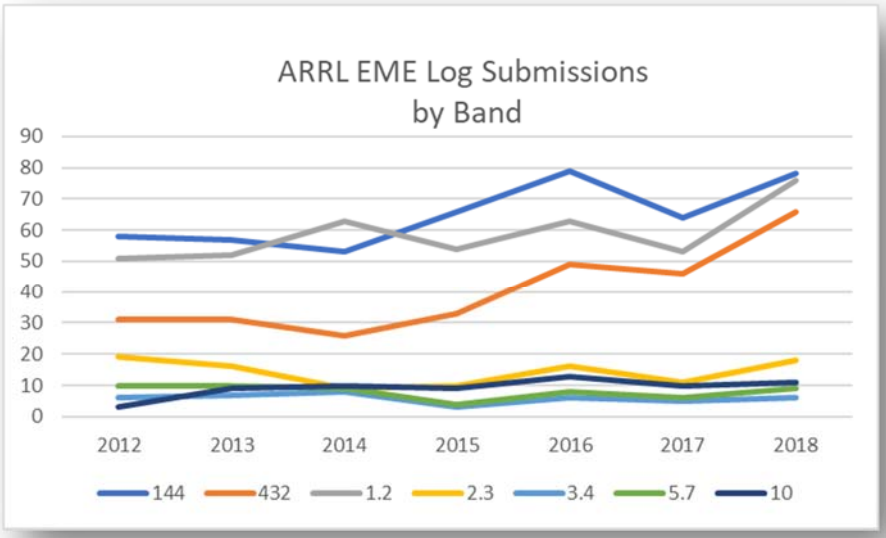
ARRL EME Contest 2018 Results

By Rick Rosen, K1DS (rick1ds@hotmail.com)

Great Conditions and Participation

With 193 stations submitting logs and over 10,000 EME QSOs reported, this contest had some of the best activity in recent years. The ability to use real-time communication and the various loggers[1] to schedule contacts and announce operating frequencies has facilitated success on the moon.

Contacts were reported on the 50, 144, 222, 432, 1296, 2300, 3400, 5760 and 10368 MHz bands. The band that was the most active was 1296 MHz with more than 4500 reported QSOs, split evenly between CW and digital modes. There were as many stations reporting activity on 1296 MHz as those with logs showing contacts on 144 MHz. The big difference between the activity on these two bands is that 98.5% of the 144 MHz was digital. Yes, there are still some EME stations using CW on 144 MHz. There were only a few QSOs reported on 50 and 222 MHz.



Although a few stations reported a bit of wind, rain and fog, for the three activity weekends, the weather was generally cooperative around the globe. The dates for the contest were well researched and vetted by ARRL staff and active EME'ers in the US and Europe.

The moon conditions were excellent. Peter, G3LTF, wrote, "excellent conditions, low polarization spread, low Faraday and slow fading." Zdenek, OK1DFC, added, "Conditions and activity were great!" Dale, W4OP, agreed, "Conditions seemed excellent from this end." Philippe, FR5DN, shared, "What an activity! Signals all (across) the band... Some huge... 62 stations heard, easy copy..."

Phil, VK4CDI, echoed with, "Great condx, plenty of activity, no visits from Murphy." Howard, G4CCH, wrote, "Good choice of weekends. Exceptional signals." Dirk, ON5GS, stated, "Thanks for yet another nice contest with a lot of moon time and a happy gathering of famous and new call signs."

Jan, PA3FXB, added, "Great activity! It's the first time I reached the 100 QSO milestone." Notes from Oleg, R9WL, Mikhail RA3AUB, and Yuri, RN4AT, included these messages, "Thanks for fine test!

Many thanks to the organizers for the competition. Very nice and interesting to take part." Peter, PA2V, noted, "For whatever ARRL did, they took the right weekends... The first weekend was great, but last weekend was even better propagation-wise. I also managed it to work more new and very small stations… I had my hours of joy again."

Stig, SM4GGC, communicated this note, "This was my first attempt to operate in ARRL Contest on 23 cm. It was definitely a good experience. Conditions also seemed good. I was surprised over the good activity on CW with so many big stations with strong signals."

Stig, SM4GGC, with his 3m dish and 300W. [Stig, Larsson, SM4GGC, Photo]

From, VE6XH, there was this note, "This was my first ARRL EME contest…Very good conditions. Everything worked well, including the new array." Unfortunately, this was not echoed universally; we heard of various equipment problems, both in the shack (with power amplifiers, coaxial cable faults) and positioner and indicator problems outdoors.

Several folks reported noise interference from various LED lighting sources in their vicinity.

There were still some ops who were concerned that one of the contest weekends coincided with a world-wide HF DX contest, and they had to choose an event or split their operating time.

Many EME stations operating the contest weekends did not submit logs, but were on the air - searching for new initial contacts, new states, new VE provinces and new DXCC entities. As is often the case, Dan and his EME superstation HB9Q was trolling the bands and provided contacts for even the smallest of stations. He declared early on the EME reflectors[2] that he would not be submitting a contest log.

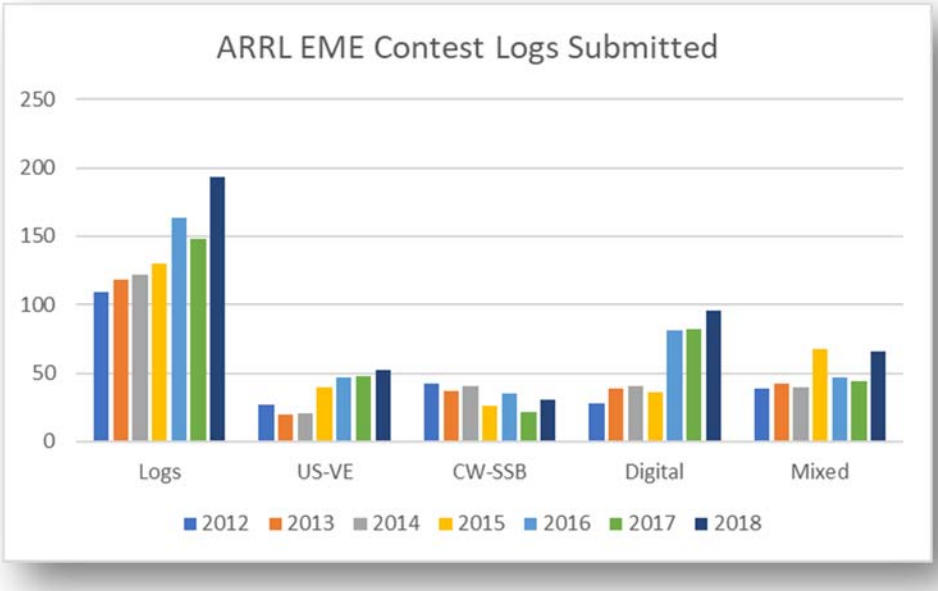
While low in activity, the 50 MHz and 222 MHz bands were also on in this event. With K7ULS and K7CW making 4 total contacts on 6 meters, and NX9O and N9HF making 3 total contacts on 1.25 meters, it's great to see these bands activated for the EME contest.

My guesstimate is that more than 500 stations were active over the three contest weekends. Even as I look over my own limited log of 144 and 432 MHz digital QSOs, almost half of the stations contacted did not send in logs. There were 27 multi-operator logs submitted, representing 76 total amateurs, and another 166 single-operator logs. Thanks to all those who did make the effort to submit their logs and enable our ongoing analysis of the activity and results.

