



ARRL September VHF Contest

2013 Results

By Jeff Klein, K1TEO

The atmosphere has trumped the Internet!

Good conditions and increased activity levels are key ingredients for a successful VHF+ contest. While submitted logs were up, a number of stations across North America observed that activity seemed modest. In actuality, Table 1 below shows submissions were actually up over 10 % this year!

Table 1 – Participation by Year

Category	2011	2012	2013
SOLP	226	233	220
SOHP	86	101	111
LM	23	21	25
MO	29	36	35
SO-Port	16	16	19
R	31	25	29
RL	18	16	24
RU	5	6	7
SO-FM			7
SO-3B			37
Total	434	454	514

2013 marked the first year of two new VHF+ contesting Single-Operator categories — FM only (SOFM) and Three-band (SO3B). SO3B proved to be fairly popular in the initial go-round while the SOFM category still has a good deal of potential upside.

From the standpoint of band conditions, many anticipated a fairly blasé weekend based on the various propagation tools available. According to forecasting tools like the Hepburn tropospheric map (www.dxinfocentre.com/tropo.html), nothing all that exciting was expected. Even during the contest, the live Automatic Packet Reporting System (APRS) maps failed to show any enhanced tropo conditions. Likewise, solar reports also indicated that nothing unusual was to be expected. Those looking at these reports Saturday, before the start of the contest, would not have anticipated any enhancement. Fortunately, that was not the case for much of the eastern half of the country, particularly in the Southeast and Middle Atlantic areas.

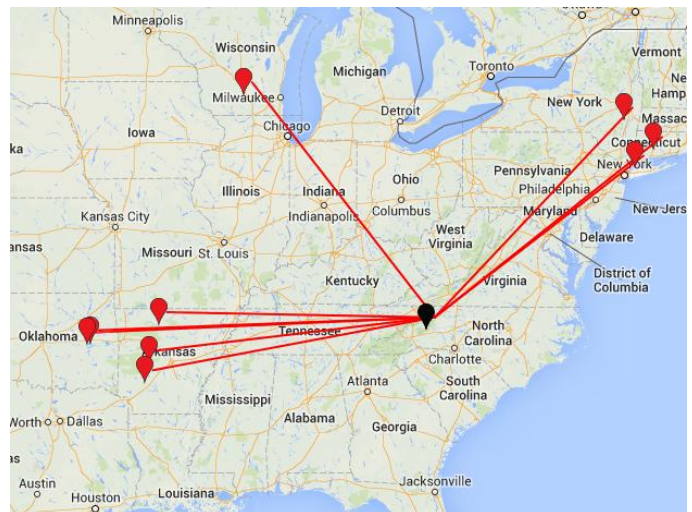
Band Conditions

After last year’s great E-skip and TEP openings on six meters during the contest, there was hope that perhaps this year would bring a repeat. It was hoped that the Sun would act up and give us an aurora as we neared the solar maximum. Alas, neither was in the cards for the weekend so that focused hope on some tropo enhancement.

In California and the Pacific Northwest, several contesters noted coastal tropo that enhanced signals during the contest. Both areas enjoyed some signals that were stronger than normal, though there were no reports of great distances being worked via this mode.

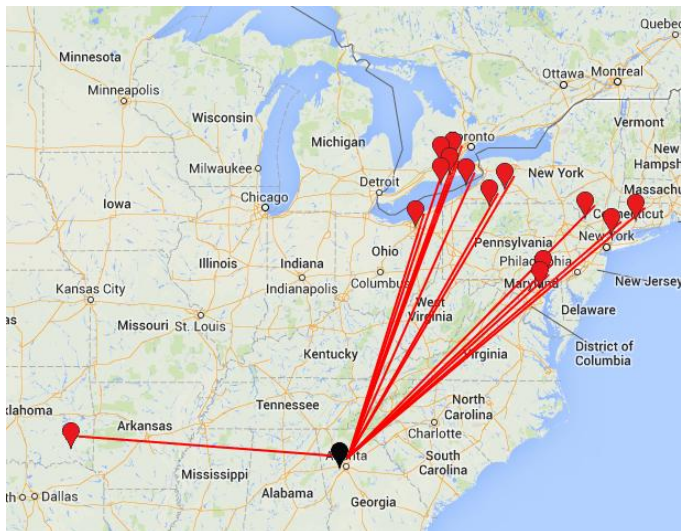
During a noontime team meeting of the AA4ZZ group on North Carolina’s Boone Mountain in EM96 before the start of the contest, Roger, W4MW, announced that there might be tropo even though the Hepburn map showed nothing was expected. Roger had looked at the weather maps to determine his own forecast for the bands.

At the same time, George, ABØRX, was setting up his portable station on Missouri’s Tom Sauk Mountain in EM47, the highest point in the state. All of his antennas are homebrewed from The ARRL Antenna Book. As it turned out, Roger was correct and both stations were in the right place at the right time to enjoy some great tropo on 144 MHz and up.



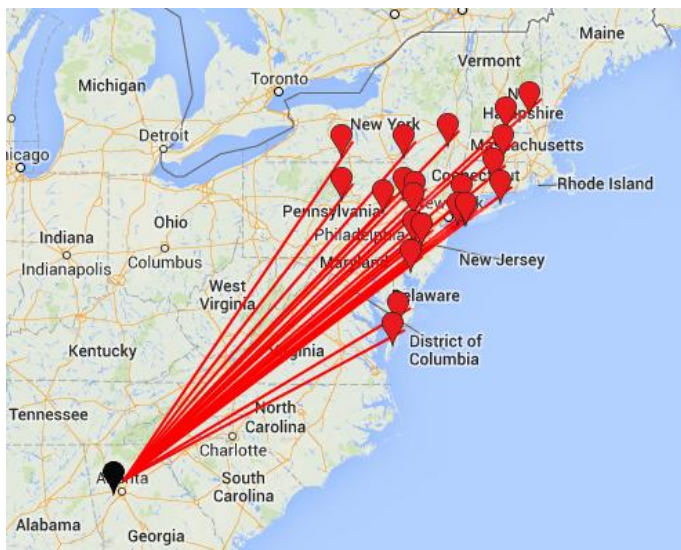
AA4ZZ started working tropo Saturday night on 144, 222, and 432 MHz. The band was open primarily in two directions — to the west as far as Oklahoma and Kansas, and to the Northeast as far as New England. (Map provided by Google Maps)

The AA4ZZ team’s best DX and some real excitement was working Todd, KØKAN, in EM19 who noted it was the “absolute highlight of the weekend for me. I heard AA4ZZ calling CQ on SSB. When they had difficulty with my call I called back on CW. We worked on 2 meters and then moved to 432 and then to 222.” On Sunday morning the tropo moved around as AA4ZZ worked W9s and WØs, as well as some W2s and W5s. On Sunday evening they managed to work K1TEO in FN31 on 222 and 432. In the end, the AA4ZZ team worked 68 grids on 144 MHz, 55 on 432 MHz, and had many 500+ mile QSOs.



