 7  | 7  | 5  | 8  | 8  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5       | 5  | 6  | 6  | 6  | 7  | 6  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 8       | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| P4 = 09  | 7       | 7  | 7  | 7  | 7  | 7  | 6  | 8  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| HC = 10  | 6       | 8  | 9  | 8  | 8  | 8  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 9  | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 2  | -  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ |
| G = 14   | 7       | 7  | 7  | 7  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| I = 15   | 5       | 6  | 7  | 6  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA3 = 16 | 2       | 3  | 6  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | 3       | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 1       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 4       | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | -       | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VU = 22  | -       | 1  | -  | -  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 2  | 1  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 6       | 7  | 5  | 6  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| SU = 34  | 5       | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 6W = 35  | 8       | 8  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| D2 = 36  | 7       | 8  | 8  | 6  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| 5Z = 37  | 7       | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| ZS6 = 38 | 8       | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| FR = 39  | 6       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| FJL = 40 | 3       | 4  | 3  | 3  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 4  | 6  | 5  | 6  | 6  | 7  | 5  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| W6 = 03  | 1  | 5  | 6  | 7  | 8  | 8  | 8  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| W3 = 05  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  |
| XE1 = 06 | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 6  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| TI = 07  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| VP2 = 08 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| P4 = 09  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 4  | 2  | 1  | 1  | 3  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 2  | -  | -  | -  | -  | -  | 2  | 7  | 9  | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 3  | 3  | 4  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  |
| I = 15   | 7  | 6  | 8  | 6  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  |
| UA3 = 16 | 7  | 8  | 8  | 7  | 6  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| UN = 17  | 7  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| UA9 = 18 | 8  | 6  | 5  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| UA0 = 19 | 1  | 1  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| 4X = 20  | 7  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  |
| HZ = 21  | 7  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  |
| VU = 22  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |
| JT = 23  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -  | -  | -  | 4  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | -  | -  | 1  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | 2  | 5  | 7  | 7  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 7  |
| SU = 34  | 7  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 9  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  |
| 5Z = 37  | 7  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  |
| FR = 39  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| FJL = 40 | 5  | 6  | 6  | 7  | 7  | 7  | 7  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Dec., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 4            | 5  | 5  | 6  | 7  | 8  | 8  | 8  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| VO2 =   | 02 | 8            | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  |
| W6 =    | 03 | 4            | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| W9 =    | 04 | 8            | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| W3 =    | 05 | 8            | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  |
| XE1 =   | 06 | 8            | 9  | 9  | 8  | 9  | 8  | 9  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  |
| TI =    | 07 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| VP2 =   | 08 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 9  |
| P4 =    | 09 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |
| HC =    | 10 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 4  | 3  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 9            | 9  | 9  | 9  | 8  | 8  | 7  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 8  |
| I =     | 15 | 7            | 7  | 7  | 7  | 7  | 8  | 7  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 6  | 7  |
| UA3 =   | 16 | 8            | 8  | 8  | 8  | 7  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 7  | 8  |
| UN =    | 17 | 8            | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  |
| UA9 =   | 18 | 8            | 7  | 6  | 5  | 5  | 3  | 2  | 1  | 1  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| UA0 =   | 19 | 3            | 2  | 2  | 1  | 1  | 1  | 4  | 2  | 3  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| 4X =    | 20 | 7            | 8  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 6  | 7  |
| HZ =    | 21 | 8            | 8  | 8  | 8  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 5  | 6  |
| VU =    | 22 | 7            | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 7  |
| JT =    | 23 | 7            | 7  | 5  | 1  | 1  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| VR2 =   | 24 | 3            | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 5* |
| JA1 =   | 25 | -            | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 4* | 2* |
| HS =    | 26 | 6            | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 7  |
| DU =    | 27 | -            | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  |
| YB =    | 28 | 3            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |
| VK6 =   | 29 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 1  |
| VK3 =   | 30 | -            | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 =   | 31 | -            | 1  | 3  | 6  | 5  | 6  | 7  | 7  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | -  | -  | 1  | 4  | 7  | 7  | 7  | 7  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 8            | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  |
| SU =    | 34 | 8            | 8  | 8  | 8  | 8  | 7  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 6  | 7  |
| 6W =    | 35 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  | 9  |
| D2 =    | 36 | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 9  |
| 5Z =    | 37 | 8            | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 6  | 8  |
| ZS6 =   | 38 | 9            | 9  | 9  | 9  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 9  |
| FR =    | 39 | 8            | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| FJL =   | 40 | 7            | 7  | 7  | 8  | 8  | 7  | 6  | 4  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 7  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



## 20 Meters: Dec., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8            | 9  | 8  | 9  | 9  | 7  | 5  | 5  | 7  | 7  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 6  | 7  |
| VO2 = 02 | 9+           | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 8  | 9  | 8  | 4  | 2  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 9  | 9  |
| W6 = 03  | 8            | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | -  | 4  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 7  |
| W9 = 04  | 9            | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 8  | 9  |
| W3 = 05  | 9+           | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  |
| XE1 = 06 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 9  | 8  | 8  | 7  | 5  | 1  | 1  | -  | -  | -  | 1  | 1  | 6  | 9  | 9  |
| TI = 07  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 4  | 2  | 1  | 1  | 1  | 1  | 2  | 6  | 8  | 9  | 9+ |
| VP2 = 08 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 7  | 3  | 1  | 1  | 1  | 1  | 3  | 6  | 8  | 9  | 9+ | 9+ |
| P4 = 09  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 4  | 1  | 1  | 1  | 1  | 2  | 6  | 8  | 9  | 9+ | 9+ |
| HC = 10  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | 5  | 4  | 4  | 2  | 5  | 7  | 8  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 5  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9            | 9  | 9  | 9  | 9  | 6  | 2  | 9  | 9  | 8  | 8  | 2  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  | 9  |
| I = 15   | 9            | 9  | 9  | 9+ | 9  | 4  | 8  | 8  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 9  | 9  | 9  |
| UA3 = 16 | 8            | 8  | 8  | 8  | 6  | 4  | 8  | 8  | 7  | 5  | 4  | 1* | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 7  | 8  |
| UN = 17  | 7            | 3  | 7  | 8  | 8  | 7  | 5  | 2  | 1  | 2* | 2* | 1* | 1* | -  | -  | -  | -  | 1  | 1  | 1  | 4  | 7  | 8  | 9  |
| UA9 = 18 | 4            | 1  | 2  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 8  | 2* | 1* | -  | -  | -  | -  | -  | 2  | 7  | 8  | 8  | 7  |    |
| UA0 = 19 | 8            | 7  | 7  | 7  | 7  | 8  | 7* | 7  | 8  | 7  | 3* | 2* | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 6  | 9  | 8  |
| 4X = 20  | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 9  | 9  |
| HZ = 21  | 9            | 9  | 9  | 9  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 9  | 9  |
| VU = 22  | 9            | 5  | 9  | 9  | 8  | 4  | 1  | -  | -  | 1* | 2* | 2* | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 8  | 9  | 9  |
| JT = 23  | 2            | 5  | 8  | 8  | 7  | 5  | 4  | 5  | 5* | 6* | 5* | 4* | 1* | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 5  | 2  |
| VR2 = 24 | 8            | 7  | 5  | 1* | -  | -  | 1* | 5* | 7* | 8  | 6* | 6* | 2* | -  | -  | -  | -  | -  | 2  | 4  | 8  | 8  | 9  | 9  |
| JA1 = 25 | 6*           | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | 1* | 5* | 5* | 2* | 8* | 8* |
| HS = 26  | 9            | 8  | 8  | 5  | -  | -  | -  | 1* | 2* | 4* | 4* | 4* | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  |
| DU = 27  | 6            | 3  | 1* | -  | -  | -  | 1* | 2* | 4* | 8  | 4* | 2  | 1* | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 7  | 6  |
| YB = 28  | 8            | 7  | 2  | -  | -  | -  | -  | -  | 1* | 2* | 3* | 2* | 1* | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  | 8  | 8  |
| VK6 = 29 | 7            | 4  | 2  | -  | -  | -  | -  | 1  | 1  | 4  | 6  | 4  | 2  | 1  | 1  | -  | -  | 1  | 2  | 4  | 6  | 6  | 7  | 7  |
| VK3 = 30 | 1            | -  | 1  | 1  | 1  | 3  | 5  | 6  | 7  | 7  | 7  | 7  | 4  | 2  | 1  | 1  | 1  | 1  | 1  | 2  | 4  | 5  | 1  | 1  |
| KH6 = 31 | 2            | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -            | 1  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9+           | 9+ | 9+ | 9+ | 9  | 9  | 6  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | 1  | 1  | 5  | 6  | 9  | 9  | 9  | 9+ |
| SU = 34  | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 8  | 9  | 9  | 9  |
| 6W = 35  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| D2 = 36  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 4  | 2  | 1  | -  | -  | 1  | 2  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 1  | -  | 1  | 4  | 5  | 7  | 8  | 9  | 9  | 9  |
| ZS6 = 38 | 9            | 9+ | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 2  | 1  | 1  | 1  | 1  | 2  | 3  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| FR = 39  | 9            | 9  | 9  | 9  | 9  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| FJL = 40 | 8            | 9  | 9  | 9  | 8  | 5  | 2* | 2* | 2  | 7  | 8  | 3  | 1  | -  | -  | -  | -  | 1  | 2  | 5  | 5  | 5  | 5  | 6  |
| Zone     | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Dec., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 9   | 9  | 9  | 7  | 1  | 1* | -  | 1  | 2  | 2  | 1  | -  | -  | -  | -  | 2  | 1  | 2  | 5  | 4  | 7  | 8  | 9  |    |    |
| VO2 = 02 | 9+  | 8   | 4  | 1  | 3  | 7  | 8  | 5  | -  | 1  | 6  | 9  | 8  | 5  | 3  | 1  | 2  | 4  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| W6 = 03  | 9+  | 9+  | 9+ | 9+ | 9+ | 8  | 4  | 2  | 5  | 6  | 4  | -  | -  | -  | 4  | 1  | 1  | 1  | 1  | 1  | 1  | 2  | 5  | 7  | 9  |    |
| W9 = 04  | 9+  | 9+  | 9  | 8  | 5  | 3  | 2  | 5  | 4  | 1  | 1  | 1  | 8  | 6  | 3  | 2  | 3  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| W3 = 05  | 9+  | 9+  | 9  | 9  | 4  | 4  | 2  | 2  | 4  | 1  | 7  | 9  | 9  | 9  | 6  | 5  | 3  | 1  | 3  | 5  | 9  | 8  | 9  | 9+ | 9+ | 9+ |
| XE1 = 06 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 1  | -  | 8  | 8  | 6  | 5  | 4  | 3  | 4  | 4  | 7  | 9  | 9  | 9  | 9+ | 9+ |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 5  | 9  | 9  | 8  | 8  | 6  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9+ | 9  | -  | -  | 9+ | 9+ | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 8  | 8  | 8  | 9  | 5  | 1  | 9+ | 9+ | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 9+  | 9+  | 8  | 7  | 6  | 4  | 5  | 7  | 6  | 3  | 7  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9  | 5  | 4* | 6* | 6* | 7  | 9  | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9   | 9   | 9  | 9  | 8  | 5  | 3* | 5* | 5* | 5* | 7  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  |
| G = 14   | 4   | 1   | 2  | 5  | 5  | -  | -  | 5* | 9+ | 9  | 9  | 7  | 4  | 2  | 1  | 1  | 2  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| I = 15   | 9+  | 9+  | 9+ | 9  | 3  | 2* | 4* | 9  | 9  | 9  | 7  | 5  | 1  | 2  | 1  | 1  | 2  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| UA3 = 16 | 4   | 4   | 4  | 2  | 3* | 2* | 6  | 9  | 8  | 8  | 6  | 5  | 2  | 1  | 1  | -  | 2  | 5  | 7  | 4  | 1  | 1  | -  | -  | -  | -  |
| UN = 17  | 1*  | 1*  | 2* | 8  | 9  | 8  | 8  | 6  | 5  | 5* | 6  | 7  | 2* | 1* | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 1  |
| UA9 = 18 | 2*  | 2*  | 2* | 2  | 8  | 9  | 8  | 8  | 8  | 7  | 6* | 6* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| UA0 = 19 | 9   | 9   | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 5* | 6* | 5* | 5* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 9  |
| 4X = 20  | 9+  | 9+  | 9  | 9  | 7  | 9  | 9  | 8  | 8  | 4  | 2  | 2  | 2  | 1  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9+  | 9   | 8  | 4  | 9  | 9  | 8  | 7  | 5  | 2  | 2* | 2  | 1  | 1  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 6   | 1*  | 8  | 9  | 8  | 7  | 5  | 2  | 5* | 4* | 7  | 8  | 4* | 1* | -  | -  | 2  | 2  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  | 3*  | 3*  | 7  | 9  | 8  | 8  | 8  | 7  | 7  | 8* | 8* | 6* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* |
| VR2 = 24 | 9   | 9   | 8  | 7  | 5* | 6* | 6* | 8* | 8* | 8* | 8* | 8  | 6* | 3* | 1  | 1  | 2  | 3  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| JA1 = 25 | 8   | 8   | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  | 7  | 7* | 1* | 1* | 1* | 1* | 1* | 3* | 7* | 5* | 7  | 6  | 7* | 9* | 9* | 9* |
| HS = 26  | 9   | 9   | 9  | 8  | 5  | 1  | 2* | 5* | 5* | 8  | 7  | 8  | 4* | 1  | 1  | 2  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| DU = 27  | 8   | 6   | 5  | 2* | 3* | 4* | 6* | 6* | 7  | 8* | 8* | 5  | 5  | 2  | 2  | 2  | 2  | 4  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  |
| YB = 28  | 9   | 8   | 7  | 3  | 1  | -  | -  | 2* | 5* | 7  | 8* | 7  | 6* | 2  | 2  | 2  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VK6 = 29 | 8   | 9   | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 7  | 6  | 5  | 3  | 2  | 1  | 2  | 2  | 4* | 5* | 6* | 6  | 8  | 8  | 8  |
| VK3 = 30 | 8   | 8   | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 1  | 1  | 1  | 2  | 5  | 6  | 6  | 8  | 7  | 7  | 7  |
| KH6 = 31 | 6   | 8   | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 1  | -  | -  | 2  | 1  | 1* | 2* | 2* | 1* | 1  | 3  | 3  |
| KH8 = 32 | 2   | 5   | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 2  | 1  | 1  | 2  | 1* | 1  | 1  | 1  | 1  |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9  | 6  | -  | 5  | 9  | 9  | 8  | 6  | 4  | 2  | 2  | 4  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| SU = 34  | 9+  | 9+  | 9  | 9  | 6  | 9  | 9  | 8  | 8  | 5  | 4  | 2  | 1  | 1  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 9  | 9+ | 9  | 9  | 9  | 8  | 6  | 4  | 5  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+  | 9+  | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 8  | 7  | 5  | 4  | 4  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+  | 9+  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 4  | 2  | 2  | 2  | 1  | 2  | 3  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| ZS6 = 38 | 9   | 7   | 3* | 4* | 6  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 6  | 5  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| FR = 39  | 3*  | 4*  | 5* | 6  | 9  | 9  | 8  | 7  | 5  | 4  | 2  | 3  | 2  | 5  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 8  | 5  | 2  | 2  | 2  |
| FJL = 40 | -   | 4   | 4  | 2  | 1* | 2* | 2* | 3* | 4* | 6* | 8  | 8  | 5  | 2  | 1  | 1  | 3  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Dec., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 9   | 9  | 7  | 2  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  |
| VO2 = 02 | 8   | 3   | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | 9  | 8  | 7  | 6  | 5  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ |
| W6 = 03  | 9+  | 9+  | 9+ | 9  | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 6  | 5  | 4  | 8  | 7  | 6  | 8  | 8  | 9  |
| W9 = 04  | 9+  | 9   | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 6  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  |
| W3 = 05  | 9   | 9   | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 9  | 8  | 7  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| XE1 = 06 | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 2  | -  | -  | 9  | 9  | 8  | 6  | 5  | 6  | 6  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| TI = 07  | 9+  | 9   | 8  | 8  | 6  | 4  | 5  | 6  | 5  | -  | -  | -  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+  | 9+  | 8  | 7  | 5  | 2  | 4  | 2  | -  | -  | 7  | 9+ | 9  | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9+  | 8   | 6  | 5  | 2  | 1  | 1  | 2  | -  | -  | 1  | 9+ | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 8   | 5*  | 3* | 1* | 9+ | 1* | -  | -  | -  | -  | -  | 9  | 9  | 9+ | 9  | 9  | 6  | 6  | 6  | 7  | 9  | 9  | 9  | 9  | 9+ | 9  |
| PY1 = 11 | 7   | 7   | 6  | 4  | 2* | 4* | 5* | 5* | 7* | 5* | 5  | 7  | 7  | 7  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 6* | 6* | 9  | 9+ | 9  | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 6*  | 6*  | 5  | 4  | 3* | 3* | 5* | 5* | 6* | 6* | 4* | 4  | 5  | 6  | 5  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 5* | 6* | 6* |
| G = 14   | -   | -   | -  | -  | -  | -  | -  | 4* | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 8  | 6  | 1  | 1  |
| I = 15   | 9   | 9   | 9  | 4  | -  | -  | 6* | 9  | 8  | 9  | 8  | 9  | 8  | 6  | 6  | 4  | 3  | 5  | 4  | 8  | 9  | 8  | 9  | 9  | 9  | 9  |
| UA3 = 16 | -   | -   | -  | -  | 4* | 4* | 4* | 8  | 8  | 8  | 7  | 6  | 5  | 4  | 3  | 4  | 5  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -   | 1*  | 1* | 3  | 9  | 8  | 8  | 6  | 5  | 5  | 5  | 5* | 5  | 2  | 2  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 2*  | 2*  | 1* | 1* | 5  | 9  | 9  | 8  | 7  | 8  | 8* | 6* | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 9   | 9   | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 6* | 7* | 7* | 7* | 6* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 9  |
| 4X = 20  | 9+  | 9+  | 9  | 5  | 5* | 9  | 9  | 8  | 7  | 6  | 6  | 4  | 7  | 4  | 2  | 3  | 5  | 6  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9+  | 9   | 4  | 3* | 8  | 9  | 8  | 7  | 6  | 6  | 5  | 5  | 7  | 4  | 2  | 4  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ |
| VU = 22  | 1*  | 2*  | 4* | 9  | 9  | 7  | 6  | 5  | 5  | 5* | 5* | 5* | 5  | 3  | 2  | 3  | 4  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  | 2*  | 2*  | 2* | 8  | 9  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 8* | 8* | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* |
| VR2 = 24 | 9   | 9   | 8  | 7  | 7* | 6* | 6* | 8* | 8* | 8* | 8* | 8* | 8* | 8* | 6* | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 8  | 4* | 7  | 7  |
| JA1 = 25 | 9*  | 8   | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 6  | 4* | 5* | 5* | 5* | 5* | 5* | 5* | 6* | 6* | -  | -  | 6  | 7  | 9* | 9* |
| HS = 26  | 8   | 9   | 9  | 8  | 6  | 5  | 4* | 5* | 6* | 7* | 7* | 7* | 7* | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| DU = 27  | 8   | 7   | 5  | 5  | 4* | 3  | 5  | 6* | 6  | 7  | 8* | 7  | 7  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  |
| YB = 28  | 9   | 8   | 8  | 6  | 4  | 2  | 2  | 4  | 6  | 6  | 7* | 8* | 6  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 7  | 7  | 8  | 8  |
| VK6 = 29 | 7   | 6   | 5  | 6  | 6  | 6  | 5  | 4  | 5  | 5  | 6* | 6* | 5  | 3  | 1  | -  | 1* | 1* | 3* | 5* | 5* | 6* | 6* | 6* | 6* | 6* |
| VK3 = 30 | 8   | 8   | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 6  | 4  | 1* | -  | 1* | 1* | 2* | 3* | 4* | 6  | 6  | 7  | 7  |
| KH6 = 31 | 8   | 9   | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 9  | 6  | 8  | 9  | 7  | -  | -  | -  | 4  | 4  | 7  | 6  | 5  | 3  | 5  | 6  | 6  |
| KH8 = 32 | 6   | 8   | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 5  | 4  | 3  | 6  | 6  | 4* | 2  | 3  | 3  |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9  | -  | -  | 5* | 8  | 9  | 9  | 8  | 7  | 6  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| SU = 34  | 9+  | 9+  | 9  | 7  | 5* | 8  | 9  | 8  | 8  | 7  | 6  | 4  | 8  | 3  | 2  | 3  | 5  | 7  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| 6W = 35  | 9   | 9+  | 9+ | 9+ | 9+ | 9  | 2  | 5* | 5  | 9+ | 9  | 9  | 9  | 8  | 8  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9  | 8  | 8  |
| D2 = 36  | 9+  | 9+  | 9  | 8  | 5  | 5* | 8  | 9  | 9  | 9  | 9  | 7  | 8  | 6  | 5  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9   | 9   | 8  | 5  | 7  | 9  | 9  | 8  | 8  | 8  | 5  | 6  | 9  | 6  | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| ZS6 = 38 | 6   | -   | -  | 4* | 5* | 5  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9+ | 9  | 9  | 8  | 8  | 8  |
| FR = 39  | 5*  | 5*  | 6* | 5* | 8  | 9  | 8  | 8  | 8  | 7  | 5  | 7  | 7  | 5  | 6  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 5* | 5* | 5* | 5* |
| FJL = 40 | -   | -   | 2* | 2* | 3* | 2* | 3* | 4* | 7* | 7* | 2* | 6  | 7  | 6  | 7  | 6  | 5  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Dec., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 9   | 7  | 4* | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  | 8  | 8  | 9  | 9  | 9  |
| VO2 = 02 | 2   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 8  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 8  |
| W6 = 03  | 9+  | 9   | 9  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 6  | 6  | 6  | 6  | 7  | 8  | 9  | 9  |
| W9 = 04  | 8   | 5   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| W3 = 05  | 5   | 6   | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| XE1 = 06 | 9   | 9   | 8  | 8  | 8  | 7  | 6  | 8  | 4  | -  | -  | -  | 3  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |
| TI = 07  | 7   | 5*  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 9  | 9  | 9  | 9  | 5  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9  |
| VP2 = 08 | 6   | 3   | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 9  | 8  | 6  | 6  | 6  | 9  | 9  | 9  | 9+ | 9  | 8  |
| P4 = 09  | 5*  | 1   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 9  | 9  | 5  | 4  | 4  | 5  | 7  | 9  | 8  | 8  | 7* | 7* |
| HC = 10  | 9+  | 9+  | 9  | 9  | 8  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 5  | 1  | 9  | 9  | 9  | 9  | 2  | 4  | 4  | 5* | 5* | 5* |
| PY1 = 11 | 6*  | 5*  | 4* | 3* | 5* | 5* | 2* | -  | 3* | 4* | 4* | 2* | 1  | -  | 1  | 5  | 7  | 5  | 6  | 7  | 7  | 5* | 7* | 7* | 7* | 7* |
| CE = 12  | 8   | 9   | 9  | 9  | 8  | 6  | 2  | 2* | 5* | 2* | 3  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  |
| LU = 13  | 7*  | 6*  | 5* | 5* | 4* | 4* | 4* | 3* | 4* | 6* | 4* | 3* | 1* | 1  | 1  | 1  | 2  | 3  | 1  | 1  | 2* | 4* | 6* | 7* | 7* | 7* |
| G = 14   | -   | -   | -  | -  | -  | -  | -  | -  | 6* | 8  | 8  | 8  | 7  | 5  | 7  | 6  | 7  | 8  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  |
| I = 15   | 8   | 7   | 2  | -  | -  | -  | 5* | 7  | 6  | 7  | 8  | 7  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | -   | -   | -  | -  | 2* | 7* | 4* | 4  | 5* | 6  | 8  | 7  | 7  | 6  | 5  | 5  | 6  | 5  | 5  | 6  | 5  | -  | -  | -  | -  | -  |
| UN = 17  | -   | 4*  | 2* | 4* | 8  | 8  | 6  | 4  | 4  | 6  | 6* | 7* | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 1*  | 3*  | 2* | 3* | 4* | 7  | 8  | 6  | 6  | 8* | 7  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 9   | 9   | 8  | 5  | 5* | 5* | 5* | 5* | 6* | 7* | 8* | 7* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8* |
| 4X = 20  | 9   | 9+  | 8  | -  | 5* | 6  | 7  | 3  | 3  | 6  | 6  | 5  | 5  | 7  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  |
| HZ = 21  | 9   | 8   | -  | 7* | 4* | 8  | 6  | 4  | 5  | 6  | 5  | 5  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -   | 4*  | 4* | 9  | 8  | 5  | 4* | 2  | 3  | 4  | 5  | 4  | 6* | 5* | 5  | 5  | 6  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  |
| JT = 23  | 3*  | 3*  | 3* | 6  | 9  | 7  | 6  | 7* | 4  | 8* | 9* | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* |
| VR2 = 24 | 9   | 9   | 8  | 7  | 6* | 6* | 5* | 4  | 5  | 6  | 7  | 8* | 7  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 2  | -  | -  | 8* |
| JA1 = 25 | 9   | 8   | 8  | 8  | 8  | 8  | 8  | 9  | 5  | 5* | 6* | 6* | 6* | 6* | 6* | 5* | 4* | 2* | 1* | -  | -  | -  | 8  | 8  | 9  | 9  |
| HS = 26  | 7*  | 8   | 9  | 8  | 5  | 4* | 3* | 4  | 5  | 6  | 6  | 7  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 8  | 5  | 5* | 5* |
| DU = 27  | 8   | 7   | 6  | 5  | 3  | 2  | 3  | 5  | 6  | 7  | 8  | 8  | 7  | 7  | 7  | 7  | 6  | 6  | 7  | 7  | 6  | 5  | 2  | 2  | 9* | 9* |
| YB = 28  | 8*  | 8   | 7  | 6  | 4  | 2  | 2  | 4  | 6  | 7  | 7  | 8* | 7  | 6  | 6  | 6  | 6  | 6  | 7  | 7  | 5  | 2  | -  | -  | 6* | 6* |
| VK6 = 29 | 6*  | 5*  | 3* | 1  | 1  | 1  | -  | -  | -  | 1* | 5* | 7* | 6* | 3* | 1* | 1* | 2* | 3* | 4* | 5* | 5* | 5* | 5* | 6* | 7* | 7* |
| VK3 = 30 | 4*  | 3   | 4  | 3  | 2  | 6  | 7  | 8  | 8  | 7  | 7* | 7* | 5* | 4* | 2* | 1* | 2* | 2* | 2* | 2* | 2* | 4* | 5* | 5  | 5  | 5  |
| KH6 = 31 | 8   | 9   | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 2* | 4  | 7  | 3  | -  | -  | -  | 1  | 6  | 5  | 5* | 5* | 5  | 6  | 7  | 7  | 7  |
| KH8 = 32 | 7   | 7   | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 6  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 6  | 6  | 5  | 5  | 7  | 7  |
| CN = 33  | 9+  | 9+  | 9+ | 9  | 5  | -  | -  | 1* | 4* | 6  | 9  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| SU = 34  | 9   | 9+  | 9  | 1  | 4* | 4* | 7  | 2  | 3  | 6  | 6  | 5  | 6  | 7  | 5  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  |
| 6W = 35  | 4   | 6   | 6  | 6  | 6  | 2  | -  | -  | 3* | 5  | 9  | 9  | 5  | 4  | 5  | 5  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 5* | 4* | 3* |
| D2 = 36  | 9   | 8   | 5  | 2  | -  | 6* | 5* | 3  | 5  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| 5Z = 37  | 8   | 6   | 2  | 3* | 7* | 8  | 4  | 5  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  |
| ZS6 = 38 | -   | -   | -  | -  | 5* | 5* | 4  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 5  | 4* | 1  | 1  | 1  |
| FR = 39  | 1*  | 2*  | 7* | 6* | 5* | 4  | 4  | 6  | 6  | 8  | 6  | 8  | 6  | 8  | 7  | 8  | 6  | 6  | 7  | 7  | 5  | 5* | 5* | 5* | 3* | 3* |
| FJL = 40 | -   | -   | -  | 3* | 5* | 4* | 5* | 5* | 5* | 7* | 4* | -  | -  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Dec., Brazil (Porto Alegre), for SSN = Very High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 8  | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  | 8  | 8  | 8  | 9  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 4  |
| W6 = 03  | 9       | 8  | 6* | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 5  | 6  | 7  | 8  | 9  | 9  |
| W9 = 04  | 4       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 5  |
| XE1 = 06 | 8       | 6  | 5  | 5  | 4  | 1  | 1  | 4  | -  | -  | -  | -  | -  | 8  | 8  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 6*      | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 5  | 1  | -  | -  | -  | 1  | 2  | 5  | 5  | 5  | 4  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 4  | 1  | -  | -  | -  | 2  | 5  | 6  | 5  | 5* | 3* |
| P4 = 09  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 2  | -  | -  | -  | -  | 1* | 1  | 3  | 3* | 4* | 5* |
| HC = 10  | 9       | 8  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 9+ | 9+ | 9  | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| PY1 = 11 | 5*      | 3* | 2* | 3* | 3* | 1* | -  | -  | -  | -  | 3* | 2* | 1* | -  | -  | -  | 1  | -  | 1* | 3* | 5* | 5* | 6* | 6* |
| CE = 12  | 7*      | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 6* |
| LU = 13  | 5*      | 3* | 1* | 3* | 4* | 2* | 1* | -  | -  | 2* | 1* | 1* | 2* | 1  | -  | -  | -  | -  | 1* | 1* | 3* | 4* | 5* | 5* |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | 4* | 4  | 8  | 7  | 6  | 4* | 4  | 8  | 8  | 9  | 8  | 5  | 1  | -  | -  | -  |
| I = 15   | 3       | 1  | -  | -  | -  | -  | 1* | 2  | 1  | 4  | 7  | 6  | 4  | 3  | 5  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 6  | 6  |
| UA3 = 16 | -       | -  | -  | -  | -  | 6* | 1* | -  | -  | 1  | 7  | 7  | 5  | 4  | 7  | 7  | 6  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 2* | 1* | 2* | 4  | 6  | 2  | -  | 1  | 2  | 5  | 5  | 7  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | 4* | 1* | 2* | 2* | 3  | 5  | 1  | 1  | 7* | 8  | 7  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 6       | 7  | 6  | 3* | 2* | 1* | 1* | 1* | 4* | 6* | 8* | 7* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8* |
| 4X = 20  | 9       | 9  | 3  | -  | 2* | 3* | 1  | -  | -  | 5  | 6  | 5  | 5  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 5  | -  | 5* | 2* | 3  | 1* | -  | -  | 5  | 6  | 6  | 5  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -       | 5* | 2* | 8  | 4* | 4* | 1* | -  | -  | 4  | 5  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 8  | 8  | 7  | 1  |
| JT = 23  | 2*      | 2* | 2* | 4* | 8  | 5  | 2  | 1* | 1  | 3* | 8* | 7  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| VR2 = 24 | 8*      | 7  | 6  | 6* | 6* | 2* | -  | -  | 2  | 6  | 7  | 8  | 7  | 7  | 5  | 4  | 4  | 5  | 6  | 6  | 3  | -  | -  | 8* |
| JA1 = 25 | 8       | 8  | 7  | 5  | 5  | 5  | 3  | 5  | 3* | 6* | 7* | 8* | 7* | 6* | 5* | 1* | -  | -  | -  | -  | -  | 5  | 9  | 9  |
| HS = 26  | 8*      | 6* | 8  | 5  | 3* | 2* | -  | 1  | 4  | 6  | 7  | 7  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 8  | 3  | -  | -  |
| DU = 27  | 6*      | 4  | 4  | 2  | -  | -  | -  | 1  | 2  | 7  | 8  | 8  | 7  | 7  | 7  | 6  | 6  | 5  | 4  | 1  | -  | -  | -  | 8* |
| YB = 28  | 5*      | 5  | 5  | 3  | 1  | -  | -  | 1  | 3  | 6  | 7  | 7  | 6  | 6  | 5  | 5  | 5  | 5  | 5  | -  | -  | -  | -  | 2* |
| VK6 = 29 | 6*      | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 1* | 6* | 6* | 5* | 4* | 3* | 3* | 4* | 4* | 3* | 4* | 4* | 5* | 6* |
| VK3 = 30 | 4*      | 1* | 1* | -  | -  | 1  | 4  | 5  | 5  | 5  | 5* | 6* | 5* | 4* | 3* | 2* | 2* | 2* | 2* | 1* | 2* | 4* | 5* | 5* |
| KH6 = 31 | 8       | 8  | 8  | 9  | 9  | 9  | 7  | 1  | 2* | -  | -  | 3  | -  | -  | -  | -  | -  | 7  | 6  | 5  | 5  | 6  | 7  | 8  |
| KH8 = 32 | 6       | 4  | 6  | 7  | 8  | 8  | 5  | 1  | -  | 4* | 6  | 8  | 5* | 3* | 5  | 6  | 7  | 8  | 8  | 7  | 8  | 8  | 6  | 6  |
| CN = 33  | 9       | 9  | 9  | 7  | 1  | -  | -  | -  | -  | 1  | 8  | 8  | 7  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  |
| SU = 34  | 9       | 9  | 8  | -  | -  | 3* | 1  | -  | -  | 4  | 6  | 5  | 5  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | -       | -  | 1  | 1  | 1  | -  | -  | -  | -  | -  | 2  | 2  | -  | -  | 1  | 1  | 1  | 4  | 4  | 3* | 4* | 2* | 1* | 1* |
| D2 = 36  | 7       | 4  | 1  | -  | -  | 2* | 2* | -  | -  | 5  | 5  | 8  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  |
| 5Z = 37  | 4       | 1  | -  | -  | 6* | 5* | 1* | -  | 1  | 6  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 7  |
| ZS6 = 38 | -       | -  | -  | -  | 1* | 4* | 1* | 1  | 4  | 6  | 6  | 7  | 6  | 7  | 6  | 6  | 6  | 7  | 7  | 4  | 2* | -  | -  | -  |
| FR = 39  | -       | -  | 5* | 5* | 4* | 1* | -  | 1  | 3  | 6  | 6  | 6  | 5  | 6  | 5  | 4  | 4  | 4* | 5* | 5* | 5* | 3* | -  | -  |
| FJL = 40 | -       | -  | -  | 1* | 4* | 2* | 1* | 2* | 5* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Jan., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | 2  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4       | 5  | 5  | 5  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | 1  | 1  | 4  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 3  | 4  | 5  | 5  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 4  | 5  | 5  | 5  | 5  | 5  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 2  | 1  | 3  | 5  | 5  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2       | 2  | 3  | 3  | 3  | 4  | 4  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 4       | 3  | 4  | 4  | 4  | 4  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 4       | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 4       | 5  | 6  | 5  | 5  | 4  | 5  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | -  | 1  | 5  | 9  | 9  | 9  |
| G = 14   | 4       | 5  | 5  | 4  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 3       | 4  | 3  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | 3       | 2  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 3  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | 3       | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 4       | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| SU = 34  | 4       | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 5       | 5  | 4  | 4  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| D2 = 36  | 4       | 4  | 4  | 3  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  |
| 5Z = 37  | 3       | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| ZS6 = 38 | 5       | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  |
| FR = 39  | 4       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Jan., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | 1  | 2  | 5  | 6  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 = 03  | -       | 2  | 4  | 4  | 7  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 2       | 6  | 7  | 8  | 8  | 8  | 7  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W3 = 05  | 2       | 7  | 8  | 8  | 8  | 8  | 8  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | 2       | 5  | 4  | 6  | 8  | 8  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5       | 5  | 6  | 6  | 6  | 7  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 7       | 6  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| P4 = 09  | 7       | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| HC = 10  | 7       | 8  | 9  | 8  | 8  | 7  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | 4  | 8  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 9  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | -  | -  | -  | -  | -  | 4  | 8  | 9+ | 9+ | 9+ |
| G = 14   | 7       | 8  | 8  | 7  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | -  |
| I = 15   | 6       | 7  | 6  | 6  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | 6       | 5  | 5  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | 5       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA9 = 18 | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 6  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 6       | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VU = 22  | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 1  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 7       | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| SU = 34  | 7       | 7  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| 6W = 35  | 8       | 8  | 7  | 7  | 7  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  |
| D2 = 36  | 7       | 7  | 7  | 6  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| SZ = 37  | 6       | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| FR = 39  | 7       | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| FJL = 40 | 3       | 4  | 3  | 2  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Jan., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1  | 3  | 6  | 7  | 7  | 7  | 8  | 6  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  |
| W6 = 03  | 2  | 4  | 7  | 8  | 8  | 8  | 8  | 8  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 7  | 8  | 6  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| W3 = 05  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |
| XE1 = 06 | 6  | 8  | 9  | 9  | 8  | 8  | 7  | 6  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| TI = 07  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| VP2 = 08 | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| P4 = 09  | 9  | 9  | 9  | 9  | 8  | 9  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 4  | 2  | 2  | 5  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 2  | -  | -  | -  | 1  | 5  | 8  | 9  | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 5  | 5  | 6  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7  | 7  | 7  | 8  | 8  | 7  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  |
| I = 15   | 8  | 6  | 8  | 5  | 8  | 6  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 5  |
| UA3 = 16 | 6  | 6  | 6  | 6  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 5  |
| UN = 17  | 7  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  | 5  |
| UA9 = 18 | 6  | 6  | 5  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  |
| UA0 = 19 | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 4X = 20  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  |
| HZ = 21  | 7  | 8  | 7  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| VU = 22  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| JT = 23  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  |
| HS = 26  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| YB = 28  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | 2  | 5  | 7  | 7  | 7  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 7  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 8  | 8  | 9  | 8  | 7  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| SU = 34  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  |
| 5Z = 37  | 8  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| FR = 39  | 9  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| FJL = 40 | 7  | 7  | 7  | 8  | 8  | 7  | 6  | 5  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Jan., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|--|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 |  | 5            | 6  | 6  | 8  | 7  | 6  | 5  | 5  | 6  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 |  | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  |
| W6 = 03  |  | 4            | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| W9 = 04  |  | 7            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| W3 = 05  |  | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 7  |
| XE1 = 06 |  | 8            | 8  | 9  | 8  | 9  | 8  | 9  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| TI = 07  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| VP2 = 08 |  | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |
| P4 = 09  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |
| HC = 10  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| PY1 = 11 |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 5  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |  | 8            | 8  | 8  | 8  | 7  | 7  | 6  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 7  | 8  |
| I = 15   |  | 8            | 8  | 8  | 8  | 6  | 7  | 7  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 7  | 8  |
| UA3 = 16 |  | 8            | 8  | 7  | 7  | 5  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| UN = 17  |  | 7            | 6  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 6  | 7  |
| UA9 = 18 |  | 5            | 4  | 4  | 5  | 5  | 1  | 1  | 1  | -  | 1  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 7  |
| UA0 = 19 |  | 2            | 2  | -  | -  | -  | 1  | 2  | 2  | 4* | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 5  |
| 4X = 20  |  | 8            | 8  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| HZ = 21  |  | 8            | 8  | 7  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 8  |
| VU = 22  |  | 7            | 5  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 6  |
| JT = 23  |  | 4            | 5  | 4  | 1  | 1  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 6  | 4  |
| VR2 = 24 |  | 3            | 1  | -  | -  | -  | -  | -  | -  | 1* | 2* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  |
| JA1 = 25 |  | -            | -  | -  | -  | -  | 1  | 3  | 4  | 6  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | 4* | 3* |
| HS = 26  |  | 7            | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| DU = 27  |  | -            | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  |
| YB = 28  |  | 5            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 5  |
| VK6 = 29 |  | 1            | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 5  | 3  |
| VK3 = 30 |  | -            | -  | -  | -  | -  | 1  | 1  | 5  | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 |  | -            | 1  | 3  | 6  | 6  | 6  | 7  | 7  | 7  | 6  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 |  | -            | -  | -  | 2  | 5  | 7  | 7  | 7  | 7  | 7  | 7  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  |  | 8            | 9  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 8  |
| SU = 34  |  | 8            | 8  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 6  | 8  |
| 6W = 35  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  |
| D2 = 36  |  | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 9  |
| 5Z = 37  |  | 8            | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  |
| ZS6 = 38 |  | 9            | 9  | 9  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  | 9  |
| FR = 39  |  | 8            | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  |
| FJL = 40 |  | 7            | 8  | 7  | 7  | 7  | 7  | 4  | 2  | 4  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 6  | 7  |
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |  |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |  | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 20 Meters: Jan., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 8   | 9   | 9  | 9  | 6  | 1* | 1* | 1* | 2  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  |    |
| VO2 = 02 | 9   | 9   | 6  | 4  | 5  | 8  | 8  | 7  | 2  | 2  | 5  | 8  | 5  | 1  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 8  | 9  | 9  |    |
| W6 = 03  | 8   | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | -  | 4  | 7  |    |
| W9 = 04  | 9   | 9   | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 4  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 6  | 7  | 8  | 9  |
| W3 = 05  | 9   | 9   | 9  | 9  | 9  | 7  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | 1  | 2  | 7  | 8  | 9  | 9  |
| XE1 = 06 | 9   | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 6  | -  | 8  | 5  | 2  | 2  | 1  | -  | 1  | 1  | 4  | 6  | 8  | 9  | 9  |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 6  | 4  | 9  | 8  | 6  | 4  | 2  | 1  | 1  | 2  | 3  | 6  | 8  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 5  | 9  | 9  | 8  | 4  | 2  | 1  | 1  | 2  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 9  | 9  | 8  | 5  | 3  | 2  | 2  | 2  | 4  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 8  | 9  | 9  | 8  | 7  | 6  | 5  | 3  | 4  | 6  | 7  | 8  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8   | 6   | 7  | 8  | 8  | 2  | 1* | 7  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 9  | 9  | 9  |
| I = 15   | 9   | 9   | 9  | 9  | 9  | 3  | 6  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 9  | 9  | 9  |
| UA3 = 16 | 7   | 5   | 5  | 2  | 1  | 1  | 7  | 8  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 5  | 7  | 7  | 7  |
| UN = 17  | 6   | 1   | 3  | 8  | 6  | 7  | 5  | 3  | 1  | 2* | 3* | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  |
| UA9 = 18 | 1*  | 2*  | 2* | 4  | 7  | 7  | 5  | 5  | 5  | 5* | 5* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 5  | 2  |
| UA0 = 19 | 7   | 7   | 8  | 7  | 5  | 6  | 5  | 5  | 9  | 8  | 5* | 5* | 2* | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | 6  | 8  | 8  |
| 4X = 20  | 9   | 9   | 9  | 8  | 6  | 9  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9   | 9   | 8  | 6  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  | 1   | 1   | 7  | 8  | 8  | 5  | 1  | -  | -  | 1* | 2* | 2* | 2* | 2* | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 9  | 9  | 9  | 9  |
| JT = 23  | 1*  | 4*  | 8  | 7  | 6  | 3  | 2  | 6  | 5* | 7* | 6* | 5* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 2  | 2* |
| VR2 = 24 | 8   | 8   | 5  | 4  | -  | -  | 1* | 4* | 7* | 8  | 8  | 7* | 6* | 1* | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 7  | 8  |
| JA1 = 25 | 6*  | 4   | 4  | 5  | 6  | 8  | 8  | 8  | 9  | 9  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | 2* | 4* | 1  | 7  | 7  | 8  | 8  |
| HS = 26  | 9   | 9   | 8  | 6  | -  | -  | -  | -  | -  | 2* | 4* | 9  | 4* | 2* | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  |
| DU = 27  | 6   | 5   | 1* | -  | -  | -  | -  | -  | 2  | 6* | 8  | 8  | 4  | 2  | 1  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 7  | 8  | 8  |
| YB = 28  | 8   | 8   | 5  | 1  | -  | -  | -  | -  | -  | 2* | 5* | 8  | 3* | 1  | 1  | 1  | 1  | 1  | 2  | 5  | 8  | 8  | 9  | 9  | 9  | 9  |
| VK6 = 29 | 7   | 6   | 5  | 3  | 2  | 2  | 2  | 3  | 6  | 7  | 8  | 7  | 5  | 3  | 2  | 1  | 2  | 2  | 2  | 2  | 4  | 5  | 6  | 7  | 8  | 8  |
| VK3 = 30 | 3   | 3   | 4  | 4  | 5  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | 2  | 2  | 2  | 2  | 3  | 5  | 5  | 5  | 5  | 4  | 4  |
| KH6 = 31 | 3   | 6   | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| KH8 = 32 | 1   | 3   | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 2  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9  | 7  | -  | 5  | 9  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 7  | 9  | 9  | 9+ | 9+ |
| SU = 34  | 9   | 9   | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 8  | 8  | 9  | 9  | 9  |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 9  | 9  | 9  | 7  | 5  | 2  | 1  | 1  | 1  | 2  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+  | 9+  | 9+ | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 6  | 6  | 3  | 2  | 1  | 1  | 2  | 4  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | 2  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | 4  | 7  | 8  | 8  | 9  | 9  | 9  |
| ZS6 = 38 | 9+  | 9   | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 6  | 5  | 2  | 2  | 2  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| FR = 39  | 9   | 5   | 4  | 8  | 9  | 8  | 7  | 5  | 3  | 1  | 2  | 1  | 1  | 1  | 1  | 1  | 2  | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| FJL = 40 | 7   | 7   | 7  | 6  | 5  | 2  | 2* | 2* | 2* | 3* | 7  | 7  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 1  | 5  | 5  | 6  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



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|  | UTC --> |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|--|---------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| Zone   | 00      | 01  | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |    |  |
| KL7 = 01   | 9       | 9   | 9  | 7  | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 2  | 8  | 5  | 6  | 8  | 8  |    |    |  |
| VO2 = 02   | 9       | 4   | -  | -  | -  | -  | 2  | -  | -  | -  | -  | 8  | 8  | 6  | 5  | 5  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |    |    |  |
| W6 = 03  | 9       | 9   | 9+ | 9  | 8  | 4  | 1  | 2  | 5  | 6  | 4  | -  | -  | -  | 6  | 5  | 1  | 1  | 1  | 2  | 3  | 5  | 8  | 8  |    |    |  |
| W9 = 04  | 9       | 9   | 6  | 1  | -  | -  | -  | 2  | 2  | -  | -  | -  | 8  | 7  | 5  | 4  | 5  | 3  | 4  | 9  | 8  | 9  | 9  | 9  |    |    |  |
| W3 = 05  | 9       | 7   | 7  | 3  | -  | -  | 1  | 2  | 4  | 1  | 1  | 5  | 9  | 7  | 7  | 5  | 2  | 4  | 5  | 8  | 8  | 9  | 9+ | 9  |    |    |  |
| XE1 = 06   | 9+      | 9+  | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | -  | -  | 1  | 8  | 8  | 6  | 5  | 5  | 5  | 5  | 7  | 8  | 9  | 9+ |    |    |  |
| TI = 07  | 9+      | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 6  | -  | -  | 3  | 9  | 9  | 8  | 7  | 7  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |    |    |  |
| VP2 = 08   | 9+      | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 6  | -  | -  | -  | 9+ | 9  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |    |  |
| P4 = 09  | 9+      | 9+  | 9+ | 9+ | 9+ | 9+ | 8  | 7  | 2  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |    |  |
| HC = 10  | 9+      | 9+  | 9+ | 9+ | 9+ | 9  | 8  | 8  | 5  | 1  | 2  | 8  | 9+ | 9  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ |    |    |  |
| PY1 = 11   | 9+      | 9+  | 9+ | 9  | 9  | 9+ | 9  | 5  | 5* | 5* | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |  |
| CE = 12  | 9+      | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |  |
| LU = 13  | 9       | 9   | 7  | 7  | 6  | 4  | 8  | 5  | 5* | 6* | 4* | 6  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |  |
| G = 14   | -       | -   | -  | -  | 1  | -  | -  | 3* | 8  | 9  | 8  | 7  | 9  | 4  | 3  | 2  | 4  | 6  | 8  | 8  | 9  | 8  | 6  | 3  |    |    |  |
| I = 15   | 9       | 9   | 8  | 8  | 3  | -  | 5* | 9  | 8  | 8  | 8  | 6  | 4  | 4  | 1  | 1  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |    |    |  |
| UA3 = 16   | 1       | -   | -  | -  | 3* | 3* | 4* | 8  | 6  | 7  | 6  | 5  | 8  | 2  | 2  | 2  | 3  | 6  | 4  | 1  | 1  | 1  | 1  | 2  |    |    |  |
| UN = 17  | 1*      | 1*  | 2* | 3  | 9  | 8  | 7  | 6  | 5  | 5* | 6* | 6  | 4* | 1  | -  | 1  | -  | -  | -  | -  | -  | -  | 1  | 1  |    |    |  |
| UA9 = 18   | 3*      | 2*  | 2* | 2* | 5  | 9  | 8  | 6  | 6* | 8* | 6  | 5  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  |    |    |  |
| UA0 = 19   | 9       | 8   | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 7* | 8* | 7* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  |    |    |  |
| 4X = 20  | 9       | 9   | 9  | 1  | 4* | 8  | 9  | 8  | 7  | 5  | 4  | 3  | 3  | 1  | 1  | 2  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |    |    |  |
| HZ = 21  | 9       | 8   | 4  | 2* | 7  | 9  | 8  | 7  | 5  | 5  | 2* | 1  | 2  | 1  | 1  | 2  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |    |    |  |
| VU = 22  | -       | 2*  | 4  | 9  | 8  | 7  | 6  | 4  | 4  | 5* | 7  | 7  | 4* | 3* | 1  | 1  | 3  | 5  | 8  | 8  | 8  | 9  | 8  | 5  |    |    |  |
| JT = 23  | 3*      | 3*  | 3  | 8  | 9  | 7  | 8  | 6  | 7* | 8* | 8* | 7* | 7  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 3* |    |    |  |
| VR2 = 24   | 9       | 9   | 8  | 7  | 5  | 4  | 7* | 7* | 8* | 8* | 8* | 8* | 7* | 5  | 4  | 4  | 5  | 6  | 8  | 8  | 8  | 8  | 1* | 5* |    |    |  |
| JA1 = 25   | 8*      | 8   | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 5* | 6* | 5* | 5* | 3* | 2* | 1* | 2* | 2* | -  | 2  | 7  | 6  | 9* |    |    |  |
| HS = 26  | 8       | 9   | 9  | 8  | 6  | 5  | 3  | 5* | 6* | 7  | 7  | 8  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 8  | 6  |    |    |  |
| DU = 27  | 8       | 8   | 6  | 5  | 4* | 4* | 5* | 6  | 7* | 7  | 7  | 7  | 6  | 6  | 5  | 5  | 5  | 6  | 8  | 8  | 6  | 2  | 5  | 9  |    |    |  |
| YB = 28  | 9       | 9   | 8  | 7  | 5  | 1  | 1  | 4  | 5  | 7  | 7* | 7* | 7  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 7  | 7  | 8  |    |    |  |
| VK6 = 29   | 8       | 9   | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 6  | 5  | 4  | 2  | 1  | 1* | 3* | 5* | 5* | 6* | 6  |    |    |  |
| VK3 = 30   | 9       | 8   | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 2  | 1  | 1* | 5  | 7  | 8  | 8  | 8  | 8  |    |    |  |
| KH6 = 31   | 6       | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | -  | -  | -  | 3  | 1  | 1  | 9  | 3* | 2* | 2  | 4  |    |    |  |
| KH8 = 32   | 4       | 6   | 8  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 5  | 4  | 3  | 9  | 2  | 2  | 2  | 3  |    |    |  |
| CN = 33  | 9+      | 9+  | 9+ | 9  | 8  | -  | -  | 4* | 8  | 8  | 8  | 7  | 6  | 5  | 5  | 6  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |    |  |
| SU = 34  | 9       | 9   | 9  | 8  | 4* | 8  | 9  | 8  | 7  | 6  | 5  | 4  | 3  | 1  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |    |    |  |
| 6W = 35  | 9+      | 9+  | 9+ | 9+ | 9+ | 8  | 5  | 4* | 6  | 9  | 9  | 9  | 8  | 7  | 5  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |    |  |
| D2 = 36  | 9+      | 9+  | 9  | 8  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 8  | 6  | 5  | 5  | 6  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |  |
| 5Z = 37  | 9       | 9   | 8  | 5  | 7  | 9  | 9  | 8  | 8  | 6  | 3  | 5  | 4  | 4  | 3  | 4  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |    |  |
| ZS6 = 38   | 8       | 4   | -  | 3  | 5  | 7  | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |    |  |
| FR = 39  | 2*      | 3*  | 5* | 5* | 8  | 9  | 9  | 7  | 7  | 6  | 5  | 6  | 5  | 6  | 4  | 5  | 6  | 8  | 9  | 9  | 8  | 6  | 4  | 2  |    |    |  |
| FJL = 40   | 1       | 1   | 2* | 3* | 2* | 2* | 2* | 4* | 5* | 7* | 4* | 6  | 7  | 5  | 3  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  |    |    |  |
| Zone   | UTC     | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
| * = Longpath   |         |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Expected signal levels using 1500 W and 14 dBi isotropic antennas. |         |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 8  | 4  | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 6  | 7  | 8  | 9  | 9  |
| VO2 = 02 | 4       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 9  | 8  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 7  | 1  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 4  | 7  | 6  | 6  | 5  | 5  | 7  | 7  | 8  | 9  |
| W9 = 04  | 9       | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| W3 = 05  | 7       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 7  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 9  | 9+ |
| TI = 07  | 9+      | 9  | 9  | 8  | 8  | 8  | 7  | 6  | 1  | -  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9  | 9  | 9  | 7  | 6  | 1  | -  | -  | -  | 9+ | 9  | 9  | 8  | 6  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9  | 8  | 8  | 8  | 6  | 5  | 3  | -  | -  | -  | 9  | 9  | 9  | 7  | 5  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 8       | 7  | 6  | 5  | 5  | 3  | 1  | 2  | -  | -  | -  | 1  | 9  | 8  | 5  | 4  | 4  | 4  | 4  | 9  | 9  | 9  | 9+ | 9  |
| PY1 = 11 | 7       | 6  | 5  | 4  | 2  | 6  | 3  | -  | 1* | 5* | 3* | 4  | 5  | 7  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 8  | 5  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 6*      | 5* | 5* | 3* | 2* | 3* | 4* | 3* | 4* | 5* | 4* | 2* | 1  | 1  | 1  | 5  | 7  | 8  | 8  | 9  | 9  | 8  | 7  | 6  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | 1* | 7  | 7  | 9  | 8  | 6  | 7  | 6  | 6  | 7  | 8  | 9  | 8  | 7  | 3  | -  | -  |
| I = 15   | 7       | 4  | 3  | 1  | -  | -  | 4* | 7  | 6  | 7  | 7  | 7  | 6  | 8  | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| UA3 = 16 | -       | -  | -  | -  | 2* | 6* | 4* | 5  | 5* | 5  | 6  | 6  | 6  | 5  | 5  | 5  | 6  | 4  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 2* | 2* | 3* | 8  | 8  | 7  | 5  | 5* | 5  | 8* | 6* | 4  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 2*      | 2* | 2* | 2* | 3* | 7  | 7  | 5* | 6* | 7  | 7  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 9       | 9  | 8  | 8  | 9  | 8  | 8  | 8  | 6  | 7* | 8* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8* |
| 4X = 20  | 9       | 9  | 4  | -  | 4* | 4* | 8  | 6  | 5  | 6  | 6  | 5  | 6  | 6  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |
| HZ = 21  | 8       | 3  | -  | 5* | 4  | 9  | 8  | 6  | 4  | 6  | 5  | 4  | 5  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -       | 4* | 4* | 9  | 8  | 7  | 5  | 4  | 4  | 5  | 4* | 5* | 6* | 5  | 4  | 5  | 6  | 8  | 8  | 8  | 7  | 7  | 5  | -  |
| JT = 23  | 2*      | 2* | 2* | 6  | 9  | 7  | 6  | 6* | 7* | 8* | 8* | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| VR2 = 24 | 8       | 9  | 8  | 7  | 6* | 6* | 6* | 7* | 6* | 5  | 6  | 8* | 6  | 7  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 1  | -  | 7* |
| JA1 = 25 | 9*      | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 5  | 5* | 5* | 6* | 6* | 6* | 3* | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  |
| HS = 26  | 6*      | 8  | 9  | 8  | 6  | 5  | 4* | 5* | 5  | 5  | 5  | 6  | 6  | 7  | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 2  | 1* |
| DU = 27  | 8       | 8  | 7  | 5  | 5* | 5* | 5* | 5* | 6  | 7  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 6  | 6  | 5  | 1  | -  | -  | 8* |
| YB = 28  | 8       | 8  | 8  | 7  | 5  | 3  | 2  | 4  | 5  | 7  | 7  | 8* | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 4  | 1  | 1  | 6* |
| VK6 = 29 | 6*      | 8  | 8  | 6  | 5  | 5  | 1  | 6  | 6  | 7  | 5* | 7* | 5* | 4* | 2* | 2* | 1* | 2* | 3* | 3* | 3* | 3* | 5* | 5* |
| VK3 = 30 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 5  | 3  | 2* | 1* | 1* | 2* | 2* | 3* | 4* | 6  | 7  | 7  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 2  | 7  | 5  | -  | -  | -  | -  | 5  | 5  | 4  | 4  | 4  | 5  | 6  |
| KH8 = 32 | 7       | 8  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 6  | 6  | 7  | 7  | 5  | 5  | 6  | 4  | 6  |
| CN = 33  | 9+      | 9  | 9  | 8  | 4  | -  | -  | 2* | 5  | 5  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9  | 8  | 4  | 2* | 5  | 9  | 6  | 5  | 7  | 7  | 6  | 6  | 7  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |
| 6W = 35  | 9       | 9  | 9  | 8  | 7  | 5  | -  | -  | 3* | 3  | 9  | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9  | 9  | 9  |
| D2 = 36  | 9       | 8  | 6  | 6  | 4  | 4* | 5* | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9+ | 9  | 9  | 9  | 9  |
| 5Z = 37  | 8       | 6  | 4  | 3* | 5* | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 6  | 6  | 6  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| ZS6 = 38 | 1       | -  | -  | -  | 4* | 5* | 7  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 6  | 5  | 4  |
| FR = 39  | -       | 1* | 5* | 6* | 5  | 8  | 8  | 7  | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 5  | 5* | 4* | 2* |
| FJL = 40 | -       | -  | -  | 2* | 4* | 4* | 5* | 5* | 6* | 6* | -  | -  | 4  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Jan., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 8   | 5  | 2* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  | 8  | 9  | 9  |
| VO2 = 02 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 5  |    |
| W6 = 03  | 9   | 9   | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 7  | 6  | 8  | 8  | 8  | 9  | 9  |
| W9 = 04  | 6   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| W3 = 05  | 1   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 8  | 7  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 7  |    |
| XE1 = 06 | 9   | 9   | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | 8  | 8  | 6  | 7  | 8  | 7  | 8  | 9  | 9  | 9  | 9  |    |
| TI = 07  | 8   | 6   | 4  | 4  | 3  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | 9  | 7  | 4  | 2  | 2  | 2  | 4  | 6  | 9  | 9  | 9  |    |
| VP2 = 08 | 8   | 6   | 5  | 5  | 3  | -  | 1  | -  | -  | -  | -  | -  | 7  | 9  | 6  | 2  | 1  | 2  | 3  | 5  | 7  | 9  | 9  | 9  | 8  |    |
| P4 = 09  | 7   | 5   | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 5  | 1  | -  | 1  | 1  | 2  | 5  | 7  | 9  | 8  | 8  |    |
| HC = 10  | 6*  | 9+  | 9+ | 9+ | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 3  | 5  | 5  | 6  |    |
| PY1 = 11 | 6*  | 5*  | 4* | 4* | 2* | 1  | -  | -  | -  | 2* | 2* | 2* | 1* | -  | -  | 1  | 4  | 5  | 7  | 8  | 8  | 6  | 7* | 7* | 7* |    |
| CE = 12  | 9   | 8   | 8  | 6  | 6  | 4  | 7  | 2  | 2* | -  | 1* | 3  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  | 6*  | 5*  | 5* | 5* | 4* | 4* | 2* | 1* | 1* | 1* | 2* | 1* | 1* | 1  | -  | -  | 1  | 1  | 2  | 3* | 5* | 6* | 7* | 7* | 7* |    |
| G = 14   | -   | -   | -  | -  | -  | -  | -  | -  | 2  | 2* | 7  | 8  | 7  | 5  | 8  | 7  | 8  | 8  | 8  | 3  | 1  | -  | -  | -  | -  |    |
| I = 15   | -   | -   | -  | -  | -  | -  | 1* | 3* | 2  | 1  | 6  | 6  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 8  | 7  | 4  | 2  | 2  |    |
| UA3 = 16 | -   | -   | -  | -  | -  | 5* | 3* | 2* | 1  | 1* | 5  | 7  | 6  | 7  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  |    |
| UN = 17  | -   | 2*  | 6* | 4* | 4* | 7  | 5  | 4* | 2* | 3* | 5  | 6  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| UA9 = 18 | -   | 5*  | 2* | 3* | 4* | 4  | 4  | 3* | 3* | 2* | 7  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| UA0 = 19 | 8   | 9   | 8  | 8  | 7  | 6  | 6  | 5  | 2  | 6* | 6* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* |    |
| 4X = 20  | 8   | 5   | -  | -  | 2* | 7* | 6  | 3  | 1  | 4  | 6  | 6  | 5  | 5  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| HZ = 21  | 5   | -   | -  | 2* | 5* | 8  | 6  | 2  | 1  | 5  | 6  | 6  | 7  | 5  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |    |
| VU = 22  | -   | 4*  | 6* | 7  | 6  | 5  | 4* | 2* | 2  | 4  | 5  | 5  | 6* | 5  | 5  | 6  | 7  | 8  | 7  | 4  | 1  | 1  | -  | -  | -  |    |
| JT = 23  | 5*  | 3*  | 2* | 4* | 8  | 6  | 4  | 3* | 3* | 3* | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| VR2 = 24 | 8*  | 8   | 7  | 6* | 6* | 6* | 5* | 4* | 4  | 5  | 6  | 7  | 7  | 7  | 6  | 6  | 6  | 6  | 5  | 5  | 2  | -  | -  | 6* | 6* |    |
| JA1 = 25 | 9   | 9   | 8  | 8  | 8  | 9  | 8  | 4  | 3* | 6* | 7* | 7* | 7* | 5* | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 9  | 9  |    |
| HS = 26  | 8*  | 6   | 8  | 6  | 5* | 4* | 3* | 3  | 4  | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  |    |
| DU = 27  | 8   | 7*  | 6* | 5* | 4* | 2* | 3* | 3* | 3  | 6  | 7  | 8  | 7  | 7  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | 6* | 6* |    |
| YB = 28  | 8*  | 7*  | 7  | 5  | 3  | 1  | 2* | 2* | 2  | 6  | 7  | 7  | 7  | 6  | 5  | 6  | 5  | 4  | 1  | 1  | -  | -  | -  | 1* | 1* |    |
| VK6 = 29 | 6*  | 5   | 5  | 4  | 1  | 1* | 1* | 1  | -  | -  | 6* | 6* | 5* | 4* | 3* | 2* | 3* | 2* | 2* | 1* | 1* | 3* | 5* | 5* | 5* |    |
| VK3 = 30 | 6   | 6   | 5  | 5  | 5  | 5  | 7  | 7  | 7  | 7  | 5  | 6* | 5* | 4* | 3* | 2* | 2* | 2* | 2* | 2* | 4* | 5  | 5  | 5  | 5  |    |
| KH6 = 31 | 8   | 9   | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | 4  | 1  | -  | -  | -  | -  | 6  | 6  | 5  | 5  | 6  | 6  | 7  | 7  |    |
| KH8 = 32 | 7   | 8   | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 6  | 6  | 8  | 8  | 5  | 4  | 3  | 5  | 7  | 7  | 7  | 7  | 7  | 6  | 7  | 7  |    |
| CN = 33  | 9   | 8   | 6  | 2  | -  | -  | -  | 1  | 1* | 5  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| SU = 34  | 9   | 8   | 2  | -  | -  | 6* | 6  | 2* | 1  | 4  | 6  | 6  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| 6W = 35  | 3   | 4   | 3  | 2  | 1  | 1  | -  | -  | 1* | 1* | 2  | 5  | 2  | 2  | 3  | 4  | 5  | 6  | 7  | 7  | 7  | 5  | 4  | 4  | 4  |    |
| D2 = 36  | 7   | 4   | 1  | 2  | 1  | 1* | 5* | 2  | 2  | 5  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  |    |
| 5Z = 37  | 2   | -   | -  | 1* | 5* | 5* | 4  | 3  | 5  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 5  | 5  |    |
| ZS6 = 38 | -   | -   | -  | -  | 2* | 5* | 3  | 5  | 6  | 7  | 7  | 7  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 7  | 4* | 2* | -  | -  | -  |    |
| FR = 39  | -   | -   | 2* | 6* | 5* | 5  | 3  | 4  | 5  | 6  | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 5  | 4  | 5* | 5* | 2* | 1* | -  | -  |    |
| FJL = 40 | -   | -   | -  | 1* | 4* | 2* | 2* | 2* | 4* | 1* | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Jan., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 5  | 1  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 9  | 9  | 8  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 6  | 6  | 7  | 8  | 8  | 8  | 7  | 6  | 5  | -  |
| W6 = 03  | 9       | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 5  | 6  | 8  | 9  | 9  | 9  |
| W9 = 04  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 7  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 6  | 5  | 8  | 7  | 7  | 7  | 7  | 6  | 3  | -  |
| XE1 = 06 | 9       | 9  | 6  | 6  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | 2  | 6  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 1* | -  | 1* | -  | 1  | 4  | 6  | 6  | 6  | 6  |
| VP2 = 08 | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 1* | -  | -  | -  | 1* | 2  | 5  | 6  | 6  | 5  | -  |
| P4 = 09  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1* | -  | -  | 1* | -  | 1  | 2  | 4  | 5  | 4  | -  |
| HC = 10  | 9+      | 9  | 9  | 8  | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 8  | 9  | 8  | 8  | 9  | 9+ | 8  | 9  | 9+ | 9+ |
| PY1 = 11 | 4*      | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | 1* | 2* | 4* | 5* | 6* | 7* | 6* |
| CE = 12  | 7       | 6  | 4* | 2* | -  | 1* | 1  | -  | -  | -  | -  | -  | 1  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| LU = 13  | 4*      | 2* | 2* | 3* | 1* | 2* | 1* | -  | -  | -  | 1* | 1* | 1* | 1  | -  | -  | -  | 1* | 3* | 4* | 5* | 6* | 6* | 6* |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 4* | 2  | 7  | 7  | 8  | 8  | 4  | -  | -  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | 1* | -  | -  | 2  | 3  | 1  | 3* | 4  | 8  | 8  | 9  | 8  | 7  | 6  | 2  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | 6  | 4  | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 1* | 5* | 2* | 3* | 5  | 2  | 2* | 1* | 1* | 3  | 5  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | 4* | 1* | 1* | 1* | -  | 1  | -  | -  | -  | 3  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 4       | 8  | 5  | 5  | 5  | 2  | 3  | 1  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| 4X = 20  | 4       | -  | -  | -  | -  | 5* | 2  | 1* | -  | -  | 5  | 5  | 5  | 5  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| HZ = 21  | -       | -  | -  | -  | 5* | 4  | 2  | -  | -  | 1  | 5  | 6  | 6  | 6  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 6  |
| VU = 22  | -       | -  | 6* | 4  | 3* | 3* | 2* | 1* | -  | 1  | 4  | 5  | 5  | 5  | 7  | 7  | 8  | 7  | 4  | -  | -  | -  | -  | -  |
| JT = 23  | 2*      | 1* | -  | 1* | 4  | 5  | 1  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 8*      | 7* | 6* | 5* | 3* | 2* | 2* | 1* | 1  | 3  | 6  | 7  | 7  | 6  | 4  | 3  | 2  | 1  | 1  | -  | -  | -  | -  | 2* |
| JA1 = 25 | 9       | 9  | 6  | 7  | 6  | 8  | 5  | -  | 1* | 3* | 6* | 8* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  |
| HS = 26  | 6*      | 5* | 5  | 3* | 2* | 1  | 1* | -  | 2  | 4  | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 2  | -  | -  | -  | -  |
| DU = 27  | 8*      | 6* | 5* | 2* | 2* | -  | 1* | 1* | -  | 2  | 5  | 6  | 6  | 5  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 2* |
| YB = 28  | 7*      | 5* | 4* | 2* | 1* | -  | -  | -  | -  | 3  | 6  | 5  | 5* | 4* | 2* | 3  | 2  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 4*      | 4* | 2* | 1* | 1* | -  | -  | -  | -  | -  | 5* | 5* | 5* | 3* | 3* | 2* | 2* | 2* | 1* | -  | -  | -  | 1* | 4* |
| VK3 = 30 | 2*      | 2* | 1  | 1  | 1  | 1  | 2  | 4  | 4  | 3  | 1  | 5* | 4* | 4* | 2* | 2* | 2* | 2* | 1* | 1* | 1* | 2* | 3* | 4* |
| KH6 = 31 | 8       | 8  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 6  | 7  | 6  | 6  | 7  | 8  | 8  |
| KH8 = 32 | 7       | 5  | 6  | 7  | 8  | 7  | 7  | 5  | 2  | 1  | 4* | 4  | 3  | 1  | -  | -  | 1  | 5  | 7  | 8  | 8  | 8  | 8  | 7  |
| CN = 33  | 7       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 7  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| SU = 34  | 8       | 4  | -  | -  | -  | 3* | 2* | 1* | -  | -  | 5  | 6  | 5  | 5  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 2  | 3  | 3  | 2  | -  | -  | -  |
| D2 = 36  | 3       | 1  | -  | -  | -  | -  | 3* | 1* | -  | 1  | 4  | 5  | 5  | 6  | 8  | 8  | 9  | 8  | 8  | 8  | 7  | 6  | 5  | 5  |
| 5Z = 37  | -       | -  | -  | -  | 3* | 3* | 2* | -  | 1  | 2  | 5  | 6  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 5  | 1  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 2* | 1* | 1  | 2  | 4  | 4  | 5  | 5  | 5  | 4  | 4  | 5  | 5  | 1  | 1* | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 5* | 3* | 1  | -  | -  | 2  | 2  | 6  | 4  | 3  | 4  | 3* | 3* | 3* | 3* | 4* | 4* | 1* | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Feb., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2       | 5  | 5  | 5  | 5  | 5  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 3  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 2  | 4  | 5  | 5  | 5  | 4  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 2       | 4  | 5  | 5  | 5  | 5  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 1  | 4  | 3  | 4  | 4  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2       | 2  | 3  | 3  | 3  | 3  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3       | 4  | 4  | 3  | 3  | 4  | 4  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 3       | 4  | 4  | 4  | 3  | 4  | 3  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 4       | 4  | 5  | 5  | 4  | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 2       | 4  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | 3       | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 1       | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | 3       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 4       | 5  | 5  | 5  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| SU = 34  | 2       | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 6W = 35  | 5       | 4  | 3  | 3  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| D2 = 36  | 4       | 4  | 4  | 3  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  |
| 5Z = 37  | 4       | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| ZS6 = 38 | 5       | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  |
| FR = 39  | 5       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Feb., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 1  | 2  | 4  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 8  | 8  | 8  | 8  | 8  | 8  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W6 = 03  | -       | -  | 2  | 3  | 6  | 7  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 2       | 5  | 7  | 8  | 8  | 8  | 7  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 5       | 7  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | 1       | 2  | 4  | 7  | 6  | 7  | 7  | 5  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5       | 5  | 6  | 6  | 6  | 6  | 7  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 6       | 7  | 7  | 6  | 6  | 7  | 7  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| P4 = 09  | 6       | 7  | 7  | 7  | 6  | 7  | 6  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| HC = 10  | 7       | 7  | 8  | 8  | 7  | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 1  | -  | -  | -  | -  | -  | -  | 4  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 9  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1  | -  | -  | -  | -  | -  | 4  | 9  | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| I = 15   | 5       | 7  | 6  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| UA3 = 16 | 6       | 3  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| UN = 17  | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA9 = 18 | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | -  | -  | 1  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 4       | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| HZ = 21  | 6       | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| VU = 22  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 1  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 1  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 7       | 8  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| SU = 34  | 5       | 7  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| 6W = 35  | 8       | 7  | 6  | 6  | 7  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  |
| D2 = 36  | 7       | 7  | 7  | 6  | 7  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| 5Z = 37  | 7       | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| FR = 39  | 8       | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  |
| FJL = 40 | 2       | 3  | 3  | 3  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Feb., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1       | 2  | 4  | 6  | 6  | 6  | 6  | 6  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| W6 = 03  | 2       | 5  | 6  | 7  | 7  | 8  | 8  | 7  | 7  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 5       | 8  | 8  | 8  | 8  | 9  | 8  | 7  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| W3 = 05  | 7       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |
| XE1 = 06 | 6       | 7  | 9  | 9  | 9  | 8  | 7  | 8  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| TI = 07  | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| VP2 = 08 | 8       | 9  | 9  | 8  | 8  | 8  | 7  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| P4 = 09  | 8       | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| HC = 10  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 3  | 2  | 2  | 4  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 2  | -  | -  | -  | 1  | 5  | 8  | 9  | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 5  | 5  | 6  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 7  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 6  | 7  |
| I = 15   | 8       | 8  | 8  | 6  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  |
| UA3 = 16 | 6       | 6  | 6  | 6  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| UN = 17  | 7       | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 4  |
| UA9 = 18 | 6       | 5  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 5  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 8       | 8  | 7  | 7  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  |
| HZ = 21  | 7       | 7  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| VU = 22  | 6       | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  |
| JT = 23  | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 5  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  |
| HS = 26  | 5       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 4  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 1  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | 1  | 5  | 6  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | 2  | 5  | 7  | 7  | 7  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 9  | 8  | 8  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 7  |
| SU = 34  | 8       | 8  | 7  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 8  | 7  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  |
| FR = 39  | 9       | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  |
| FJL = 40 | 7       | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2  | 6  | 7  | 8  | 8  | 8  | 7  | 6  | 7  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| W6 = 03  | 4  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  |
| W3 = 05  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| XE1 = 06 | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| TI = 07  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| VP2 = 08 | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |
| P4 = 09  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 5  | 5  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| I = 15   | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  |
| UA3 = 16 | 8  | 8  | 8  | 8  | 6  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  |
| UN = 17  | 7  | 7  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  |
| UA9 = 18 | 6  | 5  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 5  |
| UA0 = 19 | 1  | -  | -  | -  | -  | -  | 1  | 4  | 2  | 3* | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | -  |
| 4X = 20  | 8  | 8  | 8  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  |
| HZ = 21  | 8  | 8  | 7  | 7  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| VU = 22  | 7  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  |
| JT = 23  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 5  |
| VR2 = 24 | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 5  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 3* | 4* |
| HS = 26  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 4  |
| YB = 28  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  |
| VK6 = 29 | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 2  | 3  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 6  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | -  |
| KH6 = 31 | -  | -  | 2  | 5  | 6  | 6  | 7  | 7  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | 2  | 4  | 6  | 7  | 7  | 7  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  |
| SU = 34  | 8  | 8  | 8  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  |
| ZS6 = 38 | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 8  | 8  | 9  |
| FR = 39  | 8  | 9  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 8  |
| FJL = 40 | 7  | 7  | 7  | 7  | 6  | 4  | 5  | 5  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 9  | 9  | 9  | 9  | 7  | 2  | 1  | 2  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | 1* | 2  | 2  | 5  | 8  |
| VO2 = 02 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 6  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 9  | 9  |
| W6 = 03  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | -  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 7  |
| W9 = 04  | 9       | 9+ | 9  | 9  | 9  | 9  | 8  | 9  | 9  | 8  | 6  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | 1  | 5  | 6  | 8  | 9  |
| W3 = 05  | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 9  | 7  | 4  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 9  | 9  | 7  | -  | 7  | 6  | 2  | 1  | 1  | -  | -  | 1  | 4  | 5  | 8  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 3  | 9  | 8  | 5  | 3  | 1  | 1  | 1  | 1  | 3  | 6  | 8  | 9  | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 5  | 9  | 9  | 8  | 4  | 2  | 1  | 1  | 1  | 3  | 6  | 8  | 9  | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 6  | 9  | 8  | 5  | 2  | 1  | 1  | 1  | 3  | 6  | 8  | 9  | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 8  | 9  | 8  | 8  | 6  | 5  | 1  | 2  | 4  | 5  | 7  | 8  | 9  | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 9  | 9  | 9  | 9  | 7  | 4  | 8  | 8  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  | 9  |
| I = 15   | 9+      | 9+ | 9+ | 9  | 9  | 5  | 7  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1  | 3  | 8  | 8  | 9  | 9  | 9+ |
| UA3 = 16 | 8       | 8  | 8  | 7  | 3  | 5  | 8  | 7  | 6  | 4  | 2  | 1* | -  | -  | -  | -  | -  | 1  | 4  | 8  | 7  | 7  | 8  | 8  |
| UN = 17  | 8       | 7  | 8  | 8  | 7  | 5  | 2  | 2  | 1  | 1* | 3* | 2* | 1* | -  | -  | -  | -  | 1  | 2  | 3  | 5  | 7  | 8  | 9  |
| UA9 = 18 | 1       | 1* | 3* | 6  | 7  | 7  | 6  | 5  | 6  | 5* | 5* | 2* | 3* | 1* | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 4  |
| UA0 = 19 | 8       | 3  | 4  | 4  | 5  | 7  | 6  | 6  | 8  | 8  | 7  | 5* | 2* | 1* | -  | -  | -  | -  | 2* | 2* | 1  | 6  | 8  | 7  |
| 4X = 20  | 9       | 9  | 9  | 9  | 4  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 9  | 7  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  | 7       | 2  | 7  | 7  | 7  | 4  | 1  | -  | -  | 1* | 1* | 1* | -  | 1* | -  | -  | -  | 1  | 5  | 7  | 8  | 9  | 9  | 9  |
| JT = 23  | 3       | 6  | 8  | 8  | 3  | 3  | 2  | 2* | 5  | 6* | 6* | 4* | 2* | 1* | -  | -  | -  | -  | -  | 4  | 6  | 7  | 6  | 5  |
| VR2 = 24 | 8       | 7  | 4  | 1  | -  | -  | 1* | 2* | 5* | 7  | 7  | 6* | 4* | 1* | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 7  | 8  |
| JA1 = 25 | 6*      | 3* | 1* | 2  | 4  | 5  | 7  | 8  | 9  | 9  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | 3* | 5* | 1  | 6  | 7* | 8* |
| HS = 26  | 9       | 9  | 8  | 5  | -  | -  | -  | -  | 1* | 4* | 8  | 3* | 1* | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  |
| DU = 27  | 6       | 4  | 1  | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 3  | 2  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 8  | 7  |
| YB = 28  | 9       | 8  | 5  | 1  | -  | -  | -  | -  | 1  | 5* | 7  | 4* | 2* | 1  | 1  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  |
| VK6 = 29 | 8       | 7  | 5  | 4  | 2  | 2  | 3  | 5  | 6  | 7  | 7  | 7  | 5  | 4  | 2  | 1  | 1  | 2  | 2  | 2  | 4  | 5  | 7  | 8  |
| VK3 = 30 | 5       | 4  | 4  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 2  | 1  | 1  | 2  | 6  | 7  | 6  | 6  | 5  |
| KH6 = 31 | 2       | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | 2  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 5  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9  | 8  | 1  | 6  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | 1  | 1  | 5  | 7  | 9  | 9  | 9  | 9+ |
| SU = 34  | 9       | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9  | 9  | 9  | 7  | 4  | 2  | 1  | 1  | 2  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 9+ | 9  | 9  | 8  | 9  | 9  | 8  | 7  | 4  | 2  | 1  | -  | 1  | 1  | 3  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+      | 9  | 9  | 8  | 8  | 9  | 8  | 6  | 3  | 1  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| ZS6 = 38 | 9       | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 4  | 2  | 1  | 1  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| FR = 39  | 9       | 7  | 4  | 8  | 9  | 8  | 7  | 5  | 3  | 1  | 1  | 1  | 1  | 1  | 1  | 3  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| FJL = 40 | 6       | 7  | 6  | 4  | 1  | 1* | 2* | 2  | 6  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 6  | 6  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath

Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Feb., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 9  | 7  | 1  | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 2  | 6  | 5  | 7  | 8  | 9  |
| VO2 = 02 | 9       | 7  | 1  | 1  | 2  | 5  | 5  | 2  | -  | -  | 1  | 9  | 8  | 5  | 3  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| W6 = 03  | 9       | 9  | 9  | 9  | 9  | 8  | 6  | 7  | 8  | 8  | 7  | 1  | -  | -  | 6  | 3  | 1  | 1  | 1  | 4  | 2  | 5  | 7  | 9  |
| W9 = 04  | 9+      | 9  | 9  | 5  | 2  | 2  | 1  | 5  | 5  | 2  | -  | -  | 8  | 8  | 5  | 2  | 1  | 1  | 4  | 5  | 8  | 9  | 9  | 9+ |
| W3 = 05  | 9+      | 9  | 9  | 8  | 9  | 5  | 4  | 5  | 2  | 2  | -  | 6  | 9  | 7  | 4  | 4  | 1  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ |
| XE1 = 06 | 9       | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 1  | -  | -  | 8  | 6  | 6  | 5  | 5  | 4  | 5  | 7  | 8  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | -  | -  | 9  | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | 9+ | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | 9+ | 9  | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 1  | 2  | 9  | 9  | 9  | 9  | 8  | 6  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5* | 3* | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9  | 9  | 9  | 8  | 9  | 7  | 5* | 5* | 2* | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7       | 4  | 5  | 7  | 7  | -  | 1* | 5  | 9  | 9  | 8  | 6  | 9  | 1  | 1  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| I = 15   | 9       | 9  | 9  | 9  | 6  | 2* | 4* | 9  | 8  | 8  | 7  | 3  | 1  | 1  | 2  | 1  | 1  | 4  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | 4       | 4  | 3  | 2* | 2* | 2* | 7  | 8  | 7  | 7  | 6  | 5  | 8  | 1  | 1  | -  | 3  | 5  | 7  | 7  | 5  | 3  | 5  | 5  |
| UN = 17  | 1       | -  | 2  | 8  | 8  | 6  | 6  | 5  | 4  | 5  | 5* | 4  | 7  | 3* | 1* | 1  | 2  | -  | -  | -  | -  | 1  | 2  | 2  |
| UA9 = 18 | 1*      | 2* | 2* | 2  | 8  | 8  | 7  | 7  | 6  | 6  | 7* | 7* | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| UA0 = 19 | 8       | 8  | 8  | 6  | 7  | 7  | 6  | 8  | 9  | 8  | 8* | 8* | 7* | 5* | 4* | 2* | 1* | 1* | 1* | -  | -  | -  | 6  | 9  |
| 4X = 20  | 9+      | 9  | 9  | 5  | 1* | 7  | 9  | 8  | 7  | 4  | 2  | 1  | 1  | 1  | 1  | 1  | 3  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| HZ = 21  | 9+      | 9  | 8  | 2  | 8  | 9  | 8  | 6  | 5  | 4  | 1  | 1  | 2  | -  | 1  | 2  | 2  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| VU = 22  | 1*      | -  | 2  | 9  | 8  | 7  | 5  | 3  | 3* | 2  | 8  | 5  | 7  | 2* | -  | 1  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  | 1*      | 2* | 7  | 8  | 7  | 5  | 5* | 7  | 7* | 7* | 8* | 7* | 6  | 5* | 2* | 1* | -  | -  | 1* | -  | 1  | 2  | 1  | 1* |
| VR2 = 24 | 9       | 9  | 8  | 7  | 5  | 3  | 5* | 5* | 8* | 8* | 8* | 7* | 6* | 6* | 4* | 2  | 4  | 5  | 6  | 8  | 8  | 9  | 4* | 3  |
| JA1 = 25 | 8*      | 7* | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 6  | 4* | 4* | 5* | 4* | 2* | 4* | 5* | 5* | -  | 5  | 5  | 5  | 9* |
| HS = 26  | 8       | 9  | 9  | 8  | 6  | 2  | 1  | 3  | 5* | 6  | 6  | 6  | 7  | 5  | 3  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 8  |
| DU = 27  | 8       | 7  | 6  | 4  | 1  | 1  | 3  | 5  | 7* | 7  | 7  | 7  | 6  | 5  | 5  | 3  | 4  | 6  | 7  | 8  | 8  | 7  | 8  | 9  |
| YB = 28  | 9       | 9  | 8  | 7  | 3  | 1  | 1  | 2  | 5  | 5  | 6  | 6  | 6  | 6  | 5  | 6  | 6  | 7  | 8  | 8  | 8  | 7  | 6  | 8  |
| VK6 = 29 | 7       | 9  | 8  | 8  | 9  | 8  | 8  | 8  | 9  | 8  | 9  | 8  | 7  | 5  | 4  | 2  | 1  | -  | 1* | 3* | 4* | 4* | 6* | 5  |
| VK3 = 30 | 8       | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | 1  | -  | -  | 1* | 2* | 4  | 7  | 8  | 8  |
| KH6 = 31 | 6       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | -  | -  | -  | 3  | 1  | 1  | 9  | 2* | 1  | 2  | 4  |
| KH8 = 32 | 4       | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 5  | 3  | 2  | 8  | 8  | 1  | 1  | 2  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9  | 2  | 1* | 5* | 8  | 9  | 9  | 7  | 5  | 3  | 2  | 3  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9+ | 9  | 9  | 4  | 8  | 9  | 8  | 7  | 6  | 2  | 1  | 1  | 2  | 1  | 1  | 2  | 6  | 7  | 9  | 9  | 9  | 9+ | 9+ |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 4* | 7  | 9+ | 9+ | 9  | 8  | 7  | 5  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 9  | 8  | 7  | 5  | 7  | 8  | 8  | 8  | 7  | 6  | 5  | 5  | 5  | 6  | 7  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| 5Z = 37  | 9       | 8  | 8  | 4  | 5  | 9  | 9  | 8  | 8  | 5  | 3  | 2  | 1  | 2  | 2  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| ZS6 = 38 | 8       | 2  | -  | 2  | 4  | 7  | 9  | 8  | 8  | 8  | 7  | 6  | 6  | 7  | 7  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  |
| FR = 39  | 1*      | 2* | 1* | 2* | 9  | 8  | 8  | 7  | 6  | 4  | 4  | 4  | 9  | 4  | 5  | 5  | 7  | 8  | 9  | 9  | 8  | 5  | 1* | 1* |
| FJL = 40 | 1       | 2* | 2* | 1* | 1* | 1* | 2* | 3* | 4* | 5* | 7* | 6  | 5  | 3  | 1  | 1  | 1  | 3  | 5  | 5  | 1  | 3  | 1  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Feb., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone         | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01     | 9       | 9  | 9  | 8  | 2  | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 5  | 7  | 8  | 9  | 9  |
| VO2 = 02     | 8       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03      | 9       | 9+ | 9  | 9  | 5  | 1  | 1  | 1  | 2  | 3  | 1  | -  | -  | -  | 7  | 7  | 6  | 5  | 6  | 3  | 6  | 8  | 8  | 9  |
| W9 = 04      | 9+      | 9  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 6  | 6  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ |
| W3 = 05      | 9       | 6  | 6  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 7  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| XE1 = 06     | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | -  | -  | -  | 8  | 8  | 8  | 6  | 9  | 8  | 7  | 8  | 9  | 9  | 9  |
| TI = 07      | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08     | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09      | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10      | 9+      | 8  | 9  | 9+ | 9+ | 9+ | 8  | 7  | 2  | -  | -  | 2  | 9  | 9  | 9  | 9  | 8  | 6  | 6  | 9  | 9  | 9  | 9+ | 9+ |
| PY1 = 11     | 9+      | 9+ | 9  | 9  | 8  | 9  | 8  | 2  | 1* | 3* | 3* | 8  | 9  | 7  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12      | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 5  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13      | 8       | 5  | 5  | 4  | 3  | 2* | 5  | 4* | 3* | 4* | 2* | 2* | 4  | 5  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| G = 14       | -       | -  | -  | 1  | 1  | -  | -  | 5* | 7  | 8  | 8  | 8  | 5  | 6  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 7  | 4  |
| I = 15       | 9       | 8  | 8  | 6  | 1  | 1* | 6* | 8  | 7  | 8  | 6  | 5  | 5  | 7  | 4  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16     | -       | -  | -  | -  | 4* | 3* | 4  | 7  | 5  | 6  | 7  | 5  | 5  | 6  | 4  | 4  | 5  | 7  | 6  | 2  | 1  | -  | 1  | 1  |
| UN = 17      | 1*      | 1* | 1* | 4  | 9  | 8  | 6  | 4  | 5* | 5  | 5* | 6* | 6* | 4  | 2  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18     | 3*      | 1* | 1* | 2* | 5  | 7  | 8  | 6  | 5* | 6  | 7* | 6  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19     | 9       | 8  | 8  | 6  | 7  | 6  | 9  | 9  | 7  | 7* | 8* | 8* | 7* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 8  |
| 4X = 20      | 9       | 9  | 9  | 1* | 5* | 3* | 9  | 6  | 5  | 7  | 5  | 5  | 4  | 6  | 4  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21      | 9       | 9  | 5  | 2* | 5  | 8  | 6  | 3  | 3  | 5  | 4  | 4  | 3  | 5  | 3  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22      | -       | 1* | 3* | 8  | 8  | 7  | 5  | 3* | 4* | 4  | 2* | 4* | 4* | 4  | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 5  |
| JT = 23      | 2*      | 1* | 3  | 8  | 8  | 4  | 6  | 5  | 6* | 7  | 7* | 8* | 7* | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* |
| VR2 = 24     | 8       | 9  | 8  | 7  | 3  | 3* | 5* | 7* | 8* | 6* | 6* | 8* | 8* | 6  | 6  | 6  | 7  | 7  | 7  | 8  | 8  | 4  | 1* | 6* |
| JA1 = 25     | 8*      | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 6  | 5* | 6* | 6* | 6* | 5* | 5* | 5* | 2* | -  | -  | 1  | 7  | 7  | 8* |
| HS = 26      | 6       | 9  | 9  | 7  | 5  | 4  | 2  | 4* | 5* | 5* | 5  | 6* | 5  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 2  |
| DU = 27      | 8       | 8  | 6  | 5  | 4* | 2  | 4* | 5* | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 7  | 8  | 8  | 8  | 6  | 1  | 2  | 8  |
| YB = 28      | 8       | 9  | 8  | 7  | 4  | 2  | 3* | 4* | 5  | 6  | 7  | 8  | 7  | 7  | 7  | 6  | 6  | 7  | 6  | 5  | 3  | 1  | -  | 6* |
| VK6 = 29     | 4       | 7  | 7  | 8  | 8  | 6  | 6  | 6  | 7  | 7  | 7  | 7  | 5  | 4* | 2* | 1* | 1* | 2* | 2* | 3* | 2* | 2* | 5* | 6* |
| VK3 = 30     | 9       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 9  | 8  | 4  | 3* | 1* | 1* | 1* | 1* | 2* | 2* | 2* | 5* | 7  | 9  |
| KH6 = 31     | 7       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 8  | 7  | -  | -  | -  | -  | 5  | 5  | 5  | 5* | 4  | 5  | 6  |
| KH8 = 32     | 7       | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 8  | 8  | 9  | 9  | 8  | 5  | 5  | 6  | 7  | 6  | 4  | 4  | 5  | 4  | 5  |
| CN = 33      | 9+      | 9+ | 9+ | 9  | 8  | -  | -  | 5* | 5  | 7  | 9  | 8  | 6  | 8  | 6  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34      | 9       | 9  | 9  | 7  | 5* | 5  | 9  | 6  | 5  | 7  | 6  | 5  | 4  | 6  | 4  | 4  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ |
| 6W = 35      | 9+      | 9+ | 9+ | 9+ | 9+ | 7  | 2  | 1* | 3  | 7  | 9+ | 9  | 9  | 8  | 6  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36      | 9       | 8  | 5  | 5  | 3  | 2* | 5* | 5  | 6  | 9  | 7  | 7  | 8  | 8  | 6  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37      | 7       | 4  | 4  | 3* | 3* | 8  | 8  | 7  | 7  | 7  | 5  | 6  | 6  | 7  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  |
| ZS6 = 38     | 1       | -  | -  | -  | 2* | 3* | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 8  | 4  | 2* | 2  |
| FR = 39      | -       | -  | 5* | 4* | 6  | 8  | 7  | 7  | 6  | 7  | 7  | 6  | 6  | 7  | 7  | 7  | 8  | 8  | 8  | 5  | 4* | 3* | 4* | 1* |
| FJL = 40     | -       | 1* | 2* | 3* | 1* | 2* | 4* | 3* | 4* | 6* | 6* | 2  | 5  | 5  | 4  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  |
| Zone         | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| * = Longpath |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Feb., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  | 9  | 9  |
| VO2 = 02 | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 8  | -  | 7  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  |
| W6 = 03  | 9       | 9  | 9  | 5  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 7  | 6  | 6  | 7  | 7  | 8  | 9  | 9  |
| W9 = 04  | 9       | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 7  | 7  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| W3 = 05  | 7       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 8  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9+ | 9+ | 9  | 9  | 9  | 5  | 5  | 1  | -  | -  | -  | 8  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| TI = 07  | 9       | 8  | 8  | 9  | 9+ | 9  | 9  | 5  | -  | -  | -  | -  | 8  | 9  | 9  | 8  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| VP2 = 08 | 8       | 7  | 8  | 9  | 9  | 8  | 7  | 1  | -  | -  | -  | 6  | 9  | 9  | 8  | 6  | 6  | 6  | 8  | 9  | 9  | 9+ | 9  | 9  |
| P4 = 09  | 7       | 6  | 7  | 8  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | 9  | 9  | 6  | 5  | 5  | 5  | 6  | 7  | 9  | 9  | 9  | 8  |
| HC = 10  | 6       | 4  | 4  | 6  | 7  | 5  | 2  | 2  | -  | -  | -  | -  | 6  | 7  | 5  | 2  | 2  | 1  | 1  | 4  | 6  | 7  | 7  | 7  |
| PY1 = 11 | 7       | 6  | 4  | 2  | 3* | 5  | 2  | -  | -  | 1* | 1* | 1  | 2  | -  | 2  | 6  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 1  | 1* | -  | 5  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 6*      | 5* | 4* | 2* | 2* | 2* | 3* | 1* | 1* | -  | 1* | 1* | 1* | -  | 1  | 5  | 7  | 8  | 8  | 8  | 8  | 6  | 7* | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | 2* | 3  | 3  | 9  | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 8  | 4  | 1  | -  |
| I = 15   | 4       | 2  | 2  | -  | -  | -  | 5* | 3  | 3  | 4  | 8  | 8  | 6  | 7  | 5  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 8  | 7  |
| UA3 = 16 | -       | -  | -  | -  | 2* | 4* | 3* | 4  | 1  | 1  | 7  | 8  | 6  | 5  | 5  | 5  | 6  | 6  | 2  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 4* | 2* | 4* | 8  | 8  | 6  | 4* | 2* | 2  | 5  | 5  | 5  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 3*      | 2* | 2* | 2* | 3* | 5  | 8  | 3  | 1  | 1  | 6  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 3  | 4* | 7* | 8* | 6* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8* |
| 4X = 20  | 9       | 9  | 5  | -  | 5* | 4* | 7  | 3  | 1  | 5  | 6  | 5  | 5  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 6  | 1  | 5* | 4* | 6  | 2  | 2* | 1* | 2  | 5  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -       | 4* | 5* | 7  | 5  | 4  | 2  | 4* | 2* | 4  | 4  | 5  | 6* | 5  | 5  | 6  | 7  | 8  | 8  | 8  | 7  | 5  | -  | -  |
| JT = 23  | 4*      | 3* | 2* | 6  | 8  | 7  | 7  | 3  | 1  | 2  | 6  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VR2 = 24 | 8*      | 8  | 7* | 6* | 6* | 5* | 7* | 7* | 5* | 6  | 7  | 8  | 7  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 7  | -  | -  | 7* |
| JA1 = 25 | 8       | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 5* | 6* | 7* | 7* | 7* | 5* | 3* | 1* | -  | -  | -  | -  | 6  | 8  | 8  |
| HS = 26  | 7*      | 8  | 7  | 5* | 4* | 2* | 3* | 5* | 4* | 4  | 6  | 6  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 8  | 2  | -  |
| DU = 27  | 8       | 7* | 5* | 5* | 4* | 4* | 5* | 5* | 3* | 5  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 6  | 3  | -  | -  | -  | 8* |
| YB = 28  | 8*      | 8  | 6* | 5* | 4* | 4* | 4* | 4* | 2  | 5  | 8  | 8  | 8  | 7  | 5  | 4  | 4  | 3  | 2* | -  | -  | -  | -  | 2* |
| VK6 = 29 | 6*      | 5* | 4* | 6  | 4  | 2  | 2* | 1  | 1  | 1  | 7* | 6* | 5* | 4* | 2* | 2* | 2* | 2* | 2* | 1* | -  | 3* | 6* | -  |
| VK3 = 30 | 7       | 7  | 7  | 7  | 7  | 7  | 5  | 5  | 4  | 5  | 7  | 5* | 5* | 4* | 2* | 1* | 1* | 1* | 1* | 1* | 2* | 5* | 7  | -  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | 7  | 4  | -  | -  | -  | -  | 6  | 5  | 4  | 6* | 4* | 5  | 7  |
| KH8 = 32 | 7       | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 4  | 8  | 7  | 3  | 2  | 2  | 4  | 6  | 6  | 6  | 5  | 5  | 5  | 6  |
| CN = 33  | 9       | 9  | 9  | 8  | 2  | -  | -  | 2* | 1  | 1  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9       | 9  | 8  | 3  | 2* | 4* | 7  | 2  | 1  | 5  | 6  | 6  | 5  | 5  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 8       | 9  | 9  | 8  | 5  | 3  | -  | -  | 1* | -  | 9  | 9  | 9  | 8  | 5  | 5  | 6  | 9  | 9  | 9  | 8  | 7  | 6  | 6  |
| D2 = 36  | 6       | 2  | 1  | 1  | -  | 3* | 5* | 4* | 2  | 6  | 8  | 7  | 8  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| 5Z = 37  | 1       | -  | -  | 1* | 5* | 5  | 4* | 2  | 5  | 7  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 7  |
| ZS6 = 38 | -       | -  | -  | -  | 1* | 4* | 5* | 3  | 6  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 4* | 2* | -  | -  |
| FR = 39  | -       | -  | 4* | 6* | 5* | 3  | 2  | 3  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 5* | 4* | 2* | 1* | -  |
| FJL = 40 | -       | -  | -  | 3* | 1* | -  | 1* | 1* | 1* | 1* | 2* | -  | -  | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Feb., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 8   | 7   | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  | 8  | 9  |
| VO2 = 02 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 4  |
| W6 = 03  | 9   | 9   | 7  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| W9 = 04  | 7   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | 3   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  |
| XE1 = 06 | 9   | 9   | 8  | 9  | 9  | 9  | 6  | 1  | 1  | -  | -  | -  | -  | -  | 3  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| TI = 07  | 6   | 4   | 4  | 6  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 9  | 5  | 2  | 2  | 2  | 2  | 2  | 5  | 6  | 7  | 8  | 7  |
| VP2 = 08 | 4   | 2   | 3  | 5  | 5  | 3  | 3  | -  | -  | -  | -  | -  | -  | 7  | 5  | 2  | 1  | 2  | 2  | 3  | 5  | 6  | 7  | 7  | 6  | 5  |
| P4 = 09  | 2   | 1   | 1  | 4  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | 5  | 4  | 2  | 1  | 1  | 1  | 1  | 2  | 5  | 5  | 6  | 6  |
| HC = 10  | 9+  | 9   | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 2* | 2* | 2* | 2  |
| PY1 = 11 | 5*  | 3*  | 1* | 1* | 2* | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | -  | 3  | 5  | 7  | 7  | 8  | 7  | 7* | 7* |
| CE = 12  | 9   | 8   | 7  | 7  | 7  | 6  | 7  | 1  | -  | -  | -  | -  | -  | -  | 4  | 6  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 5*  | 3*  | 1* | 1* | 1* | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | 1  | 1  | 2  | 4* | 5* | 6* | 6* |
| G = 14   | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 7  | 5  | -  | -  | -  |
| I = 15   | -   | -   | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | 8  | 8  | 7  | 6  | 6  | 8  | 8  | 8  | 9  | 9  | 8  | 7  | 5  | 2  |
| UA3 = 16 | -   | -   | -  | -  | -  | -  | 1* | -  | 1  | -  | -  | -  | 6  | 8  | 8  | 7  | 6  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -   | 3*  | 4* | 3* | 4  | 7  | 4  | 1* | 1* | -  | -  | -  | 6  | 6  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 1*  | 2*  | 1* | 1* | 1* | 2  | 5  | 1  | -  | -  | -  | -  | 6  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 8   | 8   | 7  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | 5* | 8* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| 4X = 20  | 8   | 6   | -  | -  | 2* | 4* | 4  | 1* | -  | 2  | 6  | 6  | 7  | 7  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 7   | 1   | -  | 2* | 5* | 3* | 2* | 1* | -  | -  | 5  | 6  | 8  | 8  | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| VU = 22  | -   | 2*  | 7* | 5* | 4* | 3* | 4* | 2* | 1* | 1  | 5  | 5  | 5  | 6* | 6  | 6  | 8  | 8  | 8  | 8  | 7  | 4  | 2  | 1  | -  | -  |
| JT = 23  | 5*  | 2*  | 1* | 2  | 7  | 8  | 5  | 1  | -  | -  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 8*  | 8*  | 7* | 7* | 6* | 6* | 6* | 6* | 2* | 3  | 7  | 8  | 6  | 5  | 4  | 4  | 5  | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | 5* |
| JA1 = 25 | 9   | 9   | 9  | 9  | 9  | 9  | 9  | 8  | 2  | 1* | 6* | 8* | 7* | 7* | 4* | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 8  | 8  |
| HS = 26  | 5*  | 7*  | 6* | 5* | 5* | 4* | 5* | 4* | 1  | 2  | 5  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  |
| DU = 27  | 9*  | 6*  | 5* | 5* | 5* | 5* | 4* | 3* | -  | 2  | 6  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 6  | 2  | -  | -  | -  | -  | 6* | -  |
| YB = 28  | 7*  | 6*  | 6* | 5* | 3* | 3* | 2* | 2* | 1* | 3  | 6  | 7  | 7  | 5  | 3* | 3* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 6*  | 4*  | 4* | 4* | 2* | 1* | 1* | 1* | -  | -  | -  | 6* | 6* | 5* | 4* | 3* | 3* | 3* | 2* | 1* | 1* | -  | -  | 1* | 3* | 5* |
| VK3 = 30 | 5*  | 3   | 3* | 2  | 2  | 2  | 2* | -  | -  | -  | 3* | 4* | 3* | 3* | 2* | 2* | 2* | 1* | 1* | 1* | -  | -  | 1* | 3* | 5* | -  |
| KH6 = 31 | 8   | 9   | 9  | 9  | 9  | 9  | 9  | 7  | 2  | -  | -  | 5  | 2  | -  | -  | -  | -  | -  | 5  | 4  | 3  | 6* | 5* | 6  | 7  | 7  |
| KH8 = 32 | 8   | 8   | 8  | 8  | 9  | 8  | 8  | 7  | 3  | 1  | 4* | 5* | 4* | 4* | 2* | 2* | 1* | 1  | 6  | 8  | 7  | 7  | 7  | 7  | 7  | 7  |
| CN = 33  | 9   | 9   | 8  | 3  | -  | -  | -  | -  | -  | -  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9   | 9   | 5  | -  | -  | 5* | 4  | 1* | -  | 1  | 7  | 6  | 7  | 7  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 1   | 5   | 5  | 3  | -  | -  | -  | -  | -  | -  | 4  | 8  | 5  | 3  | 2  | 2  | 3  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  |
| D2 = 36  | 2   | -   | -  | -  | -  | 1* | 5* | 3* | -  | 2  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | -  |
| 5Z = 37  | -   | -   | -  | -  | 5* | 5* | 5* | 2* | -  | 2  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 3  |
| ZS6 = 38 | -   | -   | -  | -  | -  | 4* | 4* | 2* | 2  | 4  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | 1* | -  | -  | -  |
| FR = 39  | -   | -   | -  | 5* | 5* | 5* | 2* | 1* | 1  | 4  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 4* | 4* | 1* | -  | -  | -  | -  |
| FJL = 40 | -   | -   | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Mar., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2       | 5  | 5  | 5  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 2  | 3  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 1  | 4  | 5  | 5  | 5  | 5  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 3  | 5  | 5  | 5  | 4  | 4  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 2  | 3  | 4  | 4  | 5  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2       | 2  | 3  | 3  | 2  | 3  | 3  | 2  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 2       | 3  | 3  | 3  | 3  | 3  | 3  | 2  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| P4 = 09  | 2       | 3  | 4  | 3  | 3  | 3  | 3  | 2  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 4       | 4  | 5  | 4  | 4  | 4  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 2       | 4  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | 3       | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 2       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 4       | 5  | 4  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| SU = 34  | 2       | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 6W = 35  | 4       | 4  | 3  | 4  | 3  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  |
| D2 = 36  | 4       | 5  | 5  | 3  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  |
| 5Z = 37  | 4       | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| ZS6 = 38 | 5       | 5  | 5  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  |
| FR = 39  | 5       | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Mar., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 1  | 1  | 2  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 8  | 8  | 8  | 8  | 8  | 8  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W6 = 03  | -       | -  | 1  | 3  | 5  | 6  | 7  | 6  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 2       | 4  | 7  | 8  | 8  | 8  | 8  | 5  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 4       | 6  | 8  | 8  | 8  | 7  | 7  | 5  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | 1       | 2  | 5  | 6  | 7  | 7  | 8  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5       | 5  | 6  | 6  | 5  | 6  | 6  | 5  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 5       | 6  | 6  | 6  | 6  | 6  | 6  | 5  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| P4 = 09  | 5       | 6  | 7  | 6  | 6  | 6  | 6  | 5  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| HC = 10  | 7       | 7  | 8  | 7  | 7  | 7  | 7  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | -  | -  | -  | -  | -  | -  | 4  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 9  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 1  | -  | -  | -  | -  | -  | 5  | 9  | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| I = 15   | 5       | 7  | 5  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| UA3 = 16 | 6       | 7  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| UN = 17  | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 2  |
| UA9 = 18 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 5       | 6  | 1  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| HZ = 21  | 5       | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| VU = 22  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 3  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 2  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 7       | 8  | 7  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| SU = 34  | 5       | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| 6W = 35  | 7       | 7  | 6  | 7  | 6  | 5  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| D2 = 36  | 7       | 8  | 8  | 6  | 8  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| 5Z = 37  | 7       | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| FR = 39  | 8       | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| FJL = 40 | 2       | 3  | 2  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Mar., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | 1  | 2  | 4  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 5  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  |
| W6 = 03  | 1  | 3  | 5  | 7  | 7  | 8  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| W3 = 05  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |
| XE1 = 06 | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 6  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| TI = 07  | 7  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| VP2 = 08 | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| P4 = 09  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| HC = 10  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 3  | 1  | 2  | 4  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 2  | -  | -  | -  | 1  | 5  | 8  | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 4  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  |
| I = 15   | 8  | 8  | 8  | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  |
| UA3 = 16 | 7  | 7  | 7  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  |
| UN = 17  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  |
| UA9 = 18 | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 5  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 8  | 7  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| HZ = 21  | 7  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 7  |
| VU = 22  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  |
| JT = 23  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 4  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  |
| HS = 26  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | -  |
| YB = 28  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 5  |
| VK6 = 29 | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 1  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | 2  | 5  | 6  | 7  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 8  | 8  | 9  | 8  | 7  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  |
| SU = 34  | 7  | 7  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  |
| 5Z = 37  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 7  | 8  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  |
| FR = 39  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 8  |
| FJL = 40 | 7  | 8  | 8  | 7  | 7  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2  | 3  | 7  | 7  | 8  | 8  | 7  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 8  |
| W6 = 03  | 4  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 7  |
| W3 = 05  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 7  |
| XE1 = 06 | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |
| TI = 07  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  |
| VP2 = 08 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| P4 = 09  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 5  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| I = 15   | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  |
| UA3 = 16 | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| UN = 17  | 7  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| UA9 = 18 | 6  | 6  | 5  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| UA0 = 19 | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2* | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 3* | 3  | 1  |
| 4X = 20  | 8  | 8  | 8  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| HZ = 21  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 7  | 8  |
| VU = 22  | 7  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 7  |
| JT = 23  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  |
| VR2 = 24 | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 5  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 3* | 5* | 5* | 2* |
| HS = 26  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 7  |
| DU = 27  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 5  | 3  |
| YB = 28  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  |
| VK6 = 29 | 4  | 1  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  |
| VK3 = 30 | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  |
| KH6 = 31 | -  | -  | 2  | 4  | 5  | 6  | 6  | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | 2  | 5  | 7  | 7  | 8  | 8  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 8  |
| SU = 34  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  |
| ZS6 = 38 | 9  | 8  | 9  | 9  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 9  |
| FR = 39  | 8  | 8  | 6  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| FJL = 40 | 7  | 8  | 7  | 7  | 7  | 6  | 6  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 7  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 8   | 8   | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 5  | 5  | 3  | 2  | 1* | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | 2  | 5  |
| VO2 = 02 | 9+  | 9+  | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 8  | 8  | 9  | 9+ |
| W6 = 03  | 9   | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 8  |
| W9 = 04  | 9   | 9+  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  | 9  |
| W3 = 05  | 9+  | 9+  | 9+ | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 8  | 9  | 9  | 7  | 4  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  |
| XE1 = 06 | 9   | 9   | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 8  | 6  | 2  | -  | 1  | -  | -  | -  | 1  | 4  | 5  | 8  | 9  |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 9  | 8  | 5  | 2  | 2  | 1  | 1  | 1  | 4  | 6  | 8  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 7  | 9+ | 9  | 8  | 5  | 2  | 1  | 1  | 1  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 9+ | 9  | 8  | 7  | 3  | 1  | 1  | 2  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 3  | 6  | 9  | 8  | 6  | 4  | 3  | 2  | 2  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 1  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9   | 9   | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 9  | 9  | 9  | 9+ |
| I = 15   | 9+  | 9+  | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | 1  | 1  | 3  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | 9   | 9   | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 4  | 3  | 1  | 1  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 9  | 9  | 9  | 9  |
| UN = 17  | 9   | 8   | 8  | 7  | 8  | 4  | 2  | 1  | -  | 1* | 4* | 2* | 2* | 1* | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 9  | 9  | 9  |
| UA9 = 18 | 3   | 4   | 7  | 8  | 8  | 5  | 4  | 3  | 2  | 4* | 8  | 8  | 2* | 1* | -  | -  | -  | -  | -  | 3  | 5  | 6  | 6  | 6  | 6  | 4  |
| UA0 = 19 | 7   | 6   | 2  | 2  | 2  | 6  | 8  | 5  | 7  | 7  | 8  | 7  | 3  | 2* | -  | -  | -  | -  | -  | 2* | 5* | 6* | 7* | 8  | 8  | 8  |
| 4X = 20  | 9   | 9   | 9  | 9  | 9  | 8  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9   | 9   | 9  | 8  | 8  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 9   | 9   | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  | 6   | 8   | 8  | 6  | 2  | 1  | 1  | 2* | 4* | 7  | 7* | 8  | 4* | 2* | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  | 7  | 6  | 6  |
| VR2 = 24 | 8   | 7   | 5  | 1  | -  | -  | -  | 1* | 6* | 8  | 7  | 5* | 5* | 2* | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 9  | 9  | 9  |
| JA1 = 25 | 5*  | 3*  | -  | -  | 2  | 4  | 7  | 8  | 8  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | 4* | 7* | 8* | 8* | 9* | 8* | 8* |
| HS = 26  | 9   | 9   | 8  | 5  | -  | -  | -  | -  | 1* | 4* | 8  | 4* | 1* | -  | -  | -  | -  | -  | -  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| DU = 27  | 7   | 5   | 1  | -  | -  | -  | -  | 1  | 5* | 6  | 5  | 4* | 2  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 8  | 8  | 8  | 8  | 8  |
| YB = 28  | 9   | 8   | 6  | 3  | -  | -  | -  | -  | 2* | 4* | 7  | 8  | 2  | 1  | 1  | 1  | 1  | -  | 1  | 5  | 7  | 8  | 8  | 8  | 9  | 9  |
| VK6 = 29 | 8   | 8   | 7  | 6  | 4  | 3  | 5  | 6  | 7  | 7  | 7  | 6  | 5  | 4  | 2  | 1  | 1  | 2  | 2  | 3  | 4  | 5  | 6  | 8  | 8  | 8  |
| VK3 = 30 | 6   | 6   | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 8  | 8  | 7  | 6  | 4  | 2  | 1  | 1  | 1  | 3  | 5  | 7  | 8  | 6  | 6  | 6  |
| KH6 = 31 | 2   | 5   | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | 1   | 3   | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 3  | 1  | 1  | -  | -  | 1* | -  | -  | -  | -  |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9  | 9  | 8  | 9  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| SU = 34  | 9   | 9   | 9  | 9  | 9  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9  | 9  | 9  | 9  | 7  | 5  | 2  | 1  | 1  | 2  | 4  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+  | 9+  | 9+ | 9  | 9  | 8  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| 5Z = 37  | 9   | 9   | 9  | 8  | 9  | 9  | 9  | 9  | 7  | 4  | 2  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| ZS6 = 38 | 9   | 8   | 7  | 5  | 6  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 2  | 2  | 1  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| FR = 39  | 4   | 1   | -  | 3  | 9  | 8  | 6  | 5  | 3  | 1  | 1  | 1  | 1  | 1  | -  | -  | 1  | 3  | 5  | 8  | 8  | 9  | 9  | 8  | 6  | 6  |
| FJL = 40 | 7   | 7   | 5  | 3  | 1  | 2* | 3  | 5  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 8  | 7  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath

Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Mar., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 9  | 8  | 6  | 2  | 1  | 3* | 2* | -  | -  | -  | -  | -  | -  | 2  | 1  | 2  | 7  | 6  | 6  | 7  | 8  |
| VO2 = 02 | 9+      | 9  | 7  | 8  | 8  | 8  | 8  | 7  | 5  | 6  | 7  | 9  | 8  | 6  | 2  | 2  | 2  | 4  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| W6 = 03  | 9       | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 8  | -  | 7  | 5  | 3  | 1  | 1  | -  | 1  | 3  | 4  | 8  | 9  |
| W9 = 04  | 9+      | 9+ | 9  | 8  | 7  | 6  | 6  | 8  | 7  | 3  | 5  | 3  | 9  | 8  | 5  | 1  | 1  | 1  | 5  | 5  | 8  | 9  | 9  | 9+ |
| W3 = 05  | 9+      | 9  | 9+ | 9  | 9  | 9  | 8  | 9  | 5  | 2  | 8  | 9  | 9  | 8  | 4  | 1  | 3  | 4  | 5  | 6  | 8  | 9  | 9+ | 9+ |
| XE1 = 06 | 9+      | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 6  | 1* | 8  | 9  | 7  | 5  | 5  | 4  | 4  | 5  | 6  | 8  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 2* | 1* | 8  | 9  | 8  | 7  | 7  | 7  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | 1  | 6  | 9+ | 9  | 8  | 8  | 7  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | -  | -  | 9+ | 9  | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 3* | 2* | -  | 9+ | 9+ | 9  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 5* | 2* | 3  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 5  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 3  | 5* | 1* | 1* | 2  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 7  | 7  | 9  | 8  | 9  | 8  | 6  | 2  | 1  | 2  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| I = 15   | 9+      | 9+ | 9+ | 9  | 9  | 7  | 8  | 9  | 8  | 7  | 6  | 3  | 1  | 1  | -  | 1  | 1  | 4  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | 7       | 6  | 5  | 3* | 1  | 4  | 8  | 8  | 6  | 6  | 6  | 4  | 8  | 1  | 1  | 1  | 2  | 5  | 8  | 8  | 8  | 9  | 8  | 8  |
| UN = 17  | 1       | 1  | 8  | 8  | 8  | 7  | 6  | 5  | 3  | 3  | 7  | 5  | 8  | 3* | 1* | 1  | 2  | 5  | 6  | 5  | 5  | 6  | 6  | 5  |
| UA9 = 18 | 1*      | 1* | 2* | 7  | 8  | 8  | 7  | 7  | 6  | 5  | 7* | 6* | 5* | 4* | 2* | 1* | 1  | 2  | 1* | -  | -  | -  | 2* | 2* |
| UA0 = 19 | 9       | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 6  | 7* | 9  | 8* | 7* | 5* | 3* | 2* | 3* | 4* | 6* | 5* | 1* | 7* | 9* | 9  |
| 4X = 20  | 9+      | 9+ | 9  | 9  | 7  | 9  | 9  | 8  | 6  | 4  | 2  | 1  | 2  | 2  | -  | 1  | 1  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HZ = 21  | 9+      | 9  | 9  | 7  | 9  | 9  | 8  | 6  | 5  | 2  | 1  | 2* | 3  | 1  | 1  | 1  | 4  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VU = 22  | 6       | 7  | 9  | 9  | 8  | 7  | 5  | 3  | 2  | 2* | 2* | 5  | 7  | 3* | 1  | 1  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  | 1*      | 5  | 8  | 8  | 7  | 4  | 4  | 7  | 6  | 5  | 8* | 7* | 7* | 5* | 4* | 1* | 1* | 1* | 3* | 2* | 1  | 1  | 3* | 1* |
| VR2 = 24 | 9       | 9  | 8  | 5  | 2* | 1* | 2* | 5* | 8* | 7* | 8* | 8* | 7* | 6* | 5* | 4  | 4  | 4  | 6  | 8  | 9  | 9  | 7  | 8  |
| JA1 = 25 | 8*      | 6* | 7  | 6  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 4  | 2* | 4* | 4* | 5* | 7* | 8* | 7  | 5  | 9* | 9* |
| HS = 26  | 9       | 9  | 8  | 6  | 3  | 1  | -  | 1  | 4* | 6  | 6  | 6  | 5  | 3  | 2* | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9  |
| DU = 27  | 9       | 7  | 5  | 1  | -  | 1* | 1* | 5* | 5  | 6  | 8* | 7  | 7  | 6* | 3  | 4  | 3  | 5  | 7  | 8  | 9  | 8  | 9  | 9  |
| YB = 28  | 9       | 9  | 8  | 5  | 1  | -  | -  | 2  | 5  | 5  | 7* | 6  | 6  | 5  | 5  | 5  | 5  | 6  | 6  | 7  | 8  | 7  | 5  | 5  |
| VK6 = 29 | 8       | 9  | 8  | 7  | 6  | 5  | 5  | 2  | 5  | 8  | 9  | 8  | 7  | 4  | 1  | -  | 1  | 1  | 2* | 3* | 4* | 3* | 6* | 6  |
| VK3 = 30 | 8       | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 6  | 4  | 1  | -  | -  | -  | 1* | 3* | 4* | 7  | 8  | 8  |
| KH6 = 31 | 6       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 3  | -  | -  | 3  | 1  | 3* | 9  | 2* | 1* | 1  | 3  |
| KH8 = 32 | 4       | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 5  | 3  | 2  | 8  | 8  | 1  | 2  | 2  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9  | 8  | 6  | 8  | 8  | 9  | 9  | 7  | 5  | 2  | 2  | 2  | 4  | 6  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9+ | 9  | 9  | 8  | 9  | 9  | 8  | 8  | 5  | 2  | 1  | 2  | 1  | 1  | 1  | 2  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 4  | 2  | 8  | 9+ | 9+ | 9  | 8  | 7  | 5  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9  | 9  | 8  | 6  | 2  | 6  | 8  | 9  | 9  | 8  | 6  | 5  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| 5Z = 37  | 9       | 9  | 8  | 3  | 5  | 9  | 8  | 8  | 7  | 6  | 3  | 2  | 3  | 2  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| ZS6 = 38 | 5       | 1  | -  | -  | 1* | 5  | 7  | 8  | 9  | 8  | 8  | 6  | 6  | 7  | 7  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  |
| FR = 39  | -       | 1* | -  | 1* | 8  | 7  | 3  | 5  | 6  | 6  | 5  | 4  | 9  | 4  | 4  | 5  | 7  | 8  | 8  | 7  | 3  | 1  | 1* | 1* |
| FJL = 40 | 1*      | 2* | 3* | 2* | 2* | 1* | 1* | 2* | 3* | 4* | 7  | 7  | 5  | 2  | 1  | 1  | 2  | 4  | 6  | 6  | 4  | 4  | 2  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Mar., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 9   | 9  | 8  | 6  | 1  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 7  | 8  | 8  | 9  |
| VO2 = 02 | 9   | 6   | -  | 1  | 2  | 2  | 6  | 3  | -  | 1  | -  | 9  | 9  | 8  | 7  | 6  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |
| W6 = 03  | 9   | 9+  | 9  | 9  | 8  | 5  | 6  | 5  | 8  | 4  | 1  | 5  | -  | -  | 8  | 7  | 6  | 5  | 6  | 4  | 5  | 7  | 8  | 9  | 9  | 9  |
| W9 = 04  | 9+  | 9   | 8  | 2  | 1  | -  | -  | 5  | 2  | -  | 1  | -  | 8  | 8  | 8  | 7  | 6  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ |
| W3 = 05  | 9+  | 9   | 9  | 9  | 9  | 9  | 2  | 8  | -  | -  | 5  | 1  | 9  | 8  | 8  | 7  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| XE1 = 06 | 9+  | 9+  | 9  | 9  | 9+ | 9+ | 9  | 9  | 8  | 3  | 1  | -  | -  | 8  | 8  | 7  | 8  | 8  | 7  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 | 9   | 9   | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | -  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9   | 8   | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | -  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 8   | 8   | 8  | 9+ | 9+ | 9+ | 9+ | 6  | 1* | -  | -  | 1  | 9+ | 9  | 9  | 9  | 8  | 8  | 5  | 6  | 9  | 9  | 9  | 9  | 9+ | 9  |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 8  | 1  | 3* | -  | -  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 4  | 1* | -  | 9  | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+  | 9   | 8  | 6  | 5  | 4  | 1  | 3* | 3* | -  | -  | 1* | 2  | 4  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 1   | 1   | 1  | 1  | 5  | 2  | 4  | 8  | 5  | 8  | 8  | 8  | 5  | 6  | 4  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  |
| I = 15   | 9   | 9   | 9  | 8  | 6  | 4* | 6  | 8  | 6  | 8  | 7  | 5  | 3  | 6  | 4  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | 2   | 1   | -  | 3* | 2* | 2* | 6  | 8  | 3  | 6  | 7  | 6  | 4  | 5  | 3  | 3  | 5  | 6  | 8  | 8  | 7  | 7  | 6  | 5  | 5  | 5  |
| UN = 17  | 1*  | 1*  | 5  | 8  | 8  | 6  | 6  | 5  | 3  | 4  | 3  | 4* | 5* | 4* | 3* | 3  | 5  | 4  | 2  | 1  | -  | 1  | -  | -  | -  | -  |
| UA9 = 18 | 2*  | 1*  | 1* | 2  | 7  | 8  | 7  | 7  | 2  | 6  | 7  | 7* | 6* | 4  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| UA0 = 19 | 8   | 8   | 8  | 7  | 7  | 8  | 9  | 8  | 1  | 3* | 8  | 8* | 7* | 6* | 5* | 4* | 4* | 5* | 5* | -  | -  | -  | -  | 8* | 8  | 8  |
| 4X = 20  | 9+  | 9   | 9  | 7  | 4  | 8  | 9  | 7  | 5  | 7  | 6  | 5  | 4  | 5  | 4  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| HZ = 21  | 9   | 9   | 7  | 2  | 8  | 8  | 7  | 3  | 3  | 5  | 5  | 4  | 2  | 2  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| VU = 22  | 1*  | 2   | 8  | 9  | 8  | 6  | 4  | 2  | 3  | 4  | 2  | 4* | 5* | 5* | 4  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| JT = 23  | 2*  | 1*  | 7  | 7  | 7  | 7  | 3  | 6  | 3  | 7  | 5  | 8* | 7* | 6* | 5* | 4* | 3* | 2* | 2* | -  | -  | -  | -  | 4* | 2* | 2* |
| VR2 = 24 | 9   | 8   | 6  | 3* | 4* | 2* | 4* | 6* | 7* | 5  | 5  | 8* | 8* | 7* | 6  | 6  | 6  | 5  | 7  | 8  | 9  | 8  | 4* | 5* | 5* | 5* |
| JA1 = 25 | 8*  | 6   | 8  | 6  | 7  | 8  | 8  | 9  | 9  | 6  | 6* | 6* | 6* | 5* | 5* | 5* | 5* | 6* | 8* | 6* | 5  | 5  | 7* | 9* | 9* | 9* |
| HS = 26  | 8   | 8   | 7  | 4* | 2* | 1* | 2* | 1  | 4* | 4  | 5  | 7* | 6* | 5  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 6  |
| DU = 27  | 8   | 7   | 6* | 3* | 3* | 3* | 4* | 5* | 2* | 6  | 8  | 8  | 7  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 4  | 8* | 9  | 9  | 9  | 9  |
| YB = 28  | 8   | 8   | 6* | 4* | 1* | 1* | 1* | 4* | 1  | 5  | 7  | 8  | 7  | 6  | 6  | 5  | 5  | 5  | 5  | 5  | 5  | 2  | 1  | 7* | 7* | 7* |
| VK6 = 29 | 6   | 8   | 5  | 5  | 2  | 1  | 1* | 1* | -  | 2  | 8  | 8  | 5  | 3* | 2* | 1* | 1* | 2* | 2* | 3* | 1* | 1* | 5* | 5* | 5* | 5* |
| VK3 = 30 | 9   | 8   | 8  | 6  | 5  | 4  | 2  | 2  | 1  | 2  | 7* | 7  | 2  | 2* | 1* | -  | 1* | 1* | 2* | 2* | 3* | 4  | 7  | 8  | 8  | 8  |
| KH6 = 31 | 8   | 8   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 4* | 9  | 8  | 1* | -  | -  | 4  | 5  | 4  | 4  | 5  | 4  | 4  | 6  | 6  | 6  |
| KH8 = 32 | 7   | 8   | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 2  | 8  | 9  | 7  | 2  | 1* | 6  | 5  | 5  | 5  | 4  | 4  | 4  | 4  | 6  | 6  |
| CN = 33  | 9+  | 9+  | 9+ | 9  | 9  | 5  | 2* | 6  | 4  | 7  | 9  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| SU = 34  | 9+  | 9   | 9  | 8  | 4  | 8  | 9  | 7  | 5  | 8  | 6  | 5  | 4  | 6  | 4  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 7  | -  | 3* | 1  | 8  | 9+ | 9  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9   | 8   | 6  | 4  | 1  | 1* | 3* | 3* | 6  | 7  | 8  | 8  | 7  | 8  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| 5Z = 37  | 8   | 7   | 3  | 1* | 2* | 5  | 4  | 5  | 6  | 8  | 6  | 5  | 6  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| ZS6 = 38 | -   | -   | -  | -  | 2* | 2* | 2* | 4  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  |
| FR = 39  | -   | -   | 3* | 2* | 2* | 1  | -  | 1  | 5  | 7  | 7  | 7  | 7  | 6  | 6  | 7  | 8  | 8  | 5  | 2* | 2* | 2* | 1* | 1* | 1* | 1* |
| FJL = 40 | -   | 1*  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 6* | 4  | 4  | 4  | 2  | 1  | 1  | 1  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Mar., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  | 7  | 8  |
| VO2 = 02 | 6       | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 4  | 9  | 8  | 7  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 8  | 2  | -  | -  | -  | 5  | -  | -  | -  | -  | -  | 6  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 8  | 9  |
| W9 = 04  | 9       | 8  | 2  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 1  | 8  | 8  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | 9       | 9  | 6  | 3  | 3  | 2  | -  | 5  | -  | -  | 1  | -  | 8  | 9  | 8  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 8       | 8  | 8  | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| VP2 = 08 | 7       | 6  | 7  | 9  | 9+ | 9  | 6  | -  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 8  | 6  | 6  | 9  | 9  | 9  | 9+ | 9  | 8  |
| P4 = 09  | 6       | 5  | 6  | 8  | 9  | 9  | 6  | -  | -  | -  | -  | 1  | 9+ | 9  | 9  | 5  | 4  | 4  | 5  | 7  | 9  | 9  | 8  | 8  |
| HC = 10  | 9+      | 9+ | 4  | 6  | 8  | 8  | 5  | -  | -  | -  | -  | -  | 8  | 9  | 9  | 2  | -  | -  | -  | 1  | 3  | 4  | 4  | 6  |
| PY1 = 11 | 9+      | 9  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1* | -  | -  | 1  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 6       | 4  | 1  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | 1* | -  | -  | 1  | 5  | 7  | 7  | 8  | 9  | 8  | 9  | 9  |
| G = 14   | -       | -  | -  | -  | 2  | -  | -  | 5  | -  | -  | 9  | 8  | 7  | 6  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 8  | 4  | -  |
| I = 15   | 8       | 7  | 5  | 1  | 3  | 1* | 2  | 6  | 1  | 3  | 8  | 7  | 5  | 6  | 5  | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  |
| UA3 = 16 | -       | -  | -  | -  | 1* | -  | 2  | 4  | -  | 1  | 8  | 7  | 6  | 5  | 5  | 6  | 6  | 6  | 7  | 2  | 3  | 3  | 1  | -  |
| UN = 17  | -       | 5* | 2* | 6  | 8  | 8  | 7  | 2  | 1  | 4  | 7  | 5  | 6* | 4  | 4  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 4*      | 2* | 1* | -  | 3  | 7  | 8  | 2  | -  | -  | 8  | 6  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| UA0 = 19 | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 5  | -  | -  | 4* | 8* | 8* | 6* | 5* | 4* | 3* | 2* | 2* | -  | -  | -  | 7* | 7* |
| 4X = 20  | 9       | 9  | 8  | 2  | 5* | 7  | 8  | 2  | 1  | 5  | 6  | 5  | 5  | 4  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 8  | 3  | 4* | 5  | 6  | 2* | 2* | -  | 3  | 5  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -       | 3* | 4  | 8  | 4  | 2  | 1* | 3* | 1  | 4  | 4  | 4  | 4  | 5* | 4  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 8  | 2  |
| JT = 23  | 3*      | 3* | 1  | 7  | 7  | 7  | 8  | 3  | -  | 1  | 8  | 6  | 8* | 5* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 6* |
| VR2 = 24 | 9       | 7* | 7* | 6* | 4* | 4* | 5* | 7* | 5* | 5  | 7  | 8* | 8* | 7* | 6  | 6  | 6  | 7  | 8  | 9  | 8  | 3  | 5* | 6* |
| JA1 = 25 | 8       | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 7  | 2* | 7* | 8* | 8* | 7* | 6* | 6* | 6* | 6* | 6* | 1* | 2  | 7  | 8  | 9* |
| HS = 26  | 5*      | 6  | 5* | 5* | 3* | 2* | 1* | 4* | 2* | 3  | 6  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 4* |
| DU = 27  | 6       | 6* | 5* | 4* | 3* | 4* | 5* | 4* | -  | -  | 7  | 8  | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 7  | -  | 6* | 8  |
| YB = 28  | 7*      | 6* | 6* | 5* | 4* | 4* | 4* | 3* | -  | 1  | 7  | 8  | 8  | 7  | 5* | 4* | 3* | 4* | 4* | 3* | 1  | -  | -  | 6* |
| VK6 = 29 | 4*      | 5  | 2* | 1* | 1* | 1* | 1* | -  | -  | -  | 3  | 7* | 6* | 4* | 3* | 2* | 2* | 2* | 2* | 1* | -  | -  | 2* | 6* |
| VK3 = 30 | 8       | 5  | 2  | 1* | 1* | 1* | 2* | -  | -  | -  | 5* | 5* | 4* | 3* | 2* | 1* | 1* | 1* | 1* | 1* | 1* | 4* | 6* | 6  |
| KH6 = 31 | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 4* | 3* | 5  | 7  | -  | -  | -  | -  | 3  | 4  | 5* | 6* | 5* | 6  | 7  |
| KH8 = 32 | 7       | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 4  | 2* | 4* | 2* | 6  | 2  | 1* | 1* | 1  | 6  | 6  | 6  | 6  | 6  | 6  | 6  |
| CN = 33  | 9+      | 9+ | 9  | 9  | 7  | 1  | -  | 1  | -  | -  | 9  | 9  | 8  | 8  | 7  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9       | 9  | 9  | 5  | 5* | 6  | 8  | 3  | 1  | 5  | 7  | 5  | 5  | 4  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 8       | 9  | 9+ | 9  | 6  | 1  | -  | -  | -  | -  | 9+ | 9  | 9  | 5  | 4  | 5  | 9  | 9  | 9  | 9+ | 9  | 8  | 7  | 7  |
| D2 = 36  | 6       | 4  | 1  | -  | -  | 4* | 5* | 4* | 1  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| 5Z = 37  | 5       | 2  | -  | 4* | 4* | 4* | 2* | 3* | 2  | 7  | 8  | 6  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| ZS6 = 38 | -       | -  | -  | -  | 2* | 3* | 2* | 2* | 3  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 4  | -  | -  | -  |
| FR = 39  | -       | -  | 3* | 4* | 2* | 1* | -  | 1* | 1  | 6  | 8  | 9  | 7  | 8  | 8  | 7  | 7  | 2  | 3* | 4* | 4* | 3* | 1* | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Mar., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 6            | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3* | 2  |
| VO2 = 02 | 1            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 6  |
| W6 = 03  | 9            | 9  | 9  | 4  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 1  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 9  |
| W9 = 04  | 8            | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | 6            | 5  | 1  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 2  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| XE1 = 06 | 8            | 8  | 9  | 9  | 9  | 9  | 8  | 7  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| TI = 07  | 5            | 4  | 5  | 7  | 9  | 9  | 6  | -  | -  | -  | -  | -  | -  | 9  | 9  | 3  | 1  | 1  | 2  | 4  | 6  | 7  | 8  | 7  |
| VP2 = 08 | 3            | 2  | 3  | 6  | 7  | 6  | 1  | -  | -  | -  | -  | -  | 9  | 9  | 3  | 1  | 1* | -  | 2  | 4  | 5  | 5  | 7  | 5  |
| P4 = 09  | 2            | 1  | 1  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | 9  | 6  | 2  | -  | -  | -  | 1  | 2  | 4* | 6  | 4  | 4  |
| HC = 10  | 9            | 9  | 9  | 2  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | 4  | -  | 8  | 9  | 9  | 9  | 9  | 9+ | 4* | 9+ | 9+ |
| PY1 = 11 | 8            | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | 1  | 4  | 4  | 7  | 8  | 9  | 9+ | 9  | 9  |
| CE = 12  | 9+           | 9  | 9  | 9  | 8  | 8  | 6  | -  | -  | -  | -  | -  | 4  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 5*           | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 1  | -  | 1  | 2* | 4* | 6  | 6* |
| G = 14   | -            | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 8  | 9  | 9  | 9  | 6  | 7  | 8  | 8  | 9  | 9  | 8  | 4  | -  | -  |
| I = 15   | 1            | 1  | -  | -  | -  | -  | -  | 2  | -  | -  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 8  | 8  | 6  | 5  |
| UA3 = 16 | -            | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 7  | 8  | 7  | 6  | 5  | 6  | 6  | 6  | 2  | -  | 1  | -  | -  | -  |
| UN = 17  | -            | 5* | 3* | 3  | 8  | 8  | 5  | -  | -  | -  | 7  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 2*           | 1* | -  | -  | -  | 4  | 6  | -  | -  | -  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 2            | 4  | 5  | 7  | 7  | 7  | 7  | 1  | -  | -  | -  | 6* | 7* | 4* | 2* | 1* | 1* | 1* | -  | -  | -  | -  | 1* | 5* |
| 4X = 20  | 9            | 9  | 1  | -  | 2* | 3  | 5  | -  | -  | 1  | 7  | 7  | 5  | 6  | 7  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9            | 3  | -  | 5* | 4* | 3* | 2* | 1* | -  | -  | 6  | 6  | 5  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -            | 5* | 5* | 4  | 4* | 2* | 3* | 1* | -  | 1  | 5  | 5  | 5  | 6* | 5  | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 3  | -  |
| JT = 23  | 4*           | -  | -  | 2  | 7  | 8  | 7  | 1  | -  | -  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VR2 = 24 | 8*           | 8* | 8* | 7* | 6* | 5* | 7* | 7* | 1* | 1  | 7  | 8  | 8  | 6  | 6  | 6  | 7  | 7  | 8  | 8  | 6  | -  | 2* | 7* |
| JA1 = 25 | 8            | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 2  | -  | 6* | 8* | 8* | 8* | 6* | 6* | 5* | 5* | 2* | -  | -  | 7  | 8  | 8  |
| HS = 26  | 6*           | 8* | 6* | 5* | 4* | 3* | 4* | 5* | -  | -  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 2  | 1* |
| DU = 27  | 6*           | 5* | 4* | 4* | 4* | 5* | 5* | 1* | -  | -  | 2  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | -  | 2* | 8* |
| YB = 28  | 5*           | 5* | 5* | 5* | 4* | 2* | 3* | 1* | -  | -  | 4  | 8  | 7  | 4  | 4* | 5* | 4* | 4* | 3* | 1* | -  | -  | -  | 3* |
| VK6 = 29 | 4*           | 3* | 3* | 3* | 1* | 2* | 1* | -  | -  | -  | -  | 6* | 6* | 5* | 4* | 3* | 2* | 1* | 1* | -  | -  | -  | -  | 6* |
| VK3 = 30 | 5            | 3* | 1* | 2* | 2* | 2* | 1* | -  | -  | -  | 1* | 4* | 2* | 2* | 2* | 1* | 1* | 1* | 1* | -  | -  | 2* | 5* | 6* |
| KH6 = 31 | 8            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 2  | 1* | 1* | -  | 5  | -  | -  | -  | -  | 7  | 4  | 3  | 6  | 5  | 6  | 7  |
| KH8 = 32 | 8            | 8  | 8  | 8  | 7  | 7  | 6  | 4  | -  | -  | 5* | 5* | 5* | 3* | 2* | 1* | -  | 5  | 7  | 6  | 7  | 7  | 6  | 6  |
| CN = 33  | 9            | 9  | 9  | 5  | 4  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9            | 9  | 6  | 1  | 3* | 2  | 4  | -  | -  | 1  | 7  | 7  | 6  | 6  | 7  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 1            | 3  | 5  | 4  | -  | -  | -  | -  | -  | -  | 6  | 9  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 5  | 4  | 1  | 1  |
| D2 = 36  | 3            | -  | -  | -  | -  | 1* | 5* | 4* | -  | 1  | 9  | 7  | 7  | 7  | 7  | 9  | 9  | 8  | 9+ | 9  | 9  | 8  | 7  | 5  |
| 5Z = 37  | 1            | -  | -  | 1* | 5* | 6* | 5* | 3* | -  | 2  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  |
| ZS6 = 38 | -            | -  | -  | -  | -  | 4* | 3* | 3* | -  | 2  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  |
| FR = 39  | -            | -  | -  | 5* | 4* | 2* | 2* | 1* | -  | 1  | 8  | 8  | 8  | 8  | 8  | 7  | 3  | 3* | 4* | 4* | 1* | -  | -  | -  |
| FJL = 40 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Apr., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 1       | 5  | 5  | 5  | 5  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 2  | 2  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 2  | 3  | 4  | 5  | 4  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 3  | 4  | 5  | 5  | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 3  | -  | 4  | 4  | 4  | 4  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | -       | 2  | 3  | 3  | 3  | 4  | 3  | 2  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 2       | 4  | 4  | 3  | 3  | 4  | 3  | 2  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 2       | 4  | 4  | 3  | 3  | 4  | 4  | 3  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 5       | 5  | 6  | 5  | 5  | 4  | 4  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | -  | 4  | 9  | 9  | 9  | 9  |
| G = 14   | 4       | 5  | 5  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 2       | 4  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 4       | 4  | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| SU = 34  | 2       | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| 6W = 35  | 5       | 4  | 3  | 4  | 4  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| D2 = 36  | 6       | 6  | 5  | 5  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  |
| 5Z = 37  | 5       | 5  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| ZS6 = 38 | 5       | 5  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| FR = 39  | 5       | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Apr., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | 1  | 2  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4       | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W6 = 03  | -       | -  | 1  | 2  | 5  | 5  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 2       | 5  | 6  | 7  | 8  | 7  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 4       | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 1  | 6  | 3  | 7  | 7  | 7  | 7  | 5  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 3       | 5  | 6  | 6  | 6  | 7  | 6  | 5  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 5       | 7  | 7  | 6  | 6  | 7  | 6  | 5  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| P4 = 09  | 5       | 7  | 7  | 6  | 6  | 7  | 7  | 6  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| HC = 10  | 8       | 8  | 9  | 8  | 8  | 7  | 7  | 8  | 7  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 3  | -  | -  | -  | -  | -  | 1  | 7  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | -  | 2  | 7  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7       | 8  | 8  | 7  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| I = 15   | 5       | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3  |
| UA3 = 16 | 7       | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 2  | 1  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 5       | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| HZ = 21  | 5       | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| VU = 22  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 2  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 3  | 1  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 7       | 7  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| SU = 34  | 5       | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  |
| 6W = 35  | 8       | 7  | 6  | 7  | 7  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| D2 = 36  | 9       | 9  | 8  | 8  | 8  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  |
| 5Z = 37  | 8       | 8  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  |
| FR = 39  | 8       | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 8  |
| FJL = 40 | 2       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 40 Meters: Apr., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | 1  | 2  | 3  | 4  | 6  | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 5  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  |
| W6 = 03  | 1       | 2  | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 4       | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| W3 = 05  | 6       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| XE1 = 06 | 7       | 8  | 7  | 8  | 8  | 7  | 7  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| TI = 07  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |
| VP2 = 08 | 9       | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| P4 = 09  | 9       | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 4  | 2  | 4  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 4  | 1  | 1  | 1  | 3  | 7  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| UA3 = 16 | 7       | 7  | 6  | 7  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| UN = 17  | 6       | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  |
| UA9 = 18 | 4       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 3  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 7       | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  |
| HZ = 21  | 7       | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| VU = 22  | 5       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  |
| JT = 23  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 2  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 2  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  |
| HS = 26  | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | -  |
| YB = 28  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 5  |
| VK6 = 29 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 5  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  |
| KH6 = 31 | -       | -  | -  | 1  | 4  | 6  | 7  | 5  | 6  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 1  | 3  | 6  | 7  | 7  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| SU = 34  | 7       | 7  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9  | 9  |
| FR = 39  | 9       | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  | 8  |
| FJL = 40 | 6       | 7  | 6  | 6  | 6  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1  | 2  | 3  | 7  | 7  | 8  | 8  | 7  | 7  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  |
| W6 = 03  | 5  | 5  | 7  | 8  | 8  | 9  | 9  | 8  | 8  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 4  |
| W3 = 05  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  |
| XE1 = 06 | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |
| TI = 07  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  |
| VP2 = 08 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  |
| P4 = 09  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 6  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| I = 15   | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  |
| UA3 = 16 | 8  | 8  | 8  | 8  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| UN = 17  | 7  | 6  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  |
| UA9 = 18 | 6  | 6  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2  | 1  |
| 4X = 20  | 8  | 8  | 8  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  |
| HZ = 21  | 8  | 8  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| VU = 22  | 6  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 7  |
| JT = 23  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| VR2 = 24 | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 5  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 2* | 4* | 5* | 3* |
| HS = 26  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 7  |
| DU = 27  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 4  |
| YB = 28  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| VK6 = 29 | 5  | 3  | 2  | 1  | -  | -  | -  | 1  | 1  | 2  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 6  |
| VK3 = 30 | 1  | 1  | 1  | 1  | -  | 3  | 5  | 6  | 7  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2  | 3  | 4  | 3  |
| KH6 = 31 | -  | -  | 2  | 4  | 6  | 6  | 7  | 7  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 8  |
| SU = 34  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| D2 = 36  | 9  | 9  | 9  | 8  | 9  | 7  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  | 9  |
| 5Z = 37  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| ZS6 = 38 | 9  | 8  | 8  | 8  | 7  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 8  |
| FR = 39  | 8  | 7  | 2  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  |
| FJL = 40 | 7  | 7  | 7  | 6  | 6  | 6  | 5  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



## 20 Meters: Apr., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |   |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|
| KL7 = 01 |     | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 4  | 3* | 1* | -  | 1  | -  | -  | -  | -  | 1* | 1* | 3* | 1  | 4  | 6 |
| VO2 = 02 |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 9  | 9 |
| W6 = 03  |     | 9  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  |   |
| W9 = 04  |     | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 9  | 8  | 9  | 9  | 7  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 9  | 9 |
| W3 = 05  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 9  | 9  | 7  | 4  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9 |
| XE1 = 06 |     | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 9  | 6  | 5  | 1  | 1  | 1  | 1  | 1  | 4  | 6  | 8  | 9  |   |
| TI = 07  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 9  | 9  | 8  | 6  | 4  | 2  | 1  | 1  | 3  | 5  | 7  | 9  | 9  | 9+ |   |
| VP2 = 08 |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 6  | 9+ | 9  | 8  | 5  | 2  | 1  | 1  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ |   |
| P4 = 09  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 3  | 9+ | 9  | 8  | 6  | 3  | 2  | 2  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ |   |
| HC = 10  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | 5  | 9  | 9  | 7  | 5  | 4  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9+ |   |
| PY1 = 11 |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |   |
| CE = 12  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |   |
| LU = 13  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1* | 1* | 1* | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |   |
| G = 14   |     | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | 3  | 4  | 8  | 9  | 9  | 9+ | 9+ |   |
| I = 15   |     | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 9  | 9  | 9+ |   |
| UA3 = 16 |     | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 9  | 9  |   |
| UN = 17  |     | 9  | 9  | 8  | 7  | 5  | 4  | 1  | 1  | -  | -  | 1* | 2* | 2* | 1* | -  | -  | -  | 1  | 5  | 8  | 8  | 9  | 9  | 9  |   |
| UA9 = 18 |     | 8  | 8  | 8  | 7  | 4  | 2  | 2  | 1  | 2  | 4* | 4* | 9  | 2* | 2* | 1* | -  | -  | 1  | 3  | 7  | 8  | 8  | 8  | 8  |   |
| UA0 = 19 |     | 5  | 1  | 1  | 1  | 1  | 2  | 5  | 7  | 8  | 8  | 7  | 6  | 5* | 3* | 1* | 1* | 1* | 2* | 4* | 7* | 7* | 8* | 7  | 7  |   |
| 4X = 20  |     | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9  |   |
| HZ = 21  |     | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |   |
| VU = 22  |     | 9  | 9  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | 1* | 2* | 2* | -  | -  | -  | 1  | 2  | 5  | 8  | 8  | 9  | 9  | 9  |   |
| JT = 23  |     | 8  | 8  | 6  | 2  | 1  | 1  | 1  | 1* | 4* | 4* | 6  | 7  | 4* | 3* | 1* | -  | -  | 1  | 3  | 7  | 7  | 8  | 8  | 8  |   |
| VR2 = 24 |     | 8  | 8  | 5  | 1  | -  | -  | -  | 1* | 4* | 7* | 8* | 7  | 5* | 2* | 1* | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  | 8  |   |
| JA1 = 25 |     | 5* | 2* | -  | -  | 1  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 8  | 5  | 1  | -  | 1* | 2* | 5* | 8* | 8  | 9* | 8* | 7* |   |
| HS = 26  |     | 9  | 8  | 7  | 5  | -  | -  | -  | -  | 1* | 5* | 8  | 7  | 2* | 1  | 1* | -  | -  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |   |
| DU = 27  |     | 7  | 5  | 1  | -  | -  | -  | -  | 1  | 6* | 6* | 5  | 5  | 4  | 2  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 9  | 8  |   |
| YB = 28  |     | 9  | 8  | 6  | 3  | -  | -  | -  | -  | 2  | 4* | 6  | 5  | 5* | 2  | 2  | 1  | 1  | 4  | 6  | 8  | 8  | 8  | 8  | 9  |   |
| VK6 = 29 |     | 8  | 8  | 6  | 5  | 5  | 2  | 3  | 7  | 8  | 8  | 8  | 7  | 5  | 3  | 1  | 2  | 3  | 4  | 5  | 4  | 3  | 5  | 7  |    |   |
| VK3 = 30 |     | 6  | 6  | 6  | 6  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 5  | 4  | 3  | 2  | 2  | 6  | 8  | 8  | 8  |    |   |
| KH6 = 31 |     | 2  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | 1  | -  | -  | -  | 1* | -  | -  | -  |    |   |
| KH8 = 32 |     | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 2  | 1  | 1  | 1  | 1* | 1* | -  | -  | 1  |    |   |
| CN = 33  |     | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9+ |   |
| SU = 34  |     | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | 1  | -  | 2  | 6  | 8  | 9  | 9  | 9  | 9  |   |
| 6W = 35  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 8  | 9  | 9+ | 9  | 6  | 5  | 2  | 1  | 1  | 3  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ |   |
| D2 = 36  |     | 9  | 9+ | 9  | 9  | 7  | 3  | 8  | 8  | 8  | 8  | 5  | 3  | 1  | -  | 1  | 2  | 5  | 7  | 9  | 9  | 9+ | 9  | 9  | 9+ |   |
| 5Z = 37  |     | 9  | 9  | 9  | 5  | 7  | 9  | 8  | 6  | 4  | 2  | 1  | 1  | -  | -  | 1  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ |   |
| ZS6 = 38 |     | 7  | 8  | 6  | 2  | -  | 7  | 8  | 7  | 8  | 7  | 5  | 3  | 1  | 2  | 2  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 8  | 5  |   |
| FR = 39  |     | 1  | -  | -  | 2  | 9  | 8  | 5  | 4  | 3  | 1  | 2  | 1  | 1  | 2  | 1  | 2  | 5  | 6  | 8  | 9  | 8  | 2  | 1  | 1  |   |
| FJL = 40 |     | 8  | 7  | 5  | 4  | 4  | 5  | 6  | 8  | 7  | 8  | 7  | 7  | 3* | 1  | -  | -  | -  | -  | 1  | 7  | 7  | 8  | 8  | 9  |   |
| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |   |

\* = Longpath  
 Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Apr., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 8  | 9  | 9  | 9  | 8  | 6  | 4  | 1  | 5* | 3* | 1* | 1* | -  | -  | -  | 1  | 3  | 4  | 8  | 7  | 6  | 6  | 8  |
| VO2 = 02 | 9+      | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 3  | 5  | 9  | 9  | 8  | 9  | 6  | 4  | 3  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| W6 = 03  | 9       | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 9  | 6  | 7  | 8  | 5  | 8  | 7  | 5  | 4  | 3  | 1  | 1* | 2  | 6  | 8  | 9  |
| W9 = 04  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 8  | 9  | 5  | 2  | 8  | 8  | 9  | 8  | 6  | 6  | 3  | 4  | 5  | 5  | 7  | 9  | 9  | 9+ |
| W3 = 05  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 3  | 1  | 8  | 9  | 9  | 8  | 6  | 2  | 4  | 5  | 6  | 7  | 8  | 9  | 9+ | 9  |
| XE1 = 06 | 9       | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 5  | 7  | 4  | 9  | 9  | 8  | 6  | 5  | 4  | 6  | 5  | 7  | 8  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 4* | 5  | 9+ | 9  | 9  | 7  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  | 1* | 9  | 9+ | 9  | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1* | 4* | 2* | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | 4* | 2* | 9+ | 9+ | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1* | 1* | -  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 3  | 3* | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9  | 9  | 8  | 6  | 5  | 1  | 1* | 3* | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 9  | 8  | 6  | 4  | 2  | 1  | 3  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9  |
| I = 15   | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 7  | 7  | 6  | 3  | 1  | 1  | 1  | 1  | 4  | 7  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | 9       | 8  | 8  | 7  | 5  | 8  | 8  | 8  | 5  | 6  | 4  | 6  | 8  | 2* | 1  | 1  | 3  | 5  | 8  | 8  | 9  | 9  | 9  | 9  |
| UN = 17  | 8       | 8  | 8  | 7  | 8  | 6  | 6  | 3  | 3  | 2  | 2  | 7  | 5  | 4* | 4* | 1  | 2  | 7  | 7  | 8  | 8  | 8  | 9  | 8  |
| UA9 = 18 | 2       | 4  | 7  | 8  | 8  | 8  | 7  | 6  | 4  | 7  | 5  | 6* | 5* | 5* | 5* | 2* | 3  | 5  | 7  | 7  | 5  | 5* | 4* | 2  |
| UA0 = 19 | 8       | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 4  | 6* | 9  | 8* | 8* | 6* | 5* | 5* | 5* | 6* | 7* | 8* | 8* | 9* | 8* | 8  |
| 4X = 20  | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 6  | 6  | 5  | 2  | 1  | 1  | 1  | 1  | 1  | 2  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| HZ = 21  | 9+      | 9  | 9  | 9  | 9  | 9  | 6  | 1  | 4  | 2  | 1  | 1  | 2* | 1  | 1  | 2  | 3  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VU = 22  | 9       | 9  | 9  | 9  | 8  | 7  | 2  | -  | 1  | 1  | 1  | 5  | 5  | 2* | 2* | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  | 8       | 8  | 8  | 8  | 7  | 6  | 5  | 5  | 4  | 7  | 2  | 7* | 5* | 6* | 6* | 3* | 4* | 5  | 5  | 5* | 6  | 6* | 6  | 7  |
| VR2 = 24 | 9       | 8  | 4  | 1  | 1* | 1* | 4* | 4* | 7* | 6  | 6  | 8* | 7* | 7* | 6* | 5  | 4  | 7  | 7  | 9  | 9  | 9  | 9  | 9  |
| JA1 = 25 | 6*      | 5* | 5  | 6  | 7  | 8  | 8  | 8  | 9  | 7  | 8  | 9  | 8  | 7  | 6  | 4  | 5* | 7* | 8* | 9* | 8* | 9* | 9* | 8* |
| HS = 26  | 9       | 8  | 3  | 2  | 1  | -  | -  | 1* | 5* | 6  | 5  | 7* | 5* | 4  | 4  | 5  | 5  | 8  | 8  | 9  | 9  | 9+ | 9  | 9  |
| DU = 27  | 8       | 5  | 1  | -  | -  | -  | 2* | 5* | 4* | 7  | 8  | 8  | 7  | 6  | 4  | 4  | 4  | 7  | 7  | 8  | 9  | 6  | 8  | 9  |
| YB = 28  | 9       | 7  | 2  | -  | -  | -  | 3* | 2* | 6  | 7  | 8  | 7  | 7  | 6  | 5  | 4  | 5  | 5  | 7  | 7  | 5  | 4* | 5  |    |
| VK6 = 29 | 8       | 6  | 1  | -  | 1  | 1  | -  | 2* | 1* | 6  | 9  | 9  | 8  | 4  | -  | -  | -  | 1  | 2  | 2* | 1* | 1* | 5* | 5  |
| VK3 = 30 | 8       | 6  | 5  | 3  | 3  | 2  | 1  | 1  | 1  | 5  | 7  | 8  | 6  | 4  | 1  | 1  | -  | 1* | 1* | 2* | 4* | 6  | 8  | 9  |
| KH6 = 31 | 6       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2* | 9  | 8  | 8  | 1* | 5  | 4  | 1  | 2* | 8  | 2* | 2* | 2  | 4  |
| KH8 = 32 | 5       | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | 7  | 9  | 8  | 2  | -  | 5  | 5  | 4  | 6  | 7  | 3  | 3  | 4  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 6  | 9  | 9  | 7  | 5  | 2  | 2  | 2  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 6  | 6  | 5  | 3  | 1  | 1  | 1  | 1  | 2  | 2  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 2  | 2  | 5  | 9+ | 9+ | 9  | 8  | 6  | 6  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9  | 7  | 5  | 1  | 1* | 3  | 1  | 8  | 8  | 8  | 7  | 5  | 5  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9  | 9  | 9+ | 9+ |
| 5Z = 37  | 9       | 9  | 6  | -  | 1  | 8  | 4  | -  | 7  | 5  | 4  | 3  | 1  | 2  | 2  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| ZS6 = 38 | -       | -  | -  | -  | -  | 1* | 1  | 2  | 8  | 9  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 1  | -  |
| FR = 39  | -       | -  | -  | 1* | 5  | 1  | -  | -  | 5  | 6  | 5  | 6  | 7  | 5  | 6  | 7  | 7  | 8  | 8  | 6  | 1* | 1* | 1* | 1* |
| FJL = 40 | 3*      | 2* | 1* | -  | -  | -  | -  | 2  | 3  | 8  | 7  | 7  | 5  | 4  | 2  | 2  | 2  | 4  | 5  | 7  | 7  | 7  | 6  | 4  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Apr., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| Zone     | 00  | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
| KL7 = 01 | 8   | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 6  | 7  |  |
| VO2 = 02 | 9   | 8  | 6  | 6  | 7  | 5  | 8  | 7  | -  | -  | 5  | 9  | 9  | 8  | 6  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ |  |
| W6 = 03  | 9   | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 1  | -  | 6  | -  | 5  | 8  | 5  | 6  | 5  | 5  | 3  | 6  | 8  | 8  | 9  |  |
| W9 = 04  | 9+  | 9+ | 9  | 8  | 6  | 4  | 2  | 7  | 1  | -  | 5  | -  | 9  | 8  | 7  | 6  | 7  | 5  | 7  | 8  | 8  | 9  | 9  | 9+ |  |
| W3 = 05  | 9+  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 7  | -  | 6  | 7  | 9  | 8  | 7  | 7  | 8  | 7  | 7  | 9  | 9  | 9  | 9+ | 9  |  |
| XE1 = 06 | 9+  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 7  | 1  | -  | -  | 8  | 9  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ |  |
| TI = 07  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  | 1* | 1  | 1  | 9+ | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |  |
| VP2 = 08 | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | -  | -  | 1* | 9+ | 9+ | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |  |
| P4 = 09  | 9   | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 3  | -  | -  | -  | 9+ | 9+ | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |  |
| HC = 10  | 8   | 8  | 9  | 9+ | 9+ | 9+ | 8  | 5  | -  | 4* | -  | -  | 9+ | 9  | 9  | 9  | 6  | 6  | 7  | 9  | 9  | 9+ | 9  | 9  |  |
| PY1 = 11 | 9+  | 9+ | 9+ | 9  | 8  | 6  | 1  | -  | -  | -  | -  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| CE = 12  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1* | -  | -  | 4  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| LU = 13  | 9   | 9  | 5  | 1  | -  | -  | -  | 1* | 1* | -  | -  | -  | 3  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| G = 14   | 8   | 8  | 8  | 6  | 8  | 8  | 8  | 7  | 2  | 8  | 9  | 8  | 7  | 5  | 8  | 8  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |  |
| I = 15   | 9+  | 9+ | 9  | 9  | 8  | 7  | 8  | 6  | 4  | 8  | 8  | 7  | 3  | 7  | 8  | 5  | 6  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |  |
| UA3 = 16 | 6   | 5  | 3  | 2  | 1  | 5  | 8  | 5  | 2  | 7  | 6  | 5  | 4  | 3  | 2  | 5  | 5  | 6  | 8  | 8  | 8  | 8  | 8  | 8  |  |
| UN = 17  | 1   | 1  | 8  | 8  | 7  | 8  | 7  | 1  | 1  | 6  | 4  | 2  | 5* | 4* | 3* | 4  | 5  | 6  | 7  | 7  | 6  | 6  | 3  | 2  |  |
| UA9 = 18 | 1*  | 1* | 2  | 7  | 8  | 8  | 8  | 3  | 1  | 6  | 6  | 5  | 7* | 5* | 4  | 4  | 5  | 6  | 4  | 2  | -  | 2* | 5* | 1* |  |
| UA0 = 19 | 7   | 7  | 7  | 6  | 7  | 7  | 9  | 7  | -  | -  | 8  | 9* | 8* | 7* | 6* | 5* | 5* | 6* | 7* | 5* | 4* | 8* | 8* | 7* |  |
| 4X = 20  | 9   | 9  | 9  | 8  | 8  | 9  | 8  | 1  | 2  | 7  | 6  | 3  | 5  | 5  | 2  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ |  |
| HZ = 21  | 9   | 9  | 8  | 8  | 9  | 8  | 2* | 1* | 1  | 6  | 5  | 5  | 2  | 3* | 3  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ |  |
| VU = 22  | 5   | 7  | 9  | 8  | 7  | 5  | 2* | 2* | 1  | 5  | 4  | 1  | 5* | 4* | 2  | 5  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |  |
| JT = 23  | 2   | 6  | 8  | 7  | 7  | 6  | 7  | 4  | 1  | 6  | 6  | 6* | 8* | 7* | 6* | 4  | 4  | 4* | 5* | 2* | 2* | 5* | 4* | 2* |  |
| VR2 = 24 | 8   | 4  | 6* | 5* | 4* | 5* | 5* | 5* | 7* | 5  | 6  | 8* | 8* | 8* | 6  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |  |
| JA1 = 25 | 7   | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 5* | 7* | 8  | 7* | 7* | 6* | 6* | 7* | 8* | 8* | 8* | 5  | 7* | 9* | 8* |  |
| HS = 26  | 8   | 4  | 4* | 3* | 1* | 1* | 2* | 4* | 5* | 5  | 5  | 7* | 6  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 5  |  |
| DU = 27  | 6*  | 5* | 5* | 2* | 2* | 3* | 5* | 5* | -  | 4  | 8  | 8  | 8  | 7  | 6  | 5  | 6  | 7  | 8  | 8  | 8  | 6* | 7* | 8  |  |
| YB = 28  | 6   | 4* | 5* | 2* | 1* | 1* | 2* | 4* | -  | 5  | 8  | 8  | 8  | 7  | 5  | 3* | 1  | 1  | 1  | 4  | 4  | 1  | 5* | 5* |  |
| VK6 = 29 | 4   | 3* | 1* | 1* | -  | -  | 1* | 1* | -  | -  | 8  | 8  | 5  | 1  | 2* | 1* | 1* | 1* | 1* | 1* | -  | -  | 4* | 5* |  |
| VK3 = 30 | 6   | 1* | 1  | -  | -  | -  | 1* | 1* | -  | 1* | 4* | 5  | 1  | 1* | 1* | 1* | 1* | 1* | 2* | 2* | 3* | 6* | 8  | 8  |  |
| KH6 = 31 | 8   | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 2* | 4* | 7  | 8  | 2* | 1* | -  | 6  | 4  | 5* | 5* | 6  | 4* | 4  | 5  |  |
| KH8 = 32 | 7   | 7  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2* | 2* | 1* | 8  | 3  | -  | 1* | 1  | 6  | 6  | 6  | 5  | 5  | 5  | 7  |  |
| CN = 33  | 9+  | 9+ | 9+ | 9+ | 9  | 7  | 6  | 5  | 1  | 6  | 9  | 8  | 7  | 5  | 4  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |  |
| SU = 34  | 9+  | 9  | 9  | 8  | 8  | 9  | 8  | 1  | 2  | 8  | 5  | 4  | 5  | 5  | 2  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |  |
| 6W = 35  | 9+  | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | 9  | 9+ | 9  | 9  | 8  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| D2 = 36  | 8   | 5  | 4  | 1  | 1* | 2* | 2* | 1* | 3  | 7  | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  |  |
| 5Z = 37  | 9   | 7  | 1  | 1* | 2* | 2  | 1* | 1* | 2  | 8  | 7  | 6  | 6  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  |  |
| ZS6 = 38 | -   | -  | -  | -  | 1* | 2* | 1* | -  | 5  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 1  | -  | -  |  |
| FR = 39  | -   | -  | 2* | 2* | 2* | 1* | -  | -  | 1  | 7  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 5  | 2* | 2* | 2* | 2* | -  |  |
| FJL = 40 | -   | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 2  | 7* | 4* | 2* | 1  | 2  | 1  | 1  | 1  | 1  | -  | 2  | 1  | -  |  |
| Zone     | 00  | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Apr., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |         | 6  | 7  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3* | 1  |
| VO2 = 02 |         | 8  | 3  | -  | -  | -  | -  | 4  | 1  | -  | -  | -  | 5  | 8  | 8  | 7  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| W6 = 03  |         | 9  | 9  | 9  | 9  | 5  | 1  | 1  | -  | 2  | -  | -  | 2  | -  | -  | 7  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 9  |
| W9 = 04  |         | 9  | 8  | 5  | -  | -  | -  | -  | 2  | -  | -  | 1  | -  | 5  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| W3 = 05  |         | 9  | 9  | 8  | 8  | 8  | 6  | 3  | 2  | -  | -  | 1  | -  | 8  | 9  | 8  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| XE1 = 06 |         | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2  | -  | -  | -  | 8  | 8  | 8  | 9  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  |         | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9  | 2  | -  | -  | -  | -  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  |
| VP2 = 08 |         | 8  | 7  | 8  | 9  | 9  | 8  | 5  | -  | -  | -  | -  | 9  | 9+ | 9  | 9  | 9  | 6  | 9  | 9  | 9  | 9+ | 9+ | 9  | 8  |
| P4 = 09  |         | 7  | 6  | 7  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | 2  | 9+ | 9  | 9  | 6  | 4  | 5  | 9  | 9  | 9  | 9  | 8  | 8  |
| HC = 10  |         | 5  | 5  | 6  | 7  | 8  | 7  | 4  | -  | -  | -  | -  | -  | 8  | 9+ | 9  | 2  | -  | -  | 2  | 4  | 5  | 3  | 6  | 6  |
| PY1 = 11 |         | 9+ | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |         | 9+ | 9+ | 9+ | 9  | 9  | 7  | 4  | -  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |         | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 5  | 6  | 7  | 8  | 9  | 9+ | 9  | 8  | 8  | 6  |
| G = 14   |         | -  | -  | 1  | -  | 5  | 3  | 4  | 1  | -  | -  | 9  | 8  | 8  | 7  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 7  | 4  |
| I = 15   |         | 9  | 9  | 8  | 5  | 5  | 4  | 6  | 1  | -  | 5  | 8  | 7  | 5  | 4  | 6  | 4  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 |         | 1  | -  | -  | -  | -  | 1  | 5  | 1  | -  | 1  | 7  | 6  | 6  | 4  | 4  | 4  | 5  | 6  | 8  | 6  | 6  | 6  | 5  | 3  |
| UN = 17  |         | 3* | 1* | 5  | 8  | 9  | 8  | 4  | -  | -  | 5  | 5  | 5  | 6* | 5* | 4  | 5  | 5  | 5  | 4  | 2  | 1  | -  | -  | 2* |
| UA9 = 18 |         | 1* | -  | -  | 2  | 6  | 8  | 7  | -  | -  | -  | 8  | 6  | 8* | 5* | 5  | 5  | 4  | 1  | -  | -  | -  | -  | 3* | 5* |
| UA0 = 19 |         | 2  | 2  | 2  | 5  | 5  | 6  | 8  | 3  | -  | -  | 2* | 8* | 8* | 7* | 6* | 6* | 6* | 6* | 5* | -  | -  | 4* | 8* | 1  |
| 4X = 20  |         | 9  | 9  | 8  | 5  | 5  | 8  | 3  | -  | -  | 6  | 6  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  |         | 9  | 8  | 6  | 5  | 6  | 3  | 1* | -  | -  | 4  | 6  | 5  | 4  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  |         | 2* | 4  | 8  | 6  | 2  | 3* | 2* | 1* | -  | 5  | 4  | 4  | 4  | 6* | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 4  |
| JT = 23  |         | 2* | 1  | 5  | 7  | 7  | 8  | 7  | 1  | -  | 1  | 6  | 5  | 8* | 6* | 5* | 5* | 5* | 4* | 2* | -  | -  | 1* | 6* | 4* |
| VR2 = 24 |         | 6* | 7* | 6* | 4* | 4* | 4* | 5* | 7* | 2* | 5  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 8  | 5  | 6* | 6* |
| JA1 = 25 |         | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 5  | 2* | 7* | 8* | 8* | 8* | 7* | 7* | 7* | 8* | 8* | 4* | 5  | 7  | 8  | 8  |
| HS = 26  |         | 5* | 5* | 5* | 4* | 3* | 2* | 1* | 5* | 1* | 3  | 7  | 7  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 5  | 5* |
| DU = 27  |         | 6* | 6* | 5* | 4* | 3* | 5* | 5* | 2* | -  | -  | 7  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 5  | 4* | 8* | 7* |
| YB = 28  |         | 5* | 6* | 6* | 5* | 4* | 3* | 3* | 2* | -  | -  | 8  | 8  | 8  | 6  | 5* | 5* | 4* | 4* | 5* | 4* | -  | -  | 2* | 7* |
| VK6 = 29 |         | 4* | 3* | 2* | 1* | 1* | 1* | 2* | -  | -  | -  | 1  | 7  | 4* | 4* | 2* | 2* | 1* | 1* | -  | -  | -  | -  | 1* | 7* |
| VK3 = 30 |         | 2* | 1* | 1* | 1* | 1* | 1* | 2* | -  | -  | -  | 5* | 2* | 3* | 2* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 4* | 5  | 6  |
| KH6 = 31 |         | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 2* | 5* | 5* | 8  | 1* | -  | -  | 6  | 4  | 5  | 5  | 5  | 5  | 6  | 7  |
| KH8 = 32 |         | 8  | 8  | 8  | 8  | 7  | 5  | 3  | 2  | -  | 2* | 3* | 4* | 2  | 1* | 1* | 1* | -  | 5  | 7  | 7  | 7  | 7  | 6  | 6  |
| CN = 33  |         | 9+ | 9+ | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | 9  | 9  | 8  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |
| SU = 34  |         | 9  | 9  | 9  | 6  | 4  | 8  | 3  | -  | -  | 6  | 7  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9  | 9  |
| 6W = 35  |         | 6  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 9  | 6  | 6  | 9  | 9  | 9  | 9+ | 9+ | 9  | 8  | 6  |
| D2 = 36  |         | 4  | 1  | -  | -  | -  | 5* | 2* | 3* | -  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  |
| 5Z = 37  |         | 5  | 2  | -  | 4* | 4* | 3* | 4* | 2* | -  | 7  | 8  | 7  | 6  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| ZS6 = 38 |         | -  | -  | -  | -  | 3* | 2* | 1* | 1* | -  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 7  | 1  | -  | -  | -  |
| FR = 39  |         | -  | -  | 3* | 2* | 3* | 2* | 1* | 1* | -  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 3  | 3* | 3* | 2* | 1* | -  | -  |
| FJL = 40 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Apr., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |     | 3  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  |
| VO2 = 02 |     | 3  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 7  |
| W6 = 03  |     | 9  | 9  | 9  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 9  |
| W9 = 04  |     | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 9  |
| W3 = 05  |     | 9  | 7  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| XE1 = 06 |     | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 9  |
| TI = 07  |     | 5  | 5  | 6  | 7  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | 9  | 9  | 3  | 2  | 2  | 4  | 6  | 7  | 7  | 7  | 6  |
| VP2 = 08 |     | 4  | 3  | 4  | 5  | 5  | 4  | -  | -  | -  | -  | -  | 1  | 9+ | 9  | 5  | 1  | -  | 1  | 5  | 6  | 6  | 5  | 6  | 5  |
| P4 = 09  |     | 2  | 2  | 2  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | 6  | 7  | 4  | -  | -  | -  | 1  | 3  | 3  | 3* | 5  | 4  |
| HC = 10  |     | 9  | 9  | 2  | 2  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 5  | 2* | 8  | 9  | 9  | 9  | 8  | 1* | 2* | 9+ | 9+ |
| PY1 = 11 |     | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 4  | 5  | 5  | 6  | 7  | 9  | 9+ | 9+ | 9+ | 9  | 8  |
| CE = 12  |     | 9+ | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | 5  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |     | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | 1  | 2  | 2  | 5  | 4  | 2* | 5* | 4* |
| G = 14   |     | -  | -  | -  | -  | 1  | -  | 1  | -  | -  | -  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 8  | 6  | 1  | -  |
| I = 15   |     | 6  | 5  | 3  | -  | 1  | -  | 3  | -  | -  | -  | 9  | 8  | 6  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  |
| UA3 = 16 |     | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 2  | 3  | 4* | 3* | 2  | 2  | 4  | 4  | 4  | 1  | 3  | 2  | 1  | -  |
| UN = 17  |     | 4* | 1* | 2  | 7  | 8  | 7  | 1  | -  | -  | -  | 7  | 6  | 6  | 5  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 |     | -  | -  | -  | -  | 2  | 5  | 4  | -  | -  | -  | 6  | 5  | 6* | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 4* |
| UA0 = 19 |     | -  | -  | -  | 1  | 2  | 3  | 5  | -  | -  | -  | -  | 6* | 8* | 6* | 5* | 5* | 5* | 5* | 2* | -  | -  | -  | 3* | -  |
| 4X = 20  |     | 9  | 9  | 2  | 1  | 1  | 7  | -  | -  | -  | 2  | 8  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  |     | 9  | 4  | 3* | 3* | 2* | 1* | -  | -  | -  | -  | 6  | 6  | 6  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  |     | 3* | 6* | 5  | 4* | 4* | 1* | 1* | -  | -  | 1  | 5  | 5  | 5  | 6  | 6  | 7  | 8  | 7  | 8  | 8  | 9  | 8  | 5  | -  |
| JT = 23  |     | -  | -  | 1  | 5  | 7  | 8  | 5  | -  | -  | -  | 7  | 5  | 8* | 5  | 3* | 2* | 2* | 1* | -  | -  | -  | -  | 5* | 5* |
| VR2 = 24 |     | 8* | 8* | 8* | 7* | 7* | 6* | 6* | 6* | -  | -  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 6  | 1  | 7* | 7* |
| JA1 = 25 |     | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 1  | -  | 7* | 8* | 8* | 8* | 8* | 8* | 8* | 8* | 6* | -  | 1  | 7  | 8  | 8  |
| HS = 26  |     | 7* | 7* | 7* | 6* | 5* | 3* | 3* | 3* | -  | -  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | -  | 2* |
| DU = 27  |     | 6* | 5* | 5* | 5* | 5* | 5* | 4* | -  | -  | -  | 1  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 2  | -  | 8* | 7* |
| YB = 28  |     | 5* | 5* | 6* | 4* | 3* | 2* | 2* | 1* | -  | -  | 4  | 8  | 8* | 6* | 6* | 6* | 5* | 5* | 4* | 1* | -  | -  | -  | 6* |
| VK6 = 29 |     | 2* | 2* | 2* | 3* | 2* | 1* | -  | -  | -  | -  | -  | 6* | 6* | 4* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | 6* |
| VK3 = 30 |     | 2* | 2* | 1* | 1* | 2* | 2* | 1* | -  | -  | -  | 2* | 4* | 2* | 1* | 1* | 1* | -  | 1* | -  | -  | -  | 2* | 5* | 3* |
| KH6 = 31 |     | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | -  | -  | 5* | 3* | 6  | -  | -  | -  | 1  | 5  | 5  | 7  | 7  | 5  | 6  | 7  |
| KH8 = 32 |     | 8  | 8  | 6  | 5  | 3* | 1* | -  | -  | -  | -  | 5* | 4* | 4* | 2* | 2* | 1* | -  | 1  | 7  | 8  | 8  | 7  | 7  | 7  |
| CN = 33  |     | 9  | 9  | 8  | 5  | 5  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  |     | 9  | 9  | 5  | 2  | 1  | 6  | -  | -  | -  | 2  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  |     | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 3  | 1  | -  | -  | 1  | 6  | 8  | 8  | 7  | 6  | 3* | 4* |
| D2 = 36  |     | 2* | -  | -  | -  | -  | 4* | 2* | 1* | -  | 1  | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 7  | 6  | 3  |
| 5Z = 37  |     | 1  | -  | -  | 2* | 6* | 5* | 4* | 1* | -  | 2  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  |
| ZS6 = 38 |     | -  | -  | -  | -  | 1* | 5* | 3* | 1* | -  | 2  | 5  | 8  | 8  | 8  | 8  | 9  | 8  | 9  | 6  | 2  | -  | -  | -  | -  |
| FR = 39  |     | -  | -  | -  | 5* | 4* | 3* | 1* | 1* | -  | 1  | 8  | 8  | 8  | 9  | 8  | 8  | 6  | 2* | 2* | 1* | -  | -  | -  | -  |
| FJL = 40 |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: May, Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 1       | 4  | 5  | 5  | 5  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | -  | 3  | 4  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | -  | 2  | 4  | 4  | 4  | 5  | 1  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 2  | 4  | 5  | 5  | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 2  | 3  | 4  | 5  | 5  | 3  | 1  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | -       | 3  | 3  | 4  | 4  | 4  | 4  | 3  | 3  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3       | 4  | 4  | 4  | 4  | 4  | 3  | 3  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 3       | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 5       | 5  | 6  | 5  | 5  | 5  | 4  | 4  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  | 9  |
| G = 14   | 4       | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 3       | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  |
| HZ = 21  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 4       | 5  | 5  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| SU = 34  | 3       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| 6W = 35  | 5       | 5  | 4  | 4  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | -  |
| D2 = 36  | 6       | 6  | 5  | 5  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | -  |
| 5Z = 37  | 5       | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| ZS6 = 38 | 6       | 6  | 5  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | -  |
| FR = 39  | 5       | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: May, Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4       | 7  | 8  | 8  | 8  | 7  | 7  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 2  | 3  | 6  | 7  | 7  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 2  | 5  | 7  | 7  | 7  | 8  | 4  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 5  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 2  | 5  | 6  | 7  | 8  | 8  | 6  | 4  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 3       | 6  | 6  | 7  | 7  | 7  | 7  | 6  | 6  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 6       | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| P4 = 09  | 6       | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| HC = 10  | 8       | 8  | 9  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | -  | -  | -  | -  | 3  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 3  | -  | -  | -  | -  | -  | 1  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 2  | -  | -  | 1  | 5  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7       | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  |
| I = 15   | 6       | 7  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| UA3 = 16 | 4       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 5       | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  |
| HZ = 21  | 5       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 4  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 1  | 4  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 1  | 1  | 5  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 7       | 8  | 8  | 7  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  |
| SU = 34  | 6       | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| 6W = 35  | 8       | 8  | 7  | 7  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  |
| D2 = 36  | 9       | 9  | 8  | 8  | 9  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  |
| 5Z = 37  | 8       | 7  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 6  | 6  |
| ZS6 = 38 | 9       | 9  | 8  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 8  |
| FR = 39  | 8       | 8  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: May, Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | 1  | 2  | 3  | 4  | 5  | 6  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  |
| W6 = 03  | -       | 2  | 4  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 5       | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| W3 = 05  | 7       | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| XE1 = 06 | 7       | 8  | 8  | 9  | 8  | 9  | 8  | 8  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| TI = 07  | 8       | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 5  | 5  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 3  | 2  | 3  | 5  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| UA3 = 16 | 6       | 6  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| UN = 17  | 6       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 4  |
| UA9 = 18 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 3  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 8       | 8  | 7  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| HZ = 21  | 7       | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  |
| VU = 22  | 4       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  |
| HS = 26  | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 6  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | -  |
| YB = 28  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  |
| VK6 = 29 | 5       | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  |
| VK3 = 30 | -       | -  | -  | -  | -  | 1  | 2  | 6  | 7  | 7  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | -  |
| KH6 = 31 | -       | -  | -  | 1  | 4  | 6  | 7  | 7  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 1  | 4  | 6  | 7  | 7  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  |
| SU = 34  | 8       | 8  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 9  |
| 5Z = 37  | 9       | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 9  | 9  |
| FR = 39  | 9       | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 9  |
| FJL = 40 | 3       | 3  | 3  | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1       | 2  | 2  | 3  | 7  | 6  | 7  | 7  | 6  | 5  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  |
| W6 = 03  | 2       | 5  | 6  | 7  | 8  | 8  | 8  | 7  | 8  | 7  | 6  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 7       | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |
| W3 = 05  | 8       | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| XE1 = 06 | 8       | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 9  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9  | 9  | 8  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 4  | 1  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 8  | 8  |
| UA3 = 16 | 7       | 7  | 7  | 6  | 7  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 7  |
| UN = 17  | 7       | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  |
| UA9 = 18 | 5       | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 5  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 3* | 1* | -  | -  | -  | -  | -  | -  | 2* | 3* | 2* | 1* | -  |
| 4X = 20  | 8       | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| HZ = 21  | 8       | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| VU = 22  | 6       | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  | 6  |
| JT = 23  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 5  | 5  |
| VR2 = 24 | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 1* | 1* | -  | -  | -  | -  | -  | 1  | 3  | 4  | 5  | 5  | 4  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 1* | 3* | 5* | 4* | 2* | -  |
| HS = 26  | 6       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 7  | 8  | 7  |
| DU = 27  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 5  | 4  |
| YB = 28  | 6       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 6  | 7  |
| VK6 = 29 | 7       | 5  | 2  | -  | -  | -  | -  | 2  | 4  | 4  | 4  | 5  | 2  | 1  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 6  | 7  |
| VK3 = 30 | 3       | 2  | 1  | 1  | 3  | 4  | 6  | 7  | 7  | 8  | 6  | 7  | 5  | 4  | 1  | -  | -  | -  | 2  | 3  | 4  | 5  | 6  | 4  |
| KH6 = 31 | -       | -  | 2  | 4  | 5  | 6  | 7  | 8  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | 2  | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 9  | 9  | 9  |
| D2 = 36  | 8       | 8  | 8  | 9  | 7  | 5  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 9  | 8  | 9  |
| 5Z = 37  | 9       | 8  | 8  | 5  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  | 9  | 9  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 4  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 8  | 8  | 8  |
| FR = 39  | 6       | 1  | -  | 7  | 7  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 1  | 2  | 6  |
| FJL = 40 | 5       | 5  | 5  | 7  | 4  | 3  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | 4  | 5  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 6            | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 3* | 2  | 2  | -  | -  | -  | 1* | 2  | -  | 1  | 1  | 5  |
| VO2 =   | 02 | 9            | 9  | 9+ | 9+ | 9  | 9+ | 9  | 9  | 8  | 8  | 9  | 8  | 6  | 3  | -  | -  | -  | 1  | 2  | 5  | 6  | 8  | 9  | 9  |
| W6 =    | 03 | 7            | 8  | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 8  | 9  | 9  | 8  | 5  | 2  | 2  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| W9 =    | 04 | 9            | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 9  | 9  | 7  | 2  | 2  | -  | -  | -  | -  | 2  | 3  | 4  | 7  | 9  |
| W3 =    | 05 | 9            | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 9  | 9  | 8  | 3  | 1  | 1  | -  | -  | 1  | 5  | 5  | 8  | 9  | 9  |
| XE1 =   | 06 | 9            | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 8  | 9  | 8  | 7  | 4  | 3  | 1  | 1  | 1  | 1  | 4  | 6  | 8  | 9  |
| TI =    | 07 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | 2  | 9  | 9  | 6  | 4  | 2  | 2  | 2  | 2  | 5  | 8  | 9  | 9  | 9+ |
| VP2 =   | 08 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 6  | 9+ | 9  | 8  | 6  | 3  | 2  | 2  | 4  | 6  | 7  | 9  | 9  | 9+ | 9+ |
| P4 =    | 09 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 3  | 9  | 9  | 8  | 7  | 4  | 2  | 4  | 5  | 6  | 7  | 9  | 9  | 9+ | 9+ |
| HC =    | 10 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 2* | 2* | 9+ | 9  | 8  | 5  | 4  | 4  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | 5  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 3  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 8  | 5  | 3  | 1  | -  | -  | -  | -  | -  | 2  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 9+           | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9+ |
| I =     | 15 | 9+           | 9+ | 9+ | 9+ | 9  | 9  | 9  | 6  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  | 9+ |
| UA3 =   | 16 | 9            | 9  | 9  | 9  | 9  | 8  | 5  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 8  | 9  |
| UN =    | 17 | 9            | 9  | 8  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | 2* | 2* | -  | 1* | -  | -  | 2  | 5  | 7  | 9  | 9  | 9  | 9  |
| UA9 =   | 18 | 8            | 8  | 7  | 3  | 2  | 4  | 2  | 1  | -  | 1  | -  | 3* | 2* | 1* | 2* | 1* | 1* | 1* | 3  | 6  | 8  | 8  | 8  | 8  |
| UA0 =   | 19 | 1            | 1  | 1  | 1  | 1  | 1  | 2  | 5  | 7  | 7  | 7  | 8* | 6  | 5* | 3* | 2* | 2* | 3* | 6* | 7* | 8* | 8* | 6* | 3* |
| 4X =    | 20 | 9            | 9  | 9  | 9  | 8  | 8  | 8  | 3  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 6  | 8  | 9  | 9  | 9  | 9  |
| HZ =    | 21 | 9            | 9  | 9  | 9  | 9  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU =    | 22 | 9            | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 2* | 2* | -  | 1* | -  | 1  | 4  | 7  | 8  | 8  | 9  | 9  | 9  |
| JT =    | 23 | 8            | 6  | 2  | 1  | 2  | 1  | 1  | -  | -  | -  | -  | 8  | 3* | 1* | 2* | 1* | 1* | 1  | 2  | 6  | 7  | 8  | 8  | 8  |
| VR2 =   | 24 | 5            | 1  | -  | -  | -  | -  | -  | 1* | 6* | 5* | 6  | 6* | 5* | 3* | 1  | 1  | 2  | 4  | 6  | 8  | 8  | 8  | 9  | 8  |
| JA1 =   | 25 | 1*           | -  | -  | -  | 1  | 3  | 5  | 8  | 8  | 8  | 9  | 8  | 6  | 3  | -  | 2* | 5* | 7* | 8* | 9* | 9* | 7* | 4* |    |
| HS =    | 26 | 5            | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 8  | 6  | 3* | 2* | 1  | -  | 3  | 5  | 7  | 9  | 9  | 9  | 9  | 8  |
| DU =    | 27 | -            | -  | -  | -  | -  | -  | -  | 2* | 5* | 5  | 7* | 6  | 5  | 4  | 3  | 2  | 2  | 4  | 6  | 8  | 8  | 7  | 8  | 5  |
| YB =    | 28 | 1            | -  | -  | -  | -  | -  | -  | -  | 2* | 6  | 6  | 6  | 6  | 5  | 4  | 3  | 3  | 5  | 6  | 8  | 8  | 7  | 5  | 6  |
| VK6 =   | 29 | 2            | -  | -  | -  | -  | -  | -  | -  | 1* | 7  | 8  | 8  | 8  | 6  | 2  | 1  | 2  | 4  | 5  | 6  | 5  | 3  | 4  | 7  |
| VK3 =   | 30 | 5            | -  | -  | -  | -  | 1  | -  | -  | -  | 1  | 5  | 9  | 7  | 6  | 4  | 3  | 2  | 2  | 1  | 2* | 2* | 6  | 8  | 8  |
| KH6 =   | 31 | 2            | 3  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 6  | 1* | 9  | 8  | 7  | 2  | 2  | 1  | -  | 1* | 1* | -  | -  | -  | -  |
| KH8 =   | 32 | 2            | 4  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 4  | -  | 5  | 9  | 8  | 1  | -  | 3  | 2  | 1  | 1  | 1  | 1  | 1  | 1  |
| CN =    | 33 | 9+           | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | 5  | 8  | 6  | 2  | 1  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9  | 9+ |
| SU =    | 34 | 9            | 9  | 9  | 9  | 9  | 8  | 8  | 3  | 4  | 2  | 1  | -  | -  | -  | -  | 1  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| 6W =    | 35 | 9+           | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 4  | 5  | 9+ | 9  | 8  | 5  | 2  | 2  | 2  | 4  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 =    | 36 | 9            | 8  | 8  | 7  | 1  | -  | 1  | -  | 8  | 8  | 6  | 3  | 2  | 1  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  |
| 5Z =    | 37 | 9            | 9  | 6  | -  | 3  | 7  | -  | -  | 5  | 2  | 1  | 1  | -  | -  | 1  | 2  | 3  | 6  | 8  | 8  | 9  | 9  | 9  | 9  |
| ZS6 =   | 38 | 1            | 4  | 1  | 2  | -  | -  | -  | 1  | 8  | 7  | 6  | 4  | 2  | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 8  | 6  | 4  | 1  |
| FR =    | 39 | -            | -  | -  | -  | 4  | -  | -  | -  | 4  | 3  | 2  | 2  | 2  | 2  | 3  | 4  | 6  | 7  | 2  | -  | 1* | 1* | -  | -  |
| FJL =   | 40 | 8            | 8  | 8  | 8  | 7  | 8  | 7  | 8  | 6  | 7  | 5  | 4  | 2* | 1* | -  | -  | -  | 1  | 3  | 8  | 7  | 8  | 8  | 8  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: May, Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 7   | 8   | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 6  | 4* | 6* | 5* | 4* | 1* | 1  | 1  | 1  | 1  | 6  | 6  | 8  | 6  | 7  | 7  | 7  |
| VO2 = 02 | 9+  | 9   | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 2  | 5  | 9  | 9  | 8  | 9  | 7  | 5  | 5  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9   | 9   | 9  | 9+ | 9+ | 9  | 9+ | 9  | 9  | 8  | 5* | 3* | 9  | 7  | 8  | 7  | 4  | 6  | 4  | 4  | 4  | 2* | 2  | 4  | 6  | 8  |
| W9 = 04  | 9   | 9   | 9  | 9+ | 9  | 9  | 8  | 9  | 5  | 2  | 2  | 8  | 9  | 8  | 8  | 6  | 4  | 4  | 4  | 5  | 7  | 9  | 9  | 9  | 9  | 9  |
| W3 = 05  | 9   | 9   | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 2  | 1  | 2  | 9  | 9  | 8  | 8  | 5  | 5  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9   | 9   | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | 5* | 2* | 6  | 9  | 9  | 8  | 7  | 6  | 6  | 7  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | -  | 5* | 2* | 2* | 9  | 9  | 8  | 7  | 6  | 7  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | 4* | 9+ | 9  | 9  | 8  | 7  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | 1* | 5* | 9+ | 9  | 9  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 8  | 4  | -  | 5* | 5* | 3* | 9+ | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| PY1 = 11 | 9+  | 9+  | 9  | 7  | 4  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9  | 8  | 5  | 1  | 1* | -  | -  | 3  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 8   | 5   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| G = 14   | 9+  | 9+  | 9  | 9  | 9  | 9  | 9  | 3  | 1  | 8  | 8  | 6  | 4  | 3  | 1  | 2  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| I = 15   | 9+  | 9+  | 9+ | 9+ | 9  | 9  | 8  | 1  | 2  | 8  | 5  | 2  | 1  | -  | -  | 1  | 3  | 7  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| UA3 = 16 | 9   | 9   | 8  | 8  | 8  | 8  | 8  | -  | 1  | 5  | 3  | 2  | 9  | 3  | 1  | 3  | 2  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| UN = 17  | 9   | 9   | 8  | 8  | 8  | 7  | 2  | -  | 1  | 3  | 2  | 7  | 7  | 4* | 2* | 3* | 3  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| UA9 = 18 | 7   | 8   | 8  | 8  | 7  | 8  | 6  | -  | -  | 6  | 4  | 3  | 6  | 8  | 5* | 5* | 4* | 6  | 6  | 7  | 8  | 8  | 7  | 7  | 7  | 7  |
| UA0 = 19 | 6   | 7   | 6  | 7  | 6  | 6  | 8  | 7  | 3  | 4  | 8  | 8* | 8* | 7* | 6* | 6* | 6* | 6* | 8* | 8* | 9* | 8* | 7  | 7  | 7  | 7  |
| 4X = 20  | 9   | 9   | 9  | 9  | 9  | 9  | 2  | -  | 1  | 5  | 2  | 1  | 1  | 1  | 1  | 2  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9   | 9   | 9  | 9  | 8  | 3  | -  | -  | 1  | 3  | 1  | 1  | 1  | 8  | 1  | 2  | 5  | 7  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  |
| VU = 22  | 9   | 9   | 8  | 6  | 5  | 1  | -  | -  | -  | 1  | 1  | 7  | 5  | 6  | 2* | 1  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  | 8   | 8   | 8  | 7  | 6  | 6  | 5  | -  | -  | 6  | 2  | 5  | 5  | 8  | 6* | 6* | 5* | 6  | 7  | 8  | 7* | 6* | 6  | 8  | 8  | 8  |
| VR2 = 24 | 1*  | 2*  | 3* | -  | -  | 1* | 4* | 6* | 5* | 6  | 6  | 8* | 8* | 7* | 7* | 6  | 7  | 6  | 8  | 9  | 9  | 9  | 7  | 2* | 2* | 2* |
| JA1 = 25 | 5   | 5   | 5  | 6  | 7  | 8  | 9  | 8  | 8  | 5* | 6* | 9  | 9  | 8  | 7  | 6* | 7* | 8* | 9* | 9* | 9* | 9* | 9* | 6  | 5  | 5  |
| HS = 26  | -   | 1*  | 2* | 1* | -  | -  | -  | 2* | 2* | 5  | 5  | 7* | 6* | 6* | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9  | 7  | 1  | 1  | 1  |
| DU = 27  | 4*  | 5*  | 1* | -  | -  | -  | 3* | 5* | 2* | 3  | 8  | 8  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 5* | 5* | 5* | 5* | 5* |
| YB = 28  | 2*  | 2*  | 1* | -  | -  | -  | 1* | 2* | 1* | 5  | 8  | 8  | 8  | 7  | 4  | 1  | 1  | 1  | 2  | 5  | 5  | 2  | 4* | 2* | 2* | 2* |
| VK6 = 29 | 2*  | 1*  | 1* | -  | -  | -  | -  | 1* | -  | 1* | 6  | 9  | 8  | 2  | 1* | -  | -  | 1  | 2  | 2  | 2  | 1  | -  | 3* | 2  | 2  |
| VK3 = 30 | -   | -   | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | 5  | 2* | 1  | -  | -  | -  | 1* | 1* | 1* | 1* | 1* | 2* | 8  | 3* | 3* |
| KH6 = 31 | 6   | 8   | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2* | 2* | 7  | 9  | 8  | 5  | 6  | 4  | 2  | 8  | 8  | 5* | 2* | 2  | 4  | 4  | 4  |
| KH8 = 32 | 6   | 7   | 8  | 7  | 6  | 5  | 7  | 7  | 4  | 1* | -  | -  | 5  | 1  | -  | -  | 1* | 7  | 6  | 5  | 5  | 5  | 4  | 5  | 5  | 5  |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9  | 9  | 8  | 1  | -  | 8  | 9  | 7  | 4  | 3  | 2  | 2  | 5  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| SU = 34  | 9   | 9   | 9+ | 9  | 9  | 9  | 2  | -  | 1  | 6  | 3  | 1  | 1  | 2  | 1  | 2  | 5  | 8  | 8  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9  | 6  | -  | -  | -  | 9  | 9+ | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 6   | 4   | 4  | 1  | 1* | 1* | 1* | -  | 4  | 8  | 8  | 8  | 6  | 5  | 6  | 7  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 8  |
| 5Z = 37  | 8   | 6   | -  | -  | 1* | 1* | 2* | -  | 2  | 6  | 5  | 4  | 3  | 9  | 3  | 5  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| ZS6 = 38 | -   | -   | -  | -  | -  | 1* | -  | -  | 5  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 2  | -  | -  | -  | -  |
| FR = 39  | -   | -   | 1* | 1* | 1* | -  | -  | -  | 1  | 6  | 7  | 6  | 6  | 6  | 6  | 6  | 8  | 8  | 1* | 1* | 1* | 1* | 1* | -  | -  | -  |
| FJL = 40 | 4   | 2   | 2  | 1  | 1  | -  | 2  | 4  | 1  | 7  | 6  | 6  | 5  | 8  | 3  | 3  | 4  | 5  | 5  | 7  | 7  | 7  | 7  | 7  | 6  | 6  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: May, Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 7   | 7   | 8  | 8  | 8  | 7  | 5  | 3  | 1  | -  | -  | 2* | 1* | 2* | -  | -  | -  | -  | -  | -  | 2* | 4  | 5  | -  | 2  |    |
| VO2 = 02 | 9+  | 9   | 9  | 8  | 5  | 2  | 7  | 2  | -  | -  | -  | 5  | 8  | 9  | 8  | 6  | 8  | 7  | 8  | 7  | 8  | 8  | 9  | 9  | 9  |    |
| W6 = 03  | 9   | 9   | 9  | 9  | 9  | 9  | 9  | 8  | 2  | 1* | 1* | 7  | -  | 4  | 7  | 7  | 6  | 5  | 5  | 6  | 6  | 7  | 8  | 9  |    |    |
| W9 = 04  | 9   | 9   | 9  | 9  | 8  | 4  | 1  | 5  | -  | -  | -  | -  | 7  | 8  | 7  | 7  | 5  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |    |    |
| W3 = 05  | 9   | 9   | 9+ | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | 5  | 9  | 8  | 7  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  |    |    |
| XE1 = 06 | 9   | 9   | 9  | 9  | 9  | 9  | 9  | 8  | 2  | 1* | -  | -  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 9  | 9  | 9  |    |    |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 7  | 1  | -  | 1* | 1* | -  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |
| VP2 = 08 | 9   | 9   | 9  | 9  | 9  | 8  | 5  | -  | -  | -  | -  | 9  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| P4 = 09  | 9   | 8   | 9  | 9  | 8  | 8  | 5  | -  | -  | -  | 1* | 4* | 9+ | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  |    |
| HC = 10  | 8   | 8   | 8  | 8  | 8  | 7  | 3  | -  | -  | 1* | 3* | 2* | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 8  | 8  | 8  | 8  |    |
| PY1 = 11 | 9   | 8   | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| CE = 12  | 9+  | 9+  | 9  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  | 1   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 9  | 8  | 9  | 9  | 9+ | 9  | 6  | 7  | 4* |    |
| G = 14   | 9   | 9   | 8  | 7  | 8  | 8  | 7  | -  | -  | 4  | 8  | 8  | 7  | 8  | 7  | 7  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| I = 15   | 9   | 9   | 9  | 9  | 9  | 9  | 5  | -  | -  | 6  | 7  | 6  | 6  | 7  | 5  | 3  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| UA3 = 16 | 8   | 7   | 6  | 6  | 5  | 8  | 5  | -  | -  | 2  | 7  | 5  | 5  | 4  | 4  | 4  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| UN = 17  | 5   | 6   | 8  | 9  | 8  | 6  | -  | -  | -  | 2  | 3  | 3  | 4* | 5* | 4* | 4  | 5  | 7  | 8  | 8  | 8  | 8  | 7  | 5  |    |    |
| UA9 = 18 | 2   | 2   | 5  | 7  | 8  | 8  | 3  | -  | -  | 1  | 5  | 5  | 7* | 7* | 5* | 4  | 4  | 6  | 6  | 6  | 5  | 5* | 6* | 1  |    |    |
| UA0 = 19 | -   | 1   | 1  | 2  | 1  | 5  | 8  | 4  | -  | -  | 3  | 8* | 8* | 8* | 7* | 7* | 7* | 7* | 8* | 8* | 8* | 5* | -  | 2  |    |    |
| 4X = 20  | 9   | 9   | 9  | 8  | 8  | 6  | -  | -  | -  | 4  | 6  | 5  | 5  | 3  | 3  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| HZ = 21  | 9   | 9   | 8  | 5  | 2  | -  | -  | -  | -  | 5  | 5  | 5  | 5  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ | 9  | 9  |    |    |
| VU = 22  | 8   | 8   | 3  | 3* | 2* | 1* | -  | -  | -  | 5  | 4  | 2  | 4* | 5* | 4* | 4  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| JT = 23  | 5   | 6   | 7  | 6  | 8  | 7  | 2  | -  | -  | 2  | 5  | 4  | 7* | 8* | 7* | 5* | 5* | 5  | 5* | 5* | 6* | 6* | 6* | 2  |    |    |
| VR2 = 24 | 3*  | 5*  | 5* | 5* | 4* | 5* | 5* | 5* | 1* | 5  | 7  | 7  | 9* | 8* | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 2* | 2* |    |    |
| JA1 = 25 | 6   | 7   | 7  | 8  | 8  | 8  | 8  | 8  | 4  | 2* | 7* | 8  | 8  | 8* | 7* | 7* | 8* | 8* | 9* | 9* | 8* | 8* | 6  | 6  |    |    |
| HS = 26  | 2*  | 3*  | 4* | 3* | 1* | 2* | 2* | 2* | -  | 3  | 6  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 2* | 2* |    |    |
| DU = 27  | 5*  | 6*  | 5* | 4* | 3* | 4* | 4* | 2* | -  | -  | 5  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 5  | 7* | 6* | 6* |    |    |
| YB = 28  | 4*  | 5*  | 4* | 2* | 2* | 1* | 1* | 1* | -  | -  | 8  | 8  | 8  | 6  | 5* | 3* | 2* | 2* | 3* | 3* | 2* | 1* | 4* | 6* | 6* |    |
| VK6 = 29 | 3*  | 2*  | 1* | -  | 1* | 1* | 1* | -  | -  | -  | 1* | 8  | 5  | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1* | 6* |    |    |
| VK3 = 30 | 2*  | -   | -  | -  | -  | -  | 1* | -  | -  | 1* | 5* | 4* | 1* | -  | -  | -  | -  | 1* | 1* | -  | -  | 4* | 5  | 3* |    |    |
| KH6 = 31 | 7   | 8   | 9  | 9  | 9  | 9  | 9  | 8  | 2  | 3* | 5* | 5* | 8  | 3  | 2* | 1  | 6  | 5  | 4  | 5  | 5  | 5  | 5  | 6  |    |    |
| KH8 = 32 | 6   | 5   | 4  | 3* | 2* | 1  | -  | 1  | -  | 2* | 1* | 1* | 1* | 1* | 1* | 1* | -  | 5  | 7  | 7  | 6  | 6  | 5  | 6  |    |    |
| CN = 33  | 9+  | 9+  | 9+ | 9  | 9  | 8  | 4  | -  | -  | 1  | 9  | 8  | 7  | 4  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9  |    |    |
| SU = 34  | 9+  | 9   | 9  | 8  | 8  | 6  | -  | -  | -  | 7  | 7  | 5  | 5  | 5  | 3  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| 6W = 35  | 8   | 8   | 8  | 6  | 2  | 1  | -  | -  | -  | -  | 9+ | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9  |    |    |
| D2 = 36  | 1   | 1   | -  | -  | 1* | 1* | 1* | 1* | -  | 9  | 8  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  |    |    |
| 5Z = 37  | 5   | -   | -  | 3* | 2* | 2* | 2* | 1* | -  | 7  | 8  | 7  | 7  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  |    |    |
| ZS6 = 38 | -   | -   | -  | -  | 2* | 2* | 1* | 1* | -  | 8  | 9  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | -  |    |    |
| FR = 39  | -   | -   | 2* | 2* | 1* | 1* | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 4  | 1* | 1* | -  | -  | -  | -  | -  | -  |    |    |
| FJL = 40 | -   | -   | -  | -  | -  | -  | -  | -  | -  | 3  | 1  | 1  | 6* | 3* | 2* | 1* | 1  | 1  | 1  | 1  | 1  | -  | 2  | 1  | -  |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: May, Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |     | 4  | 5  | 6  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  |
| VO2 = 02 |     | 9  | 8  | 3  | -  | -  | -  | 2  | -  | -  | -  | -  | 1  | 4  | 2  | 3  | 5  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  |
| W6 = 03  |     | 9  | 9  | 9  | 9  | 6  | 2  | 8  | 4  | -  | -  | -  | 3  | -  | -  | 3  | 6  | 5  | 6  | 6  | 7  | 8  | 8  | 9  | 9  |
| W9 = 04  |     | 9  | 8  | 7  | 4  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 2  | 1  | 1  | 4  | 6  | 7  | 8  | 8  | 9  | 9  | 9  |
| W3 = 05  |     | 9  | 9  | 9  | 8  | 8  | 5  | 4  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| XE1 = 06 |     | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 9  |
| TI = 07  |     | 8  | 8  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | 4  | 2  | 1  | 1  | 2  | 5  | 9  | 9  | 9  | 9  | 8  |
| VP2 = 08 |     | 7  | 6  | 6  | 5  | 5  | 3  | -  | -  | -  | -  | -  | 1* | 7  | 7  | 9  | 6  | 4  | 5  | 7  | 9  | 9  | 8  | 8  | 7  |
| P4 = 09  |     | 6  | 5  | 5  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | 2* | 2  | 1  | 1  | 2  | 2  | 4  | 6  | 6  | 6  | 7  | 6  |
| HC = 10  |     | 4  | 4  | 4  | 2  | 2  | 1  | -  | -  | -  | -  | -  | 1* | 1* | 6  | 4  | -  | -  | 8  | 9  | -  | 1* | 1  | -  | 4  |
| PY1 = 11 |     | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 9  | 9  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9  | 7  |
| CE = 12  |     | 9  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2  | 1  | 1  | 2  | 1  | 3  | 2  | 4* | 4* | 1* |
| G = 14   |     | 6  | 4  | 1  | -  | 5  | 5  | 2  | -  | -  | -  | 7  | 7  | 6  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 8  |
| I = 15   |     | 8  | 8  | 7  | 4  | 7  | 6  | -  | -  | -  | -  | 8  | 8  | 6  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| UA3 = 16 |     | 4  | 2  | 1  | 1  | 1  | 3  | -  | -  | -  | -  | 4  | 3  | 2  | 4* | 2* | 2  | 4  | 6  | 8  | 8  | 8  | 7  | 8  | 6  |
| UN = 17  |     | 1* | -  | 7  | 8  | 6  | 2  | -  | -  | -  | -  | 6  | 5  | 5  | 6* | 4  | 5  | 6  | 7  | 7  | 7  | 6  | 4  | -  | 2* |
| UA9 = 18 |     | -  | -  | -  | 2  | 5  | 5  | -  | -  | -  | -  | 5  | 4  | 4  | 8* | 5* | 3* | 2* | 1  | -  | 1  | -  | -  | 2* | -  |
| UA0 = 19 |     | -  | -  | -  | -  | -  | 1  | 5  | -  | -  | -  | -  | 2* | 8* | 8* | 8* | 8* | 7* | 7* | 7* | 2* | 2* | -  | -  | -  |
| 4X = 20  |     | 9  | 9  | 5  | 5  | 5  | -  | -  | -  | -  | -  | 7  | 5  | 5  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  |     | 8  | 4  | 5  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 6  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  |     | 4* | 6  | 4* | 1* | -  | -  | -  | -  | -  | 1  | 5  | 4  | 4* | 6* | 5  | 6  | 8  | 8  | 7  | 8  | 8  | 8  | 7  | 8  |
| JT = 23  |     | -  | 1  | 3  | 4  | 7  | 5  | -  | -  | -  | -  | 5  | 5  | 4  | 8* | 6* | 5* | 5* | 5* | 4* | -  | -  | 5* | 2* | -  |
| VR2 = 24 |     | 6* | 6* | 7* | 6* | 5* | 5* | 4* | 1* | -  | -  | 8  | 8  | 9* | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 5  | 6* | 6* |
| JA1 = 25 |     | 6  | 6  | 7  | 7  | 8  | 8  | 8  | 4  | -  | -  | 6* | 8* | 9* | 8* | 8* | 8* | 8* | 8* | 8* | 7* | 5* | 6  | 6  | 6  |
| HS = 26  |     | 5* | 6* | 6* | 5* | 4* | 3* | 1* | -  | -  | -  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 4  | 1* | 5* |
| DU = 27  |     | 6* | 6* | 5* | 4* | 3* | 3* | 2* | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 2* | 5* | 8* | 8* |
| YB = 28  |     | 6* | 5* | 4* | 4* | 2* | 1* | 1* | -  | -  | -  | 1  | 7  | 8* | 7* | 5* | 5* | 4* | 4* | 4* | 2* | -  | -  | 1* | 6* |
| VK6 = 29 |     | 3* | 2* | 2* | 1* | 1* | 1* | -  | -  | -  | -  | -  | 6* | 5* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VK3 = 30 |     | 2* | 1* | 1* | 1* | 1* | 1* | -  | -  | -  | -  | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 6* | 3* |
| KH6 = 31 |     | 7  | 8  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | 6* | 4* | 8  | 1* | -  | -  | 3  | 3  | 7  | 6  | 6  | 6  | 6  | 6  |
| KH8 = 32 |     | 4  | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | 4* | 4* | 2* | 2* | 1* | 1* | -  | -  | 7  | 8  | 7  | 7  | 7  | 6  |
| CN = 33  |     | 9  | 9  | 9  | 9  | 8  | 6  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  |     | 9  | 9  | 6  | 5  | 4  | -  | -  | -  | -  | 2  | 8  | 7  | 5  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  |     | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 9  | 5  | 3  | 2  | 5  | 9  | 9  | 9+ | 9+ | 9  | 7  | 3  |
| D2 = 36  |     | 2* | -  | -  | -  | -  | 1* | -  | -  | -  | 2  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 9  | 7  | 4  | 2  | 1* |
| 5Z = 37  |     | -  | -  | -  | 4* | 4* | 2* | 1* | -  | -  | 3  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 6  | 3  | 1  |
| ZS6 = 38 |     | -  | -  | -  | -  | 1* | 3* | 1* | -  | -  | 3  | 5  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 1  | -  | -  | -  | -  | -  |
| FR = 39  |     | -  | -  | -  | 3* | 3* | 2* | 1* | -  | -  | 1  | 8  | 8  | 8  | 9  | 9  | 8  | 2* | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: May, Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1       | 1  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 6       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 4  | 5  | 6  | 8  | 8  |
| W6 = 03  | 9       | 8  | 8  | 7  | 1  | -  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 8  | 9  | 8  |
| W9 = 04  | 7       | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 5  | 6  | 7  | 7  |
| W3 = 05  | 8       | 8  | 8  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  |
| XE1 = 06 | 8       | 8  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 8  | 8  | 8  | 9  | 9  | 9  | 8  |
| TI = 07  | 5       | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 3  | 5  | 5  | 6  | 5  |
| VP2 = 08 | 2       | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 1  | 5  | 3  |
| P4 = 09  | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | 1* | 1* | 1* | -  | -  | 4  | 2  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  | 2  | 1  | 3  | 6  | 6  | 8  | 3  | 1  |
| CE = 12  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 1* | 2* | 3* | 4* | 1* | -  |
| G = 14   | -       | -  | -  | -  | 2  | 2  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  | 5  | 7  | 8  | 8  | 8  | 7  | 5  | 3  |
| I = 15   | 3       | 2  | 1  | -  | 3  | 3  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 5  |
| UA3 = 16 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | 1* | -  | 1  | 3  | 3  | 6  | 4  | 5  | 3  |
| UN = 17  | -       | -  | 5  | 6  | 4  | -  | -  | -  | -  | -  | 5  | 5  | 4  | 7* | 5  | 5  | 4  | 4  | 4  | 3  | 1  | -  | -  | 1* |
| UA9 = 18 | -       | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 6* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 6* | 8* | 8* | 8* | 7* | 7* | 5* | -  | -  | -  | -  | -  |
| 4X = 20  | 7       | 4  | -  | 1  | 1  | -  | -  | -  | -  | -  | 5  | 7  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  |
| HZ = 21  | 2       | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  |
| VU = 22  | 2*      | 2  | 1* | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 5  | 6  | 6  | 8  | 8  | 5  | 4  | 5  | 5  | 3  | 1  | 5  |
| JT = 23  | -       | -  | -  | 1  | 5  | 2  | -  | -  | -  | -  | 1  | 1  | 1  | 7* | 5* | 4* | 4* | 2* | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 6*      | 5* | 7* | 6* | 5* | 3* | 1* | -  | -  | -  | 4  | 8  | 8  | 8  | 9  | 6  | 6  | 7  | 7  | 6  | 3  | 1* | 5* | 6* |
| JA1 = 25 | 1       | 2  | 5  | 5  | 8  | 7  | 4  | 1  | -  | -  | 1* | 7* | 9* | 8* | 8* | 8* | 8* | 8* | 8* | 3* | -  | 3  | 2  | 1  |
| HS = 26  | 5*      | 6* | 7* | 5* | 4* | 2* | -  | -  | -  | -  | 2  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 4  | -  | -  | 2* |
| DU = 27  | 5*      | 5* | 4* | 2* | 2* | 2* | -  | -  | -  | -  | -  | 1  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 2  | -  | 1* | 6* | 7* |
| YB = 28  | 5*      | 5* | 3* | 2* | 1* | 1* | -  | -  | -  | -  | -  | 1  | 6* | 6* | 5* | 5* | 4* | 2* | 1* | -  | -  | -  | -  | 4* |
| VK6 = 29 | 3*      | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* |
| VK3 = 30 | 2*      | 1* | -  | 1* | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 5* | 3* |
| KH6 = 31 | 8       | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | 3* | 2* | 5  | -  | -  | -  | -  | 4  | 7  | 7  | 7  | 7  | 7  | 7  |
| KH8 = 32 | 2*      | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 4* | 5* | 3* | 2* | 1* | -  | -  | -  | 7  | 8  | 8  | 8  | 6  | 3  |
| CN = 33  | 6       | 7  | 7  | 5  | 5  | 2  | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  |
| SU = 34  | 8       | 5  | -  | 1  | 1  | -  | -  | -  | -  | -  | 7  | 8  | 7  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 1  | 1* | -  | -  | 1* | 2  | 5  | 6  | 7  | 6  | 1  | -  |
| D2 = 36  | 2*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 7  | 7  | 7  | 6  | 7  | 7  | 9  | 7  | 4  | 3* | 2* | 3* |
| 5Z = 37  | -       | -  | -  | 1* | 2* | -  | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 6  | 8  | 4  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 5* | 3* | 1* | -  | -  | -  | -  | 4  | 8  | 9  | 8  | 8  | 2* | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Jun., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | 3  | 5  | 5  | 5  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | -  | 2  | 3  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | -  | 2  | 3  | 3  | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 2  | 4  | 5  | 4  | 5  | 5  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 2  | 3  | 4  | 5  | 5  | 3  | 3  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 1       | 2  | 3  | 3  | 4  | 4  | 3  | 3  | 3  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3       | 4  | 4  | 4  | 4  | 4  | 3  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| P4 = 09  | 3       | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 3  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | 5       | 5  | 5  | 5  | 4  | 4  | 4  | 4  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 2  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  | 9  |
| G = 14   | 4       | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| I = 15   | 3       | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 5  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| SU = 34  | 3       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| 6W = 35  | 4       | 4  | 4  | 4  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  |
| D2 = 36  | 5       | 5  | 3  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| 5Z = 37  | 3       | 4  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  |
| ZS6 = 38 | 6       | 5  | 5  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |
| FR = 39  | 5       | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Jun., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 3       | 6  | 8  | 8  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 1  | 3  | 5  | 6  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 2  | 5  | 6  | 6  | 8  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 5  | 7  | 8  | 7  | 8  | 8  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | 1       | 1  | 5  | 6  | 7  | 8  | 8  | 6  | 6  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 4       | 5  | 6  | 6  | 7  | 7  | 6  | 6  | 6  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 6       | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| P4 = 09  | 6       | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| HC = 10  | 8       | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | -  | -  | -  | 4  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 2  | 1  | 3  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7       | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| I = 15   | 6       | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  |
| UA3 = 16 | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 5       | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 6  | 6  |
| HZ = 21  | 1       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 2  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 7  |
| SU = 34  | 6       | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 6  |
| 6W = 35  | 7       | 7  | 7  | 7  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 7  |
| D2 = 36  | 8       | 8  | 6  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  |
| 5Z = 37  | 6       | 7  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 6  | 6  | 6  |
| ZS6 = 38 | 9       | 8  | 8  | 9  | 9  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 8  |
| FR = 39  | 8       | 8  | 8  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  | 8  | 8  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Jun., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 1  | 2  | 3  | 2  | 5  | 5  | 5  | 2  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 6       | 8  | 8  | 9  | 7  | 7  | 8  | 8  | 8  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| W6 = 03  | -       | 2  | 4  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 5       | 5  | 8  | 8  | 7  | 7  | 7  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W3 = 05  | 7       | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| XE1 = 06 | 5       | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 8  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| TI = 07  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| VP2 = 08 | 8       | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| P4 = 09  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 6  | 7  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 4  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 8  |
| I = 15   | 8       | 8  | 8  | 7  | 8  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| UA3 = 16 | 6       | 5  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  |
| UN = 17  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  |
| UA9 = 18 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 1  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 8       | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| HZ = 21  | 7       | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 8  |
| VU = 22  | 6       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 5  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 3  | 1  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  |
| HS = 26  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 6  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 3  | -  |
| YB = 28  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 7  |
| VK6 = 29 | 6       | 3  | 1  | -  | -  | -  | -  | 1  | 3  | 4  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 8  | 7  |
| VK3 = 30 | 1       | -  | -  | 1  | 1  | 3  | 5  | 7  | 7  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 5  | 2  |
| KH6 = 31 | -       | -  | -  | -  | 4  | 7  | 7  | 7  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 2  | 5  | 6  | 7  | 7  | 8  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 8  | 8  | 8  | 7  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  |
| SU = 34  | 8       | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 9       | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 6  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9  | 9  | 9  |
| FR = 39  | 9       | 8  | 5  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  | 8  | 8  | 9  |
| FJL = 40 | 2       | 2  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1       | 1  | 1  | 2  | 3  | 5  | 6  | 6  | 6  | 5  | 5  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  |
| W6 = 03  | 2       | 4  | 7  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| W3 = 05  | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  |
| XE1 = 06 | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 2  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 9+ | 9+ | 9+ | 9  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 4  | 1  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 8  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 8  | 8  |
| UA3 = 16 | 7       | 6  | 6  | 7  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| UN = 17  | 6       | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 7  |
| UA9 = 18 | 3       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 5  | 5  | 5  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3* | 3* | 2* | -  | -  | -  | -  | -  | -  | 2* | 3* | 2* | -  | -  |
| 4X = 20  | 8       | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  |
| HZ = 21  | 7       | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 7  |
| VU = 22  | 5       | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 6  | 6  | 6  |
| JT = 23  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 5  | 2  |
| VR2 = 24 | 3       | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 4* | 1* | 1* | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 6  | 5  | 5  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 2* | 4* | 5* | 4* | -  | -  |
| HS = 26  | 6       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  | 8  | 8  |
| DU = 27  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 1  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 6  | 6  | 4  |
| YB = 28  | 6       | 4  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 2  | 1  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  | 6  | 7  |
| VK6 = 29 | 7       | 6  | 4  | 2  | 1  | 1  | 1  | 2  | 5  | 6  | 6  | 6  | 5  | 3  | 2  | -  | -  | 2  | 4  | 5  | 6  | 6  | 6  | 8  |
| VK3 = 30 | 3       | 4  | 2  | 3  | 5  | 6  | 6  | 6  | 6  | 8  | 7  | 7  | 6  | 5  | 3  | 1  | 1  | 1  | 3  | 4  | 4  | 6  | 5  | 5  |
| KH6 = 31 | -       | -  | 1  | 3  | 5  | 6  | 8  | 8  | 7  | 8  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | 1  | 2  | 5  | 6  | 7  | 8  | 8  | 8  | 7  | 1  | 7  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 7  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  | 9  | 9  | 9  |
| D2 = 36  | 8       | 7  | 7  | 8  | 5  | 4  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  | 8  |
| 5Z = 37  | 8       | 8  | 8  | 6  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  | 8  | 8  |
| ZS6 = 38 | 7       | 8  | 8  | 7  | 3  | 5  | 6  | 6  | 4  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 8  | 8  | 8  | 8  |
| FR = 39  | 4       | -  | -  | 2  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 5  | 3  | 2  | 5  |
| FJL = 40 | 3       | 4  | 3  | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 3  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 5       | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 5  | 4  | 1  | 1  | 1  | 1* | 1* | 2  | -  | -  | 1  | 5  |
| VO2 = 02 | 9       | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 8  | 8  | 9  | 7  | 6  | 3  | 1  | 1  | -  | 2  | 4  | 6  | 7  | 8  | 9  | 9  |
| W6 = 03  | 7       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 9  | 8  | 7  | 2  | 1  | -  | -  | -  | 1  | -  | 1  | 3  | 5  |
| W9 = 04  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 8  | 7  | 5  | 2  | 1  | 1  | -  | 1  | 5  | 3  | 5  | 8  | 9  |
| W3 = 05  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 8  | 7  | 5  | 3  | 1  | -  | 1  | 1  | 5  | 5  | 8  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 9  | 9  | 8  | 5  | 4  | 2  | 1  | 1  | 4  | 4  | 7  | 8  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 2  | 1* | 9  | 9  | 7  | 6  | 4  | 3  | 3  | 4  | 5  | 8  | 9  | 9  | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 6  | 9+ | 9  | 9  | 6  | 4  | 2  | 5  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 4  | 6  | 9  | 9  | 8  | 6  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4  | 2* | 2* | 6  | 9  | 8  | 7  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 6  | 1  | -  | -  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 8  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9+      | 9  | 9  | 9+ | 9  | 9  | 9  | 6  | 5  | 7  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  | 9  | 9  | 9  |
| I = 15   | 9+      | 9+ | 9+ | 9  | 9  | 8  | 8  | 5  | 4  | 5  | 1  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  |
| UA3 = 16 | 9       | 9  | 9  | 9  | 8  | 8  | 6  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9  |
| UN = 17  | 9       | 8  | 8  | 5  | 2  | 2  | 1  | -  | -  | -  | -  | -  | 2* | 1* | 1* | 1* | -  | 2  | 5  | 7  | 8  | 9  | 9  | 9  |
| UA9 = 18 | 8       | 7  | 5  | 2  | 4  | 2  | 1  | -  | -  | -  | -  | 1* | 2* | 2* | 3* | 2* | 2* | 2* | 4  | 6  | 8  | 8  | 8  | 8  |
| UA0 = 19 | 2       | 1  | 1  | 1  | 1  | 1  | 1  | 2  | 5  | 6  | 8  | 8* | 8* | 6* | 5* | 4* | 4* | 5* | 7* | 8  | 8  | 8* | 5* | 2  |
| 4X = 20  | 9       | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 7  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 9  | 9  | 8  | 6  | 1  | -  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 9       | 9  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 3* | 1* | 1* | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  | 7       | 2  | 1  | 2  | 1  | -  | 1  | -  | -  | -  | -  | 3* | 5* | 2* | 4* | 2* | 2* | 2* | 3* | 6  | 8  | 8  | 8  | 8  |
| VR2 = 24 | 5       | 2  | -  | -  | -  | -  | -  | 1* | 4* | 2* | 6  | 8* | 6* | 5* | 2  | 4  | 4  | 5  | 7  | 8  | 8  | 9  | 9  | 8  |
| JA1 = 25 | 1*      | -  | -  | -  | 1  | 2  | 4  | 8  | 8  | 6  | 5* | 9  | 8  | 6  | 5  | 4* | 5* | 6* | 8* | 8* | 9* | 8* | 6* | 3* |
| HS = 26  | 6       | 2  | -  | -  | -  | -  | -  | -  | 1* | -  | 8  | 6  | 6  | 3* | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 8  |
| DU = 27  | 3       | -  | -  | -  | -  | -  | -  | 1* | 4* | 6  | 8  | 8  | 7  | 6  | 5  | 4  | 4  | 5  | 7  | 8  | 7  | 5* | 8  | 7* |
| YB = 28  | 5       | 1  | -  | -  | -  | -  | -  | -  | 1* | 6  | 7  | 8  | 7  | 6  | 5  | 4  | 4  | 5  | 5  | 7  | 8  | 6  | 2  | 2  |
| VK6 = 29 | 6       | 4  | -  | -  | -  | 1  | -  | -  | -  | 7  | 9  | 9  | 8  | 6  | 2  | 1  | 2  | 3  | 5  | 5  | 4  | 3  | 4  | 7  |
| VK3 = 30 | 7       | 4  | -  | 1  | 2  | 3  | 1* | -  | -  | 1  | 2  | 8  | 6  | 5  | 5  | 5  | 4  | 4  | 3  | 1  | 2* | 5  | 9  | 8  |
| KH6 = 31 | 1       | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 3  | 1* | 8  | 8  | 7  | 4  | 3  | -  | -  | 1* | -  | -  | -  | -  | -  |
| KH8 = 32 | 3       | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 7  | 1  | -  | -  | 9  | 8  | -  | -  | -  | 4  | 2  | 8  | 1  | 1  | 1  | 2  |
| CN = 33  | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 6  | 5  | 8  | 6  | 2  | 1  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9  | 9  |
| SU = 34  | 9       | 9  | 9  | 9  | 9  | 9  | 6  | 2  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 6  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9  | 9  | 5  | -  | 1  | 4  | 9  | 9  | 7  | 5  | 3  | 2  | 2  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 7       | 7  | 6  | 5  | 1  | -  | 1  | 1  | 7  | 8  | 7  | 5  | 2  | 1  | 2  | 5  | 6  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| 5Z = 37  | 9       | 9  | 7  | 1  | 5  | 7  | -  | -  | 4  | 3  | 2  | 1  | 1  | 1  | 3  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ | 9  |
| ZS6 = 38 | 1       | 4  | 3  | 2  | -  | -  | -  | 1  | 8  | 8  | 8  | 6  | 5  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 8  | 6  | 4  | 2  |
| FR = 39  | -       | -  | -  | -  | 5  | 2  | -  | -  | 4  | 5  | 4  | 4  | 3  | 4  | 5  | 6  | 7  | 2  | 1  | -  | 1* | 1* | -  | -  |
| FJL = 40 | 8       | 8  | 7  | 7  | 8  | 8  | 8  | 6  | 4  | 5  | 4  | 3  | 2  | 1* | 1* | -  | -  | 1  | 2  | 8  | 7  | 8  | 8  | 8  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Jun., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 5  | 3  | 7* | 6* | 5* | 3* | 2* | 1  | 2  | 2* | 7  | 8  | 5  | 6  | 7  | 7  |
| VO2 = 02 | 9       | 9  | 9+ | 9  | 9  | 9  | 9  | 7  | 2  | 5  | 8  | 9  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  | 7  | 4* | 4* | 9  | 7  | 8  | 7  | 7  | 6  | 6  | 2  | 2  | 2  | 5  | 8  | 8  |
| W9 = 04  | 9       | 9  | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | 3  | 1  | 7  | 8  | 7  | 9  | 7  | 7  | 6  | 4  | 7  | 8  | 9  | 9  | 9  |
| W3 = 05  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | 2  | 1  | 9  | 8  | 8  | 8  | 8  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4* | 2* | 5  | 9  | 8  | 9  | 8  | 8  | 7  | 5  | 6  | 7  | 8  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | -  | 4* | 4* | 2* | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9       | 9+ | 9+ | 9+ | 9  | 8  | 7  | 2  | -  | -  | 2* | 9+ | 9+ | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  |
| P4 = 09  | 9       | 9  | 9+ | 9  | 8  | 8  | 7  | 2  | -  | -  | 4* | 5  | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  |
| HC = 10  | 8       | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | 3* | 5* | 3* | 9+ | 9  | 9  | 8  | 6  | 6  | 6  | 8  | 8  | 8  | 8  | 8  |
| PY1 = 11 | 9+      | 9+ | 9  | 6  | 3  | 1  | -  | -  | -  | -  | -  | 5  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9  | 8  | 6  | 6  | 3  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 6       | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  |
| G = 14   | 9+      | 9+ | 9  | 9  | 9+ | 9  | 8  | 3  | 1  | 7  | 8  | 8  | 7  | 2  | 3  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| I = 15   | 9+      | 9+ | 9  | 9  | 9  | 9  | 7  | 2  | 2  | 7  | 7  | 4  | 1  | 1  | 1  | 5  | 7  | 7  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | 9       | 9  | 8  | 8  | 9  | 8  | 5  | -  | -  | 4  | 3  | 3  | 2  | 1  | 2  | 3  | 5  | 7  | 6  | 8  | 8  | 9  | 9  | 9  |
| UN = 17  | 8       | 8  | 9  | 8  | 8  | 5  | 1  | -  | -  | 2  | 2  | 8  | 7  | 7  | 4* | 3* | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| UA9 = 18 | 8       | 7  | 7  | 7  | 8  | 6  | 4  | -  | -  | 3  | 5  | 5  | 6* | 7  | 5* | 5* | 4  | 6  | 6  | 8  | 9  | 8  | 8  | 8  |
| UA0 = 19 | 5       | 6  | 7  | 7  | 6  | 6  | 7  | 5  | 2  | 4  | 7  | 9* | 9* | 8* | 7* | 7* | 7* | 8* | 8* | 8* | 9* | 6* | 4  | 4  |
| 4X = 20  | 9+      | 9  | 9  | 8  | 9  | 8  | 1  | -  | 1  | 4  | 2  | 1  | 1  | 2  | 4  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| HZ = 21  | 9       | 9  | 8  | 7  | 6  | 2  | -  | -  | 1  | 4  | 3  | 3  | 3  | 8  | 2  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| VU = 22  | 9       | 8  | 5  | 2  | 2  | 1  | -  | -  | -  | 2  | 2  | 7  | 4  | 4  | 2* | 2  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  | 8       | 7  | 6  | 6  | 7  | 5  | 3  | -  | -  | 4  | 4  | 5  | 7* | 8* | 7* | 5* | 5* | 6  | 6  | 8  | 8  | 7  | 6  | 8  |
| VR2 = 24 | 4*      | 3* | 2* | 2* | 1* | 2* | 4* | 5* | 3* | 6  | 6  | 6  | 9* | 8* | 7  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 7  | 3  |
| JA1 = 25 | 5       | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 6  | 6* | 7* | 8  | 9  | 8  | 7  | 7* | 8* | 8* | 9* | 9* | 9* | 8* | 7  | 5  |
| HS = 26  | 1       | 2* | 2* | 1* | -  | -  | 1* | 2* | 1* | 6  | 5  | 6  | 6  | 6  | 6  | 5  | 8  | 9  | 9  | 9  | 9+ | 9  | 7  | 3  |
| DU = 27  | 5*      | 4* | 2* | 1* | 1* | 1* | 3* | 3* | 2* | 2* | 8  | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 7  | 5* | 6* | 5* | 4* |
| YB = 28  | 2*      | 1* | 2* | 1* | -  | -  | 1* | 1* | 1* | 3  | 8  | 9  | 8  | 7  | 4* | 2  | 1  | 2* | 1  | 2  | 2  | 1  | 4* | 2* |
| VK6 = 29 | 2*      | 1* | -  | -  | -  | -  | 1* | 1* | -  | 1* | 4  | 9  | 8  | 2* | 1* | -  | -  | -  | 1  | 1  | -  | -  | -  | 3  |
| VK3 = 30 | 1       | 1* | -  | -  | 1* | -  | -  | -  | -  | 1* | 4* | 4  | 3  | 1  | 2  | 1  | 1  | 1  | 1* | -  | -  | 4* | 8  | 5  |
| KH6 = 31 | 6       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2* | 3* | 4* | 9  | 7  | 2  | 5  | 6  | 3  | 8  | 9  | 5* | 2  | 2  | 4  |
| KH8 = 32 | 6       | 6  | 5  | 5  | 4  | 3  | 5  | 5  | 1  | 1* | -  | -  | 5  | 1  | 1* | -  | -  | 7  | 7  | 7  | 6  | 6  | 5  | 6  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 7  | 1  | -  | 5  | 8  | 8  | 5  | 2  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9  | 9  | 7  | 8  | 8  | 1  | -  | 1  | 6  | 3  | 2  | 1  | 1  | 4  | 1  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| 6W = 35  | 8       | 6  | 3  | 1  | -  | -  | -  | -  | -  | 5  | 9+ | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9  |
| D2 = 36  | 3       | 2  | 1  | 1  | 1* | 1* | 2* | -  | 4  | 8  | 9  | 8  | 7  | 6  | 6  | 8  | 9  | 9  | 9+ | 9  | 9  | 8  | 7  | 5  |
| 5Z = 37  | 7       | 5  | 1  | -  | 1* | 1* | 1* | -  | 4  | 8  | 7  | 6  | 6  | 9  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| ZS6 = 38 | -       | -  | -  | -  | 1* | 1* | 1* | -  | 5  | 8  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 2  | -  | -  | -  |
| FR = 39  | -       | -  | 1* | 1* | -  | -  | -  | -  | 1  | 7  | 8  | 7  | 8  | 8  | 8  | 8  | 5  | 1* | 1* | 1* | -  | -  | -  | -  |
| FJL = 40 | 2       | 2  | 1  | 1  | -  | -  | 7  | 2  | 1  | 5  | 4  | 2  | 5* | 5  | 2* | 2* | 2  | 6  | 5  | 6  | 7  | 6  | 5  | 4  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Jun., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone         | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
|--------------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| KL7 = 01     | 5   | 6   | 6  | 7  | 7  | 5  | 4  | 5  | 1  | -  | 3* | 5* | 4* | 2* | 1* | 1* | -  | 1* | 1* | 2* | 4* | -  | -  | -  | -  |    |  |
| VO2 = 02     | 9   | 9   | 9  | 9  | 8  | 8  | 7  | 2  | -  | 1  | 2  | 7  | 7  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |  |
| W6 = 03      | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | 2  | -  | 4  | 7  | 6  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 9  |    |  |
| W9 = 04      | 9   | 9   | 9  | 9  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | 3  | 7  | 6  | 6  | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  |    |  |
| W3 = 05      | 9   | 9   | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | 1  | 7  | 8  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |  |
| XE1 = 06     | 9   | 9   | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | 1* | -  | 3  | 9  | 9  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  |    |  |
| TI = 07      | 8   | 8   | 8  | 7  | 6  | 5  | 3  | -  | -  | -  | 2* | -  | 1* | 5  | 4  | -  | -  | 2  | 5  | 9  | 9  | 9  | 9  | 9  | 8  |    |  |
| VP2 = 08     | 6   | 7   | 7  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | 4  | 7  | 9  | 9  | 8  | 6  | 7  | 9  | 9  | 9  | 8  | 8  | 6  | 6  |    |  |
| P4 = 09      | 5   | 6   | 6  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | 2* | 2  | 4  | 2  | 1  | 5  | 5  | 7  | 8  | 8  | 7  | 7  | 6  | 6  |    |  |
| HC = 10      | 5   | 5   | 5  | 3  | 2  | 1  | 1  | -  | -  | -  | 3* | 1* | 2* | 8  | 7  | 4  | 1  | 9  | 1  | 2  | 4  | 4  | 2  | 5  | 5  |    |  |
| PY1 = 11     | 8   | 6   | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  |    |  |
| CE = 12      | 9+  | 9   | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |  |
| LU = 13      | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 5  | 5  | 7  | 8  | 8  | 3  | 5  | 3* |    |  |
| G = 14       | 9   | 9   | 8  | 7  | 9  | 8  | 5  | -  | -  | 1  | 9  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |  |
| I = 15       | 9   | 9   | 9  | 8  | 8  | 8  | 4  | -  | -  | 2  | 8  | 5  | 4  | 3  | 3  | 4  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |  |
| UA3 = 16     | 8   | 6   | 5  | 6  | 8  | 6  | 2  | -  | -  | -  | 7  | 5  | 4  | 4  | 4  | 4  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  |    |  |
| UN = 17      | 6   | 7   | 8  | 8  | 6  | 4  | -  | -  | -  | 1  | 2  | 3  | 2  | 6* | 4* | 4  | 6  | 7  | 8  | 9  | 9  | 8  | 8  | 7  | 7  |    |  |
| UA9 = 18     | 2   | 2   | 5  | 6  | 6  | 4  | 1  | -  | -  | -  | 4  | 2  | 2  | 7* | 5* | 5* | 5* | 5  | 6  | 6  | 5  | 7* | 5* | 2  | 2  |    |  |
| UA0 = 19     | -   | 1   | 2  | 2  | 1  | 6  | 5  | 2  | -  | 1  | 1  | 5  | 8* | 9* | 8* | 7* | 7* | 8* | 8* | 7* | 8* | -  | -  | -  | -  |    |  |
| 4X = 20      | 9   | 9   | 6  | 6  | 8  | 5  | -  | -  | -  | 2  | 6  | 6  | 5  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |  |
| HZ = 21      | 9   | 5   | 2  | 2  | 1  | -  | -  | -  | -  | 4  | 6  | 5  | 5  | 4  | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |  |
| VU = 22      | 8   | 5   | 2* | 1* | -  | -  | -  | -  | -  | 2  | 2  | 4  | 3* | 5* | 5  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  |    |  |
| JT = 23      | 5   | 4   | 6  | 8  | 7  | 5  | 1  | -  | -  | -  | 4  | 2  | 2  | 8* | 8* | 6* | 5* | 5  | 6* | 4  | 5* | 8* | 5* | 1  | 1  |    |  |
| VR2 = 24     | 5*  | 5*  | 5* | 5* | 4* | 4* | 4* | 2* | -  | 4  | 8  | 8  | 9* | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 3* | 5* |    |  |
| JA1 = 25     | 6   | 6   | 7  | 8  | 8  | 8  | 7  | 6  | 2  | 1* | 8* | 9* | 9  | 8  | 8* | 8* | 8* | 8* | 8* | 8* | 8* | 6* | 5  | 7  | 7  |    |  |
| HS = 26      | 4*  | 5*  | 5* | 3* | 2* | 1* | 1* | 1* | -  | 2  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 2* | 4* |    |  |
| DU = 27      | 5*  | 5*  | 4* | 3* | 2* | 2* | 2* | 1* | -  | -  | 2  | 8  | 9  | 7  | 8  | 8  | 8  | 7  | 6  | 4  | 4* | 6* | 7* | 5* | 5* |    |  |
| YB = 28      | 3*  | 4*  | 3* | 2* | 1* | -  | 1* | 1* | -  | -  | 2  | 8  | 8  | 6* | 5* | 3* | 2* | 2* | 1* | 1* | -  | -  | 2* | 5* | 5* |    |  |
| VK6 = 29     | 2*  | 1*  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 5* | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 6* | 6* |    |  |
| VK3 = 30     | 1*  | -   | -  | 1* | -  | -  | -  | -  | -  | -  | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 5* | 2* |    |  |
| KH6 = 31     | 7   | 8   | 8  | 9  | 9  | 8  | 8  | 7  | 1  | 2* | 5* | 5* | 8  | 3* | 2* | -  | 6  | 2  | 5  | 5  | 5  | 6  | 6  | 6  | 6  |    |  |
| KH8 = 32     | 5   | 4   | 1  | 1  | 1  | -  | -  | -  | -  | 1* | 2* | 2* | 2* | 1* | 1* | -  | -  | 4  | 8  | 8  | 7  | 7  | 6  | 6  | 6  |    |  |
| CN = 33      | 9   | 9   | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | 9  | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |  |
| SU = 34      | 9   | 8   | 5  | 1  | 3  | 5  | -  | -  | -  | 6  | 7  | 6  | 5  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |  |
| 6W = 35      | 1   | -   | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 8  | 2  |    |  |
| D2 = 36      | -   | -   | -  | -  | 1* | 1* | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 1  |    |  |
| 5Z = 37      | 1   | -   | -  | 2* | 1* | 1* | 1* | -  | 1  | 7  | 7  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  |    |  |
| ZS6 = 38     | -   | -   | -  | -  | 1* | 2* | 1* | -  | 1  | 2  | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 5  | 2  | -  | -  | -  | -  | -  |    |  |
| FR = 39      | -   | -   | 2* | 2* | 2* | 1* | -  | -  | -  | 6  | 9  | 9  | 8  | 8  | 9  | 8  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  |    |  |
| FJL = 40     | -   | -   | -  | -  | -  | -  | 4  | -  | -  | 2  | -  | -  | 3* | 2* | 1* | 1* | 1* | 1  | 1  | 1  | 1  | 1  | 1  | 1* | -  |    |  |
| Zone         | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
| * = Longpath |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Jun., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1       | 1  | 2  | 2  | 1  | 1  | -  | 1  | -  | -  | -  | -  | 1* | 2* | 1* | -  | -  | -  | 1* | 1* | -  | -  | -  | -  |
| VO2 = 02 | 7       | 7  | 7  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 5  | 5  | 5  | 6  | 8  | 8  | 7  |
| W6 = 03  | 8       | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 6  | 5  | 7  | 8  | 8  | 8  | 8  |
| W9 = 04  | 7       | 7  | 7  | 6  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 5  | 5  | 5  | 6  | 7  | 7  | 6  |
| W3 = 05  | 8       | 8  | 5  | 5  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 8  |
| XE1 = 06 | 8       | 8  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | 3  | 6  | 5  | 6  | 8  | 8  | 8  | 9  | 8  | 8  | 8  |
| TI = 07  | 4       | 4  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 6  | 5  | 5  | 4  |
| VP2 = 08 | 1       | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 1  | 4  | 5  | 5  | 3  | 4  | 1  |
| P4 = 09  | 1       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | 2  | 2  | 2  | 1  | 2  | 1  |
| HC = 10  | -       | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 1* | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| PY1 = 11 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 7  | 3  |
| CE = 12  | 7       | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 4* | 3* | 1* | 1* |
| G = 14   | 7       | 6  | 2  | 1  | 6  | 5  | 1  | -  | -  | -  | 8  | 4  | 6  | 5  | 5  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 8  | 7  |
| I = 15   | 7       | 7  | 5  | 2  | 6  | 5  | -  | -  | -  | -  | 8  | 6  | 7  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 7  |
| UA3 = 16 | 3       | 1  | -  | -  | 5  | 3  | -  | -  | -  | -  | 4  | 1  | 1  | 2* | 1* | 1  | 1  | 3  | 5  | 7  | 7  | 7  | 5  | 3  |
| UN = 17  | 1       | 2  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | 6  | 5  | 3  | 7* | 4* | 5  | 6  | 7  | 7  | 7  | 7  | 5  | 4  | 2  |
| UA9 = 18 | -       | -  | -  | 3  | 3  | 2  | -  | -  | -  | -  | 1  | -  | -  | 7* | 5* | 5* | 4* | 3* | 2* | -  | -  | 4* | 1* | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | 3  | 2  | -  | -  | -  | -  | -  | 5* | 8* | 7* | 7* | 6* | 5* | 6* | 1* | 1* | -  | -  | -  |
| 4X = 20  | 8       | 5  | 1  | 2  | 4  | -  | -  | -  | -  | -  | 7  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  |
| HZ = 21  | 6       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 6  | 7  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  |
| VU = 22  | 4       | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 3  | 7* | 6  | 7  | 8  | 7  | 5  | 5  | 5  | 4  | 2  | 5  |
| JT = 23  | -       | -  | 1  | 6  | 4  | 2  | -  | -  | -  | -  | 1  | -  | -  | 8* | 8* | 5* | 5* | 5* | 4* | -  | -  | 4* | 2* | -  |
| VR2 = 24 | 5*      | 5* | 6* | 5* | 3* | 2* | 1* | -  | -  | -  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 5  | 2  | 5* | 6* |
| JA1 = 25 | 5       | 6  | 5  | 7  | 6  | 5  | 5  | 2  | -  | -  | 5* | 8* | 9* | 8* | 8* | 8* | 7* | 8* | 7* | 6* | 4  | 5  | 5  | 5  |
| HS = 26  | 5*      | 6* | 5* | 4* | 1* | 1* | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 6  | 2  | -  | 4* |
| DU = 27  | 4*      | 4* | 3* | 2* | 1* | 1* | 1* | -  | -  | -  | -  | -  | 1  | 8  | 9  | 9  | 8  | 7  | 5  | 3  | -  | -  | 2* | 6* |
| YB = 28  | 4*      | 4* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | 2  | 6* | 6* | 4* | 3* | 2* | 1* | -  | -  | -  | -  | -  | 5* |
| VK6 = 29 | 2*      | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 4* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VK3 = 30 | 1*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 1* |
| KH6 = 31 | 8       | 8  | 8  | 8  | 7  | 6  | 4  | 2  | -  | -  | 5* | 3* | 3  | 1* | -  | -  | 1  | 5  | 6  | 5  | 6  | 6  | 6  | 7  |
| KH8 = 32 | 3       | 1  | 1* | -  | -  | -  | -  | -  | -  | -  | 5* | 2* | 2* | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 7  | 5  |
| CN = 33  | 8       | 7  | 6  | 6  | 5  | 3  | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| SU = 34  | 6       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 5  | 6  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 6  | 2  | -  | -  | -  | 2  | 5  | 7  | 7  | 6  | 1  | -  |
| D2 = 36  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 7  | 5  | 2  | 2* | 2* |
| 5Z = 37  | -       | -  | -  | 2* | 1* | -  | -  | -  | -  | 2  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 4  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 2* | -  | -  | -  | -  | 4  | 8  | 9  | 9  | 9  | 9  | 9  | 6  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | 1* | 2* | 1* | 1* | -  | -  | -  | -  | 8  | 8  | 9  | 8  | 7  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Jun., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 3       | 4  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 2  | 1  | 1  | 2  | 4  | 5  | 4  |
| W6 = 03  | 6       | 7  | 6  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | 4  | 6  | 6  | 7  | 7  | 6  |
| W9 = 04  | 3       | 4  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 2  | 3  | 4  | 5  | 3  |
| W3 = 05  | 5       | 6  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 7  | 7  | 7  | 6  | 6  | 6  | 5  |
| XE1 = 06 | 6       | 7  | 6  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 6  | 6  | 7  | 7  | 8  | 7  | 6  |
| TI = 07  | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 8  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | 2* | 4* | 5  | 5* | 7  | 2  | -  |
| CE = 12  | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 8  | 3  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | 2* | 3* | 3* | 2* | 1* | -  |
| G = 14   | 2       | 1  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | 2  | -  | 4  | 5  | 5  | 5  | 5  | 5  | 7  | 7  | 7  | 5  | 3  | 1  |
| I = 15   | 2       | 2  | 1  | -  | 2  | 1  | -  | -  | -  | -  | -  | 5  | -  | 6  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 6  | 2  | 1  |
| UA3 = 16 | -       | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1  | 2  | 4  | 3  | 1  | -  |
| UN = 17  | -       | -  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 2  | 2  | 2  | 3  | 4  | 4  | 3  | 3  | 2  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 4* | 3* | 3* | 2* | 1* | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 5* | 5* | 5* | 4* | 2* | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 1  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | 2  | 7  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 5  |
| HZ = 21  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 6  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 5  | 6  | 4  |
| VU = 22  | 1*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 7  | 7  | 8  | 7  | 3  | -  | -  | 1  | -  | -  | 1  |
| JT = 23  | -       | -  | -  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 7* | 4* | 4* | 3* | 1* | -  | -  | -  | -  | -  |
| VR2 = 24 | 2*      | 2* | 5* | 3* | 2* | 1* | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 6  | 5  | 5  | 4  | 2  | 1  | -  | 2* | 4* |
| JA1 = 25 | 1       | 1  | 1  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | 6* | 8* | 6* | 7* | 7* | 7* | 6* | 4* | 1* | 1  | 2  | 1  | -  |
| HS = 26  | 4*      | 5* | 5* | 2* | 1* | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  | 9  | 8  | 8  | 9  | 8  | 6  | -  | -  | -  | 2* |
| DU = 27  | 2*      | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 7  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | 1* | 2* |
| YB = 28  | 2*      | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 4* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 3* |
| VK6 = 29 | 1*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 1* |
| KH6 = 31 | 7       | 7  | 7  | 6  | 4  | 1  | 1  | -  | -  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | 1  | 5  | 2  | 4  | 7  | 7  | 7  |
| KH8 = 32 | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 7  | 5  | 1  |
| CN = 33  | 3       | 3  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 6  | 2  |
| SU = 34  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 2  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | -  | -  | 1* | 1* | 2* | 2* | 3* | 4* | 4* | -  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 7  | 7  | 7  | 7  | 7  | 8  | 6  | 5  | 2* | 2* | 3* | 3* |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 2  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 7  | 6  | 7  | 1  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | 2  | 7  | 7  | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |

Zone UTC --> \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Jul., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 1       | 4  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | -  | 2  | 3  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | -  | 2  | 4  | 4  | 4  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 2  | 5  | 5  | 5  | 4  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 2  | 2  | 4  | 4  | 4  | 4  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 1       | 2  | 3  | 4  | 4  | 4  | 4  | 3  | 3  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3       | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 3       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 5       | 5  | 6  | 6  | 6  | 6  | 6  | 6  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | 5  | 6  | 9  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  | 9  |
| G = 14   | 4       | 5  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 4       | 4  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| HZ = 21  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 4       | 4  | 5  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| SU = 34  | 3       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | -  |
| 6W = 35  | 5       | 4  | 4  | 4  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | -  |
| D2 = 36  | 5       | 5  | 4  | 4  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | -  |
| 5Z = 37  | 5       | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | -  |
| ZS6 = 38 | 6       | 6  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | -  |
| FR = 39  | 5       | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Jul., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | 1  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4       | 7  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 2  | 2  | 5  | 6  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 2  | 5  | 7  | 7  | 7  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 5  | 8  | 8  | 8  | 7  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 2  | 5  | 5  | 7  | 7  | 7  | 7  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 4       | 5  | 6  | 7  | 7  | 7  | 7  | 6  | 6  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VP2 = 08 | 6       | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| P4 = 09  | 6       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| HC = 10  | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | -  | -  | -  | -  | -  | 4  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 3  | -  | -  | -  | -  | -  | 2  | 8  | 9  | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 2  | -  | -  | 1  | 5  | 9  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7       | 8  | 7  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| I = 15   | 7       | 7  | 5  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| UA3 = 16 | 4       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| HZ = 21  | 4       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 1  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | -  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 2  | 1  | 5  | 6  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 7       | 7  | 8  | 7  | 8  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| SU = 34  | 6       | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| 6W = 35  | 8       | 7  | 7  | 7  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  |
| D2 = 36  | 8       | 8  | 7  | 7  | 9  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  |
| 5Z = 37  | 8       | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3  | 7  |
| ZS6 = 38 | 9       | 9  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  |
| FR = 39  | 8       | 8  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Jul., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | 1  | 1  | 3  | 4  | 5  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| W6 = 03  | -       | 2  | 4  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 5       | 7  | 7  | 8  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| W3 = 05  | 7       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| XE1 = 06 | 7       | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 9  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| TI = 07  | 8       | 8  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 5  | 5  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 3  | 2  | 3  | 6  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 7  | 8  |
| UA3 = 16 | 6       | 5  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  |
| UN = 17  | 6       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| UA9 = 18 | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 2  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  |
| 4X = 20  | 8       | 7  | 7  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  |
| HZ = 21  | 7       | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 8  |
| VU = 22  | 5       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 2  | 1  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 3  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  |
| HS = 26  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 6  | 6  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 3  | -  |
| YB = 28  | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 7  |
| VK6 = 29 | 5       | 1  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 7  | 6  |
| VK3 = 30 | -       | -  | -  | -  | 1  | 2  | 5  | 6  | 6  | 7  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 3  | 1  |
| KH6 = 31 | -       | -  | -  | 1  | 4  | 6  | 7  | 7  | 8  | 7  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 2  | 5  | 8  | 7  | 7  | 8  | 7  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 9  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 8  | 8  |
| SU = 34  | 7       | 7  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9  |
| 5Z = 37  | 9       | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  | 9  | 9  |
| FR = 39  | 9       | 8  | 6  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 9  |
| FJL = 40 | 2       | 3  | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC -->  |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|--|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 |  | 1            | 1  | 2  | 3  | 6  | 6  | 6  | 6  | 5  | 5  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 |  | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  |
| W6 = 03  |  | 2            | 5  | 6  | 7  | 7  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  |  | 7            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |
| W3 = 05  |  | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| XE1 = 06 |  | 8            | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| TI = 07  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| VP2 = 08 |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  |
| P4 = 09  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| HC = 10  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  |
| PY1 = 11 |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 7  | 5  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 9+ | 9+ | 9  | 9  | 8  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |  | 9+           | 9+ | 9+ | 9+ | 9  | 9  | 8  | 5  | 2  | 1  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |  | 8            | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 8  |
| I = 15   |  | 8            | 8  | 8  | 8  | 8  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 6  | 8  | 8  |
| UA3 = 16 |  | 7            | 7  | 7  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 7  |
| UN = 17  |  | 7            | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 6  |
| UA9 = 18 |  | 5            | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 5  |
| UA0 = 19 |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 3* | 1* | -  | -  | -  | -  | -  | -  | 2* | 3* | 2* | -  | -  |
| 4X = 20  |  | 8            | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| HZ = 21  |  | 7            | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 8  | 7  |
| VU = 22  |  | 6            | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 7  | 6  |
| JT = 23  |  | 1            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 2  | 2  | 4  |
| VR2 = 24 |  | 3            | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 4* | 1* | 1* | -  | -  | -  | -  | -  | 1  | 3  | 5  | 3  | 5  | 6  |
| JA1 = 25 |  | -            | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 6  | 4  | 2  | -  | -  | -  | -  | -  | 1* | 4* | 5* | 5* | 2* | -  |
| HS = 26  |  | 6            | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 7  |
| DU = 27  |  | 1            | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 4  | 6  | 4  |
| YB = 28  |  | 6            | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 5  | 7  |
| VK6 = 29 |  | 7            | 5  | 2  | -  | -  | -  | -  | 2  | 5  | 5  | 5  | 6  | 3  | 2  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  | 5  | 7  |
| VK3 = 30 |  | 4            | 2  | -  | -  | 3  | 5  | 6  | 6  | 6  | 8  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | 2  | 1  | 2  | 5  | 6  | 3  |
| KH6 = 31 |  | -            | -  | 1  | 4  | 5  | 6  | 8  | 8  | 7  | 7  | 5  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 |  | -            | -  | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 7  | -  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  |  | 9            | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 7  | 8  | 8  |
| SU = 34  |  | 8            | 8  | 8  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| 6W = 35  |  | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  |
| D2 = 36  |  | 7            | 8  | 8  | 7  | 5  | 4  | 5  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  | 8  |
| 5Z = 37  |  | 8            | 8  | 8  | 5  | 6  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  | 8  |
| ZS6 = 38 |  | 6            | 8  | 6  | 6  | 5  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 7  | 7  | 7  | 7  |
| FR = 39  |  | 5            | 1  | -  | -  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 3  | 4  | 1  | 1  | 5  |
| FJL = 40 |  | 5            | 5  | 6  | 4  | 3  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 4  |
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |  |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |  | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 4  | 1  | 1  | 1  | -  | 2* | 2  | 1  | 2  | 4  | 5  |
| VO2 = 02 | 9  | 9+ | 9+ | 9  | 9  | 9+ | 9  | 9  | 8  | 8  | 9  | 7  | 7  | 4  | 2  | 1  | -  | 1  | 4  | 7  | 6  | 8  | 9  | 9  |
| W6 = 03  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 9  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| W9 = 04  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 4  | 2  | 1  | 1  | -  | 1  | 4  | 2  | 5  | 6  | 9  |
| W3 = 05  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 4  | 2  | -  | -  | 1  | 1  | 5  | 5  | 8  | 9  | 9  |
| XE1 = 06 | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 9  | 8  | 7  | 5  | 3  | 2  | 1  | 1  | 1  | 4  | 7  | 8  | 9  |
| TI = 07  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4  | 2  | 5  | 9  | 7  | 6  | 4  | 3  | 2  | 3  | 5  | 8  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 6  | 6  | 9  | 9  | 8  | 6  | 4  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| P4 = 09  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 4  | 4  | 9  | 8  | 8  | 6  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| HC = 10  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 2* | 2* | 2  | 9  | 8  | 5  | 4  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9+ |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 4  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 4  | -  | -  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 8  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9+ | 9  | 9  | 9+ | 9  | 9  | 9  | 7  | 6  | 6  | 4  | 1  | 1  | -  | -  | -  | -  | 2  | 4  | 7  | 8  | 9  | 9  | 9  |
| I = 15   | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 5  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9+ |
| UA3 = 16 | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  |
| UN = 17  | 9  | 9  | 8  | 6  | 3  | 2  | 1  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  | 9  |
| UA9 = 18 | 8  | 8  | 7  | 2  | 2  | 2  | 1  | -  | -  | 1  | -  | -  | 2* | 1* | -  | -  | 1* | 1  | 4  | 6  | 8  | 8  | 8  | 8  |
| UA0 = 19 | 2  | 1  | 1  | 1  | 1  | 1  | 2  | 4  | 7  | 7  | 8  | 8* | 8  | 5* | 4* | 2* | 2* | 4* | 6* | 8* | 8* | 8* | 5* | 3  |
| 4X = 20  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | 1  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9  | 9  | 9  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 9  | 9  | 7  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  | 8  | 6  | 2  | 1  | 1  | -  | 1  | -  | -  | -  | -  | 8  | 4* | 1* | 1* | -  | 1* | 1  | 3  | 6  | 8  | 8  | 8  | 8  |
| VR2 = 24 | 4  | -  | -  | -  | -  | -  | -  | 1* | 4* | 4* | 6  | 8* | 5* | 4* | 2* | -  | 2  | 5  | 6  | 8  | 8  | 9  | 8  | 5  |
| JA1 = 25 | -  | -  | -  | -  | 1  | 3  | 5  | 8  | 8  | 5* | 9  | 8  | 6  | 3  | 2* | 2* | 4* | 5* | 7* | 8* | 9* | 8* | 6* | 1* |
| HS = 26  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1* | 1* | 8  | 6  | 3* | 2* | 1  | -  | 4  | 6  | 8  | 9  | 9  | 9  | 8  | 6  |
| DU = 27  | 1  | -  | -  | -  | -  | -  | -  | 1* | 5* | 6  | 7  | 7  | 6  | 4  | 3  | 2  | 4  | 4  | 6  | 8  | 6* | 3* | 6  | 7* |
| YB = 28  | 2  | -  | -  | -  | -  | -  | -  | -  | 1* | 5  | 5  | 6  | 5  | 5  | 4  | 2  | 2  | 4  | 5  | 7  | 8  | 5  | 2* | 2* |
| VK6 = 29 | 4  | 1  | -  | -  | -  | -  | -  | -  | 1* | 7  | 8  | 8  | 7  | 3  | -  | -  | 1  | 2  | 4  | 4  | 2  | 2  | 2  | 6  |
| VK3 = 30 | 5  | 1  | -  | -  | -  | 1  | 2* | -  | -  | 1  | 1  | 7  | 5  | 4  | 4  | 2  | 2  | 1  | 1  | 1* | 1* | 4  | 9  | 7  |
| KH6 = 31 | 1  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 4  | 1* | 8  | 8  | 7  | 3  | 2  | -  | -  | 1* | -  | -  | -  | -  | -  |
| KH8 = 32 | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 6  | 1  | -  | 1* | 9  | 8  | -  | -  | -  | 3  | 2  | 1  | 1  | 1  | 1  | 1  |
| CN = 33  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 5  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | 2  | 6  | 7  | 9  | 9  | 9  | 9  |
| SU = 34  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1  | 2  | 1  | -  | -  | -  | -  | 1  | 1  | 1  | 7  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+ | 9+ | 9+ | 9  | 9  | 5  | -  | 1  | 3  | 9  | 8  | 6  | 5  | 2  | 2  | 2  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 6  | 5  | 4  | 2  | 1  | -  | 1  | -  | 6  | 8  | 6  | 3  | 1  | 1  | 2  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| 5Z = 37  | 7  | 7  | 5  | -  | 1  | 5  | 1  | -  | 3  | 2  | 1  | 1  | -  | -  | 2  | 2  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| ZS6 = 38 | 1  | 3  | -  | -  | -  | -  | 1  | 1  | 8  | 8  | 6  | 5  | 4  | 3  | 4  | 5  | 8  | 8  | 9  | 8  | 5  | 3  | 1  | 1  |
| FR = 39  | -  | -  | -  | -  | 3  | 5  | -  | -  | 3  | 3  | 3  | 2  | 2  | 2  | 3  | 5  | 6  | -  | -  | -  | 1* | 1* | -  | -  |
| FJL = 40 | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 7  | 5  | 6  | 5  | 3  | 2  | 1* | 1* | -  | -  | 1  | 3  | 5  | 7  | 8  | 8  | 8  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Jul., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 7* | 6* | 4* | 2* | 1  | 1  | 2  | 2  | 7  | 7  | 8  | 6  | 8  | 8  |
| VO2 = 02 | 9       | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | 4  | 6  | 7  | 9  | 8  | 9  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 8  | 5  | 2* | 8  | 4  | 8  | 8  | 7  | 6  | 7  | 4  | 2  | 2  | 4  | 6  | 9  |
| W9 = 04  | 9       | 9  | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 4  | -  | 2  | 8  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9  |
| W3 = 05  | 9       | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 3  | -  | 8  | 9  | 7  | 8  | 8  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 2* | 1  | 8  | 8  | 9  | 8  | 7  | 7  | 7  | 5  | 7  | 9  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 7  | 2  | 2* | 1* | 1* | 5  | 9  | 8  | 4  | 5  | 7  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9  | 8  | 6  | 2  | -  | -  | 1* | 9+ | 9  | 9  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9  | 8  | 6  | 3  | -  | 1* | 1* | 4  | 9  | 9  | 8  | 5  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 9       | 9  | 9  | 8  | 8  | 8  | 6  | 4  | -  | 3* | 2* | 1* | 8  | 9  | 8  | 8  | 5  | 5  | 6  | 8  | 9  | 9  | 8  | 9  |
| PY1 = 11 | 9+      | 9  | 8  | 4  | 1  | 1  | -  | -  | -  | -  | -  | 2  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 6       | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  |
| G = 14   | 9+      | 9+ | 9  | 9  | 9  | 9  | 8  | 4  | 3  | 8  | 8  | 8  | 6  | 2  | 2  | 5  | 6  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| I = 15   | 9+      | 9+ | 9  | 9  | 9  | 9  | 8  | 2  | 2  | 7  | 7  | 4  | 1  | 1  | -  | 1  | 6  | 8  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | 9       | 9  | 8  | 8  | 8  | 9  | 6  | 1  | -  | 5  | 5  | 3  | 8  | 2  | 1  | 2  | 5  | 7  | 7  | 8  | 8  | 9  | 9  | 9  |
| UN = 17  | 8       | 8  | 9  | 8  | 7  | 5  | 1  | -  | -  | 2  | 2  | 7  | 7  | 7  | 2* | 3* | 2  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| UA9 = 18 | 7       | 6  | 8  | 7  | 8  | 7  | 5  | -  | -  | 4  | 4  | 5  | 5  | 8  | 4* | 5* | 4  | 6  | 6  | 8  | 9  | 8  | 8  | 7  |
| UA0 = 19 | 5       | 5  | 6  | 7  | 6  | 8  | 8  | 6  | 4  | 5  | 6  | 8  | 8* | 8* | 7* | 6* | 2* | 7* | 8* | 8* | 9* | 5* | 3  | 2  |
| 4X = 20  | 9+      | 9  | 9  | 9  | 9  | 8  | 1  | -  | -  | 4  | 2  | 1  | 1  | 2  | 4  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| HZ = 21  | 9       | 9  | 7  | 4  | 3  | 1  | -  | -  | -  | 4  | 3  | 3  | 3  | 9  | 1  | 3  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| VU = 22  | 9       | 8  | 2  | 1* | 1  | -  | -  | -  | -  | 1  | 2  | 7  | 5  | 5  | 1  | 2  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  | 8       | 7  | 7  | 7  | 7  | 6  | 4  | -  | -  | 4  | 4  | 4  | 5  | 7  | 6* | 6* | 5* | 6  | 6  | 8  | 8  | 6  | 6  | 7  |
| VR2 = 24 | 1*      | 4* | 3* | 2* | 2* | 2* | 5* | 6* | 5* | 7  | 6  | 6  | 8* | 7* | 6* | 6  | 8  | 8  | 9  | 9  | 9  | 8  | 5  | 2* |
| JA1 = 25 | 5       | 5  | 6  | 6  | 8  | 8  | 8  | 9  | 8  | 5* | 6* | 8  | 9  | 8  | 7  | 6* | 7* | 8* | 9* | 9* | 9* | 8* | 6  | 5  |
| HS = 26  | 1*      | 2* | 2* | 1* | -  | -  | 1* | 2* | 2* | 6  | 6  | 5  | 6* | 5  | 5  | 6  | 5  | 8  | 9  | 9  | 9+ | 8  | 4  | 2* |
| DU = 27  | 5*      | 5* | 3* | 2* | 1* | 2* | 3* | 4* | 4* | 2* | 8  | 8  | 6  | 7  | 5* | 6  | 7  | 7  | 8  | 6  | 5* | 6* | 5* | 5* |
| YB = 28  | 2*      | 5* | 3* | 1* | -  | -  | 1* | 2* | 2* | 1  | 8  | 9  | 8  | 5  | 4* | 2* | 1* | 2* | 2* | 2  | 4  | -  | 3* | 3* |
| VK6 = 29 | 2*      | 1* | 1* | -  | -  | -  | 1* | -  | -  | 1* | 4* | 8  | 6  | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VK3 = 30 | 1*      | 1* | -  | -  | -  | -  | 1* | -  | -  | 1* | 4* | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 4* | 6  | 3* |
| KH6 = 31 | 6       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 2* | 3* | 4* | 9  | 8  | 4  | 5  | 1  | 2  | 8  | 9  | 5* | 2* | 2  | 4  |
| KH8 = 32 | 6       | 6  | 4  | 3  | 1  | 3  | 3  | 3  | -  | 1* | -  | -  | 2  | 1  | -  | -  | -  | 4  | 6  | 5  | 5  | 5  | 5  | 5  |
| CN = 33  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 8  | 1  | 1  | 6  | 8  | 7  | 4  | 2  | 1  | 3  | 6  | 8  | 8  | 9  | 9  | 9+ | 9  | 9+ |
| SU = 34  | 9+      | 9  | 9  | 8  | 8  | 8  | 1  | -  | -  | 6  | 5  | 2  | 1  | 1* | 4  | 2  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| 6W = 35  | 8       | 7  | 4  | 1  | -  | -  | -  | -  | -  | 5  | 9+ | 9  | 8  | 7  | 5  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9  |
| D2 = 36  | 1       | -  | -  | -  | 1* | 2* | -  | -  | 2  | 7  | 8  | 7  | 6  | 5  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  |
| 5Z = 37  | 1       | 1  | -  | 1* | 1* | 1* | 1* | -  | 2  | 7  | 5  | 5  | 6  | 9  | 6  | 7  | 7  | 9  | 9  | 9  | 9  | 9  | 8  | 4  |
| ZS6 = 38 | -       | -  | -  | -  | 1* | 1* | 1* | -  | 4  | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 5  | 2  | -  | -  | -  | -  |
| FR = 39  | -       | -  | 1* | 1* | -  | -  | -  | -  | 1  | 8  | 7  | 7  | 6  | 7  | 7  | 8  | 1* | 1* | 1* | -  | -  | -  | -  | -  |
| FJL = 40 | 3       | 2  | 2  | 1  | 1  | 7  | 8  | 4  | 1  | 6  | 6  | 5  | 5* | 5  | 1  | 2* | 2  | 4  | 6  | 7  | 8  | 8  | 7  | 5  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Jul., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 6       | 7  | 7  | 8  | 7  | 5  | 3  | 6  | 2  | -  | 1* | 4* | 3* | 1* | -  | -  | 1  | 1  | 3* | 4  | 5  | 6  | 4  |    |
| VO2 = 02 | 9       | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | 1  | 1  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | -  | -  | 6  | -  | 1  | 7  | 6  | 7  | 7  | 7  | 7  | 6  | 8  | 9  | 9  |
| W9 = 04  | 9       | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | 2  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| W3 = 05  | 9       | 9  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | -  | -  | -  | 1  | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 8  | 9  | 9  | 9  |
| TI = 07  | 8       | 9  | 9  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 2  | 6  | 9  | 9+ | 9  | 9  |
| VP2 = 08 | 8       | 8  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | 1  | 7  | 6  | 5  | 8  | 5  | 6  | 9  | 9  | 9+ | 9+ | 9  | 8  |
| P4 = 09  | 7       | 7  | 7  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | 1* | 3* | 2* | 1* | -  | 5  | 5  | 7  | 9  | 9  | 9  | 8  | 7  |
| HC = 10  | 6       | 6  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | 1* | 1* | 9  | 7  | 3  | 1  | 1  | 1  | 3  | 4  | 5  | 4  | 6  |
| PY1 = 11 | 8       | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| CE = 12  | 9+      | 9  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 4  | 5  | 6  | 8  | 3  | 6  | 2* |    |
| G = 14   | 9       | 9  | 8  | 7  | 8  | 8  | 6  | -  | -  | 1  | 9  | 8  | 7  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| I = 15   | 9       | 9  | 9  | 8  | 8  | 8  | 5  | -  | -  | 2  | 8  | 5  | 4  | 2  | 2  | 4  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | 8       | 6  | 5  | 4  | 5  | 7  | 4  | -  | -  | 1  | 7  | 5  | 4  | 4  | 4  | 3  | 5  | 6  | 8  | 8  | 9  | 9  | 8  | 7  |
| UN = 17  | 5       | 5  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | 4  | 3  | 2  | 7* | 5* | 4  | 5  | 7  | 8  | 8  | 8  | 8  | 7  | 6  |
| UA9 = 18 | 1       | 1  | 3  | 6  | 7  | 5  | 2  | -  | -  | -  | 5  | 3  | 2  | 7* | 6* | 5* | 4  | 6  | 7  | 7  | 5  | 7* | 4* | 1  |
| UA0 = 19 | 1       | -  | 1  | 1  | 1  | 6  | 5  | 2  | 1  | 1  | -  | 6  | 8* | 8* | 8* | 8* | 8* | 7* | 7* | 7* | 6* | -  | -  | -  |
| 4X = 20  | 9+      | 9  | 7  | 7  | 6  | 3  | -  | -  | -  | 1  | 6  | 6  | 3  | 3* | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 8       | 7  | 1  | -  | -  | -  | -  | -  | -  | 1  | 6  | 5  | 5  | 5  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 7       | 4  | 1* | 1* | -  | -  | -  | -  | -  | 1  | 4  | 4  | 2  | 5* | 4  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 6  |
| JT = 23  | 5       | 4  | 5  | 8  | 7  | 5  | 2  | -  | -  | 1  | 4  | 2  | 2  | 8* | 7* | 6* | 5* | 6  | 5  | 5  | 3* | 8* | 3* | 1  |
| VR2 = 24 | 5*      | 4* | 4* | 5* | 5* | 4* | 5* | 5* | 2* | 2  | 7  | 7  | 9* | 7  | 7  | 8  | 7  | 8  | 8  | 9  | 8  | 5  | 3* | 5* |
| JA1 = 25 | 6       | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 5  | 1* | 8* | 8* | 9  | 8  | 8* | 8* | 7* | 8* | 8* | 8* | 8* | 5  | 6  | 7  |
| HS = 26  | 4*      | 3* | 3* | 4* | 2* | 2* | 2* | 2* | -  | 1  | 7  | 7  | 8* | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 6  | 1* | 4* |
| DU = 27  | 6*      | 5* | 4* | 4* | 3* | 2* | 2* | 2* | 1* | -  | -  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 3  | 2* | 6* | 7* | 6* |
| YB = 28  | 5*      | 5* | 4* | 2* | 1* | 1* | 1* | 1* | 1* | -  | -  | 7  | 8* | 6* | 4* | 3* | 2* | 2* | 2* | 1* | -  | -  | -  | 6* |
| VK6 = 29 | 2*      | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 6* | 5* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VK3 = 30 | 1*      | 1* | -  | 1* | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 6* | 2* |
| KH6 = 31 | 7       | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 2  | 1* | 5* | 5* | 9  | 2  | 1* | -  | 5  | 2  | 5  | 5  | 5  | 6  | 6  | 7  |
| KH8 = 32 | 6       | 5  | 1  | 1* | -  | -  | -  | -  | -  | -  | 2* | 2* | 1* | 1* | -  | -  | -  | -  | 7  | 7  | 7  | 6  | 7  | 6  |
| CN = 33  | 9       | 9  | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | 9  | 8  | 8  | 4  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9       | 9  | 6  | 2  | 2  | 3  | -  | -  | -  | 4  | 6  | 6  | 5  | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |
| 6W = 35  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 8  | 4  |
| D2 = 36  | -       | -  | -  | -  | -  | 1* | -  | -  | -  | 5  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 6  | 4  | -  |
| 5Z = 37  | -       | -  | -  | 3* | 2* | 1* | 1* | -  | -  | 6  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 3  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 2* | 1* | -  | -  | 1  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 7  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | 1* | 2* | 2* | 1* | 1* | -  | -  | 4  | 8  | 8  | 8  | 8  | 8  | 5  | 1* | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | 2  | 5  | -  | -  | 2  | 1  | 1  | 1  | 3* | 1* | 1* | 1* | 1  | 1  | 2  | 2  | 1  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Jul., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1       | 2  | 2  | 3  | 2  | -  | -  | 1  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | 1* | 1  | 2  | 2  | -  |
| VO2 = 02 | 8       | 8  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 5  | 5  | 6  | 6  | 7  | 8  | 8  | 8  |
| W6 = 03  | 9       | 9  | 9  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | 2  | -  | -  | 1  | 4  | 6  | 6  | 7  | 7  | 8  | 8  | 8  | 8  |
| W9 = 04  | 8       | 8  | 7  | 6  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  | 5  | 6  | 7  | 8  | 8  |
| W3 = 05  | 8       | 8  | 6  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| XE1 = 06 | 8       | 8  | 8  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 8  | 8  | 8  | 9  | 9  | 9  | 8  |
| TI = 07  | 5       | 5  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | 1* | -  | -  | 1  | 6  | 6  | 5  |
| VP2 = 08 | 3       | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 5  | 6  | 7  | 6  | 6  | 4  |
| P4 = 09  | 2       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 1* | 2  | 4  | 5  | 4  | 5  | 2  |
| HC = 10  | 1       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1* | 9  | 9  | 8  | 9  | 9  | 9+ | 9+ | 9  | 1  |
| PY1 = 11 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 5  | 5  | 5  | 8  | 9  | 9  | 9  | 8  | 4  |
| CE = 12  | 8       | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 3* | 4* | 1* | -  |
| G = 14   | 7       | 6  | 4  | 1  | 5  | 5  | 1  | -  | -  | -  | 5  | 3  | 6  | 5  | 5  | 7  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 7  |
| I = 15   | 7       | 7  | 5  | 3  | 5  | 5  | -  | -  | -  | -  | 2  | 5  | 6  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 7  |
| UA3 = 16 | 3       | 1  | -  | -  | 1  | 4  | -  | -  | -  | -  | 2  | 1  | 1  | 1* | 2* | 2* | 2* | 3  | 6  | 7  | 7  | 6  | 4  | 2  |
| UN = 17  | -       | -  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | 5  | 4  | 3  | 6* | 6* | 5  | 6  | 6  | 7  | 7  | 6  | 3  | 2  | 1  |
| UA9 = 18 | -       | -  | -  | 2  | 4  | 2  | -  | -  | -  | -  | 2  | 1  | 1  | 4* | 7* | 7* | 5* | 4* | 2  | 1  | -  | 1* | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | 2  | 2  | -  | -  | -  | -  | -  | -  | 7* | 8* | 7* | 7* | 6* | 6* | 1* | -  | -  | -  | -  |
| 4X = 20  | 9       | 6  | 1  | 2  | 1  | -  | -  | -  | -  | -  | 5  | 5  | 5  | 5  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  |
| VU = 22  | 4*      | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 5  | 6  | 8  | 6  | 4  | 4  | 5  | 5  | 5  | 5  | 2  |
| JT = 23  | -       | -  | -  | 6  | 5  | 3  | -  | -  | -  | -  | 2  | 1  | 1  | 4* | 7* | 7* | 5* | 5* | 4* | -  | -  | 2* | 1* | -  |
| VR2 = 24 | 5*      | 5* | 5* | 6* | 5* | 4* | 3* | 2* | -  | -  | 3  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 7  | 5  | 1  | 5* | 5* |
| JA1 = 25 | 5       | 5  | 5  | 5  | 7  | 7  | 6  | 5  | 1  | -  | 2* | 7* | 9* | 8* | 9* | 9* | 8* | 8* | 8* | 5* | 2* | 5  | 5  | 5  |
| HS = 26  | 5*      | 5* | 4* | 4* | 3* | 1* | 1* | -  | -  | -  | 3  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 4  | 1  | -  | 2* |
| DU = 27  | 5*      | 5* | 4* | 3* | 1* | 1* | 1* | -  | -  | -  | -  | -  | 7* | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | 6* | 6* |
| YB = 28  | 5*      | 5* | 3* | 2* | 1* | -  | 1* | -  | -  | -  | -  | -  | 6* | 6* | 4* | 2* | 2* | 1* | -  | -  | -  | -  | -  | 2* |
| VK6 = 29 | 2*      | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| VK3 = 30 | 1*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 3* |
| KH6 = 31 | 8       | 8  | 8  | 8  | 8  | 6  | 5  | 3  | -  | -  | 4* | 6* | 5  | -  | -  | -  | -  | 5  | 4  | 5  | 6  | 6  | 6  | 7  |
| KH8 = 32 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 3* | 2* | 1* | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 6  | 4  |
| CN = 33  | 7       | 7  | 6  | 5  | 7  | 4  | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 6  |
| SU = 34  | 7       | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 6  | 6  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 9  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 5  | 1  | -  | -  | 1* | 2  | 5  | 7  | 8  | 6  | 1  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 7  | 9  | 7  | 7  | 7  | 7  | 7  | 9  | 7  | 5  | 2  | 1  | 1* |
| 5Z = 37  | -       | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 3* | 1* | -  | -  | -  | 1  | 5  | 8  | 8  | 8  | 7  | 8  | 1  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 4* | 2* | 1* | -  | -  | -  | -  | 6  | 8  | 8  | 6  | 2  | 2* | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



10 Meters: Jul., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 2  | 2  | 2  | 4  | 5  | 5  | 6  |
| W6 = 03  | 7  | 8  | 7  | 6  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 4  | 5  | 6  | 7  | 7  | 7  |
| W9 = 04  | 5  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 2  | 3  | 4  | 5  | 5  |
| W3 = 05  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 5  | 7  | 8  | 8  | 8  | 8  | 7  |
| XE1 = 06 | 7  | 7  | 7  | 6  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 7  | 8  | 8  | 8  | 7  |
| TI = 07  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  |    |
| VP2 = 08 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2  | 2  | 1  | 2  | -  |
| P4 = 09  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  |
| HC = 10  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 8  | 7  | 6  | 7  | 8  | 8  | 9  | 8  | -  |
| PY1 = 11 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | 3  | 3  | 8  | 2  | -  |
| CE = 12  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 4  |
| LU = 13  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | 2* | 2* | -  | -  |
| G = 14   | 2  | 1  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 4  | 4  | 5  | 7  | 7  | 6  | 5  | 3  | 1  |
| I = 15   | 2  | 2  | 1  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | 5  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 6  | 4  | 2  |
| UA3 = 16 | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 2  | 3  | 4  | 2  | 1  | -  |
| UN = 17  | -  | -  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  | 2  | 4* | 2  | 4  | 4  | 2  | 2  | 1  | -  | -  | -  |
| UA9 = 18 | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | 2* | 3* | 2* | -  | -  | -  | -  | -  |
| 4X = 20  | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 7  |
| HZ = 21  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 6  | 6  | 2  |
| VU = 22  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 7  | 7  | 7  | 2  | -  | -  | 1  | -  | 1  | -  |
| JT = 23  | -  | -  | -  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 3* | 2* | 2* | 1* | -  | -  | -  | -  | -  |
| VR2 = 24 | 3* | 1* | 1* | 4* | 2* | 2* | 1* | -  | -  | -  | -  | 2  | 6  | 8  | 7  | 5  | 5  | 5  | 4  | 3  | 1  | -  | 1* | 4* |
| JA1 = 25 | -  | 1  | 1  | -  | 5  | 4  | 4  | 1  | -  | -  | -  | 2* | 7* | 7* | 8* | 6* | 4* | 5* | 4* | 2* | -  | 1  | 1  | 1  |
| HS = 26  | 2* | 2* | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 7  | 6  | 8  | 8  | 7  | 4  | -  | -  | -  | -  |
| DU = 27  | 3* | 3* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 3* | 2  | 3  | 4  | 5  | 2  | -  | -  | -  | -  | -  | 4* |
| YB = 28  | 3* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 4* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* |
| KH6 = 31 | 7  | 8  | 8  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | 3* | 1* | -  | -  | -  | -  | 1  | -  | 2  | 4  | 7  | 7  | 7  |
| KH8 = 32 | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 4* | 1* | -  | -  | -  | -  | -  | 1  | 7  | 7  | 6  | 4  | 1  |
| CN = 33  | 2  | 2  | 1  | -  | 4  | 1  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  | 8  | 8  | 9  | 9  | 8  | 8  | 4  | 4  | 1  |
| SU = 34  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 5  | 8  |    |
| 6W = 35  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | -  | -  | -  | -  | 1* | 2* | 2* | 2* | 1* | 1  | -  | -  |
| D2 = 36  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 3  | 6  | 6  | 8  | 8  | 7  | 5  | 5* | 2  | 4* | 1* | 1* |
| 5Z = 37  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  |
| ZS6 = 38 | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 1  | 4  | 5  | 4  | 3  | 5  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -  | -  | -  | 4* | 1* | -  | -  | -  | -  | -  | -  | 4  | 2  | 4* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Aug., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2       | 5  | 5  | 5  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 2  | 4  | 3  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 2  | 3  | 4  | 5  | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 3  | 5  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 1  | 2  | 2  | 4  | 5  | 4  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | -       | 3  | 3  | 3  | 3  | 4  | 4  | 3  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 2       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 2       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 5       | 5  | 6  | 6  | 5  | 6  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | 1  | 5  | 9  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 4       | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HZ = 21  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| SU = 34  | 3       | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| 6W = 35  | 4       | 4  | 4  | 4  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| D2 = 36  | 6       | 5  | 5  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |
| 5Z = 37  | 5       | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| ZS6 = 38 | 6       | 6  | 5  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  |
| FR = 39  | 5       | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Aug., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | -  | -  | -  | -  | 1  | 2  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W6 = 03  | -  | -  | 1  | 2  | 5  | 7  | 6  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -  | 5  | 6  | 7  | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1  | 6  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | 1  | 4  | 5  | 5  | 7  | 8  | 7  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 3  | 6  | 6  | 6  | 6  | 7  | 7  | 6  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VP2 = 08 | 5  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| P4 = 09  | 5  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| HC = 10  | 8  | 8  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | -  | -  | 2  | 8  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | -  | 4  | 8  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| I = 15   | 7  | 6  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| UA3 = 16 | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| UN = 17  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA9 = 18 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| HZ = 21  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  |
| VU = 22  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| JT = 23  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | -  | -  | 1  | 1  | 5  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | -  | 1  | 3  | 4  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| SU = 34  | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| 6W = 35  | 7  | 7  | 7  | 7  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| D2 = 36  | 9  | 8  | 8  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| 5Z = 37  | 8  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  |
| ZS6 = 38 | 9  | 9  | 8  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  |
| FR = 39  | 8  | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| FJL = 40 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Aug., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | 1  | 1  | 2  | 4  | 6  | 6  | 6  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| W6 = 03  | -  | 2  | 5  | 7  | 7  | 8  | 8  | 7  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 6  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  |
| W3 = 05  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| XE1 = 06 | 6  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| TI = 07  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| VP2 = 08 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  |
| P4 = 09  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 3  | 2  | 4  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 4  | 1  | 1  | 2  | 5  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 8  |
| I = 15   | 8  | 8  | 7  | 8  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  |
| UA3 = 16 | 6  | 7  | 5  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  |
| UN = 17  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 7  |
| UA9 = 18 | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 8  |
| HZ = 21  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| VU = 22  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  |
| JT = 23  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 1  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  | 1  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  |
| HS = 26  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  | 6  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  | -  |
| YB = 28  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 6  | 6  |
| VK6 = 29 | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 5  |
| VK3 = 30 | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | -  |
| KH6 = 31 | -  | -  | -  | 1  | 5  | 6  | 7  | 7  | 7  | 7  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | 1  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 8  | 8  | 8  | 9  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  |
| SU = 34  | 8  | 8  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 8  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9  |
| 5Z = 37  | 9  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 8  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 9  | 9  |
| FR = 39  | 9  | 8  | 7  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  | 8  | 9  |
| FJL = 40 | 6  | 6  | 4  | 3  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1       | 2  | 2  | 6  | 6  | 7  | 7  | 7  | 5  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8       | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  |
| W6 = 03  | 3       | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 8       | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| W3 = 05  | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  |
| XE1 = 06 | 8       | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 8  | 7  | 8  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 4  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9  | 9+ | 9+ | 9  | 8  | 7  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | 1  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 8  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  | 8  |
| UA3 = 16 | 7       | 7  | 7  | 6  | 5  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| UN = 17  | 7       | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 8  |
| UA9 = 18 | 6       | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 6  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | 1* | -  |
| 4X = 20  | 8       | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| HZ = 21  | 8       | 8  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  |
| VU = 22  | 6       | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 6  |
| JT = 23  | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 5  | 2  |
| VR2 = 24 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | 2* | 4* | 1* | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  | 5  | 4  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | 2  | 6  | 5  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 3* | 5* | 4* | 2* | -  |
| HS = 26  | 6       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 8  | 7  |
| DU = 27  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 6  | 3  |
| YB = 28  | 6       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 6  | 7  |
| VK6 = 29 | 6       | 4  | 2  | -  | -  | -  | -  | 1  | 4  | 5  | 4  | 4  | 2  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 6  | 7  |
| VK3 = 30 | 1       | -  | 1  | 1  | 1  | 4  | 5  | 6  | 7  | 7  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | 2  | 3  | 4  | 4  | 3  |
| KH6 = 31 | -       | -  | 2  | 4  | 5  | 6  | 7  | 8  | 8  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | 2  | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 8  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  |
| D2 = 36  | 8       | 7  | 7  | 8  | 6  | 5  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 8  |
| 5Z = 37  | 8       | 8  | 8  | 6  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  | 9  |
| ZS6 = 38 | 8       | 8  | 8  | 7  | 6  | 7  | 6  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 7  | 8  | 8  | 8  |
| FR = 39  | 6       | 3  | -  | 5  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 3  | 4  | 3  | 4  |
| FJL = 40 | 5       | 7  | 7  | 6  | 6  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 4  | 5  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 6 dBi isotropic antennas.



20 Meters: Aug., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 5            | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 7  | 5  | 4  | 1* | -  | 1  | -  | -  | -  | 1* | 2  | 1  | 2  | 4  | 5  |
| VO2 =   | 02 | 9+           | 9+ | 9+ | 9  | 9+ | 9  | 9  | 9  | 8  | 8  | 9  | 8  | 5  | 2  | 1  | -  | -  | 1  | 2  | 7  | 6  | 8  | 9  | 9  |
| W6 =    | 03 | 8            | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 1  | 2  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| W9 =    | 04 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 3  | 1  | 1  | -  | -  | -  | 4  | 3  | 6  | 8  | 9  |
| W3 =    | 05 | 9            | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 7  | 2  | 1  | -  | -  | 1  | 1  | 5  | 5  | 8  | 9  | 9  |
| XE1 =   | 06 | 9            | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 6  | 5  | 3  | 1  | 1  | 1  | 1  | 3  | 7  | 8  | 9  |
| TI =    | 07 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 2  | 9  | 9  | 6  | 5  | 3  | 2  | 2  | 2  | 6  | 8  | 9  | 9  | 9+ |
| VP2 =   | 08 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 6  | 9+ | 9  | 8  | 5  | 3  | 2  | 2  | 3  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| P4 =    | 09 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 4  | 9  | 9  | 8  | 6  | 5  | 3  | 2  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| HC =    | 10 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 2  | 2  | 8  | 9  | 8  | 6  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | 5  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 9+ | 9  | 8  | 7  | 6  | 1  | 1* | -  | -  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 9            | 9  | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  | 9  | 9  | 9  |
| I =     | 15 | 9+           | 9+ | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  |
| UA3 =   | 16 | 9            | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  | 9  | 9  |
| UN =    | 17 | 9            | 8  | 8  | 6  | 3  | 2  | 1  | -  | -  | -  | -  | 2* | 2* | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 9  | 9  |
| UA9 =   | 18 | 8            | 8  | 7  | 6  | 2  | 2  | 2  | 1  | 1  | 1  | -  | 3* | 2* | -  | 1* | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  | 8  |
| UA0 =   | 19 | 3            | 1  | 1  | 1  | 1  | 2  | 2  | 8  | 7  | 7  | 7  | 7* | 5* | 3* | -  | 1* | 1* | 3* | 5* | 7* | 8* | 8* | 6* | 5* |
| 4X =    | 20 | 9            | 9  | 9  | 9  | 9  | 8  | 8  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 8  | 9  | 9  | 9  | 9  |
| HZ =    | 21 | 9            | 9  | 9  | 9  | 8  | 8  | 5  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 9  | 9  | 9  | 9  |
| VU =    | 22 | 9            | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | 1* | 2* | -  | -  | -  | 1  | 3  | 7  | 8  | 9  | 9  | 9  | 9  |
| JT =    | 23 | 8            | 7  | 2  | 1  | 1  | 1  | -  | 1  | 1  | -  | 8  | 7  | 4* | 1* | 1* | -  | -  | 1  | 4  | 6  | 8  | 7  | 7  | 8  |
| VR2 =   | 24 | 7            | 4  | -  | -  | -  | -  | -  | 1* | 6* | 7  | 6  | 8* | 5* | 2* | -  | -  | -  | 4  | 6  | 7  | 8  | 8  | 9  | 8  |
| JA1 =   | 25 | 2*           | -  | -  | -  | 1  | 3  | 7  | 7  | 8  | 8  | 8  | 9  | 8  | 5  | 1  | -  | 1* | 4* | 7* | 8* | 8* | 8* | 8* | 5* |
| HS =    | 26 | 8            | 5  | 1  | -  | -  | -  | -  | -  | 1* | 2* | 7  | 7  | 2* | 2* | -  | -  | 1  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| DU =    | 27 | 4            | 1  | -  | -  | -  | -  | -  | 1* | 5* | 6  | 7* | 6  | 4  | 2  | -  | -  | -  | 3  | 5  | 8  | 6  | 3* | 6  | 7  |
| YB =    | 28 | 6            | 3  | -  | -  | -  | -  | -  | -  | 2* | 8  | 6  | 5  | 5  | 3  | 1  | 1  | 1  | 4  | 6  | 7  | 7  | 5  | 2* | 5  |
| VK6 =   | 29 | 6            | 3  | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  | 8  | 7  | 4  | 1  | -  | 2  | 4  | 5  | 6  | 5  | 4  | 6  | 8  |
| VK3 =   | 30 | 6            | 3  | 2  | 1  | 1  | 2  | 1  | 3  | 4  | 1  | 5  | 8  | 6  | 5  | 3  | 2  | 2  | 2  | 1  | 1* | 2* | 7  | 8  | 8  |
| KH6 =   | 31 | 2            | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 1* | 9  | 8  | 6  | 4  | 1  | -  | -  | -  | 1* | -  | -  | -  | 1  |
| KH8 =   | 32 | 2            | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 5  | -  | 5  | 9  | 7  | -  | -  | -  | 2  | 1  | 1* | 1* | -  | -  | 1  |
| CN =    | 33 | 9+           | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | 1  | 5  | 6  | 8  | 9  | 9  | 9  | 9  |
| SU =    | 34 | 9            | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 3  | 5  | 8  | 9  | 9  | 9  | 9  |
| 6W =    | 35 | 9+           | 9+ | 9+ | 9+ | 9+ | 8  | -  | -  | 7  | 9  | 8  | 7  | 5  | 2  | 2  | 2  | 4  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 =    | 36 | 9            | 7  | 7  | 6  | 2  | -  | 4  | 4  | 8  | 8  | 5  | 2  | 1  | 1  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  |
| 5Z =    | 37 | 9            | 8  | 5  | -  | 5  | 8  | 3  | 2  | 4  | 2  | 1  | -  | -  | -  | 2  | 1  | 4  | 5  | 8  | 9  | 9  | 9+ | 9  | 9  |
| ZS6 =   | 38 | 2            | 5  | 6  | 3  | -  | 4  | 4  | 4  | 8  | 7  | 5  | 3  | 2  | 2  | 2  | 4  | 7  | 8  | 9  | 9  | 8  | 7  | 5  | 2  |
| FR =    | 39 | -            | -  | -  | -  | 6  | 3  | 1  | 1  | 2  | 2  | 2  | 1  | 1  | 1  | 2  | 3  | 6  | 7  | 2  | -  | 1* | 1* | -  | -  |
| FJL =   | 40 | 9            | 8  | 7  | 7  | 7  | 7  | 7  | 8  | 6  | 7  | 5  | 2* | 3* | 1* | -  | -  | -  | -  | 2  | 6  | 6  | 8  | 8  | 8  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Aug., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 5  | 2* | 6* | 4* | 2* | 1* | -  | 1  | 2  | 2  | 7  | 7  | 7  | 5  | 7  | 8  |
| VO2 = 02 | 9+      | 9+ | 9  | 9  | 9  | 8  | 8  | 8  | 4  | 6  | 8  | 9  | 8  | 9  | 7  | 5  | 6  | 7  | 9  | 8  | 8  | 9  | 9  | 9+ |
| W6 = 03  | 9       | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | -  | 8  | -  | 7  | 7  | 5  | 6  | 4  | 4  | 1  | 2  | 5  | 8  | 9  |
| W9 = 04  | 9       | 9+ | 9  | 9  | 9  | 8  | 7  | 8  | 5  | 4  | 6  | 2  | 8  | 7  | 7  | 6  | 6  | 6  | 4  | 7  | 8  | 9  | 9  | 9  |
| W3 = 05  | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 4  | 3  | 8  | 8  | 9  | 8  | 6  | 5  | 5  | 6  | 6  | 7  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1* | -  | 8  | 8  | 7  | 8  | 6  | 6  | 7  | 6  | 7  | 9  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | 2* | 1* | -  | 9  | 9  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | 2  | 9+ | 9  | 9  | 8  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | -  | -  | 1* | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 9       | 9  | 9+ | 9+ | 9+ | 9+ | 8  | 5  | -  | 4* | 1* | -  | 9+ | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9  | 9  | 7  | 3  | -  | -  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 6  | 1* | -  | -  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9       | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 9  | 9  | 8  | 9  | 9  | 9  | 7  | 5  | 9  | 8  | 8  | 5  | 2  | 1  | 3  | 6  | 6  | 8  | 9  | 9  | 9  | 9+ | 9  |
| I = 15   | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 6  | 5  | 8  | 6  | 2  | 1  | 1  | -  | 4  | 3  | 7  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | 9       | 8  | 6  | 6  | 7  | 8  | 8  | 4  | 2  | 5  | 3  | 7  | 8  | 2  | 1  | 2  | 4  | 6  | 7  | 8  | 8  | 9  | 9  | 9  |
| UN = 17  | 6       | 7  | 8  | 8  | 8  | 7  | 4  | 1  | -  | 3  | 2  | 7  | 6  | 4* | 3* | 1  | 4  | 8  | 8  | 8  | 9  | 8  | 8  | 7  |
| UA9 = 18 | 2       | 4  | 6  | 7  | 7  | 6  | 7  | 2  | 1  | 6  | 4  | 5  | 7* | 5* | 5* | 3* | 3  | 6  | 7  | 8  | 7  | 4  | 5* | 3* |
| UA0 = 19 | 6       | 6  | 6  | 5  | 6  | 6  | 8  | 7  | 4  | 5  | 8  | 8  | 8* | 7* | 5* | 5* | 6* | 6* | 8* | 8* | 8* | 8* | 7  | 6  |
| 4X = 20  | 9       | 9+ | 9  | 9  | 9  | 9  | 7  | 1  | 2  | 4  | 2  | 1  | 1  | 1  | 1  | 1  | 3  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 7  | 8  | 8  | 6  | 1  | -  | 1  | 4  | 1  | 1  | 8  | 1* | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 8       | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | 2  | 1  | 7  | 5  | 4* | 1  | 2  | 4  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  | 5       | 7  | 7  | 7  | 6  | 5  | 5  | 2  | 2  | 6  | 3  | 4  | 7* | 6* | 6* | 4* | 4* | 5  | 6  | 5  | 5* | 5* | 2* | 2  |
| VR2 = 24 | 4       | 2* | 3* | 2* | 1* | 2* | 4* | 7* | 6* | 6  | 6  | 8* | 7* | 6* | 5* | 5  | 3  | 8  | 8  | 9  | 9  | 9  | 8  | 7  |
| JA1 = 25 | 6       | 5  | 6  | 6  | 7  | 8  | 8  | 9  | 8  | 6* | 6* | 9  | 8  | 7  | 5* | 5* | 6* | 7* | 8* | 9* | 8* | 9* | 7* | 6  |
| HS = 26  | 4       | 1* | 2* | 1* | -  | -  | -  | 2* | 2* | 6  | 6  | 6* | 5  | 5* | 4  | 5  | 5  | 8  | 9  | 9  | 9+ | 9  | 8  | 7  |
| DU = 27  | 5*      | 4* | 4* | -  | -  | 1* | 4* | 5* | 3* | 3* | 8  | 8  | 7  | 7  | 5  | 5  | 5  | 6  | 8  | 7  | 4* | 6* | 5* | 6* |
| YB = 28  | 3*      | 5* | 3* | 1* | -  | -  | 1* | 2* | 2* | 3  | 7  | 8* | 8  | 7  | 4  | 2  | 1  | 1  | 2  | 3  | 2  | -  | 3* | 3* |
| VK6 = 29 | 2*      | 1* | 2* | -  | -  | -  | 1* | 1* | -  | 2* | 5  | 9  | 6  | 4* | 1* | -  | -  | 1  | 2  | 2  | 1  | 1  | 1  | 5  |
| VK3 = 30 | 1       | -  | -  | -  | -  | -  | 1* | 1* | -  | 2* | 2* | 5  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | 5  | 8  | 5  |
| KH6 = 31 | 6       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 2* | 3* | 4  | 8  | 6  | 1* | 1  | 1  | 1  | 2* | 9  | 4* | 2* | 2  | 4  |
| KH8 = 32 | 7       | 7  | 8  | 8  | 7  | 8  | 7  | 8  | 4  | 1* | -  | 1* | 5  | 2  | -  | -  | -  | 4  | 6  | 5  | 6  | 4  | 4  | 5  |
| CN = 33  | 9+      | 9+ | 9+ | 9  | 9  | 8  | 8  | 5  | 5  | 8  | 8  | 7  | 5  | 2  | 2  | 2  | 5  | 8  | 9  | 9  | 9  | 9+ | 9  | 9+ |
| SU = 34  | 9       | 9+ | 9  | 8  | 8  | 9  | 7  | 1  | 2  | 5  | 2  | 1  | 1  | 1  | 1  | 2  | 4  | 8  | 8  | 9  | 9  | 9  | 9+ | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 8  | 5  | -  | -  | -  | 1  | 9  | 9+ | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 4       | 2  | 1  | 1  | 1* | 1* | 1* | 1* | 2  | 7  | 8  | 7  | 6  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  |
| 5Z = 37  | 5       | 2  | -  | -  | 1* | 2  | 1* | -  | 5  | 7  | 6  | 5  | 4  | 5  | 5  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| ZS6 = 38 | -       | -  | -  | -  | 1* | 1* | -  | 1* | 6  | 7  | 8  | 8  | 7  | 7  | 6  | 8  | 9  | 9  | 9  | 7  | 2  | -  | -  | -  |
| FR = 39  | -       | -  | 1* | 1* | 1* | -  | -  | -  | 2  | 5  | 6  | 9  | 7  | 6  | 6  | 7  | 7  | 1* | 1* | 1* | 1* | 1* | -  | -  |
| FJL = 40 | 1       | -  | -  | -  | -  | 3  | 4  | 6  | 3  | 7  | 7  | 7  | 5  | 4  | 3  | 2  | 4  | 5  | 6  | 7  | 8  | 8  | 6  | 4  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Aug., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 6   | 7   | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | 3* | 1* | 1* | -  | -  | -  | 1  | 1  | 1  | 1  | 5  | 5  | 3  | 5  |    |
| VO2 = 02 | 9   | 9   | 8  | 7  | 5  | 2  | 5  | 4  | -  | 1  | -  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| W6 = 03  | 9   | 9   | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 5  | 1  | -  | 5  | -  | -  | 7  | 6  | 6  | 7  | 7  | 6  | 7  | 7  | 8  | 9  |    |
| W9 = 04  | 9   | 9   | 8  | 7  | 6  | 4  | 1  | 4  | 1  | -  | 2  | -  | 4  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |    |
| W3 = 05  | 9   | 9   | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | 5  | -  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| XE1 = 06 | 9   | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | 1  | 9  | 9  | 8  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |    |
| TI = 07  | 9   | 9   | 9  | 9+ | 9+ | 9  | 7  | 3  | -  | -  | -  | -  | 2  | 9  | 4  | 1  | 1  | 4  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  |    |
| VP2 = 08 | 8   | 8   | 9  | 9  | 9  | 8  | 5  | -  | -  | -  | -  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  |    |
| P4 = 09  | 8   | 8   | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | 1* | 6  | 6  | 3  | 2  | 3  | 7  | 9  | 9  | 9  | 9+ | 9+ | 9  | 8  |    |
| HC = 10  | 6   | 7   | 7  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | 4  | 9  | 9  | 5  | 9  | 9  | 9  | 9  | 4  | 5  | 7  | 6  | 7  |    |
| PY1 = 11 | 9+  | 9   | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| CE = 12  | 9+  | 9+  | 9  | 9  | 8  | 6  | 4  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  | 5   | 3   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 8  | 9  | 9  | 7  | 9  | 8  |    |
| G = 14   | 8   | 8   | 7  | 5  | 7  | 7  | 8  | 3  | 1  | 5  | 9  | 8  | 7  | 8  | 8  | 7  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| I = 15   | 9   | 9   | 8  | 8  | 8  | 7  | 8  | 2  | 1  | 6  | 7  | 5  | 4  | 6  | 7  | 4  | 6  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| UA3 = 16 | 5   | 2   | 1  | -  | 4  | 6  | 7  | 1  | 1  | 4  | 6  | 5  | 4  | 5  | 5  | 3  | 5  | 6  | 8  | 8  | 9  | 8  | 7  | 5  |    |    |
| UN = 17  | 2*  | 2   | 8  | 8  | 8  | 6  | 2  | -  | -  | 2  | 3  | 3  | 4* | 5* | 2  | 3  | 6  | 6  | 8  | 8  | 7  | 5  | 3  | 2  |    |    |
| UA9 = 18 | -   | -   | 1  | 5  | 6  | 7  | 5  | 1  | -  | 3  | 5  | 4  | 6* | 6* | 4* | 4* | 4  | 5  | 5  | 3  | 1  | -  | 3* | 2* |    |    |
| UA0 = 19 | 1   | -   | -  | -  | 2  | 4  | 7  | 4  | 1  | 1  | 3  | 8* | 8* | 8* | 7* | 6* | 6* | 6* | 7* | 5* | 4* | 6* | 2* | 1  |    |    |
| 4X = 20  | 9   | 9   | 8  | 7  | 8  | 8  | 2  | -  | 1  | 2  | 6  | 5  | 5  | 2  | 3  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| HZ = 21  | 9   | 6   | 2  | 2  | 5  | 1  | -  | -  | -  | 3  | 5  | 5  | 3  | 2  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| VU = 22  | 3   | 5   | 6  | 3  | 2* | 1* | -  | -  | -  | 2  | 2  | 4  | 5* | 5* | 3  | 4  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  |    |
| JT = 23  | -   | 2   | 4  | 6  | 6  | 7  | 5  | 1  | 1  | 4  | 4  | 3  | 6* | 7* | 5* | 4* | 4  | 5* | 4* | 1* | -  | 4* | 5* | 2* |    |    |
| VR2 = 24 | 5*  | 6*  | 6* | 5* | 4* | 5* | 6* | 6* | 2* | 3  | 7  | 6  | 9* | 7* | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 4  | 4* |    |
| JA1 = 25 | 6   | 7   | 7  | 7  | 7  | 9  | 9  | 8  | 6  | 1  | 8* | 8* | 8  | 7* | 7* | 7* | 8* | 8* | 8* | 8* | 7* | 7* | 6  | 6  |    |    |
| HS = 26  | 5*  | 5*  | 5* | 4* | 2* | 1* | 2* | 4* | 1* | 1  | 6  | 6  | 7  | 6  | 6  | 5  | 6  | 9  | 9  | 9  | 9  | 8  | 6  | 3* |    |    |
| DU = 27  | 5*  | 6*  | 5* | 4* | 4* | 4* | 5* | 3* | 1* | -  | 3  | 8  | 8  | 7  | 7  | 7  | 8  | 7  | 7  | 4  | 1* | 5* | 8* | 7* |    |    |
| YB = 28  | 4*  | 5*  | 5* | 3* | 2* | 2* | 2* | 2* | -  | -  | 2  | 8  | 8  | 6* | 4* | 3* | 2* | 2* | 3* | 3* | -  | -  | -  | 6* |    |    |
| VK6 = 29 | 3*  | 2*  | 1* | 1* | 1* | 1* | 1* | -  | -  | -  | 1* | 8  | 6* | 4* | 2* | 1* | -  | -  | 1  | 1  | -  | -  | -  | 6* |    |    |
| VK3 = 30 | 1*  | 1*  | -  | -  | -  | -  | 1* | -  | -  | 1* | 5* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 6  | 2* |    |    |
| KH6 = 31 | 8   | 8   | 9  | 9  | 9  | 9  | 9  | 8  | 2  | 2* | 5* | 4* | 8  | 1* | -  | -  | 5  | 2  | 2* | 5  | 5  | 5  | 5  | 6  |    |    |
| KH8 = 32 | 7   | 6   | 7  | 6  | 4  | 3  | 3  | 2  | -  | 1* | 2* | 1* | 1* | 1* | 1* | 1* | -  | -  | 6  | 6  | 6  | 6  | 5  | 7  |    |    |
| CN = 33  | 9   | 9   | 9  | 9  | 7  | 6  | 5  | 1  | 1  | 3  | 9  | 8  | 8  | 7  | 9  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| SU = 34  | 9   | 9   | 8  | 4  | 4  | 8  | 2  | -  | 1  | 6  | 6  | 6  | 5  | 4  | 3  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| 6W = 35  | 6   | 6   | 4  | 1  | -  | -  | -  | -  | -  | 2  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 8  |    |
| D2 = 36  | -   | -   | -  | -  | 1* | 1* | 1* | -  | -  | 7  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 7  | 6  | 2  |    |    |
| 5Z = 37  | -   | -   | -  | 3* | 2* | 2* | 2* | -  | 1  | 6  | 7  | 7  | 6  | 5  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 4  |    |    |
| ZS6 = 38 | -   | -   | -  | -  | 1* | 1* | 1* | 1* | 1  | 1  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 7  | 2  | -  | -  | -  |    |    |
| FR = 39  | -   | -   | 2* | 1* | 1* | 1* | -  | -  | 1  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 3  | 1* | 1* | 1* | 1* | -  | -  | -  |    |    |
| FJL = 40 | -   | -   | -  | -  | -  | -  | -  | 2  | -  | 4  | 4  | 3  | 6* | 2* | 1  | 1  | 1  | 1  | 2  | 2  | 3  | 3  | 2  | -  | -  |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Aug., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 1   | 2   | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | -  | -  |
| VO2 = 02 | 8   | 5   | 3  | 1  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 6  | 4  | 6  | 5  | 6  | 7  | 8  | 8  | 8  |
| W6 = 03  | 9   | 9   | 9  | 8  | 5  | 3  | 2  | 6  | 1  | -  | -  | -  | -  | 1  | -  | -  | 1  | 6  | 7  | 6  | 6  | 8  | 8  | 9  | 9  | 9  |
| W9 = 04  | 8   | 8   | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 5  | 5  | 5  | 6  | 8  | 8  | 8  | 8  |
| W3 = 05  | 9   | 9   | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 1  | -  | -  | 1  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9   | 9   | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 6  | 9  | 8  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 6   | 6   | 6  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 7  | 7  | 6  |
| VP2 = 08 | 5   | 5   | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 8  | 6  |
| P4 = 09  | 3   | 4   | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | 1  | 4  | 4  | 5  | 6  | 6  | 5  |
| HC = 10  | 9   | 2   | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| PY1 = 11 | 8   | 5   | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9  | 9  |
| CE = 12  | 9   | 8   | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2* | 4* | 5  | 2  |
| G = 14   | 4   | 2   | 1  | -  | 2  | 2  | 4  | -  | -  | -  | -  | -  | 7  | 5  | 6  | 6  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 7  | 5  |
| I = 15   | 7   | 6   | 5  | 2  | 4  | 3  | 5  | -  | -  | -  | -  | -  | 7  | 7  | 7  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 7  |
| UA3 = 16 | -   | -   | -  | -  | -  | 2  | 4  | -  | -  | -  | -  | -  | 5  | 3  | 3  | 3* | 2* | 1  | 2  | 4  | 7  | 8  | 7  | 5  | 2  | -  |
| UN = 17  | 1*  | -   | 5  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | 6  | 4  | 4  | 6* | 4  | 5  | 6  | 6  | 5  | 4  | 1  | -  | -  | -  |
| UA9 = 18 | -   | -   | -  | 1  | 4  | 5  | 2  | -  | -  | -  | -  | -  | 4  | 2  | 2  | 6* | 4* | 2* | 1  | 1  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -   | -   | -  | -  | -  | -  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 7* | 8* | 8* | 6* | 5* | 5* | 5* | -  | -  | -  | -  | -  |
| 4X = 20  | 9   | 8   | 3  | 4  | 4  | 4  | -  | -  | -  | -  | -  | -  | 7  | 5  | 5  | 5  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 5   | -   | 2* | 1* | 1  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 6  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 6  |
| VU = 22  | 3*  | 4*  | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 5  | 4  | 5  | 6* | 5  | 5  | 7  | 7  | 4  | 3  | 3  | 2  | 1  | -  |
| JT = 23  | -   | -   | -  | 4  | 5  | 6  | 2  | -  | -  | -  | -  | -  | 3  | 1  | 1  | 7* | 5* | 4* | 2* | 2* | 2* | -  | -  | -  | 3* | 1* |
| VR2 = 24 | 7*  | 6*  | 6* | 6* | 5* | 5* | 5* | 4* | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 2  | 5* | 6* |
| JA1 = 25 | 6   | 6   | 7  | 7  | 7  | 8  | 8  | 7  | 1  | -  | 5* | 8* | 8* | 8* | 8* | 8* | 8* | 6* | 6* | 7* | 5* | 2  | 5  | 6  | 6  | 6  |
| HS = 26  | 6*  | 6*  | 6* | 5* | 4* | 3* | 2* | 1* | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 8  | 6  | 1  | 2* |
| DU = 27  | 6*  | 6*  | 6* | 5* | 4* | 3* | 2* | 1* | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | 7* | 8* |
| YB = 28  | 5*  | 5*  | 5* | 4* | 3* | 2* | 1* | 1* | -  | -  | -  | -  | -  | 4  | 7  | 7* | 5* | 4* | 4* | 3* | 2* | -  | -  | -  | -  | 5* |
| VK6 = 29 | 2*  | 2*  | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 3* |
| VK3 = 30 | 1*  | 1*  | 1* | 1* | 1* | 1* | 1* | 1* | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 2* |
| KH6 = 31 | 8   | 8   | 9  | 9  | 9  | 8  | 8  | 5  | -  | -  | -  | -  | 5* | 3* | 3  | -  | -  | -  | 1  | 5  | 5  | 6  | 8  | 6  | 6  | 7  |
| KH8 = 32 | 5   | 2   | 2  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 4* | 3* | 2* | 2* | 1* | -  | -  | -  | 7  | 7  | 7  | 8  | 7  | 6  |
| CN = 33  | 8   | 8   | 7  | 5  | 4  | 1  | 1  | -  | -  | -  | -  | -  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| SU = 34  | 8   | 7   | 1  | -  | -  | 4  | -  | -  | -  | -  | -  | -  | 7  | 5  | 6  | 6  | 7  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 5  | 4  | 2  | 2  | 3  | 6  | 9  | 9  | 9+ | 8  | 5  | 1  |
| D2 = 36  | 1*  | -   | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 1  | 6  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 8  | 7  | 4  | 2  | 2* |
| 5Z = 37  | -   | -   | -  | 2* | 4* | 2* | 1* | -  | -  | -  | -  | 1  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  |
| ZS6 = 38 | -   | -   | -  | -  | -  | 4* | 2* | -  | -  | -  | -  | -  | 3  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 1  | -  | -  | -  | -  | -  |
| FR = 39  | -   | -   | -  | 5* | 3* | 2* | 1* | -  | -  | -  | -  | -  | 7  | 9  | 8  | 8  | 7  | 2  | 1* | 1* | 1* | -  | -  | -  | -  | -  |
| FJL = 40 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Aug., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 |         | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 3  | 3  | 4  | 5  | 5  | 5  | 5  |
| W6 = 03  |         | 8  | 8  | 7  | 2  | 1  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 5  | 6  | 7  | 8  | 8  | 8  |
| W9 = 04  |         | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 3  | 4  | 5  | 6  | 6  | 6  |
| W3 = 05  |         | 7  | 8  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 8  | 8  | 9  | 8  | 8  | 8  |
| XE1 = 06 |         | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 8  | 8  | 8  | 8  |
| TI = 07  |         | 2  | 2  | 1  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 4  | 2  |
| VP2 = 08 |         | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 3  | 4  | 2  |
| P4 = 09  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 1  |
| HC = 10  |         | 9  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| PY1 = 11 |         | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3* | 5* | 5* | 9  | 7  | 5  |
| CE = 12  |         | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  |
| LU = 13  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 3* | 3* | 1  | -  |
| G = 14   |         | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 4  | 4  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 5  | 2  | -  |
| I = 15   |         | 2  | 1  | -  | -  | 1  | -  | 1  | -  | -  | -  | -  | 1  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 4  | 2  |
| UA3 = 16 |         | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 1  | 1* | 1* | 1* | 1* | 1  | 4  | 5  | 4  | 1  | -  | -  |
| UN = 17  |         | -  | -  | 2  | 6  | 4  | 2  | -  | -  | -  | -  | 4  | 4  | 3  | 2  | 2  | 3  | 3  | 3  | 1  | -  | -  | -  | -  | -  |
| UA9 = 18 |         | -  | -  | -  | -  | 1  | 2  | -  | -  | -  | -  | 1  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 |         | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | 1* | 4* | 4* | 3* | 2* | 1* | 1* | -  | -  | -  | -  | -  |
| 4X = 20  |         | 6  | 4  | -  | 1  | 1  | 1  | -  | -  | -  | -  | 4  | 7  | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 7  |
| HZ = 21  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 6  | 1  |
| VU = 22  |         | 1* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 7  | 7  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  |
| JT = 23  |         | -  | -  | -  | 1  | 1  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1* | 3* | 2* | 1* | 1* | -  | -  | -  | -  | 1* | -  |
| VR2 = 24 |         | 6* | 5* | 5* | 6* | 5* | 5* | 3* | 1* | -  | -  | 2  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | -  | 2* | 6* |
| JA1 = 25 |         | 1  | 2  | 2  | 2  | 2  | 7  | 6  | 3  | -  | -  | -  | 6* | 8* | 8* | 8* | 6* | 5* | 5* | 3* | 1* | -  | 1  | 3  | 2  |
| HS = 26  |         | 5* | 5* | 5* | 6* | 4* | 2* | 1* | -  | -  | -  | 1  | 6  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 7  | 4  | 2  | -  | -  |
| DU = 27  |         | 5* | 4* | 4* | 3* | 2* | 1* | 1* | -  | -  | -  | -  | -  | 5  | 7  | 6  | 6  | 6  | 5  | 1  | -  | -  | -  | 1* | 6* |
| YB = 28  |         | 4* | 4* | 4* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | 4* | 6* | 4* | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  |
| VK6 = 29 |         | 2* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 |         | 1* | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 4* |
| KH6 = 31 |         | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | 2  | 2  | 4  | 5  | 7  | 7  | 7  |
| KH8 = 32 |         | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 4* | 4* | 2* | -  | -  | -  | -  | -  | 1  | 8  | 8  | 7  | 6  | 4  |
| CN = 33  |         | 4  | 3  | 1  | -  | 1  | -  | -  | -  | -  | -  | 5  | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 3  |
| SU = 34  |         | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 6  |
| 6W = 35  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 1  | -  | -  | -  | 1* | 1* | 2* | 2* | 4* | 4* | 4  | 1* | -  |
| D2 = 36  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 6  | 4  | 2* | 4* | 2* |
| 5Z = 37  |         | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 4  | -  | -  |
| ZS6 = 38 |         | -  | -  | -  | -  | -  | 3* | 2* | -  | -  | -  | -  | 3  | 5  | 6  | 5  | 4  | 7  | 4  | -  | -  | -  | -  | -  | -  |
| FR = 39  |         | -  | -  | -  | 5* | 3* | 2* | 1* | -  | -  | -  | 1  | 7  | 5  | 4* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Sep., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4       | 5  | 5  | 5  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 2  | 3  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 2  | 4  | 5  | 4  | 4  | 5  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 4  | 5  | 5  | 5  | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 2  | 2  | 3  | 4  | 4  | 5  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 1       | 3  | 3  | 3  | 3  | 4  | 4  | 3  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3       | 4  | 4  | 4  | 3  | 4  | 3  | 2  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 3       | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 5       | 5  | 5  | 5  | 4  | 4  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| I = 15   | 2       | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | 2       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HZ = 21  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 4       | 5  | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| SU = 34  | 3       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| 6W = 35  | 4       | 4  | 4  | 4  | 3  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| D2 = 36  | 6       | 5  | 6  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| 5Z = 37  | 5       | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| ZS6 = 38 | 6       | 6  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |
| FR = 39  | 5       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Sep., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | 1  | 2  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 = 03  | -       | -  | 1  | 3  | 5  | 6  | 7  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 1       | 5  | 7  | 8  | 7  | 7  | 8  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 4       | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | -       | 5  | 5  | 6  | 7  | 7  | 8  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 4       | 6  | 6  | 6  | 6  | 7  | 7  | 6  | 8  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VP2 = 08 | 6       | 7  | 7  | 7  | 6  | 7  | 6  | 5  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| P4 = 09  | 6       | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| HC = 10  | 8       | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | -  | -  | -  | -  | -  | 1  | 7  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 1  | -  | -  | -  | -  | 1  | 7  | 9  | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| I = 15   | 5       | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| UA3 = 16 | 5       | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| UN = 17  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 2  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| HZ = 21  | 5       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  |
| VU = 22  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 3  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 7       | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| SU = 34  | 6       | 6  | 1  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| 6W = 35  | 7       | 7  | 7  | 7  | 6  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| D2 = 36  | 9       | 8  | 9  | 9  | 9  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  |
| 5Z = 37  | 8       | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  |
| ZS6 = 38 | 9       | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| FR = 39  | 8       | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 8  |
| FJL = 40 | 1       | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Sep., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | 1  | 2  | 3  | 7  | 6  | 7  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8  | 9  | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  |
| W6 = 03  | 1  | 4  | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| W3 = 05  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| XE1 = 06 | 7  | 8  | 9  | 9  | 7  | 8  | 9  | 9  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| TI = 07  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| VP2 = 08 | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  |
| P4 = 09  | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 2  | 2  | 3  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | -  | -  | 1  | 3  | 7  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 5  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 8  |
| I = 15   | 8  | 8  | 7  | 7  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 6  |
| UA3 = 16 | 7  | 7  | 7  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| UN = 17  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 7  |
| UA9 = 18 | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 8  | 7  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 7  |
| HZ = 21  | 7  | 7  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| VU = 22  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  | 6  |
| JT = 23  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 4  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 2  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  |
| HS = 26  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | -  |
| YB = 28  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 5  |
| VK6 = 29 | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 4  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | 2  | 5  | 6  | 6  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  |
| SU = 34  | 8  | 6  | 8  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 7  |
| 6W = 35  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 8  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  | 8  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  |
| FR = 39  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 9  |
| FJL = 40 | 5  | 7  | 6  | 7  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | 4  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Sep., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 2            | 2  | 6  | 6  | 7  | 7  | 7  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 =   | 02 | 8            | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 8  |
| W6 =    | 03 | 4            | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W9 =    | 04 | 8            | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 7  |
| W3 =    | 05 | 8            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  |
| XE1 =   | 06 | 8            | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| TI =    | 07 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  |
| VP2 =   | 08 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| P4 =    | 09 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| HC =    | 10 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 9  |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 5  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 9            | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| I =     | 15 | 8            | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  | 8  |
| UA3 =   | 16 | 7            | 7  | 8  | 8  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| UN =    | 17 | 7            | 7  | 6  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 7  |
| UA9 =   | 18 | 6            | 5  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 6  |
| UA0 =   | 19 | -            | -  | -  | -  | -  | -  | -  | 1  | 4  | 2* | 1  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2  | 2  | -  |
| 4X =    | 20 | 8            | 8  | 8  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 8  |
| HZ =    | 21 | 8            | 8  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 8  | 8  |
| VU =    | 22 | 7            | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 7  |
| JT =    | 23 | 6            | 2  | 1  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  |
| VR2 =   | 24 | 2            | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  | 4  |
| JA1 =   | 25 | -            | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | 2* | 4* | 5* | 3* | -  |
| HS =    | 26 | 6            | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 7  | 7  |
| DU =    | 27 | -            | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 3  |
| YB =    | 28 | 5            | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 7  | 7  |
| VK6 =   | 29 | 5            | 2  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 6  | 6  |
| VK3 =   | 30 | -            | -  | -  | -  | 1  | 1  | 4  | 6  | 6  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 2  | 2  |
| KH6 =   | 31 | -            | 1  | 3  | 5  | 6  | 7  | 7  | 8  | 8  | 7  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | -  | 1  | 4  | 6  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 9            | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 9  |
| SU =    | 34 | 8            | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 8  |
| 6W =    | 35 | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9  |
| D2 =    | 36 | 9            | 9  | 9  | 8  | 9  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  | 9  |
| 5Z =    | 37 | 9            | 9  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| ZS6 =   | 38 | 9            | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 8  | 9  |
| FR =    | 39 | 8            | 7  | 6  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  | 8  |
| FJL =   | 40 | 6            | 8  | 7  | 6  | 6  | 6  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



## 20 Meters: Sep., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone         | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|              | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01     | 8       | 8  | 8  | 8  | 9  | 9  | 8  | 7  | 5  | 4  | 3* | 2* | 1* | -  | 1  | -  | -  | -  | 1* | 1  | 1  | 2  | 2  | 5  |
| VO2 = 02     | 9       | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | 1  | 1  | 6  | 7  | 8  | 9  | 9  |
| W6 = 03      | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| W9 = 04      | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 9  | 9  |
| W3 = 05      | 9       | 9+ | 9  | 9  | 9  | 9  | 9+ | 9  | 8  | 8  | 8  | 9  | 6  | 2  | 1  | -  | -  | -  | 1  | 5  | 6  | 8  | 9  | 9  |
| XE1 = 06     | 9       | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 5  | 8  | 5  | 2  | 1  | -  | 1  | 1  | 1  | 5  | 7  | 8  | 9  |
| TI = 07      | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 9  | 8  | 5  | 2  | 1  | 1  | 1  | 4  | 5  | 8  | 9  | 9+ | 9+ |
| VP2 = 08     | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 8  | 9+ | 9  | 8  | 4  | 2  | 1  | 1  | 2  | 5  | 7  | 9  | 9  | 9+ | 9+ |
| P4 = 09      | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 7  | 9+ | 9  | 8  | 5  | 2  | 1  | 2  | 2  | 5  | 7  | 9  | 9  | 9+ | 9+ |
| HC = 10      | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 3  | 8  | 9  | 8  | 6  | 4  | 3  | 3  | 4  | 5  | 6  | 8  | 9  | 9+ | 9+ |
| PY1 = 11     | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | 2  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12      | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13      | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 1* | 1* | 1* | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14       | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | 1  | 1  | 5  | 8  | 9  | 9  | 9  | 9  |
| I = 15       | 9+      | 9+ | 9+ | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | 2  | 1  | 4  | 8  | 8  | 9  | 9+ | 9+ |
| UA3 = 16     | 9       | 9  | 9  | 8  | 7  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  | 9  | 9  |
| UN = 17      | 8       | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | 1* | 3* | 2* | 2* | 1* | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  | 9  |
| UA9 = 18     | 5       | 7  | 7  | 7  | 6  | 4  | 4  | 2  | 1  | 3* | 4* | 8  | 2* | 1* | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 6  | 5  |
| UA0 = 19     | 6       | 4  | 1  | 1  | 1  | 5  | 7  | 8  | 8  | 8  | 7  | 6* | 4* | 1  | -  | -  | -  | 2* | 4* | 6* | 7* | 8* | 7  | 8  |
| 4X = 20      | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21      | 9       | 9  | 9  | 9  | 8  | 8  | 5  | 4  | 1  | -  | -  | -  | 1* | -  | -  | -  | -  | 3  | 7  | 9  | 9  | 9  | 9  | 9  |
| VU = 22      | 9       | 9  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | 2* | 2* | 2* | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 9  | 9  | 9  |
| JT = 23      | 7       | 7  | 7  | 4  | 1  | 1  | 1  | 1  | 5* | 5* | 6  | 8  | 4* | 2* | -  | -  | -  | 1  | 4  | 7  | 7  | 6  | 8  | 6  |
| VR2 = 24     | 8       | 7  | 4  | -  | -  | -  | -  | 2* | 6* | 7  | 8* | 6* | 4* | 1* | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 8  | 8  |
| JA1 = 25     | 4*      | 2* | -  | -  | 2  | 4  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 4  | -  | -  | -  | 2* | 6* | 8* | 8  | 8* | 8* | 7* |
| HS = 26      | 9       | 8  | 7  | 4  | -  | -  | -  | -  | 1* | 4* | 8  | 4* | 1* | 1* | -  | -  | -  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| DU = 27      | 7       | 4  | 1  | -  | -  | -  | -  | 1  | 8  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  | 8  |
| YB = 28      | 9       | 8  | 5  | 1  | -  | -  | -  | -  | 3* | 8  | 6  | 6  | 3  | 2  | 1  | 1  | 1  | 4  | 6  | 7  | 8  | 8  | 7  | 9  |
| VK6 = 29     | 8       | 8  | 6  | 5  | 2  | 2  | 4  | 6  | 8  | 7  | 7  | 7  | 6  | 4  | 1  | 1  | 2  | 3  | 4  | 5  | 6  | 6  | 7  | 8  |
| VK3 = 30     | 6       | 6  | 6  | 6  | 6  | 7  | 8  | 9  | 8  | 9  | 9  | 8  | 7  | 5  | 3  | 2  | 1  | 1  | 3  | 6  | 7  | 7  | 7  | 7  |
| KH6 = 31     | 3       | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | 1  | -  | -  | -  | 1* | -  | -  | -  | 1  |
| KH8 = 32     | 2       | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 2  | 2  | 1  | -  | 1* | 1* | -  | -  | 1  |
| CN = 33      | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | 1  | 4  | 6  | 9  | 9  | 9  | 9+ | 9+ |
| SU = 34      | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35      | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 3  | 5  | 9  | 9+ | 9  | 6  | 4  | 2  | 1  | 1  | 2  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36      | 9       | 9+ | 9  | 9  | 7  | 5  | 9  | 9  | 8  | 7  | 4  | 2  | 2  | 1  | 2  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |
| 5Z = 37      | 9       | 9  | 9  | 7  | 9  | 9  | 8  | 6  | 4  | 1  | 1  | -  | -  | -  | 1  | 1  | 2  | 5  | 8  | 8  | 9  | 9  | 9  | 9+ |
| ZS6 = 38     | 9       | 8  | 7  | 5  | 6  | 9  | 9  | 9  | 8  | 6  | 3  | 2  | 2  | 2  | 2  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| FR = 39      | 1       | -  | -  | 7  | 9  | 8  | 6  | 5  | 2  | 1  | 1  | 1  | 1  | 1  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 8  | 6  | 2  |
| FJL = 40     | 8       | 7  | 5  | 3  | 4  | 6  | 7  | 8  | 8  | 7  | 6  | 6  | 1  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 8  | 8  |
| Zone         | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|              | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| * = Longpath |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath

Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Sep., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 9  | 8  | 7  | 4  | 1  | 4* | 2* | 1* | -  | -  | -  | -  | -  | 1  | 2  | 4  | 8  | 6  | 7  | 8  | 8  |
| VO2 = 02 | 9+      | 9  | 8  | 8  | 8  | 7  | 8  | 7  | 4  | 8  | 9  | 9  | 8  | 7  | 4  | 4  | 4  | 5  | 9  | 8  | 9  | 9  | 9+ | 9+ |
| W6 = 03  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 7  | -  | 8  | 6  | 2  | 1  | 1  | 3  | 1  | 5  | 7  | 8  | 9  |
| W9 = 04  | 9       | 9+ | 9  | 8  | 7  | 6  | 5  | 8  | 6  | 5  | 6  | 7  | 9  | 8  | 4  | 2  | 2  | 3  | 7  | 6  | 8  | 9  | 9  | 9  |
| W3 = 05  | 9       | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | 5  | 7  | 9  | 9  | 8  | 3  | 2  | 2  | 4  | 6  | 7  | 8  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 3  | -  | 9  | 8  | 6  | 5  | 5  | 5  | 6  | 6  | 7  | 9  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | 2  | 1  | 9  | 9  | 8  | 7  | 6  | 6  | 7  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | 2  | 9+ | 9+ | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 1* | 1  | 1  | 9+ | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9       | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 3* | 1* | 1  | 9+ | 9+ | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  | 2* | -  | 4  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 3  | -  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9  | 8  | 7  | 6  | 5  | 3  | 2* | 1* | -  | -  | 1  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | 1  | 1  | 1  | 4  | 6  | 8  | 9  | 9  | 9+ | 9  | 9  |
| I = 15   | 9+      | 9  | 9  | 9  | 8  | 8  | 9  | 8  | 8  | 8  | 5  | 2  | 1  | -  | -  | 1  | 3  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | 8       | 7  | 6  | 4  | 2  | 7  | 9  | 5  | 5  | 7  | 5  | 6  | 8  | 1  | 1  | 1  | 2  | 5  | 8  | 8  | 9  | 9  | 9  | 8  |
| UN = 17  | 1       | 3  | 8  | 8  | 8  | 7  | 5  | 3  | 2  | 1  | 7  | 5  | 7  | 2* | 1* | 1  | 4  | 7  | 8  | 8  | 8  | 7  | 5  | 3  |
| UA9 = 18 | 2*      | 2* | 4  | 7  | 8  | 7  | 7  | 4  | 4  | 5  | 5  | 6* | 5  | 3* | 2* | 1* | 1  | 5  | 5  | 5  | 3  | 1  | 2* | 1* |
| UA0 = 19 | 8       | 8  | 8  | 7  | 7  | 7  | 9  | 8  | 5  | 7  | 9  | 8  | 7* | 5* | 4* | 3* | 4* | 5* | 6* | 6* | 5* | 8* | 8  | 8  |
| 4X = 20  | 9+      | 9  | 9  | 9  | 8  | 9  | 9  | 7  | 6  | 4  | 2  | 1  | 2  | 1* | 1  | 1  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HZ = 21  | 9+      | 9  | 9  | 8  | 9  | 8  | 7  | 4  | 5  | 2  | 1  | 1  | 9  | 1  | 1  | 1  | 4  | 6  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| VU = 22  | 6       | 8  | 9  | 8  | 7  | 6  | 4  | 1  | 1  | 1  | 1  | 5  | 7  | 2* | 1  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  | 2       | 7  | 8  | 7  | 7  | 5  | 6  | 5* | 4  | 3  | 6* | 7* | 7* | 5* | 4* | 2* | 2  | 3* | 5* | 2  | 1  | 4* | 2* | 1* |
| VR2 = 24 | 9       | 8  | 5  | 1  | 1* | 2* | 4* | 5* | 7* | 6  | 8* | 8* | 8* | 7* | 4* | 4  | 5  | 7  | 7  | 8  | 9  | 9  | 4  | 9  |
| JA1 = 25 | 7*      | 6  | 5  | 6  | 8  | 7  | 8  | 9  | 9  | 8  | 9  | 9  | 7  | 5  | 2* | 4* | 5* | 7* | 8* | 8* | 7  | 8* | 9* | 8* |
| HS = 26  | 9       | 8  | 5  | 2  | -  | -  | -  | 2* | 5* | 6  | 7* | 7* | 5* | 4  | 4  | 5  | 5  | 8  | 8  | 9  | 9  | 9  | 8  | 5  |
| DU = 27  | 8       | 6  | 3* | -  | -  | -  | 4* | 6* | 5  | 7  | 8* | 7  | 6  | 6* | 2  | 3  | 5  | 6  | 7  | 8  | 8  | 6* | 9  | 9  |
| YB = 28  | 9       | 8  | 4  | 1  | -  | -  | -  | 3* | 5  | 6  | 8* | 7  | 7  | 6  | 5  | 4  | 5  | 6  | 5  | 6  | 6  | 4  | 4* | 4  |
| VK6 = 29 | 8       | 8  | 4  | 1  | -  | -  | -  | 2  | 5  | 8  | 9  | 8  | 6  | 2  | -  | -  | 1  | 1  | 2  | 2  | 2  | 2  | 5  | 7  |
| VK3 = 30 | 8       | 8  | 7  | 5  | 4  | 5  | 6  | 8  | 4  | 5  | 9  | 7  | 5  | 2  | -  | -  | -  | 1* | 1* | 1* | 3* | 7  | 8  | 8  |
| KH6 = 31 | 7       | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 3  | 2  | 9  | 8  | 2  | -  | -  | 2  | 1  | 2  | 8  | 2* | 2* | 2  | 4  |
| KH8 = 32 | 5       | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | 4  | 9  | 9  | 7  | -  | -  | 4  | 4  | 5  | 6  | 7  | 2  | 3  | 4  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9  | 8  | 7  | 7  | 7  | 9  | 8  | 6  | 4  | 2  | 2  | 2  | 5  | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9  | 9  | 9  | 8  | 9  | 9  | 7  | 7  | 4  | 2  | 1  | 2  | 2  | 1  | 1  | 2  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 8  | 4  | 4* | 2* | 6  | 9+ | 9+ | 9  | 8  | 6  | 6  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 8  | 7  | 5  | 1  | 1* | 4  | 6  | 7  | 9  | 8  | 6  | 7  | 6  | 6  | 7  | 8  | 9  | 9+ | 9  | 9  | 9+ | 9+ | 9+ |
| 5Z = 37  | 9       | 8  | 5  | 1  | 6  | 8  | 7  | 6  | 8  | 5  | 2  | 2  | 5  | 2  | 2  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  |
| ZS6 = 38 | 2       | 1  | -  | -  | -  | 4  | 5  | 8  | 8  | 8  | 8  | 6  | 7  | 7  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 5  |
| FR = 39  | -       | 1* | -  | 1* | 3  | 1  | 1  | 4  | 6  | 5  | 4  | 4  | 8  | 4  | 5  | 6  | 8  | 8  | 8  | 5  | 2  | 2* | 1* | -  |
| FJL = 40 | 2*      | 2* | 1* | 1* | -  | -  | 1  | 2  | 5  | 7  | 7  | 6  | 5  | 3  | 1  | 1  | 2  | 5  | 6  | 8  | 7  | 7  | 5  | 2  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC --> \* = Longpath

Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Sep., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |     | 8  | 9  | 9  | 8  | 6  | 2  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 5  | 5  | 6  | 8  |
| VO2 = 02 |     | 8  | 5  | 1  | 2  | 1  | -  | 5  | 2  | -  | 4  | 3  | 9  | 8  | 7  | 7  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 9+ | 9  |
| W6 = 03  |     | 9  | 9  | 9+ | 9  | 6  | 5  | 5  | 4  | 6  | 2  | 6  | 4  | -  | 4  | 7  | 6  | 6  | 5  | 5  | 5  | 6  | 8  | 9  | 9  |
| W9 = 04  |     | 9  | 9  | 5  | 1  | -  | -  | -  | 5  | 1  | 1  | 1  | -  | 9  | 8  | 6  | 7  | 7  | 7  | 8  | 7  | 8  | 9  | 9  | 9  |
| W3 = 05  |     | 9  | 9  | 8  | 8  | 8  | 7  | 6  | 8  | -  | -  | 4  | 7  | 9  | 8  | 6  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| XE1 = 06 |     | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | 1  | 8  | 8  | 7  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  |     | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9  | 9  |
| VP2 = 08 |     | 8  | 8  | 8  | 9  | 9  | 9  | 6  | -  | -  | -  | -  | 9+ | 9+ | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9  | 8  |
| P4 = 09  |     | 7  | 7  | 8  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 8  | 8  |
| HC = 10  |     | 5  | 5  | 7  | 8  | 8  | 7  | 6  | 1  | 1* | -  | -  | 2  | 9+ | 9  | 9  | 8  | 6  | 5  | 5  | 6  | 6  | 6  | 5  | 7  |
| PY1 = 11 |     | 9+ | 9+ | 9  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |     | 7  | 5  | 2  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 8  |
| G = 14   |     | 1  | 1  | 1  | 1  | 6  | 4  | 6  | 4  | 4  | 8  | 8  | 8  | 6  | 6  | 8  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 8  | 5  |
| I = 15   |     | 9  | 8  | 7  | 2  | 5  | 5  | 8  | 5  | 5  | 8  | 8  | 5  | 5  | 6  | 5  | 5  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 |     | 4  | 2  | 1  | 1* | 1* | 2  | 8  | 2  | 2  | 8  | 6  | 5  | 4  | 2  | 4  | 5  | 6  | 6  | 8  | 8  | 8  | 6  | 7  | 6  |
| UN = 17  |     | 2* | 1* | 7  | 8  | 8  | 7  | 6  | 1  | 2  | 5  | 4  | 3* | 5* | 3* | 2  | 5  | 6  | 6  | 5  | 4  | 2  | 1  | -  | -  |
| UA9 = 18 |     | 1* | 2* | 1* | 4  | 7  | 7  | 7  | 1  | 1  | 7  | 6  | 7* | 5* | 4* | 2  | 2  | 4  | 1  | -  | 1  | -  | -  | 1* | 4* |
| UA0 = 19 |     | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 1  | 4* | 8* | 9* | 7* | 6* | 5* | 4* | 4* | 5* | 5* | -  | -  | 6* | 8* | 7  |
| 4X = 20  |     | 9  | 9  | 9  | 7  | 7  | 9  | 8  | 2  | 5  | 7  | 5  | 5  | 5  | 2  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  |     | 9  | 9  | 7  | 6  | 9  | 7  | 2  | 1* | 3  | 5  | 5  | 5  | 3  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  |     | 1* | 6  | 9  | 8  | 5  | 4  | 1  | 1* | 3  | 4  | 2  | 2  | 5* | 4* | 2  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 5  |
| JT = 23  |     | 1* | 3  | 8  | 7  | 6  | 6  | 6  | 1  | 2  | 7  | 6  | 7* | 7* | 5* | 5* | 4* | 3* | 2* | 2* | -  | -  | 1* | 4* | 2* |
| VR2 = 24 |     | 8  | 6  | 6* | 5* | 4* | 4* | 6* | 6* | 4* | 5  | 5  | 8* | 8* | 6* | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 5  | 4* | 6  |
| JA1 = 25 |     | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 7  | 4* | 6* | 7* | 7* | 6* | 5* | 5* | 6* | 7* | 8* | 6* | 6  | 6  | 9* | 8* |
| HS = 26  |     | 7  | 5  | 4* | 3* | 1* | 1* | 2* | 4* | 2  | 5  | 5  | 7* | 6  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 5  | 3* |
| DU = 27  |     | 6* | 5* | 5* | 4* | 3* | 4* | 5* | 4* | 1  | 6  | 8  | 8  | 7  | 6  | 6  | 5  | 5  | 7  | 7  | 7  | 5  | 5* | 7* | 8  |
| YB = 28  |     | 7  | 5* | 5* | 3* | 2* | 1* | 2* | 2* | 1  | 7  | 8  | 8  | 7  | 6  | 5  | 4  | 4  | 3  | 3* | 3* | 1  | -  | 2* | 7* |
| VK6 = 29 |     | 6  | 2* | 1* | 1* | 1* | 1* | 1* | 1* | -  | 4  | 9  | 7  | 2  | 3* | 1* | 1* | 1* | 1* | 1* | 1* | -  | 1  | 5* | 4  |
| VK3 = 30 |     | 5  | 5  | 4  | 1  | 1  | 2* | 2* | 1  | -  | 3* | 7  | 4  | 1  | 2* | 1* | -  | -  | 1* | 1* | -  | 2* | 5  | 7  | 8  |
| KH6 = 31 |     | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 3* | 3* | 8  | 8  | -  | -  | -  | 6  | 5  | 3  | 5* | 6  | 5  | 5  | 6  |
| KH8 = 32 |     | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 2* | 2* | 4  | 8  | 1  | 1* | 1* | -  | 5  | 5  | 5  | 5  | 5  | 5  | 7  |
| CN = 33  |     | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 2  | 3  | 8  | 9  | 8  | 6  | 4  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9  | 9+ |
| SU = 34  |     | 9  | 9  | 9  | 8  | 7  | 9  | 8  | 2  | 5  | 8  | 6  | 5  | 5  | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  |     | 9  | 9  | 9  | 6  | -  | -  | 1* | 1* | -  | 9+ | 9+ | 9  | 8  | 7  | 6  | 7  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9  |
| D2 = 36  |     | 8  | 5  | 3  | 1  | 2* | 1* | 2* | 1  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  |
| 5Z = 37  |     | 7  | 4  | -  | 2* | 2* | 2* | 1  | 1  | 6  | 7  | 6  | 5  | 7  | 5  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| ZS6 = 38 |     | -  | -  | -  | -  | 2* | 1* | 1* | 2  | 8  | 8  | 8  | 8  | 9  | 8  | 7  | 7  | 9  | 9  | 9  | 8  | 6  | 4  | 1  | -  |
| FR = 39  |     | -  | -  | 1* | 2* | 2* | 1* | -  | -  | 5  | 7  | 7  | 7  | 6  | 6  | 7  | 8  | 8  | 7  | 2  | 3* | 3* | 2* | -  | -  |
| FJL = 40 |     | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 7* | 4* | 1  | 2  | 1  | 1  | 1  | 2  | 1  | -  | 1  | -  |
| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Sep., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |     | 6  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2* | 3* | 1  |
| VO2 = 02 |     | 4  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 6  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  |
| W6 = 03  |     | 9  | 9  | 9  | 6  | -  | -  | -  | -  | 1  | -  | 2  | -  | -  | -  | 7  | 8  | 8  | 7  | 7  | 8  | 7  | 8  | 8  | 9  |
| W9 = 04  |     | 8  | 5  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 5  | 8  | 7  | 7  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 8  |
| W3 = 05  |     | 8  | 7  | 4  | 1  | 1  | -  | -  | 4  | -  | -  | 1  | -  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| XE1 = 06 |     | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 1  | -  | -  | -  | -  | 9  | 8  | 8  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 9  |
| TI = 07  |     | 6  | 6  | 7  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | 4  | 9  | 9  | 5  | 4  | 9  | 8  | 9  | 8  | 7  | 8  | 7  |
| VP2 = 08 |     | 3  | 3  | 4  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | 7  | 9+ | 9  | 9  | 8  | 6  | 6  | 9  | 9  | 8  | 6  | 7  | 5  |
| P4 = 09  |     | 2  | 2  | 2  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | 9  | 9  | 5  | 5  | 4  | 3  | 5  | 6  | 5  | 4* | 6  | 4  |
| HC = 10  |     | 9  | 9  | 2  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | 5  | 7  | 4  | 1  | -  | 9  | 9  | -  | 1* | 9+ | 9+ | 9+ |
| PY1 = 11 |     | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ | 9  | 9  |
| CE = 12  |     | 9+ | 9+ | 9  | 9  | 8  | 8  | 5  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |     | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 1  | 2  | 2* | 4* | 5  | 5* |
| G = 14   |     | -  | -  | -  | -  | 1  | -  | 1  | -  | -  | 4  | 9  | 8  | 7  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 8  | 2  | 1  |
| I = 15   |     | 2  | 2  | 1  | -  | 1  | 1  | 5  | -  | 1  | 7  | 8  | 8  | 6  | 5  | 5  | 4  | 6  | 8  | 8  | 9  | 9  | 9  | 7  | 6  |
| UA3 = 16 |     | -  | -  | -  | -  | -  | -  | 4  | -  | -  | 5  | 7  | 6  | 5  | 4  | 2  | 4  | 5  | 6  | 7  | 4  | 5  | 2  | 2  | 1  |
| UN = 17  |     | 3* | 4* | 4  | 8  | 8  | 7  | 3  | -  | 1  | 4  | 5  | 5  | 6* | 4  | 4  | 5  | 4  | 1  | 1  | -  | -  | -  | -  | -  |
| UA9 = 18 |     | 2* | -  | -  | -  | 4  | 7  | 5  | -  | -  | 3  | 6  | 5  | 6* | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4* |
| UA0 = 19 |     | 2  | 3  | 4  | 5  | 5  | 7  | 6  | 1  | -  | -  | 5* | 8* | 7* | 6* | 4* | 4* | 3* | 3* | 2* | -  | -  | -  | 6* | 1  |
| 4X = 20  |     | 9  | 9  | 4  | 4* | 3  | 8  | 4  | -  | 1  | 5  | 5  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  |     | 9  | 5  | 4* | 3* | 7  | 2  | 2* | -  | -  | 5  | 6  | 5  | 5  | 5  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  |     | 3* | 4* | 7  | 3  | 2* | 3* | 2* | 1* | 1  | 5  | 4  | 4  | 5  | 5  | 5  | 5  | 7  | 7  | 7  | 8  | 8  | 8  | 5  | -  |
| JT = 23  |     | 1* | -  | 3  | 7  | 7  | 8  | 4  | -  | -  | 5  | 6  | 5  | 7* | 4* | 2* | 1* | 1* | -  | -  | -  | -  | -  | 5* | 5* |
| VR2 = 24 |     | 7* | 7* | 7* | 6* | 5* | 4* | 6* | 5* | 1  | 6  | 7  | 8* | 8* | 7  | 6  | 7  | 7  | 8  | 8  | 8  | 8  | -  | 6* | 6* |
| JA1 = 25 |     | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 2  | 5* | 7* | 8* | 8* | 7* | 6* | 6* | 6* | 7* | 6* | 1* | 3  | 7  | 8  | 8  |
| HS = 26  |     | 6* | 7* | 6* | 6* | 3* | 2* | 4* | 2* | -  | 5  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 8  | 6  | -  | 5* |
| DU = 27  |     | 5* | 4* | 4* | 4* | 4* | 4* | 3* | 1* | -  | 1  | 8  | 8  | 8  | 8  | 6  | 6  | 7  | 7  | 7  | 5  | 1  | 1* | 8* | 6* |
| YB = 28  |     | 5* | 5* | 5* | 4* | 3* | 3* | 2* | 1* | -  | 2  | 7  | 8  | 8* | 6* | 5* | 4* | 4* | 4* | 4* | 2* | -  | -  | -  | 6* |
| VK6 = 29 |     | 3* | 2* | 2* | 2* | 1* | 1* | -  | -  | -  | -  | 5  | 7* | 5* | 4* | 2* | 2* | 1* | 1* | -  | -  | -  | -  | 2* | 5* |
| VK3 = 30 |     | 1* | 1* | 1* | 1* | 2* | 1* | -  | -  | -  | 1* | 6* | 2* | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | 4* | 6* | 5  |
| KH6 = 31 |     | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | -  | 4* | 2* | 1  | 7  | -  | -  | -  | 1  | 3  | 6  | 6  | 6  | 6  | 5  | 6  |
| KH8 = 32 |     | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | -  | 3* | 4* | 3* | 2* | 1* | 1* | -  | -  | 5  | 6  | 6  | 6  | 6  | 6  | 8  |
| CN = 33  |     | 9  | 9  | 8  | 5  | 5  | 1  | -  | -  | -  | 1  | 9  | 8  | 8  | 6  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  |     | 9  | 9  | 7  | 4  | 2  | 8  | 4  | -  | -  | 8  | 7  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  |     | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | 2  | 9+ | 9  | 9  | 5  | 5  | 5  | 9  | 9  | 9  | 9+ | 9+ | 9  | 6  | 4  |
| D2 = 36  |     | 4  | 1  | -  | -  | -  | 5* | 2* | 1* | 2  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 9+ | 9  | 9  | 9  | 8  | 7  |
| 5Z = 37  |     | 1  | -  | -  | 4* | 5* | 5* | 4* | 1* | 3  | 8  | 8  | 7  | 7  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 7  |
| ZS6 = 38 |     | -  | -  | -  | -  | 2* | 2* | 2* | 1* | 4  | 4  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 9  | 8  | 5  | 1* | -  | -  | -  |
| FR = 39  |     | -  | -  | 4* | 4* | 2* | 1* | 1* | -  | 2  | 7  | 8  | 9  | 8  | 8  | 8  | 8  | 7  | 2* | 3* | 3* | 1* | -  | -  | -  |
| FJL = 40 |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Sep., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 4   | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  |
| VO2 = 02 | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 4  | 3  | 4  | 4  | 6  | 7  | 8  | 8  | 7  | 4  |
| W6 = 03  | 8   | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 8  |
| W9 = 04  | 5   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 8  | 6  |
| W3 = 05  | 7   | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 8  |
| XE1 = 06 | 8   | 8  | 8  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  |
| TI = 07  | 2   | 1  | 2  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1* | 1* | -  | 1  | 1  | 1  | 1  | 1  | 5  | 3  |
| VP2 = 08 | -   | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 4  | 4  | 1  | -  | 1* | 2  | 3* | 3* | 1* | 2  | 1  |
| P4 = 09  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | 2* | 2* | 4* | 1* | 1  | -  |
| HC = 10  | 9   | 8  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| PY1 = 11 | 2   | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | 1  | 2  | 1  | 2  | 4* | 5* | 8  | 6  | 4  |
| CE = 12  | 8   | 7  | 5  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| LU = 13  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | 1* | 1* | 3* | 5* | 5* | 2* |
| G = 14   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 7  | 7  | 6  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 3  | -  | -  |
| I = 15   | -   | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 8  | 8  | 8  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 8  | 6  | 3  | 1  |
| UA3 = 16 | -   | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 2  | 1  | 3* | 2* | 1  | -  | 1  | 2  | 1  | -  | 1  | -  | -  | -  |
| UN = 17  | -   | 2* | 1  | 6  | 8  | 6  | 1  | -  | -  | -  | -  | 6  | 5  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -   | -  | -  | -  | -  | 3  | 1  | -  | -  | -  | -  | 4  | 3  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -   | -  | -  | 1  | 1  | 5  | 2  | -  | -  | -  | -  | -  | 7* | 6* | 2* | 1* | 1* | 2* | 2* | 1* | -  | -  | -  | 1* | -  |
| 4X = 20  | 9   | 6  | -  | 1* | -  | 6  | -  | -  | -  | 1  | 7  | 7  | 7  | 5  | 5  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 6   | -  | 2* | 3* | 5  | 2* | 1* | -  | -  | 2  | 6  | 7  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| VU = 22  | -   | 5* | 6* | 5* | 4* | 2* | 1* | -  | -  | 3  | 5  | 5  | 5  | 6* | 6  | 8  | 8  | 8  | 5  | 4  | 5  | 5  | 2  | -  | -  |
| JT = 23  | -   | -  | -  | 2  | 5  | 6  | 2  | -  | -  | -  | 4  | 2  | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* |
| VR2 = 24 | 8*  | 8* | 7* | 7* | 6* | 6* | 6* | 1* | -  | 2  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 7  | 3  | -  | 6* | 7* |
| JA1 = 25 | 8   | 7  | 7  | 8  | 8  | 8  | 8  | 5  | -  | -  | 7* | 8* | 8* | 6* | 5* | 5* | 5* | 5* | 5* | 2* | -  | -  | 5  | 7  | 8  |
| HS = 26  | 6*  | 7* | 7* | 6* | 5* | 4* | 4* | -  | -  | 1  | 7  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 6  | 1  | -  | 2* |
| DU = 27  | 5*  | 3* | 2* | 2* | 2* | 2* | 1* | -  | -  | -  | 3  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | 6* | 6* |
| YB = 28  | 4*  | 3* | 4* | 2* | 1* | 1* | 1* | -  | -  | -  | 2  | 8  | 8* | 6* | 5* | 5* | 4* | 4* | 2* | -  | -  | -  | -  | -  | 3* |
| VK6 = 29 | 1*  | 1* | 1* | 1* | 1* | 1* | -  | -  | -  | -  | -  | 7* | 6* | 5* | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 4* |
| VK3 = 30 | 1*  | 2* | 2* | 1* | 1* | 1* | -  | -  | -  | -  | 5* | 3* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 2* | 5* | 4* |
| KH6 = 31 | 8   | 8  | 9  | 9  | 9  | 9  | 8  | 3  | -  | 1* | -  | -  | 4  | -  | -  | -  | -  | -  | 6  | 7  | 8  | 8  | 7  | 7  | 7  |
| KH8 = 32 | 7   | 7  | 6  | 5  | 3  | 2  | 2  | -  | -  | 1* | 5* | 4* | 3* | 1* | -  | -  | -  | -  | -  | 7  | 7  | 7  | 8  | 8  | 8  |
| CN = 33  | 9   | 5  | 3  | -  | 1  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9   | 8  | 1  | 1  | 1* | 5  | -  | -  | -  | 5  | 8  | 7  | 6  | 5  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 6  | -  | -  | -  | -  | 1* | 4  | 6  | 6  | 6  | 6  | 4  | 1  | -  |
| D2 = 36  | 1   | -  | -  | -  | -  | 5* | 2* | -  | -  | 4  | 7  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 4  |
| 5Z = 37  | -   | -  | -  | 1* | 5* | 5* | 4* | -  | -  | 5  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2  |
| ZS6 = 38 | -   | -  | -  | -  | 1* | 5* | 3* | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 1  | -  | -  | -  | -  | -  |
| FR = 39  | -   | -  | 1* | 5* | 4* | 2* | 1* | -  | -  | 2  | 8  | 8  | 8  | 8  | 7  | 5  | 2* | 3* | 3* | 1* | -  | -  | -  | -  | -  |
| FJL = 40 | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00  | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |

Zone UTC --> \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Oct., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4       | 5  | 5  | 5  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 1  | 3  | 4  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 1       | 3  | 4  | 5  | 5  | 5  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 2       | 5  | 5  | 5  | 5  | 4  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 1  | 4  | 3  | 5  | 4  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2       | 3  | 3  | 3  | 3  | 4  | 4  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3       | 4  | 4  | 3  | 3  | 4  | 3  | 3  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 3       | 4  | 4  | 4  | 3  | 4  | 3  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 5       | 5  | 6  | 5  | 4  | 5  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 2       | 3  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | 3       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 4       | 5  | 5  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| SU = 34  | 2       | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 6W = 35  | 5       | 4  | 4  | 4  | 4  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| D2 = 36  | 6       | 6  | 6  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | -  |
| 5Z = 37  | 4       | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| ZS6 = 38 | 5       | 6  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | -  |
| FR = 39  | 5       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Oct., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 1  | 2  | 4  | 5  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 = 03  | -       | -  | 2  | 4  | 6  | 7  | 7  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 4       | 6  | 7  | 8  | 8  | 8  | 7  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 5       | 8  | 8  | 8  | 8  | 7  | 8  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | 1       | 2  | 4  | 7  | 6  | 8  | 7  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5       | 6  | 6  | 6  | 6  | 7  | 7  | 6  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VP2 = 08 | 6       | 7  | 7  | 6  | 6  | 7  | 6  | 6  | 4  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |    |
| P4 = 09  | 6       | 7  | 7  | 7  | 6  | 7  | 6  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| HC = 10  | 8       | 8  | 9  | 8  | 7  | 8  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | -  | -  | -  | 2  | 8  | 9  | 9  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | -  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |    |
| I = 15   | 5       | 6  | 6  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |    |
| UA3 = 16 | 6       | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |    |
| UN = 17  | 4       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  |
| UA9 = 18 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 5       | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |    |
| HZ = 21  | 5       | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| VU = 22  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JAl = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 1  | 1  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 7       | 8  | 8  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |    |
| SU = 34  | 5       | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| 6W = 35  | 8       | 7  | 7  | 7  | 7  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |    |
| D2 = 36  | 9       | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  |    |
| 5Z = 37  | 7       | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |    |
| ZS6 = 38 | 8       | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |    |
| FR = 39  | 8       | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  |    |
| FJL = 40 | 1       | 2  | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Oct., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone                 | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------------------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|                      | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01             | 1       | 2  | 4  | 7  | 5  | 6  | 6  | 5  | 5  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02             | 8       | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  |
| W6 = 03              | 2       | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04              | 7       | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| W3 = 05              | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  |
| XE1 = 06             | 7       | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| TI = 07              | 8       | 9  | 9  | 8  | 8  | 9  | 7  | 7  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  |
| VP2 = 08             | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  |
| P4 = 09              | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  |
| HC = 10              | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| PY1 = 11             | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 2  | 2  | 2  | 5  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12              | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | -  | -  | -  | 2  | 6  | 9  | 9  | 9+ | 9+ |
| LU = 13              | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 5  | 5  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14               | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  |
| I = 15               | 8       | 8  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 6  | 7  |
| UA3 = 16             | 7       | 7  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  |
| UN = 17              | 7       | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 7  |
| UA9 = 18             | 5       | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 5  |
| UA0 = 19             | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20              | 6       | 7  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 7  |
| HZ = 21              | 7       | 6  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 6  |
| VU = 22              | 6       | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  |
| JT = 23              | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 4  |
| VR2 = 24             | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 2  |
| JA1 = 25             | -       | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  |
| HS = 26              | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |
| DU = 27              | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| YB = 28              | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 4  |
| VK6 = 29             | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  |
| VK3 = 30             | -       | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31             | -       | -  | -  | 1  | 5  | 6  | 6  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32             | -       | -  | -  | -  | 2  | 5  | 7  | 7  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33              | 8       | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 7  | 8  |
| SU = 34              | 7       | 7  | 7  | 7  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 7  |
| 6W = 35              | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9  |
| D2 = 36              | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 9  | 9  |
| 5Z = 37              | 8       | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  |
| ZS6 = 38             | 9       | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 9  | 9  |
| FR = 39              | 9       | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| FJL = 40             | 6       | 7  | 7  | 7  | 7  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| Zone                 | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> * = Longpath |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 30 Meters: Oct., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2       | 6  | 6  | 7  | 7  | 7  | 8  | 7  | 7  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 8  |
| W6 = 03  | 6       | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| W9 = 04  | 8       | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 6  |
| W3 = 05  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  |
| XE1 = 06 | 8       | 8  | 9  | 8  | 9  | 8  | 9  | 8  | 8  | 7  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 9  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 7  | 5  | 5  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| I = 15   | 8       | 7  | 7  | 7  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| UA3 = 16 | 7       | 7  | 7  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  |
| UN = 17  | 8       | 7  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  |
| UA9 = 18 | 6       | 6  | 5  | 3  | 1  | 1  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  |
| UA0 = 19 | 1       | -  | -  | -  | -  | 1  | 1  | 4  | 2  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 4  | 1  |
| 4X = 20  | 8       | 8  | 8  | 7  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  |
| HZ = 21  | 8       | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| VU = 22  | 6       | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  |
| JT = 23  | 5       | 5  | 1  | 1  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  |
| VR2 = 24 | 3       | 1  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | 2  | 6  | 6  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1* | 4* | 5* | 5* | 1* |
| HS = 26  | 6       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 4  | 2  |
| YB = 28  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 6  |
| VK6 = 29 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  | 5  | 5  |
| VK3 = 30 | -       | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | 1  | -  |
| KH6 = 31 | -       | 1  | 3  | 5  | 7  | 8  | 7  | 8  | 8  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | 1  | 3  | 5  | 7  | 8  | 8  | 8  | 8  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 7  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 9       | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 8  | 8  |
| ZS6 = 38 | 9       | 8  | 9  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 8  | 9  |
| FR = 39  | 8       | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 8  | 9  |
| FJL = 40 | 7       | 8  | 7  | 7  | 6  | 6  | 6  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 6 dBi isotropic antennas.



## 20 Meters: Oct., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |  |
| KL7 = 01 | 8       | 9  | 9  | 8  | 9  | 8  | 6  | 4  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 3  | 2  | 6  | 8  |    |  |
| VO2 = 02 | 9       | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  | 8  | 8  | 9  | 8  | 5  | 1  | -  | -  | -  | 1  | 2  | 6  | 7  | 8  | 9  | 9  |  |
| W6 = 03  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | 2  | 2  | 6  | 8  |    |  |
| W9 = 04  | 9       | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 7  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | 1  | 6  | 6  | 8  | 9  |    |  |
| W3 = 05  | 9+      | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 6  | 2  | 1  | -  | -  | 1  | 1  | 3  | 6  | 8  | 9  | 9  |    |  |
| XE1 = 06 | 9       | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 6  | 1  | 8  | 5  | 3  | 1  | 1  | 1  | -  | 1  | 5  | 6  | 8  | 9  |    |  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 8  | 9  | 8  | 6  | 3  | 2  | 1  | 1  | 2  | 5  | 7  | 9  | 9  | 9+ |    |  |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 7  | 9+ | 9  | 8  | 4  | 2  | 1  | 1  | 2  | 5  | 7  | 9  | 9  | 9+ | 9+ |    |  |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9+ | 9  | 8  | 6  | 2  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9+ |    |  |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9+ | 9  | 8  | 8  | 5  | 1  | 1  | 2  | 3  | 6  | 7  | 9  | 9  | 9  | 9+ |  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |  |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |  |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |  |
| G = 14   | 9       | 9  | 9  | 9+ | 9  | 8  | 8  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9  |    |  |
| I = 15   | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | 2  | 4  | 8  | 8  | 9  | 9  | 9  |    |  |
| UA3 = 16 | 9       | 9  | 9  | 8  | 7  | 8  | 8  | 8  | 4  | 2  | 2  | 1* | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 9  | 9  |    |  |
| UN = 17  | 9       | 8  | 8  | 8  | 7  | 5  | 3  | 1  | 1* | 1* | 2* | 2* | 2* | 1* | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 9  | 9  |    |  |
| UA9 = 18 | 1       | 2  | 7  | 8  | 8  | 5  | 4  | 2  | 3* | 4  | 5  | 4* | 2* | 1* | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 7  | 4  |    |  |
| UA0 = 19 | 6       | 5  | 2  | 2  | 3  | 7  | 6  | 7  | 5  | 8  | 7  | 7  | 4  | -  | -  | -  | -  | -  | 3* | 6* | 6* | 7  | 6  | 6  |    |  |
| 4X = 20  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  | 9  |    |  |
| HZ = 21  | 9       | 9  | 9  | 9  | 9  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |    |  |
| VU = 22  | 8       | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | 1* | 2* | 2* | -  | 1* | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 9  | 9  |    |  |
| JT = 23  | 8       | 8  | 8  | 5  | 1  | 3  | 2  | 2  | 5* | 6* | 5  | 5* | 4* | 1* | -  | -  | -  | 1  | 4  | 6  | 7  | 6  | 8  | 5  |    |  |
| VR2 = 24 | 8       | 8  | 5  | 1  | -  | -  | 1* | 2* | 5* | 7  | 7  | 5* | 4* | 1* | -  | -  | -  | 1  | 4  | 8  | 8  | 8  | 9  | 8  |    |  |
| JA1 = 25 | 5*      | 2* | 1  | 2  | 4  | 5  | 7  | 8  | 8  | 9  | 9  | 8  | 6  | 3  | -  | -  | -  | 1* | 5* | 7* | 8* | 8* | 8* | 8* |    |  |
| HS = 26  | 9       | 9  | 7  | 5  | -  | -  | -  | -  | 1* | 4* | 8  | 4* | 1* | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9  |    |  |
| DU = 27  | 7       | 4  | -  | -  | -  | -  | -  | 2* | 8  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 8  | 7  |    |  |
| YB = 28  | 9       | 8  | 5  | 1  | -  | -  | -  | -  | 2* | 3* | 7  | 4* | 2* | 1  | 1  | -  | 1  | 3  | 6  | 8  | 8  | 8  | 8  | 9  |    |  |
| VK6 = 29 | 8       | 7  | 5  | 4  | 2  | 2  | 4  | 7  | 6  | 6  | 7  | 5  | 3  | 1  | 1  | 1  | 1  | 2  | 4  | 5  | 6  | 7  | 8  | 8  |    |  |
| VK3 = 30 | 5       | 4  | 4  | 4  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | 2  | 1  | 1  | 2  | 5  | 6  | 6  | 7  | 6  |    |  |
| KH6 = 31 | 3       | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  |    |  |
| KH8 = 32 | 1       | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 2  | 1  | 1  | -  | 1* | -  | -  | -  | -  |    |  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9  | 8  | 8  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | 1  | 3  | 6  | 9  | 9  | 9  | 9+ | 9+ |    |  |
| SU = 34  | 9       | 9  | 9  | 9  | 8  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  | 9  |    |  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9  | 9  | 9  | 9  | 7  | 3  | 2  | 1  | 1  | 2  | 4  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |    |  |
| D2 = 36  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | 1  | 1  | 1  | 2  | 5  | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ |    |  |
| 5Z = 37  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | 1  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ |    |  |
| ZS6 = 38 | 9       | 9  | 8  | 7  | 8  | 9  | 9  | 9  | 8  | 5  | 3  | 2  | 2  | 2  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |  |
| FR = 39  | 8       | 7  | 7  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | 1  | 1  | 2  | 1  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |    |  |
| FJL = 40 | 9       | 8  | 6  | 3  | 1  | 2* | 4  | 7  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 9  | 9  |    |  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |  |
|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    | </ |    |    |    |    |    |    |    |    |    |    |    |    |  |

\* = Longpath

Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Oct., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 9  | 7  | 3  | 2* | 3* | 2* | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  | 6  | 5  | 7  | 8  | 9  |    |
| VO2 = 02 | 9       | 7  | 4  | 8  | 9  | 8  | 9  | 7  | 4  | 6  | 9  | 9  | 8  | 5  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| W6 = 03  | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 8  | 5  | -  | 8  | 5  | 2  | 2  | 1  | 1  | 2  | 5  | 7  | 8  | 9  |
| W9 = 04  | 9+      | 9  | 8  | 5  | 5  | 6  | 5  | 8  | 6  | 2  | 3  | 6  | 9  | 7  | 5  | 2  | 1  | 2  | 5  | 6  | 8  | 9  | 9  | 9+ |
| W3 = 05  | 9+      | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 7  | 5  | 6  | 9  | 9  | 7  | 4  | 4  | 4  | 4  | 6  | 7  | 9  | 9  | 9+ | 9+ |
| XE1 = 06 | 9+      | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 6  | 1* | -  | 8  | 9  | 6  | 4  | 5  | 4  | 4  | 5  | 7  | 9  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 1  | 3  | 9+ | 9  | 9  | 8  | 6  | 5  | 7  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | 1  | 9+ | 9+ | 9  | 8  | 8  | 5  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 1  | 9+ | 9+ | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 1  | 7  | 9+ | 9  | 9  | 9  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 4  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 4* | 3* | 2* | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 6       | 5  | 8  | 8  | 8  | 4  | 6  | 9  | 9  | 9  | 8  | 6  | 9  | 1  | 2  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| I = 15   | 9       | 9  | 9  | 9  | 8  | 6  | 9  | 9  | 7  | 8  | 6  | 3  | 4  | 1  | 1  | 1  | 2  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | 8       | 7  | 6  | 5  | 1  | 6  | 9  | 8  | 7  | 6  | 4  | 5  | 8  | 1  | 1  | 1  | 3  | 6  | 8  | 8  | 8  | 7  | 8  | 8  |
| UN = 17  | 1       | 3  | 9  | 9  | 8  | 8  | 6  | 4  | 3  | 3  | 5* | 5  | 8  | 5* | 1* | 1  | 2  | 5  | 4  | 3  | 4  | 5  | 5  | 3  |
| UA9 = 18 | 1*      | 2* | 2* | 7  | 8  | 8  | 8  | 5  | 5  | 6* | 7* | 5* | 7  | 4* | 1* | -  | 1  | 2  | 2  | 4  | 4  | 2  | 2* | 1* |
| UA0 = 19 | 8       | 8  | 7  | 6  | 6  | 7  | 8  | 6  | 9  | 9  | 8  | 8* | 6* | 5* | 4* | 2* | 3* | 5* | 5* | 4* | 1* | 7* | 9  | 8  |
| 4X = 20  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | 1  | 2  | 1* | 1  | 1  | 2  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HZ = 21  | 9+      | 9  | 9  | 8  | 9  | 9  | 8  | 7  | 4  | 2  | 1  | 2  | 9  | 1  | 1  | 2  | 5  | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| VU = 22  | 1       | 5  | 9  | 8  | 8  | 8  | 5  | 4  | 3* | 2* | 6  | 5  | 8  | 2* | 1* | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  | 1       | 7  | 8  | 7  | 7  | 6  | 5  | 5* | 7* | 8* | 8* | 7* | 7  | 6* | 3* | 1* | 1* | 1* | 3* | 1  | 1  | -  | 3* | 1* |
| VR2 = 24 | 9       | 9  | 8  | 6  | 2  | 2* | 3* | 5* | 8* | 8* | 9* | 7* | 6* | 7* | 2  | 1  | 2  | 6  | 7  | 8  | 9  | 9  | 7  | 9  |
| JA1 = 25 | 8*      | 7* | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 5  | 5* | 5* | 2* | 2* | 3* | 7* | 8* | 8* | 5  | 5  | 9* | 9* |
| HS = 26  | 9       | 9  | 9  | 8  | 5  | 2  | 1  | 3* | 5* | 6  | 7* | 6  | 6  | 5  | 3  | 4  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| DU = 27  | 8       | 7  | 6  | 2  | 1  | 1  | 2  | 4  | 7* | 7* | 7* | 7  | 6  | 5  | 3  | 2  | 3  | 6  | 7  | 8  | 9  | 9  | 9  | 9  |
| YB = 28  | 9       | 9  | 8  | 5  | 3  | 2  | 2  | 3  | 5  | 6* | 6  | 6  | 6  | 6  | 4  | 4  | 5  | 6  | 7  | 8  | 8  | 7  | 7  | 9  |
| VK6 = 29 | 8       | 9  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | 2  | 2  | 2* | 4* | 4* | 5  | 7  | 8  |
| VK3 = 30 | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | 1  | -  | -  | 2* | 3  | 7  | 8  | 8  | 8  |
| KH6 = 31 | 7       | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | -  | -  | -  | 2  | 1  | 2* | 8  | 2* | 1* | 2  | 4  |
| KH8 = 32 | 5       | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 4  | 3  | 2  | 8  | 8  | 2* | 2  | 3  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9  | 5  | 4* | 9  | 9  | 9  | 9  | 7  | 5  | 2  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | 1  | 2  | 1* | 1  | 1  | 2  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 8  | 2* | 3  | 9  | 9+ | 9+ | 9  | 8  | 6  | 5  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 9  | 8  | 5  | 5  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 5  | 6  | 7  | 8  | 9  | 9+ | 9  | 9  | 9+ | 9+ | 9+ |
| 5Z = 37  | 9       | 9  | 9  | 8  | 9  | 9  | 9  | 8  | 7  | 5  | 3  | 2  | 2  | 2  | 2  | 4  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| ZS6 = 38 | 7       | 4  | 1* | 1* | 2  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  |
| FR = 39  | 1       | 2* | 2* | 7  | 9  | 9  | 8  | 8  | 6  | 5  | 4  | 4  | 9  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 7  | 5  | 2  |
| FJL = 40 | 2       | 3* | 3* | 1* | 1* | 1* | 2* | 3* | 5  | 7  | 8  | 7  | 5  | 1  | -  | 1  | 2  | 4  | 8  | 8  | 8  | 7  | 5  | 3  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Oct., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |  |
| KL7 = 01 | 9       | 9  | 9  | 8  | 2  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 7  | 8  | 8  | 9  |  |  |
| VO2 = 02 | 5       | 1  | -  | 1  | 3  | 4  | 7  | 3  | 1  | 2  | -  | 9  | 9  | 7  | 7  | 6  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9  |  |  |
| W6 = 03  | 9       | 9+ | 9  | 9  | 5  | 2  | 1  | 3  | 8  | 8  | 5  | 2  | -  | 3  | 8  | 5  | 4  | 5  | 5  | 5  | 7  | 8  | 9  | 9  |  |  |
| W9 = 04  | 9+      | 8  | 3  | -  | -  | -  | -  | 5  | 2  | -  | -  | -  | 9  | 8  | 7  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ |  |  |
| W3 = 05  | 9       | 9  | 7  | 6  | 7  | 2  | 1  | 7  | 2  | 1  | 2  | 8  | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ |  |  |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 1  | -  | -  | 8  | 9  | 8  | 7  | 7  | 6  | 8  | 7  | 8  | 9  | 9  | 9+ |  |  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | -  | -  | 9  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |  |  |
| VP2 = 08 | 9       | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | 6  | 9+ | 9+ | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |  |  |
| P4 = 09  | 8       | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9  |  |  |
| HC = 10  | 8       | 8  | 8  | 9+ | 9+ | 9+ | 9+ | 7  | -  | -  | 1  | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9  |  |  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 3  | 5* | 2* | 5  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |  |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |  |
| LU = 13  | 9+      | 9+ | 9  | 9  | 9  | 8  | 6  | 5* | 4* | 1* | 2* | 1* | 2  | 3  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |  |
| G = 14   | -       | -  | -  | 1  | 5  | -  | 5* | 8  | 9  | 9  | 8  | 7  | 5  | 6  | 5  | 4  | 5  | 8  | 8  | 9  | 9  | 9  | 7  | 4  |  |  |
| I = 15   | 9       | 8  | 8  | 5  | 4  | 5* | 8  | 9  | 8  | 8  | 7  | 5  | 5  | 7  | 2  | 3  | 4  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |  |  |
| UA3 = 16 | 2       | 2  | 1  | 4* | 2* | 3* | 8  | 8  | 7  | 8  | 7  | 6  | 5  | 5  | 2  | 4  | 5  | 7  | 8  | 6  | 5  | 2  | 5  | 5  |  |  |
| UN = 17  | 1*      | 1* | 7  | 8  | 8  | 8  | 7  | 6  | 5  | 5  | 4  | 5* | 4* | 3  | 2  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  |  |  |
| UA9 = 18 | 2*      | 1* | 1* | 4  | 8  | 8  | 7  | 6  | 7  | 8  | 7  | 6* | 5* | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | 2* |  |  |
| UA0 = 19 | 8       | 8  | 8  | 6  | 6  | 8  | 8  | 9  | 7  | 8  | 9* | 8* | 7* | 6* | 5* | 4* | 4* | 4* | 4* | -  | -  | 1* | 8* | 9  |  |  |
| 4X = 20  | 9       | 9  | 9  | 7  | 7  | 9  | 9  | 8  | 7  | 6  | 6  | 5  | 3  | 3  | 3  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  |  |  |
| HZ = 21  | 9       | 9  | 7  | 6  | 9  | 9  | 8  | 7  | 7  | 6  | 5  | 3  | 3  | 5  | 4  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  |  |  |
| VU = 22  | -       | 1  | 8  | 9  | 8  | 7  | 6  | 5  | 5  | 2  | 4* | 5* | 6* | 4  | 4  | 4  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 5  |  |  |
| JT = 23  | 2*      | 2  | 8  | 8  | 7  | 6  | 4  | 6  | 6* | 7* | 8* | 8* | 6* | 6* | 3* | 1* | -  | 1* | 1* | -  | -  | -  | 4* | 1* |  |  |
| VR2 = 24 | 9       | 9  | 8  | 6  | 5* | 3  | 5* | 6* | 8* | 6* | 8* | 9* | 8* | 7  | 5  | 6  | 6  | 8  | 8  | 8  | 9  | 8  | 3* | 8  |  |  |
| JA1 = 25 | 8*      | 7  | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 8  | 6* | 6* | 6* | 6* | 6* | 6* | 6* | 7* | 7* | 5* | 5  | 6  | 7  | 9* |  |  |
| HS = 26  | 8       | 9  | 8  | 7  | 5  | 4  | 4  | 4  | 5* | 4  | 7* | 6* | 6  | 7  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 8  | 5* | 5* |  |  |
| DU = 27  | 8       | 7  | 5  | 4  | 3* | 4* | 3* | 6* | 6  | 7  | 8  | 8  | 8  | 7  | 7  | 6  | 6  | 7  | 8  | 8  | 8  | 6  | 9  | 9  |  |  |
| YB = 28  | 9       | 9  | 8  | 6  | 4  | 2  | 4  | 5  | 6  | 7  | 8  | 8  | 7  | 7  | 6  | 5  | 5  | 5  | 5  | 5  | 5  | 3  | 5* | 5  |  |  |
| VK6 = 29 | 7       | 8  | 8  | 8  | 7  | 7  | 4  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | 1* | 1* | 1* | 2* | 3* | 3* | 2* | 4* | 6* | 6  |  |  |
| VK3 = 30 | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 9  | 7  | 3  | 3* | 1* | -  | 1* | 1* | 2* | 2* | 5* | 7  | 8  | 9  |  |  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 6  | 8  | 9  | 7  | -  | -  | -  | 6  | 3  | 5  | 5* | 5  | 2  | 4  | 6  |  |  |
| KH8 = 32 | 6       | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 7  | 3  | 4  | 7  | 7  | 6  | 5  | 4  | 4  | 5  |  |  |
| CN = 33  | 9+      | 9+ | 9+ | 9  | 8  | 1  | 3* | 7  | 8  | 9  | 9  | 8  | 6  | 8  | 5  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |  |  |
| SU = 34  | 9+      | 9  | 9  | 8  | 7  | 9  | 9  | 8  | 8  | 6  | 6  | 5  | 3  | 4  | 3  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ |  |  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9  | 4  | -  | 6* | 9  | 9+ | 9+ | 9  | 9  | 7  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |  |  |
| D2 = 36  | 9       | 8  | 7  | 5  | 1  | 2* | 7  | 9  | 8  | 9  | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  |  |  |
| 5Z = 37  | 9       | 8  | 6  | 3  | 7  | 9  | 9  | 8  | 8  | 7  | 6  | 6  | 7  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  |  |  |
| ZS6 = 38 | -       | -  | -  | 2* | 2* | 5  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 1  |  |  |
| FR = 39  | 1*      | 3* | 3* | 4* | 8  | 8  | 7  | 8  | 7  | 7  | 6  | 7  | 7  | 7  | 7  | 6  | 8  | 8  | 9  | 8  | 7  | 3  | 2* | 2* |  |  |
| FJL = 40 | -       | 3* | 3* | 2* | 2* | 2* | 4* | 5* | 5* | 6* | 7* | 7  | 6  | 6  | 5  | 4  | 5  | 6  | 6  | 5  | 1  | 1  | -  | -  |  |  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |  |

UTC --> \* = Longpath

Expected signal levels using 1500 W and 14 dBi isotropic antennas.