One For The Records!

Galloping into the record books as a single-operator using 5-bands all-modes, Dmitry, UA3PTW, continued his winning ways with a whopping final score of 6,752,800 points. He made 367 contacts with 184 multipliers over the three weekends: 20% CW, and 80% digital on 144, 432, 1296, 2300 and 5760 MHz. I believe this is an EME record for the single-operator, all-band, all-mode category.

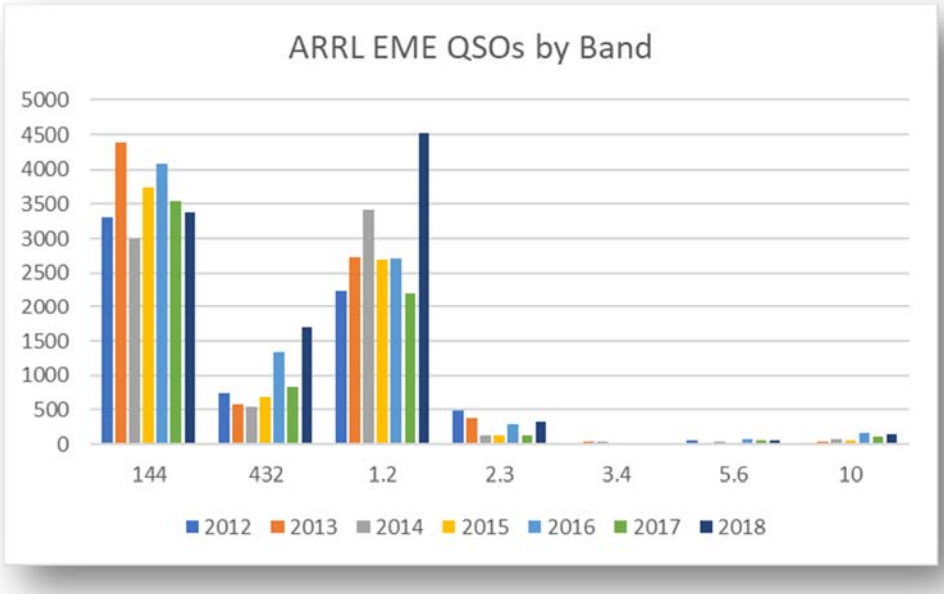
Battling it out for top honors in the all-band, all-mode, multi-operator category were the K2UYH and NC1I teams. Using 6 bands and 3 weekends, the K2UYH group scored 3.4 million points while the NC1I group (with N1DPM supplying 144 MHz as part of their team effort)



managed their 3-band, 2-weekend effort, scoring 3.3 million points. While NC1I team had 25 more QSOs, the K2UYH group had 15 more multipliers. Al reported that Murphy found him as well, with high VSWR on 1296 MHz due to bad switching relays and a bad jumper feed line to the feed horn. And, the 144 MHz Yagis at W2HRO (K2UYH team station) were very sensitive to rain, and as such had to run low power because of high VSWR. The full results of the submitted logs follows this summary below.

What was most encouraging to see was the continued upward trend in activity on 432 MHz. Was Mr. Faraday asleep for weekends 2 and 3, or was it the newly constructed 128-Yagi array of Bernd, DL7APV, that contributed to this great QSO number improvement? He entered the 432 MHz single-operator, all-mode category and had 158 contacts and 58 multipliers for a score of just over 900K. Bernd presented the pictorial story of this huge antenna array at the EME meeting held in Egmond aan Zee, Netherlands, this past August. See the sidebar below for a picture and more detail.

There were 27 entries in the 432 MHz single-operator all-mode category. This was second only to the 144 MHz single-operator all-mode category with 53 entries. Over the past seven years, there has been steady growth in the number of stations submitting contest logs. It is also nice to see a modest increase of the number of US stations participating and submitting logs.



4U1ITU (ITU Geneva) and DLØEF (Stockert Radio Observatory)

Creating a flurry of activity for the first contest weekend of microwave activity of bands 2300 MHz and up, Zdenek, OK1DFC, set up a 7-band operation in Geneva at 4U1ITU. They were permitted EME-only activity in cooperation with the 4U1ITU team (Attila, OM1AM, and Nick, SV3SJ, and Braňo, OM3YFT). For most EME operators, this would be a new DXCC entity. Zdenek detailed the problems of significant local QRM and high winds at their roof-top location, even so they managed to make contacts on all bands they attempted. Although there was not a contest log submitted for this DXpedition, many of the other contesters and EME regulars enjoyed putting a new multiplier in their logs.

There was also a group of hams that activated DLØEF, the Stockert Radio Observatory[3], during the first weekend (using only 10-GHz CW). They were the only entry using commercial equipment. Their team included operators DK2UO, DF8EF, DD9PR and DK2KA, and they contributed 15 QSOs to the logs of contest participants.

Strong Numbers!

The total reported contest QSOs on bands 2300 MHz and up was 548, similar to the highest counts seen over the past 7 years.

While it appears that the majority of EME QSOs, and perhaps of all contacts on all bands are being made using digital modes, despite this trend, there are many moonbounce operators who enjoy and prefer CW. This year there were 31 stations, or 16% of the entries that were exclusively CW. There were also 97 of the entries (almost half) that reported at least 1 CW QSO.

Despite some factors that kept his participation limited, Peter, G3LTF, was the CW leader with a total of 146 CW-only QSOs across 5 bands for a final score of nearly 1 million. Lars, SM4IVE, who prefers CW EME, was able to reconstruct his station after a massive lightning strike to make 104 CW-only QSOs just on 1296 MHz.

There were a handful of comments from CW advocates that continue to suggest that there should be more contest points for CW/SSB QSOs than for those made on digital modes, or to have 1 weekend for CW only and another exclusively for digital contacts.

First-time Fun!

Sean, KB8JNE, using a single 45-element loop Yagi and modest power on 1296 MHz, set up from his car in his driveway, made his first EME QSO with HB9Q. He added, "Thanks again to everyone that got me this far. Very thrilled here." If you have never attempted an EME QSO but have a small VHF station, you will find that you can make a JT65 digital moonbounce contact on 144, 432 or 1296 MHz with as little as about 50 watts and a modest sized single Yagi beam, as there are several large stations with plenty of power and antenna gain that can make up for the path losses (approximately 270 dB at 1296 MHz) involved with the half-million-mile path and the limited reflectivity (~7%) of the moon.

Bernd, DL7APV, with his huge array reported that he was able to complete a QSO with OH2BYJ who had just a 23-element Yagi and 3 watts, and with UA3MBJ who used a 20-element Yagi and 9 watts. Even Peter, PA2V, with his 4 Yagi antennas was able to work 3 stations who were using just single Yagis, including mine, K1DS.

Matej, OK1TEH, who was present for his moon passes, calling CQ with his single Yagi and his "one-horsepower" (~745 watts) 432 MHz amplifier, managed to complete 32 QSOs.

Werner, DK1KW, also used just a single Yagi mounted on his balcony, and managed 23 QSOs with about the same power.