W4NH started working the tropo Saturday night with QSOs to the west as far as Oklahoma, even more toward VE3, W2 and W3, and even one into southern New England. (Map provided by Google Maps)

A little to the south in EM85, the Limited Multioperator group at W4NH in Georgia probably experienced the best tropo of the contest. They also started working the tropo Saturday night with QSOs to the west as far as Oklahoma, even more toward VE3, W2 and W3, and even one into southern New England. Conditions continued to be excellent, with perhaps their best opening coming in during the last hours of the contest as they were pounding into New England. Their best DX was almost 1000 miles to K1WHS in Maine late in the contest on 144 MHz, while on 432 MHz they contacted K1TR in FN42 at about 900 miles. I can attest that they were a solid S-9 for the last several hours of the contest at my own location in Southwestern Connecticut, and easily worked through 432 MHz. The bottom line was 76 grids on 144 MHz!

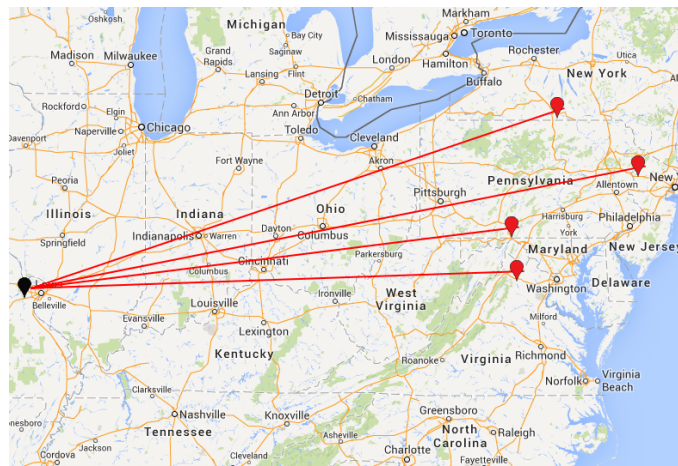


The best DX for W4NH is shown on this map of Sunday QSOs — almost 1000 miles to K1WHS in Maine late in the contest on 144 MHz, while on 432 MHz they contacted K1TR in FN42 at about 900 miles. (Map provided by Google Maps)

Meanwhile, in Missouri, ABØRX had beautiful weather and a very pleasant surprise Sunday morning as he worked several long-haul contacts to the East, as far as W2LV in FN21. The opening lasted about 2 hours at his location. “I’ve been operating VHF for about 7 years now and those 2 hours were the best tropo conditions I have ever experienced.”

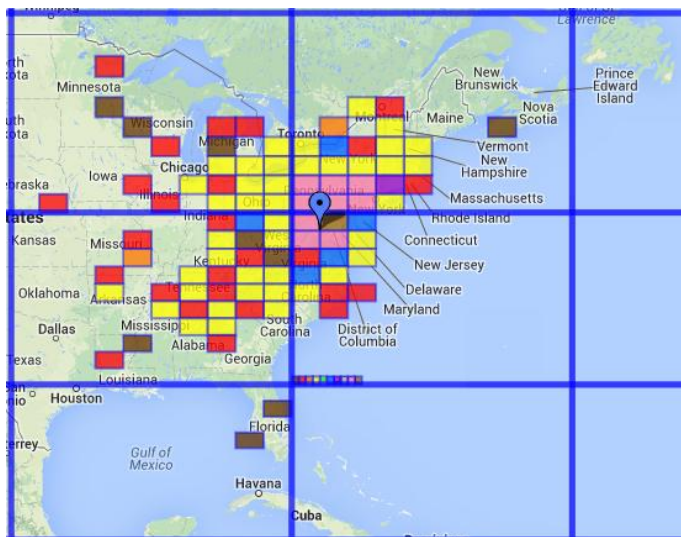
Table 2 – Limited Multioperator Grid Totals

Call	50 MHz	144 MHz	222 MHz	432 MHz	Total
K1WHS	52	50	32	38	172
W3SO	48	64	45	45	202
K8EP	51	64	32	39	186
AA4ZZ	56	68	36	55	215
W4NH	62	76	40	48	226



George, ABØRX, had some great tropo QSOs, saying, “I’ve been operating VHF for about seven years now and those two hours were the best tropo conditions I have ever experienced.” (Map provided by Google Maps)

Another station in the right place was K8GP operating from FM19 in Virginia. The tropo reached them starting early Sunday Morning and until mid-afternoon they were working DX to the Southwest on the bands. On 2 meters they made QSOs to Alabama, Tennessee, Missouri, and Mississippi. Their best DX at over 1000 miles was to K5QE in EM31 (TX). On 432 they worked as far as W5MRB in EM35 (AR), a distance of almost 900 miles! Their final tally was 82 grids worked on 144, 47 on 222 and 56 on 432. Others in their area including W3PAW, K1RZ, W3SO and K8EP also were enjoying the great conditions as well.



This colorful map shows all of the grids worked by the K8GP Multioperator team. The darker the color, the higher the number of QSOs worked in that grid. (Map provided by Google Maps)

Sunday morning DX QSOs were made on 2 meters from Texas and Arkansas toward Indiana, Illinois and Ohio. Late in the contest the tropo drifted into the Northeast. K1TEO in FN31 (CT) worked into Tennessee, South Carolina, Georgia and Alabama — a QSO with W4ZRZ in EM63, a path of over 900 miles. Jeff noted that signals were strong from the stations worked but not many seemed to be on from the Southeast, perhaps having given up earlier in the contest before the tropo arrived. Or, as AA4ZZ noted, it is possible that the poor forecasts on Hepburn and the APRS maps caused many to miss the tropo. This entire event was a great example of why checking the Internet for band conditions, while helpful, is not always accurate. Expect the unexpected on VHF — the only way to know is to make noise!