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Oct., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone         | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
|--------------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| KL7 = 01     | 9   | 9   | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 9  | 9  |  |
| VO2 = 02     | -   | -   | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 6  |  |
| W6 = 03      | 9   | 9+  | 9  | 5  | -  | -  | -  | -  | -  | -  | 4  | 2  | 1  | -  | -  | -  | 8  | 8  | 7  | 7  | 6  | 7  | 8  | 8  | 8  | 9  |  |
| W9 = 04      | 9   | 4   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |  |
| W3 = 05      | 7   | 6   | 1  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |  |
| XE1 = 06     | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |  |
| TI = 07      | 8   | 7   | 8  | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  |  |
| VP2 = 08     | 6   | 7   | 8  | 9+ | 9+ | 9+ | 9  | 1  | -  | -  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 8  | 7  |  |
| P4 = 09      | 5   | 6   | 7  | 9  | 9+ | 9+ | 8  | 4  | -  | -  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 6  | 6  | 6  | 9  | 9  | 9  | 9  | 8  | 7  |  |
| HC = 10      | 9+  | 9+  | 5  | 7  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | 2  | 9+ | 9  | 6  | 3  | 1  | 9  | 1  | 2  | 5  | 4  | 5* | 6  |    |  |
| PY1 = 11     | 9+  | 9+  | 9+ | 9  | 9  | 8  | 4  | -  | 1* | -  | 1* | 3* | 1  | 2  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| CE = 12      | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1* | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| LU = 13      | 8   | 6   | 5  | 4  | 2  | 1  | 1* | 3* | -  | -  | -  | -  | 1* | 1* | -  | -  | 3  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |  |
| G = 14       | -   | -   | -  | -  | -  | -  | 1* | 6  | 7  | 9  | 9  | 8  | 7  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 8  | 5  | 1  | -  | -  |    |  |
| I = 15       | 2   | 1   | 1  | -  | -  | 3* | 4  | 8  | 7  | 9  | 8  | 6  | 7  | 6  | 6  | 6  | 6  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  |  |
| UA3 = 16     | -   | -   | -  | 2* | 3* | 3* | 5  | 6  | 5  | 8  | 8  | 7  | 6  | 5  | 5  | 5  | 5  | 6  | 7  | 6  | -  | 1  | -  | 1  | -  |    |  |
| UN = 17      | 4*  | 2*  | 3  | 8  | 8  | 8  | 7  | 5  | 5  | 5  | 5  | 5  | 6* | 6* | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  |    |  |
| UA9 = 18     | 3*  | 2*  | 2* | 2* | 6  | 7  | 8  | 5  | 5  | 7  | 8  | 6  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4* |    |  |
| UA0 = 19     | 9   | 9   | 9  | 9  | 9  | 9  | 9  | 8  | 3* | 7* | 8* | 8* | 7* | 5* | 2* | 1* | 1* | 1* | 1* | -  | -  | -  | -  | 7* | 8  |    |  |
| 4X = 20      | 9   | 9   | 7  | 4* | 3* | 9  | 9  | 6  | 5  | 6  | 6  | 5  | 5  | 5  | 5  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |  |
| HZ = 21      | 9   | 7   | 4* | 2  | 8  | 8  | 7  | 4  | 6  | 5  | 5  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |  |
| VU = 22      | 2*  | 4*  | 5  | 9  | 8  | 7  | 5  | 4  | 5  | 4  | 5  | 4  | 5* | 5* | 5  | 5  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 6  | -  |    |  |
| JT = 23      | 4*  | 3*  | 4  | 7  | 8  | 6  | 7  | 6  | 5  | 7  | 6  | 8* | 7* | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 5* |    |  |
| VR2 = 24     | 9   | 8   | 7* | 6* | 5* | 5* | 6* | 8* | 6  | 7  | 7  | 9* | 8* | 7  | 6  | 7  | 7  | 8  | 8  | 9  | 8  | 1  | 6* | 7* |    |    |  |
| JA1 = 25     | 8   | 8   | 8  | 8  | 9  | 8  | 9  | 9  | 8  | 6* | 8* | 8* | 8* | 7* | 6* | 6* | 6* | 6* | 4* | -  | 6  | 7  | 8  | 9* |    |    |  |
| HS = 26      | 6*  | 8   | 7  | 5* | 3* | 3* | 2* | 5* | 5  | 6  | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 2  | 4* |    |  |
| DU = 27      | 8   | 6   | 5* | 4* | 4* | 4* | 5* | 5* | 5  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 6  | -  | 7* | 8  |    |  |
| YB = 28      | 8   | 7   | 6* | 5* | 4* | 4* | 4* | 5* | 5  | 7  | 8  | 8  | 8  | 6  | 5* | 4  | 2  | 2  | 5* | 4* | 1  | -  | 1* | 8* |    |    |  |
| VK6 = 29     | 4*  | 5   | 6  | 5  | 3  | 2  | 1* | 5  | 6  | 5  | 6  | 6* | 5* | 5* | 3* | 2* | 2* | 2* | 2* | 1* | -  | 1* | 6* | 6* |    |    |  |
| VK3 = 30     | 7   | 7   | 8  | 6  | 5  | 5  | 4  | 5  | 5  | 4* | 7  | 4  | 5* | 3* | 2* | 1* | 1* | 1* | 1* | 1* | 3* | 5  | 7  | 8  |    |    |  |
| KH6 = 31     | 8   | 8   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2* | -  | 8  | 5  | -  | -  | -  | 1  | 5  | 5  | 5* | 5* | 5  | 6  | 7  |    |  |
| KH8 = 32     | 7   | 8   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 4* | 5  | 9  | 6  | 3* | 2* | 1* | 5  | 7  | 6  | 6  | 6  | 6  | 6  | 6  |    |  |
| CN = 33      | 9   | 9   | 9  | 8  | 4  | -  | -  | 3  | 5  | 8  | 9  | 8  | 8  | 8  | 8  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  |    |  |
| SU = 34      | 9   | 9   | 9  | 6  | 6* | 8  | 9  | 6  | 7  | 7  | 6  | 5  | 5  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |  |
| 6W = 35      | 9   | 9   | 9  | 8  | 1  | -  | -  | 4* | 4  | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9  | 8  | 8  |    |  |
| D2 = 36      | 7   | 5   | 3  | 1  | 2* | 5* | 5* | 5  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  |    |  |
| 5Z = 37      | 7   | 5   | 1  | 4* | 6  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |    |  |
| ZS6 = 38     | -   | -   | -  | 1* | 3* | 2* | 5  | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 8  | 3  | 3* | -  | -  |    |  |
| FR = 39      | -   | 2*  | 5* | 4* | 3* | 2  | 4  | 6  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 5  | 5* | 5* | 4* | 1* | -  |    |  |
| FJL = 40     | -   | -   | 2* | 1* | 1* | 1* | -  | 1* | 1* | 3* | 6* | 3* | 5  | 5  | 5  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  |    |  |
| Zone         | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
| * = Longpath |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Oct., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 8  | 8  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 1  |
| W6 = 03  | 9       | 9  | 7  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  |
| W9 = 04  | 6       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| W3 = 05  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 7  |
| XE1 = 06 | 8       | 8  | 9  | 9  | 9  | 9  | 4  | 3  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 9  |
| TI = 07  | 4       | 4  | 5  | 7  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | 9  | 9  | 6  | 4  | 2  | 2  | 5  | 6  | 9  | 7  | 7  | 6  |
| VP2 = 08 | 2       | 3  | 5  | 7  | 8  | 8  | 6  | -  | -  | -  | -  | 9  | 9  | 9  | 4  | 1  | 1  | 3  | 6  | 7  | 7  | 5  | 6  | 4  |
| P4 = 09  | 1       | 1  | 3  | 6  | 7  | 7  | 4  | -  | -  | -  | -  | 3  | 9  | 6  | 2  | -  | -  | -  | 2  | 4  | 4  | 4* | 5  | 4* |
| HC = 10  | 9       | 9  | 9  | 2  | 4  | 4  | 1  | -  | -  | -  | -  | -  | 6  | 5  | -  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 9+ | 9+ |
| PY1 = 11 | 9       | 8  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | 2* | 2* | 1* | -  | 2  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9  |
| CE = 12  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 8  | 1  | -  | -  | -  | 1  | 6  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 4*      | 2* | 1* | -  | -  | -  | -  | 1* | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | 2  | 1  | 2  | 2  | 4* | 8  | 6  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  | 9  | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 8  | 6  | 1  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | 1  | 5  | 4  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 7  | 8  | 8  | 9  | 9  | 7  | 5  | 2  |
| UA3 = 16 | -       | -  | -  | -  | 1* | 1* | 2  | 3  | 2  | 5  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 6  | 1  | -  | -  | -  | -  | -  |
| UN = 17  | 1*      | 5* | 3* | 6  | 8  | 8  | 6  | 2  | 2  | 6  | 8  | 8  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 5*      | 2* | 2* | 1* | 1  | 6  | 8  | 2  | 1  | 4  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| UA0 = 19 | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 5  | -  | 2* | 8* | 7* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 5* |
| 4X = 20  | 9       | 8  | 1  | 2* | 4* | 7  | 8  | 2  | 1  | 6  | 7  | 7  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 8       | 1  | 2* | 5* | 7  | 7  | 2  | 1* | 2  | 6  | 7  | 6  | 6  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 1*      | 5* | 5* | 8  | 6  | 4  | 4* | 1  | 4  | 5  | 5  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 7  | 6  | 5  | 3  | -  | -  |
| JT = 23  | 4*      | 2* | 2* | 6  | 7  | 8  | 8  | 2  | 2  | 7  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6* |
| VR2 = 24 | 8       | 8* | 7* | 7* | 7* | 7* | 7* | 7* | 4  | 7  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 6  | -  | 4* | 8* |
| JA1 = 25 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 7* | 8* | 8* | 8* | 7* | 6* | 6* | 5* | 2* | -  | -  | 2  | 8  | 8  | 8  |
| HS = 26  | 7*      | 7* | 6* | 5* | 6* | 4* | 4* | 5* | 2  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | -  | 1* |
| DU = 27  | 6*      | 5* | 5* | 5* | 5* | 5* | 6* | 3* | -  | 5  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 6  | 3  | -  | 4* | 8* |
| YB = 28  | 5*      | 5* | 5* | 5* | 4* | 5* | 4* | 2* | 1  | 6  | 8  | 8  | 7  | 6* | 5* | 5* | 5* | 5* | 5* | 2* | -  | -  | -  | 6* |
| VK6 = 29 | 3*      | 3* | 4* | 4* | 3* | 2* | 3* | 1  | 2  | 1  | 2* | 7* | 7* | 5* | 4* | 3* | 2* | 1* | 1* | -  | -  | -  | 4* | 5* |
| VK3 = 30 | 5       | 4  | 6  | 3* | 3* | 4* | 4* | -  | -  | 1* | 5* | 5* | 5* | 4* | 2* | 1* | 1* | 1* | -  | -  | 1* | 4* | 5* | 5  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2* | 1* | -  | 6  | 1  | -  | -  | -  | -  | 5  | 4  | 6* | 7* | 5  | 6  | 7  |
| KH8 = 32 | 8       | 8  | 9  | 9  | 8  | 8  | 8  | 6  | 1  | 5* | 6* | 6* | 5* | 3* | 2* | -  | 2  | 6  | 7  | 7  | 7  | 7  | 6  | 7  |
| CN = 33  | 9       | 9  | 8  | 4  | 1  | -  | -  | -  | 1  | 4  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9       | 9  | 6  | 2  | 5* | 7  | 8  | 2  | 5  | 8  | 7  | 7  | 6  | 7  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 5       | 4  | 2  | -  | -  | -  | -  | 1* | 1  | 3  | 9  | 9  | 9  | 1  | 1  | 2  | 6  | 9  | 9  | 9  | 7  | 5  | 3  | 4  |
| D2 = 36  | 3       | 1  | -  | -  | -  | 5* | 5* | 2* | 4  | 9  | 9  | 7  | 6  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 8  | 6  |
| 5Z = 37  | 2       | 1  | -  | 4* | 6* | 6* | 5* | 2  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  |
| ZS6 = 38 | -       | -  | -  | -  | 5* | 5* | 5* | 2  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 4  | 3* | -  | -  | -  |
| FR = 39  | -       | -  | 5* | 6* | 5* | 4* | 3* | 1  | 6  | 8  | 8  | 9  | 7  | 8  | 8  | 8  | 8  | 4  | 5* | 5* | 2* | 1* | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | -  | -  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



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| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | -  | -  | -  | 1  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4  | 5  | 5  | 5  | 5  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -  | -  | 1  | -  | 3  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 1  | 4  | 5  | 5  | 5  | 5  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 2  | 5  | 5  | 5  | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -  | 1  | 1  | 4  | 4  | 4  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2  | 2  | 3  | 3  | 3  | 4  | 3  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 4  | 6  | 6  | 5  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| PY1 = 11 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  |
| CE = 12  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  |
| LU = 13  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | 2  | 5  | 9  | 9  | 9  |
| G = 14   | 4  | 5  | 5  | 5  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 2  | 4  | 3  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | -  | -  | -  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | -  | -  | -  | -  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 4  | 5  | 5  | 4  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| SU = 34  | 2  | 3  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 6W = 35  | 5  | 5  | 4  | 4  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |    |
| D2 = 36  | 4  | 5  | 4  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |    |
| 5Z = 37  | 3  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |    |
| ZS6 = 38 | 5  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |    |
| FR = 39  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| FJL = 40 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Nov., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | 1  | 2  | 4  | 6  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| W6 = 03  | -       | 3  | 4  | 1  | 6  | 7  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 4       | 7  | 8  | 8  | 8  | 8  | 6  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W3 = 05  | 5       | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | 1       | 4  | 4  | 7  | 7  | 7  | 5  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5       | 5  | 6  | 6  | 6  | 7  | 6  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 6       | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| P4 = 09  | 7       | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| HC = 10  | 7       | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | -  | -  | -  | -  | 1  | 5  | 8  | 9+ | 9+ | 9+ |
| G = 14   | 7       | 8  | 8  | 8  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| I = 15   | 5       | 7  | 6  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA3 = 16 | 6       | 5  | 4  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| UN = 17  | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA9 = 18 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | -  | 1  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 5       | 6  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 6       | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 2  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 7       | 8  | 8  | 7  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| SU = 34  | 5       | 6  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| 6W = 35  | 8       | 8  | 7  | 7  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| D2 = 36  | 7       | 8  | 7  | 7  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| 5Z = 37  | 6       | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| FR = 39  | 5       | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| FJL = 40 | 2       | 3  | 2  | 2  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2       | 3  | 5  | 5  | 6  | 6  | 6  | 6  | 4  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  |
| W6 = 03  | 2       | 5  | 7  | 7  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 7       | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| W3 = 05  | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |
| XE1 = 06 | 6       | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| TI = 07  | 8       | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  |
| VP2 = 08 | 9       | 9  | 9  | 8  | 8  | 9  | 7  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  |
| P4 = 09  | 9       | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 3  | 2  | 2  | 5  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 1  | -  | -  | -  | 2  | 5  | 8  | 9  | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 5  | 5  | 6  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 9  | 9  | 8  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| I = 15   | 8       | 6  | 8  | 8  | 5  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| UA3 = 16 | 8       | 8  | 8  | 8  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  |
| UN = 17  | 5       | 3  | 6  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  | 5  |
| UA9 = 18 | 6       | 6  | 5  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 4X = 20  | 7       | 7  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  |
| HZ = 21  | 7       | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 6  |
| VU = 22  | 6       | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| JT = 23  | 5       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  |
| HS = 26  | 4       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | 2  | 5  | 7  | 6  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | 3  | 4  | 6  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 9  | 8  | 8  | 6  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| SU = 34  | 7       | 7  | 6  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  | 8  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  |
| FR = 39  | 8       | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| FJL = 40 | 7       | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 5       | 5  | 6  | 7  | 6  | 8  | 7  | 7  | 7  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| W6 = 03  | 4       | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W9 = 04  | 8       | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| W3 = 05  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  |
| XE1 = 06 | 8       | 8  | 9  | 9  | 8  | 9  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 5  | 5  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 9  | 9  | 8  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  |
| UA3 = 16 | 8       | 8  | 8  | 7  | 6  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 8  |
| UN = 17  | 7       | 7  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  |
| UA9 = 18 | 7       | 6  | 5  | 6  | 3  | 1  | 1  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 5  |
| UA0 = 19 | 2       | 2  | -  | -  | -  | 1  | 2  | 3  | 3  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  |
| 4X = 20  | 8       | 8  | 8  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| HZ = 21  | 8       | 8  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 7  | 7  |
| VU = 22  | 7       | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  |
| JT = 23  | 5       | 5  | 4  | 1  | 1  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 5  |
| VR2 = 24 | 3       | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 4  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | 4  | 5  | 6  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 5* | 4* | 2* |
| HS = 26  | 6       | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  |
| YB = 28  | 4       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |
| VK6 = 29 | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 3  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | 1  | 4  | 7  | 7  | 8  | 7  | 8  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 2  | 5  | 6  | 7  | 8  | 8  | 7  | 7  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 7  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 8  | 9  |
| FR = 39  | 8       | 8  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 8  |
| FJL = 40 | 7       | 7  | 7  | 8  | 7  | 6  | 5  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 8  | 8  | 9  | 8  | 4  | 2  | 2  | 3  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 2* | 3  | 4  | 7  | 7  |
| VO2 = 02 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 8  | 5  | 1  | -  | -  | -  | 1  | 3  | 5  | 8  | 9  | 9  | 9  |
| W6 = 03  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 2  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 7  |
| W9 = 04  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 7  | 3  | 2  | -  | -  | -  | 1  | 1  | 6  | 7  | 8  | 9  |
| W3 = 05  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 6  | 2  | 1  | -  | -  | -  | 1  | 3  | 7  | 8  | 9  | 9  |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 9  | 8  | 5  | 4  | 7  | 6  | 2  | 1  | 1  | -  | 1  | 1  | 4  | 6  | 8  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 6  | 6  | 3  | 1  | 1  | 1  | 1  | 2  | 7  | 9  | 9  | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 7  | 9+ | 9  | 8  | 4  | 2  | 1  | 1  | 1  | 3  | 6  | 8  | 9  | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | 2  | 1  | 1  | 1  | 1  | 3  | 6  | 8  | 9  | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 9  | 8  | 5  | 3  | 2  | 2  | 4  | 5  | 7  | 9  | 9  | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 8  | 9  | 9  | 9  | 8  | 7  | 9  | 9  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 9  | 9  |
| I = 15   | 9+      | 9+ | 9+ | 9  | 9  | 8  | 9  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | 2  | 4  | 8  | 8  | 9  | 9  | 9+ |
| UA3 = 16 | 8       | 8  | 7  | 6  | 2  | 5  | 8  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 6  | 8  | 8  |
| UN = 17  | 9       | 8  | 8  | 7  | 8  | 6  | 5  | 2  | 1  | 3* | 2* | 2* | 1* | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 8  | 8  | 8  |
| UA9 = 18 | 1*      | 1* | 2  | 7  | 8  | 8  | 8  | 7  | 5  | 5  | 4  | 2* | 2* | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 6  | 2  |
| UA0 = 19 | 7       | 8  | 6  | 6  | 7  | 6  | 7  | 7  | 6  | 8  | 4* | 5* | 1* | -  | -  | -  | -  | -  | 2* | 4* | 2  | 7  | 7  | 7  |
| 4X = 20  | 9       | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 9  | 8  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  | 5       | 5  | 8  | 8  | 6  | 4  | 1  | -  | -  | 1* | 2* | 2* | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 9  | 9  |
| JT = 23  | 2       | 8  | 8  | 6  | 5  | 4  | 4  | 3  | 6* | 6* | 4  | 3* | 2* | 1* | -  | -  | -  | -  | -  | 4  | 6  | 5  | 3* | 1* |
| VR2 = 24 | 8       | 6  | 4  | 3  | -  | -  | 1* | 4* | 5* | 7  | 7  | 5* | 3* | 1* | -  | -  | -  | 1  | 2  | 6  | 7  | 8  | 8  | 9  |
| JA1 = 25 | 6*      | 3  | 4  | 5  | 5  | 8  | 7  | 8  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | 4* | 7* | 5* | 7  | 9* | 8* |
| HS = 26  | 9       | 9  | 8  | 5  | -  | -  | -  | -  | 2* | 3* | 8  | 3* | 1* | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  |
| DU = 27  | 7       | 4  | 1* | -  | -  | -  | 1* | 2* | 5* | 7  | 7  | 4* | 1  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  | 7  |
| YB = 28  | 8       | 8  | 4  | 1  | -  | -  | -  | -  | 1* | 3* | 8  | 3* | 1  | 1  | 1  | 1  | 1  | 2  | 5  | 7  | 8  | 8  | 9  | 9  |
| VK6 = 29 | 8       | 7  | 4  | 2  | 2  | 1  | 2  | 2  | 5  | 8  | 7  | 6  | 4  | 2  | 1  | 1  | 1  | 2  | 2  | 5  | 6  | 7  | 7  | 8  |
| VK3 = 30 | 3       | 3  | 2  | 3  | 4  | 5  | 7  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | 2  | 1  | 2  | 2  | 2  | 3  | 5  | 8  | 5  | 4  |
| KH6 = 31 | 3       | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 1  |
| KH8 = 32 | 1       | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9  | 8  | 6  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | 1  | 3  | 6  | 7  | 9  | 9  | 9+ | 9+ |
| SU = 34  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 1  | 1  | 1  | 1  | 4  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | 1  | 1  | 1  | 2  | 5  | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| 5Z = 37  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | 1  | 1  | 2  | 5  | 7  | 8  | 8  | 9  | 9  | 9  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 3  | 2  | 2  | 1  | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| FR = 39  | 9       | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | 1  | 1  | 1  | 1  | 1  | 4  | 6  | 7  | 9  | 9  | 9  | 9  | 9  |
| FJL = 40 | 8       | 8  | 8  | 7  | 5  | 1* | 2* | 2* | 5  | 7  | 8  | 4  | 1  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 7  | 7  | 7  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Nov., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 8  | 2  | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 1  | 5  | 5* | 6  | 8  | 9  |
| VO2 = 02 | 9       | 6  | 1  | 1  | 4  | 6  | 8  | 6  | 3  | 5  | 6  | 9  | 8  | 5  | 3  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9  | 9  | 8  | 5  | 6  | 9  | 9  | 8  | 3  | -  | 7  | 5  | 2  | 1  | 1  | -  | 1  | 2  | 5  | 8  | 9  |
| W9 = 04  | 9       | 9  | 8  | 5  | 2  | 1  | 1  | 7  | 7  | 5  | 4  | 1  | 9  | 7  | 4  | 2  | 1  | 2  | 3  | 8  | 8  | 9  | 9  | 9+ |
| W3 = 05  | 9       | 8  | 9  | 9  | 3  | 4  | 2  | 6  | 7  | 5  | 5  | 9  | 9  | 7  | 5  | 2  | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 9+ |
| XE1 = 06 | 9+      | 9+ | 9+ | 9  | 9+ | 9+ | 9  | 9  | 8  | 5  | -  | -  | 8  | 8  | 7  | 5  | 4  | 4  | 4  | 5  | 7  | 8  | 9  | 9+ |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | 5  | 9  | 9  | 9  | 8  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 1  | 1  | 9+ | 9+ | 9  | 8  | 7  | 5  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 3  | 9+ | 9+ | 9  | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 2  | 8  | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 5  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 4* | 4* | 1  | 5  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | -       | -  | 1  | 5  | 8  | 2  | 2  | 9  | 9  | 9  | 8  | 6  | 9  | 2  | 1  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 8  | 6  |
| I = 15   | 9       | 9  | 9  | 9  | 7  | 4* | 8  | 9  | 7  | 8  | 6  | 6  | 2  | 2  | 1  | 1  | 2  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| UA3 = 16 | 4       | 2  | 1  | 2* | 2* | 3* | 8  | 8  | 8  | 8  | 7  | 5  | 8  | 2* | 1* | 1  | 4  | 5  | 7  | 2  | 4  | 2  | 4  | 5  |
| UN = 17  | 1       | 1* | 7  | 8  | 8  | 8  | 6  | 4  | 5  | 5* | 6* | 5  | 2* | 3* | 1* | 1  | 2  | -  | -  | -  | 1  | 2  | 3  | 3  |
| UA9 = 18 | 2*      | 2* | 2* | 3  | 8  | 8  | 8  | 6  | 6  | 8  | 6  | 5  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| UA0 = 19 | 8       | 8  | 8  | 8  | 6  | 7  | 6  | 9  | 9  | 7* | 7* | 7* | 7* | 5* | 2* | 1* | 1* | 3* | 4* | -  | -  | 1  | 8  | 8  |
| 4X = 20  | 9+      | 9+ | 9  | 8  | 7  | 9  | 9  | 8  | 7  | 5  | 2  | 1  | 1  | 1  | 1  | 1  | 3  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| HZ = 21  | 9+      | 9  | 7  | 6  | 9  | 9  | 8  | 7  | 4  | 2  | 2  | 2  | 2* | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| VU = 22  | -       | 2* | 8  | 9  | 8  | 7  | 6  | 3  | 5* | 3* | 6  | 5  | 4* | 2* | 1  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 8  |
| JT = 23  | 2*      | 3* | 8  | 8  | 7  | 6  | 5  | 6* | 7* | 8* | 8* | 5* | 7  | 5* | 1* | -  | -  | -  | 1* | -  | -  | -  | 3* | 1* |
| VR2 = 24 | 9       | 9  | 8  | 7  | 5  | 3  | 6* | 6* | 8* | 8* | 8* | 7* | 6* | 6* | 2  | 1  | 2  | 5  | 6  | 8  | 8  | 8  | 5  | 9  |
| JA1 = 25 | 8*      | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 4* | 4* | 5* | 2* | 2* | 2* | 2* | 6* | 7* | 6* | 6  | 6  | 8* | 9* |
| HS = 26  | 9       | 9  | 9  | 8  | 6  | 2  | 1  | 4* | 5* | 6  | 7* | 6  | 5  | 3  | 3  | 3  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| DU = 27  | 8       | 7  | 5  | 2  | 2* | 1  | 5* | 6* | 7* | 7* | 7* | 6  | 6  | 6  | 3  | 2  | 2  | 6  | 6  | 8  | 8  | 8  | 9  | 9  |
| YB = 28  | 9       | 9  | 8  | 5  | 2  | 1  | 1  | 3* | 8  | 7  | 6* | 5  | 5  | 6  | 4  | 4  | 4  | 7  | 8  | 8  | 8  | 8  | 8  | 9  |
| VK6 = 29 | 8       | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 4  | 2  | 4  | 3  | 2  | 4* | 5* | 6  | 7  | 8  |
| VK3 = 30 | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | 1  | 1  | 2  | 5  | 6  | 7  | 8  | 8  |
| KH6 = 31 | 7       | 8  | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | -  | -  | -  | 1  | 1  | 4* | 8  | 2* | 1  | 2  | 4  |
| KH8 = 32 | 4       | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 4  | 2  | 3  | 8  | 2* | 2  | 1  | 2  |
| CN = 33  | 9+      | 9+ | 9+ | 9+ | 9  | 5  | 1* | 8  | 9  | 9  | 9  | 7  | 5  | 3  | 1  | 4  | 4  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9+ | 9  | 9  | 7  | 9  | 9  | 8  | 8  | 5  | 3  | 1  | 1  | 1  | 1  | 1  | 4  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 4  | 9  | 9+ | 9+ | 9  | 8  | 6  | 5  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 9+ | 9  | 8  | 8  | 9  | 9+ | 8  | 9  | 8  | 7  | 6  | 5  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9       | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 3  | 2  | 2  | 2  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| ZS6 = 38 | 8       | 6  | 3  | 3* | 6  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| FR = 39  | 5       | 3* | 3* | 8  | 9  | 9  | 8  | 8  | 6  | 5  | 4  | 4  | 5  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 8  | 7  | 6  |
| FJL = 40 | 1       | 2* | 3* | 1* | 1* | 1* | 2* | 4* | 5* | 5* | 8  | 7  | 6  | 1  | 1  | -  | 2  | 4  | 5  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Nov., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 9  | 6  | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 4  | 6  | 7  | 9  | 9  |
| VO2 = 02 | 4       | -  | -  | -  | -  | -  | 5  | 1  | -  | 1  | -  | 9  | 9  | 8  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9+      | 9+ | 9  | 9  | 4  | -  | -  | -  | 6  | 7  | 4  | 1  | -  | -  | 8  | 5  | 4  | 3  | 5  | 4  | 5  | 7  | 8  | 9  |
| W9 = 04  | 9       | 8  | 3  | -  | -  | -  | -  | 3  | 2  | -  | -  | -  | 9  | 8  | 7  | 4  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9+ |
| W3 = 05  | 8       | 4  | 6  | 2  | -  | -  | -  | 2  | 2  | 1  | 1  | 5  | 9  | 9  | 7  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9+      | 9  | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | 8  | 9  | 8  | 7  | 6  | 7  | 8  | 8  | 8  | 9  | 9+ | 9+ |
| TI = 07  | 9+      | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | 1  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9       | 9  | 9  | 9+ | 9+ | 9+ | 9  | 2  | -  | -  | 3  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 8       | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 8       | 7  | 7  | 7  | 8  | 8  | 7  | 5  | 1  | -  | 3  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 4* | 6* | 4* | 2* | 3  | 2  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9       | 9  | 8  | 8  | 7  | 5  | 4* | 5* | 6* | 4* | 2* | 2* | 1* | -  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | -       | -  | -  | -  | 3  | -  | -  | 7  | 9  | 9  | 8  | 8  | 7  | 6  | 5  | 4  | 5  | 8  | 9  | 9  | 9  | 7  | 3  | -  |
| I = 15   | 8       | 8  | 7  | 2  | 2  | 2* | 6  | 9  | 8  | 8  | 7  | 7  | 6  | 7  | 4  | 2  | 4  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | -       | -  | -  | 1* | 5* | 4* | 5  | 8  | 8  | 8  | 8  | 6  | 5  | 5  | 4  | 4  | 5  | 6  | 2  | -  | -  | -  | -  | 1  |
| UN = 17  | 2*      | 1* | 4  | 8  | 8  | 8  | 8  | 6  | 5  | 5  | 5* | 5* | 6* | 3  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 2*      | 1* | 2* | 2* | 5  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| UA0 = 19 | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 7  | 8* | 8* | 8* | 6* | 5* | 1* | -  | -  | 1* | 1* | -  | -  | -  | 7* | 9  |
| 4X = 20  | 9       | 9  | 9  | 5  | 2  | 9  | 9  | 8  | 8  | 6  | 5  | 5  | 5  | 6  | 3  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 8  | 3  | 3* | 8  | 9  | 8  | 7  | 6  | 5  | 5  | 3  | 4  | 5  | 4  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 2*      | 2* | 5  | 9  | 9  | 8  | 6  | 5  | 5  | 4* | 5* | 5* | 5* | 4  | 4  | 4  | 5  | 7  | 9  | 8  | 8  | 9  | 8  | 1  |
| JT = 23  | 2*      | 2* | 4  | 8  | 7  | 6  | 7  | 7  | 7  | 8* | 8* | 8* | 7* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| VR2 = 24 | 9       | 9  | 8  | 7  | 5  | 6* | 7* | 8* | 8* | 8* | 8* | 8* | 7  | 7  | 6  | 6  | 7  | 7  | 8  | 8  | 9  | 6  | 5* | 6* |
| JA1 = 25 | 8       | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 4* | 5* | 6* | 6* | 6* | 5* | 5* | 5* | 5* | 5* | 1* | 6  | 6  | 8  | 9* |
| HS = 26  | 9       | 9  | 9  | 8  | 6  | 5  | 5* | 5  | 6* | 6* | 7* | 7* | 6  | 7  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 7  |
| DU = 27  | 8       | 8  | 6  | 5  | 5* | 5* | 5* | 6* | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 7  | 7  | 8  | 8  | 8  | 7  | 8  | 9  |
| YB = 28  | 9       | 9  | 8  | 7  | 5  | 4  | 4  | 5  | 6  | 7  | 8* | 7  | 7  | 7  | 5  | 6  | 6  | 7  | 7  | 7  | 7  | 6  | 6  | 8  |
| VK6 = 29 | 6       | 8  | 7  | 8  | 8  | 6  | 6  | 7  | 7  | 6  | 7  | 6  | 5  | 4* | 2* | -  | 1  | 2* | 4* | 4* | 5* | 6* | 7* | 7* |
| VK3 = 30 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 1  | -  | 1* | 1* | 3* | 3* | 5* | 7  | 8  | 8  |
| KH6 = 31 | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | -  | -  | -  | 5  | 3  | 2  | 5  | 4  | 4  | 5  | 6  |
| KH8 = 32 | 5       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 5  | 6  | 6  | 6  | 5  | 4  | 5  |
| CN = 33  | 9+      | 9+ | 9+ | 9  | 8  | 1  | -  | 6* | 8  | 9  | 9  | 8  | 7  | 8  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9  | 9  | 7  | 3  | 8  | 9  | 8  | 8  | 6  | 6  | 5  | 5  | 6  | 3  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 7  | 1  | 6* | 7  | 9+ | 9+ | 9  | 9  | 6  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  |
| D2 = 36  | 9+      | 9  | 8  | 6  | 4  | 5* | 8  | 9  | 9  | 8  | 9  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9       | 9  | 8  | 6  | 8  | 9  | 9  | 8  | 8  | 8  | 6  | 5  | 7  | 7  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| ZS6 = 38 | 4       | -  | 1* | 4* | 5* | 6  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 6  |
| FR = 39  | 3*      | 4* | 4* | 4* | 9  | 9  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 6  | 7  | 8  | 9  | 9  | 8  | 7  | 5* | 4* | 3* |
| FJL = 40 | -       | -  | 2* | 3* | 2* | 2* | 3* | 4* | 5* | 7* | 4* | 7  | 6  | 6  | 5  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Nov., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 7  | 3* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 7  | 8  | 8  | 9  | 9  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 5  |
| W6 = 03  | 9       | 9  | 8  | 4  | -  | -  | -  | -  | 2  | 2  | -  | -  | -  | -  | 8  | 8  | 7  | 7  | 6  | 7  | 7  | 8  | 9  | 9  |
| W9 = 04  | 7       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | 3       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | 9  | 9  | 8  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  |
| TI = 07  | 8       | 6  | 6  | 7  | 7  | 7  | 6  | 4  | 1  | -  | -  | 1  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9+ | 9  | 9  |
| VP2 = 08 | 6       | 6  | 6  | 6  | 6  | 6  | 5  | -  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  | 8  |
| P4 = 09  | 5       | 5  | 4  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 8  | 7  |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 2  | 2  | 1  | -  | -  | -  | -  | 4  | 9+ | 6  | 4  | 3  | 4  | 5  | 6  | 7  | 8  | 7  | 5  | 6  |
| PY1 = 11 | 9       | 9  | 9  | 8  | 6  | 4* | 1* | -  | 4* | 3* | 4* | 3* | 1* | -  | 2  | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 5* | 1  | 1* | 5  | 6  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 6*      | 5* | 5* | 4* | 3* | 4* | 5* | 4* | 5* | 1* | 2* | 3* | 1* | -  | -  | 1  | 4  | 6  | 4  | 5  | 5  | 4  | 8  | 7  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  | 9  | 8  | 8  | 7  | 6  | 7  | 8  | 8  | 9  | 8  | 6  | 1  | -  | -  |
| I = 15   | 2       | -  | -  | -  | -  | -  | 6* | 8  | 8  | 8  | 9  | 8  | 7  | 6  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 8  | 7  |
| UA3 = 16 | -       | -  | -  | -  | 5* | 5* | 6  | 6  | 6  | 7  | 8  | 7  | 6  | 5  | 5  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 4* | 3* | 6  | 8  | 8  | 7  | 6  | 6  | 6  | 6  | 7* | 5  | 3  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 5*      | 3* | 2* | 3* | 4* | 7  | 8  | 5  | 5  | 6  | 8  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 9       | 8  | 7  | 7  | 8  | 8  | 8  | 7  | 6* | 7* | 8* | 8* | 6* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 8  |
| 4X = 20  | 9       | 9  | 5  | 1  | 6* | 8  | 9  | 7  | 7  | 7  | 7  | 6  | 6  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 2  | 2* | 4* | 6  | 8  | 6  | 4  | 5  | 6  | 6  | 6  | 6  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 1*      | 4* | 5* | 9  | 8  | 7  | 5  | 4  | 5  | 5  | 5  | 5  | 5  | 6  | 5  | 6  | 6  | 8  | 8  | 7  | 5  | 4  | 2  | -  |
| JT = 23  | 4*      | 3* | 3* | 7  | 9  | 8  | 8  | 6  | 6  | 6  | 8* | 8  | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VR2 = 24 | 9       | 9  | 8  | 7* | 6* | 7* | 7* | 7* | 7* | 7  | 7  | 8  | 7  | 7  | 7  | 6  | 7  | 8  | 8  | 8  | 7  | -  | 4* | 7* |
| JA1 = 25 | 9       | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 5* | 6* | 7* | 7* | 7* | 7* | 5* | 2* | 1* | 1* | 1* | -  | 2  | 8  | 8  | 9* |
| HS = 26  | 6       | 9  | 8  | 7  | 5  | 3* | 4* | 5* | 5  | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 5  | 5* |
| DU = 27  | 8       | 7  | 6  | 5  | 5* | 5* | 5* | 5* | 6  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 7  | -  | 4  | 8  |
| YB = 28  | 7       | 8  | 8  | 6  | 4  | 2* | 3* | 3  | 6  | 7  | 8  | 8  | 8  | 6  | 5  | 5  | 5  | 5  | 4  | 4  | 3  | 2  | 2  | 7* |
| VK6 = 29 | 6*      | 6  | 6  | 6  | 5  | 5  | 4  | 4  | 5  | 4  | 6* | 7* | 6* | 5* | 3* | 2* | 2* | 3* | 4* | 2* | 1* | 1  | 5* | 7* |
| VK3 = 30 | 7       | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5* | 4* | 2* | 1* | 2* | 2* | 2* | 2* | 4* | 5* | 6  | 7  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 4  | 7  | 3  | -  | -  | -  | 1  | 5  | 5  | 5  | 6* | 5  | 6  | 7  |
| KH8 = 32 | 7       | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 7  | 5  | 7  | 7  | 7  | 6  | 6  | 5  | 5  | 5  | 6  |
| CN = 33  | 9+      | 9  | 9  | 8  | 5  | -  | -  | 4* | 6  | 8  | 9  | 8  | 7  | 7  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9       | 9  | 8  | 3  | 5* | 7  | 9  | 7  | 7  | 8  | 7  | 7  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 6       | 6  | 7  | 7  | 5  | 2  | -  | 4* | 3* | 9  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 4  |
| D2 = 36  | 9       | 7  | 5  | 2  | 1* | 5* | 6* | 5  | 8  | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  |
| 5Z = 37  | 9       | 8  | 5  | 5* | 6* | 7  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| ZS6 = 38 | -       | -  | -  | 1* | 5* | 5* | 6  | 7  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 6  | 4* | 2  | 1  |
| FR = 39  | 1*      | 4* | 6* | 6* | 5* | 5  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 5* | 5* | 4* | 1* |
| FJL = 40 | -       | -  | -  | 4* | 3* | 2* | 2* | 3* | 5* | 6* | 1* | 1  | 4  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Nov., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8            | 7  | 2  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 9  | 9  | 9  |
| VO2 = 02 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 6  | -  |
| W6 = 03  | 9            | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| W9 = 04  | 1            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  |
| W3 = 05  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 4  |
| XE1 = 06 | 8            | 8  | 8  | 8  | 8  | 8  | 2  | 2  | -  | -  | -  | -  | -  | 8  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| TI = 07  | 4            | 2  | 1  | 2  | 3  | 2  | 1  | -  | -  | -  | -  | -  | 9  | 9  | 5  | 4  | 5  | 5  | 6  | 9  | 9  | 9  | 8  | 6  |
| VP2 = 08 | 2            | 1  | 1  | 2  | 1  | 1  | 1  | -  | -  | -  | -  | 9  | 9  | 6  | 4  | 5  | 6  | 6  | 9  | 9  | 9  | 8  | 7  | 5  |
| P4 = 09  | 1            | 1  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | 2  | 9  | 4  | 2  | 2  | 3  | 4  | 5  | 7  | 7  | 6  | 6  | 4  |
| HC = 10  | 9            | 9  | 9  | 9  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2* | 1* | 8  | -  | -  | -  | 1  | 1  | 5* | 5* | 9+ |
| PY1 = 11 | 6            | 4  | 4  | 2  | 3* | 2* | -  | -  | -  | -  | 1* | 2* | 2* | 1* | -  | 1  | 3  | 2  | 3  | 5  | 5  | 9  | 9  | 8  |
| CE = 12  | 9            | 9  | 8  | 9  | 8  | 8  | 5  | 1* | 3* | -  | -  | -  | -  | 1* | 4  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 5*           | 3* | 2* | 2* | 1* | 1* | 3* | 1* | 2* | -  | 1* | 1* | 1* | 1* | -  | -  | -  | -  | 1* | 2* | 4* | 5* | 6* | 6* |
| G = 14   | -            | -  | -  | -  | -  | -  | -  | -  | 4* | 4  | 8  | 9  | 7  | 8  | 8  | 8  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  |
| I = 15   | -            | -  | -  | -  | -  | -  | 2* | 5  | 5  | 6  | 8  | 8  | 6  | 6  | 7  | 7  | 8  | 9  | 9  | 8  | 8  | 6  | 4  | 1  |
| UA3 = 16 | -            | -  | -  | -  | 1* | 2* | 1* | 3  | 3  | 3  | 7  | 8  | 8  | 8  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -            | 6* | 2* | 3* | 7  | 8  | 6  | 3  | 4  | 6  | 7  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 3*           | 2* | 2* | 2* | 2* | 2  | 6  | 2  | 2  | 2  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 7            | 6  | 5  | 6  | 6  | 7  | 6  | 2  | 1* | 5* | 8* | 7* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6* |
| 4X = 20  | 9            | 8  | -  | -  | 6* | 5  | 7  | 4  | 4  | 7  | 7  | 6  | 6  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 7            | -  | -  | 5* | 4  | 5  | 4* | 1* | 2  | 5  | 7  | 7  | 6  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -            | 6* | 5* | 8  | 6  | 4* | 3* | 3* | 3  | 5  | 6  | 5  | 6  | 6  | 6  | 7  | 8  | 8  | 7  | 3  | 1  | -  | -  | -  |
| JT = 23  | 4*           | 2* | 2* | 3  | 8  | 8  | 6  | 2  | 3  | 5  | 8  | 7  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VR2 = 24 | 8*           | 8* | 7* | 7* | 7* | 6* | 7* | 6* | 5  | 7  | 8  | 8  | 7  | 7  | 6  | 6  | 7  | 7  | 7  | 6  | 2  | -  | -  | 8* |
| JA1 = 25 | 9            | 8  | 8  | 8  | 9  | 9  | 7  | 4  | 3* | 6* | 7* | 8* | 8* | 7* | 4* | -  | -  | -  | -  | -  | -  | 6  | 8  | 9  |
| HS = 26  | 7*           | 7  | 8  | 5* | 5* | 4* | 5* | 4* | 3  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | -  | -  | 1* |
| DU = 27  | 6*           | 5  | 4  | 3* | 3* | 3* | 3* | 2* | 2  | 6  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 4  | -  | -  | 8* |
| YB = 28  | 5*           | 6  | 5  | 4* | 3* | 1* | 2* | 1* | 3  | 7  | 8  | 8  | 7  | 5  | 5* | 4* | 3  | 2  | 1  | 2  | 1  | -  | -  | 5* |
| VK6 = 29 | 5*           | 3* | 2  | 2  | 1  | 1  | 1  | 1  | 1  | -  | 2* | 7* | 7* | 6* | 4* | 3* | 3* | 2* | 2* | 1* | -  | -  | 2* | 6* |
| VK3 = 30 | 4            | 4  | 6  | 6  | 6  | 6  | 7  | 7  | 7  | 8  | 6* | 6* | 5* | 4* | 3* | 2* | 2* | 2* | 1* | 1* | 2* | 3* | 5* | 5* |
| KH6 = 31 | 8            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | 4  | 1  | -  | -  | -  | -  | 5  | 7  | 6  | 6  | 6  | 6  | 8  |
| KH8 = 32 | 7            | 8  | 8  | 8  | 9  | 9  | 8  | 7  | 4  | 4* | 6* | 7  | 5* | 4* | 2* | 2  | 7  | 8  | 7  | 7  | 7  | 7  | 7  | 7  |
| CN = 33  | 9            | 9  | 7  | 1  | 1  | -  | -  | 1* | 2  | 1  | 6  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9            | 9  | 4  | -  | 4* | 5* | 6  | 3  | 4  | 7  | 7  | 6  | 6  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | -            | -  | -  | -  | -  | -  | -  | 1* | -  | -  | 7  | 5  | 1  | 1  | 1  | 1  | 4  | 7  | 7  | 6  | 3  | 1  | -  | -  |
| D2 = 36  | 7            | 4  | 1  | -  | -  | 3* | 6* | 4* | 4  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 8  |
| 5Z = 37  | 7            | 5  | 1  | 1* | 6* | 6* | 5* | 2* | 5  | 7  | 8  | 8  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| ZS6 = 38 | -            | -  | -  | -  | 4* | 5* | 5* | 2  | 6  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 8  | 6  | 3* | 1* | -  | -  |
| FR = 39  | -            | 1* | 5* | 6* | 6* | 4* | 2* | 2  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 5* | 5* | 5* | 4* | 2* | -  |
| FJL = 40 | -            | -  | -  | 1* | 1* | 1* | -  | -  | 1* | 2* | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Dec., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 1  | 2  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4       | 5  | 5  | 5  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W6 = 03  | -       | -  | 1  | 3  | 4  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 4  | 5  | 5  | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 5  | 5  | 5  | 4  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 3  | 3  | 5  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2       | 2  | 3  | 3  | 3  | 4  | 3  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 5       | 4  | 4  | 4  | 4  | 4  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 4       | 4  | 4  | 4  | 4  | 4  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 3       | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 9  | 9  |
| G = 14   | 4       | 5  | 4  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| I = 15   | 2       | 3  | 3  | 3  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | 1       | 3  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2       | 3  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | 2       | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 4       | 5  | 4  | 4  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| SU = 34  | 2       | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 5       | 5  | 4  | 4  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  |
| D2 = 36  | 4       | 4  | 5  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  |
| 5Z = 37  | 4       | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| ZS6 = 38 | 5       | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| FR = 39  | 3       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | 1  | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Dec., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | 1  | 3  | 4  | 5  | 7  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 7  | 8  | 8  | 4  | 7  | 8  | 7  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| W6 = 03  | -  | 2  | 4  | 6  | 7  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 1  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W3 = 05  | 4  | 8  | 8  | 8  | 7  | 8  | 8  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| XE1 = 06 | 1  | 3  | 6  | 6  | 8  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5  | 5  | 6  | 6  | 6  | 7  | 6  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 8  | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| P4 = 09  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| HC = 10  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 1  | -  | -  | -  | -  | -  | 3  | 8  | 9  | 9+ | 9+ |
| G = 14   | 7  | 8  | 7  | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| I = 15   | 5  | 6  | 6  | 6  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA3 = 16 | 4  | 6  | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UN = 17  | 1  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | -  | -  | 1  |
| UA9 = 18 | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 5  | 6  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | -  | -  | -  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | -  | -  | 1  | 1  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 7  | 8  | 7  | 7  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| SU = 34  | 5  | 6  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| 6W = 35  | 8  | 8  | 7  | 7  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| D2 = 36  | 7  | 7  | 8  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| 5Z = 37  | 7  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| ZS6 = 38 | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| FR = 39  | 6  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| FJL = 40 | 2  | 4  | 4  | 4  | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2  | 5  | 6  | 7  | 7  | 6  | 8  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VO2 = 02 | 8  | 9  | 9  | 7  | 9  | 9  | 8  | 7  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  |
| W6 = 03  | 3  | 6  | 7  | 7  | 8  | 8  | 8  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 7  | 7  | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  |
| W3 = 05  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 7  |
| XE1 = 06 | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| TI = 07  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |
| VP2 = 08 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| P4 = 09  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| HC = 10  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 4  | 2  | 2  | 5  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 1  | -  | -  | -  | 1  | 5  | 8  | 9  | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 5  | 5  | 6  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  |
| I = 15   | 8  | 8  | 8  | 6  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 7  |
| UA3 = 16 | 7  | 8  | 8  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| UN = 17  | 2  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 4  |
| UA9 = 18 | 6  | 6  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 4X = 20  | 8  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  |
| HZ = 21  | 7  | 8  | 7  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  |
| VU = 22  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  |
| JT = 23  | 5  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  |
| HS = 26  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | 4  | 6  | 7  | 7  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9  | 9  | 8  | 8  | 9  | 8  | 5  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| SU = 34  | 8  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  |
| 5Z = 37  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  |
| ZS6 = 38 | 8  | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| FR = 39  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| FJL = 40 | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 4  | 5  | 6  | 7  | 6  | 8  | 8  | 8  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| VO2 = 02 | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  |
| W6 = 03  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| W9 = 04  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  |
| W3 = 05  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  |
| XE1 = 06 | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  |
| TI = 07  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| VP2 = 08 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  |
| P4 = 09  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 5  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| I = 15   | 7  | 7  | 7  | 7  | 6  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  |
| UA3 = 16 | 8  | 8  | 8  | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 7  | 8  |
| UN = 17  | 7  | 7  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 6  | 7  |
| UA9 = 18 | 6  | 6  | 6  | 5  | 5  | 4  | 2  | 2  | 1  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 6  | 6  |
| UA0 = 19 | 1  | 1  | 1  | 1  | 1  | 1  | 2  | 4  | 4* | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 4* |
| 4X = 20  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 6  | 7  |
| HZ = 21  | 8  | 8  | 7  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 7  | 7  |
| VU = 22  | 6  | 7  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  |
| JT = 23  | 6  | 5  | 5  | 1  | 1  | -  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 5  | 6  |
| VR2 = 24 | 5  | 1  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 4  |
| JA1 = 25 | -  | -  | -  | -  | -  | 2  | 6  | 6  | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 4* | 4* | 3* |
| HS = 26  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 1  |
| YB = 28  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 4  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3  | 1  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | 1  | 3  | 6  | 7  | 8  | 7  | 7  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | 2  | 5  | 6  | 8  | 7  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 8  | 8  |
| SU = 34  | 7  | 8  | 8  | 7  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 6  | 7  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 9  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  | 8  | 9  | 9  |
| 5Z = 37  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 7  | 8  |
| ZS6 = 38 | 9  | 9  | 8  | 8  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 9  |
| FR = 39  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| FJL = 40 | 8  | 8  | 8  | 7  | 7  | 7  | 4  | 2  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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|          | UTC | --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |  |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|--|
| Zone     | 00  | 01  | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |   |  |
| KL7 = 01 | 8   | 8   | 9  | 9  | 8  | 5  | 2  | 3  | 5  | 6  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 6  | 8  |   |  |
| VO2 = 02 | 9   | 9   | 8  | 7  | 8  | 9  | 9  | 8  | 6  | 7  | 9  | 8  | 4  | 1  | -  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9  |   |  |
| W6 = 03  | 8   | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | -  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |   |  |
| W9 = 04  | 9   | 9   | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 9  |   |  |
| W3 = 05  | 9   | 9   | 9  | 9  | 8  | 9  | 9  | 8  | 7  | 8  | 7  | 8  | 6  | 4  | 1  | -  | -  | -  | 1  | 4  | 8  | 8  | 9  | 9  |   |  |
| XE1 = 06 | 9   | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 8  | 5  | 2  | 1  | 1  | -  | -  | 1  | 3  | 6  | 8  | 9  |   |  |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 8  | 9  | 8  | 6  | 3  | 2  | 1  | 1  | 2  | 3  | 7  | 8  | 9  | 9+ |   |  |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 6  | 9  | 9  | 8  | 4  | 2  | 1  | 1  | 2  | 4  | 6  | 8  | 9  | 9+ | 9+ |   |  |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 9  | 9  | 8  | 5  | 2  | 2  | 1  | 2  | 4  | 5  | 8  | 9  | 9+ | 9+ |   |  |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9  | 9  | 9  | 8  | 7  | 5  | 5  | 5  | 3  | 5  | 7  | 8  | 9  | 9+ |   |  |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |   |  |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |   |  |
| LU = 13  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |   |  |
| G = 14   | 9   | 8   | 8  | 9  | 9  | 4  | 1  | 8  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  |   |  |
| I = 15   | 9+  | 9+  | 9  | 9  | 8  | 2  | 7  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | 1  | 2  | 4  | 8  | 8  | 9  | 9  | 9  |   |  |
| UA3 = 16 | 8   | 7   | 7  | 5  | 4  | 4  | 8  | 8  | 7  | 6  | 8  | 2  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 6  | 6  | 7  | 8  |   |  |
| UN = 17  | 7   | 3   | 6  | 8  | 8  | 6  | 4  | 2  | 2* | 2* | 3* | 3* | 1* | -  | -  | -  | -  | 1  | 1  | 1  | 2  | 6  | 8  | 8  |   |  |
| UA9 = 18 | 3   | 1   | 2* | 6  | 8  | 8  | 6  | 5  | 5  | 5  | 4* | 4* | 1* | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 7  | 6  |   |  |
| UA0 = 19 | 8   | 8   | 8  | 5  | 5  | 7  | 5  | 8  | 9  | 6  | 5* | 3* | 1* | -  | -  | -  | -  | -  | 1* | 1* | -  | 2  | 8  | 8  |   |  |
| 4X = 20  | 9   | 9   | 9  | 9  | 8  | 8  | 8  | 6  | 4  | 1  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 8  | 9  | 9  | 9  |   |  |
| HZ = 21  | 9   | 9   | 9  | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 9  | 9  |   |  |
| VU = 22  | 8   | 5   | 8  | 8  | 8  | 5  | 2  | -  | 1* | 4* | 2* | 3* | 1* | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 9  | 8  |   |  |
| JT = 23  | 1   | 5   | 8  | 8  | 6  | 6  | 6  | 4* | 5* | 6* | 6* | 5* | 1* | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 5  | 2* |   |  |
| VR2 = 24 | 8   | 6   | 5  | 3  | -  | 1* | 2* | 7* | 7* | 8  | 6* | 5* | 2* | 1* | -  | -  | -  | 1  | 2  | 5  | 6  | 8  | 8  | 8  |   |  |
| JA1 = 25 | 7*  | 5   | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | 2* | 5* | 1  | 7  | 8* | 8* |   |  |
| HS = 26  | 9   | 9   | 8  | 5  | -  | -  | -  | 1* | 3* | 5* | 4* | 3* | 1* | -  | -  | -  | 1  | 2  | 4  | 7  | 8  | 9  | 9  | 9  |   |  |
| DU = 27  | 6   | 4   | 1* | -  | -  | 1* | 2* | 5* | 6* | 7  | 4* | 5* | 1  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 7  | 8  | 6  |   |  |
| YB = 28  | 8   | 7   | 3  | -  | -  | -  | -  | -  | 2* | 5* | 3* | 5* | 1* | -  | -  | -  | -  | 1  | 2  | 4  | 6  | 8  | 8  | 9  | 8 |  |
| VK6 = 29 | 6   | 5   | 3  | 2  | 1  | 1  | 1  | 1  | 2  | 6  | 9  | 4  | 2  | 2  | 1  | 1  | 1  | 1  | 2  | 4  | 5  | 6  | 6  | 8  |   |  |
| VK3 = 30 | 2   | 2   | 1  | 3  | 4  | 5  | 6  | 7  | 7  | 8  | 7  | 6  | 5  | 4  | 2  | 1  | 1  | 1  | 2  | 2  | 5  | 5  | 3  | 2  |   |  |
| KH6 = 31 | 3   | 6   | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |   |  |
| KH8 = 32 | 1   | 2   | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 4  | 2  | 1  | -  | 1  | -  | -  | -  | -  | -  |   |  |
| CN = 33  | 9+  | 9+  | 9+ | 9+ | 9  | 8  | 1  | 8  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | 2  | 2  | 6  | 7  | 9  | 9  | 9+ | 9+ |   |  |
| SU = 34  | 9   | 9   | 9  | 9  | 8  | 9  | 8  | 8  | 4  | 1  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 8  | 8  | 9  | 9  |   |  |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 2  | 1  | 1  | 2  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9+ |   |  |
| D2 = 36  | 9+  | 9+  | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 4  | 2  | 1  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |   |  |
| 5Z = 37  | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 5  | 2  | 1  | 1  | -  | -  | -  | 1  | -  | 2  | 5  | 6  | 7  | 8  | 9  | 9  | 9  |   |  |
| ZS6 = 38 | 9   | 9   | 9  | 8  | 9  | 9  | 9  | 8  | 7  | 5  | 4  | 2  | 2  | 1  | 2  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |   |  |
| FR = 39  | 9   | 9   | 8  | 9  | 9  | 7  | 6  | 5  | 2  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |   |  |
| FJL = 40 | 7   | 8   | 8  | 7  | 5  | 2  | 1* | 2* | 2* | 4  | 7  | 4  | 1  | -  | -  | -  | -  | 1  | 2  | 3  | 2  | 5  | 5  | 6  |   |  |
| Zone     | 00  | 01  | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |   |  |

UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Dec., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9            | 9  | 9  | 8  | 2  | 2* | 1* | -  | -  | 1  | 2  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 5  | 5  | 7  | 8  | 9  |
| VO2 = 02 | 9            | 5  | -  | -  | -  | 4  | 6  | 2  | -  | -  | 1  | 9  | 8  | 6  | 5  | 4  | 5  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9            | 9+ | 9+ | 9  | 9  | 6  | 2  | 1  | 5  | 6  | 3  | -  | -  | -  | 6  | 2  | 2  | 1  | 1  | 2  | 3  | 5  | 8  | 9  |
| W9 = 04  | 9            | 9  | 8  | 3  | 1  | 1  | 1  | 3  | 3  | 1  | -  | -  | 8  | 7  | 5  | 2  | 3  | 1  | 3  | 7  | 8  | 9  | 9  | 9  |
| W3 = 05  | 9            | 7  | 8  | 7  | 1  | 1  | 2  | 2  | -  | 1  | 1  | 7  | 9  | 7  | 6  | 2  | 2  | 3  | 5  | 7  | 9  | 9  | 9+ | 9  |
| XE1 = 06 | 9+           | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 7  | 2  | -  | 8  | 8  | 7  | 6  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  |
| TI = 07  | 9+           | 9+ | 9+ | 9+ | 9  | 8  | 8  | 8  | 7  | 2  | 3  | 9  | 9  | 9  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+           | 9+ | 9+ | 9+ | 8  | 7  | 8  | 7  | 1  | 1  | 9  | 9+ | 9  | 8  | 7  | 6  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+           | 9+ | 9+ | 9  | 8  | 6  | 7  | 7  | 4  | 1  | 1  | 9+ | 9  | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+           | 9+ | 8  | 7  | 5  | 2  | 2  | 6  | 4  | 2  | 6  | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+           | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 6* | 2  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9            | 9  | 9  | 9  | 9  | 8  | 4  | 7  | 5* | 5* | 5* | 2  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 1            | -  | 1  | 4  | 3  | -  | -  | 4* | 9  | 9  | 8  | 8  | 5  | 4  | 2  | 2  | 4  | 6  | 8  | 9  | 9  | 8  | 7  | 5  |
| I = 15   | 9            | 9  | 9  | 8  | 1  | 1* | 5* | 9  | 9  | 9  | 8  | 6  | 4  | 1  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| UA3 = 16 | 3            | 1  | 1  | -  | 3* | 3* | 5  | 8  | 8  | 8  | 7  | 5  | 4  | 2  | 2  | 1  | 4  | 5  | 5  | 2  | 3  | 1  | 3  | 4  |
| UN = 17  | 1*           | 1* | 2* | 6  | 9  | 8  | 7  | 6  | 5  | 5* | 5  | 6  | 5* | 1  | -  | 1  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| UA9 = 18 | 3*           | 2* | 2* | 2* | 7  | 8  | 9  | 8  | 7  | 7  | 7* | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | -  |
| UA0 = 19 | 9            | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 5  | 6* | 6* | 6* | 6* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | 5* | 9  |
| 4X = 20  | 9+           | 9  | 9  | 5  | 2* | 9  | 9  | 8  | 7  | 6  | 4  | 1  | 3  | 1  | 1  | 1  | 4  | 6  | 8  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9+           | 9  | 8  | 5  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | 1  | 5  | 2  | 1  | 1  | 2  | 4  | 6  | 8  | 8  | 9  | 9  | 9+ |
| VU = 22  | 2*           | 2* | 7  | 9  | 9  | 7  | 6  | 3  | 3  | 8  | 6  | 7  | 4* | 1  | 1  | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 8  |
| JT = 23  | 3*           | 3* | 5  | 9  | 8  | 8  | 7  | 8  | 8* | 8* | 8* | 8* | 6* | 1  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  | 2* |
| VR2 = 24 | 9            | 9  | 8  | 7  | 5  | 6* | 6* | 8  | 8* | 8* | 8* | 8  | 7* | 5* | 2  | 2  | 3  | 5  | 7  | 8  | 8  | 8  | 5* | 8  |
| JAl = 25 | 8            | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 5* | 5* | 4* | 1* | 1* | 2* | 5* | 5* | 1* | 5  | 5  | 7  | 9* |
| HS = 26  | 9            | 9  | 9  | 8  | 6  | 4  | 3  | 5* | 5* | 7  | 7  | 8  | 5  | 5  | 2  | 3  | 4  | 7  | 8  | 8  | 9  | 9  | 9  | 8  |
| DU = 27  | 8            | 7  | 6  | 4  | 2  | 4* | 5* | 7  | 7* | 7* | 8* | 7  | 6  | 6  | 3  | 3  | 3  | 6  | 7  | 8  | 8  | 8  | 8  | 8  |
| YB = 28  | 9            | 8  | 8  | 6  | 2  | 1  | 1  | 4  | 5  | 7  | 7* | 6  | 6  | 5  | 3  | 4  | 4  | 7  | 8  | 8  | 9  | 8  | 8  | 9  |
| VK6 = 29 | 8            | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 7  | 7  | 6  | 6  | 5  | 3  | 2  | 1  | -  | 2* | 4* | 5* | 6* | 6* | 6  |
| VK3 = 30 | 8            | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | 1  | 1  | 2  | 5  | 5  | 7  | 8  | 8  |
| KH6 = 31 | 7            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 8  | -  | -  | -  | 3  | 1  | 1  | 9  | 2* | 1  | 2  | 4  |
| KH8 = 32 | 4            | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 4  | 3  | 2  | 9  | 2* | 1  | 2  | 2  |
| CN = 33  | 9+           | 9+ | 9+ | 9+ | 9  | 1  | -  | 5* | 9  | 9  | 8  | 7  | 6  | 4  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9            | 9+ | 9  | 8  | 6  | 9  | 9  | 8  | 8  | 6  | 3  | 3  | 3  | 1  | 1  | 2  | 4  | 6  | 8  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+           | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 5* | 8  | 9+ | 9  | 9  | 8  | 7  | 5  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+           | 9+ | 9+ | 9  | 7  | 7  | 8  | 8  | 8  | 9  | 7  | 8  | 5  | 5  | 5  | 6  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+           | 9  | 9  | 8  | 9  | 9  | 9  | 8  | 8  | 5  | 3  | 2  | 5  | 2  | 2  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| ZS6 = 38 | 9            | 6  | 2* | 5  | 7  | 8  | 9  | 9  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| FR = 39  | 3*           | 5* | 3* | 7  | 9  | 9  | 8  | 8  | 7  | 4  | 4  | 5  | 5  | 6  | 4  | 5  | 6  | 8  | 8  | 9  | 9  | 7  | 5  | 3  |
| FJL = 40 | 1            | 2  | 2  | 2* | 2* | 2* | 2* | 4* | 6* | 6* | 3  | 7  | 7  | 3  | 4  | 3  | 3  | 3  | 1  | -  | -  | -  | -  | -  |
| Zone     | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Dec., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |
| KL7 = 01 | 9       | 9  | 8  | 5  | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 6  | 6  | 8  | 9  | 9  |    |
| VO2 = 02 | 4       | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |    |
| W6 = 03  | 9       | 9  | 9  | 8  | 3  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 7  | 7  | 6  | 6  | 6  | 6  | 5  | 7  | 8  | 9  |    |
| W9 = 04  | 9       | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| W3 = 05  | 6       | 1  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| XE1 = 06 | 9+      | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 4  | -  | -  | 5  | 8  | 8  | 9  | 8  | 9  | 8  | 8  | 8  | 8  | 9  | 9+ |    |
| TI = 07  | 9+      | 9  | 7  | 6  | 4  | 1  | 3  | 4  | 3  | -  | -  | 6  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |
| VP2 = 08 | 9+      | 9  | 8  | 6  | 2  | 1  | 3  | 2  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |    |
| P4 = 09  | 9       | 8  | 6  | 4  | 1  | -  | 2  | 2  | -  | -  | -  | 9+ | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |    |
| HC = 10  | 8       | 6  | 2  | 1  | 1* | -  | -  | 1  | -  | -  | 1  | 6  | 9  | 9  | 6  | 5  | 5  | 5  | 6  | 9  | 9  | 9  | 9+ | 9  |    |
| PY1 = 11 | 7       | 7  | 6  | 4  | 3* | 6  | 3  | 1* | 5* | 5* | 3* | 3  | 4  | 2  | 6  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  |    |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 6  | 6  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  | 6*      | 6  | 5  | 4* | 4* | 4* | 4* | 5* | 5* | 6* | 4* | 2* | 1  | 1  | 1  | 5  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 5  | 6* |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | 1* | 8  | 9  | 9  | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 7  | 4  | 1  | -  |    |
| I = 15   | 9       | 8  | 6  | 1  | -  | -  | 5* | 8  | 8  | 8  | 8  | 7  | 6  | 7  | 5  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| UA3 = 16 | -       | -  | -  | -  | 3* | 6* | 5* | 7  | 6  | 8  | 7  | 6  | 6  | 5  | 5  | 5  | 6  | 6  | 1  | -  | -  | -  | -  | -  |    |
| UN = 17  | -       | 2* | 2* | 4* | 9  | 8  | 7  | 5  | 5  | 5  | 5  | 7* | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| UA9 = 18 | 2*      | 2* | 2* | 2* | 3* | 6  | 7  | 6  | 6  | 8* | 7  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| UA0 = 19 | 9       | 9  | 8  | 8  | 7  | 6  | 8  | 5  | 6* | 7* | 7* | 7* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8* |    |
| 4X = 20  | 9       | 9  | 9  | -  | 5* | 7  | 9  | 7  | 7  | 7  | 6  | 6  | 6  | 6  | 5  | 4  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| HZ = 21  | 9       | 8  | 4  | 4* | 7  | 9  | 7  | 5  | 5  | 6  | 5  | 4  | 5  | 5  | 4  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ |    |
| VU = 22  | -       | 2* | 4  | 9  | 8  | 7  | 6  | 5  | 5  | 4* | 4* | 5* | 5* | 5* | 4  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 4  |    |
| JT = 23  | 2*      | 2* | 2* | 7  | 9  | 7  | 8  | 6  | 7  | 8* | 8* | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |    |
| VR2 = 24 | 9       | 9  | 8  | 7  | 6  | 6* | 6* | 6* | 7* | 7* | 7* | 8* | 7* | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 3  | 1* | 7* |    |
| JA1 = 25 | 9*      | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 7  | 4* | 5* | 6* | 6* | 6* | 5* | 3* | 1* | 1* | 1* | -  | 1  | 7  | 8  | 9* |    |
| HS = 26  | 8       | 9  | 9  | 8  | 6  | 5  | 4  | 4  | 5  | 5  | 5  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 8  | 7  | 5* |    |
| DU = 27  | 8       | 8  | 6  | 5  | 4  | 4  | 4  | 5  | 6  | 7  | 8* | 8* | 7  | 7  | 7  | 6  | 7  | 7  | 6  | 6  | 5  | 2  | 4  | 8  |    |
| YB = 28  | 8       | 8  | 8  | 6  | 5  | 4  | 4  | 5  | 6  | 6  | 7  | 8* | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 7  | 5  | 5  | 7  |    |
| VK6 = 29 | 6*      | 7  | 6  | 5  | 5  | 5  | 4  | 4  | 6  | 3* | 4  | 4* | 5* | 4* | 1* | 1* | 1* | 2* | 4* | 4* | 5* | 6* | 6* | 6* |    |
| VK3 = 30 | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 6  | 4* | 1* | 1* | 1* | 2* | 2* | 3* | 4* | 6  | 7  | 7  |    |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 6  | 8  | 6  | -  | -  | 2  | 5  | 5  | 5  | 5* | 4  | 5  | 6  |    |
| KH8 = 32 | 7       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 6  | 6  | 5  | 5  | 5  | 5  | 5  |    |
| CN = 33  | 9+      | 9+ | 9+ | 9  | 6  | -  | -  | 4* | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |    |
| SU = 34  | 9       | 9  | 9  | 6  | 4* | 8  | 9  | 7  | 7  | 7  | 7  | 6  | 6  | 7  | 5  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| 6W = 35  | 8       | 9  | 8  | 8  | 8  | 6  | 1  | 2* | 5  | 9  | 9  | 9  | 8  | 8  | 6  | 7  | 7  | 8  | 9  | 9  | 9+ | 9  | 8  | 8  |    |
| D2 = 36  | 9       | 9  | 8  | 6  | 5  | 5* | 6  | 7  | 8  | 8  | 9  | 8  | 8  | 8  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| 5Z = 37  | 9       | 8  | 7  | 5  | 7  | 9  | 8  | 8  | 8  | 7  | 6  | 7  | 6  | 6  | 7  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| ZS6 = 38 | 4       | -  | -  | 3* | 5* | 6  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 7  |    |
| FR = 39  | 2*      | 5* | 6* | 5* | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 6  | 5* | 5* | 4* |    |
| FJL = 40 | -       | -  | -  | 2* | 4* | 5* | 5* | 6* | 6* | 4* | -  | 2  | 6  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  |    |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Dec., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 8   | 5  | 4* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 8  | 9  | 9  | 9  |
| VO2 = 02 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 4  |
| W6 = 03  | 9   | 9   | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  |
| W9 = 04  | 5   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  |
| W3 = 05  | 1   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 8  | 6  |
| XE1 = 06 | 9   | 9   | 8  | 7  | 6  | 4  | 5  | 6  | 4  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| TI = 07  | 7   | 4   | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 5  | 4  | 4  | 4  | 5  | 8  | 9  | 9  | 9  | 9  |
| VP2 = 08 | 7   | 5   | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 9  | 5  | 5  | 5  | 5  | 5  | 7  | 9  | 9  | 9+ | 9  | 8  |
| P4 = 09  | 6   | 2   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 6  | 5  | 4  | 3  | 3  | 5  | 7  | 9  | 9  | 9  | 8  | 8  |
| HC = 10  | 7*  | 9+  | 9  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 1  | 1  | 9+ | 9+ | 9+ | 9  | 2  | 5  | 6  | 6  | 6  |
| PY1 = 11 | 6*  | 5*  | 4* | 4* | 4* | 2* | -  | -  | 1* | 4* | 3* | 2* | 1* | -  | -  | 2  | 5  | 6  | 7  | 8  | 8  | 8  | 6  | 6* | 6* | 6* |
| CE = 12  | 9   | 9   | 9  | 9  | 8  | 6  | 6  | 2  | 4* | 1* | 2* | 3  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  |
| LU = 13  | 6*  | 6*  | 5* | 5* | 4* | 4* | 4* | 2* | 3* | 5* | 4* | 2* | 1* | 1  | -  | -  | -  | 1  | 2  | 2  | 2  | 2* | 4* | 6* | 6* | 6* |
| G = 14   | -   | -   | -  | -  | -  | -  | -  | -  | 6  | 7  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 8  | 8  | 4  | 2  | -  | -  | -  | -  |
| I = 15   | 5   | 2   | -  | -  | -  | -  | 2* | 5  | 6  | 7  | 7  | 6  | 5  | 5  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 7  | 6  | 6  |
| UA3 = 16 | -   | -   | -  | -  | 1* | 5* | 5* | 4  | 5  | 4  | 6  | 7  | 6  | 5  | 6  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -   | 4*  | 3* | 4* | 6  | 8  | 6  | 4* | 4  | 5  | 5  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -   | 5*  | 3* | 3* | 4* | 4* | 5  | 4* | 5* | 6* | 8  | 8  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 8   | 9   | 7  | 5  | 3  | 2  | 5  | 4* | 5* | 8* | 8* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8* |
| 4X = 20  | 9+  | 9   | 4  | -  | 4* | 7* | 7  | 3  | 4  | 6  | 6  | 6  | 5  | 7  | 6  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9   | 5   | 1  | 5* | 4  | 8  | 3  | 1  | 2  | 6  | 6  | 5  | 7  | 5  | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -   | 5*  | 4* | 8  | 6  | 5  | 4* | 2  | 3  | 5  | 5  | 5  | 6* | 5  | 5  | 5  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | -  | -  |
| JT = 23  | 6*  | 3*  | 3* | 4* | 8  | 7  | 5  | 5* | 5* | 6  | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 8   | 9   | 8  | 7  | 5* | 4* | 4* | 4  | 6  | 6  | 6  | 7  | 7  | 7  | 6  | 6  | 6  | 6  | 6  | 6  | 6  | 3  | -  | -  | 8* | 9  |
| JA1 = 25 | 9   | 8   | 7  | 7  | 7  | 6  | 7  | 6  | 5* | 6* | 7* | 7* | 7* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 9  | 9  |
| HS = 26  | 7*  | 8   | 9  | 8  | 5  | 5  | 3  | 4  | 5  | 6  | 6  | 7  | 7  | 7  | 7  | 6  | 7  | 7  | 8  | 8  | 7  | 6  | 4  | -  | 1* | 1* |
| DU = 27  | 8   | 7   | 6  | 5  | 2  | 2  | 3  | 4  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 2  | 1  | -  | -  | -  | 8* | 8* |
| YB = 28  | 8*  | 7   | 7  | 6  | 4  | 2  | 2  | 3  | 6  | 7  | 7  | 8  | 7  | 7  | 6  | 6  | 6  | 6  | 5  | 3  | 1  | -  | -  | -  | 5* | 5* |
| VK6 = 29 | 6*  | 5*  | 4  | 4  | -  | -  | -  | 1* | -  | 1* | 2* | 6* | 6* | 5* | 4* | 3* | 2* | 3* | 4* | 4* | 3* | 4* | 5* | 5* | 6* | 6* |
| VK3 = 30 | 6   | 6   | 6  | 6  | 6  | 5  | 6  | 7  | 7  | 7  | 6* | 6* | 5* | 4* | 3* | 2* | 2* | 2* | 2* | 2* | 2* | 3* | 5* | 5  | 6  | 6  |
| KH6 = 31 | 8   | 8   | 9  | 9  | 9  | 8  | 8  | 5  | 2  | 1  | -  | 7  | 4  | -  | -  | -  | -  | 6  | 5  | 5  | 5* | 5  | 6  | 7  | 7  | 7  |
| KH8 = 32 | 7   | 8   | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 7  | 6  | 6  | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 6  | 6  | 6  |
| CN = 33  | 9   | 9   | 9  | 6  | -  | -  | -  | 1* | 4  | 4  | 7  | 8  | 8  | 7  | 7  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9   | 9   | 8  | 2  | 1* | 7* | 7  | 4  | 4  | 6  | 7  | 6  | 5  | 7  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 1   | 3   | 2  | 1  | 1  | 1  | -  | -  | 2* | 1  | 7  | 6  | 2  | 4  | 4  | 5  | 6  | 7  | 9  | 8  | 6  | 3  | 1  | 1  | 1  | 1  |
| D2 = 36  | 8   | 6   | 3  | 2  | 1  | 4* | 5* | 3  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| 5Z = 37  | 6   | 4   | 3  | 2* | 6* | 7  | 5  | 6  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| ZS6 = 38 | -   | -   | -  | -  | 4* | 4* | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 4  | 3* | -  | 1  | 1  |
| FR = 39  | -   | 1*  | 6* | 5* | 4* | 6  | 5  | 6  | 7  | 7  | 7  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 5  | 5* | 5* | 5* | 2* | 1* | 1* | 1* |
| FJL = 40 | -   | -   | -  | 1* | 4* | 5* | 5* | 6* | 4* | -  | -  | -  | 1  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Dec., Brazil (Porto Alegre), for SSN = High, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 8   | 6   | 2  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| VO2 = 02 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 5  | -  |
| W6 = 03  | 8   | 5   | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| W9 = 04  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 6  |
| W3 = 05  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 4  | 1  |
| XE1 = 06 | 8   | 7   | 4  | 3  | 1  | -  | 2  | 3  | 1  | -  | -  | -  | -  | -  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 2   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 1  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  | 5  |
| VP2 = 08 | 2   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2* | 1  | 1  | 1  | 2* | 2  | 5  | 7  | 6  | 6  | 5  |
| P4 = 09  | 1   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2* | 1* | -  | -  | 2* | 1  | 2  | 5  | 5  | 5  | 3  |
| HC = 10  | 9   | 9   | 7  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2* | 9  | 9+ |
| PY1 = 11 | 4*  | 3*  | 2* | 2* | 1* | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 1* | 1* | -  | -  | -  | 1  | 2* | 3* | 5* | 5* | 6* | 6* |
| CE = 12  | 7   | 7   | 7  | 6  | 4  | 1* | 1  | -  | 1* | -  | 1* | -  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  |
| LU = 13  | 4*  | 4*  | 3* | 4* | 2* | 2* | 1* | -  | 1* | 1* | 1* | 2* | 2* | 1* | 1  | 1* | -  | -  | -  | 1* | 2* | 3* | 4* | 5* | 5* | 5* |
| G = 14   | -   | -   | -  | -  | -  | -  | -  | -  | -  | 2  | 2* | 6  | 6  | 5* | 4  | 8  | 8  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  |
| I = 15   | -   | -   | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | 5  | 4  | 3* | 4  | 8  | 8  | 8  | 8  | 9  | 8  | 6  | 5  | 3  | 1  | 1  |
| UA3 = 16 | -   | -   | -  | -  | -  | -  | 2* | 2* | 1  | 1  | -  | 3  | 6  | 5  | 5  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -   | 1*  | 2* | 1* | 2* | 6  | 4  | 1  | 1  | 1  | 1  | 4  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -   | 4*  | 1* | 1* | 1* | 1* | 1  | 1  | 1  | 1  | 1* | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 4   | 8   | 3  | 1  | -  | -  | 1  | 1* | 2* | 7* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| 4X = 20  | 9   | 8   | -  | -  | 1* | 5* | 2  | 1  | 1  | 3  | 5  | 5  | 4  | 5  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 7   | -   | -  | 2* | 2* | 5  | 1* | -  | -  | 4  | 6  | 6  | 5  | 6  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -   | 4*  | 1* | 7  | 3* | 3* | 2* | 1* | 1  | 3  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 6  | 4  | 4  | 2  | -  | -  |
| JT = 23  | 5*  | 1*  | 1* | 1* | 5  | 5  | 2  | 1  | 1  | 2* | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 9*  | 7   | 5  | 4* | 1* | 1  | 1  | 2  | 4  | 5  | 7  | 7  | 7  | 7  | 5  | 4  | 2  | 2  | 1  | 1  | 1  | -  | -  | -  | -  | 7* |
| JA1 = 25 | 9   | 6   | 5* | 5  | 4  | 2  | 4  | 1  | 2* | 6* | 8* | 7* | 7* | 7* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 9  |
| HS = 26  | 8*  | 5   | 7  | 5  | 1  | 1  | 1  | 2  | 4  | 6  | 7  | 7  | 7  | 7  | 7  | 7* | 6  | 6  | 6  | 6  | 7  | 2  | 1  | -  | -  | -  |
| DU = 27  | 7*  | 5*  | 3  | 1  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 4  | 2  | -  | -  | -  | -  | -  | 7* |
| YB = 28  | 6*  | 4*  | 4  | 2  | -  | 1  | 1  | 1  | 4  | 7  | 7  | 7  | 6  | 6  | 4  | 3  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1* |
| VK6 = 29 | 5*  | 3*  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 6* | 5* | 4* | 4* | 4* | 4* | 3* | 2* | 1* | 1* | 1* | 4* | 5* |
| VK3 = 30 | 4*  | 2   | 1  | 1  | 1  | 1  | 2  | 4  | 4  | 3  | 4* | 6* | 4* | 5* | 3* | 2* | 2* | 2* | 2* | 1* | 1* | 1* | 4* | 4* | 5* | 5* |
| KH6 = 31 | 8   | 8   | 7  | 8  | 8  | 5  | 5  | 1  | -  | -  | -  | 5  | 1  | -  | -  | -  | -  | -  | 7  | 6  | 6  | 6  | 7  | 7  | 8  | 8  |
| KH8 = 32 | 7   | 6   | 6  | 7  | 7  | 7  | 7  | 5  | 2  | 2  | 4* | 6  | 4  | 2  | 1  | 1  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  |
| CN = 33  | 9   | 8   | 6  | 1  | -  | -  | -  | -  | 1  | -  | 2  | 7  | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9   | 9   | 4  | -  | -  | 5* | 2  | -  | 1  | 3  | 5  | 5  | 4  | 5  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 1* | -  | 1  | 1  | 2  | 4  | 5  | 3  | 2* | -  | -  | -  | -  |
| D2 = 36  | 5   | 2   | -  | -  | -  | 1* | 3* | 1  | 1  | 3  | 3  | 6  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 7  | 6  | 6  |
| 5Z = 37  | 1   | -   | -  | -  | 4* | 4  | 1  | 1  | 3  | 5  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 5  | 5  |
| ZS6 = 38 | -   | -   | -  | -  | 1* | 2* | 1  | 3  | 5  | 6  | 6  | 6  | 6  | 6  | 6  | 6  | 6  | 6  | 6  | 6  | 2  | 2* | -  | -  | -  | -  |
| FR = 39  | -   | -   | 1* | 2* | 2* | 2  | 2  | 3  | 5  | 6  | 5  | 4  | 5  | 4  | 5  | 4  | 5  | 4  | 4* | 4* | 5* | 5* | 3* | -  | -  | -  |
| FJL = 40 | -   | -   | -  | -  | 1* | 2* | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | </ |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Jan., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 1  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 3       | 5  | 5  | 5  | 5  | 5  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | 1  | 2  | 4  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 4  | 5  | 5  | 5  | 3  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 5  | 4  | 5  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 3  | 4  | 4  | 5  | 5  | 5  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 3       | 3  | 3  | 4  | 4  | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 3       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 4       | 5  | 6  | 5  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| I = 15   | 3       | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA3 = 16 | 2       | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 2       | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 4  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| SU = 34  | 3       | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 6W = 35  | 4       | 4  | 4  | 4  | 4  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| D2 = 36  | 4       | 4  | 4  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  |
| 5Z = 37  | 5       | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| ZS6 = 38 | 5       | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  |
| FR = 39  | 4       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | 2       | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Jan., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | 1  | 2  | 4  | 5  | 5  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 6       | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| W6 = 03  | -       | 1  | 4  | 5  | 7  | 8  | 7  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 3       | 7  | 8  | 8  | 8  | 6  | 8  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W3 = 05  | 2       | 8  | 7  | 8  | 8  | 8  | 8  | 7  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | 2       | 6  | 7  | 7  | 8  | 8  | 8  | 6  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 6       | 6  | 6  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VP2 = 08 | 6       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| P4 = 09  | 6       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| HC = 10  | 7       | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4  | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  | 9  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 3  | -  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| I = 15   | 6       | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| UA3 = 16 | 5       | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| UN = 17  | 2       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA9 = 18 | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 6  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| HZ = 21  | 5       | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| VU = 22  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JAl = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | 1  | 2  | 1  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 1  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 7  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |
| SU = 34  | 6       | 6  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| 6W = 35  | 7       | 7  | 7  | 7  | 7  | 7  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| D2 = 36  | 7       | 7  | 7  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| 5Z = 37  | 8       | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| ZS6 = 38 | 8       | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| FR = 39  | 7       | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  |
| FJL = 40 | 5       | 4  | 4  | 4  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2  | 4  | 6  | 6  | 8  | 7  | 8  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  |
| W6 = 03  | 2  | 6  | 7  | 8  | 7  | 8  | 8  | 8  | 7  | 8  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W9 = 04  | 7  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 7  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| W3 = 05  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |
| XE1 = 06 | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| TI = 07  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  |
| VP2 = 08 | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  |
| P4 = 09  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 5  | 5  | 6  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 1  | 1  | 1  | 4  | 7  | 9  | 9  | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 8  | 7  |
| I = 15   | 8  | 5  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 7  |
| UA3 = 16 | 7  | 7  | 7  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 6  |
| UN = 17  | 5  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 6  | 4  |
| UA9 = 18 | 6  | 6  | 5  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 6  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 8  | 8  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| HZ = 21  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| VU = 22  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  |
| JT = 23  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 5  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | -  |
| HS = 26  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| YB = 28  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 3  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | 4  | 7  | 7  | 7  | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | 3  | 6  | 7  | 8  | 7  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  | 8  |
| SU = 34  | 8  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 7  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| D2 = 36  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  | 9  |
| 5Z = 37  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  |
| FR = 39  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  |
| FJL = 40 | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Jan., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 6            | 6  | 6  | 7  | 7  | 5  | 4  | 5  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| VO2 =   | 02 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  |
| W6 =    | 03 | 5            | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W9 =    | 04 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| W3 =    | 05 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  |
| XE1 =   | 06 | 8            | 8  | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 7  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  |
| TI =    | 07 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 4  | 6  | 1  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  |
| VP2 =   | 08 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  |
| P4 =    | 09 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  | 9  |
| HC =    | 10 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 8            | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| I =     | 15 | 8            | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 7  |
| UA3 =   | 16 | 7            | 8  | 7  | 7  | 6  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| UN =    | 17 | 7            | 6  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 7  |
| UA9 =   | 18 | 5            | 4  | 4  | 5  | 5  | 1  | 2  | 1  | 1  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 7  |
| UA0 =   | 19 | 1            | 1  | 1  | 1  | 1  | 1  | 5  | 3  | 2  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2* | 5  |
| 4X =    | 20 | 8            | 8  | 8  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| HZ =    | 21 | 8            | 8  | 7  | 6  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 7  | 8  |
| VU =    | 22 | 6            | 3  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  |
| JT =    | 23 | 4            | 5  | 5  | 1  | -  | -  | -  | -  | 1* | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 6  | 5  |
| VR2 =   | 24 | 5            | 1  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 6  |
| JA1 =   | 25 | -            | -  | -  | -  | -  | 2  | 4  | 4  | 6  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | 5* | 3* |
| HS =    | 26 | 7            | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 7  |
| DU =    | 27 | 1            | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 3  |
| YB =    | 28 | 5            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  |
| VK6 =   | 29 | 1            | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 5  | 4  |
| VK3 =   | 30 | -            | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 =   | 31 | -            | 1  | 4  | 6  | 7  | 7  | 7  | 8  | 7  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | -  | -  | 3  | 5  | 7  | 8  | 8  | 8  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 8            | 8  | 8  | 8  | 9  | 8  | 6  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| SU =    | 34 | 8            | 8  | 8  | 8  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| 6W =    | 35 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  |
| D2 =    | 36 | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 9  | 9  | 9  |
| 5Z =    | 37 | 8            | 8  | 9  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| ZS6 =   | 38 | 9            | 9  | 9  | 9  | 8  | 8  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 8  | 9  | 9  |
| FR =    | 39 | 9            | 8  | 8  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 9  |
| FJL =   | 40 | 7            | 7  | 7  | 7  | 6  | 5  | 2  | 1  | 2  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 6  | 7  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



20 Meters: Jan., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|--|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 |  | 8            | 9  | 9  | 8  | 2  | 1* | 1* | -  | 2  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 4  | 6  | 8  |
| VO2 = 02 |  | 8            | 7  | 5  | 3  | 6  | 8  | 8  | 7  | 5  | 5  | 5  | 8  | 5  | 3  | 1  | 1  | 1  | 1  | 2  | 5  | 8  | 9  | 9  | 9  |
| W6 = 03  |  | 9            | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 8  | 6  | -  | 1  | 2  | 1  | -  | -  | -  | -  | 2  | 1  | 5  | 8  |
| W9 = 04  |  | 9            | 9  | 8  | 7  | 6  | 7  | 8  | 8  | 8  | 8  | 6  | 4  | 8  | 3  | 2  | -  | -  | -  | 1  | 1  | 7  | 8  | 9  | 9  |
| W3 = 05  |  | 9            | 8  | 5  | 6  | 6  | 6  | 8  | 8  | 8  | 5  | 5  | 8  | 8  | 5  | 2  | 1  | 1  | 1  | 2  | 2  | 9  | 8  | 9  | 9  |
| XE1 = 06 |  | 9            | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | 8  | 6  | 5  | 3  | 2  | 1  | 1  | 2  | 5  | 6  | 9  | 9  |
| TI = 07  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | 9  | 8  | 7  | 5  | 3  | 2  | 2  | 3  | 4  | 7  | 9  | 9  | 9+ |
| VP2 = 08 |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | -  | -  | 7  | 9  | 8  | 5  | 4  | 2  | 2  | 3  | 5  | 6  | 8  | 9  | 9+ | 9+ |
| P4 = 09  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 1  | -  | -  | 9  | 8  | 7  | 6  | 5  | 5  | 5  | 6  | 8  | 8  | 9  | 9+ | 9+ |
| HC = 10  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 1  | 4  | 9  | 9  | 9  | 8  | 7  | 6  | 5  | 5  | 6  | 8  | 9  | 9  | 9+ |
| PY1 = 11 |  | 9+           | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |  | 9+           | 9+ | 9+ | 9+ | 9  | 6  | 9  | 6  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |  | 8            | 7  | 8  | 8  | 8  | 6  | 3  | 7  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 8  |
| I = 15   |  | 9            | 9  | 9  | 9  | 8  | 5  | 6  | 8  | 7  | 6  | 3  | 2  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 8  | 8  | 9  | 9  |
| UA3 = 16 |  | 5            | 6  | 5  | 4  | 2* | 1  | 6  | 7  | 6  | 6  | 4  | 2  | -  | -  | -  | -  | 1  | 1  | 4  | 4  | 4  | 4  | 3  | 4  |
| UN = 17  |  | 7            | 4  | 5  | 8  | 8  | 7  | 5  | 4  | 2  | 3* | 3* | 2* | 3* | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  |
| UA9 = 18 |  | 1*           | 1* | 2* | 4* | 7  | 7  | 7  | 6  | 5  | 5* | 5* | 5* | 1* | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 4  | 1  |
| UA0 = 19 |  | 6            | 6  | 5  | 5  | 5  | 5  | 8  | 9  | 8  | 5  | 5* | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 7  |
| 4X = 20  |  | 9            | 9  | 9  | 4  | 1  | 8  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  |  | 9            | 8  | 4  | 1  | 8  | 9  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  |  | 1*           | 1* | 5  | 8  | 8  | 5  | 3  | 1  | 1* | 3* | 2* | 2* | 2* | -  | -  | -  | 1  | 2  | 4  | 8  | 8  | 8  | 8  | 7  |
| JT = 23  |  | 1*           | 2* | 6  | 7  | 5  | 6  | 6  | 5  | 6* | 7* | 6* | 6* | 3* | 1* | -  | -  | -  | -  | -  | 2  | 5  | 4  | 1  | 3* |
| VR2 = 24 |  | 8            | 7  | 6  | 3  | 1  | 1* | 3* | 7* | 7* | 7* | 7* | 6* | 6* | 2* | -  | -  | 1  | 1  | 4  | 7  | 8  | 7  | 4* | 5  |
| JA1 = 25 |  | 7*           | 5  | 5  | 6  | 6  | 7  | 9  | 9  | 9  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | 1* | 2* | 1* | 1  | 6  | 5  | 8* |
| HS = 26  |  | 8            | 9  | 8  | 6  | 1  | -  | -  | 1* | 4* | 4* | 8  | 3* | 4* | 1* | 1  | 1  | 1  | 3  | 6  | 8  | 8  | 9  | 8  | 6  |
| DU = 27  |  | 6            | 6  | 2  | -  | -  | -  | 2* | 5* | 8  | 7  | 7  | 3  | 5* | 2  | -  | -  | 1  | 2  | 4  | 5  | 6  | 2  | 7  | 8  |
| YB = 28  |  | 9            | 8  | 6  | 3  | -  | -  | -  | -  | 3* | 4* | 7  | 2  | 1  | 1  | 1  | 1  | 2  | 3  | 5  | 7  | 8  | 8  | 8  | 9  |
| VK6 = 29 |  | 8            | 7  | 7  | 5  | 4  | 4  | 4  | 6  | 6  | 7  | 6  | 7  | 5  | 5  | 3  | 2  | 2  | 4  | 3  | 3  | 5  | 6  | 8  | 8  |
| VK3 = 30 |  | 6            | 6  | 5  | 5  | 7  | 7  | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 4  | 2  | 1  | 1  | 2  | 5  | 8  | 7  | 6  | 5  |
| KH6 = 31 |  | 4            | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | 1  |
| KH8 = 32 |  | 2            | 3  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 4  | 2  | 1  | 1  | 1* | 1* | -  | 1  | 1  |
| CN = 33  |  | 9            | 9  | 9  | 9  | 9  | 6  | -  | 4  | 8  | 8  | 7  | 4  | 2  | 1  | -  | -  | 1  | 3  | 6  | 9  | 9  | 9  | 9+ | 9+ |
| SU = 34  |  | 9            | 9  | 9  | 7  | 2  | 8  | 9  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9  | 4  | 2* | 7  | 9  | 9  | 8  | 5  | 3  | 2  | 2  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| D2 = 36  |  | 9+           | 9+ | 9+ | 9  | 8  | 6  | 7  | 9  | 7  | 7  | 5  | 4  | 3  | 2  | 1  | 3  | 5  | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| 5Z = 37  |  | 9            | 9  | 8  | 6  | 8  | 9  | 9  | 8  | 5  | 2  | 1  | -  | -  | -  | 2  | 1  | 2  | 5  | 7  | 9  | 9  | 9  | 9  | 9  |
| ZS6 = 38 |  | 9            | 8  | 6  | 6  | 7  | 8  | 9  | 9  | 8  | 7  | 6  | 6  | 5  | 4  | 4  | 5  | 5  | 7  | 9  | 9  | 9  | 9  | 9+ | 9  |
| FR = 39  |  | 5            | 2* | 2  | 7  | 9  | 8  | 8  | 6  | 3  | 2  | 1  | 2  | 2  | 2  | 2  | 3  | 5  | 6  | 8  | 9  | 9  | 8  | 6  | 6  |
| FJL = 40 |  | 3            | 4  | 3  | 2  | 1  | 1* | 2* | 1* | 2* | 5* | 6  | 8  | 2  | 1  | -  | -  | -  | 1  | 3  | -  | -  | 2  | 2  | 2  |
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |  |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |  | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Jan., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 9   | 8  | 2  | 3* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  | 5  | 7  | 8  | 8  |    |
| VO2 = 02 | 4   | -   | -  | -  | -  | 1  | 5  | 2  | -  | -  | -  | -  | 7  | 9  | 8  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| W6 = 03  | 9   | 9+  | 9  | 7  | 5  | 2  | 1  | 2  | 7  | 5  | 6  | 1  | -  | -  | 6  | 6  | 5  | 5  | 5  | 5  | 9  | 8  | 6  | 8  | 9  |    |
| W9 = 04  | 9   | 5   | -  | -  | -  | -  | 1  | 5  | 5  | 3  | 1  | -  | 7  | 8  | 7  | 7  | 5  | 2  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| W3 = 05  | 7   | -   | -  | -  | -  | 1  | 3  | 5  | 3  | 1  | 1  | 3  | 9  | 8  | 8  | 7  | 5  | 7  | 8  | 8  | 9  | 9  | 9+ | 9  | 9  |    |
| XE1 = 06 | 9+  | 9+  | 9  | 9  | 9  | 9  | 9  | 5  | 2  | -  | -  | -  | -  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9  | 7  | 6  | 5  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9  | 6  | 5  | -  | -  | -  | -  | 9+ | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 8  | 5  | 4  | 1  | -  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| HC = 10  | 9+  | 9   | 8  | 7  | 6  | 1  | 2  | 1  | -  | -  | -  | 2  | 9+ | 9  | 8  | 5  | 5  | 5  | 6  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| PY1 = 11 | 9   | 9   | 8  | 7  | 3  | 6  | 2  | -  | 1  | 4  | 7  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  | 9   | 9   | 7  | 3  | 2* | 2* | 2* | 1* | 3* | 5* | 3* | 2  | 6  | 7  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| G = 14   | 1   | -   | -  | 2  | 5  | -  | -  | 2  | 6  | 8  | 8  | 8  | 7  | 5  | 5  | 5  | 6  | 7  | 9  | 9  | 8  | 5  | 1  | -  | -  |    |
| I = 15   | 8   | 8   | 8  | 7  | 5  | -  | 5* | 5  | 6  | 8  | 8  | 6  | 9  | 4  | 3  | 2  | 3  | 6  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |    |
| UA3 = 16 | -   | -   | -  | -  | 3* | 4* | 4* | 4* | 4* | 6  | 6  | 5  | 8  | 4  | 3  | 3  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  |    |
| UN = 17  | -   | 3*  | 2* | 5  | 8  | 8  | 5  | 5* | 5* | 5  | 6* | 6  | 8  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  |    |
| UA9 = 18 | 3*  | 2*  | 2* | 2* | 2  | 7  | 5  | 5* | 6* | 8* | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| UA0 = 19 | 9   | 8   | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 7* | 8* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  |    |
| 4X = 20  | 9   | 8   | 3  | -  | 4* | 7  | 8  | 5  | 5  | 7  | 6  | 6  | 9  | 3  | 2  | 3  | 4  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| HZ = 21  | 8   | -   | -  | 5* | 4  | 8  | 6  | 3  | 4  | 5  | 5  | 8  | 4  | 2  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| VU = 22  | -   | 2*  | 3* | 8  | 8  | 7  | 5  | 3  | 4  | 7  | 6  | 6  | 7  | 4* | 2  | 2  | 5  | 7  | 8  | 7  | 6  | 5  | 4  | -  | -  |    |
| JT = 23  | 3*  | 3*  | 3* | 8  | 8  | 8  | 5  | 6* | 7* | 8* | 8* | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |    |
| VR2 = 24 | 9   | 9   | 8  | 7  | 5  | 5* | 6* | 5  | 6  | 6  | 6  | 8* | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 6  | -  | -  | 6* | 6* |    |
| JA1 = 25 | 8   | 8   | 8  | 8  | 8  | 9  | 9  | 8  | 6  | 5* | 5* | 6* | 6* | 5* | 2* | -  | -  | -  | -  | -  | -  | 4  | 4  | 9* | 9* |    |
| HS = 26  | 5   | 9   | 9  | 8  | 6  | 5  | 4  | 4  | 6  | 6  | 6  | 7  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 8  | 5  | -  | 1* |    |
| DU = 27  | 9   | 8   | 7  | 5  | 4  | 4* | 4  | 5  | 6  | 7  | 8  | 8  | 8  | 7  | 7  | 6  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | 8  |    |
| YB = 28  | 9   | 9   | 8  | 7  | 5  | 4  | 3  | 4  | 6  | 7  | 6  | 7  | 8  | 7  | 7  | 6  | 7  | 7  | 7  | 6  | 4  | 1  | 1  | 6* | 6* |    |
| VK6 = 29 | 8   | 9   | 8  | 9  | 8  | 7  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 2  | 1  | 1* | 2* | 4* | 2* | 2* | 5* | 6  | 6  |    |
| VK3 = 30 | 9   | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1* | -  | 1* | 1* | 2* | 2* | 2  | 7  | 8  | 8  | 8  |    |
| KH6 = 31 | 7   | 9   | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 4  | 1  | 7  | 5  | -  | -  | -  | -  | 2  | 1  | 7  | 8  | 4  | 5  | 5  | 5  |    |
| KH8 = 32 | 5   | 8   | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 6  | 5  | 3  | 8  | 8  | 3  | 2  | 4  | 4  |    |
| CN = 33  | 9   | 9   | 9  | 9  | 7  | -  | -  | 4* | 4  | 7  | 8  | 8  | 7  | 7  | 7  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| SU = 34  | 9   | 9   | 7  | 1  | 4* | 4  | 8  | 5  | 5  | 7  | 6  | 6  | 6  | 4  | 2  | 3  | 5  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| 6W = 35  | 9+  | 9+  | 9  | 9  | 7  | 4  | -  | -  | 3* | 7  | 9  | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| D2 = 36  | 9+  | 8   | 6  | 6  | 4  | 4* | 4  | 5  | 6  | 9  | 6  | 8  | 8  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| 5Z = 37  | 7   | 4   | 4  | 4* | 3* | 8  | 8  | 7  | 8  | 7  | 5  | 7  | 6  | 6  | 6  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| ZS6 = 38 | 3   | -   | -  | 1* | 5* | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 7  | 7  |    |
| FR = 39  | -   | -   | 5* | 5* | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 9  | 6  | 5  | 7  | 8  | 8  | 8  | 7  | 2  | 2* | 2* | 1* | 1* |    |
| FJL = 40 | -   | -   | 1* | 3* | 4* | 2* | 2* | 3* | 6* | 6* | -  | 3  | 6  | 5  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Jan., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 8   | 4  | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 7  | 6  | 8  | 9  |
| VO2 = 02 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 5  |
| W6 = 03  | 9   | 9   | 4  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 1  | -  | -  | -  | 2  | 8  | 7  | 6  | 6  | 7  | 6  | 8  | 8  | 9  |
| W9 = 04  | 5   | -   | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | 1  | 8  | 8  | 8  | 7  | 8  | 7  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | -   | -   | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  |
| XE1 = 06 | 9   | 9   | 9  | 9  | 9  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 9  | 9  | 9  |
| TI = 07  | 9+  | 8   | 6  | 5  | 2  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 6  | 4  | 4  | 5  | 6  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+  | 8   | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 5  | 3  | 4  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9   | 7   | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 9  | 4  | 2  | 2  | 4  | 5  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 8   | 5   | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 2  | 9+ | 9+ | 9  | 1  | 4  | 7  | 9  | 9+ | 9  |
| PY1 = 11 | 7   | 6   | 4* | 2* | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | 2  | 6  | 7  | 8  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 8  |
| CE = 12  | 9+  | 9   | 9  | 9  | 8  | 5  | 7  | 3  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 6   | 6*  | 5* | 3* | 1* | 2* | 1* | -  | -  | -  | -  | 1* | 1* | 1* | 1  | -  | 1  | 4  | 6  | 7  | 8  | 8  | 6  | 7  | 6  | 6  |
| G = 14   | -   | -   | -  | -  | 1  | -  | -  | -  | -  | 3* | 2* | 8  | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 5  | 2  | -  | -  | -  | -  |
| I = 15   | 4   | 2   | 2  | 1  | -  | -  | 2* | 3* | 1  | 2  | 7  | 6  | 7  | 6  | 7  | 5  | 7  | 6  | 7  | 7  | 9  | 9  | 8  | 6  | 4  | 1  |
| UA3 = 16 | -   | -   | -  | -  | 1* | 5* | 3* | 2* | 1* | 2* | 6  | 7  | 6  | 5  | 5  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -   | 3*  | 4* | 3* | 5  | 7  | 3  | 4* | 2* | 3  | 5  | 4  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 1*  | 5*  | 2* | 2* | 3* | 3* | 4* | 3* | 4* | 6* | 7  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 8   | 9   | 9  | 8  | 8  | 5  | 5  | 3  | 4* | 7* | 6* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6* |
| 4X = 20  | 8   | 4   | -  | -  | 3* | 6* | 5  | 2* | 1  | 5  | 7  | 5  | 7  | 7  | 5  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 2   | -   | -  | 4* | 4* | 5  | 2  | 1* | 1  | 3  | 5  | 5  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  |
| VU = 22  | -   | 4*  | 4* | 6  | 4  | 4  | 3* | 1  | 1  | 4  | 4  | 4  | 4  | 6* | 4  | 5  | 5  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  |
| JT = 23  | 5*  | 3*  | 2* | 5  | 6  | 5  | 4* | 4* | 4* | 5* | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 8*  | 8   | 7  | 6* | 5* | 4* | 4* | 2  | 4  | 5  | 6  | 7  | 7  | 7  | 7  | 6  | 6  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | 7* |
| JA1 = 25 | 8   | 8   | 8  | 8  | 8  | 8  | 7  | 5  | 2* | 5* | 7* | 7* | 6* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 8  | 8  |
| HS = 26  | 7*  | 8   | 8  | 6  | 4* | 3* | 2  | 2  | 2  | 5  | 6  | 7  | 8* | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 2  | -  | -  | -  | -  |
| DU = 27  | 8   | 7   | 6  | 5* | 4* | 1  | 2* | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | 7* |
| YB = 28  | 8*  | 8   | 8  | 5  | 2  | 1  | 1  | 1  | 4  | 6  | 7  | 8  | 8  | 7  | 7  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | 1* |
| VK6 = 29 | 6*  | 6   | 6  | 7  | 6  | 2  | 3  | 3  | -  | 2  | 3  | 6* | 6* | 4* | 3* | 2* | 2* | 2* | 2* | 2* | 2* | 1* | -  | 2* | 6* | 6* |
| VK3 = 30 | 8   | 8   | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 6  | 5  | 4* | 2* | 2* | 2* | 2* | 2* | 2* | 1* | 1* | 3* | 7  | 8  | 8  |
| KH6 = 31 | 8   | 9   | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | 4  | 1  | -  | -  | -  | -  | -  | 5  | 4  | 3  | 5* | 4  | 5  | 6  | 6  |
| KH8 = 32 | 8   | 8   | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 6  | 8  | 8  | 8  | 6  | 1  | 1  | 4  | 7  | 7  | 7  | 5  | 5  | 6  | 5  | 5  |
| CN = 33  | 9   | 8   | 7  | 5  | 3  | -  | -  | 1* | 1* | 1* | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9   | 7   | -  | -  | -  | 7* | 5  | 2* | 1  | 5  | 7  | 6  | 7  | 7  | 5  | 5  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 6   | 4   | 2  | 1  | -  | -  | -  | -  | -  | 2* | -  | 7  | 9  | 6  | 5  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 8  | 7  |
| D2 = 36  | 7   | 3   | 1  | 2  | -  | 3* | 4* | 2  | 4  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 5Z = 37  | 1   | -   | -  | 1* | 5* | 5  | 4  | 4  | 6  | 8  | 8  | 7  | 8  | 8  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  |
| ZS6 = 38 | -   | -   | -  | -  | 4* | 4* | 5  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 6  | 2  | 1  | -  |
| FR = 39  | -   | -   | 4* | 5* | 4* | 5  | 4  | 4  | 5  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 6  | 5  | 6  | 5  | 4* | 4* | 2* | -  | -  | -  |
| FJL = 40 | -   | -   | -  | 2* | 4* | 2* | 2* | 2* | 2* | 3* | 2* | -  | -  | -  | 1  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Jan., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 4  | 1* | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 8  | 9  | 9  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 8  | 7  | 8  | 8  | 9  | 8  | 8  | 6  | 4  | -  |
| W6 = 03  | 9       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 6  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 7  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 2  |
| XE1 = 06 | 8       | 6  | 8  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 6       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | -  | -  | -  | 1  | 4  | 9  | 9  | 9  | 8  |
| VP2 = 08 | 5       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 1  | 1* | -  | -  | 1* | 2  | 6  | 9  | 9  | 9  | 8  |
| P4 = 09  | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1* | 1* | -  | -  | -  | 1* | 3  | 7  | 8  | 8  | 6  |
| HC = 10  | 3*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 8  | 9  | 9  | 1  | 4  | 4  | 4  |
| PY1 = 11 | 5*      | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 5  | 6  | 6  | 6* | 6* | 6* |
| CE = 12  | 9       | 8  | 8  | 5  | 1  | -  | 1  | -  | -  | -  | 2  | 4  | 6  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  |
| LU = 13  | 6*      | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1  | 3* | 5* | 6* | 6* |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 9  | 8  | 8  | 7  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | 1* | -  | -  | 3  | 5  | 2  | 4  | 5  | 8  | 8  | 9  | 8  | 4  | 3  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | 1  | 7  | 7  | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 1* | 5* | 1* | 1  | 3  | 2* | 1* | -  | -  | 4  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | 4* | 1* | 1* | 1* | -  | 1* | 1* | -  | 1* | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 4       | 8  | 5  | 5  | 2  | -  | 1  | -  | 1* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 4       | -  | -  | -  | -  | 5* | 1* | -  | -  | -  | 5  | 6  | 5  | 5  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  |
| HZ = 21  | -       | -  | -  | -  | 5* | 1  | 1* | -  | -  | -  | 2  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 8  | 7  | 5  | 1  |
| VU = 22  | -       | -  | 3* | 2* | 2* | 2* | 1* | -  | -  | 1  | 5  | 5  | 5  | 5  | 6  | 6  | 7  | 5  | 1  | -  | -  | -  | -  | -  |
| JT = 23  | 5*      | 1* | 1* | 1* | 1  | 2  | 1* | 1* | -  | 1* | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 8*      | 7* | 5* | 2* | 1* | -  | 1* | -  | 1  | 2  | 6  | 7  | 7  | 7  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | 1* |
| JA1 = 25 | 9       | 7  | 5  | 5  | 5  | 1  | 3  | -  | -  | 1* | 8* | 6* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  |
| HS = 26  | 6*      | 5* | 3  | 2* | 1* | -  | -  | -  | 1  | 1  | 5  | 7  | 7  | 8  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  |
| DU = 27  | 8*      | 5* | 2* | 2* | 1* | -  | -  | -  | 1  | 1  | 5  | 7  | 7  | 6  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | 1* |
| YB = 28  | 7*      | 6* | 4* | 2* | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 7* | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 5*      | 5* | 2* | 3  | -  | -  | -  | -  | -  | -  | 5* | 6* | 5* | 4* | 3* | 2* | 2* | 2* | 2* | 1* | -  | -  | -  | 4* |
| VK3 = 30 | 4*      | 4  | 5  | 4  | 4  | 1  | 2  | 2  | 2  | 3  | 3  | 5* | 5* | 4* | 3* | 2* | 2* | 2* | 1* | -  | -  | 1* | 3* | 4* |
| KH6 = 31 | 8       | 8  | 8  | 8  | 5  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 6  | 6* | 6  | 6  | 7  |
| KH8 = 32 | 7       | 6  | 6  | 6  | 7  | 7  | 7  | 5  | 1  | 1  | 4* | 4* | 4  | 1  | -  | -  | -  | 4  | 7  | 8  | 8  | 8  | 7  | 7  |
| CN = 33  | 6       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 8  | 7  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  |
| SU = 34  | 4       | -  | -  | -  | -  | 4* | 1* | 1* | -  | -  | 5  | 6  | 5  | 5  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 3  | 5  | 6  | 7  | 5  | 2  | 1  | -  |
| D2 = 36  | 1       | -  | -  | -  | -  | -  | 1* | -  | -  | 1  | 6  | 7  | 6  | 7  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 7  | 6  | 3  |
| SZ = 37  | -       | -  | -  | -  | 4* | 2* | 1* | -  | 1  | 1  | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 3  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 1* | 1  | 1  | 2  | 4  | 4  | 5  | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 4  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 3* | 1* | 1  | -  | -  | 2  | 2  | 7  | 5  | 6  | 5  | 6  | 2  | 3* | 2* | 3* | 2* | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |

Zone            UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Jan., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 5       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 8  | 7  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 7  | 6  | 7  | 7  | 5  | 1  | -  | -  | -  |
| W6 = 03  | 4       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 8  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 4  | 7  | 7  | 7  | 7  | 7  | 7  | 5  | 1  | -  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 4  | 2  | 5  | 4  | 4  | 4  | 2  | 2  | 3  | 2* | -  |
| XE1 = 06 | 5       | 1  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 2  | 2  | 3  | 4  | 4  | 6  | 8  | 8  | 9  | 9  |
| TI = 07  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 1* | -  | 2  | 4  | 4  | 2  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 1* | 1  | 4  | 5  | 4  | 2  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 1* | 1* | 1  | 2  | 2  | 1  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 1* | 1* | -  |
| PY1 = 11 | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 4* | 5* | 6* | 6* | 4* | 1* |
| CE = 12  | 7       | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 8  | 8  | -  |
| LU = 13  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 4* | 5* | 5* | 3* | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 7  | 7  | 6  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 8  | 8  | 8  | 3  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | 3* | -  | -  | -  | 1* | -  | -  | -  | -  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | 3* | 1* | -  | -  | -  | -  | 1  | 3  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 2  |
| HZ = 21  | -       | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | 5  | 3  | 5  | 7  | 8  | 8  | 8  | 8  | 7  | 4  | 2  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 4  | 7  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 7*      | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | 7       | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| HS = 26  | 1*      | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 6  | 6  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  |
| DU = 27  | 7*      | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 2  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | 1*      | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 3*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 4* | 2* | 2* | 2* | 1* | 1* | -  | -  | -  | -  | -  | 1* |
| VK3 = 30 | 2*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 2* | 2* | 2* | 1* | 1* | 1* | -  | -  | -  | -  | 1* | 2* | -  |
| KH6 = 31 | 8       | 6  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 7  | 8  | 7  | 7  | -  |
| KH8 = 32 | 6       | 3  | 1  | 1  | 1  | 1  | 3  | 1  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 7  | 8  | -  |
| CN = 33  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 4  | 5  | 6  | 8  | 8  | 9  | 8  | 7  | 4  | 3  | 1  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | 1  | 3  | 1  | 4  | 6  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 3  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2  | 1  | 1  | -  | -  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | 4  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | 1  | 1  | -  |
| 5Z = 37  | -       | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 6  | 8  | 7  | 7  | 6  | 6  | 7  | 6  | 4  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 3  | 2  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 1  | 2* | 1* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |

Zone UTC --> \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Feb., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | -  | -  | -  | -  | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 3  | 4  | 5  | 5  | 5  | 5  | 5  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -  | -  | -  | 1  | 3  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -  | 3  | 3  | 5  | 5  | 5  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1  | 3  | 4  | 5  | 5  | 4  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -  | 3  | 3  | 4  | 5  | 5  | 4  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2  | 2  | 3  | 3  | 4  | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 1  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 1  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 4  | 5  | 5  | 5  | 5  | 4  | 5  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| PY1 = 11 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  | 9  |
| CE = 12  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 9  |
| LU = 13  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  | 9  |
| G = 14   | 4  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 3  | 4  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA3 = 16 | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VU = 22  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5  | 5  | 5  | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| SU = 34  | 3  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 6W = 35  | 4  | 4  | 4  | 3  | 3  | 3  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| D2 = 36  | 4  | 4  | 4  | 3  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 3  |
| 5Z = 37  | 5  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| ZS6 = 38 | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 4  |
| FR = 39  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| FJL = 40 | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Feb., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | 1  | 2  | 3  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 6       | 7  | 8  | 8  | 8  | 8  | 8  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 = 03  | -       | 1  | 2  | 4  | 6  | 7  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 3       | 6  | 6  | 8  | 8  | 8  | 8  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W3 = 05  | 4       | 6  | 7  | 8  | 8  | 7  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | 1       | 6  | 6  | 7  | 8  | 8  | 7  | 7  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5       | 5  | 6  | 6  | 7  | 7  | 7  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VP2 = 08 | 4       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| P4 = 09  | 4       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| HC = 10  | 7       | 8  | 8  | 8  | 8  | 7  | 8  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | -  | 2  | 8  | 9  | 9  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 3  | -  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ |
| G = 14   | 7       | 8  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| I = 15   | 6       | 7  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| UA3 = 16 | 5       | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| UN = 17  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA9 = 18 | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 6  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| HZ = 21  | 5       | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| VU = 22  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 2  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 1  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| SU = 34  | 6       | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| 6W = 35  | 7       | 7  | 7  | 6  | 6  | 6  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| D2 = 36  | 7       | 7  | 7  | 6  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| 5Z = 37  | 8       | 7  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| FR = 39  | 8       | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| FJL = 40 | 3       | 4  | 3  | 3  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Feb., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 1            | 3  | 5  | 7  | 7  | 6  | 6  | 7  | 7  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 =   | 02 | 8            | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  |
| W6 =    | 03 | 2            | 4  | 6  | 7  | 8  | 8  | 8  | 7  | 7  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 =    | 04 | 7            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  |
| W3 =    | 05 | 7            | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  |
| XE1 =   | 06 | 6            | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| TI =    | 07 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  |
| VP2 =   | 08 | 9            | 9  | 9  | 8  | 8  | 7  | 8  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| P4 =    | 09 | 8            | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| HC =    | 10 | 8            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 4  | 4  | 6  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 4  | 1  | 1  | 1  | 3  | 7  | 9  | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 7  | 7  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 7            | 7  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 8  | 7  |
| I =     | 15 | 8            | 8  | 8  | 8  | 5  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 6  | 7  |
| UA3 =   | 16 | 6            | 6  | 7  | 7  | 5  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  |
| UN =    | 17 | 5            | 5  | 6  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | 2  |
| UA9 =   | 18 | 6            | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 6  |
| UA0 =   | 19 | -            | -  | -  | -  | -  | -  | -  | 1  | 1  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X =    | 20 | 7            | 7  | 7  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| HZ =    | 21 | 7            | 8  | 7  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 7  |
| VU =    | 22 | 6            | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  |
| JT =    | 23 | 6            | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  |
| VR2 =   | 24 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 3  | -  |
| JA1 =   | 25 | -            | -  | -  | -  | -  | -  | -  | 1  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  |
| HS =    | 26 | 5            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  |
| DU =    | 27 | -            | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| YB =    | 28 | 1            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 4  |
| VK6 =   | 29 | 1            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | 1  |
| VK3 =   | 30 | -            | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 =   | 31 | -            | -  | -  | 2  | 5  | 6  | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | -  | -  | -  | 2  | 6  | 7  | 8  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 8            | 9  | 8  | 8  | 8  | 7  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  |
| SU =    | 34 | 7            | 7  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| 6W =    | 35 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  |
| D2 =    | 36 | 9            | 9  | 9  | 8  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  |
| 5Z =    | 37 | 8            | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  |
| ZS6 =   | 38 | 9            | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  | 9  | 9  |
| FR =    | 39 | 8            | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| FJL =   | 40 | 7            | 8  | 8  | 8  | 7  | 6  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | -  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 30 Meters: Feb., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 3       | 7  | 6  | 8  | 7  | 7  | 5  | 6  | 7  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 8  |
| W6 = 03  | 4       | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W9 = 04  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| W3 = 05  | 8       | 9  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  |
| XE1 = 06 | 8       | 8  | 9  | 8  | 9  | 8  | 8  | 9  | 8  | 7  | 6  | 1  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 5  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 6  | 7  | 7  |
| UA3 = 16 | 8       | 8  | 8  | 7  | 6  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 7  |
| UN = 17  | 7       | 7  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 7  |
| UA9 = 18 | 5       | 4  | 4  | 4  | 3  | 2  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 5  | 6  |
| UA0 = 19 | -       | 1  | 1  | 1  | -  | -  | 1  | 5  | 3* | 2  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3  | 1  | 1  |
| 4X = 20  | 8       | 8  | 8  | 6  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| HZ = 21  | 8       | 8  | 8  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 7  | 8  |
| VU = 22  | 7       | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 6  | 6  |
| JT = 23  | 6       | 5  | 4  | 1  | 1  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 6  |
| VR2 = 24 | 5       | 1  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  | 6  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | 5* | 2* |
| HS = 26  | 7       | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  |
| DU = 27  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 4  | 4  |
| YB = 28  | 5       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 6  | 6  | 6  |
| VK6 = 29 | 3       | 1  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  | 4  |
| VK3 = 30 | -       | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 1  | -  | -  |
| KH6 = 31 | -       | 1  | 3  | 5  | 6  | 7  | 7  | 7  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | 1  | 3  | 5  | 6  | 7  | 8  | 8  | 8  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 8  | 6  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 7  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 8  | 8  |
| ZS6 = 38 | 9       | 8  | 8  | 9  | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 9  | 9  |
| FR = 39  | 9       | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 9  |
| FJL = 40 | 7       | 7  | 6  | 5  | 4  | 2  | 2  | 4  | 4  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 5  | 6  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 20 Meters: Feb., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 8  | 9  | 9  | 8  | 4  | 1  | 1* | 2  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 5  | 4  | 7  | 8  |
| VO2 = 02 | 9       | 8  | 6  | 7  | 8  | 8  | 8  | 8  | 6  | 6  | 8  | 8  | 6  | 2  | 1  | -  | -  | -  | 2  | 5  | 7  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | -  | 4  | 2  | 1  | -  | -  | -  | -  | 2  | 1  | 3  | 8  |
| W9 = 04  | 9       | 9  | 9  | 8  | 7  | 8  | 8  | 9  | 9  | 8  | 7  | 6  | 8  | 5  | 2  | -  | -  | -  | 1  | 1  | 2  | 8  | 9  | 9  |
| W3 = 05  | 9       | 9  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 8  | 7  | 7  | 9  | 8  | 5  | 1  | 1  | -  | 1  | 1  | 2  | 7  | 8  | 9  |
| XE1 = 06 | 9       | 9+ | 9  | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 2  | -  | 7  | 6  | 5  | 2  | 1  | 1  | 1  | 2  | 4  | 6  | 8  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | 1* | 8  | 8  | 5  | 5  | 3  | 2  | 2  | 2  | 4  | 7  | 9  | 9  | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | -  | 5  | 9  | 8  | 5  | 3  | 2  | 2  | 2  | 5  | 7  | 8  | 9  | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 1* | -  | 9  | 8  | 6  | 4  | 2  | 2  | 3  | 4  | 7  | 8  | 9  | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | 5  | 9  | 8  | 8  | 8  | 6  | 4  | 4  | 5  | 6  | 7  | 8  | 9  | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9  | 8  | 9+ | 9  | 6  | 5  | 2  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 8  | 9  | 9  | 9  | 7  | 6  | 8  | 8  | 8  | 6  | 2  | 1  | -  | -  | -  | 1  | 2  | 5  | 8  | 8  | 9  | 9  | 9  |
| I = 15   | 9       | 9  | 9  | 9  | 9  | 6  | 7  | 9  | 8  | 5  | 3  | 2  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 8  | 9  | 9  | 9  |
| UA3 = 16 | 6       | 6  | 6  | 4  | 2  | 4  | 8  | 7  | 6  | 5  | 3  | 2  | 1* | -  | -  | -  | -  | 2  | 4  | 7  | 7  | 5  | 5  | 5  |
| UN = 17  | 8       | 6  | 7  | 8  | 7  | 5  | 4  | 2  | 1  | 4* | 2* | 2* | 2* | -  | -  | -  | -  | 1  | 1  | 1  | 2  | 5  | 8  | 8  |
| UA9 = 18 | 1*      | 1* | 3* | 5  | 7  | 7  | 6  | 6  | 6  | 5* | 5* | 8  | 4* | 1* | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 2* |
| UA0 = 19 | 6       | 7  | 4  | 4  | 7  | 6  | 7  | 6  | 8  | 8  | 6* | 5* | 4* | 2* | -  | -  | -  | 1* | 2* | 1* | -  | 1  | 6  | 5* |
| 4X = 20  | 9       | 9  | 9  | 8  | 2  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 8  | 3  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  | 1       | -  | 5  | 8  | 8  | 5  | 2  | 1  | -  | 1* | 2* | 2* | 2* | 1* | -  | -  | 1  | 1  | 4  | 8  | 8  | 9  | 9  | 9  |
| JT = 23  | 2*      | 4  | 7  | 7  | 4  | 4  | 2  | 5  | 6  | 7* | 7* | 8  | 2* | 2* | 1* | -  | -  | -  | -  | 1  | 2  | 3  | 2  | 2* |
| VR2 = 24 | 8       | 7  | 6  | 2  | -  | -  | 1* | 3* | 7* | 7* | 8* | 6* | 4* | 2* | -  | -  | 1  | 2  | 4  | 6  | 8  | 8  | 4* | 5  |
| JA1 = 25 | 6*      | 5* | 2  | 4  | 5  | 6  | 7  | 8  | 9  | 9  | 8  | 5  | 4  | 1  | -  | -  | -  | 2* | 4* | 4* | 1  | 6  | 5  | 8* |
| HS = 26  | 9       | 9  | 8  | 5  | 1  | -  | -  | -  | 2* | 5* | 7  | 3* | 2* | 1* | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 8  |
| DU = 27  | 7       | 5  | 2  | -  | -  | -  | 1* | 2  | 8  | 6  | 7* | 5  | 3  | 1  | -  | -  | 1  | 2  | 5  | 7  | 7  | 6  | 8  | 8  |
| YB = 28  | 9       | 8  | 6  | 4  | 1  | -  | -  | -  | 4* | 4* | 7  | 8  | 2  | 1  | 1  | 1  | 2  | 4  | 6  | 8  | 8  | 8  | 8  | 8  |
| VK6 = 29 | 8       | 8  | 7  | 7  | 5  | 4  | 6  | 7  | 8  | 8  | 7  | 7  | 5  | 5  | 4  | 2  | 1  | 2  | 1  | 1  | 2  | 3  | 6  | 8  |
| VK3 = 30 | 6       | 6  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | 3  | 6  | 7  | 7  | 6  |
| KH6 = 31 | 3       | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 2  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 1  |
| KH8 = 32 | 2       | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 5  | 2  | 1  | -  | 1* | 1* | -  | 1  | 1  |
| CN = 33  | 9+      | 9+ | 9+ | 9  | 9  | 8  | 1  | 6  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | 1  | 3  | 6  | 9  | 9  | 9  | 9  | 9+ |
| SU = 34  | 9       | 9  | 9  | 9  | 3  | 8  | 8  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4  | 9  | 9  | 9  | 8  | 5  | 3  | 2  | 2  | 4  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 9  | 9  | 7  | 5  | 7  | 9  | 7  | 7  | 5  | 3  | 1  | 1  | 1  | 2  | 5  | 7  | 9  | 9  | 9  | 9  | 9  | 9  |
| 5Z = 37  | 9       | 8  | 8  | 6  | 7  | 9  | 9  | 8  | 5  | 2  | 1  | 1  | -  | 1  | 2  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9+ | 9  |
| ZS6 = 38 | 9       | 8  | 5  | 6  | 6  | 8  | 9  | 9  | 8  | 6  | 5  | 5  | 4  | 4  | 3  | 4  | 5  | 7  | 9  | 9  | 9  | 9  | 9  | 9  |
| FR = 39  | 5       | 1  | 2  | 6  | 9  | 8  | 8  | 6  | 3  | 2  | 1  | 1  | 2  | 2  | 2  | 3  | 4  | 6  | 8  | 9  | 9  | 8  | 5  | 4  |
| FJL = 40 | 1       | 2  | 1  | 1* | 1* | 2* | 2* | 2* | 3* | 4  | 6  | 6  | 3  | -  | -  | -  | -  | 1  | 4  | 6  | 3  | 4  | 2  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Feb., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9            | 9  | 9  | 8  | 2  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 4  | 6  | 8  | 8  | 9  |
| VO2 = 02 | 8            | -  | -  | 1  | 2  | 2  | 5  | 2  | 1  | 1  | -  | 9  | 9  | 8  | 4  | 3  | 2  | 6  | 8  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9            | 9  | 9  | 8  | 7  | 5  | 5  | 6  | 8  | 7  | 7  | 4  | -  | -  | 8  | 4  | 3  | 2  | 3  | 5  | 4  | 6  | 8  | 9  |
| W9 = 04  | 9            | 8  | 2  | 1  | 1  | 1  | 2  | 6  | 6  | 4  | 1  | -  | 8  | 8  | 5  | 5  | 3  | 2  | 5  | 7  | 8  | 9  | 9  | 9+ |
| W3 = 05  | 9            | 5  | -  | 6  | 2  | 3  | 5  | 6  | 5  | 1  | 1  | 5  | 9  | 8  | 6  | 3  | 3  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| XE1 = 06 | 9            | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | 8  | 8  | 6  | 6  | 5  | 5  | 8  | 7  | 9  | 9  | 9  |
| TI = 07  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 3  | -  | -  | -  | 9  | 9  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | 9+ | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | -  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | -  | -  | 5  | 9  | 9  | 9  | 9  | 7  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+           | 9+ | 9  | 7  | 5  | 9  | 8  | 2  | 1* | 2* | 2* | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 7  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9            | 7  | 2  | 1  | 1* | 1* | 5  | 2* | 3* | 2* | 2* | 1* | 1  | 2  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 4            | 2  | 3  | 6  | 8  | 3  | -  | 5  | 6  | 9  | 8  | 7  | 7  | 5  | 4  | 2  | 4  | 6  | 9  | 9  | 9  | 9  | 6  | 3  |
| I = 15   | 9            | 9  | 9  | 8  | 7  | 1  | 6* | 8  | 7  | 8  | 6  | 5  | 4  | 3  | 1  | 1  | 3  | 5  | 9  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | 1            | 1  | -  | 1* | 3* | 2* | 6  | 6  | 3  | 6  | 6  | 4  | 7  | 3  | 2  | 1  | 4  | 6  | 7  | 4  | 2  | -  | -  | -  |
| UN = 17  | 2*           | 1* | 3  | 8  | 9  | 8  | 7  | 5* | 4  | 3  | 3* | 4  | 7  | 4* | 1  | 2  | 3  | -  | -  | -  | -  | -  | 2  | 2  |
| UA9 = 18 | 2*           | 2* | 2* | 1* | 6  | 7  | 7  | 5  | 5* | 6  | 7* | 6* | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| UA0 = 19 | 9            | 8  | 7  | 7  | 7  | 6  | 9  | 9  | 7  | 7* | 8* | 8* | 6* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | 2* | 8  |
| 4X = 20  | 9            | 9  | 8  | 4  | 2* | 6  | 9  | 6  | 6  | 5  | 5  | 4  | 3  | 1  | 2  | 4  | 4  | 6  | 8  | 9  | 9  | 9  | 9+ | 9  |
| HZ = 21  | 9            | 9  | 5  | 1* | 5  | 8  | 6  | 4  | 5  | 5  | 4  | 4  | 8  | 2  | 2  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -            | -  | 3* | 9  | 8  | 6  | 4  | 2  | 3  | 2  | 5  | 4  | 5  | 1  | 2* | 2  | 4  | 5  | 7  | 8  | 8  | 8  | 8  | 4  |
| JT = 23  | 1*           | 3* | 5  | 7  | 5  | 4  | 7  | 5  | 5* | 6* | 7* | 8* | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VR2 = 24 | 9            | 9  | 8  | 6  | 3  | 4* | 6* | 7* | 7* | 6  | 5  | 9* | 7* | 5* | 5  | 5  | 4  | 5  | 7  | 8  | 8  | 2  | 2* | 2* |
| JA1 = 25 | 8*           | 8  | 8  | 6  | 8  | 8  | 9  | 9  | 9  | 8  | 4* | 5* | 5* | 5* | 5* | 4* | 2* | 2* | 1* | -  | 2  | 5  | 5  | 9* |
| HS = 26  | 6            | 9  | 8  | 6  | 5  | 3  | 2  | 5* | 6  | 6  | 6  | 6  | 5  | 5  | 5  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 5  | 1* |
| DU = 27  | 9            | 8  | 7  | 5  | 3  | 2  | 5* | 6* | 5  | 7  | 7  | 7  | 6  | 7  | 6  | 6  | 6  | 7  | 7  | 7  | 3  | -  | 2* | 9  |
| YB = 28  | 9            | 9  | 8  | 7  | 5  | 3  | 2  | 4* | 5  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 7  | 7  | 6  | 4  | 1  | -  | 4* |
| VK6 = 29 | 7            | 8  | 8  | 8  | 7  | 5  | 6  | 5  | 7  | 8  | 8  | 8  | 7  | 5  | 1  | -  | 1* | 1* | 2* | 3* | 2* | 1* | 5* | 4* |
| VK3 = 30 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 5  | 2  | 1* | -  | -  | 1* | 1* | 2* | 2* | 5  | 8  | 8  |
| KH6 = 31 | 7            | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | 8  | 7  | -  | -  | -  | -  | 2  | 1  | 8  | 8  | 3  | 3  | 5  |
| KH8 = 32 | 5            | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 4  | 6  | 5  | 3  | 7  | 7  | 3* | 3  | 4  |
| CN = 33  | 9+           | 9+ | 9  | 9  | 9  | 4  | -  | 5* | 5  | 8  | 9  | 8  | 6  | 4  | 4  | 4  | 6  | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9            | 9  | 9  | 6  | 5* | 4  | 9  | 7  | 6  | 7  | 5  | 4  | 4  | 1  | 2  | 4  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+           | 9+ | 9+ | 9+ | 9+ | 8  | 1  | 2* | 2* | 9  | 9+ | 9  | 8  | 8  | 6  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9            | 7  | 5  | 5  | 3  | 1  | 4  | 5  | 6  | 8  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| 5Z = 37  | 5            | 1  | 3  | 2* | 1  | 8  | 8  | 6  | 8  | 7  | 5  | 3  | 5  | 7  | 5  | 4  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  |
| ZS6 = 38 | 3            | -  | -  | -  | 2* | 4  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 6  | 5  |
| FR = 39  | -            | -  | 4* | 2* | 8  | 8  | 7  | 7  | 7  | 6  | 6  | 6  | 8  | 6  | 6  | 7  | 8  | 8  | 8  | 6  | 2* | 2* | 1* | -  |
| FJL = 40 | -            | 1* | 2* | 3* | 1* | 1* | 3* | 4* | 4* | 6* | 6* | 4  | 6  | 5  | 3  | 2  | 3  | 2  | 1  | -  | -  | -  | -  | -  |
| Zone     | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Feb., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 9   | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 7  | 8  | 8  |
| VO2 = 02 | 1   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 8  |
| W6 = 03  | 9   | 9+  | 9  | 2  | 1  | -  | -  | -  | -  | 5  | 2  | 3  | -  | -  | -  | -  | 5  | 7  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 9  |
| W9 = 04  | 9   | 2   | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | -  | -  | -  | 3  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9  |
| W3 = 05  | 6   | -   | -  | 1  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | 8  | 9  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9+ | 9  |
| XE1 = 06 | 9   | 9   | 9  | 9  | 9  | 9  | 3  | 3  | 1  | -  | -  | -  | -  | -  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 8  | 5  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+  | 9   | 9  | 9+ | 9  | 8  | 7  | 2  | -  | -  | -  | -  | 1  | 9  | 9  | 9  | 8  | 6  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9   | 8   | 7  | 8  | 8  | 7  | 2  | 2  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 5  | 9  | 9  | 4  | 6  | 9  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 9   | 5   | 1  | 2* | 2* | 4  | 1  | -  | -  | -  | 1* | -  | 1* | 1  | 2  | 5  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+  | 9+  | 9+ | 9  | 9  | 9  | 9  | 8  | 2  | -  | -  | -  | 5  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 4   | 5*  | 4* | 2* | 2* | 2* | 2* | 1* | 1* | -  | -  | 1* | 1* | -  | -  | 4  | 7  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 8  | 8  |
| G = 14   | -   | -   | -  | 1  | 3  | -  | -  | 2* | 2  | 3  | 9  | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 8  | 4  | -  | -  | -  |
| I = 15   | 5   | 5   | 6  | 5  | 2  | -  | 5* | 4  | 2  | 5  | 8  | 6  | 6  | 6  | 6  | 5  | 6  | 5  | 7  | 8  | 9  | 9  | 9  | 7  | 5  | 5  |
| UA3 = 16 | -   | -   | -  | -  | 3* | 3* | 3* | 2  | 1  | 1  | 7  | 5  | 5  | 5  | 5  | 4  | 4  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -   | 3*  | 2* | 5  | 8  | 7  | 5  | 4* | 2* | 2  | 5  | 5  | 5* | 3  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 4*  | 2*  | 2* | 2* | 2* | 5  | 6  | 2* | 2* | 2* | 6  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 9   | 9   | 8  | 8  | 9  | 9  | 8  | 8  | 2  | 5* | 7* | 8* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8* |
| 4X = 20  | 9   | 9   | 4  | -  | 5* | 3* | 7  | 4  | 2  | 3  | 6  | 4  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9   | 5   | -  | 5* | 4* | 6  | 2  | 2* | 1  | 4  | 4  | 3  | 3  | 4  | 4  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -   | 4*  | 4* | 8  | 4* | 3  | 2  | 2* | 2  | 5  | 2  | 2  | 4* | 5* | 4  | 5  | 5  | 7  | 8  | 7  | 5  | 2  | 2  | -  | -  | -  |
| JT = 23  | 3*  | 3*  | 3* | 6  | 8  | 7  | 6  | 3* | 2* | 2  | 6  | 8* | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* |
| VR2 = 24 | 7   | 8   | 6  | 6* | 4* | 4* | 6* | 7* | 5* | 5  | 6  | 8* | 6  | 7  | 6  | 6  | 7  | 7  | 8  | 8  | 6  | -  | -  | 6* | 6* |    |
| JA1 = 25 | 8   | 8   | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 4* | 6* | 7* | 7* | 6* | 4* | 1* | -  | -  | -  | -  | -  | -  | 5  | 7  | 8  | 8  |
| HS = 26  | 6*  | 8   | 5  | 5* | 2* | 2* | 3* | 4* | 2  | 4  | 5  | 6  | 6  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 8  | 5  | -  | -  | -  | -  |
| DU = 27  | 8   | 7   | 5  | 5* | 4* | 4* | 5* | 4* | 2  | 5  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | 8  |
| YB = 28  | 8*  | 8   | 6  | 5* | 4* | 3* | 4* | 4* | 2  | 6  | 7  | 8  | 8  | 7  | 6  | 5  | 5  | 4  | 2* | -  | -  | -  | -  | -  | -  | 3* |
| VK6 = 29 | 6*  | 6   | 6  | 4  | 2* | 1* | 2* | 1  | 3  | 6  | 5  | 7* | 5  | 4* | 2* | 2* | 1* | 2* | 2* | 2* | 2* | -  | -  | 2* | 5* | 5* |
| VK3 = 30 | 8   | 8   | 8  | 8  | 7  | 6  | 6  | 6  | 6  | 7  | 5  | 6  | 4* | 3* | 2* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 3* | 6  | 6  | 6  |
| KH6 = 31 | 8   | 9   | 9  | 9  | 9  | 9  | 9+ | 9  | 6  | 1  | -  | 6  | 4  | -  | -  | -  | -  | 5  | 4  | 3  | 5* | 4  | 5  | 7  | 7  | 7  |
| KH8 = 32 | 7   | 8   | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3* | 5  | 8  | 5  | 1* | 1* | 2  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 7  | 7  |
| CN = 33  | 9   | 9   | 9  | 8  | 6  | -  | -  | 3* | 1  | 1  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9   | 9   | 8  | 2  | 4* | 3* | 7  | 4  | 2  | 6  | 6  | 4  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9   | 9+  | 9  | 9  | 6  | 3  | -  | -  | 1* | -  | 9  | 9  | 9  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  |
| D2 = 36  | 6   | 1   | -  | 1  | -  | 4* | 5* | 3* | 4  | 8  | 7  | 6  | 5  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  |
| 5Z = 37  | -   | -   | -  | 1* | 5* | 5* | 4  | 4  | 6  | 8  | 6  | 6  | 5  | 8  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 7  |
| ZS6 = 38 | -   | -   | -  | -  | 3* | 3* | 4* | 4  | 7  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  |
| FR = 39  | -   | -   | 4* | 6* | 4* | 2  | 2  | 4  | 6  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 4* | 2* | 2* | -  | -  | -  |
| FJL = 40 | -   | -   | 1* | 3* | 1* | 1* | 1* | 1* | 1* | 2* | 2* | -  | 1  | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Feb., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 8   | 7   | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 7  | 8  | 8  | 8  |
| VO2 = 02 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 2  |
| W6 = 03  | 9   | 9   | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  |
| W9 = 04  | 5   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 7  |
| XE1 = 06 | 9   | 9   | 9  | 9  | 8  | 7  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| TI = 07  | 9   | 7   | 5  | 6  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 6  | 4  | 3  | 3  | 4  | 6  | 9  | 9  | 9  | 9  |
| VP2 = 08 | 7   | 5   | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 6  | 4  | 3  | 2  | 2  | 4  | 6  | 9  | 9  | 9  | 9  |
| P4 = 09  | 6   | 4   | 2  | 4  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 9  | 6  | 4  | 2  | 1  | 1  | 1  | 5  | 7  | 8  | 8  | 8  |
| HC = 10  | 4   | 1   | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 9  | 9  | 9  | 9  | 2  | 5  | 6  | 6  | 6  |
| PY1 = 11 | 5*  | 3*  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | 1  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 8  |
| CE = 12  | 9+  | 8   | 4  | 3  | 2  | 1  | 6  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 5*  | 3*  | 2* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 2  | 3  | 5  | 5  | 4  | 5* | 5* |
| G = 14   | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 3  | -  | -  | -  |
| I = 15   | -   | -   | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | 8  | 8  | 8  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 7  | 4  | 1  | -  |
| UA3 = 16 | -   | -   | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 6  | 8  | 7  | 6  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -   | 3*  | 3* | 2* | 7  | 5  | 2  | 1* | -  | -  | -  | -  | 6  | 7  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 1*  | 3*  | 1* | -  | -  | 1  | 3  | -  | -  | -  | -  | -  | 6  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 7   | 8   | 9  | 9  | 8  | 7  | 7  | 4  | -  | 1* | 4* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* |
| 4X = 20  | 8   | 7   | -  | -  | 3* | 2* | 2  | 1* | -  | -  | 7  | 6  | 7  | 7  | 8  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 5   | -   | -  | 3* | 5* | 2* | 2* | 1* | -  | -  | 5  | 5  | 5  | 7  | 8  | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| VU = 22  | -   | 4*  | 6* | 5* | 4* | 2* | 2* | 1* | -  | 1  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 6  | 7  | 5  | 1  | -  | -  | -  | -  | -  |
| JT = 23  | 5*  | 2*  | 1* | 2  | 7  | 6  | 3  | -  | -  | -  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 8*  | 8*  | 7* | 6* | 6* | 6* | 6* | 4* | 1  | 2  | 7  | 8  | 8  | 7  | 6  | 6  | 6  | 6  | 7  | 6  | 3  | -  | -  | -  | -  | 5* |
| JA1 = 25 | 8   | 9   | 9  | 8  | 9  | 9  | 8  | 7  | 2  | 1* | 6* | 8* | 7* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 8  |
| HS = 26  | 5*  | 7*  | 6* | 5* | 4* | 3* | 4* | 2* | -  | 1  | 5  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  |
| DU = 27  | 8*  | 6*  | 5* | 5* | 5* | 4* | 4* | 2* | -  | -  | 5  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | 5* |
| YB = 28  | 7*  | 7*  | 6* | 5* | 3* | 3* | 2* | 2* | -  | 1  | 6  | 8  | 8  | 6  | 3* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 6*  | 5*  | 5* | 3* | 2* | 1* | 1* | -  | -  | 1  | -  | 6* | 6* | 5* | 4* | 3* | 2* | 2* | 1* | 1* | -  | -  | -  | -  | -  | 5* |
| VK3 = 30 | 5   | 4   | 5  | 5  | 1  | 1* | 1  | 1  | -  | 1  | 1* | 3* | 3* | 2* | 2* | 1* | 1* | 1* | 1* | -  | -  | -  | 1* | 3* | 5* | 5* |
| KH6 = 31 | 8   | 9   | 9  | 9  | 9  | 9  | 9  | 7  | 1  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | 5  | 2  | 2  | 5* | 5* | 7  | 8  | 8  |
| KH8 = 32 | 7   | 8   | 8  | 8  | 8  | 7  | 8  | 6  | 3  | 1  | 5* | 5* | 5* | 4* | 1* | -  | -  | -  | 2  | 6  | 7  | 7  | 6  | 6  | 6  | 6  |
| CN = 33  | 8   | 8   | 7  | 4  | 2  | -  | -  | 1* | -  | -  | 5  | 7  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| SU = 34  | 9   | 8   | 2  | -  | -  | 2* | 2  | 1* | -  | 2  | 7  | 6  | 7  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 4   | 5   | 4  | 1  | -  | -  | -  | -  | -  | -  | 5  | 9  | 6  | 4  | 3  | 4  | 5  | 6  | 8  | 8  | 8  | 8  | 6  | 4  | 2  | 2  |
| D2 = 36  | -   | -   | -  | -  | -  | 1* | 5* | 1* | -  | 2  | 8  | 6  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 7  | 6  | 3  |    |
| 5Z = 37  | -   | -   | -  | -  | 5* | 5* | 4* | 1* | 1  | 4  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | -  | -  |
| ZS6 = 38 | -   | -   | -  | -  | -  | 4* | 4* | 2* | 2  | 4  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 1* | -  | -  | -  | -  |
| FR = 39  | -   | -   | -  | 6* | 6* | 4* | 2* | -  | 1  | 3  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 3  | 4* | 3* | -  | -  | -  | -  | -  |
| FJL = 40 | -   | -   | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | </ |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Feb., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 6       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 6  | 7  | 6  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 7  | 6  | 6  | 7  | 7  | 5  | 2  | 2  | -  |
| W6 = 03  | 9       | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 6  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 7  | 6  | 6  | 7  | 6  | 7  | 6  | 7  | 2  |
| XE1 = 06 | 9       | 9  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 6  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  |
| TI = 07  | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 1  | 1* | 1* | 1* | 1* | 1  | 4  | 6  | 6  | 5  |
| VP2 = 08 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 1* | 1* | 1* | 1* | 1* | 2* | 4  | 5  | 5  | 4  |
| P4 = 09  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | 1* | 2* | 2* | 2* | 3  | 3  | 3  | 2  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 9  | 8  | 8  | 8  | 9  | 9+ | 8  | -  | -  |
| PY1 = 11 | 4*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | 2  | 4  | 6* | 6* | 6* | 6* |
| CE = 12  | 8       | 2  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| LU = 13  | 2*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | -  | -  | 2* | 3* | 4* | 5* | 5* | 4* |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 7  | 1  | -  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 4  | 4  | 5  | 8  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 6  | 5  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 1* | 1* | -  | 3  | 2  | -  | -  | -  | -  | 4  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 2       | 6  | 7  | 7  | 5  | 2  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 4       | 2  | -  | -  | 1* | -  | 1* | -  | -  | -  | 5  | 7  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  |
| HZ = 21  | -       | -  | -  | -  | 2* | 1* | 1* | -  | -  | -  | 2  | 5  | 4  | 6  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  |
| VU = 22  | -       | -  | 6* | 4* | 1* | 1* | 1* | -  | -  | -  | 4  | 5  | 5  | 5  | 6  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 2*      | -  | -  | -  | 4  | 4  | 1  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 8*      | 8* | 6* | 6* | 6* | 6* | 5* | 1* | -  | -  | 4  | 7  | 8  | 5  | 5  | 3  | 3  | 4  | 1  | -  | -  | -  | -  | 1* |
| JA1 = 25 | 8       | 8  | 9  | 8  | 9  | 7  | 5  | 4  | -  | -  | 2* | 7* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  |
| HS = 26  | 1*      | 8* | 5* | 5* | 4* | 4* | 2* | -  | -  | -  | 2  | 6  | 6  | 6  | 8  | 7  | 7  | 8  | 6  | 2  | -  | -  | -  | -  |
| DU = 27  | 8*      | 5* | 3* | 3* | 3* | 1* | 2* | -  | -  | -  | -  | 5  | 6  | 6  | 6  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  |
| YB = 28  | 4*      | 5* | 4* | 2* | 1* | 1* | 1* | -  | -  | -  | 1  | 5  | 5* | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 5*      | 4* | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | 2* | 6* | 4* | 3* | 2* | 2* | 1* | 1* | -  | -  | -  | -  | 2* |
| VK3 = 30 | 3*      | 3* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | 1* | 1* | 1* | -  | -  | -  | -  | -  | 1* | 3* |    |
| KH6 = 31 | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  | 7  | 7  | 7  | 8  |
| KH8 = 32 | 6       | 7  | 4  | 3  | 2  | 1  | 4  | 2  | -  | -  | 2* | 4* | 5* | 1* | 1* | -  | -  | -  | 5  | 7  | 8  | 8  | 8  | 7  |
| CN = 33  | 6       | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 4  |
| SU = 34  | 6       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 1  | 1  | 2  | 4  | 4  | 3  | -  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | 2* | -  | -  | -  | 3  | 7  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 5  | 3  | 2* | -  |
| 5Z = 37  | -       | -  | -  | -  | 3* | 5* | 3* | -  | -  | -  | 5  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 2  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 1* | 2* | -  | -  | -  | 5  | 4  | 5  | 6  | 6  | 6  | 6  | 6  | 5  | 1  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 2* | 5* | 4* | 1* | -  | -  | -  | 3  | 3  | 3  | 4  | 4  | 3  | 3* | 2* | 2* | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Mar., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | -  | -  | -  | -  | 1  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2  | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -  | -  | -  | 1  | 3  | 2  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -  | 2  | 4  | 5  | 4  | 5  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1  | 4  | 5  | 5  | 5  | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -  | -  | 3  | 2  | 5  | 4  | 4  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 1  | 2  | 3  | 3  | 3  | 3  | 4  | 3  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 2  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 2  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  | 9  |
| CE = 12  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  |
| LU = 13  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 1  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  |
| G = 14   | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 3  | 4  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | -  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VU = 22  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 3  | 5  | 5  | 5  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| SU = 34  | 2  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| 6W = 35  | 4  | 4  | 4  | 3  | 3  | 3  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| D2 = 36  | 4  | 4  | 4  | 3  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | -  |
| 5Z = 37  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  |
| ZS6 = 38 | 5  | 5  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | -  |
| FR = 39  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | -  |
| FJL = 40 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



# 80 Meters: Mar., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 1  | 1  | 4  | 2  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 = 03  | -       | -  | 1  | 4  | 6  | 5  | 6  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 2       | 5  | 7  | 8  | 7  | 8  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 4       | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | -       | 2  | 6  | 5  | 8  | 7  | 7  | 7  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 4       | 5  | 6  | 6  | 6  | 6  | 7  | 6  | 8  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 5       | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| P4 = 09  | 5       | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| HC = 10  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 3  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4  | -  | -  | -  | -  | 1  | 7  | 9  | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| I = 15   | 6       | 7  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| UA3 = 16 | 3       | 5  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| UN = 17  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA9 = 18 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 5       | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| HZ = 21  | 5       | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| VU = 22  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 3  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 6       | 8  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| SU = 34  | 5       | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| 6W = 35  | 7       | 7  | 7  | 6  | 6  | 6  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| D2 = 36  | 7       | 7  | 7  | 6  | 8  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| 5Z = 37  | 8       | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| ZS6 = 38 | 8       | 8  | 9  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  |
| FR = 39  | 8       | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| FJL = 40 | 2       | 3  | 3  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Mar., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|--|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 |  | 1            | 2  | 3  | 6  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 |  | 8            | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  |
| W6 = 03  |  | 2            | 4  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  |  | 7            | 7  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| W3 = 05  |  | 8            | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| XE1 = 06 |  | 5            | 7  | 8  | 8  | 8  | 8  | 7  | 8  | 7  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| TI = 07  |  | 7            | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| VP2 = 08 |  | 8            | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  |
| P4 = 09  |  | 8            | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| HC = 10  |  | 8            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  |
| PY1 = 11 |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 4  | 4  | 6  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 4  | 1  | 1  | 1  | 3  | 7  | 9  | 9+ | 9+ | 9+ |
| LU = 13  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |  | 8            | 8  | 8  | 8  | 9  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 7  |
| I = 15   |  | 8            | 8  | 5  | 6  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  |
| UA3 = 16 |  | 7            | 7  | 7  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  |
| UN = 17  |  | 7            | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 5  |
| UA9 = 18 |  | 6            | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  |
| UA0 = 19 |  | -            | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  |  | 7            | 7  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| HZ = 21  |  | 7            | 7  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 7  |
| VU = 22  |  | 6            | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 6  |
| JT = 23  |  | 4            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  |
| VR2 = 24 |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 2  |
| JA1 = 25 |  | -            | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  |
| HS = 26  |  | 5            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 6  |
| DU = 27  |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | -  |
| YB = 28  |  | 1            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  |
| VK6 = 29 |  | 1            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 4  |
| VK3 = 30 |  | -            | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 |  | -            | -  | -  | 1  | 5  | 6  | 7  | 8  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 |  | -            | -  | -  | -  | 2  | 6  | 7  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  |  | 8            | 8  | 8  | 9  | 8  | 6  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| SU = 34  |  | 7            | 7  | 7  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| 6W = 35  |  | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| D2 = 36  |  | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  |
| 5Z = 37  |  | 8            | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  |
| ZS6 = 38 |  | 9            | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 9  | 9  |
| FR = 39  |  | 9            | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 9  |
| FJL = 40 |  | 7            | 8  | 8  | 7  | 7  | 7  | 6  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |  |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |  | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Mar., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2  | 4  | 7  | 7  | 8  | 7  | 8  | 7  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 8  |
| W6 = 03  | 4  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 6  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| W3 = 05  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  |
| XE1 = 06 | 8  | 8  | 8  | 9  | 9  | 8  | 9  | 9  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| TI = 07  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| VP2 = 08 | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 8  | 8  |
| P4 = 09  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 8  | 7  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 8  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 6  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| I = 15   | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 8  |
| UA3 = 16 | 8  | 8  | 8  | 8  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 8  |
| UN = 17  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  |
| UA9 = 18 | 6  | 5  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 5  | 6  |
| UA0 = 19 | 1  | -  | -  | -  | -  | 1  | 1  | 4  | 1  | 4  | 2* | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 3* | 2* | -  |
| 4X = 20  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| HZ = 21  | 8  | 8  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  | 8  |
| VU = 22  | 6  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  |
| JT = 23  | 5  | 5  | 1  | 1  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 5  |
| VR2 = 24 | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1* | 4* | 5* | 4* | 2* |
| HS = 26  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  |
| DU = 27  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 5  |
| YB = 28  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 6  | 7  | 7  |
| VK6 = 29 | 5  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  | 6  |
| VK3 = 30 | -  | -  | -  | -  | 1  | 1  | 4  | 5  | 6  | 6  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 3  | 2  | 1  |
| KH6 = 31 | -  | -  | 2  | 5  | 6  | 7  | 8  | 7  | 8  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | 1  | 4  | 5  | 7  | 8  | 8  | 8  | 7  | 7  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 9  | 8  | 8  | 8  | 7  | 7  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  |
| SU = 34  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  | 8  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 8  | 8  |
| ZS6 = 38 | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  | 8  |
| FR = 39  | 8  | 7  | 5  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| FJL = 40 | 7  | 7  | 7  | 5  | 5  | 5  | 6  | 6  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8  | 8  | 8  | 8  | 9  | 7  | 5  | 3  | 3  | 2  | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | 2* | 2  | 4  | 6  | 6  |
| VO2 = 02 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 9  | 8  | 6  | 1  | 1  | -  | -  | 1  | 2  | 4  | 7  | 9  | 9  | 9  |
| W6 = 03  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 4  | 6  | 2  | 1  | -  | -  | -  | -  | 2  | 1  | 2  | 7  |
| W9 = 04  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 8  | 6  | 7  | 7  | 8  | 5  | 1  | 1  | -  | -  | -  | 1  | 3  | 7  | 9  | 9  |
| W3 = 05  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 7  | 9  | 8  | 5  | 1  | 1  | -  | 1  | 1  | 2  | 5  | 9  | 9  | 9  |
| XE1 = 06 | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 9  | 8  | 6  | 1* | 8  | 7  | 4  | 1  | 1  | 1  | 1  | 1  | 5  | 6  | 8  | 9  |
| TI = 07  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 3  | 1  | 9  | 8  | 6  | 3  | 3  | 2  | 2  | 2  | 5  | 7  | 9  | 9  | 9+ |
| VP2 = 08 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | 2  | 9+ | 9  | 8  | 7  | 4  | 2  | 2  | 2  | 4  | 7  | 8  | 9  | 9+ | 9+ |
| P4 = 09  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 4  | 1  | 3  | 9  | 8  | 8  | 5  | 3  | 2  | 3  | 6  | 7  | 8  | 9  | 9+ | 9+ |
| HC = 10  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 2* | 1  | 9  | 9  | 7  | 5  | 5  | 4  | 4  | 5  | 6  | 7  | 9  | 9  | 9+ |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 8  | 4  | 2  | 1* | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 9  | 9  |
| I = 15   | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | 2  | 4  | 8  | 8  | 9  | 9  | 9  |
| UA3 = 16 | 8  | 8  | 8  | 6  | 3  | 6  | 8  | 7  | 5  | 5  | 1  | 1* | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 8  | 8  | 8  | 9  |
| UN = 17  | 8  | 7  | 8  | 8  | 7  | 5  | 2  | 1  | 1* | 2* | 2* | 2* | 2* | 1* | -  | -  | -  | 2  | 5  | 7  | 7  | 8  | 8  | 8  |
| UA9 = 18 | 1* | 1* | 5  | 7  | 7  | 6  | 5  | 5  | 5* | 5  | 5* | 6  | 4* | 2* | 1* | -  | -  | 1  | 1  | 2  | 2  | 3  | 2  | 1* |
| UA0 = 19 | 8  | 5  | 4  | 5  | 5  | 7  | 5  | 5  | 7  | 6  | 8  | 6  | 4  | 2* | -  | -  | -  | 2* | 4* | 5* | 5* | 7* | 7* | 6  |
| 4X = 20  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9  | 9  | 9  | 7  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | 1* | 2* | 2* | 2* | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  | 8  | 9  |
| JT = 23  | 3  | 8  | 8  | 7  | 4  | 2  | 1  | 3  | 4* | 5* | 6* | 6  | 5* | 2* | 1* | -  | -  | -  | 1* | 2  | 2  | 3  | 2  | 1* |
| VR2 = 24 | 8  | 8  | 6  | 2  | -  | -  | -  | 1* | 5* | 7  | 7* | 7  | 5* | 3* | 1* | -  | 1  | 2  | 4  | 6  | 8  | 9  | 7  | 8  |
| JA1 = 25 | 6* | 4* | 1* | 2  | 3  | 5  | 6  | 8  | 8  | 8  | 9  | 8  | 7  | 5  | 1  | -  | -  | 2* | 5* | 7* | 8  | 6  | 8* | 8* |
| HS = 26  | 9  | 9  | 7  | 5  | 1  | -  | -  | -  | 1* | 3* | 7  | 7  | 2* | 1  | 1* | -  | -  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| DU = 27  | 7  | 6  | 2  | -  | -  | -  | -  | 1  | 8  | 6  | 7* | 4  | 3  | 2  | -  | -  | -  | 2  | 4  | 6  | 8  | 8  | 8  | 8  |
| YB = 28  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | 3* | 4  | 6  | 6  | 5* | 2  | 1  | 1  | 1  | 4  | 5  | 7  | 8  | 8  | 7  | 8  |
| VK6 = 29 | 8  | 8  | 7  | 6  | 5  | 4  | 4  | 5  | 7  | 8  | 7  | 7  | 6  | 4  | 2  | 1  | 1  | 2  | 2  | 3  | 2  | 4  | 6  | 8  |
| VK3 = 30 | 5  | 6  | 7  | 6  | 7  | 7  | 8  | 8  | 9  | 8  | 9  | 8  | 7  | 5  | 2  | 1  | 1  | -  | -  | 1* | 5  | 7  | 7  | 7  |
| KH6 = 31 | 2  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 1  |
| KH8 = 32 | 1  | 3  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 5  | 3  | 1  | 1  | -  | 1* | 1* | -  | -  | -  |
| CN = 33  | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | 2  | 5  | 7  | 9  | 9  | 9  | 9+ |
| SU = 34  | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 4  | 9  | 9  | 9  | 8  | 5  | 4  | 2  | 2  | 4  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+ | 9  | 9  | 8  | 7  | 5  | 7  | 8  | 8  | 8  | 6  | 4  | 2  | 1  | 1  | 3  | 4  | 7  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| 5Z = 37  | 9  | 9  | 8  | 5  | 7  | 9  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | 2  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9+ | 9  |
| ZS6 = 38 | 8  | 7  | 6  | 5  | 5  | 8  | 8  | 8  | 8  | 8  | 5  | 3  | 4  | 3  | 2  | 4  | 5  | 7  | 9  | 9  | 9  | 9  | 9  | 8  |
| FR = 39  | 1  | -  | -  | 1  | 8  | 7  | 6  | 5  | 5  | 2  | 1  | 1  | 1  | 1  | 1  | 2  | 3  | 6  | 8  | 8  | 8  | 8  | 6  | 4  |
| FJL = 40 | 4  | 2  | 2* | 1* | 2* | 2* | 2* | 4  | 6  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | 1  | 2  | 7  | 7  | 8  | 6  | 5  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 9  | 8  | 9  | 7  | 2  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 6  | 5  | 6  | 7  | 8  |
| VO2 = 02 | 9       | 4  | 4  | 5  | 5  | 5  | 7  | 4  | 1  | 1  | 1  | 9  | 9  | 7  | 6  | 5  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9  | 8  | 6  | 6  | 7  | 9  | 3  | 2  | 6  | -  | 1  | 8  | 6  | 2  | 2  | 4  | 2  | 5  | 5  | 7  | 9  |
| W9 = 04  | 9+      | 9  | 7  | 4  | 2  | 2  | 2  | 7  | 3  | -  | 2  | -  | 9  | 8  | 7  | 5  | 4  | 4  | 7  | 7  | 8  | 9  | 9  | 9+ |
| W3 = 05  | 9+      | 9  | 9  | 9  | 9  | 6  | 6  | 7  | 1  | -  | 2  | 5  | 9  | 8  | 6  | 5  | 4  | 5  | 6  | 7  | 9  | 9  | 9+ | 9+ |
| XE1 = 06 | 9       | 9  | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 3  | 1  | -  | 2  | 9  | 8  | 7  | 6  | 5  | 5  | 5  | 7  | 8  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | 1* | -  | -  | 9  | 9  | 7  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | -  | 9+ | 9+ | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1* | -  | -  | 4  | 9+ | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 2  | 3* | -  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 7  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 6  | 4  | 2  | 1  | 4  | 2* | 2* | -  | -  | -  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 4       | 3  | 5  | 6  | 7  | 4  | 5  | 8  | 5  | 8  | 8  | 7  | 6  | 4  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 8  | 4  |
| I = 15   | 9       | 9  | 9  | 9  | 7  | 3  | 7  | 8  | 6  | 8  | 7  | 5  | 2  | 2  | 1  | 1  | 2  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | 3       | 2  | 1  | 3* | 1* | 1  | 8  | 6  | 3  | 7  | 7  | 5  | 6  | 2  | 1  | 2  | 4  | 6  | 8  | 8  | 7  | 5  | 3  | 5  |
| UN = 17  | 1       | 1* | 6  | 8  | 7  | 6  | 7  | 2  | 2* | 4  | 2  | 4  | 5  | 3* | 2* | 1  | 3  | 4  | 1  | -  | -  | -  | 3  | 2  |
| UA9 = 18 | 1*      | 2* | 1* | 5  | 8  | 8  | 7  | 5  | 2* | 6  | 6  | 7* | 5* | 4* | 3* | 1  | -  | 1* | 1* | -  | -  | -  | 1* | 2* |
| UA0 = 19 | 8       | 9  | 8  | 7  | 8  | 8  | 8  | 8  | 1  | 5* | 9  | 8* | 7* | 5* | 4* | 3* | 3* | 4* | 5* | 1* | -  | 1* | 8* | 8  |
| 4X = 20  | 9       | 9  | 9  | 6  | 4  | 8  | 9  | 6  | 3  | 6  | 5  | 2  | 1  | 1  | 2  | 2  | 3  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| HZ = 21  | 9       | 9  | 7  | 3  | 8  | 8  | 6  | 3  | 4  | 5  | 2  | 1  | 8  | 1  | 2  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| VU = 22  | 1       | 3  | 8  | 8  | 7  | 5  | 3  | 1  | 2  | 1  | 5  | 4  | 5  | 4* | 3* | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 8  |
| JT = 23  | 1*      | 2  | 8  | 8  | 8  | 5  | 3  | 5  | 3* | 5  | 5  | 7* | 7* | 5* | 4* | 2* | 1* | 2* | 3* | 1* | -  | -  | 3* | 1* |
| VR2 = 24 | 9       | 8  | 5  | 2* | 2* | 1* | 2* | 5* | 7* | 6  | 6  | 8* | 8* | 6* | 5* | 4  | 3  | 5  | 7  | 8  | 9  | 8  | 3* | 4  |
| JA1 = 25 | 8*      | 6  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 5  | 5* | 5  | 5* | 5* | 4* | 4* | 4* | 5* | 7* | 5* | 5  | 4  | 8* | 9* |
| HS = 26  | 8       | 8  | 4  | 2* | 1* | -  | 1* | 2* | 6  | 6  | 6  | 7* | 5* | 5* | 3* | 5  | 3  | 7  | 8  | 9  | 9  | 9  | 9  | 5  |
| DU = 27  | 8       | 7  | 4* | 1* | 1* | 1* | 3* | 5* | 2  | 6  | 8  | 7  | 6  | 6  | 4  | 5  | 5  | 6  | 7  | 8  | 8  | 2  | 7* | 9  |
| YB = 28  | 9       | 8  | 5  | 1  | 1* | -  | 1* | 4* | 3  | 7  | 7  | 6* | 7  | 6  | 5  | 5  | 5  | 5  | 6  | 6  | 4  | 1  | 6* |    |
| VK6 = 29 | 8       | 8  | 5  | 1  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 6  | 2  | -  | 1* | 1* | 2* | 3* | 1* | -  | 5* | 6  |    |
| VK3 = 30 | 8       | 7  | 7  | 5  | 3  | 3  | 4  | 5  | 6  | 2  | 7  | 8  | 3  | 2* | -  | -  | -  | 1* | 2* | 2* | 2* | 6  | 8  | 8  |
| KH6 = 31 | 7       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 2* | 9  | 8  | -  | -  | -  | 5  | 2  | 3  | 7  | 8  | 2* | 2  | 5  |
| KH8 = 32 | 5       | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | -  | 8  | 9  | 8  | 2  | 1  | 3  | 4  | 4  | 5  | 6  | 3* | 3  | 4  |
| CN = 33  | 9+      | 9+ | 9+ | 9  | 8  | 5  | 1  | 7  | 5  | 8  | 9  | 8  | 6  | 4  | 3  | 3  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9  | 9  | 8  | 4  | 8  | 9  | 7  | 6  | 7  | 4  | 2  | 1  | 1  | 3  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 7  | -  | 2* | 1  | 9  | 9+ | 9  | 8  | 7  | 6  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9       | 7  | 6  | 6  | 2  | 2* | 2  | 4  | 7  | 8  | 8  | 7  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| 5Z = 37  | 8       | 7  | 4  | -  | 2* | 6  | 5  | 4  | 7  | 6  | 5  | 3  | 2  | 5  | 3  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  |
| ZS6 = 38 | 1       | -  | -  | -  | 1* | 2  | 2  | 6  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 7  | 5  | 1  |
| FR = 39  | -       | -  | 1* | 2* | 1  | 2  | 1  | 2  | 6  | 7  | 7  | 6  | 8  | 5  | 5  | 6  | 7  | 8  | 7  | 3  | 1  | 1* | 1* | -  |
| FJL = 40 | -       | 1* | 2* | -  | -  | -  | -  | 1* | 1  | 1* | 5* | 6  | 5  | 4  | 2  | 2  | 2  | 3  | 4  | 2  | 1  | 2  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Mar., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone         | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|              | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01     | 8       | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 6  | 7  | 8  |
| VO2 = 02     | 5       | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | 7  | 9  | 8  | 7  | 7  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| W6 = 03      | 9       | 9  | 9  | 6  | 1  | 1  | 1  | 1  | 5  | -  | -  | 1  | -  | -  | 7  | 7  | 6  | 5  | 5  | 6  | 7  | 8  | 8  | 9  |
| W9 = 04      | 9       | 8  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | 5  | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05      | 9       | 3  | 2  | 5  | 5  | 1  | -  | 3  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9+ | 9  |
| XE1 = 06     | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 7  | 5  | -  | -  | -  | -  | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 8  | 9  | 9  | 9  |
| TI = 07      | 9+      | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | -  | -  | 9  | 9  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08     | 9       | 9  | 9+ | 9+ | 9+ | 9+ | 8  | 1  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09      | 9       | 8  | 9  | 9+ | 9+ | 9+ | 8  | 1  | -  | -  | -  | 5  | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10      | 8       | 7  | 8  | 9  | 9+ | 9+ | 8  | 2  | -  | -  | -  | -  | 9+ | 9  | 9  | 4  | 9  | 1  | 9  | 6  | 9  | 9  | 9+ | 8  |
| PY1 = 11     | 9+      | 9  | 8  | 5  | 4  | 6  | 3  | -  | -  | -  | -  | 4  | 8  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12      | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | 1  | -  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13      | 9       | 6  | 1* | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | 1* | 1  | -  | 3  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14       | -       | -  | -  | 1  | 4  | 1  | 1  | 5  | -  | 3  | 9  | 8  | 6  | 7  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 8  | 1  | -  |
| I = 15       | 6       | 6  | 7  | 5  | 4  | -  | 3  | 5  | 1  | 6  | 7  | 6  | 5  | 5  | 5  | 5  | 7  | 7  | 8  | 9  | 9  | 9  | 8  | 5  |
| UA3 = 16     | -       | -  | -  | -  | -  | -  | 5  | 3  | 1  | 3  | 7  | 7  | 5  | 4  | 3  | 4  | 5  | 6  | 8  | 5  | 4  | 1  | -  | -  |
| UN = 17      | 1*      | 2* | 2  | 7  | 8  | 8  | 6  | 1  | -  | 3  | 4  | 4  | 7* | 3* | 2  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  |
| UA9 = 18     | 4*      | 1* | 1* | -  | 5  | 7  | 8  | 2  | -  | 1  | 7  | 5  | 6* | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19     | 8       | 8  | 8  | 8  | 7  | 8  | 9  | 6  | -  | -  | 6* | 8* | 7* | 5* | 3* | 2* | 1* | 2* | 2* | -  | -  | -  | 8* | 8* |
| 4X = 20      | 9       | 9  | 8  | 2  | 3* | 6  | 8  | 2  | -  | 5  | 5  | 5  | 4  | 3  | 5  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21      | 9       | 8  | 3  | 1* | 6  | 6  | 2* | 2* | 1  | 5  | 4  | 5  | 3  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22      | -       | 1* | 6  | 6  | 2  | 2  | 2* | 2* | 1  | 3  | 2  | 2  | 4* | 5* | 4  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 3  |
| JT = 23      | 2*      | 2* | 3  | 7  | 7  | 7  | 7  | 2  | -  | 4  | 7  | 5  | 7* | 5* | 2* | 1* | 1* | 1* | 1* | -  | -  | -  | 1* | 4* |
| VR2 = 24     | 9       | 7* | 6* | 4* | 3* | 4* | 4* | 7* | 5* | 5  | 6  | 8* | 7* | 6  | 6  | 6  | 6  | 6  | 8  | 9  | 9  | 2  | 5* | 4* |
| JA1 = 25     | 7       | 7  | 8  | 7  | 7  | 8  | 8  | 9  | 7  | 4* | 6* | 8* | 7* | 6* | 5* | 5* | 5* | 6* | 5* | 1* | 2  | 5  | 6  | 8* |
| HS = 26      | 5*      | 6  | 5* | 4* | 2* | 2* | 1* | 4* | 2* | 4  | 6  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 7  | 3* |
| DU = 27      | 7       | 6* | 5* | 4* | 1* | 2* | 4* | 5* | -  | 2  | 8  | 9* | 8  | 7  | 6  | 5  | 6  | 7  | 8  | 8  | 5  | -  | 7* | 8  |
| YB = 28      | 6       | 7* | 6* | 5* | 2* | 1* | 3* | 3* | -  | 3  | 7  | 8  | 8  | 7  | 5  | 4* | 3* | 3* | 4* | 2  | 1  | -  | -  | 6* |
| VK6 = 29     | 4       | 5  | 2* | 1* | -  | 1* | 1* | -  | -  | 1  | 6  | 8  | 5  | 4* | 3* | 2* | 1* | 2* | 2* | 1* | -  | -  | 2* | 6* |
| VK3 = 30     | 8       | 5  | 3  | 1  | -  | -  | 2* | -  | -  | -  | 5* | 4  | 2* | 2* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 4* | 7  | 8  |
| KH6 = 31     | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 8  | 3* | 1* | 7  | 7  | -  | -  | -  | 1  | 4  | 4  | 5* | 5* | 5  | 5  | 6  |
| KH8 = 32     | 7       | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 3* | 2* | 2  | 8  | 5  | 1* | 1* | -  | 6  | 5  | 5  | 5  | 5  | 5  | 7  |
| CN = 33      | 9       | 9  | 9  | 8  | 6  | 1  | -  | 3  | -  | 1  | 9  | 8  | 7  | 6  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34      | 9       | 9  | 9  | 4  | 3* | 7  | 8  | 2  | 2  | 7  | 5  | 6  | 4  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35      | 9+      | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | 1  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36      | 6       | 3  | 2  | 1  | -  | 4* | 2* | 4* | 2  | 9  | 8  | 8  | 7  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  |
| 5Z = 37      | 4       | 1  | -  | 2* | 3* | 3* | 2* | 2* | 5  | 8  | 8  | 7  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| ZS6 = 38     | -       | -  | -  | -  | 2* | 2* | 2* | 2* | 5  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 6  | 2  | -  | -  |
| FR = 39      | -       | -  | 4* | 2* | 2* | 1* | -  | 1* | 4  | 7  | 7  | 9  | 7  | 7  | 7  | 7  | 7  | 5  | 2  | 2* | 2* | 2* | 1* | -  |
| FJL = 40     | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 5* | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone         | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|              | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| * = Longpath |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Mar., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 6       | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3* | 2  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 5  |
| W6 = 03  | 9       | 9  | 8  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  |
| W9 = 04  | 8       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| W3 = 05  | 5       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| TI = 07  | 8       | 7  | 7  | 9  | 9  | 9  | 7  | 1  | -  | -  | -  | -  | 2  | 9  | 9  | 4  | 2  | 3  | 6  | 9  | 9  | 9+ | 9  | 9  |
| VP2 = 08 | 6       | 5  | 6  | 8  | 9  | 7  | 3  | -  | -  | -  | -  | 1  | 9+ | 9  | 4  | 1  | 1  | 2  | 6  | 9  | 9  | 9+ | 9  | 8  |
| P4 = 09  | 5       | 4  | 5  | 7  | 8  | 7  | 3  | -  | -  | -  | -  | -  | 9+ | 9  | 2  | -  | -  | 3  | 6  | 8  | 9  | 8  | 7  | 5  |
| HC = 10  | 9+      | 2  | 3  | 5  | 6  | 6  | 2  | -  | -  | -  | -  | -  | 2  | 6  | 2  | 8  | 9  | 9  | 8  | -  | 1  | 4  | 3  | 5  |
| PY1 = 11 | 9       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1* | -  | 2  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 8  | 7  | 6  | 5  | 6  | 1  | -  | -  | -  | -  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 4       | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 7  | 9  | 8  |    |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 6  | 8  | 8  | 8  | 9  | 9  | 7  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 8  | 8  | 8  | 6  | 6  | 6  | 6  | 8  | 8  | 9  | 8  | 4  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 8  | 7  | 6  | 5  | 5  | 5  | 5  | 6  | 3  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 3* | 1* | 5  | 6  | 7  | 4  | -  | -  | -  | 6  | 6  | 6* | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 2*      | 1* | -  | -  | 1  | 2  | 6  | -  | -  | -  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 5       | 6  | 7  | 7  | 6  | 7  | 8  | 1  | -  | -  | 1* | 7* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 6* |
| 4X = 20  | 9       | 8  | 1  | -  | 1* | 1  | 4  | -  | -  | -  | 5  | 6  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 4  | -  | 5* | 2  | 2* | 2* | 1* | -  | 1  | 5  | 5  | 5  | 5  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -       | 5* | 4* | 4* | 3* | 3* | 2* | 1* | -  | -  | 4  | 4  | 5  | 6* | 5  | 6  | 7  | 6  | 5  | 5  | 5  | 5  | 1  | -  |
| JT = 23  | 4*      | 1* | -  | 5  | 7  | 8  | 6  | -  | -  | -  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VR2 = 24 | 8*      | 8* | 7* | 6* | 5* | 5* | 7* | 7* | 1* | 1  | 7  | 8  | 8  | 8  | 7  | 6  | 7  | 7  | 8  | 8  | 6  | -  | 1* | 7* |
| JA1 = 25 | 8       | 8  | 8  | 8  | 9  | 8  | 9  | 8  | 2  | -  | 6* | 8* | 8* | 7* | 5* | 4* | 3* | 3* | -  | -  | -  | 6  | 8  | 8  |
| HS = 26  | 6*      | 6* | 6* | 5* | 3* | 2* | 4* | 5* | -  | 1  | 6  | 7  | 8  | 8* | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 1  | -  |
| DU = 27  | 7*      | 6* | 5* | 5* | 4* | 4* | 5* | 1* | -  | -  | 4  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 5  | 2  | -  | 1* | 8* |
| YB = 28  | 7*      | 6* | 6* | 5* | 4* | 3* | 4* | 1* | -  | -  | 2  | 7  | 8  | 6* | 5* | 4* | 3* | 4* | 3* | -  | -  | -  | -  | 4* |
| VK6 = 29 | 6*      | 5* | 4* | 2* | 1* | 1* | 1* | -  | -  | -  | -  | 6* | 6* | 5* | 4* | 3* | 2* | 1* | 1* | -  | -  | -  | -  | 6* |
| VK3 = 30 | 4*      | 3* | 1* | 1* | 1* | 1* | 1* | -  | -  | -  | 2* | 4* | 2* | 1* | 1* | 1* | 1* | 1* | -  | -  | -  | 2* | 5* | 6* |
| KH6 = 31 | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 2  | -  | -  | -  | 4  | -  | -  | -  | -  | 6  | 3  | 3  | 5  | 4  | 6  | 7  |
| KH8 = 32 | 7       | 8  | 7  | 6  | 5  | 4  | 5  | 5  | 1  | -  | 5* | 4* | 3* | 3* | 2* | 1* | -  | 5  | 6  | 6  | 6  | 7  | 6  | 6  |
| CN = 33  | 8       | 8  | 8  | 4  | 2  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| SU = 34  | 9       | 9  | 5  | -  | 1* | 2  | 4  | -  | -  | 4  | 7  | 6  | 5  | 7  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 4       | 7  | 8  | 6  | 1  | -  | -  | -  | -  | -  | 9  | 9  | 3  | -  | -  | 1  | 5  | 9  | 9  | 9+ | 9  | 8  | 5  | 3  |
| D2 = 36  | 1       | -  | -  | -  | -  | 2* | 5* | 2* | -  | 3  | 7  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 4  |
| 5Z = 37  | -       | -  | -  | 1* | 6* | 5* | 5* | 3* | -  | 5  | 8  | 8  | 7  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 4* | 3* | 2* | -  | -  | 5  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  |
| FR = 39  | -       | -  | 1* | 5* | 2* | 2* | 1* | 1* | -  | 2  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2* | 2* | 2* | 1* | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Mar., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
| KL7 = 01 | 2       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  |  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 4  | 3  | 3  | 5  | 7  | 7  | 7  | 6  | 2  | -  |  |
| W6 = 03  | 9       | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |  |
| W9 = 04  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 7  |  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 6  | 6  | 6  | 8  | 8  | 8  | 8  | 7  | 5  |  |
| XE1 = 06 | 8       | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  |  |
| TI = 07  | 4       | 2  | 3  | 5  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | 5  | 4  | 1* | 1* | 1* | 1* | 2  | 5  | 7  | 7  | 6  |  |
| VP2 = 08 | 1       | 1  | 1  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | 6  | 1  | 1* | 1* | 1* | 1* | 2* | 3* | 4  | 5  | 6  | 5  |  |
| P4 = 09  | 1       | -  | -  | 2  | 4  | 2  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1* | 1* | 1* | 3* | 2* | 4* | 2  | 5  | 3  | 3  |  |
| HC = 10  | 9       | -  | -  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 9  | 8  | 8  | 9  | 9+ | 8  | 9  | 9  | 9  |  |
| PY1 = 11 | 5       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | 4  | 6  | 8  | 9  | 9+ | 9  | 8  |  |
| CE = 12  | 9       | 8  | 2  | 1  | -  | -  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| LU = 13  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2* | 4* | 6  | 4* |  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 7  | 1  | -  | -  | -  |  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 8  | 4  | -  | -  | -  |  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 4  | 4  | 2  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  |  |
| UN = 17  | -       | 1* | -  | 1  | 4  | 5  | 1  | -  | -  | -  | 5  | 7  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | 3  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| UA0 = 19 | -       | 2  | 3  | 4  | 4  | 4  | 5  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |  |
| 4X = 20  | 8       | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |  |
| HZ = 21  | 6       | -  | -  | 3* | 1* | -  | -  | -  | -  | -  | 5  | 6  | 6  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |  |
| VU = 22  | -       | 3* | 4* | 3* | 1* | 1* | 1* | -  | -  | -  | 3  | 6  | 6  | 6  | 6  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  |  |
| JT = 23  | 2*      | -  | -  | 1  | 4  | 7  | 4  | -  | -  | -  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| VR2 = 24 | 8*      | 8* | 8* | 7* | 6* | 6* | 6* | 5* | -  | -  | 5  | 8  | 8  | 8  | 6  | 6  | 6  | 7  | 7  | 6  | 1  | -  | -  | 6* |  |
| JA1 = 25 | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 5  | -  | -  | 2* | 7* | 8* | 4* | 4* | 1* | 1* | -  | -  | -  | -  | 1  | 7  | 8  |  |
| HS = 26  | 5*      | 7* | 8* | 7* | 5* | 4* | 5* | 2* | -  | -  | 2  | 7  | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 3  | -  | -  |  |
| DU = 27  | 6*      | 5* | 4* | 5* | 4* | 5* | 3* | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | 6* |  |
| YB = 28  | 6*      | 5* | 5* | 5* | 4* | 3* | 2* | -  | -  | -  | -  | 4  | 6  | 5* | 4* | 2* | 2* | 1* | 1* | -  | -  | -  | -  | -  |  |
| VK6 = 29 | 4*      | 3* | 2* | 3* | 2* | 1* | -  | -  | -  | -  | -  | 3* | 6* | 4* | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | 2* |  |
| VK3 = 30 | 4*      | 2* | 3* | 3* | 2* | 2* | -  | -  | -  | -  | -  | 2* | 1* | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | 3* | 5* |  |
| KH6 = 31 | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 7  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 4  | 4  | 4  | 5  | 5  | 7  | 7  |  |
| KH8 = 32 | 7       | 6  | 3  | 1  | -  | -  | 1  | -  | -  | -  | 4* | 5* | 5* | 4* | 1* | -  | -  | 1  | 7  | 7  | 7  | 7  | 7  | 8  |  |
| CN = 33  | 5       | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  |  |
| SU = 34  | 9       | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |  |
| 6W = 35  | -       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 4  | 1  | -  | -  |  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | 3* | 1* | -  | -  | 5  | 6  | 6  | 6  | 6  | 7  | 7  | 9  | 9  | 8  | 6  | 3  | 2  | -  |  |
| 5Z = 37  | -       | -  | -  | -  | 5* | 5* | 5* | 1* | -  | -  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | -  |  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 2* | 5* | 2* | -  | -  | 1  | 4  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | 1  | -  | -  | -  | -  |  |
| FR = 39  | -       | -  | -  | 5* | 5* | 5* | 3* | 1* | -  | -  | 4  | 6  | 7  | 7  | 6  | 4* | 2* | 2* | 1* | -  | -  | -  | -  | -  |  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Apr., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2  | 5  | 5  | 5  | 4  | 5  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -  | -  | -  | -  | 2  | 2  | 3  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -  | 2  | 3  | 5  | 4  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1  | 4  | 5  | 5  | 5  | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -  | -  | 2  | 4  | 3  | 4  | 4  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | -  | 2  | 3  | 3  | 3  | 4  | 4  | 3  | 3  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 2  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 2  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 5  | 5  | 6  | 5  | 5  | 5  | 5  | 5  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  | 9  |
| CE = 12  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  |
| LU = 13  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | 1  | 5  | 9  | 9  | 9  | 9  |
| G = 14   | 4  | 5  | 5  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | -  | -  |
| UA9 = 18 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HZ = 21  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VU = 22  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | -  | -  | -  | -  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 4  | 5  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| SU = 34  | 3  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| 6W = 35  | 4  | 4  | 4  | 4  | 4  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| D2 = 36  | 6  | 5  | 5  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| 5Z = 37  | 4  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| ZS6 = 38 | 5  | 6  | 5  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  |
| FR = 39  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  | 5  |
| FJL = 40 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Apr., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | 1  | 1  | 3  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 8  | 8  | 8  | 7  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 = 03  | -       | -  | 1  | 3  | 5  | 5  | 6  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 3       | 5  | 6  | 8  | 7  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 4       | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | -       | 2  | 5  | 7  | 6  | 7  | 7  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2       | 5  | 6  | 6  | 6  | 7  | 7  | 6  | 6  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VP2 = 08 | 5       | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| P4 = 09  | 5       | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| HC = 10  | 8       | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | -  | -  | -  | -  | 2  | 8  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 2  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | -  | -  | 1  | 4  | 8  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7       | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| I = 15   | 7       | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| UA3 = 16 | 5       | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| UN = 17  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 1  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 6  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| HZ = 21  | 5       | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| VU = 22  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 3  | 6  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 7       | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| SU = 34  | 6       | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| 6W = 35  | 7       | 7  | 7  | 7  | 7  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| D2 = 36  | 9       | 8  | 8  | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| 5Z = 37  | 7       | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  |
| ZS6 = 38 | 8       | 9  | 8  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| FR = 39  | 8       | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  |
| FJL = 40 | 1       | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Apr., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | 1  | 2  | 3  | 5  | 7  | 7  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| W6 = 03  | 1  | 4  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| W3 = 05  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  |
| XE1 = 06 | 5  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| TI = 07  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| VP2 = 08 | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| P4 = 09  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 5  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 3  | 2  | 3  | 5  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| I = 15   | 7  | 7  | 8  | 7  | 7  | 8  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  |
| UA3 = 16 | 7  | 7  | 6  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  |
| UN = 17  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 6  | 6  |
| UA9 = 18 | 5  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 7  | 7  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  |
| HZ = 21  | 7  | 6  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 7  |
| VU = 22  | 5  | 6  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  |
| JT = 23  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 4  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 2  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | -  | -  |
| HS = 26  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  | -  |
| YB = 28  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 5  |
| VK6 = 29 | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 5  |
| VK3 = 30 | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  |
| KH6 = 31 | -  | -  | -  | 2  | 5  | 6  | 7  | 6  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | 1  | 4  | 6  | 8  | 7  | 8  | 8  | 8  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  |
| SU = 34  | 7  | 6  | 6  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 7  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 9  | 9  |
| 5Z = 37  | 8  | 9  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  |
| FR = 39  | 9  | 9  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 8  |
| FJL = 40 | 6  | 6  | 7  | 7  | 5  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 5  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Apr., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2       | 2  | 6  | 7  | 7  | 8  | 7  | 7  | 7  | 7  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 8  |
| W6 = 03  | 3       | 6  | 7  | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 8       | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| W3 = 05  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  |
| XE1 = 06 | 8       | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 9  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 7  | 8  | 8  |
| I = 15   | 9       | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 8  | 8  |
| UA3 = 16 | 8       | 8  | 8  | 7  | 6  | 7  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  |
| UN = 17  | 7       | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  |
| UA9 = 18 | 6       | 5  | 4  | 1  | 1  | 1  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | 1  | 1  | 4  | 2* | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 2* | 3* | 6  | 1  | -  |
| 4X = 20  | 8       | 8  | 8  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 8  |
| HZ = 21  | 8       | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  |
| VU = 22  | 6       | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 6  |
| JT = 23  | 5       | 3  | 1  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  |
| VR2 = 24 | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | 1* | 1* | -  | -  | -  | -  | -  | 1  | 2  | 4  | 6  | 5  | 5  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 7  | 3  | -  | -  | -  | -  | -  | -  | 2* | 5* | 5* | 4* | 2* |
| HS = 26  | 7       | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 8  | 8  |
| DU = 27  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 5  | 4  |
| YB = 28  | 6       | 5  | 1  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 7  | 7  |
| VK6 = 29 | 5       | 4  | 3  | 1  | -  | -  | -  | 2  | 2  | 5  | 3  | 3  | 2  | 1  | -  | -  | -  | -  | 2  | 4  | 5  | 5  | 5  | 6  |
| VK3 = 30 | 2       | 1  | 1  | 1  | 2  | 4  | 6  | 7  | 6  | 7  | 6  | 7  | 5  | 3  | 1  | -  | -  | -  | 1  | 1  | 3  | 4  | 4  | 3  |
| KH6 = 31 | -       | -  | 2  | 4  | 5  | 6  | 7  | 7  | 8  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | 1  | 4  | 6  | 7  | 8  | 8  | 8  | 7  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 8  | 7  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  |
| D2 = 36  | 9       | 9  | 8  | 7  | 8  | 6  | 9  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 9       | 8  | 8  | 7  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 7  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  | 8  |
| FR = 39  | 8       | 5  | 3  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 7  | 8  |
| FJL = 40 | 7       | 7  | 6  | 6  | 6  | 6  | 5  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