Report of the ARRL contest on 432 MHz from Bernd, DL7APV

First leg in October were wx and condx perfect and some nice contacts came into the log. Twelve new initials and also some new squares where included. Best QSO was with UA3MBJ who used only 9 watts at his 20 element Yagi. I had 101 QSOs done in October and it is the best score I ever had for the first leg. Especially on Saturday condx were brilliant, I had unbelievable echoes!

2nd leg in November started with foggy wx. I did optimize the system for rain so that SWR would not go bad. Fog seems to be another story. On the first night only 300W output was possible, but it did not decrease the QSO rate that much. All weekend condx were mixed with partial very deep QSB over 20dB! After 10 CW QSOs in October, I could add another 10 including F2CT which was an initial. It has been a long time since I could work an initial contact in CW! In November I worked another 89 QSOs with only 10 initials included and 4 new squares.

Beside the big array I have an 8 x 11 element vertical array. Only one QSO with FR5DN was done where I did not see the station on the 128 Yagi array. On another 6 QSOs the signal was louder on the 8 x 11V, but contact had been completed with the 128 Yagi H-array. This confirms my decision to put all 128 Yagis horizontally polarized and not 64H and 64V.

I counted about 15 "runaways" which never called CQ somewhere or called me. I tried with R7MU several times with no success, but he had fog and temperatures below freezing point so maybe his SWR was bad? JT activity kept me mostly busy that I was not often in CW area, but I was always watching the CW band in waterfall to not miss too many.

Absolutely amazing and outstanding was Paul's WA6PY signal. Single Yagi but up to 579 armchair copy. Wow.

After removing the dupes, I count 158 QSOs and 58 multipliers. Best result I had ever! And it shows 432 MHz is not dead, only CW is down in activity. Top country counts are DL & US with both 20 stations worked.

My new antenna worked perfectly and the station gave Murphy no chance. My TR7 is now over 30 years old, but still works excellently. Due to the busy QSO activity, there was no time to give some points on 144 MHz. In the middle of the night it is more and more a challenge to stay awake. Ten years ago, that was no issue, but yet I did fall asleep two or three times for a while. QSO rate dropped to zero then. Hi! Maybe next year I will need some help and we will do some multi-op contesting in ARRL. BUT it was really fun and TNX to all who worked me.
73 Bernd, DL7APV

Fish Finders (aka Spotting and Assistance)

Like Fish Finders used by anglers, ARRL EME Contest participants can use the moon-net reflectors, or the NØUK, or HB9Q, or ON4KST chat web sites (for example) to monitor activity and schedule a contact. Participants can also email, text and even make telephone calls to set up skeds. Just for this event, like fishing, these tools are to help you find stations to work – and are not to be used to complete a contact (ie, cannot be used to catch the fish). Most contestants understand this, so you'll see that their chats during the EME Contest will generally only be to solicit contacts and/or to share frequency and sequence information before contacts, and that they do not discuss how well the contact went, or what signal levels were experienced.

Just Trying Will Overcome Half The Challenge!

Even if you cannot elevate your antenna, if the antenna can "see" the moon when it rises or sets, you can get started. Reach out to one of the larger stations to discuss trying to make that first QSO, or to work a new one. Newcomers to EME are always welcome and sought after as new "initial" contacts.

Welcome to newcomers to EME: W1XM, 7K3LGC and G8TTI who were kind enough to send in a note with their score offering their thanks to other "lunatics." N5AC, also a newcomer said, "This was my 1st ever EME contest and had a blast, small station with 2 x 10 element LFA Yagis and 800 watts in a city lot. The moon is a challenge like no other."

Many operators announced their activity intentions on the various reflectors. Reviewing the calls of the submitted logs, many of those who planned to be on the air were active but did not submit their logs for one reason or another. My hope is that more of the participants will make the effort to submit their logs as the ARRL has made it much easier to enter their results.

Alex, VK6KCC, wrote, "This will be my first EME contest and not sure what to expect." Alex ended the event with a 144 MHz digital QSO score of over 85K. Hopefully he'll also be on 1296 next year. Peter, PA2V, wrote, "Due to limited time I was only QRV for 2.5 hours this morning and worked 18 stations, including 3 new initials and 2 single Yagi stations. It seems conditions were great to almost perfect…. It seems that with my new antenna (4 X 27 el Yagis) I have a much better performance."

In his first large EME Contest experience, Bart, W9JJ, the ARRL RadioSport Manager (operating the 1296-MHz band station at multi-op NC1I) added, "Hearing your own echo is an incentive to just keep hammering away, especially in those wee hours of the morning."

From Alaska, Mike, KL6M, reported woes with failure of his azimuth position readout and ended up tracking based on signal strengths. To add to the challenge, his tracking computer had a motherboard failure. He replaced the encoder with a spare, and dug an old PC out of his junk pile, and got everything working for the next moon rise. Despite these problems, Mike recorded 121 CW only QSOs across 5 bands.

Sergey, RX1AS, showing how his 144 MHz Yagi array it is very well guyed for stability [Sergey Spiridonov, RX1AS, photo])

Before the event, Frank, NC1I, wrote that he would make every effort to get on and contribute to the activity (writing "It's just nice to see a spike in activity levels...") – and so he did, bringing together a 3-band effort, and personally operating their 70cm-band station (making 120 QSOs with 50 multipliers on 432 MHz).

Aldo, IK5VLS, sent this note, "This is my 27th year to which I participated in your beautiful contest. Also this time I had fun..."

Valter, IK1FJI, used this 3.2m dish on his roof to make 60 CW QSOs on 1296 MHz despite strong winds. [Walter Dolso, IK1FJI, photo]

Canadian Province, and each DX entity is considered a multiplier. DX entities are readily apparent by the call sign of the station worked. Canadian provinces are usually evident with the call sign prefix. US States are sometimes more difficult to assess, especially as several stations made portable operations.

Using the QRZ.com page can help identify a station's state. Announcements on the moon reflector or newsletters are also useful to identify stations who are operating away from their licensed locations. K6MG, for example, operated in Oregon for one weekend and in Nevada for another weekend, despite the fact that QRZ lists his station in California. K1DG operated from Maine, although QRZ has him in New Hampshire. VE4MA operated from his home QTH in Manitoba for the first two weekends, and then operated VE4MA/W7 from Arizona for the November weekend.

I received a long note from Courtney, N5BF, relating his encounter with Murphy describing several compound errors which caused him to blow up (in several incidents through the day) a dozen fuses, a battery booster, his calibrated noise source, and worst of all, every LNA that he had. On the positive side, he also sent me a link to a PowerPoint 1296 EME presentation that he made for the 2017 Microwave Update meeting[5]. Some of you may find it both interesting and entertaining.

Sawson, KG6NUB, did not send in a log, but he describes again his minimal 432-MHz setup that works. "Since my antenna is only ~3ft long and on a tripod, it's effortless to change its polarity to peak up on a station… This was key to finishing contacts with my pea shooter setup… These days you don't need an EME station to make contacts though… on 144/432/1296 nearly any Yagi, brick amp, LNA and reading the fine WSJT-X manual, kb5wia.blogspot.com tips and tricks page… is plenty to get several contacts in the log."