Single-Operator Results

The Single-Operator, Low Power (SOLP) category remained the most popular category with 220 submitted logs. The three top scorers all exceeded 100k points which tripled the number from 2012. Although last year's champ, Bob, K2DRH, increased his score by nearly thirty percent, he was overtaken by Ed, K1TR, who scored 156k operating portable from Mt Wachusets in Massachusetts. Ed ran into some problems with foliage on the higher bands as he opted to operate from below the summit. However, the good QTH and operator overcame the challenge with strong results on all ten of his bands. It boiled down to QSO versus multiplier totals as 'DRH had significantly higher grid totals, but 'TR had almost 50% more QSOs than Bob. Neither station found much enhancement but 'TR did work a couple of long haul QSOs with W4NH and AA4ZZ in the last hour of the contest.

Mitch, WB1GQR, placed third with a score of 103k from his portable location on Mt Equinox in Vermont. He was followed by AF1T, K2KIB and N3RN. N4QWZ from the Southeast was next, right behind 'RN. Regional leaders included ABØRX in the Midwest and AF6RR on the West Coast.

The Single-Operator, High Power (SOHP) category saw a ten percent increase in participation over 2012. Jeff, K1TEO, once again came out on top with over 300k points. His score was down quite a bit from prior years mainly because he was not able to start operating until Saturday night. He noted that he never had the high QSO rates usually experienced in the first few hours, suggesting that many only operated during the early hours of the contest. He worked a few extra grids Sunday night with tropo to the Southeast, working as far as Alabama.

Top Ten – Single-Operator Categories

Single-Operator, Low Power

K1TR	156,772
K2DRH	132,104
WB1GQR	103,768
AF1T	65,520
K2KIB	56,050
N3RN	47,952
N4QWZ	45,780
WB2JAY	35,939
K1KG	35,112
WA2VNV	32,508

Single-Operator, High Power

K1TEO	323,323
WA2FGK	261,010
K1RZ	251,127
K3TUF	232,780
W3PAW	147,634
W5MRB	59,503
WØUC	57,625
VE3ZV	56,625
K8TQK	56,580
W4ZRZ	50,196

Single-Operator Portable

N6NB	112,765
W7LUD	11,960
W9SZ	3,162
KB5WIA	2,704
KC2VLG	2,185
N6LB	1,476
WB2AMU	1,368
NIØW	1,219
VE3EG	966
KI6QEL	730

Taking the next spots were a trio of 3-land stations. In a close competition, Herb, WA2FGK, edged out fellow Pennsylvanian Phil, K3TUF, and Dave, K1RZ, from nearby Maryland. Herb's 6 meter results made the difference as he had the high Single-Operator QSO total on the band along with a high grid total.

W3PAW was in the right place to enjoy some of the tropo helping him to an excellent score of 147k and a single operator best 2 meter grid total of 56. The rest of the category's Top Ten all scored in the 50k range. W5MRB rode the tropo from Arkansas to lead the pack followed by Midwesterners WØUC, VE3ZV and K8TQK. W4ZRZ also enjoyed the opening Sunday and achieved some high grid totals to round out the group. KFØM topped the Midwest Region and VE7JH used his mountaintop portable QTH on Vancouver Island to achieve the high score from the West Coast. Both noted the help of rover activity in their success.



Operating from the highest point in Missouri — Tam Sauk Mountain — George, ABØRX, was in the right place at the right time to pick up some great tropo contacts into the East Coast. (Photo by ABØRX)

The Single-Operator Portable (SO-Portable) category saw an uptick in logs. Top dog was Wayne, N6NB, with over 100k points, far ahead of the competition. He noted sparse activity but a wealth of rovers that kept him hopping while setting a category record for the Southwestern Division. He also noted some coastal tropo that helped his results. He was operating from the driveway of a house that may see future contesting efforts – after the contest he purchased the property! W7LUD helped the West Coast Region seal the top two spots in the category, repeating his second place position of a year earlier. W9SZ rounded out the top three.



Ed, K1TR operated from the newly re-landscaped Wachusett Mountain including a new fire tower. Although he suffered the effects of foliage absorption, the view was still spectacular, one of the benefits of VHF+ contesting in the field! (Photo by K1TR)

New Single-Operator Categories

2013 marked the addition of two new Single-Operator categories for VHF contesting. The Three-Band (SO3B)

category saw 37 participants in its initial September contest. Jim, N1ZN, earned a narrow victory over K9MU. Close behind were AC6HU and KV2M. With many rigs available equipped for 50, 144 and 432 this should be a popular category going forward. Who is up for topping Jim's category record in 2014?

Top Ten – New Single-Operator Categories

Single Operator, 3-Band

N1ZN	7,380
K9MU	6,655
AC8HU	4,465
KV2M	4,012
WB9TFH	2,139
K3YDX	2,052
N3UM	2,030
KG9Z	1,769
NT9E	1,650
K1VO	1,136

Single Operator, FM Only

W2EV	688
N9VM	75
K4QWZ	56
K2SI	55
KG6VFO	20
KE5GFY	16
N4ZKS	6

Many VHF+ contesters began their operating on the FM part of the bands. For the first time, there was an FM-only (SO-FM) category of competition in 2013. Participation was minimal in this event as only seven logs were submitted. Hopefully word will spread among the FM fans on the VHF bands and bolster the activity in the future. In this first competition, W2EV from Western New York was the top scorer.

Multioperator Categories

In a battle of titans, The W2SZ team came out ahead of the Grid Pirates operating K8GP in the Multioperator (MO) category. 'GP was operating from a well-appointed permanent station in FM19 while 'SZ was at their usual portable site in Western Massachusetts. As noted earlier, 'GP was in the right place for some great Sunday morning tropo enhancing their grid totals. In the end they had a significant advantage in grids worked on 50 through 432 — 253 versus 164 — while 'SZ had almost triple the grids and more than triple the QSOs on 902 MHz and up. Congratulations to both groups on terrific efforts and scores in the contest.

Top Ten – Multioperator Categories

Limited Multioperator

K1WHS	213,280
W3SO	197,354
K8EP	166,470
AA4ZZ	163,400
W4NH	160,460
W2LV	117,245
K5QE	78,470
K2BAR	68,796
N8ZM	54,954
NE5BO	13,363

Multioperator

W2SZ	920,816
K8GP	546,621
K2LIM	187,200
W4IY	173,935
W6TE	143,330
W2EA	123,224
KBØHH	59,800
K3EOD	38,592
KØKAN	30,392
N3MK	26,320

The next four groups all exceeded 100k points with K2LIM earning third in a close competition with W4IY. W6TE set a Southwestern Division record, placing fifth overall, followed by W2EA.