20 Meters: Apr., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 8            | 8  | 8  | 8  | 9  | 8  | 7  | 6  | 5  | 3  | 4* | 2* | 1* | -  | 1  | 1  | 1  | 1  | 1  | 1  | 3* | 4  | 5  | 7  |
| VO2 =   | 02 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 8  | 9  | 8  | 5  | 3  | 2  | -  | -  | 1  | 2  | 6  | 7  | 8  | 9  | 9  |
| W6 =    | 03 | 8            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | 1  | 1  | 4  | 6  |
| W9 =    | 04 | 9            | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 8  | 9  | 8  | 5  | 1  | 1  | -  | -  | 1  | 3  | 3  | 5  | 8  | 9  |
| W3 =    | 05 | 9+           | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 5  | 8  | 9  | 8  | 4  | 2  | 1  | -  | 1  | 1  | 4  | 5  | 8  | 9  | 9  |
| XE1 =   | 06 | 9            | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 7  | 8  | 7  | 4  | 3  | 1  | 1  | 1  | 2  | 5  | 7  | 8  | 9  |
| TI =    | 07 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 1  | 5  | 9  | 9  | 6  | 4  | 3  | 3  | 2  | 5  | 6  | 8  | 9  | 9  | 9+ |
| VP2 =   | 08 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | 2  | 9+ | 9  | 8  | 6  | 4  | 3  | 3  | 3  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| P4 =    | 09 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | 1  | 9  | 9  | 8  | 7  | 4  | 6  | 5  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| HC =    | 10 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 2* | 2  | 9+ | 9  | 7  | 5  | 5  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9+ |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 7  | 4  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 9  | 8  | 7  | 6  | 6  | 2  | 2* | 1* | -  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 8  | 4  | 2  | 1  | -  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  |
| I =     | 15 | 9            | 9+ | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | 2  | 1  | 5  | 7  | 8  | 9  | 9  | 9  |
| UA3 =   | 16 | 9            | 8  | 8  | 6  | 7  | 8  | 8  | 6  | 5  | 4  | 1  | -  | -  | 1* | -  | -  | 1  | 2  | 5  | 8  | 8  | 9  | 8  | 9  |
| UN =    | 17 | 8            | 8  | 8  | 7  | 6  | 4  | 1  | 1  | -  | -  | -  | 2* | 3* | 2* | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 9  | 9  |
| UA9 =   | 18 | 5            | 6  | 7  | 8  | 6  | 3  | 2  | 2  | 2  | 3  | 4* | 7  | 2* | 4* | 2* | 1* | -  | 1  | 4  | 7  | 7  | 6  | 5  | 4  |
| UA0 =   | 19 | 5            | 2  | 1  | 2  | 2  | 3  | 6  | 8  | 6  | 7  | 8  | 7  | 6  | 4* | 2* | 2* | 2* | 3* | 5* | 6* | 7* | 8* | 7* | 5  |
| 4X =    | 20 | 9            | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| HZ =    | 21 | 9            | 9  | 9  | 9  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| VU =    | 22 | 8            | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | 1* | 3* | -  | 1* | -  | 1  | 3  | 6  | 8  | 8  | 9  | 8  | 9  |
| JT =    | 23 | 8            | 8  | 7  | 3  | 1  | 2  | 1  | 2  | 4* | 4* | 5* | 5  | 3* | 4* | 2* | 1* | 1* | 1  | 5  | 6  | 5  | 5  | 5  | 6  |
| VR2 =   | 24 | 8            | 7  | 4  | 1  | -  | -  | -  | 3* | 6* | 6  | 6* | 6* | 6* | 5* | 2* | 1  | 2  | 3  | 5  | 8  | 8  | 9  | 8  | 9  |
| JA1 =   | 25 | 5*           | 2* | 1  | 1  | 3  | 4  | 8  | 8  | 9  | 8  | 9  | 9  | 8  | 6  | 4  | -  | 2* | 4* | 6* | 8* | 8* | 8* | 8  | 7* |
| HS =    | 26 | 9            | 8  | 4  | 2  | -  | -  | -  | -  | 1* | 2* | 7  | 6  | 3* | 3* | 1* | -  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| DU =    | 27 | 7            | 5  | 1  | -  | -  | -  | -  | 1* | 6  | 5  | 7* | 5  | 5  | 3  | 2  | 1  | 2  | 3  | 5  | 7  | 8  | 5  | 8  | 8  |
| YB =    | 28 | 9            | 7  | 4  | 1  | -  | -  | -  | -  | 3  | 6  | 5  | 4  | 5  | 4  | 4  | 1  | 3  | 5  | 6  | 7  | 8  | 8  | 6  | 8  |
| VK6 =   | 29 | 8            | 7  | 4  | 2  | 2  | 2  | 1  | 2  | 6  | 8  | 8  | 8  | 7  | 4  | 1  | -  | 1  | 2  | 4  | 5  | 3  | 2  | 3  | 7  |
| VK3 =   | 30 | 8            | 6  | 6  | 5  | 5  | 6  | 7  | 5  | 6  | 8  | 9  | 8  | 6  | 5  | 3  | 2  | 1  | 1  | -  | 2* | 1  | 7  | 8  | 8  |
| KH6 =   | 31 | 3            | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 8  | 8  | 7  | 1  | 2  | 1  | -  | 1  | 1* | -  | -  | -  | 1  |
| KH8 =   | 32 | 3            | 5  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 1  | 9  | 9  | 8  | 5  | 2  | 2  | 2  | 1  | 1  | 1  | -  | 1  | 1  |
| CN =    | 33 | 9+           | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 7  | 8  | 7  | 2  | 2  | -  | -  | -  | 1  | 2  | 6  | 7  | 9  | 9  | 9  | 9  |
| SU =    | 34 | 9            | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| 6W =    | 35 | 9+           | 9+ | 9+ | 9+ | 9+ | 9  | 2  | 4  | 7  | 9+ | 9  | 8  | 6  | 4  | 2  | 3  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 =    | 36 | 9            | 9  | 8  | 7  | 4  | 1  | 6  | 5  | 6  | 8  | 6  | 4  | 2  | 1  | 1  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| 5Z =    | 37 | 9            | 9  | 8  | 2  | 6  | 9  | 7  | 4  | 6  | 3  | 1  | -  | -  | 1  | 2  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| ZS6 =   | 38 | 6            | 7  | 6  | 4  | 1  | 5  | 6  | 7  | 8  | 8  | 5  | 4  | 3  | 4  | 3  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 8  | 5  |
| FR =    | 39 | 1            | 1* | -  | 1  | 8  | 6  | 3  | 3  | 4  | 3  | 1  | 1  | 2  | 2  | 2  | 4  | 5  | 7  | 7  | 7  | 6  | 2  | -  | 1  |
| FJL =   | 40 | 6            | 2  | 1  | 1* | 1* | 2  | 4  | 6  | 5  | 8  | 7  | 6  | 3  | 1  | 1  | -  | -  | 1  | 3  | 7  | 7  | 8  | 8  | 7  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Apr., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC     | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |         | 8            | 8  | 8  | 8  | 8  | 5  | 2  | -  | 1* | 4* | 1* | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 4  | 6  | 7  | 8  |
| VO2 = 02 |         | 9            | 9  | 7  | 6  | 6  | 6  | 7  | 6  | -  | 3  | 8  | 9  | 9  | 7  | 7  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  |         | 9            | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 2  | 2  | 7  | -  | 7  | 8  | 7  | 5  | 6  | 5  | 2  | 3  | 5  | 8  | 9  |
| W9 = 04  |         | 9+           | 9  | 9  | 7  | 6  | 5  | 4  | 7  | 2  | -  | 5  | 4  | 9  | 8  | 7  | 7  | 5  | 5  | 5  | 6  | 8  | 9  | 9  | 9+ |
| W3 = 05  |         | 9+           | 9  | 9  | 9  | 9  | 9  | 6  | 8  | -  | -  | 6  | 8  | 9  | 8  | 8  | 7  | 6  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| XE1 = 06 |         | 9            | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 2  | 6  | -  | 8  | 9  | 8  | 8  | 7  | 7  | 7  | 6  | 8  | 9  | 9  | 9  |
| TI = 07  |         | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | 1* | -  | 1  | 9  | 9  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 |         | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 4  | -  | -  | 5  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  |         | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  |         | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 1* | 3* | -  | 4  | 9+ | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 |         | 9+           | 9+ | 9+ | 8  | 7  | 7  | 4  | 1  | 1* | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |         | 9+           | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 5  | 2  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |         | 9            | 8  | 1  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |         | 7            | 7  | 7  | 7  | 8  | 8  | 8  | 6  | 3  | 9  | 8  | 7  | 7  | 5  | 4  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 7  |
| I = 15   |         | 9            | 9  | 9  | 8  | 8  | 7  | 9  | 6  | 4  | 8  | 7  | 4  | 2  | 3  | 5  | 2  | 6  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 |         | 6            | 5  | 3  | -  | 2  | 7  | 8  | 5  | 2  | 7  | 7  | 4  | 7  | 8  | 2  | 2  | 4  | 6  | 8  | 9  | 8  | 8  | 6  | 7  |
| UN = 17  |         | 4            | 5  | 9  | 8  | 8  | 7  | 6  | 1* | 1  | 5  | 6  | 4  | 5* | 6  | 2* | 2  | 3  | 8  | 7  | 7  | 6  | 5  | 6  | 5  |
| UA9 = 18 |         | 1*           | -  | 4  | 7  | 8  | 8  | 8  | 3  | 1  | 7  | 6  | 6* | 5* | 7  | 4* | 4* | 4  | 6  | 5  | 4  | 2  | 4* | 4* | 2* |
| UA0 = 19 |         | 8            | 8  | 6  | 7  | 7  | 7  | 8  | 8  | 1  | 4* | 9  | 9* | 8* | 6* | 5* | 5* | 5* | 6* | 7* | 5* | 4* | 9* | 8* | 8  |
| 4X = 20  |         | 9            | 9  | 9  | 8  | 8  | 9  | 8  | 1* | 1  | 6  | 4  | 2  | 2  | 9  | 1  | 2  | 4  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  |         | 9            | 9  | 8  | 8  | 9  | 8  | 2  | -  | 2  | 4  | 2  | 1  | 8  | 8  | 2  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  |         | 4            | 8  | 9  | 8  | 7  | 5  | 1  | 1* | 1  | 2  | 6  | 4  | 5* | 6  | 1  | 3  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| JT = 23  |         | 3            | 8  | 8  | 8  | 7  | 7  | 7  | 3  | 1  | 7  | 3  | 6* | 5* | 6  | 5* | 5* | 5* | 5* | 4* | 3* | 2* | 5* | 3* | 1* |
| VR2 = 24 |         | 7            | 3* | 5* | 3* | 3* | 2* | 5* | 5* | 7* | 6  | 4  | 8* | 8* | 7* | 6* | 4  | 6  | 6  | 8  | 8  | 9  | 8  | 5  | 9  |
| JA1 = 25 |         | 6            | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 5* | 5* | 9  | 8  | 6* | 6* | 5* | 6* | 7* | 8* | 8* | 5  | 6* | 9* | 7* |
| HS = 26  |         | 8            | 2  | 2* | 2* | 1* | 1* | -  | 1* | 4* | 5  | 5  | 7* | 6* | 6* | 6* | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 8  | 4  |
| DU = 27  |         | 6*           | 5* | 3* | 2* | 1* | 1* | 2* | 5* | 1* | 6  | 8  | 8  | 7  | 6  | 6  | 5  | 6  | 6  | 8  | 8  | 6  | 6* | 6* | 8  |
| YB = 28  |         | 7            | 3* | 3* | 1* | 1* | -  | 1* | 3* | 1  | 6  | 8  | 8  | 8  | 6  | 4  | 2  | 2  | 2  | 5  | 5  | 2  | 4* | 4* | 4* |
| VK6 = 29 |         | 5            | 2  | 1* | -  | -  | -  | -  | 1* | -  | 4  | 8  | 8  | 5  | 1  | 2* | 1* | 1* | 1  | 1  | 1  | -  | -  | 5* | 4* |
| VK3 = 30 |         | 7            | 1  | -  | -  | -  | -  | 1* | -  | -  | 2* | 4  | 5  | 1  | 1* | 1* | 1* | 1* | 1* | 1* | 2* | 3  | 8  | 8  |    |
| KH6 = 31 |         | 7            | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 2* | 3* | 8  | 8  | 1* | -  | -  | 5  | 4  | 8  | 8  | 4* | 3* | 2  | 5  |
| KH8 = 32 |         | 7            | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 6  | 1* | -  | 2  | 8  | 6  | -  | -  | 1* | 6  | 5  | 5  | 5  | 5  | 4  | 5  |
| CN = 33  |         | 9+           | 9+ | 9+ | 9  | 9  | 7  | 5  | 5  | 1  | 8  | 9  | 8  | 6  | 5  | 3  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |
| SU = 34  |         | 9            | 9  | 9  | 8  | 8  | 9  | 8  | 2  | 4  | 6  | 4  | 2  | 2  | 2  | 1  | 3  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  |         | 9+           | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | 9  | 9+ | 9  | 8  | 8  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  |         | 7            | 5  | 4  | 2  | 1* | 1* | 1  | 1* | 5  | 8  | 9  | 8  | 7  | 6  | 6  | 7  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 8  |
| 5Z = 37  |         | 8            | 7  | 2  | 1* | 2* | 5  | 1  | 1  | 6  | 8  | 5  | 4  | 4  | 9  | 4  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| ZS6 = 38 |         | -            | -  | -  | -  | 1* | 1* | 1* | 1  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  |
| FR = 39  |         | -            | -  | 1* | 1* | 1  | 1  | -  | -  | 4  | 6  | 7  | 7  | 6  | 6  | 6  | 7  | 8  | 7  | 2  | 1  | 2* | 2* | 1* | -  |
| FJL = 40 |         | 3*           | 1* | -  | -  | -  | -  | -  | 1  | -  | 6  | 5  | 6* | 5  | 6  | 3  | 3  | 4  | 4  | 3  | 4  | 4  | 5  | 3  | 1  |
| Zone     | UTC --> | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |         | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Apr., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00  | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |     | 6   | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3* | 3* | 2  |    |
| VO2 = 02 |     | 8   | 1  | 1  | -  | -  | -  | 3  | 1  | -  | -  | -  | 8  | 9  | 8  | 7  | 6  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| W6 = 03  |     | 9   | 9  | 9  | 9  | 6  | 2  | 2  | 2  | 4  | -  | -  | 3  | -  | -  | 7  | 7  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9  |    |
| W9 = 04  |     | 9   | 9  | 2  | 1  | -  | -  | -  | 3  | -  | -  | 1  | -  | 7  | 8  | 8  | 7  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| W3 = 05  |     | 9   | 7  | 8  | 8  | 8  | 7  | -  | 4  | -  | -  | 2  | 1  | 9  | 9  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9  |    |
| XE1 = 06 |     | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 3  | -  | 1  | -  | 1  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  |    |
| TI = 07  |     | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |    |
| VP2 = 08 |     | 9   | 9  | 9+ | 9+ | 9+ | 9  | 7  | -  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| P4 = 09  |     | 8   | 8  | 9  | 9+ | 9+ | 9  | 7  | -  | -  | -  | -  | 5  | 9+ | 9  | 9  | 9  | 6  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  |    |
| HC = 10  |     | 8   | 8  | 8  | 9  | 9+ | 8  | 7  | 1  | -  | -  | -  | -  | 9+ | 9  | 9  | 5  | 1  | 1  | 2  | 6  | 9  | 9  | 9  | 8  |    |
| PY1 = 11 |     | 9+  | 8  | 5  | 1  | -  | 1  | -  | -  | -  | -  | -  | 2  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| CE = 12  |     | 9+  | 9+ | 9  | 8  | 7  | 5  | 6  | 2  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  |     | 4   | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 6  |    |
| G = 14   |     | 1   | 1  | 1  | 1  | 5  | 4  | 5  | 2  | -  | 5  | 9  | 8  | 8  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 5  | -  |    |
| I = 15   |     | 8   | 8  | 7  | 5  | 5  | 4  | 7  | 1  | -  | 7  | 7  | 6  | 6  | 4  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 8  | 7  |    |
| UA3 = 16 |     | 1   | -  | -  | -  | -  | 3  | 7  | 1  | -  | 5  | 7  | 6  | 5  | 3  | 4  | 5  | 6  | 6  | 8  | 8  | 7  | 5  | 2  | 2  |    |
| UN = 17  |     | 2*  | 1* | 7  | 8  | 8  | 7  | 4  | -  | -  | 3  | 4  | 3  | 4* | 5* | 3* | 3  | 5  | 6  | 3  | 1  | -  | -  | -  | 2* |    |
| UA9 = 18 |     | 1*  | -  | -  | 4  | 6  | 8  | 7  | -  | -  | 2  | 6  | 5  | 8* | 5* | 4* | 2  | 4  | 2  | -  | -  | -  | -  | 2* | 5* |    |
| UA0 = 19 |     | 5   | 5  | 5  | 6  | 6  | 7  | 8  | 5  | -  | -  | 5  | 8* | 8* | 6* | 5* | 5* | 5* | 5* | 5* | -  | -  | 6* | 7* | 4  |    |
| 4X = 20  |     | 9   | 9  | 7  | 5  | 6  | 9  | 4  | -  | -  | 5  | 5  | 5  | 4  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  |    |
| HZ = 21  |     | 9   | 8  | 5  | 5  | 5  | 3  | 1* | -  | -  | 5  | 5  | 5  | 3  | 4* | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| VU = 22  |     | 1*  | 4  | 8  | 3* | 3* | 2* | 1* | 1* | -  | 4  | 3  | 2  | 4  | 5* | 4  | 5  | 7  | 7  | 7  | 8  | 9  | 9  | 8  | 4  |    |
| JT = 23  |     | 1*  | 2  | 6  | 7  | 7  | 8  | 6  | -  | -  | 4  | 6  | 5  | 8* | 6* | 5* | 4* | 3* | 3* | 2* | -  | -  | 2* | 5* | 3* |    |
| VR2 = 24 |     | 5*  | 4* | 6* | 5* | 5* | 3* | 5* | 7* | 3* | 6  | 6  | 7  | 8* | 7  | 7  | 6  | 7  | 7  | 8  | 9  | 8  | 3  | 3* | 6  |    |
| JA1 = 25 |     | 8   | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 5  | 5* | 7* | 8* | 8* | 7* | 7* | 6* | 7* | 7* | 8* | 2* | 5  | 5  | 8* | 8  |    |
| HS = 26  |     | 3   | 4* | 4* | 4* | 3* | 2* | 3* | 5* | 1* | 5  | 6  | 6  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 5  | 2* |    |
| DU = 27  |     | 6*  | 5* | 6* | 5* | 4* | 5* | 5* | 3* | -  | 1  | 8  | 8  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 6  | 1  | 4* | 8* | 7* |    |
| YB = 28  |     | 5*  | 6* | 6* | 5* | 2* | 2* | 3* | 2* | -  | 1  | 8  | 8  | 7  | 5* | 5* | 4* | 2* | 2* | 4* | 2* | -  | -  | 1* | 7* |    |
| VK6 = 29 |     | 4*  | 3* | 2* | 1* | -  | 1* | 1* | -  | -  | -  | 5  | 7  | 4* | 4* | 2* | 1* | 1* | -  | -  | -  | -  | -  | 1* | 5* |    |
| VK3 = 30 |     | 2   | 1* | 1* | -  | -  | 1* | 1* | -  | -  | 1* | 6* | 4* | 3* | 1* | 1* | -  | -  | 1* | 1* | -  | 1* | 6* | 6  | 6  |    |
| KH6 = 31 |     | 8   | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4* | 4* | 2* | 8  | -  | -  | -  | 6  | 5  | 4  | 4  | 5* | 6  | 6  | 7  |    |
| KH8 = 32 |     | 7   | 6  | 6  | 5  | 4* | 3  | 5  | 6  | 1  | 2* | 1* | 1* | 4  | 1  | 1* | 1* | -  | 6  | 7  | 6  | 6  | 6  | 6  | 7  |    |
| CN = 33  |     | 9   | 9  | 9  | 8  | 7  | 2  | 1  | 1  | -  | 2  | 9  | 8  | 8  | 7  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| SU = 34  |     | 9   | 9  | 8  | 5  | 5  | 9  | 4  | -  | -  | 7  | 7  | 5  | 5  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| 6W = 35  |     | 9   | 9  | 9  | 8  | 3  | -  | -  | -  | -  | 2  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  |    |
| D2 = 36  |     | 2   | 1  | -  | -  | -  | 4* | 1* | 2* | 1  | 9  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  |    |
| 5Z = 37  |     | 5   | 1  | -  | 4* | 2* | 2* | 3* | 2* | 2  | 8  | 7  | 6  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 7  |    |
| ZS6 = 38 |     | -   | -  | -  | -  | 2* | 2* | 1* | 1* | 3  | 5  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  |    |
| FR = 39  |     | -   | -  | 2* | 2* | 2* | 1* | -  | 1* | -  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 2* | 2* | 1* | 1* | 1* | -  | -  |    |
| FJL = 40 |     | 1*  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | 5* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Apr., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |         | 2  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  |
| VO2 = 02 |         | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  |
| W6 = 03  |         | 9  | 9  | 9  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  |
| W9 = 04  |         | 9  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 4  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  |         | 7  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 5  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| XE1 = 06 |         | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 3  | -  | -  | -  | -  | -  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  |
| TI = 07  |         | 7  | 7  | 8  | 9  | 8  | 7  | 5  | -  | -  | -  | -  | -  | 1  | 9  | 7  | 3  | 3  | 3  | 6  | 9  | 9  | 9+ | 9  | 8  |
| VP2 = 08 |         | 6  | 6  | 6  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | 2  | 9+ | 9  | 6  | 2  | 1  | 2  | 7  | 9  | 9+ | 9+ | 8  | 7  |
| P4 = 09  |         | 5  | 5  | 5  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 6  | 7  | 5  | 1  | -  | -  | 4  | 7  | 8  | 8  | 8  | 6  |
| HC = 10  |         | 3  | 3  | 4  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | 2  | 7  | 3  | 8  | 9  | 9  | 8  | 1* | 2* | 2  | 1  | 4  |
| PY1 = 11 |         | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 8  |
| CE = 12  |         | 9  | 9  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | 1  | 3  | 7  | 8  | 7  | 3* | 4  | 5* |
| G = 14   |         | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 4  | -  | -  |
| I = 15   |         | 3  | 3  | 2  | -  | -  | -  | 3  | -  | -  | 1  | 9  | 8  | 6  | 5  | 7  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 6  | 1  |
| UA3 = 16 |         | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | 5  | 4  | 4* | 3* | 2  | 2  | 4  | 5  | 5  | 3  | 3  | -  | -  | -  |
| UN = 17  |         | 1* | -  | 4  | 8  | 8  | 6  | 1  | -  | -  | -  | 6  | 6  | 5  | 6* | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 |         | -  | -  | -  | -  | 3  | 6  | 3  | -  | -  | -  | 6  | 2  | 7* | 4* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 2* |
| UA0 = 19 |         | 1  | 1  | 1  | 2  | 2  | 4  | 6  | -  | -  | -  | -  | 7* | 7* | 4* | 2* | 2* | 2* | 2* | 1* | -  | -  | -  | 3* | -  |
| 4X = 20  |         | 9  | 8  | 1  | 1  | 1  | 7  | -  | -  | -  | 1  | 7  | 6  | 6  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  |         | 8  | 3  | 2* | 1  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 5  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  |         | 3* | 4* | 5  | 2* | 1* | -  | -  | -  | -  | -  | 4  | 5  | 5  | 6* | 5  | 6  | 7  | 5  | 1  | 2  | 5  | 6  | 3  | -  |
| JT = 23  |         | -  | -  | 1  | 6  | 7  | 8  | 4  | -  | -  | -  | 7  | 5  | 7* | 4* | 2* | 1* | 1* | 1* | -  | -  | -  | -  | 4* | 2* |
| VR2 = 24 |         | 8* | 8* | 8* | 7* | 5* | 5* | 6* | 5* | -  | 2  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 5  | -  | 6* | 7* |
| JA1 = 25 |         | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 7  | 1  | -  | 8* | 9* | 8* | 7* | 7* | 6* | 6* | 6* | 3* | -  | 1  | 6  | 8  | 8  |
| HS = 26  |         | 6* | 7* | 7* | 6* | 3* | 2* | 4* | 2* | -  | 1  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 6  | -  | 2* |
| DU = 27  |         | 7* | 6* | 6* | 5* | 5* | 5* | 4* | 1* | -  | -  | 3  | 8  | 8  | 8  | 7  | 8  | 7  | 7  | 6  | 2  | -  | -  | 7* | 8* |
| YB = 28  |         | 6* | 6* | 6* | 5* | 4* | 3* | 3* | 1* | -  | -  | 3  | 8  | 8* | 7* | 6* | 5* | 5* | 5* | 3* | -  | -  | -  | -  | 6* |
| VK6 = 29 |         | 4* | 3* | 2* | 2* | 2* | 1* | 1* | -  | -  | -  | -  | 6* | 5* | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 5* |
| VK3 = 30 |         | 2* | 1* | 1* | 2* | 1* | 1* | 1* | -  | -  | -  | 5* | 2* | 1* | -  | 1* | -  | -  | -  | -  | -  | -  | 3* | 6* | 3* |
| KH6 = 31 |         | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | -  | 1* | 1* | -  | 5  | -  | -  | -  | 1  | 4  | 7  | 7  | 7  | 6  | 6  | 7  |
| KH8 = 32 |         | 5  | 3  | 3* | 2* | 1* | 1* | -  | -  | -  | -  | 5* | 4* | 4* | 2* | 2* | 1* | -  | 2  | 7  | 7  | 7  | 7  | 7  | 7  |
| CN = 33  |         | 9  | 6  | 6  | 4  | 3  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| SU = 34  |         | 9  | 9  | 3  | 1  | -  | 6  | -  | -  | -  | 4  | 8  | 6  | 6  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  |         | -  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | 9  | 9  | 5  | 1  | 1  | 1  | 5  | 9  | 9  | 9+ | 9+ | 9  | 7  | 1  |
| D2 = 36  |         | 1* | -  | -  | -  | -  | 2* | 1* | 1* | -  | 3  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 5  | 2  | 1  |
| 5Z = 37  |         | -  | -  | -  | 3* | 5* | 4* | 2* | 1* | -  | 5  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  |
| ZS6 = 38 |         | -  | -  | -  | -  | 1* | 5* | 2* | 1* | -  | -  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 1  | 1  | -  | -  | -  | -  |
| FR = 39  |         | -  | -  | 1* | 5* | 4* | 2* | 1* | 1* | -  | 3  | 8  | 8  | 9  | 8  | 8  | 8  | 2  | 1* | -  | -  | -  | -  | -  | -  |
| FJL = 40 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Apr., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | -   | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 4  | 4  | 5  | 3  | 1  |
| W6 = 03  | 8   | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  | 5  | 8  | 8  | 9  | 9  | 8  |
| W9 = 04  | 4   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  | 7  | 7  |
| W3 = 05  | 1   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 7  | 9  | 7  | 7  | 7  | 7  | 5  |
| XE1 = 06 | 8   | 8  | 8  | 9  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  | 9  | 7  | 8  | 9  | 9  | 9  | 9  | 8  |
| TI = 07  | 3   | 3  | 4  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 3  | 5  | 5  | 6  | 4  |
| VP2 = 08 | 1   | 1  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | -  | -  | -  | -  | 1  | 4  | 5  | 4  | 5  | 3  |
| P4 = 09  | 1   | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 3* | 1  | 1  | 4  | 2  |
| HC = 10  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 9  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ | -  |
| PY1 = 11 | 2   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | 1  | 5  | 8  | 9  | 9  | 9  | 6  | 3  |
| CE = 12  | 6   | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  |
| LU = 13  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | 1* | 2  | 4* | 4* | 5* | 1* |
| G = 14   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 5  | 6  | 6  | 7  | 7  | 8  | 8  | 5  | -  | -  | -  |
| I = 15   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 7  | 1  | -  | -  |
| UA3 = 16 | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | 1  | 1  | -  | -  | -  | -  | -  |
| UN = 17  | -   | -  | 1  | 5  | 5  | 2  | -  | -  | -  | -  | -  | 6  | 7  | 5  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -   | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | 2  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -   | -  | -  | -  | -  | -  | 3  | -  | -  | -  | -  | -  | 3* | 5* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 8   | 4  | -  | -  | -  | 4  | -  | -  | -  | -  | -  | 6  | 7  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 8  |
| HZ = 21  | 4   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 6  | 6  | 7  | 7  | 8  | 8  | 9  | 8  | 8  | 9  | 8  | 7  |
| VU = 22  | -   | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 6* | 5  | 8  | 7  | -  | -  | -  | -  | 1  | -  | -  |
| JT = 23  | -   | -  | -  | 2  | 4  | 5  | 1  | -  | -  | -  | -  | 4  | 2  | 1  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 8*  | 8* | 8* | 7* | 6* | 6* | 5* | 2* | -  | -  | -  | 6  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 7  | 5  | -  | -  | 2* | 7* |
| JA1 = 25 | 7   | 8  | 8  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | 4* | 8* | 8* | 3* | 5* | 4* | 3* | 3* | -  | -  | -  | 1  | 5  | 6  |
| HS = 26  | 5*  | 7* | 7* | 6* | 5* | 4* | 2* | 1* | -  | -  | -  | 4  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 6  | 1  | -  | -  |
| DU = 27  | 5*  | 5* | 4* | 4* | 3* | 3* | 2* | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | 4* | 7* |
| YB = 28  | 5*  | 5* | 4* | 3* | 2* | 2* | 1* | -  | -  | -  | -  | -  | 5  | 7* | 6* | 6* | 5* | 4* | 2* | 1* | -  | -  | -  | -  | 2* |
| VK6 = 29 | 4*  | 2* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 5* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* |
| VK3 = 30 | 2*  | 2* | 1* | -  | 1* | 1* | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 6* | 4* |
| KH6 = 31 | 8   | 8  | 8  | 9  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | 6  | 6  | 8  | 8  | 8  | 7  | 7  |
| KH8 = 32 | 4*  | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 5* | 4* | 2* | 1* | -  | -  | -  | 7  | 7  | 7  | 8  | 8  | 5  |
| CN = 33  | 5   | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 8  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 6  | 6  | 3  |
| SU = 34  | 8   | 6  | -  | -  | -  | 3  | -  | -  | -  | -  | -  | 8  | 8  | 7  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 9  | 9  |
| 6W = 35  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 2  | -  | 1* | -  | -  | -  | 3  | 6  | 7  | 7  | 4  | -  | -  |
| D2 = 36  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 7  | 4  | 3* | 2* | 1* |
| 5Z = 37  | -   | -  | -  | -  | 4* | 1* | 1* | -  | -  | -  | -  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 1  | -  |
| ZS6 = 38 | -   | -  | -  | -  | -  | 5* | 3* | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -   | -  | -  | 5* | 4* | 3* | 1* | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 8  | 5  | 1* | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: May, Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 1       | 4  | 5  | 5  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | -  | 4  | 4  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | -  | 2  | 3  | 5  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 3  | 5  | 4  | 5  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 1  | 2  | 3  | 4  | 4  | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 1       | 3  | 3  | 4  | 4  | 4  | 4  | 4  | 3  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 3       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 5       | 6  | 6  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | 1  | 5  | 9  | 9  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 2  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  | 9  |
| G = 14   | 4       | 4  | 5  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 4       | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| UA3 = 16 | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |    |
| HZ = 21  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |    |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 2  | 3  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 4  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| SU = 34  | 3       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |    |
| 6W = 35  | 5       | 5  | 4  | 4  | 5  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |    |
| D2 = 36  | 5       | 5  | 5  | 5  | 4  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  |    |
| 5Z = 37  | 5       | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 3  |
| ZS6 = 38 | 6       | 5  | 5  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  |
| FR = 39  | 5       | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  |    |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: May, Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | 1  | 1  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4       | 7  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 1  | 3  | 7  | 7  | 7  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 3  | 5  | 6  | 8  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 6  | 8  | 7  | 8  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 4  | 5  | 6  | 7  | 7  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 4       | 6  | 6  | 7  | 7  | 7  | 7  | 7  | 6  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VP2 = 08 | 6       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| P4 = 09  | 6       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| HC = 10  | 8       | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | 1  | 5  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | -  | -  | -  | -  | 4  | 8  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 1  | 1  | 2  | 7  | 9  | 9+ | 9+ | 9+ |
| G = 14   | 7       | 7  | 8  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  |
| I = 15   | 7       | 7  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| UA3 = 16 | 4       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| HZ = 21  | 5       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| VU = 22  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 1  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 2  | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 7  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  |
| SU = 34  | 6       | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| 6W = 35  | 8       | 8  | 7  | 7  | 8  | 8  | 8  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  |
| D2 = 36  | 8       | 8  | 8  | 8  | 7  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  |
| 5Z = 37  | 8       | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  | 6  |
| ZS6 = 38 | 9       | 8  | 8  | 9  | 9  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 9  |
| FR = 39  | 8       | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 40 Meters: May, Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | 1  | 1  | 2  | 4  | 6  | 6  | 6  | 6  | 5  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| W6 = 03  | -       | 3  | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 6       | 7  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W3 = 05  | 8       | 8  | 8  | 8  | 9  | 9  | 8  | 9  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| XE1 = 06 | 6       | 8  | 8  | 9  | 9  | 8  | 8  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| TI = 07  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 7  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 4  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 9  | 8  | 8  | 8  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 7  | 8  |
| I = 15   | 7       | 8  | 8  | 8  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  |
| UA3 = 16 | 6       | 5  | 6  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 5  | 6  |
| UN = 17  | 6       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 4  |
| UA9 = 18 | 2       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 4  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  |
| 4X = 20  | 8       | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| HZ = 21  | 8       | 8  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 6  | 8  |
| VU = 22  | 5       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  |
| JT = 23  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 2  | 1  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 4  | 2  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  |
| HS = 26  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 6  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 4  | 1  |
| YB = 28  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 7  |
| VK6 = 29 | 5       | 2  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 6  |
| VK3 = 30 | -       | -  | -  | -  | 1  | 1  | 3  | 5  | 6  | 8  | 7  | 3  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 3  | 1  |
| KH6 = 31 | -       | -  | -  | 1  | 5  | 6  | 7  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 2  | 5  | 6  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 8  | 9  | 9  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 9  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 8  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 8  | 9  | 9  |
| FR = 39  | 9       | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 8  | 9  |
| FJL = 40 | 3       | 4  | 4  | 3  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: May, Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|--|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 |  | 1            | 2  | 2  | 6  | 6  | 7  | 7  | 6  | 6  | 8  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 |  | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  |
| W6 = 03  |  | 4            | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  |  | 7            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| W3 = 05  |  | 8            | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| XE1 = 06 |  | 8            | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| TI = 07  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| VP2 = 08 |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  |
| P4 = 09  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 7  | 5  | 1  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  | 9  |
| HC = 10  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 6  | 8  | 5  | 2  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  |
| PY1 = 11 |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 9+ | 9+ | 9+ | 9  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |  | 9+           | 9+ | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 3  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |  | 8            | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 7  | 8  |
| I = 15   |  | 8            | 8  | 8  | 8  | 8  | 7  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 8  | 8  |
| UA3 = 16 |  | 7            | 7  | 6  | 6  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| UN = 17  |  | 7            | 5  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 8  | 7  |
| UA9 = 18 |  | 6            | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 5  |
| UA0 = 19 |  | -            | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 2* | 2* | 2* | -  | -  | -  | -  | -  | -  | 2* | 4* | 4* | 2* | -  |
| 4X = 20  |  | 8            | 8  | 8  | 7  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  |
| HZ = 21  |  | 8            | 8  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| VU = 22  |  | 6            | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 5  | 6  |
| JT = 23  |  | 4            | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 5  |
| VR2 = 24 |  | 4            | 1  | -  | -  | -  | -  | -  | -  | -  | 2* | 3* | 2* | 1* | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 5  | 5  |
| JA1 = 25 |  | -            | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 5  | 3  | -  | -  | -  | -  | -  | 1* | 4* | 5* | 5* | 3* | -  |
| HS = 26  |  | 6            | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  | 8  |
| DU = 27  |  | 2            | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 3  | 2* | 1  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  | 5  |
| YB = 28  |  | 6            | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 6  | 7  |
| VK6 = 29 |  | 7            | 5  | 2  | 2  | 1  | -  | -  | 2  | 4  | 4  | 5  | 3  | 2  | 3  | 1  | -  | -  | 1  | 3  | 5  | 5  | 5  | 6  | 7  |
| VK3 = 30 |  | 4            | 3  | 1  | 2  | 4  | 5  | 5  | 6  | 7  | 8  | 8  | 7  | 5  | 4  | 2  | 1  | -  | 1  | 1  | 1  | 3  | 5  | 6  | 3  |
| KH6 = 31 |  | -            | -  | 2  | 4  | 6  | 7  | 7  | 8  | 8  | 7  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 |  | -            | -  | 2  | 5  | 6  | 7  | 8  | 8  | 8  | 7  | 2  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  |  | 9            | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  | 8  |
| SU = 34  |  | 8            | 8  | 8  | 7  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  |
| 6W = 35  |  | 9            | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 9  | 9  | 9  |
| D2 = 36  |  | 9            | 9  | 9  | 8  | 5  | 3  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 7  | 8  |
| 5Z = 37  |  | 8            | 8  | 8  | 4  | 7  | 8  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  | 8  |
| ZS6 = 38 |  | 8            | 8  | 8  | 8  | 4  | 5  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 8  | 8  | 8  | 8  |
| FR = 39  |  | 6            | 1  | -  | 7  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 7  | 5  | 5  | 7  |
| FJL = 40 |  | 5            | 6  | 6  | 7  | 6  | 4  | 3  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  |
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |  |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |  | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 20 Meters: May, Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 7       | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 7  | 6  | 5  | 5* | 2* | 2  | 2  | 1  | 1  | 1  | 2  | 4  | 3* | 4  | 5  | 6  |
| VO2 = 02 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 8  | 9  | 8  | 5  | 3  | 1  | 2  | 2  | 4  | 7  | 7  | 8  | 9  | 9  |
| W6 = 03  | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 5  | 9  | 8  | 5  | 3  | 1  | 1  | -  | -  | 2  | 1  | 1  | 2  | 6  |
| W9 = 04  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 6  | 9  | 9  | 8  | 5  | 2  | 1  | 2  | 1  | 1  | 4  | 3  | 5  | 8  | 9  |
| W3 = 05  | 9       | 9  | 9+ | 9+ | 9+ | 9  | 9  | 8  | 5  | 5  | 8  | 9  | 8  | 5  | 4  | 2  | 1  | 1  | 1  | 6  | 6  | 8  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 5  | 5  | 9  | 8  | 8  | 7  | 4  | 3  | 1  | 2  | 4  | 4  | 7  | 8  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | 3* | 5  | 9  | 9  | 7  | 5  | 4  | 3  | 2  | 5  | 6  | 8  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | 2  | 9+ | 9  | 9  | 7  | 5  | 3  | 5  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | 3* | 5  | 9  | 9  | 7  | 6  | 5  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1  | 2* | 2* | 6  | 9  | 8  | 6  | 5  | 3  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 8  | 8  | 7  | 5  | 2  | -  | -  | 2  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | 5  | 1  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9       | 8  | 1  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  |
| G = 14   | 9       | 9+ | 9  | 9  | 9  | 9  | 9  | 5  | 4  | 8  | 5  | 2  | 1  | -  | -  | -  | 1  | 2  | 5  | 7  | 9  | 9  | 9  | 9  |
| I = 15   | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 3  | 4  | 5  | 2  | 1  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 9  | 9  | 9  |
| UA3 = 16 | 9       | 8  | 8  | 8  | 8  | 8  | 7  | 1  | 1  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  | 8  | 9  |
| UN = 17  | 9       | 8  | 8  | 6  | 4  | 4  | 1  | -  | -  | -  | -  | -  | 3* | 1* | 1* | -  | -  | 3  | 5  | 7  | 9  | 9  | 9  | 9  |
| UA9 = 18 | 8       | 8  | 8  | 6  | 3  | 4  | 2  | -  | -  | 2  | -  | 4* | 2* | 2* | 2* | 2* | 1* | 1  | 4  | 6  | 8  | 8  | 8  | 8  |
| UA0 = 19 | 1       | 1  | 1  | 2  | 2  | 3  | 2  | 6  | 4  | 6  | 8  | 8* | 7* | 5* | 4* | 4* | 3* | 5* | 6* | 8  | 8* | 8* | 5  | 4  |
| 4X = 20  | 9       | 9  | 9  | 9  | 9  | 9  | 6  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 9  | 9  | 8  | 7  | 1  | -  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 9       | 9  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | 1* | 3* | 1* | 1* | -  | 2  | 4  | 8  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  | 8       | 7  | 3  | 4  | 2  | 1  | 1  | -  | -  | -  | 7  | 6  | 3* | 2* | 2* | 2* | 2* | 2* | 3  | 6  | 7  | 7  | 7  | 8  |
| VR2 = 24 | 5       | 1  | -  | -  | -  | -  | -  | 3* | 5* | 8  | 5  | 8* | 5  | 4* | 3* | 2  | 3  | 4  | 6  | 8  | 8  | 9  | 8  | 6  |
| JA1 = 25 | 1*      | -  | 1  | 1  | 2  | 4  | 7  | 8  | 8  | 5  | 5* | 9  | 8  | 7  | 4  | 3* | 4* | 5* | 8* | 8* | 9* | 9* | 6* | 2* |
| HS = 26  | 5       | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 6  | 6  | 6  | 4* | 2  | 3  | 5  | 6  | 8  | 9  | 9  | 9  | 8  | 6  |
| DU = 27  | 1       | -  | -  | -  | -  | -  | -  | 2* | 3* | 5  | 7  | 7  | 6  | 5  | 3  | 3  | 3  | 5  | 7  | 8  | 7  | 2* | 8  | 4  |
| YB = 28  | 3       | 1* | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 6  | 5  | 4  | 3  | 3  | 5  | 6  | 7  | 8  | 6  | 2  | 4  |
| VK6 = 29 | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 7  | 4  | 1  | -  | 2  | 3  | 4  | 5  | 3  | 3  | 2  | 6  |
| VK3 = 30 | 4       | -  | -  | -  | -  | 1  | 1* | -  | -  | 1  | 5  | 5  | 4  | 3  | 2  | 1  | 1  | 1  | -  | 1* | 2* | 5  | 8  | 7  |
| KH6 = 31 | 3       | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 2  | 1* | 8  | 8  | 8  | 5  | 1  | 1  | -  | 1* | 1* | -  | -  | -  | -  |
| KH8 = 32 | 4       | 6  | 6  | 8  | 8  | 8  | 8  | 8  | 7  | -  | -  | 2  | 9  | 5  | -  | -  | -  | 4  | 2  | 8  | 2  | 2  | 1  | 2  |
| CN = 33  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 5  | 8  | 7  | 4  | 2  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| SU = 34  | 9       | 9  | 9  | 9  | 9  | 9  | 6  | 1  | 4  | 2  | 1  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9  | 9  | 6  | -  | -  | 1  | 9  | 9  | 8  | 6  | 4  | 3  | 2  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 6       | 6  | 6  | 4  | -  | -  | -  | -  | 8  | 8  | 7  | 5  | 3  | 1  | 2  | 2  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 7  |
| 5Z = 37  | 9       | 8  | 4  | -  | 1  | 6  | 1  | -  | 5  | 4  | 2  | 1  | -  | 1  | 1  | 3  | 5  | 7  | 9  | 9  | 9  | 9  | 9  | 9  |
| ZS6 = 38 | 1       | 4  | 1  | 2  | -  | -  | -  | 1  | 6  | 8  | 7  | 5  | 5  | 5  | 4  | 5  | 8  | 9  | 9  | 9  | 8  | 6  | 5  | 2  |
| FR = 39  | -       | -  | -  | -  | 4  | 1  | -  | -  | 4  | 5  | 4  | 3  | 2  | 4  | 4  | 5  | 6  | 4  | 2  | 2  | 1  | 1* | -  | -  |
| FJL = 40 | 8       | 8  | 7  | 7  | 6  | 6  | 9  | 5  | 2  | 7  | 5  | 7  | 4  | 2* | 1* | -  | 1  | 1  | 3  | 4  | 7  | 8  | 8  | 8  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: May, Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 8  | 8  | 9  | 9  | 8  | 7  | 7  | 1  | 1* | 7* | 4* | 2* | 1* | -  | 1  | 1  | 1  | 3  | 3  | 6* | 4  | 5  | 6  |
| VO2 = 02 | 9       | 9+ | 9  | 8  | 6  | 4  | 7  | 3  | -  | 2  | 8  | 9  | 8  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 8       | 9  | 9  | 9  | 9+ | 9+ | 9  | 8  | 4  | 3* | 1* | 8  | 1  | 8  | 8  | 5  | 7  | 7  | 5  | 3  | 4  | 5  | 8  | 9  |
| W9 = 04  | 9       | 9  | 9  | 9  | 8  | 6  | 2  | 6  | -  | -  | -  | 6  | 9  | 8  | 8  | 7  | 7  | 7  | 7  | 6  | 8  | 8  | 9  | 9  |
| W3 = 05  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 4  | -  | -  | 1  | 8  | 9  | 8  | 8  | 8  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 3  | 1* | -  | -  | 8  | 8  | 8  | 9  | 8  | 8  | 6  | 7  | 8  | 9  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 2  | -  | 2* | 1* | -  | 9  | 9  | 8  | 7  | 7  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9  | 8  | 5  | -  | -  | -  | 2* | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 8  | 8  | 5  | -  | -  | -  | -  | 6  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 9       | 9  | 9  | 9  | 8  | 6  | 4  | -  | -  | 3* | 1* | 1* | 9+ | 9  | 8  | 8  | 8  | 5  | 8  | 7  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 | 9       | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 8  | 6  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 7  | 8  | 3  |
| G = 14   | 9       | 9  | 8  | 8  | 8  | 8  | 7  | -  | -  | 7  | 8  | 8  | 9  | 5  | 5  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9+ | 9  |
| I = 15   | 9       | 9  | 9  | 9  | 9  | 9  | 5  | -  | 1  | 8  | 8  | 6  | 2  | 1  | 1  | 2  | 3  | 6  | 8  | 9  | 9  | 9+ | 9  | 9  |
| UA3 = 16 | 6       | 5  | 3  | 4  | 7  | 8  | 5  | -  | -  | 5  | 6  | 5  | 7  | 8  | 3  | 4  | 6  | 6  | 8  | 8  | 8  | 9  | 9  | 8  |
| UN = 17  | 7       | 8  | 9  | 8  | 8  | 6  | 1  | -  | -  | 4  | 6  | 6  | 6  | 5  | 2  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 8  | 8  |
| UA9 = 18 | 4       | 5  | 7  | 8  | 8  | 7  | 3  | -  | -  | 5  | 5  | 4  | 5  | 6* | 5* | 4* | 5* | 5  | 7  | 8  | 7  | 6  | 5  | 3  |
| UA0 = 19 | 6       | 6  | 6  | 6  | 6  | 8  | 8  | 4  | -  | 1  | 8  | 8  | 9* | 8* | 7* | 6* | 6* | 7* | 8* | 8* | 8* | 6* | 5  | 7  |
| 4X = 20  | 9       | 9  | 9  | 8  | 8  | 7  | -  | -  | -  | 5  | 4  | 2  | 2  | 8  | 1  | 2  | 5  | 7  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 8  | 5  | 4  | 1  | -  | -  | -  | 5  | 2  | 2  | 8  | 6  | 2  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 8       | 8  | 4  | 2* | 2  | -  | -  | -  | -  | 2  | 7  | 6  | 5* | 4* | 2* | 4* | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  | 7       | 7  | 7  | 8  | 8  | 6  | 2  | -  | -  | 5  | 5  | 4  | 6* | 7* | 7* | 5* | 6* | 6  | 6  | 6  | 6* | 6* | 4  | 4  |
| VR2 = 24 | 1*      | 5* | 4* | 3* | 2* | 4* | 5* | 5* | 1* | 6  | 4  | 6* | 8* | 8* | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 6  | 3  | 2* |
| JA1 = 25 | 6       | 6  | 7  | 8  | 8  | 8  | 8  | 4  | 4* | 4* | 7* | 8  | 9  | 8  | 7* | 7* | 7* | 8* | 9* | 9* | 8* | 8* | 5  | 6  |
| HS = 26  | 1*      | 2* | 3* | 1* | 1* | 1* | 1* | 1* | -  | 5  | 5  | 5  | 6  | 6  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 8  | 2  | 1* |
| DU = 27  | 4*      | 5* | 4* | 2* | 2* | 2* | 4* | 2* | -  | 1  | 8  | 8  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 7  | 5* | 6* | 5* | 6* |
| YB = 28  | 3*      | 4* | 4* | 2* | 1* | 1* | 1* | 1* | -  | 1  | 8  | 8  | 8  | 4  | 5* | 3* | 2* | 2* | 2* | 3  | 5  | 1  | 4* | 4* |
| VK6 = 29 | 2*      | 2* | 1* | 1* | -  | -  | 1* | -  | -  | -  | 5  | 8  | 6  | 2* | 1* | 1* | -  | -  | 1  | 1  | -  | -  | 1* | 3* |
| VK3 = 30 | -       | -  | -  | 1* | -  | -  | -  | -  | -  | 1* | 5* | 3* | 1* | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 2* | 6  | 1  |
| KH6 = 31 | 6       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 2* | 4* | 4* | 9  | 3  | 1* | 3  | 6  | 5  | 6  | 8  | 5* | 3* | 2  | 5  |
| KH8 = 32 | 6       | 4  | 2* | 2* | 2* | 1  | 2  | 1  | -  | 1* | -  | 1* | 3  | 1* | 1* | 1* | -  | 6  | 6  | 5  | 5  | 5  | 5  | 5  |
| CN = 33  | 9       | 9  | 9  | 9  | 9  | 8  | 5  | -  | -  | 6  | 9  | 8  | 6  | 4  | 3  | 4  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9  | 9  |
| SU = 34  | 9+      | 9  | 9  | 8  | 8  | 7  | -  | -  | -  | 7  | 4  | 3  | 2  | 9  | 4  | 3  | 5  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| 6W = 35  | 9       | 8  | 5  | 3  | -  | -  | -  | -  | -  | 5  | 9+ | 9  | 8  | 6  | 6  | 6  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 1       | -  | -  | -  | 2* | 1* | 1* | -  | 1  | 7  | 9  | 8  | 7  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 6  | 5  | 2  |
| 5Z = 37  | 6       | -  | -  | 1* | 1* | 2* | 1* | -  | 3  | 8  | 7  | 7  | 9  | 7  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 6  |
| ZS6 = 38 | -       | -  | -  | -  | 1* | 1* | 1* | -  | -  | 7  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 8  | 3  | 6  | 2  | -  | -  | -  |
| FR = 39  | -       | -  | 1* | 1* | 1* | 1* | 1* | -  | -  | 7  | 8  | 7  | 7  | 7  | 8  | 8  | 4  | 1* | -  | -  | -  | -  | -  | -  |
| FJL = 40 | 3       | -  | -  | -  | -  | 1  | 7  | -  | -  | 5  | 6  | 5  | 6* | 5  | 2  | 2  | 3  | 4  | 5  | 6  | 5  | 7  | 6  | 5  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: May, Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 6       | 7  | 7  | 8  | 7  | 5  | 2  | 2  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 4* | -  | -  | 1  |
| VO2 = 02 | 9       | 9  | 7  | 2  | 1  | -  | 2  | -  | -  | -  | 1  | 7  | 8  | 7  | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | 4  | -  | -  | 7  | 7  | 8  | 8  | 6  | 8  | 7  | 8  | 9  | 9  |
| W9 = 04  | 9       | 9  | 8  | 6  | 2  | -  | -  | 1  | -  | -  | -  | -  | 4  | 8  | 6  | 4  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | 9       | 8  | 8  | 8  | 8  | 6  | 5  | -  | -  | -  | -  | 1  | 6  | 7  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 7  | 6  | 7  | 4  | -  | -  | -  | -  | 1  | 9  | 9  | 8  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  |
| TI = 07  | 9       | 9  | 9  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 9  | 6  | 3  | 3  | 5  | 9  | 9  | 9  | 9+ | 9+ | 9  |
| VP2 = 08 | 8       | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | 4  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9  | 9  |
| P4 = 09  | 7       | 7  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | 5  | 6  | 5  | 5  | 5  | 5  | 7  | 9  | 9+ | 9+ | 9  | 8  |
| HC = 10  | 6       | 5  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | 1* | 1  | 9  | 7  | 2  | -  | -  | -  | 1  | 4  | 6  | 6  | 7  |
| PY1 = 11 | 5       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  |
| CE = 12  | 9       | 8  | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 2  | 2  | 6  | 8  | 6  | 4* | 4* | 1* |
| G = 14   | 8       | 6  | 3  | 1  | 6  | 6  | 2  | -  | -  | -  | 9  | 8  | 8  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| I = 15   | 7       | 8  | 7  | 5  | 7  | 7  | 1  | -  | -  | 2  | 8  | 6  | 5  | 4  | 4  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 8  | 7  |
| UA3 = 16 | 1       | -  | -  | -  | 2  | 6  | -  | -  | -  | -  | 7  | 6  | 5  | 4  | 4  | 4  | 5  | 7  | 8  | 8  | 8  | 8  | 7  | 4  |
| UN = 17  | 1       | 3  | 8  | 6  | 6  | 2  | -  | -  | -  | -  | 5  | 4  | 2  | 5* | 4  | 5  | 6  | 7  | 8  | 8  | 7  | 4  | 3  | 2  |
| UA9 = 18 | -       | -  | 1  | 6  | 6  | 4  | -  | -  | -  | -  | 6  | 4  | 4  | 7* | 5* | 4* | 4* | 2* | 4  | 5  | 2  | 2* | 3* | -  |
| UA0 = 19 | 2       | -  | -  | -  | -  | 6  | 5  | -  | -  | -  | 1  | 5  | 8* | 8* | 8* | 7* | 7* | 7* | 7* | 4* | 3* | -  | -  | 2  |
| 4X = 20  | 9       | 8  | 5  | 5  | 6  | 2  | -  | -  | -  | 2  | 6  | 5  | 4  | 4  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 8       | 5  | 5  | -  | -  | -  | -  | -  | -  | 2  | 5  | 4  | 4  | 4  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 2       | 1  | 1* | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 5* | 4* | 5  | 5  | 7  | 7  | 5  | 5  | 6  | 7  | 7  | 5  |
| JT = 23  | 1       | 3  | 6  | 8  | 8  | 5  | -  | -  | -  | 1  | 6  | 4  | 4* | 8* | 7* | 5* | 5* | 5* | 4* | 2  | 1* | 6* | 3* | -  |
| VR2 = 24 | 5*      | 5* | 6* | 5* | 4* | 3* | 2* | 1* | -  | 2  | 6  | 7  | 9* | 8* | 7  | 7  | 7  | 8  | 8  | 7  | 5  | 3* | 4* | 4* |
| JA1 = 25 | 8       | 8  | 7  | 8  | 8  | 8  | 6  | 4  | -  | 1* | 8* | 8* | 8  | 8* | 8* | 7* | 7* | 8* | 8* | 7* | 5  | 6  | 7  | 8  |
| HS = 26  | 4*      | 4* | 5* | 4* | 2* | 1* | 1* | -  | -  | 1  | 7  | 7  | 8  | 7  | 7  | 8  | 8  | 8  | 9  | 8  | 9  | 5  | 1* | 2* |
| DU = 27  | 6*      | 6* | 5* | 4* | 3* | 2* | 2* | -  | -  | -  | 2  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 6  | 4  | 1* | 6* | 8* | 7* |
| YB = 28  | 5*      | 5* | 4* | 3* | 2* | 1* | 1* | -  | -  | -  | 2  | 8  | 8* | 7* | 5* | 4* | 3* | 2* | 2* | -  | -  | -  | -  | 6* |
| VK6 = 29 | 3*      | 2* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | 6* | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VK3 = 30 | 2*      | 1* | -  | 1* | -  | -  | -  | -  | -  | -  | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 1  | 3* |
| KH6 = 31 | 7       | 8  | 9  | 9  | 8  | 7  | 6  | 4  | -  | 1* | 5* | 4* | 8  | -  | -  | -  | 6  | 6  | 6  | 6  | 6  | 5  | 6  | 6  |
| KH8 = 32 | 4       | 2* | 1* | 1* | -  | -  | -  | -  | -  | 1* | 1* | 2* | 2* | 1* | 1* | -  | -  | 4  | 7  | 7  | 7  | 7  | 7  | 6  |
| CN = 33  | 8       | 9  | 9  | 5  | 7  | 5  | -  | -  | -  | -  | 9  | 9  | 9  | 8  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  |
| SU = 34  | 9       | 9  | 6  | 5  | 5  | 2  | -  | -  | -  | 5  | 7  | 6  | 4  | 4  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9+ | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 5  |
| D2 = 36  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 8  | 8  | 6  | 2  | 1  | 1* |
| 5Z = 37  | -       | -  | -  | 3* | 2* | -  | -  | -  | -  | 6  | 8  | 7  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 4  | 4  | 1  |
| ZS6 = 38 | -       | -  | -  | -  | 2* | 1* | 1* | -  | -  | 1  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 4  | -  | 1  | -  | -  | -  | -  |
| FR = 39  | -       | -  | 2* | 2* | 2* | 1* | -  | -  | -  | 5  | 8  | 8  | 8  | 9  | 9  | 8  | 1* | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | 2  | -  | -  | 1  | 1  | -  | 4* | 2* | 1* | 1* | -  | -  | -  | -  | -  | 2  | 1  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: May, Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |     | 1  | 2  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 |     | 8  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 1  | 2  | 4  | 5  | 7  | 8  | 9  | 8  |
| W6 = 03  |     | 9  | 9  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 3  | 1  | 5  | 7  | 8  | 9  | 9  | 9  |
| W9 = 04  |     | 7  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  | 7  | 8  | 8  | 8  |
| W3 = 05  |     | 8  | 6  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 9  |
| XE1 = 06 |     | 9  | 8  | 8  | 8  | 3  | 1  | 2  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 9  | 8  | 9  | 9  | 8  | 9  | 9  |
| TI = 07  |     | 5  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  | 8  | 6  |
| VP2 = 08 |     | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | 2  | 4  | 6  | 6  | 7  | 5  |
| P4 = 09  |     | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1  | 2  | 4  | 5  | 3  |
| HC = 10  |     | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | 8  | 9  | 9  | 9  | 9+ | -  | -  | -  | 1  |
| PY1 = 11 |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 2  | 5  | 8  | 9  | 8  | 9  | 3  | 1  |
| CE = 12  |     | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  |
| LU = 13  |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 4* | 4* | 1* | -  |
| G = 14   |     | 1  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | 4  | 2  | 4  | 5  | 6  | 6  | 7  | 7  | 8  | 9  | 9  | 8  | 5  | -  |
| I = 15   |     | 1  | 1  | 1  | -  | 2  | 2  | -  | -  | -  | -  | 4  | 6  | 7  | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 7  | 1  | -  |
| UA3 = 16 |     | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 2  | 1  | -  | 4* | 2* | 1* | 1  | 3  | 6  | 6  | 7  | 5  | 2  | 1  |
| UN = 17  |     | -  | -  | 6  | 2  | 2  | -  | -  | -  | -  | -  | 6  | 5  | 5  | 5* | 5* | 5  | 6  | 6  | 5  | 3  | -  | -  | -  | 1* |
| UA9 = 18 |     | -  | -  | -  | 1  | 3  | 1  | -  | -  | -  | -  | 3  | 1  | 1  | 7* | 5* | 4* | 2* | -  | 1  | -  | -  | -  | -  | -  |
| UA0 = 19 |     | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | 5* | 8* | 8* | 6* | 6* | 5* | 3* | -  | -  | -  | -  | -  |
| 4X = 20  |     | 6  | 4  | -  | 1  | 2  | -  | -  | -  | -  | -  | 7  | 7  | 6  | 5  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 7  | 5  | 6  |
| HZ = 21  |     | 4  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 8  | 7  | 7  | 5  |
| VU = 22  |     | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 4  | 5  | 6* | 5  | 6  | 7  | 2  | -  | -  | -  | 2  | 2  | -  |
| JT = 23  |     | -  | -  | 1  | 6  | 4  | 1  | -  | -  | -  | -  | 3  | 1  | 1  | 7* | 7* | 5* | 4* | 2* | 1* | -  | -  | 1* | -  | -  |
| VR2 = 24 |     | 7* | 6* | 7* | 5* | 2* | 1* | -  | -  | -  | -  | 2  | 7  | 8  | 8  | 8  | 6  | 5  | 5  | 5  | 2  | -  | -  | 5* | 7* |
| JA1 = 25 |     | 4  | 5  | 6  | 7  | 6  | 5  | 2  | -  | -  | -  | 2* | 8* | 9* | 8* | 8* | 7* | 6* | 6* | 1* | 1  | 5  | 5  | 4  | 4  |
| HS = 26  |     | 6* | 6* | 5* | 4* | 1* | -  | -  | -  | -  | -  | 3  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 2  | -  | -  | 2* |
| DU = 27  |     | 6* | 5* | 4* | 2* | 1* | 1* | -  | -  | -  | -  | -  | 2  | 8* | 8  | 8  | 7  | 5  | 4  | 2  | -  | -  | 2* | 7* | 7* |
| YB = 28  |     | 4* | 4* | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | 3  | 7* | 6* | 5* | 3* | 2* | 1* | -  | -  | -  | -  | -  | 6* |
| VK6 = 29 |     | 4* | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* |
| VK3 = 30 |     | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 5* | 3* |
| KH6 = 31 |     | 7  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | 3* | 1* | 5  | -  | -  | -  | -  | 5  | 5  | 7  | 7  | 7  | 6  | 7  |
| KH8 = 32 |     | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 3* | 1* | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 6  | 2  | 2  |
| CN = 33  |     | 4  | 4  | 4  | -  | 3  | 1  | -  | -  | -  | -  | 6  | 8  | 8  | 9  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | -  | 1  |
| SU = 34  |     | 6  | 4  | -  | -  | 1  | -  | -  | -  | -  | -  | 6  | 7  | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 7  | 5  | 7  |
| 6W = 35  |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 4  | -  | -  | -  | 1* | 5  | 8  | 9+ | 9+ | 9  | 3  | -  |
| D2 = 36  |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 7  | 7  | 7  | 7  | 7  | 8  | 7  | 8  | 5  | 2* | 2* | 1* | 1* |
| 5Z = 37  |     | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 1  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  |
| ZS6 = 38 |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  |     | -  | -  | -  | 4* | 1* | -  | -  | -  | -  | -  | 6  | 8  | 9  | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: May, Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 |         | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 6  |
| W6 = 03  |         | 7  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 8  |
| W9 = 04  |         | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 6  | 5  |
| W3 = 05  |         | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 5  | 6  | 8  | 8  | 8  | 7  |
| XE1 = 06 |         | 7  | 7  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 8  | 8  | 8  | 8  |
| TI = 07  |         | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 2  |
| VP2 = 08 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 2  | -  |
| P4 = 09  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| HC = 10  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 8  | 5  | 5  | 5  | 7  | 8  | -  | -  | -  |
| PY1 = 11 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 2* | 3* | 5* | 5* | 4  | -  | -  |
| CE = 12  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 8  | 9  | 9+ | 9+ | 7  | 5  | 1  |
| LU = 13  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 3* | 3* | 2* | -  | -  |
| G = 14   |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 5  | 6  | 7  | 6  | 3  | -  | -  |
| I = 15   |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 1  | -  | -  |
| UA3 = 16 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | 1  | 1  | 4  | 2  | -  | -  |
| UN = 17  |         | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 1  | 1  | 4* | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 5* | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  |
| 4X = 20  |         | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 5  | -  | -  | 1  |
| HZ = 21  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 9  | 8  | 7  | 2  | 1  | 2  |
| VU = 22  |         | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 7  | 8  | 6  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  |         | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 6* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 |         | 3* | 2* | 5* | 2* | 1* | -  | -  | -  | -  | -  | -  | 3  | 7  | 7  | 7  | 5  | 3  | 2  | 1  | -  | -  | -  | 1* | 4* |
| JA1 = 25 |         | -  | -  | 4  | 5  | 3  | 1  | -  | -  | -  | -  | -  | 3* | 7* | 8* | 8* | 5* | 5* | 4* | 1* | -  | -  | -  | 1  | -  |
| HS = 26  |         | 3* | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 7  | 7  | 8  | 7  | 6  | 3  | -  | -  | -  | -  |
| DU = 27  |         | 3* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | 3* | 5* |
| YB = 28  |         | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1* |
| VK6 = 29 |         | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| VK3 = 30 |         | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 2* |
| KH6 = 31 |         | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 1  | 1  | 5  | 6  | 8  | 7  | 7  |
| KH8 = 32 |         | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 6  | 3  | 1* |
| CN = 33  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 3  | -  | -  |
| SU = 34  |         | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 6  | 1  | -  | 2  |
| 6W = 35  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | -  | -  | 1* | 1* | 1* | 2* | 2* | 4  | 5  | 2  | -  | -  |
| D2 = 36  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 6  | 6  | 6  | 6  | 8  | 7  | 4* | 2  | 2* | 1* | 1* | -  |
| 5Z = 37  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 8  | 8  | 8  | 7  | 5  | 5  | -  | -  | -  | -  | -  |
| ZS6 = 38 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  |         | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Jun., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 1       | 3  | 5  | 5  | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 1  | 2  | 2  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | -  | 2  | 3  | 5  | 4  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 2  | 4  | 4  | 4  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 2  | 3  | 5  | 5  | 4  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2       | 3  | 3  | 4  | 4  | 4  | 4  | 4  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| P4 = 09  | 3       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 5       | 5  | 5  | 5  | 4  | 5  | 5  | 5  | 5  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | 4  | 9  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 5  | -  | -  | -  | -  | 3  | 6  | 9  | 9  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | 1  | -  | 2  | 5  | 9  | 9  | 9  | 9  | 9  |
| G = 14   | 4       | 4  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| I = 15   | 4       | 3  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| UA3 = 16 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  |
| HZ = 21  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 2  | 3  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  |
| SU = 34  | 3       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  |
| 6W = 35  | 4       | 4  | 5  | 5  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  |
| D2 = 36  | 6       | 6  | 4  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 5  |
| 5Z = 37  | 5       | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  |
| ZS6 = 38 | 6       | 5  | 5  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 5  | 6  |
| FR = 39  | 5       | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Jun., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4       | 6  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 1  | 4  | 5  | 5  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 2  | 5  | 6  | 8  | 7  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 5  | 7  | 7  | 7  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 3  | 5  | 6  | 8  | 8  | 7  | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5       | 6  | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 6       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| P4 = 09  | 6       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| HC = 10  | 8       | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | -  | -  | 2  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 2  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 4  | 3  | 5  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7       | 7  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| I = 15   | 7       | 6  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| UA3 = 16 | 4       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| HZ = 21  | 5       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | 1  | 2  | 5  | 6  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| SU = 34  | 6       | 6  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  |
| 6W = 35  | 7       | 7  | 8  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 7  |
| D2 = 36  | 9       | 9  | 7  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  |
| 5Z = 37  | 8       | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 8  |
| ZS6 = 38 | 9       | 8  | 8  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  | 9  |
| FR = 39  | 8       | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 8  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Jun., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | 2  | 4  | 6  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 8  | 8  | 7  | 9  | 8  | 8  | 8  | 8  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| W6 = 03  | -       | 2  | 4  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 5       | 7  | 8  | 7  | 7  | 8  | 8  | 8  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W3 = 05  | 7       | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| XE1 = 06 | 5       | 8  | 7  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| TI = 07  | 8       | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| VP2 = 08 | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  |
| P4 = 09  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 6  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 9  | 9  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 8  |
| UA3 = 16 | 7       | 6  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 7  |
| UN = 17  | 6       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  |
| UA9 = 18 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | 2  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  |
| 4X = 20  | 8       | 8  | 8  | 8  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| HZ = 21  | 8       | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| VU = 22  | 5       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 5  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 1  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 4  | 2  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | -  | -  | -  |
| HS = 26  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  | 6  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 4  | 1  |
| YB = 28  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 7  | 7  |
| VK6 = 29 | 5       | 5  | 2  | 1  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 7  | 7  |
| VK3 = 30 | 1       | 1  | 1  | 1  | 2  | 4  | 5  | 6  | 7  | 8  | 7  | 7  | 5  | 1  | 1  | -  | -  | -  | -  | 4  | 5  | 4  | 5  | 5  |
| KH6 = 31 | -       | -  | -  | 1  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 3  | 5  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 9  | 9  | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 9  |
| SU = 34  | 8       | 8  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  |
| D2 = 36  | 9       | 9  | 9  | 8  | 9  | 8  | 6  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 9  | 9  | 9  |
| FR = 39  | 9       | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  | 9  | 9  |
| FJL = 40 | 2       | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 30 Meters: Jun., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1       | 1  | 2  | 2  | 6  | 5  | 5  | 5  | 7  | 6  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  |
| W6 = 03  | 2       | 4  | 6  | 7  | 7  | 8  | 8  | 7  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 5  |
| W3 = 05  | 8       | 9  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 5  | 8  |
| XE1 = 06 | 8       | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 7  | 9  | 7  | 5  | 2  | 1  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 3  | 5  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 2  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 6  | 9+ | 9+ | 9+ | 9  | 9  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9  | 9  | 8  | 6  | 5  | 5  | 2  | -  | -  | 5  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 8  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  | 6  | 8  | 8  |
| UA3 = 16 | 7       | 6  | 6  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| UN = 17  | 7       | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 5  |
| UA9 = 18 | 4       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 5  | 6  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3* | 5  | 2* | 1* | -  | -  | -  | -  | 2* | 4* | 4* | 3* | -  | -  |
| 4X = 20  | 8       | 8  | 8  | 7  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| HZ = 21  | 8       | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| VU = 22  | 5       | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  | 6  |
| JT = 23  | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 5  | 4  |
| VR2 = 24 | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | 1* | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  | 6  | 5  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 6  | 5  | 3  | -  | -  | -  | -  | 1* | 3* | 5* | 5* | 5* | 3* | -  |
| HS = 26  | 6       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  | 7  |
| DU = 27  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 2  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 2* | 6  | 4  |
| YB = 28  | 6       | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 2  | 1  | 1  | 1  | -  | -  | 1  | 4  | 6  | 7  | 7  | 6  | 7  |
| VK6 = 29 | 7       | 5  | 3  | 2  | 2  | 2  | 1  | 2  | 5  | 6  | 7  | 3  | 5  | 4  | 2  | 1  | 1  | 2  | 4  | 5  | 5  | 5  | 7  | 8  |
| VK3 = 30 | 5       | 4  | 2  | 2  | 4  | 5  | 5  | 5  | 6  | 7  | 8  | 6  | 5  | 5  | 4  | 2  | 1  | 2  | 2  | 2  | 2  | 6  | 7  | 6  |
| KH6 = 31 | -       | -  | 1  | 4  | 6  | 7  | 8  | 7  | 8  | 5  | -  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | 1  | 3  | 6  | 7  | 8  | 8  | 8  | 8  | 6  | -  | 6  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 9  | 9  | 8  | 8  | 8  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 7  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 7  | 1  | 5  | 6  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 9  | 9  |
| D2 = 36  | 8       | 8  | 8  | 7  | 4  | 2  | 4  | 2  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 8  | 8  | 7  | 9  |
| 5Z = 37  | 9       | 9  | 7  | 4  | 6  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 8  | 9  |
| ZS6 = 38 | 7       | 8  | 6  | 7  | 4  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 8  | 8  | 8  | 8  | 8  |
| FR = 39  | 4       | -  | -  | 4  | 8  | 6  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 4  | 6  | 7  | 5  | 5  | 6  |
| FJL = 40 | 4       | 5  | 5  | 3  | 3  | 2  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 4  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



## 20 Meters: Jun., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |         | 6  | 7  | 8  | 8  | 7  | 9  | 9  | 8  | 6  | 5  | 5  | 7  | 4* | 4  | 4  | 2  | 1  | 1  | 2* | 2  | 2  | 4  | 5  | 5  |
| VO2 = 02 |         | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 7  | 9  | 8  | 6  | 4  | 2  | 3  | 3  | 4  | 5  | 5  | 7  | 8  | 9  | 9  |
| W6 = 03  |         | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 4* | 9  | 8  | 8  | 4  | 1  | 1  | -  | -  | 1  | 1  | 2  | 4  | 6  |
| W9 = 04  |         | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 7  | 9  | 7  | 5  | 4  | 2  | 1  | 1  | 2  | 4  | 5  | 7  | 8  | 9  |
| W3 = 05  |         | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 5  | 6  | 8  | 7  | 5  | 4  | 3  | 3  | 2  | 2  | 3  | 7  | 8  | 9  | 9  |
| XE1 = 06 |         | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 4  | 1* | 8  | 8  | 8  | 6  | 5  | 4  | 2  | 2  | 2  | 5  | 7  | 8  | 9  |
| TI = 07  |         | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 2  | 3* | 1* | 4  | 9  | 8  | 7  | 6  | 5  | 5  | 5  | 7  | 8  | 9  | 9+ | 9+ |
| VP2 = 08 |         | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 4  | -  | 1  | 7  | 9+ | 9  | 8  | 7  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| P4 = 09  |         | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 4  | -  | 2* | 2* | 9+ | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| HC = 10  |         | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 7  | 4  | -  | 2* | 2* | 1  | 9  | 8  | 7  | 4  | 5  | 6  | 7  | 8  | 8  | 9  | 9+ | 9+ |
| PY1 = 11 |         | 9+ | 9+ | 9  | 7  | 4  | 3  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |         | 9+ | 9+ | 9+ | 9  | 8  | 8  | 8  | 6  | 1  | -  | -  | 2  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |         | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  |
| G = 14   |         | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2  | 1  | 7  | 5  | 2  | 1  | 1  | -  | -  | 1  | 2  | 5  | 7  | 9  | 9  | 9  | 9  |
| I = 15   |         | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 1  | 1  | 6  | 2  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 9  | 9  | 9  | 9  |
| UA3 = 16 |         | 9  | 9  | 8  | 8  | 8  | 8  | 5  | 1  | 1  | 3  | 1  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 9  | 9  | 8  |
| UN = 17  |         | 9  | 8  | 8  | 7  | 4  | 2  | 1  | -  | -  | -  | -  | -  | 2* | 2* | 1* | 1* | 1  | 3  | 5  | 7  | 8  | 9  | 9  | 9  |
| UA9 = 18 |         | 8  | 7  | 6  | 5  | 3  | 2  | 1  | -  | -  | 1  | -  | 1  | 4* | 2* | 1* | 2* | 2* | 7  | 7  | 8  | 8  | 8  | 8  | 8  |
| UA0 = 19 |         | 3  | 1  | 1  | 1  | 1  | 4  | 3  | 4  | 2  | 4  | 8  | 8* | 8* | 7* | 6* | 5* | 5* | 5* | 7* | 8  | 8* | 7  | 4  | 3  |
| 4X = 20  |         | 9  | 9  | 9  | 9  | 9  | 8  | 3  | -  | 1  | 2  | 1  | -  | -  | -  | -  | 1  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  |         | 9  | 9  | 8  | 7  | 7  | 5  | -  | -  | 1  | 1  | -  | -  | -  | -  | 1  | 1  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  |         | 9  | 8  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | 3* | 2* | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  |         | 8  | 6  | 2  | 2  | 1  | 1  | -  | -  | -  | 1  | 1  | 8  | 8  | 4* | 5* | 3* | 2* | 4* | 7  | 7  | 8  | 8  | 8  | 8  |
| VR2 = 24 |         | 2  | -  | -  | -  | -  | -  | -  | 2* | 3* | 8  | 5  | 7* | 6* | 6* | 4* | 3  | 5  | 6  | 8  | 9  | 9  | 8  | 7  | 4  |
| JA1 = 25 |         | -  | -  | 1  | 1  | 2  | 3  | 5  | 7  | 6  | 5* | 5* | 9  | 9  | 8  | 6  | 5* | 6* | 7* | 8* | 9* | 9* | 8* | 4* | 1* |
| HS = 26  |         | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 5  | 5  | 4* | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 7  | 4  |
| DU = 27  |         | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 6  | 8  | 8  | 7  | 7  | 6  | 5  | 6  | 6  | 6  | 7* | 5* | 3* | 3* | 5* |
| YB = 28  |         | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 7  | 4  | 3  | 2  | 5  | 5  | 6  | 7  | 6  | 2* | 2  |
| VK6 = 29 |         | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 9  | 7  | 3  | -  | -  | 1  | 2  | 2  | 2  | 2  | 1  | 3  | 4  |
| VK3 = 30 |         | 2  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | 3  | 2  | 2  | 4  | 3  | 2  | 1  | 1* | 1* | 2* | 4  | 8  | 6  |
| KH6 = 31 |         | 3  | 5  | 7  | 9  | 9  | 9  | 9  | 9  | 8  | 1* | 1* | 2  | 9  | 8  | 5  | 5  | -  | 1  | 1* | 2* | -  | -  | -  | 1  |
| KH8 = 32 |         | 5  | 5  | 5  | 3  | 5  | 5  | 7  | 5  | 5  | -  | -  | -  | 7  | 5  | -  | -  | -  | 5  | 4  | 7  | 2  | 2  | 3  | 3  |
| CN = 33  |         | 9  | 9  | 9  | 9+ | 9  | 9  | 7  | 2  | 1  | 7  | 7  | 6  | 1  | -  | -  | -  | 2  | 3  | 8  | 8  | 9  | 9  | 9  | 9  |
| SU = 34  |         | 9  | 9  | 9  | 8  | 9  | 8  | 3  | -  | 2  | 2  | 1  | -  | -  | -  | -  | 2  | 1  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  |         | 9+ | 9  | 7  | 5  | 2  | -  | -  | -  | -  | 9  | 9  | 8  | 6  | 4  | 3  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  |         | 4  | 4  | 2  | 3  | 1* | -  | -  | -  | 5  | 8  | 8  | 6  | 4  | 2  | 3  | 5  | 6  | 9  | 9  | 9  | 9  | 8  | 6  | 5  |
| 5Z = 37  |         | 8  | 6  | 3  | -  | 1  | 5  | -  | -  | 3  | 4  | 2  | 2  | 1  | 1  | 2  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| ZS6 = 38 |         | 1  | 2  | -  | 1  | -  | -  | -  | -  | 5  | 8  | 8  | 7  | 6  | 5  | 6  | 7  | 9  | 9  | 7  | 8  | 5  | 4  | 3  | 2  |
| FR = 39  |         | -  | -  | -  | -  | 4  | 4  | -  | -  | 3  | 6  | 5  | 5  | 8  | 5  | 6  | 7  | 6  | -  | -  | -  | 1  | -  | -  | -  |
| FJL = 40 |         | 8  | 8  | 8  | 7  | 9  | 8  | 7  | 2  | 1  | 5  | 5  | 4  | 2  | 2* | 1* | 1* | 1* | 1  | 5  | 5  | 7  | 8  | 8  | 8  |

Zone UTC --> \* = Longpath

Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Jun., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 7   | 8   | 8  | 9  | 8  | 8  | 7  | 5  | 1  | -  | 5* | 6* | 5* | 3* | 1* | 1  | 2  | 6  | 3  | 5  | 5  | 5  | 5  | 5  | 7  |    |
| VO2 = 02 | 9   | 9   | 9  | 9  | 8  | 8  | 6  | 1  | -  | 1  | 5  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| W6 = 03  | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 7  | 2  | 1* | 2* | 5  | 1  | 8  | 8  | 8  | 7  | 9  | 6  | 5  | 4  | 6  | 8  | 9  | 9  |    |
| W9 = 04  | 9   | 9   | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | 2  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| W3 = 05  | 9   | 9   | 9  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | 6  | 9  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| XE1 = 06 | 9   | 9   | 9  | 9  | 7  | 7  | 5  | 6  | 2  | 1* | 1* | 1  | 7  | 8  | 9  | 8  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  |    |
| TI = 07  | 9+  | 9+  | 9+ | 8  | 7  | 5  | 2  | -  | -  | -  | 1* | -  | 4  | 9  | 8  | 4  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| VP2 = 08 | 8   | 8   | 8  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | 8  | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 8  |    |
| P4 = 09  | 8   | 8   | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | 3* | 7  | 9  | 6  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 8  |    |
| HC = 10  | 7   | 7   | 7  | 6  | 4  | 1  | -  | -  | -  | -  | 2* | 1* | 5  | 9+ | 9  | 6  | 7  | 8  | 7  | 9  | 7  | 8  | 8  | 8  | 8  |    |
| PY1 = 11 | 4   | 4   | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  |    |
| CE = 12  | 9   | 9   | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 2  | 3* | 2* |    |
| G = 14   | 9   | 9   | 9  | 7  | 9  | 8  | 4  | -  | -  | 2  | 9  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| I = 15   | 9   | 9   | 9  | 9  | 9  | 8  | 2  | -  | -  | 5  | 8  | 7  | 3  | 1  | 2  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| UA3 = 16 | 6   | 4   | 1  | 2  | 8  | 7  | 1  | -  | -  | 1  | 6  | 7  | 8  | 7  | 8  | 4  | 5  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 8  |    |
| UN = 17  | 7   | 8   | 8  | 6  | 4  | 2  | -  | -  | -  | 2  | 7  | 7  | 6  | 5  | 6  | 5  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |    |
| UA9 = 18 | 5   | 5   | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | 5  | 4  | 4  | 7* | 6  | 6* | 5  | 6  | 7  | 7  | 8  | 8  | 6  | 5  | 5  |    |
| UA0 = 19 | 5   | 5   | 6  | 7  | 5  | 6  | 5  | 1  | -  | 1  | 4  | 8  | 8* | 9* | 8* | 8* | 7* | 7* | 8* | 8* | 8* | 2  | 2  | 2  | 2  |    |
| 4X = 20  | 9   | 9   | 5  | 6  | 8  | 4  | -  | -  | -  | 3  | 6  | 3  | 4  | 8  | 8  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| HZ = 21  | 8   | 6   | 5  | 1  | 1  | -  | -  | -  | -  | 5  | 5  | 5  | 8  | 7  | 4  | 3  | 6  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |    |
| VU = 22  | 6   | 3   | 1* | 1* | -  | -  | -  | -  | -  | 2  | 3  | 6  | 4* | 5* | 4* | 5  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 5  |    |
| JT = 23  | 5   | 7   | 8  | 7  | 6  | 4  | 1  | -  | -  | 1  | 3  | 4  | 4  | 8* | 7  | 7* | 6  | 7  | 8  | 8  | 6  | 8* | 4  | 5  | 5  |    |
| VR2 = 24 | 2*  | 5*  | 4* | 4* | 3* | 3* | 3* | 2* | -  | 5  | 6  | 6  | 9* | 8* | 8  | 7  | 7  | 8  | 8  | 8  | 7  | 4* | 3* | 2* | 2* |    |
| JA1 = 25 | 7   | 7   | 7  | 7  | 7  | 6  | 5  | 5  | 2  | 2* | 7* | 8* | 9  | 8  | 7  | 7* | 8* | 8* | 9* | 8* | 8* | 6  | 5  | 6  | 6  |    |
| HS = 26  | 1*  | 2*  | 3* | 2* | 1* | 1* | 1* | 1* | -  | 4  | 6  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 2* | 1* | 1* |    |
| DU = 27  | 4*  | 5*  | 4* | 2* | 2* | 1* | 2* | 1* | -  | -  | 5  | 8  | 8  | 7  | 8  | 7  | 7  | 5  | 4* | 3* | 3* | 6* | 5* | 4* | 4* |    |
| YB = 28  | 2*  | 4*  | 4* | 1* | 1* | -  | 1* | 1* | -  | -  | 5  | 9  | 8  | 5* | 5* | 2* | 1* | 1* | -  | 1  | 2  | -  | 1* | 5* | 5* |    |
| VK6 = 29 | 2*  | 1*  | 1* | 1* | -  | -  | -  | -  | -  | -  | 1* | 7  | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 5* |    |
| VK3 = 30 | 1*  | -   | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 4* | 2* | 2* |    |
| KH6 = 31 | 6   | 8   | 9  | 9  | 9  | 8  | 7  | 6  | 1  | 3* | 4* | 4* | 9  | 3* | 2* | 2  | 7  | 1  | 6  | 8  | 5  | 5  | 3  | 5  | 5  |    |
| KH8 = 32 | 4   | 2   | 1* | 1* | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 1* | -  | -  | -  | 6  | 8  | 7  | 7  | 6  | 6  | 6  | 6  |    |
| CN = 33  | 8   | 8   | 8  | 9  | 8  | 7  | 1  | -  | -  | 1  | 9  | 8  | 8  | 3  | 4  | 4  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  |    |
| SU = 34  | 9   | 9   | 6  | 5  | 7  | 4  | -  | -  | -  | 2  | 6  | 3  | 2  | 9  | 8  | 2  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| 6W = 35  | 3   | 1   | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 8  | 7  | 6  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 8  |    |
| D2 = 36  | -   | -   | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 9  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 6  | 3  | 1  | 1  | 1  |    |
| 5Z = 37  | -   | -   | -  | 2* | 1* | -  | -  | -  | 1  | 8  | 7  | 6  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 6  | 1  | 1  |    |
| ZS6 = 38 | -   | -   | -  | -  | 2* | 1* | 1* | -  | -  | 4  | 9  | 9  | 8  | 9  | 8  | 9  | 9  | 6  | -  | 1  | -  | -  | -  | -  | -  |    |
| FR = 39  | -   | -   | 1* | 1* | 1* | 1* | -  | -  | 1  | 7  | 9  | 8  | 8  | 9  | 8  | 8  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  |    |
| FJL = 40 | 2   | 1   | -  | -  | 7  | 6  | 3  | -  | -  | 2  | 5  | 4  | 4* | 4  | 5  | 2  | 3  | 4  | 5  | 6  | 7  | 6  | 5  | 4  | 4  |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Jun., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 3       | 4  | 5  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | 3* | 3* | 1* | -  | -  | -  | -  | 1* | 2* | -  | -  | -  | 2  |
| VO2 = 02 | 8       | 8  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | 5  | 5  | 3  | 7  | 7  | 7  | 8  | 7  | 7  | 8  | 9  | 8  | 8  |
| W6 = 03  | 9       | 9  | 9  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 8  | 8  |
| W9 = 04  | 7       | 8  | 8  | 8  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | 5  | 4  | 6  | 5  | 7  | 8  | 8  | 8  | 9  | 8  | 8  |
| W3 = 05  | 6       | 7  | 8  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | 5  | 5  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9  | 8  | 4  | 2  | 1  | 1  | -  | -  | -  | -  | 1  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  |
| TI = 07  | 6       | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | 1  | 9  | 9  | 9  | 8  | 6  |
| VP2 = 08 | 3       | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 3  | 5  | 3  | 4  | 7  | 8  | 9  | 8  | 7  | 4  |
| P4 = 09  | 2       | 2  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  | -  | 1  | 2  | 5  | 6  | 7  | 6  | 5  | 2  |
| HC = 10  | 1       | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 4  | 3  | 1* | 9  | 9  | 9  | 9+ | 1  | 2  | 1  | 2  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 9  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 5  | -  |
| CE = 12  | 4       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3* | 4* | 2* | -  |
| G = 14   | 8       | 6  | 2  | -  | 6  | 4  | -  | -  | -  | -  | 8  | 7  | 6  | 7  | 7  | 7  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| I = 15   | 8       | 7  | 5  | 8  | 6  | 4  | -  | -  | -  | -  | 8  | 8  | 5  | 4  | 4  | 5  | 7  | 7  | 8  | 9  | 9  | 9  | 8  | 8  |
| UA3 = 16 | 1       | -  | -  | -  | 5  | 2  | -  | -  | -  | -  | 8  | 3  | 2  | 3* | 2  | 3  | 4  | 6  | 8  | 8  | 9  | 9  | 7  | 5  |
| UN = 17  | 1       | 2  | 5  | 3  | 1  | -  | -  | -  | -  | -  | 5  | 4  | 3  | 5  | 6* | 5  | 6  | 7  | 8  | 8  | 8  | 7  | 5  | 2  |
| UA9 = 18 | -       | -  | 2  | 5  | 2  | 1  | -  | -  | -  | -  | 4  | 2  | 2  | 7* | 7* | 7* | 5* | 4* | 3* | 2  | 3  | 4* | 1* | -  |
| UA0 = 19 | -       | -  | -  | -  | 4  | 2  | 1  | -  | -  | -  | -  | 2  | 5* | 9* | 9* | 8* | 6* | 6* | 6* | 2* | 1* | -  | -  | -  |
| 4X = 20  | 7       | 3  | -  | 1  | 4  | -  | -  | -  | -  | -  | 7  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 8  |
| HZ = 21  | 2       | -  | 1  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 6  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 8  | 8  | 4  |
| VU = 22  | 1*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 3  | 6* | 5  | 6  | 8  | 8  | 5  | 4  | 4  | 6  | 4  | 3* |
| JT = 23  | -       | 2  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | 3  | 2  | 1  | 7* | 8* | 8* | 5* | 5* | 4  | 2  | 1  | 6* | 1* | -  |
| VR2 = 24 | 6*      | 6* | 5* | 4* | 2* | 1* | 1* | -  | -  | -  | 6  | 8  | 9* | 8  | 8  | 7  | 6  | 6  | 5  | 5  | 2  | 3* | 5* | 5* |
| JA1 = 25 | 6       | 7  | 8  | 6  | 5  | 4  | 3  | 1  | -  | -  | 6* | 9* | 9  | 9* | 7* | 7* | 7* | 8* | 8* | 6* | 5  | 7  | 6  | 6  |
| HS = 26  | 5*      | 5* | 4* | 2* | 1* | -  | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 1  | 1* | 4* |
| DU = 27  | 4*      | 5* | 4* | 2* | 1* | 1* | 1* | -  | -  | -  | -  | 2* | 8* | 9  | 8  | 6  | 5  | 3* | 1  | -  | -  | 3* | 7* | 5* |
| YB = 28  | 3*      | 3* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 4  | 6* | 6* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | 4* |
| VK6 = 29 | 1*      | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* |
| VK3 = 30 | 1*      | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 5* | 2* |
| KH6 = 31 | 7       | 8  | 8  | 8  | 6  | 3  | 2  | 1  | -  | -  | 6* | 4* | 6  | 1* | -  | -  | 5  | 6  | 7  | 6  | 8  | 6  | 6  | 6  |
| KH8 = 32 | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 2* | 1* | -  | -  | -  | -  | -  | 8  | 8  | 8  | 7  | 7  | 4  |
| CN = 33  | 1       | 1  | 1  | 7  | 5  | 2  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 3  |
| SU = 34  | 7       | 5  | -  | -  | 2  | -  | -  | -  | -  | -  | 7  | 6  | 6  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 9  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9+ | 9  | 6  | 4  | 2  | 4  | 7  | 9  | 9+ | 9+ | 9+ | 7  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 9  | 8  | 9  | 9  | 8  | 9  | 8  | 9  | 6  | 3* | 2* | 1* | 1* |
| 5Z = 37  | -       | -  | -  | 1* | -  | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 2  | 1  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 1* | -  | -  | -  | -  | 5  | 8  | 9  | 9  | 8  | 9  | 7  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 2* | 1* | -  | -  | -  | -  | 1  | 8  | 9  | 9  | 8  | 7  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 3* | 2* | 1* | 1  | 1* | 1  | 1  | 1  | 1  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Jun., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  |
| VO2 = 02 | 3       | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 4  | 4  | 3  | 4  | 5  | 7  | 6  | 4  |
| W6 = 03  | 7       | 6  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 7  |
| W9 = 04  | 3       | 4  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 3  | 4  | 4  | 5  | 7  | 6  | 4  |
| W3 = 05  | 1       | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 5  | 8  | 8  | 8  | 8  | 8  | 6  |
| XE1 = 06 | 7       | 7  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  | 2  | 7  | 8  | 8  | 8  | 8  | 8  | 7  |
| TI = 07  | -       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 1* | 2  | 4  | 3  | 3  | 1  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 1  | 1  | -  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | 1  | -  | -  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 8  | 8  | 8  | 8  | 9  | 9  | -  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 2* | 3* | 5  | 4  | 6  | -  | -  |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9  | 6  | -  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 2* | 3* | 2* | -  | -  |
| G = 14   | 1       | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 4  | -  | 5  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 8  | 6  | 3  |
| I = 15   | 1       | -  | -  | 4  | 1  | -  | -  | -  | -  | -  | 6  | 2  | 6  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 3  | 1  |
| UA3 = 16 | -       | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 4  | -  | 1  | -  | 1* | 1* | 1* | 2* | 4  | 6  | 6  | 5  | 2  | -  |
| UN = 17  | -       | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 3  | 2  | 5* | 4  | 5  | 6  | 6  | 5  | 4  | 1  | -  | -  |
| UA9 = 18 | -       | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 5* | 4* | 2* | 1* | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 7* | 7* | 3* | 2* | 1* | -  | -  | -  | -  | -  |
| 4X = 20  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 6  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 8  | 5  | 2  | 3  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | 2  | -  |
| VU = 22  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 6  | 5  | 6* | 8  | 8  | 4  | -  | -  | -  | 1  | -  | 1* |
| JT = 23  | -       | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6* | 7* | 4* | 3* | 1* | -  | -  | -  | -  | -  |
| VR2 = 24 | 5*      | 5* | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 9  | 5  | 4  | 2  | 1  | -  | -  | -  | 4* | 6* |
| JA1 = 25 | 2       | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | 5* | 7* | 8* | 5* | 5* | 5* | 5* | 4* | 1* | 2  | 4  | 4  | 2  |
| HS = 26  | 5*      | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | 2* |
| DU = 27  | 2*      | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 5  | 6  | 2  | 1  | -  | -  | -  | -  | -  | 3* | 2* |
| YB = 28  | 1*      | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VK6 = 29 | 1*      | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 1* |
| KH6 = 31 | 7       | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 1* | 2* | 2  | -  | -  | -  | -  | 3  | 2  | 4  | 5  | 7  | 7  | 7  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 7  | 4  | -  |
| CN = 33  | -       | -  | -  | 2  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 1  | -  |
| SU = 34  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 6  | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 8  | 5  | 1  | 6  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 9  | 2  | -  | -  | 1* | 1* | 2* | 3* | 5  | 6  | 5  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 7  | 5  | 7  | 7  | 8  | 5  | 2  | 2* | 1* | -  | -  |
| SZ = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 1  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 7  | 7  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 1* | -  | -  | -  | -  | -  | -  | 2  | 7  | 6  | 5* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |

Zone UTC --> \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



10 Meters: Jun., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  | -  | 1  | 3  | 2  | -  |
| W6 = 03  | 3  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 2  | 4  | 5  | 6  | 5  | 4  |
| W9 = 04  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | 2  | 2  | -  |
| W3 = 05  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 1  | 6  | 7  | 6  | 5  | 5  | 2  |
| XE1 = 06 | 3  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  | 7  | 7  | 6  | 5  |
| TI = 07  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| P4 = 09  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 3  | 2  | 3  | 5  | 6  | -  | -  | -  |
| PY1 = 11 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 1  | -  | -  |
| CE = 12  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 5  | 5  | 4  | 8  | 8  | 2* | 1  | -  |
| LU = 13  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | -  | -  |
| G = 14   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  | 2  | 2  | 4  | 4  | 6  | 6  | 4  | 1  | -  |
| I = 15   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 5  | 6  | 7  | 7  | 8  | 8  | 9  | 8  | 8  | 2  | -  | -  |
| UA3 = 16 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 1  | 2  | 1  | -  | -  |
| UN = 17  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 2  | 1  | 1  | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  |
| UA9 = 18 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 4  | -  | -  | -  |
| HZ = 21  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 9  | 6  | 3  | -  | -  | -  | -  |
| VU = 22  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 7  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* |
| JA1 = 25 | -  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5* | 1* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  |
| HS = 26  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 5  | 5  | 3  | 2  | -  | -  | -  | -  | -  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| YB = 28  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  |
| KH6 = 31 | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 6  |
| KH8 = 32 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 5* | 1  | -  |
| CN = 33  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 4  | -  | -  |
| SU = 34  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 5  | -  | -  | 1  |
| 6W = 35  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| D2 = 36  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3* | 6  | 8  | 5  | 4* | 2* | -  | -  | -  | -  |
| 5Z = 37  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  |
| ZS6 = 38 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Jul., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2       | 4  | 5  | 5  | 5  | 5  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 2  | 4  | 2  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | -  | 3  | 3  | 5  | 3  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 3  | 5  | 5  | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 1  | 3  | 3  | 5  | 5  | 4  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 1       | 3  | 3  | 4  | 4  | 4  | 4  | 4  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| P4 = 09  | 3       | 4  | 4  | 4  | 4  | 4  | 5  | 5  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 5       | 5  | 5  | 5  | 5  | 5  | 5  | 6  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 2  | -  | -  | 1  | 5  | 6  | 9  | 9  | 9  | 9  |
| G = 14   | 5       | 4  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| I = 15   | 3       | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| UA3 = 16 | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| HZ = 21  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 2  | 3  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| SU = 34  | 2       | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  |
| 6W = 35  | 5       | 5  | 5  | 5  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| D2 = 36  | 5       | 5  | 4  | 4  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  |
| 5Z = 37  | 5       | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  |
| ZS6 = 38 | 6       | 5  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| FR = 39  | 5       | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Jul., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | 2  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 1  | 5  | 7  | 5  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 3  | 6  | 6  | 8  | 6  | 7  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 4  | 6  | 6  | 8  | 8  | 7  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 4       | 6  | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VP2 = 08 | 6       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| P4 = 09  | 6       | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| HC = 10  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | -  | -  | -  | 5  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 2  | 1  | 4  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 7  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| I = 15   | 6       | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| UA3 = 16 | 2       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 5       | 6  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |
| HZ = 21  | 5       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 1  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 1  | 5  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  |
| SU = 34  | 5       | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| 6W = 35  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  |
| D2 = 36  | 8       | 8  | 7  | 7  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 7  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  |
| ZS6 = 38 | 9       | 8  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  | 9  |
| FR = 39  | 8       | 8  | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Jul., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | 1  | 1  | 1  | 3  | 5  | 6  | 6  | 6  | 5  | 6  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 6  |
| W6 = 03  | -  | 3  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 6  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| W3 = 05  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| XE1 = 06 | 7  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| TI = 07  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| VP2 = 08 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  |
| P4 = 09  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 7  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 4  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 9  | 8  | 8  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 7  | 8  |
| I = 15   | 7  | 8  | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 6  | 8  |
| UA3 = 16 | 7  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  |
| UN = 17  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  | 5  |
| UA9 = 18 | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 4  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  |
| 4X = 20  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| HZ = 21  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| VU = 22  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  |
| JT = 23  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 1  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 6  | 2  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | -  | -  | -  |
| HS = 26  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 6  | 7  | 7  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 4  | 1  |
| YB = 28  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 7  |
| VK6 = 29 | 5  | 1  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  | 7  | 7  |
| VK3 = 30 | -  | -  | -  | -  | 1  | 2  | 3  | 7  | 7  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 4  | 1  |
| KH6 = 31 | -  | -  | -  | 2  | 5  | 7  | 7  | 8  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | 2  | 5  | 7  | 7  | 7  | 7  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 9  |
| SU = 34  | 8  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 9  | 9  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 9  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 9  | 9  | 9  |
| FR = 39  | 9  | 8  | 7  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 8  | 9  |
| FJL = 40 | 3  | 4  | 4  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Jul., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1       | 2  | 2  | 4  | 5  | 5  | 6  | 6  | 6  | 6  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 5  | 8  |
| W6 = 03  | 3       | 5  | 6  | 7  | 7  | 8  | 8  | 8  | 7  | 8  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| W3 = 05  | 8       | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| XE1 = 06 | 8       | 9  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 7  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 3  | 8  | 5  | 2  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | 8  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 9+ | 9+ | 9+ | 9  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9  | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | 2  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 8  | 8  |
| UA3 = 16 | 7       | 7  | 6  | 6  | 7  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 7  |
| UN = 17  | 7       | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 6  |
| UA9 = 18 | 6       | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 5  | 6  | 6  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 3* | 3* | 2* | -  | -  | -  | -  | -  | -  | 3* | 4* | 4* | 2* | -  |
| 4X = 20  | 8       | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| HZ = 21  | 8       | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| VU = 22  | 6       | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  | 7  | 6  |
| JT = 23  | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  | 6  |
| VR2 = 24 | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | 2* | 3* | 2* | 1* | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 6  | 7  | 5  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | 2* | 4* | 5* | 5* | 4* | -  |
| HS = 26  | 6       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 8  | 7  |
| DU = 27  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 3  | 2* | 1  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 2* | 5  | 5  |
| YB = 28  | 5       | 4  | -  | -  | -  | -  | -  | -  | -  | 1* | 5  | 1  | 1  | -  | -  | -  | -  | 1  | 4  | 5  | 7  | 7  | 5  | 6  |
| VK6 = 29 | 6       | 5  | 2  | 1  | -  | -  | -  | 1  | 4  | 6  | 5  | 5  | 4  | 2  | -  | -  | -  | 2  | 3  | 5  | 5  | 5  | 6  | 7  |
| VK3 = 30 | 4       | 3  | 1  | 1  | 2  | 4  | 4  | 4  | 5  | 7  | 8  | 6  | 4  | 3  | 2  | -  | -  | -  | 1  | 1  | 1  | 5  | 7  | 5  |
| KH6 = 31 | -       | -  | 2  | 4  | 7  | 8  | 8  | 8  | 8  | 6  | 1  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | 1  | 3  | 5  | 7  | 8  | 7  | 8  | 7  | 5  | -  | 4  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 9  | 8  | 9  | 8  | 8  | 7  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 7  | 8  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 7  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 8  | 6  | 1  | 4  | 6  | 8  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 9  | 9  |
| D2 = 36  | 8       | 7  | 6  | 6  | 4  | 2  | 3  | 1  | 2  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 7  | 8  |
| 5Z = 37  | 8       | 8  | 7  | 2  | 5  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  | 8  |
| ZS6 = 38 | 6       | 7  | 5  | 6  | 3  | 4  | 5  | 4  | 5  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 7  | 8  | 7  | 7  |
| FR = 39  | 3       | -  | -  | 1  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 2  | 3  | 5  | 3  | 2  | 4  |
| FJL = 40 | 5       | 5  | 4  | 4  | 4  | 3  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | 3  | 4  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 7       | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 8  | 5  | 5* | 6  | 3* | 2  | 4  | 4  | 2  | 1  | 2* | 4  | 4* | 4  | 5  | 6  |
| VO2 = 02 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 7  | 9  | 8  | 6  | 5  | 2  | 2  | 3  | 4  | 4  | 6  | 8  | 8  | 9  | 9  |
| W6 = 03  | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3* | 9  | 8  | 8  | 4  | 1  | 1  | -  | -  | 2  | 1  | 2  | 4  | 7  |
| W9 = 04  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 5  | 8  | 8  | 5  | 2  | 2  | 3  | 1  | 3  | 6  | 6  | 7  | 8  | 9  |
| W3 = 05  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 5  | 5  | 8  | 7  | 5  | 3  | 5  | 3  | 4  | 2  | 4  | 6  | 8  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 1* | 7  | 8  | 7  | 6  | 4  | 5  | 2  | 2  | 4  | 4  | 7  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 4  | 3* | 1* | 2  | 9  | 7  | 6  | 5  | 5  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 7  | 4  | -  | 1  | 5  | 9  | 9  | 8  | 7  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 7  | 4  | 1  | 1* | 2* | 9  | 9  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 8  | 7  | 6  | 1  | 2* | 2* | 2* | 9  | 8  | 6  | 5  | 4  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ |
| PY1 = 11 | 9+      | 9  | 8  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 5       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  |
| G = 14   | 9       | 9+ | 9  | 9  | 9  | 9  | 8  | 4  | 2  | 7  | 6  | 2  | 1  | -  | -  | -  | 1  | 3  | 5  | 7  | 9  | 9  | 9  | 9  |
| I = 15   | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 2  | 2  | 6  | 3  | 1  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 9  | 9  | 9  | 9  |
| UA3 = 16 | 9       | 8  | 8  | 7  | 8  | 8  | 6  | 1  | 1  | 3  | 1  | -  | 1* | -  | -  | -  | 1  | 2  | 5  | 8  | 8  | 9  | 8  | 9  |
| UN = 17  | 8       | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  | -  | -  | 2  | 6  | 7  | 8  | 9  | 9  | 9  |
| UA9 = 18 | 8       | 8  | 7  | 6  | 4  | 3  | 2  | -  | -  | 1  | -  | 1  | 4* | 2* | 1* | -  | 1* | 2  | 5  | 7  | 8  | 8  | 8  | 8  |
| UA0 = 19 | 4       | 2  | 1  | 2  | 4  | 5  | 4  | 5  | 4  | 5  | 8  | 7* | 7* | 6* | 5* | 4* | 4* | 5* | 7* | 8* | 8* | 8* | 5  | 5  |
| 4X = 20  | 9       | 9  | 9  | 9  | 8  | 7  | 1  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 8  | 6  | 6  | 4  | -  | -  | 1  | -  | -  | -  | -  | 1* | -  | 1  | 2  | 2  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 8       | 8  | 4  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | 1* | 2  | 4  | 8  | 9  | 9  | 9  | 9  | 9  |
| JT = 23  | 8       | 7  | 3  | 2  | 1  | 1  | 1  | -  | -  | 1  | 1  | 8  | 5* | 2* | 1* | 1* | 1* | 2* | 4  | 7  | 8  | 8  | 8  | 8  |
| VR2 = 24 | 1       | -  | -  | -  | -  | -  | -  | 2* | 5* | 8  | 5  | 7* | 6* | 5* | 2  | 2  | 5  | 6  | 8  | 8  | 8  | 8  | 7  | 3* |
| JA1 = 25 | -       | 1  | 1  | 1  | 2  | 4  | 6  | 8  | 7  | 5* | 5* | 9  | 8  | 7  | 4  | 3* | 4* | 6* | 8* | 8* | 8* | 8* | 4* | -  |
| HS = 26  | 2       | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 6  | 6  | 6  | 3* | 2  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 6  | 2  |
| DU = 27  | 1*      | -  | -  | -  | -  | -  | -  | 2* | 2* | 4  | 7  | 7  | 6  | 5  | 4  | 3  | 4  | 5  | 6  | 7* | 5* | 3* | 2* | 2* |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | 1* | 4  | 6  | 6  | 7  | 5  | 1  | 2  | 2  | 4  | 4  | 6  | 6  | 5  | 2* | -  |
| VK6 = 29 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 9  | 7  | 1  | -  | -  | -  | 1  | 1  | 2  | 2  | 1  | 1  | 5  |
| VK3 = 30 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2  | 1  | -  | 1  | 1  | -  | -  | -  | 1* | 2* | 2  | 8  | 4  |
| KH6 = 31 | 3       | 5  | 7  | 9  | 9  | 9  | 9  | 9  | 8  | 1* | 2* | 3  | 9  | 8  | 5  | 4  | -  | 1* | 1* | 1* | -  | -  | -  | 1  |
| KH8 = 32 | 4       | 5  | 5  | 2  | 4  | 4  | 4  | 4  | 2  | -  | -  | -  | 6  | 5  | -  | -  | -  | 4  | 3  | 8  | 1  | 2  | 2  | 2  |
| CN = 33  | 9       | 9  | 9  | 9+ | 9  | 9  | 8  | 2  | 2  | 8  | 7  | 5  | 1  | -  | -  | -  | 2  | 2  | 7  | 8  | 9  | 9  | 9  | 9  |
| SU = 34  | 9       | 9+ | 9  | 9  | 9  | 8  | 3  | -  | -  | 2  | 1  | -  | -  | -  | -  | 1  | 2  | 1  | 7  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9       | 8  | 5  | 2  | 1  | -  | -  | -  | -  | 9  | 9  | 7  | 5  | 3  | 2  | 3  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 3       | 2  | 1  | 1  | 1* | -  | -  | -  | 4  | 8  | 7  | 5  | 3  | 2  | 2  | 3  | 5  | 8  | 9  | 9  | 8  | 8  | 6  | 5  |
| 5Z = 37  | 4       | 4  | 1  | -  | -  | 2  | -  | -  | 4  | 4  | 2  | 1  | 1  | 1  | 2  | 3  | 4  | 7  | 8  | 9  | 9  | 8  | 8  | 6  |
| ZS6 = 38 | -       | 1  | -  | -  | -  | -  | -  | -  | 2  | 8  | 7  | 6  | 5  | 5  | 6  | 8  | 9  | 3  | 6  | 3  | 1  | 1  | 1  | -  |
| FR = 39  | -       | -  | -  | -  | 1  | 2  | -  | -  | 2  | 5  | 4  | 4  | 4  | 4  | 5  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | 8       | 8  | 7  | 7  | 9  | 9  | 7  | 4  | 2  | 6  | 6  | 5  | 5  | 1  | 1* | -  | 1  | 2  | 4  | 6  | 8  | 8  | 8  | 8  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 7       | 8  | 8  | 8  | 9  | 8  | 8  | 6  | 2  | -  | 2* | 7* | 4* | 2* | 1* | -  | 2  | 2  | 1  | 4* | 3* | 5  | 5  | 6  |
| VO2 = 02 | 9       | 9  | 9  | 9  | 8  | 7  | 6  | 1  | -  | 1  | 4  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | -  | 1* | 6  | -  | 5  | 8  | 5  | 6  | 6  | 6  | 6  | 5  | 6  | 8  | 9  |
| W9 = 04  | 9       | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | 8       | 9  | 9  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | 4  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | 5  | 8  | 8  | 8  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | 2  | 6  | 4  | 1  | 1  | 3  | 6  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 8       | 8  | 8  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | 5  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 8  |
| P4 = 09  | 7       | 7  | 7  | 6  | 4  | 1  | 1  | -  | -  | -  | -  | 2* | 6  | 6  | 2  | 1  | 6  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 8  |
| HC = 10  | 6       | 6  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | 3  | 9  | 9  | 5  | 7  | 1  | 8  | 9  | 6  | 8  | 8  | 7  |
| PY1 = 11 | 5       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  |
| CE = 12  | 9       | 9  | 6  | 4  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  | 6  | 5  | 8  | 8  | 4* | 5  | 2* |
| G = 14   | 9       | 9  | 8  | 5  | 8  | 8  | 5  | -  | -  | 4  | 9  | 8  | 7  | 6  | 4  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| I = 15   | 9       | 9  | 9  | 8  | 8  | 8  | 5  | -  | -  | 5  | 8  | 7  | 2  | 2  | 4  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | 5       | 2  | -  | -  | 6  | 7  | 3  | -  | -  | 2  | 7  | 6  | 7  | 8  | 3  | 4  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 8  |
| UN = 17  | 5       | 5  | 8  | 5  | 4  | 2  | -  | -  | -  | 1  | 7  | 6  | 5  | 5  | 3  | 3  | 6  | 7  | 8  | 9  | 9  | 9  | 8  | 6  |
| UA9 = 18 | 2       | 2  | 6  | 7  | 7  | 5  | 2  | -  | -  | 1  | 5  | 4  | 4  | 7* | 5* | 3  | 4* | 5  | 6  | 8  | 7  | 8* | 4  | 2  |
| UA0 = 19 | 3       | 5  | 6  | 6  | 5  | 5  | 5  | 2  | -  | 1  | 2  | 8  | 8* | 8* | 8* | 7* | 6* | 7* | 8* | 7* | 8* | 1  | 1  | 1  |
| 4X = 20  | 9       | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | 2  | 6  | 5  | 5  | 8  | 4  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |
| HZ = 21  | 8       | 6  | 1  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 8  | 7  | 3  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 3       | 2  | 1* | -  | -  | -  | -  | -  | -  | 1  | 7  | 6  | 4  | 5* | 2  | 4* | 7  | 8  | 8  | 7  | 8  | 8  | 8  | 5  |
| JT = 23  | 4       | 6  | 8  | 7  | 7  | 5  | 1  | -  | -  | 2  | 4  | 4  | 4  | 8* | 7* | 6* | 5* | 6  | 7  | 6  | 5  | 8* | 4* | 3  |
| VR2 = 24 | 2*      | 5* | 5* | 4* | 4* | 4* | 5* | 5* | 1* | 1  | 6  | 5  | 9* | 8* | 8  | 8  | 7  | 7  | 8  | 8  | 6  | 5* | 4* | 2* |
| JA1 = 25 | 7       | 7  | 8  | 8  | 8  | 7  | 7  | 7  | 3  | 1* | 8* | 8* | 9  | 8  | 6* | 6* | 7* | 8* | 8* | 8* | 7  | 5  | 5  | 5  |
| HS = 26  | 1*      | 3* | 4* | 3* | 1* | 1* | 2* | 2* | -  | 1  | 6  | 6  | 7* | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 6  | 1* | 2* |
| DU = 27  | 5*      | 5* | 4* | 2* | 1* | 1* | 2* | 2* | -  | -  | 2  | 7* | 8  | 6  | 5  | 7  | 7  | 6  | 5  | 2* | 2* | 6* | 7* | 5* |
| YB = 28  | 2*      | 4* | 3* | 2* | 1* | 1* | 1* | 1* | -  | -  | 2  | 8  | 6  | 6* | 4* | 2* | 1* | 1* | -  | 1  | 1  | -  | -  | 6* |
| VK6 = 29 | 2*      | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 4* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VK3 = 30 | 1*      | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 3* | 2* |
| KH6 = 31 | 7       | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 2  | 1* | 4* | 4* | 9  | 3  | -  | 1  | 6  | 1  | 7  | 8  | 5  | 5  | 3  | 6  |
| KH8 = 32 | 5       | 2  | 1  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 1* | -  | -  | -  | -  | 7  | 6  | 6  | 6  | 7  | 6  |
| CN = 33  | 9       | 9  | 9  | 9  | 8  | 8  | 3  | -  | -  | 2  | 9  | 8  | 8  | 5  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9+      | 9  | 7  | 5  | 6  | 4  | -  | -  | -  | 2  | 6  | 5  | 5  | 9  | 5  | 4  | 5  | 8  | 9  | 9  | 9+ | 9  | 9  | 9  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9+ | 9  | 8  | 6  | 6  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 5  |
| D2 = 36  | -       | -  | -  | -  | 1* | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  |
| 5Z = 37  | -       | -  | -  | 2* | 1* | 1* | -  | -  | -  | 6  | 8  | 7  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 7  | 4  | 2  | -  |
| ZS6 = 38 | -       | -  | -  | -  | 1* | 2* | 1* | -  | -  | 1  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 2  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | 1* | 1* | 1* | 1* | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | 1       | -  | -  | -  | 7  | 6  | 4  | -  | -  | 2  | 4  | 2  | 2* | 5* | 2* | 2  | 2  | 4  | 5  | 5  | 6  | 6  | 5  | 3  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Jul., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2       | 4  | 5  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | 1  |
| VO2 = 02 | 7       | 7  | 8  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | 5  | 5  | 4  | 6  | 5  | 6  | 8  | 7  | 7  | 8  | 9  | 9  | 8  |
| W6 = 03  | 9       | 9  | 9  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | 1  | -  | -  | 5  | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 9  | 9  |
| W9 = 04  | 7       | 7  | 8  | 7  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | 4  | 3  | 6  | 2  | 4  | 7  | 7  | 8  | 8  | 9  | 8  |
| W3 = 05  | 6       | 6  | 7  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | 3  | 4  | 1  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 8  | 8  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | 6  | 8  | 7  | 7  | 8  | 8  | 7  | 8  | 8  | 9  | 9  |
| TI = 07  | 6       | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | 9  | 9  | 9  | 8  | 7  |
| VP2 = 08 | 2       | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | 3  | 2  | 2  | 6  | 8  | 9  | 9  | 8  | 4  |
| P4 = 09  | 1       | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | 1  | 4  | 6  | 8  | 8  | 6  | 3  |
| HC = 10  | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 8  | 9  | 9  | 9  | 9  | 1  | 2  | 1  | 1  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  | 7  | 7  | 8  | 9  | 9+ | 9+ | 7  | 1  |
| CE = 12  | 5       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 4* | 1* | -  |
| G = 14   | 7       | 5  | 1  | -  | 4  | 5  | 1  | -  | -  | -  | 8  | 7  | 6  | 7  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| I = 15   | 5       | 5  | 4  | 1  | 4  | 5  | -  | -  | -  | -  | 8  | 6  | 7  | 4  | 4  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 7  |
| UA3 = 16 | -       | -  | -  | -  | 1  | 4  | -  | -  | -  | -  | 7  | 3  | 2  | 2  | 4* | 2* | 2  | 5  | 8  | 8  | 8  | 8  | 5  | 2  |
| UN = 17  | -       | -  | 4  | 2  | 1  | -  | -  | -  | -  | -  | 5  | 5  | 5  | 4  | 5* | 5  | 5  | 7  | 8  | 8  | 7  | 5  | 1  | 1* |
| UA9 = 18 | -       | -  | -  | 5  | 3  | 2  | -  | -  | -  | -  | 4  | 2  | 2  | 4* | 7* | 7* | 5* | 2* | 2* | 3  | 1  | 3* | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | 3  | 2  | 1  | -  | -  | -  | -  | 1  | 2* | 8* | 8* | 8* | 6* | 6* | 6* | 2* | -  | -  | -  | -  |
| 4X = 20  | 7       | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | 7  | 5  | 6  | 4  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 8  |
| HZ = 21  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 6  | 6  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 5  |
| VU = 22  | 3*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 3  | 5* | 5  | 5  | 8  | 7  | 2  | 1  | 2  | 5  | 5  | 1* |
| JT = 23  | -       | 1  | 2  | 6  | 4  | 2  | -  | -  | -  | -  | 3  | 2  | 1  | 5* | 8* | 8* | 5* | 4* | 4* | 1  | -  | 4* | 1* | -  |
| VR2 = 24 | 7*      | 7* | 7* | 5* | 3* | 2* | 2* | 1* | -  | -  | 3  | 7  | 9* | 8  | 8  | 8  | 6  | 5  | 5  | 4  | 1  | 1* | 5* | 5* |
| JA1 = 25 | 6       | 6  | 8  | 8  | 5  | 5  | 5  | 4  | -  | -  | 3* | 7* | 8  | 8* | 6* | 5* | 5* | 6* | 8* | 6* | 4  | 6  | 6  | 6  |
| HS = 26  | 5*      | 6* | 5* | 4* | 1* | 1* | 1* | -  | -  | -  | 3  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 4  | 1  | -  | 3* |
| DU = 27  | 5*      | 5* | 4* | 2* | 1* | 1* | 1* | -  | -  | -  | -  | 1* | 8* | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | 1* | 7* | 5* |
| YB = 28  | 3*      | 3* | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1  | 7* | 6* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VK6 = 29 | 1*      | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 5* | 2* |
| KH6 = 31 | 7       | 8  | 8  | 8  | 7  | 5  | 5  | 2  | -  | -  | 4* | 4* | 7  | -  | -  | -  | 4  | 5  | 6  | 5  | 6  | 6  | 6  | 7  |
| KH8 = 32 | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 2* | 1* | -  | -  | -  | -  | -  | 6  | 8  | 7  | 8  | 7  | 4  |
| CN = 33  | 5       | 5  | 4  | 7  | 5  | 4  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 5  | 6  |
| SU = 34  | 9       | 8  | 1  | 1  | 2  | -  | -  | -  | -  | -  | 6  | 6  | 6  | 7  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 8  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 5  | 2  | 1  | 2  | 6  | 9  | 9+ | 9+ | 9  | 5  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 6  | 3  | 1* | 1* | 1* |
| 5Z = 37  | -       | -  | -  | 1* | -  | -  | -  | -  | -  | 1  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 1  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 2* | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 3* | 1* | -  | -  | -  | -  | -  | 6  | 8  | 9  | 7  | 2  | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 3* | 1* | 1* | -  | -  | -  | -  | 1  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Jul., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2       | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 3  | 2  | 3  | 5  | 7  | 7  | 5  | -  |
| W6 = 03  | 7       | 7  | 7  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 5  | 6  | 7  | 8  | 8  | 7  |
| W9 = 04  | 2       | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 3  | 4  | 5  | 6  | 6  | 4  |
| W3 = 05  | 1       | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 5  | 8  | 8  | 9  | 9  | 8  | 7  |
| XE1 = 06 | 7       | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 1  | 7  | 7  | 8  | 8  | 8  | 8  | 8  |
| TI = 07  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 3  | 4  | 4  | 3  | 1  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 2  | -  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 8  | 7  | 7  | 7  | 8  | 9  | -  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 3* | 2  | 7  | 1  | -  |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 8  | 1  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 2* | 2* | -  | -  |
| G = 14   | -       | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 4  | -  | 5  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 8  | 4  | 1  |
| I = 15   | -       | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 6  | -  | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 6  | 1  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | -  | 1  | -  | -  | 1* | 1* | 1  | 3  | 5  | 5  | 3  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 2  | 2  | 2  | 4* | 4  | 5  | 4  | 3  | 1  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 1* | 1* | -  | -  | -  | -  | -  |
| 4X = 20  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 6  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 7  | 4  | 2  | 5  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | 4  | -  |
| VU = 22  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 6  | 8  | 7  | 1  | -  | -  | -  | 1  | -  | -  |
| JT = 23  | -       | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | 2* | 1* | -  | -  | -  | -  | -  |
| VR2 = 24 | 5*      | 3* | 4* | 2* | 2* | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 7  | 7  | 3  | 2  | 1  | -  | -  | -  | 2* | 6* |
| JA1 = 25 | 1       | 2  | 6  | 5  | 2  | 1  | 1  | -  | -  | -  | -  | 5  | 7* | 2* | 2* | 2* | 4* | 4* | 1* | -  | 3  | 3  | 2  | -  |
| HS = 26  | 3*      | 4* | 3* | 1* | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 8  | 8  | 6  | 6  | 2  | -  | -  | -  | 1* |
| DU = 27  | 2*      | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 1  | 2  | 4  | 1  | -  | -  | -  | -  | -  | 1* | 4* | -  |
| YB = 28  | 1*      | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 1* | -  |
| KH6 = 31 | 7       | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1* | 3  | -  | -  | -  | -  | 3  | 2  | 3  | 4  | 7  | 7  | 7  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 6  | 4  | -  |
| CN = 33  | -       | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 5  | -  | -  |
| SU = 34  | 5       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 4  | 1  | 4  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | -  | -  | -  | -  | 1* | 1* | 2* | 4  | 5  | 3  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 3  | 7  | 7  | 8  | 5  | 2  | 2* | -  | -  | -  |
| SZ = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 8  | 8  | 8  | 9  | 8  | 7  | 2  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 5* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



10 Meters: Jul., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | 1  | 2  | 4  | 1  |
| W6 = 03  |         | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 4  | 5  | 5  | 5  | 4  |
| W9 = 04  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 1  | 2  | 2  | 1  |
| W3 = 05  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 1  | 6  | 6  | 7  | 6  | 5  | 2  |
| XE1 = 06 |         | 3  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 7  | 7  | 6  | 4  |
| TI = 07  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| P4 = 09  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 2  | 2  | 2  | 5  | 6  | -  | -  | -  |
| PY1 = 11 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  |
| CE = 12  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 3* | 2* | 5  | 6  | 1  | 2  | -  |
| LU = 13  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  |
| G = 14   |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 2  | 1  | 2  | 3  | 5  | 4  | 2  | -  | -  |
| I = 15   |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 4  | 5  | 7  | 7  | 7  | 8  | 8  | 8  | 6  | 1  | -  | -  |
| UA3 = 16 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  |
| UN = 17  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 1  | 1  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 7  | 1  | -  | -  | -  |
| HZ = 21  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 7  | 7  | 7  | 8  | 8  | 5  | 2  | -  | -  | -  | -  |
| VU = 22  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 |         | 1* | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* |
| JA1 = 25 |         | -  | -  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  |         | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  |
| DU = 27  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* |
| YB = 28  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 |         | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 6  |
| KH8 = 32 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 5* | 1* | -  |
| CN = 33  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 6  | -  | -  | -  |
| SU = 34  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 8  | 2  | -  | -  | -  |
| 6W = 35  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| D2 = 36  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 4  | 5  | 3  | 4* | 2* | -  | -  | -  | -  |
| 5Z = 37  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 5  | 5  | 6  | 5  | 4  | -  | -  | -  | -  | -  |
| ZS6 = 38 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Aug., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 3  | 5  | 5  | 5  | 5  | 5  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -  | -  | -  | -  | 2  | 4  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -  | 1  | 3  | 5  | 4  | 5  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -  | 4  | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -  | 1  | 3  | 4  | 4  | 5  | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 1  | 3  | 3  | 4  | 4  | 4  | 4  | 4  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 3  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 5  | 5  | 5  | 5  | 5  | 5  | 6  | 6  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| PY1 = 11 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  | 9  |
| CE = 12  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | 5  | 6  | 9  | 9  | 9  |
| LU = 13  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | 3  | 6  | 9  | 9  | 9  | 9  |
| G = 14   | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | 3  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| UA3 = 16 | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |    |
| HZ = 21  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |    |
| VU = 22  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 4  | 5  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| SU = 34  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |    |
| 6W = 35  | 4  | 4  | 4  | 4  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |    |
| D2 = 36  | 5  | 5  | 5  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |    |
| 5Z = 37  | 5  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |    |
| ZS6 = 38 | 6  | 6  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |    |
| FR = 39  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |    |
| FJL = 40 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Aug., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | -  | -  | -  | -  | 1  | 3  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 6  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -  | -  | 1  | 3  | 5  | 7  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 1  | 4  | 6  | 8  | 7  | 8  | 7  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 2  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | 1  | 4  | 6  | 7  | 7  | 8  | 8  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 4  | 6  | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| VP2 = 08 | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| P4 = 09  | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| HC = 10  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | -  | -  | -  | -  | 5  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | -  | 2  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 2  | -  | -  | 2  | 6  | 9  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| I = 15   | 6  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  |
| UA3 = 16 | 2  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| UN = 17  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA9 = 18 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| HZ = 21  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| VU = 22  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  |
| JT = 23  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | -  | 2  | 4  | 6  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 7  | 8  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| SU = 34  | 7  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| 6W = 35  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| D2 = 36  | 8  | 8  | 8  | 9  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  |
| 5Z = 37  | 8  | 8  | 8  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  |
| ZS6 = 38 | 9  | 9  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  |
| FR = 39  | 8  | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| FJL = 40 | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Aug., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | 1  | 2  | 3  | 5  | 5  | 6  | 6  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 9  | 9  | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| W6 = 03  | 1       | 3  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 6       | 6  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  |
| W3 = 05  | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| XE1 = 06 | 6       | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| TI = 07  | 8       | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| VP2 = 08 | 8       | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| P4 = 09  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| HC = 10  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 7  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 5  | 6  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 3  | 2  | 4  | 6  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 9  | 9  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 8  |
| UA3 = 16 | 7       | 7  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  |
| UN = 17  | 7       | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| UA9 = 18 | 4       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  |
| 4X = 20  | 8       | 8  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  |
| HZ = 21  | 8       | 8  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  |
| VU = 22  | 5       | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  |
| JT = 23  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 3  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 2  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  |
| HS = 26  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 3  | -  |
| YB = 28  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 6  |
| VK6 = 29 | 4       | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 5  |
| VK3 = 30 | -       | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 2  | -  |
| KH6 = 31 | -       | -  | -  | 1  | 5  | 7  | 7  | 7  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 2  | 5  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  |
| SU = 34  | 8       | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  |
| D2 = 36  | 9       | 9  | 9  | 8  | 9  | 8  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 9       | 9  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 9  | 9  | 9  |
| FR = 39  | 9       | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| FJL = 40 | 7       | 7  | 6  | 4  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 30 Meters: Aug., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2       | 3  | 3  | 7  | 6  | 7  | 7  | 6  | 8  | 8  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 8  |
| W6 = 03  | 4       | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| W3 = 05  | 8       | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  |
| XE1 = 06 | 8       | 8  | 8  | 9  | 8  | 9  | 8  | 8  | 8  | 7  | 7  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 5  | 8  | 6  | 2  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 5  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 6  | 9+ | 9+ | 9  | 9  | 8  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 8  | 8  | 8  | 4  | -  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 6  | 6  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 8  | 8  |
| UA3 = 16 | 7       | 7  | 8  | 8  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 7  | 7  |
| UN = 17  | 7       | 7  | 6  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 8  | 8  |
| UA9 = 18 | 6       | 6  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 5  | 6  | 6  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | 2* | 4* | 3* | 2* | -  |
| 4X = 20  | 8       | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| HZ = 21  | 8       | 7  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| VU = 22  | 6       | 5  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 7  | 6  |
| JT = 23  | 5       | 2  | 1  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 2  | 6  | 6  |
| VR2 = 24 | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | 3* | 4* | 2* | 1* | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  | 5  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 4  | 2  | -  | -  | -  | -  | -  | 1* | 4* | 5* | 4* | -  | -  |
| HS = 26  | 6       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 8  | 8  |
| DU = 27  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 2* | 5  | 4  |
| YB = 28  | 6       | 4  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 6  | 7  |
| VK6 = 29 | 6       | 4  | 2  | -  | -  | -  | -  | 2  | 4  | 5  | 5  | 3  | 3  | 1  | -  | -  | -  | -  | 3  | 5  | 5  | 5  | 6  | 6  |
| VK3 = 30 | 3       | 1  | -  | -  | 3  | 4  | 4  | 6  | 6  | 7  | 8  | 6  | 5  | 3  | 1  | -  | -  | -  | 1  | 1  | 3  | 5  | 5  | 2  |
| KH6 = 31 | -       | -  | 2  | 5  | 7  | 7  | 8  | 8  | 8  | 6  | 2  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | 1  | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 5  | -  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 7  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 8  | 2  | 4  | 7  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 9  | 9  |
| D2 = 36  | 9       | 8  | 8  | 7  | 5  | 2  | 5  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 7  |
| 5Z = 37  | 8       | 8  | 7  | 4  | 6  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  | 8  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 6  | 7  | 5  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 8  | 8  | 8  |
| FR = 39  | 5       | 1  | -  | 5  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 5  | 5  | 5  | 5  | 6  |
| FJL = 40 | 6       | 7  | 7  | 7  | 7  | 7  | 6  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



## 20 Meters: Aug., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 7       | 8  | 8  | 8  | 9  | 9  | 8  | 7  | 8  | 6  | 5* | 4* | 2* | 1* | 1  | 1  | -  | 1  | 2  | 3  | 5  | 6  | 7  |    |
| VO2 = 02 | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 8  | 9  | 8  | 7  | 4  | 1  | 2  | 2  | 2  | 5  | 7  | 8  | 8  | 9  | 9  |
| W6 = 03  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 6  | 8  | 7  | 7  | 2  | 1  | -  | -  | -  | 2  | 1  | 1  | 5  | 7  |
| W9 = 04  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 7  | 8  | 7  | 4  | 2  | 1  | 1  | 1  | 1  | 6  | 4  | 6  | 8  | 9  |
| W3 = 05  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 5  | 8  | 8  | 8  | 4  | 4  | 1  | 2  | 1  | 1  | 6  | 6  | 8  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | 7  | 7  | -  | 7  | 7  | 7  | 4  | 2  | 2  | 1  | 4  | 5  | 8  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 2* | 1  | 5  | 9  | 7  | 6  | 5  | 5  | 3  | 4  | 7  | 8  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | 2  | 9  | 9  | 8  | 7  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | 1  | 5  | 9  | 9  | 8  | 6  | 5  | 5  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | 2* | 1* | 4  | 9  | 8  | 7  | 5  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9  | 8  | 8  | 4  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 2  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 8       | 6  | 4  | 1  | -  | -  | -  | -  | 1* | -  | -  | -  | 5  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 8  | 5  | 2  | 1  | -  | -  | -  | 1  | 3  | 5  | 8  | 9  | 9  | 9  | 9  |
| I = 15   | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 4  | 4  | 5  | 2  | 1  | -  | -  | -  | -  | 1  | 1  | 6  | 7  | 9  | 9  | 9  | 9  |
| UA3 = 16 | 8       | 7  | 5  | 5  | 8  | 8  | 7  | 2  | 1  | 4  | 1  | -  | 1* | -  | -  | -  | 1  | 2  | 5  | 8  | 8  | 8  | 9  | 9  |
| UN = 17  | 8       | 8  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 8  |
| UA9 = 18 | 6       | 6  | 7  | 7  | 6  | 2  | 2  | -  | -  | 2  | 2  | 8  | 2* | 1* | -  | 1* | -  | 2  | 6  | 7  | 8  | 8  | 6  | 7  |
| UA0 = 19 | 5       | 2  | 1  | 2  | 1  | 3  | 7  | 7  | 4  | 6  | 8  | 8* | 7  | 5* | 3* | 2* | 3* | 4* | 6* | 7* | 8* | 8* | 6* | 5  |
| 4X = 20  | 9       | 9  | 9  | 9  | 9  | 8  | 3  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | 1* | 1  | -  | -  | 2  | 4  | 7  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 8       | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 3* | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  | 7       | 7  | 6  | 2  | 1  | 1  | 1  | -  | -  | 2  | 7  | 6  | 4* | 1* | 1* | 1* | 1* | 2  | 5  | 6  | 6  | 5  | 5  | 7  |
| VR2 = 24 | 5       | 2  | -  | -  | -  | -  | -  | 2* | 6* | 7  | 5  | 8* | 5* | 3* | 2* | -  | 2  | 4  | 7  | 8  | 9  | 8  | 7  | 7  |
| JA1 = 25 | 1*      | -  | 1  | 2  | 3  | 4  | 8  | 7  | 8  | 6  | 5* | 9  | 8  | 6  | 4  | 1* | 3* | 5* | 8* | 8* | 8* | 8* | 3* |    |
| HS = 26  | 6       | 2  | -  | -  | -  | -  | -  | -  | 2* | 1  | 6  | 6  | 4* | 3* | 1  | -  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 7  |
| DU = 27  | 1       | -  | -  | -  | -  | -  | -  | 2* | 4* | 6  | 7  | 5  | 5  | 4  | 2  | 2  | 4  | 4  | 7  | 6  | 4* | 3* | 2  | 4  |
| YB = 28  | 2       | 1* | -  | -  | -  | -  | -  | -  | 2* | 5  | 6  | 6  | 5  | 5  | 4  | 3  | 3  | 4  | 5  | 6  | 6  | 2  | 2* | 3  |
| VK6 = 29 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 5  | 1  | -  | -  | 1  | 2  | 4  | 5  | 4  | 5  | 5  | 7  |
| VK3 = 30 | 3       | 1  | -  | -  | -  | -  | 1* | -  | -  | 1  | 1* | 7  | 4  | 2  | 2  | 1  | 1  | -  | -  | 1* | 6  | 8  | 7  |    |
| KH6 = 31 | 4       | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 1* | 1* | 8  | 8  | 7  | 2  | 2  | 1  | -  | 1* | 1* | -  | -  | -  | 1  |
| KH8 = 32 | 4       | 5  | 6  | 8  | 8  | 7  | 8  | 7  | 5  | -  | -  | -  | 7  | 3  | -  | -  | -  | 3  | 2  | 1  | 1  | 1  | 1  | 2  |
| CN = 33  | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 3  | 8  | 7  | 3  | 1  | -  | -  | -  | 1  | 3  | 7  | 8  | 9  | 9  | 9  | 9  |
| SU = 34  | 9       | 9  | 9  | 9  | 9  | 9  | 6  | 1  | 3  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9  | 9  | 6  | 1  | -  | -  | 1  | 9  | 9  | 8  | 6  | 4  | 2  | 3  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 5       | 4  | 4  | 4  | 1* | -  | -  | -  | 5  | 8  | 6  | 4  | 2  | 2  | 2  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 8  | 7  |
| 5Z = 37  | 7       | 6  | 1  | -  | 1  | 5  | 1  | 1  | 5  | 3  | 1  | 1  | 1  | 1  | 1  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 8  |
| ZS6 = 38 | 2       | 4  | 2  | 2  | -  | 1  | -  | 1  | 5  | 7  | 6  | 5  | 4  | 4  | 3  | 5  | 8  | 9  | 9  | 8  | 7  | 5  | 4  | 2  |
| FR = 39  | -       | -  | -  | -  | 2  | 3  | -  | -  | 3  | 4  | 2  | 2  | 2  | 3  | 3  | 5  | 7  | 4  | -  | -  | 1* | 1* | -  | -  |
| FJL = 40 | 7       | 4  | 2  | 3  | 4  | 6  | 8  | 6  | 4  | 7  | 6  | 6  | 4  | 1  | -  | -  | 1  | 1  | 2  | 6  | 7  | 8  | 8  | 8  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Aug., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |         | 8  | 8  | 9  | 9  | 8  | 6  | 2  | -  | 3  | 1  | 5* | 3* | 1* | -  | -  | -  | 2  | 2  | 5  | 5  | 4* | 5  | 4  | 7  |
| VO2 = 02 |         | 9  | 9  | 8  | 5  | 2  | -  | 3  | 3  | -  | 2  | 4  | 9  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  |         | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 6  | 1  | -  | 5  | -  | 4  | 8  | 7  | 7  | 7  | 5  | 3  | 4  | 5  | 8  | 9  |
| W9 = 04  |         | 9  | 9  | 9  | 7  | 4  | 1  | -  | 3  | 1  | 1  | 2  | -  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 9  |
| W3 = 05  |         | 9  | 9  | 9  | 9  | 9  | 8  | -  | 5  | -  | -  | 5  | 5  | 8  | 8  | 7  | 7  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 9  |
| XE1 = 06 |         | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | 1  | 2  | -  | -  | 8  | 8  | 9  | 8  | 8  | 6  | 7  | 8  | 9  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 4  | -  | 1* | -  | -  | 7  | 9  | 8  | 4  | 3  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 8       | 8  | 9  | 9  | 8  | 7  | 5  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 8       | 8  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 6  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 8       | 7  | 8  | 8  | 8  | 7  | 4  | 1  | -  | 1* | -  | -  | 7  | 9  | 9  | 6  | 4  | 4  | 8  | 5  | 7  | 8  | 8  | 8  | 8  |
| PY1 = 11 | 9       | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9  | 9  | 7  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 9  | 9  | 9  | 9+ | 9  | 6  | 8  | 4  |
| G = 14   | 9       | 8  | 5  | 2  | 6  | 6  | 8  | 1  | -  | 7  | 8  | 8  | 9  | 6  | 5  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| I = 15   | 9       | 8  | 8  | 7  | 7  | 7  | 7  | -  | 1  | 7  | 8  | 7  | 3  | 2  | 4  | 5  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | 1       | -  | -  | -  | 4  | 7  | 6  | -  | -  | 5  | 6  | 4  | 7  | 8  | 2  | 2  | 5  | 7  | 7  | 8  | 9  | 9  | 8  | 5  | 5  |
| UN = 17  | 1       | 1  | 8  | 8  | 7  | 5  | -  | -  | -  | 3  | 7  | 6  | 5  | 7  | 3* | 2  | 5  | 7  | 8  | 8  | 8  | 6  | 4  | 3* | 3* |
| UA9 = 18 | -       | -  | 1  | 5  | 8  | 7  | 4  | -  | -  | 4  | 5  | 2  | 6* | 6* | 2* | 4* | 3  | 5  | 4  | 6  | 3  | 1  | 5* | 1* | 1* |
| UA0 = 19 | 4       | 2  | 5  | 5  | 6  | 8  | 7  | 4  | -  | 2  | 6  | 8  | 8* | 8* | 6* | 5* | 5* | 5* | 6* | 5* | 4* | 8* | 4  | 4  | 4  |
| 4X = 20  | 9       | 9  | 8  | 7  | 8  | 5  | -  | -  | -  | 5  | 4  | 2  | 4  | 9  | 1  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 6  | 4  | 6  | 4  | 1  | -  | -  | -  | 5  | 4  | 2  | 8  | 7  | 2  | 4  | 5  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 5       | 7  | 4  | 2* | 1  | -  | -  | -  | -  | 3  | 7  | 6  | 5* | 5* | 2* | 2  | 5  | 7  | 7  | 6  | 6  | 8  | 8  | 7  | 7  |
| JT = 23  | 2       | 5  | 7  | 7  | 8  | 7  | 4  | -  | -  | 5  | 4  | 4  | 7* | 7  | 5* | 5* | 4  | 5  | 4* | 2  | -  | 4* | 5* | 1* | 1* |
| VR2 = 24 | 3*      | 4* | 5* | 4* | 3* | 4* | 5* | 6* | 2* | 5  | 6  | 4* | 8* | 7* | 6* | 6  | 7  | 8  | 8  | 9  | 8  | 5  | 3* | 2* | 2* |
| JA1 = 25 | 6       | 7  | 7  | 8  | 8  | 8  | 8  | 5  | 2* | 6* | 8  | 8  | 7* | 5* | 5* | 6* | 7* | 8* | 8* | 6  | 7* | 5  | 6  | 6  | 6  |
| HS = 26  | 1*      | 1* | 4* | 2* | 1* | 1* | 2* | 3* | 1* | 4  | 6  | 5  | 6  | 6* | 6* | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 5  | 1  | 1  |
| DU = 27  | 5*      | 6* | 5* | 3* | 2* | 3* | 4* | 3* | 1* | -  | 5  | 8  | 8  | 6* | 5  | 6  | 7  | 6  | 6  | 2  | -  | 5* | 6* | 6* | 6* |
| YB = 28  | 3*      | 5* | 5* | 2* | 1* | 1* | 2* | 2* | 1* | -  | 5  | 8  | 8  | 4  | 5* | 3* | 2* | 2* | 2* | 1  | 1  | -  | -  | 6* | 6* |
| VK6 = 29 | 2*      | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | 2* | 7  | 5* | 3* | 2* | -  | -  | -  | 1  | 1  | 1  | -  | 1  | 6* | 6* |
| VK3 = 30 | 1*      | 2* | 1* | 1* | 1* | 1* | 1* | -  | -  | 1* | 5* | 3* | -  | -  | 1  | -  | -  | -  | -  | -  | -  | 3* | 6  | 2* | 2* |
| KH6 = 31 | 7       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 2  | 3* | 3* | 2* | 8  | 1  | -  | -  | 1  | 3  | 6  | 8  | 5  | 2  | 3  | 5  | 5  |
| KH8 = 32 | 7       | 5  | 3  | 4  | 2  | 1  | 2  | 1  | -  | 1* | 1* | 1* | 1* | 1* | -  | -  | -  | 1  | 6  | 6  | 5  | 6  | 5  | 7  | 7  |
| CN = 33  | 9       | 6  | 6  | 5  | 7  | 4  | 4  | -  | -  | 5  | 9  | 8  | 7  | 5  | 3  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9       | 9  | 8  | 6  | 7  | 8  | 1  | -  | -  | 5  | 6  | 2  | 2  | 9  | 5  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 7       | 6  | 4  | 1  | -  | -  | -  | -  | -  | 5  | 9+ | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 1       | -  | -  | -  | 1* | -  | -  | -  | 1  | 7  | 8  | 8  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 4  | 2  | 2  |
| 5Z = 37  | 1       | -  | -  | 2* | 1* | 1* | 1* | -  | 2  | 7  | 6  | 6  | 8  | 9  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | 3  |
| ZS6 = 38 | -       | -  | -  | -  | 1* | 2* | 1* | 1* | -  | 4  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | 2* | 1* | 1* | 1* | 1* | -  | 1  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 3  | 1* | 1* | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | 1  | 2  | 1  | -  | 5  | 6  | 5  | 5* | 5  | 2  | 2  | 4  | 5  | 5  | 6  | 6  | 6  | 3  | 1  | 1  |
| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Aug., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 3  | 4  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | 1* | 1* | -  | 2  |
| VO2 = 02 | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 6  | 6  | 6  | 7  | 8  | 7  | 8  | 8  | 9  | 9  | 9  |
| W6 = 03  | 9  | 9  | 9  | 9  | 5  | 2  | 1  | 6  | 1  | -  | -  | 1  | -  | -  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| W9 = 04  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  |
| W3 = 05  | 7  | 7  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | 1  | -  | 3  | 6  | 4  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9  | 9  | 9  | 9  | 9  | 7  | 6  | 2  | -  | -  | -  | -  | -  | 8  | 8  | 7  | 8  | 9  | 8  | 9  | 8  | 8  | 9  | 9  |
| TI = 07  | 7  | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | 4  | 1  | -  | -  | -  | 2  | 9  | 9  | 9  | 9  | 8  |
| VP2 = 08 | 5  | 4  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | 2  | 7  | 5  | 4  | 6  | 5  | 6  | 9  | 9  | 9  | 9+ | 9  | 7  |
| P4 = 09  | 3  | 3  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | 2  | 2* | -  | -  | -  | 4  | 6  | 7  | 8  | 9  | 8  | 6  |
| HC = 10  | 2  | 1  | 2  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 3  | 1  | 9  | 9  | 9  | 9+ | 2  | 3  | 4  | 4  |
| PY1 = 11 | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 6  |
| CE = 12  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| LU = 13  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 2  | 3  | 2* | 4* | 3* | 1* |
| G = 14   | 3  | 1  | -  | -  | 1  | 1  | 5  | -  | -  | 1  | 8  | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 6  |
| I = 15   | 4  | 3  | 2  | -  | 2  | 2  | 3  | -  | -  | 2  | 8  | 8  | 7  | 4  | 4  | 5  | 7  | 7  | 8  | 9  | 9  | 9  | 8  | 5  |
| UA3 = 16 | -  | -  | -  | -  | -  | 3  | 2  | -  | -  | 1  | 7  | 5  | 4  | 4  | 2  | 3  | 3  | 6  | 8  | 8  | 8  | 7  | 2  | -  |
| UN = 17  | -  | -  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | 5  | 4  | 4  | 6* | 6* | 4  | 5  | 7  | 7  | 6  | 3  | -  | -  | 2* |
| UA9 = 18 | -  | -  | -  | 2  | 6  | 5  | 1  | -  | -  | -  | 5  | 2  | 1  | 7* | 7* | 3* | 2* | 1* | -  | 1  | -  | -  | 3* | -  |
| UA0 = 19 | -  | -  | -  | -  | -  | 6  | 5  | -  | -  | -  | -  | 1  | 8* | 8* | 6* | 5* | 4* | 4* | 4* | -  | -  | -  | -  | -  |
| 4X = 20  | 8  | 6  | 1  | 2  | 4  | 1  | -  | -  | -  | -  | 6  | 5  | 4  | 4  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 8  |
| HZ = 21  | 5  | 1  | -  | 1  | -  | -  | -  | -  | -  | 1  | 6  | 5  | 5  | 4  | 5  | 6  | 7  | 8  | 9  | 8  | 9  | 8  | 8  | 6  |
| VU = 22  | 3* | 2  | 1* | 1* | -  | -  | -  | -  | -  | -  | 4  | 2  | 3  | 6* | 5  | 5  | 7  | 7  | 1  | -  | -  | 3  | 3  | 1  |
| JT = 23  | -  | -  | 1  | 6  | 7  | 6  | 2  | -  | -  | 1  | 5  | 4  | 4  | 7* | 8* | 4* | 2* | 2* | 1* | -  | -  | -  | 4* | -  |
| VR2 = 24 | 6* | 7* | 6* | 6* | 5* | 5* | 5* | 3* | -  | -  | 5  | 7  | 9* | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 5  | 1* | 5* | 6* |
| JA1 = 25 | 6  | 7  | 7  | 7  | 8  | 8  | 8  | 6  | 1  | -  | 5* | 8* | 8* | 8* | 6* | 5* | 4* | 5* | 5* | 5* | 4  | 6  | 8  | 8  |
| HS = 26  | 5* | 6* | 6* | 5* | 3* | 2* | 2* | 1* | -  | -  | 5  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | -  | 4* |
| DU = 27  | 5* | 5* | 5* | 4* | 3* | 2* | 2* | 1* | -  | -  | -  | 5* | 8  | 8  | 7  | 8  | 7  | 6  | 3  | -  | -  | -  | 7* | 7* |
| YB = 28  | 5* | 5* | 4* | 3* | 2* | 1* | 1* | 1* | -  | -  | -  | 5  | 7* | 6* | 5* | 3* | 2* | 1* | -  | -  | -  | -  | -  | 6* |
| VK6 = 29 | 2* | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 6* | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VK3 = 30 | 1* | 1* | -  | 1* | 1* | 1* | -  | -  | -  | -  | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 6* | 2* |
| KH6 = 31 | 7  | 8  | 9  | 9  | 9  | 8  | 8  | 5  | -  | -  | 3* | 2* | 6  | -  | -  | -  | 4  | 5  | 5  | 5  | 8  | 6  | 6  | 6  |
| KH8 = 32 | 4  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 3* | 2* | 2* | 1* | -  | -  | -  | -  | 7  | 7  | 7  | 6  | 7  | 6  |
| CN = 33  | 6  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | 9  | 7  | 8  | 8  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 8  |
| SU = 34  | 8  | 7  | 3  | 1  | 2  | 3  | -  | -  | -  | -  | 7  | 6  | 4  | 4  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 8  |
| 6W = 35  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 8  | 5  | 5  | 6  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 3  |
| D2 = 36  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 6  | 2  | 1* | -  |
| 5Z = 37  | -  | -  | -  | 2* | 2* | 1* | -  | -  | -  | 4  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  |
| ZS6 = 38 | -  | -  | -  | -  | -  | 4* | 1* | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -  | -  | 1* | 3* | 2* | 1* | -  | -  | -  | 1  | 8  | 8  | 8  | 8  | 7  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 1  | 1* | 2* | 1* | -  | -  | 1  | -  | 1  | 1  | -  | -  | -  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Aug., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 4  | 4  | 4  | 5  | 6  | 7  | 7  |
| W6 = 03  | 8       | 8  | 8  | 4  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 5  | 7  | 8  | 8  | 8  | 8  |
| W9 = 04  | 5       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 3  | 5  | 5  | 6  | 7  | 8  | 6  |
| W3 = 05  | 2       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  |
| XE1 = 06 | 8       | 7  | 8  | 8  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  | 3  | 7  | 8  | 8  | 8  | 9  | 8  | 8  |
| TI = 07  | 1       | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 5  | 5  | 3  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 5  | 1  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 3  | 1  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 3  | 5  | 5* | 8  | 4  | -  |
| CE = 12  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 6  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | 3* | -  | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 5  | 5  | 5  | 5  | 5  | 7  | 8  | 8  | 9  | 7  | 2  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 7  | 1  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 1  | 1* | 1* | 1* | 2  | 5  | 6  | 5  | 1  | -  | -  |
| UN = 17  | -       | -  | 1  | 1  | 1  | -  | -  | -  | -  | -  | 6  | 4  | 3  | 2  | 5* | 4  | 5  | 5  | 2  | 1  | -  | -  | -  | 1* |
| UA9 = 18 | -       | -  | -  | -  | 2  | 2  | -  | -  | -  | -  | 1  | -  | -  | 1* | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 6  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 8  | 5  | 3  | 1  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 2  | 4  | 1  |
| VU = 22  | 2*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 5  | 5  | 6* | 6  | 7  | 2  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | 2  | 4  | 2  | -  | -  | -  | -  | 1  | 1  | -  | 1* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 6*      | 5* | 6* | 5* | 5* | 4* | 2* | -  | -  | -  | -  | 4  | 7  | 8  | 8  | 7  | 5  | 5  | 4  | 2  | -  | -  | 4* | 6* |
| JA1 = 25 | 4       | 3  | 4  | 3  | 3  | 5  | 4  | 1  | -  | -  | -  | 5* | 8* | 8* | 4* | 2* | 2* | 2* | 1* | -  | -  | 2  | 5  | 4  |
| HS = 26  | 5*      | 6* | 5* | 4* | 2* | 1* | 1* | -  | -  | -  | -  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | 1* |
| DU = 27  | 4*      | 3* | 3* | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | 6* | 4  | 4  | 5  | 5  | 1  | -  | -  | -  | -  | 3* | 6* |
| YB = 28  | 2*      | 2* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 4* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 2*      | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 2* |
| KH6 = 31 | 7       | 8  | 7  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | 5  | 4  | 5  | 6  | 8  | 7  | 7  |
| KH8 = 32 | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 2* | -  | -  | -  | -  | -  | -  | 1  | 8  | 7  | 8  | 6  | 2  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | -  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 1  | 1  |
| SU = 34  | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 6  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 6  | 2  | 4  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 5  | 1  | -  | -  | -  | 1* | 1* | 4  | 7  | 8  | 7  | 2  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 7  | 7  | 8  | 8  | 7  | 5  | 2  | 2* | 3* | 1* |
| 5Z = 37  | -       | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | 2  | 5  | 7  | 5  | 5  | 6  | 1  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 4* | 2* | 1* | -  | -  | -  | -  | 1  | 6  | 6  | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |

Zone UTC --> \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Aug., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  | -  | 1  | 2  | 1  | 3  |
| W6 = 03  | 5       | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 3  | 5  | 6  | 7  | 7  | 6  |
| W9 = 04  | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 2  | 3  | 4  | 2  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 6  | 7  | 8  | 8  | 7  | 5  |
| XE1 = 06 | 5       | 4  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 7  | 7  | 7  | 5  |
| TI = 07  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 7  | 5  | 5  | 5  | 6  | 7  | 8  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 3  | -  | -  |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 9  | 8  | 4  | 6  | 1  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  | 3  | 2  | 4  | 4  | 7  | 5  | 1  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 7  | 1  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 2  | 2  | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 4  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 7  | 7  | 8  | 8  | 9  | 7  | 1  | -  | -  | -  | -  |
| VU = 22  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 6  | 6  | 7  | 6  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 2*      | 1* | 3* | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | 1  | 5  | 2  | 2  | 2  | 1  | -  | -  | -  | -  | 1* | 3* |
| JA1 = 25 | -       | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | 2* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | 1*      | 2* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 4  | 4  | 4  | 2  | 2  | -  | -  | -  | -  |
| DU = 27  | 1*      | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | 2* |
| YB = 28  | -       | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* |
| KH6 = 31 | 6       | 5  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 1  | 3  | 7  | 7  | 7  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5* | 2  | 1* |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 6  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 5  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 6  | -  | -  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 7  | 5  | 5  | 5* | 4* | 4* | 1* | -  | -  | -  |
| SZ = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 7  | 7  | 8  | 7  | 7  | 4  | -  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Sep., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|--|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 |  | -            | -  | -  | -  | -  | -  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 |  | 4            | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  |  | -            | -  | -  | 1  | 3  | 3  | 3  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  |  | -            | 3  | 5  | 5  | 4  | 4  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  |  | 3            | 5  | 5  | 5  | 4  | 4  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 |  | -            | 2  | 2  | 4  | 5  | 4  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  |  | 1            | 3  | 3  | 4  | 4  | 4  | 4  | 3  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 |  | 3            | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| P4 = 09  |  | 3            | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| HC = 10  |  | 5            | 4  | 5  | 5  | 5  | 4  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| PY1 = 11 |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  | 9  |
| CE = 12  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  |
| LU = 13  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | 1  | 5  | 9  | 9  | 9  | 9  |
| G = 14   |  | 5            | 5  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| I = 15   |  | 4            | 2  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| UA3 = 16 |  | 2            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  |  | 3            | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HZ = 21  |  | 2            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VU = 22  |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 |  | -            | -  | -  | -  | -  | -  | -  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 |  | -            | -  | -  | -  | -  | -  | 1  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  |  | 5            | 2  | 4  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| SU = 34  |  | 3            | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| 6W = 35  |  | 4            | 4  | 4  | 3  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| D2 = 36  |  | 6            | 6  | 6  | 6  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |
| 5Z = 37  |  | 3            | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  |
| ZS6 = 38 |  | 6            | 6  | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  |
| FR = 39  |  | 5            | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  |
| FJL = 40 |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |  |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |  | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Sep., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | 1  | 2  | 4  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 = 03  | -       | -  | 2  | 4  | 6  | 6  | 6  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 3       | 6  | 8  | 8  | 7  | 7  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 6       | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | 1       | 5  | 5  | 7  | 8  | 7  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 4       | 6  | 6  | 7  | 7  | 7  | 7  | 6  | 8  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| VP2 = 08 | 6       | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| P4 = 09  | 6       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| HC = 10  | 8       | 7  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | -  | -  | 3  | 8  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | 1  | 4  | 8  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| I = 15   | 7       | 5  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |
| UA3 = 16 | 5       | 3  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| UN = 17  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| HZ = 21  | 5       | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  |
| VU = 22  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 5  | 7  | 7  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  |
| SU = 34  | 6       | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| 6W = 35  | 7       | 7  | 7  | 6  | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| 5Z = 37  | 6       | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| ZS6 = 38 | 9       | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  |
| FR = 39  | 8       | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 8  |
| FJL = 40 | 1       | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Sep., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1  | 2  | 3  | 4  | 6  | 6  | 7  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| W6 = 03  | 1  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| W3 = 05  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| XE1 = 06 | 7  | 8  | 9  | 8  | 7  | 8  | 8  | 8  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| TI = 07  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| VP2 = 08 | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| P4 = 09  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  |
| HC = 10  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 7  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4  | 3  | 4  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 4  | 1  | 1  | 2  | 5  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| I = 15   | 7  | 7  | 6  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 8  |
| UA3 = 16 | 7  | 7  | 7  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  |
| UN = 17  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  |
| UA9 = 18 | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  |
| 4X = 20  | 8  | 8  | 6  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 8  |
| HZ = 21  | 7  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  |
| VU = 22  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  |
| JT = 23  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 5  | 5  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  | 2  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  |
| HS = 26  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 2  | -  |
| YB = 28  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  |
| VK6 = 29 | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 5  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  |
| KH6 = 31 | -  | -  | 1  | 2  | 4  | 7  | 7  | 7  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 8  |
| SU = 34  | 8  | 8  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 6  | 8  |
| 6W = 35  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 8  | 9  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 9  | 9  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 8  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 9  | 9  |
| FR = 39  | 9  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  | 8  | 9  |
| FJL = 40 | 6  | 6  | 6  | 7  | 6  | 4  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 5  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Sep., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2       | 3  | 7  | 6  | 7  | 7  | 8  | 7  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  |
| W6 = 03  | 5       | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W9 = 04  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| W3 = 05  | 8       | 9  | 9  | 8  | 8  | 9  | 9  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  |
| XE1 = 06 | 8       | 9  | 9  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 7  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 7  | 8  |
| UA3 = 16 | 8       | 8  | 8  | 7  | 6  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 6  |
| UN = 17  | 8       | 7  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 7  | 7  |
| UA9 = 18 | 5       | 6  | 5  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  | 5  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | 1  | 1  | 5  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 2* | 3* | 5  | 1  | -  |
| 4X = 20  | 8       | 8  | 7  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| HZ = 21  | 8       | 8  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| VU = 22  | 6       | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 7  |
| JT = 23  | 5       | 4  | 1  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  |
| VR2 = 24 | 3       | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | 2* | 1* | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 6  | 5  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | 3* | 4* | 5* | 4* | -  |
| HS = 26  | 7       | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 7  |
| DU = 27  | 1       | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 4  | 1* | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 5  | 4  |
| YB = 28  | 6       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 6  | 7  |
| VK6 = 29 | 5       | 3  | 2  | -  | -  | -  | -  | 1  | 2  | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 6  | 6  |
| VK3 = 30 | 1       | 1  | -  | 1  | 1  | 4  | 4  | 7  | 6  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 3  | 2  |
| KH6 = 31 | -       | 1  | 4  | 6  | 6  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 7  | 8  | 9  |
| SU = 34  | 8       | 8  | 8  | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 8  | 4  | 7  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  |
| D2 = 36  | 9       | 8  | 8  | 9  | 7  | 6  | 9  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 9       | 8  | 8  | 7  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 8  | 8  | 9  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 8  | 8  | 8  |
| FR = 39  | 7       | 5  | 5  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  | 8  |
| FJL = 40 | 7       | 7  | 6  | 6  | 6  | 6  | 6  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 6  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 20 Meters: Sep., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 7       | 8  | 8  | 9  | 8  | 8  | 6  | 3  | 3* | 2* | 3* | 1* | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 4  | 5  | 7  |
| VO2 = 02 | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 8  | 9  | 8  | 5  | 2  | 1  | -  | 1  | 1  | 3  | 7  | 8  | 9  | 9  | 9  |
| W6 = 03  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  |
| W9 = 04  | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 8  | 7  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | 1  | 2  | 4  | 7  | 9  | 9  |
| W3 = 05  | 9+      | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 7  | 8  | 9  | 7  | 4  | 1  | 1  | -  | 1  | 2  | 5  | 6  | 8  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | 5  | 1* | 8  | 6  | 3  | 1  | 1  | 1  | 1  | 2  | 5  | 8  | 8  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 5  | 4  | 9  | 8  | 5  | 4  | 2  | 2  | 2  | 5  | 6  | 8  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 5  | 9+ | 9  | 8  | 6  | 4  | 2  | 3  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 3  | 4  | 9  | 9  | 8  | 6  | 4  | 2  | 3  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 1  | 6  | 9+ | 9  | 7  | 5  | 4  | 3  | 4  | 5  | 6  | 8  | 9  | 9  | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 3  | 1* | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 8  | 6  | 5  | 5  | 7  | 2  | 2* | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 9  | 9  | 9  | 8  | 8  | 9  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | 2  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| I = 15   | 9       | 9  | 9  | 9  | 8  | 8  | 9  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  |
| UA3 = 16 | 8       | 8  | 7  | 4  | 5  | 8  | 7  | 5  | 5  | 5  | 1  | 1* | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 7  | 9  | 8  | 8  |
| UN = 17  | 7       | 8  | 8  | 6  | 6  | 4  | 2  | 1  | -  | -  | 1* | 2* | 2* | 1* | -  | -  | -  | 2  | 6  | 7  | 8  | 8  | 8  | 8  |
| UA9 = 18 | 2*      | 2  | 6  | 7  | 7  | 5  | 4  | 2  | 3  | 3  | 8  | 7  | 2* | 2* | 1* | -  | -  | 2  | 5  | 7  | 6  | 5  | 3  | 1* |
| UA0 = 19 | 5       | 4  | 4  | 4  | 5  | 6  | 7  | 8  | 7  | 8  | 7  | 7* | 5  | 2* | -  | -  | -  | 2* | 5* | 6* | 6* | 8* | 7* | 5  |
| 4X = 20  | 9       | 9  | 9  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 8  | 8  | 9  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 8       | 8  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | 2* | 2* | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| JT = 23  | 5       | 7  | 7  | 5  | 3  | 1  | 1  | 3* | 5* | 7  | 6* | 5  | 3* | 2* | 1* | -  | -  | 2  | 4  | 5  | 5  | 4  | 3  | 3  |
| VR2 = 24 | 8       | 7  | 3  | -  | -  | -  | 1* | 3* | 6* | 6  | 8* | 7* | 5* | 4* | 1* | 1  | 1  | 3  | 5  | 8  | 8  | 8  | 3  | 9  |
| JA1 = 25 | 5*      | 2* | 1  | 2  | 3  | 5  | 7  | 8  | 9  | 8  | 9  | 9  | 7  | 5  | 1  | -  | 1* | 4* | 6* | 8* | 7* | 8* | 8  | 7* |
| HS = 26  | 9       | 8  | 3  | -  | -  | -  | -  | -  | 3* | 2* | 7  | 7  | 2* | 2* | 1* | -  | -  | 5  | 7  | 8  | 9  | 9  | 8  | 5  |
| DU = 27  | 6       | 5  | 1  | -  | -  | -  | -  | 3* | 6  | 6* | 6* | 5  | 5* | 2  | -  | -  | 1  | 3  | 5  | 7  | 8  | 5  | 8  | 8  |
| YB = 28  | 8       | 7  | 3  | 1  | -  | -  | -  | 1  | 4* | 6  | 6  | 5  | 4  | 3  | 1  | 1  | 1  | 5  | 6  | 7  | 7  | 5  | 4  | 7  |
| VK6 = 29 | 8       | 7  | 4  | 1  | -  | 1  | 2  | 5  | 6  | 8  | 8  | 8  | 6  | 3  | 1  | -  | 1  | 2  | 3  | 4  | 5  | 5  | 6  | 8  |
| VK3 = 30 | 7       | 6  | 6  | 5  | 4  | 5  | 5  | 7  | 7  | 8  | 9  | 7  | 5  | 2  | 1  | 1  | -  | -  | -  | 1* | 5  | 7  | 8  | 8  |
| KH6 = 31 | 4       | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 8  | 9  | 7  | 4  | -  | 1  | -  | -  | 1* | 1* | -  | -  | -  | 1  |
| KH8 = 32 | 3       | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 5  | 4  | 9  | 8  | 7  | 2  | -  | 1  | 1  | 1  | 1  | 1* | -  | 1  | 1  |
| CN = 33  | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 9  | 7  | 2  | 1  | -  | -  | 1  | 1  | 4  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| SU = 34  | 9       | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9  | 4  | 2* | 1  | 7  | 9+ | 9  | 8  | 5  | 4  | 2  | 3  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9       | 9  | 8  | 6  | 3  | 1  | 5  | 8  | 8  | 8  | 6  | 4  | 2  | 1  | 1  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |
| 5Z = 37  | 9       | 8  | 5  | 2  | 8  | 7  | 6  | 5  | 2  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 4  | 5  | 7  | 8  | 9  | 9  | 9+ | 9  |
| ZS6 = 38 | 7       | 6  | 6  | 5  | 5  | 6  | 7  | 7  | 8  | 7  | 5  | 4  | 4  | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| FR = 39  | -       | 1* | -  | 2  | 4  | 4  | 3  | 5  | 4  | 2  | 2  | 1  | 1  | 1  | 1  | 3  | 5  | 7  | 7  | 6  | 5  | 5  | 1  | -  |
| FJL = 40 | 6       | 2  | 2* | 1* | -  | 4  | 5  | 7  | 5  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | 1  | 3  | 8  | 7  | 8  | 8  | 7  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Sep., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00  | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |     | 8   | 9  | 9  | 8  | 6  | 2  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 5  | 6  | 7  | 7  |    |
| VO2 = 02 |     | 9   | 5  | 5  | 5  | 4  | 1  | 4  | 2  | 1  | 5  | 6  | 9  | 8  | 8  | 6  | 6  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9+ |    |
| W6 = 03  |     | 9   | 9  | 9  | 9  | 7  | 6  | 7  | 7  | 8  | 4  | 8  | 6  | -  | 7  | 7  | 4  | 2  | 4  | 2  | 2  | 4  | 8  | 8  | 9  |    |
| W9 = 04  |     | 9+  | 9  | 2  | 3  | 2  | 2  | 1  | 6  | 2  | 2  | 3  | 1  | 9  | 8  | 7  | 4  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9  |    |
| W3 = 05  |     | 9   | 8  | 8  | 8  | 8  | 4  | 3  | 8  | 1  | 2  | 5  | 8  | 9  | 8  | 8  | 5  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  |    |
| XE1 = 06 |     | 9   | 9  | 9  | 9  | 9  | 9+ | 9  | 8  | 7  | 2  | -  | -  | 5  | 8  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  |    |
| TI = 07  |     | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 1* | -  | -  | 1  | 9  | 8  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |
| VP2 = 08 |     | 9+  | 9  | 9+ | 9+ | 9+ | 9+ | 8  | 1  | -  | -  | 4  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| P4 = 09  |     | 9   | 9  | 9+ | 9+ | 9+ | 9  | 8  | 2  | -  | -  | -  | 9+ | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| HC = 10  |     | 8   | 8  | 9  | 9+ | 9+ | 9  | 8  | 5  | 1* | -  | -  | 7  | 9+ | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9  |    |
| PY1 = 11 |     | 9+  | 9  | 8  | 5  | 4  | 6  | 2  | -  | 1* | -  | 2  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| CE = 12  |     | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  |     | 8   | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |    |
| G = 14   |     | 3   | 3  | 4  | 5  | 6  | 5  | 6  | 3  | 4  | 9  | 8  | 7  | 8  | 2  | 4  | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 8  | 3  |    |
| I = 15   |     | 8   | 8  | 7  | 5  | 5  | 5  | 9  | 4  | 5  | 8  | 5  | 4  | 1  | 1  | 1  | 1  | 3  | 8  | 8  | 9  | 9  | 9  | 9  | 7  |    |
| UA3 = 16 |     | 4   | 2  | 1  | -  | -  | 5  | 8  | 1  | 2  | 6  | 6  | 5  | 6  | 1  | 1  | 2  | 4  | 7  | 8  | 9  | 8  | 7  | 5  | 3  |    |
| UN = 17  |     | 1*  | 1  | 8  | 9  | 8  | 7  | 5  | 1  | 1  | 4  | 6  | 4  | 4  | 3* | 3* | 2  | 4  | 7  | 6  | 5  | 2  | 1  | 2  | 2* |    |
| UA9 = 18 |     | 1*  | 1* | -  | 6  | 7  | 8  | 6  | -  | 1  | 7  | 5  | 5* | 6* | 4* | 3* | 1  | 2  | 3  | 1  | 2  | 1  | -  | 2* | 3* |    |
| UA0 = 19 |     | 8   | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 1  | 6  | 8  | 9* | 7* | 5* | 4* | 3* | 4* | 5* | 5* | 1* | -  | 7* | 8* | 8  |    |
| 4X = 20  |     | 9+  | 9  | 8  | 3  | 5  | 9  | 8  | 2  | 2  | 5  | 4  | 2  | 2  | 1  | 1  | 2  | 4  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| HZ = 21  |     | 9   | 8  | 6  | 6  | 7  | 6  | 2  | 1  | 4  | 3  | 2  | 1  | 6  | 2  | 2  | 3  | 5  | 7  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| VU = 22  |     | 1   | 5  | 8  | 4  | 3  | 3  | 1  | 1* | 2  | 1  | 5  | 4  | 5* | 4* | 2* | 3  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 6  |    |
| JT = 23  |     | 2*  | 5  | 7  | 7  | 7  | 6  | 6  | 1  | 1  | 5  | 3  | 7* | 7* | 5* | 5* | 2  | 2* | 4* | 3* | 1  | -  | 2* | 3* | 2* |    |
| VR2 = 24 |     | 8   | 3* | 3* | 2* | 2* | 2* | 4* | 6* | 5* | 6  | 4  | 8* | 8* | 6* | 5* | 5  | 5  | 6  | 8  | 9  | 9  | 4* | 2* | 6  |    |
| JA1 = 25 |     | 4   | 6  | 7  | 7  | 8  | 8  | 8  | 9  | 8  | 5  | 6  | 8  | 6* | 6* | 4* | 4* | 5* | 6* | 8* | 5* | 6  | 6  | 9* | 7* |    |
| HS = 26  |     | 8   | 2  | 3* | 2* | 1* | -  | 1* | 2* | 4  | 6  | 6  | 7* | 5  | 5  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 2  | 1* |    |
| DU = 27  |     | 5*  | 5* | 3* | 3* | 1* | 2* | 3* | 5* | 2* | 6  | 8  | 8  | 7  | 6  | 4  | 5  | 5  | 7  | 7  | 7  | 3  | 5* | 7  | 7  |    |
| YB = 28  |     | 7   | 5* | 5* | 1* | 1* | 1* | 2* | 4* | 2  | 5  | 7  | 8  | 7  | 6  | 4  | 3  | 3  | 3  | 2  | 2  | 2  | -  | 1* | 4* |    |
| VK6 = 29 |     | 5   | 2  | 1* | -  | -  | -  | 1* | -  | 1  | 5  | 9  | 7  | 3  | 2* | 1* | 1* | 1* | 1* | 1  | 1  | 1  | 2  | 5* | 5  |    |
| VK3 = 30 |     | 6   | 3  | 2  | -  | -  | -  | 1* | -  | -  | 5* | 7  | 4  | 1* | 2* | -  | -  | -  | -  | 1* | -  | 1* | 6  | 8  | 8  |    |
| KH6 = 31 |     | 7   | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2* | 1* | 9  | 8  | -  | -  | -  | 5  | 3  | 8  | 7  | 3* | 3* | 4  | 5  |    |
| KH8 = 32 |     | 7   | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 3  | 1* | 1* | 6  | 8  | 2  | -  | -  | -  | 6  | 6  | 4  | 4  | 4  | 4  | 5  |    |
| CN = 33  |     | 9   | 9  | 9  | 8  | 8  | 4  | 4  | 1  | 3  | 9  | 9  | 7  | 5  | 2  | 3  | 4  | 6  | 8  | 9  | 9  | 9  | 9+ | 9  | 9  |    |
| SU = 34  |     | 9   | 9  | 9  | 7  | 7  | 9  | 8  | 2  | 5  | 7  | 4  | 2  | 2  | 1  | 1  | 2  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| 6W = 35  |     | 9+  | 9+ | 9  | 7  | 1  | -  | 1* | 1* | -  | 9+ | 9  | 9  | 8  | 7  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| D2 = 36  |     | 7   | 4  | 2  | 1  | 1* | 1* | 1  | 1  | 7  | 8  | 8  | 7  | 7  | 6  | 6  | 8  | 8  | 9  | 9+ | 9  | 9+ | 9+ | 9  | 9  |    |
| 5Z = 37  |     | 5   | 1  | -  | 1* | 2  | 1  | 1  | 3  | 7  | 7  | 7  | 4  | 9  | 4  | 6  | 5  | 7  | 8  | 9  | 9  | 9+ | 9  | 9  | 8  |    |
| ZS6 = 38 |     | -   | -  | -  | -  | 1* | 1* | 1* | 3  | 5  | 8  | 8  | 8  | 7  | 8  | 7  | 8  | 9  | 9  | 9  | 8  | 6  | 5  | 4  | -  |    |
| FR = 39  |     | -   | -  | 1* | 1* | 1* | 1* | -  | -  | 5  | 7  | 5  | 9  | 7  | 6  | 6  | 7  | 8  | 6  | 2  | 1* | 2* | 1* | -  | -  |    |
| FJL = 40 |     | 1*  | 1* | -  | -  | -  | -  | -  | 2  | 1  | 4  | 5  | 6  | 4  | 6  | 2  | 2  | 2  | 4  | 5  | 5  | 4  | 5  | 2  | 1  |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
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|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
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\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Sep., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00  | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |     | 7   | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 3  | 4  |    |
| VO2 = 02 |     | 4   | -  | -  | -  | -  | -  | 1  | -  | -  | 1  | -  | 8  | 8  | 7  | 6  | 8  | 8  | 7  | 8  | 8  | 9  | 9+ | 9  | 9  |    |
| W6 = 03  |     | 9   | 9  | 9  | 3  | 1  | -  | 1  | 1  | 2  | -  | 4  | 1  | -  | -  | 7  | 7  | 6  | 6  | 7  | 6  | 7  | 8  | 8  | 9  |    |
| W9 = 04  |     | 9   | 4  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 7  | 8  | 7  | 6  | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 9  |    |
| W3 = 05  |     | 8   | -  | 1  | 2  | 2  | -  | -  | 5  | -  | -  | 1  | 1  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| XE1 = 06 |     | 9   | 9  | 9  | 9  | 9  | 8  | 9  | 6  | 2  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |    |
| TI = 07  |     | 9   | 8  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9  | 9  |    |
| VP2 = 08 |     | 7   | 6  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  | 8  |    |
| P4 = 09  |     | 6   | 6  | 6  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | 5  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 8  | 8  |    |
| HC = 10  |     | 5   | 4  | 5  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | 9  | 9  | 7  | 2  | 9  | 9  | 9  | 3  | 5  | 5  | 4  | 6  |    |
| PY1 = 11 |     | 9   | 4  | 1  | -  | -  | 1  | -  | -  | -  | -  | -  | 4  | 8  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| CE = 12  |     | 9+  | 9+ | 8  | 7  | 6  | 6  | 6  | 1  | -  | -  | -  | 4  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  |     | 2*  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 8  | 5  | 8  | 5  |    |
| G = 14   |     | -   | -  | -  | -  | 1  | -  | 2  | -  | -  | 6  | 9  | 8  | 6  | 6  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 8  | 1  | -  |    |
| I = 15   |     | 1   | 2  | 1  | -  | 1  | 1  | 6  | -  | 1  | 8  | 8  | 7  | 5  | 4  | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 2  | -  |    |
| UA3 = 16 |     | -   | -  | -  | -  | -  | 1  | 5  | -  | -  | 6  | 7  | 6  | 5  | 4  | 4  | 4  | 6  | 7  | 7  | 7  | 6  | 3  | 1  | -  |    |
| UN = 17  |     | 3*  | 1* | 5  | 8  | 8  | 6  | 2  | -  | -  | 5  | 4  | 3  | 6* | 4* | 3  | 4  | 5  | 3  | 1  | -  | -  | -  | -  | -  |    |
| UA9 = 18 |     | -   | -  | -  | 1  | 5  | 8  | 4  | -  | -  | 5  | 5  | 4  | 7* | 4* | 1  | 1* | -  | -  | -  | -  | -  | -  | -  | 3* |    |
| UA0 = 19 |     | 5   | 6  | 6  | 6  | 6  | 8  | 7  | 2  | -  | 1  | 5* | 8* | 7* | 4* | 2* | 2* | 2* | 2* | 2* | -  | -  | 1* | 7* | 4  |    |
| 4X = 20  |     | 9   | 8  | 2  | 1* | 1  | 8  | 4  | -  | -  | 6  | 5  | 5  | 4  | 4  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| HZ = 21  |     | 8   | 4  | 5* | 2  | 2* | 2* | 1* | -  | 1  | 6  | 4  | 3  | 3  | 3  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| VU = 22  |     | 3*  | 4* | 4  | 3  | 3* | 2* | 1* | 1* | -  | 4  | 3  | 4  | 4  | 5* | 4  | 5  | 7  | 6  | 2  | 2  | 3  | 6  | 5  | -  |    |
| JT = 23  |     | 1*  | -  | 5  | 8  | 8  | 7  | 3  | -  | -  | 6  | 5  | 4  | 8* | 4* | 2* | 1* | 1* | 1* | 1* | -  | -  | -  | 5* | 4* |    |
| VR2 = 24 |     | 6*  | 6* | 7* | 5* | 5* | 4* | 6* | 6* | 1  | 6  | 6  | 8* | 7  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 6  | -  | 4* | 4* |    |
| JA1 = 25 |     | 8   | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 4  | 4* | 6* | 8* | 7* | 6* | 5* | 5* | 5* | 5* | 5* | -  | 4  | 7  | 7  | 7  |    |
| HS = 26  |     | 5*  | 5* | 4* | 4* | 2* | 2* | 4* | 3* | 1  | 5  | 6  | 6  | 7  | 7  | 6  | 7  | 8  | 8  | 8  | 9  | 8  | 5  | -  | 3* |    |
| DU = 27  |     | 5*  | 5* | 5* | 5* | 4* | 4* | 4* | 2* | -  | 2  | 8  | 9* | 8  | 7  | 6  | 6  | 7  | 7  | 6  | 3  | -  | 1* | 7* | 6* |    |
| YB = 28  |     | 5*  | 5* | 5* | 4* | 2* | 2* | 2* | 2* | -  | 1  | 7  | 8  | 8  | 6* | 5* | 4* | 3* | 3* | 3* | 1* | -  | -  | -  | 7* |    |
| VK6 = 29 |     | 3*  | 2* | 3* | 2* | 1* | 1* | 1* | -  | -  | -  | 6  | 6* | 4* | 4* | 2* | 1* | 1* | 1* | 1* | -  | -  | -  | 2* | 6* |    |
| VK3 = 30 |     | 1   | 1* | 2* | 1* | 1* | 1* | -  | -  | -  | 1* | 6* | 2* | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | 4* | 5  | 4  |    |
| KH6 = 31 |     | 8   | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 1  | 1* | -  | 5  | 6  | -  | -  | -  | 4  | 5  | 4  | 6* | 5  | 5  | 6  | 7  |    |
| KH8 = 32 |     | 8   | 8  | 8  | 7  | 6  | 5  | 4  | 3  | -  | 3* | 3* | 2* | 2  | 1* | 1* | -  | -  | 5  | 6  | 6  | 6  | 6  | 6  | 7  |    |
| CN = 33  |     | 8   | 7  | 6  | 3  | 4  | -  | -  | -  | -  | 6  | 9  | 8  | 7  | 6  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |    |
| SU = 34  |     | 9   | 9  | 6  | 2  | 2  | 8  | 4  | -  | 2  | 8  | 5  | 6  | 5  | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| 6W = 35  |     | 8   | 7  | 4  | -  | -  | -  | -  | -  | -  | 6  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  |    |
| D2 = 36  |     | 2   | -  | -  | -  | 1* | 2* | 2* | 1* | 3  | 7  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  |    |
| 5Z = 37  |     | -   | -  | -  | 4* | 3* | 4* | 3* | 1* | 5  | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 4  |    |
| ZS6 = 38 |     | -   | -  | -  | -  | 3* | 2* | 2* | 1* | 1  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 7  | 4  | 1  | -  | -  | -  |    |
| FR = 39  |     | -   | -  | 4* | 2* | 2* | 1* | 1* | 1* | 3  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 2  | 2* | 1* | -  | -  | -  | -  |    |
| FJL = 40 |     | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
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|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
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|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
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|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Sep., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 4       | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 5  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 4  |
| W6 = 03  | 9       | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 9  |
| W9 = 04  | 6       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 8  | 8  |
| W3 = 05  | 2       | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 3  | 5  | 7  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 9  | 5  | 5  | 1  | -  | -  | -  | -  | -  | 6  | 8  | 9  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 9  |
| TI = 07  | 5       | 4  | 4  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | 2  | -  | 1* | -  | 3  | 5  | 6  | 6  | 6  | 7  | 6  |
| VP2 = 08 | 1       | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | 1  | 7  | 5  | 5  | 1  | 1  | 2  | 5  | 7  | 7  | 6  | 6  | 4  |
| P4 = 09  | 1       | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1* | 2* | 1* | 1* | -  | 2  | 4  | 4  | 2  | 5  | 2  |
| HC = 10  | -       | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1* | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 1  |
| PY1 = 11 | 3       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 2  | 6  | 8  | 9  | 9  | 9  | 9+ | 9  | 6  |
| CE = 12  | 8       | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2* | 4* | 4* | 1* |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 1  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | 2  | -  | -  | 2  | 8  | 8  | 7  | 7  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 2  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 5  | 4  | 2  | 2* | 1  | -  | 2  | 3  | 3  | 1  | 2  | -  | -  | -  |
| UN = 17  | 1*      | -  | 1  | 6  | 6  | 5  | -  | -  | -  | 1  | 7  | 6  | 5  | 4* | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | 1  | 5  | -  | -  | -  | -  | 2  | 1  | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| UA0 = 19 | 1       | 1  | 2  | 2  | 1  | 5  | 3  | -  | -  | -  | -  | 6* | 5* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1* | -  |
| 4X = 20  | 7       | 4  | -  | -  | -  | 5  | -  | -  | -  | 3  | 7  | 6  | 6  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| HZ = 21  | 4       | -  | 2* | 1* | -  | -  | -  | -  | -  | 3  | 6  | 5  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 7  |
| VU = 22  | -       | 6* | 3* | 1* | 1* | 1* | -  | -  | -  | 1  | 4  | 5  | 5  | 6* | 5  | 6  | 6  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | 5  | 7  | 6  | 1  | -  | -  | 1  | 6  | 4  | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VR2 = 24 | 8*      | 8* | 7* | 7* | 6* | 5* | 5* | 2* | -  | 2  | 6  | 8  | 8  | 8  | 8  | 6  | 7  | 7  | 7  | 6  | 1  | -  | 5* | 7* |
| JA1 = 25 | 7       | 7  | 7  | 8  | 8  | 8  | 7  | 5  | -  | -  | 6* | 9* | 7* | 2* | 3* | 2* | 2* | 2* | -  | -  | -  | 4  | 7  | 6  |
| HS = 26  | 6*      | 7* | 7* | 6* | 5* | 4* | 2* | 1* | -  | 1  | 6  | 7  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 7  | 2  | -  | -  | 2* |
| DU = 27  | 5*      | 5* | 4* | 3* | 2* | 2* | 2* | -  | -  | -  | 3  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | 5* | 6* |
| YB = 28  | 5*      | 4* | 4* | 3* | 2* | 2* | 1* | -  | -  | -  | 2  | 7  | 8* | 6* | 5* | 4* | 3* | 2* | 1* | -  | -  | -  | -  | 4* |
| VK6 = 29 | 2*      | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 6* | 6* | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 5* |
| VK3 = 30 | 2*      | 3* | 1* | 1* | 1* | -  | -  | -  | -  | -  | 5* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1* | 5* | 5* |
| KH6 = 31 | 8       | 8  | 9  | 9  | 9  | 9  | 8  | 3  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | 6  | 6  | 6  | 7  | 7  | 6  | 7  |
| KH8 = 32 | 6       | 5  | 2  | 1  | -  | -  | -  | -  | -  | 1* | 5* | 3* | 3* | 1* | -  | -  | -  | 1  | 7  | 7  | 7  | 8  | 8  | 6  |
| CN = 33  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 4  | -  |
| SU = 34  | 8       | 6  | -  | -  | -  | 6  | -  | -  | -  | 6  | 7  | 7  | 6  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 3  | -  | -  | -  | 2  | 7  | 9  | 9+ | 9+ | 9  | 5  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | 3* | 1* | -  | -  | 5  | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 9  | 9  | 8  | 7  | 5  | 4  | 1  |
| 5Z = 37  | -       | -  | -  | 2* | 5* | 4* | 2* | -  | -  | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 5* | 3* | -  | -  | -  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | 2* | 5* | 3* | 2* | 1* | -  | -  | 3  | 8  | 8  | 8  | 8  | 8  | 6  | 2* | 2* | 1* | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Sep., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | -   | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  | 2  | -  |
| W6 = 03  | 8   | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 6  | 7  | 8  | 9  | 8  | 8  | 8  |
| W9 = 04  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 1  | 1  | 5  | 7  | 8  | 6  | 5  |
| W3 = 05  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 6  | 8  | 8  | 8  | 7  |
| XE1 = 06 | 8   | 7  | 7  | 7  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 6  | 6  | 7  | 8  | 8  | 8  | 8  | 8  |
| TI = 07  | 1   | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | -  | -  | -  | 3  | 2  |
| VP2 = 08 | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 1  | -  | 1  | -  |
| P4 = 09  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | 1  | -  |
| HC = 10  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 8  | -  |
| PY1 = 11 | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | 3* | 5* | 5* | 8  | 5  | 1  |
| CE = 12  | 3   | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  |
| LU = 13  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 2* | 4* | 1* | -  |
| G = 14   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 2  | 2  | 2  | 2  | 5  | 6  | 7  | 8  | 3  | -  | -  | -  |
| I = 15   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 5  | -  | -  | -  |
| UA3 = 16 | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -   | -  | -  | 3  | 2  | 1  | -  | -  | -  | -  | -  | 4  | 3  | 2  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -   | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -   | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2   | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 6  | 7  | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 7  | 5  | 5  |
| HZ = 21  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 7  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  |
| VU = 22  | -   | 4* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  | 6  | 6  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -   | -  | -  | 1  | 5  | 3  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 7*  | 7* | 7* | 7* | 6* | 5* | 2* | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 6  | 6  | 6  | 5  | 1  | -  | -  | 1* | 5* |
| JA1 = 25 | 3   | 3  | 5  | 5  | 5  | 6  | 4  | 1  | -  | -  | -  | 2* | 7* | 5* | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | 2  | 1  |
| HS = 26  | 4*  | 5* | 6* | 6* | 4* | 2* | 1* | -  | -  | -  | -  | 3  | 6  | 7  | 8  | 7  | 7  | 8  | 8  | 6  | 2  | -  | -  | -  | -  |
| DU = 27  | 2*  | 2* | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 7  | 6  | 6  | 6  | 3  | -  | -  | -  | -  | -  | 4* |
| YB = 28  | 3*  | 1* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 3  | 6* | 5* | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | 1* |
| VK6 = 29 | 1*  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VK3 = 30 | 1*  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 4* |
| KH6 = 31 | 8   | 8  | 8  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 2  | 7  | 8  | 8  | 7  |
| KH8 = 32 | 3*  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 3* | 1* | -  | -  | -  | -  | -  | 6  | 7  | 8  | 8  | 7  | 4* |
| CN = 33  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  |
| SU = 34  | 5   | 1  | -  | -  | -  | 2  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 7  |
| 6W = 35  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | -  | -  | -  | -  | 1* | 1* | 2* | 4  | 5  | 5  | 1  | -  | -  |
| D2 = 36  | -   | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 6  | 6  | 6  | 6  | 8  | 8  | 8  | 8  | 6  | 6  | 4  | 2  | 1  | -  |
| 5Z = 37  | -   | -  | -  | -  | 4* | 2* | 1* | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 7  | 1  | -  |
| ZS6 = 38 | -   | -  | -  | -  | -  | 3* | 1* | -  | -  | -  | -  | 1  | 3  | 4  | 6  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -   | -  | -  | 5* | 4* | 2* | -  | -  | -  | -  | -  | 4  | 7  | 6  | 5  | 3  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Oct., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | 1  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4       | 5  | 5  | 5  | 5  | 5  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 1  | 4  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 1       | 3  | 5  | 5  | 5  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 3       | 5  | 5  | 5  | 5  | 4  | 5  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 2  | 4  | 4  | 5  | 5  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | -       | 3  | 3  | 3  | 3  | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3       | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |    |
| P4 = 09  | 3       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 5       | 5  | 6  | 5  | 5  | 4  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | 5  | 6  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| I = 15   | 4       | 4  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | 2       | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 2       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| SU = 34  | 2       | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| 6W = 35  | 4       | 4  | 4  | 4  | 4  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| D2 = 36  | 5       | 6  | 6  | 5  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| 5Z = 37  | 5       | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| ZS6 = 38 | 6       | 6  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |
| FR = 39  | 5       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Oct., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | -  | 1  | 1  | 3  | 4  | 5  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 = 03  | -  | 1  | 3  | 4  | 7  | 7  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 4  | 6  | 8  | 8  | 8  | 8  | 8  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W3 = 05  | 6  | 8  | 8  | 8  | 8  | 7  | 8  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| XE1 = 06 | -  | 5  | 7  | 7  | 8  | 8  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 3  | 6  | 6  | 6  | 6  | 7  | 7  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VP2 = 08 | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| P4 = 09  | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| HC = 10  | 8  | 8  | 9  | 8  | 8  | 7  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 3  | -  | -  | -  | -  | -  | 2  | 8  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 9  | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 3  | -  | -  | -  | -  | 3  | 8  | 9  | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| I = 15   | 7  | 7  | 7  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| UA3 = 16 | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| UN = 17  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA9 = 18 | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 5  | 6  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| HZ = 21  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  |
| VU = 22  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | -  | -  | 2  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | -  | 1  | 1  | 1  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| SU = 34  | 5  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| 6W = 35  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| D2 = 36  | 8  | 9  | 9  | 8  | 8  | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  |
| 5Z = 37  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| FR = 39  | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  |
| FJL = 40 | 2  | 3  | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Oct., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone                 | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------------------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|                      | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01             | 1       | 2  | 4  | 6  | 6  | 6  | 6  | 6  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02             | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  |
| W6 = 03              | 2       | 4  | 6  | 7  | 8  | 8  | 8  | 8  | 6  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04              | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| W3 = 05              | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  |
| XE1 = 06             | 7       | 8  | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| TI = 07              | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| VP2 = 08             | 9       | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| P4 = 09              | 9       | 9  | 9  | 9  | 8  | 9  | 8  | 8  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  |
| HC = 10              | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| PY1 = 11             | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 4  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12              | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 4  | 1  | 1  | 2  | 4  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13              | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 7  | 7  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14               | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 7  | 8  |
| I = 15               | 8       | 8  | 8  | 8  | 7  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| UA3 = 16             | 7       | 7  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  |
| UN = 17              | 7       | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  |
| UA9 = 18             | 6       | 6  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  |
| UA0 = 19             | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| 4X = 20              | 8       | 8  | 8  | 7  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 7  |
| HZ = 21              | 6       | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 6  |
| VU = 22              | 6       | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  | 6  |
| JT = 23              | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 5  |
| VR2 = 24             | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 2  |
| JA1 = 25             | -       | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  |
| HS = 26              | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  |
| DU = 27              | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  |
| YB = 28              | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 4  |
| VK6 = 29             | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  |
| VK3 = 30             | -       | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31             | -       | -  | -  | 2  | 6  | 7  | 8  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32             | -       | -  | -  | 1  | 3  | 5  | 7  | 7  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33              | 8       | 9  | 8  | 8  | 8  | 7  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| SU = 34              | 8       | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  |
| 6W = 35              | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  |
| D2 = 36              | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  |
| 5Z = 37              | 8       | 8  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 8  |
| ZS6 = 38             | 9       | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 9  | 9  | 9  |
| FR = 39              | 9       | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 9  |
| FJL = 40             | 7       | 7  | 7  | 7  | 7  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| Zone                 | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> * = Longpath |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 3  | 6  | 6  | 7  | 7  | 8  | 7  | 7  | 6  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 1  |
| VO2 = 02 | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  |
| W6 = 03  | 4  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W9 = 04  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 6  |
| W3 = 05  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  |
| XE1 = 06 | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| TI = 07  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| VP2 = 08 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| P4 = 09  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 9  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  |
| I = 15   | 8  | 7  | 8  | 8  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 8  |
| UA3 = 16 | 8  | 8  | 8  | 7  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  | 8  |
| UN = 17  | 7  | 7  | 4  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 7  | 7  |
| UA9 = 18 | 5  | 5  | 5  | 4  | 1  | 1  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  |
| UA0 = 19 | 1  | -  | -  | -  | 1  | 1  | 1  | 5  | 3  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 5  | 1  | -  |
| 4X = 20  | 8  | 8  | 8  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  |
| HZ = 21  | 7  | 8  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 7  |
| VU = 22  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 7  |
| JT = 23  | 5  | 6  | 1  | 1  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  |
| VR2 = 24 | 4  | 1  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | 2* | 4* | 5* | 4* | 2* |
| HS = 26  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 7  |
| DU = 27  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 4  | 2  |
| YB = 28  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  | 6  |
| VK6 = 29 | 4  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  | 5  |
| VK3 = 30 | -  | -  | -  | -  | 1  | 1  | 4  | 5  | 5  | 6  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 1  | 1  |
| KH6 = 31 | -  | 1  | 4  | 5  | 6  | 8  | 7  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  |
| SU = 34  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 9  | 9  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 8  | 8  |
| ZS6 = 38 | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 8  | 8  |
| FR = 39  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  | 8  |
| FJL = 40 | 7  | 8  | 7  | 6  | 5  | 5  | 6  | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 7  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



20 Meters: Oct., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 8            | 8  | 8  | 9  | 8  | 5  | 2  | 2* | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  |
| VO2 =   | 02 | 9            | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 9  | 8  | 6  | 1  | 1  | -  | 1  | 1  | 2  | 5  | 8  | 9  | 9  | 9  |
| W6 =    | 03 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 5  | 2  | 1  | -  | -  | -  | -  | 1  | 1  | 5  | 7  |
| W9 =    | 04 | 9            | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 7  | 6  | 8  | 7  | 4  | 1  | 1  | -  | -  | 1  | 1  | 2  | 7  | 9  | 9  |
| W3 =    | 05 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 8  | 9  | 7  | 4  | 1  | 1  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  |
| XE1 =   | 06 | 9            | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 2  | 1* | 8  | 6  | 4  | 2  | 1  | 1  | 1  | 1  | 4  | 7  | 9  | 9  |
| TI =    | 07 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | 5  | 9  | 8  | 7  | 5  | 3  | 2  | 2  | 3  | 6  | 8  | 9  | 9  | 9+ |
| VP2 =   | 08 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 3  | 4  | 9+ | 9  | 8  | 6  | 4  | 2  | 2  | 3  | 5  | 7  | 9  | 9  | 9+ | 9+ |
| P4 =    | 09 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 4  | 9+ | 9  | 8  | 7  | 4  | 3  | 3  | 3  | 5  | 7  | 9  | 9  | 9+ | 9+ |
| HC =    | 10 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4  | 9  | 9  | 8  | 8  | 8  | 6  | 3  | 4  | 5  | 6  | 8  | 9  | 9  | 9+ |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 8            | 8  | 9  | 9  | 9  | 7  | 8  | 9  | 8  | 8  | 6  | 2  | 1  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9  | 9  |
| I =     | 15 | 9            | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 7  | 6  | 3  | 2  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 9  | 9  |
| UA3 =   | 16 | 8            | 7  | 7  | 5  | 5  | 8  | 8  | 8  | 6  | 4  | 1  | 2  | 1* | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  | 8  | 9  |
| UN =    | 17 | 8            | 8  | 8  | 7  | 8  | 6  | 4  | 1  | 1* | 4* | 2* | 3* | 2* | 1* | -  | -  | -  | 2  | 5  | 6  | 8  | 8  | 8  | 8  |
| UA9 =   | 18 | 1*           | 1* | 4  | 8  | 7  | 7  | 4  | 5  | 5  | 5* | 4* | 6  | 3* | 1* | -  | -  | -  | 1  | 4  | 6  | 6  | 6  | 4  | 1* |
| UA0 =   | 19 | 5            | 3  | 3  | 4  | 7  | 5  | 6  | 6  | 8  | 9  | 7  | 6  | 4* | 2* | -  | -  | -  | 2* | 4* | 6* | 5* | 7* | 7* | 5  |
| 4X =    | 20 | 9            | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 4  | 1  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9  | 9  |
| HZ =    | 21 | 9            | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 9  | 9  | 9  | 9  | 9  |
| VU =    | 22 | 6            | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | 1* | 2* | 4* | 2* | 1* | -  | -  | 1  | 2  | 5  | 8  | 8  | 8  | 8  | 9  |
| JT =    | 23 | 4            | 8  | 8  | 7  | 4  | 4  | 3  | 3* | 6* | 7* | 5* | 7  | 5* | 2* | 1* | -  | -  | 1  | 2  | 4  | 5  | 4  | 2  | 1  |
| VR2 =   | 24 | 8            | 7  | 5  | 4  | -  | -  | 1* | 4* | 6* | 8* | 7* | 6* | 5* | 3* | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  | 7  | 9  |
| JA1 =   | 25 | 6*           | 4* | 2  | 3  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 8  | 6  | 4  | 1  | -  | -  | 3* | 6* | 7* | 6  | 6* | 9* | 8* |
| HS =    | 26 | 9            | 9  | 8  | 5  | 1  | -  | -  | 1* | 2* | 4* | 7  | 4* | 2* | 1  | -  | -  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 8  |
| DU =    | 27 | 6            | 5  | 3  | -  | -  | -  | 1* | 2* | 6  | 7* | 5  | 4  | 3  | 2  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  | 8  | 8  |
| YB =    | 28 | 9            | 8  | 6  | 4  | 1  | -  | -  | 1  | 5* | 8  | 6  | 6  | 3  | 2  | 2  | 1  | 1  | 4  | 6  | 7  | 8  | 7  | 7  | 9  |
| VK6 =   | 29 | 8            | 8  | 7  | 7  | 4  | 4  | 6  | 7  | 7  | 7  | 7  | 6  | 6  | 4  | 2  | 1  | 1  | 2  | 4  | 5  | 6  | 7  | 8  | 8  |
| VK3 =   | 30 | 6            | 6  | 6  | 7  | 7  | 8  | 8  | 8  | 9  | 8  | 9  | 8  | 7  | 5  | 3  | 1  | 1  | 1  | -  | 3  | 5  | 7  | 7  | 7  |
| KH6 =   | 31 | 4            | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 1  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | 1  |
| KH8 =   | 32 | 2            | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 4  | 1  | 1  | -  | 1* | 1* | -  | 1  | 1  |
| CN =    | 33 | 9+           | 9+ | 9+ | 9+ | 9  | 7  | 5  | 9  | 9  | 9  | 7  | 4  | 1  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| SU =    | 34 | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | 1  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| 6W =    | 35 | 9+           | 9+ | 9+ | 9+ | 9+ | 9  | 4  | 6  | 9+ | 9  | 9  | 8  | 5  | 3  | 2  | 2  | 3  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 =    | 36 | 9+           | 9+ | 9  | 9  | 8  | 7  | 9  | 8  | 8  | 8  | 6  | 3  | 1  | 1  | 1  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |
| 5Z =    | 37 | 9            | 9  | 9  | 8  | 9  | 9  | 9  | 7  | 5  | 1  | 1  | 1  | -  | 1  | 1  | 1  | 3  | 7  | 8  | 9  | 9  | 9  | 9+ | 9  |
| ZS6 =   | 38 | 8            | 8  | 6  | 6  | 7  | 9  | 9  | 8  | 8  | 6  | 4  | 3  | 2  | 2  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| FR =    | 39 | 5            | 2  | 4  | 9  | 9  | 8  | 8  | 7  | 4  | 2  | 1  | 1  | 1  | 2  | 2  | 4  | 5  | 7  | 8  | 9  | 9  | 8  | 7  | 6  |
| FJL =   | 40 | 7            | 5  | 2  | 1* | 1* | 2* | 1  | 5  | 7  | 7  | 7  | 5  | 2* | -  | -  | -  | -  | 1  | 4  | 8  | 7  | 8  | 8  | 7  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Oct., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 9  | 9  | 8  | 2  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 6  | 5  | 6  | 8  | 8  | 9  |
| VO2 = 02 | 2       | -  | 1  | 4  | 6  | 6  | 7  | 4  | 1  | 2  | 5  | 9  | 8  | 8  | 5  | 4  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 8  | 6  | 5  | 5  | 7  | 9  | 8  | 8  | 4  | -  | 7  | 6  | 4  | 2  | 2  | 9  | 2  | 4  | 6  | 8  | 9  |
| W9 = 04  | 9       | 7  | 1* | 1  | 1  | 2  | 1  | 7  | 5  | 1  | 1  | -  | 9  | 8  | 6  | 4  | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 9  |
| W3 = 05  | 9       | 1  | 2  | 7  | 8  | 5  | 5  | 6  | 2  | -  | 5  | 9  | 9  | 8  | 6  | 4  | 4  | 5  | 9  | 8  | 9  | 9  | 9+ | 9  |
| XE1 = 06 | 9       | 9  | 9+ | 9+ | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | 9  | 8  | 8  | 7  | 6  | 5  | 6  | 6  | 8  | 9  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | 8  | 9+ | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  | -  | 1  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | -  | 3  | 9+ | 9  | 9  | 9  | 9  | 6  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 5* | 3* | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 8  | 7  | 6  | 6  | 7  | 4* | 5* | 1* | 1* | 6  | 8  | 8  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 1       | 1  | 5  | 6  | 6  | 1  | 5  | 9  | 9  | 9  | 8  | 7  | 7  | 2  | 2  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 5  | 1  |
| I = 15   | 8       | 8  | 9  | 8  | 6  | 5* | 8  | 9  | 8  | 8  | 7  | 5  | 2  | 1  | 1  | 2  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | 4       | 1  | -  | 3* | 2* | 3  | 8  | 8  | 7  | 6  | 7  | 5  | 6  | 2  | 2  | 3  | 5  | 7  | 8  | 8  | 6  | 3  | 2  | 5  |
| UN = 17  | 1       | 2* | 8  | 8  | 8  | 7  | 6  | 5  | 5  | 2  | 5* | 5* | 5  | 2  | 2* | 2  | 4  | 2  | -  | -  | -  | -  | 3  | 2  |
| UA9 = 18 | 1*      | 2* | 2* | 5  | 7  | 8  | 7  | 7  | 7  | 5  | 7  | 5  | 5* | 4* | 2  | 1  | -  | -  | 1* | 1  | 1  | -  | -  | 1* |
| UA0 = 19 | 8       | 8  | 6  | 6  | 6  | 6  | 8  | 9  | 8  | 8  | 8* | 8* | 7* | 5* | 4* | 3* | 3* | 4* | 4* | 1* | -  | 4* | 9* | 9  |
| 4X = 20  | 9       | 9  | 9  | 6  | 5  | 9  | 9  | 7  | 8  | 6  | 4  | 2  | 9  | 2  | 2  | 2  | 3  | 7  | 8  | 9  | 9  | 9  | 9+ | 9  |
| HZ = 21  | 9       | 9  | 7  | 6  | 9  | 9  | 8  | 7  | 6  | 3  | 2  | 4  | 7  | 2  | 2  | 2  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  |
| VU = 22  | -       | 2  | 8  | 9  | 8  | 7  | 6  | 5  | 3  | 1  | 5  | 5* | 5  | 1  | 2* | 3  | 5  | 8  | 8  | 8  | 8  | 9  | 9  | 6  |
| JT = 23  | 1*      | 3  | 8  | 8  | 7  | 6  | 4  | 7  | 7  | 7* | 8* | 6* | 6* | 5* | 4* | 1* | 1* | 1* | 2* | -  | -  | -  | 2* | 1* |
| VR2 = 24 | 9       | 8  | 8  | 5  | 3  | 2  | 4* | 7* | 8* | 6* | 8* | 8* | 6* | 6* | 5  | 5  | 4  | 6  | 7  | 8  | 9  | 6  | 2* | 8  |
| JA1 = 25 | 8*      | 7  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 8  | 7  | 5* | 6* | 6* | 5* | 5* | 5* | 6* | 7* | 5* | 4  | 4  | 9* | 9* |
| HS = 26  | 9       | 9  | 8  | 6  | 4  | 4  | 2  | 4* | 6  | 5  | 6* | 6* | 5  | 6  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 6  | 2  |
| DU = 27  | 8       | 7  | 6  | 4  | 2  | 2* | 3  | 6* | 6  | 6  | 8* | 7  | 6  | 6  | 5  | 5  | 6  | 6  | 8  | 8  | 8  | 5  | 9  | 9  |
| YB = 28  | 9       | 9  | 8  | 6  | 4  | 3  | 4  | 5  | 6  | 6  | 8* | 7  | 7  | 6  | 6  | 5  | 5  | 5  | 5  | 6  | 5  | 2  | 5* | 6  |
| VK6 = 29 | 8       | 9  | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 8  | 8  | 6  | 2  | 1* | -  | 1  | 1  | 2* | 3* | 2  | 4  | 6* | 8  |
| VK3 = 30 | 9       | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 9  | 9  | 6  | 3  | 1  | -  | -  | -  | 1* | 1* | 2* | 4* | 6  | 7  | 8  |
| KH6 = 31 | 7       | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  | 8  | 9  | 9  | 8  | -  | -  | -  | 4  | 2  | 8  | 7  | 3* | 2  | 2  | 5  |
| KH8 = 32 | 6       | 7  | 8  | 9  | 9  | 9  | 9+ | 9  | 9  | 8  | 8  | 9  | 9  | 7  | 3  | 4  | 6  | 5  | 4  | 6  | 6  | 2  | 4  | 5  |
| CN = 33  | 9+      | 9+ | 9+ | 9  | 8  | 1  | 4* | 8  | 8  | 9  | 9  | 8  | 6  | 5  | 4  | 4  | 5  | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9+      | 9  | 9  | 8  | 7  | 9  | 9  | 8  | 8  | 7  | 4  | 2  | 2  | 2  | 2  | 2  | 3  | 7  | 8  | 9  | 9  | 9+ | 9  | 9+ |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 5  | -  | 2* | 9  | 9+ | 9  | 9  | 9  | 7  | 7  | 7  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9       | 8  | 7  | 5  | 2  | 2  | 7  | 9  | 9  | 9  | 8  | 7  | 7  | 6  | 7  | 8  | 8  | 9  | 9+ | 9  | 9  | 9+ | 9+ | 9+ |
| 5Z = 37  | 9       | 8  | 6  | 3  | 8  | 9  | 9  | 8  | 8  | 7  | 5  | 4  | 9  | 4  | 4  | 5  | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  |
| ZS6 = 38 | 1       | 1  | -  | 1* | 1  | 7  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  |
| FR = 39  | -       | 2* | 2* | 3  | 8  | 8  | 7  | 8  | 8  | 6  | 5  | 5  | 8  | 6  | 6  | 7  | 8  | 8  | 8  | 7  | 5  | 2  | 1* | -  |
| FJL = 40 | 1*      | 2* | 3* | 1* | 2* | 2* | 4* | 4* | 5* | 5* | 7* | 7  | 5  | 3  | 1  | 2  | 4  | 5  | 6  | 7  | 4  | 4  | 2  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Oct., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 6  | 7  | 9  | 9  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | 9  | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 5  |
| W6 = 03  | 9       | 9  | 9  | 1  | -  | -  | -  | 1  | 7  | 4  | 4  | 1  | -  | -  | 8  | 7  | 7  | 6  | 5  | 5  | 8  | 8  | 8  | 9  |
| W9 = 04  | 8       | 1* | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | 4       | -  | -  | 1  | 1  | -  | -  | 2  | -  | -  | -  | 1  | 9  | 8  | 8  | 7  | 8  | 9  | 8  | 9  | 9  | 9  | 9+ | 9  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 9  | 9  | 4  | 3  | -  | -  | -  | -  | 2  | 9  | 8  | 8  | 9  | 8  | 8  | 7  | 8  | 9  | 9  | 9  |
| TI = 07  | 9+      | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | -  | 2  | 9+ | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9       | 9  | 9+ | 9+ | 9+ | 9+ | 8  | 1  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 8       | 8  | 9  | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  |
| HC = 10  | 8       | 7  | 8  | 9  | 9+ | 9  | 8  | 4  | -  | -  | -  | 7  | 9+ | 9+ | 9  | 6  | 4  | 3  | 4  | 7  | 9  | 9+ | 9+ | 8  |
| PY1 = 11 | 9+      | 9  | 9  | 8  | 8  | 9  | 6  | -  | 2* | 1* | 3  | 7  | 6  | 4  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | 2  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9       | 7  | 2* | 2* | 1* | -  | 1  | 3* | -  | -  | -  | 1* | -  | -  | -  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | -       | -  | -  | -  | 2  | -  | 1* | 7  | 7  | 9  | 9  | 8  | 6  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 3  | -  | -  |
| I = 15   | 2       | 2  | 4  | 2  | 1  | 4* | 6  | 8  | 7  | 8  | 8  | 6  | 5  | 5  | 5  | 5  | 7  | 8  | 8  | 9  | 9  | 8  | 6  | 2  |
| UA3 = 16 | -       | -  | -  | 1* | 2* | 2* | 7  | 6  | 5  | 8  | 8  | 7  | 5  | 4  | 4  | 5  | 6  | 8  | 7  | 1  | 1  | -  | -  | -  |
| UN = 17  | 1*      | 2* | 5  | 8  | 8  | 8  | 7  | 3  | 5  | 5  | 4  | 5* | 5* | 3  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 2*      | 2* | 2* | 2* | 5  | 7  | 8  | 5  | 5  | 7  | 7  | 7* | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3* |
| UA0 = 19 | 9       | 9  | 8  | 9  | 8  | 8  | 9  | 8  | 5* | 8* | 8* | 8* | 7* | 5* | 2* | 1* | 1* | 1* | 1* | -  | -  | -  | 8* | 8  |
| 4X = 20  | 9       | 9  | 7  | 5* | 3* | 8  | 9  | 4  | 6  | 7  | 6  | 5  | 4  | 5  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 8  | 5* | 3* | 9  | 8  | 6  | 4  | 6  | 6  | 4  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 1*      | 2* | 6  | 8  | 7  | 6  | 5  | 4  | 4  | 3  | 3  | 5* | 5* | 5  | 5  | 5  | 7  | 7  | 7  | 6  | 5  | 6  | 5  | -  |
| JT = 23  | 4*      | 3* | 6  | 8  | 7  | 5  | 6  | 5  | 6  | 7  | 7* | 8* | 6* | 4  | 1* | -  | -  | -  | -  | -  | -  | -  | 2* | 2* |
| VR2 = 24 | 9       | 8  | 6* | 6* | 4* | 4* | 5* | 8* | 6  | 5  | 6  | 8* | 7  | 7  | 7  | 7  | 5  | 6  | 8  | 9  | 8  | 1  | 4* | 5* |
| JA1 = 25 | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 6* | 7* | 8* | 8* | 7* | 5* | 5* | 5* | 5* | 4* | -  | 5  | 5  | 6  | 9* |
| HS = 26  | 6       | 8  | 5* | 5* | 3* | 2* | 3* | 4* | 5  | 5  | 5  | 7* | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | -  | 3* |
| DU = 27  | 8       | 6  | 5* | 4* | 2* | 2* | 5* | 6* | 6  | 7  | 8  | 8  | 8  | 7  | 6  | 6  | 7  | 7  | 8  | 8  | 5  | -  | 8* | 9  |
| YB = 28  | 9       | 7  | 6* | 5* | 2* | 2* | 4* | 5* | 6  | 6  | 8  | 8  | 8  | 7  | 5  | 4  | 3  | 2  | 4* | 4* | 1  | -  | 1* | 6* |
| VK6 = 29 | 6       | 7  | 5  | 3* | 1  | 1  | 2* | 3  | 6  | 7  | 7  | 6  | 4  | 5* | 3* | 2* | 2* | 2* | 2* | 1* | -  | -  | 5* | 5  |
| VK3 = 30 | 8       | 8  | 8  | 6  | 6  | 5  | 6  | 7  | 5  | 6  | 7  | 4  | 5* | 3* | 1* | 1* | 1* | 1* | 1* | 2* | 4* | 6  | 8  | 8  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 2  | 4  | 8  | 5  | -  | -  | -  | 5  | 6  | 4  | 5* | 5* | 5  | 6  | 7  |
| KH8 = 32 | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 3* | 3  | 9  | 8  | 4  | 2* | 1* | 4  | 6  | 6  | 6  | 5  | 5  | 5  | 6  |
| CN = 33  | 9       | 9  | 9  | 8  | 6  | -  | -  | 5  | 6  | 9  | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9       | 9  | 9  | 5  | 3  | 9  | 9  | 6  | 8  | 7  | 7  | 6  | 4  | 5  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9  | 5  | -  | -  | 2* | 5  | 9+ | 9+ | 9  | 9  | 8  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 7       | 5  | 3  | 1  | 3* | 2* | 3  | 5  | 9  | 8  | 9  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  |
| 5Z = 37  | 6       | 4  | 1  | 5* | 4  | 7  | 6  | 7  | 8  | 8  | 7  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| ZS6 = 38 | -       | -  | -  | 1* | 3* | 3* | 5  | 7  | 7  | 9  | 8  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 8  | 5  | 2  | 1  | -  |
| FR = 39  | -       | 1* | 4* | 4* | 3* | 4  | 5  | 7  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 6  | 2  | 2* | 3* | 1* | -  |
| FJL = 40 | -       | -  | 3* | 1* | 1* | 1* | 1* | 2* | 3* | 5* | 6* | 4  | 5  | 5  | 5  | 4  | 3  | 2  | 2  | 1  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Oct., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone         | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
|--------------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| KL7 = 01     | 8   | 7   | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 8  | 8  |  |
| VO2 = 02     | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 7  | -  |  |
| W6 = 03      | 9   | 9   | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 9  | 9  |  |
| W9 = 04      | 1   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  |  |
| W3 = 05      | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 6  |  |
| XE1 = 06     | 9   | 9   | 9  | 9  | 9  | 8  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 9  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 9  |  |
| TI = 07      | 7   | 6   | 7  | 9  | 9  | 9  | 5  | 1  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 5  | 5  | 5  | 9  | 9  | 9  | 9+ | 9  | 9  |  |
| VP2 = 08     | 5   | 5   | 7  | 8  | 9  | 7  | 4  | -  | -  | -  | -  | -  | -  | 9+ | 9+ | 9  | 5  | 4  | 4  | 5  | 9  | 9  | 9+ | 9+ | 8  | 7  |  |
| P4 = 09      | 4   | 4   | 5  | 7  | 8  | 7  | 6  | -  | -  | -  | -  | -  | -  | 6  | 9+ | 9  | 4  | 1  | 1  | 5  | 8  | 9  | 8  | 8  | 6  | 6  |  |
| HC = 10      | 3   | 2   | 3  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 8  | 7  | 1  | -  | 8  | 8  | 8  | 1  | 2  | 3* | 4* | 5  |  |
| PY1 = 11     | 9   | 5   | 2  | 1  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | -  | -  | 3  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| CE = 12      | 9+  | 9+  | 9  | 8  | 8  | 7  | 7  | 2  | -  | -  | -  | -  | -  | 6  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| LU = 13      | 5   | 3*  | 1* | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | 4  | 7  | 8  | 8  | 8  | 9+ | 8  |  |
| G = 14       | -   | -   | -  | -  | -  | -  | -  | -  | 3  | 2  | 7  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 4  | -  | -  | -  |  |
| I = 15       | -   | -   | -  | -  | -  | -  | 2  | 4  | 4  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 7  | 7  | 7  | 8  | 9  | 9  | 8  | 1  | -  | -  |  |
| UA3 = 16     | -   | -   | -  | -  | -  | -  | 2  | 2  | 2  | 2  | 7  | 8  | 8  | 8  | 7  | 6  | 6  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  |  |
| UN = 17      | 2*  | 3*  | 2* | 7  | 8  | 8  | 6  | 1  | 2  | 6  | 6  | 6  | 6  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| UA9 = 18     | 4*  | 2*  | 1* | -  | 1  | 6  | 7  | 1  | 1  | 6  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |  |
| UA0 = 19     | 8   | 8   | 8  | 8  | 8  | 8  | 8  | 5  | -  | 5* | 8* | 7* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 6  |  |
| 4X = 20      | 9   | 8   | 1  | 2* | 2* | 6  | 7  | -  | 1  | 6  | 7  | 6  | 6  | 7  | 6  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |  |
| HZ = 21      | 8   | 2   | 3* | 4* | 7  | 6  | 2  | 1* | 3  | 6  | 6  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |  |
| VU = 22      | 1*  | 5*  | 5* | 5  | 3* | 4* | 2* | 1  | 2  | 5  | 5  | 5  | 6* | 6  | 5  | 6  | 7  | 4  | 1  | -  | -  | -  | 1  | -  | -  | -  |  |
| JT = 23      | 4*  | 2*  | 1* | 7  | 9  | 8  | 6  | 2  | 2  | 7  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* |  |
| VR2 = 24     | 8   | 8*  | 7* | 7* | 6* | 6* | 7* | 6* | 4  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 5  | -  | 4* | 7* |    |  |
| JA1 = 25     | 8   | 8   | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 7* | 8* | 8* | 8* | 6* | 5* | 3* | 2* | 1* | -  | -  | -  | -  | 7  | 8  | 8  |    |  |
| HS = 26      | 6*  | 7*  | 6* | 5* | 4* | 4* | 5* | 3* | 2  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 2  | -  | 1* |    |  |
| DU = 27      | 6*  | 5*  | 5* | 5* | 4* | 5* | 5* | 3* | 1  | 6  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 7  | 5  | 1  | -  | 5* | 8  |  |
| YB = 28      | 7*  | 6*  | 6* | 5* | 5* | 4* | 4* | 3* | 2  | 5  | 8  | 8  | 8* | 7* | 6* | 5* | 5* | 4* | 4* | 1* | -  | -  | -  | -  | 6* |    |  |
| VK6 = 29     | 5*  | 5*  | 4* | 4* | 1* | 2* | 2* | 1* | -  | 2  | 2  | 7* | 6* | 5* | 4* | 3* | 2* | 1* | 1* | 1* | -  | -  | -  | 3* | 5* |    |  |
| VK3 = 30     | 6   | 5   | 7  | 1  | 1* | 1* | 2* | 1  | -  | 2* | 5* | 5* | 4* | 3* | 1* | 1* | 1* | 1* | -  | -  | -  | -  | 4* | 5* | 6  |    |  |
| KH6 = 31     | 8   | 8   | 9  | 9  | 9  | 9  | 9  | 8  | 1  | -  | -  | 5  | 2  | -  | -  | -  | -  | -  | 4  | 6  | 6* | 6* | 6  | 5  | 8  |    |  |
| KH8 = 32     | 8   | 8   | 8  | 8  | 8  | 7  | 7  | 6  | 2  | 5* | 5* | 5* | 5* | 3* | 2* | -  | -  | -  | 6  | 7  | 6  | 6  | 7  | 6  | 7  |    |  |
| CN = 33      | 9   | 8   | 7  | 4  | 1  | -  | -  | 1  | 1  | 6  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |  |
| SU = 34      | 9   | 9   | 5  | 1  | 2* | 7  | 7  | 1  | 5  | 7  | 7  | 6  | 6  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |  |
| 6W = 35      | 7   | 7   | 5  | 2  | -  | -  | -  | -  | -  | 6  | 9+ | 9  | 9  | 3  | 3  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 7  | 6  |  |
| D2 = 36      | 2   | -   | -  | -  | -  | 5* | 4* | 2* | 5  | 7  | 9  | 7  | 7  | 7  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  |  |
| 5Z = 37      | 1   | -   | -  | 4* | 6* | 5* | 4* | 2  | 7  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 4  |  |
| ZS6 = 38     | -   | -   | -  | -  | 5* | 5* | 5* | 2  | 2  | 6  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 9  | 8  | 5  | 1* | -  | -  | -  | -  | -  |  |
| FR = 39      | -   | -   | 5* | 5* | 5* | 3* | 2* | 1  | 6  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 6  | 4* | 3* | 1* | -  | -  | -  | -  | -  |  |
| FJL = 40     | -   | -   | -  | -  | -  | -  | -  | -  | -  | 1* | 4* | 1* | 1  | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| Zone         | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
| * = Longpath |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Oct., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 5   | 3   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 3  | 2  |    |
| VO2 = 02 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 7  | 1  | -  |    |
| W6 = 03  | 9   | 5   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| W9 = 04  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 4  |
| W3 = 05  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 7  | -  |
| XE1 = 06 | 8   | 8   | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| TI = 07  | 3   | 2   | 2  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 1  | 1* | 1* | 1* | 1  | 4  | 6  | 6  | 7  | 5  |
| VP2 = 08 | 1   | 1   | 2  | 4  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | 1  | 6  | 2  | 3* | 2* | 1* | 2* | 4* | 5  | 6  | 4  | 5  | 2  |
| P4 = 09  | -   | -   | 1  | 2  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | 4  | 3* | 4* | 1* | 1* | 2* | 2* | 3* | 4* | 2* | 4  | 2  |
| HC = 10  | -   | -   | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2* | 8  | 9+ | 9  | 8  | 9  | 9  | 8  | 9+ | 9+ | 9  |
| PY1 = 11 | 6   | 1*  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | 1  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9  |
| CE = 12  | 9   | 8   | 4  | 2  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 2*  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | 1* | 2* | 3* | 4* | 8  | 4  |
| G = 14   | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 8  | 6  | -  | -  | -  | -  |
| I = 15   | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 8  | 1  | -  | -  | -  |
| UA3 = 16 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 7  | 6  | 5  | 5  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -   | 2*  | 1* | 5  | 7  | 7  | 4  | -  | 1  | 4  | 7  | 7  | 7  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 2*  | 1*  | -  | -  | -  | 2  | 4  | -  | -  | -  | 1  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 5   | 6   | 7  | 8  | 7  | 6  | 5  | 1  | -  | 1* | 4* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* |
| 4X = 20  | 7   | 3   | -  | -  | -  | 2  | 2  | -  | -  | -  | 5  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| HZ = 21  | 5   | -   | -  | 2* | 4  | 1  | 1* | -  | -  | -  | 5  | 7  | 6  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  |
| VU = 22  | -   | 6*  | 5* | 4* | 2* | 1* | 1* | -  | -  | -  | 4  | 5  | 6  | 6  | 6  | 6  | 6  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 3*  | 1*  | -  | 4  | 8  | 8  | 5  | -  | -  | -  | 2  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* |
| VR2 = 24 | 8*  | 8*  | 7* | 7* | 7* | 6* | 6* | 3* | 1  | 5  | 8  | 8  | 9  | 7  | 7  | 7  | 7  | 7  | 8  | 7  | 5  | -  | -  | -  | -  | 7* |
| JA1 = 25 | 8   | 9   | 9  | 9  | 9  | 8  | 6  | 2  | -  | 4* | 8* | 8* | 8* | 8* | 5* | 2* | 1* | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  |
| HS = 26  | 6*  | 8*  | 6* | 6* | 5* | 4* | 4* | 1* | 1  | 4  | 7  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  |
| DU = 27  | 5*  | 4*  | 4* | 5* | 5* | 5* | 4* | 1* | -  | 1  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 5  | 2  | -  | -  | 1* | 7* |    |
| YB = 28  | 5*  | 5*  | 5* | 5* | 4* | 2* | 3* | 1* | -  | 1  | 5  | 7  | 7* | 6* | 6* | 5* | 5* | 4* | 4* | 2* | -  | -  | -  | -  | -  | 4* |
| VK6 = 29 | 4*  | 3*  | 3* | 4* | 3* | 1* | 1* | -  | -  | -  | -  | 6* | 6* | 5* | 4* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 1* | 5* |
| VK3 = 30 | 3*  | 3*  | 5  | 3* | 3* | 2* | 1* | -  | -  | -  | 2* | 3* | 2* | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | 2* | 5* | 5* | 5* |
| KH6 = 31 | 8   | 8   | 9  | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | 7  | 4  | 5  | 5  | 7  | 6  | 8  |    |
| KH8 = 32 | 7   | 7   | 5  | 4  | 2  | 2  | 3  | 1  | -  | 4* | 6* | 6* | 4* | 2* | -  | -  | -  | -  | 5  | 7  | 7  | 8  | 8  | 7  | 8  |    |
| CN = 33  | 6   | 5   | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 7  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  |
| SU = 34  | 9   | 7   | -  | -  | 1* | 4  | 2  | -  | 1  | 5  | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | -   | 1   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 5  | 1* | -  | -  | 2  | 6  | 9  | 8  | 6  | 1  | -  | -  | -  |
| D2 = 36  | -   | -   | -  | -  | -  | 4* | 2* | -  | 1  | 6  | 6  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 6  | 5  | 2  |
| 5Z = 37  | -   | -   | -  | 1* | 5* | 5* | 3* | -  | 2  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | -  |
| ZS6 = 38 | -   | -   | -  | -  | 1* | 5* | 5* | 1* | -  | 1  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  |
| FR = 39  | -   | -   | 3* | 6* | 6* | 4* | 2* | -  | 1  | 5  | 8  | 7  | 8  | 8  | 7  | 7  | 5  | 4* | 3* | 1* | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Nov., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 1  | 2  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4       | 5  | 5  | 5  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | 1  | 2  | 4  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 5  | 5  | 5  | 5  | 3  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 2       | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 4  | 4  | 5  | 4  | 4  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 3       | 3  | 3  | 3  | 4  | 4  | 3  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 2       | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| P4 = 09  | 2       | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 5       | 5  | 6  | 5  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 5  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| I = 15   | 3       | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA3 = 16 | 2       | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | 2       | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 5  | 5  | 5  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| SU = 34  | 3       | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 6W = 35  | 5       | 4  | 4  | 4  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | -  |
| D2 = 36  | 4       | 5  | 5  | 3  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | -  |
| 5Z = 37  | 5       | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | -  |
| ZS6 = 38 | 5       | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | -  |
| FR = 39  | 4       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  |
| FJL = 40 | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Nov., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | 1  | 2  | 4  | 5  | 6  | 6  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| W6 = 03  | -  | 1  | 4  | 5  | 7  | 8  | 7  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 3  | 8  | 8  | 8  | 8  | 6  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W3 = 05  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | 1  | 3  | 7  | 7  | 8  | 7  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 6  | 6  | 6  | 6  | 7  | 7  | 6  | 6  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VP2 = 08 | 5  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| P4 = 09  | 5  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| HC = 10  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 2  | -  | -  | -  | -  | -  | 1  | 7  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 2  | -  | -  | -  | -  | 2  | 7  | 9  | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| I = 15   | 6  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| UA3 = 16 | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| UN = 17  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA9 = 18 | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | -  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| HZ = 21  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| VU = 22  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | -  | 1  | 2  | -  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 8  | 8  | 8  | 8  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| SU = 34  | 6  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| 6W = 35  | 8  | 7  | 7  | 7  | 7  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  |
| D2 = 36  | 7  | 8  | 8  | 6  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  |
| 5Z = 37  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  |
| ZS6 = 38 | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| FR = 39  | 7  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | -  |
| FJL = 40 | 3  | 4  | 3  | 3  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 40 Meters: Nov., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2       | 4  | 5  | 6  | 6  | 6  | 6  | 6  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| W6 = 03  | 3       | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 7       | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| W3 = 05  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| XE1 = 06 | 6       | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| TI = 07  | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| VP2 = 08 | 8       | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  |
| P4 = 09  | 8       | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 4  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 4  | 1  | 1  | 1  | 4  | 7  | 9  | 9  | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 7  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 9  | 8  | 8  | 8  | 8  | 7  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 8  | 8  |
| I = 15   | 8       | 7  | 8  | 8  | 8  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| UA3 = 16 | 8       | 8  | 8  | 8  | 7  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 7  |
| UN = 17  | 5       | 3  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  | 5  |
| UA9 = 18 | 6       | 6  | 5  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 6  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| 4X = 20  | 7       | 7  | 6  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| HZ = 21  | 7       | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 6  |
| VU = 22  | 6       | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  |
| JT = 23  | 5       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 5  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  |
| HS = 26  | 4       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 3  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | 4  | 7  | 7  | 7  | 6  | 6  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | 3  | 6  | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 9  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  | 8  |
| SU = 34  | 7       | 7  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 9  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 9  |
| FR = 39  | 8       | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| FJL = 40 | 7       | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Nov., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 5            | 6  | 6  | 6  | 8  | 8  | 6  | 6  | 7  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| VO2 =   | 02 | 8            | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 6  | 8  |
| W6 =    | 03 | 5            | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W9 =    | 04 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 6  |
| W3 =    | 05 | 8            | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  |
| XE1 =   | 06 | 8            | 8  | 8  | 9  | 9  | 8  | 9  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| TI =    | 07 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| VP2 =   | 08 | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  |
| P4 =    | 09 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  |
| HC =    | 10 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 8            | 8  | 8  | 9  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| I =     | 15 | 8            | 8  | 8  | 8  | 7  | 8  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 7  |
| UA3 =   | 16 | 8            | 8  | 8  | 7  | 6  | 6  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 7  |
| UN =    | 17 | 8            | 7  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 7  |
| UA9 =   | 18 | 5            | 4  | 6  | 5  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 6  |
| UA0 =   | 19 | 1            | -  | -  | -  | 1  | 1  | 2  | 3  | 3  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | 4  |
| 4X =    | 20 | 8            | 8  | 8  | 6  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| HZ =    | 21 | 8            | 8  | 7  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 8  |
| VU =    | 22 | 7            | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 6  | 6  |
| JT =    | 23 | 5            | 5  | 5  | 1  | 1  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 6  | 5  |
| VR2 =   | 24 | 5            | 1  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 6  | 5  |
| JA1 =   | 25 | -            | -  | -  | -  | -  | 2  | 4  | 6  | 6  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 3* | 4* | 5* | 3* |
| HS =    | 26 | 6            | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  |
| DU =    | 27 | 1            | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  | 2  |
| YB =    | 28 | 4            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 6  |
| VK6 =   | 29 | 1            | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 5  | 4  |
| VK3 =   | 30 | -            | -  | -  | -  | -  | 1  | 1  | 2  | 5  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  |
| KH6 =   | 31 | -            | 1  | 4  | 5  | 7  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | -  | 1  | 3  | 5  | 7  | 7  | 8  | 8  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| SU =    | 34 | 8            | 8  | 8  | 6  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| 6W =    | 35 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  |
| D2 =    | 36 | 9            | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  |
| 5Z =    | 37 | 8            | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 4  | 8  | 8  | 8  |
| ZS6 =   | 38 | 9            | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 8  | 9  |
| FR =    | 39 | 8            | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| FJL =   | 40 | 7            | 8  | 7  | 7  | 6  | 4  | 2  | 4  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 6  | 7  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



