

# Way Up High — 2008 ARRL 10 GHz and Up Contest Results

“If there is no struggle, there is no progress”  
— Frederick Douglass

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Microwave contesters understand the concept of struggle. To participate in this unique event, contestants must employ knowledge, skills and expertise to assemble equipment, often trek to high places while experiencing the forces Mother Nature can bring to bear, all in the hope of contacting other like-minded contestants using frequencies in the gigahertz range at distances measured in the hundreds of kilometers and far beyond line-of-sight. Intrepid 10 GHz contesters that have stood with their dishes in the extreme wind and weather understand the concept of “struggle.” But how do we measure “progress” — has the 10 GHz and Up contest made progress?

Signs of progress could be indicated by upward trends of scores, the number of participants or the distances spanned over time. Let’s stand back a bit and take a look. The very first 10 GHz contest was held in 1986. That contest attracted 52 contest entries and the winning score was 3763 points based on 40 contacts with 18 unique stations. This year’s 23<sup>rd</sup> running of the contest August 16-17 and September 20-21, 2008 attracted 103 contest entries and the winning score was 79,450 points based on 383 contacts made with 25 unique stations. In 1986 the best DX was 229 km while this year’s best 10 GHz DX was 1094 km. By these measures we have indeed made progress!

## Contest Highlights

The northeast part of the country found itself experiencing some rare and very exciting tropo conditions during the second weekend of the contest. On Saturday, Dale, AF1T, and Mickie, W1MKY, operating from FN41oi and FN41ql on Martha’s Vineyard,

Massachusetts worked several stations in the Lake Ontario region including VE3SMA, VE3FN, VE3FHM, VE3NPB and VE3ZV at a distance of 600 to 800 km. On 10 GHz, AF1T was running 10 W into a 24 inch dish

while W1MKY was running 3 W into a 24 inch dish. Steve, VE3SMA, reports that during his 690 km contact with this group he was running about 250 mW into a 2 foot dish. Murray, VE3NPB, at a distance of 788 km, was using 8 W and a 20 inch dish. Murray reported that signals were remarkably loud, sometimes S8 or better. Murray also worked N1JEZ and K1LPS on Mount Washington (FN44ig) at 687 km, VE3FN/VE2 (FN26rf) at 527 km, and KT1J (FN-34bi) at 494 km during this tropo event. Murray commented that “this contest really raised the bar for what’s possible on 10 GHz.”

Roger, VE3RKS, working from the same location with VE3SMA and VE3NPB, was able to make the grade from the Niagara Escarpment above Hamilton, Ontario to the group on Mount Washington, New Hampshire as well (687 km). Roger was running just 150 mW into a 17 dBi horn antenna and made the contacts using SSB — very nice indeed!

On the same day, Steve, VE3ZV, operating from FN03au and running 2 W to an 18 inch offset dish, worked W1GHZ (FN41ee) at 745 km, AF1T and W1MKY (FN41oi) at 801 km, N1JEZ and K1LPS (FN44ig) at 695 km with S9+ SSB signals,

K1WHS (FN43mj) at 727 km, and KT1J (FN34bi) at 489 km. Steve, VE3ZV, believes that his contact with AF1T and W1MKY may be a new Canada-to-US distance record. During this same time Ray, VE3FN, operating from the summit of Mont Tremblant, QC (FN26rf) with 12 W and a 24 inch dish, was surprised to hear the WA1ZMS 2 meter beacon (FM07fm), a distance of 1053 km, at 20 over S9. It was during this time that he was

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Members of the NLRs Roverpack working through the early morning haze.