Some of the best competition of the contest was in the Limited Multioperator (LM) category. Take a look at the grid totals in Table 2! After a year's hiatus, the K1WHS team from Maine earned the top spot reaching 213k points. The next four teams were close behind with at least 160k points. As with the Multioperator category, the difference for the New England team was a higher QSO total than the competitors. 'WHS only had limited enhancement late in the contest, while the others were all were in excellent locations to work the tropo, especially on Sunday. After winning in 2012, W3SO returned to take second, scoring 197k, just ahead of nearby K8EP. AA4ZZ and W4NH were next.

Overall log submissions for the two Multioperator categories were up slightly over 2012 with a total of sixty competitors. Regionally, K5QE and KBØHH turned in significant scores to lead the Midwest region in the Limited Multioperator and Multioperator categories while N8ZM and N2BJ did the same in the Central Region. K5QE utilized moonbounce effectively to record the highest 144 MHz grid total (90) in the contest.

Rovers

The Rover (R) category was dominated by four West Coast rovers, all scoring over 100k points. While they did not find a lot of general activity in the contest, working each other and Single-Op Portable operator N6NB on up to ten bands generated their excellent scores. Leading the way was K6FGV, with fellow Southern California Contest Club members K6AH, N6VI and N6HD next in line.



In the true ham spirit, here is Tim, AL1VE/R, helping to fix NL7B/R's 6 meter dipole a couple of hours into the contest. (Photo by NL7B)

VE3OIL and VE3SMA roving in Ontario finished neck and neck with 99k and 96k taking the next two places. AF6O, WA3PTV and W9SNR were next, while Bruce, W9FZ, took the final Top Ten spot. Bruce continues to rove in sparsely populated areas of the Great Plains, helping to generate activity and some VHF excitement in the area each September. Stayed tuned to see where Midwest Mania heads in 2014! [Also check out Bruce's fine writeup of the ARRL 10 GHz and Up Contest on the arrl.org/contest-results-articles website – Ed.]

Top Ten – Rover Categories

Rover

K6FGV/R	189,849
K6AH/R	179,928
N6VI/R	138,635
N6HD/R	113,709
VE3SMA/R	99,964
VE3OIL/R	96,336
AF6O/R	83,076
WA3PTV	51,525
W9SNR/R	40,495
W9FZ/R	37,341

Limited Rover

K2QO/R	63,900
WW7D/R	26,542
AL1VE/R	22,848
N2ZBH/R	19,080
K9JK/R	12,528
NL7B/R	11,799
WB2SIH/R	10,918
W5VY	6,996
KØBBC/R	5,916
W1PL	2,666

Unlimited Rover

N2SLN/R	46,736
KF8QL/R	14,094
KJ1K	9,315
N4DBR	3,379
WA2TTP/R	3,161
WAØRKQ/R	946
W2TAU/R	110



This is Wayne, N6NB's tower trailer (described in June QST) in Panorama Heights, east of Orange, California. (Photo by N6NB)

The Limited Rover (RL) category saw a nice jump in submitted logs jumping to 24 from 16 in 2012. K2QO/R and partner K2ZR had a nice score increase to retain the top position. They attributed the improved results to more activity and a better location in one of their key grids. Moving over from the Unlimited Rover class in 2012, WW7D took second from the Pacific Northwest. With an ambitious 10-grid rove tailored to hit the population centers, he was able to make well over 400 QSOs. Fellow West Coast operator AL1VE was close behind followed by N2ZBH, K9JK and NL7B.

There were seven total entrants in the Unlimited Rover (RU) category. Lu, N2SLN, had 46k to lead the group. KF8QL was next followed by KJ1K.

Club Competition

More than 40% of entrants (24 clubs) participated in this aspect of the competition. After a very close 2nd finish in 2012, the Potomac Valley Radio Club returned to the top spot in the Medium Class with a convincing win. Registering 1,235,925 points, they topped the Southern California Contest Club, who also cracked the million point level. These totals are significantly higher than last year — a tribute to the hard work of both clubs. The perennial January Sweepstakes winners from the Mt Airy VHF Radio Club improved their score by almost 100k to take 3rd place, followed by last year's champs from the North East Weak Signal Group. Contest Club Ontario had a nice jump in their score to retain 5th overall followed by the Society of Midwest Contesters, who had a nice jump in entrants and score from last year.

The Badger Contesters from Wisconsin dropped down to the Local Class and took the top prize with the same number of entrants but a higher score. The Bergen ARA from New Jersey had huge improvement in results to move up to second followed by the Chippewa Valley VHF Contesters.

Club Competition

Medium Category

Potomac Valley Radio Club	1,235,925
Southern California Contest Club	1,010,852
Mt Airy VHF Radio Club	802,148
North East Weak Signal Group	556,187
Contest Club Ontario	264,718
Society of Midwest Contesters	196,192
Yankee Clipper Contest Club	165,852
Carolina DX Association	163,621
Pacific Northwest VHF Society	141,274
Northern Lights Radio Society	87,622
Cold Brook Contest Club	79,292
Northern California Contest Club	9,799
Bristol (TN) ARC	7,215
Arizona Outlaws Contest Club	153
Florida Contest Group	71

Local Category

Badger Contesters	96,053
Bergen ARA	71,832
Chippewa Valley VHF Contesters	17,843
Granite State ARA	16,439
DFW Contest Group	9,798
Rochester (MN) ARC	8,865
Florida Weak Signal Society	6,049
Stoned Monkey VHF ARC	4,280
Lawton Fort Sill ARC	3,180

Conclusion

The introduction of operating aides available on the Internet — propagation forecasts, live propagation information, chat pages, etc, has been a great help to VHF+ operators in recent years. During contests, some of them cannot be used but others are allowed, such as the propagation forecasts like Hepburn and WWV solar reports. However, sometimes these tools do not show the full story of what is happening on the bands. There is some chance that we are more likely to miss enhancement on the bands because when we check the computer the tools say nothing is going on, and we never turn on the rig.