20 Meters: Nov., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 8            | 8  | 9  | 8  | 4  | 1  | 1* | -  | 2  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 2* | 8  | 4  | 6  | 8  |
| VO2 =   | 02 | 9            | 5  | 6  | 7  | 8  | 9  | 9  | 8  | 7  | 8  | 9  | 8  | 6  | 2  | 1  | -  | 1  | 1  | 3  | 6  | 8  | 9  | 9  | 9  |
| W6 =    | 03 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | 6  | 2  | 1  | -  | -  | -  | -  | 3  | 2  | 5  | 8  |
| W9 =    | 04 | 9            | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 8  | 7  | 4  | 2  | 1  | -  | 1  | 1  | 1  | 5  | 7  | 9  | 9  |
| W3 =    | 05 | 9            | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 8  | 6  | 7  | 9  | 7  | 4  | 2  | 1  | 1  | 1  | 2  | 5  | 8  | 8  | 9  | 9  |
| XE1 =   | 06 | 9            | 9  | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 6  | 1  | -  | 8  | 6  | 3  | 2  | 1  | 1  | 1  | 1  | 5  | 7  | 9  | 9  |
| TI =    | 07 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 3  | 6  | 9  | 7  | 7  | 5  | 3  | 2  | 2  | 2  | 4  | 7  | 9  | 9  | 9+ |
| VP2 =   | 08 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 1  | 3  | 9+ | 9  | 8  | 6  | 3  | 2  | 2  | 3  | 5  | 7  | 9  | 9  | 9+ | 9+ |
| P4 =    | 09 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 5  | 9  | 9  | 8  | 6  | 4  | 2  | 2  | 3  | 4  | 7  | 8  | 9  | 9+ | 9+ |
| HC =    | 10 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 9  | 9  | 9  | 8  | 8  | 6  | 6  | 6  | 4  | 6  | 7  | 9  | 9  | 9+ |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 8            | 7  | 8  | 9  | 9  | 7  | 7  | 9  | 9  | 8  | 6  | 5  | 1  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  | 9  | 9  | 8  |
| I =     | 15 | 9            | 9  | 9  | 9  | 9  | 7  | 9  | 8  | 8  | 6  | 3  | 2  | -  | -  | -  | -  | 1  | 3  | 5  | 8  | 8  | 9  | 9  | 9  |
| UA3 =   | 16 | 6            | 6  | 6  | 4  | 2  | 4  | 8  | 8  | 6  | 4  | 2  | 2  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 5  | 4  | 5  | 6  |
| UN =    | 17 | 8            | 7  | 8  | 8  | 8  | 7  | 5  | 2  | 2* | 8  | 3* | 1* | -  | -  | -  | -  | -  | 1  | -  | 1  | 2  | 6  | 8  | 8  |
| UA9 =   | 18 | 1*           | 1* | 2* | 6  | 8  | 8  | 7  | 6  | 4* | 5* | 4  | 2  | 4* | 1* | -  | -  | -  | -  | -  | 2  | 4  | 5  | 3  | 1* |
| UA0 =   | 19 | 8            | 7  | 5  | 5  | 5  | 6  | 6  | 6  | 9  | 6  | 5* | 5* | 3* | 1* | -  | -  | -  | 1* | 2* | 3* | -  | 6  | 7  | 7  |
| 4X =    | 20 | 9            | 9  | 9  | 8  | 6  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| HZ =    | 21 | 9            | 9  | 8  | 7  | 8  | 9  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| VU =    | 22 | 2            | 2  | 8  | 8  | 6  | 5  | 2  | 1  | 1* | 1* | 2* | 2* | 1* | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  | 9  | 9  |
| JT =    | 23 | 1            | 6  | 7  | 7  | 7  | 5  | 4  | 5  | 6* | 5* | 4* | 3* | 2* | 1* | -  | -  | -  | -  | -  | 3  | 5  | 4  | 3* | 1* |
| VR2 =   | 24 | 8            | 7  | 6  | 4  | 1* | 1* | 2* | 4* | 6* | 7* | 6  | 6* | 4* | 2* | -  | -  | 1  | 1  | 4  | 8  | 7  | 8  | 5  | 8  |
| JA1 =   | 25 | 7*           | 5  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | 2* | 5* | 6* | 1  | 5  | 8* | 8* |
| HS =    | 26 | 9            | 9  | 8  | 6  | 1  | -  | -  | 1* | 3* | 4* | 8  | 4* | 1* | 1* | 1  | 1  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| DU =    | 27 | 6            | 5  | 1  | -  | -  | -  | 1* | 5* | 7  | 7* | 5  | 4* | 2  | 1  | -  | -  | 1  | 2  | 4  | 6  | 8  | 8  | 8  | 7  |
| YB =    | 28 | 9            | 8  | 5  | 2  | -  | -  | -  | -  | 4* | 7  | 7  | 2  | 1  | 1  | 1  | 1  | -  | 4  | 6  | 8  | 8  | 8  | 8  | 9  |
| VK6 =   | 29 | 8            | 7  | 7  | 5  | 4  | 3  | 3  | 6  | 5  | 6  | 6  | 7  | 4  | 5  | 2  | 2  | 2  | 2  | 4  | 4  | 6  | 7  | 8  | 8  |
| VK3 =   | 30 | 5            | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 2  | 1  | 1  | 3  | 4  | 5  | 5  | 6  | 5  |
| KH6 =   | 31 | 4            | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 1  |
| KH8 =   | 32 | 1            | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 5  | 2  | 2  | 1  | -  | 1* | 1* | -  | -  | 1  |
| CN =    | 33 | 9+           | 9+ | 9+ | 9  | 9  | 7  | 5  | 8  | 9  | 9  | 7  | 5  | 1  | 1  | -  | 1  | 1  | 3  | 6  | 9  | 9  | 9  | 9+ | 9+ |
| SU =    | 34 | 9            | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 9  | 9  | 9  | 9  | 9  |
| 6W =    | 35 | 9+           | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 5  | 9  | 9  | 9  | 8  | 5  | 2  | 1  | 2  | 3  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 =    | 36 | 9+           | 9+ | 9+ | 9  | 8  | 8  | 8  | 9  | 8  | 7  | 5  | 4  | 3  | 1  | 1  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |
| 5Z =    | 37 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 2  | 1  | 1  | -  | 1  | 1  | 1  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| ZS6 =   | 38 | 9            | 9  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 6  | 4  | 4  | 2  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| FR =    | 39 | 8            | 7  | 7  | 9  | 9  | 8  | 8  | 6  | 4  | 2  | 1  | 1  | 1  | 1  | 2  | 3  | 5  | 6  | 8  | 9  | 9  | 9  | 8  | 8  |
| FJL =   | 40 | 6            | 6  | 5  | 3  | 1* | 2* | 2* | 2* | 3  | 7  | 7  | 4  | 2  | -  | -  | -  | -  | 1  | 4  | 5  | 3  | 5  | 5  | 5  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Nov., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9            | 9  | 8  | 4  | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 7  | 6  | 5  | 7  | 8  | 9  |
| VO2 = 02 | -            | -  | -  | -  | 1  | 3  | 7  | 4  | 1  | 2  | 1  | 9  | 8  | 7  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 8  |
| W6 = 03  | 9            | 9+ | 9  | 8  | 7  | 5  | 4  | 5  | 8  | 8  | 7  | 2  | -  | 4  | 6  | 4  | 2  | 2  | 2  | 9  | 4  | 6  | 8  | 9  |
| W9 = 04  | 9            | 5  | -  | 1  | 1  | 1  | 1  | 7  | 6  | 3  | 2  | -  | 9  | 8  | 5  | 4  | 4  | 2  | 9  | 7  | 8  | 9  | 9  | 9  |
| W3 = 05  | 5            | -  | -  | -  | 1  | 1  | 2  | 6  | 3  | 1  | 2  | 8  | 9  | 8  | 6  | 4  | 2  | 5  | 8  | 8  | 9  | 9  | 9+ | 9  |
| XE1 = 06 | 9            | 9+ | 9+ | 9  | 9  | 9  | 7  | 6  | 2  | 1  | -  | -  | 8  | 9  | 8  | 6  | 6  | 5  | 6  | 6  | 8  | 8  | 9  | 9  |
| TI = 07  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | 6  | 9+ | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+           | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 1  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+           | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 1  | -  | 4  | 9+ | 9+ | 9  | 9  | 9  | 8  | 8  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+           | 9+ | 9+ | 9+ | 9  | 9  | 8  | 5  | 6* | 3* | 8  | 9  | 8  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+           | 9  | 8  | 7  | 6  | 4  | 5  | 5* | 6* | 4* | 2* | 2  | 2  | 4  | 5  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | -            | -  | 1  | 5  | 8  | 2  | 2  | 8  | 9  | 9  | 8  | 7  | 8  | 3  | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 6  | 1  | -  |
| I = 15   | 9            | 9  | 9  | 8  | 6  | 2* | 7  | 9  | 8  | 8  | 7  | 7  | 9  | 2  | 2  | 2  | 3  | 6  | 9  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | -            | -  | -  | 1* | 4* | 4* | 7  | 8  | 8  | 8  | 6  | 4  | 8  | 3  | 1  | 1  | 5  | 6  | 1  | -  | -  | -  | -  | -  |
| UN = 17  | 1            | 1* | 6  | 9  | 7  | 8  | 7  | 5  | 5  | 5  | 5* | 5* | 7  | 4* | 2  | 1  | -  | -  | -  | -  | -  | -  | 2  | 2  |
| UA9 = 18 | 2*           | 2* | 2* | 2* | 6  | 8  | 8  | 8  | 7  | 8  | 8  | 6* | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| UA0 = 19 | 8            | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 7* | 8* | 7* | 6* | 5* | 2* | -  | -  | 1* | 2* | -  | -  | -  | 8* | 9  |
| 4X = 20  | 9            | 9  | 9  | 3  | 3* | 8  | 9  | 8  | 6  | 6  | 4  | 2  | 9  | 2  | 2  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9            | 9  | 4  | 2  | 8  | 9  | 8  | 7  | 6  | 4  | 4  | 8  | 8  | 2  | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 1*           | 2* | 6  | 9  | 8  | 7  | 6  | 5  | 4  | 7  | 5* | 5* | 7  | 5* | 2  | 2  | 5  | 6  | 8  | 8  | 6  | 8  | 8  | 5  |
| JT = 23  | 1*           | 3* | 6  | 8  | 8  | 5  | 7  | 7* | 8* | 8* | 8* | 8* | 5  | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 1* | 1* |
| VR2 = 24 | 9            | 9  | 8  | 8  | 6* | 5* | 7* | 8* | 8* | 8* | 8* | 8* | 7* | 5  | 5  | 4  | 5  | 5  | 7  | 8  | 8  | 4  | 3* | 6  |
| JA1 = 25 | 8            | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 5* | 4* | 5* | 7* | 6* | 5* | 4* | 3* | 5* | 5* | 1* | 5  | 4  | 6* | 9* |
| HS = 26  | 9            | 9  | 9  | 8  | 6  | 5  | 4* | 4  | 7  | 6  | 7* | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 7  |
| DU = 27  | 8            | 8  | 7  | 5  | 4  | 5* | 5* | 6* | 6  | 6  | 8* | 7  | 8  | 7  | 6  | 5  | 6  | 6  | 7  | 8  | 8  | 6  | 8  | 9  |
| YB = 28  | 9            | 9  | 8  | 7  | 5  | 4  | 4  | 5  | 6  | 7  | 8* | 6  | 7  | 7  | 6  | 6  | 6  | 7  | 7  | 7  | 7  | 6  | 7  | 8  |
| VK6 = 29 | 9            | 8  | 9  | 9  | 8  | 7  | 7  | 8  | 7  | 8  | 8  | 8  | 7  | 5  | 4  | 2  | 3  | 2  | 2* | 4* | 4* | 5  | 7  | 8  |
| VK3 = 30 | 9            | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 3  | 1  | -  | 1* | 2* | 3* | 4  | 7  | 8  | 8  |
| KH6 = 31 | 7            | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | -  | -  | -  | 5  | 2  | 1  | 8  | 8  | 3  | 3  | 5  |
| KH8 = 32 | 5            | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 4  | 3  | 7  | 7  | 2  | 3  | 4  |
| CN = 33  | 9+           | 9+ | 9+ | 9  | 9  | 2  | -  | 6  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 4  | 5  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| SU = 34  | 9            | 9  | 9  | 7  | 2  | 9  | 9  | 8  | 7  | 7  | 5  | 5  | 2  | 2  | 2  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+           | 9+ | 9+ | 9+ | 9+ | 7  | -  | 5* | 8  | 9+ | 9+ | 9  | 9  | 7  | 6  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+           | 9+ | 8  | 7  | 4  | 5  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 6  | 8  | 8  | 9  | 9+ | 9  | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9+           | 9  | 9  | 5  | 8  | 9  | 9  | 8  | 7  | 6  | 4  | 4  | 6  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| ZS6 = 38 | 6            | 1  | -  | 3* | 4  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| FR = 39  | 2*           | 4* | 4* | 7  | 9  | 9  | 9  | 8  | 7  | 6  | 5  | 5  | 9  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 8  | 5  | 2* | 1  |
| FJL = 40 | -            | -  | 2* | 3* | 1* | 1* | 2* | 4* | 5* | 6* | 4  | 7  | 7  | 5  | 2  | 3  | 4  | 3  | 1  | -  | -  | -  | -  | -  |
| Zone     | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Nov., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC -->              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00                   | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9                    | 9  | 6  | 3* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 6  | 7  | 9  | 9  |
| VO2 = 02 | -                    | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | 8  | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | -  |
| W6 = 03  | 9                    | 9  | 6  | 1* | -  | -  | -  | -  | 6  | 6  | 3  | -  | -  | -  | 8  | 8  | 7  | 6  | 5  | 5  | 6  | 8  | 8  | 9  |
| W9 = 04  | 4*                   | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | 8  | 9  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | -                    | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | 9  | 9  | 8  | 7  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 7  |
| XE1 = 06 | 9                    | 9  | 9  | 9  | 9  | 7  | 1  | 1  | -  | -  | -  | -  | 1  | 9  | 9  | 8  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  |
| TI = 07  | 9                    | 8  | 8  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | 2  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9                    | 8  | 8  | 8  | 7  | 6  | 5  | -  | -  | -  | -  | 9+ | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 8                    | 8  | 7  | 7  | 7  | 5  | 5  | 2  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 8                    | 6  | 6  | 5  | 5  | 4  | 2  | 1  | -  | -  | -  | 7  | 9+ | 9  | 7  | 6  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  |
| PY1 = 11 | 9+                   | 8  | 8  | 6  | 5  | 5  | 2  | -  | 5* | 3* | 3* | 2* | 1  | -  | 4  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+                   | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 6  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 8                    | 6  | 4* | 3* | 3* | 4* | 4* | 6* | 5  | 2* | 3* | 2* | 1* | -  | -  | 2  | 6  | 8  | 9  | 9+ | 9+ | 9  | 9+ | 9  |
| G = 14   | -                    | -  | -  | -  | 3  | -  | -  | 5  | 8  | 9  | 9  | 8  | 8  | 6  | 6  | 7  | 8  | 8  | 9  | 8  | 4  | -  | -  | -  |
| I = 15   | 4                    | 4  | 5  | 2  | 1  | -  | 6* | 8  | 8  | 9  | 7  | 8  | 6  | 6  | 5  | 7  | 5  | 8  | 8  | 9  | 9  | 8  | 6  | 3  |
| UA3 = 16 | -                    | -  | -  | -  | 5* | 4* | 5* | 7  | 7  | 8  | 7  | 7  | 6  | 5  | 5  | 5  | 6  | 2  | -  | -  | -  | -  | -  | -  |
| UN = 17  | 2*                   | 2* | 3* | 7  | 8  | 8  | 7  | 4  | 5  | 5  | 5  | 7* | 5  | 2  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 4*                   | 2* | 3* | 3* | 4* | 8  | 8  | 5  | 6  | 7  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 9                    | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6* | 8* | 8* | 7* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 8  |
| 4X = 20  | 9                    | 9  | 4  | 1* | 6* | 7  | 9  | 5  | 6  | 7  | 6  | 5  | 6  | 5  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9                    | 5  | 2* | 1* | 7  | 8  | 6  | 5  | 6  | 5  | 5  | 4  | 5  | 5  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 2*                   | 3* | 5* | 8  | 8  | 6  | 5  | 4  | 5  | 3  | 3  | 5* | 5  | 5  | 5  | 6  | 6  | 8  | 7  | 2  | -  | 2  | 3  | -  |
| JT = 23  | 3*                   | 3* | 3* | 8  | 9  | 7  | 7  | 6  | 7  | 7  | 8* | 7  | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* |
| VR2 = 24 | 9                    | 9  | 8  | 6  | 6* | 6* | 7* | 7* | 6  | 6  | 8* | 8* | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 6  | -  | 4* | 7* |
| JA1 = 25 | 8                    | 8  | 8  | 8  | 9  | 9  | 9  | 7  | 4* | 5* | 7* | 7* | 7* | 6* | 4* | 2* | 1* | 1* | -  | -  | 1  | 6  | 8  | 9* |
| HS = 26  | 8                    | 9  | 8  | 7  | 5  | 3  | 4* | 4* | 5  | 5  | 6  | 7* | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 8  | 3  | 5* |
| DU = 27  | 8                    | 8  | 6  | 5  | 4* | 5* | 5* | 5  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 5  | -  | 5  | 9  |
| YB = 28  | 8                    | 8  | 8  | 6  | 4  | 2  | 3* | 5  | 6  | 7  | 8  | 8  | 8  | 7  | 6  | 6  | 6  | 6  | 5  | 5  | 4  | 2  | 2  | 7* |
| VK6 = 29 | 7                    | 7  | 8  | 8  | 6  | 5  | 5  | 7  | 6  | 7  | 6  | 6  | 5  | 5* | 3* | 2* | 2* | 2* | 3* | 3* | 1* | 1  | 5  | 7  |
| VK3 = 30 | 8                    | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 5  | 4* | 2* | 1* | 1* | 2* | 2* | 2* | 2* | 5* | 7  | 8  |
| KH6 = 31 | 8                    | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 6  | 3  | -  | -  | -  | 2  | 6  | 5  | 4* | 5* | 4  | 5  | 7  |
| KH8 = 32 | 8                    | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 8  | 9  | 8  | 6  | 7  | 7  | 7  | 5  | 5  | 5  | 6  | 6  | 7  |
| CN = 33  | 9                    | 9  | 9  | 8  | 6  | -  | -  | 6* | 7  | 9  | 9  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  |
| SU = 34  | 9                    | 9  | 9  | 3  | 6* | 8  | 9  | 7  | 8  | 7  | 6  | 5  | 6  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9                    | 9  | 9  | 8  | 6  | 2  | -  | 5* | 3  | 9+ | 9+ | 9  | 9  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9  | 9  |
| D2 = 36  | 9                    | 8  | 5  | 2  | 2* | 5* | 5  | 6  | 8  | 8  | 8  | 7  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  |
| 5Z = 37  | 9                    | 8  | 5  | 5* | 4  | 7  | 6  | 8  | 8  | 7  | 7  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  |
| ZS6 = 38 | -                    | -  | -  | 1* | 5* | 5* | 6  | 8  | 8  | 8  | 9  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 6  | 3  |
| FR = 39  | -                    | 4* | 6* | 5* | 8  | 6  | 7  | 8  | 8  | 8  | 7  | 8  | 7  | 8  | 7  | 8  | 8  | 8  | 8  | 7  | 3  | 3* | 4* | 1* |
| FJL = 40 | -                    | -  | -  | 3* | 3* | 2* | 3* | 5* | 7* | 5* | 1* | 2  | 5  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00                   | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          | UTC --> * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Nov., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9            | 6  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 8  | 9  | 9  | 9  |
| VO2 = 02 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 8  | 9  | 8  | 9  | 8  | 2  | -  | -  |
| W6 = 03  | 9            | 7  | 1* | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 7  | 8  | 7  | 9  | 9  | 9  |
| W9 = 04  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 5  |
| W3 = 05  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 9  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 8  | -  |
| XE1 = 06 | 9            | 9  | 9  | 9  | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 7            | 5  | 3  | 4  | 3  | 2  | 1  | 1  | -  | -  | -  | -  | 9  | 9  | 6  | 5  | 8  | 8  | 9  | 9  | 9  | 9+ | 9  | 8  |
| VP2 = 08 | 5            | 4  | 3  | 2  | 1  | 1  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 6  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  | 7  |
| P4 = 09  | 4            | 2  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | 3  | 9  | 7  | 4  | 4  | 4  | 5  | 9  | 9  | 9+ | 9+ | 8  | 7  |
| HC = 10  | 5*           | 9+ | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 2  | -  | -  | -  | -  | -  | 5  | 7  | 6  | 5  | 5  |
| PY1 = 11 | 8            | 4* | 2* | 2* | 3* | -  | -  | -  | 1* | 1* | 1* | 2* | 1* | 1* | -  | 1  | 4  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  |
| CE = 12  | 9+           | 9  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | 2  | 3  | 4  | 5  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 6*           | 5* | 3* | 2* | 2* | 3* | 2* | 1* | 3* | -  | 1* | 1* | 1* | 1* | -  | -  | 1  | 4  | 5  | 4  | 3* | 8  | 6  |    |
| G = 14   | -            | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 7  | 4  | -  | -  | -  | -  |
| I = 15   | -            | -  | -  | -  | -  | -  | 2* | 4  | 6  | 8  | 8  | 7  | 6  | 6  | 7  | 7  | 8  | 8  | 9  | 8  | 5  | 1  | -  | -  |
| UA3 = 16 | -            | -  | -  | -  | 1* | 2* | 1* | 2  | 4  | 7  | 8  | 8  | 7  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -            | 6* | 3* | 3  | 7  | 8  | 5  | 2* | 2  | 6  | 6  | 5  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 4*           | 3* | 2* | 2* | 2* | 3  | 5  | 1  | 2  | 6  | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 8            | 9  | 6  | 7  | 6  | 6  | 6  | 3  | 4* | 7* | 6* | 5* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8* |
| 4X = 20  | 9            | 5  | -  | -  | 5* | 4* | 6  | 1* | 2  | 8  | 7  | 6  | 7  | 8  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 7            | -  | -  | 6* | 4* | 5  | 3* | 1  | 3  | 6  | 6  | 6  | 8  | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| VU = 22  | -            | 6* | 5* | 7  | 5* | 3* | 4* | 1  | 4  | 6  | 5  | 5  | 6  | 6  | 6  | 6  | 7  | 5  | 1  | -  | -  | -  | -  | -  |
| JT = 23  | 4*           | 4* | 2* | 4  | 8  | 7  | 5  | 2  | 4  | 7  | 8  | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VR2 = 24 | 8            | 8* | 7* | 7* | 6* | 6* | 6* | 5* | 5  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 7  | 6  | 6  | 4  | 1  | -  | -  | 8* |
| JA1 = 25 | 9            | 9  | 8  | 8  | 9  | 9  | 6  | 1  | 4* | 7* | 7* | 8* | 7* | 4* | 1* | -  | -  | -  | -  | -  | -  | 6  | 8  | 9  |
| HS = 26  | 7*           | 8  | 6* | 5* | 4* | 5* | 4* | 3* | 4  | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 3  | -  | -  |
| DU = 27  | 7            | 6  | 4  | 4* | 3* | 3* | 3* | 2* | 5  | 7  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 6  | 5  | 4  | 1  | -  | -  | 8  |
| YB = 28  | 7*           | 7  | 6  | 4* | 2* | 1* | 1* | 1  | 5  | 7  | 8  | 8  | 8  | 6  | 4  | 5  | 4  | 3  | 2  | 1  | -  | -  | -  | 5* |
| VK6 = 29 | 6*           | 4* | 6  | 5  | 1  | 1* | -  | 4  | 1  | 2  | 3* | 7* | 7* | 6* | 4* | 3* | 3* | 2* | 2* | 1* | -  | -  | 2* | 6* |
| VK3 = 30 | 6            | 7  | 8  | 7  | 7  | 4  | 3  | 4  | 5  | 8  | 6  | 6* | 5* | 5* | 3* | 2* | 2* | 2* | 1* | 1* | 1* | 4* | 5* | 7  |
| KH6 = 31 | 8            | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | 1  | 5  | 3  | -  | -  | -  | -  | -  | 3  | 6  | 5  | 6* | 4  | 6  | 7  |
| KH8 = 32 | 8            | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 5  | 5* | 6* | 6* | 6  | 3* | 1  | 3  | 5  | 7  | 7  | 7  | 6  | 6  | 6  | 7  |
| CN = 33  | 9            | 8  | 7  | 4  | 2  | -  | -  | 1* | 3  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9            | 9  | 5  | -  | 4* | 4* | 5  | 4  | 5  | 8  | 7  | 7  | 7  | 8  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 1            | 4  | 2  | 1  | -  | -  | -  | 1* | -  | 5  | 9  | 9  | 5  | 2  | 2  | 4  | 9  | 9  | 9  | 9+ | 9  | 5  | 1  | -  |
| D2 = 36  | 6            | 3  | 1  | -  | -  | 5* | 5* | 2* | 5  | 9  | 9  | 9  | 8  | 9  | 7  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 8  |
| 5Z = 37  | 7            | 4  | 1  | 2* | 6* | 5* | 4* | 3  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| ZS6 = 38 | -            | -  | -  | -  | 4* | 5* | 4* | 4  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 7  | 3  | 1  | -  | -  |
| FR = 39  | -            | -  | 5* | 6* | 5* | 4* | 2* | 3  | 6  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 6  | 4* | 3* | 2* | 1* | -  |
| FJL = 40 | -            | -  | -  | -  | 1* | 1* | -  | 1* | 4* | 2* | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Nov., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 6       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 6  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | -  | -  |
| W6 = 03  | 8       | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 7  | -  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 3  | -  |
| XE1 = 06 | 8       | 7  | 7  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| TI = 07  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 2  | 2* | 1* | -  | -  | 2  | 6  | 9  | 8  | 7  | 5  |
| VP2 = 08 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 2* | 2* | 1* | 1* | 2* | 5* | 9  | 9  | 7  | 6  | 3  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3* | 1* | 2* | 1* | 2* | 5  | 7  | 5  | 5  | 2  |    |
| HC = 10  | 9       | 9  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 9+ | 9+ | 9+ | 8  | 8  | 8  | 1  | 2* | 2* | 9+ |
| PY1 = 11 | 5*      | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 1* | 1  | 3  | 5  | 6* | 9  | 8  | 6  |
| CE = 12  | 9       | 6  | 2* | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 2  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 4*      | 2* | -  | -  | -  | 2* | -  | -  | 1* | -  | -  | -  | 1* | 1* | -  | -  | -  | 1* | 1* | 2* | 3* | 5* | 5* | 5* |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 6  | 3  | 3  | 6  | 8  | 9  | 9  | 8  | 4  | -  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 8  | 7  | 7  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 5* | 1* | 1* | 4  | 5  | 2  | -  | 1  | 5  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | 2* | 1* | -  | -  | -  | 1  | -  | -  | 1  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 4       | 7  | 4  | 4  | 3  | 2  | 2  | -  | 1* | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| 4X = 20  | 6       | 1  | -  | -  | 1* | 1* | 1  | -  | -  | 6  | 7  | 6  | 5  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| HZ = 21  | 1       | -  | -  | 5* | 2* | 1* | 1* | -  | -  | 2  | 5  | 6  | 6  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  |
| VU = 22  | -       | 5* | 4* | 4  | 4* | 2* | 1* | -  | 1  | 5  | 5  | 5  | 5  | 6  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 4*      | 1* | 1* | -  | 6  | 5  | 1  | -  | 1  | 2  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 8*      | 7* | 6* | 6* | 5* | 4* | 3* | 1* | 2  | 5  | 7  | 8  | 8  | 8  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | 7* |
| JA1 = 25 | 9       | 8  | 7  | 7  | 8  | 7  | 1  | -  | 1* | 4* | 7* | 7* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 9  |
| HS = 26  | 7*      | 6* | 5* | 5* | 5* | 3* | 2* | 1* | 1  | 4  | 6  | 6  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 7  | 3  | -  | -  | -  |
| DU = 27  | 5*      | 2  | 1  | 1* | 1* | 1* | 1* | -  | 1  | 4  | 6  | 7  | 6  | 6  | 7  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | 5* |
| YB = 28  | 6*      | 4* | 3* | 2* | 1* | -  | -  | -  | 1  | 5  | 7  | 7  | 7  | 4  | 2* | 3  | 2  | 1  | -  | -  | -  | -  | -  | 1* |
| VK6 = 29 | 4*      | 2* | 2  | 2  | -  | -  | -  | 1  | -  | -  | -  | 6* | 6* | 5* | 5* | 4* | 2* | 1* | -  | -  | -  | -  | -  | 4* |
| VK3 = 30 | 4       | 4  | 6  | 6  | 6  | -  | -  | -  | -  | 6  | 2  | 5* | 5* | 4* | 3* | 2* | 1* | 1* | -  | -  | -  | 2* | 3* | 3  |
| KH6 = 31 | 8       | 8  | 9  | 9  | 8  | 7  | 5  | 2  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | 7  | 8  | 4  | 5* | 5  | 7  | 8  |
| KH8 = 32 | 8       | 7  | 6  | 6  | 6  | 5  | 5  | 2  | -  | 3* | 5* | 5* | 5* | 1* | -  | -  | 1  | 6  | 7  | 8  | 8  | 8  | 7  | 8  |
| CN = 33  | 7       | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 7  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  |
| SU = 34  | 8       | 7  | -  | -  | -  | 2* | 1  | -  | 2  | 6  | 7  | 6  | 5  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | 1  | 5  | 6  | 5  | 2  | -  | -  | -  |
| D2 = 36  | 2       | -  | -  | -  | -  | 1* | 2* | -  | 1  | 4  | 8  | 7  | 6  | 8  | 9  | 9  | 8  | 9  | 9  | 9  | 8  | 7  | 7  | 5  |
| 5Z = 37  | 2       | -  | -  | -  | 5* | 5* | 2* | -  | 2  | 5  | 7  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  |
| ZS6 = 38 | -       | -  | -  | -  | 1* | 2* | 2* | -  | 4  | 6  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  |
| FR = 39  | -       | -  | 2* | 5* | 4* | 3* | 1* | -  | 3  | 5  | 7  | 6  | 6  | 7  | 7  | 7  | 6  | 4* | 4* | 2* | 1* | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Dec., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 3  | 3  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2       | 5  | 5  | 5  | 5  | 5  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W6 = 03  | -       | -  | -  | 3  | 4  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 5  | 3  | 5  | 5  | 3  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 3       | 5  | 4  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 3  | 4  | 4  | 5  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 3       | 3  | 4  | 4  | 4  | 4  | 4  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 4       | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| P4 = 09  | 4       | 4  | 4  | 4  | 4  | 4  | 4  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 4       | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| I = 15   | 3       | 4  | 4  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA3 = 16 | 2       | 2  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2       | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | 2       | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 4       | 5  | 5  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| SU = 34  | 3       | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 5       | 4  | 4  | 4  | 4  | 4  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| D2 = 36  | 4       | 4  | 4  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| 5Z = 37  | 5       | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| ZS6 = 38 | 5       | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| FR = 39  | 4       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | 1  | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Dec., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | 1  | 3  | 6  | 6  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| W6 = 03  | -       | 2  | 1  | 6  | 7  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 2       | 8  | 6  | 8  | 8  | 6  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W3 = 05  | 6       | 8  | 7  | 8  | 8  | 8  | 8  | 7  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| XE1 = 06 | 3       | 6  | 7  | 7  | 8  | 7  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 6       | 6  | 7  | 7  | 7  | 7  | 7  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VP2 = 08 | 7       | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| P4 = 09  | 7       | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| HC = 10  | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1  | -  | -  | -  | -  | -  | 1  | 5  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 2  | -  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| I = 15   | 6       | 7  | 7  | 7  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| UA3 = 16 | 5       | 5  | 6  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| UN = 17  | 2       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA9 = 18 | 3       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 5       | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 5       | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VU = 22  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JAl = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | 1  | 3  | 1  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 7       | 8  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| SU = 34  | 6       | 6  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 6W = 35  | 8       | 7  | 7  | 7  | 7  | 7  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| D2 = 36  | 7       | 7  | 7  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| 5Z = 37  | 8       | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| ZS6 = 38 | 8       | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| FR = 39  | 7       | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| FJL = 40 | 3       | 4  | 4  | 4  | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 40 Meters: Dec., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2       | 5  | 6  | 7  | 6  | 8  | 8  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VO2 = 02 | 8       | 9  | 9  | 8  | 8  | 9  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| W6 = 03  | 1       | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W9 = 04  | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  |
| W3 = 05  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| XE1 = 06 | 6       | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| TI = 07  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  |
| VP2 = 08 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  |
| P4 = 09  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| HC = 10  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 4  | 5  | 6  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 3  | 1  | 1  | 1  | 4  | 6  | 8  | 9  | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| I = 15   | 5       | 5  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 5  |
| UA3 = 16 | 8       | 8  | 8  | 8  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  |
| UN = 17  | 2       | 6  | 5  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 2  |
| UA9 = 18 | 7       | 7  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 6  |
| UA0 = 19 | 1       | -  | -  | -  | -  | 1  | 1  | 5  | 2  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 8       | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| HZ = 21  | 7       | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  |
| VU = 22  | 6       | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  |
| JT = 23  | 6       | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 4  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | 2  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  |
| HS = 26  | 4       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 5  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | 1  | 4  | 6  | 7  | 8  | 7  | 7  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | 2  | 4  | 7  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 7  | 9  | 7  | 7  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| SU = 34  | 8       | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 7  |
| ZS6 = 38 | 9       | 9  | 9  | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| FR = 39  | 8       | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  |
| FJL = 40 | 7       | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 30 Meters: Dec., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 5       | 6  | 6  | 7  | 8  | 6  | 6  | 7  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| VO2 = 02 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 7  | 8  |
| W6 = 03  | 5       | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  |
| W9 = 04  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  |
| W3 = 05  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| XE1 = 06 | 7       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| I = 15   | 8       | 8  | 6  | 6  | 8  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 8  | 7  | 7  |
| UA3 = 16 | 7       | 8  | 8  | 8  | 7  | 6  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| UN = 17  | 7       | 6  | 6  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  |
| UA9 = 18 | 6       | 4  | 4  | 6  | 5  | 5  | 3  | 2  | 1  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 5  | 6  |
| UA0 = 19 | 4       | 1  | 1  | 1  | 1  | 2  | 3  | 3  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  |
| 4X = 20  | 8       | 8  | 8  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 8  |
| HZ = 21  | 8       | 8  | 7  | 6  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 7  |
| VU = 22  | 6       | 5  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 6  |
| JT = 23  | 5       | 5  | 5  | 4  | 1  | 1  | 1  | -  | -  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 5  | 6  |
| VR2 = 24 | 5       | 1  | -  | -  | -  | -  | -  | -  | 1* | 2* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 5  | 5  |
| JA1 = 25 | 1*      | -  | -  | -  | -  | 3  | 5  | 6  | 6  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | 5* | 4* |
| HS = 26  | 6       | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  | 7  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 1  |
| YB = 28  | 3       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  | 5  |
| VK6 = 29 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 3  | 2  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | 1  | 4  | 6  | 7  | 8  | 8  | 7  | 7  | 6  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 3  | 5  | 7  | 7  | 7  | 7  | 6  | 7  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 7  | 6  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 8  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  |
| FR = 39  | 8       | 8  | 8  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  |
| FJL = 40 | 7       | 8  | 7  | 6  | 6  | 4  | 1  | -  | 2  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 6 dBi isotropic antennas.



20 Meters: Dec., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|--|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 |  | 8            | 8  | 9  | 7  | 3  | 1* | -  | 1  | 3  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 7  | 8  |
| VO2 = 02 |  | 9            | 6  | 5  | 5  | 6  | 8  | 9  | 8  | 7  | 7  | 7  | 8  | 5  | 3  | 1  | -  | 1  | -  | 3  | 6  | 8  | 9  | 9  | 9  |
| W6 = 03  |  | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 8  | 5  | -  | 4  | 2  | 1  | -  | -  | -  | 1  | 2  | 3  | 6  | 8  |
| W9 = 04  |  | 9            | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 8  | 7  | 6  | 7  | 3  | 2  | 1  | -  | -  | -  | 1  | 9  | 8  | 9  | 9  |
| W3 = 05  |  | 9            | 8  | 5  | 6  | 6  | 6  | 8  | 8  | 8  | 6  | 7  | 8  | 7  | 4  | 2  | 1  | 1  | 1  | 1  | 3  | 8  | 8  | 9  | 9  |
| XE1 = 06 |  | 9+           | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 1  | -  | 8  | 5  | 2  | 4  | 2  | 2  | 1  | 2  | 4  | 7  | 8  | 9  |
| TI = 07  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 6  | -  | 1  | 9  | 7  | 7  | 5  | 3  | 2  | 2  | 3  | 4  | 7  | 9  | 9  | 9+ |
| VP2 = 08 |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 1  | 1  | 9  | 9  | 8  | 5  | 3  | 2  | 2  | 3  | 5  | 6  | 9  | 9  | 9+ | 9+ |
| P4 = 09  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 4  | 1  | 9  | 9  | 8  | 6  | 4  | 3  | 3  | 3  | 5  | 7  | 8  | 9  | 9+ | 9+ |
| HC = 10  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 7  | 8  | 8  | 5  | 2  | 7  | 9  | 9  | 9  | 8  | 7  | 6  | 6  | 7  | 6  | 8  | 9  | 9  | 9+ |
| PY1 = 11 |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |  | 7            | 6  | 7  | 9  | 8  | 6  | 4  | 8  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  | 8  | 8  | 8  |
| I = 15   |  | 9            | 9  | 9  | 9  | 8  | 2  | 7  | 9  | 8  | 6  | 4  | 2  | 1  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 8  | 9  | 9  |
| UA3 = 16 |  | 6            | 6  | 6  | 5  | 3  | 2  | 7  | 8  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | 1  | 2  | 4  | 3  | 4  | 2  | 2  | 4  |
| UN = 17  |  | 7            | 4  | 6  | 8  | 7  | 7  | 6  | 5  | 3* | 4* | 7  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  |
| UA9 = 18 |  | 1*           | 1* | 2* | 3* | 7  | 7  | 7  | 6  | 6  | 6  | 2  | 5* | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 2  |
| UA0 = 19 |  | 6            | 7  | 6  | 5  | 5  | 7  | 9  | 9  | 6  | 5* | 4* | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 6  | 7  |    |
| 4X = 20  |  | 9            | 9  | 9  | 5  | 2  | 8  | 8  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  |  | 9            | 9  | 7  | 3  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  |  | 1*           | -  | 7  | 8  | 8  | 6  | 3  | 1  | 2* | 2* | 3* | 2* | 1* | -  | -  | -  | 1  | 1  | 4  | 7  | 8  | 8  | 8  | 8  |
| JT = 23  |  | 1*           | 2* | 6  | 7  | 6  | 5  | 6  | 6  | 6* | 7* | 4* | 6* | 2* | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 2  | 2* |
| VR2 = 24 |  | 8            | 7  | 5  | 3  | 1* | 1* | 4* | 7* | 8* | 8* | 8  | 5* | 5* | 1* | -  | -  | 1  | 1  | 3  | 5  | 8  | 8  | 4* | 8  |
| JA1 = 25 |  | 7*           | 5  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 8  | 7* | 4  | 1  | -  | -  | -  | -  | 1* | 3* | 2* | 2  | 5  | 6* | 8* |
| HS = 26  |  | 9            | 9  | 8  | 6  | 1  | -  | -  | 1* | 4* | 5* | 8  | 4* | 2* | 1* | -  | 1  | 1  | 3  | 5  | 8  | 8  | 9  | 9  | 9  |
| DU = 27  |  | 5            | 5  | 1  | -  | 1* | 1* | 2* | 5* | 8  | 7* | 7  | 3* | 4* | 1  | -  | -  | -  | 2  | 4  | 5  | 6  | 7  | 8  | 7  |
| YB = 28  |  | 8            | 5  | 4  | 1  | -  | -  | -  | -  | 3* | 5* | 8  | 2* | 1  | 1  | 1  | 1  | 1  | 2  | 5  | 7  | 8  | 8  | 8  | 9  |
| VK6 = 29 |  | 7            | 6  | 6  | 3  | 2  | 2  | 2  | 5  | 4  | 5  | 8  | 5  | 3  | 3  | 2  | 2  | 2  | 2  | 3  | 4  | 5  | 6  | 7  | 7  |
| VK3 = 30 |  | 4            | 4  | 4  | 4  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 8  | 6  | 6  | 3  | 2  | 2  | 1  | 3  | 3  | 4  | 4  | 3  | 4  |
| KH6 = 31 |  | 4            | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | 1  |
| KH8 = 32 |  | 1            | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 2  | 1  | 1  | -  | -  | 1* | -  | -  | 1  |
| CN = 33  |  | 9+           | 9+ | 9  | 9  | 9  | 4  | -  | 6  | 9  | 8  | 7  | 5  | 2  | 1  | -  | 1  | 1  | 4  | 5  | 8  | 9  | 9  | 9+ | 9+ |
| SU = 34  |  | 9            | 9  | 9  | 8  | 4  | 9  | 8  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 5  | 9  | 9  | 9  | 8  | 5  | 2  | 1  | 2  | 4  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| D2 = 36  |  | 9+           | 9+ | 9+ | 9  | 8  | 8  | 9  | 8  | 8  | 7  | 5  | 4  | 3  | 1  | 1  | 3  | 6  | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| 5Z = 37  |  | 9+           | 9  | 9  | 8  | 9  | 9  | 9  | 7  | 4  | 1  | 2  | -  | -  | -  | 2  | 1  | 3  | 5  | 8  | 8  | 9  | 9  | 9  | 9  |
| ZS6 = 38 |  | 9            | 9  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 6  | 6  | 4  | 3  | 3  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| FR = 39  |  | 9            | 8  | 8  | 9  | 9  | 8  | 7  | 5  | 3  | 1  | 2  | 1  | 1  | 1  | 2  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| FJL = 40 |  | 3            | 5  | 3  | 2* | 1* | 1* | 2* | 2* | 2* | 2* | 5  | 7  | 2  | -  | -  | -  | -  | 1  | 1  | -  | -  | 1  | 1  | 1  |
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |  |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |  | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Dec., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 7  | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  | 5  | 7  | 8  | 8  |
| VO2 = 02 | 1       | -  | -  | -  | -  | 2  | 6  | 4  | 1  | 1  | -  | 8  | 9  | 8  | 5  | 4  | 4  | 6  | 7  | 9  | 9  | 9  | 9  | 8  |
| W6 = 03  | 9       | 9+ | 9  | 6  | 6  | 4  | 2  | 1  | 6  | 8  | 6  | 1  | -  | -  | 7  | 6  | 5  | 5  | 1  | 9  | 5  | 7  | 8  | 9  |
| W9 = 04  | 8       | 4  | -  | -  | -  | -  | 1  | 5  | 5  | 4  | 2  | -  | 8  | 8  | 6  | 4  | 4  | 2  | 6  | 8  | 8  | 9  | 9  | 9  |
| W3 = 05  | 4       | -  | -  | -  | -  | 1  | 3  | 5  | 2  | 1  | 2  | 6  | 9  | 8  | 6  | 5  | 4  | 5  | 8  | 8  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9+      | 9+ | 9+ | 9+ | 9  | 8  | 8  | 6  | 3  | 1  | -  | -  | 5  | 8  | 8  | 6  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 8  | 5  | 1  | 3  | 4  | 1  | -  | -  | 7  | 9  | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9  | 6  | 1  | 4  | 1  | -  | -  | -  | 9+ | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9  | 7  | 3  | -  | 2  | 2  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 8  | 3  | 1* | -  | 1  | 1  | -  | -  | 1  | 9  | 9+ | 9  | 9  | 9  | 8  | 9  | 9  | 8  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+      | 9  | 9  | 8  | 7  | 8  | 5  | 1  | 5* | 3* | 2  | 6  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 7  | 3  | 4  | 3* | 5* | 3* | 1* | 4  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | -       | -  | -  | 3  | 5  | -  | -  | 3  | 9  | 9  | 9  | 7  | 7  | 6  | 5  | 4  | 5  | 7  | 9  | 8  | 6  | 2  | -  | -  |
| I = 15   | 9       | 8  | 8  | 6  | 2  | -  | 5* | 8  | 8  | 8  | 6  | 6  | 8  | 4  | 2  | 3  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  |
| UA3 = 16 | -       | -  | -  | -  | 2* | 5* | 5* | 6  | 7  | 8  | 7  | 5  | 8  | 4  | 3  | 2  | 5  | 3  | -  | -  | -  | -  | -  | -  |
| UN = 17  | 1       | 2* | 2* | 6  | 8  | 8  | 7  | 5  | 5  | 5  | 7* | 6  | 8  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  |
| UA9 = 18 | 3*      | 2* | 3* | 2* | 3* | 6  | 7  | 6* | 7  | 8* | 8  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 9       | 9  | 8  | 8  | 8  | 7  | 8  | 5* | 6* | 7* | 7* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 7  |
| 4X = 20  | 9       | 9  | 8  | -  | 5* | 7  | 9  | 7  | 7  | 7  | 4  | 6  | 9  | 2  | 2  | 3  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 8  | 1  | 3* | 6  | 9  | 8  | 6  | 6  | 6  | 5  | 8  | 8  | 2  | 2  | 3  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -       | 2* | 4* | 9  | 9  | 8  | 6  | 5  | 4  | 5  | 5  | 7  | 8  | 4* | 2  | 3  | 4  | 5  | 7  | 8  | 8  | 8  | 7  | 2  |
| JT = 23  | 3*      | 3* | 3* | 7  | 9  | 8  | 7  | 7* | 8  | 8* | 7* | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VR2 = 24 | 9       | 9  | 8  | 8  | 6  | 6* | 6* | 6  | 6  | 7* | 8* | 8* | 5  | 5  | 5  | 4  | 5  | 6  | 8  | 8  | 7  | -  | 1* | 4* |
| JA1 = 25 | 9*      | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 5  | 5* | 5* | 6* | 6* | 5* | 3* | -  | -  | -  | -  | -  | 1  | 5  | 6  | 9* |
| HS = 26  | 8       | 9  | 9  | 8  | 7  | 5  | 5  | 4  | 7  | 6  | 6  | 7  | 6  | 6  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 8  | 5  | 4* |
| DU = 27  | 8       | 7  | 7  | 5  | 4  | 4  | 5  | 5  | 6  | 6  | 8* | 7  | 7  | 7  | 6  | 5  | 5  | 6  | 5  | 4  | 2  | -  | 4  | 8  |
| YB = 28  | 9       | 9  | 8  | 7  | 5  | 4  | 4  | 5  | 6  | 6  | 6* | 6  | 7  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 7  | 6  | 8  |
| VK6 = 29 | 8       | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 2  | 1  | 1  | 1* | 2* | 4* | 5* | 5* | 4* | 7  |
| VK3 = 30 | 9       | 8  | 8  | 8  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | 1* | 1* | 2* | 3* | 5  | 6  | 8  | 8  |
| KH6 = 31 | 7       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 8  | 6  | -  | -  | -  | 3  | 2  | 1  | 7  | 8  | 3  | 4  | 5  |
| KH8 = 32 | 5       | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 4  | 3  | 8  | 8  | 2  | 2  | 3  |
| CN = 33  | 9+      | 9  | 9  | 9  | 7  | -  | -  | 4* | 8  | 9  | 9  | 7  | 6  | 7  | 6  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9       | 9  | 9  | 4  | 4* | 7  | 9  | 8  | 8  | 8  | 6  | 6  | 6  | 2  | 2  | 3  | 5  | 7  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9  | 8  | 7  | 5  | -  | 1* | 5  | 9+ | 9  | 9  | 8  | 6  | 5  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9+ | 9  | 7  | 5  | 5* | 6  | 7  | 8  | 7  | 7  | 8  | 8  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 9       | 8  | 8  | 4  | 7  | 9  | 9  | 8  | 8  | 5  | 4  | 6  | 4  | 7  | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| ZS6 = 38 | 8       | 1  | 1* | 4  | 5  | 8  | 9  | 9  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| FR = 39  | 2*      | 5* | 6* | 6  | 9  | 9  | 8  | 8  | 8  | 5  | 5  | 7  | 9  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 8  | 5  | 3* | 2* |
| FJL = 40 | -       | -  | -  | 2* | 3* | 4* | 5* | 6* | 6* | 2* | -  | 1  | 5  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Dec., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 8  | 6* | 5* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 6  | 7  | 8  | 9  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 2  | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 1  |
| W6 = 03  | 9       | 9  | 4* | -  | -  | -  | -  | -  | 2  | 3  | 1  | -  | -  | -  | 6  | 8  | 7  | 6  | 6  | 7  | 6  | 8  | 9  | 9  |
| W9 = 04  | 3       | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | 5  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 8  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 5  |
| XE1 = 06 | 9       | 9  | 9  | 8  | 7  | 3  | 5  | 1  | -  | -  | -  | -  | -  | 8  | 8  | 9  | 9  | 8  | 9  | 9  | 8  | 9  | 9  | 9  |
| TI = 07  | 9+      | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+      | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9       | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 9  | 6  | 6  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 8       | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 7  | 5  | 3  | 9  | 3  | 5  | 7  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 | 7       | 6  | 5  | 3* | 3* | 3  | -  | -  | 1* | 4* | 3* | 2* | 1* | 2  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  |
| CE = 12  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 9  | 6  | 4  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 7*      | 6  | 5  | 4* | 4* | 4* | 2* | 1* | 4* | 5* | 4* | 2* | 1* | -  | 1  | 4  | 7  | 8  | 9  | 9  | 8  | 6  | 6  | 6* |
| G = 14   | -       | -  | -  | -  | 1  | -  | -  | -  | 6  | 9  | 9  | 8  | 8  | 7  | 6  | 7  | 8  | 8  | 8  | 2  | -  | -  | -  | -  |
| I = 15   | 6       | 4  | 2  | -  | -  | -  | 2* | 6* | 7  | 8  | 8  | 7  | 7  | 7  | 6  | 6  | 5  | 7  | 8  | 9  | 8  | 7  | 5  | 5  |
| UA3 = 16 | -       | -  | -  | -  | -  | 5* | 7* | 5* | 5  | 7  | 7  | 8  | 7  | 5  | 5  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 3* | 4* | 4* | 6  | 8  | 5  | 5* | 4  | 6  | 7* | 4  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 1*      | 4* | 4* | 3* | 4* | 4* | 5* | 6* | 8* | 7  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 7       | 9  | 9  | 7  | 5  | 4* | 5  | 5* | 6* | 7* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7* |
| 4X = 20  | 9       | 9  | 2  | -  | 4* | 5* | 8  | 4  | 5  | 7  | 6  | 5  | 7  | 5  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 1  | -  | 5* | 5* | 8  | 5  | 2  | 3  | 5  | 5  | 5  | 5  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  | -       | 5* | 5* | 8  | 8  | 6  | 5  | 3  | 4  | 4  | 4  | 6* | 5* | 5  | 4  | 6  | 5  | 7  | 7  | 6  | 3  | 3  | 1  | -  |
| JT = 23  | 4*      | 4* | 4* | 4* | 8  | 7  | 6* | 6* | 7* | 8  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| VR2 = 24 | 8       | 9  | 9  | 8  | 6  | 4  | 4  | 5  | 5  | 6  | 6  | 7  | 7  | 7  | 6  | 6  | 6  | 6  | 5  | 4  | 1  | -  | -  | 8* |
| JA1 = 25 | 9       | 8  | 8  | 8  | 7  | 6  | 7  | 4* | 6* | 5* | 6* | 6* | 6* | 4* | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  |
| HS = 26  | 6*      | 8  | 9  | 8  | 6  | 5  | 4  | 3  | 5  | 5  | 6  | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 5  | 2  | -  | -  |
| DU = 27  | 8       | 8  | 7  | 5  | 4  | 4  | 5  | 5  | 7  | 7  | 8  | 8  | 8  | 7  | 7  | 6  | 6  | 3  | -  | -  | -  | -  | -  | 8* |
| YB = 28  | 8*      | 9  | 8  | 7  | 5  | 4  | 4  | 5  | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 3  | 1  | -  | 5* |
| VK6 = 29 | 6*      | 5* | 6  | 7  | 6  | 6  | 5  | 5  | -  | 4  | 5* | 4* | 3* | 2* | 1* | 1* | 2* | 3* | 4* | 4* | 2* | 3* | 5* | 5* |
| VK3 = 30 | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 4* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 5* | 5  | 8  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 2  | 1  | 6  | 3  | -  | -  | -  | -  | 5  | 4  | 5* | 5* | 5* | 5  | 7  |
| KH8 = 32 | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 8  | 6  | 6  | 6  | 7  | 5  | 5  | 5  | 4  | 5  | 6  |
| CN = 33  | 9       | 9  | 8  | 6  | 2  | -  | -  | 1* | 6* | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9+      | 9  | 7  | -  | 1* | 6* | 8  | 4  | 5  | 7  | 6  | 6  | 7  | 7  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |
| 6W = 35  | 7       | 5  | 2  | 1  | -  | -  | -  | -  | 3* | 7  | 9  | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9+ | 9  | 8  | 8  |
| D2 = 36  | 9       | 7  | 3  | 3  | 1  | 5* | 5* | 5  | 6  | 8  | 9  | 9  | 8  | 9  | 9  | 9  | 8  | 9  | 9  | 9+ | 9  | 9  | 9+ | 9+ |
| 5Z = 37  | 6       | 3  | 2  | 2* | 6* | 8  | 7  | 7  | 8  | 8  | 8  | 7  | 5  | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| ZS6 = 38 | -       | -  | -  | -  | 5* | 4  | 7  | 8  | 8  | 8  | 9  | 9  | 8  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 6  | 4  |
| FR = 39  | -       | 1* | 7* | 5* | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 5* | 4* | 2* | -  |
| FJL = 40 | -       | -  | -  | 1* | 3* | 4* | 5* | 6* | 3* | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Dec., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 8   | 6*  | 6* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 9  | 9  | 9  |
| VO2 = 02 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 5  | 1  | -  |
| W6 = 03  | 8   | 6*  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| W9 = 04  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 4  |
| W3 = 05  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | -  |
| XE1 = 06 | 9   | 7   | 5  | 2  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| TI = 07  | 6   | 1   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 5  | 4  | 2  | 2  | 2  | 3  | 7  | 9  | 9  | 9  | 9  |
| VP2 = 08 | 6   | 2   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 5  | 4  | 3  | 2  | 3  | 6  | 9  | 9+ | 9+ | 9  | 8  |
| P4 = 09  | 5   | 1   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 2  | 2  | 1  | 1  | 1  | 4  | 7  | 9  | 9  | 9  | 8  |
| HC = 10  | 4*  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9  | 1  | 4  | 6  | 6  | 7* |
| PY1 = 11 | 6*  | 5*  | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | 1* | 1* | -  | 1  | 4  | 5  | 7  | 8  | 7  | 6  | 7* | 6* |
| CE = 12  | 9   | 9   | 9  | 8  | 8  | 5  | 3  | -  | -  | 1* | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| LU = 13  | 7*  | 6*  | 6* | 4* | 2* | 2* | -  | -  | -  | 1* | -  | -  | 2* | 2* | 2* | 1* | 1* | -  | -  | 1  | 2  | 2  | 1  | 4* | 6* | 7* |
| G = 14   | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3* | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 2  | -  | -  | -  | -  | -  |
| I = 15   | 1   | -   | -  | -  | -  | -  | -  | -  | -  | 3* | 2  | 4  | 8  | 6  | 4* | 5  | 8  | 8  | 8  | 8  | 9  | 8  | 5  | 3  | -  | -  |
| UA3 = 16 | -   | -   | -  | -  | -  | -  | 1* | 5* | 3* | 2* | 2* | 2* | 6  | 8  | 7  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -   | 3*  | 5* | 3* | 4* | 6  | 3  | 3* | 2* | 2* | 2  | 7  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -   | 5*  | 6* | 3* | 3* | 2* | 4* | 4* | 4* | 4* | 1  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 6*  | 7   | 5  | 3* | 1* | 1* | 2* | 2* | 2* | 5* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| 4X = 20  | 9   | 6   | -  | -  | 1* | 5* | 4* | 1  | 1  | 4  | 6  | 6  | 6  | 6  | 5  | 5  | 7  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 5   | -   | -  | 1* | 7* | 4  | 2* | 1* | 1  | 1  | 6  | 6  | 6  | 6  | 7  | 6  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| VU = 22  | -   | 5*  | 3* | 6  | 4  | 3  | 2* | 1  | 1  | 4  | 5  | 6  | 5  | 6  | 5  | 5  | 6  | 5  | 6  | 6  | 3  | -  | -  | -  | -  | -  |
| JT = 23  | 5*  | 4*  | 3* | 3* | 5  | 5  | 4* | 4* | 4* | 4* | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 8*  | 8   | 7  | 5  | 1  | 2  | 2  | 3  | 5  | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | 5* |
| JA1 = 25 | 9   | 7   | 6* | 4  | 2  | 1* | 2  | 1* | 4* | 5* | 7* | 6* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 9  |
| HS = 26  | 8*  | 6   | 8  | 6  | 2  | 2  | 2  | 2  | 2  | 4  | 5  | 6  | 7  | 8  | 7  | 7  | 7  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  |
| DU = 27  | 8*  | 7   | 6  | 4  | 1  | 2  | 2  | 3  | 5  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | 5* |
| YB = 28  | 8*  | 6   | 6  | 5  | 2  | 2  | 1  | 2  | 5  | 7  | 7  | 8  | 8  | 7  | 6  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 6*  | 5*  | 1  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 6* | 6* | 5* | 4* | 3* | 3* | 3* | 3* | 2* | -  | -  | -  | 2* | 5* |
| VK3 = 30 | 6   | 6   | 6  | 6  | 5  | 5  | 6  | 7  | 7  | 7  | 6  | 6* | 5* | 5* | 4* | 3* | 3* | 3* | 2* | 1* | 1* | 1* | 2* | 5* | 5  |    |
| KH6 = 31 | 8   | 8   | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 6  | 6  | 6  | 6  | 8  |
| KH8 = 32 | 7   | 8   | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 4  | 5* | 7  | 6  | 4  | -  | 1  | 4  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 7  |
| CN = 33  | 8   | 7   | 5  | 1  | -  | -  | -  | -  | -  | 4* | 1* | 5  | 8  | 7  | 7  | 7  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 8  |
| SU = 34  | 9   | 9   | -  | -  | -  | 4* | 4* | 1* | 1  | 4  | 6  | 6  | 5  | 5  | 7  | 8  | 7  | 8  | 9  | 8  | 9  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | -   | -   | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 3  | 1  | -  | 2  | 2  | 3  | 5  | 6  | 7  | 7  | 6  | 2  | 1  | -  | -  |
| D2 = 36  | 5   | 1   | -  | -  | -  | 2* | 2* | 1  | 2  | 4  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 7  |
| 5Z = 37  | -   | -   | -  | -  | 5* | 4  | 2  | 2  | 5  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2  |
| ZS6 = 38 | -   | -   | -  | -  | 1* | 1* | 3  | 4  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4* | 1* | -  | -  |
| FR = 39  | -   | -   | 2* | 2* | 1  | 4  | 3  | 4  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 5* | 5* | 3* | 1* | -  | -  |
| FJL = 40 | -   | -   | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



**10 Meters: Dec., Brazil (Porto Alegre), for SSN = Medium, Sigs in S-Units. (c) 2010 Dean Straw, N6BV**

|          | UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|----------|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| Zone     | 00      | 01 | 02           | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
| KL7 = 01 | 5       | 1* | 3*           | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 7  |  |
| VO2 = 02 | -       | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  |  |
| W6 = 03  | 4       | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 6  | 8  | 9  | 9  | 9  | 9  | 8  |  |
| W9 = 04  | -       | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4* | -  |  |
| W3 = 05  | -       | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 7  | 6  | 6  | 5  | 2  | 4* | 2* | -  |  |
| XE1 = 06 | 6       | 2  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 8  |  |
| TI = 07  | 1       | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 1* | -  | 1* | 1* | 2  | 5  | 6  | 6  | 4  |  |
| VP2 = 08 | -       | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | 3* | 4* | 4* | 5  | 7  | 7  | 6  | 3  |  |
| P4 = 09  | -       | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | 1* | 3* | 3* | 2  | 5  | 5  | 4  | 2  |  |
| HC = 10  | -       | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 2* | 2* | 4* |  |
| PY1 = 11 | 3*      | 2* | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 3* | 4* | 6* | 6* | 7* | 4* |  |
| CE = 12  | 7       | 8  | 7            | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 7  | 9  | 9  | 9  | 9  | 9  | 8  | 7  |  |
| LU = 13  | 4*      | 2* | 3*           | 1* | -  | 1* | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | -  | -  | 1* | 2* | 3* | 4* | 4* | 5* | 5* |  |
| G = 14   | -       | -  | -            | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 7  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  |  |
| I = 15   | -       | -  | -            | -  | -  | -  | -  | 1* | -  | -  | 2  | 1  | 3* | 2  | 8  | 8  | 9  | 8  | 4  | -  | -  | -  | -  | -  |  |
| UA3 = 16 | -       | -  | -            | -  | -  | -  | 2* | -  | -  | -  | 1* | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| UN = 17  | -       | 1* | 5*           | 1* | 1* | 3  | 2* | 1* | -  | -  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| UA9 = 18 | -       | 1* | 5*           | 1* | 1* | -  | 1* | 1* | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| UA0 = 19 | 2*      | 2  | 1*           | 1* | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| 4X = 20  | 7       | 1  | -            | -  | -  | 3* | 2* | -  | -  | -  | 4  | 4  | 2  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |  |
| HZ = 21  | -       | -  | -            | -  | 5* | 1  | 1* | -  | -  | -  | 4  | 4  | 4  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | -  |  |
| VU = 22  | -       | -  | 1*           | 2  | 1* | -  | 1* | -  | -  | -  | 3  | 3  | 3  | 5  | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  |  |
| JT = 23  | 2*      | 1* | 1*           | 1* | 1  | 1  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| VR2 = 24 | 7*      | 5* | 3            | -  | -  | -  | -  | -  | 2  | 3  | 6  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* |  |
| JA1 = 25 | 8       | 5  | 1            | -  | -  | -  | -  | -  | 1* | 3* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  |  |
| HS = 26  | 6*      | 2  | 4            | 1  | -  | -  | -  | -  | 1  | 1  | 5  | 7  | 7  | 6  | 6  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  |  |
| DU = 27  | 7*      | 2  | 1            | -  | -  | -  | -  | -  | 1  | 2  | 6  | 7  | 7  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| YB = 28  | 3*      | 2* | 1            | 1  | -  | -  | -  | 1  | 1  | 3  | 6  | 7  | 6  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| VK6 = 29 | 4*      | 1* | -            | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 5* | 4* | 4* | 3* | 2* | 2* | 1* | -  | -  | -  | -  | 3* |  |
| VK3 = 30 | 3*      | 1  | 1            | 1  | 1  | 1  | 2  | 3  | 4  | 3  | 1  | 2* | 5* | 5* | 4* | 3* | 2* | 1* | 1* | -  | -  | 1* | 2* | 4* |  |
| KH6 = 31 | 6       | 6  | 5            | 5  | 1  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 7  | 7  | 7  | 7  |  |
| KH8 = 32 | 7       | 5  | 3            | 4  | 4  | 4  | 5  | 2  | -  | -  | 2* | 1  | 2  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 7  | 8  |  |
| CN = 33  | 5       | 3  | 1            | -  | -  | -  | -  | -  | 1* | -  | -  | 5  | 2  | 5  | 6  | 7  | 8  | 9  | 9  | 8  | 6  | 5  | 5  | 5  |  |
| SU = 34  | 8       | 4  | -            | -  | -  | -  | 2* | -  | -  | -  | 4  | 3  | 2  | 4  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |  |
| 6W = 35  | -       | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2  | 3  | 2  | 1  | -  | -  | -  |  |
| D2 = 36  | -       | -  | -            | -  | -  | -  | 1* | -  | -  | -  | 3  | 3  | 3  | 5  | 8  | 8  | 8  | 9  | 8  | 7  | 6  | 5  | 4  | 2  |  |
| 5Z = 37  | -       | -  | -            | -  | 2* | 1* | -  | -  | 1  | 1  | 4  | 5  | 4  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 5  | -  |  |
| ZS6 = 38 | -       | -  | -            | -  | -  | -  | -  | 1  | 2  | 3  | 4  | 5  | 6  | 5  | 6  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  |  |
| FR = 39  | -       | -  | -            | -  | -  | -  | -  | 1  | 2  | 2  | 4  | 4  | 4  | 4  | 5  | 3  | 4* | 4* | 4* | 2* | -  | -  | -  | -  |  |
| FJL = 40 | -       | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| Zone     | 00      | 01 | 02           | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
|          | UTC --> |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |

Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Jan., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 2  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4       | 5  | 5  | 5  | 5  | 5  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | 1  | 3  | 4  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 4  | 3  | 5  | 5  | 3  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 5  | 4  | 5  | 5  | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 3  | -  | 5  | 5  | 5  | 5  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 3       | 3  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 2       | 4  | 4  | 4  | 4  | 5  | 4  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| P4 = 09  | 2       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 3       | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  |
| G = 14   | 4       | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| I = 15   | 4       | 4  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | 2       | 3  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 3       | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 4  | 5  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| SU = 34  | 3       | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 6W = 35  | 4       | 4  | 4  | 4  | 4  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| D2 = 36  | 4       | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  |
| 5Z = 37  | 5       | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| ZS6 = 38 | 5       | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  |
| FR = 39  | 5       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| FJL = 40 | -       | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Jan., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | 1  | 2  | 5  | 5  | 5  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 7       | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 = 03  | -       | 2  | 4  | 6  | 7  | 8  | 7  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 2       | 7  | 6  | 8  | 8  | 6  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W3 = 05  | 2       | 8  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| XE1 = 06 | 3       | 6  | 3  | 8  | 8  | 8  | 8  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 6       | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VP2 = 08 | 5       | 7  | 7  | 7  | 7  | 8  | 7  | 7  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| P4 = 09  | 5       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| HC = 10  | 6       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | -  | -  | 2  | 7  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 9  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | -  | -  | -  | 3  | 7  | 9  | 9+ | 9+ | 9+ |
| G = 14   | 7       | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| I = 15   | 7       | 7  | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| UA3 = 16 | 5       | 6  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| UN = 17  | 2       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA9 = 18 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| HZ = 21  | 6       | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| VU = 22  | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JAl = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | 1  | 3  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 1  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 7  | 8  | 8  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |
| SU = 34  | 6       | 7  | 7  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| 6W = 35  | 7       | 7  | 7  | 7  | 7  | 7  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| D2 = 36  | 7       | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| 5Z = 37  | 8       | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  |
| ZS6 = 38 | 8       | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| FR = 39  | 8       | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| FJL = 40 | 3       | 4  | 4  | 4  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Jan., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2  | 6  | 6  | 6  | 7  | 8  | 8  | 7  | 6  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 7  | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 6  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| W6 = 03  | 2  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 7  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| W3 = 05  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| XE1 = 06 | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| TI = 07  | 8  | 9  | 9  | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| VP2 = 08 | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  |
| P4 = 09  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 6  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 3  | 1  | 2  | 5  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  |
| I = 15   | 8  | 6  | 8  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 4  | 7  |
| UA3 = 16 | 7  | 8  | 7  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 6  |
| UN = 17  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |
| UA9 = 18 | 6  | 6  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 6  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 8  | 8  | 8  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  |
| HZ = 21  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  |
| VU = 22  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  |
| JT = 23  | 5  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 5  |
| VR2 = 24 | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | -  |
| HS = 26  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| YB = 28  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 3  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | 1  | 4  | 7  | 7  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | 4  | 6  | 7  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  | 8  |
| SU = 34  | 8  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 9  |
| 5Z = 37  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 8  | 8  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 6  | 7  | 8  | 9  |
| FR = 39  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| FJL = 40 | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Jan., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 5            | 6  | 6  | 7  | 6  | 4  | 4  | 5  | 6  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 2  |
| VO2 =   | 02 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  | 8  |
| W6 =    | 03 | 5            | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| W9 =    | 04 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| W3 =    | 05 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  |
| XE1 =   | 06 | 8            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | 1  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| TI =    | 07 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2  | 2  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| VP2 =   | 08 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 3  | 2  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  |
| P4 =    | 09 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 2  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  |
| HC =    | 10 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 8  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 8            | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 8  |
| I =     | 15 | 8            | 8  | 8  | 8  | 7  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 8  |
| UA3 =   | 16 | 8            | 8  | 7  | 7  | 6  | 5  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 7  |
| UN =    | 17 | 7            | 6  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 6  | 7  |
| UA9 =   | 18 | 5            | 3  | 4  | 5  | 5  | 2  | 1  | 1  | 1  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 7  |
| UA0 =   | 19 | 1            | 1  | 1  | 1  | 1  | 1  | 5  | 2  | 2  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 4* |
| 4X =    | 20 | 8            | 8  | 7  | 6  | 4  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  | 8  |
| HZ =    | 21 | 8            | 8  | 6  | 4  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 8  |
| VU =    | 22 | 2            | 2  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  |
| JT =    | 23 | 4            | 4  | 5  | 1  | -  | -  | -  | 1  | 1* | 6  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 6  |
| VR2 =   | 24 | 5            | 2  | -  | -  | -  | -  | -  | 2* | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 2  | 6  |
| JA1 =   | 25 | 1*           | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 4* | 4* |
| HS =    | 26 | 5            | 5  | 1  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  |
| DU =    | 27 | 1            | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 4  | 4  |
| YB =    | 28 | 5            | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 6  | 6  | 6  |
| VK6 =   | 29 | 2            | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 4  | 5  | 4  |
| VK3 =   | 30 | -            | -  | -  | -  | -  | 1  | 1  | 2  | 5  | 5  | 4  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  |
| KH6 =   | 31 | -            | 1  | 4  | 6  | 7  | 8  | 8  | 8  | 7  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | -  | 1  | 2  | 5  | 7  | 8  | 8  | 8  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 8            | 8  | 8  | 8  | 8  | 7  | 4  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| SU =    | 34 | 8            | 8  | 8  | 7  | 5  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 7  | 8  |
| 6W =    | 35 | 9            | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  | 9  | 9  |
| D2 =    | 36 | 9            | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9  |
| 5Z =    | 37 | 8            | 8  | 8  | 8  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  | 8  | 8  |
| ZS6 =   | 38 | 9            | 8  | 9  | 8  | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  | 9  | 9  |
| FR =    | 39 | 8            | 8  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 8  | 8  |
| FJL =   | 40 | 7            | 6  | 6  | 6  | 6  | 4  | 1  | 1* | 2  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 6  | 6  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |  |
| KL7 = 01 | 8       | 9  | 9  | 6  | 2* | 1* | 1* | -  | 2  | 4  | 5  | 2  | -  | -  | -  | -  | 1  | 1  | -  | 1  | 7  | 5  | 6  | 8  |  |  |
| VO2 = 02 | 8       | 4  | 2  | 1  | 5  | 7  | 8  | 7  | 5  | 4  | 3  | 8  | 7  | 4  | 2  | 1  | 1  | 1  | 3  | 6  | 8  | 9  | 9  | 9  |  |  |
| W6 = 03  | 8       | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 6  | -  | 1  | 5  | 1  | 1  | -  | -  | -  | 3  | 2  | 3  | 8  |  |  |
| W9 = 04  | 9       | 8  | 6  | 5  | 5  | 6  | 8  | 8  | 7  | 6  | 6  | 3  | 8  | 5  | 2  | 1  | 1  | -  | 1  | 2  | 4  | 8  | 9  | 9  |  |  |
| W3 = 05  | 9       | 5  | 2  | 4  | 5  | 7  | 8  | 8  | 6  | 5  | 5  | 8  | 8  | 5  | 2  | 3  | 1  | 1  | 2  | 2  | 7  | 8  | 9  | 9  |  |  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 2  | -  | -  | -  | 6  | 5  | 3  | 2  | 2  | 3  | 2  | 6  | 7  | 8  | 9  |  |  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 1  | -  | -  | 6  | 8  | 7  | 5  | 4  | 1  | 3  | 4  | 5  | 8  | 9  | 9  | 9+ |  |  |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 2  | -  | -  | -  | 9  | 7  | 6  | 4  | 5  | 1  | 4  | 5  | 7  | 9  | 9  | 9+ | 9+ |  |  |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 4  | -  | -  | -  | 9  | 8  | 8  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9+ | 9+ |  |  |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 4  | 1  | 1* | 1  | 9  | 9  | 9  | 8  | 7  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ |  |  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |  |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |  |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9  | 8  | 7  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |  |
| G = 14   | 7       | 6  | 7  | 9  | 8  | 7  | 2  | 6  | 8  | 8  | 7  | 4  | 2  | -  | -  | 1  | 1  | 4  | 6  | 8  | 8  | 8  | 8  | 7  |  |  |
| I = 15   | 9       | 9  | 9  | 9  | 8  | 4  | 5  | 6  | 6  | 6  | 4  | 2  | 1  | -  | -  | 1  | 1  | 4  | 5  | 9  | 8  | 9  | 9  | 9  |  |  |
| UA3 = 16 | 6       | 6  | 6  | 4  | 2  | 1  | 6  | 4  | 5  | 6  | 4  | 9  | -  | -  | -  | -  | 1  | 3  | 4  | 3  | 4  | 3  | 3  | 4  |  |  |
| UN = 17  | 7       | 4  | 5  | 8  | 8  | 7  | 5  | 2  | 4* | 2* | 7  | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  |  |  |
| UA9 = 18 | 1*      | 1* | 2* | 3* | 5  | 8  | 5  | 3* | 5* | 5  | 5* | 8  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 4  | 1  |  |  |
| UA0 = 19 | 5       | 6  | 5  | 5  | 5  | 7  | 7  | 8  | 7  | 5* | 6* | 6* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  |  |  |
| 4X = 20  | 9       | 9  | 7  | 1  | 1* | 7  | 8  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | 1  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |  |  |
| HZ = 21  | 9       | 5  | 1  | 1* | 7  | 8  | 7  | 4  | 4  | 1  | -  | -  | 1* | -  | -  | 1  | 2  | 4  | 6  | 8  | 8  | 9  | 9  | 9  |  |  |
| VU = 22  | 1*      | -  | 2  | 9  | 7  | 5  | 3  | 1  | 1  | 2* | 2* | 2* | 2* | 1* | -  | -  | 1  | 1  | 6  | 7  | 8  | 8  | 8  | 2  |  |  |
| JT = 23  | 1*      | 2* | 6  | 8  | 6  | 7  | 5  | 5* | 6* | 7* | 6* | 7  | 3* | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 2  | 2* |  |  |
| VR2 = 24 | 8       | 8  | 6  | 3  | 2* | 2* | 4* | 5* | 5* | 6  | 6  | 7  | 7* | 6* | 1* | -  | 1  | 2  | 5  | 7  | 7  | 1  | 2* | 3* |  |  |
| JA1 = 25 | 7*      | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 8  | 7  | 6  | 3  | 1  | 1* | -  | -  | -  | 1* | 1* | -  | 7  | 5  | 5  | 8* |  |  |
| HS = 26  | 8       | 9  | 8  | 6  | 2  | -  | -  | 1* | 1* | 1  | 8  | 5* | 5* | 1  | 1  | 1  | 2  | 4  | 6  | 8  | 8  | 7  | 2  | 3* |  |  |
| DU = 27  | 7       | 6  | 2  | 1* | -  | 1* | 2* | 4* | 8  | 6  | 6  | 7  | 4* | 2  | 1  | 1  | -  | 2  | 4  | 3  | -  | -  | 3  | 8  |  |  |
| YB = 28  | 9       | 8  | 6  | 4  | 1  | -  | -  | 1* | 2  | 8  | 7  | 2  | 2  | 2  | 1  | 2  | 2  | 4  | 6  | 7  | 7  | 7  | 6  | 8  |  |  |
| VK6 = 29 | 8       | 8  | 7  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 6  | 6  | 5  | 5  | 5  | 4  | 4  | 4  | 2  | 2  | 5  | 6  | 8  | 8  |  |  |
| VK3 = 30 | 6       | 6  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | 2  | 4  | 7  | 7  | 6  | 6  |  |  |
| KH6 = 31 | 5       | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 7  | 6  | 8  | 8  | 7  | -  | -  | -  | 2  | -  | -  | 1* | 1* | -  | -  | 2  |  |  |
| KH8 = 32 | 2       | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 5  | 3  | 2  | 1  | 1* | 1* | 1  | 1  | 1  |  |  |
| CN = 33  | 9       | 9  | 9  | 9  | 9  | 3  | -  | 3* | 6  | 8  | 5  | 3  | 2  | 1  | 1  | 4  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |  |  |
| SU = 34  | 9       | 9  | 9  | 5  | 2* | 7  | 8  | 6  | 6  | 4  | 1  | 1  | -  | -  | -  | 1  | 2  | 3  | 6  | 8  | 8  | 9  | 9  | 9  |  |  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9  | 7  | -  | 2* | 4  | 9  | 9  | 8  | 6  | 4  | 3  | 3  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |  |  |
| D2 = 36  | 9+      | 9  | 9  | 7  | 6  | 5  | 6  | 7  | 9  | 7  | 6  | 5  | 4  | 3  | 3  | 3  | 5  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |  |  |
| 5Z = 37  | 9       | 8  | 8  | 5  | 7  | 9  | 8  | 8  | 7  | 2  | 1  | 1  | 1  | 1  | 1  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |  |  |
| ZS6 = 38 | 9       | 7  | 2  | 5  | 6  | 8  | 9  | 9  | 8  | 7  | 7  | 7  | 6  | 6  | 5  | 6  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |  |  |
| FR = 39  | 1*      | 2* | 1* | 6  | 9  | 8  | 7  | 6  | 5  | 3  | 2  | 2  | 2  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 8  | 2  | 1* | 1* |  |  |
| FJL = 40 | 1       | 2  | 2* | 1  | 1* | 1* | 2* | 1* | 3* | 5* | 4  | 5  | 2  | 1  | -  | -  | 1  | 2  | 1  | -  | -  | 1  | 1  | 1  |  |  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |  |

\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Jan., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 8  | 5  | 3* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 6  | 5  | 6  | 8  | 8  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | 4  | 1  | -  | -  | -  | 5  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 7  |
| W6 = 03  | 9       | 9  | 6  | 2  | 2  | 1  | -  | 1  | 3  | 1  | 6  | 1  | -  | -  | 6  | 7  | 6  | 6  | 9  | 8  | 5  | 7  | 8  | 9  |
| W9 = 04  | 7       | -  | -  | -  | -  | -  | 1  | 4  | 1  | -  | 1  | -  | 6  | 8  | 8  | 7  | 7  | 7  | 9  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | 1       | -  | -  | -  | -  | -  | 5  | 2  | -  | -  | 1  | 1  | 9  | 9  | 8  | 8  | 7  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 8  | 9  | 9  | 8  | -  | 2  | 1  | -  | -  | -  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9  | 8  | 6  | 1  | 1  | 1  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 6  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9  | 8  | 6  | 1  | 1  | -  | -  | -  | -  | 9+ | 9  | 9  | 8  | 5  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | 7  | 9  | 9  | 8  | 5  | 5  | 6  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 7  | 3  | 7  | 2  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 | 9       | 9  | 9  | 8  | 5  | 1  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9       | 9  | 8  | 4  | 1* | 1* | 1* | -  | 1* | 1* | 2* | 4  | 6  | 7  | 7  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  |
| G = 14   | -       | -  | -  | 2  | 5  | 1  | -  | 1* | 5* | 6  | 9  | 8  | 8  | 6  | 6  | 6  | 7  | 8  | 9  | 8  | 6  | 2  | -  | -  |
| I = 15   | 7       | 6  | 6  | 6  | 4  | -  | 4* | 2* | 3  | 7  | 8  | 6  | 8  | 6  | 5  | 5  | 4  | 8  | 9  | 9  | 9  | 8  | 5  | 5  |
| UA3 = 16 | -       | -  | -  | -  | 2* | 5* | 3* | 3* | 2* | 3  | 7  | 5  | 7  | 5  | 4  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 3* | 2* | 4  | 7  | 6  | 3  | 4* | 3* | 5  | 4  | 6  | 7  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| UA9 = 18 | 2*      | 3* | 2* | 2* | 2* | 5  | 4* | 5* | 4* | 6* | 6  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 8       | 9  | 8  | 8  | 8  | 6  | 6  | 4  | 5* | 8* | 7* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8* |
| 4X = 20  | 9       | 6  | -  | -  | 4* | 4* | 6  | 1  | 2  | 7  | 6  | 5  | 8  | 4  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 4       | -  | -  | 4* | 3* | 6  | 3  | 1  | 2  | 5  | 5  | 8  | 8  | 5  | 3  | 3  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 8  |
| VU = 22  | -       | 4* | 3* | 7  | 5  | 5  | 2  | 1  | 2  | 5  | 5  | 6  | 7  | 4  | 4  | 3  | 5  | 6  | 6  | 2  | -  | -  | -  | -  |
| JT = 23  | 3*      | 3* | 2* | 7  | 6  | 5  | 4* | 5* | 5* | 6* | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| VR2 = 24 | 8       | 9  | 8  | 6  | 5* | 5* | 3* | 2  | 5  | 6  | 5  | 6* | 6  | 6  | 6  | 5  | 6  | 6  | 4  | 2  | -  | -  | -  | 6* |
| JA1 = 25 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4* | 5* | 5* | 6* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 8  |
| HS = 26  | 5*      | 8  | 8  | 5  | 4  | 4  | 1  | 2  | 5  | 6  | 6  | 7  | 7  | 7  | 6  | 6  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  |
| DU = 27  | 9       | 8  | 6  | 5  | 4* | 2  | 2  | 3  | 5  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 3  | -  | -  | -  | -  | -  | 8  |
| YB = 28  | 8       | 9  | 8  | 7  | 5  | 3  | 2  | 3  | 5  | 7  | 7  | 7  | 8  | 8  | 7  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | 4* |
| VK6 = 29 | 8       | 9  | 8  | 8  | 6  | 5  | 5  | 5  | 7  | 8  | 8  | 7  | 7  | 5  | 4  | 2  | 1  | 2* | 3* | 3* | 1* | 1  | 4  | 7  |
| VK3 = 30 | 8       | 9  | 9  | 9  | 8  | 9  | 8  | 8  | 8  | 9  | 8  | 8  | 5  | 3* | 1* | 1* | 1* | 1* | 1* | 1* | 3  | 6  | 8  | 8  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | 6  | 3  | -  | -  | -  | -  | 3  | 8  | 8  | 7  | 4  | 5  | 6  |
| KH8 = 32 | 6       | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 6  | 2  | 1  | 5  | 7  | 4  | 5  | 8  | 4* | 3  | 4  |
| CN = 33  | 9       | 8  | 8  | 7  | 5  | -  | -  | 2* | 1  | 4  | 8  | 8  | 7  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9       | 8  | 2  | -  | 2* | 4* | 6  | 1  | 2  | 7  | 5  | 5  | 9  | 4  | 3  | 4  | 5  | 7  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9       | 8  | 6  | 4  | 1  | -  | -  | -  | 1* | 2  | 9  | 9  | 9  | 7  | 6  | 7  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9  |
| D2 = 36  | 9       | 6  | 2  | 4  | 1  | 4* | 4* | 3  | 5  | 8  | 6  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  |
| 5Z = 37  | 2       | -  | 1  | 2* | 5* | 8  | 5  | 6  | 7  | 7  | 7  | 7  | 7  | 8  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 7  |
| ZS6 = 38 | 1       | -  | -  | -  | 5* | 4* | 6  | 7  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 7  | 6  | 4  |
| FR = 39  | -       | -  | 5* | 5* | 7  | 7  | 6  | 6  | 8  | 8  | 7  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 5  | 4  | 2* | 3* | 1* | -  |
| FJL = 40 | -       | -  | 1* | 2* | 3* | 2* | 2* | 3* | 4* | 4* | -  | 1  | 6  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Jan., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 6  | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 8  | 7  | 8  | 9  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 6  | -  |
| W6 = 03  | 9       | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 9  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 8  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 8  | 7  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 5  |
| XE1 = 06 | 9       | 7  | 3  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 7  | 6  | 7  | 8  | 9  | 8  | 9  | 9  | 9  |
| TI = 07  | 9       | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 5  | 1  | 1  | 2  | 4  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+      | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 7  | 2  | 1  | 1  | 3  | 6  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 8       | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 6  | 2  | -  | -  | 1  | 4  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 6       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 9  | 9+ | 9  | 9  | 9  | 2  | 7  | 9  | 9  | 8  |
| PY1 = 11 | 8       | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9  | 8  | 8  |
| CE = 12  | 9+      | 9  | 9  | 9  | 8  | 6  | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 6       | 5* | 3* | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1  | -  | -  | 1  | 4  | 5  | 7  | 6  | 6  | 7  | 7  |
| G = 14   | -       | -  | -  | -  | 1  | -  | -  | -  | 1* | 1* | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 1  | -  | -  | -  | -  |
| I = 15   | 1       | 1  | 1  | -  | -  | -  | 1* | 1* | -  | -  | 7  | 7  | 6  | 5  | 7  | 8  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | 4* | 2* | 1* | -  | -  | 6  | 6  | 7  | 6  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 2* | 5* | 2* | 4  | 3  | 2* | 1* | 1* | 1  | 5  | 6  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | 5* | 2* | 2* | 2* | 1  | 2* | 1* | 1* | 2* | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 6       | 9  | 8  | 6  | 5  | 1  | 1  | -  | 2* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* |
| 4X = 20  | 5       | -  | -  | -  | 2* | 4* | 2* | 1* | -  | 2  | 7  | 6  | 6  | 7  | 6  | 6  | 6  | 8  | 8  | 8  | 9  | 9  | 8  | 8  |
| HZ = 21  | -       | -  | -  | 1* | 4* | 2* | 2* | -  | -  | 1  | 5  | 5  | 7  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 6  | 2  |
| VU = 22  | -       | 3* | 4* | 4  | 4* | 2* | 1* | -  | -  | 2  | 5  | 4  | 4  | 5  | 4  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  |
| JT = 23  | 5*      | 3* | 2* | 2  | 2* | 2* | 2* | 1* | 1* | 2* | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 8*      | 7  | 5* | 4* | 2* | 1  | 1  | 1  | 2  | 5  | 6  | 7  | 7  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | 5* |
| JA1 = 25 | 9       | 8  | 7  | 7  | 7  | 3  | 3  | 1  | 1* | 5* | 6* | 5* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  |
| HS = 26  | 7*      | 7  | 5  | 4* | 2* | 1  | -  | -  | 1  | 4  | 6  | 6  | 7  | 7  | 7  | 6  | 6  | 6  | 3  | -  | -  | -  | -  | -  |
| DU = 27  | 8       | 6  | 5* | 4* | 2* | -  | -  | 1  | 2  | 5  | 8  | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | 5* |
| YB = 28  | 8*      | 8  | 6  | 2  | 1* | -  | -  | -  | 2  | 5  | 8  | 8  | 8  | 7  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 6*      | 6  | 5  | 3  | 1  | -  | 1  | 1  | 2  | 2  | 3  | 6* | 6* | 5* | 4* | 3* | 2* | 2* | 2* | 2* | -  | -  | 1* | 5* |
| VK3 = 30 | 5       | 8  | 8  | 8  | 6  | 4  | 5  | 4  | 5  | 6  | 5  | 6* | 5* | 4* | 2* | 2* | 1* | 1* | 1* | -  | 1* | 2* | 4  | 5  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 7  | 6  | 5  | 1  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 6  | 5  | 4  | 5* | 4* | 6  | 7  |
| KH8 = 32 | 8       | 8  | 8  | 8  | 9  | 8  | 8  | 6  | 3  | 2  | 5* | 6  | 6  | 2  | -  | -  | 1  | 7  | 7  | 7  | 7  | 5  | 5  | 7  |
| CN = 33  | 6       | 3  | 2  | 1  | 1  | -  | -  | -  | -  | -  | 5  | 6  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  |
| SU = 34  | 5       | 2  | -  | -  | -  | 4* | 1  | -  | -  | 2  | 7  | 7  | 6  | 7  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| 6W = 35  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 3  | 3  | 3  | 4  | 6  | 9  | 9  | 9  | 9  | 8  | 6  | 3  |
| D2 = 36  | 3       | -  | -  | -  | -  | 2* | 2* | -  | 1  | 4  | 8  | 8  | 8  | 9  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 6  |
| 5Z = 37  | -       | -  | -  | -  | 5* | 3  | 1  | -  | 2  | 6  | 8  | 7  | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | -  |
| ZS6 = 38 | -       | -  | -  | -  | 1* | 1* | 1  | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 4  | 1  | -  | -  |
| FR = 39  | -       | -  | 1* | 4* | 2* | 2  | 1  | 1  | 4  | 6  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 2  | 3* | 3* | 1* | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | 1* | 1* | 1* | 1* | 1* | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Jan., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 6       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 8  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 8  | 7  | 8  | 8  | 7  | 4  | 1  | -  | -  |
| W6 = 03  | 6       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 6  | 8  | 8  | 8  | 9  | 9  | 9  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 1  | -  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 8  | 4  | 6  | 6  | 6  | 6  | 5  | 6  | 3* | -  |
| XE1 = 06 | 7       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 4       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 1* | 1* | 2  | 7  | 9  | 9  | 7  |
| VP2 = 08 | 6       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | 2* | 2* | 5  | 9  | 9  | 8  | 6  |
| P4 = 09  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | 2* | 2* | 2  | 6  | 7  | 7  | 5  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 8  | 8  | 8  | 9  | 1  | 3  | 3  | 2  |
| PY1 = 11 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | 3  | 5  | 5  | 6* | 6* | 4* |
| CE = 12  | 9       | 8  | 8  | 6  | 2  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 8  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| LU = 13  | 4*      | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 4* | 4* | 6* | 5* |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 7  | 8  | 7  | 8  | 8  | 7  | 1  | -  | -  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 1  | 3  | 8  | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 1  | 6  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 1* | 4* | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 1       | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | 5  | 5  | 4  | 5  | 6  | 8  | 8  | 8  | 8  | 6  | 7  | 5  | 2  | 2  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 6  | 8  | 7  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  |
| VU = 22  | -       | -  | 1* | -  | 1* | -  | -  | -  | -  | -  | 3  | 5  | 4  | 5  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 2*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 8*      | 4* | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | 8       | 6  | 2  | 1  | 1  | -  | -  | -  | -  | 1* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  |
| HS = 26  | 4*      | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  | 7  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  |
| DU = 27  | 7*      | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | 5*      | 5* | 2* | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 5  | 3* | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 5*      | 4* | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 6* | 5* | 4* | 2* | 2* | 2* | 1* | -  | -  | -  | -  | 2* |
| VK3 = 30 | 3*      | 3  | 4  | 3  | -  | -  | -  | -  | -  | 1  | -  | 5* | 4* | 3* | 1* | 1* | -  | -  | -  | -  | -  | 1* | 1* | 2* |
| KH6 = 31 | 7       | 7  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 7  | 5* | 4  | 8  | 7  |
| KH8 = 32 | 7       | 5  | 3  | 2  | 3  | 2  | 5  | 1  | -  | -  | 2* | -  | 1  | -  | -  | -  | -  | 1  | 7  | 8  | 9  | 8  | 8  | 7  |
| CN = 33  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 7  | 4  | 2  | 1  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 4  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 2  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 6  | 6  | 5  | 1  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 4  | 6  | 9  | 7  | 7  | 9  | 9  | 7  | 5  | 3  | 2  | -  |
| 5Z = 37  | -       | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 5  | 6  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 4  | 5  | 6  | 6  | 6  | 6  | 6  | 5  | 2  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 5  | 4  | 2* | 1* | 2* | 1* | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC --> \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Jan., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 6  | 4  |    |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 4  | 3  | 4  | 3  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 2  | 6  | 7  | 8  | 8  | 8  | 4  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 5  | 4  | 3  | 3  | 4  | 2  | 2* | -  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | -  | 1  | 1  | 1  | -  | -  | 2* | 1* | -  |
| XE1 = 06 | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | 1  | 5  | 8  | 8  | 8  | 6  |
| TI = 07  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | 1  | 3  | 3  | 1  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | 2  | 4  | 2  | 1  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | 1  | 1  | 1  | -  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 4  | 4  | 4  | 5  | 8  | -  | -  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 5* | 5* | 5* | 1* | -  |
| CE = 12  | 7       | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 2  | 3  | 5  | 8  | 9  | 9  | 8  | 8  | 8  |
| LU = 13  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | 4* | 4* | 2* | 1* |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 5  | 5  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 2  | 6  | 8  | 8  | 6  | 2  | 1  | 1  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 4  | 7  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 4  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 4*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HS = 26  | -       | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | 2*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 2*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 3* | 2* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| KH6 = 31 | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 8  | 8  | 8  | 7  |
| KH8 = 32 | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 7  | 7  | 5  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  | 7  | 9  | 8  | 4  | 1  | -  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 2  | 5  | 8  | 9  | 9  | 8  | 7  | 5  | 4  | 1  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1  | 1  | -  | -  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 5  | 2  | 1  | -  | -  | -  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 3  | 7  | 7  | 6  | 5  | 5  | 4  | 4  | 1  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Feb., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | 1  | -  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4       | 5  | 5  | 5  | 5  | 5  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | 1  | 2  | 4  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 1       | 3  | 5  | 5  | 5  | 4  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 3       | 5  | 4  | 5  | 5  | 2  | 4  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 3  | 4  | 5  | 5  | 5  | 4  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2       | 2  | 3  | 4  | 4  | 4  | 4  | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 1       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | -  |
| P4 = 09  | 1       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 4       | 3  | 5  | 5  | 5  | 5  | 5  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 5  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| I = 15   | 4       | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA3 = 16 | 2       | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 3       | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 3       | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| SU = 34  | 3       | 4  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 6W = 35  | 4       | 4  | 3  | 3  | 3  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | -  |
| D2 = 36  | 3       | 3  | 4  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | -  |
| 5Z = 37  | 5       | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  |
| ZS6 = 38 | 5       | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | -  |
| FR = 39  | 5       | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | -  |
| FJL = 40 | -       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Feb., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | -            | -  | 1  | 2  | 4  | 3  | 5  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 =   | 02 | 7            | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 =    | 03 | -            | 1  | 4  | 5  | 7  | 7  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 =    | 04 | 4            | 6  | 8  | 8  | 8  | 7  | 7  | 7  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W3 =    | 05 | 6            | 8  | 7  | 8  | 8  | 5  | 7  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 =   | 06 | 2            | 6  | 7  | 8  | 8  | 8  | 7  | 8  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI =    | 07 | 5            | 5  | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VP2 =   | 08 | 4            | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| P4 =    | 09 | 4            | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| HC =    | 10 | 7            | 6  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | -  | -  | 2  | 7  | 9  | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | -  | -  | -  | -  | -  | -  | 4  | 8  | 9  | 9+ |
| LU =    | 13 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | -  | -  | -  | 3  | 7  | 9  | 9+ | 9+ | 9+ |
| G =     | 14 | 8            | 8  | 8  | 8  | 8  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| I =     | 15 | 7            | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| UA3 =   | 16 | 5            | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| UN =    | 17 | 2            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA9 =   | 18 | 1            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 =   | 19 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X =    | 20 | 6            | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| HZ =    | 21 | 6            | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| VU =    | 22 | 2            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| JT =    | 23 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 =   | 24 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 =   | 25 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS =    | 26 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU =    | 27 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB =    | 28 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 =   | 29 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 =   | 30 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 =   | 31 | -            | -  | -  | -  | -  | 2  | 1  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 6            | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| SU =    | 34 | 6            | 7  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| 6W =    | 35 | 7            | 7  | 6  | 6  | 6  | 7  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| D2 =    | 36 | 6            | 6  | 7  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| 5Z =    | 37 | 8            | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  |
| ZS6 =   | 38 | 8            | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  |
| FR =    | 39 | 8            | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  |
| FJL =   | 40 | 2            | 4  | 4  | 3  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Feb., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1  | 3  | 6  | 7  | 7  | 7  | 8  | 7  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8  | 9  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| W6 = 03  | 2  | 3  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  |
| W3 = 05  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  |
| XE1 = 06 | 4  | 5  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| TI = 07  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| VP2 = 08 | 8  | 9  | 9  | 7  | 7  | 7  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  |
| P4 = 09  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  |
| HC = 10  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 7  | 5  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 2  | 1  | 2  | 5  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  |
| I = 15   | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 8  |
| UA3 = 16 | 6  | 6  | 7  | 7  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  |
| UN = 17  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 2  | 2  |
| UA9 = 18 | 6  | 6  | 5  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 7  | 8  | 7  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| HZ = 21  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 8  |
| VU = 22  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  |
| JT = 23  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| VR2 = 24 | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 3  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  |
| HS = 26  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| YB = 28  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 4  |
| VK6 = 29 | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 8  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| SU = 34  | 7  | 7  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  |
| 5Z = 37  | 8  | 9  | 8  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  |
| FR = 39  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| FJL = 40 | 7  | 8  | 8  | 7  | 7  | 6  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Feb., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|--|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 |  | 4            | 7  | 6  | 8  | 7  | 6  | 6  | 6  | 6  | 6  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 |  | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 8  |
| W6 = 03  |  | 4            | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W9 = 04  |  | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| W3 = 05  |  | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 8  |
| XE1 = 06 |  | 7            | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 8  | 7  | 2  | -  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| TI = 07  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 4  | 2  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| VP2 = 08 |  | 9            | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  |
| P4 = 09  |  | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 3  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  |
| HC = 10  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 3  | 2  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| PY1 = 11 |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |  | 8            | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| I = 15   |  | 5            | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  | 6  | 7  |
| UA3 = 16 |  | 8            | 8  | 8  | 7  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 7  |
| UN = 17  |  | 7            | 7  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 6  | 7  |
| UA9 = 18 |  | 4            | 2  | 4  | 4  | 4  | 2  | -  | 1  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  |
| UA0 = 19 |  | 1            | 1  | 1  | 1  | -  | -  | 1  | 2  | 3* | 2  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 4  | 2* | 1  |
| 4X = 20  |  | 8            | 8  | 8  | 7  | 4  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| HZ = 21  |  | 8            | 8  | 7  | 6  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 7  | 8  |
| VU = 22  |  | 6            | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 6  | 6  |
| JT = 23  |  | 4            | 5  | 5  | 1  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  | 5  |
| VR2 = 24 |  | 6            | 1  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 4  | 6  |
| JA1 = 25 |  | -            | -  | -  | -  | -  | -  | 3  | 5  | 6  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | 5* | 3* |
| HS = 26  |  | 7            | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  |
| DU = 27  |  | 1            | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 4  |
| YB = 28  |  | 5            | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 6  | 6  | 6  |
| VK6 = 29 |  | 4            | 2  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 1  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 5  | 5  | 5  |
| VK3 = 30 |  | 1            | -  | -  | -  | 1  | 1  | 2  | 5  | 7  | 6  | 6  | 4  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | -  |
| KH6 = 31 |  | -            | 1  | 4  | 5  | 7  | 7  | 8  | 8  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 |  | -            | -  | 1  | 3  | 6  | 6  | 7  | 8  | 8  | 8  | 7  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  |  | 8            | 8  | 8  | 8  | 9  | 8  | 5  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| SU = 34  |  | 8            | 8  | 8  | 8  | 5  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| 6W = 35  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  |
| D2 = 36  |  | 9            | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9  |
| 5Z = 37  |  | 8            | 8  | 8  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 8  | 8  |
| ZS6 = 38 |  | 9            | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 8  | 9  |
| FR = 39  |  | 8            | 8  | 7  | 7  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  | 8  | 8  |
| FJL = 40 |  | 5            | 6  | 5  | 4  | 2  | 1  | 1  | 2  | 4  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  |
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |  |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |  | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 8   | 9   | 9  | 8  | 5  | 1  | 2* | 1* | 1  | 1  | 2  | 1  | -  | -  | -  | -  | 1  | -  | -  | -  | 8  | 5  | 7  | 8  |    |    |
| VO2 = 02 | 8   | 5   | 5  | 5  | 6  | 7  | 8  | 7  | 5  | 5  | 7  | 8  | 7  | 4  | 2  | 1  | 1  | 1  | 1  | 4  | 5  | 8  | 9  | 9  | 9  |    |
| W6 = 03  | 9   | 9   | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 8  | 9  | 7  | -  | 3  | 3  | 1  | -  | -  | -  | -  | 3  | 1  | 3  | 8  |    |    |
| W9 = 04  | 9   | 9   | 7  | 6  | 6  | 7  | 8  | 9  | 8  | 7  | 7  | 4  | 8  | 6  | 3  | -  | -  | -  | -  | 1  | 3  | 8  | 9  | 9  |    |    |
| W3 = 05  | 9   | 8   | 3  | 6  | 6  | 8  | 8  | 9  | 8  | 6  | 6  | 8  | 8  | 5  | 1  | 1  | 1  | 1  | 2  | 2  | 7  | 8  | 9  | 9  |    |    |
| XE1 = 06 | 9   | 9+  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1* | -  | -  | 7  | 4  | 3  | 3  | 3  | 3  | 2  | 5  | 7  | 8  | 9  |    |    |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1* | 1* | 5  | 8  | 6  | 5  | 4  | 3  | 2  | 3  | 5  | 8  | 9  | 9  | 9+ |    |    |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 6  | -  | -  | -  | 9  | 9  | 6  | 4  | 2  | 2  | 4  | 5  | 7  | 9  | 9  | 9+ | 9+ |    |    |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 1  | -  | -  | -  | 9  | 8  | 6  | 5  | 4  | 5  | 5  | 7  | 6  | 9  | 9  | 9+ | 9+ |    |    |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 2* | 3  | 9  | 9  | 9  | 8  | 7  | 6  | 5  | 5  | 6  | 8  | 9  | 9  | 9+ |    |    |
| PY1 = 11 | 9+  | 9+  | 9+ | 9  | 9  | 9+ | 9  | 8  | 5  | 5  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |
| LU = 13  | 9+  | 9+  | 8  | 8  | 7  | 5  | 8  | 6  | 3* | 2* | 1  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |
| G = 14   | 8   | 7   | 8  | 9  | 9  | 7  | 5  | 8  | 7  | 8  | 6  | 4  | 1  | 1  | -  | -  | 1  | 3  | 6  | 8  | 8  | 9  | 9  | 8  |    |    |
| I = 15   | 9   | 9   | 9  | 9  | 9  | 6  | 7  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 3  | 5  | 9  | 8  | 9  | 9  | 9  |    |    |
| UA3 = 16 | 5   | 6   | 5  | 3  | 1  | 2  | 8  | 7  | 5  | 5  | 2  | 1* | 1  | -  | -  | -  | -  | 3  | 5  | 7  | 6  | 4  | 4  | 4  |    |    |
| UN = 17  | 7   | 5   | 7  | 8  | 8  | 8  | 5  | 2  | 2* | 2* | 5  | 8  | 1* | 1* | -  | -  | -  | 1  | 1  | 1  | 1  | 4  | 7  | 8  |    |    |
| UA9 = 18 | 1*  | 1*  | 2* | 4* | 6  | 6  | 8  | 6  | 4  | 5* | 5* | 5  | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1* |    |    |
| UA0 = 19 | 6   | 5   | 7  | 7  | 8  | 6  | 6  | 8  | 8  | 8  | 6* | 6* | 5* | 2* | 1* | -  | -  | 1* | 2* | 1* | -  | -  | 7* | 6  |    |    |
| 4X = 20  | 9   | 9   | 9  | 5  | 1* | 6  | 8  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9  | 9  |    |    |
| HZ = 21  | 9   | 9   | 7  | 1  | 7  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |    |    |
| VU = 22  | 1*  | -   | 5  | 8  | 7  | 5  | 3  | 1  | 1* | 1* | 2* | 1* | 2* | 1* | -  | -  | 1  | 2  | 6  | 7  | 8  | 8  | 8  | 8  |    |    |
| JT = 23  | 2*  | 2   | 7  | 7  | 5  | 4  | 4  | 5  | 6* | 6* | 7* | 5  | 6* | 2* | 1* | -  | -  | -  | -  | 1  | 2  | 2  | 1  | 1* |    |    |
| VR2 = 24 | 8   | 7   | 6  | 3  | -  | 1* | 2* | 4* | 6* | 6  | 7* | 7  | 5* | 3* | 1* | -  | 1  | 2  | 5  | 6  | 8  | 6  | 4* | 3* |    |    |
| JA1 = 25 | 7*  | 5*  | 3  | 4  | 5  | 8  | 7  | 8  | 9  | 8  | 7  | 6* | 3  | 1  | -  | -  | -  | 2* | 4* | 2* | 8  | 5  | 5  | 8* |    |    |
| HS = 26  | 8   | 9   | 8  | 6  | 2  | -  | -  | 3* | 2* | 7  | 7  | 2* | 1  | -  | -  | 2  | 4  | 6  | 8  | 9  | 9  | 7  | 2* |    |    |    |
| DU = 27  | 7   | 5   | 3  | -  | -  | -  | 1  | 3  | 7  | 6  | 7* | 4  | 5* | 2  | -  | -  | 1  | 2  | 5  | 7  | 5  | -  | 5  | 8  |    |    |
| YB = 28  | 9   | 8   | 7  | 4  | 1  | -  | -  | -  | 4* | 8  | 6  | 6  | 3  | 2  | 2  | 2  | 2  | 5  | 6  | 7  | 8  | 7  | 5  | 7  |    |    |
| VK6 = 29 | 8   | 8   | 7  | 7  | 6  | 6  | 6  | 6  | 8  | 8  | 8  | 7  | 6  | 5  | 4  | 2  | 1  | 1  | -  | 1* | 2* | 5  | 7  |    |    |    |
| VK3 = 30 | 7   | 7   | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | 2  | 6  | 7  | 7  | 7  |    |    |    |
| KH6 = 31 | 4   | 7   | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 7  | -  | -  | -  | 2  | -  | -  | 1* | 1  | -  | 1  |    |    |
| KH8 = 32 | 2   | 4   | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 6  | 4  | 3  | 1  | 1  | 1* | 1* | -  | 1  | 1  |    |    |
| CN = 33  | 9+  | 9   | 9  | 9  | 9  | 7  | 1  | 3  | 7  | 8  | 8  | 5  | 2  | 1  | 1  | 1  | 1  | 3  | 6  | 9  | 9  | 9  | 9  | 9  |    |    |
| SU = 34  | 9   | 9   | 9  | 8  | 1* | 6  | 9  | 8  | 6  | 2  | 1  | -  | -  | -  | 1  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |    |    |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 5  | 2* | 6  | 9  | 9  | 8  | 5  | 4  | 2  | 2  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |    |
| D2 = 36  | 9+  | 9   | 8  | 7  | 5  | 4  | 6  | 8  | 7  | 7  | 6  | 4  | 4  | 1  | 3  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ |    |    |
| 5Z = 37  | 8   | 6   | 7  | 3  | 6  | 9  | 8  | 8  | 6  | 2  | 1  | 1  | -  | -  | 1  | 2  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |    |    |
| ZS6 = 38 | 9   | 7   | 3  | 5  | 5  | 7  | 8  | 9  | 8  | 7  | 6  | 6  | 6  | 5  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |    |
| FR = 39  | 1   | 1*  | -  | 5  | 9  | 8  | 7  | 6  | 5  | 3  | 2  | 2  | 2  | 2  | 2  | 3  | 5  | 7  | 8  | 8  | 8  | 2  | 1* | 1* |    |    |
| FJL = 40 | -   | 1*  | 2* | 1* | 1* | 2* | 2* | 2* | 2* | 4* | 5  | 5  | 4  | 1  | -  | -  | 1  | 1  | 3  | 2  | -  | 1  | -  | -  |    |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Feb., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 8  | 5  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 5  | 6  | 7  | 8  | 8  |
| VO2 = 02 | 4       | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | 8  | 9  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 4  | 2  | 2  | 3  | 5  | 7  | 3  | 1  | 3  | -  | -  | 7  | 7  | 6  | 5  | 9  | 9  | 5  | 6  | 8  | 9  |
| W9 = 04  | 9       | 4  | -  | -  | -  | -  | 1  | 5  | 5  | 1  | 1  | -  | 7  | 8  | 8  | 6  | 6  | 7  | 9  | 7  | 8  | 9  | 9  | 9  |
| W3 = 05  | 8       | -  | -  | -  | -  | 1  | 2  | 6  | 2  | 1  | 1  | 1  | 9  | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9  |
| XE1 = 06 | 9+      | 9  | 9  | 9  | 9  | 9  | 3  | 4  | 2  | -  | -  | -  | 6  | 8  | 7  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 6  | -  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9  | 9+ | 8  | 3  | -  | -  | -  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4  | -  | -  | -  | 1  | 9  | 9  | 9  | 9  | 8  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 | 9+      | 8  | 4  | 1  | 1* | 5  | 3  | -  | -  | 1* | 1* | 3  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 6  | 5  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 8       | 2  | 3* | 2* | 1* | 2* | 2* | 1* | 2* | -  | 1* | -  | 1* | -  | 3  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 1       | -  | 2  | 5  | 7  | 1  | -  | 4  | 2  | 6  | 9  | 8  | 7  | 6  | 5  | 5  | 5  | 8  | 9  | 9  | 9  | 7  | 1  | -  |
| I = 15   | 7       | 7  | 8  | 8  | 6  | 1* | 5* | 5  | 5  | 7  | 6  | 5  | 8  | 4  | 4  | 2  | 4  | 6  | 9  | 9  | 9  | 9  | 8  | 6  |
| UA3 = 16 | -       | -  | -  | -  | 4* | 3* | 5  | 3  | 2* | 5  | 6  | 5  | 6  | 4  | 3  | 4  | 5  | 6  | 5  | 1  | 1  | -  | -  | -  |
| UN = 17  | 1*      | 2* | 2  | 7  | 8  | 7  | 5  | 3* | 2* | 4  | 3  | 6* | 6  | 3  | 2  | 3  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| UA9 = 18 | 2*      | 2* | 2* | 2* | 2* | 8  | 6  | 4* | 3* | 4  | 6  | 6* | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 8       | 6  | 7  | 7  | 6  | 9  | 9  | 8  | 4  | 6* | 8* | 7* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8* |
| 4X = 20  | 9       | 9  | 7  | 1* | 5* | 2* | 8  | 5  | 2  | 5  | 5  | 5  | 8  | 4  | 2  | 3  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 7  | 1  | 3* | 2* | 7  | 4  | 2  | 3  | 5  | 5  | 4  | 8  | 2  | 3  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -       | -  | 4* | 8  | 3  | 4  | 2  | 2  | 3  | 6  | 4  | 4  | 4  | 5* | 2* | 3  | 4  | 6  | 7  | 6  | 3  | 2  | 3  | -  |
| JT = 23  | 1*      | 3* | 2  | 8  | 8  | 6  | 5  | 4* | 4* | 6  | 6  | 7* | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VR2 = 24 | 8       | 8  | 7  | 6* | 3* | 3* | 6* | 6* | 4  | 6  | 5  | 8* | 5* | 5  | 5  | 6  | 4  | 7  | 8  | 8  | 7  | -  | -  | 4* |
| JAL = 25 | 8*      | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 6* | 5* | 6* | 6* | 5* | 3* | 1* | -  | -  | -  | -  | 1  | 4  | 5  | 8* |
| HS = 26  | 3       | 9  | 7  | 5* | 2* | 1  | 2* | 4* | 4  | 5  | 6  | 6* | 5  | 6  | 6  | 5  | 6  | 7  | 8  | 8  | 8  | 5  | -  | -  |
| DU = 27  | 8       | 7  | 6  | 4  | 2* | 2* | 4* | 5* | 4  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 6  | 6  | 5  | 2  | -  | -  | 8  |
| YB = 28  | 7       | 9  | 8  | 5  | 2  | 1  | 3* | 4* | 4  | 7  | 7  | 8* | 7  | 7  | 7  | 6  | 6  | 6  | 4  | 2  | -  | -  | -  | 6* |
| VK6 = 29 | 7       | 8  | 8  | 7  | 3  | 1  | 3  | 3  | 5  | 8  | 9  | 8  | 7  | 4  | 2* | 1* | 1* | 1* | 3* | 2* | 1* | -  | 4* | 4* |
| VK3 = 30 | 8       | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 6  | 8  | 6  | 4  | 2* | 1* | 1* | 1* | 1* | 2* | 1* | 1* | 5* | 8  | 8  |
| KH6 = 31 | 7       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 2  | -  | 8  | 6  | -  | -  | -  | -  | 3  | 4  | 6  | 7  | 2  | 3  | 5  |
| KH8 = 32 | 6       | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 1  | 8  | 9  | 7  | 2  | 1  | 5  | 6  | 4  | 6  | 6  | 4* | 4  | 5  |
| CN = 33  | 9       | 9  | 9  | 9  | 8  | 1  | -  | 5* | 1  | 5  | 8  | 8  | 6  | 6  | 6  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9  | 9+ |
| SU = 34  | 9       | 9  | 9  | 3  | 4* | 2* | 8  | 5  | 5  | 7  | 6  | 5  | 4  | 5  | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | 1* | 4  | 9  | 9  | 9  | 8  | 6  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 8       | 3  | 1  | 3  | 1  | 3* | 2* | 4  | 6  | 7  | 7  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  |
| 5Z = 37  | -       | -  | -  | 2* | 2* | 6  | 6  | 5  | 7  | 8  | 5  | 4  | 4  | 6  | 6  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 8  |
| ZS6 = 38 | 1       | -  | -  | -  | 2* | 2* | 5  | 6  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 5  | 3  | 2  |
| FR = 39  | -       | -  | 5* | 4* | 7  | 5  | 5  | 5  | 7  | 7  | 7  | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 7  | 4* | 2* | 2* | 1* | -  |
| FJL = 40 | -       | -  | 2* | 3* | 1* | 1* | 1* | 2* | 2* | 4* | 4* | 1  | 3  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Feb., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 7  | 8  | 8  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 8  | 7  | 8  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 6  |
| W6 = 03  | 9       | 9  | 5  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | 3  | 8  | 7  | 7  | 6  | 7  | 6  | 8  | 9  | 9  |
| W9 = 04  | 6       | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 1  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | 1       | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 7  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9  |
| XE1 = 06 | 9       | 9  | 8  | 9  | 8  | 7  | -  | 1  | -  | -  | -  | -  | -  | -  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9  | 9  | 9  | 7  | 5  | 1  | -  | -  | -  | -  | 8  | 9  | 9  | 8  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+      | 9  | 9  | 8  | 5  | 1  | 1  | -  | -  | -  | -  | 3  | 9+ | 9  | 8  | 6  | 5  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9  | 8  | 8  | 7  | 4  | 4  | -  | -  | -  | -  | -  | 9  | 9  | 7  | 5  | 5  | 4  | 5  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 8       | 7  | 6  | 5  | 5  | 2  | 3  | -  | -  | -  | -  | -  | 7  | 8  | 6  | 3  | 2  | 9  | 1  | 4  | 7  | 9  | 9+ | 9  |
| PY1 = 11 | 7       | 4* | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 4  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 8  | 7  | 6  | 4  | 8  | 4  | 1* | -  | -  | 1  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 4*      | 5* | 3* | 3* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1* | -  | -  | 4  | 6  | 8  | 9  | 9  | 9  | 8  | 5  |
| G = 14   | -       | -  | -  | -  | 1  | -  | -  | 1* | -  | -  | 8  | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 6  | -  | -  | -  |
| I = 15   | 1       | 1  | 2  | 2  | 1  | -  | 2* | 1* | -  | 1  | 8  | 7  | 7  | 6  | 7  | 6  | 6  | 8  | 8  | 9  | 8  | 5  | 1  | -  |
| UA3 = 16 | -       | -  | -  | -  | 1* | 1* | 1  | -  | -  | -  | 7  | 8  | 6  | 5  | 7  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 4* | 2* | 2  | 5  | 5  | 2  | 1* | -  | -  | 4  | 5  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 2*      | 3* | 2* | 1* | 1* | 3  | 3  | 1* | -  | -  | 7  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 8       | 9  | 9  | 9  | 9  | 8  | 8  | 5  | -  | 2* | 7* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7* |
| 4X = 20  | 8       | 6  | 1  | -  | 5* | 1* | 4  | 1* | -  | 1  | 6  | 5  | 6  | 5  | 7  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 6       | -  | -  | 5* | 3* | 2* | 1* | 1* | 1  | 4  | 5  | 4  | 5  | 4  | 5  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 8  |
| VU = 22  | -       | 4* | 2* | 5  | 3* | 2* | 2* | 1* | 1  | 2  | 3  | 2  | 5* | 4  | 4  | 5  | 6  | 5  | 2  | -  | -  | -  | -  | -  |
| JT = 23  | 5*      | 3* | 2* | 5  | 7  | 6  | 2  | 1* | -  | -  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| VR2 = 24 | 7*      | 8* | 7* | 6* | 5* | 5* | 6* | 5* | 1  | 4  | 7  | 6  | 7  | 7  | 7  | 5  | 6  | 7  | 7  | 2  | 1  | -  | -  | 6* |
| JA1 = 25 | 8       | 8  | 8  | 8  | 8  | 9  | 9  | 7  | 3  | 2* | 8* | 7* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 7  |
| HS = 26  | 6*      | 8  | 6* | 5* | 4* | 4* | 3* | 2* | 1  | 3  | 6  | 6  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 7  | 3  | -  | -  | -  |
| DU = 27  | 8*      | 7* | 6* | 5* | 4* | 4* | 4* | 3* | 1  | 2  | 7  | 8  | 8  | 8  | 7  | 7  | 7  | 5  | -  | -  | -  | -  | -  | 7* |
| YB = 28  | 8*      | 7  | 6* | 5* | 4* | 4* | 3* | 2* | 1  | 3  | 7  | 7  | 8  | 7  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | 1* |
| VK6 = 29 | 6*      | 5* | 5  | 3* | 2* | 1* | 1* | -  | -  | 3  | 4  | 7* | 5* | 4* | 3* | 2* | 2* | 2* | 2* | 1* | -  | -  | 1* | 6* |
| VK3 = 30 | 5       | 5  | 4  | 5  | 3  | 1  | 3  | 2  | 2  | 1  | 5* | 5* | 4* | 2* | 2* | 1* | 1* | 1* | 1* | -  | -  | 2* | 5* | 5  |
| KH6 = 31 | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 2  | -  | -  | 4  | 1  | -  | -  | -  | -  | 6  | 5  | 4  | 5* | 5* | 3  | 7  |
| KH8 = 32 | 7       | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | 4* | 4* | 6  | 3* | 1* | -  | 1  | 5  | 6  | 5  | 6  | 5  | 6  | 6  |
| CN = 33  | 8       | 8  | 8  | 6  | 5  | -  | -  | 2* | -  | -  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| SU = 34  | 9       | 9  | 5  | -  | 2* | 2* | 4  | 1* | 1  | 5  | 6  | 5  | 7  | 7  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 8       | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 8  | 5  | 8  | 8  | 9  | 9  | 9  | 9+ | 9  | 9  | 8  |
| D2 = 36  | 2       | -  | -  | -  | -  | 3* | 4* | 2* | 2  | 6  | 7  | 7  | 6  | 9  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  |
| 5Z = 37  | -       | -  | -  | -  | 5* | 5* | 3* | 1  | 4  | 7  | 8  | 7  | 6  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 1  |
| ZS6 = 38 | -       | -  | -  | -  | 2* | 5* | 4* | 1  | 5  | 8  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 3  | -  | -  | -  |
| FR = 39  | -       | -  | 2* | 6* | 5* | 4* | 1* | 1  | 4  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 3* | 3* | 1* | -  | -  | -  |
| FJL = 40 | -       | -  | -  | 1* | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Feb., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 7            | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  | 7  |
| VO2 = 02 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 7  | 5  | 4  | -  |
| W6 = 03  | 9            | 7  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| W9 = 04  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 7  |
| W3 = 05  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 5  |
| XE1 = 06 | 9            | 7  | 3  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 8            | 5  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 4  | 2  | 1  | 1  | 1  | 4  | 9  | 9  | 9  | 9  |
| VP2 = 08 | 7            | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 2  | 2  | 1  | 1  | 2* | 3* | 4  | 7  | 9  | 9  | 8  |
| P4 = 09  | 5            | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 2  | 1  | 2* | 2* | 2* | 3* | 6  | 7  | 8  | 7  |    |
| HC = 10  | 2            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9+ | 9+ | 9  | 9  | 2* | 3  | 4  | 5  |    |
| PY1 = 11 | 4*           | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  | 8  | 9  | 8  | 6* |    |
| CE = 12  | 9            | 5  | 2  | 1  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 3*           | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 2  | 2  | 3* | 5* | 5* |
| G = 14   | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | -  | -  | -  | -  |
| I = 15   | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 6  | 5  | 5  | 8  | 8  | 9  | 9  | 6  | 3  | -  | -  | -  |
| UA3 = 16 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 7  | 5  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -            | 2* | -  | -  | -  | 1  | -  | -  | -  | -  | 4  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 4            | 7  | 8  | 8  | 6  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| 4X = 20  | 4            | 1  | -  | -  | 1* | -  | -  | -  | -  | -  | 4  | 7  | 6  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  |
| HZ = 21  | -            | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | 4  | 6  | 6  | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  |
| VU = 22  | -            | 1* | 5* | 1  | 1* | 1* | 1* | -  | -  | -  | 3  | 6  | 6  | 5  | 6  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 4*           | 1* | -  | -  | 1  | 3  | -  | -  | -  | -  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 8*           | 8* | 7* | 6* | 6* | 5* | 4* | 1* | -  | -  | 5  | 8  | 8  | 8  | 6  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | 2* |
| JAl = 25 | 8            | 9  | 9  | 8  | 8  | 8  | 6  | 2  | -  | -  | 5* | 7* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  |
| HS = 26  | 2*           | 8* | 5* | 5* | 4* | 3* | 1* | -  | -  | -  | 4  | 7  | 8  | 8  | 7  | 7  | 7  | 7  | 6  | 2  | -  | -  | -  | -  |
| DU = 27  | 7*           | 7* | 5* | 4* | 4* | 2* | 2* | -  | -  | -  | 2  | 6  | 7  | 7  | 7  | 8  | 7  | 1  | -  | -  | -  | -  | -  | 2* |
| YB = 28  | 7*           | 6* | 5* | 3* | 2* | 1* | 1* | 1* | -  | -  | 3  | 5  | 7  | 4  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 6*           | 6* | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | 5* | 6* | 5* | 4* | 3* | 2* | 1* | 1* | -  | -  | -  | -  | 4* |
| VK3 = 30 | 3*           | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 3* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1* | 2* | 4* |
| KH6 = 31 | 8            | 8  | 8  | 8  | 9  | 8  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 3  | 5* | 5* | 5  | 8  |
| KH8 = 32 | 7            | 8  | 5  | 4  | 4  | 2  | 5  | 3  | -  | -  | 4* | 5* | 5* | 1* | -  | -  | -  | -  | 6  | 7  | 7  | 6  | 7  | 7  |
| CN = 33  | 5            | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 2  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  |
| SU = 34  | 6            | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 7  | 6  | 6  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| 6W = 35  | 1            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 1  | 1  | 2  | 2  | 3  | 5  | 7  | 8  | 7  | 5  | 2  | 1  |
| D2 = 36  | -            | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | 6  | 8  | 8  | 7  | 9  | 7  | 8  | 8  | 9  | 9  | 7  | 5  | 2  | -  |
| 5Z = 37  | -            | -  | -  | -  | 5* | 4* | 2* | -  | -  | 1  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | -  |
| ZS6 = 38 | -            | -  | -  | -  | -  | 3* | 2* | -  | -  | 1  | 1  | 6  | 6  | 7  | 7  | 7  | 7  | 8  | 7  | 3  | -  | -  | -  | -  |
| FR = 39  | -            | -  | -  | 5* | 5* | 4* | 1* | -  | -  | -  | 5  | 5  | 6  | 6  | 5  | 5  | 2  | 2* | 1* | -  | -  | -  | -  | -  |
| FJL = 40 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Feb., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |  |
| KL7 = 01 | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 4  | 3  |  |  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 2  | 2  | 2  | 3  | 1  | -  | -  | -  | -  |  |  |
| W6 = 03  | 8       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |  |  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 4  | 4  | 5  | 5  | 6  | 7  | 5  | 2  |  |  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 5  | 4  | 4  | 5  | 4  | 4  | 5  | 2  | -  |  |  |
| XE1 = 06 | 6       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 4  | 5  | 5  | 7  | 8  | 9  | 9  | 9  |  |  |
| TI = 07  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 1* | -  | -  | -  | 2  | 4  | 5  | 5  |  |  |
| VP2 = 08 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 4  | 3  |  |  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  |  |  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 7  | 7  | 8  | -  | -  | -  | -  |  |  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 3* | 5* | 5* | 6* | 6* | 4* |  |  |
| CE = 12  | 4       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9  |  |  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 4* | 4* | 3* | 1* |  |  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 6  | 5  | 6  | 6  | 6  | 2  | -  | -  | -  | -  | -  |  |  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 2  | 2  | 8  | 9  | 8  | 6  | -  | -  | -  | -  | -  |  |  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 3  | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  |  |  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |  |
| UA0 = 19 | -       | 3  | 5  | 5  | 1  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 5  | 5  | 7  | 8  | 8  | 8  | 9  | 8  | 7  | 6  | 4  | 2  |  |  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 1  | 3  | 5  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  |  |  |
| VU = 22  | -       | -  | 3* | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 5  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  |  |  |
| JT = 23  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |  |
| VR2 = 24 | 6*      | 8* | 5* | 4* | 3* | 1* | 1* | -  | -  | -  | 1  | 5  | 5  | 6  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  |  |  |
| JA1 = 25 | 7       | 5  | 7  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |  |  |
| HS = 26  | -       | 6* | 4* | 3* | 2* | -  | -  | -  | -  | -  | -  | 3  | 4  | 6  | 6  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  |  |  |
| DU = 27  | 3*      | 5* | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  |  |  |
| YB = 28  | 2*      | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |  |
| VK6 = 29 | 4*      | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 3* | 2* | 1* | 1* | 1* | -  | -  | -  | -  | -  | 1* |  |  |
| VK3 = 30 | 1*      | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* |  |  |
| KH6 = 31 | 8       | 7  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 7  | 8  | 8  | 8  | 8  |  |  |
| KH8 = 32 | 4       | 4  | -  | -  | -  | -  | 1  | -  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 8  | 7  |  |  |
| CN = 33  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 8  | 5  | 1  |  |  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 4  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 4  |  |  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2  | 3  | 2  | -  | -  | -  |  |  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 1  | 4  | 3  | 5  | 8  | 8  | 7  | 9  | 8  | 6  | 2  | 2* | -  | -  |  |  |
| 5Z = 37  | -       | -  | -  | -  | 2* | 1* | 1* | -  | -  | -  | 2  | 5  | 6  | 7  | 7  | 8  | 9  | 8  | 8  | 7  | 6  | 5  | -  | -  |  |  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | 1  | 2  | 3  | 3  | 3  | 2  | 3  | 1  | -  | -  | -  | -  | -  |  |  |
| FR = 39  | -       | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | 1  | -  | -  | 2* | 2* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  |  |  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |  |
|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Mar., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | 1  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 3       | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 1  | 3  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 2  | 2  | 5  | 4  | 5  | 5  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 3       | 4  | 5  | 5  | 5  | 4  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 2  | 3  | 3  | 5  | 5  | 4  | 3  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | -       | 3  | 3  | 4  | 4  | 4  | 4  | 3  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 2       | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |    |
| P4 = 09  | 2       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 5       | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | 5  | 6  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 5  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| I = 15   | 2       | 4  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | 2       | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 3       | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 1  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 1  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 4       | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| SU = 34  | 3       | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| 6W = 35  | 4       | 4  | 4  | 3  | 3  | 4  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |    |
| D2 = 36  | 4       | 4  | 4  | 4  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  |    |
| 5Z = 37  | 5       | 5  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  |    |
| ZS6 = 38 | 5       | 6  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |    |
| FR = 39  | 5       | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |    |
| FJL = 40 | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Mar., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 1  | 2  | 4  | 5  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 6       | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 = 03  | -       | -  | 2  | 4  | 6  | 7  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 3       | 5  | 5  | 8  | 7  | 8  | 8  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 6       | 7  | 8  | 8  | 8  | 7  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | -       | 5  | 6  | 6  | 8  | 8  | 7  | 6  | 5  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 3       | 6  | 6  | 7  | 7  | 7  | 7  | 6  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VP2 = 08 | 5       | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| P4 = 09  | 5       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| HC = 10  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | 2  | 7  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | -  | -  | -  | 3  | 8  | 9  | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| I = 15   | 5       | 7  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| UA3 = 16 | 5       | 3  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| UN = 17  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| UA9 = 18 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| HZ = 21  | 6       | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| VU = 22  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 4  | 5  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 7       | 8  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| SU = 34  | 6       | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| 6W = 35  | 7       | 7  | 7  | 6  | 6  | 7  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| D2 = 36  | 7       | 7  | 7  | 7  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| 5Z = 37  | 8       | 8  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| ZS6 = 38 | 8       | 9  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  |
| FR = 39  | 8       | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  |
| FJL = 40 | 2       | 4  | 3  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1       | 2  | 4  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  |
| W6 = 03  | 2       | 4  | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 7       | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| W3 = 05  | 7       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  |
| XE1 = 06 | 5       | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| TI = 07  | 7       | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| VP2 = 08 | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 7  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  |
| P4 = 09  | 8       | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| HC = 10  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 5  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 2  | 1  | 2  | 5  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  |
| I = 15   | 8       | 8  | 5  | 6  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  |
| UA3 = 16 | 6       | 6  | 7  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  |
| UN = 17  | 3       | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 2  |
| UA9 = 18 | 6       | 5  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  |
| 4X = 20  | 7       | 7  | 7  | 7  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 7  |
| HZ = 21  | 7       | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 7  |
| VU = 22  | 6       | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  |
| JT = 23  | 5       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| VR2 = 24 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 3  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  |
| HS = 26  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | -  |
| YB = 28  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  |
| VK6 = 29 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 4  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | 2  | 4  | 7  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | 3  | 5  | 8  | 7  | 7  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 8  | 9  | 9  | 9  | 6  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 8  |
| SU = 34  | 7       | 7  | 7  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 9  | 9  |
| FR = 39  | 9       | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 9  |
| FJL = 40 | 7       | 8  | 8  | 7  | 7  | 7  | 6  | 2  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Mar., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2       | 6  | 7  | 7  | 7  | 8  | 7  | 6  | 6  | 6  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8       | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| W6 = 03  | 4       | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W9 = 04  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 6  |
| W3 = 05  | 8       | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 6  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  |
| XE1 = 06 | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 9  | 8  | 6  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| TI = 07  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 3  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 8  | 8  | 9  | 8  | 8  | 7  | 5  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| P4 = 09  | 9       | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 8  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | 6  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 7  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 9  | 8  | 9  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 8  |
| UA3 = 16 | 8       | 8  | 7  | 6  | 6  | 7  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 7  | 7  |
| UN = 17  | 7       | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  |
| UA9 = 18 | 4       | 5  | 5  | 5  | 1  | 1  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 4  |
| UA0 = 19 | 1       | 1  | -  | -  | -  | 1  | 1  | 4  | 4  | 4  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 2* | 6  | 2* | 1* |
| 4X = 20  | 8       | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  | 8  |
| HZ = 21  | 8       | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  | 8  |
| VU = 22  | 7       | 6  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 7  | 6  |
| JT = 23  | 5       | 5  | 3  | 1  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 4  | 4  |
| VR2 = 24 | 5       | 2  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  | 6  | 5  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | 2* | 4* | 4* | 5* | 2* |
| HS = 26  | 7       | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 7  | 8  |
| DU = 27  | 2       | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 4  |
| YB = 28  | 5       | 5  | 1  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 7  |
| VK6 = 29 | 5       | 4  | 2  | -  | -  | -  | -  | 1  | 1  | 1  | 5  | 2  | 1  | 1  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 6  |
| VK3 = 30 | -       | -  | 1  | -  | 1  | 2  | 5  | 5  | 5  | 6  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 2  | 1  |
| KH6 = 31 | -       | -  | 3  | 5  | 7  | 7  | 8  | 7  | 8  | 6  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | 1  | 4  | 6  | 7  | 8  | 8  | 8  | 7  | 7  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 7  | 7  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  |
| D2 = 36  | 9       | 8  | 8  | 9  | 8  | 7  | 8  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 8  | 8  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 7  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 8  | 8  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  | 8  |
| FR = 39  | 8       | 6  | 4  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 8  | 8  |
| FJL = 40 | 6       | 7  | 6  | 3  | 1  | 3  | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 6  | 6  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



20 Meters: Mar., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 8  | 8  | 9  | 8  | 6  | 2  | 1  | 2* | 2* | 1* | -  | -  | -  | -  | 1  | 1  | -  | -  | 1  | 3  | 5  | 6  | 7  |
| VO2 = 02 | 9       | 9  | 7  | 7  | 8  | 8  | 8  | 7  | 4  | 5  | 8  | 9  | 7  | 2  | 1  | -  | 1  | 1  | 2  | 6  | 8  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 6  | 8  | 7  | -  | 6  | 3  | 1  | 1  | -  | -  | -  | -  | 1  | 2  | 8  |
| W9 = 04  | 9       | 9  | 9  | 7  | 6  | 6  | 7  | 8  | 7  | 2  | 5  | 5  | 8  | 6  | 2  | -  | -  | -  | 1  | 1  | 4  | 7  | 9  | 9  |
| W3 = 05  | 9+      | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 5  | 2  | 6  | 9  | 8  | 6  | 1  | 1  | -  | 1  | 1  | 2  | 6  | 8  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 8  | 6  | 2  | -  | 8  | 7  | 5  | 1  | 2  | 2  | 1  | 1  | 4  | 6  | 8  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 1* | -  | 8  | 8  | 6  | 4  | 4  | 3  | 2  | 3  | 6  | 7  | 9  | 9  | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | -  | -  | 6  | 9  | 9  | 8  | 5  | 3  | 3  | 3  | 5  | 7  | 9  | 9  | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1* | -  | -  | 9  | 8  | 8  | 7  | 6  | 5  | 5  | 6  | 7  | 9  | 9  | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 3  | 1* | -  | 9  | 9  | 7  | 6  | 5  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9  | 8  | 8  | 8  | 8  | 6  | 5  | 3  | 1  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 9  | 9  | 8  | 7  | 8  | 9  | 6  | 8  | 5  | 2  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 8  | 9  | 9  | 8  |
| I = 15   | 9       | 9  | 9  | 9  | 8  | 6  | 8  | 8  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | 1  | 1  | 5  | 7  | 8  | 9  | 9  | 9  |
| UA3 = 16 | 5       | 5  | 4  | 2  | 2  | 6  | 8  | 7  | 4  | 5  | 1  | 1* | 1* | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 8  | 7  | 6  |
| UN = 17  | 6       | 5  | 8  | 8  | 7  | 5  | 2  | 2  | 1  | 1* | 2* | 2* | 2* | 1* | -  | -  | -  | 2  | 5  | 4  | 4  | 5  | 7  | 7  |
| UA9 = 18 | 1*      | 2* | 2  | 7  | 7  | 7  | 5  | 4  | 5* | 5  | 5* | 5  | 4* | 2* | 1* | -  | -  | -  | 1* | 1  | 1  | -  | 2* | 2* |
| UA0 = 19 | 6       | 6  | 5  | 6  | 6  | 8  | 5  | 7  | 4  | 5* | 8  | 6  | 5* | 3* | 1* | -  | -  | 2* | 4* | 4* | 1* | 5* | 8* | 6  |
| 4X = 20  | 9       | 9  | 9  | 8  | 6  | 8  | 8  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 8  | 5  | 9  | 8  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  | 5       | 6  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | 1* | 1* | 2* | 1* | -  | -  | 1  | 2  | 5  | 8  | 8  | 9  | 9  | 8  |
| JT = 23  | 2*      | 7  | 8  | 8  | 5  | 2  | 1  | 3  | 4* | 4* | 6* | 5  | 5* | 3* | 1* | -  | -  | -  | 1* | 2* | 1  | 1  | 3* | 1* |
| VR2 = 24 | 8       | 8  | 5  | 1  | -  | -  | 1* | 2* | 6* | 6  | 6* | 6  | 6* | 4* | 1* | 1  | 1  | 2  | 5  | 7  | 8  | 8  | 3* | 7  |
| JA1 = 25 | 6*      | 4* | 2  | 2  | 4  | 5  | 6  | 8  | 8  | 6  | 7  | 8  | 6  | 4  | 1  | -  | -  | 3* | 5* | 6* | 6  | 5  | 8* | 8* |
| HS = 26  | 9       | 8  | 6  | 2  | 1  | -  | -  | -  | 2* | 2* | 7  | 7  | 2* | 2* | 1* | -  | -  | 5  | 6  | 8  | 9  | 9  | 9  | 8  |
| DU = 27  | 8       | 7  | 2  | -  | -  | -  | -  | 1  | 6  | 6  | 7* | 4  | 6* | 2  | -  | -  | -  | 3  | 5  | 7  | 8  | 4  | 8  | 8  |
| YB = 28  | 9       | 8  | 6  | 2  | -  | -  | -  | -  | 2  | 7  | 6  | 5  | 3  | 3  | 2  | 1  | 1  | 4  | 6  | 7  | 8  | 7  | 5  | 6  |
| VK6 = 29 | 8       | 8  | 7  | 4  | 2  | 2  | 3  | 5  | 6  | 7  | 7  | 7  | 7  | 4  | 1  | 1  | 1  | 2  | 2  | 2  | 2  | 4  | 6  | 8  |
| VK3 = 30 | 7       | 7  | 7  | 6  | 6  | 6  | 8  | 7  | 7  | 7  | 9  | 8  | 6  | 4  | 1  | 1  | -  | -  | -  | 1* | 5  | 7  | 7  | 7  |
| KH6 = 31 | 3       | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 8  | 1  | -  | -  | 1  | -  | 1* | 1* | 1* | -  | -  | 1  |
| KH8 = 32 | 2       | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 9  | 9  | 8  | 5  | 2  | 2  | 1  | -  | 1* | 1* | -  | 1  | 1  |
| CN = 33  | 9+      | 9+ | 9+ | 9  | 9  | 6  | 5  | 8  | 6  | 8  | 8  | 5  | 2  | -  | -  | 1  | 1  | 2  | 5  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9       | 9  | 9  | 8  | 5  | 9  | 9  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 1  | 1  | 5  | 9  | 9  | 8  | 6  | 4  | 2  | 3  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9       | 8  | 8  | 7  | 6  | 2  | 5  | 6  | 7  | 8  | 6  | 4  | 1  | 1  | 1  | 2  | 5  | 7  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| 5Z = 37  | 9       | 8  | 7  | 1  | 5  | 8  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| ZS6 = 38 | 7       | 6  | 5  | 4  | 4  | 7  | 7  | 8  | 8  | 7  | 6  | 4  | 4  | 4  | 5  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 8  | 8  |
| FR = 39  | -       | 1* | -  | -  | 6  | 4  | 4  | 5  | 5  | 3  | 2  | 1  | 1  | 1  | 1  | 2  | 5  | 7  | 7  | 7  | 6  | 6  | 4  | 1  |
| FJL = 40 | 1       | 2* | 2* | 2* | 1* | 1* | 2* | 2  | 3  | 6  | 6  | 5  | 2  | 1  | -  | -  | -  | 1  | 4  | 6  | 7  | 6  | 4  | 2  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Mar., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 8  | 9  | 8  | 4  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 5  | 5  | 6  | 7  | 8  |
| VO2 = 02 | 8       | -  | 1  | 1  | 1  | 1  | 4  | 1  | -  | -  | -  | 8  | 9  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 7  | 2  | -  | 2  | 3  | 7  | -  | -  | 4  | -  | -  | 8  | 7  | 6  | 5  | 5  | 4  | 5  | 7  | 8  | 9  |
| W9 = 04  | 9       | 9  | 1  | -  | -  | -  | -  | 5  | -  | -  | -  | -  | 8  | 8  | 8  | 7  | 6  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ |
| W3 = 05  | 9       | 6  | 5  | 6  | 7  | 2  | 2  | 6  | -  | -  | 1  | -  | 9  | 8  | 8  | 7  | 7  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| XE1 = 06 | 9       | 9  | 9+ | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | 8  | 8  | 8  | 8  | 7  | 6  | 7  | 6  | 8  | 9  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | -  | -  | -  | 9+ | 9+ | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 4  | -  | -  | -  | 9+ | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | -  | -  | 9+ | 9  | 8  | 8  | 5  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9  | 6  | 5  | 8  | 5  | -  | 1* | -  | -  | 9  | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 8  | 1* | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | 3  | 5  | 5  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | -       | -  | 1  | 3  | 6  | 2  | 2  | 6  | 1  | 6  | 8  | 8  | 5  | 9  | 4  | 4  | 6  | 8  | 8  | 9  | 9  | 9  | 3  | -  |
| I = 15   | 6       | 7  | 8  | 6  | 5  | 1  | 5  | 5  | 2  | 8  | 7  | 5  | 3  | 3  | 2  | 1  | 5  | 7  | 8  | 9  | 9  | 9  | 8  | 5  |
| UA3 = 16 | -       | -  | -  | 1* | -  | -  | 7  | 4  | 1  | 5  | 7  | 6  | 4  | 8  | 2  | 3  | 5  | 7  | 7  | 7  | 6  | 3  | 1  | -  |
| UN = 17  | 1*      | 1* | 5  | 8  | 8  | 7  | 5  | 1  | 1  | 5  | 3  | 4* | 4  | 3* | 3* | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 3*      | 1* | 1* | 2  | 5  | 6  | 8  | 2  | 1* | 5  | 6  | 6* | 5* | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 2* |
| UA0 = 19 | 8       | 8  | 8  | 7  | 8  | 8  | 8  | 7  | -  | 2* | 8* | 8* | 6* | 4* | 2* | 1* | 1* | 2* | 2* | -  | -  | -  | 8* | 8  |
| 4X = 20  | 9       | 9  | 6  | 3* | 2* | 7  | 8  | 1* | 1  | 6  | 6  | 4  | 2  | 2  | 2  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 5  | 2* | 8  | 6  | 2  | 1* | 2  | 5  | 4  | 4  | 7  | 2  | 2  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 1*      | 1  | 6  | 5  | 3  | 2  | 1  | 1* | 1* | 2  | 4  | 4  | 4  | 1  | 3* | 3  | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 4  |
| JT = 23  | 2*      | 2* | 6  | 7  | 7  | 5  | 5  | 2  | 1  | 6  | 5  | 7* | 6* | 7  | 2  | 1* | 1* | 2* | -  | -  | -  | 2* | 2* | 2* |
| VR2 = 24 | 9       | 6  | 4* | 2* | 2* | 2* | 5* | 5* | 6* | 6  | 5  | 9* | 7* | 5* | 3  | 3  | 4  | 5  | 7  | 8  | 9  | 5  | 5* | 2* |
| JA1 = 25 | 7*      | 6  | 5  | 6  | 7  | 8  | 8  | 9  | 7  | 6* | 5* | 6* | 6* | 6* | 4* | 3* | 4* | 5* | 5* | 1* | 5  | 5  | 5* | 8* |
| HS = 26  | 6       | 6  | 3* | 2* | 1* | 1* | 1* | 3* | 2  | 6  | 6  | 6* | 5  | 5  | 6* | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 8  | 2* |
| DU = 27  | 8       | 6* | 4* | 1* | 1* | 1* | 4* | 5* | 1  | 5  | 7  | 8* | 7  | 6  | 5  | 5  | 5  | 7  | 7  | 8  | 5  | -  | 6* | 9  |
| YB = 28  | 7       | 6  | 6* | 2* | 1* | 1* | 1* | 4* | 1  | 4  | 6  | 8* | 7  | 7  | 5  | 4  | 3  | 4  | 4  | 5  | 4  | 1  | -  | 6* |
| VK6 = 29 | 7       | 7  | 4* | -  | -  | -  | 1* | 1* | 1  | 3  | 8  | 8  | 6  | 1  | 2* | 1* | 1* | 1* | 2* | 2* | -  | -  | 3* | 6  |
| VK3 = 30 | 8       | 6  | 5  | 2  | 1  | 1  | 2  | -  | -  | 1* | 4  | 7  | 1  | 2* | 1* | -  | 1* | 1* | 1* | 1* | 1* | 5  | 8  | 8  |
| KH6 = 31 | 7       | 8  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 1  | -  | 8  | 7  | -  | -  | -  | 3  | 5  | 2  | 6  | 8  | 4  | 3  | 5  |
| KH8 = 32 | 5       | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 6  | 1  | 1* | 6  | 9  | 7  | -  | -  | -  | 5  | 6  | 5  | 6  | 7  | 4  | 5  |
| CN = 33  | 9       | 9  | 9  | 9  | 7  | -  | 1* | 4  | 1  | 6  | 9  | 8  | 7  | 6  | 4  | 4  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9       | 9  | 9  | 5  | 1* | 8  | 8  | 2  | 3  | 8  | 6  | 5  | 2  | 2  | 2  | 3  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9  | 4  | -  | 1* | -  | 6  | 9+ | 9  | 8  | 7  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 7       | 5  | 4  | 4  | 1  | 4* | 1* | 1  | 5  | 7  | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| 5Z = 37  | 6       | 3  | -  | 1* | 2* | 2* | 1  | 2* | 6  | 8  | 6  | 4  | 6  | 5  | 4  | 4  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| ZS6 = 38 | -       | -  | -  | -  | 2* | 1  | 2* | 2  | 7  | 6  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 7  | 5  | 3  | -  |
| FR = 39  | -       | -  | 2* | 2* | 2* | 1* | -  | 1  | 4  | 7  | 7  | 8  | 7  | 6  | 6  | 6  | 7  | 7  | 4  | 1* | 2* | 2* | 1* | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 6* | 4  | 4  | 4  | 2  | 2  | 1  | 1  | 1  | -  | 1  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Mar., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 7       | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  | 5  | 5  |
| VO2 = 02 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 8  | 7  | 8  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  |
| W6 = 03  | 9       | 9  | 9  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | 5  | 8  | 7  | 6  | 6  | 5  | 6  | 7  | 8  | 9  |
| W9 = 04  | 9       | 3  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | 8       | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 6  | 9  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 9  | 9  | 3  | 4  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 9  | 9  | 9  |
| TI = 07  | 9+      | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | -  | 9  | 9  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9       | 8  | 9  | 9+ | 9+ | 9  | 6  | -  | -  | -  | -  | 7  | 9+ | 9  | 9  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 8       | 8  | 8  | 9+ | 9+ | 9  | 7  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 4  | 3  | 5  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 8       | 7  | 8  | 9  | 9+ | 9  | 7  | 1  | -  | -  | -  | -  | 7  | 9  | 7  | -  | -  | 1  | 5  | 8  | 9+ | 9+ | 9  | 9  |
| PY1 = 11 | 9+      | 6  | 2  | -  | -  | 1  | -  | -  | -  | -  | -  | 1  | 5  | 2  | 4  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9  | 8  | 7  | 7  | 8  | 5  | 3  | 1  | -  | 2  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 7       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 9+ | 9+ | 9+ | 9+ | 9  | 9  |
| G = 14   | -       | -  | -  | -  | 1  | -  | -  | 1  | -  | -  | 9  | 8  | 7  | 6  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 2  | -  | -  |
| I = 15   | -       | 1  | 2  | -  | 1  | -  | 1  | 1  | -  | 3  | 8  | 6  | 5  | 6  | 5  | 4  | 5  | 7  | 8  | 9  | 9  | 6  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | 3  | -  | -  | -  | 8  | 6  | 5  | 5  | 5  | 4  | 5  | 7  | 6  | 1  | 1  | -  | -  | -  |
| UN = 17  | -       | 3* | 1  | 7  | 8  | 7  | 2  | -  | -  | 1  | 4  | 5  | 6* | 5* | 2  | 4  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 4*      | -  | -  | -  | 1  | 5  | 7  | -  | -  | -  | 8  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 6       | 8  | 8  | 8  | 7  | 8  | 8  | 3  | -  | -  | 3* | 8* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 6* |
| 4X = 20  | 9       | 8  | -  | 1* | 1* | 3  | 5  | -  | -  | 2  | 5  | 5  | 5  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 6  | 1  | 4* | 5  | 2  | 2* | -  | -  | 4  | 4  | 4  | 4  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -       | 5* | 3* | 3* | 2* | 2* | 2* | 1* | -  | 2  | 2  | 3  | 4  | 4  | 4  | 5  | 6  | 6  | 4  | 4  | 3  | 4  | 2  | -  |
| JT = 23  | 4*      | 1* | 1  | 7  | 8  | 8  | 6  | -  | -  | 1  | 8  | 5  | 5* | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* |
| VR2 = 24 | 7       | 7* | 7* | 4* | 4* | 4* | 5* | 7* | 2* | 4  | 7  | 7  | 7  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | -  | 2* | 5* |
| JA1 = 25 | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 2  | 2* | 8* | 8* | 7* | 5* | 3* | 2* | 2* | 2* | 1* | -  | -  | 5  | 6  | 8* |
| HS = 26  | 6*      | 5* | 5* | 4* | 2* | 1* | 1* | 3* | -  | 2  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 2  | -  |
| DU = 27  | 8*      | 6* | 5* | 4* | 2* | 2* | 4* | 3* | -  | -  | 6  | 8  | 8  | 7  | 6  | 6  | 6  | 7  | 7  | 6  | 1  | -  | 4* | 8  |
| YB = 28  | 8*      | 7* | 7* | 5* | 3* | 2* | 4* | 2* | -  | -  | 5  | 8  | 7  | 6  | 5* | 4* | 3* | 3* | 3* | 1  | -  | -  | -  | 5* |
| VK6 = 29 | 5*      | 3* | 2* | 1* | -  | 1* | 1* | -  | -  | -  | 4  | 6  | 6* | 5* | 3* | 2* | 2* | 1* | 1* | 1* | -  | -  | -  | 5* |
| VK3 = 30 | 5       | 1  | 1* | -  | -  | 1* | 2* | -  | -  | -  | 5* | 5* | 2* | 2* | 1* | 1* | 1* | 1* | 1* | -  | -  | 3* | 6  | 7  |
| KH6 = 31 | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | 2  | 5  | -  | -  | -  | -  | 2  | 4  | 4  | 5* | 4  | 5  | 7  |
| KH8 = 32 | 7       | 6  | 7  | 7  | 6  | 5  | 7  | 7  | 1  | 1* | 3* | 2* | 5  | 1  | 1* | 1* | -  | 6  | 6  | 6  | 6  | 6  | 5  | 6  |
| CN = 33  | 8       | 8  | 8  | 4  | 2  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 7  | 7  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| SU = 34  | 9       | 9  | 7  | -  | -  | 4  | 5  | -  | -  | 6  | 6  | 5  | 5  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9       | 9+ | 9  | 9  | 5  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 5  | 5  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  |
| D2 = 36  | 2       | -  | -  | -  | -  | 4* | 5* | 4* | 1  | 7  | 7  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 5  |
| 5Z = 37  | -       | -  | -  | 3* | 4* | 3* | 4* | 2* | 2  | 7  | 7  | 6  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 5  |
| ZS6 = 38 | -       | -  | -  | -  | 1* | 3* | 2* | 2* | 2  | 2  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 7  | 2  | -  | -  | -  |
| FR = 39  | -       | -  | 2* | 2* | 3* | 1* | -  | 1* | 1  | 6  | 8  | 8  | 7  | 8  | 8  | 7  | 7  | 2* | 2* | 2* | 1* | 1* | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Mar., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 4       | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 6  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 5  | 1  |
| W6 = 03  | 9       | 9  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  |
| W9 = 04  | 5       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 8  |
| W3 = 05  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 7  |
| XE1 = 06 | 9       | 9  | 9  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 9  |
| TI = 07  | 7       | 6  | 7  | 8  | 9  | 8  | 5  | -  | -  | -  | -  | -  | -  | 9  | 9  | 1  | -  | 1  | 4  | 9  | 9  | 9+ | 9  | 9  |
| VP2 = 08 | 6       | 5  | 5  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | 9  | 5  | 1* | -  | -  | -  | 4  | 7  | 9  | 9+ | 9  | 8  |
| P4 = 09  | 5       | 3  | 4  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | 5  | 4  | 2* | -  | -  | 1* | 1  | 4  | 7  | 9  | 8  | 7  |
| HC = 10  | 2       | 1  | 2  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2  | 1* | 9  | 9  | 9  | 8  | 9  | 2* | 3  | 3  | 5  |
| PY1 = 11 | 8       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| CE = 12  | 9+      | 8  | 2  | 1  | -  | -  | 1  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 5  | 9  | 5  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 3  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 6  | 7  | 7  | 8  | 9  | 9  | 5  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 6  | 5  | 6  | 5  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 1* | -  | 2  | 5  | 5  | -  | -  | -  | -  | 6  | 6  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 1*      | -  | -  | -  | -  | 1  | 4  | -  | -  | -  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 2       | 4  | 5  | 5  | 5  | 5  | 6  | -  | -  | -  | -  | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| 4X = 20  | 6       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 6  | 7  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 7       | 1  | -  | 2* | 1  | -  | -  | -  | -  | -  | 6  | 6  | 5  | 5  | 6  | 7  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 8  |
| VU = 22  | -       | 5* | 4* | 2* | 1* | 1* | 1* | -  | -  | -  | 4  | 5  | 5  | 5  | 5  | 6  | 7  | 1  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 3*      | -  | -  | 2  | 5  | 8  | 4  | -  | -  | -  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 8*      | 8* | 8* | 7* | 6* | 6* | 6* | 5* | -  | -  | 6  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 7  | 3  | -  | -  | 6* |
| JA1 = 25 | 9       | 9  | 8  | 8  | 9  | 8  | 8  | 7  | -  | -  | 4* | 8* | 6* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 6  | 8  |
| HS = 26  | 5*      | 7* | 6* | 5* | 4* | 3* | 4* | 2* | -  | -  | 4  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | -  | -  |
| DU = 27  | 8*      | 6* | 6* | 5* | 4* | 5* | 3* | -  | -  | -  | 1  | 6  | 8  | 8  | 8  | 7  | 7  | 7  | 5  | 3  | -  | -  | -  | 7* |
| YB = 28  | 7*      | 6* | 6* | 5* | 4* | 3* | 4* | 1* | -  | -  | -  | 6  | 7* | 6* | 5* | 4* | 4* | 3* | 1* | -  | -  | -  | -  | 1* |
| VK6 = 29 | 6*      | 5* | 5* | 4* | 1* | 2* | 1* | -  | -  | -  | -  | 6* | 6* | 5* | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | 3* |
| VK3 = 30 | 5*      | 4* | 3* | 2* | 1* | 2* | 1* | -  | -  | -  | -  | 1* | 1* | -  | 1* | 1* | -  | -  | -  | -  | -  | 1* | 4* | 5* |
| KH6 = 31 | 8       | 8  | 9  | 9  | 9  | 9  | 8  | 8  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 6  | 4  | 6  | 6* | 5  | 7  | 7  |
| KH8 = 32 | 7       | 5  | 3  | 1  | -  | -  | 1  | 1  | -  | -  | 5* | 5* | 5* | 3* | 2* | -  | -  | 4  | 7  | 6  | 6  | 7  | 7  | 7  |
| CN = 33  | 3       | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 5  | 1  |
| SU = 34  | 9       | 8  | 1  | -  | -  | -  | -  | -  | -  | 1  | 8  | 7  | 6  | 7  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 2       | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | 6  | 9  | -  | -  | -  | -  | 2  | 7  | 9  | 9+ | 9  | 8  | 4  | 2  |
| D2 = 36  | -       | -  | -  | -  | -  | 1* | 3* | 1* | -  | 1  | 8  | 7  | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 9  | 7  | 4  | 2  | -  |
| 5Z = 37  | -       | -  | -  | -  | 6* | 5* | 4* | 1* | -  | 1  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 4* | 5* | 2* | -  | -  | 2  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | 2  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 5* | 5* | 4* | 2* | -  | -  | -  | 7  | 8  | 8  | 8  | 7  | 6  | 2  | 1* | 1* | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC --> \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Mar., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 4  | 2  | -  | -  |
| W6 = 03  | 8       | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 8  | 8  | 8  | 9  | 9  | 9  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 2  | 3  | 6  | 7  | 7  | 7  | 3  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3  | 5  | 7  | 7  | 8  | 6  | 6  | 1  |
| XE1 = 06 | 8       | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 3       | 2  | 2  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 1  | 4  | 6  | 7  | 6  |
| VP2 = 08 | 1       | -  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 1* | 1  | 3  | 5  | 6  | 4  |
| P4 = 09  | 1       | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | 1  | 2  | 5  | 3  |
| HC = 10  | -       | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 7  | 5  | 6  | 8  | 9  | -  | -  | -  | 1  |
| PY1 = 11 | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2  | 5  | 7  | 8  | 9+ | 9  | 7  |
| CE = 12  | 8       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | 3* | 3* | 4  | 1  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 4  | 5  | 6  | 7  | 6  | 4  | -  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 6  | 6  | 8  | 9  | 9  | 8  | 6  | -  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | 1  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | 2  | 2  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | 1  | 1  | 1  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 7  | 6  |
| HZ = 21  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 7  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | -  |
| VU = 22  | -       | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 6  | 6  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | 1  | 5  | 1  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 6*      | 7* | 8* | 7* | 7* | 6* | 6* | 2* | -  | -  | 2  | 7  | 8  | 8  | 6  | 6  | 6  | 6  | 6  | 3  | -  | -  | -  | 2* |
| JA1 = 25 | 7       | 8  | 8  | 8  | 8  | 7  | 4  | 2  | -  | -  | 1* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| HS = 26  | 1*      | 6* | 7* | 6* | 4* | 3* | 4* | 1* | -  | -  | 1  | 5  | 7  | 8  | 8  | 8  | 8  | 7  | 8  | 6  | 2  | -  | -  | -  |
| DU = 27  | 6*      | 5* | 5* | 5* | 4* | 4* | 1* | -  | -  | -  | 2  | 5  | 6  | 6  | 6  | 8  | 6  | 2  | -  | -  | -  | -  | 2* | -  |
| YB = 28  | 4*      | 5* | 5* | 4* | 3* | 2* | 1* | -  | -  | -  | -  | 1  | 4* | 5* | 1* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 4*      | 3* | 3* | 3* | 1* | 1* | -  | -  | -  | -  | -  | 1* | 5* | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | 4*      | 3* | 2* | 1* | 1* | 1* | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 4* | -  |
| KH6 = 31 | 8       | 8  | 8  | 8  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 5  | 6  | 7  | 7  |
| KH8 = 32 | 5       | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 5* | 4* | 3* | 1* | -  | -  | -  | 7  | 7  | 8  | 8  | 8  | 7  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 5  | -  | -  |
| SU = 34  | 7       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | -  | -  | -  | -  | 1* | 2* | 4  | 5  | 3  | -  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 3  | 8  | 8  | 8  | 8  | 7  | 9  | 9  | 9  | 6  | 4  | 3* | 1* | -  |
| 5Z = 37  | -       | -  | -  | -  | 4* | 3* | 2* | -  | -  | -  | 4  | 7  | 8  | 8  | 8  | 9  | 8  | 9  | 8  | 8  | 6  | 4  | 1  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 1* | 2* | 1* | -  | -  | -  | 2  | 6  | 6  | 6  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 3* | 5* | 5* | 2* | -  | -  | -  | 1  | 6  | 4  | 5  | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |

Zone UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Apr., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2       | 5  | 5  | 5  | 5  | 4  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 2  | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 2  | 4  | 5  | 5  | 5  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 4  | 5  | 5  | 5  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 1  | 3  | 4  | 4  | 5  | 5  | 4  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | -       | 3  | 3  | 4  | 4  | 4  | 4  | 3  | 2  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 2       | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| P4 = 09  | 2       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 5       | 5  | 6  | 6  | 4  | 5  | 5  | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| I = 15   | 4       | 4  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| UA3 = 16 | 2       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HZ = 21  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 1  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 1  | 3  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 4  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| SU = 34  | 4       | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| 6W = 35  | 4       | 4  | 4  | 4  | 4  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| D2 = 36  | 5       | 5  | 5  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| 5Z = 37  | 4       | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| ZS6 = 38 | 6       | 6  | 6  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  |
| FR = 39  | 5       | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Apr., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | 1  | 2  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 8  | 8  | 8  | 8  | 7  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 = 03  | -       | -  | 1  | 3  | 5  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 2       | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 4       | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | -       | 4  | 6  | 7  | 7  | 8  | 8  | 7  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 3       | 6  | 6  | 7  | 7  | 7  | 7  | 6  | 5  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VP2 = 08 | 5       | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| P4 = 09  | 5       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| HC = 10  | 8       | 8  | 9  | 9  | 7  | 8  | 8  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1  | -  | -  | -  | -  | 4  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 3  | -  | -  | -  | -  | -  | 2  | 7  | 9  | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 3  | 1  | 1  | 1  | 5  | 9  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| I = 15   | 7       | 7  | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  |
| UA3 = 16 | 5       | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| UN = 17  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 6  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| HZ = 21  | 5       | 1  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| VU = 22  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 2  | 4  | 6  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 7  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| SU = 34  | 7       | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| 6W = 35  | 7       | 7  | 7  | 7  | 7  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| D2 = 36  | 8       | 8  | 8  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 8  |
| 5Z = 37  | 7       | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 6  |
| ZS6 = 38 | 9       | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  |
| FR = 39  | 8       | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| FJL = 40 | 1       | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Apr., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1  | 1  | 2  | 4  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| W6 = 03  | 1  | 4  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  |
| W3 = 05  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |
| XE1 = 06 | 5  | 8  | 8  | 9  | 8  | 9  | 9  | 8  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| TI = 07  | 7  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| VP2 = 08 | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| P4 = 09  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  |
| HC = 10  | 9  | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 6  | 6  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 4  | 3  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| I = 15   | 7  | 7  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| UA3 = 16 | 7  | 7  | 6  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  |
| UN = 17  | 7  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  | 7  |
| UA9 = 18 | 5  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  |
| 4X = 20  | 7  | 6  | 8  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 7  |
| HZ = 21  | 7  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 8  |
| VU = 22  | 6  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  |
| JT = 23  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 4  | 4  |
| VR2 = 24 | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  | 3  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | -  | -  |
| HS = 26  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 3  | 1  |
| YB = 28  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 6  | 6  |
| VK6 = 29 | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 5  |
| VK3 = 30 | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  |
| KH6 = 31 | -  | -  | -  | 1  | 5  | 6  | 7  | 7  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | 2  | 5  | 7  | 8  | 7  | 8  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9  | 9  | 8  | 9  | 9  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  |
| SU = 34  | 7  | 8  | 8  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 7  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 9  | 9  | 9  |
| 5Z = 37  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 9  | 9  |
| FR = 39  | 9  | 9  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 9  |
| FJL = 40 | 6  | 6  | 7  | 7  | 6  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 5  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Apr., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2  | 3  | 6  | 6  | 7  | 7  | 8  | 7  | 7  | 6  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 8  |
| W6 = 03  | 3  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| W3 = 05  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 8  |
| XE1 = 06 | 8  | 8  | 8  | 9  | 8  | 9  | 9  | 8  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| TI = 07  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 3  | 2  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| VP2 = 08 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  |
| P4 = 09  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | 8  | 8  | 4  | 2  | 1  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 9  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  |
| I = 15   | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 6  | 8  | 8  |
| UA3 = 16 | 8  | 8  | 7  | 7  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 8  |
| UN = 17  | 7  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 7  | 7  |
| UA9 = 18 | 5  | 5  | 5  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 5  |
| UA0 = 19 | -  | -  | -  | -  | -  | 1  | 1  | 1  | 5  | 2* | 2  | 1  | 1* | -  | -  | -  | -  | -  | -  | 2* | 3* | 5  | 2* | 1* |
| 4X = 20  | 8  | 8  | 7  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 8  |
| HZ = 21  | 8  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  | 8  | 8  |
| VU = 22  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 6  |
| JT = 23  | 5  | 4  | 1  | 1  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 4  | 5  | 5  |
| VR2 = 24 | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | 1* | 1* | -  | -  | -  | -  | -  | 1  | 2  | 4  | 6  | 6  | 5  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | 1* | 3* | 5* | 4* | 2* |    |
| HS = 26  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| DU = 27  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 6  | 5  |
| YB = 28  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 7  | 7  |
| VK6 = 29 | 6  | 5  | 3  | 1  | -  | -  | -  | 2  | 2  | 5  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | 2  | 4  | 5  | 5  | 5  | 6  |
| VK3 = 30 | 3  | 2  | 1  | 2  | 3  | 4  | 6  | 7  | 7  | 6  | 6  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | 1  | 3  | 4  | 4  | 3  |
| KH6 = 31 | -  | -  | 3  | 4  | 6  | 6  | 7  | 7  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 7  | 8  | 8  |
| SU = 34  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 7  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  |
| D2 = 36  | 8  | 9  | 9  | 9  | 7  | 5  | 7  | 5  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 8  | 8  |
| 5Z = 37  | 8  | 8  | 8  | 6  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| ZS6 = 38 | 8  | 8  | 8  | 8  | 7  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 7  | 8  | 8  | 8  |
| FR = 39  | 8  | 5  | 2  | 7  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 7  | 7  | 7  |
| FJL = 40 | 6  | 6  | 5  | 5  | 5  | 5  | 5  | 6  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 7  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 20 Meters: Apr., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 8  | 8  | 9  | 8  | 8  | 6  | 4  | 3  | 3* | 3* | 2* | 1* | -  | -  | 1  | 1  | 2  | 2  | 4  | 3  | 5  | 6  | 7  |
| VO2 = 02 | 9       | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 4  | 7  | 9  | 9  | 8  | 5  | 2  | 2  | 1  | 2  | 3  | 7  | 7  | 9  | 9  | 9  |
| W6 = 03  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 9  | 8  | 5  | 7  | 3  | 1  | 1  | -  | -  | -  | -  | 1  | 2  | 6  |
| W9 = 04  | 9       | 9  | 9  | 8  | 8  | 7  | 7  | 8  | 6  | 5  | 7  | 8  | 8  | 6  | 3  | 2  | 1  | 1  | 1  | 4  | 4  | 7  | 9  | 9  |
| W3 = 05  | 9+      | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 4  | 4  | 7  | 9  | 8  | 5  | 2  | 1  | 1  | 1  | 2  | 5  | 6  | 9  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 7  | 6  | 7  | -  | 8  | 7  | 5  | 4  | 3  | 2  | 2  | 2  | 5  | 7  | 8  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 1* | 1  | 9  | 9  | 7  | 5  | 4  | 5  | 4  | 5  | 6  | 8  | 9  | 9  | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  | 1  | 9+ | 9  | 9  | 7  | 6  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | -  | 1  | 2  | 9  | 8  | 7  | 6  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 2  | 2* | -  | 9+ | 9  | 8  | 6  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9  | 9  | 9+ | 9  | 9  | 8  | 5  | 5  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9       | 9  | 7  | 7  | 8  | 8  | 7  | 5  | 1  | -  | -  | 2  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 9  | 9  | 8  | 8  | 8  | 9  | 8  | 6  | 8  | 5  | 3  | 1  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| I = 15   | 9       | 9  | 9  | 9  | 8  | 8  | 9  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 8  | 9  | 9  | 9  |
| UA3 = 16 | 8       | 8  | 4  | 4  | 6  | 8  | 7  | 5  | 3  | 5  | 2  | 1* | 1* | 1* | -  | -  | 1  | 3  | 6  | 8  | 7  | 8  | 8  | 7  |
| UN = 17  | 8       | 8  | 8  | 7  | 7  | 5  | 2  | -  | 1  | -  | -  | 2* | 3* | 1* | -  | -  | -  | 3  | 6  | 7  | 8  | 8  | 8  | 8  |
| UA9 = 18 | 2*      | 4  | 7  | 7  | 7  | 6  | 4  | 3  | 2  | 3  | 7  | 6  | 3* | 4* | 2* | 1* | 1* | 1  | 5  | 6  | 5  | 3* | 2  | 1  |
| UA0 = 19 | 5       | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 4  | 6  | 8  | 7  | 6  | 5* | 3* | 2* | 2* | 4* | 5* | 6* | 6* | 8* | 7* | 6  |
| 4X = 20  | 9       | 9  | 9  | 8  | 8  | 9  | 7  | 2  | 4  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 8  | 8  | 9  | 8  | 5  | 1  | 3  | 1  | -  | -  | 1* | 1  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  | 7       | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | 2* | 4* | 1* | 1* | 1  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 8  |
| JT = 23  | 6       | 7  | 7  | 4  | 4  | 2  | 1  | 2* | 4* | 5  | 4  | 6* | 4* | 5* | 2* | 1* | 1* | 2  | 4  | 4  | 3  | 3* | 2  | 3  |
| VR2 = 24 | 8       | 5  | 1  | -  | -  | -  | 1* | 2* | 6* | 6  | 5  | 7* | 6* | 5* | 2* | 1  | 2  | 4  | 6  | 8  | 8  | 8  | 6  | 9  |
| JA1 = 25 | 4*      | 1  | 1  | 2  | 3  | 6  | 8  | 8  | 8  | 5  | 6  | 9  | 8  | 6  | 4  | 2* | 3* | 5* | 7* | 7* | 6  | 8* | 8* | 6* |
| HS = 26  | 8       | 5  | 1  | -  | -  | -  | -  | -  | 3* | 1  | 6  | 6  | 4* | 4* | 2  | 2  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 7  |
| DU = 27  | 6       | 3  | -  | -  | -  | -  | -  | 2* | 4  | 5  | 7* | 5  | 5  | 4  | 3  | 2  | 2  | 4  | 6  | 7  | 6  | 4* | 7  | 8  |
| YB = 28  | 8       | 5  | 1  | -  | -  | -  | -  | -  | 2  | 6  | 5  | 5  | 5  | 4  | 2  | 3  | 3  | 4  | 5  | 7  | 8  | 6  | 5  | 8  |
| VK6 = 29 | 7       | 6  | 1  | -  | 1  | 1  | 1  | 1  | 5  | 8  | 8  | 8  | 6  | 2  | -  | -  | 1  | 2  | 4  | 5  | 3  | 2  | 2  | 5  |
| VK3 = 30 | 6       | 4  | 1  | 1  | 2  | 4  | 5  | 4  | 5  | 6  | 8  | 7  | 4  | 2  | 1  | 1  | -  | -  | -  | 1* | 2* | 7  | 8  | 8  |
| KH6 = 31 | 2       | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 2* | 9  | 8  | 4  | -  | 2  | 1  | -  | 1* | 1* | 1* | -  | -  | 1  |
| KH8 = 32 | 3       | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 5  | -  | 8  | 9  | 8  | 4  | -  | 2  | 3  | 2  | 1  | 2* | -  | 1  | 2  |
| CN = 33  | 9+      | 9  | 9  | 9  | 9  | 7  | 7  | 7  | 5  | 8  | 8  | 3  | 2  | 1  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9  | 9+ |
| SU = 34  | 9       | 9  | 9  | 8  | 8  | 9  | 8  | 5  | 4  | 2  | 1  | 1  | -  | -  | -  | 1  | 1  | 3  | 7  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9  | 6  | 1* | 1  | 3  | 9  | 9  | 8  | 6  | 4  | 3  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 8       | 7  | 6  | 6  | 3  | -  | 4  | 4  | 6  | 8  | 7  | 5  | 3  | 1  | 2  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| 5Z = 37  | 9       | 9  | 6  | -  | 4  | 8  | 5  | 2  | 6  | 2  | 2  | 1  | -  | 1  | 1  | 1  | 2  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| ZS6 = 38 | 5       | 6  | 5  | 4  | 1  | 4  | 4  | 6  | 7  | 8  | 7  | 5  | 5  | 5  | 5  | 5  | 7  | 8  | 9  | 8  | 8  | 8  | 7  | 4  |
| FR = 39  | -       | -  | -  | -  | 6  | 5  | 1  | 2  | 5  | 4  | 2  | 2  | 3  | 3  | 3  | 4  | 6  | 6  | 4  | 3  | 3  | 2  | 1* | -  |
| FJL = 40 | 3       | 1* | -  | -  | -  | 1* | 2  | 7  | 3  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | 1  | 5  | 6  | 8  | 8  | 7  | 5  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Apr., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5* | 4  | 6  |
| VO2 = 02 | 9       | 7  | 3  | 1  | 1  | -  | 4  | 2  | -  | 1  | 3  | 9  | 9  | 7  | 8  | 7  | 7  | 8  | 7  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9  | 7  | 4  | 4  | 4  | 6  | -  | -  | 5  | -  | 2  | 7  | 7  | 7  | 7  | 9  | 5  | 6  | 8  | 8  | 8  |
| W9 = 04  | 9       | 9  | 5  | 3  | 1  | -  | -  | 5  | -  | -  | 2  | -  | 8  | 8  | 7  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ |
| W3 = 05  | 9       | 9  | 9  | 8  | 8  | 3  | 2  | 6  | -  | -  | 4  | 5  | 9  | 8  | 7  | 8  | 7  | 8  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| XE1 = 06 | 9       | 9  | 9+ | 9  | 9  | 9  | 9  | 8  | 2  | -  | 1  | -  | 6  | 8  | 8  | 8  | 8  | 8  | 6  | 6  | 8  | 9  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  | -  | -  | -  | 9  | 9  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | -  | -  | -  | 9+ | 9+ | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | -  | -  | -  | 9  | 9  | 9  | 8  | 9  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | 1  | 9+ | 9  | 8  | 8  | 6  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 | 9+      | 8  | 6  | 7  | 8  | 7  | 6  | 3  | -  | -  | -  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | -  | 4  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  |
| G = 14   | 1       | 1  | 1  | 2  | 6  | 5  | 7  | 4  | 1  | 8  | 8  | 8  | 7  | 9  | 6  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 7  | 1  |
| I = 15   | 7       | 8  | 8  | 5  | 5  | 5  | 8  | 3  | 1  | 8  | 8  | 7  | 5  | 2  | 4  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 5  |
| UA3 = 16 | 2       | 1  | -  | -  | 1  | 6  | 8  | 1  | 1  | 7  | 6  | 5  | 6  | 7  | 4  | 4  | 6  | 8  | 8  | 8  | 8  | 7  | 4  | 2  |
| UN = 17  | 1       | 2  | 8  | 9  | 8  | 7  | 2  | -  | -  | 5  | 5  | 3  | 5* | 4  | 3* | 3* | 5  | 6  | 5  | 4  | 2  | 1  | 2  | 3* |
| UA9 = 18 | -       | -  | 1  | 6  | 7  | 8  | 7  | 1  | -  | 6  | 6  | 4  | 5* | 5  | 4* | 4* | 3  | 1  | 1  | 1  | -  | 1* | 4* | 4* |
| UA0 = 19 | 7       | 7  | 7  | 6  | 6  | 7  | 9  | 6  | -  | 1  | 8  | 8* | 8* | 6* | 5* | 4* | 5* | 5* | 5* | -  | -  | 7* | 8* | 6  |
| 4X = 20  | 9+      | 9  | 8  | 6  | 5  | 9  | 2  | -  | -  | 6  | 6  | 3  | 2  | 8  | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| HZ = 21  | 9       | 8  | 6  | 6  | 6  | 4  | 1* | -  | 1  | 5  | 2  | 4  | 7  | 6  | 3  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 1*      | 5  | 6  | 2  | 2  | 2  | 1* | 1* | -  | 3  | 4  | 4  | 4* | 4* | 2  | 4  | 5  | 6  | 5  | 6  | 8  | 8  | 8  | 4  |
| JT = 23  | -       | 5  | 7  | 8  | 7  | 8  | 6  | 1  | -  | 6  | 3  | 3* | 8* | 6* | 5* | 5* | 4* | 4* | 3* | 1* | -  | 4* | 4* | 2* |
| VR2 = 24 | 2       | 5* | 5* | 4* | 2* | 2* | 3* | 6* | 4* | 4  | 4  | 8* | 8* | 6* | 6  | 5  | 6  | 7  | 8  | 9  | 8  | 4* | 2* | 5  |
| JA1 = 25 | 7       | 7  | 7  | 8  | 8  | 8  | 8  | 9  | 6  | 6* | 6* | 9  | 7* | 6* | 6* | 5* | 6* | 7* | 7* | 2  | 6  | 5  | 7* | 5  |
| HS = 26  | 3       | 2* | 4* | 2* | 1* | -  | 1* | 2* | 1  | 5  | 5  | 6* | 6* | 6* | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 6  | 1* |
| DU = 27  | 6*      | 7* | 4* | 3* | 1* | 1* | 3* | 5* | -  | 5  | 8  | 8  | 8  | 7  | 7  | 6  | 6  | 7  | 7  | 6  | 1  | 5* | 5* | 6* |
| YB = 28  | 4*      | 3* | 4* | 2* | 1* | 1* | 1* | 3* | -  | 4  | 7  | 8  | 7  | 3  | 3* | 2* | 1  | 2* | 1  | 3* | 2  | 1  | 2* | 4* |
| VK6 = 29 | 4*      | 3* | 1* | 1* | -  | -  | 1* | -  | -  | 2  | 8  | 8  | 3* | 1* | 2* | 1* | 1* | 1  | 1  | 1  | -  | -  | 2* | 4* |
| VK3 = 30 | 2       | -  | -  | -  | 1* | -  | 1* | -  | -  | 2* | 2* | 2* | 1* | 1* | 1* | -  | -  | 1* | 1* | 1* | 1* | 2  | 8  | 7  |
| KH6 = 31 | 7       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 3* | 2* | 5  | 8  | -  | -  | -  | 6  | 5  | 5  | 7  | 8  | 4* | 3  | 5  |
| KH8 = 32 | 6       | 5  | 5  | 5  | 3  | 4  | 6  | 6  | 4  | 1* | 1* | 1* | 6  | 4  | -  | 1* | -  | 7  | 6  | 5  | 5  | 5  | 5  | 5  |
| CN = 33  | 9       | 8  | 9  | 9  | 8  | 2  | 1  | 1  | -  | 7  | 9  | 8  | 6  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9       | 9  | 9  | 6  | 6  | 9  | 5  | 1* | -  | 6  | 6  | 3  | 4  | 8  | 2  | 3  | 5  | 7  | 9  | 9  | 9  | 9+ | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | 7  | 9+ | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 2       | 1  | 1  | 1  | 1* | 1* | 1* | 2* | 4  | 7  | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9  | 9  | 8  | 6  | 5  |
| 5Z = 37  | 6       | 4  | -  | 1* | 2* | 1  | 1* | 1* | 4  | 8  | 7  | 5  | 8  | 7  | 5  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 7  |
| ZS6 = 38 | -       | -  | -  | -  | 1* | 1* | 1* | 1* | 2  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 2  | -  | -  |
| FR = 39  | -       | -  | 1* | 2* | 1* | 1* | -  | -  | 2  | 7  | 7  | 7  | 7  | 6  | 7  | 8  | 7  | 1* | 1* | 1* | -  | -  | -  | -  |
| FJL = 40 | 1*      | -  | -  | -  | -  | -  | -  | 3  | -  | 5  | 3  | 5* | 3  | 2  | 2  | 2  | 2  | 2  | 1  | 1  | 1  | 3  | 1  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



15 Meters: Apr., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          |  | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|--|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 |  | 5            | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  |
| VO2 = 02 |  | 6            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  |  | 9            | 9  | 9  | 6  | 1  | -  | -  | -  | 1  | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 6  | 7  | 7  | 8  | 8  | 8  | 9  |
| W9 = 04  |  | 9            | 7  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 1  | 6  | 7  | 7  | 8  | 8  | 7  | 9  | 9  | 9  | 9  | 9  |
| W3 = 05  |  | 9            | 2  | 2  | 2  | 2  | -  | -  | 1  | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 7  | 8  | 9  | 8  | 9  | 9  | 9+ | 9  |
| XE1 = 06 |  | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 5  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| TI = 07  |  | 9            | 9  | 9+ | 9+ | 9+ | 9  | 8  | 2  | -  | -  | -  | -  | 5  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  |
| VP2 = 08 |  | 9            | 9  | 9  | 9  | 9  | 8  | 5  | -  | -  | -  | -  | 8  | 9+ | 9  | 9  | 8  | 5  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  |
| P4 = 09  |  | 8            | 8  | 9  | 9  | 8  | 7  | 5  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 5  | 2  | 5  | 9  | 9  | 9+ | 9+ | 9+ | 9  |
| HC = 10  |  | 7            | 7  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | 7  | 9  | 7  | 1  | -  | -  | -  | 4  | 7  | 8  | 8  | 8  |
| PY1 = 11 |  | 7            | 1  | -  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  |
| CE = 12  |  | 9            | 8  | 6  | 6  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3  | 6  | 8  | 9+ | 9+ | 9+ | 5  | 5  | 4* |
| G = 14   |  | -            | -  | -  | -  | 1  | -  | 2  | -  | -  | 1  | 9  | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 8  | -  | -  |
| I = 15   |  | 1            | 2  | 2  | -  | 1  | -  | 5  | -  | -  | 4  | 8  | 7  | 5  | 4  | 6  | 4  | 6  | 8  | 8  | 9  | 9  | 7  | -  | -  |
| UA3 = 16 |  | -            | -  | -  | -  | -  | 1  | 5  | -  | -  | 1  | 7  | 6  | 5  | 5  | 4  | 4  | 5  | 7  | 8  | 7  | 6  | 2  | -  | -  |
| UN = 17  |  | 1*           | -  | 6  | 8  | 8  | 6  | -  | -  | -  | 1  | 5  | 5  | 4* | 5* | 3  | 4  | 6  | 4  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 |  | -            | -  | -  | 1  | 5  | 8  | 5  | -  | -  | 1  | 5  | 4  | 7* | 5* | 3* | 1* | 1* | -  | -  | -  | -  | -  | 1* | 2* |
| UA0 = 19 |  | 3            | 4  | 4  | 4  | 5  | 5  | 8  | 2  | -  | -  | 2  | 8* | 7* | 3* | 2* | 2* | 2* | 2* | 1* | -  | -  | 1* | 3* | 2  |
| 4X = 20  |  | 9            | 8  | 2  | 1  | 1  | 6  | -  | -  | -  | 2  | 5  | 5  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  |  | 8            | 3  | 1  | 2  | -  | -  | -  | -  | -  | 3  | 5  | 4  | 4  | 4  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  |  | 4*           | 2* | 4* | 2* | 1* | -  | -  | -  | -  | 3  | 3  | 2  | 4* | 5* | 4  | 5  | 7  | 3  | -  | -  | 1  | 5  | 3  | -  |
| JT = 23  |  | -            | -  | 3  | 8  | 8  | 7  | 4  | -  | -  | 1  | 6  | 5  | 8* | 5* | 2  | 2* | 1* | 1* | 1* | -  | -  | -  | 5* | 1* |
| VR2 = 24 |  | 5*           | 6* | 6* | 5* | 4* | 6* | 6* | 6* | -  | 2  | 7  | 6  | 8* | 6  | 7  | 7  | 7  | 8  | 8  | 8  | 4  | -  | 5* | 5* |
| JA1 = 25 |  | 8            | 8  | 7  | 8  | 8  | 9  | 9  | 8  | 1  | 2* | 8* | 8* | 8* | 6* | 5* | 5* | 4* | 5* | 2* | -  | 2  | 6  | 6  | 8  |
| HS = 26  |  | 4*           | 5* | 5* | 4* | 1* | 4* | 4* | 4* | -  | 3  | 6  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | -  | 3* |
| DU = 27  |  | 7*           | 7* | 6* | 5* | 5* | 4* | 5* | 2* | -  | -  | 6  | 8  | 8  | 7  | 7  | 6  | 7  | 7  | 6  | 2  | -  | 1* | 7* | 7* |
| YB = 28  |  | 5*           | 6* | 6* | 5* | 4* | 3* | 3* | 1* | -  | -  | 6  | 8  | 6* | 5* | 6* | 5* | 4* | 4* | 3* | 1* | -  | -  | -  | 7* |
| VK6 = 29 |  | 4*           | 3* | 2* | 1* | 1* | 1* | 1* | -  | -  | -  | 2  | 7* | 3* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 6* |
| VK3 = 30 |  | 2*           | 1* | 1* | 1* | -  | 1* | 1* | -  | -  | -  | 5* | 2* | 1* | -  | -  | -  | -  | 1* | -  | -  | -  | 4* | 4  | 4* |
| KH6 = 31 |  | 7            | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 1  | 3* | -  | -  | 6  | -  | -  | -  | 5  | 5  | 5  | 6  | 5  | 5  | 5  | 6  |
| KH8 = 32 |  | 3            | 2* | 2* | 1  | 1* | 1* | -  | -  | -  | 1* | 2* | 2* | 2* | 2* | 1* | 1* | -  | 5  | 7  | 7  | 6  | 6  | 6  | 6  |
| CN = 33  |  | 8            | 2  | 5  | 4  | 4  | -  | -  | -  | -  | -  | 9  | 8  | 8  | 7  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 6  | 7  |
| SU = 34  |  | 9            | 9  | 4  | 1  | 1  | 8  | -  | -  | -  | 3  | 7  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  |  | 7            | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 8  |
| D2 = 36  |  | 1*           | -  | -  | -  | -  | 1* | 1* | 1* | -  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 4  | 2  | 1  |
| 5Z = 37  |  | 1            | -  | -  | 4* | 2* | 4* | 2* | 1* | 1  | 8  | 7  | 6  | 6  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 4  | 1  |
| ZS6 = 38 |  | -            | -  | -  | -  | 3* | 3* | 2* | 1* | -  | 3  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 4  | 1  | 1  | -  | -  | -  | -  |
| FR = 39  |  | -            | -  | 2* | 2* | 2* | 2* | 1* | -  | 1  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 2  | 1* | -  | -  | -  | -  | -  | -  |
| FJL = 40 |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 2* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |  |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |  | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Apr., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 1   | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 6  | 6  | 7  | 6  | 4  |
| W6 = 03  | 9   | 9  | 7  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 7  | 8  | 8  | 9  | 9  | 9  |
| W9 = 04  | 7   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  | 8  | 9  |
| W3 = 05  | 4   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 8  |
| XE1 = 06 | 9   | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | 4  | 8  | 9  | 8  | 8  | 8  | 9  | 8  | 9  | 9  | 9  |
| TI = 07  | 6   | 6  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | 4  | 7  | 9  | 9  | 9  | 7  |
| VP2 = 08 | 5   | 5  | 5  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 2  | -  | -  | -  | 4  | 9  | 9  | 9  | 8  | 6  |
| P4 = 09  | 4   | 4  | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 7  | 5  |
| HC = 10  | 2   | 2  | 3  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1* | 9  | 9  | 9  | 9  | 9  | -  | 1  | 1  | 3  |
| PY1 = 11 | 1   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 3  | 5  | 9  | 9+ | 9+ | 9+ | 9+ | 7  | 2  |
| CE = 12  | 4   | 2  | 1  | 1  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | 2  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  |
| LU = 13  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 3  | 4* | 5* | 1* |
| G = 14   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 4  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 9  | 8  | 1  | -  | -  |
| I = 15   | -   | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 8  | 8  | 8  | 6  | 7  | 6  | 7  | 8  | 9  | 9  | 8  | -  | -  | -  |
| UA3 = 16 | -   | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 2  | 2  | 1* | 2* | -  | -  | 1  | 2  | 2  | 1  | 1  | -  | -  | -  |
| UN = 17  | -   | -  | 2  | 5  | 4  | 2  | -  | -  | -  | -  | -  | 6  | 7  | 4  | 6* | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -   | -  | -  | -  | 1  | 4  | 1  | -  | -  | -  | -  | 1  | -  | 3* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -   | -  | -  | -  | 1  | 1  | 5  | -  | -  | -  | -  | -  | 4* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 7   | 3  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 7  | 6  | 6  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 8  | 7  | 7  | 8  |
| HZ = 21  | 4   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 9  | 8  | 9  | 8  | 9  | 8  | 6  |
| VU = 22  | 1*  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 4  | 5  | 6* | 5  | 6  | 6  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -   | -  | -  | 4  | 6  | 5  | 1  | -  | -  | -  | -  | 5  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  |
| VR2 = 24 | 8*  | 8* | 8* | 7* | 5* | 6* | 5* | 2* | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 6  | -  | -  | 3* | 7* |
| JA1 = 25 | 7   | 8  | 8  | 8  | 8  | 8  | 8  | 5  | -  | -  | -  | 5* | 9* | 8* | -  | 3* | 1* | 1* | 1* | -  | -  | -  | 2  | 4  | 6  |
| HS = 26  | 5*  | 7* | 7* | 6* | 4* | 4* | 2* | 1* | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 4  | -  | -  |
| DU = 27  | 8*  | 7* | 6* | 5* | 4* | 2* | 2* | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | 5* | 8* |
| YB = 28  | 6*  | 6* | 6* | 4* | 3* | 2* | 2* | -  | -  | -  | -  | 1  | 5  | 8* | 7* | 6* | 5* | 5* | 4* | 1* | -  | -  | -  | -  | 5* |
| VK6 = 29 | 5*  | 3* | 2* | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  | 6* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6* |
| VK3 = 30 | 2*  | 1* | 1* | 1* | 1* | 1* | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 5* | 3* |
| KH6 = 31 | 8   | 8  | 9  | 9  | 8  | 7  | 7  | 4  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 7  | 7  | 6  | 7  | 6  | 6  | 7  |
| KH8 = 32 | 2*  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 5* | 3* | 2* | 1* | -  | -  | 1  | 7  | 7  | 8  | 7  | 8  | 5  |
| CN = 33  | 1   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | -  | -  |
| SU = 34  | 8   | 6  | -  | -  | -  | 4  | -  | -  | -  | -  | -  | 7  | 7  | 6  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 9  |
| 6W = 35  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 6  | 1  | -  | -  | -  | 1  | 7  | 9  | 9+ | 9+ | 9  | 6  | -  |
| D2 = 36  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 7  | 7  | 7  | 8  | 9  | 8  | 8  | 7  | 4  | 2* | 1* | 1* |
| 5Z = 37  | -   | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | 2  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  |
| ZS6 = 38 | -   | -  | -  | -  | -  | 5* | 2* | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -   | -  | -  | 5* | 3* | 3* | 1* | -  | -  | -  | 1  | 8  | 9  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Apr., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | -  | -  |
| W6 = 03  |     | 8  | 7  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  | 8  |
| W9 = 04  |     | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 4  | 5  | 4  |
| W3 = 05  |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 5  | 5  | 2  |
| XE1 = 06 |     | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 4  | 4  | 7  | 8  | 9  | 9  | 8  | 8  |
| TI = 07  |     | 1  | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1  | 3  | 3  | 5  | 3  |
| VP2 = 08 |     | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 3  | 3  | 5  | 2  |
| P4 = 09  |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 2  | 1  |
| HC = 10  |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 7  | 4  | 4  | 6  | 8  | -  | -  | -  | -  |
| PY1 = 11 |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 2  | 6  | 8  | 6  | 8  | 2* | -  |
| CE = 12  |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  |
| LU = 13  |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 1* | 2* | 4* | 4* | 2* | -  |
| G = 14   |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 5  | 7  | 7  | 2  | -  | -  | -  |
| I = 15   |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 4  | -  | -  | -  |
| UA3 = 16 |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  |     | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 1  | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 |     | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  |     | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 8  | 2  | -  | 1  | 4  |
| HZ = 21  |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 7  | 8  | 8  | 8  | 8  | 9  | 7  | 6  | 4  | 4  | 5  | 2  |
| VU = 22  |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 7  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  |     | -  | -  | -  | -  | 3  | 2  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 |     | 5* | 5* | 7* | 7* | 5* | 3* | 2* | -  | -  | -  | 1  | 6  | 8  | 8  | 8  | 7  | 7  | 7  | 6  | 1  | -  | -  | -  | 4* |
| JA1 = 25 |     | 2  | 4  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | 1* | 6* | 5* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HS = 26  |     | 1* | 5* | 7* | 5* | 2* | 1* | 1* | -  | -  | -  | 1  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  |
| DU = 27  |     | 5* | 5* | 4* | 4* | 2* | 1* | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | 5* |
| YB = 28  |     | 4* | 4* | 3* | 2* | 1* | 1* | -  | -  | -  | -  | -  | 1  | 6* | 6* | 5* | 2* | 1* | 1* | -  | -  | -  | -  | -  | 1* |
| VK6 = 29 |     | 3* | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VK3 = 30 |     | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 4* |
| KH6 = 31 |     | 7  | 7  | 7  | 7  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 4  | 8  | 7  | 7  | 7  |
| KH8 = 32 |     | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 5* | 2* | -  | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 6  | 2* |
| CN = 33  |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 8  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 1  | -  | -  |
| SU = 34  |     | 4  | 1  | -  | -  | -  | 1  | -  | -  | -  | -  | 2  | 7  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 8  | 5  | 2  | 2  | 6  |
| 6W = 35  |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 2* | 5  | 6  | 6  | 3  | -  | -  |
| D2 = 36  |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 4  | 2* | 1* | 1* | -  |
| 5Z = 37  |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  |
| ZS6 = 38 |     | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  |     | -  | -  | -  | 4* | 3* | 1* | -  | -  | -  | -  | 2  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     |     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC --> \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: May, Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2       | 4  | 5  | 5  | 5  | 5  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 2  | 4  | 3  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 1  | 3  | 5  | 5  | 5  | 4  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 3  | 5  | 5  | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 1  | 2  | 4  | 4  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 1       | 3  | 3  | 4  | 4  | 4  | 4  | 4  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3       | 4  | 4  | 4  | 4  | 4  | 5  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 3       | 4  | 4  | 4  | 4  | 4  | 4  | 5  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 5       | 6  | 6  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 1  | -  | -  | -  | -  | 3  | 6  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | 1  | 5  | 9  | 9  | 9  | 9  | 9  |
| G = 14   | 4       | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| I = 15   | 4       | 5  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| UA3 = 16 | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  |
| HZ = 21  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 2  | 3  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  |
| SU = 34  | 2       | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  |
| 6W = 35  | 5       | 5  | 5  | 5  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  |
| D2 = 36  | 5       | 5  | 4  | 5  | 4  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 4  |
| 5Z = 37  | 4       | 4  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | 5  |
| ZS6 = 38 | 6       | 5  | 5  | 6  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  | 5  |
| FR = 39  | 5       | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: May, Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | 1  | 2  | 3  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 3  | 5  | 7  | 6  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 4  | 6  | 8  | 8  | 8  | 7  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 4  | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 4       | 6  | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VP2 = 08 | 6       | 7  | 7  | 7  | 7  | 7  | 8  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| P4 = 09  | 6       | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| HC = 10  | 8       | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | -  | -  | -  | -  | 5  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 2  | 2  | 4  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7       | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| I = 15   | 7       | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| UA3 = 16 | 2       | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 5       | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| HZ = 21  | 5       | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| VU = 22  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| SU = 34  | 5       | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| 6W = 35  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  |
| D2 = 36  | 8       | 8  | 7  | 8  | 7  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  |
| 5Z = 37  | 7       | 7  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 2  | 8  |
| ZS6 = 38 | 9       | 8  | 8  | 9  | 9  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| FR = 39  | 8       | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: May, Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | 1  | 2  | 2  | 4  | 7  | 6  | 6  | 6  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| W6 = 03  | 1  | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W3 = 05  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| XE1 = 06 | 6  | 7  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| TI = 07  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| VP2 = 08 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  |
| P4 = 09  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 9  | 9  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  |
| I = 15   | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  | 8  |
| UA3 = 16 | 7  | 5  | 6  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 5  |
| UN = 17  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  |
| UA9 = 18 | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  |
| 4X = 20  | 8  | 8  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 7  |
| HZ = 21  | 8  | 8  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 8  |
| VU = 22  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  |
| JT = 23  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 1  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 4  | 3  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | -  | -  | -  |
| HS = 26  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 4  | 1  |
| YB = 28  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 6  |
| VK6 = 29 | 5  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 7  | 7  |
| VK3 = 30 | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 6  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 3  | 1  |
| KH6 = 31 | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | 2  | 5  | 7  | 7  | 8  | 8  | 7  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 8  |
| SU = 34  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 7  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 8  | 9  | 8  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 8  | 8  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 9  | 9  | 9  |
| FR = 39  | 9  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  | 9  | 9  |
| FJL = 40 | 4  | 4  | 4  | 3  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 3  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: May, Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 2            | 2  | 3  | 6  | 5  | 6  | 7  | 6  | 7  | 7  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 =   | 02 | 8            | 9  | 8  | 8  | 8  | 8  | 8  | 6  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| W6 =    | 03 | 4            | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 =    | 04 | 7            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| W3 =    | 05 | 8            | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  |
| XE1 =   | 06 | 8            | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| TI =    | 07 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 7  | 8  | 4  | 3  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| VP2 =   | 08 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| P4 =    | 09 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 5  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  | 9  |
| HC =    | 10 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | 4  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | 1  | 5  | 6  | 8  | 9  |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 9+ | 9+ | 9+ | 9  | 9  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 1  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 8            | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 8  | 8  |
| I =     | 15 | 8            | 8  | 8  | 8  | 8  | 7  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 8  |
| UA3 =   | 16 | 7            | 6  | 8  | 6  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 6  | 6  |
| UN =    | 17 | 7            | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 8  | 8  |
| UA9 =   | 18 | 6            | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 4  | 5  | 6  | 6  |
| UA0 =   | 19 | -            | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 2* | 5  | 2* | -  | -  | -  | -  | -  | -  | 3* | 4* | 4* | 2* | -  |
| 4X =    | 20 | 8            | 8  | 8  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 7  |
| HZ =    | 21 | 8            | 8  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| VU =    | 22 | 6            | 5  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 5  | 7  |
| JT =    | 23 | 4            | 1  | 1  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 3  |
| VR2 =   | 24 | 4            | 1  | -  | -  | -  | -  | -  | -  | -  | 2* | 4* | 2* | 1* | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 7  | 5  |
| JA1 =   | 25 | -            | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | 2* | 4* | 5* | 5* | 4* | -  |
| HS =    | 26 | 6            | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 8  | 7  |
| DU =    | 27 | 2            | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 2  | 2  | 1  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 2  | 6  | 5  |
| YB =    | 28 | 6            | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 4  | 1  | 1  | -  | -  | -  | 1  | 4  | 5  | 7  | 7  | 6  | 7  |
| VK6 =   | 29 | 6            | 5  | 3  | 2  | 1  | -  | 1  | 2  | 4  | 4  | 5  | 3  | 2  | 3  | 1  | -  | -  | 2  | 3  | 5  | 5  | 5  | 6  | 7  |
| VK3 =   | 30 | 4            | 3  | 2  | 2  | 3  | 4  | 5  | 5  | 7  | 8  | 8  | 6  | 5  | 3  | 2  | -  | -  | 1  | 1  | 1  | 3  | 5  | 5  | 5  |
| KH6 =   | 31 | -            | -  | 2  | 5  | 7  | 7  | 8  | 8  | 7  | 6  | 3  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | 1  | 3  | 5  | 7  | 8  | 8  | 8  | 8  | 6  | 1  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 8            | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 7  | 8  | 9  |
| SU =    | 34 | 8            | 8  | 8  | 7  | 7  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 7  |
| 6W =    | 35 | 9            | 9  | 9  | 9  | 9  | 7  | 1  | 5  | 7  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9  |
| D2 =    | 36 | 8            | 8  | 6  | 6  | 4  | 2  | 4  | 3  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 7  | 7  | 7  | 9  |
| 5Z =    | 37 | 8            | 9  | 7  | 3  | 7  | 8  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  | 8  |
| ZS6 =   | 38 | 8            | 8  | 8  | 8  | 5  | 5  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  | 8  | 7  |
| FR =    | 39 | 6            | 2  | 1  | 7  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 7  | 6  | 6  | 7  |
| FJL =   | 40 | 5            | 7  | 7  | 7  | 5  | 4  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 2  | 4  | 5  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



## 20 Meters: May, Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 7   | 8   | 8  | 7  | 9  | 9  | 9  | 8  | 5  | 4* | 5* | 5* | 2* | 1  | 3  | 1  | 2  | 1  | 3  | 4  | 4* | 5  | 6  | 6  | 6  |    |
| VO2 = 02 | 9   | 9   | 9  | 9  | 9  | 8  | 8  | 6  | 1  | 6  | 9  | 8  | 9  | 6  | 2  | 3  | 2  | 3  | 5  | 6  | 7  | 8  | 9  | 9  | 9  |    |
| W6 = 03  | 8   | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 2* | 8  | 8  | 7  | 4  | 1  | 1  | 1  | 1  | 2  | 1  | 1  | 3  | 6  |    |    |
| W9 = 04  | 9   | 9   | 9  | 9  | 9  | 8  | 7  | 8  | 3  | 3  | 8  | 8  | 8  | 4  | 2  | 3  | 1  | 2  | 2  | 6  | 4  | 5  | 8  | 9  |    |    |
| W3 = 05  | 9   | 9   | 9  | 9  | 9  | 9  | 9  | 7  | 1  | 3  | 8  | 9  | 8  | 5  | 5  | 3  | 2  | 2  | 3  | 5  | 6  | 8  | 9  | 9  |    |    |
| XE1 = 06 | 9   | 9   | 9  | 9+ | 9  | 9  | 8  | 7  | 3  | 3  | 1  | -  | 8  | 8  | 6  | 5  | 4  | 2  | 2  | 5  | 5  | 7  | 8  | 9  |    |    |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | 2* | 1  | 4  | 9  | 8  | 6  | 5  | 5  | 3  | 6  | 7  | 8  | 9  | 9+ | 9+ |    |    |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 8  | 1  | -  | 1* | 9  | 9  | 9  | 8  | 5  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |    |    |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | 1* | 1  | 9  | 9  | 8  | 7  | 6  | 6  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ |    |    |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 7  | 3  | -  | 3* | 2* | 2  | 9  | 8  | 6  | 4  | 4  | 5  | 6  | 7  | 8  | 9  | 9+ | 9+ |    |    |
| PY1 = 11 | 9+  | 9   | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |
| CE = 12  | 9+  | 9+  | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |
| LU = 13  | 4   | 2   | 3  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  |    |    |
| G = 14   | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 1  | 1  | 8  | 6  | 4  | 3  | 1  | 1  | 1  | 3  | 5  | 7  | 9  | 9  | 9  | 9  | 9  |    |    |
| I = 15   | 9   | 9   | 9  | 9  | 9  | 9  | 8  | 1  | 2  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | 3  | 5  | 8  | 9  | 9  | 9  | 9  |    |    |
| UA3 = 16 | 8   | 7   | 7  | 7  | 8  | 8  | 6  | -  | 1  | 4  | 1  | 1  | 1* | 1* | 1* | -  | 1  | 2  | 5  | 8  | 8  | 8  | 9  | 9  |    |    |
| UN = 17  | 8   | 8   | 8  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  | 1* | 1  | 3  | 6  | 7  | 9  | 9  | 9  | 9  |    |    |
| UA9 = 18 | 7   | 7   | 8  | 7  | 5  | 4  | 2  | -  | -  | 2  | 1  | 7  | 8  | 2* | 1* | 2* | 2* | 1  | 6  | 6  | 7  | 8  | 8  | 7  |    |    |
| UA0 = 19 | 2   | 2   | 2  | 2  | 2  | 2  | 7  | 5  | 1  | 5  | 8  | 8* | 7* | 6* | 5* | 4* | 4* | 5* | 6* | 7* | 8* | 8* | 5  | 5  |    |    |
| 4X = 20  | 9   | 9   | 9  | 9  | 9  | 8  | 1  | -  | 1  | 2  | 1  | -  | -  | -  | -  | 1  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |    |    |
| HZ = 21  | 9   | 9   | 8  | 8  | 8  | 5  | -  | 2  | 1  | 1  | -  | -  | -  | -  | 1  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |    |    |
| VU = 22  | 9   | 8   | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | 8  | 2* | 1* | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |    |    |
| JT = 23  | 7   | 7   | 6  | 2  | 1  | 2  | 1  | -  | -  | 3  | 7  | 5  | 7  | 3* | 2* | 2* | 2* | 2* | 5  | 6  | 7  | 6  | 7  | 7  |    |    |
| VR2 = 24 | 5*  | -   | -  | -  | -  | -  | 1* | 2* | 3* | 6  | 5  | 7* | 5* | 6* | 4* | 2  | 3  | 5  | 8  | 8  | 8  | 6  | 5  | 4  |    |    |
| JA1 = 25 | 1   | 1   | 1  | 2  | 2  | 4  | 7  | 7  | 5  | 5* | 5* | 9  | 9  | 8  | 5  | 4* | 4* | 6* | 8* | 8  | 8* | 8* | 4* | 1  |    |    |
| HS = 26  | 5   | 4*  | -  | -  | -  | -  | -  | -  | 1* | 1  | 6  | 5  | 5  | 4* | 2  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 6  | 1  |    |    |
| DU = 27  | 2*  | -   | -  | -  | -  | -  | 1* | 2* | 1* | 6  | 7  | 7  | 6  | 5  | 4  | 4  | 4  | 5  | 6  | 7  | 4* | 2* | 5  | 2  |    |    |
| YB = 28  | 1   | 1*  | -  | -  | -  | -  | -  | -  | -  | 1* | 5  | 7  | 7  | 7  | 5  | 1  | 2  | 3  | 4  | 5  | 7  | 8  | 6  | 2  | 2  |    |
| VK6 = 29 | 3   | 1   | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 6  | 2  | -  | 2  | 2  | 2  | 3  | 2  | 2  | 2  | 6  |    |    |
| VK3 = 30 | 2   | -   | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 2  | 1* | -  | -  | -  | -  | -  | 1* | 1* | 2* | 5  | 8  | 6  |    |    |
| KH6 = 31 | 3   | 5   | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 1* | 2* | 8  | 8  | 7  | 3  | 4  | 2  | 1* | 1  | 1* | 1* | 1  | 1  | 1  |    |    |
| KH8 = 32 | 4   | 5   | 2  | 1  | 5  | 5  | 7  | 6  | 5  | -  | -  | -  | 7  | 4  | -  | -  | -  | 4  | 2  | 7  | 2  | 2  | 2  | 3  |    |    |
| CN = 33  | 9   | 9   | 9  | 9  | 9  | 9  | 7  | 1  | 2  | 8  | 8  | 4  | 2  | 1  | 1  | -  | 1  | 6  | 7  | 8  | 9  | 9  | 9  | 9  |    |    |
| SU = 34  | 9   | 9   | 9  | 8  | 9  | 8  | 3  | -  | 3  | 3  | 1  | 1  | -  | -  | -  | 1  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |    |    |
| 6W = 35  | 9+  | 9   | 8  | 5  | 2  | -  | -  | -  | -  | 9  | 9  | 8  | 6  | 4  | 2  | 3  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |    |    |
| D2 = 36  | 3   | 3   | 3  | 2  | 1* | -  | -  | -  | 6  | 8  | 8  | 5  | 4  | 2  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 8  | 6  | 5  |    |    |
| 5Z = 37  | 8   | 6   | 2  | -  | 1  | 6  | -  | -  | 6  | 4  | 2  | 1  | 1  | -  | 2  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 8  | 8  |    |    |
| ZS6 = 38 | 1   | 2   | -  | 1  | -  | -  | -  | -  | 5  | 8  | 7  | 6  | 5  | 5  | 6  | 6  | 8  | 9  | 7  | 6  | 7  | 6  | 4  | 1  |    |    |
| FR = 39  | -   | -   | -  | -  | 4  | 4  | -  | -  | 3  | 5  | 4  | 4  | 4  | 4  | 5  | 6  | 6  | -  | 1  | 2  | 3  | -  | -  | -  |    |    |
| FJL = 40 | 8   | 6   | 6  | 5  | 2  | 1  | 8  | 2  | 1  | 7  | 6  | 6  | 8  | 2* | 1  | -  | 1  | 1  | 5  | 5  | 7  | 8  | 8  | 8  |    |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath

Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: May, Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 8  | 8  | 9  | 9  | 8  | 6  | 4  | -  | 1* | 5* | 3* | 2* | 1* | -  | 1  | 1  | 2  | 1  | 3* | 5* | 2  | 1  | 5  |
| VO2 = 02 | 9       | 9  | 9  | 5  | 1  | -  | 4  | -  | -  | -  | 7  | 9  | 8  | 8  | 9  | 8  | 5  | 9  | 8  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 8       | 9  | 9  | 9+ | 9  | 9  | 8  | 6  | 1  | 1* | -  | 6  | -  | 5  | 7  | 8  | 6  | 9  | 5  | 6  | 6  | 8  | 9  | 8  |
| W9 = 04  | 9       | 9  | 9  | 8  | 5  | 1  | -  | 2  | -  | -  | 5  | 2  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | 9       | 9  | 9  | 9  | 8  | 3  | 6  | 1  | -  | -  | -  | 7  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | 6  | 9  | 8  | 9  | 8  | 8  | 6  | 7  | 8  | 9  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | 6  | 9  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9       | 9  | 9  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9       | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | 2* | 9  | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 8       | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | 1* | -  | 1* | 7  | 9  | 8  | 6  | 6  | 7  | 6  | 9  | 8  | 9+ | 9+ | 9  |
| PY1 = 11 | 5       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  |
| CE = 12  | 9       | 8  | 7  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  | 7  | 7  | 9  | 9+ | 9  | 2* | 3* | 2* |
| G = 14   | 9       | 7  | 5  | 2  | 7  | 7  | 4  | -  | -  | 4  | 8  | 8  | 6  | 9  | 5  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| I = 15   | 8       | 8  | 8  | 6  | 7  | 8  | 2  | -  | -  | 6  | 8  | 5  | 3  | 2  | 9  | 4  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 7  |
| UA3 = 16 | 4       | 2  | 1  | 1  | 5  | 7  | 1  | -  | -  | 3  | 7  | 5  | 7  | 7  | 8  | 4  | 5  | 6  | 8  | 8  | 9  | 9  | 8  | 7  |
| UN = 17  | 5       | 6  | 8  | 7  | 5  | 2  | -  | -  | -  | 2  | 5  | 6  | 4  | 4  | 3  | 2  | 5  | 7  | 8  | 9  | 9  | 7  | 6  | 5  |
| UA9 = 18 | 1       | 3  | 5  | 8  | 7  | 5  | 1  | -  | -  | 1  | 5  | 3  | 6* | 6* | 6  | 4* | 4  | 5  | 5  | 5  | 6  | 4  | 4* | 1  |
| UA0 = 19 | 5       | 3  | 5  | 5  | 8  | 7  | 6  | 1  | -  | -  | 6  | 8  | 8* | 8* | 7* | 6* | 6* | 7* | 7* | 5* | 5* | 4  | 4  | 6  |
| 4X = 20  | 9       | 9  | 6  | 6  | 8  | 4  | -  | -  | -  | 4  | 5  | 4  | 3  | 8  | 6  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 8       | 6  | 6  | 1  | 1  | -  | -  | -  | -  | 5  | 3  | 5  | 8  | 5  | 3  | 5  | 5  | 7  | 9  | 9  | 9  | 9+ | 9  | 8  |
| VU = 22  | 3       | 2  | 1* | -  | 1  | -  | -  | -  | -  | 3  | 6  | 4  | 4* | 4* | 2  | 3  | 7  | 7  | 5  | 5  | 6  | 8  | 7  | 4  |
| JT = 23  | 5       | 7  | 7  | 8  | 7  | 5  | 1  | -  | -  | 2  | 5  | 3  | 6* | 8* | 7* | 5* | 5* | 5  | 5  | 5  | 3* | 7* | 3* | 2  |
| VR2 = 24 | 3*      | 5* | 5* | 5* | 3* | 2* | 2* | 2* | -  | 3  | 5  | 5  | 9* | 8* | 6* | 7  | 7  | 7  | 8  | 7  | 5  | 5* | 2* | 2* |
| JA1 = 25 | 7       | 7  | 7  | 8  | 7  | 6  | 5  | 4  | -  | 3* | 6* | 8* | 9  | 8* | 6* | 6* | 7* | 8* | 8* | 8* | 5  | 5* | 5  | 5  |
| HS = 26  | 1*      | 1* | 4* | 3* | 1* | -  | -  | -  | -  | 4  | 5  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 8  | 6  | 2* | 1* |
| DU = 27  | 5*      | 6* | 5* | 3* | 2* | 2* | 2* | 1* | -  | -  | 6  | 8  | 8  | 8  | 7  | 6  | 5  | 5  | 5  | 3  | 2* | 5* | 4* | 6* |
| YB = 28  | 3*      | 5* | 4* | 2* | 1* | 1* | 1* | -  | -  | -  | 6  | 8  | 6  | 3* | 4* | 3* | 2* | 2* | 1  | 2  | 3  | -  | 1* | 6* |
| VK6 = 29 | 2*      | 2* | 1* | 1* | 1* | -  | -  | -  | -  | -  | 2  | 6* | 4* | 1* | 1* | -  | -  | -  | 1  | 1  | -  | -  | -  | 5* |
| VK3 = 30 | 1*      | 1* | -  | 1* | -  | -  | -  | -  | -  | -  | 4* | 2* | 1* | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 5* | 2  | 1* |
| KH6 = 31 | 7       | 8  | 8  | 9  | 8  | 6  | 5  | 5  | -  | 3* | 3* | 3* | 8  | -  | -  | -  | 7  | 6  | 5  | 7  | 8  | 3  | 4  | 6  |
| KH8 = 32 | 3       | 1  | 1* | 1* | 1* | -  | -  | -  | -  | 1* | 1* | 2* | 1* | 1* | 1* | -  | -  | 5  | 7  | 6  | 6  | 6  | 6  | 6  |
| CN = 33  | 9       | 9  | 6  | 6  | 8  | 6  | 1  | -  | -  | 2  | 9  | 8  | 8  | 6  | 4  | 3  | 7  | 8  | 9  | 9  | 9+ | 9  | 8  | 9  |
| SU = 34  | 9+      | 9  | 6  | 5  | 6  | 5  | -  | -  | -  | 4  | 6  | 4  | 3  | 8  | 8  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 9+ | 9  | 8  | 7  | 6  | 7  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9  |
| D2 = 36  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 6  | 2  | 1  | -  |
| 5Z = 37  | 1       | -  | -  | 2* | 1* | -  | -  | -  | 1  | 7  | 7  | 6  | 8  | 5  | 7  | 8  | 8  | 9  | 9  | 8  | 6  | 5  | 2  | 1  |
| ZS6 = 38 | -       | -  | -  | -  | 4* | 1* | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 5  | -  | -  | 1  | -  | -  | -  |
| FR = 39  | -       | -  | 2* | 2* | 1* | 1* | -  | -  | 1  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | 2       | -  | -  | -  | -  | -  | 4  | -  | -  | 2  | 5  | 4  | 5* | 3  | 5  | 2  | 2  | 4  | 4  | 5  | 4  | 6  | 5  | 4  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: May, Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 5   | 6   | 6  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | 1* | -  | 1* | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  |
| VO2 = 02 | 9   | 9   | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 3  | 3  | 5  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9   | 9   | 9  | 9  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | 1  | -  | 1  | 5  | 2  | 2  | 3  | 7  | 7  | 8  | 8  | 9  | 9  | 9  |
| W9 = 04  | 8   | 8   | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 1  | 5  | 2  | 2  | 3  | 7  | 7  | 8  | 8  | 9  | 9  | 9  |
| W3 = 05  | 8   | 8   | 7  | 6  | 5  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 4  | 9  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 8  |
| XE1 = 06 | 9   | 9   | 9  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 9  | 7  | 8  | 8  | 8  | 9  | 9  | 9  |
| TI = 07  | 8   | 7   | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | 2  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  |
| VP2 = 08 | 6   | 5   | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 7  | 5  | 3  | 4  | 6  | 9  | 9+ | 9+ | 9  | 8  |
| P4 = 09  | 5   | 4   | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1  | 3  | 1  | 1  | 4  | 6  | 8  | 9  | 8  | 7  |
| HC = 10  | 4   | 2   | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 5  | 4  | 1* | 8  | 8  | 9  | 1  | 4  | 4  | 4  | 6  |
| PY1 = 11 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 4  | -  |
| CE = 12  | 3   | 1   | 2  | 2  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  |
| LU = 13  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3* | 4* | 2* | -  | -  |
| G = 14   | 4   | 1   | -  | -  | 2  | 3  | -  | -  | -  | -  | -  | -  | 8  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 4  |
| I = 15   | 2   | 2   | 1  | -  | 3  | 4  | -  | -  | -  | -  | -  | -  | 8  | 8  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 8  | 3  | -  |
| UA3 = 16 | -   | -   | -  | -  | 1  | 2  | -  | -  | -  | -  | -  | -  | 7  | 4  | 2  | 4* | 2* | 2  | 4  | 6  | 8  | 8  | 8  | 7  | 5  | 2  |
| UN = 17  | -   | 1   | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 6  | 5  | 4  | 6* | 5* | 5  | 6  | 7  | 8  | 8  | 5  | -  | 1  | 1* |
| UA9 = 18 | -   | -   | -  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | 6  | 1  | 1* | 7* | 6* | 4* | 2* | 1  | -  | 1  | 1  | -  | 1* | -  |
| UA0 = 19 | 2   | -   | -  | -  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 3  | 7* | 8* | 7* | 6* | 5* | 4* | 4* | -  | -  | -  | -  | 2  | -  |
| 4X = 20  | 7   | 5   | -  | 2  | 4  | -  | -  | -  | -  | -  | -  | 1  | 7  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 7  | 5  | 8  |
| HZ = 21  | 3   | -   | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 6  | 3  |
| VU = 22  | 1*  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 4  | 3  | 4  | 5  | 5  | 7  | 4  | -  | -  | -  | 2  | 1  | 1* |
| JT = 23  | -   | 1   | 5  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | 6  | 4  | 4  | 8* | 8* | 5* | 4* | 2* | 1* | 1  | -  | 4* | 1* | -  |
| VR2 = 24 | 6*  | 7*  | 6* | 5* | 2* | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 9* | 7  | 8  | 7  | 6  | 6  | 5  | 1  | -  | 2* | 5* | 5* |
| JA1 = 25 | 6   | 7   | 7  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | 5* | 8* | 8* | 7* | 6* | 6* | 7* | 7* | 2* | 5  | 6  | 7  | 6  | -  |
| HS = 26  | 5*  | 5*  | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 4  | 1  | -  | 3* |
| DU = 27  | 6*  | 6*  | 4* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1  | 5* | 8  | 8  | 7  | 5  | 3  | 2* | 1  | -  | -  | 4* | 7* | 8* |
| YB = 28  | 5*  | 5*  | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7* | 7* | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | 5* |
| VK6 = 29 | 4*  | 3*  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VK3 = 30 | 2*  | 1*  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 4* | 2* |
| KH6 = 31 | 8   | 8   | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | 6  | -  | -  | -  | 5  | 6  | 6  | 6  | 6  | 6  | 5  | 7  |
| KH8 = 32 | 1   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 2* | 1* | -  | -  | -  | -  | 1  | 7  | 7  | 7  | 7  | 7  | 3  |
| CN = 33  | 4   | 4   | -  | -  | 4  | 1  | -  | -  | -  | -  | -  | -  | 8  | 9  | 9  | 8  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 1  | 1  |
| SU = 34  | 9   | 5   | -  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | 7  | 6  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 7  | 5  | 8  |
| 6W = 35  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 9  | 6  | 4  | 3  | 5  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 1  |
| D2 = 36  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 6  | 2  | 2* | 1* | -  |
| 5Z = 37  | -   | -   | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  |
| ZS6 = 38 | -   | -   | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 9  | 6  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -   | -   | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | 2  | 8  | 8  | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | 1  | 1  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: May, Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1       | 1  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 6       | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  | 8  | 8  | 7  |
| W6 = 03  | 8       | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 1  | 5  | 7  | 8  | 9  | 8  |
| W9 = 04  | 5       | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 7  | 8  | 7  |
| W3 = 05  | 4       | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 6  | 7  | 8  | 9  | 9  | 8  | 6  |
| XE1 = 06 | 8       | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 8  | 8  | 8  | 9  | 9  | 9  | 8  |
| TI = 07  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 2  | 4  | 6  | 6  | 5  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 2  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 1  | 4  | 1  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 8  | 7  | 7  | 7  | 8  | -  | -  | -  | 1  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 1  | 1  | 4  | 6  | 4  | 5  | -  | -  |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 8  | 5  | -  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | 2* | 2* | -  | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 1  | 3  | 3  | 6  | 6  | 8  | 9  | 9  | 7  | 1  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 8  | 2  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 1  | 4  | 5  | 6  | 4  | 1  | -  |
| UN = 17  | -       | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 3  | 3  | 5* | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 2* | 4* | 2* | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 5* | 2* | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 7  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 5  | -  | -  | 3  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  | 6  | 7  | 8  | 8  | 8  | 8  | 4  | 2  | 7  | 1  | -  |
| VU = 22  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 5  | 5  | 7  | 7  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | 2  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 2* | 6* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 6*      | 4* | 5* | 1* | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 5  | 3  | 2  | 1  | -  | -  | -  | 4* | 6* |
| JA1 = 25 | 2       | 2  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | 3* | 7* | 2* | 4* | 4* | 4* | 4* | -  | -  | -  | 1  | 3  | 2  |
| HS = 26  | 3*      | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 2  | -  | -  | -  | 1* |
| DU = 27  | 4*      | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 7* | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | 6* | 7* |
| YB = 28  | 3*      | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 6* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 3* |
| VK6 = 29 | 2*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VK3 = 30 | 1*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 6* | 2* |
| KH6 = 31 | 7       | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | 5  | 4  | 6  | 7  | 7  | 7  | 7  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 1* | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 6  | 3  | -  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 5  | -  | -  |
| SU = 34  | 5       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 7  | -  | -  | 2  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 9  | -  | -  | 1* | 1* | 1* | 2  | 6  | 9  | 9+ | 8  | 1  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  | 7  | 7  | 8  | 3  | 2* | 1* | -  | -  | -  |
| SZ = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 8  | 9  | 8  | 6  | 5  | -  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 6  | 7  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 1* | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC --> \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



10 Meters: May, Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 4  |
| W6 = 03  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  | 7  |
| W9 = 04  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 4  |
| W3 = 05  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 2  | 4  | 6  | 7  | 5  | 2  |
| XE1 = 06 | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 7  | 8  | 8  | 7  |
| TI = 07  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  |
| VP2 = 08 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| P4 = 09  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 1  | 1  | 1  | 3  | -  | -  | -  | -  |
| PY1 = 11 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 1  | -  | -  |
| CE = 12  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 3  | 7  | 9  | 8  | 1  | -  | -  |
| LU = 13  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  |
| G = 14   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3  | 6  | 4  | 1  | -  | -  |
| I = 15   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  | 9  | 9  | 9  | 8  | 5  | -  | -  | -  |
| UA3 = 16 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 1  | -  | -  |
| UN = 17  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2* | 1  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 8  | -  | -  | -  | -  |
| HZ = 21  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | -  | -  | 3  | -  | -  |
| VU = 22  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 7  | 6  | 7  | 4  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 1* | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 1* |
| JA1 = 25 | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  |
| DU = 27  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | 2  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* |
| YB = 28  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* |
| KH6 = 31 | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 5  |
| KH8 = 32 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 4* | 1* | -  |
| CN = 33  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | -  | -  | -  |
| SU = 34  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 8  | -  | -  | -  | -  |
| 6W = 35  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | -  | -  | -  | -  | -  | -  | 1* | 2  | 4  | 1  | -  | -  |
| D2 = 36  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 7  | 5  | 3* | 3* | 1* | -  | -  | -  | -  |
| 5Z = 37  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 8  | 8  | 8  | 3  | 1* | 1  | -  | -  | -  | -  | -  |
| ZS6 = 38 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Jun., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 1       | 3  | 5  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 1  | 3  | 2  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | -  | 2  | 3  | 5  | 4  | 4  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 2  | 5  | 3  | 4  | 5  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 1  | 4  | 3  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2       | 3  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3       | 4  | 4  | 4  | 4  | 4  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| P4 = 09  | 3       | 4  | 4  | 4  | 4  | 5  | 5  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 5       | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | 5  | 9  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 1  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 2  | 2  | 3  | 6  | 9  | 9  | 9  | 9  | 9  |
| G = 14   | 4       | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| I = 15   | 4       | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  |    |
| HZ = 21  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 2  | 3  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 2  | 4  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| SU = 34  | 3       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  |
| 6W = 35  | 4       | 5  | 5  | 5  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| D2 = 36  | 6       | 6  | 4  | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 3  |
| 5Z = 37  | 5       | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 4  |
| ZS6 = 38 | 5       | 5  | 5  | 5  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 5  |
| FR = 39  | 5       | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Jun., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4       | 6  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 2  | 4  | 6  | 5  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 2  | 5  | 6  | 8  | 7  | 7  | 8  | 8  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 5  | 8  | 6  | 7  | 8  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 3  | 4  | 7  | 6  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5       | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 6       | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| P4 = 09  | 6       | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| HC = 10  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 2  | 1  | 1  | 3  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4  | -  | -  | -  | 2  | 7  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 5  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7       | 8  | 8  | 7  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| I = 15   | 7       | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| UA3 = 16 | 2       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 5       | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  |
| HZ = 21  | 5       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 5  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | 1  | 3  | 5  | 7  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  |
| SU = 34  | 6       | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  |
| 6W = 35  | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  |
| D2 = 36  | 9       | 9  | 7  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 6  |
| 5Z = 37  | 8       | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 7  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 8  | 8  |
| FR = 39  | 8       | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Jun., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|--|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 |  | -            | -  | 1  | 1  | 2  | 4  | 7  | 5  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 |  | 8            | 8  | 8  | 9  | 8  | 9  | 8  | 8  | 9  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| W6 = 03  |  | -            | 2  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  |  | 6            | 8  | 8  | 7  | 8  | 9  | 9  | 8  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| W3 = 05  |  | 7            | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| XE1 = 06 |  | 6            | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| TI = 07  |  | 7            | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| VP2 = 08 |  | 8            | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  |
| P4 = 09  |  | 8            | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  |
| HC = 10  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  |
| PY1 = 11 |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |  | 8            | 9  | 9  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 8  |
| I = 15   |  | 8            | 8  | 8  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 8  |
| UA3 = 16 |  | 7            | 6  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 5  |
| UN = 17  |  | 6            | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  |
| UA9 = 18 |  | 1            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 2  |
| UA0 = 19 |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  |
| 4X = 20  |  | 8            | 7  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| HZ = 21  |  | 8            | 8  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 8  |
| VU = 22  |  | 4            | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 6  | 5  |
| JT = 23  |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 1  | 1  |    |
| VR2 = 24 |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 6  |
| JA1 = 25 |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | -  | -  | -  |
| HS = 26  |  | 5            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  | 5  |
| DU = 27  |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 5  | 1  |
| YB = 28  |  | 5            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 7  | 7  | 7  |
| VK6 = 29 |  | 6            | 5  | 2  | 1  | -  | -  | -  | 1  | 5  | 5  | 5  | 5  | 1  | 1  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 7  |
| VK3 = 30 |  | 1            | 1  | 1  | 1  | 2  | 5  | 6  | 7  | 7  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 6  | 5  |
| KH6 = 31 |  | -            | -  | -  | 1  | 5  | 7  | 7  | 8  | 8  | 8  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 |  | -            | -  | 1  | 4  | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  |  | 9            | 9  | 9  | 9  | 7  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 8  |
| SU = 34  |  | 7            | 8  | 7  | 7  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| 6W = 35  |  | 9            | 9  | 9  | 9  | 9  | 9  | 6  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  | 9  |
| D2 = 36  |  | 9            | 9  | 9  | 8  | 8  | 7  | 6  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 9  | 9  | 9  | 9  |
| 5Z = 37  |  | 8            | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 8  |
| ZS6 = 38 |  | 9            | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  | 9  | 9  | 9  |
| FR = 39  |  | 9            | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 8  | 8  | 9  | 9  |
| FJL = 40 |  | 3            | 3  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |  |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |  | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Jun., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|--|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 |  | 1            | 2  | 2  | 3  | 6  | 5  | 5  | 6  | 7  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 |  | 8            | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 6  | 8  |
| W6 = 03  |  | 3            | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  |  | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 5  |
| W3 = 05  |  | 8            | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 7  | 7  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 5  | 8  |
| XE1 = 06 |  | 8            | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 6  | 6  | 6  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| TI = 07  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | 3  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  |
| VP2 = 08 |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 6  | 9  | 7  | 5  | 2  | 1  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  |
| P4 = 09  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 5  | 9  | 7  | 5  | 3  | 1  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 9  |
| HC = 10  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | 2  | 9  | 7  | 4  | 1  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  |
| PY1 = 11 |  | 9+           | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 5  | 2  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |  | 9+           | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |  | 8            | 8  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| G = 14   |  | 8            | 9  | 8  | 8  | 8  | 7  | 7  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| I = 15   |  | 8            | 8  | 8  | 8  | 7  | 6  | 6  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  |
| UA3 = 16 |  | 7            | 6  | 5  | 5  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 6  | 7  | 7  |
| UN = 17  |  | 7            | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  | 5  |
| UA9 = 18 |  | 5            | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 6  | 6  |
| UA0 = 19 |  | -            | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 3* | 4* | 3* | 2* | -  | -  | -  | -  | 2* | 4* | 4* | 3* | 1* | -  |
| 4X = 20  |  | 8            | 8  | 7  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 8  |
| HZ = 21  |  | 7            | 7  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  | 8  | 7  |
| VU = 22  |  | 7            | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 6  | 6  |
| JT = 23  |  | 1            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  | 5  |
| VR2 = 24 |  | 4            | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 5  | 2* | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 6  | 5  |
| JA1 = 25 |  | -            | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 3  | 5  | 4  | 1  | -  | -  | -  | 1* | 3* | 5* | 5* | 5* | 2* | -  |
| HS = 26  |  | 5            | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 7  | 6  |
| DU = 27  |  | 2            | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2  | 2  | 2  | 1  | -  | -  | -  | -  | 3  | 4  | 5* | 2* | 5  | 4  |
| YB = 28  |  | 5            | 4  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  | 2  | 1  | 1  | -  | -  | 1  | 4  | 6  | 7  | 7  | 5  | 5  |
| VK6 = 29 |  | 6            | 5  | 3  | 2  | 2  | 1  | 1  | 5  | 6  | 7  | 6  | 5  | 4  | 4  | 2  | 1  | 2  | 2  | 4  | 5  | 5  | 5  | 6  | 7  |
| VK3 = 30 |  | 5            | 4  | 2  | 2  | 4  | 5  | 4  | 4  | 5  | 7  | 6  | 6  | 4  | 4  | 3  | 2  | 1  | 1  | 2  | 1  | 1  | 6  | 7  | 6  |
| KH6 = 31 |  | -            | -  | 2  | 4  | 7  | 7  | 7  | 8  | 8  | 3  | -  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 |  | -            | 1  | 4  | 5  | 5  | 6  | 7  | 7  | 7  | 5  | -  | 4  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  |  | 8            | 8  | 8  | 9  | 8  | 8  | 7  | 3  | 3  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  | 8  | 8  |
| SU = 34  |  | 8            | 8  | 7  | 8  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 8  |
| 6W = 35  |  | 9            | 9  | 9  | 8  | 7  | 2  | -  | 1  | 3  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  | 8  | 9  | 9  |
| D2 = 36  |  | 6            | 6  | 5  | 5  | 2  | 1  | 2  | 1  | 4  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 7  | 8  | 8  | 6  |
| 5Z = 37  |  | 8            | 8  | 6  | 2  | 6  | 7  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  | 8  | 8  |
| ZS6 = 38 |  | 7            | 7  | 6  | 6  | 4  | 5  | 5  | 2  | 4  | 5  | 2  | 1  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  | 8  | 7  | 4  |
| FR = 39  |  | 5            | 1  | -  | 4  | 8  | 6  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 3  | 6  | 7  | 7  | 6  | 6  |
| FJL = 40 |  | 4            | 2  | 2  | 5  | 3  | 2  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 4  |
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |  |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |  | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



20 Meters: Jun., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 2  | 6* | 6  | 4* | 3  | 4  | 3  | 2  | 2  | 2  | 4* | 4  | 5  | 6  | 6  |
| VO2 =   | 02 | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 3  | 1  | 5  | 8  | 8  | 7  | 6  | 4  | 4  | 3  | 5  | 6  | 6  | 8  | 8  | 9  | 9  |
| W6 =    | 03 | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2* | 4* | 9  | 8  | 7  | 5  | 2  | 1  | 1  | 1  | 1  | 1  | 2  | 5  | 7  |
| W9 =    | 04 | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | 2  | 3  | 8  | 8  | 8  | 5  | 5  | 4  | 2  | 4  | 5  | 6  | 7  | 8  | 9  |
| W3 =    | 05 | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | 2  | 4  | 9  | 7  | 7  | 5  | 3  | 5  | 5  | 5  | 6  | 6  | 8  | 9  | 9  |
| XE1 =   | 06 | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 2  | 3* | 1* | 6  | 8  | 8  | 7  | 5  | 5  | 5  | 3  | 4  | 6  | 8  | 9  | 9  |
| TI =    | 07 | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 3  | -  | 2* | 1* | 1* | 9  | 8  | 7  | 7  | 6  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| VP2 =   | 08 | 9+ | 9+ | 9+ | 9+ | 8  | 7  | 5  | -  | -  | 1* | 3  | 9+ | 9  | 8  | 8  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| P4 =    | 09 | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 4  | -  | -  | 1* | 2* | 9+ | 9  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC =    | 10 | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 4  | 1  | -  | 4* | 2* | 2* | 9+ | 7  | 5  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| PY1 =   | 11 | 7  | 7  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  |
| CE =    | 12 | 9+ | 9+ | 9  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1* |
| G =     | 14 | 9  | 9+ | 9  | 9  | 9  | 8  | 5  | -  | -  | 6  | 6  | 3  | 2  | 1  | 1  | 1  | 1  | 4  | 8  | 7  | 9  | 9  | 9  | 9  |
| I =     | 15 | 9  | 9  | 9+ | 9  | 9  | 8  | 5  | -  | -  | 6  | 4  | 1  | 1  | -  | -  | -  | 1  | 2  | 6  | 7  | 9  | 9  | 9  | 9  |
| UA3 =   | 16 | 9  | 8  | 7  | 8  | 8  | 7  | 2  | -  | -  | 4  | 1  | -  | 1* | 1* | 2* | -  | 2  | 2  | 5  | 7  | 8  | 9  | 8  | 9  |
| UN =    | 17 | 8  | 9  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2* | 2* | 2* | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  |
| UA9 =   | 18 | 8  | 7  | 6  | 6  | 3  | 2  | -  | -  | -  | 1  | -  | 1  | 4* | 3* | 4* | 1* | 1* | 2* | 6  | 7  | 8  | 8  | 8  | 8  |
| UA0 =   | 19 | 2  | 2  | 2  | 2  | 4  | 4  | 3  | 2  | 1  | 2  | 7  | 8* | 8* | 7* | 6* | 5* | 5* | 6* | 7* | 8* | 8* | 7  | 5  | 5  |
| 4X =    | 20 | 9  | 9  | 8  | 8  | 7  | 5  | -  | -  | -  | 2  | 1  | 1  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| HZ =    | 21 | 8  | 8  | 7  | 5  | 5  | 2  | -  | -  | -  | 1  | 1  | -  | -  | 1* | 1  | 2  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 8  |
| VU =    | 22 | 5  | 5  | 2  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | 8  | 3* | 1  | 1  | 3  | 5  | 8  | 9  | 9  | 9  | 8  | 5  |
| JT =    | 23 | 8  | 6  | 5  | 3  | 2  | 1  | -  | -  | -  | 1  | -  | 8  | 6  | 4* | 7* | 4* | 3* | 3* | 6* | 7  | 8  | 8  | 8  | 7  |
| VR2 =   | 24 | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | 7  | 5  | 4  | 6* | 7* | 5* | 4  | 6  | 7  | 8  | 8  | 7  | 5  | 2  | 3* |
| JA1 =   | 25 | 1  | 1  | 1  | 2  | 3  | 4  | 6  | 6  | 3  | 5* | 5* | 8  | 9  | 8  | 5  | 5* | 6* | 7* | 8* | 8* | 8* | 6  | 1* | -  |
| HS =    | 26 | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 5  | 5* | 4  | 4  | 5  | 6  | 7  | 8  | 9  | 9  | 8  | 3  | 1* |
| DU =    | 27 | 1* | -  | -  | -  | -  | -  | 1* | 1* | 1* | 4  | 8  | 8  | 6  | 7  | 6  | 5  | 5  | 5  | 4  | 6* | 4* | 3* | 2* | 2* |
| YB =    | 28 | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 7  | 5  | 2  | 2  | 2  | 3  | 4  | 5  | 7  | 5  | 2* | 1* |
| VK6 =   | 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 6  | 1  | -  | -  | 1  | 1  | 2  | 1  | 2  | 1  | 2  | 1  |
| VK3 =   | 30 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2  | 1  | 1  | -  | 1  | 1  | -  | -  | 1* | 1* | 2* | 2  | 7  | 2  |
| KH6 =   | 31 | 3  | 5  | 7  | 8  | 9  | 8  | 8  | 8  | 5  | 1* | 2* | 1* | 8  | 7  | 4  | 5  | 2  | 2* | 1* | 1* | 1  | 1  | 1  | 1  |
| KH8 =   | 32 | 4  | 4  | 1  | -  | 1* | 1  | 2  | 3  | 2  | 1* | -  | -  | 5  | 5  | -  | -  | -  | 5  | 5  | 6  | 7  | 2  | 3  | 4  |
| CN =    | 33 | 9  | 9  | 9  | 9  | 9  | 8  | 4  | -  | -  | 6  | 8  | 6  | 2  | 1  | 1  | 1  | 2  | 2  | 8  | 8  | 9  | 9  | 9  | 9  |
| SU =    | 34 | 9  | 9  | 8  | 7  | 8  | 7  | -  | -  | -  | 3  | 1  | 1  | -  | -  | -  | 1  | 2  | 5  | 7  | 9  | 9  | 9  | 9  | 9  |
| 6W =    | 35 | 9  | 7  | 2  | -  | -  | -  | -  | -  | -  | 7  | 9  | 8  | 6  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 =    | 36 | 1  | 1  | -  | 1  | -  | -  | -  | -  | 2  | 8  | 8  | 6  | 5  | 3  | 3  | 5  | 6  | 9  | 9  | 8  | 6  | 4  | 3  | 2  |
| 5Z =    | 37 | 2  | 1  | 1  | -  | -  | 2  | -  | -  | 4  | 4  | 3  | 2  | 2  | 3  | 4  | 4  | 6  | 8  | 8  | 9  | 7  | 6  | 5  | 2  |
| ZS6 =   | 38 | 1  | -  | -  | -  | 1* | -  | -  | -  | 3  | 8  | 9  | 8  | 7  | 6  | 5  | 7  | 8  | 8  | 2  | 6  | 4  | 2  | 1  | -  |
| FR =    | 39 | -  | -  | -  | -  | 2  | 2  | -  | -  | 2  | 6  | 5  | 5  | 8  | 5  | 6  | 7  | -  | -  | -  | 1  | 1  | -  | -  | -  |
| FJL =   | 40 | 8  | 7  | 7  | 7  | 8  | 7  | 5  | -  | -  | 4  | 5  | 5  | 4* | 2* | 2* | 1* | 1* | 1  | 5  | 5  | 7  | 8  | 8  | 8  |
| Zone    |    | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Jun., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 8  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  | 2* | 6* | 5* | 3* | 1* | 1  | 5  | 5  | 2* | 5* | 2  | 5  | 5  | 7  |
| VO2 = 02 | 9       | 9  | 9  | 8  | 6  | 4  | 2  | -  | -  | -  | 2  | 9  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9  | 9  | 8  | 6  | 4  | -  | -  | -  | 5  | -  | 5  | 8  | 6  | 7  | 9  | 7  | 7  | 7  | 8  | 8  | 9  |
| W9 = 04  | 9       | 9  | 9  | 9  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | 8       | 9  | 9  | 8  | 6  | 4  | 2  | -  | -  | -  | -  | 2  | 9  | 8  | 8  | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 8  |
| XE1 = 06 | 9       | 9  | 8  | 7  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | 5  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  |
| TI = 07  | 9       | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 6  | 5  | 1  | 2  | 4  | 6  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 7       | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  | 8  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 8  |
| P4 = 09  | 6       | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | 1* | 5  | 6  | 4  | 2  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9  | 8  |
| HC = 10  | 6       | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1* | 2* | 8  | 8  | 9  | 9  | 9  | 9  | 4  | 5  | 8  | 8  | 7  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  |
| CE = 12  | 5       | 2  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  | 4  | 8  | 6  | 4* | 4* | 1* |
| G = 14   | 9       | 9  | 6  | 8  | 7  | 5  | -  | -  | -  | -  | 9  | 8  | 8  | 9  | 9  | 9  | 6  | 7  | 8  | 9  | 9  | 9  | 9+ | 9  |
| I = 15   | 9       | 9  | 9  | 8  | 7  | 5  | -  | -  | -  | 1  | 8  | 7  | 6  | 5  | 9  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| UA3 = 16 | 5       | 1  | -  | -  | 5  | 3  | -  | -  | -  | -  | 6  | 5  | 6  | 7  | 7  | 7  | 5  | 7  | 8  | 8  | 8  | 9  | 9  | 8  |
| UN = 17  | 5       | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | 6  | 6  | 5  | 5  | 5* | 6  | 5  | 8  | 8  | 9  | 9  | 9  | 8  | 8  |
| UA9 = 18 | 3       | 4  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | 6  | 2  | 3  | 7* | 6* | 4  | 4  | 5  | 7  | 5  | 5  | 7* | 5  | 3  |
| UA0 = 19 | 3       | 5  | 6  | 6  | 4  | 3  | 2  | -  | -  | -  | 1  | 8  | 7  | 8* | 8* | 8* | 7* | 7* | 7* | 6* | 4* | 2  | 1  | 1  |
| 4X = 20  | 6       | 6  | -  | 2  | 1  | -  | -  | -  | -  | 1  | 6  | 5  | 5  | 8  | 7  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 7  |
| HZ = 21  | 1       | 1  | 1  | -  | -  | -  | -  | -  | -  | 2  | 6  | 5  | 7  | 6  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 8  | 2  |
| VU = 22  | 1*      | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 3  | 4* | 4* | 5  | 7  | 8  | 7  | 6  | 6  | 8  | 3  | 2* |
| JT = 23  | 4       | 7  | 8  | 6  | 3  | 2  | -  | -  | -  | -  | 4  | 2  | 4  | 8* | 8* | 7* | 7* | 6  | 6  | 6  | 5  | 8* | 2  | 2  |
| VR2 = 24 | 3*      | 5* | 5* | 4* | 2* | 1* | 1* | -  | -  | 1  | 7  | 6  | 9* | 8* | 8  | 7  | 7  | 6  | 5  | 5  | 1  | 4* | 4* | 2* |
| JA1 = 25 | 7       | 7  | 7  | 7  | 6  | 4  | 3  | 2  | -  | 1* | 8* | 8* | 9  | 8  | 7* | 7* | 7* | 8* | 8* | 8* | 7  | 5  | 5  | 6  |
| HS = 26  | 1*      | 4* | 4* | 2* | 1* | -  | -  | -  | -  | 1  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 2  | 2* | 2* |
| DU = 27  | 4*      | 5* | 4* | 3* | 1* | 1* | 1* | -  | -  | -  | 1  | 5* | 8  | 9  | 7  | 4  | 4* | 4* | 3* | 1* | 1* | 6* | 7* | 5* |
| YB = 28  | 2*      | 4* | 3* | 2* | 1* | -  | -  | -  | -  | -  | 1  | 7  | 6* | 6* | 5* | 2* | -  | -  | -  | -  | 1  | -  | -  | 5* |
| VK6 = 29 | 2*      | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 6* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VK3 = 30 | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 4* | 2* |
| KH6 = 31 | 7       | 8  | 8  | 8  | 6  | 3  | 2  | 2  | -  | 1* | 5* | 4* | 8  | 2* | 1* | 1  | 6  | 5  | 5  | 7  | 8  | 6  | 4  | 5  |
| KH8 = 32 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | 3  | 8  | 8  | 7  | 7  | 7  | 5  |
| CN = 33  | 4       | 4  | 3  | 8  | 5  | 3  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 6  | 7  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 6  |
| SU = 34  | 8       | 6  | 1  | 1  | 4  | 1  | -  | -  | -  | 1  | 7  | 6  | 5  | 8  | 6  | 3  | 6  | 8  | 9  | 9  | 9+ | 9  | 8  | 7  |
| 6W = 35  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 7  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 8  | 9  | 8  | 9  | 8  | 9  | 8  | 8  | 7  | 2  | 1* | 1* | -  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 7  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | 1* | -  | -  | -  | -  | 1  | 8  | 9  | 8  | 9  | 8  | 9  | 8  | 1  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | 1* | 2* | -  | -  | -  | -  | -  | 5  | 9  | 9  | 8  | 9  | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | 2       | -  | -  | -  | 5  | 2  | -  | -  | -  | 1  | 5  | 4  | 2  | 5* | 5  | 5  | 5  | 4  | 5  | 5  | 6  | 6  | 5  | 4  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Jun., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |
| KL7 = 01 | 2       | 3  | 5  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | 2* | 1* | 1* | -  | 1  | 1* | 1* | 1* | -  | -  | -  | 1  |    |
| VO2 = 02 | 7       | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 3  | 3  | 2  | 6  | 5  | 6  | 6  | 7  | 6  | 8  | 9  | 9  | 7  |    |
| W6 = 03  | 8       | 8  | 8  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | 1  | -  | -  | 6  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 8  |    |
| W9 = 04  | 6       | 7  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 8  | 7  |    |
| W3 = 05  | 5       | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 6  |    |
| XE1 = 06 | 8       | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  |    |
| TI = 07  | 4       | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | 1* | 1* | -  | 7  | 9  | 9  | 7  | 5  |    |
| VP2 = 08 | 1       | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | 2  | 1  | 1  | 5  | 7  | 8  | 8  | 6  | 2  |    |
| P4 = 09  | 1       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | -  | 2  | 5  | 6  | 6  | 5  | 1  |    |
| HC = 10  | -       | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | 9  | 9  | 9  | 9  | 9+ | 1  | 1  | 1  | 1  |    |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 6  | 8  | 9  | 9  | 9  | -  | -  |    |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  | 1  |    |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 4* | 2* | 1* | -  |    |
| G = 14   | 6       | 3  | -  | 5  | 1  | -  | -  | -  | -  | -  | 8  | 6  | 7  | 6  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  |
| I = 15   | 4       | 3  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | 8  | 8  | 8  | 5  | 5  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 7  | 5  | 5  |
| UA3 = 16 | -       | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 6  | 4  | 3  | 1  | 3* | 2* | 3  | 5  | 8  | 8  | 9  | 8  | 7  | 3  | 3  |
| UN = 17  | -       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 5  | 3  | 6* | 6* | 6  | 7  | 8  | 8  | 8  | 5  | 2  | 5  | 5  |
| UA9 = 18 | -       | -  | 1  | 2  | -  | -  | -  | -  | -  | -  | 4  | -  | -  | 2* | 6* | 7* | 6* | 3* | 3* | 1  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 1  | 6* | 8* | 8* | 6* | 5* | 4* | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 7  | 4  | 2  | 2  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 6  | 6  | 6  | 7  | 7  | 8  | 9  | 8  | 8  | 4  | 2  | -  | -  |
| VU = 22  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 4  | 3  | 5* | 6  | 6  | 8  | 6  | 1  | -  | 1  | 4  | 1* | 2* | 2* |
| JT = 23  | -       | 1  | 6  | 2  | 1  | -  | -  | -  | -  | -  | 2  | 1  | 1  | 2  | 7* | 8* | 8* | 5* | 3* | 1  | -  | 1* | -  | -  | -  |
| VR2 = 24 | 7*      | 6* | 5* | 2* | 1* | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 6  | 5  | 3  | 1  | -  | -  | 1* | 5* | 6* | 6* |
| JA1 = 25 | 6       | 7  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | 2* | 5* | 8  | 9* | 7* | 6* | 7* | 7* | 6* | 3* | 5  | 6  | 6  | 6  | 6  |
| HS = 26  | 5*      | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | -  | -  | -  | 4* | 4* |
| DU = 27  | 5*      | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 7* | 8  | 5  | 1  | 1* | 1* | -  | -  | -  | -  | 7* | 5* | 5* |
| YB = 28  | 3*      | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 6* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 4* |
| VK6 = 29 | 1*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 5* | 1* | 1* |
| KH6 = 31 | 7       | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 3* | 4* | 5  | -  | -  | -  | 3  | 6  | 6  | 6  | 6  | 7  | 6  | 6  | 6  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 5  | 1  | 1  |
| CN = 33  | -       | -  | -  | 3  | 1  | -  | -  | -  | -  | -  | 7  | 8  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 5  | -  | -  |
| SU = 34  | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 7  | 2  | 2  | 2  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9+ | 7  | 4  | 1  | -  | 1  | 5  | 9  | 9+ | 9+ | 9+ | 6  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 8  | 8  | 8  | 9  | 7  | 7  | 2  | 2* | 1* | -  | -  | -  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 7  | 1  | -  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 8  | 9  | 2  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 1* | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 5  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | 1  | 1  | 1  | 1  | 1  | 1  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |

Zone UTC --> \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Jun., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2       | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  | 3  | 2  | 2  | 4  | 6  | 6  | 3  |
| W6 = 03  | 6       | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 5  | 6  | 7  | 8  | 7  | 7  |
| W9 = 04  | 2       | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 3  | 4  | 5  | 6  | 5  | 2  |
| W3 = 05  | 1       | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 4  | 6  | 7  | 8  | 8  | 4  | 1  |
| XE1 = 06 | 6       | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 1  | 6  | 7  | 8  | 8  | 8  | 8  | 7  |
| TI = 07  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 2  | -  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | -  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 7  | 6  | 6  | 6  | 8  | 8  | -  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 3* | 1  | 2  | -  | -  |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 8  | 8  | 8  | 9+ | 9+ | 5  | 2  | -  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | -  | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 4  | 5  | 5  | 5  | 5  | 6  | 8  | 8  | 9  | 8  | 5  | 1  |
| I = 15   | -       | -  | 3  | -  | -  | -  | -  | -  | -  | -  | 4  | -  | 6  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 6  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 1  | -  | -  | 1* | 1  | 1  | 3  | 5  | 6  | 5  | 1  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 3  | 2  | 2  | 5* | 5  | 5  | 5  | 4  | 1  | -  | -  | 1  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 7  | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 6  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 2  | 1  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 7  | 8  | 8  | 2  | -  | -  | -  | -  | -  | 1* |
| JT = 23  | -       | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 4*      | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | 2* | 5* |
| JA1 = 25 | 1       | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 4  | 6* | 2* | 1* | 1* | 1* | 1* | 1* | -  | 1  | 3  | 1  | 1  |
| HS = 26  | 3*      | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 8  | 4  | 2  | 1  | -  | -  | -  | -  | 1* |
| DU = 27  | 1*      | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* |
| YB = 28  | 1*      | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| VK6 = 29 | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* |
| KH6 = 31 | 5       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | -  | -  | -  | -  | 2  | 1  | 3  | 4  | 7  | 8  | 6  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 5  | 1  | -  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 7  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 7  | -  | -  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | -  | -  | -  | -  | -  | 1* | 1* | 3  | 5  | 4  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  | 3  | 3  | 6  | 5* | 2* | -  | -  | -  | -  |
| SZ = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  | 8  | 8  | 9  | 6  | 2  | -  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |

Zone UTC --> \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



10 Meters: Jun., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 2  | 2  | -  |
| W6 = 03  | 2       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 3  | 4  | 5  | 5  | 2  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 1  | 2  | 1  | -  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | -  | 2  | 4  | 5  | 4  | 1  | -  |
| XE1 = 06 | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 6  | 5  | 2  |
| TI = 07  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 1  | 1  | 4  | 5  | -  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2* | 2* | 5  | 5  | -  | -  | -  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 2  | 1  | 1  | 4  | 6  | 5  | 3  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 7  | 1  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 1  | 1  | 1  | 2  | 2  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 7  | 7  | 8  | 8  | 9  | 7  | 1  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 7  | 8  | 8  | 4  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| JA1 = 25 | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 4  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2* | -  | -  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 8  | 6  | 7  | 8  | 8  | 9  | 8  | 1  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 7  | 9  | 8  | 8  | 8  | 1  | -  | -  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 4* | 4* | 4* | 5* | -  | -  | -  | -  | -  |
| SZ = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 5  | 6  | 1  | -  | -  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Jul., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2       | 4  | 5  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 2  | 4  | 5  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 1  | 3  | 3  | 3  | 3  | 4  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 3  | 5  | 3  | 4  | 4  | 3  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 1  | 2  | 3  | 5  | 5  | 5  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2       | 3  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3       | 4  | 4  | 4  | 4  | 4  | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| P4 = 09  | 3       | 4  | 4  | 5  | 4  | 5  | 5  | 5  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 5       | 5  | 5  | 5  | 5  | 5  | 5  | 6  | 5  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 1  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | 3  | 6  | 9  | 9  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | 2  | 5  | 9  | 9  | 9  | 9  | 9  |
| G = 14   | 4       | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| I = 15   | 4       | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| UA3 = 16 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 4       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  |
| HZ = 21  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 1  | 2  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 3  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| SU = 34  | 4       | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  |
| 6W = 35  | 5       | 5  | 5  | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  |
| D2 = 36  | 5       | 5  | 4  | 4  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| 5Z = 37  | 5       | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  |
| ZS6 = 38 | 6       | 5  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 5  |
| FR = 39  | 5       | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Jul., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | 1  | 1  | 3  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 3  | 5  | 7  | 8  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 1       | 4  | 6  | 6  | 6  | 6  | 7  | 8  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 2       | 6  | 8  | 6  | 7  | 7  | 6  | 8  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | 1       | 4  | 5  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5       | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VP2 = 08 | 6       | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| P4 = 09  | 6       | 7  | 7  | 8  | 7  | 8  | 8  | 8  | 7  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| HC = 10  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4  | 1  | -  | -  | 2  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 3  | 2  | 5  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7       | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| I = 15   | 7       | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  |
| UA3 = 16 | 5       | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 7       | 6  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| HZ = 21  | 5       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| VU = 22  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | 1  | 3  | 6  | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 8  |
| SU = 34  | 7       | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| 6W = 35  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  |
| D2 = 36  | 8       | 8  | 7  | 7  | 9  | 9  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  |
| 5Z = 37  | 8       | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| ZS6 = 38 | 9       | 8  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  |
| FR = 39  | 8       | 8  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | -  | -  | 2  | 4  | 5  | 6  | 6  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8  | 9  | 8  | 8  | 9  | 8  | 9  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| W6 = 03  | 1  | 4  | 6  | 7  | 6  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 6  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| W3 = 05  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| XE1 = 06 | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| TI = 07  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| VP2 = 08 | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  |
| P4 = 09  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| HC = 10  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 9  | 9  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 8  |
| I = 15   | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  |
| UA3 = 16 | 7  | 7  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 6  | 7  |
| UN = 17  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  |
| UA9 = 18 | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 4  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  |
| 4X = 20  | 8  | 8  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  | 8  |
| HZ = 21  | 8  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| VU = 22  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  |
| JT = 23  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 1  | 1  |
| VR2 = 24 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 4  | 2  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | -  | -  |
| HS = 26  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 1  |
| YB = 28  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 7  | 7  |
| VK6 = 29 | 5  | 2  | 1  | -  | -  | -  | -  | -  | 3  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 7  | 8  |
| VK3 = 30 | 1  | -  | -  | -  | 1  | 2  | 5  | 7  | 7  | 7  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | 1  | 1  | 4  | 6  | 4  | 1  |
| KH6 = 31 | -  | -  | -  | 3  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | 1  | 3  | 5  | 7  | 8  | 8  | 8  | 8  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  |
| SU = 34  | 8  | 8  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 7  | 8  | 9  |
| D2 = 36  | 8  | 8  | 9  | 9  | 8  | 8  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 8  | 8  | 9  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 8  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 9  | 9  |
| FR = 39  | 9  | 8  | 7  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 9  | 9  |
| FJL = 40 | 3  | 4  | 4  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  | 2  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 2            | 2  | 3  | 6  | 5  | 6  | 6  | 6  | 6  | 7  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 =   | 02 | 8            | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 6  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  | 8  |
| W6 =    | 03 | 4            | 5  | 7  | 7  | 8  | 8  | 8  | 7  | 8  | 7  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 =    | 04 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| W3 =    | 05 | 8            | 8  | 9  | 9  | 8  | 9  | 8  | 8  | 6  | 6  | 7  | 8  | 1  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  |
| XE1 =   | 06 | 8            | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 6  | 7  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| TI =    | 07 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 2  | 2  | 7  | 4  | 3  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |
| VP2 =   | 08 | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | 5  | 8  | 7  | 5  | 1  | 1  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  |
| P4 =    | 09 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 3  | 8  | 8  | 5  | 2  | 1  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  |
| HC =    | 10 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | 1  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | 2  | 5  | 6  | 8  | 9  |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9  | 9  | 8  | 8  | 9  | 9+ | 9+ | 9  | 9  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 9            | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 6  | 1  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| G =     | 14 | 8            | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 7  | 8  | 8  |
| I =     | 15 | 8            | 8  | 8  | 8  | 8  | 7  | 6  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  | 8  |
| UA3 =   | 16 | 7            | 7  | 8  | 7  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 7  |
| UN =    | 17 | 7            | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 6  | 8  |
| UA9 =   | 18 | 6            | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 6  | 6  |
| UA0 =   | 19 | -            | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 3* | 5  | 2* | -  | -  | -  | -  | -  | 2* | 4* | 5* | 4* | 2* | -  |
| 4X =    | 20 | 8            | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  | 8  | 8  |
| HZ =    | 21 | 8            | 7  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| VU =    | 22 | 6            | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 8  | 7  | 6  |
| JT =    | 23 | 2            | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | 1* | 2  | 3  | 3  | 3  |
| VR2 =   | 24 | 4            | 1  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | 2* | 1* | -  | -  | -  | -  | 1  | 2  | 4  | 6  | 6  | 6  | 5  |
| JA1 =   | 25 | -            | -  | -  | -  | -  | -  | -  | 2  | 6  | 5  | 4  | 5  | 3  | 1  | -  | -  | -  | -  | 3* | 5* | 6* | 5* | 3* | -  |
| HS =    | 26 | 5            | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 7  | 6  |
| DU =    | 27 | 2            | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 3  | 1  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 2  | 2* | 5  | 4  |
| YB =    | 28 | 4            | 3  | -  | -  | -  | -  | -  | -  | -  | 1* | 5  | 4  | 2  | 1  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  | 5  | 6  |
| VK6 =   | 29 | 6            | 5  | 2  | 1  | 1  | -  | 1  | 1  | 4  | 6  | 5  | 5  | 5  | 2  | 1  | -  | -  | 2  | 4  | 5  | 5  | 4  | 6  | 7  |
| VK3 =   | 30 | 4            | 3  | 1  | 1  | 2  | 4  | 2  | 2  | 5  | 6  | 7  | 5  | 3  | 2  | 2  | -  | -  | 1  | 1  | -  | 1  | 5  | 6  | 5  |
| KH6 =   | 31 | -            | -  | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 5  | -  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | 1  | 4  | 5  | 5  | 6  | 6  | 7  | 7  | 3  | -  | 1  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 8            | 8  | 8  | 9  | 8  | 8  | 7  | 5  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 8  | 8  | 8  |
| SU =    | 34 | 8            | 8  | 8  | 8  | 7  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  | 8  |
| 6W =    | 35 | 9            | 9  | 8  | 7  | 5  | 1  | -  | 1  | 4  | 7  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 9  | 9  |
| D2 =    | 36 | 5            | 5  | 5  | 5  | 2  | 1  | 2  | 1  | 3  | 5  | 1  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 7  | 8  | 6  |
| 5Z =    | 37 | 8            | 7  | 6  | 1  | 5  | 6  | 1  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  | 8  | 8  | 8  |
| ZS6 =   | 38 | 7            | 7  | 5  | 5  | 2  | 3  | 3  | -  | 4  | 4  | 1  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 5  | 7  | 7  | 7  | 5  |
| FR =    | 39 | 2            | -  | -  | 1  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  | 4  | 6  | 6  | 4  | 4  |
| FJL =   | 40 | 5            | 5  | 5  | 6  | 6  | 3  | 2  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 3  | 3  | 4  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



## 20 Meters: Jul., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 7       | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 5  | 2  | 5* | 6  | 3* | 2* | 4  | 4  | 4  | 4  | 3  | 4  | 5  | 5  | 6  | 6  |
| VO2 = 02 | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 4  | 1  | 4  | 8  | 8  | 7  | 6  | 5  | 3  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 2* | 3* | 8  | 6  | 8  | 4  | 1  | 1  | 1  | 1  | 3  | 1  | 2  | 5  | 7  |
| W9 = 04  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | 2  | 1  | 8  | 8  | 6  | 6  | 5  | 4  | 2  | 5  | 5  | 6  | 7  | 9  | 9  |
| W3 = 05  | 9       | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 1  | 1  | 2  | 9  | 7  | 7  | 6  | 5  | 3  | 5  | 5  | 6  | 8  | 8  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 3  | 2* | -  | -  | 6  | 8  | 6  | 7  | 6  | 4  | 4  | 6  | 5  | 8  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9  | 8  | 7  | 4  | -  | 2* | 1* | 1  | 9  | 7  | 6  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9  | 6  | 5  | 3  | -  | -  | -  | 1  | 9  | 9  | 8  | 7  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9  | 8  | 6  | 5  | 4  | 1  | -  | -  | 1* | 9  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| HC = 10  | 9+      | 9  | 8  | 8  | 8  | 5  | 3  | 1  | -  | 2* | 1* | 1* | 9  | 6  | 6  | 5  | 5  | 5  | 6  | 7  | 9  | 9  | 9  | 9+ |
| PY1 = 11 | 8       | 7  | 6  | 7  | 8  | 8  | 8  | 7  | 4  | -  | -  | 4  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| CE = 12  | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 1*      | -  | -  | 1  | 2  | 2  | 1  | -  | -  | -  | -  | -  | 4  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 2  |
| G = 14   | 9       | 9  | 9  | 9  | 9  | 9  | 7  | 1  | 2  | 6  | 5  | 4  | 2  | -  | 1  | 1  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| I = 15   | 9       | 9  | 9+ | 9+ | 9  | 9  | 6  | 1  | 1  | 6  | 4  | 1  | 1  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| UA3 = 16 | 8       | 7  | 5  | 5  | 9  | 8  | 5  | -  | -  | 4  | 1  | 1  | 1* | -  | -  | -  | 1  | 2  | 5  | 8  | 8  | 8  | 8  | 9  |
| UN = 17  | 8       | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | 3* | 3* | -  | -  | 1  | 3  | 5  | 7  | 9  | 9  | 9  | 8  |
| UA9 = 18 | 8       | 7  | 7  | 7  | 6  | 3  | 1  | -  | -  | 2  | 2  | 1  | 8  | 2* | 1* | -  | 1  | 2  | 7  | 7  | 8  | 8  | 8  | 8  |
| UA0 = 19 | 5       | 5  | 5  | 5  | 5  | 4  | 5  | 3  | 1  | 2  | 7  | 8  | 8* | 7* | 5* | 4* | 5* | 5* | 7* | 8* | 8* | 7* | 5  | 6  |
| 4X = 20  | 9       | 9  | 8  | 8  | 8  | 5  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 8  | 5  | 4  | 5  | 2  | -  | -  | -  | 2  | 1  | -  | -  | 1* | 1  | 1  | 3  | 2  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 6       | 4  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 2* | -  | 1  | 2  | 7  | 8  | 8  | 9  | 9  | 9  | 7  |
| JT = 23  | 8       | 7  | 6  | 4  | 3  | 2  | 1  | -  | -  | 3  | 7  | 7  | 8  | 3* | 2* | 2* | 1* | 3* | 7  | 7  | 8  | 7  | 8  | 7  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | 1* | 4* | 3* | 7  | 5  | 5  | 5* | 6* | 4* | 2  | 5  | 6  | 7  | 7  | 6  | 4* | 3* | 3* |
| JA1 = 25 | 1       | 1  | 1  | 2  | 3  | 5  | 7  | 7  | 5  | 5* | 5* | 8  | 8  | 8  | 5  | 4* | 5* | 6* | 8* | 8  | 8* | 7* | 2* | 1  |
| HS = 26  | 1*      | 2* | -  | -  | -  | -  | -  | 1* | -  | 2  | 6  | 5  | 5  | 4* | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 8  | 4  | 1  |
| DU = 27  | 2*      | 1* | -  | -  | -  | -  | 1* | 1* | 1* | 1  | 7  | 7  | 5  | 6  | 5  | 5  | 5  | 5  | 5  | 6* | 4* | 4* | 2* | 1* |
| YB = 28  | 1*      | 2* | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 7  | 4  | -  | 1  | 2  | 3  | 4  | 4  | 6  | 1  | 1* | 1* |
| VK6 = 29 | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 6  | 1* | -  | -  | -  | 1  | 1  | 1  | 1  | -  | 1  | 1  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1  | 1* | -  | 1  | -  | -  | -  | 1* | 1* | 1* | 2  | 7  | 2  |
| KH6 = 31 | 4       | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 1* | 2* | 1* | 8  | 6  | 2  | 4  | 2  | 1* | 1  | 3* | 1  | 1  | 1  | 2  |
| KH8 = 32 | 4       | 4  | 1  | -  | 1* | -  | 1  | 1  | 1  | 1* | -  | -  | 4  | 2  | -  | -  | -  | 4  | 4  | 7  | 2  | 2  | 2  | 4  |
| CN = 33  | 9       | 8  | 9  | 9  | 9  | 6  | -  | -  | 7  | 7  | 5  | 5  | 1  | -  | 1  | 1  | 3  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9       | 9  | 8  | 8  | 8  | 7  | 1  | -  | -  | 3  | 1  | 1  | -  | -  | 1  | 1  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 6       | 2  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 6  | 4  | 3  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9  |
| D2 = 36  | 1       | 1  | -  | -  | 1* | -  | -  | -  | 2  | 6  | 8  | 6  | 4  | 3  | 3  | 4  | 5  | 8  | 9  | 8  | 8  | 5  | 2  | 2  |
| 5Z = 37  | 1       | 1  | -  | -  | -  | 1  | -  | -  | 2  | 6  | 5  | 4  | 4  | 2  | 1  | 5  | 6  | 7  | 8  | 9  | 8  | 6  | 5  | 2  |
| ZS6 = 38 | -       | -  | -  | -  | 1* | -  | -  | -  | 1  | 6  | 7  | 7  | 6  | 4  | 6  | 7  | 8  | 7  | 1  | 1  | 2  | 1  | 1  | -  |
| FR = 39  | -       | -  | -  | -  | 1  | 1  | -  | -  | 1  | 6  | 4  | 4  | 9  | 4  | 5  | 6  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | 8       | 7  | 6  | 8  | 8  | 7  | 6  | 1  | -  | 5  | 7  | 7  | 9  | 2* | 1  | 1  | 2  | 2  | 4  | 6  | 8  | 8  | 8  | 8  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Jul., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 7       | 8  | 8  | 8  | 7  | 5  | 5  | 2  | -  | -  | -  | 4* | 4* | 2* | 1* | -  | 3  | 5  | -  | 3* | 1  | 3  | 1  | 5  |
| VO2 = 02 | 8       | 8  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | 1  | 9  | 8  | 8  | 9  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | 3  | -  | 1  | 8  | 7  | 8  | 9  | 8  | 7  | 7  | 7  | 9  | 9  |
| W9 = 04  | 8       | 8  | 8  | 8  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | 5  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| W3 = 05  | 8       | 8  | 8  | 7  | 4  | 2  | 2  | -  | -  | -  | -  | 1  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| XE1 = 06 | 9       | 9  | 8  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 8  | 8  | 7  | 8  | 9  | 9  | 9  |
| TI = 07  | 8       | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 4  | 2  | -  | 1  | 1  | 8  | 9  | 9  | 9+ | 9+ | 9  |
| VP2 = 08 | 4       | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 6  | 5  | 6  | 5  | 6  | 9  | 9  | 9+ | 9+ | 9+ | 7  |
| P4 = 09  | 4       | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 1* | -  | 4  | 5  | 7  | 9  | 9+ | 9+ | 8  | 6  |
| HC = 10  | 4       | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 7  | 6  | 9  | 9  | 9  | 9  | 2  | 4  | 6  | 6  | 5  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  |
| CE = 12  | 7       | 5  | 5  | 6  | 7  | 7  | 6  | 4  | -  | -  | -  | -  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 1  | 4  | 5  | 4* | 3* | 1* |
| G = 14   | 9       | 7  | 3  | 1  | 7  | 6  | 1  | -  | -  | 1  | 9  | 8  | 8  | 9  | 9  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| I = 15   | 7       | 7  | 9  | 8  | 6  | 7  | 1  | -  | -  | 2  | 8  | 7  | 6  | 5  | 9  | 3  | 5  | 6  | 8  | 9  | 8  | 9  | 9  | 8  |
| UA3 = 16 | 1       | -  | -  | -  | 6  | 5  | 1  | -  | -  | 1  | 8  | 5  | 6  | 7  | 7  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 8  | 6  |
| UN = 17  | 1       | 2  | 5  | 3  | 1  | 1  | -  | -  | -  | -  | 5  | 5  | 5  | 4  | 4  | 5  | 7  | 7  | 8  | 9  | 9  | 8  | 5  | 3  |
| UA9 = 18 | -       | -  | 4  | 5  | 4  | 4  | -  | -  | -  | -  | 5  | 3  | 3  | 6* | 6* | 5* | 3  | 5  | 4  | 4  | 2  | 7* | 2* | -  |
| UA0 = 19 | 1       | 2  | 4  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | 5  | 6* | 8* | 8* | 5* | 6* | 6* | 7* | 5* | 3* | -  | -  | -  |
| 4X = 20  | 8       | 6  | 2  | 4  | 1  | -  | -  | -  | -  | 1  | 6  | 6  | 5  | 8  | 7  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 7  | 5  | 3  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 5  |
| VU = 22  | 2*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 3  | 3* | 5  | 3  | 6  | 7  | 4  | 2  | 3  | 7  | 6  | 2* |
| JT = 23  | 2       | 5  | 8  | 6  | 5  | 4  | -  | -  | -  | 1  | 5  | 3  | 3  | 7* | 8* | 6* | 5  | 5  | 5  | 4  | 2  | 7* | 2* | 1  |
| VR2 = 24 | 4*      | 6* | 5* | 5* | 3* | 2* | 2* | 2* | -  | -  | 5  | 6  | 9* | 7* | 7  | 6  | 6  | 5  | 4  | 2  | -  | 3* | 4* | 2* |
| JA1 = 25 | 7       | 7  | 7  | 7  | 7  | 6  | 5  | 4  | -  | -  | 3* | 8* | 9  | 8* | 5* | 5* | 6* | 8* | 8* | 8* | 5  | 7  | 7  | 7  |
| HS = 26  | 1*      | 5* | 4* | 3* | 1* | 1* | 1* | 1* | -  | -  | 5  | 7  | 7  | 7  | 7  | 8  | 7  | 8  | 8  | 8  | 8  | 4  | 1* | 2* |
| DU = 27  | 4*      | 5* | 4* | 2* | 1* | -  | 1* | -  | -  | -  | -  | 5* | 8  | 8  | 7  | 6  | 5  | 2  | 2* | -  | -  | 4* | 7* | 5* |
| YB = 28  | 4*      | 4* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 5  | 5* | 6* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | 6* |
| VK6 = 29 | 1*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VK3 = 30 | 1*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | 1* |
| KH6 = 31 | 8       | 8  | 9  | 8  | 7  | 6  | 6  | 5  | -  | -  | 5* | 3* | 8  | -  | -  | -  | 6  | 6  | 6  | 7  | 8  | 6  | 6  | 7  |
| KH8 = 32 | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | 8  | 7  | 6  | 6  | 7  | 5  |
| CN = 33  | 6       | -  | 1  | 7  | 6  | 5  | 1  | -  | -  | -  | 9  | 9  | 8  | 7  | 6  | 7  | 6  | 8  | 9  | 9  | 9  | 9  | 7  | 1  |
| SU = 34  | 8       | 6  | 2  | 2  | 4  | 1  | -  | -  | -  | -  | 7  | 6  | 6  | 8  | 8  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 8  | 8  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 8  | 7  | 6  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  | 1  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 4  | 1* | 1* | -  |
| 5Z = 37  | -       | -  | -  | 1* | -  | -  | -  | -  | -  | 4  | 8  | 7  | 8  | 7  | 8  | 7  | 9  | 9  | 9  | 8  | 2  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 1* | -  | -  | -  | -  | 5  | 7  | 8  | 8  | 9  | 9  | 6  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | 1* | 2* | 1* | -  | -  | -  | -  | 1  | 7  | 9  | 8  | 8  | 6  | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | 6  | 4  | 2  | 1  | -  | -  | 1  | 2  | 2  | 1  | 5* | 3  | 1  | 1  | 2  | 3  | 5  | 5  | 4  | 3  | 1  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Jul., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1       | 5  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  |
| VO2 = 02 | 4       | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 1  | 4  | 5  | 5  | 6  | 6  | 5  | 7  | 8  | 9  | 7  |
| W6 = 03  | 8       | 8  | 8  | 7  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 8  |    |
| W9 = 04  | 5       | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 4  | -  | 2  | 2  | 6  | 7  | 8  | 8  | 6  |
| W3 = 05  | 3       | 3  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | 6  | 7  | 8  | 8  | 9  | 8  | 9  | 8  | 5  |
| XE1 = 06 | 8       | 8  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 4  | 5  | 8  | 8  | 8  | 8  | 9  | 8  |    |
| TI = 07  | 2       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | 5  | 6  | 8  | 8  | 7  | 4  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 3  | 6  | 8  | 8  | 6  | 1  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 5  | 1  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 9  | 8  | 8  | 8  | 9  | 9  | -  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 3  | 5  | 8  | 8  | 9  | 3  | -  |
| CE = 12  | -       | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 3* | 2* | -  | -  |
| G = 14   | 2       | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | 7  | 6  | 6  | 6  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 5  |
| I = 15   | -       | -  | 7  | 5  | 1  | 2  | -  | -  | -  | -  | 8  | 5  | 7  | 8  | 8  | 5  | 7  | 8  | 9  | 9  | 9  | 8  | 4  | 1  |
| UA3 = 16 | -       | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | 6  | 3  | 2  | 1  | 2* | 2* | 2  | 3  | 7  | 8  | 8  | 7  | 4  | -  |
| UN = 17  | -       | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 3  | 3  | 5* | 5* | 5  | 7  | 7  | 7  | 5  | 1  | 1* | -  |
| UA9 = 18 | -       | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | 2  | 1  | -  | 1* | 5* | 6* | 3* | 1* | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 6* | 4* | 3* | 3* | 2* | -  | -  | -  | -  | -  |
| 4X = 20  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 5  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 8  | 5  | 2  | 5  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 7  | 8  | 7  | 6  | 7  | 8  | 9  | 6  | 6  | 4  | 5  | -  |
| VU = 22  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 4  | 4  | 6* | 5  | 8  | 5  | -  | -  | -  | 1  | 1  | 2* |
| JT = 23  | -       | -  | 5  | 2  | 1  | 1  | -  | -  | -  | -  | 2  | 1  | 1  | 1  | 5* | 6* | 4* | 3* | 2* | -  | -  | -  | -  | -  |
| VR2 = 24 | 7*      | 6* | 5* | 2* | 1* | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  | 6  | 4  | 2  | -  | -  | -  | -  | 5* | 6* |
| JA1 = 25 | 5       | 6  | 5  | 4  | 3  | 2  | 2  | -  | -  | -  | -  | 2* | 7  | 8* | 4* | 3* | 4* | 5* | 5* | 2* | 2  | 5  | 5  | 6  |
| HS = 26  | 5*      | 5* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 5  | -  | -  | -  | 2* |
| DU = 27  | 4*      | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 7* | 6  | 7  | 4  | 1  | -  | -  | -  | -  | 6* | 5* |    |
| YB = 28  | 2*      | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 6* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VK6 = 29 | 1*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 1* |    |
| KH6 = 31 | 7       | 8  | 7  | 5  | 2  | 1  | 1  | -  | -  | -  | 1* | 1* | 5  | -  | -  | -  | 2  | 6  | 6  | 5  | 5  | 6  | 7  | 7  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 7  | 8  | 5  | 2  |
| CN = 33  | -       | -  | -  | 2  | 1  | 1  | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 7  | 6  | 8  | 8  | 9  | 9  | 9  | 8  | -  | -  |
| SU = 34  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  | 7  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 5  | 2  | 5  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 4  | 1  | -  | -  | 1* | 2  | 7  | 9  | 9+ | 8  | 1  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 8  | 7  | 7  | 8  | 8  | 7  | 4  | 2* | 1* | -  | -  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 7  | 7  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 1* | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 4* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



12 Meters: Jul., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 2  | 1  | 1  | 2  | 5  | 6  | 1  |
| W6 = 03  | 5       | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 4  | 6  | 7  | 7  | 7  | 6  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  | 5  | 2  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 3  | 5  | 8  | 5  | 8  | 4  | 1  |
| XE1 = 06 | 5       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 6  | 6  | 8  | 8  | 8  | 8  | 6  |
| TI = 07  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | -  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 4  | 4  | 5  | 7  | 8  | -  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | -  | -  |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 6  | 8  | 9  | 6  | 4  | -  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 4  | 4  | 5  | 5  | 4  | 5  | 6  | 7  | 8  | 6  | 1  | -  |
| I = 15   | -       | -  | 2  | -  | -  | -  | -  | -  | -  | -  | 3  | -  | 5  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 8  | 2  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 1* | 1* | 1* | 2  | 4  | 4  | 2  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 3  | 2  | 2  | 3  | 4  | 4  | 2  | 1  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 2  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 7  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 6  | 7  | 6  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 4*      | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | 1* | 5* |
| JA1 = 25 | 1       | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4* | 1* | -  | -  | 1* | 1* | -  | -  | 1  | 1  | -  |
| HS = 26  | 1*      | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 5  | 2  | 1  | 1  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* |
| KH6 = 31 | 5       | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 2  | 6  | 8  | 7  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 5* | 1  | -  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 2  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 4  | -  | -  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2* | 2* | 2  | 5  | 4* | 3* | -  | -  | -  | -  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 8  | 7  | 8  | 6  | 4  | -  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



10 Meters: Jul., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  |
| W6 = 03  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 4  | 4  | 2  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | 1  | 5  | 1  | 5  | 1  | -  |
| XE1 = 06 | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 4  | 5  | 5  | 5  | 2  |
| TI = 07  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 2  | 3  | -  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 2  | -  | -  | -  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  | -  | 2  | 3  | 2  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 6  | 7  | 7  | 8  | 3  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 6  | 6  | 7  | 8  | 8  | 4  | -  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 4  | 5  | 6  | 8  | 1  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| JA1 = 25 | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 5  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 3* | -  | -  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 6  | 5  | 6  | 8  | 7  | 7  | 5  | -  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 5  | 6  | 7  | 8  | 8  | 6  | -  | -  | -  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | 4* | -  | -  | -  | -  | -  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 2* | 3  | 1  | 1  | -  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Aug., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 3       | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 2  | 4  | 4  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 1  | 4  | 4  | 5  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 4  | 5  | 5  | 5  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 2  | 3  | 4  | 2  | 5  | 5  | 4  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2       | 3  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3       | 4  | 4  | 4  | 4  | 4  | 5  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 3       | 4  | 4  | 4  | 4  | 4  | 5  | 5  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 5       | 5  | 5  | 5  | 5  | 5  | 6  | 5  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 1  | -  | -  | -  | -  | 1  | 5  | 9  | 9  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 1  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| I = 15   | 5       | 5  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| UA3 = 16 | 2       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 4       | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |    |
| HZ = 21  | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |    |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 2  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 2  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| SU = 34  | 4       | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |    |
| 6W = 35  | 4       | 5  | 5  | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |    |
| D2 = 36  | 6       | 6  | 4  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |    |
| 5Z = 37  | 5       | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |    |
| ZS6 = 38 | 6       | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  |    |
| FR = 39  | 5       | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 5  |    |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Aug., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | 1  | 1  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 6       | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W6 = 03  | -       | -  | 1  | 3  | 5  | 7  | 7  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 1       | 4  | 7  | 7  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 2       | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | 1       | 5  | 6  | 7  | 5  | 8  | 8  | 7  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5       | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| VP2 = 08 | 6       | 7  | 7  | 7  | 7  | 7  | 8  | 7  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| P4 = 09  | 6       | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| HC = 10  | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 2  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | -  | 4  | 8  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4  | 1  | 1  | 3  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  |
| I = 15   | 8       | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| UA3 = 16 | 5       | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| UN = 17  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 7       | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| HZ = 21  | 6       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| VU = 22  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 5  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 8  |
| SU = 34  | 7       | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| 6W = 35  | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| D2 = 36  | 9       | 9  | 7  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  |
| ZS6 = 38 | 9       | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 8  | 8  |
| FR = 39  | 8       | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  | 8  |
| FJL = 40 | 1       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1  | 1  | 2  | 3  | 5  | 5  | 6  | 7  | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8  | 8  | 9  | 8  | 8  | 9  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  |
| W6 = 03  | 1  | 3  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 7  | 6  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| W3 = 05  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  |
| XE1 = 06 | 6  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| TI = 07  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| VP2 = 08 | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  |
| P4 = 09  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  |
| HC = 10  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 7  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 5  | 4  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 8  |
| I = 15   | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  |
| UA3 = 16 | 7  | 6  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 6  | 6  |
| UN = 17  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| UA9 = 18 | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  |
| 4X = 20  | 8  | 8  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  |
| HZ = 21  | 8  | 8  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 8  |
| VU = 22  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  |
| JT = 23  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 4  |
| VR2 = 24 | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 4  | 3  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  | -  |
| HS = 26  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 6  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 5  | 1  |
| YB = 28  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 7  |
| VK6 = 29 | 5  | 1  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 6  |
| VK3 = 30 | -  | -  | -  | -  | 1  | 1  | 3  | 5  | 7  | 6  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | 1  | -  | 3  | 3  | -  |
| KH6 = 31 | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | 2  | 5  | 7  | 7  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  |
| SU = 34  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 6  | 8  | 9  |
| D2 = 36  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 9  | 9  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 9  | 9  | 9  |
| FR = 39  | 9  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 7  | 8  | 9  | 9  |
| FJL = 40 | 7  | 7  | 7  | 6  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Aug., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2       | 4  | 6  | 6  | 7  | 7  | 7  | 8  | 8  | 7  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 8  |
| W6 = 03  | 4       | 6  | 6  | 8  | 8  | 7  | 7  | 8  | 7  | 7  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W9 = 04  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| W3 = 05  | 8       | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  |
| XE1 = 06 | 8       | 8  | 9  | 9  | 8  | 9  | 8  | 8  | 7  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 5  | 7  | 4  | 2  | 1  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 7  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 5  | 8  | 6  | 4  | 2  | 1  | -  | -  | -  | 1  | 3  | 5  | 8  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 3  | 4  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 7  | 6  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 6  | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9       | 9  | 8  | 7  | 7  | 6  | 5  | 4  | 1  | -  | -  | 4  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 9  | 8  | 8  | 7  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 6  | 6  | 8  | 8  |
| I = 15   | 8       | 7  | 7  | 8  | 8  | 7  | 7  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  | 8  |
| UA3 = 16 | 7       | 8  | 8  | 7  | 6  | 6  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  |
| UN = 17  | 7       | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 7  | 8  | 8  |
| UA9 = 18 | 6       | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 6  | 6  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | 3* | 4* | 7  | 2* | -  |
| 4X = 20  | 8       | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| HZ = 21  | 8       | 8  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| VU = 22  | 7       | 5  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 8  | 8  |
| JT = 23  | 6       | 3  | 1  | -  | -  | -  | -  | -  | -  | 1* | -  | 2* | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  |
| VR2 = 24 | 4       | 1  | -  | -  | -  | -  | -  | -  | 1* | 3* | 3* | 2* | 1* | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 6  | 5  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 5  | 2  | -  | -  | -  | -  | -  | 1* | 4* | 5* | 5* | 4* | 2* |
| HS = 26  | 6       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 8  | 7  |
| DU = 27  | 2       | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 4  | 2* | -  | -  | -  | -  | -  | -  | 1  | 4  | 3  | 2* | 5  | 5  |
| YB = 28  | 5       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 5  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 5  | 6  |
| VK6 = 29 | 6       | 5  | 2  | 1  | -  | -  | -  | 2  | 4  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | 1  | 3  | 5  | 5  | 6  | 6  | 7  |
| VK3 = 30 | 3       | 2  | 1  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 7  | 5  | 4  | 2  | 1  | -  | -  | -  | 1  | 1  | 3  | 5  | 6  | 5  |
| KH6 = 31 | -       | 1  | 2  | 6  | 6  | 8  | 8  | 8  | 8  | 4  | -  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | 1  | 3  | 6  | 7  | 8  | 7  | 8  | 7  | 4  | -  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 8  | 4  | -  | 1  | 4  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 9  |
| D2 = 36  | 8       | 7  | 6  | 6  | 4  | 1  | 3  | 2  | 4  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  | 8  | 7  | 8  |
| 5Z = 37  | 8       | 8  | 6  | 1  | 5  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  | 8  |
| ZS6 = 38 | 8       | 8  | 7  | 7  | 6  | 6  | 5  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 8  | 8  | 8  |
| FR = 39  | 5       | 1  | -  | 6  | 6  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 5  | 6  | 7  | 6  | 6  |
| FJL = 40 | 7       | 7  | 7  | 7  | 7  | 5  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 5  | 5  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



## 20 Meters: Aug., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |     | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 5  | 6  | 5  | 5* | 4* | 2* | 1* | 1  | 2  | 1  | 2  | 2  | 5  | 4  | 5  | 6  | 7  |
| VO2 = 02 |     | 9  | 9  | 9  | 8  | 6  | 3  | 5  | 6  | 1  | 6  | 9  | 8  | 9  | 5  | 5  | 2  | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9  |
| W6 = 03  |     | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | 8  | 3  | 7  | 4  | 1  | 1  | 1  | -  | 2  | 1  | 2  | 6  | 7  |
| W9 = 04  |     | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 6  | 5  | 4  | 5  | 8  | 8  | 5  | 4  | 4  | 2  | 2  | 1  | 7  | 6  | 8  | 9  | 9  |
| W3 = 05  |     | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 7  | 2  | 3  | 7  | 8  | 8  | 5  | 5  | 5  | 3  | 3  | 4  | 7  | 7  | 8  | 9  | 9  |
| XE1 = 06 |     | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 4  | 2  | -  | 6  | 7  | 5  | 5  | 5  | 5  | 2  | 6  | 6  | 8  | 9  | 9  |
| TI = 07  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 2  | 1* | -  | 2  | 9  | 7  | 6  | 5  | 5  | 5  | 5  | 7  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 2  | -  | -  | 7  | 9  | 9  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 3  | -  | -  | 2  | 9  | 8  | 8  | 7  | 6  | 7  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| HC = 10  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6  | -  | 3* | -  | 1  | 9  | 8  | 7  | 6  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9+ |
| PY1 = 11 |     | 9  | 8  | 6  | 4  | 2  | 2  | 1  | 1  | -  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |     | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 6  | 4  | 1  | -  | 2  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |     | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  |
| G = 14   |     | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 2  | 1  | 8  | 6  | 4  | 1  | 1  | -  | 1  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| I = 15   |     | 9  | 9  | 9  | 9  | 8  | 8  | 8  | -  | 1  | 6  | 3  | 1  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9  | 9  |
| UA3 = 16 |     | 7  | 4  | 1  | 2  | 7  | 9  | 6  | -  | -  | 4  | 1  | -  | 2* | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 8  | 9  | 8  |
| UN = 17  |     | 6  | 7  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  | -  | 1  | 3  | 5  | 8  | 8  | 8  | 8  | 7  |
| UA9 = 18 |     | 4  | 5  | 7  | 7  | 6  | 6  | 3  | -  | -  | 4  | 2  | 8  | 4* | 1* | 1* | 1* | 1  | 2  | 6  | 6  | 6  | 6  | 5  | 4  |
| UA0 = 19 |     | 5  | 7  | 2  | 3  | 7  | 7  | 7  | 5  | 2  | 5  | 8  | 7* | 7* | 5* | 4* | 3* | 4* | 5* | 6* | 7* | 7* | 8* | 5  | 6  |
| 4X = 20  |     | 9  | 9  | 9  | 8  | 8  | 8  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  |     | 9  | 8  | 6  | 7  | 6  | 4  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  |     | 8  | 8  | 4  | 1  | 3  | 1  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | 2  | 4  | 7  | 7  | 8  | 8  | 8  | 8  |
| JT = 23  |     | 7  | 7  | 7  | 5  | 2  | 2  | 1  | -  | -  | 4  | 6  | 5  | 5* | 2* | 3* | 1* | 1  | 3  | 6  | 6  | 4  | 4  | 3  | 5  |
| VR2 = 24 |     | 5* | 1  | -  | -  | -  | -  | 1* | 3* | 4* | 7  | 5  | 8* | 5* | 5* | 2* | 2  | 4  | 5  | 7  | 8  | 8  | 5  | 2  | 4  |
| JA1 = 25 |     | 1  | 1  | 1  | 2  | 3  | 5  | 7  | 8  | 7  | 5* | 5* | 9  | 8  | 7  | 4  | 2* | 4* | 6* | 7* | 8* | 7* | 8* | 7  | 1  |
| HS = 26  |     | 2  | 3* | -  | -  | -  | -  | -  | 1* | 1* | 1  | 6  | 6  | 4* | 3* | 2  | 3  | 4  | 6  | 8  | 9  | 9  | 9  | 8  | 4  |
| DU = 27  |     | 3* | 1* | -  | -  | -  | -  | 1* | 2* | 2* | 4  | 7  | 6  | 4  | 5  | 3  | 3  | 4  | 5  | 6  | 6* | 4* | 4* | 2* | 1  |
| YB = 28  |     | 1* | 2* | -  | -  | -  | -  | -  | 1* | 2* | 3  | 5  | 5  | 6  | 5  | 4  | 2  | 2  | 4  | 5  | 5  | 5  | 2  | 2* | 1  |
| VK6 = 29 |     | 1  | 1* | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 3  | -  | -  | -  | -  | 1  | 3  | 4  | 3  | 4  | 5  | 2  |
| VK3 = 30 |     | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2  | 1  | -  | 1  | -  | -  | -  | -  | -  | 1* | 6  | 8  | 5  |
| KH6 = 31 |     | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 6  | 2* | 1* | 4  | 8  | 5  | 1  | 3  | 1  | -  | 1  | 1* | 1* | 1  | 1  | 2  |
| KH8 = 32 |     | 5  | 5  | 3  | 5  | 4  | 5  | 4  | 5  | 2  | -  | -  | -  | 5  | 3  | -  | -  | -  | 3  | 2  | 8  | 1  | 2  | 2  | 3  |
| CN = 33  |     | 9  | 8  | 8  | 8  | 8  | 6  | 8  | 1  | 1  | 8  | 7  | 5  | 4  | -  | 1  | 1  | 1  | 5  | 7  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  |     | 9  | 9  | 9  | 8  | 8  | 8  | 2  | -  | -  | 2  | 1  | 1  | -  | -  | -  | 1  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  |     | 9+ | 9  | 7  | 4  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 6  | 5  | 4  | 4  | 6  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  |     | 3  | 2  | 2  | 2  | 1* | -  | -  | -  | 3  | 8  | 7  | 5  | 4  | 2  | 2  | 4  | 7  | 8  | 9  | 9  | 8  | 8  | 6  | 4  |
| 5Z = 37  |     | 5  | 4  | -  | -  | -  | 2  | -  | -  | 5  | 5  | 4  | 3  | 3  | 2  | 2  | 3  | 6  | 7  | 8  | 9  | 9  | 9  | 8  | 5  |
| ZS6 = 38 |     | 2  | 3  | 1  | -  | -  | 1  | -  | -  | 3  | 8  | 7  | 6  | 5  | 4  | 6  | 6  | 8  | 8  | 7  | 8  | 6  | 5  | 4  | 3  |
| FR = 39  |     | -  | -  | -  | -  | 1  | 1  | -  | -  | 2  | 4  | 3  | 3  | 3  | 4  | 4  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  |
| FJL = 40 |     | 5  | 1  | -  | 1  | 2  | 6  | 8  | 3  | 1  | 6  | 6  | 5  | 8  | 1  | -  | -  | -  | 1  | 5  | 6  | 8  | 8  | 8  | 7  |
| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Aug., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 7       | 7  | 8  | 8  | 7  | 4  | -  | -  | 1  | -  | 1* | 1* | 1* | -  | -  | -  | 1  | 4  | 3  | 2* | 3* | 2* | -  | 6  |
| VO2 = 02 | 9       | 9  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 9  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9  | 8  | 5  | 4  | 8  | 3  | -  | -  | 2  | -  | 1  | 8  | 6  | 6  | 6  | 9  | 6  | 7  | 8  | 8  | 9  |
| W9 = 04  | 9       | 9  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 7  | 7  | 8  | 7  | 8  | 8  | 9  | 9  | 9  |
| W3 = 05  | 8       | 8  | 5  | 6  | -  | -  | -  | 1  | -  | -  | 2  | 1  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 9  | 8  | 7  | 5  | -  | -  | -  | -  | 8  | 8  | 9  | 9  | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 9       | 8  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | 5  | 9  | 5  | 1  | 1  | 3  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 7       | 6  | 7  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | 7  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  |
| P4 = 09  | 6       | 5  | 6  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | 2  | 7  | 6  | 3  | 2  | 7  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 8  |
| HC = 10  | 6       | 5  | 5  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | 3  | 8  | 7  | 9  | 6  | 7  | 6  | 9  | 5  | 7  | 8  | 8  |
| PY1 = 11 | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  |
| CE = 12  | 9       | 6  | 4  | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 8  | 9  | 7  | 2  | 4  | 1* |
| G = 14   | 6       | 3  | 1  | -  | 3  | 3  | 5  | -  | -  | 3  | 9  | 8  | 7  | 9  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| I = 15   | 4       | 5  | 5  | 1  | 4  | 4  | 3  | -  | -  | 5  | 8  | 7  | 6  | 5  | 5  | 3  | 4  | 6  | 8  | 9  | 9  | 9  | 8  | 6  |
| UA3 = 16 | -       | -  | -  | -  | 2  | 8  | 3  | -  | -  | 2  | 7  | 5  | 6  | 7  | 4  | 3  | 4  | 7  | 8  | 8  | 9  | 9  | 6  | 2  |
| UN = 17  | 1*      | -  | 7  | 5  | 4  | 2  | -  | -  | -  | 2  | 5  | 5  | 5  | 5  | 4  | 4* | 6  | 7  | 8  | 8  | 7  | 3  | 1  | 4* |
| UA9 = 18 | -       | -  | -  | 5  | 6  | 6  | 2  | -  | -  | 1  | 5  | 3  | 3  | 7* | 6* | 4* | 2  | 2  | 2  | 1  | -  | -  | 4* | -  |
| UA0 = 19 | 2       | 1  | 2  | 3  | 7  | 6  | 6  | 1  | -  | -  | 4  | 5  | 8* | 8* | 5* | 3* | 2* | 4* | 4* | 2* | 1* | 4* | 1  | 2  |
| 4X = 20  | 8       | 8  | 3  | 4  | 3  | 1  | -  | -  | -  | 4  | 6  | 5  | 8  | 8  | 2  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 8  | 8  |
| HZ = 21  | 7       | 1  | 1  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 7  | 4  | 3  | 4  | 5  | 7  | 9  | 9  | 9  | 8  | 8  | 8  |
| VU = 22  | 2*      | 4  | 1* | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 2  | 5* | 3* | 3  | 6  | 7  | 2  | 1* | -  | 3  | 4  | 4  |
| JT = 23  | -       | 3  | 5  | 8  | 6  | 5  | 1  | -  | -  | 2  | 4  | 3  | 3  | 8* | 7* | 5* | 4  | 2  | 2* | -  | -  | 2* | 5* | -  |
| VR2 = 24 | 3*      | 6* | 6* | 5* | 5* | 5* | 4* | 3* | -  | 1  | 6  | 5  | 9* | 7* | 5  | 6  | 7  | 7  | 7  | 7  | 5  | 2* | 4* | 2* |
| JA1 = 25 | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 2  | 1* | 6* | 8* | 8  | 6* | 4* | 3* | 4* | 5* | 7* | 6* | 6  | 7  | 5  | 6  |
| HS = 26  | 2*      | 4* | 5* | 4* | 2* | 2* | 2* | 2* | -  | 1  | 7  | 6  | 7* | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 8  | 7  | 1  | 2* |
| DU = 27  | 5*      | 5* | 5* | 4* | 3* | 2* | 2* | 1* | -  | -  | 1  | 6* | 8  | 8  | 7  | 7  | 6  | 4  | 2  | -  | -  | 2* | 8* | 6* |
| YB = 28  | 3*      | 5* | 4* | 3* | 2* | 1* | 1* | 1* | -  | -  | 1  | 7  | 7  | 4* | 4* | 2* | 1* | -  | -  | 1  | -  | -  | -  | 6* |
| VK6 = 29 | 2*      | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1* | 4  | 5* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VK3 = 30 | 1*      | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 4  | 2* |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 8  | 8  | 6  | -  | 2* | 2* | 1* | 7  | -  | -  | -  | 6  | 5  | 5  | 7  | 8  | 5  | 4  | 5  |
| KH8 = 32 | 5       | 1  | 1* | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | 1* | 1* | -  | -  | -  | -  | 6  | 6  | 6  | 5  | 7  | 7  |
| CN = 33  | 1       | -  | -  | -  | 3  | 1  | 2  | -  | -  | 2  | 9  | 8  | 8  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 4  |
| SU = 34  | 8       | 8  | 5  | 2  | 4  | 4  | -  | -  | -  | 4  | 7  | 6  | 5  | 8  | 5  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 8  | 8  |
| 6W = 35  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 8  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 8  | 7  | 8  | 8  | 9  | 8  | 8  | 9  | 8  | 7  | 3  | 1  | -  |
| 5Z = 37  | -       | -  | -  | 3* | 1* | 1* | -  | -  | 1  | 7  | 7  | 7  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 5  | 2  | -  |
| ZS6 = 38 | -       | -  | -  | -  | 1* | 2* | 1* | -  | -  | 1  | 7  | 8  | 8  | 8  | 8  | 9  | 8  | 4  | -  | 1  | -  | -  | -  | -  |
| FR = 39  | -       | -  | 1* | 2* | 1* | 1* | -  | -  | -  | 4  | 7  | 8  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | 1  | 4  | -  | -  | 2  | 4  | 4  | 5* | 4  | 2  | 3  | 4  | 4  | 3  | 4  | 4  | 3  | 1  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Aug., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1       | 1  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | 1  |
| VO2 = 02 | 7       | 7  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 2  | 6  | 5  | 5  | 6  | 6  | 6  | 8  | 8  | 9  | 8  |
| W6 = 03  | 9       | 9  | 9  | 8  | 1  | -  | -  | 4  | -  | -  | -  | -  | -  | -  | 3  | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  |
| W9 = 04  | 6       | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 3  | 4  | -  | 5  | 6  | 7  | 8  | 8  | 9  | 8  |
| W3 = 05  | 5       | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 1  | 6  | 7  | 8  | 8  | 9  | 8  | 9  | 8  | 7  |
| XE1 = 06 | 9       | 8  | 8  | 8  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | 6  | 7  | 6  | 6  | 9  | 9  | 9  | 8  | 8  | 9  | 9  |
| TI = 07  | 5       | 3  | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 1* | 1* | -  | -  | 7  | 9  | 9  | 8  | 7  |
| VP2 = 08 | 1       | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 2  | 1  | 3  | 2  | 3  | 6  | 7  | 9  | 9  | 8  | 5  |
| P4 = 09  | 1       | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | -  | 1  | 1  | 4  | 5  | 7  | 7  | 7  | 4  |
| HC = 10  | 1       | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 9  | 9  | 9  | 9  | 9  | 9  | 1  | 1  | 2  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9+ | 9  | 9  | 5  | -  |
| CE = 12  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1* | 1  | 3* | 4* | 1* | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 8  | 7  | 6  | 6  | 5  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 7  | 1  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 6  | 8  | 8  | 5  | 5  | 7  | 8  | 8  | 9  | 9  | 8  | 3  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | 4  | -  | -  | -  | -  | 6  | 5  | 3  | 1  | 2* | 2* | 2* | 5  | 8  | 8  | 8  | 6  | 1  | -  |
| UN = 17  | -       | -  | 3  | 1  | 1  | -  | -  | -  | -  | -  | 7  | 5  | 4  | 3  | 5* | 4  | 6  | 6  | 7  | 5  | 1  | -  | -  | 1* |
| UA9 = 18 | -       | -  | -  | 1  | 4  | 2  | -  | -  | -  | -  | 1  | 1  | 1  | 4* | 6* | 2* | 1* | -  | -  | -  | -  | -  | 1* | -  |
| UA0 = 19 | -       | -  | -  | -  | 4  | 2  | 1  | -  | -  | -  | -  | -  | 2* | 7* | 2* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 8  | 5  | 2  | 2  |
| HZ = 21  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 5  | 5  | 5  | 5  | 7  | 8  | 9  | 7  | 6  | 2  | 4  | 3  |
| VU = 22  | 2*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 3  | 5* | 5  | 5  | 7  | 4  | -  | -  | -  | -  | -  | 1* |
| JT = 23  | -       | -  | -  | 6  | 4  | 2  | -  | -  | -  | -  | 4  | 2  | 2  | 4* | 6* | 3* | 1* | 1* | 1* | -  | -  | -  | 1* | -  |
| VR2 = 24 | 7*      | 7* | 6* | 5* | 4* | 3* | 1* | -  | -  | -  | 1  | 6  | 8* | 7  | 8  | 8  | 6  | 5  | 4  | 2  | -  | -  | 5* | 7* |
| JA1 = 25 | 6       | 6  | 6  | 6  | 6  | 6  | 6  | 3  | -  | -  | -  | 5* | 8* | 4* | 3* | 2* | 2* | 2* | 3* | 1* | 2  | 5  | 7  | 7  |
| HS = 26  | 5*      | 5* | 5* | 4* | 2* | 1* | 1* | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | 4* |
| DU = 27  | 5*      | 5* | 4* | 3* | 1* | -  | -  | -  | -  | -  | -  | 2* | 8* | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | 7* | 7* |
| YB = 28  | 4*      | 3* | 3* | 2* | 1* | 1* | 1* | -  | -  | -  | -  | -  | 5* | 7* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | 4* |
| VK6 = 29 | 1*      | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VK3 = 30 | 1*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 2* |
| KH6 = 31 | 8       | 8  | 7  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | 3  | -  | -  | -  | 3  | 6  | 5  | 6  | 6  | 6  | 6  | 6  |
| KH8 = 32 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 2* | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  | 7  | 7  | 4  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 2  | 8  | 8  | 7  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 4  | -  |
| SU = 34  | 4       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 6  | 2  | 4  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 5  | 3  | 2  | 1  | 2  | 6  | 9  | 9+ | 9+ | 9+ | 8  | 1  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  | 8  | 8  | 8  | 7  | 7  | 9  | 7  | 3  | 1* | 1* | -  |
| 5Z = 37  | -       | -  | -  | 1* | -  | -  | -  | -  | -  | 1  | 8  | 8  | 8  | 9  | 8  | 9  | 8  | 9  | 9  | 8  | 5  | 1  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 4* | 1* | 1* | -  | -  | -  | -  | 5  | 8  | 9  | 7  | 2  | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC --> \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Aug., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 2  | 1  | 2  | 3  | 5  | 4  | 5  |
| W6 = 03  | 7       | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 3  | 5  | 6  | 7  | 8  | 8  | 8  |
| W9 = 04  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 2  | 3  | 3  | 4  | 5  | 7  | 5  |
| W3 = 05  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  | 7  | 8  | 6  | 8  | 5  | 2  |
| XE1 = 06 | 7       | 5  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 4  | 7  | 8  | 8  | 8  | 8  | 8  |
| TI = 07  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 3  | 1  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 3  | -  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 7  | 7  | 7  | 8  | 8  | -  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 2  | 2* | 5  | -  | -  |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 8  | 7  | 1  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | -  | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 5  | 4  | 4  | 5  | 6  | 8  | 8  | 6  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 2  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1* | 1* | 1* | -  | 4  | 5  | 4  | 1  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 3  | 2  | 2  | 2  | 4  | 4  | 1  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 4  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 1  | -  | -  | -  | -  |
| VU = 22  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 6  | 7  | 7  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 3*      | 3* | 3* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | 2* | 5* |
| JA1 = 25 | 1       | 1  | 1  | 1  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  |
| HS = 26  | 2*      | 3* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 6  | 6  | 6  | 5  | 5  | 1  | -  | -  | -  | 1* |
| DU = 27  | 2*      | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | -  | -  | 3  | 1  | -  | -  | -  | -  | -  | -  | 4* |
| YB = 28  | 1*      | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 1* |
| KH6 = 31 | 6       | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | 3  | 5  | 8  | 8  | 7  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 6  | 4  | -  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | -  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 7  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 6  | -  | -  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 6  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  | 3  | 7  | 6  | 4  | 2  | 2* | 1* | -  | -  |
| SZ = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 8  | 7  | 8  | 7  | 4  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |

Zone UTC --> \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



10 Meters: Aug., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 1  |
| W6 = 03  | 2       | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 1  | 4  | 5  | 6  | 5  | 5  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 1  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 6  | 2  | 6  | 2  | -  |
| XE1 = 06 | 2       | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 6  | 6  | 6  | 4  |
| TI = 07  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 2  | 2  | 2  | 4  | 5  | -  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 5  | 7  | 5  | 1  | 1  | -  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | -  | 1  | 3  | 5  | 4  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 5  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 1  | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 7  | 7  | 8  | 8  | 9  | 7  | -  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 6  | 7  | 8  | 9  | 5  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 1  | 1  | 1  | 2  | 1  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | 5       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 6  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 4* | 1* | -  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 1  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 7  | 8  | 9  | 9  | 8  | 1  | -  | -  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 4* | 3* | 2* | 1* | -  | -  | -  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 4  | 5  | 3  | 3  | 4  | -  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Sep., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | 1  | -  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4       | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 2  | 2  | 4  | 3  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 1       | 2  | 5  | 5  | 4  | 5  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 3       | 5  | 5  | 5  | 4  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 2  | 3  | 4  | 4  | 5  | 4  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 1       | 3  | 3  | 4  | 4  | 4  | 4  | 4  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 3       | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| P4 = 09  | 3       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| HC = 10  | 5       | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| I = 15   | 4       | 4  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| UA3 = 16 | 2       | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 2       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  |
| HZ = 21  | 3       | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 2  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 4  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| SU = 34  | 3       | 2  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | -  |
| 6W = 35  | 4       | 4  | 3  | 3  | 4  | 5  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3  | -  |
| D2 = 36  | 6       | 6  | 6  | 6  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | -  |
| 5Z = 37  | 5       | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | -  |
| ZS6 = 38 | 6       | 6  | 6  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | -  |
| FR = 39  | 5       | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Sep., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 1  | 1  | 4  | 3  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |    |
| W6 = 03  | -       | -  | 2  | 5  | 5  | 7  | 6  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 4       | 5  | 8  | 8  | 7  | 8  | 7  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 6       | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | 1       | 5  | 6  | 7  | 7  | 8  | 7  | 7  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 4       | 6  | 6  | 7  | 7  | 7  | 7  | 7  | 8  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| VP2 = 08 | 6       | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |    |
| P4 = 09  | 6       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| HC = 10  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | -  | -  | -  | -  | 5  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1  | -  | -  | -  | -  | 2  | 7  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | -  | -  | 1  | 5  | 9  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| I = 15   | 7       | 7  | 7  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  |
| UA3 = 16 | 5       | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| UN = 17  | 3       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 5       | 5  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| HZ = 21  | 6       | 1  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| VU = 22  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 7  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| SU = 34  | 6       | 5  | 3  | 5  | 1  | -  | -  | -  | -  | -  | -  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| 6W = 35  | 7       | 7  | 6  | 6  | 7  | 8  | 9  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 6  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  |
| 5Z = 37  | 8       | 8  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| ZS6 = 38 | 9       | 9  | 9  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 9  |
| FR = 39  | 8       | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 8  |
| FJL = 40 | 1       | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Sep., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|--|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 |  | 1            | 2  | 3  | 5  | 6  | 7  | 7  | 7  | 6  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 |  | 8            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| W6 = 03  |  | 1            | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  |  | 7            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| W3 = 05  |  | 8            | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| XE1 = 06 |  | 7            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| TI = 07  |  | 8            | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| VP2 = 08 |  | 8            | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| P4 = 09  |  | 8            | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| HC = 10  |  | 8            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  |
| PY1 = 11 |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 5  | 6  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 2  | 2  | 3  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |  | 8            | 8  | 8  | 9  | 8  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  |
| I = 15   |  | 8            | 8  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  |
| UA3 = 16 |  | 7            | 7  | 7  | 7  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| UN = 17  |  | 7            | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  |
| UA9 = 18 |  | 6            | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  |
| UA0 = 19 |  | -            | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  |
| 4X = 20  |  | 7            | 8  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 6  | 7  |
| HZ = 21  |  | 8            | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 8  |
| VU = 22  |  | 6            | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  |
| JT = 23  |  | 3            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |
| VR2 = 24 |  | 1            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 4  | 2  |
| JA1 = 25 |  | -            | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | -  | -  |
| HS = 26  |  | 5            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  |
| DU = 27  |  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  | -  |
| YB = 28  |  | 2            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  |
| VK6 = 29 |  | 2            | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 5  |
| VK3 = 30 |  | -            | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  |
| KH6 = 31 |  | -            | -  | 1  | 2  | 4  | 7  | 8  | 8  | 8  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 |  | -            | -  | -  | 2  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  |  | 9            | 8  | 8  | 8  | 9  | 6  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  |
| SU = 34  |  | 7            | 8  | 8  | 7  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 7  |
| 6W = 35  |  | 8            | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  | 8  |
| D2 = 36  |  | 9            | 9  | 9  | 9  | 8  | 9  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  |
| 5Z = 37  |  | 9            | 9  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 8  |
| ZS6 = 38 |  | 9            | 9  | 9  | 9  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  | 9  | 9  |
| FR = 39  |  | 9            | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 9  |
| FJL = 40 |  | 6            | 6  | 6  | 6  | 7  | 4  | 3  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |  |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |  | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Sep., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 2            | 6  | 6  | 6  | 7  | 8  | 7  | 6  | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 =   | 02 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 6  | 8  |
| W6 =    | 03 | 5            | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W9 =    | 04 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 7  |
| W3 =    | 05 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  |
| XE1 =   | 06 | 8            | 8  | 9  | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 4  | 1  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| TI =    | 07 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  |
| VP2 =   | 08 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 7  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  |
| P4 =    | 09 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| HC =    | 10 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  | 8  |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9  | 8  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 9  | 9  | 8  | 9  | 9  | 8  | 2  | 3  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 8            | 9  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 7  | 8  | 8  |
| I =     | 15 | 8            | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 7  | 8  | 8  |
| UA3 =   | 16 | 8            | 8  | 7  | 6  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 6  | 6  | 8  |
| UN =    | 17 | 8            | 7  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  | 8  | 8  |
| UA9 =   | 18 | 5            | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  | 5  |
| UA0 =   | 19 | -            | -  | -  | -  | -  | -  | 1  | 1  | 4  | 1  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | 2* | 3* | 4  | 2  | 1  |
| 4X =    | 20 | 8            | 8  | 8  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| HZ =    | 21 | 8            | 7  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| VU =    | 22 | 7            | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  | 6  |
| JT =    | 23 | 5            | 5  | 1  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 5  |
| VR2 =   | 24 | 4            | 2  | -  | -  | -  | -  | -  | -  | 1* | 3* | 2* | 4* | 1* | -  | -  | -  | -  | -  | 1  | 3  | 4  | 6  | 5  | 5  |
| JA1 =   | 25 | -            | -  | -  | -  | -  | -  | 2  | 5  | 5  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | 1* | 3* | 4* | 5* | 4* | 2* |
| HS =    | 26 | 7            | 5  | 1  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  | 6  |
| DU =    | 27 | 2            | -  | -  | -  | -  | -  | -  | -  | 1* | 5  | 4  | 1* | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 5  | 4  |
| YB =    | 28 | 6            | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 5  | 7  |
| VK6 =   | 29 | 5            | 4  | 2  | -  | -  | -  | -  | 1  | 2  | 5  | 4  | 3  | 2  | -  | -  | -  | -  | -  | 2  | 3  | 5  | 5  | 6  | 6  |
| VK3 =   | 30 | 2            | 1  | 1  | 1  | 2  | 4  | 5  | 6  | 7  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 4  | 3  |
| KH6 =   | 31 | -            | 1  | 4  | 5  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | 1  | 3  | 5  | 6  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 8            | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 8  | 8  |
| SU =    | 34 | 8            | 7  | 8  | 8  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| 6W =    | 35 | 9            | 9  | 9  | 9  | 9  | 7  | 1  | 5  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  |
| D2 =    | 36 | 8            | 9  | 8  | 8  | 5  | 3  | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 9  | 8  | 9  |
| 5Z =    | 37 | 8            | 8  | 7  | 5  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 6  | 8  | 8  | 8  |
| ZS6 =   | 38 | 8            | 8  | 8  | 7  | 7  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 6  | 8  | 8  | 8  | 8  |
| FR =    | 39 | 6            | 3  | 2  | 7  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 6  | 7  | 8  | 7  |
| FJL =   | 40 | 7            | 6  | 5  | 4  | 5  | 6  | 6  | 6  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 7  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



20 Meters: Sep., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 8            | 7  | 8  | 8  | 8  | 6  | 3  | 1  | 2* | 3* | 2* | -  | -  | -  | -  | 1  | 1  | 1  | 1  | 4  | 4  | 5  | 6  | 8  |
| VO2 =   | 02 | 9            | 9  | 8  | 8  | 8  | 6  | 7  | 5  | 4  | 7  | 9  | 8  | 6  | 2  | 2  | 1  | 1  | 2  | 4  | 9  | 8  | 9  | 9  | 9  |
| W6 =    | 03 | 8            | 9  | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 8  | 9  | 7  | 3  | 6  | 2  | 1  | 1  | -  | -  | 2  | -  | 2  | 5  | 7  |
| W9 =    | 04 | 9            | 9  | 8  | 7  | 7  | 7  | 7  | 8  | 7  | 5  | 6  | 8  | 8  | 5  | 2  | 1  | -  | 1  | 1  | 5  | 4  | 7  | 9  | 9  |
| W3 =    | 05 | 9            | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 6  | 8  | 9  | 8  | 5  | 1  | 1  | 1  | 1  | 2  | 6  | 7  | 9  | 9  | 9  |
| XE1 =   | 06 | 9            | 9  | 9+ | 9  | 9  | 9  | 9  | 8  | 7  | 5  | -  | -  | 5  | 6  | 5  | 3  | 2  | 2  | 1  | 4  | 6  | 8  | 9  | 9  |
| TI =    | 07 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 1  | 1  | 9  | 8  | 6  | 4  | 3  | 2  | 2  | 5  | 7  | 8  | 9  | 9+ | 9+ |
| VP2 =   | 08 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 1  | 1  | 9+ | 9  | 8  | 6  | 5  | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| P4 =    | 09 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 1  | 1  | 7  | 9  | 8  | 6  | 6  | 5  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| HC =    | 10 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | 4  | 9+ | 9  | 7  | 5  | 4  | 3  | 4  | 5  | 6  | 8  | 9  | 9  | 9+ |
| PY1 =   | 11 | 9+           | 9+ | 9  | 7  | 7  | 9  | 7  | -  | 1* | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 9            | 8  | 1  | -  | -  | -  | 1  | -  | 1* | -  | -  | 5  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 8            | 8  | 8  | 8  | 8  | 7  | 8  | 4  | 6  | 8  | 4  | 2  | 1  | -  | -  | -  | 3  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| I =     | 15 | 8            | 9  | 9  | 7  | 7  | 7  | 9  | 5  | 5  | 6  | 2  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  | 8  |
| UA3 =   | 16 | 5            | 4  | 2  | 1  | 3  | 8  | 8  | 2  | 2  | 5  | 1  | 2* | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  | 7  | 6  |
| UN =    | 17 | 5            | 6  | 8  | 7  | 7  | 3  | 3  | -  | 1  | -  | -  | 2* | 3* | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 7  | 7  | 6  |
| UA9 =   | 18 | 2*           | 2* | 4  | 7  | 7  | 6  | 5  | 1  | 1  | 4  | 5  | 6  | 2* | 2* | 1* | -  | -  | 1  | 5  | 6  | 5  | 2  | 2* | 1* |
| UA0 =   | 19 | 6            | 5  | 4  | 5  | 5  | 7  | 7  | 8  | 5  | 8  | 7  | 7* | 6* | 3* | 2* | -  | 2* | 3* | 5* | 5* | 3* | 7* | 7* | 6  |
| 4X =    | 20 | 9            | 9  | 8  | 5  | 7  | 9  | 8  | 1  | 4  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| HZ =    | 21 | 9            | 9  | 7  | 8  | 8  | 7  | 4  | 2  | 2  | 1  | -  | -  | 1* | -  | -  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU =    | 22 | 4            | 6  | 8  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | 8  | 3* | -  | -  | 1  | 2  | 5  | 6  | 7  | 8  | 8  | 9  | 8  |
| JT =    | 23 | 4            | 7  | 7  | 6  | 4  | 2  | 3  | 2* | 3* | 2  | 4  | 6* | 3* | 3* | 1* | 1* | -  | 1  | 2  | 4  | 4  | 3* | 2* | 2* |
| VR2 =   | 24 | 8            | 3  | 1* | -  | -  | -  | 1* | 4* | 6* | 5  | 7* | 6* | 6* | 5* | 2* | 1  | 2  | 4  | 6  | 8  | 8  | 4  | 3* | 8  |
| JA1 =   | 25 | 4*           | 1  | 2  | 2  | 4  | 5  | 7  | 8  | 8  | 7  | 9  | 8  | 7  | 5  | 1  | -  | 2* | 4* | 7* | 7* | 6  | 6* | 8* | 6* |
| HS =    | 26 | 8            | 3  | -  | -  | -  | -  | -  | -  | 3* | 1  | 6  | 6  | 3* | 2* | 1* | -  | 3  | 5  | 7  | 8  | 9  | 9  | 4  | 1  |
| DU =    | 27 | 5            | 1  | -  | -  | -  | -  | 1* | 5* | 5  | 5  | 5  | 5  | 7* | 3  | 1  | -  | 2  | 4  | 6  | 7  | 5  | 3* | 8  | 7  |
| YB =    | 28 | 7            | 3  | -  | -  | -  | -  | -  | 1* | 2* | 6  | 6  | 5  | 5  | 4  | 3  | 1  | 3  | 4  | 5  | 5  | 6  | 3  | 3* | 5  |
| VK6 =   | 29 | 7            | 5  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  | 7  | 5  | 1  | -  | -  | 1  | 1  | 2  | 4  | 5  | 6  | 7  | 7  |
| VK3 =   | 30 | 6            | 4  | 2  | 1  | -  | 1  | 5  | 5  | 5  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1* | 2  | 7  | 8  | 8  |
| KH6 =   | 31 | 5            | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 3  | 4  | 9  | 7  | -  | -  | -  | 1  | -  | 1  | 1* | 1* | -  | 1  | 1  |
| KH8 =   | 32 | 4            | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 1  | -  | 8  | 8  | 6  | -  | -  | -  | 2  | 1  | 1  | 1  | -  | 1  | 2  |
| CN =    | 33 | 9            | 9  | 9  | 9  | 8  | 6  | 7  | 3  | 5  | 9  | 8  | 2  | 2  | -  | -  | 1  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| SU =    | 34 | 9            | 9  | 9  | 7  | 8  | 9  | 8  | 4  | 6  | 2  | 1  | 1  | -  | -  | 1  | -  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| 6W =    | 35 | 9+           | 9+ | 9+ | 9  | 6  | -  | 1* | 1* | 3  | 9+ | 9  | 8  | 6  | 4  | 2  | 3  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 =    | 36 | 8            | 5  | 5  | 2  | 1  | 1* | 3  | 4  | 6  | 8  | 6  | 5  | 4  | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 5Z =    | 37 | 6            | 4  | 1  | -  | 2  | 5  | 4  | 5  | 5  | 2  | 1  | 1  | 1  | 1  | 2  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| ZS6 =   | 38 | 5            | 5  | 2  | -  | -  | 2  | 6  | 6  | 7  | 5  | 4  | 4  | 4  | 4  | 5  | 6  | 7  | 8  | 9  | 8  | 7  | 8  | 8  | 5  |
| FR =    | 39 | -            | -  | -  | -  | -  | -  | -  | 2  | 5  | 3  | 2  | 2  | 2  | 2  | 3  | 4  | 6  | 7  | 4  | 1  | -  | 2  | 1* | -  |
| FJL =   | 40 | 4            | 1* | -  | -  | -  | 2  | 4  | 4  | 2  | 8  | 6  | 5  | 4  | 1  | -  | -  | 1  | 2  | 5  | 7  | 7  | 8  | 7  | 5  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Sep., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |     | 8  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 3  | 5  | 5  | 6  | 6  |
| VO2 = 02 |     | 8  | 1  | 1  | 1  | -  | -  | 1  | -  | -  | 1  | 1  | 9  | 8  | 7  | 8  | 7  | 7  | 8  | 7  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  |     | 9  | 9  | 9  | 6  | 2  | 1  | 2  | 3  | 5  | 1  | 6  | 4  | -  | 3  | 8  | 7  | 6  | 7  | 9  | 5  | 5  | 6  | 7  | 8  |
| W9 = 04  |     | 9  | 8  | -  | -  | -  | -  | -  | 4  | 1  | -  | 1  | -  | 8  | 8  | 6  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  |
| W3 = 05  |     | 9  | 3  | 3  | 5  | 5  | -  | -  | 4  | -  | 1  | 4  | 7  | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| XE1 = 06 |     | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9  |
| TI = 07  |     | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | 9  | 8  | 7  | 7  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 |     | 9  | 9  | 9+ | 9  | 8  | 8  | 5  | -  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  |     | 9  | 9  | 9  | 9  | 8  | 8  | 6  | -  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  |     | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 1  | -  | -  | -  | 3  | 9+ | 9  | 8  | 8  | 6  | 7  | 6  | 9  | 9  | 9+ | 9+ | 9  |
| PY1 = 11 |     | 9  | 5  | 1  | -  | -  | 1  | -  | -  | -  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |     | 9+ | 9+ | 9  | 7  | 5  | 6  | 8  | 2  | -  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |     | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 6  |
| G = 14   |     | -  | 1  | 1  | 1  | 4  | 1  | 4  | -  | -  | 8  | 8  | 8  | 8  | 9  | 4  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 5  | -  |
| I = 15   |     | 1  | 1  | 2  | -  | 1  | 2  | 8  | -  | 1  | 8  | 6  | 5  | 2  | 1  | 2  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 2  | -  |
| UA3 = 16 |     | -  | -  | -  | -  | -  | 2  | 6  | -  | -  | 7  | 6  | 5  | 5  | 7  | 1  | 2  | 4  | 8  | 8  | 8  | 8  | 6  | 2  | 1  |
| UN = 17  |     | 2* | 1* | 7  | 8  | 7  | 7  | 2  | -  | -  | 5  | 2  | 1  | 4* | 5  | 4* | 2  | 5  | 6  | 4  | 2  | -  | -  | -  | -  |
| UA9 = 18 |     | -  | -  | -  | 3  | 7  | 8  | 4  | -  | -  | 6  | 5  | 4  | 7* | 5  | 4* | 2* | 1* | -  | -  | 1  | -  | -  | 1* | 3* |
| UA0 = 19 |     | 6  | 8  | 7  | 8  | 7  | 8  | 8  | 4  | -  | 4  | 6  | 8* | 7* | 3* | 2* | 2* | 2* | 2* | 3* | -  | -  | 4* | 6* | 6  |
| 4X = 20  |     | 9  | 6  | -  | 1* | 2  | 8  | 5  | -  | 1  | 7  | 6  | 5  | 7  | 7  | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  |     | 9  | 4  | 1  | 3  | 1  | 1  | 1* | -  | 2  | 5  | 2  | 8  | 5  | 6  | 3  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  |     | 3* | 1  | 2* | 2* | 3* | 1* | 1* | -  | -  | 2  | 4  | 4  | 5* | 4  | 4* | 4  | 5  | 5  | -  | -  | 1  | 5  | 5  | 1  |
| JT = 23  |     | 1* | 2  | 8  | 8  | 8  | 7  | 3  | -  | -  | 5  | 5  | 3  | 8* | 5  | 4* | 2* | 1* | 2* | 2* | -  | -  | -  | 5* | 2* |
| VR2 = 24 |     | 4* | 3* | 5* | 5* | 2* | 2* | 5* | 6* | 1  | 5  | 4  | 9* | 7* | 6  | 4  | 5  | 6  | 7  | 8  | 8  | 7  | 1* | 2* | 2* |
| JA1 = 25 |     | 6  | 7  | 7  | 8  | 8  | 8  | 9  | 8  | 6  | 5* | 6* | 7* | 7* | 5* | 3* | 2* | 3* | 5* | 5* | 1  | 6  | 5  | 8* | 5  |
| HS = 26  |     | 2  | 3* | 2* | 3* | 1* | -  | 1* | 4* | 1  | 6  | 6  | 6* | 6* | 6  | 5  | 6  | 7  | 8  | 9  | 8  | 8  | 6  | -  | 1* |
| DU = 27  |     | 5* | 5* | 5* | 4* | 3* | 4* | 5* | 4* | -  | 3  | 7  | 8  | 7  | 6  | 5  | 5  | 6  | 7  | 6  | 4  | -  | 1* | 7* | 7* |
| YB = 28  |     | 4* | 5* | 5* | 4* | 2* | 2* | 2* | 3* | -  | 2  | 8  | 8  | 7  | 5  | 5* | 3* | 2* | 2* | 2* | 1  | -  | -  | -  | 6* |
| VK6 = 29 |     | 3* | 2* | 1* | 2* | 1* | 1* | 1* | -  | -  | 1  | 7  | 5  | 2  | 4* | 2* | 1* | -  | -  | 1* | 1  | 1  | 1  | 2* | 4* |
| VK3 = 30 |     | 1  | 1* | -  | -  | 1* | 1* | -  | -  | -  | 2* | 2  | 2* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 5  |
| KH6 = 31 |     | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 2  | 1* | -  | 8  | 6  | -  | -  | -  | 5  | 3  | 6  | 7  | 8  | 3  | 5  | 6  |
| KH8 = 32 |     | 6  | 7  | 8  | 7  | 5  | 4  | 5  | 5  | -  | 1* | 1* | 1  | 1  | 1* | 1* | -  | -  | 5  | 5  | 5  | 6  | 5  | 5  | 6  |
| CN = 33  |     | 7  | 6  | 5  | 2  | 4  | -  | 1  | -  | -  | 8  | 9  | 8  | 7  | 5  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 7  |
| SU = 34  |     | 9  | 9  | 5  | 2  | 3  | 9  | 5  | -  | 2  | 7  | 6  | 5  | 8  | 8  | 2  | 3  | 5  | 7  | 9  | 9  | 9  | 9  | 9+ | 9  |
| 6W = 35  |     | 9+ | 9  | 7  | 2  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 8  | 7  | 6  | 7  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  |     | 2  | -  | -  | -  | 1* | 1* | 1* | 1* | 5  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  |
| 5Z = 37  |     | -  | -  | -  | 3* | 1* | 2* | 2* | 1* | 6  | 7  | 6  | 6  | 8  | 9  | 7  | 7  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 3  |
| ZS6 = 38 |     | -  | -  | -  | -  | 2* | 1* | 2* | 1* | 2  | 6  | 8  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 8  | 5  | 1  | 1  | 1  | -  |
| FR = 39  |     | -  | -  | 1* | 1* | 1* | -  | 1* | -  | 2  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 7  | 1  | 1* | 1* | -  | -  | -  | -  |
| FJL = 40 |     | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5* | 2  | 2  | 2  | 1  | 1  | 1  | 2  | 2  | 1  | 3  | 1  | -  |
| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Sep., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 6   | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  |
| VO2 = 02 | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| W6 = 03  | 9   | 9  | 8  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 7  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 9  |
| W9 = 04  | 9   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | 7   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| XE1 = 06 | 9   | 9  | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| TI = 07  | 8   | 8  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | 4  | 9  | 4  | 1  | 2  | 8  | 9  | 9  | 9  | 9+ | 9  | 9  |
| VP2 = 08 | 6   | 5  | 5  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | 7  | 9+ | 9  | 9  | 8  | 6  | 9  | 9  | 9  | 9+ | 9+ | 9  | 8  |
| P4 = 09  | 5   | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 9  | 5  | 2  | 3  | 4  | 5  | 9  | 9  | 9+ | 9+ | 8  | 7  |
| HC = 10  | 4   | 4  | 5  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | 5  | 7  | 4  | -  | -  | 8  | -  | 1  | 3  | 4  | 3  | 6  |
| PY1 = 11 | 5   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 3  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  |
| CE = 12  | 9   | 7  | 1  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 8  | 6  | 3* | 6  | 2* |
| G = 14   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 9  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 7  | -  | -  |
| I = 15   | -   | -  | -  | -  | -  | -  | -  | 4  | -  | -  | 6  | 8  | 7  | 6  | 4  | 3  | 4  | 6  | 8  | 9  | 9  | 9  | 5  | -  | -  |
| UA3 = 16 | -   | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 3  | 7  | 6  | 5  | 4  | 2  | 2  | 5  | 6  | 7  | 5  | 5  | 1  | -  | -  |
| UN = 17  | 1*  | -  | 4  | 4  | 4  | 5  | -  | -  | -  | -  | 4  | 5  | 3  | 4  | 6* | 3  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -   | -  | -  | -  | 4  | 6  | 1  | -  | -  | -  | 2  | 5  | 4  | 6* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| UA0 = 19 | 3   | 5  | 5  | 5  | 4  | 7  | 5  | -  | -  | -  | -  | -  | 7* | 5* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2  |
| 4X = 20  | 7   | -  | -  | -  | -  | 5  | -  | -  | -  | -  | 6  | 6  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| HZ = 21  | 5   | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | 5  | 5  | 5  | 5  | 5  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 8  | 8  | 7  |
| VU = 22  | 2*  | 4* | 2* | 2* | 1* | -  | -  | -  | -  | -  | 3  | 3  | 4  | 5  | 6* | 5  | 5  | 6  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -   | -  | 2  | 6  | 8  | 6  | 1  | -  | -  | -  | 3  | 5  | 4  | 5* | 2  | 1* | -  | -  | -  | -  | -  | -  | -  | 2* | 1* |
| VR2 = 24 | 5*  | 7* | 7* | 6* | 5* | 5* | 6* | 3* | -  | -  | 1  | 6  | 7* | 6  | 7  | 7  | 6  | 7  | 7  | 8  | 7  | 1  | -  | 5* | 5* |
| JA1 = 25 | 8   | 8  | 8  | 8  | 8  | 9  | 8  | 6  | 1  | 1* | 8* | 8* | 7* | -  | 1* | 1* | 1* | 1* | -  | -  | -  | 1  | 5  | 6  | 7  |
| HS = 26  | 4*  | 7* | 6* | 5* | 2* | 3* | 3* | 1* | -  | 2  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | 3* |
| DU = 27  | 6*  | 6* | 5* | 4* | 3* | 3* | 3* | 1* | -  | -  | 3  | 8  | 7  | 7  | 6  | 6  | 7  | 6  | 4  | 1  | -  | -  | -  | 6* | 8* |
| YB = 28  | 6*  | 5* | 5* | 4* | 3* | 2* | 2* | 1* | -  | -  | 4  | 8  | 8* | 6* | 5* | 4* | 2* | 3* | 1* | -  | -  | -  | -  | -  | 6* |
| VK6 = 29 | 3*  | 2* | 3* | 2* | 1* | -  | -  | -  | -  | -  | 2* | 7* | 6* | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VK3 = 30 | 1*  | 1* | 1* | 1* | 1* | -  | -  | -  | -  | -  | 1* | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 4* | 2* |
| KH6 = 31 | 8   | 8  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | 5  | 3  | -  | -  | -  | 1  | 6  | 6  | 6  | 6  | 5  | 6  | 7  |    |
| KH8 = 32 | 4   | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | 2* | 3* | 3* | 2* | 1* | -  | -  | -  | 1  | 6  | 6  | 6  | 6  | 7  | 7  |
| CN = 33  | 1   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 8  | 8  | 8  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 5  | -  |
| SU = 34  | 8   | 6  | -  | -  | -  | 7  | -  | -  | -  | -  | 6  | 7  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 5   | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9+ | 9  | 9  | 5  | 4  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 8  |
| D2 = 36  | -   | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | 8  | 8  | 7  | 7  | 6  | 7  | 8  | 8  | 8  | 8  | 9  | 8  | 6  | 4  | 1  |
| 5Z = 37  | -   | -  | -  | 4* | 3* | 4* | 1* | -  | 1  | 8  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9  | 6  | -  |
| ZS6 = 38 | -   | -  | -  | -  | 1* | 4* | 3* | -  | -  | 2  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 1  | -  | -  | -  | -  | -  |
| FR = 39  | -   | -  | 2* | 4* | 3* | 2* | 1* | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | 2* | 1* | -  | -  | -  | -  | -  |
| FJL = 40 | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00  | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Sep., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 1   | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | 2  | 2  | 1  | 5  | 6  | 7  | 8  | 6  | 1  |
| W6 = 03  | 9   | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  |
| W9 = 04  | 2   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 2  | 4  | 4  | 7  | 8  | 9  | 8  | 7  |
| W3 = 05  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 6  |
| XE1 = 06 | 9   | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| TI = 07  | 4   | 3  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 3  | 5  | 6  | 5  | 7  | 6  |
| VP2 = 08 | 1   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | 4  | 6  | 6  | 5  | 5  | 2  | 2  |
| P4 = 09  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 1* | 1* | 1  | 2  | 2  | 1  | 4  | 2  |
| HC = 10  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 9  | 8  | 8  | 9  | 9  | 9  | 9+ | -  | 1  |
| PY1 = 11 | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 8  | 7  | 9  | 7  | 2  |
| CE = 12  | 3   | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  |
| LU = 13  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 3* | 4* | 2* | -  |
| G = 14   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 6  | 6  | 5  | 5  | 6  | 8  | 8  | 9  | 8  | -  | -  | -  |
| I = 15   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 7  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 7  | -  | -  | -  |
| UA3 = 16 | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | 1* | -  | -  | -  | 1  | 1  | -  | 1  | -  | -  | -  |
| UN = 17  | -   | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 6  | 2  | 2  | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -   | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | 1  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -   | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 6  | 6  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 5  | 2  | 2  |
| HZ = 21  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 6  | 7  | 7  | 7  | 8  | 9  | 8  | 8  | 7  | 1  | 2  | 1  |
| VU = 22  | -   | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 5  | 6* | 6  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -   | -  | -  | 1  | 5  | 3  | -  | -  | -  | -  | -  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 6*  | 8* | 8* | 6* | 6* | 5* | 3* | -  | -  | -  | -  | 3  | 7  | 7  | 8  | 8  | 7  | 6  | 6  | 5  | 1  | -  | -  | -  | 6  |
| JA1 = 25 | 3   | 6  | 6  | 7  | 6  | 7  | 5  | 1  | -  | -  | -  | 3* | 7* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| HS = 26  | 6*  | 6* | 7* | 5* | 4* | 2* | 1* | -  | -  | -  | -  | 4  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | 1  |
| DU = 27  | 5*  | 5* | 4* | 2* | 1* | 1* | 1* | -  | -  | -  | -  | -  | 6* | 6  | 7  | 7  | 7  | 7  | 4  | -  | -  | -  | -  | 1* | 6  |
| YB = 28  | 4*  | 4* | 2* | 2* | 1* | 1* | 1* | -  | -  | -  | -  | -  | 4  | 6* | 6* | 5* | 3* | 1* | 1* | -  | -  | -  | -  | -  | 2  |
| VK6 = 29 | 2*  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 5* | 3* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| VK3 = 30 | 2*  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 4  |
| KH6 = 31 | 8   | 8  | 8  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 6  | 6  | 6  | 7  | 7  | 7  | 7  |
| KH8 = 32 | 2*  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 4* | 1* | -  | -  | -  | -  | -  | 7  | 7  | 7  | 8  | 7  | 4  |
| CN = 33  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 6  | -  | -  |
| SU = 34  | 3   | -  | -  | -  | -  | 4  | -  | -  | -  | -  | -  | 7  | 7  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 6  |
| 6W = 35  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 3  | -  | -  | -  | -  | -  | 6  | 9  | 9+ | 9+ | 9  | 5  | -  |
| D2 = 36  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 6  | 7  | 7  | 9  | 9  | 9  | 8  | 6  | 4  | 2  | 1  | -  |
| 5Z = 37  | -   | -  | -  | -  | 3* | 1* | -  | -  | -  | -  | 2  | 8  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 1  | -  |
| ZS6 = 38 | -   | -  | -  | -  | -  | 4* | 1* | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -   | -  | -  | 5* | 4* | 1* | -  | -  | -  | -  | -  | 6  | 8  | 8  | 7  | 5  | 1  | 1* | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00  | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



10 Meters: Sep., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | -  | -  |
| W6 = 03  | 7       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 3  | 6  | 8  | 9  | 8  | 8  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 5  | 4  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 7  | 2  |
| XE1 = 06 | 7       | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 7  | 8  | 8  | 8  | 8  |
| TI = 07  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  |    |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 1  | -  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 4  | 3  | 5  | 7  | 8  | 8  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 3* | 5* | 5* | 6  | 2  | -  |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 9  | 9+ | 9+ | 9  | 8  | 8  | 2  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | 2* | -  | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 6  | 1  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 8  | 1  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 6  | 7  | 8  | 8  | 8  | 8  | 9  | 8  | 2  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 8  | 5  | 1  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 6  | 7  | 6  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 2*      | 3* | 4* | 5* | 5* | 2* | 1* | -  | -  | -  | -  | 2  | 5  | 6  | 5  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | 2* |
| JA1 = 25 | -       | -  | 3  | 3  | 2  | 3  | 1  | -  | -  | -  | -  | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | 2*      | 2* | 5* | 3* | 2* | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 4  | 5  | 7  | 6  | 2  | -  | -  | -  | -  | -  |
| DU = 27  | 2*      | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 3  | 3  | 3  | 4  | -  | -  | -  | -  | -  | -  | 2* |
| YB = 28  | 1*      | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 1*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| VK3 = 30 | 1*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* |    |
| KH6 = 31 | 7       | 7  | 5  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | 6  | 8  | 8  | 7  |
| KH8 = 32 | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 1* | -  | -  | -  | -  | -  | 2  | 7  | 7  | 7  | 5  | 2* |    |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | -  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 6  | 2  | -  | 1  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 1* | 2* | 2  | 4  | 5  | 1  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 8  | 6  | 6  | 5  | 3  | 4* | 4* | 1* | -  | -  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 9  | 6  | 4  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | 1  | 1* | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 4* | 2* | -  | -  | -  | -  | -  | -  | 4  | 3  | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Oct., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | 1  | 2  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 2  | 4  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 1       | 4  | 5  | 5  | 5  | 5  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 3       | 4  | 5  | 5  | 5  | 4  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 2  | 4  | 5  | 5  | 4  | 4  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | -       | 3  | 3  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| P4 = 09  | 3       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| HC = 10  | 5       | 5  | 6  | 5  | 5  | 5  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | 1  | 5  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | 2  | 5  | 9  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| I = 15   | 4       | 4  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| UA3 = 16 | 2       | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HZ = 21  | 3       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 1  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 1  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| SU = 34  | 3       | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| 6W = 35  | 4       | 4  | 3  | 3  | 4  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  |
| D2 = 36  | 5       | 6  | 6  | 5  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |
| 5Z = 37  | 5       | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  |
| ZS6 = 38 | 6       | 6  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  |
| FR = 39  | 5       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Oct., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | 1  | 2  | 4  | 5  | 6  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | -  |
| W6 = 03  | -       | 1  | 3  | 5  | 7  | 7  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 4       | 7  | 8  | 8  | 8  | 8  | 6  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W3 = 05  | 6       | 7  | 8  | 8  | 8  | 7  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| XE1 = 06 | 1       | 5  | 7  | 8  | 8  | 7  | 7  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 3       | 6  | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| VP2 = 08 | 6       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  |
| P4 = 09  | 6       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  |
| HC = 10  | 8       | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | 4  | 8  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | -  | -  | -  | -  | 1  | 5  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | -  | -  | 1  | 5  | 8  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | -  |
| I = 15   | 7       | 7  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | -  |
| UA3 = 16 | 5       | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | -  |
| UN = 17  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  |
| UA9 = 18 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | -  |
| HZ = 21  | 6       | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | -  |
| VU = 22  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | 1  | 2  | 4  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| SU = 34  | 6       | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  |
| 6W = 35  | 7       | 7  | 6  | 6  | 7  | 7  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  |
| D2 = 36  | 8       | 9  | 9  | 8  | 9  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| 5Z = 37  | 8       | 7  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  |
| FR = 39  | 8       | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| FJL = 40 | 2       | 3  | 2  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2  | 3  | 5  | 6  | 6  | 6  | 6  | 6  | 5  | 5  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  |
| W6 = 03  | 2  | 3  | 7  | 8  | 7  | 8  | 8  | 8  | 8  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 7  | 8  | 8  | 8  | 8  | 9  | 8  | 7  | 7  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  |
| W3 = 05  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| XE1 = 06 | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| TI = 07  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| VP2 = 08 | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| P4 = 09  | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 9  | 9  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6  | 5  | 6  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 5  | 2  | 2  | 3  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  |
| I = 15   | 8  | 8  | 8  | 6  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  |
| UA3 = 16 | 7  | 7  | 7  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  |
| UN = 17  | 7  | 2  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 5  |
| UA9 = 18 | 6  | 5  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| 4X = 20  | 8  | 8  | 8  | 7  | 8  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 7  |
| HZ = 21  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 8  |
| VU = 22  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  |
| JT = 23  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 5  | 5  |
| VR2 = 24 | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 3  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | -  |
| HS = 26  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | -  |
| YB = 28  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 4  |
| VK6 = 29 | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  | 1  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | 3  | 7  | 7  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | 2  | 4  | 6  | 7  | 7  | 7  | 7  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9  | 9  | 8  | 8  | 7  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  |
| SU = 34  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 9  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  |
| 5Z = 37  | 8  | 9  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 9  | 9  |
| FR = 39  | 9  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 8  | 9  |
| FJL = 40 | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC -->  |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|--|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 |  | 3            | 6  | 6  | 6  | 8  | 7  | 7  | 6  | 6  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 2  |
| VO2 = 02 |  | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 6  | 8  |
| W6 = 03  |  | 4            | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| W9 = 04  |  | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  |
| W3 = 05  |  | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| XE1 = 06 |  | 8            | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 7  | 8  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| TI = 07  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| VP2 = 08 |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 7  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| P4 = 09  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  |
| HC = 10  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 9  |
| PY1 = 11 |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |  | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| I = 15   |  | 7            | 7  | 8  | 8  | 7  | 8  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 8  |
| UA3 = 16 |  | 8            | 8  | 8  | 7  | 6  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 7  | 8  |
| UN = 17  |  | 7            | 7  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 7  |
| UA9 = 18 |  | 3            | 4  | 5  | 5  | 1  | 1  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 5  | 4  |
| UA0 = 19 |  | -            | 1  | 1  | 1  | 1  | 1  | 1  | 5  | 2  | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | 1  | -  |
| 4X = 20  |  | 8            | 8  | 7  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| HZ = 21  |  | 8            | 8  | 7  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| VU = 22  |  | 7            | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  | 6  |
| JT = 23  |  | 5            | 5  | 1  | -  | 1  | -  | -  | -  | 1* | 1* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 5  | 5  |
| VR2 = 24 |  | 4            | 1  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 5  |
| JA1 = 25 |  | -            | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | 2* | 4* | 5* | 5* | 2* |
| HS = 26  |  | 7            | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 7  | 7  |
| DU = 27  |  | 1            | -  | -  | -  | -  | -  | -  | -  | 1* | 5  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 4  | 3  |
| YB = 28  |  | 6            | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  | 6  | 6  |
| VK6 = 29 |  | 4            | 2  | 1  | 1  | -  | -  | -  | -  | 1  | 2  | 1  | 1  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 5  | 5  | 6  |
| VK3 = 30 |  | 1            | 1  | 1  | 1  | 1  | 2  | 5  | 5  | 5  | 6  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 2  | 1  |
| KH6 = 31 |  | -            | 1  | 4  | 5  | 6  | 7  | 8  | 8  | 8  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 |  | -            | -  | 2  | 4  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  |  | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  | 8  | 8  |
| SU = 34  |  | 8            | 8  | 8  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| 6W = 35  |  | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 9  | 9  | 9  |
| D2 = 36  |  | 9            | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 9  | 9  | 9  |
| 5Z = 37  |  | 8            | 8  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  | 8  |
| ZS6 = 38 |  | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 8  | 8  | 8  |
| FR = 39  |  | 8            | 7  | 7  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  | 8  |
| FJL = 40 |  | 7            | 7  | 6  | 5  | 4  | 3  | 5  | 5  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 7  |
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |  |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |  | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



## 20 Meters: Oct., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 8   | 8   | 9  | 8  | 5  | 2  | 1  | 2* | 1  | 1  | -  | -  | -  | -  | 1  | -  | -  | 1  | 2* | 8  | 8  | 9  | 7  | 8  | 8  |    |
| VO2 = 02 | 8   | 2   | 6  | 8  | 8  | 8  | 8  | 7  | 5  | 7  | 9  | 8  | 6  | 3  | 1  | -  | -  | 1  | 2  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| W6 = 03  | 9   | 9   | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 1  | 6  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 8  |    |
| W9 = 04  | 9   | 9   | 3  | 4  | 5  | 6  | 7  | 8  | 8  | 6  | 6  | 7  | 8  | 5  | 2  | -  | -  | -  | 1  | 5  | 5  | 8  | 9  | 9  | 9  |    |
| W3 = 05  | 9   | 5   | 7  | 8  | 6  | 8  | 8  | 8  | 7  | 5  | 7  | 9  | 8  | 5  | 2  | -  | -  | 1  | 2  | 6  | 7  | 8  | 9  | 9  | 9  |    |
| XE1 = 06 | 9   | 9   | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 1* | -  | 8  | 6  | 4  | 3  | 1  | 1  | 1  | 2  | 5  | 8  | 9  | 9  |    |
| TI = 07  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1* | 2  | 9  | 8  | 8  | 5  | 4  | 3  | 3  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ |    |
| VP2 = 08 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  | 1  | 9+ | 9  | 8  | 6  | 4  | 3  | 3  | 4  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |
| P4 = 09  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 3  | 1  | 9+ | 9  | 9  | 7  | 5  | 4  | 4  | 4  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |
| HC = 10  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1  | 8  | 9  | 9  | 8  | 8  | 7  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9+ |    |
| PY1 = 11 | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| CE = 12  | 9+  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  | 9+  | 9+  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| G = 14   | 6   | 6   | 9  | 9  | 8  | 6  | 7  | 9  | 8  | 8  | 6  | 3  | 1* | -  | -  | -  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 7  |    |
| I = 15   | 9   | 9   | 9  | 9  | 8  | 7  | 9  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 9  | 9  | 9  |    |
| UA3 = 16 | 5   | 5   | 5  | 3  | 2  | 7  | 8  | 6  | 7  | 4  | 2  | 1  | 1  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 6  | 6  | 6  | 6  |    |
| UN = 17  | 7   | 7   | 8  | 7  | 8  | 6  | 3  | 2  | 1  | 2* | 2* | 8  | 3* | 1* | -  | -  | -  | 1  | 3  | 5  | 5  | 6  | 7  | 8  | 8  |    |
| UA9 = 18 | 1*  | 1*  | 3* | 7  | 7  | 8  | 4  | 5  | 6  | 5* | 4  | 5  | 2* | 2* | 1* | -  | -  | 1  | 1  | 3  | 3  | 2  | 2* | 1* | 1* |    |
| UA0 = 19 | 5   | 7   | 4  | 5  | 8  | 5  | 6  | 5  | 8  | 9  | 7  | 6* | 5* | 3* | 1* | -  | 1* | 2* | 5* | 5* | 2* | 7  | 7  | 5  | 5  |    |
| 4X = 20  | 9   | 9   | 9  | 6  | 7  | 8  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| HZ = 21  | 9   | 9   | 8  | 8  | 9  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| VU = 22  | 2   | 5   | 8  | 8  | 8  | 5  | 2  | 1  | 1* | 2* | 2* | 8  | 2* | 1* | -  | 1  | 1  | 3  | 6  | 8  | 8  | 9  | 9  | 9  | 8  |    |
| JT = 23  | 2*  | 7   | 8  | 6  | 5  | 4  | 3  | 4  | 6* | 7* | 5* | 6* | 4* | 3* | 1* | -  | -  | 1* | 1* | 2  | 3  | 2  | 2* | 1* | 1* |    |
| VR2 = 24 | 8   | 8   | 7  | 2  | -  | 1* | 1* | 4* | 7* | 7* | 7* | 7  | 6* | 4* | 1  | 1  | 1  | 3  | 5  | 7  | 8  | 8  | 2  | 8  | 8  |    |
| JA1 = 25 | 6*  | 4*  | 3  | 4  | 5  | 7  | 8  | 8  | 9  | 9  | 8  | 7  | 5  | 4  | 1  | -  | 2* | 4* | 6* | 6* | 6  | 5  | 9* | 8* | 8* |    |
| HS = 26  | 9   | 8   | 7  | 5  | 1  | -  | -  | 1* | 5* | 4* | 6  | 8  | 4* | 2* | 1* | -  | 2  | 5  | 7  | 8  | 9  | 9  | 8  | 6  | 6  |    |
| DU = 27  | 7   | 5   | 2  | -  | -  | -  | 1* | 3* | 6  | 7* | 6* | 4  | 6* | 2  | 1  | -  | 2  | 4  | 5  | 7  | 8  | 7  | 8  | 8  | 8  |    |
| YB = 28  | 9   | 8   | 6  | 4  | 1  | -  | -  | 1  | 5* | 6  | 6  | 6  | 4  | 3  | 2  | 1  | 3  | 5  | 6  | 7  | 7  | 6  | 5  | 8  | 8  |    |
| VK6 = 29 | 8   | 8   | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 7  | 7  | 7  | 6  | 4  | 1  | 1  | 2  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 8  |    |
| VK3 = 30 | 8   | 7   | 8  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 8  | 7  | 5  | 3  | 1  | 1  | -  | -  | -  | 2  | 5  | 6  | 7  | 8  | 8  |    |
| KH6 = 31 | 5   | 7   | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | -  | -  | -  | 1  | -  | 1* | 1* | 1* | -  | 1  | 1  | 1  |    |
| KH8 = 32 | 3   | 5   | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 4  | 2  | 1  | 1  | 1  | 1  | -  | 1  | 1  | 1  |    |
| CN = 33  | 9+  | 9+  | 9  | 9  | 9  | 5  | 6  | 9  | 8  | 9  | 8  | 5  | 2  | 1  | 1  | 1  | 2  | 3  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |
| SU = 34  | 9   | 9   | 9  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |    |
| 6W = 35  | 9+  | 9+  | 9+ | 9+ | 9+ | 8  | 1  | 4  | 9  | 9  | 9  | 8  | 5  | 4  | 2  | 2  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| D2 = 36  | 9+  | 9   | 9  | 7  | 5  | 5  | 8  | 7  | 8  | 8  | 7  | 4  | 3  | 2  | 3  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| 5Z = 37  | 9   | 9   | 8  | 7  | 9  | 9  | 9  | 8  | 5  | 2  | 1  | 1  | -  | -  | 1  | 1  | 2  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| ZS6 = 38 | 8   | 7   | 5  | 5  | 6  | 9  | 9  | 8  | 8  | 7  | 5  | 4  | 5  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |    |
| FR = 39  | 1   | -   | -  | 8  | 9  | 8  | 8  | 7  | 5  | 3  | 2  | 3  | 2  | 2  | 3  | 4  | 5  | 7  | 8  | 8  | 7  | 5  | 2  | 1  | 1  |    |
| FJL = 40 | 4   | 3*  | 2* | 1* | 1* | 1* | 1* | 3  | 6  | 6  | 7  | 5  | 2* | -  | -  | -  | -  | 2  | 4  | 8  | 8  | 7  | 6  | 5  | 5  |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Oct., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 9  | 8  | 5  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 5  | 6  | 7  | 8  | 9  |
| VO2 = 02 | -       | -  | -  | -  | 1  | 1  | 5  | 1  | -  | 1  | -  | 9  | 9  | 8  | 7  | 6  | 6  | 6  | 8  | 9  | 9  | 9  | 9  | 8  |
| W6 = 03  | 9       | 9  | 9  | 1  | 1  | -  | 1  | 5  | 8  | 6  | 7  | 4  | -  | 3  | 8  | 7  | 4  | 3  | 9  | 4  | 5  | 7  | 8  | 9  |
| W9 = 04  | 9       | 3* | -  | -  | -  | -  | -  | 5  | 3  | -  | -  | -  | 9  | 8  | 8  | 5  | 5  | 5  | 8  | 8  | 8  | 9  | 9  | 9  |
| W3 = 05  | 5       | -  | -  | 1  | -  | 1  | 2  | 5  | 1  | -  | 2  | 6  | 9  | 8  | 7  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 9+ | 9  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 9  | 9  | 5  | 4  | 1  | -  | -  | -  | -  | 9  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | -  | -  | -  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | -  | -  | 1  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | -  | -  | -  | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9  | 8  | 8  | 9  | 7  | 1  | 4* | 1* | 8  | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 8  | 7  | 7  | 5  | 1  | 2* | 3* | 2* | -  | -  | 3  | 4  | 5  | 5  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | -       | -  | 1  | 4  | 6  | -  | 2  | 8  | 8  | 9  | 8  | 7  | 5  | 9  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 6  | -  | -  |
| I = 15   | 3       | 4  | 7  | 6  | 4  | 5* | 8  | 8  | 8  | 8  | 7  | 5  | 8  | 9  | 2  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 5  | 2  |
| UA3 = 16 | -       | -  | -  | 3* | 3* | 3* | 8  | 6  | 6  | 6  | 8  | 4  | 5  | 8  | 3  | 4  | 5  | 6  | 7  | 5  | 4  | 1  | -  | -  |
| UN = 17  | 1*      | 2* | 8  | 9  | 8  | 8  | 6  | 3  | 5  | 2  | 3* | 5* | 4  | 2* | 3* | 2  | 4  | 1  | -  | -  | -  | -  | 1  | 1  |
| UA9 = 18 | 2*      | 2* | 2* | 2  | 6  | 8  | 7  | 5  | 5  | 7  | 7  | 8* | 5* | 6  | 2  | 1* | -  | -  | -  | -  | -  | -  | -  | 2* |
| UA0 = 19 | 9       | 8  | 5  | 6  | 5  | 8  | 8  | 9  | 7  | 8* | 9* | 8* | 6* | 4* | 2* | 1* | 1* | 2* | 2* | -  | -  | 1* | 8* | 9  |
| 4X = 20  | 9+      | 9  | 5  | 5* | 2  | 9  | 8  | 5  | 6  | 7  | 6  | 4  | 7  | 2  | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 4  | 4  | 9  | 8  | 7  | 5  | 6  | 6  | 5  | 8  | 6  | 2  | 3  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 1*      | 1* | 8  | 8  | 7  | 7  | 5  | 2  | 4  | 3  | 4  | 5* | 5* | 3* | 3* | 4  | 5  | 6  | 5  | 4  | 3  | 6  | 6  | 1  |
| JT = 23  | 3*      | 2* | 8  | 8  | 7  | 6  | 6  | 6  | 6  | 6  | 6* | 8* | 6* | 5  | 2* | 1* | 1* | 1* | 1* | -  | -  | -  | 3* | 1* |
| VR2 = 24 | 9       | 8  | 6* | 3* | 3* | 5* | 5* | 8* | 7* | 4  | 7* | 8* | 7* | 6  | 6  | 4  | 4  | 6  | 7  | 8  | 9  | 1  | 2* | 6  |
| JA1 = 25 | 8*      | 7  | 8  | 7  | 8  | 8  | 9  | 9  | 8  | 5  | 5* | 6* | 6* | 6* | 5* | 4* | 4* | 5* | 5* | 1  | 4  | 4  | 8* | 9* |
| HS = 26  | 8       | 8  | 5  | 3* | 2* | 1  | 2* | 4* | 5  | 5  | 5  | 6* | 6* | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 8  | -  | 1* |
| DU = 27  | 8       | 7  | 6* | 2  | 1  | 3* | 4* | 6* | 5  | 7  | 8* | 8* | 7  | 7  | 6  | 6  | 5  | 7  | 7  | 8  | 5  | 1* | 8  | 9  |
| YB = 28  | 9       | 8  | 6  | 4  | 2  | 1  | 1  | 5* | 5  | 6  | 7  | 8  | 7  | 7  | 6  | 5  | 5  | 4  | 4  | 4  | 2  | -  | 3* | 5* |
| VK6 = 29 | 8       | 8  | 7  | 5  | 4  | 4  | 3  | 5  | 7  | 8  | 8  | 7  | 5  | 2* | 1* | 1* | 1* | 1* | 2* | 1  | 2  | 2  | 5  | 7  |
| VK3 = 30 | 9       | 9  | 8  | 8  | 7  | 7  | 8  | 6  | 7  | 8  | 8  | 5  | 1* | 2* | 1* | -  | -  | 1* | 1* | 1* | 2* | 5  | 7  | 8  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 7  | 8  | 6  | -  | -  | -  | 6  | 3  | 6  | 6  | 8  | 5  | 4  | 5  |
| KH8 = 32 | 6       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 7  | 9  | 9  | 6  | -  | 1  | 5  | 5  | 5  | 5  | 5  | 6  | 4  | 5  |
| CN = 33  | 9+      | 9  | 9  | 9  | 7  | -  | 2* | 7  | 7  | 9  | 9  | 8  | 6  | 6  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  | 9       | 9  | 9  | 5  | 4  | 9  | 9  | 7  | 6  | 8  | 6  | 5  | 8  | 2  | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 8  | 1  | -  | 2* | 7  | 9+ | 9  | 9  | 9  | 6  | 6  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 8       | 6  | 5  | 3  | 3* | 2* | 5  | 6  | 7  | 9  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  |
| 5Z = 37  | 7       | 6  | 2  | 2* | 6  | 8  | 7  | 7  | 8  | 6  | 6  | 5  | 8  | 8  | 5  | 6  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| ZS6 = 38 | -       | -  | -  | 2* | 2* | 5  | 7  | 8  | 7  | 9  | 8  | 8  | 8  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | 1  |
| FR = 39  | -       | 2* | 3* | 2* | 4  | 6  | 6  | 6  | 8  | 7  | 7  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 7  | 3  | 2* | 2* | 1* | -  |
| FJL = 40 | -       | 1* | 4* | 1* | 1* | 1* | 2* | 4* | 5* | 6* | 6* | 5  | 5  | 5  | 4  | 4  | 4  | 5  | 4  | 3  | 1  | 2  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Oct., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 9   | 8   | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  | 7  | 8  | 8  |
| VO2 = 02 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 1  |
| W6 = 03  | 9   | 9   | 4  | -  | -  | -  | -  | -  | -  | 5  | 1  | 3  | -  | -  | -  | -  | 8  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9  |
| W9 = 04  | 2   | -   | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 6  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | -   | -   | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 8  |
| XE1 = 06 | 9   | 9   | 9  | 9  | 9  | 8  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 9+  | 9   | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9   | 8   | 9  | 9+ | 9  | 8  | 5  | -  | -  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 8   | 8   | 8  | 9+ | 9+ | 9  | 7  | 1  | -  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 9  | 6  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  |
| HC = 10  | 8   | 7   | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | 4  | 9+ | 9+ | 7  | 3  | 1  | -  | 1  | 6  | 9  | 9  | 9  | 9  | 8  |
| PY1 = 11 | 9+  | 6   | 3  | 2  | 1  | 3  | 1  | -  | -  | -  | -  | 1  | 5  | 3  | 1  | 4  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+  | 9+  | 9  | 9  | 9  | 8  | 8  | 4  | -  | -  | 2  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 7   | 3*  | 2* | 1  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 1* | -  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | -   | -   | -  | -  | 1  | -  | -  | 6  | 5  | 8  | 9  | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 8  | -  | -  | -  | -  |
| I = 15   | -   | -   | 1  | -  | -  | 2* | 5  | 5  | 6  | 8  | 8  | 7  | 5  | 6  | 6  | 6  | 6  | 6  | 8  | 9  | 9  | 8  | 1  | -  | -  | -  |
| UA3 = 16 | -   | -   | -  | -  | 1* | -  | 6  | 3  | 4  | 7  | 8  | 7  | 5  | 5  | 4  | 5  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | 4*  | 2*  | 4  | 7  | 9  | 8  | 4  | 1  | 2  | 5  | 5  | 6* | 6* | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 3*  | 2*  | 1* | 1* | 2  | 8  | 8  | 2  | 2  | 7  | 7  | 7* | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| UA0 = 19 | 8   | 9   | 9  | 9  | 9  | 9  | 8  | 7  | 2* | 6* | 8* | 6* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7* | 8  |
| 4X = 20  | 9   | 8   | -  | 4* | 2* | 8  | 5  | -  | 3  | 6  | 6  | 5  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9   | 4   | 4* | 3* | 8  | 6  | 2  | 1  | 4  | 5  | 4  | 5  | 4  | 5  | 5  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 2*  | 4*  | 4  | 5* | 3* | 3  | 2  | 1* | 2  | 4  | 4  | 5* | 5  | 4  | 5  | 5  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 3*  | 2*  | 3  | 8  | 9  | 7  | 7  | 2  | 4  | 6  | 5  | 6* | 5* | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* |
| VR2 = 24 | 8   | 7*  | 7* | 6* | 6* | 6* | 7* | 7* | 5  | 6  | 6  | 7  | 7  | 7  | 7  | 7  | 5  | 6  | 8  | 8  | 8  | 6  | -  | 5* | 5* |    |
| JA1 = 25 | 8   | 8   | 8  | 8  | 9  | 9  | 9  | 9  | 5  | 5* | 7* | 8* | 7* | 5* | 4* | 2* | 1* | 1* | -  | -  | -  | 3  | 6  | 6  | 8* |    |
| HS = 26  | 4   | 6*  | 6* | 5* | 3* | 3* | 3* | 4* | 3  | 5  | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 4  | -  | 4* |    |
| DU = 27  | 7*  | 6*  | 5* | 5* | 4* | 5* | 5* | 5* | 3  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 6  | 5  | 1  | -  | 6* | 8  |    |
| YB = 28  | 8   | 6*  | 6* | 5* | 4* | 4* | 4* | 4* | 2  | 7  | 8  | 8  | 8  | 6  | 5* | 2  | 4* | 4* | 4* | 1* | -  | -  | -  | -  | 7* |    |
| VK6 = 29 | 5   | 6   | 5* | 4* | 1* | 2* | 2* | 1* | 3  | 4  | 5  | 5  | 4* | 5* | 3* | 2* | 2* | 1* | 1* | -  | -  | 1  | 3  | 6  | 6* |    |
| VK3 = 30 | 7   | 7   | 5  | 3  | 2  | 1  | 3* | 1  | 1  | 3  | 7* | 3* | 4* | 2* | 2* | 2* | 1* | -  | 1* | -  | -  | 1* | 5* | 6* | 6  |    |
| KH6 = 31 | 8   | 8   | 9  | 9  | 9  | 9  | 9  | 9  | 4  | -  | -  | 6  | 4  | -  | -  | -  | 3  | 5  | 4  | 5* | 5* | 5  | 5  | 5  | 6  |    |
| KH8 = 32 | 8   | 8   | 9  | 8  | 8  | 8  | 8  | 7  | 1  | 4* | 4* | 7  | 6  | 2* | 1* | -  | 1  | 7  | 6  | 6  | 6  | 6  | 6  | 6  | 6  |    |
| CN = 33  | 9   | 9   | 8  | 5  | 2  | -  | -  | 4  | 4  | 8  | 9  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| SU = 34  | 9   | 9   | 6  | 2* | 2* | 8  | 8  | 2  | 3  | 7  | 6  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |    |
| 6W = 35  | 9+  | 9+  | 9  | 7  | 1  | -  | -  | 1* | 1  | 9  | 9+ | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 5   | 1   | 1  | -  | 2* | 3* | 2* | 2* | 6  | 8  | 9  | 8  | 8  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  |    |
| 5Z = 37  | 1   | 1   | -  | 5* | 4* | 3* | 4* | 4  | 8  | 8  | 7  | 6  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  |    |
| ZS6 = 38 | -   | -   | -  | -  | 5* | 4* | 3* | 4  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 2  | -  | -  |    |
| FR = 39  | -   | -   | 5* | 4* | 4* | 2* | 1  | 3  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | 2* | 1* | 1* | -  | -  |    |
| FJL = 40 | -   | -   | 1* | -  | -  | -  | -  | -  | -  | 1* | 3* | 6* | 2* | 2  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    | </ |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Oct., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 7       | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  | 4  | 4  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 3  | -  |
| W6 = 03  | 9       | 7  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 6  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 1  |
| XE1 = 06 | 9       | 9  | 9  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 7       | 6  | 6  | 7  | 7  | 6  | 1  | -  | -  | -  | -  | -  | 9  | 9  | 5  | 2  | 1  | 2  | 5  | 9  | 9  | 9+ | 9  | 9  |
| VP2 = 08 | 5       | 4  | 5  | 7  | 4  | 1  | -  | -  | -  | -  | -  | 6  | 9  | 5  | 3* | 1  | 1  | 1  | 6  | 9  | 9+ | 9  | 8  | 7  |
| P4 = 09  | 4       | 3  | 4  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | 1  | 9  | 5  | 4* | -  | -  | -  | 3  | 6  | 8  | 7  | 8  | 6  |
| HC = 10  | 2       | 1  | 2  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | 5  | 2  | 1* | 8  | 9  | 9  | 8  | 1* | 2* | 3* | 2* | 5  |
| PY1 = 11 | 7       | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| CE = 12  | 9+      | 8  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | 2  | 6  | 6  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 3*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | 1  | 5  | 6  | 7  | 6  | 9  | 6  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | 1  | -  | 3  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | -  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | 1  | -  | 1  | 7  | 8  | 8  | 7  | 8  | 7  | 8  | 7  | 8  | 9  | 8  | 1  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | 1  | -  | -  | 4  | 7  | 7  | 7  | 7  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  |
| UN = 17  | 1*      | 2* | 1  | 4  | 8  | 7  | 1  | -  | -  | 6  | 6  | 6  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 3*      | 1* | -  | -  | -  | 3  | 5  | -  | -  | 2  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 6       | 7  | 8  | 8  | 8  | 7  | 6  | 3  | -  | 2* | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 5* |
| 4X = 20  | 7       | 3  | -  | 1* | -  | 4  | 1  | -  | -  | 6  | 6  | 6  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| HZ = 21  | 6       | -  | 1* | 1* | 5  | 1  | -  | -  | 1  | 6  | 6  | 6  | 7  | 7  | 7  | 7  | 8  | 9  | 8  | 9  | 9  | 9  | 8  | 8  |
| VU = 22  | -       | 7* | 2* | 4* | 2* | 1* | 1* | -  | -  | 5  | 5  | 5  | 6  | 6  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 3*      | 1* | -  | 5  | 8  | 8  | 5  | -  | -  | 5  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VR2 = 24 | 8*      | 8* | 7* | 7* | 6* | 6* | 6* | 4* | 2  | 6  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 7  | 6  | -  | -  | 1* | 6* |
| JA1 = 25 | 8       | 8  | 8  | 9  | 9  | 8  | 7  | 4  | 1* | 5* | 8* | 7* | 4* | -  | 1* | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  |
| HS = 26  | 7*      | 7* | 6* | 5* | 5* | 5* | 4* | 1* | 1  | 5  | 7  | 7  | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 2  | -  | -  | -  |
| DU = 27  | 6*      | 5* | 5* | 5* | 5* | 5* | 4* | 2* | -  | 3  | 7  | 8  | 8  | 8  | 7  | 7  | 7  | 5  | 4  | 2  | -  | -  | 1* | 8* |
| YB = 28  | 7*      | 6* | 6* | 5* | 4* | 4* | 3* | 1* | -  | 2  | 6  | 8  | 8* | 7* | 6* | 5* | 4* | 3* | 2* | -  | -  | -  | -  | 6* |
| VK6 = 29 | 5*      | 5* | 4* | 4* | 2* | 2* | 1* | -  | -  | -  | -  | 5* | 6* | 5* | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | 6* |
| VK3 = 30 | 4       | 4  | 3* | 1* | 1* | 1* | 1* | -  | -  | -  | 5* | 4* | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  | 3* | 5* | 5* |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 8  | 5  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | 7  | 6  | 6  | 6  | 5  | 6  | 8  |
| KH8 = 32 | 7       | 8  | 5  | 4  | 2  | 1  | 3  | 2  | -  | 5* | 5* | 4* | 4* | 2* | -  | -  | -  | 6  | 7  | 7  | 7  | 7  | 7  | 7  |
| CN = 33  | 6       | 4  | 2  | -  | -  | -  | -  | -  | -  | 2  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  |
| SU = 34  | 9       | 8  | -  | -  | -  | 5  | 2  | -  | -  | 6  | 6  | 6  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 5       | 5  | 2  | -  | -  | -  | -  | -  | -  | 1  | 9  | 9  | 9  | -  | 1  | 3  | 9  | 9  | 9  | 9+ | 9+ | 8  | 5  | 4  |
| D2 = 36  | -       | -  | -  | -  | -  | 3* | 1* | -  | 2  | 6  | 9  | 7  | 6  | 6  | 7  | 8  | 8  | 8  | 8  | 9  | 8  | 7  | 5  | 3  |
| 5Z = 37  | -       | -  | -  | 3* | 5* | 5* | 2* | -  | 3  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | -  |
| ZS6 = 38 | -       | -  | -  | -  | 3* | 5* | 4* | 1* | -  | 4  | 7  | 8  | 8  | 8  | 9  | 8  | 8  | 9  | 6  | 2  | -  | -  | -  | -  |
| FR = 39  | -       | -  | 4* | 6* | 5* | 4* | 2* | -  | 3  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 7  | 3* | 2* | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Oct., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 2   | 1   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  |
| VO2 = 02 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 2  | 2  | 5  | 7  | 7  | 7  | 5  | -  | -  |
| W6 = 03  | 8   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 9  | 9  | 8  | 9  | 9  | 9  | 9  |
| W9 = 04  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 6  | 7  | 8  | 9  | 8  | 8  | -  |
| W3 = 05  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 5  | 5  | 6  | 8  | 8  | 8  | 8  | 5  | -  |
| XE1 = 06 | 8   | 8   | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 5  | 6  | 6  | 7  | 9  | 9  | 9  | 9  | 9  |
| TI = 07  | 3   | 1   | 1  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1* | 2* | 1* | 1* | 1* | 2  | 5  | 6  | 7  | 5  |
| VP2 = 08 | 1   | -   | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | 1* | 1* | 2* | 2  | 4  | 3  | 5  | 2  |
| P4 = 09  | -   | -   | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 1* | 2* | 1* | 2* | 2* | 3* | 2* | 2* | 4  | 1  |
| HC = 10  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 9  | 7  | 7  | 8  | 9  | 9  | 9+ | -  | 1  |
| PY1 = 11 | 2   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 3  | 6  | 8  | 8  | 9+ | 9  | 7  |
| CE = 12  | 8   | 3   | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | 2* | 3* | 4* | 6  | 2* |
| G = 14   | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 6  | 6  | 7  | 8  | 8  | 8  | 4  | -  | -  | -  | -  |
| I = 15   | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 8  | 7  | 6  | 7  | 8  | 8  | 8  | 9  | 6  | -  | -  | -  | -  |
| UA3 = 16 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 3  | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -   | 1*  | -  | 1  | 4  | 4  | -  | -  | -  | -  | -  | 2  | 4  | 2  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -   | -   | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 2   | 3   | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 1   | -   | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 2  | 7  | 7  | 6  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 5  | 4  |
| HZ = 21  | 1   | -   | -  | -  | 1  | -  | -  | -  | -  | -  | -  | 3  | 7  | 6  | 6  | 7  | 8  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | -  |
| VU = 22  | -   | 6*  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 7  | 7  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 1*  | -   | -  | 1  | 5  | 6  | 2  | -  | -  | -  | -  | -  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| VR2 = 24 | 8*  | 8*  | 7* | 7* | 6* | 5* | 4* | -  | -  | -  | -  | 2  | 7  | 8  | 8  | 8  | 8  | 8  | 6  | 6  | 5  | 1  | -  | -  | -  | 6* |
| JA1 = 25 | 8   | 8   | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | 1* | 7* | 5* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  |
| HS = 26  | 6*  | 8*  | 6* | 6* | 5* | 3* | 1* | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 6  | 8  | 8  | 7  | 6  | 5  | 3  | -  | -  | -  | -  |
| DU = 27  | 5*  | 4*  | 3* | 4* | 3* | 3* | 2* | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 6  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | 6* |
| YB = 28  | 5*  | 5*  | 2* | 3* | 2* | 2* | 2* | -  | -  | -  | -  | -  | 2  | 5  | 7* | 6* | 5* | 3* | 2* | 1* | -  | -  | -  | -  | -  | 2* |
| VK6 = 29 | 4*  | 3*  | 3* | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 4* | 6* | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 2* |
| VK3 = 30 | 4*  | 3*  | 2* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 3* |
| KH6 = 31 | 8   | 8   | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 4  | 7* | 6  | 7  | 8  |
| KH8 = 32 | 5   | 5   | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 6* | 5* | 2* | -  | -  | -  | -  | 2  | 7  | 7  | 8  | 8  | 8  | 8  |
| CN = 33  | 1   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 3  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 5  | 2  | -  |
| SU = 34  | 6   | 2   | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 7  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| 6W = 35  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 2  | -  | -  | 1* | 1* | 5  | 7  | 7  | 6  | 1  | -  | -  |
| D2 = 36  | -   | -   | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 3  | 2  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 3  | 2  | -  |
| 5Z = 37  | -   | -   | -  | -  | 4* | 2* | 1* | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2  | -  |
| ZS6 = 38 | -   | -   | -  | -  | -  | 3* | 2* | -  | -  | -  | -  | -  | 2  | 4  | 8  | 8  | 6  | 6  | 6  | 5  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -   | -   | 1* | 5* | 5* | 3* | 1* | -  | -  | -  | -  | 2  | 7  | 7  | 6  | 5  | 5  | 4  | 2* | 1* | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | </ |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Nov., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 2  | 3  | 4  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 = 03  | -       | -  | 1  | 4  | 4  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 5  | 3  | 5  | 5  | 3  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | 1       | 3  | -  | 5  | 4  | 4  | 5  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2       | 3  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 2       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| P4 = 09  | 2       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| HC = 10  | 5       | 4  | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 1  | -  | -  | -  | -  | -  | -  | 5  | 6  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 2  | -  | -  | -  | -  | 1  | 5  | 6  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| I = 15   | 4       | 4  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | 2       | 3  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 3       | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 5  | 5  | 5  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| SU = 34  | 3       | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 6W = 35  | 5       | 4  | 4  | 4  | 4  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  |
| D2 = 36  | 4       | 4  | 4  | 3  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  |
| 5Z = 37  | 5       | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| ZS6 = 38 | 5       | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  |
| FR = 39  | 5       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  |
| FJL = 40 | -       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Nov., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | 1  | 2  | 5  | 6  | 7  | 6  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| VO2 = 02 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| W6 = 03  | -       | 2  | 4  | 7  | 7  | 8  | 7  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 2       | 8  | 6  | 8  | 8  | 6  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W3 = 05  | 4       | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| XE1 = 06 | 4       | 6  | 3  | 8  | 7  | 7  | 8  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5       | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| VP2 = 08 | 5       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| P4 = 09  | 5       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| HC = 10  | 8       | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4  | -  | -  | -  | -  | -  | 2  | 8  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 1  | -  | -  | 1  | 4  | 8  | 9  | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| I = 15   | 7       | 7  | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| UA3 = 16 | 5       | 6  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| UN = 17  | 3       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA9 = 18 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| HZ = 21  | 6       | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| VU = 22  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | 1  | 2  | 4  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 1  | 1  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 7  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |
| SU = 34  | 6       | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| 6W = 35  | 8       | 7  | 7  | 7  | 7  | 7  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| D2 = 36  | 7       | 7  | 7  | 6  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  |
| 5Z = 37  | 8       | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| ZS6 = 38 | 8       | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| FR = 39  | 8       | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | -  |
| FJL = 40 | 3       | 4  | 4  | 3  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Nov., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2  | 4  | 6  | 7  | 6  | 8  | 7  | 7  | 6  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 1  |
| VO2 = 02 | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  |
| W6 = 03  | 3  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| W3 = 05  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 7  |
| XE1 = 06 | 5  | 6  | 8  | 8  | 6  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| TI = 07  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| VP2 = 08 | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  |
| P4 = 09  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 2  | 2  | 2  | 5  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 9  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 7  | 8  |
| I = 15   | 8  | 5  | 8  | 6  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 8  |
| UA3 = 16 | 8  | 8  | 8  | 8  | 7  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 7  |
| UN = 17  | 5  | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 2  | 5  |
| UA9 = 18 | 6  | 6  | 6  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| 4X = 20  | 7  | 7  | 6  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| HZ = 21  | 7  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  |
| VU = 22  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 6  |
| JT = 23  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  |
| VR2 = 24 | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 2  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  |
| HS = 26  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| YB = 28  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 3  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | 3  | 6  | 7  | 8  | 7  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 8  | 8  | 7  | 9  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  |
| SU = 34  | 8  | 7  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  |
| 5Z = 37  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 8  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 9  |
| FR = 39  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| FJL = 40 | 7  | 7  | 7  | 7  | 7  | 7  | 5  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 6  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Nov., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|--|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 |  | 4            | 6  | 6  | 7  | 7  | 6  | 6  | 6  | 6  | 7  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| VO2 = 02 |  | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 6  | 7  |
| W6 = 03  |  | 5            | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| W9 = 04  |  | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| W3 = 05  |  | 8            | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  |
| XE1 = 06 |  | 8            | 8  | 9  | 9  | 8  | 8  | 9  | 7  | 7  | 5  | 5  | -  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| TI = 07  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 6  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| VP2 = 08 |  | 9            | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 7  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  |
| P4 = 09  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 4  | 3  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  |
| HC = 10  |  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  |
| PY1 = 11 |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |  | 8            | 8  | 8  | 9  | 8  | 8  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 8  |
| I = 15   |  | 7            | 7  | 8  | 8  | 8  | 8  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 8  |
| UA3 = 16 |  | 8            | 8  | 8  | 7  | 6  | 6  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| UN = 17  |  | 7            | 7  | 6  | 5  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 7  |
| UA9 = 18 |  | 3            | 2  | 4  | 5  | 5  | 1  | 1  | 1  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 5  |
| UA0 = 19 |  | 1            | 1  | 1  | 1  | 1  | 1  | 5  | 3  | 3  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 5  |
| 4X = 20  |  | 8            | 8  | 8  | 6  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| HZ = 21  |  | 8            | 8  | 7  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 7  | 8  |
| VU = 22  |  | 6            | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 6  | 6  |
| JT = 23  |  | 6            | 5  | 5  | 1  | 1  | 1  | -  | -  | 1* | 1* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 4  |
| VR2 = 24 |  | 5            | 1  | -  | -  | -  | -  | -  | -  | 2* | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 5  | 5  |
| JA1 = 25 |  | -            | -  | -  | -  | -  | 3  | 5  | 6  | 6  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 3* | 3* | 5* | 3* |
| HS = 26  |  | 7            | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 7  | 7  |
| DU = 27  |  | 1            | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 4  | 4  |
| YB = 28  |  | 5            | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 6  | 6  | 6  |
| VK6 = 29 |  | 2            | 1  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 4  | 5  | 4  |
| VK3 = 30 |  | -            | -  | -  | -  | -  | 1  | 1  | 4  | 5  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  |
| KH6 = 31 |  | -            | 1  | 4  | 6  | 7  | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 |  | -            | -  | 1  | 4  | 6  | 7  | 8  | 8  | 8  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  |  | 9            | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  |
| SU = 34  |  | 8            | 8  | 8  | 6  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  | 8  |
| 6W = 35  |  | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  |
| D2 = 36  |  | 9            | 9  | 9  | 9  | 9  | 7  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  |
| 5Z = 37  |  | 8            | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| ZS6 = 38 |  | 9            | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  | 9  |
| FR = 39  |  | 8            | 8  | 8  | 8  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 7  | 8  | 8  |
| FJL = 40 |  | 7            | 7  | 7  | 6  | 5  | 1  | 1* | 2  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |  |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |  | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 8  | 9  | 6  | 1  | 1* | 1* | -  | 1  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 4  | 6  | 8  |
| VO2 = 02 | 4       | -  | 1  | 4  | 6  | 8  | 8  | 8  | 6  | 7  | 8  | 8  | 6  | 3  | 1  | 1  | 1  | 1  | 4  | 6  | 8  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | -  | 6  | 2  | 1  | -  | -  | -  | -  | 1  | 3  | 6  | 8  |
| W9 = 04  | 9       | 8  | 6  | 7  | 6  | 7  | 8  | 9  | 9  | 8  | 7  | 7  | 8  | 5  | 1  | 1  | -  | -  | -  | 1  | 8  | 8  | 9  | 9  |
| W3 = 05  | 8       | 3  | 1  | 5  | 6  | 8  | 8  | 8  | 8  | 5  | 7  | 9  | 8  | 5  | 2  | 1  | 1  | 1  | 2  | 3  | 7  | 8  | 9  | 9  |
| XE1 = 06 | 9       | 9+ | 9  | 9  | 9+ | 9  | 8  | 7  | 5  | 1  | 1* | -  | 7  | 7  | 2  | 2  | 2  | 1  | 1  | 1  | 3  | 5  | 8  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1* | 2  | 9  | 7  | 7  | 5  | 4  | 3  | 2  | 3  | 5  | 8  | 9  | 9  | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | 9+ | 9  | 8  | 6  | 4  | 3  | 3  | 4  | 5  | 7  | 9  | 9  | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | 1  | 9  | 9  | 9  | 8  | 5  | 4  | 3  | 4  | 5  | 7  | 9  | 9  | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | 8  | 9  | 9  | 9  | 8  | 7  | 7  | 7  | 5  | 6  | 7  | 9  | 9  | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 8  | 7  | 6  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7       | 6  | 8  | 9  | 9  | 8  | 7  | 9  | 9  | 8  | 7  | 4  | 1  | 1  | 1  | -  | 2  | 4  | 6  | 9  | 8  | 9  | 8  | 7  |
| I = 15   | 9       | 9  | 9  | 9  | 8  | 6  | 9  | 8  | 8  | 6  | 4  | 3  | 1  | -  | -  | 1  | 1  | 4  | 5  | 8  | 8  | 9  | 9  | 9  |
| UA3 = 16 | 5       | 5  | 5  | 3  | 1  | 3  | 8  | 7  | 6  | 5  | 4  | 9  | 1  | -  | -  | -  | 1  | 4  | 4  | 2  | 3  | 2  | 3  | 5  |
| UN = 17  | 7       | 6  | 8  | 8  | 7  | 6  | 4  | 3  | 4* | 4* | 7  | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  |
| UA9 = 18 | 1*      | 1* | 2* | 4  | 7  | 8  | 6  | 6  | 5* | 5* | 3  | 8  | 4* | 1* | -  | -  | -  | -  | -  | 1  | 1  | 2  | 1  | 1* |
| UA0 = 19 | 6       | 6  | 5  | 5  | 5  | 5  | 5  | 9  | 8  | 5* | 5* | 5* | 3* | 2* | 1* | -  | -  | 1* | 3* | 1* | -  | 4  | 7  | 5  |
| 4X = 20  | 9       | 9  | 9  | 6  | 4  | 8  | 8  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | 2  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 7  | 5  | 8  | 8  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  | -       | -  | 6  | 8  | 7  | 5  | 4  | 1  | 1* | 4* | 2* | 3* | 3* | -  | -  | -  | 1  | 2  | 6  | 7  | 7  | 8  | 8  | 7  |
| JT = 23  | 1*      | 4  | 7  | 6  | 6  | 5  | 5  | 5* | 6* | 7* | 5* | 7  | 6* | 2* | 1* | -  | -  | -  | 1* | 2  | 3  | 2  | 2* | 1* |
| VR2 = 24 | 8       | 7  | 7  | 4  | 1  | 1* | 2* | 5* | 8  | 8* | 7* | 6* | 7* | 2* | 1* | 1  | 1  | 2  | 5  | 6  | 8  | 6  | 3* | 8  |
| JA1 = 25 | 7*      | 5  | 5  | 6  | 6  | 7  | 8  | 9  | 8  | 6  | 5  | 5  | 2  | 1  | -  | -  | 1* | 2* | 5* | 4* | 6  | 5  | 8* | 8* |
| HS = 26  | 9       | 9  | 8  | 6  | 2  | -  | 1* | 1* | 4* | 5* | 7  | 4* | 5* | 1  | 1  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 8  | 8  |
| DU = 27  | 6       | 6  | 2  | -  | -  | 1* | 1* | 4* | 6  | 7* | 5  | 5  | 5* | 2  | 1  | 1  | 1  | 2  | 5  | 7  | 7  | 7  | 8  | 8  |
| YB = 28  | 9       | 8  | 6  | 4  | 1  | -  | -  | 1  | 4* | 7  | 6  | 8  | 2  | 2  | 2  | -  | 2  | 4  | 6  | 8  | 8  | 8  | 8  | 9  |
| VK6 = 29 | 8       | 7  | 7  | 7  | 6  | 6  | 6  | 5  | 6  | 6  | 6  | 6  | 6  | 5  | 4  | 3  | 3  | 3  | 4  | 5  | 7  | 8  | 8  | 8  |
| VK3 = 30 | 6       | 6  | 6  | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | 1  | 1  | 2  | 4  | 5  | 6  | 6  | 5  |
| KH6 = 31 | 5       | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | -  | -  | -  | -  | 1  | 1* | 1* | 1* | -  | -  | 2  |
| KH8 = 32 | 3       | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 4  | 1  | 1  | -  | 1* | 1  | 1  | 1  | 1  |
| CN = 33  | 9+      | 9+ | 9  | 9  | 9  | 6  | 2  | 8  | 9  | 9  | 8  | 5  | 2  | 1  | -  | 1  | 1  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| SU = 34  | 9       | 9  | 9  | 8  | 5  | 9  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | 2  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 3  | 2  | 9  | 9  | 9  | 8  | 6  | 3  | 2  | 2  | 4  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9       | 9+ | 9  | 8  | 7  | 7  | 9  | 8  | 8  | 8  | 6  | 4  | 4  | 2  | 2  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| 5Z = 37  | 9       | 9  | 9  | 8  | 9  | 9  | 8  | 7  | 5  | 2  | 1  | 1  | 1  | 1  | 1  | 2  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| ZS6 = 38 | 9       | 7  | 6  | 6  | 8  | 9  | 9  | 9  | 8  | 7  | 7  | 5  | 5  | 5  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| FR = 39  | 7       | 5  | 5  | 9  | 9  | 8  | 8  | 7  | 5  | 3  | 2  | 1  | 1  | 2  | 3  | 4  | 5  | 6  | 8  | 9  | 9  | 8  | 6  | 7  |
| FJL = 40 | 4       | 2  | 2  | 1  | 1* | 2* | 2* | 1* | 2  | 4  | 7  | 6  | 2  | 1  | -  | -  | -  | 2  | 3  | 2  | 1  | 3  | 2  | 2  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath

Expected signal levels using 1500 W and 12 dBi isotropic antennas.