The ARRL gave EME contesters the ability to check on receipt of their logs[4]. One of the peculiarities of the ARRL EME Contest is the calculation of multipliers. Each US state, each

Peter, PA2V, was able to work several 1-Yagi stations using this 432 MHz 4-Yagi array. [Peter Gouweleeuw, PA2V, photo]

I2FAK's 144 MHz array: 16x19-element Log-Loop-Yagis in H plane, plus 16x6-element Yagis in V plane, with adaptive polarization on Receive. [Franco Giorgi, I2FAK, photo]

The 2019 ARRL EME Contest is Less Than 8 Months Away!

The 2019 ARRL EME contest dates are already selected, and hopefully we will continue to see great conditions, increased participation and lots more logs submitted.

The events weekends will be:

Weekend 1 - September 21-22, 2019 - 2.3 GHz & Up
Weekend 2 - October 19-20, 2019 - 50 to 1296 MHz
Weekend 3 - November 16-17, 2019 - 50 to 1296 MHz

There's always plenty of information, help and advice available on the reflectors and the 144 MHz EME and the 432 and Up EME monthly on-line newsletters[6,7].

Thank you to all the great correspondents who sent me notes of experiences and thoughts and pictures of their stations. As one of the biggest cheerleaders for EME, I continue to talk and write about this exciting facet of amateur radio. I apologize that I couldn't quote you all or get everyone's pictures into this publication.

And a big thanks again to my XYL, Jani, who continues to provide the excellent editing of my run-on sentences!

References:

1. https://logger.hb9q.ch/ and https://www.chris.org/cgi-bin/jt65emeB and http://www.on4kst.com/chat/start.php
2. moon@moonbounce.info and moon-net@mailman.pe1itr.com
3. https://astropeiler.de/
4. http://contests.arrl.org/logsreceived.php
5. https://jplarc.ampr.org/wp-content/uploads/2018/05/1296-EME-Presentation-for-MUD-2017.pdf
6. http://www.df2zc.de/newsletter/
7. http://www.nitehawk.com/rasmit/em70cm.html

Category Winners (in Bold) – by Category by Score

Call	Operator(s)	Category	Mode	Band	Score	QSOs CW/PH	QSOs Dig	Multipliers US	Multipliers VE	Multipliers DX
SINGLE OPERATOR										
G3LTF	**G3LTF**	**SO-CW-ALL**	**CW**	**All**	**982,800**	**126**	**0**	**22**	**6**	**50**
KL6M	KL6M	SO-CW-ALL	CW	All	847,000	121	0	19	6	45
WA6PY	WA6PY	SO-CW-ALL	CW	All	481,400	83	0	12	4	42
SP3XBO	SP3XBO	SO-CW-ALL	CW	All	116,000	40	0	1	1	27
I2FHW	**I2FHW**	**SO-CW-432**	**CW**	**432**	**49,300**	**29**	**0**	**4**	**1**	**12**
JA0TJU	JA0TJU	SO-CW-432	CW	432	5,600	8	0	0	0	7
DL8UCC	DL8UCC	SO-CW-432	CW	432	4,200	7	0	2	0	4
F6HLC	F6HLC	SO-CW-432	CW	432	900	3	0	0	0	3
JA9BOH	JA9BOH	SO-CW-432	CW	432	900	3	0	0	0	3
F2CT	F2CT	SO-CW-432	CW	432	400	2	0	0	0	2
JH4JLV	JH4JLV	SO-CW-432	CW	432	100	1	0	0	0	1
SM4IVE	**SM4IVE**	**SO-CW-1.2G**	**CW**	**1296**	**447,200**	**104**	**0**	**14**	**4**	**25**
G4CCH	G4CCH	SO-CW-1.2G	CW	1296	345,800	91	0	12	3	23
LZ2US	LZ2US	SO-CW-1.2G	CW	1296	343,200	88	0	12	4	23
RA3EC	RA3EC	SO-CW-1.2G	CW	1296	295,200	82	0	10	3	23
SP6ITF	SP6ITF	SO-CW-1.2G	CW	1296	235,600	76	0	8	2	21
OK1CA	OK1CA	SO-CW-1.2G	CW	1296	165,300	57	0	7	3	19
F5KUG	F5KUG	SO-CW-1.2G	CW	1296	162,000	54	0	8	1	21
IK1FJI	IK1FJI	SO-CW-1.2G	CW	1296	140,000	56	0	4	2	19
SM3AKW	SM3AKW	SO-CW-1.2G	CW	1296	120,000	50	0	6	1	17
IK3COJ	IK3COJ	SO-CW-1.2G	CW	1296	112,700	49	0	2	2	19
W4OP	W4OP	SO-CW-1.2G	CW	1296	92,000	40	0	6	1	16
DL0SHF	DF9CY	SO-CW-1.2G	CW	1296	61,200	36	0	0	0	17
F6ETI	F6ETI	SO-CW-1.2G	CW	1296	48,000	30	0	1	0	15
SM3JQU	SM3JQU	SO-CW-1.2G	CW	1296	45,000	25	0	3	0	15
OK2PE	OK2PE	SO-CW-1.2G	CW	1296	3,500	7	0	0	0	5
SP6OPN	SP6OPN	SO-CW-2.3G	CW	2300	28,500	19	0	3	1	11
UA3PTW	**UA3PTW**	**SO-ALL**	**All**	**All**	**6,752,800**	**69**	**298**	**59**	**6**	**119**
DF3RU	DF3RU	SO-ALL	All	All	1,776,000	82	103	22	4	70
LZ1DX	LZ1DX	SO-ALL	All	All	1,609,500	47	138	22	4	61
OH2DG	OH2DG	SO-ALL	All	All	1,472,000	104	56	27	6	59