Roger, W4MW, turned out to be a secret weapon for the AA4ZZ team, suggesting that tropo propagation was quite possible even though the prediction tools said just the opposite. Turn on those radios and call CQ! (Photo by AA4ZZ)

The September 2013 contest was a great example of why the Internet information can never replace actual on-the-air checks. None of the great tropo ever showed up in the tool forecasts or real time predictions. But savvy operators were there to enjoy some really good DX and fun during the contest. Or, you can invite Roger, W4MW, to join your team to let you know when the band will be open, hi! Make your plans now to be active on September 13 – 15, 2014.

Thanks to the AA4ZZ, W4NH and K8GP teams for sharing their log information, along with ABØRX. And special thanks to Andy, K1RA, who worked really hard to create the maps available in the online report. Also to Curt, K9AKS, for updating the September contest records. Thanks OMs!

2013 ARRL September VHF QSO Party Regional Leaders by Category

Boxes list call sign, score, and category (A - Single-Op Low Power, B - Single-Op High Power, Q - Single-Op Portable, L - Limited Multioperator, M - Multioperator, R - Rover, RL - Limited Rover, RU - Unlimited Rover)

Northeast Region		Southeast Region		Central Region		Midwest Region		West Coast Region	
New England, Hudson and Atlantic Divisions; Maritime and Quebec Sections		Delta, Roanoke and Southeastern Divisions		Central and Great Lakes Divisions; Ontario Section		Dakota, Midwest, Rocky Mountain and West Gulf Divisions; Manitoba and Saskatchewan Sections		Pacific, Northwestern and Southwestern Divisions; Alberta, British Columbia and NWT Sections	
K1TR	156,772 A	N4QWZ	45,780 A	K2DRH	132,104 A	ABØRX	14,850 A	AF6RR	13,916 A
WB1GQR	103,768 A	KX4R	25,894 A	WZ8T	22,692 A	NØLL	9,035 A	KEØCO	9,847 A
AF1T	65,520 A	K4FJW	4,838 A	N9DG	22,616 A	WØJT	5,640 A	K6TSK	8,118 A
K2KIB	56,050 A	K5YPV	4,400 A	K8MR	10,985 A	WBØHHM	2,822 A	K2GMY	6,018 A
N3RN	47,952 A	WA7TOF/4	2,464 A	VA3ZV	10,309 A	WAØARM	2,673 A	K6ATZ	5,499 A
K1TEO	323,323 B	W5MRB	59,503 B	WØUC	57,625 B	KFØM	14,060 B	VE7JH	19,494 B
WA2FGK	261,010 B	W4ZRZ	50,196 B	VE3ZV	56,625 B	K9MK	9,672 B	KC6ZWT	16,555 B
K1RZ	251,127 B	W3IP	32,736 B	K8TQK	56,580 B	KØAWU	5,700 B	N7EPD	16,400 B
K3TUF	232,780 B	WA4NJP	15,762 B	K9CT	35,793 B	KAØRYT	4,900 B	KE7SW	11,132 B
W3PAW	147,634 B	KG5MD	7,788 B	K9EA	33,152 B	WØZQ	4,176 B	K7ND	8,299 B
KC2VLG	2,185 Q	KC8KSK	12 Q	W9SZ	3,162 Q	NØW	1,219 Q	N6NB	112,765 Q
WB2AMU	1,368 Q			VE3EG	966 Q	WØLLN	180 Q	W7LUD	11,960 Q
N1PRW	494 Q					N5ZPG	24 Q	KB5WIA	2,704 Q
KQ2RP	392 Q					NØJK	0 Q	N6LB	1,476 Q
W3MEO	30 Q							K6QEL	730 Q
K1WHS	213,280 L	K8EP	166,470 L	N8ZM	54,954 L	K5QE	78,470 L	K6EU	2,987 L
W3SO	197,354 L	AA4ZZ	163,400 L	VE3RB	714 L	W5CSC	3,996 L	W6RKC	1,064 L
W2LV	117,245 L	W4NH	160,460 L			KØGU	680 L	W6AJF	990 L
K2BAR	68,796 L	NE5BO	13,363 L			K5GZR	209 L		
N2NT	9,024 L	N4HB	9,912 L						
W2SZ	920,816 M	K8GP	546,621 M	N2BJ	12,685 M	KBØHH	59,800 M	W6TE	143,330 M
K2LIM	187,200 M	W4IY	173,935 M			KØKAN	30,392 M	W7VB	1,650 M
W2EA	123,224 M	N3MK	26,320 M			KC5MVZ	2,139 M	KF7PCL	392 M
K3EOD	38,592 M	N4JQQ	11,715 M			WØKAN	880 M	WE6C	256 M
W1XM	14,352 M	W4YCC	1,176 M			WØGN	1 M		
WA3PTV	51,525 R	AG4V/R	34,104 R	VE3SMA/R	99,964 R	W9FZ/R	37,341 R	K6FGV/R	189,849 R
NN3Q/R	35,998 R	W4WNT/R	56 R	VE3OIL/R	96,336 R	KØDAS/R	26,070 R	K6AHR	179,928 R
KB1EKZ/R	34,568 R			W9SNR/R	40,495 R	KCØP/R	6,304 R	N6V/R	138,635 R
W1AUV/R	25,418 R			K9TMS/R	2,996 R	KCØSKMR	5,922 R	N6HD/R	113,709 R
K1DS/R	11,960 R			K9PLS/R	780 R	NØHZO/R	1,335 R	AF6O/R	83,076 R
K2QQ/R	63,900 RL	W5VY	6,996 RL	K9JK/R	12,528 RL	KØBBC/R	5,916 RL	WW7D/R	26,542 RL
N2ZBH/R	19,080 RL			W8ISS/R	969 RL	AF5Q	2,436 RL	AL1VE/R	22,848 RL
WB2SIH/R	10,918 RL			VE3RKS/R	36 RL	NL7CO/R	1,992 RL	NL7B/R	11,799 RL
W1PL	2,666 RL					W3DHJ/R	867 RL	KE7HG/R	1,408 RL
KA3KSP	72 RL					ABØYMR	816 RL	N6ZE/R	1,386 RL
N2SLN/R	46,736 RU	N4DBR	3,379 RU	KF8QL/R	14,094 RU	WAØRKQ/R	946 RU		
KJ1K	9,315 RU								
WA2TTP/R	3,161 RU								
W2TAU/R	110 RU								

Division Winners

Single-Operator, Low Power

Atlantic	N3RN	47,952
Central	K2DRH	132,104
Dakota	W0JT	5,640
Delta	N4QWZ	45,780
Great Lakes	WZ8T	22,692
Hudson	K2KIB	56,050
Midwest	ABØRX	14,850
New England	K1TR	156,772
Northwestern	KEØCO	9,847
Pacific	AF6RR	13,916
Roanoke	K4FJW	4,838
Southeastern	KX4R	25,894
Southwestern	K6TSK	8,118
West Gulf	W5SXD	1,643
Canada	VA3ZV	10,309