17 Meters: Nov., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|--|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 |  | 9            | 9  | 6  | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 4  | 6  | 6  | 7  | 8  | 8  |
| VO2 = 02 |  | -            | -  | -  | -  | -  | -  | 5  | 2  | 1  | 1  | -  | 9  | 9  | 8  | 5  | 6  | 6  | 6  | 8  | 9  | 9  | 9  | 9  | 1  |
| W6 = 03  |  | 9            | 9  | 7  | 1  | 2  | 1  | 2  | 4  | 8  | 7  | 7  | 3  | -  | 1  | 8  | 5  | 4  | 3  | 8  | 8  | 5  | 7  | 8  | 9  |
| W9 = 04  |  | 5*           | -  | -  | -  | -  | -  | -  | 6  | 5  | 2  | 1  | -  | 9  | 9  | 6  | 5  | 5  | 5  | 7  | 8  | 8  | 9  | 9  | 9  |
| W3 = 05  |  | 1*           | -  | -  | -  | -  | -  | 1  | 6  | 2  | -  | 2  | 5  | 9  | 9  | 7  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 8  |
| XE1 = 06 |  | 9+           | 9+ | 9  | 9  | 9  | 7  | 1  | 1  | -  | -  | -  | -  | -  | 8  | 8  | 7  | 6  | 5  | 6  | 7  | 7  | 9  | 9  | 9+ |
| TI = 07  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | -  | -  | -  | 7  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 |  | 9+           | 9+ | 9+ | 9+ | 9  | 8  | 5  | -  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  |  | 9+           | 9  | 9+ | 9  | 8  | 8  | 7  | 3  | -  | -  | -  | 9+ | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  |  | 9+           | 9  | 8  | 9  | 8  | 7  | 5  | 2  | -  | -  | 1  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 |  | 9+           | 9  | 8  | 7  | 5  | 6  | 4  | 1  | 6* | 3* | 6  | 6  | 5  | 5  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  |  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |  | 9            | 8  | 2  | 2* | 2* | 2* | 4* | 5* | 6* | 3* | 3* | 1* | 1* | 1  | 3  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   |  | -            | -  | -  | 4  | 7  | 2  | 1  | 7  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 4  | 5  | 7  | 9  | 8  | 6  | 1  | -  | -  |
| I = 15   |  | 6            | 7  | 8  | 7  | 5  | 1  | 6  | 8  | 8  | 8  | 7  | 7  | 8  | 5  | 2  | 3  | 4  | 7  | 9  | 9  | 9  | 9  | 8  | 5  |
| UA3 = 16 |  | -            | -  | -  | -  | 5* | 3* | 6  | 7  | 8  | 8  | 6  | 5  | 7  | 5  | 1  | 4  | 6  | 2  | -  | -  | -  | -  | -  | -  |
| UN = 17  |  | 1*           | 2* | 5  | 8  | 9  | 8  | 6  | 5  | 5  | 5  | 5* | 7* | 7  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA9 = 18 |  | 2*           | 2* | 2* | 2* | 3  | 8  | 8  | 6  | 6  | 8  | 8  | 4  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| UA0 = 19 |  | 9            | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 6* | 8* | 7* | 7* | 5* | 2* | -  | -  | -  | -  | 1* | -  | -  | -  | 6* | 8  |
| 4X = 20  |  | 9            | 9  | 6  | 3* | 3* | 8  | 8  | 7  | 7  | 7  | 5  | 4  | 8  | 4  | 3  | 4  | 4  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  |  | 9            | 7  | 3* | 3* | 8  | 8  | 7  | 6  | 7  | 6  | 5  | 8  | 8  | 3  | 3  | 4  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  |  | 1*           | 2* | 4* | 9  | 8  | 6  | 5  | 5  | 5  | 3  | 5* | 5* | 7  | 5* | 2  | 4  | 5  | 7  | 5  | 1  | -  | 2  | 5  | -  |
| JT = 23  |  | 2*           | 3* | 4  | 9  | 8  | 7  | 6  | 6  | 7* | 8* | 8* | 7* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| VR2 = 24 |  | 9            | 9  | 8  | 7  | 6* | 7* | 7* | 7* | 7* | 6* | 8* | 8* | 6  | 6  | 5  | 4  | 6  | 6  | 8  | 8  | 7  | -  | 5* | 4* |
| JA1 = 25 |  | 8            | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 5* | 5* | 5* | 6* | 7* | 5* | 4* | 2* | 1* | 1* | 1* | -  | 4  | 4  | 6  | 9* |
| HS = 26  |  | 8            | 9  | 8  | 6  | 4  | 2  | 4* | 4  | 6  | 6  | 6  | 6  | 7  | 7  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 8  | 4  | 3* |
| DU = 27  |  | 8            | 8  | 7  | 5  | 5* | 5* | 5* | 6* | 6  | 7  | 8* | 7  | 8  | 7  | 6  | 6  | 5  | 6  | 6  | 6  | 5  | -  | 7  | 9  |
| YB = 28  |  | 9            | 9  | 8  | 7  | 5  | 3  | 4  | 5  | 7  | 7  | 7  | 7  | 8  | 7  | 7  | 6  | 6  | 7  | 6  | 6  | 6  | 4  | 5  | 7  |
| VK6 = 29 |  | 8            | 9  | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | 1  | 2  | 2* | 3* | 3* | 2  | 5  | 7  | 8  |
| VK3 = 30 |  | 8            | 8  | 9  | 9  | 8  | 8  | 8  | 9  | 8  | 9  | 9  | 7  | 5  | 5  | 2  | -  | 1* | 1* | 2* | 2* | 5* | 8  | 8  | 8  |
| KH6 = 31 |  | 8            | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | -  | -  | -  | 4  | 5  | 7  | 6  | 7  | 5  | 4  | 6  |
| KH8 = 32 |  | 5            | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 8  | 7  | 7  | 6  | 5  | 4  | 6  | 7  | 3  | 4  | 5  |
| CN = 33  |  | 9            | 9  | 9  | 9  | 8  | 1  | -  | 6* | 8  | 9  | 9  | 8  | 7  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| SU = 34  |  | 9            | 9  | 9  | 5  | 3* | 8  | 9  | 8  | 8  | 6  | 6  | 5  | 8  | 5  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  |  | 9+           | 9+ | 9+ | 9+ | 8  | 4  | -  | 6* | 6  | 9+ | 9+ | 9  | 9  | 6  | 5  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  |  | 9+           | 9  | 7  | 4  | 3* | 3* | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9+ | 9  | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  |  | 9            | 9  | 6  | 5* | 6  | 8  | 8  | 8  | 8  | 6  | 5  | 5  | 9  | 8  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| ZS6 = 38 |  | 4            | -  | -  | 3* | 5* | 7  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  |
| FR = 39  |  | 1*           | 4* | 4* | 4  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 9  | 8  | 6  | 7  | 7  | 8  | 9  | 9  | 8  | 6  | 2* | 2* | 1* |
| FJL = 40 |  | -            | -  | 1* | 2* | 1* | 2* | 2* | 4* | 6* | 5* | 1  | 5  | 7  | 5  | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  |
| Zone     |  | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |  |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |  | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Nov., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9            | 8  | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 8  | 8  | 9  | 9  |
| VO2 = 02 | -            | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 3  | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 5  | -  |
| W6 = 03  | 9            | 8  | 2* | -  | -  | -  | -  | -  | 5  | 2  | 2  | -  | -  | -  | 8  | 8  | 7  | 6  | 5  | 6  | 7  | 8  | 9  | 9  |
| W9 = 04  | 1*           | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | 6  | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 6  |
| W3 = 05  | -            | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 1  |
| XE1 = 06 | 9+           | 9  | 7  | 9  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 9            | 8  | 7  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 8            | 8  | 7  | 6  | 5  | 1  | 1  | -  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  |
| P4 = 09  | 8            | 7  | 6  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  |
| HC = 10  | 8            | 6  | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | 3  | 9+ | 8  | 4  | 2  | 3  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9  |
| PY1 = 11 | 9            | 4* | 3* | 3* | 3* | -  | -  | -  | 3* | 1* | 2* | 2* | 1* | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+           | 9+ | 9  | 9  | 9  | 8  | 8  | 4  | 4  | 5  | 5  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 6*           | 5* | 4* | 4* | 4* | 3* | 2* | 2* | 5* | -  | 1* | 1* | 1* | 1* | -  | -  | 3  | 7  | 9  | 9+ | 9  | 9  | 9+ | 9  |
| G = 14   | -            | -  | -  | -  | 2  | -  | -  | 2  | 6  | 9  | 9  | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 5  | -  | -  | -  | -  |
| I = 15   | -            | 1  | 2  | 1  | 1  | -  | 3* | 5  | 7  | 9  | 8  | 8  | 7  | 6  | 6  | 5  | 6  | 8  | 9  | 8  | 6  | 2  | -  | -  |
| UA3 = 16 | -            | -  | -  | -  | 2* | 3* | 2* | 4  | 6  | 8  | 8  | 7  | 7  | 6  | 5  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | 1*           | 3* | 3* | 6  | 8  | 7  | 4  | 3* | 4  | 5  | 5  | 7* | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 5*           | 3* | 3* | 3* | 2* | 5  | 5  | 3* | 5  | 6  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 8            | 9  | 8  | 8  | 8  | 7  | 7  | 2* | 6* | 8* | 5* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 8* |
| 4X = 20  | 8            | 7  | 1  | -  | 5* | 4  | 4  | 2  | 5  | 7  | 6  | 6  | 6  | 6  | 6  | 6  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| HZ = 21  | 8            | 1  | 1* | 5* | 5  | 6  | 2  | 2  | 5  | 6  | 5  | 5  | 6  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -            | 4* | 5* | 8  | 5  | 5* | 2  | 2  | 4  | 4  | 4  | 5  | 6* | 5  | 5  | 5  | 7  | 4  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 4*           | 4* | 4* | 7  | 8  | 6  | 5  | 3  | 6  | 7  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VR2 = 24 | 9            | 8  | 7  | 6* | 6* | 6* | 6* | 5* | 5  | 6  | 6  | 7  | 8  | 8  | 7  | 7  | 7  | 7  | 6  | 5  | 1  | -  | 1* | 7* |
| JA1 = 25 | 8            | 9  | 8  | 8  | 9  | 9  | 8  | 2  | 5* | 6* | 7* | 7* | 6* | 2* | 1* | -  | -  | -  | -  | -  | -  | 6  | 8  | 9* |
| HS = 26  | 6*           | 9  | 6  | 5* | 4* | 3* | 3* | 2  | 5  | 6  | 6  | 7  | 8* | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 4  | -  | 1* |
| DU = 27  | 8            | 7  | 6  | 5* | 5* | 4* | 4* | 3* | 6  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 4  | 3  | 1  | -  | 2* | 9  |
| YB = 28  | 8            | 8  | 8  | 5  | 3* | 2* | 2* | 2  | 6  | 7  | 8  | 8  | 8  | 7  | 6  | 6  | 5  | 5  | 4  | 2  | 1  | -  | -  | 6* |
| VK6 = 29 | 7            | 7  | 7  | 6  | 4  | 2  | 1  | 4  | 6  | 7  | 6  | 6  | 6  | 5* | 4* | 2* | 2* | 2* | 2* | 1* | -  | 2  | 5  | 7  |
| VK3 = 30 | 7            | 7  | 8  | 8  | 7  | 6  | 6  | 7  | 5  | 8  | 7  | 6* | 5* | 4* | 2* | 1* | 2* | 2* | 2* | 1* | 2* | 5  | 7  | 7  |
| KH6 = 31 | 8            | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | 4  | 3  | 1  | -  | -  | -  | -  | 5  | 4  | 5* | 5* | 5  | 5  | 7  |
| KH8 = 32 | 8            | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 5* | 5* | 8  | 8  | 6  | 3  | 5  | 6  | 6  | 5  | 5  | 5  | 5  | 5  | 7  |
| CN = 33  | 9            | 9  | 8  | 7  | 4  | -  | -  | 3* | 6  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9            | 9  | 7  | 1  | 5* | 5  | 6  | 5  | 7  | 8  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 8            | 8  | 7  | 5  | 1  | -  | -  | 2* | 1  | 9  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 8  |
| D2 = 36  | 8            | 5  | 2  | -  | 1* | 5* | 5* | 3  | 6  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 9  | 9  |
| 5Z = 37  | 8            | 6  | 1  | 5* | 6* | 5* | 4* | 5  | 8  | 8  | 7  | 6  | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| ZS6 = 38 | -            | -  | -  | -  | 5* | 5* | 4* | 6  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 6  | 3  | 3  | 1  |
| FR = 39  | -            | 1* | 6* | 6* | 5* | 4* | 3  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 8  | 6  | 3* | 3* | 1* | -  |
| FJL = 40 | -            | -  | -  | -  | 2* | 1* | 1* | 2* | 4* | 2* | -  | -  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Nov., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 7       | 2  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 8  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | -  | -  |
| W6 = 03  | 8       | 2* | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 4  | 8  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | -  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 4  | -  |
| XE1 = 06 | 9       | 5  | -  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 8  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 6       | 4  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 9  | 6  | 2  | 1  | 2  | 4  | 8  | 9  | 9  | 9+ | 9  | 8  |
| VP2 = 08 | 4       | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 9+ | 5  | 4* | 2  | 2  | 4  | 9  | 9  | 9+ | 9+ | 8  | 7  |
| P4 = 09  | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 4  | 1  | -  | 1  | 1  | 5  | 9  | 9+ | 9+ | 8  | 6  |
| HC = 10  | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1* | 8  | 8  | 8  | 8  | -  | 4  | 6  | 6  | 4  | 6  |
| PY1 = 11 | 5*      | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | 1  | 6  | 8  | 9  | 9  | 9+ | 9  | 8  |
| CE = 12  | 9       | 8  | 4  | 2  | 1  | 1  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 6*      | 5* | 2* | 1* | 2* | 1* | -  | -  | 2* | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | 2  | 4  | 3  | 3* | 7  | 6* |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 7  | 6  | 6  | 7  | 8  | 8  | 8  | 8  | 4  | -  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | 1* | -  | -  | 2  | 5  | 8  | 8  | 8  | 7  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 5* | 2* | 2* | 5  | 5  | 1  | -  | 2  | 5  | 7  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 2*      | 4* | 1* | 1* | 1* | -  | 1  | -  | 1  | 4  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 5       | 8  | 6  | 6  | 5  | 3  | 2  | -  | 2* | 5* | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6* |
| 4X = 20  | 2       | 1  | -  | -  | 3* | 2* | 1* | -  | 1  | 5  | 7  | 6  | 6  | 7  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 5  |
| HZ = 21  | 2       | -  | -  | 5* | 2* | 1  | 1* | -  | 1  | 5  | 6  | 5  | 6  | 8  | 7  | 7  | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 6  |
| VU = 22  | -       | 5* | 4* | 5  | 4* | 2* | 1* | -  | 1  | 5  | 5  | 7  | 7  | 6  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 6*      | 2* | 2* | 1  | 6  | 4  | 1  | -  | 2  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 8*      | 7* | 7* | 6* | 6* | 4* | 3* | 1* | 4  | 6  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | 7* |
| JA1 = 25 | 9       | 9  | 7  | 7  | 8  | 7  | 2  | -  | 2* | 6* | 7* | 7* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 8  |
| HS = 26  | 7*      | 6* | 5* | 5* | 5* | 3* | 2* | -  | 2  | 5  | 7  | 8  | 7  | 7  | 7  | 7  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  |
| DU = 27  | 7*      | 5* | 4* | 3* | 2* | 1* | 1* | -  | 2  | 6  | 7  | 8  | 8  | 8  | 7  | 7  | 6  | 3  | 1  | 1  | -  | -  | -  | 7* |
| YB = 28  | 7*      | 6* | 5* | 2* | 1* | 1* | 1* | -  | 2  | 6  | 7  | 8  | 8  | 7  | 3  | 4  | 3  | 1  | -  | -  | -  | -  | -  | 3* |
| VK6 = 29 | 6*      | 4* | 3  | 1  | 1* | -  | -  | -  | 1  | 2  | 2  | 7* | 7* | 6* | 5* | 4* | 2* | 1* | 1* | -  | -  | -  | 1  | 5* |
| VK3 = 30 | 4       | 4  | 7  | 4  | 2  | 1  | -  | 1  | -  | 1  | 3* | 6* | 5* | 5* | 2* | 1* | 2* | 1* | -  | -  | -  | 2* | 4* | 5* |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 6  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 6  | 6  | 6* | 5* | 5  | 7  |
| KH8 = 32 | 8       | 8  | 7  | 7  | 7  | 7  | 6  | 3  | 1  | 5* | 6* | 5* | 4  | 1* | -  | -  | 2  | 7  | 7  | 7  | 7  | 7  | 6  | 7  |
| CN = 33  | 6       | 5  | 4  | 1  | -  | -  | -  | -  | 1  | 2  | 7  | 5  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  |
| SU = 34  | 8       | 7  | -  | -  | 1* | 2* | 1  | -  | 4  | 7  | 7  | 6  | 6  | 7  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | -       | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 5  | 1  | -  | -  | 1  | 5  | 9  | 9  | 9  | 8  | 5  | -  | -  |
| D2 = 36  | 4       | 1  | -  | -  | -  | 3* | 2* | -  | 2  | 7  | 8  | 8  | 8  | 9  | 7  | 8  | 9  | 9  | 9+ | 9  | 9  | 8  | 8  | 7  |
| 5Z = 37  | 2       | 1  | -  | 1* | 5* | 5* | 2* | -  | 4  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  |
| ZS6 = 38 | -       | -  | -  | -  | 2* | 4* | 2* | 1  | 5  | 8  | 7  | 8  | 9  | 9  | 8  | 9  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  |
| FR = 39  | -       | -  | 4* | 6* | 5* | 2* | 1* | 1  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 3* | 1* | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone            UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Nov., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 3   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 2  |
| VO2 = 02 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 6  | 6  | 6  | 7  | 5  | 4  | -  | -  | -  |
| W6 = 03  | 1   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| W9 = 04  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 3  | -  |
| W3 = 05  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 6  | 6  | 5  | 6  | 5  | 4  | 2* | -  |
| XE1 = 06 | 5   | -   | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 8  |
| TI = 07  | 2   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 1  | 5  | 7  | 7  | 7  | 5  |
| VP2 = 08 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | -  | 1* | 1* | 1* | 2* | 2  | 6  | 9  | 6  | 5  | 2  |
| P4 = 09  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | 2* | 3* | 4  | 6  | 5  | 5  | 2  |
| HC = 10  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 1* | 2* | 2* | 2* | 2* | 1  |
| PY1 = 11 | 4*  | 1*  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 3* | 5* | 6* | 8  | 7  | 5* |
| CE = 12  | 7   | 2   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| LU = 13  | 3*  | 1*  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 3* | 4* | 5* | 5* | 5* |
| G = 14   | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 8  | 7  | 7  | 7  | 8  | 5  | -  | -  | -  | -  | -  | -  |
| I = 15   | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 3  | 1  | 1  | 5  | 8  | 9  | 8  | 4  | -  | -  | -  | -  | -  |
| UA3 = 16 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -   | 2*  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -   | 1*  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 1   | 5   | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| 4X = 20  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 5  | 4  | 6  | 8  | 8  | 8  | 9  | 9  | 8  | 7  | 5  | 4  | -  |
| HZ = 21  | -   | -   | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | 2  | 3  | 2  | 5  | 7  | 8  | 7  | 8  | 8  | 8  | 7  | 5  | 2  | 2  | 1  |
| VU = 22  | -   | 2*  | 2* | 2  | 1* | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 4  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 5*  | 1*  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 8*  | 6*  | 5* | 2* | 2* | 1* | -  | -  | -  | -  | 1  | 3  | 6  | 6  | 6  | 7  | 5  | 4  | 3  | 2  | -  | -  | -  | -  | -  | 2* |
| JA1 = 25 | 8   | 8   | 5  | 5  | 7  | 4  | -  | -  | -  | -  | -  | 3* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  |
| HS = 26  | 5*  | 5*  | 3* | 2* | 2* | 1* | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 6  | 8  | 6  | 6  | 6  | 4  | 2  | -  | -  | -  | -  |
| DU = 27  | 5*  | 3*  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 5  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | 1  |
| YB = 28  | 5*  | 4*  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 2  | 1* | 2  | 1  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 4*  | 2*  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 6* | 6* | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | 2* |
| VK3 = 30 | 2*  | 1   | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 4* | 3* | 1* | 1* | 1* | 1* | -  | -  | -  | 1* | 2* | 2* |
| KH6 = 31 | 8   | 8   | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 4  | 6* | 5  | 6  | 8  |
| KH8 = 32 | 7   | 6   | 3  | 2  | 1  | 1  | 1  | -  | -  | -  | -  | 1* | 4* | 4* | 1* | -  | -  | -  | -  | 4  | 6  | 7  | 8  | 8  | 7  | 7  |
| CN = 33  | 1   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 4  | 4  | 7  | 8  | 8  | 9  | 9  | 9  | 6  | 4  | 1  | -  |
| SU = 34  | 5   | 1   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 5  | 4  | 5  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 9  | 8  | 7  |
| 6W = 35  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2  | 5  | 5  | 2  | -  | -  | -  |
| D2 = 36  | 1   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 4  | 4  | 6  | 9  | 7  | 7  | 9  | 9  | 8  | 6  | 6  | 5  | 3  |
| 5Z = 37  | -   | -   | -  | -  | 3* | 2* | 1* | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 1  |
| ZS6 = 38 | -   | -   | -  | -  | -  | 1* | -  | -  | -  | -  | 1  | 4  | 2  | 6  | 6  | 7  | 7  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  |
| FR = 39  | -   | -   | -  | 3* | 1* | -  | -  | -  | -  | -  | 1  | 2  | 6  | 4  | 5  | 5  | 6  | 6  | 4  | 4* | 2* | 1* | -  | -  | -  | -  |
| FJL = 40 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Dec., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | 2  | 3  | 4  | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 3       | 5  | 5  | 5  | 5  | 5  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W6 = 03  | -       | -  | -  | 4  | 4  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 2       | 5  | 5  | 5  | 5  | 4  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 3       | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 3  | 4  | 5  | 4  | 4  | 5  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 3       | 3  | 4  | 4  | 4  | 4  | 4  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 2       | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| P4 = 09  | 3       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 4       | 4  | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 5  | 1  | -  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| I = 15   | 4       | 4  | 4  | 4  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | 2       | 3  | 3  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | 2       | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 5  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| SU = 34  | 3       | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 6W = 35  | 4       | 4  | 4  | 4  | 4  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| D2 = 36  | 4       | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| 5Z = 37  | 5       | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| ZS6 = 38 | 5       | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  |
| FR = 39  | 4       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| FJL = 40 | 1       | 2  | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Dec., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | 2  | 5  | 6  | 7  | 7  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 6       | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| W6 = 03  | -       | 3  | 1  | 7  | 7  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 5       | 8  | 8  | 8  | 8  | 7  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W3 = 05  | 6       | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| XE1 = 06 | 3       | 6  | 7  | 8  | 7  | 7  | 8  | 6  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 6       | 6  | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VP2 = 08 | 5       | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| P4 = 09  | 6       | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| HC = 10  | 7       | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 3  | -  | -  | -  | -  | -  | 2  | 7  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 3  | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  | 9  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 4  | 1  | -  | -  | 1  | 3  | 7  | 9  | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| I = 15   | 7       | 7  | 7  | 7  | 7  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| UA3 = 16 | 5       | 6  | 6  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| UN = 17  | 2       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA9 = 18 | 4       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| HZ = 21  | 5       | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| VU = 22  | 2       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | 1  | 3  | 1  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| SU = 34  | 6       | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| 6W = 35  | 7       | 7  | 7  | 7  | 7  | 7  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| D2 = 36  | 7       | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| 5Z = 37  | 8       | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| FR = 39  | 7       | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| FJL = 40 | 4       | 5  | 4  | 4  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Dec., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 3  | 6  | 7  | 7  | 8  | 8  | 8  | 9  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| W6 = 03  | 2  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W9 = 04  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| W3 = 05  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| XE1 = 06 | 5  | 8  | 8  | 6  | 7  | 8  | 8  | 8  | 9  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| TI = 07  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| VP2 = 08 | 8  | 8  | 9  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  |
| P4 = 09  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| HC = 10  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 5  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 2  | 1  | 2  | 5  | 7  | 9  | 9  | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| I = 15   | 5  | 5  | 8  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 6  |
| UA3 = 16 | 7  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  |
| UN = 17  | 5  | 6  | 5  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 5  |
| UA9 = 18 | 7  | 7  | 6  | 6  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  |
| UA0 = 19 | 1  | 1  | -  | -  | -  | 1  | 1  | 2  | 2  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 8  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  |
| HZ = 21  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  |
| VU = 22  | 6  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 6  |
| JT = 23  | 6  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | 6  |
| VR2 = 24 | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  |
| HS = 26  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  |
| VK6 = 29 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 7  | 6  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 7  |
| SU = 34  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 8  |
| 5Z = 37  | 8  | 9  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 7  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 8  | 8  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| FR = 39  | 8  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 8  | 8  |
| FJL = 40 | 7  | 7  | 7  | 7  | 8  | 7  | 6  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Dec., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 5       | 6  | 7  | 8  | 6  | 4  | 4  | 5  | 6  | 6  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |    |
| VO2 = 02 | 8       | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  |
| W6 = 03  | 6       | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |    |
| W9 = 04  | 7       | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 6  |
| W3 = 05  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  |
| XE1 = 06 | 8       | 9  | 8  | 9  | 9  | 8  | 8  | 8  | 7  | 5  | 1  | 3  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 1  | 2  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 5  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 8  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 9  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 8  | 6  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 8  | 8  |
| I = 15   | 6       | 6  | 8  | 8  | 8  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 6  | 8  |
| UA3 = 16 | 7       | 8  | 8  | 7  | 6  | 6  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 7  |
| UN = 17  | 7       | 7  | 6  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 7  |
| UA9 = 18 | 5       | 2  | 2  | 5  | 5  | 5  | 3  | 2  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  | 6  |
| UA0 = 19 | 5       | 1  | 1  | 1  | 1  | 2  | 3  | 2  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 2  |    |
| 4X = 20  | 8       | 8  | 8  | 6  | 5  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 8  |
| HZ = 21  | 8       | 8  | 7  | 5  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 8  |
| VU = 22  | 4       | 1  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  |
| JT = 23  | 4       | 6  | 5  | 5  | 1  | 1  | 1  | -  | 1  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 4  |
| VR2 = 24 | 4       | 2  | -  | -  | -  | -  | -  | 1* | 1* | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 4* | 5  |
| JA1 = 25 | 2*      | -  | -  | -  | 2  | 4  | 5  | 4  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 6  | 4* |
| HS = 26  | 7       | 5  | 1  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| DU = 27  | 1       | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 2  | 2  |
| YB = 28  | 4       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 5  |
| VK6 = 29 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 4  | 2  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | 1  | 1  | 3  | 7  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | 1  | 4  | 6  | 7  | 8  | 8  | 8  | 7  | 6  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 3  | 5  | 7  | 8  | 8  | 8  | 7  | 7  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 9  | 8  | 6  | 4  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 8  | 5  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 9  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 8  | 8  |
| ZS6 = 38 | 9       | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  |
| FR = 39  | 8       | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 8  |
| FJL = 40 | 7       | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | 3  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 4  | 5  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 9  | 8  | 2  | 1* | 1* | -  | -  | 1  | 2  | 4  | 2  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | 8  | 5  | 7  | 8  |
| VO2 = 02 | 5       | 1  | 2  | 1  | 2  | 7  | 8  | 8  | 6  | 6  | 6  | 8  | 7  | 4  | 2  | 1  | 1  | 1  | 4  | 6  | 8  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 5  | -  | 3  | 3  | 1  | 1  | -  | -  | 1  | 4  | 3  | 5  | 8  |
| W9 = 04  | 9       | 8  | 4  | 4  | 5  | 6  | 8  | 8  | 8  | 8  | 7  | 4  | 8  | 5  | 2  | 1  | -  | 1  | 1  | 1  | 7  | 8  | 9  | 9  |
| W3 = 05  | 7       | 2  | -  | 2  | 3  | 7  | 8  | 8  | 7  | 6  | 7  | 8  | 8  | 5  | 2  | 1  | 1  | 1  | 1  | 4  | 7  | 8  | 9  | 9  |
| XE1 = 06 | 9+      | 9+ | 9+ | 9  | 9  | 9  | 9  | 7  | 5  | 1  | -  | -  | 3  | 6  | 2  | 4  | 4  | 3  | 2  | 2  | 5  | 7  | 8  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9  | 8  | 7  | 7  | 2  | -  | -  | 8  | 7  | 7  | 5  | 4  | 3  | 3  | 4  | 5  | 8  | 9  | 9  | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 3  | -  | -  | 9  | 9  | 8  | 6  | 4  | 3  | 3  | 4  | 5  | 7  | 9  | 9  | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9  | 7  | 7  | 7  | 1* | -  | 1  | 9  | 9  | 8  | 6  | 5  | 5  | 6  | 6  | 8  | 8  | 9  | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 8  | 3  | 5  | 5  | 1  | -  | 5  | 9  | 9  | 9  | 8  | 7  | 7  | 7  | 7  | 6  | 8  | 9  | 9  | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 5       | 4  | 6  | 8  | 8  | 5  | 2  | 7  | 9  | 9  | 7  | 9  | 2  | 1  | 1  | 1  | 2  | 4  | 7  | 8  | 8  | 6  | 5  | 5  |
| I = 15   | 9       | 9  | 9  | 9  | 6  | 1  | 5  | 8  | 8  | 6  | 4  | 4  | 1  | -  | 1  | 1  | 2  | 4  | 5  | 9  | 8  | 9  | 9  | 9  |
| UA3 = 16 | 5       | 5  | 6  | 5  | 3  | 2  | 6  | 7  | 7  | 7  | 4  | 4  | 1  | -  | -  | -  | 1  | 2  | 1  | 1  | 2  | 1  | 1  | 3  |
| UN = 17  | 7       | 4  | 5  | 8  | 8  | 7  | 6  | 4  | 4  | 6  | 6  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  |
| UA9 = 18 | 1*      | 1* | 2* | 3* | 5  | 7  | 8  | 6  | 6  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 2  | 1  |
| UA0 = 19 | 8       | 6  | 6  | 5  | 7  | 7  | 9  | 7  | 4* | 5* | 5* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 7  |
| 4X = 20  | 9       | 9  | 9  | 1  | -  | 8  | 9  | 7  | 5  | 2  | 1  | 1  | -  | -  | -  | 1  | 1  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 9  | 3  | 1* | 8  | 8  | 8  | 6  | 2  | 1  | -  | 1* | -  | -  | -  | 1  | 2  | 5  | 6  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  | 1*      | -  | 4  | 8  | 8  | 6  | 4  | 2  | 2* | 2* | 3* | 1* | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 7  | 8  | 8  | 7  |
| JT = 23  | 1*      | 2* | 5  | 7  | 5  | 4  | 7  | 6  | 7* | 7* | 5* | 5* | 1* | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  | 1  | 2* |
| VR2 = 24 | 9       | 7  | 7  | 3* | 1  | 3* | 5* | 6* | 8  | 7* | 8* | 6* | 4* | -  | -  | -  | 1  | 2  | 5  | 7  | 7  | 1  | 5* | 4  |
| JA1 = 25 | 8*      | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 7  | 5  | 5* | 2  | 1  | 1* | -  | -  | -  | -  | 1* | -  | 2  | 5  | 5  | 9* |
| HS = 26  | 9       | 9  | 8  | 6  | 2  | -  | 1* | 2* | 3* | 4* | 8  | 3* | 2* | 1  | 1  | 1  | 2  | 4  | 6  | 8  | 8  | 8  | 7  | 7  |
| DU = 27  | 6       | 5  | 1  | 1* | 1* | 2* | 2* | 5* | 7  | 6  | 6  | 5* | 3* | 1  | 1  | -  | 1  | 2  | 4  | 5  | 5  | 3  | 7  | 7  |
| YB = 28  | 8       | 7  | 5  | 2  | -  | -  | -  | -  | 2* | 8  | 7  | 2* | 1  | 1  | 1  | 1  | 2  | 3  | 6  | 7  | 8  | 8  | 8  | 9  |
| VK6 = 29 | 8       | 6  | 6  | 5  | 5  | 6  | 6  | 6  | 6  | 9  | 8  | 5  | 4  | 5  | 4  | 3  | 3  | 2  | 2  | 3  | 5  | 6  | 7  | 8  |
| VK3 = 30 | 5       | 5  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 4  | 2  | 1  | 2  | 3  | 4  | 4  | 5  | 5  | 5  |
| KH6 = 31 | 5       | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 6  | -  | -  | -  | 1  | -  | -  | 1* | 1* | -  | -  | 2  |
| KH8 = 32 | 2       | 3  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 6  | 4  | 1  | 1  | -  | 1* | 1* | -  | 1  | 1  |
| CN = 33  | 9       | 9  | 9  | 9  | 8  | -  | -  | 4  | 8  | 9  | 8  | 5  | 5  | 1  | 1  | 1  | 1  | 4  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| SU = 34  | 9       | 9  | 9  | 5  | -  | 8  | 9  | 8  | 6  | 3  | 1  | 1  | -  | -  | -  | -  | 2  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9  | 8  | 2  | 2* | 9  | 9  | 9  | 8  | 6  | 2  | 2  | 2  | 4  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| D2 = 36  | 9       | 9+ | 9+ | 9  | 7  | 7  | 8  | 8  | 8  | 7  | 5  | 5  | 4  | 3  | 2  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |
| 5Z = 37  | 9       | 9  | 8  | 7  | 8  | 9  | 9  | 7  | 5  | 2  | 1  | 1  | 1  | 1  | 1  | 2  | 4  | 6  | 8  | 8  | 8  | 9  | 9  | 9  |
| ZS6 = 38 | 9       | 8  | 6  | 8  | 8  | 9  | 9  | 8  | 8  | 7  | 7  | 5  | 4  | 5  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| FR = 39  | 8       | 7  | 7  | 8  | 9  | 8  | 7  | 6  | 4  | 2  | 2  | 1  | 2  | 2  | 2  | 3  | 5  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| FJL = 40 | -       | 1  | 1* | 2* | 1* | 2* | 2* | 1* | 2* | 4* | -  | 5  | 4  | 2  | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Dec., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 8  | 5* | 4* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 6  | 7  | 8  | 8  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | 4  | 2  | 1  | -  | -  | 6  | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 8  | 2  |
| W6 = 03  | 9       | 9  | 4  | -  | 2  | 1  | -  | 1  | 6  | 6  | 6  | -  | -  | -  | 8  | 7  | 6  | 6  | 9  | 8  | 5  | 7  | 8  | 9  |
| W9 = 04  | 5       | -  | -  | -  | -  | -  | -  | 5  | 3  | 3  | 1  | -  | 7  | 8  | 8  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | 2  | 5  | 1  | -  | 1  | 2  | 9  | 9  | 8  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 7  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 9  | 6  | 6  | 1  | -  | -  | -  | -  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 8  | 2  | -  | 2  | -  | -  | -  | -  | 9+ | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 6  | 9+ | 9+ | 9  | 7  | 6  | 7  | 9  | 8  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 9       | 9  | 9  | 8  | 6  | 7  | 3  | -  | 5* | 3* | 4  | 6  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9       | 9  | 9  | 9  | 7  | 3* | 2  | 2* | 4* | 5* | 2* | 2* | 4  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | -       | -  | -  | 1  | 4  | -  | -  | 1  | 8  | 9  | 9  | 8  | 8  | 6  | 6  | 6  | 6  | 8  | 8  | 4  | 1  | -  | -  | -  |
| I = 15   | 7       | 6  | 5  | 2  | 1  | -  | 2* | 6* | 8  | 8  | 7  | 7  | 8  | 5  | 5  | 4  | 5  | 6  | 9  | 9  | 9  | 8  | 7  | 7  |
| UA3 = 16 | -       | -  | -  | -  | 1* | 5* | 5* | 5* | 6  | 8  | 7  | 5  | 7  | 5  | 4  | 4  | 5  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 3* | 2* | 5  | 8  | 8  | 6  | 4* | 4* | 6* | 6* | 6  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| UA9 = 18 | 2*      | 2* | 3* | 3* | 3* | 4* | 5  | 6* | 8* | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 8       | 9  | 9  | 9  | 8  | 6  | 6  | 5* | 6* | 7* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7* |
| 4X = 20  | 9       | 9  | 4  | -  | 4* | 5  | 8  | 3  | 5  | 7  | 4  | 8  | 8  | 5  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 3  | -  | 5* | 4  | 9  | 7  | 4  | 5  | 6  | 5  | 8  | 8  | 3  | 3  | 5  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  | -       | 2* | 4* | 8  | 8  | 7  | 6  | 4  | 5  | 4  | 4  | 7* | 7  | 4  | 2  | 3  | 4  | 5  | 6  | 3  | 1  | 2  | 1  | -  |
| JT = 23  | 1*      | 4* | 3* | 5  | 8  | 8  | 6* | 7* | 8* | 8* | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| VR2 = 24 | 9       | 9  | 8  | 8  | 7  | 5  | 5  | 5  | 6  | 5  | 7* | 5  | 6  | 6  | 4  | 5  | 6  | 6  | 5  | 5  | 1  | -  | -  | 5* |
| JA1 = 25 | 9*      | 8  | 8  | 8  | 8  | 8  | 8  | 4  | 5* | 5* | 5* | 6* | 6* | 3* | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 9* |
| HS = 26  | 7       | 9  | 9  | 8  | 7  | 5  | 4  | 5  | 6  | 6  | 6  | 7  | 7  | 6  | 5  | 5  | 6  | 7  | 8  | 7  | 6  | 3  | -  | 1* |
| DU = 27  | 8       | 8  | 6  | 6  | 5  | 5  | 5  | 6  | 6  | 6  | 8* | 8  | 8  | 7  | 6  | 5  | 6  | 3  | -  | -  | -  | -  | -  | 8  |
| YB = 28  | 9       | 9  | 8  | 7  | 6  | 5  | 4  | 5  | 6  | 7  | 6  | 7  | 7  | 7  | 7  | 6  | 6  | 7  | 8  | 8  | 7  | 5  | 4  | 6  |
| VK6 = 29 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 7  | 6  | 4  | 2  | 1  | -  | 2* | 3* | 4* | 3* | 4* | 4* | 7  |
| VK3 = 30 | 8       | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | -  | -  | 1* | 2* | 2* | 2  | 6  | 7  | 7  | 8  |
| KH6 = 31 | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 5  | 7  | 6  | 4  | -  | -  | -  | 1  | 3  | 7  | 8  | 7  | 5  | 4  | 6  |
| KH8 = 32 | 5       | 7  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 6  | 4  | 6  | 7  | 8  | 5  | 3  | 4  |
| CN = 33  | 9       | 9  | 9  | 7  | 2  | -  | -  | 2* | 6  | 9  | 9  | 8  | 8  | 8  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9+ |
| SU = 34  | 9       | 9  | 8  | -  | 4* | 5  | 8  | 6  | 7  | 8  | 5  | 5  | 9  | 5  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9  | 7  | 3  | 1  | 1  | -  | -  | 3* | 9  | 9  | 9  | 9  | 6  | 6  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9+      | 9  | 6  | 5  | 3  | 5* | 5  | 6  | 7  | 7  | 7  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 8       | 7  | 4  | 3* | 5* | 9  | 8  | 8  | 8  | 7  | 5  | 7  | 7  | 7  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  |
| ZS6 = 38 | 5       | -  | -  | 2  | 5* | 7  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| FR = 39  | -       | 4* | 6* | 5  | 8  | 9  | 8  | 8  | 8  | 7  | 6  | 7  | 8  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 7  | 3* | 2* | 1  |
| FJL = 40 | -       | -  | -  | 1* | 2* | 4* | 4* | 5* | 4* | -  | -  | -  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Dec., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone         | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
|--------------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| KL7 = 01     | 8   | 6*  | 6* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 6  | 7  | 8  | 8  |  |
| VO2 = 02     | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 7  | 7  | 9  | 8  | 9  | 9  | 8  | 3  | -  |  |
| W6 = 03      | 9   | 5   | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  | -  | -  | 5  | 8  | 7  | 7  | 7  | 7  | 7  | 8  | 9  | 9  |  |
| W9 = 04      | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 6  |  |
| W3 = 05      | -   | -   | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 1  |  |
| XE1 = 06     | 9   | 9   | 7  | 7  | 3  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 9  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 9  |  |
| TI = 07      | 9+  | 8   | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 6  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |  |
| VP2 = 08     | 9+  | 9   | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 8  | 8  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |  |
| P4 = 09      | 9   | 7   | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 9  | 7  | 6  | 5  | 6  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |  |
| HC = 10      | 8   | 2   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 5  | 3  | 2  | 9  | 9  | 3  | 7  | 9  | 9+ | 9+ | 9+ |  |
| PY1 = 11     | 7   | 6   | 5  | 1  | -  | 1  | -  | -  | -  | -  | 4* | 3* | 2* | 1  | 2  | 4  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  |    |  |
| CE = 12      | 9+  | 9+  | 9+ | 9  | 9  | 9  | 8  | 5  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| LU = 13      | 7   | 7   | 5  | 4* | 4* | 3* | 1* | -  | 2* | 2* | 3* | 2* | 2* | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  | 8  | 6  | 5  | 6  |    |  |
| G = 14       | -   | -   | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 9  | 8  | 7  | 8  | 7  | 7  | 8  | 8  | 2  | -  | -  | -  | -  | -  | -  |  |
| I = 15       | 2   | 1   | -  | -  | -  | -  | 1* | 5* | 5  | 8  | 8  | 8  | 8  | 6  | 5  | 6  | 7  | 8  | 7  | 8  | 7  | 8  | 7  | 5  | 1  | -  |  |
| UA3 = 16     | -   | -   | -  | -  | -  | 2* | 6* | 5* | 4* | 7  | 8  | 8  | 7  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| UN = 17      | -   | 3*  | 5* | 5* | 5  | 8  | 4  | 2* | 2* | 6  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| UA9 = 18     | -   | 4*  | 4* | 5* | 4* | 4* | 5* | 8* | 5* | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| UA0 = 19     | 8*  | 8   | 9  | 6  | 4* | 4* | 4* | 5* | 6* | 5* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* |  |
| 4X = 20      | 9   | 7   | -  | -  | 2* | 5* | 6  | 2* | 1  | 7  | 6  | 6  | 7  | 6  | 5  | 6  | 6  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |  |
| HZ = 21      | 6   | -   | -  | 5* | 5* | 7  | 3  | 1  | 2  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |    |  |
| VU = 22      | -   | 4*  | 6* | 6* | 6  | 7  | 6  | 3  | 1  | 3  | 5  | 4  | 6* | 5  | 5  | 4  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  |  |
| JT = 23      | 5*  | 4*  | 4* | 4* | 6  | 6  | 5* | 6* | 8* | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| VR2 = 24     | 8*  | 9   | 8  | 7  | 5  | 4  | 3  | 4  | 5  | 6  | 6  | 7  | 7  | 7  | 6  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | 6* |  |
| JA1 = 25     | 9   | 9   | 8  | 7  | 5  | 2* | 3  | 2* | 5* | 5* | 6* | 5* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 8  |  |
| HS = 26      | 7*  | 8   | 8  | 7  | 5  | 3  | 2  | 2  | 5  | 5  | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  |  |
| DU = 27      | 8   | 8   | 7  | 6  | 4  | 3  | 4  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | 5* |  |
| YB = 28      | 8*  | 8   | 8  | 7  | 5  | 3  | 3  | 4  | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 6  | 5  | 4  | 1  | -  | -  | -  | 1* |  |
| VK6 = 29     | 6*  | 6   | 6  | 5  | -  | 6  | 5  | -  | 2  | 4  | 5  | 4* | 4* | 2* | 1* | 1* | 2* | 3* | 3* | 3* | 3* | 1* | 1* | 4* | 6* | 6* |  |
| VK3 = 30     | 7   | 7   | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 7  | 7  | 5* | 4* | 3* | 2* | 2* | 2* | 2* | 1* | 2  | 5  | 6  | 6  | 6  | 6  |  |
| KH6 = 31     | 8   | 8   | 9  | 9  | 9  | 9  | 7  | 4  | 1  | -  | 3  | 3  | 1  | -  | -  | -  | -  | 6  | 4  | 4  | 4  | 5* | 5  | 6  | 7  | 7  |  |
| KH8 = 32     | 7   | 8   | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 7  | 8  | 9  | 8  | 7  | 3  | 4  | 3  | 6  | 5  | 5  | 5  | 5  | 5  | 5  | 5  |  |
| CN = 33      | 9   | 8   | 5  | 1  | -  | -  | -  | -  | 5* | 6  | 8  | 7  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |  |
| SU = 34      | 9   | 9   | 1  | -  | -  | 5* | 6  | 2  | 4  | 7  | 7  | 6  | 7  | 7  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ |  |
| 6W = 35      | 6   | 2   | -  | -  | -  | -  | -  | -  | -  | 3* | 5  | 9  | 9  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 8  | 7  |  |
| D2 = 36      | 8   | 4   | 1  | 1  | -  | 5* | 5* | 2  | 5  | 8  | 9  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |  |
| 5Z = 37      | 2   | -   | -  | 1* | 5* | 6  | 5  | 6  | 7  | 8  | 8  | 7  | 8  | 6  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 6  |  |
| ZS6 = 38     | -   | -   | -  | -  | 5* | 2  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 7  | 4  | 4  | 2  |  |
| FR = 39      | -   | -   | 6* | 4* | 5  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 6  | 4* | 3* | -  | -  |  |
| FJL = 40     | -   | -   | -  | -  | 1* | 2* | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| Zone         | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
| * = Longpath |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Dec., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 5   | 5*  | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  | 8  | 8  |
| VO2 = 02 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | -  | -  | -  |
| W6 = 03  | 6   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| W9 = 04  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 6  | -  |
| W3 = 05  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 3* | -  |
| XE1 = 06 | 8   | 4   | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 6  | 6  | 8  | 8  | 9  | 8  | 9  | 9  | 9  |
| TI = 07  | 6   | 1   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 2  | 2  | 1  | 1  | 1  | 2  | 6  | 9  | 9  | 9  | 9  |
| VP2 = 08 | 7   | 2   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | 2  | 1  | 1  | 2  | 5  | 9  | 9+ | 9+ | 9+ | 9  |
| P4 = 09  | 4   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | -  | 1  | 2  | 7  | 9  | 9  | 9  | 8  |
| HC = 10  | 1   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 9  | 9  | 1  | 5  | 6  | 6  | 5  |
| PY1 = 11 | 5*  | 3*  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | 1* | 1* | 1  | 3  | 5  | 7  | 7  | 7  | 6  | 6* | 6* |
| CE = 12  | 9   | 9   | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| LU = 13  | 6*  | 6*  | 5* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | -  | -  | -  | 1  | 1  | 1  | 2* | 3* | 6* | 7* |
| G = 14   | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 2  | -  | -  | -  | -  | -  | -  |
| I = 15   | -   | -   | -  | -  | -  | -  | -  | -  | 1* | -  | 1  | 7  | 5  | 4* | 5  | 8  | 8  | 8  | 8  | 9  | 6  | -  | -  | -  | -  | -  |
| UA3 = 16 | -   | -   | -  | -  | -  | -  | 2* | 2* | 1* | 1* | 8  | 8  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -   | 1*  | 4* | 5* | 4* | 5  | 2* | 1* | -  | 1  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -   | 3*  | 5* | 6* | 3* | 2* | 4* | 5* | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 8*  | 5*  | 5  | 3* | 1* | -  | 1* | 2* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 5   | 2   | -  | -  | -  | 2* | 3* | 1* | -  | 3  | 6  | 5  | 4  | 5  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 7  | 7  | 7  |
| HZ = 21  | -   | -   | -  | -  | 5* | 2  | 1* | -  | -  | -  | 4  | 6  | 6  | 6  | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | 3  |
| VU = 22  | -   | -   | 5* | 2* | 1  | 2  | 1* | -  | 1  | 2  | 5  | 5  | 5  | 5  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 3*  | 7*  | 3* | 2* | 2  | 2  | 4* | 3* | 4* | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 8*  | 8   | 6  | 3  | -  | 1  | 1  | 1  | 4  | 5  | 7  | 7  | 7  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | 8   | 9   | 4  | 1  | -  | -  | -  | 1* | 2* | 5* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  |
| HS = 26  | 7*  | 5   | 6  | 2  | 1  | 1  | -  | 1  | 2  | 4  | 7  | 7  | 8  | 7  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | 8*  | 6   | 5  | 3  | 1  | 1  | 1  | 2  | 4  | 5  | 7  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | 6*  | 4*  | 5  | 4  | 1  | 1  | 1  | 1  | 3  | 6  | 7  | 8  | 8  | 7  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 6*  | 5*  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 5* | 5* | 5* | 4* | 4* | 3* | 2* | 1* | -  | -  | -  | -  | 1* | 4* | 4* |
| VK3 = 30 | 5*  | 2   | 6  | 5  | 5  | 6  | 5  | 2  | 5  | 3  | 6* | 6* | 5* | 2* | 1* | 3* | 2* | 1* | -  | -  | -  | -  | 2* | 2* | 5* | 5* |
| KH6 = 31 | 8   | 6   | 7  | 4  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 7  | 7  | 5* | 6  | 6  | 8  |
| KH8 = 32 | 8   | 7   | 7  | 7  | 8  | 7  | 8  | 6  | 2  | 1  | 5* | 5  | 5  | 2  | -  | -  | -  | -  | 4  | 7  | 8  | 8  | 7  | 7  | 7  | 7  |
| CN = 33  | 5   | 2   | -  | -  | -  | -  | -  | -  | 1* | 1* | 4  | 3* | 6  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 5  | 5  | 5  |
| SU = 34  | 8   | 5   | -  | -  | -  | -  | 2* | 1* | -  | 3  | 6  | 5  | 4  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | -   | -   | -  | -  | -  | -  | -  | -  | 1* | -  | 1  | -  | -  | 1  | 1  | 2  | 4  | 5  | 7  | 7  | 7  | 6  | 1  | -  | -  | -  |
| D2 = 36  | 2   | -   | -  | -  | -  | 1* | 2* | -  | 1  | 2  | 7  | 6  | 6  | 8  | 7  | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 5  |
| 5Z = 37  | -   | -   | -  | -  | 4* | 2* | 1  | 1  | 2  | 4  | 7  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | -  | -  |
| ZS6 = 38 | -   | -   | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2* | -  | -  | -  | -  |
| FR = 39  | -   | -   | -  | -  | -  | 2  | 1  | 2  | 4  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 5* | 4* | 1* | -  | -  | -  | -  | -  |
| FJL = 40 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Dec., Brazil (Porto Alegre), for SSN = Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 1   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 6  | 4  |    |
| VO2 = 02 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  | 6  | 6  | 5  | 1  | -  | -  | -  | -  |
| W6 = 03  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  | 8  | 8  | 8  | 9  | 9  | 5  |
| W9 = 04  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  | 8  | 7  | 6  | 6  | 5  | 2* | -  |
| W3 = 05  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 6  | 5  | 4  | 2  | 3* | 3* | 2* | 1* | -  |
| XE1 = 06 | 4   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  | 4  | 5  | 7  | 9  | 9  | 7  | 7  |
| TI = 07  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | 1* | 1* | 1  | 5  | 6  | 6  | 4  |
| VP2 = 08 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | 2* | 3* | 2* | 4  | 7  | 7  | 9  | 5  |
| P4 = 09  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 3* | 2* | 3* | 2* | 3  | 5  | 5  | 4  | 2  |
| HC = 10  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 9  | 9  | 1* | 1  | 1* | 1* |
| PY1 = 11 | 1*  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 2* | 5* | 6* | 6* | 5* | 2* |
| CE = 12  | 8   | 8   | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 7  | 9  | 9  | 9  | 9  | 9  | 8  | 7  |
| LU = 13  | 4*  | 2*  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | 1* | 2* | 4* | 3* | 4* | 5* | 5* |
| G = 14   | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 1  | 8  | 8  | 8  | 6  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -   | -   | 1* | 3* | -  | 1  | 1* | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -   | -   | 3* | 5* | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 2*  | 1*  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 1   | -   | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 2  | 2  | 1  | 4  | 7  | 8  | 8  | 8  | 7  | 5  | 5  | 4  | 1  | 2  |
| HZ = 21  | -   | -   | -  | -  | 1* | -  | -  | -  | 1* | -  | -  | -  | 1  | 2  | 3  | 6  | 8  | 8  | 8  | 8  | 7  | 4  | 2  | 1  | -  | -  |
| VU = 22  | -   | -   | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 1  | 5  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -   | 4*  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 4*  | 2   | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | 4   | 5   | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| HS = 26  | 2*  | 2*  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 5  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | 4*  | 2*  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 6  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | 1*  | 1*  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 4*  | 1*  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 2* | 4* | 4* | 3* | 2* | 1* | -  | -  | -  | -  | 2* |
| VK3 = 30 | 3*  | 1*  | 1  | 1  | 1  | 1  | 2  | 1  | -  | 1  | -  | -  | 4* | 4* | 4* | 2* | 2* | 1* | 2* | 1* | -  | -  | -  | -  | 1* | 3* |
| KH6 = 31 | 5   | 1   | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  | 8  | 8  | 7  |
| KH8 = 32 | 7   | 5   | 2  | 1  | 2  | 1  | 4  | 1  | -  | -  | -  | 1* | -  | 1  | -  | -  | -  | -  | -  | -  | 3  | 8  | 8  | 8  | 7  | 6  |
| CN = 33  | 1   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | 4  | 5  | 7  | 8  | 8  | 9  | 6  | 2  | -  | -  | -  |
| SU = 34  | 4   | -   | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 2  | 2  | 1  | 4  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  |
| 6W = 35  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | 2* | 2  | 2  | 1  | -  | -  | -  |
| D2 = 36  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 5  | 8  | 8  | 8  | 9  | 7  | 6  | 5  | 3  | 2  | 1  |
| 5Z = 37  | -   | -   | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 3  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 1  | -  |
| ZS6 = 38 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  |
| FR = 39  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 4  | 4  | 4  | 5  | 3  | 2* | 3* | 2* | -  | -  | -  | -  | -  |
| FJL = 40 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00  | 01  | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Jan., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | 3  | 3  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4       | 5  | 5  | 5  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | 1  | 4  | 5  | 5  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 5  | 5  | 5  | 5  | 3  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 2       | 5  | 4  | 5  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | 1       | 3  | 1  | 4  | 5  | 5  | 5  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 3       | 3  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 2       | 4  | 5  | 5  | 5  | 5  | 5  | 4  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| P4 = 09  | 1       | 4  | 5  | 5  | 5  | 5  | 5  | 4  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 2       | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | 2  | 5  | 6  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| I = 15   | 4       | 5  | 4  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | 2       | 3  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 4       | 4  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 3       | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VU = 22  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| SU = 34  | 4       | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| 6W = 35  | 4       | 4  | 3  | 4  | 3  | 4  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  |
| D2 = 36  | 4       | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  |
| 5Z = 37  | 5       | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| ZS6 = 38 | 5       | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| FR = 39  | 5       | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| FJL = 40 | -       | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Jan., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | 1  | 2  | 5  | 6  | 6  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| W6 = 03  | -       | 2  | 4  | 7  | 8  | 8  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 2       | 8  | 8  | 8  | 8  | 6  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W3 = 05  | 5       | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| XE1 = 06 | 4       | 6  | 4  | 7  | 8  | 8  | 8  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 6       | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| VP2 = 08 | 5       | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| P4 = 09  | 4       | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| HC = 10  | 5       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | -  | -  | -  | -  | 3  | 8  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 2  | 1  | -  | 1  | 5  | 8  | 9  | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| I = 15   | 7       | 8  | 7  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| UA3 = 16 | 5       | 6  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| UN = 17  | 3       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| UA9 = 18 | 2       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 7       | 7  | 7  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| HZ = 21  | 6       | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| VU = 22  | 4       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | 1  | 3  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 1  | 1  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |
| SU = 34  | 7       | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| 6W = 35  | 7       | 7  | 6  | 7  | 6  | 7  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| D2 = 36  | 7       | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| 5Z = 37  | 8       | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| ZS6 = 38 | 8       | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| FR = 39  | 8       | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  |
| FJL = 40 | 3       | 4  | 4  | 4  | 3  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Jan., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2       | 6  | 6  | 7  | 7  | 8  | 8  | 7  | 6  | 4  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8       | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| W6 = 03  | 2       | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 5       | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 7  | 8  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| W3 = 05  | 8       | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 7  |
| XE1 = 06 | 6       | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| TI = 07  | 8       | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| VP2 = 08 | 8       | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  |
| P4 = 09  | 8       | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 8  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 5  | 3  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 8  |
| I = 15   | 8       | 7  | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| UA3 = 16 | 8       | 8  | 8  | 8  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  |
| UN = 17  | 5       | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  |
| UA9 = 18 | 7       | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 6  |
| UA0 = 19 | 1       | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  |
| 4X = 20  | 8       | 8  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| HZ = 21  | 8       | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| VU = 22  | 6       | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  |
| JT = 23  | 6       | 6  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| VR2 = 24 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 3* | -  |
| HS = 26  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  |
| YB = 28  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | 1  | 3  | 6  | 8  | 8  | 8  | 6  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | 2  | 6  | 7  | 8  | 8  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 7  |
| SU = 34  | 8       | 8  | 8  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  |
| 5Z = 37  | 9       | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 8  | 9  |
| FR = 39  | 8       | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 8  |
| FJL = 40 | 7       | 8  | 8  | 8  | 7  | 7  | 5  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 5            | 6  | 7  | 6  | 5  | 3  | 4  | 5  | 7  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 5  |
| VO2 =   | 02 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 7  | 8  |
| W6 =    | 03 | 6            | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| W9 =    | 04 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  |
| W3 =    | 05 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| XE1 =   | 06 | 8            | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 6  | 6  | 1  | -  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| TI =    | 07 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | -  | -  | 6  | 2  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| VP2 =   | 08 | 9            | 9  | 9  | 9  | 9  | 8  | 8  | 5  | -  | -  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  |
| P4 =    | 09 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 1  | -  | 4  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  |
| HC =    | 10 | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 3  | 1  | 5  | 7  | 5  | 4  | 2  | 1  | -  | -  | -  | 1  | 3  | 5  | 7  | 9  |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 8            | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  |
| I =     | 15 | 8            | 8  | 8  | 8  | 7  | 7  | 7  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 6  | 7  | 8  |
| UA3 =   | 16 | 7            | 8  | 8  | 7  | 7  | 5  | 6  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 7  |
| UN =    | 17 | 7            | 6  | 6  | 6  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 6  | 5  |
| UA9 =   | 18 | 5            | 3  | 3  | 5  | 4  | 1  | 1  | 1  | 1  | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  |
| UA0 =   | 19 | 1            | 1  | 1  | 1  | 1  | 1  | 2  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 2  |
| 4X =    | 20 | 8            | 8  | 7  | 4  | 1  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| HZ =    | 21 | 8            | 7  | 4  | 2  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 7  | 8  |
| VU =    | 22 | 1            | 1  | 5  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 5  | 6  |
| JT =    | 23 | 4            | 6  | 5  | 1  | 1  | -  | 1  | 1  | 1  | 3  | 3* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  | 5  | 6  |
| VR2 =   | 24 | 4            | 1  | -  | -  | -  | -  | -  | 1* | 3* | 3* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 2  | 2* | 3  |
| JA1 =   | 25 | 2*           | -  | -  | -  | 1  | 2  | 6  | 6  | 6  | 6  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 6  | 4* |
| HS =    | 26 | 7            | 6  | 3  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 5  | 4  |
| DU =    | 27 | 1            | -  | -  | -  | -  | -  | -  | 1* | 2* | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | 4  | 2  |
| YB =    | 28 | 5            | 3  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 6  | 6  | 6  |
| VK6 =   | 29 | 3            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 4  | 5  | 4  |
| VK3 =   | 30 | -            | -  | -  | -  | -  | 1  | 2  | 6  | 5  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  | -  |
| KH6 =   | 31 | -            | 2  | 5  | 6  | 7  | 7  | 7  | 8  | 7  | 6  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | -  | 1  | 4  | 6  | 7  | 8  | 8  | 8  | 8  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 8            | 8  | 8  | 8  | 8  | 6  | 1  | 5  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 7  | 8  | 8  |
| SU =    | 34 | 8            | 7  | 7  | 5  | 2  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 8  |
| 6W =    | 35 | 9            | 9  | 9  | 9  | 9  | 8  | 2  | 1  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  |
| D2 =    | 36 | 9            | 9  | 9  | 9  | 8  | 6  | 8  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 9  | 9  |
| 5Z =    | 37 | 9            | 8  | 8  | 6  | 7  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| ZS6 =   | 38 | 8            | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 8  | 8  |
| FR =    | 39 | 7            | 6  | 6  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 5  | 6  |
| FJL =   | 40 | 6            | 6  | 6  | 5  | 5  | 2  | -  | -  | 1  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 8  | 7  | 2  | 2* | 2* | -  | -  | 2  | 2  | 4  | 2  | -  | -  | -  | 1  | 1  | 1  | 5  | 5  | 6  | 7  |    |    |
| VO2 = 02 | 5       | -  | 1  | 1  | 2  | 6  | 7  | 4  | 2  | 4  | 2  | 8  | 7  | 5  | 3  | 2  | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 8  | 8  | 8  | 7  | 8  | 7  | 4  | 2  | 4  | 6  | -  | -  | 5  | 1  | 1  | 1  | -  | -  | -  | 2  | 4  | 8  |
| W9 = 04  | 8       | 4  | 1  | 3  | 3  | 5  | 8  | 6  | 3  | 2  | 6  | 4  | 8  | 6  | 3  | 2  | 1  | 1  | 2  | 2  | 6  | 8  | 9  | 9  |
| W3 = 05  | 6       | 1  | -  | 3  | 4  | 6  | 7  | 4  | 1  | 1  | 5  | 7  | 8  | 6  | 3  | 2  | 2  | 1  | 3  | 4  | 8  | 9  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 8  | 7  | 7  | 6  | 5  | 3  | 1  | 1  | -  | -  | -  | 7  | 4  | 5  | 4  | 3  | 3  | 4  | 5  | 8  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9  | 5  | 2  | 1  | 1* | 1* | -  | -  | 8  | 7  | 7  | 6  | 6  | 6  | 4  | 5  | 8  | 9  | 9  | 9+ |
| VP2 = 08 | 9+      | 9+ | 9  | 8  | 6  | 2  | 2  | -  | -  | -  | -  | 9  | 8  | 7  | 6  | 6  | 6  | 6  | 7  | 9  | 9  | 9+ | 9+ |    |
| P4 = 09  | 9+      | 9+ | 9+ | 9  | 9  | 4  | 2  | -  | -  | -  | -  | 9  | 9  | 8  | 7  | 6  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9  | 7  | 1  | -  | 1* | 2* | 1* | -  | 8  | 9  | 9  | 9  | 8  | 5  | 6  | 6  | 7  | 8  | 9  | 9+ | 9+ |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7       | 6  | 8  | 9  | 9  | 6  | 2  | 2* | 5  | 8  | 7  | 8  | 2  | 1  | 1  | 1  | 1  | 4  | 6  | 8  | 8  | 8  | 6  | 6  |
| I = 15   | 9       | 9  | 9  | 9  | 8  | 2  | 3  | 1  | 5  | 7  | 4  | 2  | 1  | 1  | -  | 1  | 1  | 3  | 6  | 8  | 8  | 8  | 8  | 8  |
| UA3 = 16 | 6       | 6  | 6  | 5  | 2  | 1  | 2  | 2* | 2  | 5  | 5  | 8  | 1  | -  | -  | -  | 1  | 2  | 2  | 1  | 3  | 3  | 3  | 4  |
| UN = 17  | 7       | 4  | 5  | 8  | 7  | 6  | 1  | 2* | 2* | 3  | 6  | 8  | 3* | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  |
| UA9 = 18 | 2*      | 1* | 2* | 3* | 4  | 5  | 4* | 3* | 4* | 5  | 7* | 5* | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 3  | 1  |
| UA0 = 19 | 7       | 6  | 5  | 4  | 7  | 6  | 7  | 5  | 5* | 5* | 5* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 8  |    |
| 4X = 20  | 8       | 8  | 4  | 1* | 1* | 4  | 7  | 1* | 1  | 4  | 1  | 1  | -  | -  | -  | 1  | 1  | 4  | 7  | 8  | 8  | 9  | 9  | 9  |
| HZ = 21  | 7       | -  | -  | 1* | 4  | 7  | 4  | 2  | 2  | 3  | -  | 1* | -  | -  | -  | 1  | 1  | 5  | 6  | 8  | 8  | 9  | 9  | 9  |
| VU = 22  | 1*      | 1* | 2* | 8  | 6  | 5  | 2  | 1  | 1  | 1* | 2* | 8  | 3* | -  | -  | -  | 1  | 3  | 5  | 4  | 2  | 3  | 2  | -  |
| JT = 23  | 1*      | 2* | 5  | 8  | 6  | 5  | 3* | 5* | 5* | 6* | 8* | 6* | 3* | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 2  | 2* |
| VR2 = 24 | 8       | 8  | 7  | 5  | 2  | 2* | 2* | 2  | 8  | 6  | 5  | 7  | 4* | 1* | -  | 1  | 1  | 4  | 2  | 2  | 1  | -  | 1* | 3* |
| JA1 = 25 | 8*      | 6* | 6  | 7  | 8  | 8  | 7  | 5  | 4* | 5* | 6  | 6* | 2  | 1* | -  | -  | -  | -  | -  | 5  | 5  | 5  | 8* |    |
| HS = 26  | 6       | 9  | 8  | 6  | 2  | -  | -  | 1  | 1  | 8  | 7  | 8  | 2* | 1  | 1  | 2  | 2  | 5  | 6  | 5  | 4  | -  | -  | 1* |
| DU = 27  | 7       | 7  | 3  | 2* | 1* | 1* | 2* | 3  | 7  | 6  | 6  | 6* | 3  | 2  | 2  | 1  | 2  | 2  | -  | -  | -  | -  | 1* | 8  |
| YB = 28  | 8       | 8  | 6  | 4  | 1  | -  | -  | 1  | 2  | 7  | 6  | 7  | 3  | 3  | 2  | 2  | 3  | 5  | 6  | 6  | 5  | 2  | 2  | 7  |
| VK6 = 29 | 8       | 8  | 7  | 7  | 6  | 6  | 5  | 6  | 7  | 8  | 7  | 6  | 5  | 6  | 5  | 4  | 4  | 3  | 1  | 1  | 4  | 6  | 7  | 8  |
| VK3 = 30 | 7       | 5  | 7  | 7  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  | 6  | 6  |
| KH6 = 31 | 5       | 7  | 9  | 9  | 9  | 9  | 9  | 7  | 2  | 1  | 3  | 7  | 5  | -  | -  | -  | 1  | 1  | -  | 1* | 1* | -  | -  | 2  |
| KH8 = 32 | 2       | 5  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 7  | 4  | 1  | 3  | 1  | 1  | 1  | 1  | 1  | 1  | 1  |
| CN = 33  | 9       | 8  | 8  | 9  | 8  | -  | -  | 3* | 4  | 8  | 8  | 6  | 5  | 2  | 4  | 4  | 2  | 5  | 6  | 8  | 9  | 9  | 9  | 9  |
| SU = 34  | 9       | 9  | 2  | -  | 2* | 4  | 6  | 2  | 4  | 5  | 1  | 1  | 1  | -  | -  | 1  | 1  | 4  | 7  | 8  | 8  | 9  | 9  | 9  |
| 6W = 35  | 9       | 9+ | 9  | 9  | 6  | 1  | -  | 2* | 1  | 9  | 9  | 8  | 6  | 5  | 4  | 4  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9       | 9  | 7  | 6  | 4  | 2* | 4  | 5  | 6  | 6  | 6  | 5  | 5  | 4  | 4  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ |
| 5Z = 37  | 7       | 4  | 4  | 2* | 4  | 8  | 8  | 7  | 7  | 3  | 2  | 2  | 3  | 3  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| ZS6 = 38 | 8       | 5  | -  | 3  | 4  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| FR = 39  | -       | 1* | 3* | 5  | 9  | 8  | 7  | 7  | 6  | 5  | 3  | 2  | 4  | 2  | 3  | 4  | 5  | 6  | 7  | 6  | 2  | 1* | 1* | 1* |
| FJL = 40 | -       | -  | 1* | 2* | 2* | 1* | 2* | 1* | 3* | 4* | 2  | 5  | 4  | 1  | 1  | 2  | 1  | 2  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Jan., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 7  | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 5  | 6  | 7  | 8  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 1  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 1  |
| W6 = 03  | 9       | 6  | 1* | -  | -  | -  | 2  | -  | -  | -  | -  | 1  | -  | -  | 4  | 7  | 7  | 7  | 8  | 8  | 6  | 7  | 8  | 9  |
| W9 = 04  | 1       | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 1  | -  | 3  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 1  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 7  |
| XE1 = 06 | 9       | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 9  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 4  | 4  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+      | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 5  | 3  | 3  | 5  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 5  | 2  | 2  | 4  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 9       | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 5  | 9  | 9  | 9  | 6  | 7  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 | 9       | 9  | 9  | 8  | 6  | 3  | 1  | 2  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9       | 9  | 8  | 5  | 1  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9  | 9  | 9  |
| G = 14   | -       | -  | -  | 2  | 5  | 1  | -  | -  | 1* | 2  | 8  | 8  | 8  | 8  | 6  | 7  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  |
| I = 15   | 3       | 4  | 5  | 4  | 2  | -  | 1* | 1* | -  | 4  | 8  | 7  | 7  | 9  | 6  | 6  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | 1* | 5* | 2* | 1* | -  | 1  | 6  | 7  | 6  | 8  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 3* | 2* | 3  | 4* | 3  | 1* | 1* | -  | -  | 4  | 6  | 6  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| UA9 = 18 | 1*      | 4* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 3* | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 7       | 9  | 9  | 8  | 6  | 1  | 1  | 1* | 3* | 7* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6* |
| 4X = 20  | 2       | 1  | -  | -  | 4* | 2* | 1  | -  | -  | 1  | 7  | 7  | 8  | 9  | 5  | 6  | 5  | 7  | 8  | 8  | 7  | 6  | 8  | 7  |
| HZ = 21  | -       | -  | -  | 3* | 3* | 2* | 2* | -  | -  | 3  | 5  | 7  | 7  | 8  | 5  | 4  | 6  | 8  | 8  | 8  | 6  | 5  | 2  | 2  |
| VU = 22  | -       | 3* | 3* | 6  | 2* | 2* | 1* | -  | 1  | 4  | 5  | 5  | 5  | 5  | 5  | 2  | 4  | 1  | 1  | -  | -  | -  | -  | -  |
| JT = 23  | 4*      | 2* | 2* | 5  | 4* | 3* | 3* | 2* | 2* | 3* | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 7*      | 8  | 6  | 5* | 3* | 1  | -  | 1  | 3  | 6  | 5  | 5  | 6  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 6* |
| JA1 = 25 | 8       | 8  | 7  | 8  | 7  | 2  | 1  | -  | 2* | 6* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8* |
| HS = 26  | 7*      | 8  | 5  | 4* | 2* | 1  | -  | -  | 2  | 6  | 6  | 6  | 6  | 7  | 7  | 7  | 7  | 6  | 1  | -  | -  | -  | -  | -  |
| DU = 27  | 8       | 7  | 6  | 5* | 2* | 1  | 1  | 1  | 4  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | 7* |
| YB = 28  | 8*      | 9  | 7  | 4  | 1  | 1  | 1  | 1  | 4  | 6  | 6  | 7  | 8  | 8  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | 1* |
| VK6 = 29 | 8       | 8  | 8  | 6  | 2  | 1  | 2  | 2  | 5  | 8  | 8  | 8  | 8  | 6  | 3  | 2* | 2* | 3* | 2* | -  | 1  | 4  | 8  | 8  |
| VK3 = 30 | 8       | 8  | 8  | 8  | 8  | 7  | 7  | 4  | 4  | 6  | 7  | 7  | 5* | 3* | 1* | 1* | 1* | 1* | 1* | 1* | 4  | 7  | 8  | 8  |
| KH6 = 31 | 7       | 8  | 8  | 8  | 8  | 7  | 6  | 1  | -  | -  | -  | 3  | 2  | -  | -  | -  | -  | 6  | 7  | 6  | 6  | 4* | 5  | 7  |
| KH8 = 32 | 6       | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 4  | 4  | 4* | 6  | 8  | 4  | -  | -  | -  | 5  | 7  | 5  | 7  | 6  | 4  | 5  |
| CN = 33  | 5       | 2  | 2  | 3  | 2  | -  | -  | 1* | -  | 1  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 6  |
| SU = 34  | 5       | 2  | -  | -  | -  | 5* | 1* | -  | -  | 5  | 6  | 5  | 8  | 9  | 5  | 6  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 8  |
| 6W = 35  | 5       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 5  | 5  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9  | 8  |
| D2 = 36  | 5       | 1  | -  | 1  | -  | 4* | 2* | -  | 2  | 7  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| 5Z = 37  | -       | -  | -  | 1* | 4* | 4* | 2  | 2  | 5  | 8  | 7  | 7  | 9  | 9  | 8  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 1  |
| ZS6 = 38 | -       | -  | -  | -  | 4* | 1  | 2  | 4  | 7  | 8  | 9  | 9  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 5  | 2  | -  |
| FR = 39  | -       | -  | 5* | 4* | 2* | 4  | 2  | 3  | 6  | 7  | 8  | 7  | 8  | 8  | 8  | 7  | 5  | 2  | 3* | 4* | 2* | -  | -  | -  |
| FJL = 40 | -       | -  | -  | 1* | 2* | 1* | 1* | 1* | 2* | -  | -  | -  | 4  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Jan., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone         | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
|--------------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| KL7 = 01     | 8   | 3   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 7  | 8  | 8  | 8  | 8  |  |
| VO2 = 02     | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 7  | 7  | 7  | 8  | 9  | 8  | 8  | 5  | 1  | -  |  |
| W6 = 03      | 7   | 2*  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  |  |
| W9 = 04      | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 8  | 3  |  |
| W3 = 05      | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | -  |  |
| XE1 = 06     | 8   | 1   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 6  | 6  | 6  | 8  | 9  | 8  | 9  | 9  | 9  |  |
| TI = 07      | 8   | 7   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 2  | -  | -  | -  | 2  | 8  | 9  | 9+ | 9+ | 9+ |  |
| VP2 = 08     | 6   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 3  | 1* | -  | -  | 1  | 4  | 9  | 9+ | 9+ | 9+ | 9+ |  |
| P4 = 09      | 9   | 2   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 1  | 2* | -  | -  | -  | 1  | 7  | 9+ | 9+ | 9+ | 9  |  |
| HC = 10      | 4   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 9  | 8  | 8  | 9  | 1  | 6  | 8  | 8  | 8  |  |
| PY1 = 11     | 8   | 7   | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  |  |
| CE = 12      | 9   | 9   | 9  | 9  | 8  | 7  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| LU = 13      | 7   | 5   | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | 1  | 1  | 4  | 6  | 6  | 7  | 8  | 7  |  |
| G = 14       | -   | -   | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 8  | 7  | 5  | 7  | 8  | 8  | 5  | -  | -  | -  | -  | -  |  |
| I = 15       | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 5  | 5  | 7  | 7  | 8  | 8  | 4  | -  | -  | -  | -  | -  |  |
| UA3 = 16     | -   | -   | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | 3  | 8  | 7  | 5  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  |  |
| UN = 17      | -   | 2*  | 1* | 1* | -  | -  | -  | 1* | -  | -  | -  | -  | 6  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| UA9 = 18     | -   | 4*  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| UA0 = 19     | 5*  | 8   | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| 4X = 20      | -   | -   | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 5  | 5  | 6  | 5  | 7  | 8  | 7  | 4  | 1  | -  | 1  | 2  |  |
| HZ = 21      | -   | -   | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | 4  | 5  | 5  | 8  | 6  | 6  | 7  | 8  | 8  | 7  | 2  | -  | -  | -  |  |
| VU = 22      | -   | -   | 2* | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  |  |
| JT = 23      | 5*  | 2*  | 1* | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| VR2 = 24     | 8*  | 5*  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 7  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |  |
| JA1 = 25     | 9   | 7   | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | 3* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  |  |
| HS = 26      | 6*  | 5   | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 7  | 6  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  |  |
| DU = 27      | 8*  | 6*  | 3* | 1* | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | 1* |  |
| YB = 28      | 7*  | 6*  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  |  |
| VK6 = 29     | 6*  | 5   | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 6* | 6* | 5* | 4* | 3* | 2* | 2* | 1* | 1* | -  | -  | -  | 3* |  |
| VK3 = 30     | 4   | 2   | 1  | 3  | 1  | -  | 1  | -  | -  | -  | 1  | -  | 5* | 4* | 2* | 1* | 1* | 1* | -  | -  | -  | -  | -  | 2* | 4  | 4  |  |
| KH6 = 31     | 8   | 6   | 1  | 2  | 1  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 5  | 5* | 5* | 6  | 7  |  |
| KH8 = 32     | 6   | 7   | 5  | 5  | 6  | 5  | 6  | 6  | 2  | -  | -  | 4* | -  | 2  | -  | -  | -  | -  | -  | 1  | 7  | 7  | 7  | 5  | 5  | 7  |  |
| CN = 33      | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 7  | 8  | 8  | 9  | 8  | 9  | 8  | 9  | 7  | 3  | 1  | -  |  |
| SU = 34      | -   | -   | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | 6  | 6  | 5  | 5  | 6  | 7  | 7  | 8  | 9  | 8  | 8  | 8  | 8  | 5  | 1  |  |
| 6W = 35      | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | -  | 1  | 1  | 2  | 5  | 9  | 9  | 9  | 9  | 9  | 7  | 2  | -  |  |
| D2 = 36      | -   | -   | -  | -  | -  | 1* | 1* | -  | -  | -  | 1  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 6  | 5  | 2  |  |
| 5Z = 37      | -   | -   | -  | -  | 1* | -  | -  | -  | -  | -  | 2  | 8  | 8  | 8  | 8  | 8  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 1  | -  |  |
| ZS6 = 38     | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  |  |
| FR = 39      | -   | -   | -  | 1* | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 8  | 7  | 4  | 2* | 2* | 2* | 1* | -  | -  | -  | -  |  |
| FJL = 40     | -   | -   | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| Zone         | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
| * = Longpath |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 3       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 5  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 6  | 5  | 6  | 6  | 2  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 8  | 8  | 6  | 5  | -  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 6  | 5  | 6  | 6  | 6  | 4  | 2* | -  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 5  | 4  | 3  | 3  | 3  | 1  | 2* | 1* | -  |
| XE1 = 06 | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | 2  | 5  | 7  | 9  | 9  | 9  | 8  |
| TI = 07  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 1  | 6  | 7  | 7  | 5  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 3  | 7  | 9  | 7  | 7  |
| P4 = 09  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 1  | 5  | 7  | 6  | 3  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 6  | 5  | 5  | 7  | 1* | -  | 2  | 2  | 1  |
| PY1 = 11 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 2  | 3* | 4  | 6* | 6* | 4  | 4  |
| CE = 12  | 9       | 8  | 8  | 6  | 3  | -  | -  | -  | 1  | 2  | 4  | 6  | 7  | 8  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  |
| LU = 13  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 4* | 5* | 5* | 3* |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 4  | 3  | 2  | 6  | 2  | -  | -  | -  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 1  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 2  | 4  | 7  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 3  | 5  | 7  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | 5  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 4*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | 6       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| HS = 26  | -       | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  | 5  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | 4*      | 3* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | 1*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5* | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 4*      | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 4* | 3* | 2* | 2* | 1* | 1* | -  | -  | -  | -  | 1* |
| VK3 = 30 | 3*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1* | 1* |
| KH6 = 31 | 5       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 7  | 7  | 8  | 8  | 7  |
| KH8 = 32 | 4       | 3  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 8  | 8  | 8  | 7  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 1  | 4  | 7  | 8  | 9  | 8  | 8  | 6  | 2  | 1  | -  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 4  | -  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | 4  | 8  | 7  | 7  | 8  | 8  | 5  | 2  | 1  | -  | -  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 4  | 6  | 8  | 8  | 8  | 7  | 7  | 7  | 5  | 2  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 4  | 3  | 2* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



10 Meters: Jan., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 1  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | -  | -  | -  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | 1* | -  | 1* | 1* | -  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | 1* | -  | -  |
| XE1 = 06 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  | 4  |
| TI = 07  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | -  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1  | 2  | 1  | -  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 2  | -  | -  | -  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 3* | 4* | 4* | -  | -  |
| CE = 12  | 7       | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 3  | 3  | 5  | 7  | 9  | 9  | 8  | 8  | 8  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | 4* | 1* | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 2* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  | 7  | 7  | 5  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  | 6  | 3  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 4  | -  | -  | -  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  | 6  | 1  | -  | -  | -  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  |
| SZ = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 4  | 2  | 2  | 2  | 1  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Feb., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | 2  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4       | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | 1  | 3  | 4  | 4  | 3  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 1       | 4  | 5  | 5  | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 2       | 5  | 4  | 5  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 3  | 2  | 5  | 5  | 5  | 4  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 1       | 3  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 2       | 4  | 4  | 5  | 5  | 5  | 5  | 4  | 3  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| P4 = 09  | 2       | 4  | 4  | 4  | 4  | 5  | 5  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 5       | 3  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | 1  | 5  | 9  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 5  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| I = 15   | 4       | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | 2       | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HZ = 21  | 2       | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 1  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 5  | 5  | 5  | 3  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| SU = 34  | 4       | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| 6W = 35  | 4       | 3  | 3  | 4  | 4  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| D2 = 36  | 3       | 4  | 4  | 4  | 3  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| 5Z = 37  | 5       | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| ZS6 = 38 | 5       | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| FR = 39  | 5       | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| FJL = 40 | -       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Feb., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | 1  | 2  | 3  | 5  | 5  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 = 03  | -       | 1  | 4  | 6  | 7  | 7  | 6  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 4       | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W3 = 05  | 5       | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| XE1 = 06 | 3       | 6  | 5  | 8  | 8  | 8  | 7  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 4       | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| VP2 = 08 | 5       | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| P4 = 09  | 5       | 7  | 7  | 7  | 7  | 8  | 8  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| HC = 10  | 8       | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | -  | -  | -  | -  | 3  | 8  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 2  | -  | -  | 1  | 4  | 8  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 7  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| I = 15   | 7       | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| UA3 = 16 | 5       | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| UN = 17  | 2       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| UA9 = 18 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| HZ = 21  | 5       | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| VU = 22  | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | 1  | 2  | 1  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 6  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| SU = 34  | 7       | 7  | 7  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| 6W = 35  | 7       | 6  | 6  | 7  | 7  | 7  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 6  |
| D2 = 36  | 6       | 7  | 7  | 7  | 6  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 6  |
| 5Z = 37  | 8       | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 3  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  |
| FR = 39  | 8       | 8  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| FJL = 40 | 3       | 4  | 4  | 3  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Feb., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 1            | 4  | 6  | 7  | 7  | 8  | 9  | 9  | 8  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 =   | 02 | 8            | 9  | 9  | 8  | 8  | 9  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  |
| W6 =    | 03 | 2            | 3  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 =    | 04 | 6            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  |
| W3 =    | 05 | 7            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| XE1 =   | 06 | 3            | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| TI =    | 07 | 8            | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| VP2 =   | 08 | 7            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| P4 =    | 09 | 8            | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  |
| HC =    | 10 | 8            | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 6  |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 4  | 3  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 7            | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 6  | 8  |
| I =     | 15 | 8            | 8  | 8  | 8  | 8  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| UA3 =   | 16 | 6            | 7  | 7  | 7  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  |
| UN =    | 17 | 5            | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 2  | 2  |
| UA9 =   | 18 | 6            | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  |
| UA0 =   | 19 | -            | -  | -  | -  | -  | -  | 1  | 1  | 4  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X =    | 20 | 7            | 7  | 7  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| HZ =    | 21 | 8            | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 8  |
| VU =    | 22 | 6            | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 6  | 6  |
| JT =    | 23 | 5            | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  |
| VR2 =   | 24 | 1            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  |
| JA1 =   | 25 | -            | -  | -  | -  | -  | -  | -  | 2  | 5  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  |
| HS =    | 26 | 5            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  |
| DU =    | 27 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | -  |
| YB =    | 28 | 1            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  |
| VK6 =   | 29 | 1            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  | 1  |
| VK3 =   | 30 | -            | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 =   | 31 | -            | -  | 1  | 3  | 6  | 7  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | -  | -  | 1  | 3  | 6  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 8            | 8  | 8  | 8  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 8  |
| SU =    | 34 | 8            | 8  | 7  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| 6W =    | 35 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  | 9  |
| D2 =    | 36 | 9            | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  | 9  |
| 5Z =    | 37 | 8            | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  |
| ZS6 =   | 38 | 9            | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  |
| FR =    | 39 | 8            | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| FJL =   | 40 | 7            | 7  | 7  | 7  | 6  | 6  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Feb., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 6            | 6  | 6  | 6  | 6  | 5  | 5  | 5  | 6  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| VO2 =   | 02 | 8            | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 7  | 8  |
| W6 =    | 03 | 4            | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| W9 =    | 04 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 7  |
| W3 =    | 05 | 8            | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  |
| XE1 =   | 06 | 8            | 8  | 7  | 9  | 8  | 8  | 8  | 8  | 7  | 6  | 1  | -  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| TI =    | 07 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 1  | 1  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| VP2 =   | 08 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 1  | -  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  |
| P4 =    | 09 | 9            | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 4  | -  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  |
| HC =    | 10 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 8  | 7  | 4  | 3  | 1  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 8  |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9  | 9  | 8  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 8            | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  |
| I =     | 15 | 8            | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 6  | 6  | 5  |
| UA3 =   | 16 | 7            | 8  | 7  | 6  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  | 7  |
| UN =    | 17 | 7            | 6  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  | 7  |
| UA9 =   | 18 | 3            | 1  | 2  | 4  | 4  | -  | -  | 1  | 1  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  |
| UA0 =   | 19 | 1            | 1  | 1  | 1  | -  | -  | 1  | 1  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 3  | 4  |
| 4X =    | 20 | 8            | 8  | 8  | 7  | 2  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 8  |
| HZ =    | 21 | 8            | 8  | 7  | 4  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| VU =    | 22 | 4            | 2  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 6  | 6  |
| JT =    | 23 | 3            | 5  | 5  | 1  | -  | -  | -  | -  | 1* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 5  | 3  |
| VR2 =   | 24 | 4            | 1  | -  | -  | -  | -  | -  | -  | 1* | 3* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 5  | 2* | 4  |
| JA1 =   | 25 | -            | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  | 4* | 4* |
| HS =    | 26 | 7            | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  | 6  | 4  |
| DU =    | 27 | 1            | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 2  | 5  | 3  |
| YB =    | 28 | 6            | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  | 6  |
| VK6 =   | 29 | 4            | 3  | 1  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 1  | 1  | -  | -  | -  | -  | -  | 2  | 3  | 4  | 5  | 5  | 5  |
| VK3 =   | 30 | 1            | -  | 1  | 1  | 1  | 2  | 4  | 5  | 7  | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 1  | 2  | 1  |
| KH6 =   | 31 | -            | 1  | 4  | 6  | 7  | 8  | 8  | 7  | 7  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | -  | 1  | 4  | 6  | 7  | 8  | 8  | 8  | 7  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 7            | 7  | 9  | 9  | 8  | 8  | 5  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 7  | 8  | 8  |
| SU =    | 34 | 8            | 8  | 8  | 8  | 2  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 8  |
| 6W =    | 35 | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  |
| D2 =    | 36 | 9            | 9  | 9  | 9  | 8  | 5  | 8  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  |
| 5Z =    | 37 | 8            | 8  | 8  | 6  | 7  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 7  | 8  | 8  |
| ZS6 =   | 38 | 8            | 8  | 8  | 8  | 7  | 8  | 8  | 7  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  | 8  |
| FR =    | 39 | 8            | 7  | 6  | 8  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 7  | 7  | 7  |
| FJL =   | 40 | 2            | 3  | 3  | 2  | 1  | 2* | 2* | 1  | 3  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 2  | 2  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9            | 8  | 8  | 6  | 1  | 1* | 1* | -  | -  | 1  | 1  | 1  | -  | -  | -  | -  | 1  | 1  | -  | 1  | 7  | 5  | 7  | 8  |
| VO2 = 02 | 7            | -  | -  | 2  | 3  | 5  | 7  | 5  | 4  | 5  | 4  | 8  | 7  | 5  | 2  | 1  | 2  | 2  | 4  | 8  | 8  | 9  | 9  | 9  |
| W6 = 03  | 9            | 9  | 9  | 7  | 6  | 7  | 8  | 8  | 8  | 5  | 7  | 7  | -  | 2  | 4  | 1  | 1  | -  | -  | -  | -  | 1  | 3  | 8  |
| W9 = 04  | 9            | 7  | 1  | 1  | 3  | 5  | 7  | 8  | 7  | 5  | 6  | 4  | 8  | 6  | 3  | 1  | -  | 1  | 1  | 2  | 3  | 8  | 9  | 9  |
| W3 = 05  | 8            | 1  | -  | 1  | 4  | 6  | 8  | 8  | 6  | 4  | 5  | 7  | 8  | 6  | 3  | 2  | 1  | 2  | 4  | 3  | 7  | 9  | 9  | 9  |
| XE1 = 06 | 9            | 9  | 9  | 9  | 9  | 9  | 5  | 6  | 5  | 1  | -  | -  | -  | 7  | 7  | 4  | 4  | 3  | 3  | 3  | 5  | 7  | 9  | 9  |
| TI = 07  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | 1* | 1* | -  | 8  | 7  | 6  | 5  | 4  | 4  | 4  | 7  | 8  | 9  | 9  | 9+ |
| VP2 = 08 | 9+           | 9+ | 9+ | 9  | 9  | 9  | 7  | 1  | -  | -  | -  | 9  | 9  | 6  | 5  | 4  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| P4 = 09  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1* | -  | -  | 9  | 9  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| HC = 10  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 1  | 2* | 1  | 9  | 9  | 9  | 8  | 7  | 7  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ |
| PY1 = 11 | 9+           | 9+ | 9  | 9  | 9  | 8  | 7  | 5  | 3  | 4  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+           | 8  | 8  | 8  | 7  | 5  | 5  | 2  | 2* | 1* | 1* | 2  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 5            | 5  | 7  | 9  | 9  | 6  | 3  | 5  | 5  | 8  | 7  | 5  | -  | 1  | 1  | 1  | 1  | 4  | 6  | 8  | 8  | 8  | 6  | 4  |
| I = 15   | 8            | 9  | 9  | 9  | 8  | 5  | 6  | 5  | 5  | 8  | 4  | 2  | 1  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  | 9  | 8  | 8  |
| UA3 = 16 | 4            | 5  | 5  | 2  | 2* | 2  | 7  | 4  | 2  | 6  | 2  | 1* | 2  | -  | -  | -  | 1  | 2  | 5  | 5  | 5  | 3  | 2  | 3  |
| UN = 17  | 6            | 4  | 6  | 8  | 7  | 6  | 4  | 1  | 2  | 2* | 2* | 7  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 7  |
| UA9 = 18 | 1*           | 1* | 2* | 3* | 4  | 8  | 5  | 4* | 4* | 5* | 5  | 6* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1* |
| UA0 = 19 | 5            | 6  | 8  | 8  | 5  | 5  | 6  | 8  | 6  | 6  | 7* | 6* | 3* | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | 5* | 6  |
| 4X = 20  | 9            | 9  | 8  | 2  | 1* | 4  | 7  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9            | 8  | 4  | 1* | 5  | 7  | 6  | 4  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  | 1*           | -  | 1  | 8  | 5  | 4  | 2  | 2  | 1  | 1* | 1* | 8  | 2* | -  | -  | 1  | 1  | 3  | 5  | 5  | 2  | 2  | 6  | 2  |
| JT = 23  | 2*           | 2* | 6  | 6  | 8  | 6  | 4  | 5* | 5* | 5* | 6* | 7* | 5* | 1* | -  | -  | -  | -  | 1* | -  | 1  | 1  | -  | 2* |
| VR2 = 24 | 8            | 8  | 7  | 3  | 1  | 1* | 2* | 6* | 4* | 6  | 5  | 7* | 5* | 1  | 1  | 1  | 1  | 3  | 5  | 7  | 7  | -  | 4* | 3* |
| JA1 = 25 | 7*           | 5* | 4  | 5  | 6  | 7  | 8  | 8  | 7  | 4  | 6  | 5* | 2  | 1  | 1* | -  | -  | 1* | 1* | 7  | 5  | 5  | 8* | 8* |
| HS = 26  | 6            | 9  | 7  | 5  | 1  | -  | -  | 1* | 1  | 2  | 7  | 7  | 2* | 1  | -  | -  | 2  | 5  | 7  | 8  | 8  | 6  | -  | 2* |
| DU = 27  | 7            | 6  | 3  | 1  | -  | -  | 1  | 5* | 6  | 6  | 6* | 6* | 5* | 3  | 2  | -  | 2  | 4  | 5  | 4  | -  | -  | 4* | 8  |
| YB = 28  | 8            | 8  | 7  | 5  | 2  | -  | -  | 1  | 4  | 7  | 6  | 6  | 4  | 3  | 3  | 1  | 4  | 5  | 6  | 6  | 5  | 2  | -  | 3  |
| VK6 = 29 | 8            | 8  | 8  | 7  | 6  | 5  | 5  | 5  | 6  | 8  | 8  | 7  | 6  | 5  | 4  | 1  | -  | -  | -  | 2* | 1* | 1* | 2  | 7  |
| VK3 = 30 | 7            | 6  | 8  | 7  | 8  | 7  | 8  | 8  | 7  | 8  | 8  | 8  | 3  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 7  |
| KH6 = 31 | 5            | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 3  | 8  | 6  | -  | -  | -  | -  | 1  | -  | 1* | 1  | -  | -  | 2  |
| KH8 = 32 | 2            | 5  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 9  | 7  | 5  | 3  | 3  | 1  | 1  | 1  | 2  | 1  | 1  | 1  |
| CN = 33  | 9            | 9  | 9  | 9  | 9  | 5  | 1* | 2* | 4  | 8  | 8  | 5  | 4  | 2  | 3  | 2  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| SU = 34  | 9            | 9  | 9  | 6  | 1* | 3  | 8  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+           | 9+ | 9+ | 9+ | 9+ | 8  | 1  | 3* | 2  | 9  | 9  | 8  | 6  | 5  | 4  | 3  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9            | 7  | 5  | 5  | 4  | 1  | 4  | 6  | 7  | 7  | 6  | 4  | 2  | 2  | 2  | 2  | 4  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| 5Z = 37  | 1            | 1  | 3  | -  | 3  | 8  | 7  | 8  | 7  | 4  | 1  | 1  | -  | 2  | 1  | 2  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |
| ZS6 = 38 | 8            | 4  | 1  | 3  | 2  | 5  | 7  | 8  | 8  | 8  | 6  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 8  |
| FR = 39  | -            | -  | 1* | 3  | 7  | 7  | 7  | 6  | 6  | 4  | 3  | 3  | 2  | 3  | 4  | 3  | 5  | 7  | 8  | 7  | 2  | 1* | 1* | 1* |
| FJL = 40 | -            | 1* | 2* | 2* | 1* | 1* | 2* | 2* | 3* | 4* | 4* | 5  | 4  | 1  | 1  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  |
| Zone     | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Feb., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone         | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
|--------------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| KL7 = 01     | 8   | 8   | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 7  | 8  | 8  |  |
| VO2 = 02     | -   | -   | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 7  |  |
| W6 = 03      | 9   | 9   | 5  | -  | -  | -  | 1  | 2  | 2  | -  | 2  | -  | -  | 2  | -  | -  | 5  | 8  | 7  | 6  | 8  | 4  | 5  | 7  | 8  | 9  |  |
| W9 = 04      | 7   | -   | -  | -  | -  | -  | -  | 5  | 1  | -  | 1  | -  | 5  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |  |
| W3 = 05      | 1   | -   | -  | -  | -  | -  | 1  | 5  | -  | -  | 1  | -  | 8  | 8  | 8  | 8  | 6  | 6  | 9  | 8  | 9  | 8  | 9  | 9  | 9  | 9  |  |
| XE1 = 06     | 9   | 9   | 7  | 3  | 6  | 5  | -  | 1  | -  | -  | -  | -  | -  | -  | 2  | 8  | 8  | 8  | 9  | 8  | 9  | 8  | 8  | 9  | 9  | 9  |  |
| TI = 07      | 9+  | 9+  | 9+ | 9+ | 9+ | 9  | 7  | 2  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |  |
| VP2 = 08     | 9+  | 9+  | 8  | 5  | 1  | -  | 1  | -  | -  | -  | -  | -  | 9  | 9+ | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |  |
| P4 = 09      | 9+  | 9+  | 9+ | 9  | 9  | 7  | 5  | -  | -  | -  | -  | -  | 1  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |  |
| HC = 10      | 9+  | 9+  | 9  | 8  | 8  | 5  | 4  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 7  | 7  | 7  | 7  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |  |
| PY1 = 11     | 9   | 2   | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| CE = 12      | 9+  | 9+  | 9  | 9  | 9  | 8  | 9  | 7  | 5  | 5  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| LU = 13      | 4   | 4*  | 3* | 1* | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | 3  | 7  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 8  |  |
| G = 14       | -   | -   | 1  | 3  | 5  | 1  | -  | -  | -  | 1  | 9  | 8  | 8  | 9  | 7  | 6  | 7  | 8  | 8  | 8  | 9  | 8  | 1  | -  | -  | -  |  |
| I = 15       | 2   | 3   | 5  | 6  | 5  | -  | 4* | 1* | 1  | 5  | 8  | 5  | 7  | 9  | 6  | 5  | 7  | 8  | 8  | 8  | 9  | 8  | 4  | -  | -  | -  |  |
| UA3 = 16     | -   | -   | -  | -  | 1* | 1* | 2  | 1* | -  | 1  | 6  | 5  | 5  | 7  | 5  | 5  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  |  |
| UN = 17      | -   | 3*  | 2* | 5  | 3  | 4  | 1  | 1* | 1  | 3  | 3  | 4  | 6  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |  |
| UA9 = 18     | 2*  | 3*  | 2* | 1* | 1* | 5  | 2  | 1* | 1* | -  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| UA0 = 19     | 8   | 8   | 9  | 8  | 9  | 8  | 8  | 6  | 1  | 5* | 6* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8* |  |
| 4X = 20      | 7   | 7   | 3  | 1* | 4* | 1* | 2  | 1* | 1  | 5  | 4  | 3  | 8  | 9  | 5  | 4  | 5  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |  |
| HZ = 21      | 7   | 1   | -  | 5* | 2* | 2  | 1  | 1  | 2  | 5  | 3  | 6  | 6  | 8  | 5  | 3  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  |  |
| VU = 22      | -   | 4*  | 2* | 3* | 2* | 3* | 2* | 1  | 1  | 4  | 3  | 4  | 5* | 3  | 2  | 3  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| JT = 23      | 3*  | 2*  | 2* | 6  | 6  | 5  | 2  | 1* | 1* | 1  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |  |
| VR2 = 24     | 8   | 8   | 6* | 6* | 6* | 6* | 5* | 4* | 2  | 6  | 5  | 5* | 4  | 6  | 6  | 5  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | 6* |  |
| JA1 = 25     | 8*  | 8   | 8  | 8  | 8  | 8  | 9  | 7  | 1  | 4* | 5* | 6* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 8* |    |  |
| HS = 26      | 4*  | 8   | 5* | 4* | 4* | 3* | 2* | 1* | 1  | 5  | 5  | 5  | 6  | 6  | 6  | 5  | 7  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  |  |
| DU = 27      | 8   | 7   | 5* | 6* | 5* | 5* | 4* | 2* | 1  | 4  | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | 7  |  |
| YB = 28      | 5*  | 8   | 6* | 5* | 2* | 2* | 2* | 2* | 1  | 5  | 7  | 7  | 8  | 7  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | 4* |  |
| VK6 = 29     | 7   | 8   | 5  | 3* | 1* | 1* | -  | 1  | 5  | 8  | 8  | 7  | 4  | 3* | 2* | 2* | 2* | 2* | 2* | 2* | -  | -  | -  | 2* | 2* | 2* |  |
| VK3 = 30     | 8   | 8   | 7  | 3  | 1  | 1* | 5  | 4  | 1  | 2  | 5* | 2  | 5* | 3* | 2* | 1* | 1* | 1* | -  | -  | 1* | 4* | 8  | 8  | 8  | 8  |  |
| KH6 = 31     | 8   | 9   | 9  | 9  | 9  | 9  | 8  | 5  | 3  | -  | -  | 4  | 4  | -  | -  | -  | -  | -  | 6  | 7  | 6  | 6  | 3  | 2* | 6  | 6  |  |
| KH8 = 32     | 6   | 8   | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 2* | 1* | 4  | 8  | 5  | 1* | -  | -  | 6  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  |  |
| CN = 33      | 8   | 8   | 7  | 7  | 6  | -  | -  | 1* | -  | -  | 8  | 8  | 8  | 7  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  |  |
| SU = 34      | 9   | 9   | 7  | -  | 4* | 1* | 4  | 1  | 3  | 5  | 5  | 4  | 8  | 9  | 5  | 4  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |  |
| 6W = 35      | 9+  | 9+  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| D2 = 36      | 3   | -   | -  | 1  | -  | 4* | 4* | 2  | 5  | 7  | 7  | 6  | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  |  |
| 5Z = 37      | -   | -   | -  | 1* | 3* | 2* | 3* | 4  | 5  | 7  | 7  | 6  | 9  | 9  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 2  |  |
| ZS6 = 38     | -   | -   | -  | -  | 4* | 4* | 3* | 2  | 6  | 5  | 8  | 9  | 8  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 7  | 1  | 1  | 1  | -  |  |
| FR = 39      | -   | -   | 5* | 4* | 3* | 3* | 1  | 2  | 4  | 7  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 5  | 3* | 1* | -  | -  | -  | -  |  |
| FJL = 40     | -   | -   | -  | 1* | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| Zone         | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
| * = Longpath |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



**15 Meters: Feb., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV**

|          | UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|----------|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| Zone     | 00      | 01 | 02           | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
| KL7 = 01 | 8       | 5  | 1            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 7  | 7  | 8  |  |
| VO2 = 02 | -       | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | -  |  |
| W6 = 03  | 9       | 8  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  |  |
| W9 = 04  | -       | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |  |
| W3 = 05  | -       | -  | -            | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 3  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  |  |
| XE1 = 06 | 9       | 7  | 1            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |  |
| TI = 07  | 9+      | 9  | 8            | 6  | 5  | 1  | 1  | -  | -  | -  | -  | -  | 2  | 9  | 8  | 5  | 4  | 3  | 4  | 9  | 9  | 9+ | 9+ | 9+ |  |
| VP2 = 08 | 9+      | 7  | 1            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 5  | 4  | 3  | 2  | 4  | 9  | 9  | 9+ | 9+ | 9+ |  |
| P4 = 09  | 9+      | 8  | 7            | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 5  | 3  | 2  | 1  | 2  | 6  | 9  | 9+ | 9+ | 9+ |  |
| HC = 10  | 8       | 6  | 2            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 4  | 9  | 9  | 9  | 9  | 2  | 5  | 8  | 8  | 9  |  |
| PY1 = 11 | 5*      | 2* | 1*           | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 8  |  |
| CE = 12  | 9+      | 8  | 7            | 6  | 5  | 3  | 2  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| LU = 13  | 5*      | 3* | 2*           | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 7  | 5  | 4* |  |
| G = 14   | -       | -  | -            | -  | 1  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 7  | 3  | -  | -  | -  |  |
| I = 15   | -       | -  | -            | 1  | -  | -  | 1* | -  | -  | -  | 8  | 8  | 8  | 5  | 5  | 8  | 8  | 8  | 9  | 8  | 3  | -  | -  | -  |  |
| UA3 = 16 | -       | -  | -            | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 6  | 6  | 5  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  |  |
| UN = 17  | -       | 3* | 1*           | 1  | -  | 1  | -  | -  | -  | -  | 5  | 6  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| UA9 = 18 | 1*      | 4* | -            | -  | -  | 2  | -  | -  | -  | -  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| UA0 = 19 | 5       | 8  | 8            | 8  | 8  | 6  | 6  | 2  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |  |
| 4X = 20  | 2       | 2  | -            | -  | 3* | -  | -  | -  | -  | -  | 5  | 5  | 7  | 7  | 7  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 8  | 7  |  |
| HZ = 21  | -       | -  | -            | 1* | 1* | 1* | 1* | 1* | -  | -  | 1  | 5  | 5  | 6  | 7  | 5  | 6  | 7  | 8  | 8  | 9  | 8  | 8  | 6  |  |
| VU = 22  | -       | 4* | 3*           | 1* | 1* | 1* | 1* | -  | -  | 1  | 4  | 4  | 5  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  |  |
| JT = 23  | 5*      | 2* | -            | 1  | 1  | 2  | -  | -  | -  | -  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| VR2 = 24 | 7*      | 8* | 6*           | 6* | 5* | 5* | 4* | 1* | -  | 1  | 7  | 8  | 7  | 7  | 7  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | 5* |  |
| JA1 = 25 | 8       | 8  | 8            | 8  | 8  | 7  | 6  | 2  | -  | -  | 7* | 5* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  |  |
| HS = 26  | 4*      | 7* | 5*           | 5* | 4* | 3* | 1* | -  | -  | 1  | 6  | 7  | 6  | 7  | 7  | 7  | 8  | 8  | 6  | -  | -  | -  | -  | -  |  |
| DU = 27  | 8*      | 7* | 5*           | 5* | 5* | 2* | 2* | -  | -  | -  | 4  | 8  | 8  | 8  | 8  | 8  | 7  | 1  | -  | -  | -  | -  | -  | 5* |  |
| YB = 28  | 7*      | 7* | 6*           | 5* | 3* | 1* | 2* | 1* | -  | -  | 2  | 7  | 8  | 6  | 5  | 2  | 1* | -  | -  | -  | -  | -  | -  | -  |  |
| VK6 = 29 | 5*      | 5* | 5*           | 2* | 1* | -  | -  | -  | -  | -  | 1  | 5* | 6* | 5* | 3* | 2* | 2* | 1* | 1* | 1* | -  | -  | -  | 4* |  |
| VK3 = 30 | 4       | 3* | 2*           | 1* | -  | -  | -  | -  | -  | -  | 1* | 4* | 2* | 2* | 1* | 1* | -  | -  | -  | -  | -  | 2* | 4* | 4  |  |
| KH6 = 31 | 8       | 9  | 8            | 9  | 9  | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 5  | 6* | 4* | 4  | 7  |  |
| KH8 = 32 | 7       | 6  | 7            | 5  | 5  | 4  | 6  | 5  | 1  | 1* | 5* | 5* | 5* | 1* | -  | -  | -  | 2  | 6  | 6  | 6  | 6  | 6  | 6  |  |
| CN = 33  | 4       | 2  | 2            | 1  | 2  | -  | -  | -  | -  | -  | 6  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 6  | 1  |  |
| SU = 34  | 6       | 5  | -            | -  | -  | -  | -  | -  | 1  | -  | 7  | 6  | 7  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |  |
| 6W = 35  | 7       | 6  | 3            | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 6  | 4  | 5  | 5  | 6  | 9  | 9  | 9  | 9+ | 9  | 8  | 7  |  |
| D2 = 36  | -       | -  | -            | -  | -  | 2* | 2* | 1* | 1  | 4  | 6  | 6  | 6  | 9  | 7  | 8  | 9  | 8  | 9  | 9  | 9  | 6  | 4  | 1  |  |
| 5Z = 37  | -       | -  | -            | -  | 5* | 3* | 2* | -  | 2  | 5  | 8  | 7  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 6  | -  |  |
| ZS6 = 38 | -       | -  | -            | -  | 1* | 5* | 2* | -  | 1  | -  | 4  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | -  | -  | -  | -  | -  |  |
| FR = 39  | -       | -  | -            | 6* | 4* | 3* | -  | -  | 1  | 2  | 7  | 7  | 7  | 8  | 7  | 7  | 5  | 2* | 2* | -  | -  | -  | -  | -  |  |
| FJL = 40 | -       | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| Zone     | 00      | 01 | 02           | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
|          | UTC --> |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |

Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Feb., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
| KL7 = 01 | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 4  | 3  |  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 5  | 4  | 2  | 5  | 5  | 4  | 1  | -  | -  | -  |  |
| W6 = 03  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 5  | 6  | 6  | 7  | 8  | 8  | 8  | 2  |  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 5  | 5  | 5  | 6  | 7  | 7  | 7  | 5  | -  |  |
| XE1 = 06 | 7       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 6  | 6  | 8  | 9  | 9  | 9  | 9  |  |
| TI = 07  | 7       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 1  | 1* | -  | 1* | 1* | 2  | 6  | 8  | 9  | 8  |  |
| VP2 = 08 | 6       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |    |  |
| P4 = 09  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 1* | 1* | 3  | 6  | 7  | 6  |  |
| HC = 10  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | -  | 1  | 2  | 3  |    |  |
| PY1 = 11 | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  | 6* | 5* |  |
| CE = 12  | 7       | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| LU = 13  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 3* | 4* | 4* | 2* |    |  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 5  | 7  | 7  | 7  | 8  | 7  | 5  | -  | -  | -  | -  | -  |  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 2  | 3  | 4  | 6  | 8  | 9  | 7  | -  | -  | -  | -  | -  |  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 4  | 2  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  |  |
| UN = 17  | -       | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| UA9 = 18 | -       | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| UA0 = 19 | -       | 4  | 6  | 6  | 2  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  | 7  | 8  | 8  | 8  | 8  | 5  | 6  | 5  | 2  | 1  |  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 4  | 4  | 5  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  |  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| JT = 23  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| VR2 = 24 | 5*      | 8* | 5* | 4* | 2* | 1* | 1* | -  | -  | -  | 2  | 7  | 7  | 7  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  |  |
| JA1 = 25 | 8       | 7  | 8  | 6  | 5  | 1  | 2  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |  |
| HS = 26  | -       | 7* | 4* | 2* | 2* | -  | -  | -  | -  | -  | 1  | 5  | 5  | 7  | 7  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  |  |
| DU = 27  | 6*      | 7* | 5* | 2* | 1* | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  |  |
| YB = 28  | 5*      | 5* | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1  | 7* | 4* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| VK6 = 29 | 4*      | 6* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 5* | 4* | 3* | 2* | 1* | 1* | -  | -  | -  | -  | -  | 1* |  |
| VK3 = 30 | 2*      | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* |  |
| KH6 = 31 | 8       | 8  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 6  | 7  | 6  | 8  |  |
| KH8 = 32 | 6       | 2  | 1  | -  | -  | -  | 1  | -  | -  | -  | 2* | 5* | 1* | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  | 8  | 8  |  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 6  | -  | -  |  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 5  | 5  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 3  |  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 6  | 7  | 7  | 4  | 1  | -  |  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 6  | 6  | 8  | 7  | 8  | 7  | 9  | 7  | 4  | 2* | -  | -  |  |
| 5Z = 37  | -       | -  | -  | -  | 1* | -  | 1* | -  | -  | -  | 5  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | -  | -  |  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 2  | 3  | 4  | 5  | 5  | 4  | 5  | 4  | -  | -  | -  | -  | -  |  |
| FR = 39  | -       | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | 2  | 1  | 1  | 3* | 3* | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  |  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



10 Meters: Feb., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 6  | 8  | 8  | 8  | 7  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 1  | 1  | 1  | 2  | 2  | 1  | -  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 2  | 1  | 1  | 1  | -  | -  |
| XE1 = 06 | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 1  | 3  | 5  | 8  | 8  | 8  | 7  |
| TI = 07  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 3  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1  | 2  | 2  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 6  | 5  | 5  | -  | -  | -  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 5* | 5* | 5* | 3* | 1* |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9  | 9  | 9  | 7  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 3* | 1* | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 2  | 1  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 8  | 7  | 1  | -  | -  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 9  | 8  | 3  | -  | -  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | 3  | 7  | 8  | 8  | 7  | 3  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | 1       | 1  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 3  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 1*      | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 2* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| KH6 = 31 | 8       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 7  | 7  | 8  | 8  |
| KH8 = 32 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 8  | 7  | 5  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 5  | 7  | 5  | 6  | 9  | 6  | 1  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 8  | 6  | 5  | 2  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | -  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 4  | 8  | 9  | 8  | 5  | 3  | 1* | 1* | -  | -  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 4  | 5  | 8  | 9  | 9  | 5  | 3  | 2  | 1  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Mar., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | 2  | 3  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 3       | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 2  | 4  | 5  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 2  | 5  | 5  | 5  | 5  | 5  | 3  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 3       | 4  | 5  | 5  | 5  | 4  | 5  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 3  | 3  | 5  | 5  | 5  | 5  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | -       | 3  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 2       | 4  | 4  | 4  | 4  | 4  | 5  | 4  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| P4 = 09  | 2       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 5       | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | 1  | 5  | 9  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 5  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| I = 15   | 4       | 5  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | 2       | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HZ = 21  | 2       | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 1  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 2  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 5  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| SU = 34  | 3       | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| 6W = 35  | 4       | 4  | 3  | 3  | 3  | 4  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| D2 = 36  | 4       | 4  | 4  | 4  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  |
| 5Z = 37  | 5       | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  |
| ZS6 = 38 | 5       | 6  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| FR = 39  | 5       | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| FJL = 40 | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Mar., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 1  | 3  | 5  | 6  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 6       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 = 03  | -       | -  | 2  | 5  | 7  | 8  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 3       | 5  | 8  | 8  | 8  | 8  | 8  | 6  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 6       | 7  | 8  | 8  | 8  | 7  | 8  | 8  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | -       | 6  | 6  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 3       | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| VP2 = 08 | 5       | 7  | 7  | 7  | 7  | 7  | 8  | 7  | 8  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| P4 = 09  | 5       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| HC = 10  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | -  | -  | -  | -  | 3  | 8  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 2  | -  | -  | -  | -  | -  | 1  | 5  | 9  | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 2  | -  | -  | 1  | 4  | 8  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| I = 15   | 7       | 8  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| UA3 = 16 | 5       | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| UN = 17  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| UA9 = 18 | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| HZ = 21  | 5       | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  |
| VU = 22  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 2  | 4  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 1  | 5  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  |
| SU = 34  | 6       | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| 6W = 35  | 7       | 7  | 6  | 6  | 6  | 7  | 9  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 6  |
| D2 = 36  | 7       | 7  | 7  | 7  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 5  |
| 5Z = 37  | 8       | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| ZS6 = 38 | 8       | 9  | 8  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 8  |
| FR = 39  | 8       | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| FJL = 40 | 3       | 4  | 3  | 3  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1  | 2  | 4  | 7  | 7  | 7  | 6  | 8  | 7  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| W6 = 03  | 2  | 4  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| W3 = 05  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| XE1 = 06 | 5  | 7  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| TI = 07  | 7  | 7  | 8  | 7  | 7  | 7  | 8  | 7  | 8  | 7  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| VP2 = 08 | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  |
| P4 = 09  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  |
| HC = 10  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 6  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 3  | 2  | 3  | 5  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 6  |
| I = 15   | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| UA3 = 16 | 6  | 6  | 6  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |
| UN = 17  | 3  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 2  | 5  |
| UA9 = 18 | 6  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | -  |
| 4X = 20  | 7  | 7  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 7  |
| HZ = 21  | 8  | 7  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 8  |
| VU = 22  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  |
| JT = 23  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| VR2 = 24 | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 3  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  |
| HS = 26  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 1  |
| YB = 28  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  |
| VK6 = 29 | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 4  |
| VK3 = 30 | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | 1  | 4  | 6  | 8  | 7  | 7  | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  |
| SU = 34  | 8  | 6  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  |
| 6W = 35  | 8  | 8  | 9  | 8  | 9  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  | 8  |
| D2 = 36  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  |
| 5Z = 37  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  |
| FR = 39  | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 9  |
| FJL = 40 | 7  | 7  | 7  | 7  | 6  | 6  | 7  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2  | 6  | 6  | 6  | 7  | 7  | 7  | 5  | 5  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 8  |
| W6 = 03  | 4  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W9 = 04  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  |
| W3 = 05  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 6  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| XE1 = 06 | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| TI = 07  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 1  | -  | 6  | 3  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| VP2 = 08 | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 3  | 2  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| P4 = 09  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 4  | 1  | 8  | 6  | 3  | 2  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | -  | 3  | 7  | 4  | 2  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  | 8  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 8  |
| I = 15   | 7  | 7  | 8  | 8  | 8  | 7  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 6  | 7  | 6  |
| UA3 = 16 | 7  | 7  | 6  | 6  | 5  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 6  | 6  | 7  |
| UN = 17  | 7  | 6  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 7  | 7  |
| UA9 = 18 | 1  | 3  | 5  | 5  | 2  | 1  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 3  | 1  |
| UA0 = 19 | -  | 1  | 1  | -  | 1  | 1  | 1  | 5  | 5  | 5  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 2* | 4  | 2* | 1* |
| 4X = 20  | 8  | 8  | 7  | 6  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| HZ = 21  | 8  | 8  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  | 8  |
| VU = 22  | 5  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 6  | 6  |
| JT = 23  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 2* | 1* | -  | 1* | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 3  | 3  |
| VR2 = 24 | 5  | 2  | -  | -  | -  | -  | -  | -  | 1* | 2* | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 4  | 6  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | 2* | 3* | 4* | 5* | 3* |
| HS = 26  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  | 8  | 7  |
| DU = 27  | 2  | -  | -  | -  | -  | -  | -  | -  | 1* | 4* | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 5  | 4  |
| YB = 28  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  | 6  | 7  |
| VK6 = 29 | 5  | 4  | 3  | 1  | -  | -  | -  | 1  | 2  | 2  | 3  | 3  | 2  | 1  | -  | -  | -  | -  | 1  | 3  | 4  | 5  | 6  | 6  |
| VK3 = 30 | 1  | -  | 1  | 1  | 1  | 3  | 5  | 6  | 6  | 7  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 2  | 2  |
| KH6 = 31 | -  | 1  | 3  | 5  | 7  | 8  | 8  | 8  | 7  | 7  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | 2  | 4  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  |
| SU = 34  | 8  | 8  | 8  | 7  | 6  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 4  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  |
| D2 = 36  | 8  | 9  | 9  | 9  | 7  | 5  | 6  | 5  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 8  | 8  |
| 5Z = 37  | 8  | 8  | 8  | 5  | 7  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| ZS6 = 38 | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 8  | 8  | 8  |
| FR = 39  | 7  | 6  | 3  | 6  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  | 8  |
| FJL = 40 | 5  | 5  | 2  | 2* | -  | 1  | 3  | 5  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 6  | 6  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



20 Meters: Mar., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 8            | 8  | 8  | 8  | 7  | 4  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | 4  | 5  | 6  | 7  |
| VO2 =   | 02 | 9            | 6  | 5  | 4  | 5  | 4  | 7  | 5  | -  | 2  | 3  | 8  | 7  | 5  | 3  | 2  | 2  | 2  | 3  | 5  | 8  | 9  | 9  | 9  |
| W6 =    | 03 | 9            | 9  | 9  | 9  | 5  | 2  | 5  | 7  | 9  | 1  | 2  | 7  | -  | 3  | 3  | 1  | 1  | -  | -  | -  | -  | 1  | 4  | 8  |
| W9 =    | 04 | 9            | 9  | 5  | 2  | 1  | 1  | 4  | 8  | 3  | -  | 2  | -  | 8  | 6  | 3  | 1  | 1  | 1  | 1  | 2  | 4  | 8  | 9  | 9  |
| W3 =    | 05 | 9            | 9  | 1  | 7  | 4  | 6  | 7  | 8  | 1  | -  | 4  | 6  | 8  | 6  | 2  | 1  | 1  | 1  | 1  | 3  | 6  | 9  | 9  | 9  |
| XE1 =   | 06 | 9            | 9+ | 9+ | 9  | 9  | 9  | 8  | 8  | 7  | -  | -  | -  | -  | 7  | 6  | 4  | 4  | 2  | 2  | 2  | 4  | 7  | 9  | 9  |
| TI =    | 07 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | 1* | -  | -  | 8  | 6  | 4  | 6  | 5  | 3  | 4  | 6  | 8  | 9  | 9  | 9+ |
| VP2 =   | 08 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | -  | -  | -  | 9  | 9  | 7  | 7  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| P4 =    | 09 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | -  | -  | -  | 9  | 8  | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| HC =    | 10 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1* | -  | -  | 8  | 9  | 8  | 7  | 5  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9+ |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 5  | 2  | 4  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 3            | 4  | 7  | 8  | 8  | 5  | 6  | 7  | 1  | 8  | 7  | 3  | 1  | -  | -  | -  | 2  | 3  | 6  | 8  | 9  | 9  | 8  | 3  |
| I =     | 15 | 7            | 8  | 9  | 8  | 7  | 3  | 7  | 6  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 8  | 6  |
| UA3 =   | 16 | 2            | 2  | 1  | 1* | 1  | 4  | 8  | 4  | 1  | 5  | 1  | 1  | 1* | 1  | -  | -  | 1  | 4  | 6  | 7  | 7  | 6  | 5  | 4  |
| UN =    | 17 | 4            | 3  | 8  | 8  | 8  | 5  | 3  | 1  | 1  | 1  | -  | 8  | 2* | 1* | -  | -  | 1  | 2  | 2  | 1  | -  | 1  | 5  | 6  |
| UA9 =   | 18 | 1*           | 2* | 2* | 6  | 6  | 7  | 5  | 2  | 2* | 4  | 5  | 5  | 4* | 2* | 1* | -  | -  | 1* | 1* | -  | -  | -  | 1* | 2* |
| UA0 =   | 19 | 6            | 6  | 3  | 6  | 7  | 7  | 8  | 8  | 2* | 6* | 8  | 7* | 5* | 2* | 1* | 1* | 1* | 2* | 4* | 1* | -  | 1  | 7* | 6  |
| 4X =    | 20 | 9            | 9  | 8  | 1  | 1* | 8  | 7  | 1  | 3  | 2  | 1  | -  | -  | -  | 1  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| HZ =    | 21 | 9            | 9  | 6  | 2  | 8  | 7  | 4  | 1  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| VU =    | 22 | 1*           | 1  | 8  | 6  | 4  | 3  | 1  | -  | -  | -  | -  | 2* | 2* | 1* | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  | 6  | 4  |
| JT =    | 23 | 2*           | 5  | 7  | 7  | 6  | 2  | 1  | 3* | 4* | 3  | 2  | 6* | 5* | 3* | 1* | 1* | 1* | 1* | 1* | 1* | -  | -  | 4* | 1* |
| VR2 =   | 24 | 8            | 7  | 2  | -  | -  | -  | 1* | 3* | 6* | 6  | 5  | 8* | 5* | 3* | 1* | 1  | 1  | 3  | 5  | 7  | 8  | 7  | 3* | 3* |
| JA1 =   | 25 | 6*           | 4* | 2  | 3  | 4  | 6  | 7  | 8  | 8  | 4* | 4* | 6  | 4  | 3  | 1  | -  | 1* | 3* | 5* | 4* | 6  | 5  | 7* | 8* |
| HS =    | 26 | 8            | 7  | 1  | -  | -  | -  | -  | -  | 2* | 1  | 6  | 6  | 3* | 3* | 1* | -  | 2  | 5  | 7  | 8  | 9  | 9  | 8  | 2  |
| DU =    | 27 | 8            | 6  | 1  | -  | -  | -  | 1* | 3* | 5  | 5  | 6* | 5  | 5* | 2  | 2  | -  | 2  | 3  | 5  | 7  | 6  | 1* | 4* | 8  |
| YB =    | 28 | 8            | 8  | 3  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 5  | 4  | 3  | 3  | 1  | 3  | 4  | 5  | 6  | 7  | 5  | 2  | 3  |
| VK6 =   | 29 | 8            | 8  | 4  | 1  | -  | -  | 1  | 2  | 4  | 7  | 8  | 8  | 7  | 4  | 1  | -  | 1  | 1  | 2  | 2  | 2  | 3  | 5  | 8  |
| VK3 =   | 30 | 7            | 6  | 4  | 4  | 2  | 3  | 2  | 5  | 5  | 5  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | 1* | 3  | 7  | 8  | 7  |
| KH6 =   | 31 | 4            | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 3  | 1  | 9  | 7  | -  | -  | -  | 1  | -  | -  | 1* | 1* | -  | 1  | 1  |
| KH8 =   | 32 | 3            | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 4  | 1  | 8  | 8  | 7  | 2  | -  | 2  | 2  | 1  | 1  | 1  | -  | 1  | 1  |
| CN =    | 33 | 9            | 9  | 9  | 9  | 7  | 1  | 2* | 6  | 2  | 8  | 8  | 5  | 2  | 1  | -  | -  | 1  | 3  | 5  | 8  | 9  | 9  | 9  | 9  |
| SU =    | 34 | 9            | 9  | 9  | 6  | 1  | 8  | 8  | 4  | 2  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| 6W =    | 35 | 9+           | 9+ | 9+ | 9+ | 9+ | 6  | -  | 1* | 1  | 9  | 9  | 8  | 6  | 5  | 4  | 3  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 =    | 36 | 8            | 6  | 6  | 3  | 4  | -  | 2  | 3  | 7  | 8  | 7  | 5  | 2  | 2  | 2  | 3  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 5Z =    | 37 | 8            | 6  | 2  | -  | 2  | 5  | 4  | 5  | 7  | 4  | 1  | 1  | -  | 1  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| ZS6 =   | 38 | 4            | 4  | 3  | 3  | 2  | 2  | 3  | 6  | 6  | 7  | 5  | 5  | 4  | 5  | 5  | 5  | 6  | 8  | 9  | 9  | 8  | 8  | 7  | 5  |
| FR =    | 39 | -            | -  | -  | -  | 1  | 2  | 1  | 2  | 5  | 4  | 3  | 2  | 2  | 2  | 2  | 4  | 5  | 7  | 7  | 4  | 2  | 2  | 1  | -  |
| FJL =   | 40 | -            | 2* | 1* | -  | -  | -  | 1* | 1* | 2* | 6  | 5  | 5  | 5  | 1  | -  | 1  | 1  | 1  | 4  | 6  | 5  | 4  | 1  | -  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Mar., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 6  | 7  | 7  | 7  |
| VO2 = 02 | 5       | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | -  | -  | -  | -  | -  | 4  | -  | -  | 2  | -  | -  | 6  | 6  | 7  | 6  | 8  | 4  | 5  | 6  | 8  | 9  |
| W9 = 04  | 9       | 5  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | 4  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9  |
| W3 = 05  | 9       | -  | -  | 1  | -  | -  | -  | 4  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 7  | 6  | 7  | 8  | 9  | 9  | 9+ | 9  |
| XE1 = 06 | 9       | 9+ | 9  | 9  | 9  | 9  | 2  | 4  | 1  | -  | -  | -  | -  | 5  | 8  | 7  | 9  | 8  | 7  | 7  | 8  | 9  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | -  | -  | 9  | 9  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 8  | -  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | -  | -  | -  | 4  | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | -  | 9+ | 9  | 9  | 9  | 5  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 | 9+      | 8  | 4  | 4  | 4  | 4  | 2  | 1  | -  | -  | -  | 6  | 9  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 8       | 2  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | -       | -  | -  | 1  | 4  | -  | -  | 1  | -  | 2  | 9  | 8  | 7  | 9  | 6  | 5  | 6  | 8  | 8  | 9  | 9  | 5  | -  | -  |
| I = 15   | -       | 1  | 2  | 1  | 1  | -  | 2  | 1  | -  | 6  | 7  | 6  | 6  | 9  | 5  | 5  | 5  | 6  | 8  | 9  | 9  | 6  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | 6  | -  | -  | 2  | 7  | 6  | 4  | 7  | 4  | 4  | 6  | 7  | 7  | 4  | 3  | 1  | -  | -  |
| UN = 17  | 1*      | 2* | 4  | 7  | 8  | 5  | 2  | 1* | -  | 4  | 4  | 2  | 6* | 5  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 3*      | -  | -  | -  | 2  | 6  | 7  | -  | -  | 1  | 6  | 4  | 6* | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| UA0 = 19 | 8       | 8  | 8  | 7  | 7  | 7  | 9  | 5  | -  | -  | 5* | 8* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6* | 7* |
| 4X = 20  | 9       | 8  | 1  | 2* | -  | 5  | 2  | -  | -  | 5  | 5  | 4  | 8  | 8  | 5  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 8  | 2* | 2* | 6  | 1  | 1* | -  | -  | 5  | 5  | 2  | 6  | 7  | 4  | 3  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -       | 2* | 3  | 2* | 2* | 2* | 1* | 1* | -  | 3  | 2  | 2  | 3* | 4  | 2* | 4  | 5  | 5  | 1  | -  | -  | 1  | -  | -  |
| JT = 23  | 2*      | 1* | 4  | 7  | 7  | 6  | 7  | -  | -  | 2  | 6  | 4  | 5* | 3  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | 3* |
| VR2 = 24 | 8       | 4* | 4* | 3* | 4* | 4* | 6* | 7* | 2* | 6  | 5  | 8* | 3  | 6  | 5  | 5  | 6  | 6  | 7  | 8  | 8  | -  | 4* | 3* |
| JA1 = 25 | 5       | 8  | 6  | 6  | 7  | 8  | 8  | 9  | 4  | 4* | 5* | 7* | 6* | 2* | 1* | -  | 1* | 1* | 1* | -  | -  | 5  | 5  | 8* |
| HS = 26  | 2*      | 4* | 4* | 3* | 2* | 1* | 1* | 3* | 1* | 5  | 6  | 5  | 5  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 2  | 1* |
| DU = 27  | 7*      | 6* | 5* | 5* | 3* | 3* | 4* | 2* | -  | 2  | 8  | 8  | 7  | 6  | 5  | 6  | 6  | 7  | 7  | 6  | 1  | -  | 5* | 8  |
| YB = 28  | 5*      | 6* | 6* | 2* | 2* | 2* | 2* | 3* | -  | 1  | 7  | 8  | 8  | 5  | 5* | 3  | 2  | 2  | 3* | 2  | 2  | 1  | -  | 4* |
| VK6 = 29 | 7       | 4* | 2* | 1* | 1* | -  | 1* | -  | -  | 1  | 7  | 8  | 6  | 4* | 2* | 2* | 1* | 1* | 2* | 1* | -  | -  | 1  | 5  |
| VK3 = 30 | 7       | 3  | 1* | 1* | -  | -  | 2* | -  | -  | -  | 5* | 2  | 3* | 1* | 1* | -  | -  | -  | 1* | -  | -  | 5  | 8  | 8  |
| KH6 = 31 | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | -  | -  | 7  | 6  | -  | -  | -  | -  | 4  | 6  | 5  | 7  | 5  | 3  | 5  |
| KH8 = 32 | 7       | 7  | 7  | 6  | 6  | 5  | 8  | 6  | 2  | 2* | 1* | 1  | 4  | 3  | 1* | 1* | -  | 6  | 5  | 5  | 5  | 5  | 4  | 5  |
| CN = 33  | 7       | 7  | 7  | 4  | 2  | -  | -  | -  | -  | 1  | 9  | 8  | 7  | 6  | 5  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 7  |
| SU = 34  | 9       | 9  | 8  | 1* | -  | 6  | 5  | -  | -  | 5  | 7  | 6  | 3  | 8  | 4  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 7  | -  | -  | -  | -  | 1  | 9+ | 9  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 3       | 1  | 1  | -  | -  | 5* | 1* | 1* | 1  | 7  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 5  |
| 5Z = 37  | 1       | -  | -  | 3* | 2* | 2* | 3* | 1* | 2  | 8  | 7  | 6  | 9  | 9  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 5  |
| ZS6 = 38 | -       | -  | -  | -  | 2* | 1* | 1* | 2* | 1  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 4  | 1  | -  | -  |
| FR = 39  | -       | -  | 3* | 2* | 2* | 1* | 1* | 1* | 1  | 6  | 7  | 7  | 8  | 7  | 7  | 7  | 7  | 5  | 2* | 1* | 1* | 1* | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 5* | 2  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Mar., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 5       | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3* | 1  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 8  | 8  | 5  |
| W6 = 03  | 9       | 9  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 8  | 8  | 7  | 5  | 7  | 8  | 8  | 9  |
| W9 = 04  | 8       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | 4       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| TI = 07  | 9       | 9  | 9  | 9+ | 9+ | 9  | 7  | 1  | -  | -  | -  | -  | 2  | 9  | 8  | 5  | 4  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9       | 8  | 9  | 8  | 6  | 4  | 4  | -  | -  | -  | -  | 1  | 9+ | 9  | 5  | 2  | 2  | 5  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 8       | 8  | 8  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | -  | 9+ | 9  | 3  | -  | -  | 2  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 8       | 7  | 8  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  | 2  | 7  | 3  | 8  | 8  | 8  | -  | 4  | 7  | 9  | 9+ | 9  |
| PY1 = 11 | 9       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9  | 8  | 8  | 8  | 8  | 7  | 5  | 4  | 2  | 1  | -  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  | 9+ | 9+ | 9  | 9+ | 8  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 7  | 8  | 7  | 7  | 8  | 9  | 9  | 6  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 6  | 6  | 6  | 5  | 6  | 8  | 8  | 9  | 7  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 7  | 6  | 5  | 5  | 4  | 4  | 5  | 4  | 2  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 1* | -  | 2  | 6  | 4  | -  | -  | -  | -  | 6  | 5  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 1*      | -  | -  | -  | -  | 2  | 4  | -  | -  | -  | 6  | 3  | 1  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 4       | 6  | 7  | 7  | 6  | 6  | 8  | 1  | -  | -  | -  | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* |
| 4X = 20  | 6       | 3  | -  | -  | -  | 1  | -  | -  | -  | -  | 6  | 5  | 5  | 6  | 5  | 6  | 7  | 8  | 9  | 8  | 9  | 9  | 9  | 7  |
| HZ = 21  | 8       | 1  | -  | 1* | 2  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 5  | 6  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | -       | 5* | 3* | 2* | 1* | -  | -  | -  | -  | 1  | 4  | 4  | 4  | 5* | 5  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 2*      | -  | -  | 5  | 6  | 8  | 4  | -  | -  | -  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| VR2 = 24 | 6*      | 8* | 7* | 6* | 4* | 4* | 6* | 6* | -  | 1  | 6  | 7  | 7  | 7  | 7  | 6  | 6  | 7  | 8  | 7  | 2  | -  | -  | 6* |
| JA1 = 25 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | -  | -  | 6* | 8* | 5* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  |
| HS = 26  | 5*      | 6* | 6* | 5* | 2* | 1* | 3* | 3* | -  | 1  | 6  | 6  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 5  | -  | -  |
| DU = 27  | 8*      | 8* | 5* | 5* | 4* | 4* | 5* | 1* | -  | -  | 3  | 8  | 8  | 7  | 6  | 6  | 7  | 7  | 6  | 3  | -  | -  | -  | 7* |
| YB = 28  | 8*      | 7* | 7* | 4* | 4* | 4* | 4* | 1* | -  | -  | 2  | 7  | 8* | 6* | 5* | 4* | 4* | 3* | 2* | -  | -  | -  | -  | 3* |
| VK6 = 29 | 6*      | 5* | 5* | 2* | 1* | 1* | 1* | -  | -  | -  | -  | 5  | 6* | 5* | 4* | 2* | 1* | 1* | 1* | -  | -  | -  | -  | 5* |
| VK3 = 30 | 4*      | 4* | 1* | 1* | 1* | 2* | 1* | -  | -  | -  | 3* | 2* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1* | 5  | 6  |
| KH6 = 31 | 8       | 8  | 9  | 9  | 9  | 9  | 8  | 6  | -  | -  | -  | 4  | 2  | -  | -  | -  | -  | 6  | 5  | 5  | 6* | 5  | 5  | 6  |
| KH8 = 32 | 6       | 3  | 3  | 1  | -  | -  | 1  | -  | -  | 1* | 4* | 2* | 2* | 2* | 1* | -  | -  | 5  | 6  | 6  | 6  | 6  | 6  | 6  |
| CN = 33  | 2       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 6  | -  |
| SU = 34  | 9       | 8  | 1  | -  | -  | 1  | -  | -  | -  | -  | 7  | 5  | 5  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 8  | 9  | 9  | 9  |
| 6W = 35  | 9       | 9  | 9  | 7  | -  | -  | -  | -  | -  | -  | 9  | 9  | 5  | 1  | 1  | 5  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  |
| D2 = 36  | -       | -  | -  | -  | -  | 4* | 2* | 1* | -  | 4  | 6  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | 1  |
| 5Z = 37  | -       | -  | -  | 1* | 5* | 5* | 3* | 1* | -  | 5  | 8  | 7  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 4* | 4* | 2* | -  | -  | 6  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 7  | 3  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 5* | 2* | 1* | 1* | 1* | -  | 2  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 1* | 1* | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Mar., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 1  | 2  | 6  | 6  | 5  | 4  | 1  | -  |
| W6 = 03  | 9       | 7  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 2  | 5  | 6  | 8  | 8  | 8  | 8  | 6  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 5  | 7  | 8  | 8  | 9  | 8  | 8  | 5  |
| XE1 = 06 | 9       | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 9  |
| TI = 07  | 7       | 6  | 6  | 7  | 7  | 6  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | -  | 1* | 1* | 2  | 6  | 9  | 9+ | 9  | 9  |
| VP2 = 08 | 5       | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 1  | -  | -  | -  | -  | 2  | 6  | 9  | 9+ | 9  | 8  |
| P4 = 09  | 4       | 2  | 3  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2  | 6  | 8  | 8  | 7  |
| HC = 10  | 2       | 1  | 2  | 3  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 8  | 7  | 8  | 9  | 1* | -  | 2  | 2  | 5  |
| PY1 = 11 | 4       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9  |
| CE = 12  | 9       | 4  | 2  | 2  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | 2  | 2  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 4* | 8  | 2  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 6  | -  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 7  | 7  | 8  | 8  | 7  | 8  | 9  | 8  | -  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 1  | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 5  | 4  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | 1  | 3  | 2  | 2  | 2  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 6  | 7  | 8  | 7  | 8  | 8  | 9  | 9  | 8  | 6  | 5  | 1  |
| HZ = 21  | 3       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 7  | 7  | 6  | 7  | 8  | 9  | 8  | 8  | 8  | 7  | 7  | 5  |
| VU = 22  | -       | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 6  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | 2  | 5  | 1  | -  | -  | -  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 7*      | 8* | 8* | 7* | 6* | 6* | 6* | 2* | -  | -  | 1  | 6  | 7  | 8  | 8  | 7  | 7  | 7  | 6  | 2  | -  | -  | -  | 2* |
| JA1 = 25 | 6       | 8  | 8  | 8  | 8  | 8  | 5  | 4  | -  | -  | 1* | 7* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| HS = 26  | 2*      | 6* | 7* | 5* | 4* | 3* | 4* | 1* | -  | -  | 1  | 6  | 8  | 8  | 8  | 7  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  |
| DU = 27  | 7*      | 8* | 6* | 6* | 5* | 4* | 2* | -  | -  | -  | -  | 3  | 6  | 6  | 7  | 7  | 8  | 6  | 2  | -  | -  | -  | -  | 3* |
| YB = 28  | 6*      | 6* | 5* | 2* | 4* | 3* | 2* | -  | -  | -  | -  | 3  | 6* | 6* | 4* | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 6*      | 5* | 5* | 4* | 2* | 1* | -  | -  | -  | -  | -  | 1* | 6* | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1* |
| VK3 = 30 | 5*      | 4* | 4* | 2* | 2* | 1* | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 5* |
| KH6 = 31 | 8       | 8  | 9  | 9  | 9  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 4  | 5  | 5  | 7  | 8  |
| KH8 = 32 | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 5* | 5* | 3* | 1* | -  | -  | 1  | 7  | 7  | 8  | 7  | 7  | 8  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 5  | -  | -  |
| SU = 34  | 7       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 7  | 7  | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| 6W = 35  | -       | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | -  | -  | -  | -  | -  | 6  | 9  | 9  | 9  | 7  | 3  | 1  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 5  | 6  | 7  | 7  | 6  | 7  | 8  | 8  | 9  | 7  | 4  | 2* | 1* | -  |
| 5Z = 37  | -       | -  | -  | -  | 4* | 2* | 2* | -  | -  | -  | 6  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 2* | 4* | 1* | -  | -  | -  | 3  | 6  | 8  | 8  | 8  | 1  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 4* | 5* | 4* | 2* | -  | -  | -  | 2  | 7  | 6  | 7  | 5  | 3* | 1* | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 10 Meters: Mar., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  |
| W6 = 03  | 6       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3  | 7  | 8  | 8  | 9  | 8  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 4  | 3  | -  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 6  | 4  | 3  | -  |
| XE1 = 06 | 8       | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | -  | 2  | 6  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 2       | 1  | 1  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | 3  | 6  | 7  | 5  |
| VP2 = 08 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2  | 5  | 6  | 4  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 3  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 2  | 5  | -  | -  | -  | -  | 1  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 4  | 6  | 7  | 9  | 9  | 5  |
| CE = 12  | 5       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | 2* | 2  | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 3  | 1  | -  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 4  | 5  | 8  | 9  | 8  | 7  | 3  | -  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 6  | 8  | 8  | 8  | 8  | 8  | 7  | 2  | 1  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 5  | 7  | 8  | 8  | 8  | 8  | 5  | 3  | 1  | 2  | 1  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 2*      | 5* | 7* | 7* | 5* | 5* | 4* | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  |
| JA1 = 25 | 1       | 3  | 6  | 7  | 5  | 4  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | 4* | 7* | 6* | 4* | 2* | 1* | -  | -  | -  | -  | 2  | 5  | 4  | 6  | 7  | 8  | 7  | 5  | 1  | -  | -  | -  | -  |
| DU = 27  | 2*      | 5* | 4* | 5* | 4* | 1* | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  |
| YB = 28  | 2*      | 5* | 3* | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 2*      | 3* | 3* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | 2*      | 4* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| KH6 = 31 | 8       | 8  | 7  | 7  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 7  | 6  | 7  | 7  |
| KH8 = 32 | 2*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 5* | 3* | 1* | -  | -  | -  | -  | 5  | 6  | 8  | 8  | 8  | 6  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 6  | 7  | 8  | 7  | 9  | 9  | 9  | 6  | -  | -  | -  |
| SU = 34  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 5  | 5  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 1* | 2* | 2  | 4  | 2  | -  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  | 8  | 7  | 9  | 8  | 6  | 4  | 2* | 1* | -  | -  |
| 5Z = 37  | -       | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 8  | 9  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | 1  | 3  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | 3* | 4* | 1* | -  | -  | -  | -  | 2  | 1  | 3* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |

Zone UTC --> \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Apr., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | 1  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2       | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 3  | 4  | 5  | 3  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 2  | 4  | 4  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 2       | 4  | 5  | 5  | 5  | 5  | 5  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 1  | 2  | 2  | 5  | 5  | 5  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | -       | 3  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 2       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| P4 = 09  | 2       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 5       | 5  | 6  | 5  | 5  | 5  | 6  | 6  | 5  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | 5  | 6  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 2  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  | 9  |
| G = 14   | 5       | 4  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| I = 15   | 3       | 3  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| UA3 = 16 | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| HZ = 21  | 3       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 1  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 2  | 4  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 3  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| SU = 34  | 4       | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| 6W = 35  | 4       | 4  | 4  | 4  | 4  | 5  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| D2 = 36  | 6       | 6  | 5  | 5  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 3  |
| 5Z = 37  | 5       | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| ZS6 = 38 | 5       | 5  | 5  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  |
| FR = 39  | 5       | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Apr., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | 1  | 2  | 4  | 2  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 = 03  | -       | -  | 1  | 3  | 6  | 7  | 8  | 6  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 3       | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 5       | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | -       | 4  | 5  | 5  | 8  | 8  | 8  | 7  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 3       | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| VP2 = 08 | 5       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| P4 = 09  | 5       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| HC = 10  | 8       | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 8  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | 1  | 5  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | -  | -  | 3  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 2  | 1  | 3  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 7  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| I = 15   | 6       | 6  | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| UA3 = 16 | 5       | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| UN = 17  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| HZ = 21  | 6       | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| VU = 22  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 2  | 5  | 7  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 6  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| SU = 34  | 7       | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| 6W = 35  | 7       | 7  | 7  | 7  | 7  | 8  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| D2 = 36  | 9       | 9  | 8  | 8  | 7  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 6  |
| 5Z = 37  | 8       | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| ZS6 = 38 | 8       | 8  | 8  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  |
| FR = 39  | 8       | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| FJL = 40 | 1       | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC -->  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1  | 2  | 3  | 5  | 7  | 7  | 7  | 7  | 6  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  |
| W6 = 03  | 2  | 3  | 6  | 7  | 8  | 8  | 9  | 8  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| W3 = 05  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| XE1 = 06 | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  |
| TI = 07  | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| VP2 = 08 | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| P4 = 09  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| HC = 10  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| PY1 = 11 | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 7  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 4  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  |
| I = 15   | 7  | 6  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  |
| UA3 = 16 | 7  | 5  | 6  | 6  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  |
| UN = 17  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  |
| UA9 = 18 | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  |
| UA0 = 19 | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  |
| 4X = 20  | 8  | 8  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  |
| HZ = 21  | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 8  |
| VU = 22  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  |
| JT = 23  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 4  | 5  |
| VR2 = 24 | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 4  | 3  |
| JA1 = 25 | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  | -  |
| HS = 26  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| DU = 27  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 1  |
| YB = 28  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 6  |
| VK6 = 29 | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 5  |
| VK3 = 30 | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | -  |
| KH6 = 31 | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -  | -  | 2  | 5  | 8  | 7  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  |
| SU = 34  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  | 8  |
| 6W = 35  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  | 9  |
| D2 = 36  | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 9  | 9  | 9  |
| 5Z = 37  | 9  | 9  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  |
| ZS6 = 38 | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  |
| FR = 39  | 9  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 8  | 9  |
| FJL = 40 | 6  | 7  | 7  | 7  | 6  | 6  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |    |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2       | 4  | 7  | 6  | 7  | 6  | 7  | 6  | 6  | 5  | 2  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 8  |
| W6 = 03  | 3       | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W9 = 04  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| W3 = 05  | 8       | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 8  |
| XE1 = 06 | 8       | 8  | 8  | 9  | 9  | 8  | 9  | 8  | 8  | 5  | 5  | 1  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| TI = 07  | 8       | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 4  | 1  | 7  | 4  | 2  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | 5  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 3  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 1  | 6  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | 1  | 4  | 5  | 7  | 9  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9+ | 9+ | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 7  | 8  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 8  | 8  |
| UA3 = 16 | 7       | 7  | 6  | 6  | 6  | 6  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 7  |
| UN = 17  | 7       | 6  | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 7  | 7  |
| UA9 = 18 | 5       | 5  | 5  | 2  | 2  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 3  | 4  |
| UA0 = 19 | 1       | 1  | -  | -  | 1  | 1  | 1  | 1  | 5  | 4  | 2  | 2* | 1  | -  | -  | -  | -  | -  | -  | 2* | 4* | 5  | 2  | 1* |
| 4X = 20  | 8       | 8  | 8  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| HZ = 21  | 8       | 8  | 7  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 7  |
| VU = 22  | 6       | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 6  | 7  |
| JT = 23  | 5       | 5  | 1  | 1  | -  | -  | -  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 4  | 5  |
| VR2 = 24 | 5       | 2  | -  | -  | -  | -  | -  | -  | 1* | 3* | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | 3  | 4  | 5  | 5  | 6  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 4* | 4* | 5* | 5* | 2* |
| HS = 26  | 6       | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 8  | 7  |
| DU = 27  | 3       | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 3  | 2* | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 2* | 6  | 5  |
| YB = 28  | 6       | 5  | 1  | -  | -  | -  | -  | -  | -  | 1* | 5  | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 6  | 7  |
| VK6 = 29 | 6       | 5  | 3  | 2  | -  | -  | -  | 2  | 3  | 5  | 4  | 3  | 4  | 1  | -  | -  | -  | -  | 2  | 4  | 5  | 5  | 5  | 6  |
| VK3 = 30 | 3       | 2  | 1  | 1  | 3  | 4  | 5  | 7  | 7  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 4  |
| KH6 = 31 | -       | 1  | 3  | 5  | 7  | 8  | 7  | 8  | 8  | 7  | 4  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | 1  | 3  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 5  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 9  | 8  | 7  | 6  | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 7  | 1  | 4  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  |
| D2 = 36  | 8       | 8  | 7  | 7  | 6  | 4  | 6  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  | 8  | 7  |
| 5Z = 37  | 9       | 9  | 8  | 5  | 7  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 8  | 8  |
| ZS6 = 38 | 8       | 8  | 7  | 8  | 7  | 7  | 7  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 8  | 8  | 7  |
| FR = 39  | 7       | 3  | 1  | 6  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 5  | 6  | 7  | 7  | 7  |
| FJL = 40 | 6       | 4  | 2  | 2  | 2  | 4  | 5  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 6  | 6  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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|          | UTC |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| Zone     | 00  | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |
| KL7 = 01 | 8   | 8  | 8  | 8  | 8  | 7  | 4  | 1  | 1  | 3* | 2* | -  | -  | -  | -  | 1  | 1  | 2  | 1  | 4  | 5  | 5  | 6  | 7  |  |
| VO2 = 02 | 9   | 9  | 6  | 2  | 2  | 2  | 5  | 4  | 1  | 6  | 8  | 9  | 6  | 5  | 4  | 3  | 3  | 3  | 5  | 6  | 8  | 9  | 9  | 9  |  |
| W6 = 03  | 8   | 9  | 9  | 9  | 8  | 5  | 6  | 7  | 8  | 3  | 6  | 6  | -  | 7  | 4  | 2  | 1  | 1  | 1  | 1  | 1  | 1  | 5  | 7  |  |
| W9 = 04  | 9   | 9  | 8  | 5  | 3  | 2  | 2  | 7  | 4  | 2  | 4  | 5  | 8  | 7  | 4  | 1  | 3  | 2  | 1  | 6  | 5  | 7  | 9  | 9  |  |
| W3 = 05  | 9+  | 9  | 8  | 9  | 6  | 6  | 6  | 8  | 1  | 2  | 5  | 8  | 8  | 5  | 4  | 4  | 2  | 2  | 2  | 6  | 6  | 9  | 9  | 9  |  |
| XE1 = 06 | 9   | 9  | 9+ | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | 3  | 8  | 6  | 4  | 5  | 3  | 2  | 3  | 5  | 7  | 9  | 9  |  |
| TI = 07  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1  | -  | -  | -  | 9  | 7  | 5  | 5  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ |  |
| VP2 = 08 | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | -  | -  | 7  | 9  | 9  | 7  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |  |
| P4 = 09  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | -  | -  | -  | 9  | 9  | 7  | 6  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ |  |
| HC = 10  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 1* | 1* | -  | 9  | 9  | 8  | 7  | 6  | 6  | 5  | 6  | 7  | 8  | 9  | 9+ | 9+ |  |
| PY1 = 11 | 9+  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 6  | 3  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| CE = 12  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |
| LU = 13  | 8   | 8  | 8  | 8  | 9  | 8  | 8  | 6  | 3  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  |  |
| G = 14   | 4   | 3  | 4  | 4  | 7  | 7  | 8  | 6  | 4  | 8  | 7  | 5  | 2  | 1  | 1  | 1  | 1  | 4  | 6  | 8  | 9  | 9  | 9  | 4  |  |
| I = 15   | 6   | 8  | 8  | 6  | 6  | 6  | 9  | 5  | 3  | 6  | 3  | 2  | 1  | -  | -  | -  | 1  | 2  | 5  | 8  | 9  | 9  | 7  | 3  |  |
| UA3 = 16 | 3   | 2  | 1  | 1  | 5  | 8  | 8  | 2  | 1  | 5  | 2  | 1  | 1* | 1* | -  | 1  | 1  | 4  | 6  | 8  | 8  | 6  | 5  | 5  |  |
| UN = 17  | 6   | 7  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | 1* | 3* | 2* | -  | -  | 1  | 4  | 6  | 7  | 8  | 6  | 6  | 6  |  |
| UA9 = 18 | 1*  | 1  | 5  | 7  | 7  | 6  | 5  | 1  | 1  | 5  | 6  | 5  | 3* | 3* | 2* | 1* | 1* | 2  | 2  | 4  | 2* | 3* | 2* | 1* |  |
| UA0 = 19 | 5   | 5  | 5  | 5  | 6  | 6  | 7  | 8  | 1  | 5  | 8  | 7* | 6* | 4* | 3* | 2* | 2* | 4* | 5* | 2* | 1* | 8* | 6  | 6  |  |
| 4X = 20  | 9   | 9  | 7  | 5  | 7  | 8  | 4  | -  | 1  | 2  | 1  | -  | -  | -  | -  | 1  | 2  | 4  | 7  | 8  | 8  | 9  | 9  | 9  |  |
| HZ = 21  | 9   | 9  | 6  | 8  | 7  | 6  | 2  | -  | 2  | 1  | -  | -  | 1* | 1  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |  |
| VU = 22  | 1   | 5  | 5  | 2  | 4  | 2  | -  | -  | -  | -  | -  | -  | 4* | 2* | 1* | 1  | 2  | 4  | -  | 1* | 5  | 8  | 8  | 5  |  |
| JT = 23  | 4   | 7  | 7  | 6  | 3  | 2  | 4  | 1  | 2* | 1  | 3  | 5* | 4* | 6* | 3* | 2* | 1  | 2  | 2* | 2  | 2* | 2* | 1* | 2* |  |
| VR2 = 24 | 3   | 1* | 1* | -  | -  | -  | 1* | 3* | 5* | 5  | 5  | 8* | 7* | 5* | 3* | 1  | 2  | 4  | 6  | 8  | 8  | 3* | 2* | 6  |  |
| JA1 = 25 | 2   | 2  | 2  | 3  | 5  | 6  | 7  | 8  | 7  | 4* | 4* | 9  | 7  | 5  | 2* | 2* | 3* | 5* | 6* | 4* | 5  | 5  | 7* | 2* |  |
| HS = 26  | 4   | -  | -  | -  | -  | -  | -  | -  | 2* | 1  | 6  | 6  | 4* | 3* | 2  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 8  | 1  |  |
| DU = 27  | 3   | 1* | -  | -  | -  | -  | 1* | 4* | 2  | 5  | 7* | 6  | 5  | 4  | 3  | 3  | 4  | 5  | 6  | 6  | -  | 4* | 2  | 6  |  |
| YB = 28  | 2   | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 6  | 4  | 1  | 1  | 2  | 2  | 4  | 6  | 7  | 5  | 2  | 6  |  |
| VK6 = 29 | 5   | 2  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 8  | 4  | 1* | -  | -  | 1  | 2  | 4  | 4  | 2  | 1  | 1  | 4  |  |
| VK3 = 30 | 3   | -  | -  | -  | -  | 1  | -  | 2  | 3  | 4  | 6  | 2  | 1* | -  | -  | -  | -  | -  | 1* | 1* | 2* | 6  | 8  | 7  |  |
| KH6 = 31 | 4   | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 1* | 1* | 8  | 7  | -  | -  | -  | 1  | 1  | 1  | 1* | 1* | -  | 1  | 1  |  |
| KH8 = 32 | 4   | 2  | 1  | 5  | 4  | 5  | 8  | 8  | 8  | 2  | -  | 4  | 6  | 4  | -  | -  | 1  | 3  | 2  | 2  | 2* | 2  | 2  | 3  |  |
| CN = 33  | 8   | 6  | 8  | 9  | 8  | 1  | 2  | 3  | 1  | 8  | 8  | 5  | 3  | -  | -  | 1  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |  |
| SU = 34  | 9   | 9  | 9  | 7  | 8  | 9  | 6  | -  | 2  | 3  | 1  | 1  | -  | 1* | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |  |
| 6W = 35  | 9+  | 9+ | 9+ | 9  | 8  | 1  | -  | -  | -  | 9  | 9  | 8  | 6  | 5  | 4  | 4  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |  |
| D2 = 36  | 4   | 2  | 1  | 1  | 1  | -  | 2  | 1  | 6  | 8  | 8  | 6  | 4  | 1  | 3  | 3  | 6  | 8  | 9  | 9  | 8  | 8  | 6  | 6  |  |
| 5Z = 37  | 7   | 4  | 2  | -  | 2  | 6  | 2  | 2  | 7  | 4  | 2  | 1  | 1  | 1  | 1  | 1  | 5  | 7  | 8  | 9  | 9  | 8  | 8  | 7  |  |
| ZS6 = 38 | 5   | 2  | -  | -  | 1  | 3  | 1  | -  | 6  | 8  | 8  | 6  | 5  | 5  | 6  | 6  | 7  | 8  | 1  | 6  | 7  | 7  | 6  | 2  |  |
| FR = 39  | -   | -  | -  | -  | 2  | 5  | -  | 1  | 5  | 4  | 3  | 3  | 3  | 3  | 4  | 5  | 5  | -  | -  | -  | 2  | -  | -  | -  |  |
| FJL = 40 | 1*  | -  | -  | -  | -  | -  | 1  | 6  | 1  | 8  | 6  | 5  | 8  | 2  | 1* | 1  | 1  | 1  | 4  | 6  | 7  | 7  | 5  | 2  |  |
| Zone     | 00  | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Apr., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 6   | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | -  | -  |
| VO2 = 02 | 9   | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9   | 9  | 9  | 7  | 1  | -  | -  | -  | -  | 2  | -  | -  | 1  | -  | -  | 7  | 7  | 7  | 5  | 8  | 7  | 7  | 7  | 9  | 9  |
| W9 = 04  | 9   | 9  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 6  | 7  | 7  | 8  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 9  |
| W3 = 05  | 9   | 5  | -  | 2  | -  | -  | -  | -  | 2  | -  | -  | 1  | -  | 7  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| XE1 = 06 | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9  |
| TI = 07  | 9+  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 5  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | -  | -  | -  | -  | 9+ | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9+  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | -  | -  | -  | -  | 2  | 9  | 9  | 8  | 9  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 9   | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 2  | -  | -  | -  | -  | 9+ | 9  | 9  | 4  | 9  | 6  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 | 6   | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | 2  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  |
| CE = 12  | 9   | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | -   | -  | 1  | 2  | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | 4  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 7  | 5  | 3* |
| G = 14   | -   | -  | -  | -  | 1  | 1  | 4  | -  | -  | 6  | 8  | 8  | 7  | 8  | 8  | 9  | 5  | 7  | 7  | 8  | 9  | 9  | 9  | -  | -  |
| I = 15   | -   | 1  | 1  | -  | -  | 1  | 7  | -  | -  | 7  | 7  | 5  | 9  | 8  | 2  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 7  | -  | -  |
| UA3 = 16 | -   | -  | -  | -  | -  | 4  | 6  | -  | -  | 4  | 7  | 6  | 5  | 6  | 2  | 2  | 5  | 6  | 8  | 8  | 7  | 5  | 1  | -  | -  |
| UN = 17  | -   | -  | 8  | 6  | 5  | 3  | -  | -  | -  | 3  | 2  | 2  | 3* | 3* | 3  | 3  | 6  | 5  | 2  | -  | -  | -  | -  | -  | 3* |
| UA9 = 18 | -   | -  | -  | 2  | 7  | 8  | 5  | -  | -  | 3  | 5  | 4  | 6* | 5* | 4* | 2* | 1* | -  | -  | -  | -  | -  | 2* | 1* | 1* |
| UA0 = 19 | 5   | 6  | 6  | 5  | 6  | 7  | 8  | 5  | -  | -  | 6  | 8* | 7* | 1* | -  | -  | 1* | 1* | 1* | -  | -  | 2* | 4* | 5  | 5  |
| 4X = 20  | 9   | 5  | -  | -  | 1  | 3  | -  | -  | -  | 5  | 6  | 5  | 5  | 8  | 6  | 2  | 3  | 4  | 8  | 9  | 9  | 9  | 8  | 9  | 9  |
| HZ = 21  | 8   | 2  | 1  | 3  | -  | -  | -  | -  | -  | 5  | 5  | 5  | 5  | 5  | 3  | 2  | 5  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| VU = 22  | 2*  | 1* | 1* | 1* | -  | -  | -  | -  | -  | 3  | 3  | 3  | 3  | 4* | 2  | 4  | 7  | -  | -  | -  | -  | 1  | 1  | -  | -  |
| JT = 23  | -   | 1  | 5  | 8  | 8  | 7  | 4  | -  | -  | 4  | 5  | 4  | 8* | 5* | 3* | 2* | 1* | 1* | 1* | -  | -  | -  | 6* | 1* | 1* |
| VR2 = 24 | 4*  | 5* | 5* | 5* | 5* | 5* | 6* | 7* | 1* | 5  | 4  | 6* | 7* | 4  | 6  | 6  | 7  | 7  | 8  | 8  | 4  | -  | 3* | 3* | 3* |
| JA1 = 25 | 6   | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 2  | 5* | 6* | 8  | 7* | 1* | 1* | 1* | 1* | 2* | 1* | -  | 3  | 5  | 5  | 5  |
| HS = 26  | 2*  | 3* | 4* | 4* | 2* | -  | 1* | 4* | -  | 5  | 5  | 5  | 6  | 6  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 1  | 2* |
| DU = 27  | 6*  | 7* | 5* | 4* | 3* | 4* | 4* | 2* | -  | 2  | 7  | 8  | 8  | 7  | 6  | 6  | 6  | 5  | 4  | 1  | -  | 1* | 5* | 7* | 7* |
| YB = 28  | 4*  | 1* | 4* | 3* | 2* | 2* | 3* | 2* | -  | 1  | 8  | 8  | 5  | 4* | 3* | 2* | 1* | 3* | 2* | 1  | 1  | -  | -  | 6* | 6* |
| VK6 = 29 | 4*  | 1* | -  | -  | 1* | 1* | 1* | -  | -  | 1  | 6  | 5  | 2* | 1* | 1* | -  | -  | -  | 1  | 1  | -  | -  | 1* | 1* | 1* |
| VK3 = 30 | 1*  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | 1* | 1* | -  | 1* | 5* | 6  | 3* |    |
| KH6 = 31 | 7   | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 2  | -  | -  | -  | 6  | -  | -  | -  | 6  | 5  | 4  | 6  | 7  | 5  | 3  | 5  |
| KH8 = 32 | 1   | 1* | 1* | -  | -  | -  | 1  | 2  | 1  | 2* | 1* | 1* | 1* | 1* | 1* | 1* | -  | -  | 6  | 6  | 6  | 5  | 5  | 6  | 6  |
| CN = 33  | 2   | -  | 2  | 2  | 2  | -  | -  | -  | -  | 2  | 9  | 7  | 8  | 7  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 1  | -  |
| SU = 34  | 9   | 9  | 3  | 1  | 2  | 6  | -  | -  | -  | 5  | 7  | 6  | 5  | 6  | 3  | 3  | 4  | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9   | 9  | 8  | 4  | -  | -  | -  | -  | -  | 2  | 9+ | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 1*  | -  | -  | -  | -  | -  | 1* | 1* | 1  | 4  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 2  | 1  | 1  | 1  |
| 5Z = 37  | -   | -  | -  | 4* | 2* | 1* | 1* | 1* | 3  | 8  | 8  | 7  | 7  | 6  | 7  | 7  | 7  | 9  | 8  | 9  | 7  | 3  | 1  | -  | -  |
| ZS6 = 38 | -   | -  | -  | -  | 2* | 2* | 2* | 1* | 1  | 6  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -   | -  | 2* | 2* | 1* | 1* | 1* | 1* | 3  | 8  | 8  | 7  | 8  | 7  | 8  | 7  | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -   | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 1  | 4* | 3* | 1  | 2  | 1  | 1  | 1  | 1  | -  | -  | -  | 1  | -  | -  |
| Zone     | UTC | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Apr., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |         | 2  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  |
| VO2 = 02 |         | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 2  | 2  | 3  | 5  | 7  | 7  | 8  | 8  | 8  | 9  | 8  |
| W6 = 03  |         | 9  | 9  | 9  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  | 7  | 8  | 7  | 8  | 9  | 8  | 9  |
| W9 = 04  |         | 9  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 2  | 2  | 6  | 7  | 8  | 8  | 9  | 9  | 9  |
| W3 = 05  |         | 8  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 4  | 6  | 9  | 8  | 9  | 9  | 9  | 9  | 9  |
| XE1 = 06 |         | 9  | 9  | 9  | 9  | 8  | 5  | 2  | 5  | -  | -  | -  | -  | -  | 7  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  |
| TI = 07  |         | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | 6  | 4  | 2  | 4  | 5  | 9  | 9  | 9  | 9+ | 9+ | 9  |
| VP2 = 08 |         | 8  | 6  | 7  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | 1  | 9  | 9  | 7  | 3  | 1  | 4  | 9  | 9  | 9+ | 9+ | 9+ | 9  |
| P4 = 09  |         | 7  | 7  | 8  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | 4  | 5  | 4  | 1  | -  | 1  | 6  | 9  | 9+ | 9+ | 9  | 8  |
| HC = 10  |         | 6  | 6  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 2  | 7  | 3  | 1* | 9  | 9  | 8  | 1  | 5  | 7  | 7  | 7  |
| PY1 = 11 |         | -  | 1  | 2  | 3  | 4  | 3  | 1  | -  | -  | -  | -  | -  | 2  | 3  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 1  |
| CE = 12  |         | 7  | 7  | 7  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  |
| LU = 13  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | 2  | 6  | 9  | 9  | 8  | 2* | 4* | 1* |
| G = 14   |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 6  | 6  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 4  | -  | -  |
| I = 15   |         | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | 9  | 7  | 6  | 5  | 7  | 5  | 6  | 8  | 9  | 9  | 9  | -  | -  | -  |
| UA3 = 16 |         | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 5  | 4  | 2  | 2  | 2  | 1  | 2  | 4  | 6  | 5  | 4  | -  | -  | -  |
| UN = 17  |         | -  | -  | 4  | 2  | 1  | 1  | -  | -  | -  | -  | 6  | 5  | 4  | 6* | 4  | 4  | 4  | 1  | -  | -  | -  | -  | -  | 1* |
| UA9 = 18 |         | -  | -  | -  | -  | 2  | 5  | 1  | -  | -  | -  | 2  | 1  | 5* | 5* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 |         | 1  | 1  | 1  | 2  | 3  | 4  | 5  | -  | -  | -  | -  | 6* | 6* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 4X = 20  |         | 6  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 5  | 2  | 3  | 7  |
| HZ = 21  |         | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 5  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 8  | 8  | 6  | 7  | 3  |
| VU = 22  |         | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 3  | 6* | 5  | 6  | 6  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  |         | -  | -  | 1  | 6  | 6  | 5  | 1  | -  | -  | -  | 6  | 4  | 5* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 4* | -  |
| VR2 = 24 |         | 7* | 8* | 7* | 6* | 5* | 5* | 6* | 4* | -  | 1  | 6  | 6  | 6  | 6  | 7  | 7  | 7  | 8  | 8  | 6  | -  | -  | 3* | 5* |
| JA1 = 25 |         | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | -  | 1* | 6* | 8* | 8* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| HS = 26  |         | 5* | 7* | 6* | 5* | 4* | 3* | 4* | 1* | -  | 1  | 7  | 7  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 3  | -  | 1* |
| DU = 27  |         | 7* | 7* | 6* | 5* | 4* | 4* | 3* | -  | -  | -  | 1  | 8* | 8  | 7  | 7  | 7  | 5  | 2  | 1  | -  | -  | -  | 4* | 7* |
| YB = 28  |         | 6* | 6* | 6* | 5* | 4* | 3* | 2* | 1* | -  | -  | 4  | 6  | 6* | 7* | 6* | 5* | 4* | 3* | 2* | -  | -  | -  | -  | 6* |
| VK6 = 29 |         | 4* | 3* | 2* | 1* | 2* | -  | 1* | -  | -  | -  | -  | 6* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VK3 = 30 |         | 2* | 1* | 1* | 1* | -  | 1* | 1* | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 2  | 3* |
| KH6 = 31 |         | 8  | 8  | 9  | 9  | 8  | 7  | 7  | 5  | -  | -  | -  | -  | 1  | -  | -  | -  | 1  | 6  | 6  | 6  | 6  | 5  | 5  | 6  |
| KH8 = 32 |         | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 4* | 2* | 2* | 1* | -  | -  | 2  | 7  | 7  | 7  | 6  | 7  | 4  |
| CN = 33  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 7  | -  | -  |
| SU = 34  |         | 8  | 5  | -  | -  | -  | 1  | -  | -  | -  | -  | 7  | 6  | 5  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 6  | 7  | 8  |
| 6W = 35  |         | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 5  | 2  | 2  | 3  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 7  |
| D2 = 36  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 8  | 7  | 3  | 2* | 1* | 1* |
| 5Z = 37  |         | -  | -  | -  | 3* | 1* | -  | -  | -  | -  | 5  | 8  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 2* | -  | -  | -  |
| ZS6 = 38 |         | -  | -  | -  | -  | 1* | 3* | 1* | -  | -  | 1  | 6  | 8  | 8  | 8  | 8  | 8  | 6  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  |         | -  | -  | -  | 4* | 3* | 2* | 1* | -  | -  | 4  | 8  | 8  | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |

Zone UTC --> \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



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|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 4  | 2  | -  |
| W6 = 03  | 9       | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  |
| W9 = 04  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 7  | 7  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  | 7  | 8  | 6  |
| XE1 = 06 | 8       | 8  | 9  | 7  | 3  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | 4  | 7  | 6  | 7  | 8  | 9  | 8  | 9  | 9  | 9  |
| TI = 07  | 5       | 5  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 9  | 8  | 6  |
| VP2 = 08 | 3       | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | 1  | 6  | 8  | 9  | 8  | 5  |
| P4 = 09  | 2       | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2  | 5  | 6  | 6  | 4  |
| HC = 10  | 1       | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 8  | 6  | 7  | 8  | -  | -  | -  | -  | 2  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2  | 7  | 9  | 9+ | 9  | 8  | 1  | -  |
| CE = 12  | 1       | 1  | 2  | 3  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 1  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 2  | 3* | 3* | 1* |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 6  | 7  | 8  | 8  | 7  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 7  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 5  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 2  | 1  | 2* | 3* | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 8  | -  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 6  | 7  | 7  | 7  | 8  | 9  | 8  | -  | 1  | -  | 2  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  | 5  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | 1  | 2  | 1  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 6*      | 5* | 7* | 6* | 4* | 2* | 2* | -  | -  | -  | 2  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | -  | -  | -  | -  | 2* |
| JA1 = 25 | 3       | 5  | 7  | 7  | 6  | 6  | 5  | 1  | -  | -  | 1* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | 2*      | 5* | 6* | 5* | 2* | 1* | 1* | -  | -  | -  | 2  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 3  | -  | -  | -  | -  |
| DU = 27  | 4*      | 6* | 6* | 4* | 3* | 1* | 1* | -  | -  | -  | -  | 2* | 6  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | 4* |
| YB = 28  | 5*      | 5* | 5* | 4* | 2* | 1* | 1* | -  | -  | -  | -  | 1  | 7* | 7* | 5* | 3* | 2* | 1* | -  | -  | -  | -  | -  | 2* |
| VK6 = 29 | 4*      | 3* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* |
| VK3 = 30 | 2*      | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 5* | 6* |
| KH6 = 31 | 7       | 7  | 7  | 6  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 5  | 8  | 7  | 6  | 7  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 5* | 2* | -  | -  | -  | -  | -  | 7  | 7  | 8  | 8  | 6  | 1* |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 4  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | -  | -  | -  |
| SU = 34  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 6  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 3  | -  | -  | 2  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 1  | -  | -  | -  | -  | -  | 5  | 9  | 9+ | 9+ | 9  | 4  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 7  | 7  | 8  | 8  | 7  | 8  | 4  | 3* | 1* | -  | -  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 3  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | 1  | 5  | 7  | 8  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 5* | 2* | -  | -  | -  | -  | -  | 4  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



10 Meters: Apr., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |   |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |   |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |   |
| W6 = 03  | 6       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |   |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  |   |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  | 3  | -  |   |
| XE1 = 06 | 7       | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 5  | 7  | 8  | 8  | 8  | 8  |   |
| TI = 07  | 1       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 1  |   |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3  | 1  |   |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  |   |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1* | 1* | 2  | -  | -  | -  | -  | -  |   |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | 3  | 5  | 3* | 4  | -  | -  |   |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9+ | 9+ | 9+ | 7  | 2  | -  |   |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 1* | -  | -  |   |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 5  | -  | -  | -  | -  |   |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | -  | -  | -  | -  |   |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |   |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |   |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |   |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |   |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 7  | 8  | 8  | 8  | 9  | 8  | 2  | -  | -  | -  | -  |   |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  |   |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 6  | 7  | 6  | -  | -  | -  | -  | -  | -  | -  | -  |   |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |   |
| VR2 = 24 | -       | -  | 5* | 4* | 1* | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 5  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  |   |
| JA1 = 25 | -       | -  | 5  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |   |
| HS = 26  | -       | 1* | 3* | 2* | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  |   |
| DU = 27  | -       | 3* | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | 3  | -  | -  | -  | -  | -  | -  | -  | -  |   |
| YB = 28  | 2*      | 2* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 2* | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |   |
| VK6 = 29 | 3*      | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |   |
| VK3 = 30 | 2*      | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 5* |   |
| KH6 = 31 | 4       | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 7  | 6  |   |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 6  | 2  | -  |   |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 5  | 8  | 9  | 8  | 9  | 9  | 6  | -  | -  | -  |   |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 7  | -  | -  | -  | -  |   |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 3* | 5  | 5  | 2  | -  | -  |   |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 6  | 7  | 8  | 2  | 2* | 1* | -  | -  | -  |   |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  | 8  | 8  | 9  | 8  | 6  | -  | -  | -  | -  | -  |   |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |   |
| FR = 39  | -       | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | 3  | 2  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | - |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |   |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |   |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: May, Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2       | 3  | 5  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 2  | 4  | 3  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 1  | 1  | 5  | 5  | 5  | 4  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 3  | 4  | 4  | 4  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 1  | 3  | 4  | 5  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2       | 3  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3       | 4  | 4  | 4  | 5  | 4  | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| P4 = 09  | 3       | 4  | 4  | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | 5       | 6  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | 3  | 6  | 9  | 9  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | 1  | -  | 2  | 5  | 9  | 9  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| I = 15   | 5       | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| UA3 = 16 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 4       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  |
| HZ = 21  | 2       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 1  | 3  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 2  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| SU = 34  | 4       | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  |
| 6W = 35  | 4       | 5  | 5  | 5  | 5  | 5  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  |
| D2 = 36  | 5       | 5  | 4  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 4  | 4  |
| 5Z = 37  | 5       | 4  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  |
| ZS6 = 38 | 5       | 5  | 5  | 6  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  | 5  |
| FR = 39  | 5       | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: May, Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | 1  | 2  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 6  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | 1  | 3  | 5  | 7  | 6  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 1       | 4  | 4  | 8  | 8  | 8  | 7  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 6  | 7  | 7  | 7  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | 1       | 4  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5       | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| VP2 = 08 | 6       | 7  | 7  | 7  | 8  | 7  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  |
| P4 = 09  | 6       | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  |
| HC = 10  | 8       | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | -  | -  | 2  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 2  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 4  | 3  | 5  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| I = 15   | 8       | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  |
| UA3 = 16 | 5       | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| UN = 17  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 7       | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| HZ = 21  | 5       | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| VU = 22  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  |
| SU = 34  | 7       | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  |
| 6W = 35  | 7       | 8  | 8  | 8  | 8  | 8  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  |
| D2 = 36  | 8       | 8  | 7  | 8  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 7  |
| 5Z = 37  | 8       | 7  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| ZS6 = 38 | 8       | 8  | 8  | 9  | 9  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 8  |
| FR = 39  | 8       | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: May, Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone                 | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------------------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|                      | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01             | 1       | 1  | 2  | 3  | 4  | 7  | 6  | 6  | 6  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02             | 8       | 9  | 9  | 9  | 8  | 8  | 9  | 8  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  |
| W6 = 03              | 1       | 2  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04              | 6       | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| W3 = 05              | 8       | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| XE1 = 06             | 6       | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| TI = 07              | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| VP2 = 08             | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  |
| P4 = 09              | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  |
| HC = 10              | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  |
| PY1 = 11             | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12              | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13              | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14               | 8       | 9  | 9  | 9  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 8  |
| I = 15               | 8       | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 8  |
| UA3 = 16             | 7       | 5  | 5  | 8  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 5  |
| UN = 17              | 5       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  |
| UA9 = 18             | 3       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| UA0 = 19             | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  |
| 4X = 20              | 8       | 8  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| HZ = 21              | 8       | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| VU = 22              | 4       | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 4  |
| JT = 23              | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 2  |
| VR2 = 24             | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 5  |
| JA1 = 25             | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | -  | -  |
| HS = 26              | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 7  |
| DU = 27              | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 1  |
| YB = 28              | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 7  | 7  |
| VK6 = 29             | 5       | 2  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 7  | 7  |
| VK3 = 30             | -       | -  | -  | 1  | 1  | 2  | 4  | 5  | 6  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 4  | 1  |
| KH6 = 31             | -       | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32             | -       | -  | 1  | 3  | 5  | 7  | 8  | 8  | 8  | 7  | 8  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33              | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 8  | 8  |
| SU = 34              | 8       | 8  | 8  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| 6W = 35              | 9       | 9  | 9  | 9  | 9  | 8  | 5  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 8  | 9  | 9  |
| D2 = 36              | 8       | 8  | 9  | 8  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 8  | 8  | 8  |
| 5Z = 37              | 9       | 9  | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 8  |
| ZS6 = 38             | 9       | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  |
| FR = 39              | 9       | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 9  | 9  |
| FJL = 40             | 4       | 5  | 4  | 4  | 3  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | 6  |
| Zone                 | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> * = Longpath |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: May, Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 2            | 2  | 3  | 6  | 5  | 6  | 6  | 7  | 7  | 6  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 =   | 02 | 8            | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 7  |
| W6 =    | 03 | 4            | 6  | 7  | 7  | 8  | 8  | 8  | 7  | 8  | 6  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 =    | 04 | 7            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 7  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| W3 =    | 05 | 8            | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 5  | 6  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  |
| XE1 =   | 06 | 8            | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 6  | 3  | 3  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| TI =    | 07 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 2  | 5  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  |
| VP2 =   | 08 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 1  | 5  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  |
| P4 =    | 09 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 1  | 3  | 9  | 7  | 5  | 3  | 1  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 9  |
| HC =    | 10 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 3  | -  | 2  | 8  | 5  | 3  | 1  | -  | -  | -  | 1  | 2  | 5  | 6  | 8  | 9  |
| PY1 =   | 11 | 9+           | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 5  | 1  | 5  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| G =     | 14 | 8            | 8  | 9  | 8  | 8  | 8  | 7  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 8  |
| I =     | 15 | 8            | 8  | 8  | 8  | 8  | 7  | 7  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 8  |
| UA3 =   | 16 | 6            | 8  | 7  | 7  | 5  | 5  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 6  |
| UN =    | 17 | 7            | 5  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 8  | 7  |
| UA9 =   | 18 | 6            | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 6  | 6  |
| UA0 =   | 19 | -            | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 3* | 3* | 2* | -  | -  | -  | -  | -  | 2* | 4* | 5* | 4* | 2* | -  |
| 4X =    | 20 | 7            | 8  | 7  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 8  | 6  |
| HZ =    | 21 | 8            | 8  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| VU =    | 22 | 7            | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  | 8  | 8  |
| JT =    | 23 | 5            | 1  | 1  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 5  |
| VR2 =   | 24 | 5            | 2  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 2* | 2* | -  | -  | -  | -  | 1  | 2  | 4  | 6  | 3  | 5  | 5  |
| JA1 =   | 25 | -            | -  | -  | -  | -  | -  | -  | 2  | 5  | 4  | 5  | 4  | 4  | 1  | -  | -  | -  | -  | 3* | 5* | 5* | 5* | 3* | 2* |
| HS =    | 26 | 6            | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  | 8  | 7  | 6  |
| DU =    | 27 | 3            | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 2  | 1  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 2  | 2* | 6  | 5  |
| YB =    | 28 | 6            | 5  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 1  | 1  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  | 6  | 6  |
| VK6 =   | 29 | 6            | 5  | 4  | 2  | 2  | 1  | 1  | 2  | 5  | 5  | 6  | 5  | 5  | 2  | 1  | -  | -  | 2  | 3  | 4  | 5  | 5  | 6  | 7  |
| VK3 =   | 30 | 4            | 2  | 2  | 2  | 4  | 5  | 5  | 5  | 6  | 8  | 7  | 5  | 3  | 2  | 1  | 1  | -  | 1  | 1  | -  | 2  | 6  | 6  | 5  |
| KH6 =   | 31 | -            | -  | 3  | 5  | 6  | 7  | 8  | 8  | 8  | 3  | -  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | 1  | 2  | 4  | 6  | 7  | 7  | 8  | 8  | 5  | -  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 9            | 8  | 9  | 8  | 8  | 8  | 7  | 5  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 8  | 8  | 8  |
| SU =    | 34 | 7            | 8  | 8  | 7  | 6  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 8  | 6  |
| 6W =    | 35 | 9            | 9  | 8  | 8  | 5  | 1  | -  | 2  | 4  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | 1  | 3  | 5  | 8  | 9  | 9  | 9  |
| D2 =    | 36 | 5            | 5  | 7  | 5  | 3  | 1  | 4  | 2  | 4  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 7  | 7  | 6  | 5  |
| 5Z =    | 37 | 8            | 8  | 6  | 2  | 6  | 8  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  | 8  | 8  | 8  |
| ZS6 =   | 38 | 6            | 8  | 7  | 8  | 4  | 5  | 5  | 2  | 5  | 3  | 2  | 1  | -  | -  | -  | 1  | 2  | 4  | 6  | 6  | 8  | 8  | 5  | 5  |
| FR =    | 39 | 6            | 2  | 1  | 7  | 8  | 6  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3  | 5  | 7  | 8  | 7  | 6  | 7  |
| FJL =   | 40 | 5            | 7  | 7  | 7  | 6  | 6  | 5  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 4  | 5  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 7       | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 1  | 4* | 6* | 5* | 3* | 1  | 3  | 3  | 4  | 2  | 4  | 5* | 4  | 5  | 6  | 7  |
| VO2 = 02 | 9       | 9  | 9  | 8  | 5  | 2  | 6  | 1  | -  | 4  | 9  | 8  | 8  | 7  | 5  | 5  | 3  | 5  | 6  | 7  | 8  | 9  | 9  | 9  |
| W6 = 03  | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 3* | 2* | 8  | 5  | 7  | 4  | 2  | 1  | 1  | 1  | 1  | 1  | 2  | 5  | 6  |
| W9 = 04  | 9       | 9  | 9  | 9  | 8  | 4  | 1  | 5  | -  | 1  | 7  | 8  | 8  | 8  | 5  | 5  | 4  | 4  | 4  | 4  | 6  | 7  | 8  | 9  |
| W3 = 05  | 9       | 9  | 9  | 9  | 9  | 6  | 8  | 2  | -  | 1  | 5  | 9  | 8  | 8  | 6  | 5  | 4  | 4  | 5  | 5  | 7  | 8  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | 5  | 8  | 7  | 6  | 5  | 5  | 2  | 4  | 5  | 8  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9  | 7  | 5  | 1  | -  | 1* | -  | -  | 9  | 8  | 6  | 5  | 5  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9  | 7  | 4  | -  | -  | -  | 6  | 9  | 9  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9  | 9+ | 9+ | 8  | 7  | 4  | -  | -  | -  | 1* | 9  | 9  | 8  | 7  | 7  | 7  | 7  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9  | 7  | 4  | 2  | -  | -  | 3* | -  | 1* | 9  | 8  | 5  | 6  | 5  | 5  | 6  | 7  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 8       | 8  | 8  | 9  | 9  | 8  | 7  | 5  | 1  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  |
| CE = 12  | 9+      | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 2  | 4  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 2       | 4  | 6  | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | 2  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 6  | 4  | 1  |
| G = 14   | 9       | 9  | 8  | 6  | 8  | 8  | 6  | -  | 1  | 7  | 7  | 6  | 4  | 1  | 1  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 8  | 5  | -  | 1  | 6  | 4  | 2  | 1  | -  | -  | -  | 1  | 4  | 5  | 8  | 9  | 9  | 9  | 8  |
| UA3 = 16 | 7       | 5  | 4  | 5  | 8  | 8  | 3  | -  | -  | 4  | 2  | 1  | 1* | 1* | 1* | -  | 1  | 3  | 6  | 8  | 8  | 8  | 9  | 8  |
| UN = 17  | 8       | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | 8  | 2* | -  | -  | 1  | 4  | 6  | 7  | 9  | 9  | 8  | 8  |
| UA9 = 18 | 6       | 7  | 7  | 8  | 6  | 5  | 1  | -  | -  | 4  | 2  | 7  | 8  | 2* | 1* | 1* | 2* | 2  | 6  | 6  | 6  | 7  | 6  | 6  |
| UA0 = 19 | 5       | 5  | 2  | 3  | 6  | 6  | 6  | 1  | -  | 3* | 8  | 7  | 8* | 7* | 5* | 5* | 5* | 5* | 6* | 6* | 7* | 7* | 6  | 5  |
| 4X = 20  | 9       | 9  | 8  | 6  | 8  | 5  | -  | -  | -  | 3  | 1  | 1  | -  | -  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 8       | 7  | 7  | 6  | 6  | 4  | -  | -  | 1  | 1  | 1  | -  | 1  | 1* | 1  | 1  | 3  | 5  | 8  | 8  | 9  | 9  | 9  | 7  |
| VU = 22  | 5       | 3  | 3  | 3  | 5  | 1  | -  | -  | -  | -  | -  | -  | 7  | 2* | 1* | 1  | 3  | 6  | 6  | 6  | 7  | 8  | 5  | 3  |
| JT = 23  | 7       | 7  | 7  | 6  | 4  | 3  | -  | -  | -  | 3  | 5  | 5  | 6  | 3* | 5* | 2* | 2* | 2  | 7  | 6  | 5  | 5  | 5  | 6  |
| VR2 = 24 | 4*      | 1* | -  | -  | -  | -  | 1* | 2* | 1* | 6  | 5  | 7* | 6* | 6* | 4* | 2  | 5  | 5  | 7  | 6  | 4* | 3* | 2* | 3* |
| JA1 = 25 | 1       | 1  | 2  | 2  | 4  | 6  | 5  | 5  | 2  | 5* | 5* | 8  | 9  | 7  | 5  | 4* | 5* | 6* | 7* | 7  | 6  | 7* | 6  | 1  |
| HS = 26  | 3       | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 5  | 5  | 4* | 3  | 4  | 5  | 6  | 7  | 8  | 8  | 7  | 2* | 1* |
| DU = 27  | 2*      | 1* | -  | -  | -  | -  | 1* | 1* | -  | 5  | 6  | 7  | 7  | 6  | 5  | 5  | 2  | 2  | 3  | 3* | 4* | 2* | 1* | 1  |
| YB = 28  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  | 6  | 3* | -  | 1  | 2  | 4  | 5  | 7  | 8  | 5  | 2* | 1  |
| VK6 = 29 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 5  | 1* | -  | -  | 1  | 1  | 1  | 1  | 1  | 1  | 2  | 2  |
| VK3 = 30 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1* | 1* | -  | -  | -  | -  | -  | 1* | 1* | 2* | 4  | 6  | 2  |
| KH6 = 31 | 3       | 6  | 8  | 8  | 8  | 5  | 6  | 7  | 4  | 2* | 2* | 4  | 8  | 1  | -  | 4  | 2  | 1  | 1  | 2* | 2* | 1  | 1  | 2  |
| KH8 = 32 | 2       | 1  | -  | 1* | 1* | 2  | 1  | 4  | 2  | -  | -  | -  | 6  | 4  | -  | -  | -  | 4  | 4  | 7  | 8  | 3  | 3  | 4  |
| CN = 33  | 9       | 5  | 6  | 8  | 8  | 6  | 4  | -  | -  | 7  | 8  | 7  | 4  | 1  | -  | 1  | 1  | 4  | 7  | 9  | 9  | 9  | 9  | 4  |
| SU = 34  | 9       | 9  | 8  | 7  | 8  | 7  | 1  | -  | -  | 3  | 1  | 1  | -  | -  | 1  | 1  | 2  | 5  | 7  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9       | 4  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 6  | 5  | 4  | 5  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 1       | 1  | -  | 1  | -  | -  | -  | -  | 5  | 8  | 8  | 7  | 5  | 2  | 2  | 4  | 8  | 9  | 9  | 7  | 6  | 4  | 2  | 1  |
| 5Z = 37  | 5       | 2  | -  | 1* | -  | 5  | -  | -  | 5  | 5  | 2  | 2  | 1  | 3  | 4  | 5  | 6  | 8  | 8  | 8  | 6  | 5  | 2  | 1  |
| ZS6 = 38 | 1       | 1  | -  | 1  | -  | -  | -  | -  | 3  | 8  | 7  | 7  | 7  | 4  | 5  | 8  | 8  | 6  | 3  | 4  | 6  | 6  | -  | -  |
| FR = 39  | -       | -  | -  | -  | 4  | 3  | -  | -  | 2  | 5  | 5  | 5  | 8  | 5  | 5  | 6  | 2  | -  | 1  | 5  | 4  | -  | -  | -  |
| FJL = 40 | 7       | 5  | 4  | 5  | 1  | 8  | 6  | -  | -  | 5  | 6  | 5  | 8  | 3  | 1  | -  | 1* | 1  | 5  | 5  | 7  | 8  | 8  | 8  |

Zone UTC --> \* = Longpath

Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: May, Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 7       | 8  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | 3* | 1* | 2* | -  | -  | 1  | 1  | 1  | 1* | 5* | 1* | -  | -  | 4  |
| VO2 = 02 | 9       | 9  | 6  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 9  | 8  | 7  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9  | 8  | 6  | 5  | 1  | -  | -  | -  | 3  | -  | 2  | 8  | 7  | 7  | 9  | 9  | 6  | 7  | 8  | 7  | 8  |
| W9 = 04  | 9       | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | 2  | -  | 7  | 8  | 7  | 6  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| W3 = 05  | 9       | 8  | 8  | 8  | 6  | -  | 1  | -  | -  | -  | -  | 3  | 8  | 8  | 7  | 9  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9       | 8  | 8  | 7  | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | 9  | 8  | 9  | 8  | 9  | 7  | 8  | 8  | 9  | 9  | 9  |
| TI = 07  | 9       | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 5  | 2  | 3  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 8       | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 4  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  |
| P4 = 09  | 7       | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 6  | 9  | 5  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9  |
| HC = 10  | 7       | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1* | 2  | 9  | 8  | 3  | 9  | 9  | 9  | 1  | 5  | 8  | 9+ | 8  |
| PY1 = 11 | -       | -  | 1  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | 5  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 3  | -  |
| CE = 12  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 2  | 6  | 8  | 4  | 3* | 3* | 1* |
| G = 14   | 5       | 1  | -  | -  | 3  | 4  | -  | -  | -  | 1  | 9  | 8  | 8  | 8  | 8  | 5  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| I = 15   | 1       | 1  | 1  | -  | 2  | 4  | -  | -  | -  | 2  | 8  | 8  | 7  | 9  | 8  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 4  | -  |
| UA3 = 16 | 1       | -  | -  | -  | 2  | 3  | -  | -  | -  | 1  | 8  | 6  | 5  | 6  | 6  | 6  | 6  | 6  | 8  | 9  | 9  | 9  | 7  | 5  |
| UN = 17  | 1       | 3  | 5  | 3  | 1  | -  | -  | -  | -  | 1  | 4  | 5  | 1  | 3* | 2  | 5  | 5  | 7  | 8  | 9  | 8  | 4  | 3  | 2  |
| UA9 = 18 | -       | 1  | 2  | 5  | 2  | 2  | -  | -  | -  | -  | 5  | 4  | 3  | 6* | 5* | 5* | 4  | 5  | 2  | 3  | 1  | 5* | 1  | -  |
| UA0 = 19 | 5       | 1  | 2  | 7  | 5  | 4  | 2  | -  | -  | -  | 2  | 7  | 8* | 8* | 6* | 6* | 5* | 4* | 5* | -  | -  | 2  | 2  | 5  |
| 4X = 20  | 6       | 5  | -  | 1  | 4  | -  | -  | -  | -  | 3  | 7  | 6  | 8  | 5  | 4  | 4  | 6  | 8  | 9  | 9  | 9  | 5  | 1  | 5  |
| HZ = 21  | 1       | -  | 1  | -  | -  | -  | -  | -  | -  | 3  | 6  | 5  | 6  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 3  | -  |
| VU = 22  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 3  | 2  | 3  | 4  | 6  | 7  | 4  | 1* | -  | -  | 1  | -  | 3* |
| JT = 23  | 3       | 5  | 8  | 6  | 4  | 1  | -  | -  | -  | 1  | 5  | 4  | 2  | 8* | 7* | 5* | 5  | 5  | 2  | 3  | 1  | 6* | 1* | -  |
| VR2 = 24 | 4*      | 6* | 5* | 4* | 1* | -  | -  | -  | -  | 1  | 5  | 5  | 9* | 7* | 6  | 6  | 5  | 5  | 3  | -  | -  | 4* | 3* | 3* |
| JA1 = 25 | 6       | 7  | 7  | 7  | 5  | 2  | 1  | -  | -  | 1* | 6* | 8* | 8  | 7* | 5* | 4* | 4* | 5* | 6* | 2  | 6  | 4  | 5  | 7  |
| HS = 26  | 3*      | 5* | 4* | 2* | -  | -  | -  | -  | -  | 1  | 6  | 6  | 7  | 7  | 7  | 7  | 6  | 6  | 6  | 5  | 1  | 1  | 1* | 2* |
| DU = 27  | 5*      | 5* | 5* | 3* | 1* | -  | -  | -  | -  | -  | 2  | 7  | 8  | 8  | 5  | 2* | 2* | 1* | -  | -  | -  | 5* | 4* | 5* |
| YB = 28  | 3*      | 5* | 4* | 2* | 1* | -  | -  | -  | -  | -  | 5  | 7  | 5* | 4* | 5* | 2* | 1* | -  | 1  | 2  | 2  | -  | -  | 6* |
| VK6 = 29 | 2*      | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1  | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VK3 = 30 | 1*      | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 2* | 1* | 2* |
| KH6 = 31 | 8       | 8  | 8  | 5  | -  | -  | -  | -  | -  | 2* | 2* | 1* | 7  | -  | -  | -  | 7  | 5  | 5  | 7  | 7  | 6  | 6  | 6  |
| KH8 = 32 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | -  | -  | -  | -  | 4  | 7  | 7  | 7  | 7  | 7  | 7  | 3  |
| CN = 33  | 1       | -  | -  | -  | 4  | 1  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 7  | 9  | 7  | 8  | 9  | 9  | 9  | 9  | 1  | -  |
| SU = 34  | 5       | 5  | -  | 1  | 4  | 1  | -  | -  | -  | 2  | 7  | 6  | 6  | 7  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 6  | 2  | 5  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 7  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 8  | 9  | 6  | 2* | 1* | -  | -  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 8  | 4  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 7  | 8  | 8  | 8  | 9  | 6  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | 2* | 2* | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | 1       | -  | -  | -  | -  | 4  | -  | -  | -  | 1  | 3  | 2  | 4* | 6* | 2  | 4  | 3  | 2  | 3  | 3  | 2  | 5  | 4  | 2  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC --> \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



15 Meters: May, Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 3            | 5  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  |
| VO2 =   | 02 | 8            | 8  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 1  | 1  | 1  | 2  | 3  | 6  | 7  | 8  | 9  | 9  | 9  |
| W6 =    | 03 | 9            | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 5  | 4  | 5  | 8  | 8  | 9  | 9  | 9  |
| W9 =    | 04 | 7            | 7  | 7  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | 2  | 6  | 8  | 8  | 9  | 9  | 9  |
| W3 =    | 05 | 6            | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  |
| XE1 =   | 06 | 9            | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 9  |
| TI =    | 07 | 6            | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | 1* | 5  | 6  | 9  | 9+ | 9  | 8  |
| VP2 =   | 08 | 2            | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 2  | 1  | -  | -  | 2  | 5  | 9  | 9+ | 9  | 6  |
| P4 =    | 09 | 1            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 1* | -  | 1  | 5  | 8  | 8  | 5  |
| HC =    | 10 | 1            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | 1* | 9  | 8  | 9  | 9  | -  | 1  | 2  | 4  |
| PY1 =   | 11 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 9  | 9  | 8  | 7  | -  | -  |
| CE =    | 12 | 1            | 2  | 4  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  |
| LU =    | 13 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 3* | 2* | -  | -  |
| G =     | 14 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 5  | 4  | 5  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 6  | -  |
| I =     | 15 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 8  | 5  | 5  | 6  | 6  | 8  | 8  | 9  | 9  | 5  | -  | -  |
| UA3 =   | 16 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 3  | 1  | 1* | 2* | 1* | 2  | 5  | 7  | 8  | 8  | 7  | 4  | -  |
| UN =    | 17 | -            | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 3  | 3  | 5* | 5* | 6  | 7  | 7  | 6  | 1  | -  | -  | -  |
| UA9 =   | 18 | -            | -  | -  | 1  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 2* | 6* | 5* | 2* | -  | -  | -  | -  | -  | -  | -  |
| UA0 =   | 19 | 1            | -  | -  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4* | 6* | 3* | 2* | 2* | 1* | -  | -  | -  | -  | -  | 1  |
| 4X =    | 20 | 1            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 6  | 5  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 5  | -  | -  | -  |
| HZ =    | 21 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 5  | 7  | 6  | 6  | 7  | 8  | 9  | 6  | 2  | 7  | -  | -  |
| VU =    | 22 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 4  | 6* | 5  | 6  | 7  | -  | -  | -  | -  | -  | -  | -  |
| JT =    | 23 | -            | -  | 6  | 2  | -  | -  | -  | -  | -  | -  | 4  | 1  | 1  | 5* | 7* | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  |
| VR2 =   | 24 | 7*           | 7* | 5* | 1* | -  | -  | -  | -  | -  | -  | 2  | 6  | 8* | 7  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | 5* | 6* |
| JA1 =   | 25 | 6            | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | 1* | 5* | 8* | 2* | 3* | 2* | 2* | 2* | -  | -  | 1  | 5  | 5  | 5  |
| HS =    | 26 | 5*           | 5* | 3* | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | 4* |
| DU =    | 27 | 5*           | 5* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | 2* | 8* | 7  | 3  | 1* | -  | -  | -  | -  | -  | 1* | 6* | 7* |
| YB =    | 28 | 5*           | 4* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 5* | 7* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | 6* |
| VK6 =   | 29 | 2*           | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* |
| VK3 =   | 30 | 1*           | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 5* | 2* |
| KH6 =   | 31 | 7            | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | 1  | 6  | 6  | 6  | 7  | 7  | 6  | 7  |
| KH8 =   | 32 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | 7  | 7  | 7  | 7  | 3  | -  | -  |
| CN =    | 33 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 7  | 9  | 9  | 7  | 7  | 8  | 9  | 9  | 9+ | 9  | 7  | -  | -  |
| SU =    | 34 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 6  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 8  | -  | -  | -  |
| 6W =    | 35 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 5  | 2  | 1  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ | 8  | -  |
| D2 =    | 36 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 7  | 8  | 8  | 7  | 8  | 4  | 2* | -  | -  | -  | -  |
| 5Z =    | 37 | -            | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 8  | 7  | 8  | 8  | 9  | 8  | 7  | 5  | -  | -  | -  | -  | -  |
| ZS6 =   | 38 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 8  | 8  | 6  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR =    | 39 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL =   | 40 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | 1  | -  | -  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 14 dBi isotropic antennas.