JA6AHB	JA6AHB	SO-ALL	All	All	401,500	9	64	7	3	45
VK4CDI	VK4CDI	SO-ALL	All	All	339,700	9	70	13	2	28
US7GY	US7GY	SO-ALL	All	All	295,200	0	72	9	1	31
WA3RGQ	WA3RGQ	SO-ALL	All	All	255,300	1	68	12	2	23
RN4AT	RN4AT	SO-ALL	All	All	243,200	1	63	8	2	28
KN0WS	KN0WS	SO-ALL	All	All	240,800	0	56	13	4	26
K4EME	K4EME	SO-ALL	All	All	225,500	0	55	11	2	28
F5JWF	F5JWF	SO-ALL	All	All	188,700	50	1	5	2	30
4Z5CP	4Z5CP	SO-ALL	All	All	180,200	0	53	0	0	34
ES3RF	ES3RF	SO-ALL	All	All	168,000	0	56	4	0	26
VE4MA	VE4MA	SO-ALL	All	All	138,000	21	25	6	2	22
N4QWZ	N4QWZ	SO-ALL	All	All	138,000	0	46	11	0	19
R6CS	R6CS	SO-ALL	All	All	95,200	0	34	1	2	25
W1PV	W1PV	SO-ALL	All	All	81,600	0	34	8	2	14
YL2FZ	YL2FZ	SO-ALL	All	All	67,200	0	28	0	0	24
SM7EOI	SM7EOI	SO-ALL	All	All	66,000	1	32	6	1	13
K7ULS	K7ULS	SO-ALL	All	All	25,500	0	17	5	1	9
K1DS	K1DS	SO-ALL	All	All	20,800	0	16	3	0	10
DL9LBH	DL9LBH	SO-ALL	All	All	16,800	0	14	3	0	9
PY2RN	PY2RN	SO-ALL	All	All	8,000	0	8	2	0	8
N9HF	N9HF	SO-ALL	All	All	2,500	0	5	3	0	2
K7CW	**K7CW**	**SO-6M**	**All**	**50**	**100**	**0**	**1**	**0**	**0**	**1**
OK1DIX	**OK1DIX**	**SO-2M**	**All**	**144**	**1,474,200**	**3**	**186**	**28**	**3**	**47**
K7CA	K7CA	SO-2M	All	144	769,500	0	135	20	2	35
LZ1DP	LZ1DP	SO-2M	All	144	690,300	2	115	21	2	36
K9MRI	K9MRI	SO-2M	All	144	644,100	1	112	23	2	32
DF2ZC	DF2ZC	SO-2M	All	144	640,500	0	105	20	3	38
WA1NPZ	WA1NPZ	SO-2M	All	144	630,000	0	105	21	3	36
IW4ARD	IW4ARD	SO-2M	All	144	477,000	0	90	18	2	33
DL1KDA	DL1KDA	SO-2M	All	144	462,800	0	89	19	1	32
7K3LGC	7K3LGC	SO-2M	All	144	389,500	0	95	11	1	29
LZ6Y	LZ6Y	SO-2M	All	144	331,100	0	77	13	1	29
NH6Y	NH6Y	SO-2M	All	144	315,900	0	81	17	1	21
S51ZO	S51ZO	SO-2M	All	144	250,100	0	61	11	1	29
G8RWG	G8RWG	SO-2M	All	144	246,000	0	60	14	1	26
RM8A	RM8A	SO-2M	All	144	244,200	0	66	14	1	22
R3PA	R3PA	SO-2M	All	144	225,500	0	55	9	1	31
VE6XH	VE6XH	SO-2M	All	144	212,800	0	56	10	0	28
LZ2FO	LZ2FO	SO-2M	All	144	197,600	38	38	9	0	17
K4SQC	K4SQC	SO-2M	All	144	180,200	0	53	15	1	18
W0XG	W0XG	SO-2M	All	144	138,600	0	42	15	0	18
W2LPL	W2LPL	SO-2M	All	144	118,800	0	54	9	1	12

W4TAA	W4TAA	SO-2M	All	144	113,400	0	42	12	1	14
N4HB	N4HB	SO-2M	All	144	107,300	0	37	11	1	17
PA5KM	PA5KM	SO-2M	All	144	88,800	0	37	8	0	16
VK6KCC	VK6KCC	SO-2M	All	144	85,800	0	39	4	0	18
UA1ALD	UA1ALD	SO-2M	All	144	83,700	0	31	10	0	17
KA0RYT	KA0RYT	SO-2M	All	144	80,000	0	32	8	1	16
RU3GX	RU3GX	SO-2M	All	144	77,500	0	31	7	1	17
KD7UO	KD7UO	SO-2M	All	144	73,600	0	32	7	1	15
TA2NC	TA2NC	SO-2M	All	144	68,200	0	31	2	1	19
K1DG	K1DG	SO-2M	All	144	64,000	0	32	7	0	13
K6KLY	K6KLY	SO-2M	All	144	58,000	0	29	3	0	17
NA5C	NA5C	SO-2M	All	144	55,100	0	29	7	0	12
LZ4OC	LZ4OC	SO-2M	All	144	52,800	0	24	1	0	21
CX2SC	CX2SC	SO-2M	All	144	52,000	0	26	0	7	13
DK5EW	DK5EW	SO-2M	All	144	44,000	0	22	10	0	10
W8TN	W8TN	SO-2M	All	144	41,800	0	22	7	1	11
LZ5D	LZ5D	SO-2M	All	144	39,600	0	22	4	1	13
DL2FCN	DL2FCN	SO-2M	All	144	28,000	0	20	3	0	11
RK9JR	RK9JR	SO-2M	All	144	26,600	0	19	2	0	12
RX4HW	RX4HW	SO-2M	All	144	25,500	0	17	6	0	9
UA1OEJ	UA1OEJ	SO-2M	All	144	24,000	0	16	8	0	7
W3CJK	W3CJK	SO-2M	All	144	19,200	0	16	2	0	10
YO3CBZ	YO3CBZ	SO-2M	All	144	16,900	0	13	2	0	11
W8PEN	W8PEN	SO-2M	All	144	10,000	0	10	2	0	8
LA6TPA	LA6TPA	SO-2M	All	144	9,900	0	11	3	0	6
HG5BMU	HG5BMU	SO-2M	All	144	9,600	0	12	0	0	8
RV3IG	RV3IG	SO-2M	All	144	4,200	0	6	1	1	5
RX6AIA	RX6AIA	SO-2M	All	144	3,000	0	5	1	0	5
PA5MS	PA5MS	SO-2M	All	144	2,500	0	5	3	0	2
G8TTI	G8TTI	SO-2M	All	144	1,200	0	4	0	0	3
RW0JC	RW0JC	SO-2M	All	144	900	0	3	0	0	3
R9WL	R9WL	SO-2M	All	144	400	0	2	0	0	2
NX9O	**NX9O**	**SO-222**	**All**	**222**	**400**	**0**	**2**	**2**	**0**	**0**
DL7APV	**DL7APV**	**SO-432**	**All**	**432**	**916,400**	**17**	**141**	**16**	**2**	**40**
UT5DL	UT5DL	SO-432	All	432	376,000	8	86	12	1	27
SM7THS	SM7THS	SO-432	All	432	262,700	3	68	10	0	27
EM5EME	UT6UG	SO-432	All	432	259,000	0	74	8	1	26
G4RGK	G4RGK	SO-432	All	432	189,100	8	53	7	0	24
PA2V	PA2V	SO-432	All	432	171,600	9	43	11	1	21
VK4EME	VK4EME	SO-432	All	432	79,200	2	34	7	0	15
PA2CHR	PA2CHR	SO-432	All	432	70,000	0	35	3	0	17
OK1TEH	OK1TEH	SO-432	All	432	64,000	2	30	3	1	16