Single-Operator, High Power

Atlantic	WA2FGK	261,010
Central	WØUC	57,625
Dakota	KØAWU	5,700
Delta	W5MRB	59,503
Great Lakes	K8TQK	56,580
Hudson	N2GHR	45,248
Midwest	KFØM	14,060
New England	K1TEO	323,323
Northwestern	N7EPD	16,400
Pacific	KC6ZWT	16,555
Roanoke	W3IP	32,736
Rocky Mountain	WØETT	592
Southeastern	W4ZRZ	50,196
Southwestern	KC6SEH	1,449
West Gulf	K9MK	9,672
Canada	VE3ZV	56,625

Single-Operator, Portable

Atlantic	KC2VLG	2,185
Central	W9SZ	3,162
Dakota	NIØW	1,219
Hudson	WB2AMU	1,368
Midwest	NØJK	0
New England	N1PRW	494
Northwestern	W7LUD	11,960
Pacific	KB5WIA	2,704
Roanoke	KC8KSK	12
Southwestern	N6NB	112,765
West Gulf	N5ZPG	24
Canada	VE3EG	966

Single-Operator, 3-Band

Atlantic	KV2M	4,012
Canada	VE3RCN	6
Central	K9MU	6,655
Dakota	NØAT	153
Delta	W4TTM	253
Great Lakes	AC8HU	4,465
Hudson	K2UNK	396
New England	N1ZN	7,380
Northwestern	K7SMA	871
Roanoke	K4BSK	143
Southeastern	W4ATL	56
West Gulf	KI5YG	912

Single-Operator, FM-Only

Atlantic	W2EV	688
Delta	K4QWZ	56
Pacific	N9VM	75
West Gulf	KE5GFY	16

Limited Multioperator

Atlantic	W3SO	197,354
Delta	NE5BO	13,363
Great Lakes	N8ZM	54,954
Hudson	W2LV	117,245
New England	K1WHS	213,280
Pacific	K6EU	2,987
Roanoke	K8EP	166,470
Rocky Mountain	KØGU	680
West Gulf	K5QE	78,470
Canada	VE3RB	714

Multioperator

Atlantic	K2LIM	187,200
Central	N2BJ	12,685
Delta	N4JQQ	11,715
Hudson	NY2NY	8,736
Midwest	KØKAN	30,392
New England	W2SZ	920,816
Northwestern	W7VB	1,650
Pacific	WE6C	256
Roanoke	K8GP	546,621
Southwestern	W6TE	143,330
West Gulf	KBØHH	59,800

Classic Rover

Atlantic	WA3PTV	51,525
Central	W9SNR/R	40,495
Dakota	KCØP/R	6,304
Delta	AG4V/R	34,104
Midwest	KØDAS/R	26,070
New England	KB1EKZ/R	34,568
Northwestern	KD7TS	11,528
Pacific	K6FGV/R	189,849
Roanoke	W4WNT/R	56
Southwestern	AF6O/R	83,076
West Gulf	W9FZ/R	37,341
Canada	VE3SMA/R	99,964

Limited Rover

Atlantic	K2QO/R	63,900
Central	K9JK/R	12,528
Dakota	KØBBC/R	5,916
Delta	W5VY	6,996
Great Lakes	W8ISS/R	969
Hudson	N2ZBH/R	19,080
New England	W1PL	2,666
Northwestern	WW7D/R	26,542
Rocky Mountain	W3DHJ/R	867
Southwestern	K6LMN/R	1,120
West Gulf	AF5Q	2,436
Canada	VE3RKS/R	36

Unlimited Rover

Atlantic	N2SLN/R	46,736
Great Lakes	KF8QL/R	14,094
Hudson	WA2TTP/R	3,161
Midwest	WAØRKQ/R	946
New England	KJ1K	9,315
Roanoke	N4DBR	3,379

QSO Leaders By Band

Single Operator Low Power

50 MHz

WB1GQR	189
K1TR	173
K2DRH	112
AF1T	104
N3RN	89
WB2JAY	75
K2KIB	63
AF6RR	57
WA2VNV	57
K1KG	56
KN2GSP	56
N1JW	55
AC1J	54
W3EKT	52
AJ3T	50
N9DG	50

144 MHz

WB1GQR	188
K1TR	175
K2DRH	125
WB2CUT	118
AF1T	105
K2KIB	102
N3RN	90
WB2JAY	77
WA2VNV	77
N9DG	75
N4QWZ	72
AF6RR	69
K1KG	66
WA3EOQ	59
WZ8T	59

222 MHz

WB1GQR	75
K1TR	74
K2DRH	60
N3RN	48
AF1T	46
K2KIB	42
K1KG	37
WB2JAY	36
WA2VNV	36
N4QWZ	34
KX4R	32
WA3EOQ	31
WS3C	29
N9DG	29
AB0RX	25

432 MHz

K1TR	107
WB1GQR	88
K2DRH	76
AF1T	62
N3RN	56
N4QWZ	47
WB2JAY	46
K2KIB	45
AF6RR	42
WA2VNV	41
K1KG	40
KX4R	39
N9DG	37
W3EKT	36
WA3EOQ	35

902 MHz

K1TR	28
AF1T	18
WB1GQR	17
K1KG	17
K2DRH	15
K2KIB	13
WB2JAY	12
WA2VNV	12
WA3EOQ	9
W3SZ	9
N4QWZ	8
W3EKT	7
WB3IGR	7
WZ8T	5
AF6RR	5

1296 MHz

K1TR	28
WB1GQR	26
AF1T	25
K1KG	24
K2DRH	20
WA2VNV	18
AC1J	18
K2KIB	15
N3RN	15
WB2JAY	15
K6TSK	15
KEØCO	13
WA3EOQ	13
KG7P	9
W3EKT	9
AF6RR	9

Single Operator High Power

50 MHz

WA2FGK	201
K1TEO	144
W3EP	137
K3TUF	121
K1RZ	109
W3PAW	109
K7CW	97
WA4NJP	92
VE7JH	85
WØUC	76
K8ZES	75
W3IP	70
K3ZO	67
W4ZRZ	65
N2WK	63