12 Meters: May, Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 3       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 6  |
| W6 = 03  | 7       | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  |
| W9 = 04  | 3       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 6  | 8  | 6  |
| W3 = 05  | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | 4  | 6  | 8  | 5  | 7  | 4  |
| XE1 = 06 | 7       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 9  | 8  | 8  |
| TI = 07  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 2  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 1  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  | 5  | -  | -  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1* | 1  | -  | -  |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 7  | 9  | 9+ | 9  | 1  | -  | -  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 8  | 8  | 5  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 7  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 3  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | -  | 1* | 4* | 3  | 2  | 1  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 8  | -  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | -  | -  | 1  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  | 6  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 1*      | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 2  | -  | -  | -  | -  | -  | -  | 1* | 3* |
| JA1 = 25 | -       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | 1*      | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | 2*      | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 5* |
| YB = 28  | 2*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| VK6 = 29 | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 2* |
| KH6 = 31 | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3  | 5  | 8  | 7  | 6  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 7  | 3* | -  | -  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | -  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | -  | -  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | -  | -  | -  | -  | -  | -  | 4  | 8  | 9  | 7  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 2  | 6  | 3* | 3* | -  | -  | -  | -  | -  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 8  | 9  | 4  | 1* | -  | -  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



10 Meters: May, Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 2  |
| W6 = 03  | 3       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 5  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 2  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | -  | 3  | 1  |
| XE1 = 06 | 3       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 7  | 6  |
| TI = 07  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2  | 5  | 3  | -  | -  | -  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 8  | 9  | 8  | 1  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 7  | 8  | 8  | 9  | 3  | -  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  | 7  | 8  | 8  | 3  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 3* | 5  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* |
| KH6 = 31 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 6  | 4  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3* | 1* | -  | -  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 6  | 7  | 8  | 8  | 9  | 6  | -  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 7  | 8  | 8  | 9  | 6  | -  | -  | -  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 3* | 3* | 2* | -  | -  | -  | -  | -  |
| SZ = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 4* | 5  | 3* | 1* | -  | -  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Jun., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 1       | 3  | 5  | 5  | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 1  | 3  | 3  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | -  | 1  | 5  | 5  | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 2  | 4  | 5  | 5  | 3  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | 3  | 4  | 5  | 5  | 5  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2       | 3  | 4  | 4  | 4  | 4  | 5  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3       | 4  | 4  | 4  | 5  | 5  | 5  | 5  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| P4 = 09  | 3       | 4  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HC = 10  | 4       | 4  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 5  | 1  | -  | -  | 2  | 5  | 9  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | 5  | 6  | 9  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | 3  | 4  | 6  | 9  | 9  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| I = 15   | 4       | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| UA3 = 16 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 4       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  |
| HZ = 21  | 4       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 2  | 3  | 3  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 1  | 2  | 4  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 6  | 5  | 5  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| SU = 34  | 4       | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  |
| 6W = 35  | 4       | 5  | 5  | 5  | 5  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  |
| D2 = 36  | 4       | 4  | 4  | 6  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 4  |
| 5Z = 37  | 5       | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |
| ZS6 = 38 | 5       | 5  | 5  | 5  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 5  | 5  |
| FR = 39  | 5       | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Jun., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | 2  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4       | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 2  | 4  | 6  | 6  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 3  | 4  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 1       | 5  | 7  | 8  | 8  | 6  | 8  | 8  | 8  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | 1       | 3  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5       | 6  | 7  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| VP2 = 08 | 6       | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| P4 = 09  | 6       | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| HC = 10  | 7       | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 4  | 1  | 1  | 5  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | -  | 1  | 3  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 6  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  |
| I = 15   | 7       | 7  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| UA3 = 16 | 5       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 7       | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  |
| HZ = 21  | 7       | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| VU = 22  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 1  |
| VK6 = 29 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | 1  | 2  | 6  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | 1  | 4  | 5  | 7  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 9  | 8  | 8  | 8  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 7  |
| SU = 34  | 7       | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  |
| 6W = 35  | 7       | 8  | 8  | 8  | 8  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  |
| D2 = 36  | 7       | 7  | 7  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 9  | 7  |
| 5Z = 37  | 8       | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 9  | 8  | 8  |
| FR = 39  | 8       | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | 1  | -  | 1  | 3  | 5  | 7  | 6  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 8  | 7  | 9  | 8  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| W6 = 03  | -       | 3  | 5  | 7  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 6       | 8  | 7  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 4  |
| W3 = 05  | 7       | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| XE1 = 06 | 6       | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| TI = 07  | 7       | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| VP2 = 08 | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| P4 = 09  | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  |
| HC = 10  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9  | 8  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 9  | 9  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 5  | 6  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 1  | 7  | 8  | 8  |
| UA3 = 16 | 7       | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  |
| UN = 17  | 7       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  |
| UA9 = 18 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  | -  | -  |
| 4X = 20  | 7       | 8  | 5  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 8  | 8  |
| HZ = 21  | 5       | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 8  |
| VU = 22  | 5       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 6  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 1  | 1  |
| VR2 = 24 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 5  | 6  | 3  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | 1* | 4* | -  | -  | -  |
| HS = 26  | 6       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 7  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | -  | 6  | 1  |
| YB = 28  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 7  | 8  | 7  |
| VK6 = 29 | 6       | 5  | 2  | 1  | 1  | -  | 1  | 1  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 8  |
| VK3 = 30 | 1       | 1  | 1  | 1  | 2  | 5  | 6  | 7  | 8  | 8  | 7  | 7  | 6  | 2  | 1  | -  | -  | -  | 1  | 4  | 6  | 6  | 6  | 5  |
| KH6 = 31 | -       | -  | -  | 3  | 5  | 7  | 8  | 8  | 8  | 8  | 2  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | 1  | 3  | 5  | 6  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 7  | 8  | 9  |
| SU = 34  | 7       | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 7  | 1  | 5  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 6  | 8  | 8  |
| D2 = 36  | 7       | 8  | 8  | 8  | 8  | 7  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 7  | 7  | 7  |
| 5Z = 37  | 9       | 7  | 8  | 7  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 9  |
| ZS6 = 38 | 8       | 9  | 8  | 9  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 9  | 9  | 8  |
| FR = 39  | 9       | 9  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 9  | 9  |
| FJL = 40 | 3       | 3  | 3  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1       | 2  | 2  | 3  | 6  | 5  | 6  | 6  | 6  | 6  | 6  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 8       | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 3  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 6  | 8  |
| W6 = 03  | 4       | 5  | 6  | 7  | 8  | 7  | 8  | 8  | 8  | 5  | 3  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 7  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| W3 = 05  | 8       | 8  | 8  | 9  | 9  | 8  | 8  | 7  | 5  | 5  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  |
| XE1 = 06 | 8       | 8  | 8  | 9  | 8  | 8  | 8  | 7  | 5  | 1  | 2  | 6  | 6  | 2  | 1  | 1  | -  | -  | -  | -  | 1  | 1  | 4  | 6  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 4  | 1  | -  | 7  | 6  | 5  | 2  | 1  | -  | -  | 1  | 1  | 3  | 5  | 7  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 7  | 2  | -  | 4  | 9  | 7  | 6  | 3  | 1  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 1  | 1  | 8  | 8  | 6  | 4  | 2  | 1  | -  | 1  | 1  | 4  | 5  | 7  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 2  | -  | -  | 6  | 7  | 4  | 4  | 1  | 1  | 1  | 1  | 4  | 7  | 7  | 8  | 9  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 9  | 8  | 6  | 3  | 3  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 9  | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9       | 9  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  |
| G = 14   | 8       | 8  | 7  | 8  | 8  | 8  | 6  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 7  | 7  | 6  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 8  |
| UA3 = 16 | 7       | 6  | 7  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  |
| UN = 17  | 7       | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 5  | 6  |
| UA9 = 18 | 5       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 6  | 6  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | 1  | 1  | 1* | 2  | 4* | 4* | 4* | 2* | -  | -  | -  | -  | 3* | 4* | 5* | 4* | 1* | -  |
| 4X = 20  | 7       | 7  | 8  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 7  | 8  |
| HZ = 21  | 7       | 7  | 7  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  | 8  | 7  |
| VU = 22  | 5       | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 7  | 7  | 5  |
| JT = 23  | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | 1* | -  | -  | -  | -  | 1* | 1  | 1  | 2  | 5  | 5  |
| VR2 = 24 | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 2* | 1* | -  | -  | -  | 1  | 3  | 6  | 6  | 4  | 4  | 3  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | 2  | 5  | 2  | 2* | 6  | 4  | 1  | -  | -  | -  | 1* | 4* | 5* | 6* | 5* | 2* | -  |
| HS = 26  | 3       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | 1  | 1  | 5  | 6  | 8  | 8  | 5  | 2  |
| DU = 27  | 2       | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2* | 2  | 2  | 2  | -  | -  | -  | 1  | 2  | 1  | 3* | 2* | 3  | 3  |
| YB = 28  | 3       | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 3  | 2  | 2  | 1  | -  | -  | 1  | 5  | 6  | 7  | 7  | 5  | 4  |
| VK6 = 29 | 5       | 4  | 3  | 2  | 2  | 1  | 1  | 5  | 6  | 7  | 6  | 5  | 3  | 1  | 1  | 2  | 3  | 4  | 5  | 5  | 5  | 6  | 6  | 6  |
| VK3 = 30 | 4       | 2  | 1  | 1  | 4  | 5  | 4  | 3  | 5  | 6  | 5  | 5  | 2  | 2  | 2  | 1  | 1  | 1  | 1  | 1  | 5  | 7  | 6  | 6  |
| KH6 = 31 | -       | -  | 2  | 5  | 7  | 7  | 8  | 8  | 7  | -  | -  | 6  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | 1  | 2  | 2  | 2  | 3  | 5  | 7  | 7  | 4  | -  | 1  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 9  | 8  | 8  | 8  | 6  | -  | 1  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 8  | 8  | 8  |
| SU = 34  | 7       | 8  | 8  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 8  |
| 6W = 35  | 9       | 9  | 8  | 4  | 1  | -  | -  | -  | -  | 8  | 5  | 2  | 1  | -  | -  | -  | 1  | 1  | 4  | 5  | 7  | 8  | 9  | 9  |
| D2 = 36  | 3       | 4  | 3  | 5  | 1  | -  | 1  | -  | 4  | 6  | 2  | 1  | -  | -  | -  | -  | 1  | 5  | 8  | 7  | 7  | 4  | 4  | 2  |
| 5Z = 37  | 5       | 5  | 4  | -  | 4  | 6  | 1  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 6  | 5  | 4  | 4  |
| ZS6 = 38 | 2       | 5  | 5  | 6  | 4  | 1  | 1  | 1  | 5  | 5  | 2  | 1  | 1  | 1  | 1  | 2  | 4  | 6  | 6  | 5  | 7  | 8  | 4  | 1  |
| FR = 39  | 6       | 2  | -  | 5  | 8  | 6  | 2  | -  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | -  | 2  | 6  | 8  | 8  | 7  | 5  |
| FJL = 40 | 5       | 5  | 2  | 5  | 5  | 4  | 2  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 4  |

Zone UTC --> \* = Longpath

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



## 20 Meters: Jun., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 7       | 8  | 8  | 9  | 8  | 7  | 6  | 5  | 1  | 1* | 5* | 6* | 5* | 3* | 5  | 3  | 3  | 4  | 3* | 4* | 5  | 5  | 6  | 6  |
| VO2 = 02 | 9       | 9  | 9+ | 9  | 8  | 6  | 4  | -  | -  | 2  | 7  | 8  | 7  | 7  | 6  | 5  | 5  | 6  | 6  | 8  | 8  | 9  | 9  | 9  |
| W6 = 03  | 8       | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 3  | 2* | 4* | 8  | 4  | 8  | 5  | 3  | 1  | 1  | 1  | 1  | 2  | 3  | 5  | 7  |
| W9 = 04  | 9       | 9  | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | 7  | 8  | 9  | 6  | 5  | 6  | 2  | 4  | 5  | 7  | 8  | 8  | 9  |
| W3 = 05  | 9       | 9  | 9  | 9  | 8  | 6  | 5  | 1  | -  | -  | 1  | 8  | 8  | 7  | 6  | 6  | 6  | 6  | 6  | 6  | 6  | 8  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9  | 9  | 8  | 6  | 5  | 3  | -  | 1* | -  | -  | 5  | 8  | 7  | 8  | 6  | 5  | 5  | 5  | 6  | 8  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 7  | 4  | 2  | -  | -  | 1* | 1* | -  | 9  | 8  | 8  | 7  | 7  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9  | 5  | 1  | -  | -  | -  | -  | 1* | 9+ | 9  | 8  | 8  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9  | 9  | 5  | 1  | -  | -  | -  | -  | -  | 6  | 9  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 8  | 5  | 1  | -  | -  | 2* | 1* | 1* | 8  | 7  | 9  | 8  | 6  | 6  | 7  | 9  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 7       | 7  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | 1  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  |    |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 1  | 1  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |    |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 5  | 1  | 2* |
| G = 14   | 9+      | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | 2  | 6  | 6  | 2  | 1  | 1  | 1  | 2  | 4  | 8  | 7  | 9  | 9  | 9  | 9  |
| I = 15   | 9+      | 9  | 9  | 9  | 8  | 7  | 1  | -  | -  | 4  | 4  | 2  | 1  | -  | -  | -  | 1  | 2  | 6  | 8  | 9  | 9  | 9  | 9  |
| UA3 = 16 | 8       | 7  | 5  | 8  | 6  | 5  | -  | -  | -  | 1  | 2  | 1  | -  | 1* | 1* | -  | 4  | 2  | 5  | 7  | 8  | 9  | 8  | 9  |
| UN = 17  | 8       | 8  | 5  | 3  | 2  | 1  | -  | -  | -  | 1  | -  | -  | -  | 2* | 2* | -  | 1  | 3  | 5  | 7  | 8  | 9  | 9  | 8  |
| UA9 = 18 | 7       | 7  | 8  | 5  | 2  | 1  | -  | -  | -  | 1  | 1  | 1  | 8  | 2* | 2* | 1* | 1* | 2* | 4* | 7  | 8  | 8  | 7  | 8  |
| UA0 = 19 | 7       | 2  | 2  | 4  | 3  | 2  | 2  | -  | -  | 1  | 5  | 8  | 8* | 8  | 7* | 6* | 6* | 6* | 7* | 7* | 8* | 5  | 5  | 5  |
| 4X = 20  | 6       | 6  | 4  | 3  | 3  | 1  | -  | -  | -  | 4  | 1  | 1  | -  | -  | 1  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 7  |
| HZ = 21  | 1       | 1  | 2  | 1  | 2  | 1  | -  | -  | -  | 3  | 1  | 1  | 1  | 1  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 8  | 1  |
| VU = 22  | 1*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 3* | 2* | 2  | 3  | 5  | 8  | 8  | 8  | 9  | 4  | -  |
| JT = 23  | 7       | 7  | 6  | 4  | 1  | 1  | -  | -  | -  | 1  | 1  | 7  | 5  | 5* | 5* | 5* | 4* | 3* | 5  | 8  | 8  | 8  | 7  | 7  |
| VR2 = 24 | 5*      | -  | -  | -  | -  | -  | -  | 1* | -  | 6  | 5  | 4  | 7* | 7* | 5* | 4  | 5  | 6  | 5  | 5* | 4* | 4* | 3* | 3* |
| JA1 = 25 | 1       | 1  | 2  | 3  | 4  | 2  | 4  | 4  | 1  | 5* | 5* | 6* | 9  | 8  | 6  | 5  | 6* | 7* | 8* | 8* | 8* | 6  | 1  | 1  |
| HS = 26  | 1*      | 3* | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 5  | 5* | 5  | 5  | 5  | 6  | 7  | 7  | 8  | 8  | 5  | 2* | 1* |
| DU = 27  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  | 6  | 6  | 2  | 1* | 2* | 2* | 5* | 4* | 5* | 2* | 2* |
| YB = 28  | -       | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  | 7  | 3  | 1* | 1  | 2  | 2  | 4  | 5  | 6  | 3  | 1* | 1* |
| VK6 = 29 | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 3  | 1* | -  | -  | -  | 1  | 1  | 1  | 1  | 1  | 2  | 1* |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 1  | -  | -  | -  | 1* | 2* | 2* | 1  | 3  | 1* |
| KH6 = 31 | 4       | 6  | 8  | 8  | 6  | 3  | 4  | 5  | 1  | 1* | 2* | 2* | 8  | 5  | 1  | 5  | 2  | 1  | 1* | 2  | 1  | 1  | 1  | 2  |
| KH8 = 32 | 2       | 1  | -  | -  | -  | -  | -  | 1  | 1  | 1* | -  | 1* | 4  | 3  | -  | -  | -  | 5  | 5  | 6  | 7  | 3  | 4  | 4  |
| CN = 33  | 8       | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | 3  | 8  | 7  | 4  | 2  | 1  | 1  | 1  | 6  | 7  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 5       | 5  | 4  | 3  | 7  | 4  | -  | -  | -  | 4  | 2  | 1  | -  | 1  | 1  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 7  |
| 6W = 35  | 9       | 4  | -  | -  | -  | -  | -  | -  | -  | 2  | 9  | 8  | 7  | 5  | 5  | 5  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 6  | 4  | 3  | 4  | 5  | 8  | 8  | 7  | 2  | -  | -  | -  |
| 5Z = 37  | -       | -  | -  | -  | -  | 1  | -  | -  | 2  | 6  | 5  | 5  | 2  | 3  | 3  | 6  | 7  | 8  | 9  | 6  | 1* | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | 1* | -  | -  | -  | 1  | 6  | 8  | 8  | 7  | 6  | 6  | 7  | 8  | 4  | -  | -  | 1  | 2  | -  | -  |
| FR = 39  | -       | -  | 1* | -  | 1  | 1  | -  | -  | 2  | 7  | 7  | 5  | 8  | 7  | 7  | 6  | -  | -  | -  | 1  | 3  | 1  | -  | -  |
| FJL = 40 | 8       | 7  | 7  | 8  | 6  | 4  | 1  | -  | -  | 3  | 7  | 5  | 4  | 2  | 1  | 1  | 1  | 2* | 8  | 5  | 7  | 8  | 8  | 8  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Jun., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 7       | 8  | 8  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | 1* | 5* | 4* | 2* | 1  | 4  | 5  | 5  | 2* | -  | 1  | 6  | 7  |
| VO2 = 02 | 9       | 9  | 9  | 7  | 2  | -  | -  | -  | -  | -  | -  | 9  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 8  | 7  | 4  | 2  | 1  | -  | -  | -  | 2  | -  | 1  | 8  | 8  | 8  | 9  | 9  | 7  | 6  | 8  | 9  | 9  |
| W9 = 04  | 9       | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | 8       | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | 2  | 8  | 8  | 7  | 9  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 8  |
| XE1 = 06 | 9       | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  |
| TI = 07  | 8       | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 2  | -  | -  | 1  | 4  | 9  | 9  | 9+ | 9+ | 8  |
| VP2 = 08 | 5       | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 5  | 6  | 4  | 5  | 9  | 9  | 9+ | 9+ | 9  | 7  |
| P4 = 09  | 5       | 5  | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 1* | -  | 2  | 3  | 6  | 8  | 9+ | 9+ | 8  | 7  |
| HC = 10  | 5       | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 5  | 7  | 2  | 9  | 9  | 3  | 5  | 7  | 7  | 7  | 7  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 1  | -  |
| CE = 12  | 5       | 5  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | 3  | 3* | 4* | 2* | -  | -  |
| G = 14   | 9       | 6  | 2  | 6  | 1  | -  | -  | -  | -  | -  | 9  | 8  | 8  | 8  | 9  | 9  | 6  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ |
| I = 15   | 9       | 9  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | 8  | 8  | 7  | 9  | 8  | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 8  |
| UA3 = 16 | 1       | -  | -  | 4  | 1  | -  | -  | -  | -  | -  | 8  | 5  | 5  | 6  | 6  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 7  |
| UN = 17  | 2       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 5  | 4  | 5* | 5  | 6  | 8  | 8  | 9  | 9  | 8  | 8  | 3  |
| UA9 = 18 | 1       | 1  | 6  | 2  | -  | -  | -  | -  | -  | -  | 5  | 3  | 2  | 3  | 6* | 7* | 7* | 5  | 7  | 5  | 4  | 1  | -  | 1  |
| UA0 = 19 | 1       | 3  | 5  | 6  | 2  | -  | -  | -  | -  | -  | -  | 8  | 6  | 8* | 9* | 8* | 8* | 7* | 6* | 1* | 1  | 2  | 1  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 6  | 8  | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 8  | 7  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 6  | 4  | 5  | 5  | 7  | 8  | 9  | 9  | 6  | 1  | 1  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 2  | 4* | 4  | 5  | 6  | 8  | 3* | 2* | 1  | 7  | -  | 3* |
| JT = 23  | 2       | 8  | 6  | 2  | 1  | -  | -  | -  | -  | -  | 6  | 3  | 3  | 3  | 8* | 8* | 8* | 6  | 7  | 4  | 2  | 4* | 1  | 1  |
| VR2 = 24 | 5*      | 5* | 4* | 1* | -  | -  | -  | -  | -  | -  | 5  | 6  | 8  | 8* | 8  | 7  | 4  | 2  | 1  | -  | -  | 2* | 5* | 3* |
| JA1 = 25 | 8       | 7  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | 2* | 7* | 9  | 9* | 7* | 5* | 7* | 7* | 8* | 5* | 6  | 6  | 7  | 7  |
| HS = 26  | 3*      | 4* | 3* | 1* | -  | -  | -  | -  | -  | -  | 5  | 7  | 8  | 8  | 8  | 8  | 6  | 5  | 5  | 2  | 1  | -  | 1* | 2* |
| DU = 27  | 5*      | 5* | 5* | 2* | -  | -  | -  | -  | -  | -  | -  | 2* | 8* | 8  | 5* | 3* | 2* | 2* | 1* | -  | -  | 2* | 7* | 5* |
| YB = 28  | 5*      | 4* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 5* | 7* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VK6 = 29 | 1*      | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 6* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* |
| VK3 = 30 | 1*      | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 4* | 2* |
| KH6 = 31 | 7       | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | 5* | 6* | 6  | -  | -  | -  | 6  | 6  | 6  | 6  | 7  | 7  | 6  | 7  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 6  | 7  | 7  | 2  |
| CN = 33  | -       | -  | -  | 3  | 1  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 1  |
| SU = 34  | -       | -  | -  | 1  | -  | -  | -  | -  | -  | -  | 7  | 7  | 6  | 7  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 8  | 7  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 8  | 8  | 5  | 4  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 8  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 2  | 1* | -  | -  | -  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 6  | 8  | 8  | 8  | 9  | 9  | 7  | -  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 8  | 9  | 8  | 9  | 4  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 1* | -  | -  | -  | -  | -  | 1  | 8  | 6  | 8  | 6  | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | 1       | -  | -  | 5  | 1  | -  | -  | -  | -  | -  | 5  | 5  | 3  | 2  | 5* | 5* | 4  | 3  | 4  | 5  | 6  | 5  | 4  | 3  |

Zone UTC --> \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Jun., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2            | 2  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | 1* | -  | -  | -  | 1  | 1  |
| VO2 = 02 | 6            | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 5  | 5  | 5  | 6  | 5  | 6  | 7  | 8  | 8  | 7  |
| W6 = 03  | 8            | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 7  | 6  | 7  | 7  | 8  | 9  | 8  | 8  |
| W9 = 04  | 5            | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 5  | 4  | 5  | 6  | 6  | 8  | 9  | 8  | 6  |
| W3 = 05  | 4            | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 6  | 7  | 8  | 9  | 9  | 8  | 8  | 5  |
| XE1 = 06 | 8            | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 4  | 5  | 8  | 8  | 8  | 8  | 8  | 9  | 8  |
| TI = 07  | 2            | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | 6  | 7  | 8  | 7  | 4  |
| VP2 = 08 | -            | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 7  | 5  | 1  |
| P4 = 09  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  | 4  | 1  |
| HC = 10  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | 8  | 8  | 8  | -  | -  | -  | -  | 1  |
| PY1 = 11 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 2  | 4  | 8  | 6  | 5  | -  | -  |
| CE = 12  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  |
| LU = 13  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | 1* | -  | -  |
| G = 14   | 8            | -  | -  | 1  | -  | -  | -  | -  | -  | -  | 5  | 4  | 6  | 6  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| I = 15   | 6            | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | 7  | 5  | 8  | 8  | 8  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 4  | 1  |
| UA3 = 16 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 2  | 2  | 1  | 1  | 1  | 2  | 4  | 7  | 8  | 8  | 8  | 5  | 1  |
| UN = 17  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 4  | 3  | 4  | 6* | 6  | 7  | 8  | 8  | 6  | 2  | 5  | -  |
| UA9 = 18 | -            | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 2* | 1  | -  | -  | -  | -  | -  |
| UA0 = 19 | -            | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 2* | 3* | 5* | 2* | 1* | -  | -  | -  | -  | -  |
| 4X = 20  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 6  | 7  | 6  | 7  | 8  | 9  | 9  | 9  | 8  | 1  | 1  | -  |
| HZ = 21  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 5  | -  | -  | -  | -  |
| VU = 22  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  | 6* | 6  | 8  | 4  | -  | -  | -  | 2  | -  | -  |
| JT = 23  | -            | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 5  | 1  | 1  | 2  | 2  | 4* | 6* | 3* | 2  | -  | -  | -  | -  | -  |
| VR2 = 24 | 6*           | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 4* | 6* |
| JA1 = 25 | 5            | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 7  | 8* | 4* | 3* | 3* | 4* | 3* | -  | 2  | 3  | 6  | 5  | -  |
| HS = 26  | 4*           | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | 3* |
| DU = 27  | 4*           | 4* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 5* |
| YB = 28  | 2*           | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 6* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4* |
| VK6 = 29 | 1*           | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | 1*           | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 2* |
| KH6 = 31 | 5            | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2  | -  | -  | -  | 2  | 5  | 4  | 5  | 6  | 7  | 7  | 7  |
| KH8 = 32 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 7  | 3  | -  |
| CN = 33  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | -  | 8  | 9  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 1  | -  |
| SU = 34  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  | 6  | 7  | 8  | 9  | 9  | 9  | 8  | 1  | 1  | -  |
| 6W = 35  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 9+ | 4  | 1  | -  | -  | -  | 2  | 7  | 9+ | 9+ | 9  | 5  | 2  |
| D2 = 36  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 6  | 7  | 8  | 8  | 8  | 8  | 3  | 2* | -  | -  | -  | -  |
| 5Z = 37  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 7  | 8  | 9  | 9  | 8  | 7  | 2  | -  | -  | -  | -  | -  |
| ZS6 = 38 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 7  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -            | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1  | 1* | -  | -  | -  | -  | -  |
| Zone     | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



12 Meters: Jun., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 1       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 2  | 1  | 1  | 3  | 6  | 5  | 2  |
| W6 = 03  | 4       | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | 4  | 5  | 6  | 7  | 7  | 5  |
| W9 = 04  | 1       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 2  | 2  | 4  | 5  | 5  | 1  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 1  | 2  | 5  | 6  | 7  | 3  | 4  | 1  |
| XE1 = 06 | 5       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 7  | 8  | 8  | 7  | 6  |
| TI = 07  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 4  | -  | -  | -  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 5  | 9  | 9  | -  | -  | -  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  |
| G = 14   | 3       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 4  | 5  | 4  | 5  | 6  | 8  | 9  | 8  | 4  | 5  |
| I = 15   | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 5  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 4  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2  | 5  | 6  | 4  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 3  | 2  | 2  | 3  | 4  | 5  | 3  | 2  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 8  | 1  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 7  | 8  | 8  | 8  | 9  | 6  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 7  | 8  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 2*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1* | 1* |
| JA1 = 25 | -       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | 1*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 8  | 7  | 5  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 2* | -  | -  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 5  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 2  | -  | -  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 3  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3* | 3* | 3* | 3* | -  | -  | -  | -  | -  | -  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 7  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



10 Meters: Jun., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  |
| W6 = 03  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 4  | 4  | 1  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 1  | 2  | 3  | -  | -  | -  |
| XE1 = 06 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 4  | 5  | 5  | 1  |
| TI = 07  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 1  | -  | -  | -  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | 1  | 3  | 5  | 5  | 2  | -  | 1  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 6  | 7  | 8  | 8  | 8  | 7  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | 1  | 1  | 2  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 7  | 8  | 8  | 5  | -  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 5  | 6  | 7  | 1  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 5  | 1  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 5  | 6  | 8  | 7  | 8  | 7  | -  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 6  | 7  | 7  | 7  | 6  | -  | -  | -  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | 3* | -  | -  | -  | -  | -  |
| SZ = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2* | 2* | -  | -  | -  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Jul., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2       | 4  | 5  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | 2  | 4  | 5  | 3  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 1  | 2  | 5  | 5  | 4  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 3  | 5  | 5  | 5  | 5  | 3  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 1  | 3  | 3  | 5  | 5  | 5  | 3  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2       | 3  | 4  | 4  | 4  | 5  | 5  | 5  | 5  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 3       | 4  | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| P4 = 09  | 3       | 4  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 3       | 4  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | 5  | 9  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 5  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 5  | 2  | 1  | 3  | 6  | 9  | 9  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| I = 15   | 5       | 5  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| UA3 = 16 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 4       | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| HZ = 21  | 3       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 2  | 2  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 1  | 2  | 4  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| SU = 34  | 4       | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  |
| 6W = 35  | 5       | 6  | 5  | 5  | 5  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | 4  |
| D2 = 36  | 6       | 6  | 5  | 4  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  |
| 5Z = 37  | 5       | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| ZS6 = 38 | 5       | 5  | 5  | 5  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  |
| FR = 39  | 5       | 5  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Jul., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | 1  | 2  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | 1  | 3  | 5  | 7  | 8  | 6  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 1       | 4  | 5  | 8  | 8  | 7  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 2       | 6  | 8  | 8  | 8  | 8  | 6  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | 1       | 4  | 6  | 6  | 8  | 8  | 8  | 6  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5       | 6  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| VP2 = 08 | 6       | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  |
| P4 = 09  | 6       | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  |
| HC = 10  | 6       | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 2  | 1  | 1  | 3  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 2  | -  | -  | -  | 2  | 7  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | 4  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| I = 15   | 8       | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  |
| UA3 = 16 | 5       | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| UN = 17  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 7       | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  |
| HZ = 21  | 6       | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  |
| VU = 22  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 4  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 2  | 5  | 5  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | 1  | 4  | 5  | 7  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 8  |
| SU = 34  | 7       | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  |
| 6W = 35  | 8       | 9  | 8  | 8  | 8  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 5  | 7  |
| D2 = 36  | 9       | 9  | 8  | 7  | 9  | 9  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  |
| 5Z = 37  | 8       | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  | 8  |
| FR = 39  | 8       | 8  | 8  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Jul., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | 1  | 2  | 5  | 5  | 6  | 6  | 6  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 7       | 9  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| W6 = 03  | 1       | 4  | 5  | 7  | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 6       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| W3 = 05  | 8       | 8  | 9  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  |
| XE1 = 06 | 6       | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| TI = 07  | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | 3  | 7  | 7  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9  | 9  | 7  | 6  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 9  | 9  | 9  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  |
| UA3 = 16 | 7       | 7  | 6  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  |
| UN = 17  | 4       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 4  | 4  |
| UA9 = 18 | 2       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 5  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 2  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 1* | -  | -  |
| 4X = 20  | 8       | 8  | 8  | 5  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  | 8  |
| HZ = 21  | 8       | 8  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| VU = 22  | 5       | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 5  |
| JT = 23  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 1  | 1  |
| VR2 = 24 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 3  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | -  | -  | -  |
| HS = 26  | 6       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 7  | 7  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 1  | 5  | 1  |
| YB = 28  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 7  | 7  |
| VK6 = 29 | 6       | 2  | 1  | 1  | -  | -  | -  | 1  | 4  | 5  | 5  | 1  | 2  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 8  |
| VK3 = 30 | 1       | -  | -  | 1  | 1  | 2  | 5  | 7  | 7  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 5  | 2  |
| KH6 = 31 | -       | -  | -  | 4  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | 1  | 3  | 5  | 6  | 8  | 8  | 8  | 7  | 4  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 9  | 9  | 9  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 8  | 5  | 1  | 7  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 6  | 8  | 9  |
| D2 = 36  | 8       | 8  | 8  | 8  | 8  | 6  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 8  |
| 5Z = 37  | 8       | 9  | 8  | 8  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 8  | 8  | 8  | 7  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 9  | 9  |
| FR = 39  | 9       | 8  | 7  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 9  | 9  |
| FJL = 40 | 4       | 4  | 4  | 3  | 2  | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Jul., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 1            | 2  | 4  | 6  | 5  | 6  | 7  | 6  | 5  | 5  | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 =   | 02 | 8            | 8  | 8  | 9  | 8  | 8  | 8  | 6  | 4  | 6  | 6  | 3  | 1  | 1  | -  | -  | -  | -  | 1  | 2  | 2  | 5  | 8  | 8  |
| W6 =    | 03 | 4            | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W9 =    | 04 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 5  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 5  | 8  |
| W3 =    | 05 | 8            | 8  | 8  | 9  | 8  | 8  | 8  | 6  | 4  | 5  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | 6  | 8  |
| XE1 =   | 06 | 8            | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 1  | 2  | 5  | 6  | 1  | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| TI =    | 07 | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 3  | -  | -  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 9  |
| VP2 =   | 08 | 9            | 9  | 9  | 9  | 8  | 8  | 7  | 2  | -  | 1  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 9  |
| P4 =    | 09 | 9            | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | 4  | 8  | 5  | 3  | 1  | -  | -  | 1  | 1  | 3  | 5  | 7  | 8  | 9  |
| HC =    | 10 | 9            | 9  | 9  | 9  | 9  | 9  | 6  | 5  | 1  | -  | -  | 5  | 6  | 5  | 2  | 1  | -  | -  | 1  | 4  | 6  | 6  | 7  | 8  |
| PY1 =   | 11 | 9            | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 8            | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | -  | -  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| G =     | 14 | 8            | 8  | 9  | 9  | 9  | 8  | 6  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 8  | 8  | 8  |
| I =     | 15 | 8            | 8  | 8  | 8  | 8  | 8  | 6  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  |
| UA3 =   | 16 | 7            | 8  | 7  | 7  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 6  | 7  | 7  |
| UN =    | 17 | 7            | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 8  |
| UA9 =   | 18 | 6            | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 6  | 6  |
| UA0 =   | 19 | -            | -  | -  | -  | -  | 1  | 1  | 1  | 1  | 4  | 4* | 4* | 2* | 1* | -  | -  | -  | -  | 2* | 4* | 7  | 4* | 2* | -  |
| 4X =    | 20 | 8            | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  | 8  | 8  |
| HZ =    | 21 | 8            | 8  | 7  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  | 8  | 8  |
| VU =    | 22 | 7            | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 8  | 8  | 7  |
| JT =    | 23 | 2            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | 1* | 2  | 6  | 6  | 5  |
| VR2 =   | 24 | 4            | 1  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | 5* | 2* | -  | -  | -  | -  | 1  | 3  | 5  | 4  | 2  | 3  | 5  |
| JA1 =   | 25 | -            | -  | -  | -  | -  | -  | -  | 3  | 5  | 2  | 2* | 7  | 4  | 1  | -  | -  | -  | 1* | 3* | 5* | 6* | 6* | 3* | 1* |
| HS =    | 26 | 4            | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 7  | 5  |
| DU =    | 27 | 2            | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2  | 2  | 1  | -  | -  | -  | -  | -  | 3  | 4  | 5* | 2* | 2  | 4  |
| YB =    | 28 | 4            | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 1  | 1  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  | 4  | 5  |
| VK6 =   | 29 | 5            | 4  | 2  | 1  | 1  | 1  | -  | -  | 2  | 5  | 6  | 6  | 5  | 2  | -  | -  | 1  | 2  | 3  | 4  | 4  | 4  | 5  | 6  |
| VK3 =   | 30 | 4            | 2  | 1  | 1  | 2  | 3  | 1  | 1  | 2  | 4  | 5  | 4  | 2  | 2  | 1  | 1  | -  | -  | 1  | -  | 1  | 5  | 6  | 5  |
| KH6 =   | 31 | -            | 1  | 3  | 6  | 7  | 8  | 8  | 8  | 7  | 3  | -  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | 2  | 3  | 3  | 3  | 4  | 5  | 6  | 5  | 1  | -  | -  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 8            | 8  | 9  | 8  | 8  | 8  | 7  | 2  | 3  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| SU =    | 34 | 8            | 8  | 8  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| 6W =    | 35 | 9            | 7  | 2  | -  | -  | -  | -  | -  | 2  | 7  | 5  | 1  | 1  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 9  | 9  |
| D2 =    | 36 | 4            | 4  | 3  | 4  | 1  | -  | 1  | -  | 4  | 4  | 2  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 7  | 5  | 4  | 4  |
| 5Z =    | 37 | 6            | 6  | 4  | -  | 4  | 6  | 1  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 7  | 6  | 5  |
| ZS6 =   | 38 | 4            | 2  | 1  | 2  | 1  | 2  | -  | -  | 3  | 4  | 2  | 1  | 1  | -  | 1  | 2  | 3  | 5  | 6  | 5  | 7  | 7  | 6  | 4  |
| FR =    | 39 | 2            | -  | -  | 2  | 7  | 4  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | 2  | 5  | 6  | 7  | 5  | 4  |
| FJL =   | 40 | 4            | 7  | 7  | 5  | 6  | 6  | 4  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | 4  | 4  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| UTC --> |    | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 4  | 1  | -  | 4* | 6* | 4* | 2* | 4  | 4  | 4  | 4  | 5  | 5* | 5  | 6  | 7  | 8  |
| VO2 =   | 02 | 9  | 9  | 9  | 8  | 6  | 5  | 4  | -  | -  | 1  | 6  | 8  | 9  | 8  | 7  | 6  | 6  | 6  | 8  | 8  | 8  | 9  | 9  | 9  |
| W6 =    | 03 | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | -  | 5* | 7  | 1  | 7  | 5  | 2  | 2  | 2  | 1  | 1  | 2  | 3  | 6  | 7  |
| W9 =    | 04 | 9  | 9  | 9  | 8  | 7  | 6  | 6  | 3  | -  | -  | -  | 5  | 8  | 9  | 7  | 5  | 6  | 6  | 5  | 6  | 7  | 8  | 9  | 9  |
| W3 =    | 05 | 8  | 8  | 8  | 8  | 6  | 4  | 4  | 1  | -  | -  | -  | 8  | 8  | 6  | 7  | 6  | 7  | 7  | 6  | 6  | 8  | 8  | 9  | 9  |
| XE1 =   | 06 | 9  | 9  | 8  | 8  | 7  | 6  | 5  | 4  | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 7  | 4  | 5  | 5  | 6  | 8  | 9  | 9  |
| TI =    | 07 | 9+ | 9+ | 9  | 7  | 5  | 3  | 2  | -  | -  | 1* | -  | -  | 9  | 7  | 6  | 6  | 5  | 5  | 6  | 7  | 9  | 9  | 9+ | 9+ |
| VP2 =   | 08 | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 8  | 6  | 6  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9  |
| P4 =    | 09 | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | 5  | 9  | 8  | 7  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9+ | 9  |
| HC =    | 10 | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | 1* | -  | 7  | 7  | 8  | 5  | 5  | 5  | 5  | 8  | 9  | 9  | 9  | 9  |
| PY1 =   | 11 | 6  | 6  | 7  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  |
| CE =    | 12 | 9  | 9  | 9  | 9  | 9+ | 9+ | 9  | 9  | 9  | 7  | 2  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | -  | -  | 1  | 4  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 8  | 6  | 1  |
| G =     | 14 | 9+ | 9  | 7  | 8  | 8  | 8  | 4  | -  | -  | 5  | 6  | 6  | 5  | 3  | 1  | 1  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 9  |
| I =     | 15 | 8  | 9  | 9  | 9  | 8  | 8  | 2  | -  | 1  | 6  | 4  | 4  | 1  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| UA3 =   | 16 | 7  | 4  | 1  | 1  | 7  | 6  | 2  | -  | -  | 4  | 2  | 1  | -  | 2* | 1* | 1  | 1  | 3  | 6  | 8  | 8  | 8  | 9  | 8  |
| UN =    | 17 | 7  | 8  | 6  | 4  | 2  | 1  | -  | -  | -  | 1  | -  | -  | 8  | 2* | 1* | -  | 1  | 2  | 5  | 7  | 9  | 9  | 8  | 8  |
| UA9 =   | 18 | 6  | 6  | 7  | 6  | 4  | 3  | 1  | -  | -  | 2  | 3  | 7  | 8  | 3* | 1* | 1* | 1  | 3  | 7  | 6  | 6  | 5* | 4* | 6  |
| UA0 =   | 19 | 6  | 6  | 4  | 4  | 2  | 3  | 2  | -  | -  | -  | 4  | 8  | 7* | 7* | 6* | 5* | 5* | 6* | 7* | 7* | 7* | 6  | 5  | 8  |
| 4X =    | 20 | 8  | 7  | 5  | 4  | 5  | 2  | -  | -  | -  | 4  | 2  | 1  | -  | -  | 1  | 1  | 3  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| HZ =    | 21 | 5  | 3  | 1  | 1  | 2  | 1  | -  | -  | -  | 3  | 2  | 1  | 1  | 1  | 1  | 2  | 4  | 5  | 8  | 9  | 8  | 9  | 9  | 7  |
| VU =    | 22 | 1  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 3* | 1  | 1  | 3  | 6  | 6  | 5  | 6  | 8  | 7  | 2  |
| JT =    | 23 | 7  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | 3  | 7  | 7  | 6  | 5* | 5* | 3* | 2* | 4  | 5  | 7  | 7  | 6  | 6  | 7  |
| VR2 =   | 24 | 4* | 1* | 1* | -  | -  | -  | 1* | 2* | 1* | 4  | 5  | 5  | 5* | 6* | 5* | 4  | 4  | 5  | 3  | 4* | 2* | 4* | 3* | 3* |
| JA1 =   | 25 | 1  | 1  | 2  | 3  | 4  | 5  | 5  | 5  | 1  | 2* | 6* | 5* | 9  | 7  | 4  | 4* | 5* | 6* | 8* | 8* | 6  | 6  | 7  | 2  |
| HS =    | 26 | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 5  | 5  | 4  | 4  | 5  | 5  | 6  | 7  | 8  | 8  | 7  | 2* | 1* |
| DU =    | 27 | 4* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 7  | 7  | 5  | 5  | 3  | 2* | 2* | 4* | 2* | 4* | 1* | 3* |
| YB =    | 28 | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 6  | 3* | 2* | 1* | 2  | 3  | 2  | 4  | 5  | 1  | -  | 2* |
| VK6 =   | 29 | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 5  | 3  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  | 1  | 4* |
| VK3 =   | 30 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | 1  | -  | -  | -  | 1* | -  | 1* | 1  | 5  | 1* |
| KH6 =   | 31 | 4  | 6  | 8  | 8  | 8  | 7  | 7  | 7  | 3  | 2* | 2* | 1* | 8  | 2  | -  | 2  | 2  | 1  | 1* | 4* | 3* | 1  | 1  | 2  |
| KH8 =   | 32 | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1  | 1  | -  | -  | -  | 2  | 5  | 7  | 8  | 3  | 3  | 5  |
| CN =    | 33 | 3  | 3  | 9  | 8  | 7  | 7  | 2  | -  | -  | 5  | 8  | 7  | 5  | 1  | -  | -  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 6  |
| SU =    | 34 | 8  | 7  | 5  | 5  | 7  | 2  | -  | -  | -  | 4  | 1  | 1  | 1  | 1  | 1  | 1  | 3  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |
| 6W =    | 35 | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 8  | 7  | 4  | 3  | 5  | 6  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 7  |
| D2 =    | 36 | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 8  | 7  | 5  | 4  | 4  | 4  | 5  | 8  | 8  | 8  | 5  | 1  | -  | -  |
| 5Z =    | 37 | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 5  | 3  | 2  | 5  | 5  | 6  | 6  | 8  | 9  | 8  | 5  | -  | -  | -  |
| ZS6 =   | 38 | -  | -  | -  | -  | 1* | -  | -  | -  | -  | 3  | 7  | 6  | 7  | 6  | 6  | 7  | 8  | 4  | -  | -  | 1  | 1  | -  | -  |
| FR =    | 39 | -  | -  | 1* | -  | -  | -  | -  | -  | 1  | 5  | 7  | 4  | 8  | 7  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL =   | 40 | 7  | 5  | 5  | 7  | 5  | 4  | 1  | -  | -  | 2  | 8  | 5  | 8  | 2  | 1  | 2  | 1  | 2  | 4  | 6  | 8  | 8  | 8  | 8  |
| Zone    |    | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Jul., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 6       | 6  | 6  | 5  | 2  | 1  | 1  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | 2  | 3  | -  | 1* | -  | 1  | -  | -  |
| VO2 = 02 | 5       | 5  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 6  | 7  | 8  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 8  |
| W6 = 03  | 9       | 8  | 8  | 7  | 6  | 4  | 3  | 1  | -  | -  | -  | 1  | -  | -  | 7  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 9  | 9  |
| W9 = 04  | 6       | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 7  | 4  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  |
| W3 = 05  | 4       | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 4  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 7  |
| XE1 = 06 | 9       | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 7  | 7  | 9  | 8  | 8  | 8  | 9  | 9  | 9  |
| TI = 07  | 5       | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1* | -  | -  | -  | 8  | 9  | 9  | 9+ | 9  | 7  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 2  | 1  | 3  | 2  | 3  | 6  | 9  | 9  | 9+ | 8  | 4  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2* | 1* | 2  | 1  | 1  | 4  | 7  | 9  | 9  | 8  | 3  |
| HC = 10  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3* | 1* | 8  | 9  | 8  | 1  | 2  | 4  | 3  | 3  |
| PY1 = 11 | -       | -  | -  | -  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 5  | -  |
| CE = 12  | 6       | 6  | 7  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3* | 4* | 1* | -  |
| G = 14   | 8       | 1  | -  | 3  | 1  | 1  | -  | -  | -  | -  | 8  | 8  | 8  | 9  | 9  | 9  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| I = 15   | 1       | 1  | 7  | 4  | 3  | 2  | -  | -  | -  | -  | 8  | 8  | 7  | 9  | 8  | 4  | 6  | 6  | 8  | 9  | 9  | 9  | 5  | 1  |
| UA3 = 16 | -       | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | 7  | 6  | 5  | 6  | 5  | 5* | 4  | 6  | 8  | 9  | 9  | 9  | 7  | 3  |
| UN = 17  | -       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 4  | 4  | 3  | 5* | 5* | 5  | 7  | 8  | 8  | 8  | 5  | 2* | -  |
| UA9 = 18 | -       | -  | 5  | 1  | -  | -  | -  | -  | -  | -  | 6  | 1  | 1  | 2* | 5* | 6* | 4* | 2* | 2  | 1  | -  | 1* | -  | -  |
| UA0 = 19 | 4       | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 2* | 7* | 8* | 5* | 5* | 5* | 4* | -  | -  | -  | -  | -  |
| 4X = 20  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 6  | 7  | 6  | 4  | 4  | 7  | 8  | 9  | 9  | 8  | 5  | 2  | 5  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 5  | 6  | 5  | 5  | 5  | 7  | 8  | 9  | 8  | 2  | 4  | 6  | -  |
| VU = 22  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 2  | 4  | 5* | 5  | 6  | 6  | 2* | -  | -  | 1  | 1  | 2* |
| JT = 23  | -       | 7  | 5  | 2  | 1  | 1  | -  | -  | -  | -  | 7  | 3  | 2  | 2  | 7* | 8* | 5* | 4* | 3* | 1  | -  | 1* | -  | -  |
| VR2 = 24 | 5*      | 5* | 4* | 1* | -  | -  | -  | -  | -  | -  | 1  | 6  | 8* | 6  | 7  | 5  | 3  | 1  | -  | -  | -  | 1* | 5* | 4* |
| JA1 = 25 | 8       | 7  | 6  | 4  | 3  | 2  | 2  | 1  | -  | -  | -  | 4* | 8  | 5  | 3* | 2* | 4* | 6* | 7* | 4* | 5  | 6  | 6  | 7  |
| HS = 26  | 4*      | 5* | 4* | 1* | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 7  | 7  | 7  | 5  | 5  | 5  | 3  | 3  | 1  | -  | 3* |
| DU = 27  | 2*      | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1* | 8* | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | 7* | 5* |
| YB = 28  | 2*      | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 6* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 5* | 1* |
| KH6 = 31 | 8       | 8  | 6  | 4  | 1  | -  | 1  | -  | -  | -  | 1* | 2* | 5  | -  | -  | -  | 5  | 5  | 5  | 6  | 7  | 7  | 7  | 7  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | 6  | 7  | 7  | 8  | 7  | 3  | -  |
| CN = 33  | -       | -  | 5  | 2  | 1  | 1  | -  | -  | -  | -  | 8  | 8  | 8  | 7  | 7  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 2  | -  |
| SU = 34  | 1       | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 6  | 7  | 8  | 6  | 5  | 4  | 7  | 8  | 9  | 9  | 9  | 5  | 1  | 4  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 5  | 3  | 2  | 3  | 8  | 9  | 9  | 9+ | 9+ | 7  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 5  | 1* | -  | -  | -  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 8  | 4  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 8  | 8  | 1  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 1* | -  | -  | -  | -  | -  | -  | 4  | 4  | 8  | 6  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | 1  | -  | -  | -  | -  | -  | -  | 2  | 1  | 1  | 2* | 2* | 3  | 1  | 2  | 2  | 3  | 3  | 2  | 1  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Jul., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2       | 1  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 6  | 8  | 8  | 4  |
| W6 = 03  | 7       | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 4  | 6  | 7  | 8  | 9  | 8  | 8  |
| W9 = 04  | 1       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 4  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 5  | 7  | 8  | 8  | 8  | 7  | 2  |
| XE1 = 06 | 6       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 1  | 1  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  |
| TI = 07  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 2  | 4  | 6  | 6  | 5  | 1  | -  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 4  | -  | -  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 2  | -  | -  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 8  | 7  | 8  | -  | -  | -  | -  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 8  | -  | -  | -  |
| CE = 12  | -       | -  | 1  | 2  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | 3  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  | 8  | 1  | -  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  |
| G = 14   | 5       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 6  | 1  |
| I = 15   | -       | -  | 2  | -  | -  | -  | -  | -  | -  | -  | 6  | 1  | 6  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 6  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 1  | 2  | 2  | 1  | 1  | 1  | 1  | 5  | 8  | 8  | 5  | 1  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 1  | 1  | 3  | 2  | 5* | 6  | 6  | 5  | 2  | -  | 1* | -  |
| UA9 = 18 | -       | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 7  | 7  | 6  | 8  | 8  | 9  | 9  | 4  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 7  | 8  | 7  | 8  | 8  | 8  | 8  | 1  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 6  | 6  | 7  | 8  | 1  | -  | -  | -  | -  | -  | 1* |
| JT = 23  | -       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 4  | 1  | 1  | 1  | 1  | 1  | 2* | 1* | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 6*      | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 3  | -  | -  | -  | -  | -  | -  | 3* | 6* |
| JA1 = 25 | 4       | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 2  | 1* | -  | -  | 1* | 2* | -  | 1  | 2  | 2  | 4  |
| HS = 26  | 4*      | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2* |
| DU = 27  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | -  | 2  | -  | -  | -  | -  | -  | -  | -  | 3* | 3* |
| YB = 28  | 1*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 6* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 1* |
| KH6 = 31 | 7       | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 1  | 5  | 4  | 4  | 4  | 6  | 7  | 7  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 7  | 4  | -  | -  |
| CN = 33  | -       | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 6  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 7  | 8  | 8  | 6  | 8  | 8  | 9  | 9  | 6  | -  | -  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 9  | -  | -  | -  | -  | -  | 1* | 4  | 9  | 9  | 7  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 4  | 4  | 5  | 6  | 3  | 1  | -  | -  | -  | -  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  | 8  | 9  | 9  | 7  | 5  | -  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



12 Meters: Jul., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | -  |
| W6 = 03  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 4  | 5  | 6  | 6  | 4  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  | -  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 1  | 2  | 5  | 3  | 2  | 2  | -  |
| XE1 = 06 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  | 7  | 7  | 7  | 5  |
| TI = 07  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  | -  | -  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 5  | 7  | 1  | 1  | -  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 2  | 1  | 2  | 4  | 7  | 7  | 4  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 6  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | 1  | 1  | 1  | 3  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 5  | -  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 6  | 7  | 8  | 8  | 4  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 3  | 4  | 6  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 2*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 5  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 4* | -  | -  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 9  | 8  | -  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 7  | 8  | 9  | 9  | 7  | -  | -  | -  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | 3* | 4* | -  | -  | -  | -  | -  |
| SZ = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 4  | 6  | 1  | 1  | -  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



10 Meters: Jul., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| W6 = 03  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 2  | -  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 3  | 3  | -  |
| TI = 07  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 4  | 5  | 6  | 6  | 6  | 6  | -  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 2  | 5  | 6  | 6  | -  | -  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 4  | 4  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 2  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 3  | 5  | 6  | 6  | 7  | 3  | -  | -  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 4  | 5  | 5  | 2  | -  | -  | -  | -  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  |
| SZ = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Aug., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | 1  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 2       | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 2  | 2  | 4  | 5  | 3  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | -       | 2  | 4  | 4  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | -       | 4  | 5  | 5  | 5  | 5  | 5  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 2  | 2  | 5  | 4  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2       | 3  | 4  | 4  | 4  | 4  | 5  | 4  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 3       | 4  | 5  | 4  | 5  | 5  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| P4 = 09  | 3       | 4  | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HC = 10  | 4       | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 1  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | 2  | 5  | 9  | 9  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| I = 15   | 5       | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| UA3 = 16 | 2       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 4       | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  |
| HZ = 21  | 4       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 2  | 2  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 2  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 6       | 6  | 6  | 4  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| SU = 34  | 4       | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| 6W = 35  | 5       | 5  | 5  | 5  | 5  | 5  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 4  |
| D2 = 36  | 6       | 6  | 4  | 5  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 3  |
| 5Z = 37  | 5       | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| ZS6 = 38 | 5       | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  | 5  |
| FR = 39  | 5       | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 5  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Aug., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | 1  | 2  | 4  | 2  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| W6 = 03  | -       | -  | 1  | 5  | 5  | 7  | 8  | 6  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 1       | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 2       | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | 1       | 5  | 5  | 8  | 7  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5       | 6  | 7  | 7  | 7  | 7  | 8  | 7  | 7  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| VP2 = 08 | 6       | 7  | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  |
| P4 = 09  | 6       | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  |
| HC = 10  | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 4  | 1  | -  | -  | 2  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | -  | -  | -  | 1  | 5  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 2  | 2  | 5  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| I = 15   | 8       | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| UA3 = 16 | 5       | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| UN = 17  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 7       | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| HZ = 21  | 7       | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| VU = 22  | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 2  | 5  | 5  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | 1  | 1  | 5  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 9  | 9  | 7  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  |
| SU = 34  | 7       | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| 6W = 35  | 8       | 8  | 8  | 8  | 8  | 8  | 9  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 7  |
| D2 = 36  | 9       | 9  | 7  | 8  | 9  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 6  |
| 5Z = 37  | 8       | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 8  |
| FR = 39  | 8       | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  |
| FJL = 40 | 1       | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 40 Meters: Aug., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 1       | 1  | 2  | 4  | 5  | 6  | 6  | 6  | 6  | 5  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 8  | 9  | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| W6 = 03  | 1       | 5  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 8       | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 5  |
| W3 = 05  | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| XE1 = 06 | 6       | 8  | 8  | 8  | 9  | 9  | 8  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| TI = 07  | 8       | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| VP2 = 08 | 8       | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  |
| P4 = 09  | 8       | 9  | 9  | 9  | 9  | 8  | 9  | 9  | 9  | 9  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 8  |
| HC = 10  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 7  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9  | 8  | 6  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 8  | 8  | 7  | 7  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 8  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 8  |
| UA3 = 16 | 6       | 6  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 6  |
| UN = 17  | 7       | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  |
| UA9 = 18 | 5       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  |
| 4X = 20  | 8       | 8  | 6  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  | 8  |
| HZ = 21  | 8       | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| VU = 22  | 5       | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 5  |
| JT = 23  | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 4  |
| VR2 = 24 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 5  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | -  | -  |
| HS = 26  | 6       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 7  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 2  | 5  | 1  |
| YB = 28  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 6  |
| VK6 = 29 | 5       | 1  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 6  |
| VK3 = 30 | -       | -  | -  | -  | 1  | 2  | 3  | 6  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  | 3  | 1  |
| KH6 = 31 | -       | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | 1  | 3  | 5  | 6  | 8  | 7  | 8  | 8  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 8  | 9  | 9  | 7  | 7  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 9  |
| SU = 34  | 8       | 8  | 7  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 7  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 8  | 2  | 7  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 6  | 8  | 8  |
| D2 = 36  | 8       | 8  | 8  | 8  | 8  | 6  | 5  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  |
| 5Z = 37  | 8       | 9  | 8  | 7  | 8  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  | 9  | 9  |
| FR = 39  | 9       | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 7  | 8  | 9  | 9  |
| FJL = 40 | 8       | 8  | 7  | 7  | 4  | 4  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 30 Meters: Aug., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2       | 4  | 6  | 5  | 5  | 6  | 6  | 8  | 7  | 7  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| VO2 = 02 | 8       | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 4  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 8  |
| W6 = 03  | 5       | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W9 = 04  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| W3 = 05  | 8       | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 5  | 6  | 6  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  |
| XE1 = 06 | 8       | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 5  | 3  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 2  | 3  | 7  | 4  | 3  | 1  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | 5  | 8  | 7  | 4  | 2  | 1  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 2  | 3  | 8  | 8  | 5  | 2  | 1  | -  | -  | 1  | 1  | 4  | 6  | 8  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | 2  | 8  | 6  | 4  | 1  | -  | -  | 1  | 2  | 5  | 6  | 7  | 8  |    |
| PY1 = 11 | 9+      | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 9+ | 9+ | 9+ | 9  | 9  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9       | 9  | 8  | 8  | 8  | 7  | 6  | 5  | 3  | 1  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| G = 14   | 8       | 8  | 9  | 8  | 8  | 8  | 7  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  | 8  |
| I = 15   | 9       | 9  | 6  | 8  | 8  | 8  | 6  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 8  | 8  |
| UA3 = 16 | 8       | 8  | 7  | 6  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  |
| UN = 17  | 7       | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 7  | 7  |
| UA9 = 18 | 6       | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 6  | 6  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | 2  | 3  | 4  | 3* | 3* | 2* | -  | -  | -  | -  | -  | -  | 3* | 4* | 5  | 2* | 1* |
| 4X = 20  | 8       | 8  | 8  | 7  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| HZ = 21  | 8       | 8  | 7  | 6  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| VU = 22  | 7       | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 8  | 8  |
| JT = 23  | 3       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 6  | 6  |
| VR2 = 24 | 4       | 2  | -  | -  | -  | -  | -  | -  | 1* | 1* | 6  | 2* | 1* | -  | -  | -  | -  | 1  | 2  | 4  | 6  | 4  | 2  | 5  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | 1  | 3  | 6  | 4  | 4  | 4  | 3  | -  | -  | -  | -  | -  | 2* | 5* | 5* | 6* | 4* | 2* |
| HS = 26  | 5       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 7  | 6  |
| DU = 27  | 2       | -  | -  | -  | -  | -  | -  | -  | 1* | 5  | 3  | 1  | 1  | -  | -  | -  | -  | -  | 2  | 3  | -  | 2* | 2  | 4  |
| YB = 28  | 4       | 3  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 1  | 1  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  | 5  | 5  |
| VK6 = 29 | 5       | 4  | 1  | 1  | -  | -  | -  | 1  | 4  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  | 6  | 6  |
| VK3 = 30 | 3       | 2  | 1  | 1  | 1  | 2  | 3  | 4  | 5  | 6  | 6  | 5  | 2  | 2  | 1  | -  | -  | 1  | -  | -  | 3  | 5  | 6  | 5  |
| KH6 = 31 | -       | 1  | 3  | 7  | 7  | 8  | 8  | 8  | 7  | 1  | -  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | 1  | 3  | 4  | 6  | 4  | 6  | 7  | 6  | 2  | -  | 4  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 9       | 9  | 9  | 9  | 8  | 7  | 7  | 1  | 2  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 7  | 8  |
| SU = 34  | 8       | 8  | 8  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 8  |
| 6W = 35  | 9       | 9  | 8  | 7  | 3  | -  | -  | -  | 1  | 7  | 5  | 1  | 1  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 9  | 9  |
| D2 = 36  | 5       | 5  | 5  | 4  | 2  | -  | 1  | -  | 2  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 8  | 6  | 7  | 5  |
| 5Z = 37  | 7       | 8  | 4  | -  | 4  | 6  | 1  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  | 8  | 7  | 7  |
| ZS6 = 38 | 4       | 4  | 6  | 5  | 6  | 6  | 2  | -  | 4  | 3  | 1  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 7  | 8  | 8  | 7  | 4  |
| FR = 39  | 5       | 1  | -  | 5  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 5  | 6  | 8  | 7  | 6  |
| FJL = 40 | 7       | 7  | 6  | 6  | 6  | 7  | 6  | 3  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 5  | 7  |

Zone UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 6 dBi isotropic antennas.



## 20 Meters: Aug., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |
| KL7 = 01 | 8       | 9  | 9  | 9  | 9  | 9  | 6  | 8  | 4  | 2  | 5* | 4* | 1* | -  | -  | 2  | 2  | 3  | 3  | 4  | 5  | 6  | 7  | 7  |    |
| VO2 = 02 | 9       | 9  | 8  | 4  | -  | -  | 1  | -  | -  | 4  | 8  | 8  | 8  | 6  | 5  | 4  | 5  | 6  | 7  | 9  | 9  | 9  | 9  | 9  |    |
| W6 = 03  | 8       | 9  | 9  | 9  | 9  | 9  | 8  | 9  | 7  | 2* | -  | 6  | -  | 7  | 4  | 1  | 2  | 2  | 1  | 4  | 2  | 4  | 5  | 7  |    |
| W9 = 04  | 9       | 9  | 9  | 7  | 2  | -  | -  | 3  | 1  | 1  | 3  | 6  | 8  | 7  | 5  | 5  | 5  | 4  | 3  | 5  | 7  | 7  | 9  | 9  |    |
| W3 = 05  | 9       | 9  | 8  | 5  | 2  | -  | -  | 4  | -  | 1  | 5  | 8  | 8  | 7  | 6  | 5  | 5  | 4  | 5  | 7  | 8  | 9  | 9  | 9  |    |
| XE1 = 06 | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 3  | -  | -  | -  | 5  | 8  | 6  | 7  | 7  | 5  | 5  | 7  | 6  | 8  | 9  | 9  |    |
| TI = 07  | 9+      | 9+ | 9  | 9  | 9  | 9  | 3  | 5  | -  | 1* | -  | -  | 9  | 7  | 6  | 6  | 6  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ |    |
| VP2 = 08 | 9       | 9  | 7  | 8  | 6  | 5  | 3  | -  | -  | -  | 3  | 9  | 9  | 8  | 7  | 7  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |
| P4 = 09  | 9       | 8  | 6  | 5  | 6  | 1  | 2  | -  | -  | -  | -  | 9  | 9  | 8  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |    |
| HC = 10  | 9       | 8  | 8  | 8  | 8  | 6  | 5  | 2  | -  | 1* | -  | -  | 9  | 8  | 8  | 6  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9+ |    |
| PY1 = 11 | 8       | 7  | 5  | 5  | 4  | 4  | 3  | 1  | -  | -  | -  | 2  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |    |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 3  | 1  | -  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |
| LU = 13  | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  |    |
| G = 14   | 9       | 8  | 5  | 2  | 6  | 6  | 6  | -  | -  | 7  | 7  | 6  | 5  | 2  | 2  | 2  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |    |
| I = 15   | 6       | 7  | 8  | 6  | 6  | 7  | 3  | -  | -  | 7  | 4  | 4  | 1  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9  | 8  |    |
| UA3 = 16 | 3       | 1  | -  | -  | 6  | 8  | 3  | -  | -  | 4  | 2  | 1  | 2* | 1* | 1  | -  | 2  | 4  | 6  | 8  | 8  | 8  | 9  | 7  |    |
| UN = 17  | 3       | 5  | 7  | 4  | 4  | 1  | -  | -  | -  | 1  | 1  | -  | 8  | 3* | -  | -  | 1  | 4  | 5  | 8  | 8  | 8  | 6  | 5  |    |
| UA9 = 18 | 1       | 2  | 5  | 7  | 6  | 5  | 1  | -  | -  | 4  | 6  | 7  | 8  | 2* | 1* | 1* | 1  | 3  | 6  | 5  | 3  | 1  | 3* | 1  |    |
| UA0 = 19 | 7       | 7  | 8  | 7  | 6  | 6  | 4  | 2  | -  | 2  | 8  | 7* | 7* | 6* | 4* | 3* | 3* | 4* | 5* | 4* | 2* | 8* | 5  | 6  |    |
| 4X = 20  | 8       | 8  | 6  | 4  | 5  | 3  | -  | -  | -  | 3  | 1  | 1  | -  | -  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 8  | 9  |    |
| HZ = 21  | 6       | 2  | 2  | 1  | 2  | 1  | -  | -  | -  | 2  | 1  | -  | 1  | 1  | 1  | 1  | 3  | 5  | 8  | 8  | 8  | 9  | 7  | 7  |    |
| VU = 22  | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 3* | 1  | 1  | 2  | 5  | 3  | 2* | 2* | 5  | 8  | 3  |    |
| JT = 23  | 6       | 7  | 8  | 6  | 5  | 4  | 1  | -  | -  | 5  | 5  | 5  | 6  | 3* | 4* | 1* | 1  | 3  | 5  | 4  | 2  | 3* | 2* | 3  |    |
| VR2 = 24 | 3*      | 1* | 1* | -  | -  | 1* | 1* | 3* | 1* | 6  | 5  | 5  | 5  | 5* | 6* | 3* | 2  | 5  | 5  | 6  | 6  | 4  | 5* | 3* | 3* |
| JA1 = 25 | 2       | 2  | 2  | 3  | 5  | 7  | 8  | 8  | 5  | 5* | 5* | 8  | 8  | 7  | 2* | 2* | 2* | 5* | 6* | 7  | 6  | 7* | 6  | 2  |    |
| HS = 26  | 1*      | -  | 1* | -  | -  | -  | -  | 1* | -  | 7  | 6  | 6  | 6  | 5* | 3  | 4  | 5  | 6  | 8  | 8  | 8  | 8  | 4  | 1* |    |
| DU = 27  | 5*      | 3* | 1* | -  | -  | 1* | 1* | 1* | 1* | 1  | 5  | 6  | 4  | 5  | 4  | 4  | 5  | 3  | 1  | 1* | -  | 4* | 1* | 2* |    |
| YB = 28  | 1*      | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 7  | 5  | 1  | 2  | 2  | 3  | 3  | 4  | 4  | 2  | -  | 1* |    |
| VK6 = 29 | 1*      | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 1  | 1* | -  | -  | -  | -  | 2  | 4  | 4  | 3  | 4  | 2* |    |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | 1  | -  | -  | -  | 1* | -  | -  | 5  | 7  | 1  |    |
| KH6 = 31 | 4       | 7  | 8  | 9  | 9  | 8  | 8  | 8  | 1  | 2* | 1* | -  | 8  | 1  | -  | 2  | 2  | -  | 1* | 2* | 2* | 1  | 1  | 2  |    |
| KH8 = 32 | 4       | 1  | 1  | -  | 1  | -  | -  | 1  | 1  | 1* | -  | -  | 2  | 1  | -  | -  | -  | 3  | 4  | 8  | 2  | 1  | 2  | 4  |    |
| CN = 33  | 4       | 2  | 3  | 3  | 5  | 3  | 4  | -  | -  | 6  | 8  | 7  | 3  | 2  | -  | 1  | 1  | 4  | 8  | 9  | 8  | 9  | 9  | 8  |    |
| SU = 34  | 8       | 8  | 6  | 5  | 6  | 3  | -  | -  | -  | 4  | 1  | 1  | -  | -  | 1  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 8  | 9  |    |
| 6W = 35  | 8       | 4  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 7  | 5  | 5  | 2  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |    |
| D2 = 36  | 1       | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 8  | 6  | 5  | 4  | 4  | 5  | 7  | 8  | 8  | 9  | 8  | 5  | 2  | 1  |    |
| 5Z = 37  | 1       | 1  | -  | 1* | -  | -  | -  | -  | 3  | 6  | 5  | 3  | 3  | 3  | 4  | 4  | 6  | 7  | 8  | 9  | 9  | 6  | 2  | 1  |    |
| ZS6 = 38 | -       | -  | -  | -  | 1* | -  | -  | -  | 1  | 6  | 6  | 7  | 6  | 5  | 5  | 7  | 8  | 7  | 2  | 6  | 5  | 4  | 1  | -  |    |
| FR = 39  | -       | -  | 1* | -  | -  | -  | -  | -  | 1  | 5  | 5  | 3  | 3  | 4  | 6  | 5  | 4  | -  | -  | -  | 1  | -  | -  | -  |    |
| FJL = 40 | 2       | -  | -  | -  | 1  | 8  | 5  | -  | -  | 5  | 7  | 5  | 7  | 2* | 1  | -  | 1  | 2  | 5  | 6  | 7  | 8  | 6  | 5  |    |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |

\* = Longpath  
 Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Aug., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 5   | 8   | 8  | 8  | 7  | 6  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 1  | -  | 2* | 1* | -  | 4  |
| VO2 = 02 | 8   | 7   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 7  | 7  | 8  | 7  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9   | 9   | 9  | 9  | 5  | 1  | -  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 9  | 9  |
| W9 = 04  | 8   | 7   | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| W3 = 05  | 6   | 6   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 5  | 7  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 8  |
| XE1 = 06 | 9   | 9   | 7  | 7  | 5  | 3  | 1  | 2  | -  | -  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 9  | 9  | 7  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 7   | 5   | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 2  | -  | -  | 1  | 4  | 9  | 9  | 9+ | 9+ | 9  |
| VP2 = 08 | 2   | 1   | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 9  | 6  | 5  | 6  | 6  | 6  | 9  | 9  | 9+ | 9+ | 9+ | 7  |
| P4 = 09  | 2   | 1   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 3  | -  | -  | 5  | 5  | 7  | 8  | 9  | 9+ | 9  | 7  |
| HC = 10  | 3   | 1   | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 3  | 1  | 9  | 9  | 9  | 1  | 3  | 5  | 6  | 6  | 6  |
| PY1 = 11 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 3  |
| CE = 12  | 8   | 7   | 6  | 5  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| LU = 13  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 8  | 7  | 5  | 4* | 1* | 5  |
| G = 14   | 1   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 8  | 8  | 8  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 5  |
| I = 15   | -   | -   | -  | -  | -  | 1  | -  | -  | -  | 1  | 8  | 8  | 7  | 9  | 8  | 4  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 3  | -  |
| UA3 = 16 | -   | -   | -  | -  | -  | 4  | -  | -  | -  | -  | 8  | 5  | 5  | 6  | 6  | 4* | 4  | 6  | 8  | 9  | 9  | 9  | 8  | 3  | -  | -  |
| UN = 17  | -   | -   | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 4  | 4  | 5* | 5  | 4  | 7  | 7  | 8  | 8  | 5  | -  | -  | -  | 1* | -  |
| UA9 = 18 | -   | -   | -  | 5  | 2  | 2  | -  | -  | -  | -  | 5  | 4  | 2  | 6* | 6* | 6* | 2* | 1  | 1  | -  | -  | -  | -  | 2* | -  | -  |
| UA0 = 19 | -   | 6   | -  | 5  | 4  | 2  | -  | -  | -  | -  | 1  | 1  | 5* | 6* | 2* | 1* | 1* | 1* | 1* | -  | -  | -  | 2* | -  | -  | -  |
| 4X = 20  | 3   | 1   | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 6  | 7  | 7  | 2  | 4  | 5  | 8  | 9  | 9  | 9  | 8  | 3  | -  | 5  | -  |
| HZ = 21  | -   | -   | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 4  | 4  | 4  | 5  | 6  | 7  | 8  | 8  | -  | 1  | 6  | -  | -  | -  |
| VU = 22  | 1*  | -   | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  | 2  | 4* | 5  | 4  | 6  | 5  | -  | -  | -  | -  | -  | 1  | 1* | -  |
| JT = 23  | -   | 2   | 7  | 5  | 3  | 2  | -  | -  | -  | -  | 6  | 4  | 3  | 6* | 6* | 3  | 2  | 1  | 1* | -  | -  | -  | 2* | -  | -  | -  |
| VR2 = 24 | 5*  | 5*  | 5* | 5* | 3* | 1* | 1* | 1* | -  | -  | 4  | 6  | 9* | 5  | 6  | 7  | 5  | 2  | 1  | 1  | -  | -  | 4* | 4* | -  | -  |
| JA1 = 25 | 8   | 7   | 7  | 7  | 6  | 6  | 6  | 4  | -  | -  | 1* | 6* | 8  | 3  | -  | -  | -  | 1* | 4* | 2* | 4  | 5  | 6  | 7  | -  | -  |
| HS = 26  | 5*  | 5*  | 4* | 3* | 1* | 1* | 1* | -  | -  | -  | 4  | 7  | 8  | 7  | 7  | 7  | 8  | 8  | 6  | 4  | 2  | -  | 7* | 6* | -  | 3* |
| DU = 27  | 4*  | 4*  | 4* | 3* | 1* | 1* | -  | -  | -  | -  | -  | 5* | 8* | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | 7* | 6* | -  |
| YB = 28  | 4*  | 3*  | 3* | 2* | 1* | -  | 1* | -  | -  | -  | -  | 2  | 5  | 5* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | -  |
| VK6 = 29 | 1*  | -   | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 5* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | -  |
| VK3 = 30 | 1*  | -   | 1* | -  | -  | -  | -  | -  | -  | -  | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | -  |
| KH6 = 31 | 8   | 8   | 7  | 6  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | 4  | -  | -  | -  | -  | 6  | 6  | 5  | 7  | 8  | 6  | 6  | 7  | -  |
| KH8 = 32 | 1   | -   | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 6  | 6  | 7  | 4  | -  |
| CN = 33  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 7  | 8  | 8  | 5  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 6  | -  | -  |
| SU = 34  | 2   | 1   | -  | -  | 1  | -  | -  | -  | -  | 1  | 8  | 7  | 7  | 7  | 2  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 5  | -  | 5  | -  |
| 6W = 35  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 8  | 5  | 4  | 5  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 5  | -  |
| D2 = 36  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 9  | 8  | 8  | 7  | 7  | 8  | 8  | 7  | 3  | 1* | -  | -  | -  | -  |
| 5Z = 37  | -   | -   | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 7  | 5  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 5  | -  | -  | -  | -  | -  |
| ZS6 = 38 | -   | -   | -  | -  | -  | 1* | -  | -  | -  | -  | 4  | 6  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -   | -   | 1* | 2* | 1* | -  | -  | -  | -  | 1  | 2  | 5  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -   | -   | -  | -  | -  | 2  | -  | -  | -  | 1  | 1  | 2  | 1  | 2  | 3  | 1  | 2  | 2  | 2  | 1  | 2  | 1  | 1  | -  | -  | -  |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Aug., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | 4  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 3       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 4  | -  | 4  | 5  | 4  | 5  | 6  | 7  | 8  | 7  |
| W6 = 03  | 8       | 7  | 7  | 7  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 6  | 7  | 8  | 8  | 9  | 9  | 9  |
| W9 = 04  | 4       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | -  | 3  | -  | -  | 5  | 6  | 6  | 8  | 8  | 7  | -  |
| W3 = 05  | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 6  | 8  | 8  | 7  | 8  | 8  | 5  | -  |
| XE1 = 06 | 8       | 7  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 2  | 4  | 8  | 8  | 8  | 9  | 8  | 9  | 8  | -  |
| TI = 07  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | 5  | 6  | 7  | 7  | 5  | -  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  | 6  | 1  | -  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  | 5  | 1  | -  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 9  | 8  | 8  | 9  | 9  | -  | -  | 1  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  | 9  | 9  | 7  | 8  | -  | -  |
| CE = 12  | 4       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | -  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2* | 2* | -  | -  | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 5  | 6  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 4  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | 6  | 8  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 5  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 4  | 3  | 2  | 1  | 1  | 1* | 2  | 7  | 8  | 8  | 4  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 4  | 1  | 2  | 3  | 4  | 6  | 6  | 6  | 2  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | 2  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 6  | 7  | 6  | 7  | 8  | 8  | 9  | 8  | 3  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 7  | 7  | 7  | 8  | 7  | 8  | 8  | 2  | -  | 1  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 5  | 5  | 6  | 6  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2  | 2  | 1  | 1  | 1  | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 7*      | 5* | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | 1  | 5* | 7  | 8  | 7  | 2  | -  | -  | -  | -  | 2* | 6* | -  |
| JA1 = 25 | 5       | 5  | 4  | 4  | 3  | 2  | 1  | -  | -  | -  | -  | -  | 4* | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 4  | -  |
| HS = 26  | 6*      | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | 2* | -  |
| DU = 27  | 3*      | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 1  | 1  | 2  | -  | -  | -  | -  | -  | 2* | 6* | -  |
| YB = 28  | 2*      | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 7* | 1* | -  | -  | -  | -  | -  | -  | -  | 1* | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 1* | -  |
| KH6 = 31 | 7       | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 5  | 3* | 6  | 7  | 7  | 7  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  | 8  | 5  | 1  | -  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | -  | 8  | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 8  | -  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 6  | 8  | 6  | 7  | 8  | 8  | 9  | 9  | 7  | -  | -  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 1  | -  | -  | -  | 1  | 7  | 9+ | 9+ | 9  | 6  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 7  | 8  | 8  | 5  | 3  | 1* | -  | -  | -  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 7  | 9  | 8  | 9  | 8  | 8  | 8  | 5  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



12 Meters: Aug., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 =   | 02 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 1  | 1  | -  | -  | 1  | 2  | 1  | 1  |
| W6 =    | 03 | 4            | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3  | 5  | 6  | 7  | 7  | 6  |
| W9 =    | 04 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 3  | 5  | 2  |
| W3 =    | 05 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  | 3  | 4  | 4  | 4  | 1  |
| XE1 =   | 06 | 5            | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 8  | 8  | 8  | 6  |
| TI =    | 07 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  |
| VP2 =   | 08 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | -  |
| P4 =    | 09 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC =    | 10 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 4  | 4  | 5  | 7  | -  | -  | -  | -  |
| PY1 =   | 11 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 1  | -  | -  |
| CE =    | 12 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 9  | 9  | 9  | 9  | 6  | 4  | 1  |
| LU =    | 13 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  |
| G =     | 14 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  | 2  | 2  | 1  | 2  | 4  | 7  | 7  | 4  | -  | -  |
| I =     | 15 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 6  | -  | -  | -  |
| UA3 =   | 16 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 3  | -  | -  | -  |
| UN =    | 17 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | 1  | 2  | 2  | 3  | -  | -  | -  | -  | -  | -  |
| UA9 =   | 18 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 =   | 19 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X =    | 20 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 4  | -  | -  | -  | -  |
| HZ =    | 21 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 7  | 7  | 8  | 8  | 8  | 7  | -  | -  | -  | -  | -  |
| VU =    | 22 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  |
| JT =    | 23 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 =   | 24 | 1*           | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 2* |
| JA1 =   | 25 | -            | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS =    | 26 | 1*           | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 3  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  |
| DU =    | 27 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| YB =    | 28 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 =   | 29 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 =   | 30 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* |
| KH6 =   | 31 | 4            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | 2  | 6  | 7  | 7  |
| KH8 =   | 32 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7* | 4* | 1  | -  |
| CN =    | 33 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 3  | -  | -  |
| SU =    | 34 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | -  | -  | -  |
| 6W =    | 35 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 4  | -  | -  |
| D2 =    | 36 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 3* | 2* | 2* | -  | -  | -  | -  |
| SZ =    | 37 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 6  | 6  | 7  | 4  | 4  | 4  | -  | -  | -  | -  | -  |
| ZS6 =   | 38 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR =    | 39 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL =   | 40 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 14 dBi isotropic antennas.



10 Meters: Aug., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 4  | 4  | 2  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | -  | 1  | -  | 1  | -  |
| XE1 = 06 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 4  | 4  | 5  | 2  |
| TI = 07  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 4  | 2  | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 1  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 5  | 6  | 7  | 7  | 6  | 1  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  | 8  | 9  | 8  | -  | -  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 6  | 8  | 8  | 2  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 4  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4* | 1* | -  | -  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 4  | 5  | 7  | 8  | 7  | 8  | 6  | -  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 8  | 8  | 8  | 5  | -  | -  | -  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1* | 3* | 3* | -  | -  | -  | -  | -  | -  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 2* | -  | -  | -  | -  | -  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Sep., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | 1  | 3  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 4       | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | 2  | 4  | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 1       | 3  | 5  | 4  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 2       | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 2  | 3  | 3  | 5  | 5  | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 2       | 3  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 3       | 4  | 4  | 4  | 4  | 4  | 5  | 4  | 3  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| P4 = 09  | 3       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| HC = 10  | 3       | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | -  | -  | -  | -  | -  | -  | 5  | 6  | 9  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | 4  | 6  | 9  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| I = 15   | 5       | 5  | 5  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  |
| UA3 = 16 | 3       | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 4       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| HZ = 21  | 2       | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 1  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 2  | 3  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 4  | 5  | 5  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| SU = 34  | 4       | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| 6W = 35  | 4       | 3  | 3  | 4  | 5  | 5  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  |
| D2 = 36  | 6       | 6  | 6  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 6  |
| 5Z = 37  | 5       | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  |
| ZS6 = 38 | 6       | 6  | 6  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 6  |
| FR = 39  | 5       | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Sep., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 1  | 2  | 4  | 6  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| W6 = 03  | -       | 1  | 2  | 5  | 7  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 4       | 6  | 8  | 7  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 5       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | 1       | 5  | 6  | 6  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 5       | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| VP2 = 08 | 6       | 7  | 7  | 7  | 7  | 7  | 8  | 7  | 6  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  |
| P4 = 09  | 6       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |
| HC = 10  | 6       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 1  | -  | -  | -  | 1  | 6  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 2  | -  | -  | -  | -  | 3  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 2  | 1  | 1  | 2  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| I = 15   | 8       | 8  | 8  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| UA3 = 16 | 6       | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  |
| UN = 17  | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| UA9 = 18 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 7       | 7  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| HZ = 21  | 5       | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  |
| VU = 22  | 3       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 7  | 8  | 8  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| SU = 34  | 7       | 7  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| 6W = 35  | 7       | 6  | 6  | 7  | 8  | 8  | 9  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 6  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  |
| 5Z = 37  | 8       | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  |
| FR = 39  | 8       | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| FJL = 40 | 2       | 2  | 2  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Sep., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 1            | 2  | 4  | 5  | 6  | 7  | 7  | 6  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 =   | 02 | 8            | 9  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 8  |
| W6 =    | 03 | 2            | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 =    | 04 | 7            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 6  |
| W3 =    | 05 | 8            | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  |
| XE1 =   | 06 | 7            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| TI =    | 07 | 8            | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 6  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| VP2 =   | 08 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| P4 =    | 09 | 8            | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  |
| HC =    | 10 | 8            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 4  | 3  | 5  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 8            | 8  | 8  | 9  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 8  |
| I =     | 15 | 8            | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 6  |
| UA3 =   | 16 | 7            | 7  | 7  | 7  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 6  |
| UN =    | 17 | 8            | 7  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 8  |
| UA9 =   | 18 | 6            | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  |
| UA0 =   | 19 | -            | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  |
| 4X =    | 20 | 8            | 8  | 5  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  |
| HZ =    | 21 | 8            | 6  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 8  |
| VU =    | 22 | 6            | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  |
| JT =    | 23 | 4            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |
| VR2 =   | 24 | 1            | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 4  | 3  |
| JA1 =   | 25 | -            | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  | -  |
| HS =    | 26 | 5            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  |
| DU =    | 27 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 3  | 1  |
| YB =    | 28 | 2            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 6  | 6  |
| VK6 =   | 29 | 2            | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  |
| VK3 =   | 30 | -            | -  | -  | -  | -  | -  | 3  | 5  | 6  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  |
| KH6 =   | 31 | -            | -  | 1  | 4  | 5  | 7  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | -  | 1  | 3  | 5  | 7  | 8  | 8  | 8  | 7  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 9            | 9  | 9  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 9  |
| SU =    | 34 | 8            | 8  | 8  | 7  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| 6W =    | 35 | 8            | 8  | 8  | 9  | 9  | 9  | 5  | 8  | 8  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 6  | 8  | 8  |
| D2 =    | 36 | 9            | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  | 9  | 9  |
| 5Z =    | 37 | 9            | 8  | 8  | 7  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 9  |
| ZS6 =   | 38 | 9            | 9  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  | 8  | 9  | 9  |
| FR =    | 39 | 9            | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 9  |
| FJL =   | 40 | 6            | 6  | 7  | 7  | 7  | 6  | 3  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 30 Meters: Sep., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2       | 6  | 6  | 6  | 6  | 7  | 6  | 5  | 4  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| VO2 = 02 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 6  | 8  |
| W6 = 03  | 4       | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| W9 = 04  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  |
| W3 = 05  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | 2  | 3  | 6  | 8  |
| XE1 = 06 | 8       | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | 5  | 6  | 3  | 2  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 8  | 9  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 3  | 5  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 5  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 9  | 8  | 4  | 2  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 7  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9  | 9  | 9+ | 9  | 4  | 1  | 6  | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9       | 9  | 4  | 2  | 2  | 2  | 6  | 3  | -  | -  | 3  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 7  | 7  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 7  | 7  | 8  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 7  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  | 8  | 8  |
| UA3 = 16 | 7       | 7  | 6  | 5  | 5  | 6  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 7  | 7  |
| UN = 17  | 7       | 7  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  | 7  |
| UA9 = 18 | 3       | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  | 4  | 2  |
| UA0 = 19 | 1       | -  | -  | -  | 1  | 1  | 1  | 4  | 5  | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | 2* | 4* | 4* | 3  | 1  |
| 4X = 20  | 6       | 8  | 7  | 5  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| HZ = 21  | 8       | 8  | 6  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  |
| VU = 22  | 5       | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  | 7  |
| JT = 23  | 5       | 5  | 1  | 1  | -  | -  | -  | -  | -  | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 4  | 5  | 5  |
| VR2 = 24 | 5       | 2  | -  | -  | -  | -  | -  | -  | 1* | 4* | 4* | 2* | 1* | -  | -  | -  | -  | -  | 1  | 3  | 5  | 4  | 1* | 7  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | 2  | 6  | 6  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | 1* | 3* | 3* | 5* | 5* | 2* |
| HS = 26  | 6       | 3  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 5  | 3  |
| DU = 27  | 2       | -  | -  | -  | -  | -  | -  | -  | 2* | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 3  | 5  | 4  |
| YB = 28  | 6       | 3  | -  | -  | -  | -  | -  | -  | -  | 1* | 6  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 4  | 6  |
| VK6 = 29 | 5       | 4  | 1  | -  | -  | -  | -  | 1  | 3  | 5  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | 2  | 3  | 5  | 5  | 6  | 6  |
| VK3 = 30 | 2       | 1  | -  | 1  | 1  | 1  | 5  | 6  | 7  | 7  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 4  |
| KH6 = 31 | -       | 1  | 4  | 6  | 7  | 7  | 8  | 8  | 8  | 6  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | 1  | 3  | 6  | 7  | 7  | 8  | 8  | 8  | 6  | 5  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 7  | 5  | 7  | 4  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 6  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 7  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 8  | 2  | -  | 2  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  |
| D2 = 36  | 8       | 6  | 5  | 2  | 3  | 1  | 4  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  | 8  | 8  |
| 5Z = 37  | 7       | 6  | 3  | 1  | 5  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  | 8  |
| ZS6 = 38 | 8       | 7  | 4  | 1  | 3  | 5  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 7  | 8  | 8  | 8  |
| FR = 39  | 4       | -  | -  | 1  | 2  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 2  | 2  | 5  | 7  | 6  |
| FJL = 40 | 6       | 5  | 2  | 1  | 3  | 5  | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 6 dBi isotropic antennas.



20 Meters: Sep., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 8  | 8  | 8  | 7  | 3  | 1  | -  | 1* | 3* | 1* | -  | -  | -  | -  | 1  | 2  | 1  | 1  | 5  | 5  | 5  | 7  | 7  |
| VO2 = 02 | 9       | 7  | 6  | 6  | 4  | 1  | 2  | 1  | -  | 4  | 8  | 8  | 7  | 5  | 4  | 3  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  |
| W6 = 03  | 9       | 9  | 9  | 9  | 5  | 5  | 7  | 8  | 8  | 6  | 8  | 6  | -  | 7  | 3  | 1  | 1  | -  | 1* | 2  | 1  | 1  | 4  | 5  |
| W9 = 04  | 9       | 9  | 5  | 3  | 2  | 2  | 3  | 7  | 5  | 3  | 4  | 6  | 8  | 5  | 3  | 2  | 2  | 2  | 2  | 7  | 5  | 7  | 9  | 9  |
| W3 = 05  | 9       | 8  | 1  | 8  | 3  | 4  | 5  | 7  | 2  | 3  | 6  | 9  | 8  | 5  | 4  | 4  | 3  | 2  | 3  | 5  | 7  | 9  | 9  | 9  |
| XE1 = 06 | 9       | 9  | 9+ | 9  | 9  | 9  | 9  | 7  | 5  | 1  | -  | -  | 1  | 6  | 5  | 5  | 4  | 2  | 3  | 5  | 6  | 8  | 9  | 9  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | 1* | -  | 6  | 8  | 6  | 5  | 4  | 4  | 4  | 6  | 7  | 9  | 9  | 9+ | 9+ |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 4  | -  | -  | 9  | 9  | 8  | 7  | 7  | 6  | 6  | 6  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | 2  | 9  | 8  | 7  | 6  | 5  | 6  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | -  | -  | 1  | 9+ | 9  | 7  | 5  | 4  | 4  | 4  | 5  | 5  | 8  | 9  | 9  | 9+ |
| PY1 = 11 | 9+      | 7  | 1  | -  | -  | 2  | 1  | -  | -  | -  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9  | 8  | 6  | 8  | 9  | 7  | -  | -  | 1  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 3       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  |
| G = 14   | 3       | 3  | 5  | 6  | 7  | 4  | 6  | -  | 1  | 8  | 5  | 2  | 1  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 4  |
| I = 15   | 1       | 3  | 5  | 1  | 4  | 5  | 8  | -  | 2  | 6  | 4  | 2  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  | 5  | -  |
| UA3 = 16 | 1       | 1  | -  | -  | 1  | 6  | 6  | -  | -  | 5  | 2  | 1  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  | 8  | 6  | 4  |
| UN = 17  | 2       | 4  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | 8  | 2* | 1* | -  | -  | 1  | 5  | 7  | 7  | 6  | 5  | 5  | 4  |
| UA9 = 18 | 1*      | -  | 1  | 6  | 5  | 6  | 3  | -  | -  | 5  | 3  | 5  | 2* | 3* | 1* | 1* | 1  | 1  | 1  | 2  | 2  | -  | 2* | 2* |
| UA0 = 19 | 5       | 5  | 5  | 5  | 6  | 8  | 8  | 6  | 2  | 7  | 7  | 8* | 5* | 2* | 1* | 1* | 1* | 2* | 4* | 1* | -  | 6* | 6  | 5  |
| 4X = 20  | 8       | 6  | 1* | -  | 5  | 8  | 2  | -  | 2  | 3  | 1  | 1  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9       | 5  | 2  | 5  | 2  | 3  | -  | -  | 3  | 1  | -  | -  | 1* | 1  | 1  | 1  | 2  | 5  | 8  | 8  | 9  | 9  | 9  | 9  |
| VU = 22  | -       | 4  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 8  | 3* | 1* | -  | -  | 2  | 3  | -  | 1* | -  | 5  | 7  | 4  |
| JT = 23  | 2       | 6  | 7  | 6  | 4  | 2  | 2  | 1* | -  | 2  | 3  | 5* | 4* | 5* | 2* | 1* | 1  | 1  | 2* | 2  | 2  | 1  | 2* | 2* |
| VR2 = 24 | 2       | 1* | 1* | -  | -  | 1* | 2* | 6* | 5  | 5  | 5  | 7* | 5* | 2* | 1  | 1  | 2  | 5  | 6  | 8  | 7  | 4* | 2* | 4  |
| JA1 = 25 | 2       | 2  | 3  | 4  | 5  | 8  | 7  | 8  | 7  | 5  | 6  | 8  | 6  | 4  | 1  | 1* | 1* | 3* | 5* | 2  | 6  | 5  | 7* | 2* |
| HS = 26  | 2       | 1* | 1* | -  | -  | -  | -  | 1* | 1* | 7  | 6  | 6  | 5* | 4* | 2  | 2  | 4  | 5  | 7  | 8  | 8  | 6  | 2* | 1* |
| DU = 27  | 4*      | 2* | -  | -  | -  | -  | 1* | 5* | 2* | 4  | 8* | 6  | 5* | 4  | 2  | 2  | 3  | 5  | 6  | 5  | 1  | 3* | 7  | 4  |
| YB = 28  | 2       | -  | -  | -  | -  | -  | -  | 1* | 1* | 5  | 6  | 5  | 6  | 4  | 2  | 1  | 1  | 2  | 2  | 4  | 4  | 1  | 1* | 2* |
| VK6 = 29 | 2       | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 7  | 3  | -  | -  | -  | -  | 1  | 1  | 3  | 4  | 5  | 5  | 6  |
| VK3 = 30 | 2       | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 5  | 1  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  | 6  |
| KH6 = 31 | 5       | 7  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | -  | -  | 8  | 6  | -  | -  | -  | 1  | -  | 1* | 1* | 1* | -  | 1  | 2  |
| KH8 = 32 | 4       | 5  | 6  | 6  | 5  | 2  | 6  | 7  | 4  | -  | -  | 5  | 6  | 1  | -  | -  | -  | 3  | 2  | 1  | 1  | 1  | 2  | 3  |
| CN = 33  | 4       | 2  | 3  | 2  | 3  | 1  | 3  | -  | 1  | 8  | 8  | 5  | 2  | 1  | -  | -  | 1  | 3  | 7  | 8  | 9  | 9  | 9  | 5  |
| SU = 34  | 9       | 9  | 6  | 2  | 3  | 9  | 5  | -  | 2  | 3  | 1  | 1  | -  | 1  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+      | 9+ | 9  | 7  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 6  | 5  | 4  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 3       | 1  | -  | -  | 1* | -  | 1* | 1* | 6  | 8  | 7  | 6  | 5  | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 7  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | 1* | 1  | 6  | 3  | 2  | 1  | 2  | 2  | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 4  |
| ZS6 = 38 | 4       | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 7  | 5  | 5  | 5  | 6  | 7  | 7  | 9  | 8  | 5  | 2  | 4  | 5  | 2  |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 2  | 2  | 2  | 3  | 4  | 5  | 6  | 5  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | 1       | -  | -  | -  | -  | -  | 2  | 1  | -  | 7  | 6  | 5  | 8  | 1  | -  | -  | 1  | 2  | 5  | 6  | 7  | 7  | 5  | 2  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Sep., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 7  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 3  | 4  | 2  |
| VO2 = 02 | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 9  |
| W6 = 03  | 9  | 9  | 9  | -  | -  | -  | -  | -  | 2  | -  | 4  | 1  | -  | -  | 7  | 5  | 4  | 8  | 8  | 5  | 5  | 7  | 8  | 9  |
| W9 = 04  | 9  | 4  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 8  | 8  | 6  | 6  | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | 9  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | 1  | 2  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| XE1 = 06 | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 1  | -  | -  | -  | -  | -  | 5  | 8  | 9  | 7  | 8  | 8  | 7  | 9  | 9  | 9  | 9  |
| TI = 07  | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 7  | 1  | -  | -  | -  | -  | 9  | 8  | 7  | 4  | 7  | 6  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9  | 8  | 8  | 8  | 6  | 1  | 3  | -  | -  | -  | -  | 9+ | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | 7  | 9  | 9  | 6  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 9  | 3  | 5  | 3  | 6  | 9  | 9  | 9  | 9  |
| PY1 = 11 | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| CE = 12  | 9  | 6  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 3  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 9  | 9+ | 9+ | 9+ | 9  | 7  | 8  | 2* |
| G = 14   | -  | -  | -  | -  | 1  | -  | 1  | -  | -  | 6  | 8  | 8  | 7  | 9  | 5  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | -  | -  |
| I = 15   | -  | -  | -  | -  | -  | -  | 2  | -  | -  | 8  | 8  | 7  | 7  | 8  | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 5  | -  | -  |
| UA3 = 16 | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | 6  | 7  | 5  | 5  | 6  | 3  | 3  | 5  | 7  | 8  | 8  | 7  | 4  | -  | -  |
| UN = 17  | 1* | -  | 6  | 3  | 2  | 2  | -  | -  | -  | 4  | 2  | 1  | 4* | 5* | 2  | 3  | 4  | 4  | 2  | -  | -  | -  | -  | -  |
| UA9 = 18 | -  | -  | -  | 1  | 3  | 6  | 1  | -  | -  | 4  | 5  | 3  | 6* | 7* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1* |
| UA0 = 19 | 4  | 6  | 6  | 7  | 6  | 8  | 7  | 1  | -  | 2  | 2  | 8* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 4  |
| 4X = 20  | 1  | -  | -  | -  | -  | 1  | -  | -  | -  | 6  | 7  | 6  | 4  | 4  | 3  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 7  | 6  |
| HZ = 21  | 4  | -  | 1* | -  | -  | -  | -  | -  | -  | 6  | 5  | 5  | 4  | 3  | 4  | 5  | 6  | 8  | 9  | 9  | 9  | 7  | 8  | 6  |
| VU = 22  | 3* | 2* | 1* | 1* | -  | -  | -  | -  | -  | 4  | 3  | 3  | 4* | 4  | 4  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -  | -  | 5  | 8  | 7  | 5  | 1  | -  | -  | 6  | 5  | 4  | 7* | 4* | 1  | 1* | -  | 1* | 1* | -  | -  | -  | 4* | -  |
| VR2 = 24 | 4* | 4* | 4* | 5* | 5* | 5* | 6* | 4* | -  | 2  | 5  | 8* | 5  | 5  | 5  | 7  | 7  | 7  | 8  | 6  | 1  | -  | 4* | 3* |
| JA1 = 25 | 5  | 6  | 6  | 7  | 8  | 9  | 8  | 7  | 1  | 1* | 6* | 7* | 6* | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 5  |
| HS = 26  | 2* | 3* | 2* | 4* | 2* | 2* | 2* | 1* | -  | 3  | 7  | 6  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 5  | 2  | -  | -  | 2* |
| DU = 27  | 6* | 5* | 5* | 5* | 4* | 4* | 3* | 2* | -  | -  | 5* | 8  | 7  | 7  | 6  | 6  | 7  | 6  | 2  | -  | -  | -  | 6* | 7* |
| YB = 28  | 4* | 6* | 5* | 4* | 3* | 2* | 3* | 2* | -  | -  | 6  | 8  | 5  | 4* | 5* | 3* | 2* | 2* | 1* | -  | -  | -  | -  | 6* |
| VK6 = 29 | 3* | 2* | 1* | 2* | 1* | 1* | -  | -  | -  | -  | 4* | 5* | 3* | 4* | 2* | -  | -  | -  | -  | 1  | -  | -  | -  | 6* |
| VK3 = 30 | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | 1* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 5  | 2* |
| KH6 = 31 | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 6  | -  | -  | -  | 5  | 4  | -  | -  | -  | 4  | 5  | 5  | 7  | 7  | 6  | 6  | 5  |
| KH8 = 32 | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | 2* | 1* | 1* | 2* | 1* | -  | -  | -  | 3  | 5  | 5  | 5  | 5  | 6  | 7  |
| CN = 33  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 7  | 7  | 7  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 2  | -  |
| SU = 34  | 8  | 4  | -  | -  | -  | 5  | -  | -  | -  | 6  | 7  | 6  | 5  | 5  | 4  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| 6W = 35  | 9  | 8  | 2  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | -  | -  | -  | -  | -  | 1* | -  | -  | 1  | 4  | 8  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 4  | 1  |
| 5Z = 37  | -  | -  | -  | 4* | 2* | 2* | 1* | -  | 1  | 7  | 7  | 6  | 6  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 5  | -  |
| ZS6 = 38 | -  | -  | -  | -  | 2* | 2* | 1* | -  | -  | 4  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  |
| FR = 39  | -  | -  | 2* | 1* | 1* | 1* | 1* | -  | 1  | 6  | 8  | 8  | 7  | 8  | 8  | 8  | 5  | 1* | 1* | -  | -  | -  | -  | -  |
| FJL = 40 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  |
| Zone     | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



15 Meters: Sep., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |  | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|--|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |         |  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 |         |  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 6  | 6  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 6  |
| W6 = 03  |         |  | 9  | 9  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  |
| W9 = 04  |         |  | 8  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 6  | 5  | 8  | 8  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  |         |  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 8  |
| XE1 = 06 |         |  | 9  | 9  | 9  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  |
| TI = 07  |         |  | 8  | 8  | 7  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | 2  | 9  | 9  | 9  | 9+ | 9  | 9  |
| VP2 = 08 |         |  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 6  | 4  | 2  | 2  | 5  | 9  | 9  | 9+ | 9+ | 9  | 7  |
| P4 = 09  |         |  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1* | 1* | 1* | -  | 1  | 6  | 9  | 9  | 9  | 8  | 7  |
| HC = 10  |         |  | 4  | 3  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2* | 8  | 8  | 7  | 8  | 1* | 1  | 2  | 2  | 5  |
| PY1 = 11 |         |  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  |    |
| CE = 12  |         |  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  |
| LU = 13  |         |  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 5  | 2  | 4* | 2  | -  |
| G = 14   |         |  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 2  | -  | -  |
| I = 15   |         |  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 7  | 6  | 7  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | -  | -  | -  |
| UA3 = 16 |         |  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 4  | 3  | 2* | 1  | -  | 1  | 3  | 5  | 3  | 3  | -  | -  | -  |
| UN = 17  |         |  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | 1  | 5  | 4  | 4  | 5* | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 |         |  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | 2  | 1  | 1* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 |         |  | -  | 2  | 2  | 2  | 2  | 5  | 2  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  |         |  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 6  | 6  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 7  | 3  | -  | -  |
| HZ = 21  |         |  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 5  | 6  | 6  | 6  | 7  | 9  | 9  | 7  | 6  | 1  | 1  | -  |
| VU = 22  |         |  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 5  | 6* | 5  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  |         |  | -  | -  | -  | 5  | 4  | 3  | -  | -  | -  | -  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 |         |  | 6* | 7* | 8* | 6* | 5* | 5* | 4* | 1* | -  | -  | 5  | 6  | 7  | 8  | 8  | 7  | 6  | 6  | 5  | 1  | -  | -  | 1* | 6* |
| JA1 = 25 |         |  | 6  | 5  | 7  | 7  | 7  | 8  | 7  | 2  | -  | -  | 3* | 8* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| HS = 26  |         |  | 5* | 6* | 6* | 5* | 4* | 3* | 1* | -  | -  | -  | 5  | 7  | 8  | 8  | 8  | 7  | 8  | 8  | 6  | 1  | -  | -  | -  | 2* |
| DU = 27  |         |  | 7* | 6* | 5* | 4* | 2* | 1* | 1* | -  | -  | -  | -  | 7* | 6  | 8  | 7  | 7  | 7  | 4  | -  | -  | -  | -  | 3* | 7* |
| YB = 28  |         |  | 6* | 6* | 5* | 4* | 2* | 2* | 1* | -  | -  | -  | 1  | 6* | 6* | 7* | 5* | 4* | 1* | 1* | -  | -  | -  | -  | -  | 5* |
| VK6 = 29 |         |  | 5* | 3* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1* | 6* | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VK3 = 30 |         |  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 5* |
| KH6 = 31 |         |  | 8  | 8  | 9  | 9  | 8  | 8  | 6  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 6  | 6  | 7  | 7  | 7  | 7  | 7  |
| KH8 = 32 |         |  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 4* | 3* | 2* | -  | -  | -  | -  | -  | 7  | 6  | 7  | 8  | 7  | 4  |
| CN = 33  |         |  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 8  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 8  | -  | -  |
| SU = 34  |         |  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 6  | 6  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 5  | 4  |
| 6W = 35  |         |  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 4  | 1  | 1  | 1  | 6  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 8  |
| D2 = 36  |         |  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 8  | 5  | 2  | 1  | -  |
| 5Z = 37  |         |  | -  | -  | -  | 2* | 2* | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | -  | -  |
| ZS6 = 38 |         |  | -  | -  | -  | -  | -  | 4* | 1* | -  | -  | -  | 4  | 6  | 8  | 8  | 7  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  |         |  | -  | -  | 1* | 4* | 2* | 2* | -  | -  | -  | 1  | 7  | 8  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 |         |  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     |         |  | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Sep., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 4  | -  |
| W6 = 03  | 9       | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 8  | 7  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 9  | 9  | 7  | 5  |
| XE1 = 06 | 8       | 8  | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| TI = 07  | 4       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 2  | 4  | 5  | 6  | 5  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 4  | 5  | 2  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3  | 1  | -  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 6  | 6  | 8  | 8  | 9  | -  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  | 7  | 5  | 8  | 4  | -  |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 3  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 2* | 2* | -  | -  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | 1  | 1  | 5  | 6  | 8  | 8  | 5  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 3  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 7  | 6  | 7  | 7  | 7  | 8  | 9  | 8  | 8  | -  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 7  | 7  | 8  | 8  | 8  | 9  | 8  | 1  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 6  | 5  | 6  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 4*      | 3* | 5* | 6* | 5* | 1* | -  | -  | -  | -  | -  | 2  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | 3* |
| JA1 = 25 | -       | -  | 2  | 2  | 2  | 4  | 2  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | 3*      | 4* | 6* | 4* | 1* | -  | -  | -  | -  | -  | -  | 3  | 6  | 5  | 5  | 6  | 8  | 7  | 1  | -  | -  | -  | -  | -  |
| DU = 27  | 5*      | 4* | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | 2* | 1  | 2  | 1  | 2  | 4  | -  | -  | -  | -  | -  | -  | 4* |
| YB = 28  | 4*      | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1* | 5* | 6* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 3*      | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VK3 = 30 | 2*      | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 6* |
| KH6 = 31 | 8       | 8  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 1  | 7  | 8  | 7  | 8  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 3* | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  | 5  | 2* |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 5  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | -  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 7  | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 6  | 1  | -  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | -  | -  | -  | -  | -  | 1* | 4  | 7  | 9  | 9+ | 9  | 4  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 6  | 8  | 8  | 7  | 5  | 4  | 2* | 2* | -  | -  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 7  | 3  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 1  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 4* | 1* | -  | -  | -  | -  | -  | 1  | 4  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



10 Meters: Sep., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | 5       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 8  | 8  | 8  |    |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 3  |    |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 4  | 2  |    |
| XE1 = 06 | 7       | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 7  | 8  | 8  |
| TI = 07  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  |    |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |    |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 1  | 5  | 7  | -  | -  |    |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | 2* | 1* | 4  | -  |    |
| CE = 12  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 9  | 9  | 9  | 6  | 6  | -  |    |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  |    |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | -  | -  | -  |    |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 9  | 8  | 8  | 9  | 9  | 8  | -  | -  | -  |    |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 6  | 7  | 8  | 8  | 9  | 8  | 2  | -  | -  | -  |    |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 7  | 8  | 8  | 9  | 4  | -  | -  | -  | -  |    |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  | 4  | 5  | -  | -  | -  | -  | -  | -  | -  |    |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| VR2 = 24 | -       | -  | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  |    |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| HS = 26  | -       | -  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | 1  | 3  | 3  | -  | -  | -  | -  | -  |    |
| DU = 27  | 1*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  |    |
| YB = 28  | 1*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| VK6 = 29 | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| VK3 = 30 | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |    |
| KH6 = 31 | 6       | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 8  |    |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 5* | 3* |    |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 6  | -  | -  |    |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | -  | -  | -  |    |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 3  | 4  | 1  | -  |    |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 3  | 4* | 2* | 1  | 2* | -  | -  |    |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 3  | 5  | 7  | 9  | 6  | 7  | 6  | 3  | -  | -  |    |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| FR = 39  | -       | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |    |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Oct., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | 1  | 1  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 5  | 5  | 5  | 5  | 5  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 = 03  | -       | -  | 1  | 3  | 4  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 2       | 5  | 5  | 5  | 5  | 4  | 2  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 3       | 4  | 5  | 5  | 5  | 3  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | -       | 3  | -  | 5  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 1       | 3  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 3       | 4  | 4  | 4  | 4  | 4  | 5  | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| P4 = 09  | 3       | 4  | 4  | 4  | 4  | 4  | 5  | 4  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| HC = 10  | 5       | 5  | 6  | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | 2  | 6  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | -  | -  | 3  | 6  | 9  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 4  | -  | -  | -  | -  | 3  | 6  | 9  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| I = 15   | 4       | 4  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| UA3 = 16 | 3       | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 4       | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| HZ = 21  | 3       | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | -  | 2  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 1  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 5  | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| SU = 34  | 4       | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| 6W = 35  | 4       | 3  | 3  | 4  | 4  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  |
| D2 = 36  | 6       | 6  | 6  | 5  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| 5Z = 37  | 5       | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  |
| ZS6 = 38 | 6       | 6  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  |
| FR = 39  | 5       | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| FJL = 40 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Oct., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | 1  | 2  | 4  | 4  | 5  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | -  |
| W6 = 03  | -       | 1  | 4  | 6  | 7  | 8  | 8  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 5       | 8  | 8  | 8  | 8  | 7  | 5  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W3 = 05  | 6       | 7  | 8  | 8  | 8  | 6  | 8  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| XE1 = 06 | 1       | 6  | 3  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 4       | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| VP2 = 08 | 6       | 7  | 7  | 7  | 7  | 7  | 8  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | -  |
| P4 = 09  | 6       | 7  | 7  | 7  | 7  | 7  | 8  | 7  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | -  |
| HC = 10  | 8       | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | -  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | -  | -  | -  | 1  | 5  | 9  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 2  | -  | -  | -  | -  | 2  | 6  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | 2  | 1  | 1  | 2  | 6  | 9  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | -  |
| I = 15   | 7       | 7  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| UA3 = 16 | 6       | 6  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | -  |
| UN = 17  | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  |
| UA9 = 18 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 7       | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| HZ = 21  | 6       | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | -  |
| VU = 22  | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | 1  | 3  | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 7  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  |
| SU = 34  | 7       | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| 6W = 35  | 7       | 6  | 6  | 7  | 7  | 7  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 7  |
| D2 = 36  | 9       | 9  | 9  | 8  | 9  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| 5Z = 37  | 8       | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 9  |
| FR = 39  | 8       | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| FJL = 40 | 4       | 3  | 3  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Oct., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2       | 4  | 7  | 6  | 6  | 8  | 8  | 7  | 6  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 9       | 8  | 9  | 9  | 9  | 9  | 7  | 8  | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  |
| W6 = 03  | 3       | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 8       | 8  | 8  | 8  | 8  | 9  | 8  | 7  | 6  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  |
| W3 = 05  | 8       | 8  | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 5  |
| XE1 = 06 | 6       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| TI = 07  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| VP2 = 08 | 9       | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 8  |
| P4 = 09  | 9       | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 6  | 4  | 3  | 4  | 7  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 7  | 8  |
| UA3 = 16 | 7       | 7  | 7  | 7  | 6  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  |
| UN = 17  | 5       | 5  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  |
| UA9 = 18 | 6       | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  |
| 4X = 20  | 8       | 8  | 8  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 6  | 7  |
| HZ = 21  | 8       | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 7  |
| VU = 22  | 5       | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 6  |
| JT = 23  | 6       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  |
| VR2 = 24 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  | 3  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | -  |
| HS = 26  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | -  |
| YB = 28  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  |
| VK6 = 29 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  | 1  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | 1  | 3  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | 1  | 3  | 6  | 7  | 8  | 8  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 2  | 4  | 6  | 8  | 7  | 7  | 7  | 6  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 9  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9  | 9  |
| 5Z = 37  | 9       | 9  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 9  |
| FR = 39  | 9       | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  | 9  |
| FJL = 40 | 7       | 7  | 7  | 7  | 7  | 7  | 6  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 4       | 6  | 6  | 7  | 6  | 6  | 5  | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| VO2 = 02 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  |
| W6 = 03  | 5       | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| W9 = 04  | 8       | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  |
| W3 = 05  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 8  |
| XE1 = 06 | 8       | 8  | 9  | 8  | 9  | 9  | 9  | 8  | 7  | 5  | 2  | -  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| TI = 07  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2  | 5  | 6  | 2  | 2  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| VP2 = 08 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 4  | 5  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  |
| P4 = 09  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 5  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| HC = 10  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 8  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | 1  | 4  | 5  | 7  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 7  | 8  |
| UA3 = 16 | 7       | 7  | 7  | 6  | 5  | 6  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 6  | 7  | 7  |
| UN = 17  | 7       | 7  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 7  | 8  |
| UA9 = 18 | 1       | 2  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 5  | 4  | 1  |
| UA0 = 19 | 1       | 1  | 1  | 1  | 1  | 1  | 1  | 3  | 2  | 2  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | 2* | 2* | 3* | 2* | 1  |
| 4X = 20  | 7       | 7  | 8  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| HZ = 21  | 8       | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  | 8  | 8  |
| VU = 22  | 5       | 6  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  | 6  | 7  |
| JT = 23  | 5       | 5  | 4  | 1  | 1  | -  | -  | -  | 1* | 1* | 1* | 1* | 1* | -  | -  | -  | -  | -  | 1  | 1  | 5  | 5  | 4  | 2  |
| VR2 = 24 | 4       | 2  | -  | -  | -  | -  | -  | -  | 1* | 3* | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 4  | 5  |
| JA1 = 25 | -       | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 6  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | 3* | 4* | 5* | 5* | 3* |
| HS = 26  | 7       | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 6  | 6  |
| DU = 27  | 1       | -  | -  | -  | -  | -  | -  | -  | 1* | 4  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  | 3  |
| YB = 28  | 6       | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 5  | 6  |
| VK6 = 29 | 5       | 3  | 2  | 1  | -  | -  | -  | 1  | 1  | 2  | 6  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 5  | 5  | 6  |
| VK3 = 30 | 1       | 1  | 1  | 1  | 2  | 2  | 5  | 6  | 5  | 6  | 6  | 5  | 3  | 2  | -  | -  | -  | -  | 1  | 1  | 2  | 2  | 2  | 1  |
| KH6 = 31 | -       | 2  | 4  | 6  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | 1  | 2  | 5  | 6  | 7  | 8  | 8  | 8  | 7  | 7  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 7  | 6  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  |
| SU = 34  | 8       | 7  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 7  | 8  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 5  | 7  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 7  | 6  | 7  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 8  | 9  | 8  | 9  |
| 5Z = 37  | 8       | 9  | 8  | 8  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  | 8  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 7  | 8  | 8  | 8  |
| FR = 39  | 7       | 5  | 6  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 7  | 7  | 7  |
| FJL = 40 | 6       | 6  | 5  | 3  | 1  | 2  | 3  | 5  | 5  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 7  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC --> \* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |  |
| KL7 = 01 | 8       | 8  | 8  | 7  | 1  | 1* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | 2  | 7  | 6  | 7  | 8  |  |  |
| VO2 = 02 | 2       | -  | 1  | 3  | 6  | 6  | 7  | 5  | 2  | 5  | 7  | 8  | 7  | 4  | 2  | 2  | 1  | 2  | 4  | 7  | 8  | 9  | 9  | 9  |  |  |
| W6 = 03  | 9       | 9  | 9  | 5  | 4  | 5  | 7  | 8  | 9  | 8  | 9  | 6  | -  | 7  | 3  | 1  | 1  | -  | -  | -  | -  | 1  | 3  | 8  |  |  |
| W9 = 04  | 9       | 3* | -  | -  | -  | 2  | 5  | 8  | 7  | 5  | 5  | 4  | 8  | 6  | 3  | 1  | -  | -  | 1  | 5  | 5  | 8  | 9  | 9  |  |  |
| W3 = 05  | 8       | 2* | -  | 3  | 1  | 4  | 7  | 8  | 6  | 4  | 6  | 9  | 5  | 3  | 1  | 1  | 2  | 3  | 6  | 8  | 9  | 9  | 9  | 9  |  |  |
| XE1 = 06 | 9       | 9+ | 9  | 9  | 9  | 9  | 6  | 6  | 3  | 1* | -  | -  | 6  | 7  | 5  | 4  | 3  | 2  | 2  | 3  | 5  | 8  | 9  | 9  |  |  |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 2  | 1* | -  | 9  | 8  | 8  | 6  | 5  | 4  | 4  | 5  | 7  | 8  | 9  | 9+ | 9+ |  |  |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | -  | -  | 9  | 9  | 8  | 7  | 5  | 4  | 4  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ |  |  |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 7  | -  | -  | 5  | 9  | 9  | 8  | 7  | 6  | 6  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |  |  |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 4  | -  | 5  | 9  | 9  | 9  | 9  | 8  | 4  | 4  | 5  | 7  | 8  | 9  | 9  | 9+ |  |  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 2  | 6  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |  |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |  |
| LU = 13  | 9+      | 9  | 9  | 9  | 9+ | 9  | 9  | 7  | 2* | 3* | 1  | 4  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |  |  |
| G = 14   | 1       | 2  | 7  | 8  | 8  | 4  | 7  | 9  | 8  | 8  | 7  | 3  | 1  | -  | -  | 2  | 2  | 5  | 7  | 8  | 9  | 8  | 4  | -  |  |  |
| I = 15   | 5       | 7  | 9  | 9  | 8  | 6  | 9  | 8  | 8  | 7  | 5  | 2  | -  | 1  | -  | -  | 1  | 3  | 6  | 8  | 8  | 9  | 7  | 4  |  |  |
| UA3 = 16 | 3       | 3  | 2  | 3* | 1  | 5  | 8  | 7  | 6  | 5  | 2  | 1  | 1  | 1  | 1  | -  | 1  | 5  | 6  | 7  | 6  | 5  | 4  | 4  |  |  |
| UN = 17  | 6       | 6  | 8  | 8  | 6  | 6  | 5  | 2  | 2* | 3* | 4* | 7  | 4* | 1* | -  | -  | 1  | 3  | 3  | 2  | 4  | 5  | 7  | 7  |  |  |
| UA9 = 18 | 1*      | 2* | 3* | 6  | 7  | 7  | 7  | 6  | 5  | 4  | 5  | 4  | 2* | 2* | 1* | -  | -  | 1* | 1* | 1  | -  | -  | 1* | 1* |  |  |
| UA0 = 19 | 5       | 5  | 7  | 8  | 5  | 5  | 5  | 8  | 8  | 8  | 7* | 6* | 5* | 3* | 2* | 1* | 1* | 3* | 5* | 2* | -  | 5  | 8* | 6* |  |  |
| 4X = 20  | 9       | 9  | 7  | 2  | 4  | 8  | 8  | 6  | 5  | 3  | 1  | 1  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |  |  |
| HZ = 21  | 9       | 9  | 6  | 6  | 9  | 8  | 7  | 5  | 2  | 1  | -  | 1* | 1* | -  | 1  | 1  | 2  | 5  | 7  | 9  | 9  | 9  | 9  | 9  |  |  |
| VU = 22  | -       | 3  | 9  | 7  | 7  | 5  | 3  | 1  | 1* | 1* | 2* | 8  | 2* | 1* | -  | 1  | 2  | 4  | 4  | 3  | 2  | 6  | 7  | 5  |  |  |
| JT = 23  | 2*      | 5  | 8  | 6  | 5  | 4  | 4  | 5  | 5  | 6* | 6* | 5* | 5* | 4* | 2* | 1* | 1* | 1* | 2* | 1  | 1  | -  | 2* | 1* |  |  |
| VR2 = 24 | 8       | 7  | 6  | 1  | 1* | 1* | 3* | 5* | 7  | 5  | 8* | 7* | 5* | 4* | 1  | 1  | 2  | 4  | 5  | 7  | 8  | 4* | 2* | 8  |  |  |
| JA1 = 25 | 6*      | 4* | 4  | 5  | 5  | 7  | 8  | 8  | 9  | 8  | 8  | 6  | 5  | 3  | 1  | 1* | 2* | 4* | 5* | 3* | 5  | 5  | 8* | 8* |  |  |
| HS = 26  | 9       | 8  | 5  | 2  | 1  | -  | -  | 1  | 3* | 8  | 6  | 6  | 4* | 2  | 2  | 2  | 4  | 6  | 7  | 8  | 9  | 8  | 1  | 1* |  |  |
| DU = 27  | 7       | 6  | 2  | 1  | -  | 1* | 1  | 3* | 6  | 6* | 6* | 6* | 5* | 3  | 2  | 2  | 2  | 5  | 6  | 7  | 5  | 4* | 8  | 8  |  |  |
| YB = 28  | 9       | 8  | 7  | 4  | 2  | -  | 1  | 1  | 4* | 6  | 6  | 5  | 4  | 5  | 4  | 3  | 3  | 5  | 5  | 6  | 5  | 2  | 1  | 6  |  |  |
| VK6 = 29 | 8       | 8  | 7  | 6  | 5  | 5  | 6  | 8  | 7  | 7  | 7  | 6  | 2  | -  | -  | -  | 1  | 1  | 2  | 4  | 5  | 6  | 7  | 8  |  |  |
| VK3 = 30 | 8       | 8  | 8  | 7  | 7  | 8  | 7  | 8  | 8  | 9  | 8  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  | 8  |  |  |
| KH6 = 31 | 5       | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | -  | -  | -  | 1  | -  | 1* | 1* | 1* | -  | -  | 2  |  |  |
| KH8 = 32 | 4       | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 1  | 2  | 3  | 2  | 1  | 1  | 1* | 1  | 1  | 2  |  |  |
| CN = 33  | 9       | 9  | 9  | 9  | 8  | 2  | 3* | 8  | 8  | 9  | 8  | 5  | 2  | 1  | 1  | 1  | 4  | 4  | 7  | 8  | 9  | 9  | 9  | 9+ |  |  |
| SU = 34  | 9       | 9  | 9  | 6  | 6  | 9  | 9  | 6  | 5  | 3  | 1  | 1  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |  |  |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 5  | 1* | 1  | 9  | 9  | 9  | 8  | 6  | 4  | 3  | 4  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |  |  |
| D2 = 36  | 9       | 7  | 7  | 6  | 2  | 2  | 7  | 8  | 8  | 8  | 7  | 5  | 4  | 2  | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ |  |  |
| 5Z = 37  | 8       | 8  | 5  | 2  | 8  | 8  | 8  | 8  | 6  | 3  | 2  | 1  | -  | 1  | 1  | 1  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |  |  |
| ZS6 = 38 | 6       | 5  | 4  | 4  | 4  | 8  | 8  | 6  | 8  | 8  | 6  | 5  | 4  | 4  | 6  | 6  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 7  |  |  |
| FR = 39  | -       | 1* | -  | 5  | 7  | 6  | 6  | 6  | 5  | 3  | 2  | 3  | 1  | 4  | 4  | 4  | 6  | 8  | 8  | 6  | 2  | 1* | 1* | -  |  |  |
| FJL = 40 | 1       | 2* | 3* | 1* | 1* | 1* | 1* | 2* | 4  | 4  | 6  | 5  | 5  | 1  | -  | -  | 1  | 2  | 5  | 6  | 6  | 5  | 3  | 2  |  |  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |  |  |

Zone UTC -->  
 \* = Longpath  
 Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Oct., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8            | 8  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 5  | 6  | 7  | 8  | 8  |
| VO2 = 02 | -            | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 3  |
| W6 = 03  | 9            | 9  | 4  | -  | -  | -  | -  | 1  | 7  | 2  | 6  | 2  | -  | -  | 8  | 8  | 7  | 9  | 8  | 5  | 6  | 7  | 8  | 9  |
| W9 = 04  | 3*           | -  | -  | -  | -  | -  | -  | 3  | 1  | -  | -  | -  | 8  | 8  | 7  | 7  | 7  | 9  | 7  | 8  | 9  | 9  | 9  | 9  |
| W3 = 05  | 1*           | -  | -  | -  | -  | -  | -  | 4  | 1  | -  | 1  | 1  | 9  | 8  | 8  | 8  | 6  | 8  | 8  | 9  | 9  | 9  | 9+ | 9  |
| XE1 = 06 | 9            | 9+ | 9  | 9  | 9  | 3  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 9  | 7  | 7  | 8  | 7  | 8  | 9  | 9  | 9  |
| TI = 07  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 4  | -  | -  | -  | 1  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+           | 9+ | 9+ | 9+ | 9  | 7  | 5  | -  | -  | -  | -  | 9+ | 9+ | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 7  | 1  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 9+           | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 5  | -  | -  | -  | 8  | 9+ | 9+ | 9+ | 9  | 5  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 | 9+           | 8  | 9  | 9  | 8  | 6  | 1  | -  | 1* | -  | 6  | 9  | 8  | 5  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+           | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 1  | 1  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 8            | 8  | 8  | 8  | 8  | 4  | -  | 1* | 3* | -  | -  | -  | 1* | -  | -  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | -            | -  | -  | 1  | 4  | -  | 1  | 6  | 6  | 9  | 9  | 8  | 6  | 8  | 6  | 5  | 6  | 8  | 9  | 9  | 9  | -  | -  | -  |
| I = 15   | -            | -  | 2  | 2  | 2  | 1* | 8  | 6  | 6  | 8  | 8  | 6  | 5  | 8  | 5  | 4  | 5  | 7  | 8  | 9  | 8  | -  | -  | -  |
| UA3 = 16 | -            | -  | -  | 1* | 1* | 1* | 8  | 3  | 4  | 8  | 6  | 5  | 5  | 7  | 5  | 4  | 5  | 7  | 6  | 1  | 1  | -  | -  | -  |
| UN = 17  | 2*           | 1* | 7  | 9  | 8  | 7  | 4  | 1  | 3  | 3  | 2  | 5* | 6* | 3* | 2  | 2  | 1* | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 2*           | 2* | 1* | 1* | 4  | 8  | 8  | 2  | 3  | 7  | 6  | 7* | 6* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 3* |
| UA0 = 19 | 9            | 9  | 8  | 8  | 8  | 8  | 9  | 8  | 4  | 8* | 8* | 6* | 2* | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 8* | 7  |
| 4X = 20  | 8            | 6  | -  | 2* | 2* | 8  | 6  | 1  | 4  | 7  | 5  | 4  | 5  | 5  | 3  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 9            | 6  | 5* | 2* | 4* | 5  | 2  | 1  | 5  | 4  | 5  | 5  | 4  | 4  | 3  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 1*           | 2* | 7  | 4* | 2* | 3* | 1  | 1* | 4  | 2  | 4  | 4  | 5* | 4* | 3  | 5  | 6  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 3*           | 4* | 6  | 9  | 8  | 7  | 7  | 3  | 4  | 5  | 5  | 7* | 5* | 2* | 1* | -  | -  | -  | 1* | -  | -  | -  | 1* | 2* |
| VR2 = 24 | 8            | 5* | 6* | 6* | 5* | 5* | 6* | 7* | 4  | 4  | 4  | 5* | 3  | 6  | 6  | 6  | 6  | 6  | 8  | 8  | 5  | -  | 3* | 4* |
| JA1 = 25 | 6            | 5  | 8  | 8  | 8  | 8  | 9  | 9  | 7  | 5* | 6* | 7* | 5* | 1* | 1* | -  | -  | 1* | -  | -  | 5  | 5  | 8* | 9* |
| HS = 26  | 6            | 4* | 5* | 4* | 3* | 2* | 4* | 4* | 4  | 5  | 5  | 6* | 6  | 6  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 2  | -  | 3* |
| DU = 27  | 7            | 6* | 5* | 4* | 3* | 5* | 5* | 7* | 5  | 8  | 8* | 7  | 7  | 7  | 6  | 6  | 7  | 6  | 6  | 5  | 1  | -  | 6  | 8  |
| YB = 28  | 8            | 5  | 6* | 4* | 2* | 2* | 4* | 5* | 3  | 6  | 7  | 8  | 7  | 7  | 5  | 4  | 2  | 4* | 4* | 1  | -  | -  | 1* | 5* |
| VK6 = 29 | 7            | 6  | 2  | 1  | -  | 1* | 2* | 2* | 5  | 7  | 7  | 7  | 5  | 5* | 3* | 2* | 1* | 1* | 1* | 1  | 1  | 4  | 5* | 6  |
| VK3 = 30 | 7            | 6  | 6  | 5  | 4  | 4  | 1  | 2  | 4  | 6  | 5* | 2* | 1* | 2* | 1* | -  | -  | 1* | -  | -  | 1* | 3  | 7  | 7  |
| KH6 = 31 | 8            | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 1  | 6  | 7  | 4  | -  | -  | -  | 6  | 4  | 5  | 5  | 7  | 6  | 6  | 6  |
| KH8 = 32 | 6            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 3  | 1  | 2  | 8  | 8  | 2* | 1* | -  | 2  | 7  | 5  | 5  | 5  | 5  | 5  | 6  |
| CN = 33  | 9            | 9  | 8  | 6  | 5  | -  | 1* | 4  | 5  | 9  | 9  | 8  | 7  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9            | 9  | 6  | 4* | 1* | 8  | 8  | 1  | 4  | 8  | 6  | 5  | 6  | 6  | 4  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+           | 9+ | 9+ | 9  | 4  | -  | -  | 1* | 2  | 9+ | 9  | 9  | 9  | 7  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 6            | 2  | 2  | -  | 3* | 2* | 2  | 1  | 7  | 9  | 9  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 9+ | 9  | 9+ | 9  | 9  | 8  |
| 5Z = 37  | 2            | 1  | -  | 4* | 3  | 2  | 3* | 4  | 8  | 8  | 7  | 7  | 8  | 7  | 6  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 6  |
| ZS6 = 38 | -            | -  | -  | -  | 3* | 2* | 2* | 2* | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 5  | 1  | 1  | -  |
| FR = 39  | -            | -  | 4* | 2* | 2* | 1  | 2  | 2  | 7  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 3  | 1* | -  | -  | -  | -  |
| FJL = 40 | -            | -  | 1* | 1* | -  | -  | -  | 1* | 2* | 3* | 6* | 2* | 4  | 5  | 4  | 2  | 1  | 1  | 1  | -  | -  | -  | -  | -  |
| Zone     | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Oct., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 8   | 6   | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 5  | 5  | 6  |
| VO2 = 02 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 8  | 9  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 7  | -  |
| W6 = 03  | 9   | 5   | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | 2  | -  | -  | -  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 9  |
| W9 = 04  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 7  | 9  | 8  | 9  | 9  | 9  | 9  | 8  |
| W3 = 05  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 9  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 4  |
| XE1 = 06 | 9   | 9   | 6  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 9+  | 9   | 9  | 9  | 9  | 9  | 1  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 8   | 8   | 8  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 9+ | 9+ | 9  | 9  | 6  | 5  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  |
| P4 = 09  | 8   | 7   | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | 6  | 9+ | 9  | 5  | 4  | 3  | 3  | 9  | 9  | 9+ | 9+ | 9+ | 9  |
| HC = 10  | 8   | 6   | 7  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 9+ | 7  | 2  | -  | -  | 8  | -  | 5  | 7  | 8  | 8  | 8  |
| PY1 = 11 | 8   | 4   | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | 1  | 7  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+  | 9   | 9  | 9  | 9  | 9  | 8  | 7  | 1  | -  | -  | -  | -  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 4*  | 2   | 4  | 4  | 2  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 1* | -  | -  | 3  | 7  | 9  | 9+ | 9+ | 9+ | 8  |
| G = 14   | -   | -   | -  | -  | -  | -  | -  | -  | 1  | 1  | 7  | 9  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 9  | 9  | 2  | -  | -  | -  |
| I = 15   | -   | -   | -  | -  | -  | -  | -  | 3  | 1  | 2  | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 2  | -  | -  | -  |
| UA3 = 16 | -   | -   | -  | -  | -  | -  | -  | 3  | -  | 1  | 7  | 8  | 7  | 6  | 6  | 6  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  |
| UN = 17  | 2*  | 1*  | 2  | 6  | 6  | 4  | 1  | -  | 1  | 5  | 5  | 4  | 5  | 4  | 6* | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 3*  | -   | -  | -  | -  | 5  | 5  | -  | -  | 6  | 6  | 5  | 5  | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 8   | 8   | 8  | 8  | 8  | 8  | 7  | 5  | -  | 4* | 5* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 6  |
| 4X = 20  | 3   | -   | -  | 1* | -  | 6  | 1  | -  | 1  | 7  | 7  | 6  | 5  | 6  | 5  | 6  | 6  | 6  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 5  |
| HZ = 21  | 7   | -   | 4* | 1* | 1* | 1  | -  | -  | 2  | 6  | 5  | 5  | 6  | 5  | 6  | 5  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  |
| VU = 22  | 1*  | 3*  | 2  | 2* | 1* | -  | -  | -  | -  | 1  | 5  | 3  | 5  | 5  | 6* | 5  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 3*  | 1*  | 1  | 7  | 8  | 8  | 5  | -  | 1  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| VR2 = 24 | 6*  | 8*  | 7* | 6* | 6* | 6* | 7* | 5* | 2  | 6  | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 5  | -  | -  | 4* | 5* |
| JA1 = 25 | 8   | 8   | 8  | 8  | 9  | 9  | 9  | 9  | 6  | 1  | 6* | 7* | 8* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 7  |
| HS = 26  | 3*  | 6*  | 6* | 5* | 4* | 3* | 3* | 1* | 1  | 6  | 6  | 7  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | 4* |
| DU = 27  | 7*  | 6*  | 5* | 5* | 4* | 4* | 5* | 4* | 1  | 5  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | 4* | 8* |
| YB = 28  | 5*  | 6*  | 6* | 6* | 5* | 4* | 4* | 2* | -  | 4  | 7  | 8  | 6  | 7* | 6* | 5* | 5* | 4* | 3* | 2* | -  | -  | -  | -  | -  | 6* |
| VK6 = 29 | 6*  | 5*  | 5* | 4* | 1* | 2* | 1* | -  | -  | 2  | 2  | 5* | 6* | 5* | 3* | 2* | 1* | -  | -  | 1* | -  | -  | -  | -  | 1* | 5* |
| VK3 = 30 | 4   | 3*  | 1  | 1* | 1* | 1* | 1* | -  | -  | 1* | 5* | 3* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 4  | 5* |
| KH6 = 31 | 8   | 8   | 9  | 9  | 9  | 9  | 8  | 5  | -  | -  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | 6  | 5  | 6* | 6* | 5  | 6  | 7  |
| KH8 = 32 | 7   | 6   | 5  | 4  | 2  | 1  | 4  | 2  | -  | 4* | 4* | 4* | 3* | 2* | -  | -  | -  | -  | 7  | 6  | 6  | 6  | 6  | 6  | 6  | 7  |
| CN = 33  | 8   | 4   | 2  | -  | -  | -  | -  | -  | -  | 1  | 7  | 9  | 9  | 8  | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| SU = 34  | 9   | 8   | -  | 1* | -  | 4  | 3  | -  | 1  | 7  | 7  | 6  | 5  | 6  | 6  | 6  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9   | 9   | 6  | 2  | -  | -  | -  | -  | -  | 7  | 9+ | 9  | 9  | 5  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9  | 9  |
| D2 = 36  | 1   | -   | -  | -  | -  | 1* | 1* | -  | 2  | 5  | 9  | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 9  | 8  | 7  | 5  |
| 5Z = 37  | -   | -   | -  | 5* | 3* | 4* | 2* | -  | 5  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 7  | -  |
| ZS6 = 38 | -   | -   | -  | -  | 5* | 5* | 4* | 1* | 1  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 5  | -  | -  | -  | -  |
| FR = 39  | -   | -   | 5* | 5* | 4* | 3* | 2* | -  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 2* | 2* | -  | -  | -  | -  | -  |
| FJL = 40 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Oct., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 4   | 1   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  |
| VO2 = 02 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 4  | 4  | 6  | 8  | 8  | 8  | 7  | -  | -  |
| W6 = 03  | 6   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  |
| W9 = 04  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 8  | -  |
| W3 = 05  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 7  | -  |
| XE1 = 06 | 9   | 8   | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 8  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 7   | 5   | 4  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 1* | 1* | 1* | 1* | 3  | 7  | 9  | 9+ | 9  | 9  |
| VP2 = 08 | 4   | 3   | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 2  | 1* | 1* | 1* | 1* | 2  | 7  | 9  | 9  | 8  | 7  |
| P4 = 09  | 3   | 2   | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 1  | 1* | 2* | 2* | 2* | 4* | 5* | 7  | 7  | 7  | 6  |
| HC = 10  | 2   | 1   | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 9+ | 8  | 8  | 9  | 2* | 2* | 1  | 1  | 4  |
| PY1 = 11 | 2   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9  |
| CE = 12  | 9   | 8   | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 1*  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3  | 5  | 5  | 4  | 8  | 4* |
| G = 14   | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 8  | 7  | 8  | 8  | 9  | 9  | 6  | -  | -  | -  | -  |
| I = 15   | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 7  | -  | -  | -  | -  |
| UA3 = 16 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 6  | 5  | 2  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -   | -   | -  | 1  | 1  | 1  | -  | -  | -  | -  | -  | 4  | 5  | 4  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 1*  | -   | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 3   | 5   | 6  | 6  | 5  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| 4X = 20  | -   | -   | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 5  | 7  | 6  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 8  | 8  | 6  | 4  | -  |
| HZ = 21  | 1   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 6  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 8  | 8  | 7  | 6  | 4  |
| VU = 22  | -   | 3*  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 7  | 6  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 1*  | -   | -  | 2  | 6  | 6  | 1  | -  | -  | -  | -  | 2  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VR2 = 24 | 8*  | 8*  | 7* | 6* | 6* | 5* | 3* | -  | -  | -  | -  | 1  | 6  | 7  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | -  | -  | -  | -  | 6* |
| JA1 = 25 | 8   | 9   | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | 1* | 8* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  |
| HS = 26  | 7*  | 7*  | 6* | 5* | 4* | 2* | 1* | -  | -  | -  | -  | 2  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  |
| DU = 27  | 6*  | 5*  | 4* | 5* | 4* | 3* | 2* | -  | -  | -  | -  | -  | 4  | 6  | 7  | 7  | 6  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | 7* |
| YB = 28  | 6*  | 5*  | 5* | 5* | 3* | 2* | 2* | -  | -  | -  | -  | -  | 3  | 5  | 7* | 6* | 6* | 5* | 3* | 1* | -  | -  | -  | -  | -  | 4* |
| VK6 = 29 | 5*  | 5*  | 4* | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 6* | 6* | 5* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 5* |
| VK3 = 30 | 5*  | 2*  | 2* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | 2* | 1* | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1* | 4* | 5* |
| KH6 = 31 | 8   | 8   | 8  | 8  | 8  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 7  | 7  | 7  | 5  | 6  | 8  |
| KH8 = 32 | 6   | 1   | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 5* | 4* | 3* | -  | -  | -  | -  | 4  | 7  | 7  | 7  | 8  | 8  | 8  |
| CN = 33  | 1   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 7  | 5  | 4  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 7  | 2  | 1  |
| SU = 34  | 5   | 1   | -  | -  | -  | 1  | -  | -  | -  | -  | -  | 5  | 7  | 7  | 8  | 8  | 8  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| 6W = 35  | 2   | 2   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 6  | -  | -  | -  | 5  | 9  | 9  | 9+ | 9+ | 7  | 2  | 1  |
| D2 = 36  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  | 8  | 7  | 8  | 8  | 8  | 9  | 8  | 6  | 4  | 2  | 1  |
| 5Z = 37  | -   | -   | -  | 1* | 2* | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 1  | -  |
| ZS6 = 38 | -   | -   | -  | -  | 1* | 4* | 2* | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 8  | 8  | 8  | 8  | 7  | 1  | -  | -  | -  | -  | -  |
| FR = 39  | -   | -   | 1* | 6* | 5* | 3* | 1* | -  | -  | -  | -  | 4  | 8  | 8  | 8  | 8  | 7  | 6  | 2  | 1* | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | </ |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



10 Meters: Oct., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 1  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 2  | 7  | 8  | 8  | 4  | -  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 2  | 6  | 8  | 8  | 7  | 2  | -  |
| XE1 = 06 | 8       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 2  | 3  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 2       | 1  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | 1* | 1  | 4  | 5  | 6  | 5  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2  | 2  | 4  | 2  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | 3  | 1  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 7  | 4  | 4  | 6  | 1* | -  | -  | -  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 4  | 6  | 8  | 9+ | 9  | 4  |
| CE = 12  | 4       | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| LU = 13  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 3* | 2* | 3* | 3  | 1* |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 5  | 2  | 1  | 4  | 6  | 7  | 6  | 1  | -  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 7  | 5  | 3  | 6  | 8  | 9  | 9  | 8  | 1  | -  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | 1  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 5  | 6  | 6  | 8  | 8  | 8  | 8  | 8  | 2  | 3  | 1  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 5  | 4  | 4  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | 1  | -  |
| VU = 22  | -       | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 4  | 5  | 6  | 8  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 7*      | 8* | 6* | 5* | 4* | 2* | -  | -  | -  | -  | 2  | 4  | 5  | 5  | 6  | 6  | 6  | 4  | -  | -  | -  | -  | -  | 3* |
| JA1 = 25 | 6       | 5  | 7  | 7  | 5  | 3  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| HS = 26  | 4*      | 7* | 5* | 4* | 3* | -  | -  | -  | -  | -  | 2  | 4  | 4  | 2  | 5  | 6  | 8  | 5  | 1  | -  | -  | -  | -  | -  |
| DU = 27  | 5*      | 4* | 3* | 3* | 2* | 1* | -  | -  | -  | -  | -  | 1  | 3  | 2  | 2  | 4  | 2  | -  | -  | -  | -  | -  | -  | 3* |
| YB = 28  | 4*      | 2* | 2* | 2* | 1* | 1* | -  | -  | -  | -  | -  | 1  | 5* | 4* | 3* | 2* | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 4*      | 2* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | 1* | 5* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| VK3 = 30 | 2*      | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* |
| KH6 = 31 | 8       | 7  | 5  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 7  | 7  | 8  | 6  | 7  | 8  |
| KH8 = 32 | 2       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* | 2* | -  | -  | -  | -  | -  | 5  | 7  | 7  | 7  | 8  | 8  | 7  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 1  | -  | 7  | 5  | 8  | 9  | 9  | 9  | 7  | -  | -  | -  |
| SU = 34  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 7  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 8  | 6  | 4  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | 1* | 3  | 6  | 7  | 5  | -  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 4  | 4  | 8  | 7  | 9  | 8  | 7  | 6  | 4* | 1  | -  | -  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 6  | 6  | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | 1  | 1* | 5  | 3  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | 2* | 2* | 1* | -  | -  | -  | -  | 3  | 5  | 5  | 4* | 1  | 1* | -  | -  | -  | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Nov., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | 3  | 4  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5       | 6  | 6  | 5  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 = 03  | -       | -  | 1  | 4  | 5  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 2       | 5  | 4  | 5  | 5  | 4  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 4       | 2  | 5  | 5  | 5  | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| XE1 = 06 | 1       | 3  | 1  | 5  | 5  | 5  | 5  | 5  | 2  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 1       | 3  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VP2 = 08 | 2       | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| P4 = 09  | 2       | 4  | 4  | 4  | 4  | 4  | 5  | 4  | 3  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| HC = 10  | 2       | 4  | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| PY1 = 11 | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 2  | -  | -  | -  | -  | -  | 1  | 5  | 9  | 9  | 9  | 9  |
| CE = 12  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 9  | 9  |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 6  | 3  | -  | -  | -  | -  | 2  | 5  | 9  | 9  | 9  | 9  |
| G = 14   | 5       | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| I = 15   | 4       | 5  | 4  | 4  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| UA3 = 16 | 3       | 3  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3       | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| HZ = 21  | 3       | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | -  | 1  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | -  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5       | 5  | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| SU = 34  | 3       | 4  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 4       | 4  | 4  | 4  | 4  | 4  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  |
| D2 = 36  | 4       | 4  | 4  | 3  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 4  |
| 5Z = 37  | 5       | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| ZS6 = 38 | 5       | 5  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  |
| FR = 39  | 5       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  |
| FJL = 40 | 1       | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Nov., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | 1  | 2  | 6  | 7  | 7  | 7  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| W6 = 03  | -       | 2  | 4  | 7  | 8  | 8  | 8  | 7  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 5       | 8  | 7  | 8  | 8  | 7  | 8  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W3 = 05  | 7       | 5  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| XE1 = 06 | 4       | 6  | 4  | 8  | 8  | 8  | 8  | 8  | 5  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 4       | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| VP2 = 08 | 5       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  |
| P4 = 09  | 5       | 7  | 7  | 7  | 7  | 7  | 8  | 7  | 6  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| HC = 10  | 5       | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 5  | 1  | -  | -  | -  | -  | 4  | 8  | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 1  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 9  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | 2  | 1  | 1  | 2  | 5  | 8  | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  |
| I = 15   | 7       | 8  | 7  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| UA3 = 16 | 6       | 6  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| UN = 17  | 3       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| UA9 = 18 | 2       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| HZ = 21  | 6       | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| VU = 22  | 3       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| JT = 23  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | 1  | 4  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | 1  | 1  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  |
| SU = 34  | 6       | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| 6W = 35  | 7       | 7  | 7  | 7  | 7  | 7  | 9  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 7  |
| D2 = 36  | 7       | 7  | 7  | 6  | 7  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  |
| 5Z = 37  | 8       | 8  | 8  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| ZS6 = 38 | 8       | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  |
| FR = 39  | 8       | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| FJL = 40 | 4       | 4  | 4  | 3  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 40 Meters: Nov., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 2       | 7  | 6  | 7  | 9  | 9  | 9  | 7  | 7  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 = 02 | 9       | 7  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 8  |
| W6 = 03  | 2       | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 = 04  | 8       | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  |
| W3 = 05  | 8       | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| XE1 = 06 | 4       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  |
| TI = 07  | 7       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| VP2 = 08 | 8       | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 7  |
| P4 = 09  | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  |
| HC = 10  | 8       | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 4  | 3  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | 9       | 9  | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 6  | 8  | 8  |
| I = 15   | 8       | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  |
| UA3 = 16 | 8       | 8  | 8  | 8  | 7  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 7  |
| UN = 17  | 5       | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 4  | 5  |
| UA9 = 18 | 6       | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | 1  | 1  | 2  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| 4X = 20  | 8       | 6  | 6  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 7  |
| HZ = 21  | 8       | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  |
| VU = 22  | 6       | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  |
| JT = 23  | 6       | 5  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 5  | 6  |
| VR2 = 24 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 3  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | -  |
| HS = 26  | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| YB = 28  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 4  |
| VK6 = 29 | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | 1  | 4  | 6  | 8  | 8  | 7  | 7  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | 1  | 3  | 6  | 7  | 8  | 8  | 8  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 7  | 9  | 8  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  |
| SU = 34  | 8       | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| 6W = 35  | 9       | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 9  | 9  |
| D2 = 36  | 9       | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 9  | 9  |
| 5Z = 37  | 8       | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 7  | 8  |
| ZS6 = 38 | 9       | 9  | 9  | 9  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  | 9  |
| FR = 39  | 9       | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 9  |
| FJL = 40 | 7       | 7  | 7  | 7  | 7  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Nov., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 5            | 6  | 6  | 7  | 5  | 5  | 5  | 5  | 6  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| VO2 =   | 02 | 8            | 6  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 5  | 8  |
| W6 =    | 03 | 5            | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| W9 =    | 04 | 7            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 4  | 6  |
| W3 =    | 05 | 8            | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | 2  | 7  | 6  | 7  |
| XE1 =   | 06 | 8            | 9  | 9  | 9  | 9  | 9  | 7  | 6  | 6  | 4  | -  | -  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| TI =    | 07 | 8            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 1  | 4  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| VP2 =   | 08 | 9            | 9  | 9  | 8  | 8  | 8  | 8  | 7  | 1  | 3  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| P4 =    | 09 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 4  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  |
| HC =    | 10 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 8  | 5  | 6  | 3  | 1  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 9  |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 8            | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 8  |    |
| I =     | 15 | 8            | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 7  |    |
| UA3 =   | 16 | 7            | 8  | 8  | 7  | 6  | 6  | 6  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 6  | 7  |
| UN =    | 17 | 7            | 7  | 6  | 5  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 7  | 7  |    |
| UA9 =   | 18 | 1            | -  | 2  | 5  | 5  | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 5  | 2  |
| UA0 =   | 19 | 1            | 1  | 1  | 1  | 1  | 2  | 2  | 3  | 5  | 5  | 1  | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 3* |    |
| 4X =    | 20 | 8            | 8  | 7  | 7  | 5  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 8  |
| HZ =    | 21 | 8            | 8  | 7  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 7  | 8  |
| VU =    | 22 | 4            | 1  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 6  | 5  | 6  |    |
| JT =    | 23 | 5            | 5  | 5  | 1  | 1  | 1  | -  | -  | 1* | 4  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 4  | 4  | 3  |
| VR2 =   | 24 | 4            | 2  | -  | -  | -  | -  | -  | 2* | 3* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 4  | 2* | 6  |
| JA1 =   | 25 | 2*           | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | 2* | 1* | 1* | 5* | 4* |    |
| HS =    | 26 | 7            | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 7  |
| DU =    | 27 | 1            | -  | -  | -  | -  | -  | -  | -  | 1* | 6  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 4  | 4  |
| YB =    | 28 | 5            | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  | 6  | 6  |
| VK6 =   | 29 | 3            | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 4  | 4  | 4  |
| VK3 =   | 30 | -            | -  | -  | -  | 1  | 1  | 2  | 4  | 6  | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  |
| KH6 =   | 31 | -            | 1  | 5  | 5  | 7  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | -  | 1  | 4  | 7  | 7  | 8  | 8  | 8  | 7  | 6  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 8            | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 8  | 8  | 8  |
| SU =    | 34 | 8            | 8  | 8  | 7  | 6  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 8  |
| 6W =    | 35 | 9            | 9  | 9  | 9  | 9  | 9  | 6  | 5  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | 1  | 2  | 4  | 7  | 8  | 9  | 9  |
| D2 =    | 36 | 9            | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 9  | 9  | 9  |
| 5Z =    | 37 | 8            | 8  | 8  | 7  | 8  | 7  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 7  | 8  | 8  | 8  |
| ZS6 =   | 38 | 9            | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 8  | 8  | 9  |
| FR =    | 39 | 8            | 8  | 8  | 8  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 8  | 8  |
| FJL =   | 40 | 7            | 6  | 7  | 6  | 2  | -  | 1* | 1  | 4  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



# 20 Meters: Nov., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |    |
| KL7 = 01 | 8       | 8  | 8  | 2* | 2* | 2* | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | 1  | 1  | 1  | 1  | 5  | 5  | 7  | 8  |    |    |    |
| VO2 = 02 | -       | -  | -  | -  | 1  | 6  | 8  | 7  | 5  | 6  | 5  | 8  | 7  | 5  | 2  | 1  | 2  | 2  | 5  | 7  | 8  | 9  | 9  | 5  |    |    |
| W6 = 03  | 8       | 9  | 9  | 6  | 7  | 8  | 8  | 9  | 9  | 8  | 8  | 6  | -  | 6  | 4  | 1  | 1  | -  | -  | 1  | -  | 4  | 6  | 8  |    |    |
| W9 = 04  | 7       | 2* | 1  | 3  | 4  | 6  | 7  | 8  | 8  | 7  | 6  | 4  | 8  | 5  | 3  | 1  | -  | -  | 1  | 2  | 4  | 8  | 9  | 9  |    |    |
| W3 = 05  | 1*      | -  | -  | 1  | 4  | 6  | 8  | 8  | 7  | 5  | 6  | 9  | 8  | 6  | 3  | 2  | 1  | 2  | 3  | 4  | 8  | 9  | 9  | 8  |    |    |
| XE1 = 06 | 9       | 9  | 9  | 9  | 9  | 7  | 1  | 2  | 1  | 1* | 1* | -  | 2  | 7  | 5  | 4  | 4  | 2  | 1  | 1  | 4  | 6  | 8  | 9  |    |    |
| TI = 07  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 6  | -  | 1* | -  | 8  | 7  | 8  | 6  | 5  | 4  | 4  | 4  | 5  | 8  | 9  | 9  | 9+ |    |    |
| VP2 = 08 | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 6  | 1  | -  | -  | 8  | 9  | 8  | 7  | 5  | 4  | 4  | 5  | 6  | 7  | 9  | 9  | 9+ | 9+ |    |    |
| P4 = 09  | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 5  | -  | -  | -  | 1  | 9  | 8  | 8  | 7  | 6  | 6  | 6  | 5  | 7  | 9  | 9  | 9+ | 9+ |    |    |
| HC = 10  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 6  | -  | -  | 5  | 9  | 9  | 9  | 9  | 8  | 7  | 8  | 5  | 6  | 7  | 9  | 9  | 9+ |    |    |
| PY1 = 11 | 9+      | 9+ | 9+ | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |
| LU = 13  | 9+      | 9+ | 9  | 9  | 9  | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |    |    |
| G = 14   | 5       | 5  | 8  | 9  | 9  | 7  | 6  | 8  | 9  | 8  | 7  | 8  | 2  | 1  | 1  | 1  | 2  | 5  | 7  | 8  | 8  | 6  | 4  | 3  |    |    |
| I = 15   | 8       | 9  | 9  | 9  | 8  | 5  | 8  | 8  | 8  | 7  | 5  | 4  | 1  | 1  | -  | 1  | 1  | 3  | 6  | 8  | 9  | 9  | 9  | 8  |    |    |
| UA3 = 16 | 3       | 4  | 4  | 2  | 2* | 2  | 8  | 7  | 6  | 5  | 3  | 8  | 2* | -  | -  | -  | 2  | 3  | -  | -  | 1  | 1  | 1  | 3  |    |    |
| UN = 17  | 6       | 5  | 8  | 8  | 8  | 7  | 6  | 4  | 2  | 4* | 6  | 7  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  |    |    |
| UA9 = 18 | 1*      | 1* | 2* | 3* | 6  | 8  | 6  | 6  | 5* | 5  | 6  | 4  | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |    |    |
| UA0 = 19 | 5       | 6  | 5  | 5  | 4  | 7  | 9  | 8  | 5* | 5* | 6* | 5* | 4* | 1* | 1* | -  | -  | 1* | 2* | -  | -  | 1  | 8  | 7  |    |    |
| 4X = 20  | 9       | 9  | 8  | 3  | 1  | 8  | 8  | 7  | 5  | 3  | 1  | 1  | -  | -  | -  | 1  | 2  | 5  | 6  | 8  | 9  | 9  | 9  | 9  |    |    |
| HZ = 21  | 9       | 9  | 4  | 2  | 8  | 8  | 7  | 6  | 2  | 1  | -  | 1  | 1* | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |    |    |
| VU = 22  | -       | -  | 4  | 8  | 7  | 5  | 4  | 1  | 1* | 2* | 3* | 8  | 2* | 1* | -  | 1  | 2  | 4  | 3  | -  | -  | 2  | 5  | 4  |    |    |
| JT = 23  | 1*      | 2  | 8  | 8  | 5  | 8  | 7  | 5  | 6* | 7* | 5* | 5* | 5* | 2* | 1* | -  | -  | -  | 1* | 1  | 2  | 1  | 1* | 1* |    |    |
| VR2 = 24 | 8       | 7  | 8  | 4  | 1  | 2* | 4* | 6* | 7* | 7* | 8* | 7  | 4* | 1  | 1  | 1  | 1  | 3  | 5  | 7  | 6  | -  | 3* | 5  |    |    |
| JA1 = 25 | 7*      | 6  | 6  | 7  | 7  | 8  | 9  | 9  | 4  | 4* | 5* | 6* | 2* | 1* | 1* | -  | -  | 1* | 3* | 1* | 5  | 5  | 6* | 8* |    |    |
| HS = 26  | 9       | 9  | 8  | 6  | 2  | -  | 1* | 2* | 4* | 8  | 7  | 7  | 3* | 2* | 1  | 2  | 3  | 5  | 7  | 8  | 9  | 8  | 6  | 6  |    |    |
| DU = 27  | 7       | 7  | 3  | 1  | 1* | 1* | 4* | 5* | 6  | 6* | 6* | 6* | 4* | 2  | 1  | 1  | 2  | 4  | 5  | 5  | 5  | 1  | 8  | 8  |    |    |
| YB = 28  | 9       | 8  | 6  | 4  | 2  | 1  | -  | 1  | 4* | 7  | 6  | 6  | 3  | 3  | 2  | 2  | 3  | 5  | 6  | 7  | 8  | 7  | 7  | 9  |    |    |
| VK6 = 29 | 8       | 8  | 8  | 7  | 7  | 6  | 6  | 7  | 5  | 7  | 6  | 6  | 6  | 5  | 4  | 3  | 3  | 2  | 2  | 4  | 5  | 7  | 8  | 8  |    |    |
| VK3 = 30 | 6       | 6  | 7  | 7  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 3  | 1  | -  | 1  | 2  | 4  | 5  | 6  | 6  | 6  |    |    |
| KH6 = 31 | 5       | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | -  | -  | -  | 2  | 1  | 1* | 1* | 1* | -  | -  | 2  |    |    |
| KH8 = 32 | 3       | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 4  | 2  | 1  | 1  | 1* | 1* | -  | 1  | 1  |    |    |
| CN = 33  | 9       | 9  | 9  | 9  | 9  | 4  | 1  | 7  | 9  | 9  | 8  | 6  | 4  | 2  | 1  | 1  | 2  | 4  | 7  | 8  | 9  | 9  | 9  | 9  |    |    |
| SU = 34  | 9       | 9  | 9  | 4  | 2  | 9  | 8  | 7  | 5  | 3  | 1  | 1  | 1  | -  | -  | 1  | 2  | 5  | 7  | 8  | 9  | 9  | 9  | 9  |    |    |
| 6W = 35  | 9+      | 9+ | 9+ | 9+ | 9+ | 7  | -  | 2* | 8  | 9  | 9  | 8  | 6  | 4  | 2  | 4  | 5  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |    |    |
| D2 = 36  | 9+      | 9  | 8  | 6  | 4  | 5  | 8  | 7  | 8  | 8  | 6  | 5  | 5  | 5  | 5  | 5  | 5  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |    |
| 5Z = 37  | 9       | 9  | 8  | 4  | 8  | 9  | 8  | 8  | 6  | 3  | 1  | 1  | 1  | 1  | 1  | 1  | 2  | 5  | 8  | 9  | 9  | 9  | 9  | 9  |    |    |
| ZS6 = 38 | 8       | 6  | 2  | 5  | 6  | 9  | 8  | 8  | 8  | 8  | 7  | 6  | 6  | 5  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |    |    |
| FR = 39  | 4       | 2* | 3  | 8  | 9  | 7  | 7  | 7  | 5  | 3  | 2  | 2  | 2  | 3  | 4  | 4  | 5  | 7  | 8  | 8  | 8  | 5  | 1  | 3  |    |    |
| FJL = 40 | 1       | -  | 2* | 1* | 2* | 2* | 1* | 2* | 3* | 2* | 5  | 5  | 4  | 1  | -  | 1  | 1  | 3  | 1  | -  | -  | 1  | -  | 1  |    |    |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |    |    |
|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |         | </ |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 12 dBi isotropic antennas.



# 17 Meters: Nov., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC -->      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8            | 8  | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 6  | 5  | 7  | 7  | 9  |
| VO2 = 02 | -            | -  | -  | -  | -  | -  | 3  | 1  | -  | -  | -  | 7  | 9  | 8  | 7  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 6  | -  |
| W6 = 03  | 9            | 7  | 3* | -  | -  | -  | 1  | 2  | 5  | 2  | 6  | 2  | -  | -  | 8  | 8  | 7  | 6  | 8  | 7  | 6  | 7  | 8  | 9  |
| W9 = 04  | 2*           | -  | -  | -  | -  | -  | -  | 5  | 2  | 1  | -  | -  | 8  | 8  | 8  | 7  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 7  |
| W3 = 05  | -            | -  | -  | -  | -  | -  | 1  | 5  | 2  | -  | 1  | -  | 9  | 8  | 8  | 7  | 7  | 9  | 8  | 8  | 9  | 9  | 9  | 2* |
| XE1 = 06 | 9+           | 9  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 9  | 7  | 7  | 8  | 7  | 8  | 9  | 9  | 9+ |
| TI = 07  | 9+           | 9  | 9  | 9  | 8  | 6  | 2  | 1  | -  | -  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+           | 9+ | 9  | 7  | 3  | -  | 1  | -  | -  | -  | -  | 9+ | 9+ | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9+           | 9  | 8  | 8  | 6  | 4  | 4  | -  | -  | -  | -  | 9+ | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 9+           | 8  | 8  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | 7  | 9+ | 9+ | 9  | 9  | 9  | 9  | 8  | 8  | 9  | 9  | 9+ | 9+ |
| PY1 = 11 | 9            | 8  | 6  | 3  | 1  | -  | -  | -  | 5* | 2* | 2  | 3  | 3  | 5  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+           | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 8            | 6  | 4  | 3* | 2* | 2* | 2* | 2* | 5* | 1* | 2* | 1* | 1  | 2  | 4  | 5  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G = 14   | -            | -  | -  | 2  | 6  | 1  | -  | 5  | 8  | 9  | 9  | 8  | 8  | 8  | 6  | 6  | 7  | 8  | 8  | 6  | 1  | -  | -  | -  |
| I = 15   | 1            | 2  | 6  | 5  | 4  | -  | 5* | 6  | 8  | 8  | 7  | 8  | 6  | 8  | 5  | 3  | 5  | 7  | 8  | 8  | 6  | 2  | -  | -  |
| UA3 = 16 | -            | -  | -  | -  | 4* | 4* | 4  | 4  | 7  | 8  | 6  | 5  | 6  | 8  | 5  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | 2*           | 2* | 3  | 6  | 8  | 7  | 4  | 2  | 5  | 5  | 4  | 7* | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 3*           | 2* | 2* | 2* | 2* | 7  | 4  | 4* | 6  | 8  | 7  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| UA0 = 19 | 9            | 8  | 8  | 8  | 8  | 8  | 8  | 4* | 6* | 7* | 4* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 8* |
| 4X = 20  | 8            | 8  | 2  | 1* | 6* | 6  | 5  | 3  | 6  | 6  | 6  | 4  | 7  | 8  | 5  | 4  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| HZ = 21  | 8            | 2  | 2* | 4* | 7  | 6  | 3  | 3  | 6  | 5  | 4  | 4  | 7  | 7  | 4  | 4  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| VU = 22  | 2*           | 2* | 4* | 8  | 5  | 4  | 2  | 1  | 4  | 2  | 2  | 4  | 6* | 5  | 3  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 3*           | 3* | 3* | 8  | 8  | 7  | 5  | 5* | 7  | 7* | 8* | 4  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* |
| VR2 = 24 | 9            | 8  | 8  | 6* | 6* | 6* | 6* | 5* | 5  | 5  | 6* | 4  | 6  | 7  | 6  | 5  | 6  | 6  | 5  | 3  | -  | -  | 2* | 5* |
| JA1 = 25 | 8            | 8  | 8  | 8  | 9  | 9  | 8  | 2  | 5* | 5* | 6* | 6* | 1* | -  | 1* | -  | -  | -  | -  | -  | 1  | 5  | 6  | 9* |
| HS = 26  | 7            | 9  | 7  | 4  | 5* | 4* | 3* | 2  | 5  | 6  | 6  | 7* | 6  | 7  | 7  | 6  | 7  | 7  | 8  | 8  | 8  | 4  | -  | 2* |
| DU = 27  | 8            | 8  | 6  | 6* | 5* | 4* | 5* | 4  | 6  | 7  | 7  | 7  | 7  | 8  | 7  | 6  | 6  | 5  | 3  | 2  | -  | -  | 4* | 9  |
| YB = 28  | 9            | 8  | 8  | 6  | 3  | 2* | 2* | 4  | 6  | 6  | 7  | 7  | 8  | 7  | 7  | 6  | 6  | 6  | 5  | 5  | 4  | 1  | 1  | 7* |
| VK6 = 29 | 9            | 9  | 8  | 8  | 5  | 4  | 4  | 6  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | 1  | 2* | 2* | 3* | 2* | 1  | 4  | 7  | 8  |
| VK3 = 30 | 8            | 8  | 9  | 8  | 8  | 8  | 8  | 7  | 8  | 8  | 8  | 7  | 5  | 4* | 2* | 1* | 1* | 2* | 2* | 1  | 3  | 7  | 8  | 8  |
| KH6 = 31 | 8            | 8  | 9  | 9  | 9  | 9  | 7  | 5  | 5  | 5  | 3  | 4  | 1  | -  | -  | -  | -  | 4  | 5  | 5  | 5  | 3  | 4  | 7  |
| KH8 = 32 | 7            | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 5  | 7  | 8  | 9  | 8  | 4  | 2  | 7  | 5  | 5  | 5  | 5  | 4  | 4  | 5  |
| CN = 33  | 9            | 9  | 9  | 8  | 6  | -  | -  | 5* | 7  | 9  | 9  | 8  | 7  | 8  | 6  | 6  | 7  | 9  | 8  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9            | 9  | 5  | -  | 5* | 7  | 7  | 2  | 6  | 6  | 5  | 6  | 8  | 8  | 6  | 4  | 5  | 7  | 8  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9+           | 9+ | 9  | 8  | 4  | -  | -  | 4* | 2  | 9+ | 9+ | 9  | 9  | 7  | 6  | 6  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9            | 6  | 3  | 1  | 1* | 5* | 2  | 4  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9+ | 9  | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 8            | 8  | 2  | 4* | 3* | 5  | 3  | 6  | 8  | 8  | 7  | 5  | 8  | 8  | 7  | 6  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9  |
| ZS6 = 38 | 1            | -  | -  | 1* | 5* | 5  | 4  | 8  | 7  | 8  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 6  | 5  |
| FR = 39  | -            | 2* | 5* | 4* | 5* | 4  | 5  | 6  | 8  | 8  | 7  | 7  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 3* | 3* | 2* | -  |
| FJL = 40 | -            | -  | -  | 1* | 3* | 2* | 2* | 4* | 4* | 1* | -  | 1  | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Nov., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 8       | 4  | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 7  | 8  | 8  | 8  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 9  | 7  | 9  | 9  | 9  | 8  | 8  | 8  | -  | -  |
| W6 = 03  | 6       | 5* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 8  | 7  | 8  | 8  | 6  | 6  | 7  | 8  | 9  | 9  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 1  | 9  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 2* |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | 7  | 9  | 9  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 6  | -  |
| XE1 = 06 | 9       | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ |
| TI = 07  | 9       | 7  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 6  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9       | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 9+ | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 8       | 6  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 9  | 9  | 5  | 5  | 5  | 6  | 9  | 9  | 9+ | 9+ | 9+ | 9  |
| HC = 10  | 8       | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 5  | 1  | -  | -  | 1  | 3  | 9  | 9  | 9+ | 9+ | 9  |
| PY1 = 11 | 6       | 5* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | 2  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| CE = 12  | 9+      | 9  | 9  | 8  | 8  | 7  | 6  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 6*      | 5* | 4* | 2* | 1* | 1* | -  | -  | 3* | -  | -  | -  | 1* | 1* | -  | -  | -  | 5  | 8  | 9  | 9  | 7  | 9  | 7  |
| G = 14   | -       | -  | -  | -  | 1  | -  | -  | 1  | 4  | 8  | 9  | 8  | 7  | 8  | 7  | 8  | 8  | 8  | 4  | -  | -  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | 1* | 1  | 6  | 8  | 8  | 8  | 7  | 7  | 7  | 7  | 7  | 8  | 8  | 3  | -  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | 1* | 1* | -  | 4  | 8  | 8  | 8  | 7  | 6  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | 1*      | 5* | 3* | 2  | 6  | 5  | 1  | -  | 3  | 6  | 7  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 5*      | 3* | 2* | 2* | 1* | 3  | 1  | 1* | 2  | 7  | 7  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 7       | 8  | 9  | 7  | 7  | 5  | 4  | -  | 5* | 5* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8* |
| 4X = 20  | 2       | 2  | -  | -  | 5* | 2* | 1* | -  | 2  | 6  | 7  | 6  | 7  | 7  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 7  | 5  | 4  |
| HZ = 21  | 3       | -  | -  | 5* | 2  | 2* | 1* | -  | 3  | 6  | 5  | 5  | 6  | 6  | 6  | 7  | 8  | 8  | 8  | 9  | 9  | 8  | 8  | 6  |
| VU = 22  | -       | 5* | 4* | 6  | 3* | 1* | 1* | -  | 1  | 5  | 5  | 5  | 5  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 5*      | 4* | 2* | 4  | 5  | 4  | 1  | -  | 4  | 8  | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| VR2 = 24 | 8       | 8* | 6* | 6* | 5* | 4* | 3* | 1  | 5  | 7  | 6  | 7  | 7  | 8  | 7  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | 6* |
| JA1 = 25 | 9       | 9  | 8  | 8  | 9  | 8  | 3  | -  | 4* | 7* | 7* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 8  |
| HS = 26  | 7*      | 7  | 6* | 5* | 5* | 3* | 1* | -  | 4  | 6  | 6  | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 2  | -  | -  | -  |
| DU = 27  | 8       | 6  | 5* | 4* | 3* | 2* | 2* | 1  | 5  | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | 8  |
| YB = 28  | 8*      | 7  | 6* | 4* | 2* | 1* | 1* | 1  | 5  | 6  | 8  | 8  | 8  | 7  | 6  | 5  | 5  | 3  | 1  | 1  | -  | -  | -  | 5* |
| VK6 = 29 | 7       | 7  | 5  | 2  | 1  | -  | -  | 1  | 5  | 7  | 6  | 7  | 7* | 5* | 4* | 3* | 2* | 1* | 1* | -  | -  | 2  | 4  | 6  |
| VK3 = 30 | 7       | 7  | 7  | 6  | 4  | 2  | 2  | -  | 2  | 5  | 6  | 6* | 5* | 4* | 2* | 1* | 1* | 1* | 1* | -  | 1* | 5  | 7  | 7  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 5  | 5  | 6* | 5  | 6  | 7  |
| KH8 = 32 | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 2  | 5* | 6* | 5  | 7  | 1  | -  | -  | 5  | 7  | 6  | 6  | 6  | 6  | 6  | 6  |
| CN = 33  | 6       | 6  | 5  | 2  | 2  | -  | -  | 1* | 4  | 7  | 9  | 7  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  |
| SU = 34  | 8       | 8  | -  | -  | 1* | 2  | 1  | -  | 2  | 7  | 7  | 6  | 7  | 6  | 5  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 7       | 6  | 3  | -  | -  | -  | -  | 1* | -  | 9  | 9+ | 9  | 6  | 3  | 4  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ | 8  | 7  |
| D2 = 36  | 5       | 2  | -  | -  | -  | 5* | 2* | -  | 4  | 7  | 7  | 9  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| 5Z = 37  | 5       | 2  | -  | 1* | 5* | 4* | 2* | 1  | 7  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 7  |
| ZS6 = 38 | -       | -  | -  | -  | 5* | 5* | 2* | 2  | 3  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 3  | 1  | 1  | -  |
| FR = 39  | -       | -  | 5* | 5* | 4* | 2* | 1* | 2  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 9  | 9  | 7  | 4* | 1* | 1* | -  | -  |
| FJL = 40 | -       | -  | -  | -  | 1* | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Zone UTC --> \* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Nov., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 |         | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 4  |
| VO2 = 02 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  | 7  | 7  | 8  | 6  | 4  | 1  | -  | -  | -  |
| W6 = 03  |         | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 7  |
| W9 = 04  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 3  | -  | -  |
| W3 = 05  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 9  | 9  | 8  | 7  | 7  | 8  | 6  | 5  | 2* | -  |
| XE1 = 06 |         | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 6  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| TI = 07  |         | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 2* | -  | -  | -  | 4  | 9  | 9  | 9+ | 9  | 8  |
| VP2 = 08 |         | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 1  | 1* | 2* | 2* | 2* | 5  | 9  | 9+ | 9+ | 8  | 9  |
| P4 = 09  |         | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 1* | 2* | 3* | 3* | 3* | 3* | 9  | 9+ | 9+ | 8  | 6  |
| HC = 10  |         | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 4* | 9+ | 9+ | -  | 2* | 2  | 5  | 5  | 4* | 5  |
| PY1 = 11 |         | 5* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 4  | 8  | 8  | 8  | 9  | 9  | 6* |
| CE = 12  |         | 8  | 7  | 6  | 4  | 2  | 1  | -  | -  | -  | -  | 1  | 1  | 2  | 4  | 5  | 5  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  |         | 5* | 4* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 2  | 2* | 3* | 5  | 5* |
| G = 14   |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  | 4  | 8  | 8  | 8  | 5  | -  | -  | -  | -  | -  | -  |
| I = 15   |         | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 8  | 5  | 3  | 4  | 6  | 8  | 8  | 8  | 3  | -  | -  | -  | -  | -  |
| UA3 = 16 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 6  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  |         | -  | 5* | 1* | -  | 1  | 1  | -  | -  | 1  | 3  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 |         | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 |         | 4* | 6  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* |
| 4X = 20  |         | -  | -  | -  | -  | 1* | -  | -  | -  | -  | 3  | 7  | 6  | 5  | 6  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | -  | -  | -  |
| HZ = 21  |         | -  | -  | -  | 2* | 1* | -  | -  | -  | -  | 3  | 5  | 5  | 6  | 8  | 7  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | 2  | -  |
| VU = 22  |         | -  | 4* | 2* | 2  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  |         | 5* | 2* | -  | -  | 1  | -  | -  | -  | 1  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 |         | 8* | 8* | 4* | 2* | 2* | 1* | -  | -  | 1  | 5  | 7  | 7  | 8  | 8  | 7  | 5  | 4  | -  | -  | -  | -  | -  | -  | 2* |
| JA1 = 25 |         | 8  | 8  | 7  | 6  | 7  | 4  | -  | -  | 1* | 5* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  |
| HS = 26  |         | 5* | 6* | 3* | 2* | 1* | -  | -  | -  | 1  | 3  | 6  | 7  | 7  | 8  | 7  | 7  | 6  | 5  | 1  | 1  | -  | -  | -  | -  |
| DU = 27  |         | 7* | 5* | 2* | 2* | 1* | -  | -  | -  | -  | 4  | 6  | 7  | 6  | 7  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | 4  |
| YB = 28  |         | 6* | 6* | 4* | 1* | -  | -  | -  | -  | 1  | 3  | 7  | 8  | 8  | 5  | 2  | 4  | 3  | 1  | -  | -  | -  | -  | -  | 1* |
| VK6 = 29 |         | 5* | 4* | 2* | 1* | -  | -  | -  | -  | -  | 2  | 2  | 5* | 6* | 6* | 5* | 4* | 1* | -  | -  | -  | -  | -  | -  | 2  |
| VK3 = 30 |         | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | 1  | 5* | 5* | 2* | 2* | 1* | 1* | -  | -  | -  | -  | 2* | 3* | 4  |
| KH6 = 31 |         | 8  | 8  | 8  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 2  | 3  | 6* | 5* | 6  | 7  |
| KH8 = 32 |         | 7  | 7  | 5  | 4  | 2  | 1  | 1  | -  | -  | 3* | 5* | 2* | 1  | -  | -  | -  | -  | 6  | 7  | 8  | 8  | 7  | 7  | 7  |
| CN = 33  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 2  | 6  | 6  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 4  | 1  | -  |
| SU = 34  |         | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 3  | 7  | 6  | 5  | 6  | 8  | 7  | 8  | 8  | 9  | 9  | 8  | 8  | 8  | 6  |
| 6W = 35  |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 1  | -  | -  | -  | 1* | 2  | 7  | 9  | 9  | 8  | 4  | -  | -  |
| D2 = 36  |         | 1  | -  | -  | -  | -  | 1* | -  | -  | -  | 4  | 7  | 6  | 6  | 8  | 7  | 8  | 8  | 8  | 9  | 9  | 8  | 7  | 6  | 4  |
| 5Z = 37  |         | -  | -  | -  | -  | 2* | 1* | -  | -  | 1  | 5  | 8  | 8  | 7  | 8  | 9  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2  |
| ZS6 = 38 |         | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 1  | 5  | 8  | 8  | 9  | 8  | 8  | 8  | 8  | 7  | 4  | -  | -  | -  | -  |
| FR = 39  |         | -  | -  | 1* | 2* | 1* | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 4* | 3* | 1* | -  | -  | -  | -  |
| FJL = 40 |         | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |

Zone UTC --> \* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



10 Meters: Nov., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | 1  | 3  | 1  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 8  | 8  | 8  | 8  | 1  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 6  | 6  | 5  | 2  | 5  | 4  | 2  | 1* | -  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 5  | 3  | 1  | 1  | 3  | 1  | 1* | -  | -  |
| XE1 = 06 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 3  | 7  | 8  | 9  | 9  | 7  | 5  |
| TI = 07  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 1* | 1* | 1* | 3  | 6  | 6  | 6  | 4  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 5  | 7  | 6  | 5  | 1  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 1* | 2  | 5  | 4  | 4  | 1  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 6  | 7  | 1* | 2* | 1* | 1* | 1* | -  | 1  |
| PY1 = 11 | 2*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 4* | 5* | 5* | 7  | 5* | 4* |
| CE = 12  | 4       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| LU = 13  | 1*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 3* | 5* | 4* | 4* | 2* |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 4  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | -  | -  | -  | 2  | 9  | 7  | 6  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | 1  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 4  | 2  | 4  | 7  | 8  | 8  | 7  | 3  | 1  | -  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 2  | 6  | 7  | 8  | 8  | 6  | 3  | 1  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 2  | 2  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 1*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 4*      | 7* | 1* | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 6  | 2  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | 4       | 4  | 3  | 2  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  |
| HS = 26  | -       | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 2  | 4  | 5  | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  |
| DU = 27  | 4*      | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 1  | 3  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | 2*      | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 3*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 5* | 3* | 2* | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | 1       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1* | 1  |
| KH6 = 31 | 7       | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 7  | 8  | 8  | 6  | 8  |
| KH8 = 32 | 5       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  | 8  | 7  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 7  | 2  | 7  | 9  | 7  | 1  | -  | -  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 4  | 2  | 4  | 7  | 8  | 9  | 9  | 8  | 7  | 4  | 3  | 1  | 1  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | 2* | 3  | 4  | 1  | -  | -  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 1  | 4  | 8  | 7  | 7  | 9  | 8  | 6  | 5  | 4  | 3  | 1  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 2  | 6  | 8  | 9  | 9  | 9  | 9  | 8  | 9  | 8  | 4  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  | 6  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 3  | 2  | 3  | 4  | 4  | 2* | 2* | 1* | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.



160 Meters: Dec., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC -->  |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00 | 01           | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -  | -            | 2  | 4  | 5  | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 5  | 5            | 6  | 5  | 5  | 5  | 5  | 2  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| W6 = 03  | -  | -            | 3  | 4  | 5  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 1  | 5            | 4  | 5  | 5  | 4  | 5  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W3 = 05  | 2  | 5            | 5  | 5  | 5  | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| XE1 = 06 | 1  | 2            | 4  | 5  | 4  | 5  | 5  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 3  | 3            | 4  | 4  | 4  | 4  | 4  | 3  | 3  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VP2 = 08 | 2  | 4            | 4  | 4  | 5  | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| P4 = 09  | 2  | 4            | 4  | 4  | 4  | 4  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| HC = 10  | 3  | 4            | 5  | 5  | 5  | 5  | 5  | 5  | 4  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| PY1 = 11 | 9  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 2  | -  | -  | -  | -  | -  | -  | 5  | 6  | 9  | 9  | 9  |
| CE = 12  | 9  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 9  |
| LU = 13  | 9  | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 5  | 2  | -  | -  | -  | -  | 1  | 5  | 6  | 9  | 9  | 9  |
| G = 14   | 5  | 5            | 5  | 5  | 5  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  |
| I = 15   | 4  | 5            | 4  | 4  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA3 = 16 | 2  | 3            | 3  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | 1  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | 2  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 3  | 4            | 3  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HZ = 21  | 2  | 3            | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -  | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -  | -            | -  | -  | -  | 1  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -  | -            | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 5  | 5            | 5  | 5  | 5  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| SU = 34  | 3  | 4            | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 6W = 35  | 4  | 5            | 5  | 5  | 5  | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| D2 = 36  | 4  | 4            | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 3  |
| 5Z = 37  | 5  | 5            | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  |
| ZS6 = 38 | 5  | 5            | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  |
| FR = 39  | 4  | 3            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  |
| FJL = 40 | 2  | 2            | 1  | 1  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00 | 01           | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC -->  |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

160-meter signal strengths are estimated using 80-meter numbers, minus 3 S-units.



80 Meters: Dec., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | 2  | 5  | 7  | 8  | 7  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VO2 = 02 | 8       | 8  | 9  | 8  | 8  | 8  | 8  | 5  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  |
| W6 = 03  | -       | 3  | 6  | 7  | 8  | 8  | 8  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| W9 = 04  | 4       | 8  | 7  | 8  | 8  | 7  | 8  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W3 = 05  | 5       | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| XE1 = 06 | 4       | 5  | 7  | 8  | 7  | 8  | 8  | 5  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| TI = 07  | 6       | 6  | 7  | 7  | 7  | 7  | 7  | 6  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| VP2 = 08 | 5       | 7  | 7  | 7  | 8  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |
| P4 = 09  | 5       | 7  | 7  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  |
| HC = 10  | 6       | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| PY1 = 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 1  | -  | -  | -  | -  | 3  | 8  | 9  | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 1  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 9  | 9+ |
| LU = 13  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 5  | 2  | -  | -  | 1  | 4  | 8  | 9  | 9+ | 9+ | 9+ |
| G = 14   | 8       | 8  | 8  | 8  | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| I = 15   | 7       | 8  | 7  | 7  | 7  | 7  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  |
| UA3 = 16 | 5       | 6  | 6  | 5  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| UN = 17  | 4       | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA9 = 18 | 5       | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| UA0 = 19 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 7  | 6  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  |
| HZ = 21  | 5       | 6  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  |
| VU = 22  | 3       | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| JT = 23  | 1       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VR2 = 24 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 = 30 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 = 31 | -       | -  | -  | -  | 1  | 4  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 = 32 | -       | -  | -  | -  | -  | -  | 1  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN = 33  | 8       | 8  | 8  | 8  | 8  | 9  | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  |
| SU = 34  | 6       | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  |
| 6W = 35  | 7       | 8  | 8  | 8  | 8  | 7  | 8  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| D2 = 36  | 7       | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  |
| 5Z = 37  | 8       | 8  | 7  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  |
| ZS6 = 38 | 8       | 8  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  |
| FR = 39  | 7       | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  |
| FJL = 40 | 5       | 5  | 4  | 4  | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

UTC -->  
\* = Longpath  
Expected signal levels using 1500 W and 6 dBi isotropic antennas.



40 Meters: Dec., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 6            | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| VO2 =   | 02 | 9            | 7  | 9  | 8  | 9  | 9  | 8  | 7  | 6  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 8  |
| W6 =    | 03 | 2            | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  |
| W9 =    | 04 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| W3 =    | 05 | 8            | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  |
| XE1 =   | 06 | 5            | 6  | 6  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  |
| TI =    | 07 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 2  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 6  |
| VP2 =   | 08 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 7  |
| P4 =    | 09 | 8            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 6  | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 6  | 8  |
| HC =    | 10 | 8            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  | 6  | 4  | 2  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 8            | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 8  | 8  |
| I =     | 15 | 8            | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 8  |
| UA3 =   | 16 | 7            | 8  | 8  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 7  | 6  |
| UN =    | 17 | 5            | 6  | 5  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 4  | 5  |
| UA9 =   | 18 | 7            | 6  | 6  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 7  |
| UA0 =   | 19 | 1            | 1  | 1  | -  | -  | 1  | 1  | 1  | 2  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| 4X =    | 20 | 8            | 8  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  |
| HZ =    | 21 | 8            | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  |
| VU =    | 22 | 6            | 4  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 6  |
| JT =    | 23 | 6            | 4  | 4  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 6  |
| VR2 =   | 24 | 2            | -  | -  | -  | -  | -  | -  | -  | 1* | 3* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  |
| JA1 =   | 25 | -            | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2* | -  |
| HS =    | 26 | 5            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  |
| DU =    | 27 | -            | -  | -  | -  | -  | -  | -  | -  | -  | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  |
| YB =    | 28 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 2  |
| VK6 =   | 29 | -            | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK3 =   | 30 | -            | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 =   | 31 | -            | -  | 1  | 4  | 6  | 7  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | -  | -  | -  | 2  | 6  | 6  | 7  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 8            | 9  | 9  | 9  | 9  | 8  | 6  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 8  | 8  |
| SU =    | 34 | 8            | 8  | 8  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  |
| 6W =    | 35 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 7  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  |
| D2 =    | 36 | 9            | 9  | 9  | 9  | 9  | 8  | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 8  | 9  | 9  |
| 5Z =    | 37 | 8            | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 7  | 8  |
| ZS6 =   | 38 | 9            | 9  | 9  | 9  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 7  | 8  | 8  |
| FR =    | 39 | 8            | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| FJL =   | 40 | 7            | 7  | 8  | 7  | 6  | 6  | 4  | -  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 8  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



30 Meters: Dec., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| UTC --> |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---------|----|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 =   | 01 | 5            | 6  | 7  | 4  | 2  | 1  | 1  | 4  | 5  | 6  | 5  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 4  |
| VO2 =   | 02 | 8            | 6  | 5  | 6  | 7  | 8  | 8  | 8  | 7  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 6  | 8  |
| W6 =    | 03 | 6            | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  |
| W9 =    | 04 | 7            | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  |
| W3 =    | 05 | 8            | 6  | 5  | 7  | 7  | 8  | 8  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  |
| XE1 =   | 06 | 7            | 9  | 8  | 9  | 9  | 8  | 8  | 6  | 6  | 4  | -  | -  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  |
| TI =    | 07 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 3  | -  | -  | 4  | 2  | 2  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  |
| VP2 =   | 08 | 9            | 9  | 9  | 9  | 8  | 9  | 9  | 7  | 1  | 2  | 8  | 6  | 3  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 8  |
| P4 =    | 09 | 9            | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 2  | -  | 7  | 5  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 3  | 6  | 8  | 9  |
| HC =    | 10 | 9            | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 5  | 2  | 8  | 5  | 5  | 3  | 1  | 1  | -  | -  | 1  | 1  | 3  | 5  | 8  | 9  |
| PY1 =   | 11 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =    | 12 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| LU =    | 13 | 9+           | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =     | 14 | 8            | 8  | 8  | 8  | 8  | 7  | 6  | 8  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 7  | 8  |    |
| I =     | 15 | 8            | 8  | 8  | 8  | 8  | 6  | 7  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 6  | 7  | 8  |    |
| UA3 =   | 16 | 7            | 8  | 8  | 7  | 6  | 6  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 6  | 6  |    |
| UN =    | 17 | 7            | 7  | 6  | 6  | 5  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 6  | 7  |    |
| UA9 =   | 18 | 3            | 1  | 1  | 3  | 4  | 5  | 4  | 4  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 5  |    |
| UA0 =   | 19 | 2            | 1  | 1  | 1  | 2  | 5  | 2  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  |    |
| 4X =    | 20 | 8            | 8  | 7  | 3  | 1  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 8  |
| HZ =    | 21 | 8            | 8  | 5  | 1  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 8  |    |
| VU =    | 22 | -            | -  | 4  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 5  | 5  | 6  |    |
| JT =    | 23 | 4            | 5  | 5  | 5  | 1  | 1  | 1  | 1  | 2  | 1  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 5  | 4  |
| VR2 =   | 24 | 4            | 2  | -  | -  | -  | -  | -  | 1* | 3* | 4* | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 2* | 4  |
| JA1 =   | 25 | 2*           | -  | -  | -  | 2  | 4  | 6  | 7  | 6  | 6  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 4* |
| HS =    | 26 | 7            | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  | 7  |
| DU =    | 27 | 1            | -  | -  | -  | -  | -  | -  | -  | 3* | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 3  | 3  | 3  |
| YB =    | 28 | 4            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 5  |
| VK6 =   | 29 | 1            | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 2  | 2  |
| VK3 =   | 30 | -            | -  | -  | -  | -  | -  | 1  | 1  | 2  | 5  | 2  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH6 =   | 31 | -            | 1  | 5  | 7  | 8  | 8  | 8  | 7  | 6  | 7  | 6  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| KH8 =   | 32 | -            | -  | 1  | 3  | 5  | 7  | 8  | 8  | 8  | 7  | 7  | 5  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| CN =    | 33 | 8            | 9  | 8  | 8  | 7  | 2  | -  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 7  | 8  | 8  |
| SU =    | 34 | 8            | 8  | 8  | 4  | 2  | 7  | 7  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 5  | 6  | 7  | 8  |
| 6W =    | 35 | 9            | 9  | 9  | 9  | 9  | 9  | 4  | 4  | 8  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 1  | 4  | 7  | 8  | 9  | 9  |
| D2 =    | 36 | 9            | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 6  | 8  | 9  | 9  | 9  |
| 5Z =    | 37 | 8            | 8  | 8  | 7  | 8  | 7  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 5  | 8  | 8  | 8  |
| ZS6 =   | 38 | 9            | 8  | 8  | 8  | 8  | 8  | 7  | 6  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 8  | 8  | 9  | 9  |
| FR =    | 39 | 8            | 8  | 8  | 8  | 6  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 9  |
| FJL =   | 40 | 5            | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | 2  | 2  | 3  |
| Zone    |    | 00           | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| UTC --> |    |              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|         |    | * = Longpath |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Expected signal levels using 1500 W and 6 dBi isotropic antennas.



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|       |    | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-------|----|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone  |    | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = | 01 | 8       | 8  | 2  | 2* | 2* | -  | -  | -  | -  | 1  | 2  | 1  | -  | -  | -  | -  | 1  | 2  | 1  | 1  | 4  | 5  | 7  | 8  |
| VO2 = | 02 | -       | -  | -  | -  | -  | 4  | 8  | 7  | 5  | 5  | 1  | 8  | 6  | 5  | 2  | 2  | -  | 1  | 4  | 7  | 8  | 9  | 9  | 6  |
| W6 =  | 03 | 9       | 9  | 7  | 3  | 6  | 7  | 6  | 7  | 8  | 8  | 8  | 5  | -  | 2  | 4  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 5  | 8  |
| W9 =  | 04 | 7       | 1  | -  | 1  | 1  | 4  | 6  | 8  | 6  | 6  | 6  | 2  | 8  | 6  | 3  | 1  | 1  | 1  | 1  | 2  | 5  | 8  | 9  | 9  |
| W3 =  | 05 | 1       | -  | -  | -  | 1  | 5  | 8  | 7  | 5  | 5  | 6  | 7  | 8  | 6  | 3  | 2  | 1  | 1  | 2  | 4  | 8  | 9  | 9  | 8  |
| XE1 = | 06 | 9+      | 9  | 9  | 9  | 9  | 8  | 3  | 2  | 1  | -  | -  | -  | -  | 6  | 5  | 4  | 3  | 3  | 4  | 1  | 3  | 6  | 8  | 9  |
| TI =  | 07 | 9+      | 9+ | 9+ | 9+ | 9  | 2  | 3  | 3  | 1* | -  | -  | 8  | 7  | 7  | 6  | 5  | 4  | 4  | 4  | 5  | 8  | 9  | 9  | 9+ |
| VP2 = | 08 | 9+      | 9+ | 9+ | 9  | 9  | 8  | 5  | -  | -  | -  | 4  | 9  | 8  | 6  | 5  | 4  | 4  | 4  | 6  | 7  | 9  | 9  | 9+ | 9+ |
| P4 =  | 09 | 9+      | 9+ | 9+ | 9+ | 8  | 4  | 4  | 2  | -  | -  | -  | 9  | 9  | 8  | 6  | 5  | 5  | 6  | 7  | 8  | 9  | 9  | 9+ | 9+ |
| HC =  | 10 | 9+      | 9+ | 9+ | 8  | 4  | -  | 1  | 1  | -  | -  | 2  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 8  | 9  | 9+ | 9+ |
| PY1 = | 11 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE =  | 12 | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU =  | 13 | 9+      | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 7  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| G =   | 14 | 2       | 1  | 4  | 8  | 8  | 4  | 1  | 6  | 8  | 9  | 8  | 7  | 3  | 1  | 1  | 1  | 2  | 4  | 7  | 6  | 4  | -  | -  | 1  |
| I =   | 15 | 9       | 8  | 8  | 8  | 5  | -  | 2  | 7  | 8  | 7  | 5  | 2  | 1  | 1  | -  | 1  | 2  | 3  | 6  | 7  | 9  | 8  | 8  | 9  |
| UA3 = | 16 | 4       | 5  | 5  | 4  | 2  | 1  | 5  | 5  | 7  | 7  | 5  | 8  | 1  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | 2  |
| UN =  | 17 | 7       | 3  | 5  | 7  | 8  | 7  | 5  | 3  | 4  | 5  | 6  | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 7  | 8  |
| UA9 = | 18 | 1*      | 1* | 1* | 3* | 3* | 5  | 5  | 4* | 6  | 8  | 5  | 7  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  |
| UA0 = | 19 | 7       | 7  | 5  | 5  | 8  | 8  | 7  | 5* | 5* | 5* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 6  |
| 4X =  | 20 | 9       | 9  | 6  | 1* | -  | 6  | 8  | 6  | 5  | 3  | 1  | 1  | 1  | 1  | -  | 1  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  |
| HZ =  | 21 | 9       | 6  | -  | 1* | 5  | 8  | 7  | 5  | 4  | 1  | 1* | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 8  | 8  | 9  | 9  | 9  |
| VU =  | 22 | 1*      | -  | 2* | 8  | 8  | 6  | 5  | 2  | 2* | 2* | 3* | 1* | 2* | -  | -  | 1  | 1  | 2  | 3  | 1  | -  | 1  | 4  | 1  |
| JT =  | 23 | 1*      | 2* | 2  | 7  | 7  | 6  | 5  | 5* | 7* | 7* | 5  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | -  | 3* |
| VR2 = | 24 | 8       | 7  | 7  | 4* | 3* | 4* | 5* | 5* | 7  | 6  | 7* | 3* | -  | 1  | 1  | 1  | 1  | 3  | 4  | 5  | 1  | -  | 1* | 3* |
| JA1 = | 25 | 8*      | 6* | 7  | 7  | 8  | 8  | 8  | 6  | 4* | 4* | 5* | 4* | 1  | -  | -  | -  | -  | -  | -  | -  | 5  | 5  | 4  | 8* |
| HS =  | 26 | 9       | 9  | 8  | 7  | 3  | -  | 1* | 1  | 2* | 8  | 7  | 4* | 4* | 1  | 1  | 1  | 2  | 5  | 6  | 7  | 8  | 6  | 1  | 2* |
| DU =  | 27 | 6       | 5  | 2* | 1* | 2* | 2* | 3* | 5* | 6  | 6  | 6  | 2  | 2  | 2  | 1  | 1  | 2  | 2  | 1  | -  | -  | -  | 4  | 7  |
| YB =  | 28 | 8       | 8  | 5  | 3  | 1  | -  | -  | 1  | 1  | 7  | 7  | 2  | 2  | 2  | 2  | 2  | 2  | 5  | 6  | 7  | 8  | 8  | 8  | 8  |
| VK6 = | 29 | 8       | 7  | 6  | 6  | 5  | 6  | 6  | 6  | 7  | 8  | 7  | 5  | 4  | 5  | 4  | 4  | 3  | 2  | 1  | 2  | 5  | 6  | 7  | 8  |
| VK3 = | 30 | 5       | 6  | 6  | 6  | 6  | 5  | 6  | 6  | 7  | 8  | 8  | 7  | 7  | 5  | 4  | 2  | 1  | 2  | 4  | 4  | 7  | 4  | 5  | 4  |
| KH6 = | 31 | 5       | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 7  | 7  | 5  | -  | -  | -  | 2  | 1  | -  | 1* | 1* | -  | -  | 2  |
| KH8 = | 32 | 2       | 4  | 6  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 6  | 5  | 1  | 1  | 1  | 1* | 1* | 1  | 1  | 1  |
| CN =  | 33 | 9       | 9  | 9  | 8  | 4  | -  | -  | 2* | 8  | 9  | 8  | 5  | 4  | 3  | 2  | 1  | 2  | 5  | 6  | 8  | 9  | 9  | 9  | 9  |
| SU =  | 34 | 9       | 9  | 8  | -  | 1* | 6  | 9  | 7  | 7  | 3  | 1  | 1  | 1  | -  | -  | 1  | 2  | 4  | 7  | 8  | 8  | 9  | 9  | 9  |
| 6W =  | 35 | 9+      | 9+ | 9  | 9  | 6  | 3  | -  | 2* | 6  | 9  | 9  | 8  | 6  | 4  | 2  | 3  | 4  | 6  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| D2 =  | 36 | 9       | 9+ | 9  | 8  | 5  | 5  | 6  | 8  | 7  | 7  | 6  | 5  | 5  | 4  | 2  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| 5Z =  | 37 | 9       | 9  | 8  | 4  | 6  | 9  | 9  | 8  | 5  | 3  | 1  | 1  | 1  | 1  | 1  | 2  | 4  | 6  | 8  | 7  | 9  | 9  | 9  | 9  |
| ZS6 = | 38 | 9       | 7  | 5  | 7  | 8  | 9  | 9  | 8  | 8  | 7  | 7  | 6  | 6  | 5  | 5  | 5  | 6  | 8  | 9  | 9  | 9  | 9  | 9  | 9  |
| FR =  | 39 | 8       | 5  | 6  | 8  | 9  | 9  | 8  | 7  | 5  | 3  | 2  | 2  | 2  | 2  | 3  | 4  | 4  | 6  | 8  | 9  | 9  | 9  | 9  | 9  |
| FJL = | 40 | -       | -  | -  | 2* | 2* | 3* | 3* | 1* | 2* | -  | -  | -  | 2  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone  |    | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

Expected signal levels using 1500 W and 12 dBi isotropic antennas.



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|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 9       | 6* | 5* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 5  | 5  | 6  | 7  | 9  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | -  | 1  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 9  | 9  | 8  | 4  | -  |
| W6 = 03  | 8       | 5  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | -  | -  | -  | 7  | 5  | 7  | 7  | 8  | 7  | 6  | 8  | 9  | 9  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | 2  | -  | -  | 1  | -  | 5  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 7  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | 2  | 1  | -  | -  | 1  | -  | 9  | 9  | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 1  |
| XE1 = 06 | 9       | 9  | 7  | 5  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | 7  | 9  | 9  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9+ |
| TI = 07  | 9+      | 9+ | 8  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 8  | 8  | 8  | 8  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 9+      | 9  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 9+ | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9+      | 9+ | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| HC = 10  | 9+      | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 9+ | 9+ | 7  | 8  | 7  | 6  | 9  | 9  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 | 9       | 9  | 9  | 8  | 6  | 6  | 1  | -  | 2* | 4* | 5  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 9       | 9  | 9  | 9  | 9  | 6  | 3* | 1  | -  | 3* | 5* | 3* | 2* | 5  | 7  | 8  | 8  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 9  |
| G = 14   | -       | -  | -  | 1  | 2  | -  | -  | -  | 5  | 8  | 9  | 8  | 8  | 8  | 7  | 7  | 7  | 6  | 2  | -  | -  | -  | -  | -  |
| I = 15   | 4       | 1  | 1  | -  | -  | -  | 1* | 5* | 7  | 9  | 7  | 7  | 6  | 9  | 6  | 6  | 8  | 8  | 9  | 8  | 6  | 2  | 1  | 1  |
| UA3 = 16 | -       | -  | -  | -  | -  | 2* | 5* | 6* | 6* | 8  | 7  | 7  | 6  | 8  | 5  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 3* | 3* | 4* | 6  | 8  | 4* | 4* | 4* | 7* | 4  | 6  | 6  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  |
| UA9 = 18 | 1*      | 4* | 2* | 3* | 4* | 5* | 6* | 7* | 5* | 8  | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 7*      | 8  | 8  | 8  | 6  | 4* | 5* | 5* | 7* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5* |
| 4X = 20  | 9       | 8  | -  | -  | 3* | 5* | 5  | 2* | 2  | 6  | 4  | 7  | 8  | 8  | 4  | 4  | 5  | 7  | 8  | 8  | 9  | 9  | 9  | 9  |
| HZ = 21  | 6       | -  | -  | 5* | 4* | 8  | 5  | 2  | 4  | 6  | 6  | 7  | 7  | 8  | 4  | 4  | 7  | 8  | 8  | 8  | 9  | 9  | 9  | 8  |
| VU = 22  | -       | 4* | 5* | 7  | 8  | 7  | 5  | 2  | 2  | 3  | 4  | 6  | 6  | 5  | 3  | 4  | 4  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 2*      | 3* | 3* | 4* | 7  | 7  | 6* | 7* | 8* | 8  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 7       | 9  | 9  | 8  | 6  | 5  | 4  | 5  | 6  | 5  | 4  | 5  | 6  | 6  | 6  | 6  | 5  | 1  | -  | -  | -  | -  | -  | 5* |
| JA1 = 25 | 9*      | 9  | 8  | 8  | 7  | 4* | 3* | 4* | 6* | 5* | 5* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 7  | 7  |
| HS = 26  | 5       | 9  | 9  | 8  | 6  | 4  | 3  | 4  | 5  | 6  | 6  | 8* | 6  | 7  | 7  | 6  | 6  | 7  | 6  | 3  | -  | -  | -  | -  |
| DU = 27  | 8       | 8  | 7  | 6  | 5  | 5  | 5  | 6  | 6  | 6  | 6  | 7  | 8  | 8  | 7  | 6  | 5  | -  | -  | -  | -  | -  | -  | 7  |
| YB = 28  | 8       | 9  | 8  | 7  | 6  | 5  | 4  | 6  | 6  | 6  | 6  | 7  | 7  | 8  | 7  | 7  | 7  | 7  | 7  | 7  | 5  | 1  | 1  | 3  |
| VK6 = 29 | 8       | 8  | 8  | 8  | 8  | 8  | 7  | 7  | 8  | 8  | 8  | 7  | 6  | 4  | 1  | 1  | 1* | 2* | 3* | 3* | 1* | 1  | 3* | 7  |
| VK3 = 30 | 8       | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 7  | 4  | 1* | 1* | 1* | 2* | 1* | 2  | 6  | 7  | 8  | 8  |
| KH6 = 31 | 8       | 9  | 9  | 9  | 9  | 9  | 5  | 2  | 2  | 2  | 2  | 2  | 2  | -  | -  | -  | -  | 6  | 7  | 6  | 6  | 7  | 4  | 7  |
| KH8 = 32 | 6       | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 9  | 8  | 8  | 9  | 9  | 8  | 5  | 1  | 5  | 5  | 4  | 4  | 7  | 6  | 4  | 5  |
| CN = 33  | 9       | 7  | 5  | 1  | -  | -  | -  | 1* | 5  | 8  | 9  | 8  | 8  | 8  | 9  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| SU = 34  | 9       | 9  | -  | -  | 1* | 5* | 7  | 4  | 5  | 7  | 5  | 8  | 8  | 9  | 4  | 5  | 5  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 9       | 7  | 1  | -  | -  | -  | -  | 5* | 9  | 9  | 9  | 9  | 9  | 7  | 6  | 6  | 7  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ |
| D2 = 36  | 9       | 7  | 4  | 4  | 1  | 4* | 5* | 5  | 6  | 7  | 6  | 8  | 8  | 9  | 7  | 9  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| 5Z = 37  | 5       | 1  | 1  | 2* | 5* | 8  | 7  | 7  | 8  | 8  | 6  | 6  | 9  | 9  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9+ | 9+ | 8  |
| ZS6 = 38 | 2       | -  | -  | 1* | 5* | 5  | 8  | 8  | 8  | 8  | 9  | 8  | 8  | 8  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  |
| FR = 39  | -       | 1* | 6* | 5* | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 8  | 7  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 7  | 3* | 2* | -  |
| FJL = 40 | -       | -  | -  | -  | 1* | 2* | 2* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 15 Meters: Dec., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

|          | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | 6       | 5* | 3* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 8  | 8  | 8  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 1  | -  | -  |
| W6 = 03  | 5*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | -  | 2  | 7  | 6  | 8  | 6  | 7  | 7  | 8  | 9  | 8  |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 1  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 9  | 9  | 8  | 8  | 8  | 9  | 9  | 9  | 8  | 3  | -  |
| XE1 = 06 | 9       | 6  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 8  | 8  | 8  | 8  | 9  | 8  | 9  | 9  | 9  | 9  |
| TI = 07  | 9       | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 6  | 5  | 4  | 4  | 7  | 9  | 9  | 9+ | 9+ | 9+ |
| VP2 = 08 | 8       | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 9  | 9  | 6  | 5  | 5  | 6  | 9  | 9  | 9+ | 9+ | 9+ | 9+ |
| P4 = 09  | 9       | 6  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 7  | 5  | 5  | 4  | 5  | 7  | 9  | 9+ | 9+ | 9+ | 9+ |
| HC = 10  | 8       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 1  | 9  | 9  | 9  | 2  | 8  | 9  | 9+ | 9+ | 9+ |
| PY1 = 11 | 7       | 6  | 5  | 1  | -  | -  | -  | -  | -  | 2* | 2* | 2* | 1  | 3  | 4  | 6  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9  | 8  |
| CE = 12  | 9+      | 9+ | 9+ | 9+ | 9  | 9  | 8  | 5  | 5  | 5  | 7  | 8  | 9  | 9  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ |
| LU = 13  | 7       | 7  | 5  | 3* | 2* | 2* | -  | -  | -  | -  | 2* | 3* | 2* | 1* | -  | 1  | 5  | 8  | 8  | 8  | 8  | 5  | 5  | 7  |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 8  | 8  | 8  | 8  | 7  | 7  | 7  | 1  | -  | -  | -  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | 2* | 2  | 8  | 8  | 8  | 6  | 6  | 7  | 8  | 7  | 7  | 7  | 1  | -  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | 2* | 5* | 4* | 5  | 8  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | 2* | 5* | 6* | 6* | 6  | 4* | 3* | 2* | 2  | 7  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | 4* | 5* | 5* | 6* | 6* | 7* | 6* | -  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 8*      | 7* | 6  | 5  | 4* | 2* | 3* | 4* | 7* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | 6       | 2  | -  | -  | 1* | 5* | 6* | 1* | -  | 2  | 7  | 6  | 5  | 7  | 7  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 7  | 6  |
| HZ = 21  | -       | -  | -  | 1* | 6* | 6  | 2* | 1* | 1  | 4  | 5  | 5  | 7  | 6  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 6  | 5  | 3  |
| VU = 22  | -       | 2* | 6* | 4* | 6  | 5  | 2* | 1* | 1  | 5  | 4  | 5  | 5  | 5  | 5  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 4*      | 5* | 5* | 6* | 4* | 5* | 5* | 6* | 5* | 4  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 8*      | 9  | 8  | 7  | 3  | 3  | 2  | 3  | 5  | 7  | 7  | 7  | 8  | 7  | 6  | 5  | 2  | -  | -  | -  | -  | -  | -  | 1* |
| JA1 = 25 | 9       | 9  | 7* | 5  | 1  | 2* | 1* | 2* | 4* | 7* | 5* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 7  | 8  |
| HS = 26  | 7*      | 8  | 8  | 6  | 1  | 2  | 1  | 2  | 4  | 6  | 6  | 7  | 7  | 7  | 7  | 7  | 6  | 5  | 1  | -  | -  | -  | -  | -  |
| DU = 27  | 8       | 8  | 7  | 6  | 3  | 2  | 3  | 4  | 6  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | -  | -  | -  | -  | -  | -  | -  | 1  |
| YB = 28  | 6*      | 8  | 8  | 7  | 5  | 2  | 2  | 3  | 5  | 8  | 7  | 8  | 8  | 8  | 7  | 6  | 6  | 5  | 2  | 1  | -  | -  | -  | -  |
| VK6 = 29 | 5       | 6  | 6  | 5  | 2  | 4  | 5  | -  | 2  | 5  | 5  | 4  | 4* | 3* | 2* | 3* | 2* | 3* | 2* | 1* | -  | -  | 1* | 4* |
| VK3 = 30 | 7       | 8  | 8  | 8  | 7  | 5  | 6  | 6  | 6  | 7  | 7  | 6  | 5* | 5* | 3* | 2* | 3* | 1* | 1* | -  | 2  | 5  | 7  | 8  |
| KH6 = 31 | 8       | 8  | 7  | 8  | 9  | 3  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 5  | 5  | 6* | 5* | 6  | 7  |
| KH8 = 32 | 7       | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 5* | 6  | 8  | 5  | -  | -  | -  | 5  | 6  | 7  | 6  | 5  | 5  | 6  |
| CN = 33  | 5       | 2  | -  | -  | -  | -  | -  | -  | 1* | 4* | 8  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 5  |
| SU = 34  | 8       | 6  | -  | -  | -  | 2* | 6* | 1* | 1  | 6  | 7  | 7  | 6  | 8  | 7  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9  |
| 6W = 35  | 4       | -  | -  | -  | -  | -  | -  | -  | 4* | 2  | 9  | 7  | 2  | 4  | 4  | 5  | 8  | 9  | 9  | 9  | 9  | 8  | 8  | 7  |
| D2 = 36  | 5       | 1  | -  | -  | -  | 3* | 3* | 1  | 2  | 6  | 8  | 8  | 9  | 9  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 8  |
| 5Z = 37  | -       | -  | -  | -  | 5* | 5* | 3  | 2  | 6  | 8  | 8  | 7  | 8  | 8  | 7  | 8  | 8  | 9  | 9  | 9  | 9  | 9+ | 9  | 2  |
| ZS6 = 38 | -       | -  | -  | -  | 2* | 1  | 5  | 5  | 7  | 8  | 9  | 9  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 8  | 5  | 2  | 2  | -  |
| FR = 39  | -       | -  | 5* | 1* | 3  | 5  | 4  | 5  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 5  | 4* | 1* | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



# 12 Meters: Dec., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|----------|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| KL7 = 01 | 1   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 7  | 7  | 5  |
| VO2 = 02 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 7  | 7  | 8  | 7  | 3  | -  | -  | -  | -  |
| W6 = 03  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 6  | 7  | 8  | 8  | 9  | 8  | 8  | 4* |
| W9 = 04  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 3* | -  |
| W3 = 05  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 8  | 8  | 7  | 6  | 6  | 6  | 3  | 2* | 1* | -  |
| XE1 = 06 | 6   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  | 5  | 5  | 6  | 7  | 8  | 8  | 9  | 9  | 8  |
| TI = 07  | 5   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1* | -  | -  | 1  | 6  | 9  | 9  | 9  | 9  |
| VP2 = 08 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1* | 2* | 1* | 1* | 1  | 4  | 9  | 9+ | 9+ | 9  | 7  |
| P4 = 09  | 4   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | 1* | 3* | 7  | 9  | 9+ | 9  | 8  |
| HC = 10  | 1   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 9  | 9  | 9  | 9  | 9+ | 2* | 5  | 6  | 6  | 5  |
| PY1 = 11 | 2*  | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | -  | 1* | 2  | 5  | 7  | 7  | 6  | 6* | 6* | 5* |
| CE = 12  | 9   | 9   | 9  | 9  | 7  | 4  | 1  | -  | -  | -  | -  | -  | -  | 2  | 5  | 7  | 8  | 8  | 9  | 9+ | 9+ | 9+ | 9+ | 9+ | 9+ | 9  |
| LU = 13  | 5*  | 5*  | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 1* | -  | 1* | 1  | 1  | 1  | 2* | 3* | 6* | 5* |
| G = 14   | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 3  | 3  | 2  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 5  | 3  | -  | 4  | 8  | 8  | 8  | 5  | 1  | -  | -  | -  | -  | -  |
| UA3 = 16 | -   | -   | -  | -  | -  | -  | -  | -  | -  | 1* | -  | 1* | 5  | 5  | 4  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -   | 1*  | 2* | 4* | 5* | 3  | 2* | 1* | -  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -   | -   | 4* | 5* | 4* | 4* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | 4*  | 7*  | 4* | 2* | -  | -  | 1* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -   | -   | -  | -  | -  | 1* | 3* | -  | -  | -  | -  | 6  | 5  | 4  | 6  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 4  | 2  | -  | 1  |
| HZ = 21  | -   | -   | -  | -  | 1* | 3* | 2* | -  | -  | -  | -  | 2  | 5  | 5  | 6  | 8  | 7  | 8  | 7  | 6  | 5  | 1  | -  | -  | -  | -  |
| VU = 22  | -   | -   | 4* | 1* | 1* | 1  | 1* | -  | -  | 1  | 4  | 4  | 5  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | 1*  | 5*  | 6* | 6* | 1* | 1* | 2* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | 5*  | 8*  | 5  | 1  | -  | -  | -  | -  | -  | 2  | 4  | 7  | 7  | 7  | 6  | 3  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | 8*  | 8   | 4* | -  | -  | -  | -  | -  | -  | 2* | 4* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 4  |
| HS = 26  | 4*  | 4*  | 4  | 1  | -  | -  | -  | -  | -  | 1  | 2  | 6  | 7  | 8  | 7  | 6  | 6  | 4  | -  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | 5*  | 5   | 4  | 1  | -  | -  | -  | -  | 1  | 2  | 4  | 7  | 8  | 8  | 7  | 5  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | 3*  | 4*  | 2  | 2  | -  | -  | -  | -  | 1  | 3  | 5  | 8  | 8  | 7  | 7  | 3  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 5*  | 4*  | 1  | 1  | -  | -  | 1  | -  | -  | -  | -  | -  | 4* | 5* | 5* | 5* | 3* | 2* | 2* | 1* | -  | -  | -  | -  | -  | 2* |
| VK3 = 30 | 4*  | 2   | 3  | 2  | 1  | -  | 1  | 1  | 1  | 1  | 2  | 3  | 6* | 5* | 4* | 2* | 1* | 1* | 1* | -  | -  | -  | 1* | 2* | 2  | 2  |
| KH6 = 31 | 7   | 4   | 2* | 1  | 5  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 6  | 7  | 7  | 7  | 7  | 8  | 8  |
| KH8 = 32 | 7   | 7   | 6  | 6  | 6  | 6  | 7  | 4  | 1  | -  | 2* | -  | 2  | -  | -  | -  | -  | -  | 1  | 6  | 8  | 8  | 8  | 7  | 7  | 7  |
| CN = 33  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1  | 1  | 4  | 6  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 4  | -  | -  | -  |
| SU = 34  | 2   | -   | -  | -  | -  | -  | 1* | -  | -  | 1  | 6  | 5  | 3  | 6  | 8  | 8  | 8  | 8  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 5  |
| 6W = 35  | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 5  | 6  | 6  | 5  | 1  | -  | -  | -  |
| D2 = 36  | -   | -   | -  | -  | -  | -  | 1* | -  | -  | 1  | 5  | 5  | 5  | 8  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 8  | 6  | 5  | 2  |
| 5Z = 37  | -   | -   | -  | -  | 2* | 1* | 1* | -  | 1  | 1  | 6  | 7  | 7  | 8  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 9  | 4  | -  |
| ZS6 = 38 | -   | -   | -  | -  | -  | -  | -  | -  | -  | 2  | 5  | 6  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 4  | 1* | -  | -  | -  |
| FR = 39  | -   | -   | -  | -  | -  | 1  | -  | 1  | 2  | 4  | 7  | 8  | 8  | 8  | 8  | 8  | 8  | 8  | 7  | 5  | 4* | 1* | -  | -  | -  | -  |
| FJL = 40 | -   | -   | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | UTC | --> | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|          |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | </ |    |    |    |    |    |    |

\* = Longpath  
 Expected signal levels using 1500 W and 14 dBi isotropic antennas.



10 Meters: Dec., Brazil (Porto Alegre), for SSN = Very Low, Sigs in S-Units. (c) 2010 Dean Straw, N6BV

| Zone     | UTC --> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|          | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| KL7 = 01 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 3  | 2  | -  |
| VO2 = 02 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 3  | 2  | 1  | 1  | -  | -  | -  | -  | -  | -  |
| W6 = 03  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 2  | 6  | 7  | 5  | 2* | 2* |
| W9 = 04  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 6  | 6  | 4  | 3  | 2  | 1* | 1* | -  | -  |
| W3 = 05  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 5  | 4  | 2  | 1  | 1  | 1* | 2* | 1* | -  | -  |
| XE1 = 06 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 4  | 8  | 8  | 8  | 7  | 5  |
| TI = 07  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 1* | 2* | 2* | 4  | 5  | 5  | 3  |
| VP2 = 08 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 4  | 7  | 9  | 6  | -  |
| P4 = 09  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 2* | 2* | 1* | 1  | 5  | 5  | 4  | 1  |
| HC = 10  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 7  | 7  | 7  | 8  | 1* | 1* | 1* | 1  | -  |
| PY1 = 11 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 2* | 3* | 5* | 6* | 3* | 1* |
| CE = 12  | 8       | 8  | 8  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 2  | 2  | 6  | 9  | 9  | 9  | 9  | 9  | 8  | 8  |
| LU = 13  | 2*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 4* | 4* | 5* | 5* | 2* |
| G = 14   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| I = 15   | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 8  | 5  | 5  | -  | -  | -  | -  | -  | -  | -  |
| UA3 = 16 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UN = 17  | -       | -  | -  | 1* | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA9 = 18 | -       | -  | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| UA0 = 19 | -       | 2* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 4X = 20  | -       | -  | -  | -  | -  | -  | 1* | -  | -  | -  | 1  | 1  | -  | 3  | 7  | 8  | 9  | 7  | 1  | 1  | -  | -  | -  | -  |
| HZ = 21  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 1  | 5  | 7  | 8  | 7  | 6  | 2  | -  | -  | -  | -  | -  | -  |
| VU = 22  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 1  | 6  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JT = 23  | -       | 1* | 4* | 4* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VR2 = 24 | -       | 4  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| JA1 = 25 | 5*      | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| HS = 26  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 2  | 3  | 5  | 3  | 2  | 1  | -  | -  | -  | -  | -  | -  | -  |
| DU = 27  | -       | 1* | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 4  | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| YB = 28  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 5  | 2* | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| VK6 = 29 | 2*      | 1* | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 1* | 4* | 2* | 1* | 1* | -  | -  | -  | -  | -  | 1* |
| VK3 = 30 | 2*      | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3* | 3* | 2* | 1* | 1* | -  | -  | -  | -  | -  | -  | -  | 1* |
| KH6 = 31 | 5       | 1  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 6  | 8  | 8  | 8  | 7  | -  |
| KH8 = 32 | 3       | 3  | 1  | -  | -  | -  | 2  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 7  | 8  | 8  | 7  | 7  | -  |
| CN = 33  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 2  | 4  | 6  | 7  | 9  | 8  | 2  | -  | -  | -  | -  |
| SU = 34  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | -  | -  | 3  | 7  | 8  | 9  | 9  | 8  | 7  | 5  | 5  | 2  | -  |
| 6W = 35  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1* | 2* | 1* | 1  | 1  | -  | -  | -  | -  |
| D2 = 36  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 4  | 8  | 8  | 8  | 8  | 7  | 5  | 3  | 2  | 1  | -  |
| 5Z = 37  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 1  | 2  | 6  | 8  | 8  | 8  | 8  | 7  | 9  | 8  | 7  | -  | -  |
| ZS6 = 38 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 1  | 4  | 5  | 5  | 5  | 4  | 4  | 3  | 2  | -  | -  | -  | -  | -  |
| FR = 39  | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | 3  | 4  | 4  | 4  | 4  | 3  | 1  | 2* | 1* | -  | -  | -  | -  | -  |
| FJL = 40 | -       | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| Zone     | 00      | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

\* = Longpath  
Expected signal levels using 1500 W and 14 dBi isotropic antennas.