

# N.E.W.S. Picnic MDS/ERP Testing 2017

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MDS (Minimum Discernable Signal) and ERP testing on 10 GHz, 24 GHz, 47 GHz. and 78 GHz. To test for MDS, we set up a distant signal source. After everyone has a chance to peak up on the signal, the signal level is reduced one dB at a time. At the point when you can no longer hear it, you have found the MDS for your system. You decide how well it works, and whether you can hear as well as Don and Dale.

We also check relative ERP, transmitting one at a time and recording the relative power received at the distant point using a spectrum analyzer.

The ERP results for the 10 GHz test are inaccurate, caused by not having enough attenuation between the feed and converter, skewing the data. This was realized after reviewing the results, and will be rectified for the next picnic.



				NEWS Picnic MDS/ERP 2017												
10 GHz MDS							10 GHz ERP									
						Difference								Difference		
Call	Dish Type	Dish size	Power	MDS	TX	From best		Call	Dish Type	Dish size	Power	MDS	TX	From best		
AF1T	Prime	24	10W	-75	-42.8	0		WB2BYP	OFFset	18	20W	-72	-42.4	0		
Ka1OJ	OFFset	24	6W	-72	-47	3		AF1T	Prime	24	10W	-75	-42.75	0.35		
W1FKF	OFFset	18	7W	-72	42.82	3		W1FKF	OFFset	18	7W	-72	-42.82	0.42		
W1GHZ	OFFset	18	3W	-72	-47.9	3		KC1SJ	Prime	24	3.5W	-71	-43.78	1.38		
WB2BYP	OFFset	18	20W	-72	-42.4	3		Ka1OJ	OFFset	24	6W	-72	-47	4.6		
KC1SJ	Prime	24	3.5W	-71	-43.8	4		W1GHZ	OFFset	18	3W	-72	-47.86	5.46		
K2AEP	OFFset	22	.2W	-68	-82.8	7		Wa1MBA	OFFset	18	2W	-64	-49.86	7.46		
Wa1MBA	OFFset	18	2W	-64	-49.8	11		W1FKF	Panel	12	.35W	-58	-61.76	19.36		
W1FKF	Panel	12	.35W	-58	-61.8	17		WW1Z	Horn	23 dB	1W	-55	-67.73	25.43		
WW1Z	Horn	23 dB	1W	-55	-67.7	20		K2AEP	OFFset	22	.2W	-68	-82.8	40.4		
24 GHz MDS							24 GHz ERP									
						Difference								Difference		
Call	Dish Type	Dish size	Power	MDS	TX	From best		Call	Dish Type	Dish size	Power	MDS	TX	From best		
AF1T	Prime	12 inch	2 W	-31	-96.6	0		Ka1OJ	OFFset	18 inch	4 W	-29	-79	0		
Ka1OJ	OFFset	24 inch		-31		0		N1JEZ	Prime	20 inch	1.75W	-31	-84	5		
N1JEZ	Prime	20 ich	1.75W	-31		0		Wa1MBA	OFFset	18 inch	2 W	-20	-84.5	5.5		
W1FKF	OFFset	18 inch	.5W	-31	-93	0		W1FKF	OFFset	18 inch	.5W	-31	-93	14		
Ka1OJ	OFFset	18 inch	4 W	-29	-79	2		AF1T	Prime	12 inch	2 W	-31	-96.6	17.7		
W1EX	Prime	12 inch	.75W	-26	-101	6		W1EX	Prime	12 inch	.75W	-26	-101.3	22.3		
Wa1MBA	OFFset	18 inch	2 W	-20	-84.5	11		K2CBA	Prime	16 inch	0.125			-		
K2CBA	Prime	16 inch	0.125			-		Ka1OJ	OFFset	24 inch		-31		-		
W1GHZ	OFFset	18 inch	.5 W			-		W1GHZ	OFFset	18 inch	.5 W					
47 GHz MDS							47 GHz ERP									
						Difference								Difference		
Call	Dish Type	Dish size	Power	MDS	TX	From best		Call	Dish Type	Dish size	Power	MDS	TX	From best		
VE2UG	Prime	12 Inch	700 mw	-48	-82.2	0		VE2UG	Prime	12 Inch	700 mw	-48	-82.16	0		
WB2BYP	Prime	12 Inch	40 mw	-47	-89.7	1		Ka1OJ	Prime	10 inch	30 mw	-46	-87	4.84		
Ka1OJ	Prime	10 inch	30 mw	-46	-87	2		W1FKF	Prime	12 inch	40 mw	-46	-87.76	5.16		
W1FKF	Prime	12 inch	40 mw	-46	-87.8	2		WB2BYP	Prime	12 Inch	40 mw	-47	-89.72	7.56		
N1JEZ	Prime	10 inch	30 mw	-46		2		WA1MBA	Prime	15 ich	40 mw	-39	-94.5	12.34		
WA1MBA	Prime	15 ich	40 mw	-39	-94.5	9		W1GHZ	Horn	Horn 23 dB	30 mw	-30	-97	14.4		
AF1T	Prime	12 inch	30 mw	-37	-101	11		AF1T	Prime	12 inch	30 mw	-37	-100.6	18.44		
W1GHZ	Horn	Horn 23 dB	30 mw	-30	-97	18		N1JEZ	Prime	10 inch	30 mw	-46				
W1EX	Prime	12 Inch	10 mw	-25		23		W1EX	Prime	12 Inch	10 mw	-25				
78 GHz MDS																
						Difference										
Call	Dish Type	Dish size	Power	MDS	TX	From best										
N1JEZ	8 inch	prime	0 DBm	-31		0										
Wa1MBA	10 Inch	Lens	0 dBm	-29		2										
W1FKF	12 Inch	prime	0 dBm	-29		2										
Ka1oj	8 inch	prime	mixer	-18		13										
WB2BYP	13 inch	prime	mixer													
Ve2UG	12 inch	prime	Mixer													

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