DF7KB	DF7KB	SO-432	All	432	58,800	0	28	1	0	20
W4ZST	W4ZST	SO-432	All	432	49,300	0	29	3	0	14
UB4UAA	UB4UAA	SO-432	All	432	40,000	0	25	4	0	12
DK1KW	DK1KW	SO-432	All	432	36,800	1	22	2	1	13
PE1ITR	PE1ITR	SO-432	All	432	28,000	1	19	2	0	12
LZ1OA	LZ1OA	SO-432	All	432	24,000	0	20	1	0	11
KJ7OG	KJ7OG	SO-432	All	432	14,400	0	12	2	0	10
JE2UFF	JE2UFF	SO-432	All	432	5,600	0	8	2	0	5
FR5DN	FR5DN	SO-432	All	432	4,900	0	7	2	0	5
RD3FD	RD3FD	SO-432	All	432	4,800	0	8	2	0	4
MX0CNS	MX0CNS	SO-432	All	432	1,600	0	4	1	0	3
VK2CMP	VK2CMP	SO-432	All	432	1,600	0	4	1	0	3
TA1IFV	TA1IFV	SO-432	All	432	1,200	0	3	1	0	3
DG7YBN	DG7YBN	SO-432	All	432	900	0	3	1	0	2
SM5EPO	SM5EPO	SO-432	All	432	900	0	3	0	0	3
K9PW	K9PW	SO-432	All	432	400	0	2	1	0	1
OK2VSO	OK2VSO	SO-432	All	432	400	0	2	2	0	0
UA3MBJ	UA3MBJ	SO-432	All	432	100	0	1	0	0	1
OK1DFC	**OK1DFC**	**SO-1.2G**	**All**	**1296**	**705,000**	**71**	**70**	**15**	**5**	**30**
OK2DL	OK2DL	SO-1.2G	All	1296	621,000	65	70	13	4	29
RA3AUB	RA3AUB	SO-1.2G	All	1296	531,000	31	87	13	4	28
DL3EBJ	DL3EBJ	SO-1.2G	All	1296	519,200	69	49	15	4	25
DL7UDA	DL7UDA	SO-1.2G	All	1296	478,800	39	75	14	3	25
EA8DBM	EA8DBM	SO-1.2G	All	1296	470,800	49	58	16	4	24
PA3FXB	PA3FXB	SO-1.2G	All	1296	420,000	30	70	13	4	25
KA1GT	KA1GT	SO-1.2G	All	1296	319,200	11	73	12	3	23
K5DN	K5DN	SO-1.2G	All	1296	308,100	34	45	13	4	22
SM4GGC	SM4GGC	SO-1.2G	All	1296	308,000	30	58	9	3	23
OK2ULQ	OK2ULQ	SO-1.2G	All	1296	233,600	37	36	9	2	21
UA4AAV	UA4AAV	SO-1.2G	All	1296	223,200	21	51	7	2	22
VE3KRP	VE3KRP	SO-1.2G	All	1296	223,200	4	58	12	4	20
RN6MA	RN6MA	SO-1.2G	All	1296	207,900	19	44	8	3	22
ON5GS	ON5GS	SO-1.2G	All	1296	154,000	26	29	5	3	20
UA9FA	UA9FA	SO-1.2G	All	1296	150,000	1	49	9	2	19
N5BF	N5BF	SO-1.2G	All	1296	112,000	6	34	8	4	16
ES6FX	ES6FX	SO-1.2G	All	1296	108,000	11	34	5	3	16
RW0LDF	RW0LDF	SO-1.2G	All	1296	94,300	1	40	4	1	18
VE4MA/W7	VE4MA/W7	SO-1.2G	All	1296	93,600	6	30	8	2	16
SP5GDM	SP5GDM	SO-1.2G	All	1296	84,000	0	35	8	3	13
DL1SUZ	DL1SUZ	SO-1.2G	All	1296	52,800	2	31	1	0	15
BD4SY	BD4SY	SO-1.2G	All	1296	44,800	2	26	6	2	8
OK1IL	OK1IL	SO-1.2G	All	1296	40,000	0	20	4	1	15
UA1CCU	UA1CCU	SO-1.2G	All	1296	30,400	1	18	0	0	16

SV1DNU	SV1DNU	SO-1.2G	All	1296	28,800	0	24	1	0	11
AA4MD	AA4MD	SO-1.2G	All	1296	16,800	0	14	2	1	9
W3HMS	W3HMS	SO-1.2G	All	1296	16,500	0	15	4	0	7
OZ1LPR	**OZ1LPR**	**SO-10G**	**All**	**10368**	**37,800**	**19**	**8**	**2**	**1**	**11**
OZ1FF	OZ1FF	SO-10G	All	10368	16,000	2	14	0	0	10
OK2AQ	OK2AQ	SO-10G	All	10368	16,000	1	15	2	1	7
UR5LX	UR5LX	SO-10G	All	10368	11,700	5	8	0	0	9
MULTIOPERATOR										
SP6JLW	**SP6JLW, SP6OPN, SQ6OPG**	**MO-CW-ALL**	**CW**	**All**	**561,600**	**104**	**0**	**12**	**2**	**40**
RT2M	**UA3M, RU2MM, RA3MZ**	**MO-CW-2M**	**CW**	**144**	**400**	**2**	**0**	**0**	**0**	**2**
K2UYH	**NE2U, K2TXB, K2YY, K2UYH, W2HRO**	**MO-ALL**	**All**	**All**	**3,408,000**	**97**	**143**	**52**	**7**	**83**
NC1I	NC1I, N1DPM, W1QA, W9JJ	MO-ALL	All	All	3,365,500	30	235	44	6	77
RA3EME	RA3EME, R3YA, R3YAS	MO-ALL	All	All	1,041,900	55	96	18	4	47
LU1CGB	LU1AEE, LU9DO, LU8ENU	MO-ALL	All	All	643,500	14	85	16	5	44
OH1LRY	OH3MCK, OH3LWP	MO-ALL	All	All	535,800	44	50	15	5	37
OZ9KY	OZ1PBS, OZ1FKZ, OZ1GWD, OZ5TG, OZ1DLD	MO-ALL	All	All	292,400	4	64	12	2	29
N0AKC	N0AKC, K9MU	MO-ALL	All	All	240,800	0	56	16	0	27
RC4I	RU4HU, R4HCZ, RW4HTK, R4HAT	MO-ALL	All	All	29,400	0	21	1	0	13
RX1AS	**RX1AS, RU1AA, RU1AC**	**MO-2M**	**All**	**144**	**2,006,000**	**0**	**236**	**34**	**3**	**48**
F6HEO	F0EUI, F6HEO	MO-2M	All	144	212,400	0	59	12	2	22
RC3W	RD5A, R3WW, RA5W, RW3WW	MO-2M	All	144	91,200	0	38	6	0	18
W9VW	WB9YCZ, K9LZJ	MO-2M	All	144	40,000	0	25	6	1	9
S59DGO	**S51LF, S56FQC**	**MO-432**	**All**	**432**	**90,200**	**2**	**39**	**5**	**0**	**17**
HG1W	HA1YA, HA1WA	MO-432	All	432	37,800	0	27	2	0	12

OK2D	OK2POI	MO-432	All	432	1,600	0	4	2	0	2
IK5VLS	**IK5AMB**	**MO-1.2G**	**All**	**1296**	**313,200**	**34**	**53**	**11**	**4**	**21**
VA7MM	VE7CNF, VE7HRY, VE7CMK	MO-1.2G	All	1296	298,800	25	58	10	3	23
SK0UX	SM0ERR, SM0KAK, SM0NCL, SM0XDO/OH4MVH	MO-1.2G	All	1296	156,600	31	27	8	3	16
K6MG	K6MG, N9JIM	MO-1.2G	All	1296	132,500	30	23	8	3	14
F6KRK	F4BUC, F1MPQ, F4IDY	MO-1.2G	All	1296	125,000	26	24	7	1	17
W1XM	KC1EPN, KC1IXU, KI7TGW, AB1IZ	MO-1.2G	All	1296	3,500	0	7	0	0	5
OK1KIR	**OK1DAI, OK1DAK**	**MO-2.3G**	**All**	**2300**	**70,400**	**27**	**5**	**7**	**1**	**14**
WD5AGO	WD5AGO, KG5SSI	MO-2.3G	CW	2300	45,600	24	0	5	1	13
AD6FP	AD6FP, N6JET, @W6YX	MO-2.3G	All	2300	19,500	12	3	3	1	9
N9JIM	**KG4UHM, KG6NUB, N9JIM @W6YX**	**MO-10G**	**All**	**10368**	**9,900**	**6**	**5**	**0**	**1**	**8**
Commercial Equipment										
DL0EF	**DK2UO, DF8EF, DD9PR, DK2KA**	**MO-CW-10G**	**CW**	**10368**	**18,000**	**15**	**0**	**2**	**0**	**10**
Call	**Operators**	**Category**	**Mode**	**Band**	**Score**	**QSOs CW/PH**	**QSOs Dig**	**Multipliers US**	**Multipliers VE**	**Multipliers DX**
Totals						**2951**	**7202**	**1533**	**269**	**3766**