144 MHz

K1TEO	228
K1RZ	194
WA2FGK	151
K3TUF	146
W3PAW	136
K2OS	120
WA4GPM	89
VE7JH	87
K1DQV	84
W5MRB	82
KAØRYT	81
N2GHR	80
K9MK	80
K8TQK	79
K9EA	79

222 MHz

K1TEO	97
WA2FGK	83
K1RZ	83
K3TUF	76
W3PAW	51
VE3ZV	45
WØUC	44
W5MRB	37
WA3SRU	36
N2GHR	34
K8TQK	33
W3IP	32
K1GX	31
K8ZES	30
W4ZRZ	30

432 MHz

K1TEO	129
WA2FGK	102
K1RZ	100
K3TUF	92
N2GHR	55
W3PAW	53
VE7JH	50
VE3ZV	49
W4ZRZ	49
W5MRB	49
WØUC	44
N7EPD	40
W3IP	40
K9EA	38
KFØM	37
WA3SRU	37

902 MHz

K1RZ	44
K1TEO	39
K3TUF	39
WA2FGK	30
W3PAW	22
WØUC	17
N2GHR	15
KC6ZWT	15
K1GX	15
VE3ZV	12
WB2RVX	11
K8TQK	11
W3IP	9
W5MRB	9
W1FKF	8
WA3SRU	8

1296 MHz

K1TEO	52
K1RZ	50
K3TUF	46
WA2FGK	42
WØUC	23
W3PAW	18
N2GHR	18
W1ZC	17
K8TQK	16
K1GX	16
VE3ZV	14
KC6ZWT	13
W1FKF	12
W5MRB	12
WB2RVX	11
W3HMS	11
K3MD	11
W3IP	11
K7ND	11

N7EPD	11
WA3SRU	11

Multioperator**50 MHz**

W2SZ	398
K1WHS -L	324
K8GP	310
K2BAR -L	261
W2EA	261
K8EP -L	258
W2LV -L	256
W4IY	255
K2LIM	232
W3SO -L	225
W4NH -L	198
AA4ZZ -L	183
K2ZD	133
K3EOD	97
N2NT -L	94

144 MHz

K8GP	365
W2SZ	364
K1WHS -L	314
K8EP -L	287
W3SO -L	276
K2LIM	262
W2LV -L	259
AA4ZZ -L	233
W4IY	218
W2EA	213
W4NH -L	198
K2BAR -L	185
K5QE -L	157
N8ZM -L	140
N2NT -L	98

222 MHz

W2SZ	146
K8GP	136
K1WHS -L	115
W3SO -L	103
K2LIM	98
K8EP -L	85
W2LV -L	80
W4IY	63
W4NH -L	61
W2EA	60
K2BAR -L	60
AA4ZZ -L	59
W6TE	51
K3EOD	40
N3MK	34
KBØHH	34

432 MHz

W2SZ	205
K1WHS -L	186
K8GP	176
W3SO -L	135
AA4ZZ -L	113
W2LV -L	110
W4NH -L	96
K2LIM	93
K8EP -L	90
W4IY	78
K2BAR -L	68
W6TE	66
K5QE -L	60
KBØHH	56
W2EA	49

902 MHz

W2SZ	88
W6TE	41
K8GP	29
K1WHS -L	29
KBØHH	19
W2EA	18
K2LIM	11
K3EOD	10
W1XM	8
N4JQQ	7
KC5MVZ	2
W6RKC -L	1
AA1AR	1

1296 MHz

W2SZ	95
W6TE	50
K8GP	45
K1WHS -L	39
KBØHH	23
W2EA	22
W4IY	18
K2LIM	17
KØKAN	16
K3EOD	15
W1XM	12
N2BJ	11
W5CSC -L	10
N4JQQ	6
W3RFC -L	4

Single Operator Portable**50 MHz**

W7LUD	78
N6NB	44
N6LB	37
WB2AMU	27
KB5WIA	19
KC2VLG	16
KQ2RP	14
N1PRW	14
KI6QEL	11
VE3EG	10
NIØW	8
W3MEO	6
AC2GJ	3
WØLLN	2
N5ZPG	1
KF6CVA	1

Multiplier Leaders By Band**Single Operator Low Power****50 MHz**

K2DRH	44
N4QWZ	29
N3RN	26
K1TR	25
WA3EOQ	23
WB1GQR	23
N9DG	23
KX4R	22
AF1T	21
WZ8T	20
ABØRX	20
K2KIB	19
WB2JAY	15
NØLL	15
W3EKT	15
K1KG	15

144 MHz

K2DRH	48
N4QWZ	40
KX4R	36
K1TR	36
ABØRX	34
N3RN	31
K2KIB	30
N9DG	29
WB1GQR	27
WA3EOQ	27
WZ8T	25
N9TZL	24
NØLL	24
WØHXL	24
WB2CUT	23
AF1T	23
VA3ZV	23

222 MHz

K2DRH	34
K1TR	29
N4QWZ	27
KX4R	24
WB1GQR	23
K2KIB	22
N3RN	22
ABØRX	22
WA3EOQ	21
WZ8T	18
AF1T	17
N9DG	17
WS3C	17
K1KG	17
N9TZL	17

432 MHz

K2DRH	32
N4QWZ	31
K1TR	29
KX4R	24
N3RN	22
WA3EOQ	22
K2KIB	21
N9TZL	21
WB1GQR	20
WZ8T	19
N9DG	19
VA3ZV	17
K1KG	17
AF1T	16
WA2VNV	16
NØLL	16
W3EKT	16

902 MHz

K2DRH	12
K1TR	11
WA2VNV	9
WB1GQR	9
AF1T	8
K1KG	8
WB2JAY	7
K2KIB	7
N4QWZ	7
W3SZ	7
WA3EOQ	6
WZ8T	5
AF6RR	4
WB3IGR	4
W3EKT	3
WØJT	3

1296 MHz

K2DRH	13
K1KG	10
N3RN	10
WB1GQR	9
WA2VNV	9
AF1T	9
WA3EOQ	8
WB2JAY	8
K1TR	8
K2KIB	8
VA3ZV	7
W3SZ	7
N4QWZ	6
AC1J	6
WZ8T	6

Single Operator High Power**50 MHz**

K1TEO	39
WA2FGK	39
K3TUF	36
W4ZRZ	34
W3PAW	34
WA4NJP	32
K8ZES	31
K1RZ	31
WØUC	31
K9CT	30
K8TQK	29
N2WK	28
W3EP	26
K3ZO	24
W3IP	23
W8KEN	23