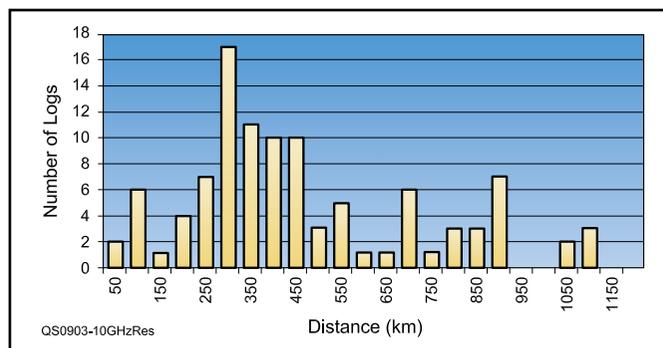


Figure 1 — This graph shows the farthest DX worked on 10 GHz. Seventeen entrants had their maximum DX in the 300 km range.

able to connect with the AF1T and W1MKY duo at 620 km.

On Sunday, the tropo shifted a bit further east, taking the VE3s out of the picture but allowing for some long-haul contacts up and down the northeast shoreline. It was AF1T and W1MKY on Martha's Vineyard, who made the longest contact of the contest with Dex, W4DEX in Stanfield, NC (EM95tg) at a distance of 1094 km. Dex was running 10 W from a TWT to a 24 inch dish mounted at 100 feet. Dale, AF1T, reports that Dex was workable most of the day and at times peaked at S9. Other stations that were able to work W4DEX included W1GHZ on Block Island, Rhode Island (FN41ee) at 1008 km, K1TEO, N1SAI, W1AIM and N1JFU. Finally, AF1T also reports having worked K1MAP and NG4C (FM26aq) at 704 km with K1MAP running just 200 mW.

Aside from the northeast's tropo openings, highlights were harder to come by. The expected DXpedition to XE2 did not appear to happen this year. However, Bernardo, XE2HWP, was active from DL27nt and once again made some nice long haul contacts using the California-Baja tropo duct at distances up to 872 km. To demonstrate how much fun we can have playing with microwaves, Steve, KB8VAO, reports making a number of 10 GHz contacts in the 150 to 230 km range running nothing more than a homebrew omni-slot antenna from the comfort of his air-conditioned car.

On the bands above 10 GHz, Steve, VE3SMA, reports that he and VE3NPB (both EN92sn) were able to work VE3ZV (EN82sb) across the longest all-water path over Lake Erie, a distance of 173 km with 559 CW signals. Steve speculates that this may be a 24 GHz distance record for stations within Canada. Steve's 24 GHz system was running 500 mW to a 12 inch dish with both ends of the path located right on the beach. For some time now, several groups that work across the Great Lakes have reported low-altitude propagation enhancement that may be evaporation-duct propagation. What made this contact even more memorable is that it was VE3NPB's very first 24 GHz QSO, using a brand new station that he just completed the night before the contest, this being the very first signal that he had ever heard with it! Murray's system had a 3 dB noise figure and was running 65 mW to a 16 inch dish. Without a tripod the system was mounted on a small folding workbench about 24 inches above the sand. The system on VE3ZV end of the link consisted of 200 mW and a 24 inch dish.

Way out west, Clint, KA7OEI, was able to work Ron, K7RJ, at a distance of 172 km on Light using both a high-power Luxion red LED system and a low-cost laser pointer

Top 10 Scores		10 GHz Only Score		10 GHz and Up Score	
WB0LJC	81,950	WB6IWI	35,489	WB6IWI	35,489
W0ZQ	81,489	AA6IW	32,502	AA6IW	32,502
W9FZ	79,562	K6GZA	32,159	K6GZA	32,159
WA2VOI	78,258	KB8VAO	29,924	KB8VAO	29,924
KC0P	65,311	W1GHZ	27,773	W1GHZ	27,773
W0JT	58,952	N6RMJ	27,182	N6RMJ	27,182
N0KP	55,889	N1JEZ	25,076	N1JEZ	25,076
KD0JI	53,573	W6BY	20,807	W6BY	20,807
KC0IYT	52,569	W6OYJ	20,230	W6OYJ	20,230
WB0VHF	48,902	VE3ZV	17,957	VE3ZV	17,957