QSO and Multiplier Counts

Call	CAT	Q-50-Dig	M-US-50	M-VE-50	M-DX-50	Q-144-CW-SSB	Q-144-Dig	M-US-144	M-VE-144	M-DX-144	Q-222-Dig	M-US-222	M-VE-222	M-DX-222	Q-432-CW-SSB	Q-432-Dig	M-US-432	M-VE-432	M-DX-432	Q-1296-CW-SSB	Q-1296-Dig	M-US-1296	M-VE-1296	M-DX-1296	Q-2300-CW-SSB	Q-2300-Dig	M-US-2300	M-VE-2300	M-DX-2300	Q-3456-CW-SSB	Q-3456-Dig	M-US-3456	M-VE-3456	M-DX-3456	Q-5760-CW-SSB	Q-5760-DIG	M-US-5760	M-VE-5760	M-DX-5760	Q-10G-CW-SSB	Q-10G-DIG	M-US-10G	M-VE-10G	M-DX-10G
DL0EF	MO-CW-10G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	2	0	10
G3LTF	SO-CW-ALL	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0	2	1	16	69	0	10	4	18	21	0	5	1	11	3	0	2	0	1	8	0	3	0	4	0	0	0	0	0
KL6M	SO-CW-ALL	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	2	1	12	81	0	10	4	23	13	0	5	1	5	2	0	1	0	1	5	0	1	0	4	0	0	0	0	0
WA6PY	SO-CW-ALL	0	0	0	0	1	0	0	0	1	0	0	0	0	6	0	1	0	5	52	0	8	2	20	9	0	2	1	4	3	0	1	0	2	4	0	0	0	4	8	0	0	1	6
SP3XBO	SO-CW-ALL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	0	1	1	15	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	9	0	0	0	7
I2FHW	SO-CW-432	0	0	0	0	0	0	0	0	0	0	0	0	0	29	0	4	1	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JA0TJU	SO-CW-432	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DL8UCC	SO-CW-432	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F6HLC	SO-CW-432	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JA9BOH	SO-CW-432	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F2CT	SO-CW-432	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JH4JLV	SO-CW-432	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SM4IVE	SO-CW-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	0	14	4	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G4CCH	SO-CW-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	91	0	12	3	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LZ2US	SO-CW-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	88	0	12	4	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RA3EC	SO-CW-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	82	0	10	3	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SP6ITF	SO-CW-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	76	0	8	2	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OK1CA	SO-CW-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57	0	7	3	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F5KUG	SO-CW-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54	0	8	1	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IK1FJI	SO-CW-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56	0	4	2	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SM3AKW	SO-CW-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	6	1	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IK3COJ	SO-CW-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49	0	2	2	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W4OP	SO-CW-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	0	6	1	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DL0SHF	SO-CW-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F6ETI	SO-CW-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0	1	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SM3JQU	SO-CW-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0	3	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OK2PE	SO-CW-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SP6OPN	SO-CW-2.3G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0	3	1	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UA3PTW	SO-ALL	0	0	0	0	1	149	31	3	42	0	0	0	0	7	80	11	0	29	39	60	12	2	28	15	6	4	1	13	0	0	0	0	0	7	3	1	0	7	0	0	0	0	0
DF3RU	SO-ALL	0	0	0	0	0	0	0	0	0	0	0	0	0	8	46	7	0	26	55	49	10	3	26	16	8	5	1	15	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0
LZ1DX	SO-ALL	0	0	0	0	0	0	0	0	0	0	0	0	0	7	60	4	0	26	32	61	14	4	22	8	17	4	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OH2DG	SO-ALL	0	0	0	0	0	0	0	0	0	0	0	0	0	13	24	9	1	18	61	30	11	4	23	24	2	6	1	13	0	0	0	0	0	6	0	1	0	5	0	0	0	0	0
JA6AHB	SO-ALL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	4	1	22	9	25	3	2	22	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
VK4CDI	SO-ALL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	3	0	10	7	48	8	2	18	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
US7GY	SO-ALL	0	0	0	0	0	65	9	1	26	0	0	0	0	0	7	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WA3RGQ	SO-ALL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	11	2	16	0	8	0	0	7	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
RN4AT	SO-ALL	0	0	0	0	0	19	3	0	11	0	0	0	0	0	0	0	0	0	1	44	5	2	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KN0WS	SO-ALL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	5	0	9	0	40	8	4	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
K4EME	SO-ALL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	4	0	13	0	33	7	2	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F5JWF	SO-ALL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	0	2	1	15	11	1	2	1	8	0	0	0	0	0	0	0	0	0	0	10	0	1	0	7
4Z5CP	SO-ALL	0	0	0	0	0	20	0	0	12	0	0	0	0	0	33	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ES3RF	SO-ALL	0	0	0	0	0	22	3	0	11	0	0	0	0	0	34	1	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VE4MA	SO-ALL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	20	5	2	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	5	1	0	6
N4QWZ	SO-ALL	0	0	0	0	0	43	10	0	17	0	0	0	0	0	3	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R6CS	SO-ALL	0	0	0	0	0	11	1	1	9	0	0	0	0	0	13	0	1	10	0	10	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W1PV	SO-ALL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	3	0	2	0	29	5	2	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
YL2FZ	SO-ALL	0	0	0	0	0	18	0	0	15	0	0	0	0	0	9	0	0	8	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SM7EOI	SO-ALL	0	0	0	0	0	21	5	1	7	0	0	0	0	1	11	1	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
K7ULS	SO-ALL	3	1	0	2	0	14	4	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
K1DS	SO-ALL	0	0	0	0	0	7	1	0	6	0	0	0	0	0	9	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DL9LBH	SO-ALL	0	0	0	0	0	2	1	0	1	0	0	0	0	0	12	2	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PY2RN	SO-ALL	0	0	0	0	0	4	1	0	4	0	0	0	0	0	4	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N9HF	SO-ALL	0	0	0	0	0	1	1	0	0	1	1	0	0	0	3	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
K7CW	SO-6M	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