144 MHz

W3PAW	56
K1TEO	50
K8TQK	50
K1RZ	49
W5MRB	45
W4ZRZ	43
WA2FGK	42
K3TUF	39
KAØRYT	37
K2OS	36
K9CT	35
VE3ZV	33
K9EA	33
K9MK	32
K8ZES	31

222 MHz

K1TEO	37
K1RZ	33
W5MRB	31
WA2FGK	31
K8TQK	29
K3TUF	29
W3PAW	27
W4ZRZ	24
VE3ZV	22
K8ZES	22
K9CT	22
K9EA	20
WØUC	20
W3IP	17
K1GX	17

432 MHz

K1TEO	39
K1RZ	35
WA2FGK	32
W5MRB	32
K3TUF	32
K8TQK	29
W3PAW	28
VE3ZV	25
W4ZRZ	25
K8ZES	23
K9CT	23
K9EA	23
KFØM	21
N2GHR	20
W3IP	19

902 MHz

K1RZ	20
K1TEO	19
K3TUF	16
WA2FGK	15
W3PAW	12
WØUC	11
K1GX	9
W5MRB	9
N2GHR	9
K8TQK	9
WB2RVX	8
K9EA	7
VE3ZV	7
W4ZRZ	6
K8ZES	5
K9CT	5
WA3SRU	5
W3HMS	5
K2YAZ	5
W9GA	5

1296 MHz

K1TEO	26
WA2FGK	20
K3TUF	19
K1RZ	18
K8TQK	14
WØUC	13
W5MRB	11
N2GHR	11
W3PAW	10
VE3ZV	9
K1GX	9
K3MD	9
K9EA	8
WB2RVX	8
K9CT	8
K8ZES	8

Single Operator Portable**50 MHz**

W7LUD	10
N6NB	9
N6LB	8
WB2AMU	8
KQ2RP	7
KB5WIA	7
VE3EG	6
W3MEO	5
N1PRW	5
NIØW	5
KC2VLG	4
KI6QEL	2

AC2GJ	2	K8EP -L	51
WØLLN	1	W3SO -L	48
KF6CVA	1	K2LIM	47
N5ZPG	1	K5QE -L	44
144 MHz		W2SZ	41
KC2VLG	14	W2EA	37
W7LUD	12	W2LV -L	35
N6NB	10	K2ZD	35
NIØW	10	N8ZM -L	34
W9SZ	9	K2BAR -L	28
VE3EG	8	144 MHz	
KB5WIA	8	K5QE -L	90
WB2AMU	7	K8GP	82
N6LB	7	W4NH -L	76
N1PRW	5	W4IY	69
KQ2RP	5	AA4ZZ -L	68
WØLLN	3	W3SO -L	64
KI6QEL	3	K8EP -L	64
KC8KSK	2	N8ZM -L	56
KF6CVA	1	K2LIM	52
N5ZPG	1	K1WHS -L	50
222 MHz		W2LV -L	43
N6NB	11	W2SZ	42
W7LUD	7	W2EA	37
W9SZ	5	KBØHH	34
VE3EG	4	KØKAN	31
KB5WIA	4	NE5BO -L	31
NIØW	3	222 MHz	
WB2AMU	2	K8GP	47
KI6QEL	2	W3SO -L	45
KF6CVA	1	W2SZ	40
N1PRW	1	W4NH -L	40
N5ZPG	1	K2LIM	40
432 MHz		AA4ZZ -L	36
N6NB	11	K8EP -L	32
W7LUD	7	W4IY	32
KB5WIA	7	K1WHS -L	32
W9SZ	6	KØKAN	26
KC2VLG	5	W2LV -L	25
NIØW	5	W2EA	25
VE3EG	3	N8ZM -L	24
KI6QEL	3	K2BAR -L	23
WB2AMU	2	N3MK	22
N6LB	2	432 MHz	
WØLLN	2	K8GP	56
N1PRW	2	AA4ZZ -L	55
KQ2RP	2	W4NH -L	48
N5ZPG	1	W3SO -L	45
KF6CVA	1	W4IY	42
KC8KSK	1	W2SZ	41
902 MHz		K8EP -L	39
N6NB	8	K1WHS -L	38
W9SZ	3	K5QE -L	35
W7LUD	2	K2LIM	34
N6LB	1	W2LV -L	28
1296 MHz		N8ZM -L	28
N6NB	9	KØKAN	25
W9SZ	3	KBØHH	23
W7LUD	2	N3MK	22
Multioperator		W2EA	22
50 MHz		902 MHz	
K8GP	68	W2SZ	26
W4NH -L	62	K1WHS -L	14
W4IY	60	KBØHH	13
AA4ZZ -L	56	W2EA	11
K1WHS -L	52	K8GP	11
		W6TE	10
		K2LIM	9
		N4JQQ	7

K3EOD	6
W1XM	4
KC5MVZ	2
W6RKC -L	1
AA1AR	1

1296 MHz

W2SZ	29
KBØHH	17
K1WHS -L	15
K8GP	15
KØKAN	14
K2LIM	13
W2EA	13
W4IY	12
W6TE	11
K3EOD	8
N4JQQ	6
N2BJ	6
W1XM	5
W5CSC -L	5
K1HC	2

-L denotes Limited Multioperator

144 MHz

W7LUD	72
N6NB	47
KC2VLG	33
KB5WIA	29
N6LB	28
WB2AMU	19
NIØW	19
KI6QEL	18
VE3EG	14
W9SZ	13
N1PRW	12
KQ2RP	10
WØLLN	10
KC8KSK	2
KF6CVA	1
N5ZPG	1

222 MHz

N6NB	48
W7LUD	20
KB5WIA	9
KI6QEL	8
W9SZ	7
WB2AMU	6
VE3EG	5
NIØW	5
N5ZPG	1
N1PRW	1

432 MHz

N6NB	49
W7LUD	38
KC2VLG	23
KB5WIA	19
KI6QEL	14
WØLLN	9
W9SZ	8
NIØW	8
N6LB	7
WB2AMU	7
VE3EG	6
N1PRW	5
KQ2RP	2
N5ZPG	1
KF6CVA	1
KC8KSK	1

902 MHz

N6NB	39
W7LUD	5
W9SZ	3
N6LB	1

1296 MHz

N6NB	47
W7LUD	6
W9SZ	3

-L denotes Limited Multioperator