Distance Leaders (km)			
<b>10 GHz</b>	<b>Best DX</b>	<b>24 GHz</b>	<b>Best DX</b>
AF1T	1094	N6TEB	258
W1MKY	1094	AA6IW	258
W4DEX	1094	KA1OJ	205
N1SAI	1008	N1JEZ	205
W1GHZ	1008	W6QIW	193
XE2HWP	872	W6BY	193
KB8VAO	871	VE3NPB	173
W6QIW	871	VE3ZV	173
AA6IW	871	VE3SMA	172
N6LL	864	<b>47 GHz</b>	<b>Best DX</b>
WB6CWN	864	K6GZA	149
KE6HPZ	863	W1RIL	45
K6WCI	810	W1MBA	42
N6TEB	810	KA1OJ	42
VE3ZV	801	W1FKF	42
VE3NPB	788	<b>300+ GHz</b>	<b>Best DX</b>
K6GZA	782	KA7OEI	172
W2KV	755	K7RJ	172
N6NB	741		

Participation by Call Area			
<b>Call Area</b>	<b>Entries</b>	<b>Call Area</b>	<b>Entries</b>
6	39	9	4
0	19	7	4
1	15	5	4
VE	8	3	2
8	7	2	2
4	6	DX	1

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John Toscano, W0JT, making a 250 km contact on 10368.100 MHz from southwest Minnesota.

system. Clint indicated that atmospheric haze quickly obliterated the coherency of the laser system so that scintillation distortion was not a problem, but that the LED system was a whole lot easier to point!

## More Microwave Memoranda!

Expanded statistical analysis and complete scores of the 10 GHz Contest are on the Web. Visit [www.arrrl.org/contests/results](http://www.arrrl.org/contests/results).

## 2008 Contest Results

In the 10 GHz Only category with 76 logs, Gary Danelius, WB0LJC, led the way with 81,950 points. Gary's first place finish was helped along with 383 contacts, the highest in the contest. Gary operated with the Northern Lights Radio Society who concentrated their resources on one fixed site and one rover pack that resulted in this club's members capturing all Top Ten spots in the 10 GHz Only category. Glenn Allen, KE6HPZ, was able to work 56 different 10 GHz stations to capture first place for the highest number of unique calls worked. In the 10 GHz and Up category with 27 logs, Steven Miller, W6QIW, claimed first place with a score of 35,489 points. Steven also captured first place for the most number of contacts in this category with 178 and the most number of unique calls worked with 61. Of the 27 competitors in this group, 25 reported contacts on 24 GHz, 7 on 47 GHz, 4 on 75 GHz and one on Light. The best 24 GHz DX was reported by N6TEB and AA6IW at 258 km, the best 47 GHz DX was reported by K6GZA at 149 km, while KA1OJ, W1FKF, W1MBA and W1RIL all reported 75 GHz contacts in the 42 to 45 km range. The lone Light contact was reported between KA7OEI and K7RJ at a distance of 172 km.

The Best DX by band has made three abrupt changes since the 10 GHz & Up category was added to the contest in 1996. From 1986 to 1992 the "Best DX" was less than about 600 km. From 1993 to 2001 the range jumped to 800 to 1000 km. Then from 2002 to 2008 the range jumped to 1100 km with one excursion to the all time record of 1460 km in 2007. By comparison, starting in 1996, the "Best DX" on 24 GHz and 47 GHz have held relatively steady at about 200 to 350 km. The all-time "Best DX" for 24 GHz is 375 km, a path completed twice, once in 2000 and again in 2005, and 313 km on 47 GHz, also in 2005. Figure 1 shows this year's DX distance averages, with 18 stations reporting 250-300 km on 10 GHz.

## Looking Ahead — The 24<sup>th</sup> Running

So the struggle continues. Without struggle, there is no progress. As a microwave contester, how many times have we heard nothing but hiss from our receiver when we are trying out a new and challenging path? But when it all comes together, through perseverance and know-how coupled with a bit of luck, we do hear the other stations signal, the excitement has no bound, and progress is made. Make sure to catch the fun and adventure that is the ARRL's 10 GHz and Up Contest on August 15-16 and September 19-20, 2009 and make sure that you submit your log!