OK1DIX	**SO-2M**	0	0	0	0	3	186	28	3	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
K7CA	SO-2M	0	0	0	0	0	135	20	2	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LZ1DP	SO-2M	0	0	0	0	2	115	21	2	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
K9MRI	SO-2M	0	0	0	0	1	112	23	2	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DF2ZC	SO-2M	0	0	0	0	0	105	20	3	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WA1NPZ	SO-2M	0	0	0	0	0	105	21	3	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IW4ARD	SO-2M	0	0	0	0	0	90	18	2	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DL1KDA	SO-2M	0	0	0	0	0	89	19	1	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7K3LGC	SO-2M	0	0	0	0	0	95	11	1	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LZ6Y	SO-2M	0	0	0	0	0	77	13	1	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NH6Y	SO-2M	0	0	0	0	0	81	17	1	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S51ZO	SO-2M	0	0	0	0	0	61	11	1	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G8RWG	SO-2M	0	0	0	0	0	60	14	1	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RM8A	SO-2M	0	0	0	0	0	66	14	1	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R3PA	SO-2M	0	0	0	0	0	55	9	1	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VE6XH	SO-2M	0	0	0	0	0	56	10	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LZ2FO	SO-2M	0	0	0	0	38	38	9	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
K4SQC	SO-2M	0	0	0	0	0	53	15	1	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W0XG	SO-2M	0	0	0	0	0	42	15	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W2LPL	SO-2M	0	0	0	0	0	54	9	1	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W4TAA	SO-2M	0	0	0	0	0	42	12	1	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N4HB	SO-2M	0	0	0	0	0	37	11	1	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PA5KM	SO-2M	0	0	0	0	0	37	8	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VK6KCC	SO-2M	0	0	0	0	0	39	4	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UA1ALD	SO-2M	0	0	0	0	0	31	10	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KA0RYT	SO-2M	0	0	0	0	0	32	8	1	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RU3GX	SO-2M	0	0	0	0	0	31	7	1	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KD7UO	SO-2M	0	0	0	0	0	32	7	1	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TA2NC	SO-2M	0	0	0	0	0	31	2	1	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
K1DG	SO-2M	0	0	0	0	0	32	7	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
K6KLY	SO-2M	0	0	0	0	0	29	3	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NA5C	SO-2M	0	0	0	0	0	29	7	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LZ4OC	SO-2M	0	0	0	0	0	24	1	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CX2SC	SO-2M	0	0	0	0	0	26	0	7	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DK5EW	SO-2M	0	0	0	0	0	22	10	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W8TN	SO-2M	0	0	0	0	0	22	7	1	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LZ5D	SO-2M	0	0	0	0	0	22	4	1	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DL2FCN	SO-2M	0	0	0	0	0	20	3	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RK9JR	SO-2M	0	0	0	0	0	19	2	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RX4HW	SO-2M	0	0	0	0	0	17	6	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UA1OEJ	SO-2M	0	0	0	0	0	16	8	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W3CJK	SO-2M	0	0	0	0	0	16	2	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
YO3CBZ	SO-2M	0	0	0	0	0	13	2	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W8PEN	SO-2M	0	0	0	0	0	10	2	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LA6TPA	SO-2M	0	0	0	0	0	11	3	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HG5BMU	SO-2M	0	0	0	0	0	12	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RV3IG	SO-2M	0	0	0	0	0	6	1	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RX6AIA	SO-2M	0	0	0	0	0	5	1	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PA5MS	SO-2M	0	0	0	0	0	5	3	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G8TTI	SO-2M	0	0	0	0	0	4	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RW0JC	SO-2M	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
R9WL	SO-2M	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NX9O	**SO-222**	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DL7APV	**SO-432**	0	0	0	0	0	0	0	0	0	0	0	0	0	17	141	16	2	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UT5DL	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	8	86	12	1	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SM7THS	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	3	68	10	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EM5EME	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74	8	1	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G4RGK	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	8	53	7	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PA2V	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	9	43	11	1	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VK4EME	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	2	34	7	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PA2CHR	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35	3	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OK1TEH	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	2	30	3	1	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DF7KB	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	1	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W4ZST	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	3	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UB4UAA	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	4	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DK1KW	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	1	22	2	1	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PE1ITR	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	1	19	2	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LZ1OA	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	1	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KJ7OG	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	2	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

JE2UFF	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	2	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FR5DN	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	2	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RD3FD	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MX0CNS	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VK2CMP	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TA1IFV	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DG7YBN	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SM5EPO	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
K9PW	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OK2VSO	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UA3MBJ	SO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OK1DFC	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71	70	15	5	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OK2DL	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	65	70	13	4	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RA3AUB	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	87	13	4	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DL3EBJ	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	69	49	15	4	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DL7UDA	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39	75	14	3	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EA8DBM	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49	58	16	4	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PA3FXB	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	70	13	4	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KA1GT	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	73	12	3	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
K5DN	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	45	13	4	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SM4GGC	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	58	9	3	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OK2ULQ	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	36	9	2	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UA4AAV	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	51	7	2	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VE3KRP	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	58	12	4	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RN6MA	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	44	8	3	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ON5GS	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	29	5	3	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UA9FA	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	49	9	2	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N5BF	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	34	8	4	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ES6FX	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	34	5	3	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RW0LDF	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	40	4	1	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VE4MA/W7	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	30	8	2	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SP5GDM	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35	8	3	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DL1SUZ	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	31	1	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BD4SY	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	26	6	2	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OK1IL	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	4	1	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UA1CCU	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	18	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SV1DNU	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	1	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AA4MD	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	2	1	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W3HMS	SO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	4	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OZ1LPR	SO-10G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	8	2	1	11
OZ1FF	SO-10G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	14	0	0	10
OK2AQ	SO-10G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	15	2	1	7
UR5LX	SO-10G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	8	0	0	9
SP6JLW	MO-CW-ALL	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	3	0	10	75	0	8	2	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	1	0	9
RT2M	MO-CW-2M	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
K2UYH	MO-ALL	0	0	0	0	0	57	17	1	21	0	0	0	0	10	52	11	1	19	57	29	13	4	25	16	5	7	1	9	4	0	2	0	2	10	0	2	0	7	0	0	0	0	0
NC1I	MO-ALL	0	0	0	0	0	53	14	1	22	0	0	0	0	7	113	16	1	33	23	69	14	4	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RA3EME	MO-ALL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	88	13	3	30	22	8	5	1	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LU1CGB	MO-ALL	0	0	0	0	0	22	4	2	11	0	0	0	0	0	20	3	1	11	14	38	9	2	17	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OH1LRY	MO-ALL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	46	8	4	22	12	4	5	1	9	0	0	0	0	0	8	0	2	0	6	0	0	0	0	0
OZ9KY	MO-ALL	0	0	0	0	0	35	7	0	15	0	0	0	0	0	0	0	0	0	4	29	5	2	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N0AKC	MO-ALL	0	0	0	0	0	50	14	0	23	0	0	0	0	0	6	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RC4I	MO-ALL	0	0	0	0	0	4	0	0	2	0	0	0	0	0	6	1	0	5	0	11	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RX1AS	MO-2M	0	0	0	0	0	236	34	3	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F6HEO	MO-2M	0	0	0	0	0	59	12	2	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RC3W	MO-2M	0	0	0	0	0	38	6	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W9VW	MO-2M	0	0	0	0	0	25	6	1	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S59DGO	MO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	2	39	5	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HG1W	MO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	2	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OK2D	MO-432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IK5VLS	MO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	53	11	4	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VA7MM	MO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	58	10	3	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SK0UX	MO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	27	8	3	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

K6MG	MO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	23	8	3	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F6KRK	MO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	24	7	1	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
W1XM	MO-1.2G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OK1KIR	**MO-2.3G**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**27**	**5**	**7**	**1**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
WD5AGO	MO--2.3G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	0	5	1	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AD6FP	MO-2.3G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	3	3	1	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N9JIM	**MO-10G**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**5**	**0**	**1**	**8**