SBMS MW Tune Up Sat. 28 JULY 2018

Lambda: 0.0949 ft. Friis: 89.3 dB

10 GHz | Range: 220 Ft. | Range Loss: 89.3 dB | WG Flange: 5 dBi | MDS Atten.: 30 dB | Syst. Losses : 18.0 dB | EIRP Gain: -4.5 dB

	----- MDS TEST ------				----------	-------	--------	EIRP TEST	--------	----------	-------
Callsign	Sig. Gen. Out (dBm)	MDS Atten. (dB)	MDS Score	Ant. Type - Conditions	Ant. Size (inches)	Ant. Effic. (%)	Calc. Ant. Gain (dBi)	Radio Output (dBm)	Calc. EIRP (dBm)	Meter Rdg. (dBm)	Meas. EIRP (dBm)	Meas. vs. Calc. (dB)
	INPUT	INPUT			INPUT	INPUT		INPUT		INPUT		
KK6MXP	-55	30	-98	PRIME	24.0	0.55	34	36.5	70	-39.6	67	-3.1
K6JEY	-58	30	-101	PRIME	36.0	0.55	37	26.4	64	-45.4	61	-2.4
K6NVR	-59	30	-102	OFFSET	38.5	0.64	39	33.0	72	-39.0	68	-3.8
WB6CWN	-54	30	-97	OFFSET	18.0	0.64	32	32.0	64	-42.8	64	0.0
N5BF	-57	30	-100	OFFSET	29.5	0.64	36	39.0	75	-32.2	75	-0.7
W6SZ	-40	30	-83	OPEN WG - RX ONLY	0.8	0.64	5	34.8	40	N/A	#####	####
AF6NA	-57	30	-100	OFFSET	32.8	0.64	37	43.6	81	-26.0	81	0.0
WB6NOA	-43	30	-86	PRIME	23.0	0.55	33	31.8	65	-47.0	60	-5.5
KM6RXN	-52	30	-95	KOLBLY OFFSET	20.2	0.64	33	25.4	58	-48.3	58	0.1
W6IEE	-39	30	-82	PRIME	24.0	0.55	34	24.8	59	-53.8	53	-5.6
SDR RECEIVE TESTS - Minimum Visible Signal (MVS) - Computer Display Detection												
WB6CWN	-63	30	-106	OFFSET - RX - SDR	18.0	0.64	32	32.0	64	N/A	#####	####
W6SZ-2	-67	30	-110	OFFSET - RX - SDR	18.0	0.64	32	45.4	77	N/A	#####	####
K6JEY-2	-66	30	-109	PRIME - RX - SDR	35.5	0.55	37	31.7	69	N/A	#####	####

Lambda: 0.0407 ft. Friis: 96.7 dB

24 GHz | Range: 220 Ft. | Range Loss: 96.7 dB | WG Flange: 5 dBi | MDS Atten.: 10 dB | Syst. Losses: 21.5 dB | EIRP Amp: 15.4 dB

	------- MDS TEST -------				----------	-------	--------	EIRP TEST	--------	----------	-------
Callsign	Sig. Gen. Out (dBm)	MDS Atten. (dB)	MDS Score	Ant. Type - Conditions	Antenna Size (inches)	Ant. Effic. (%)	Calc. Ant. Gain (dBi)	Radio Output (dBm)	Calc. EIRP (dBm)	Meter Rdg. (dBm)	Meas. EIRP (dBm)	Meas. vs. Calc. (dB)
	INPUT	INPUT			INPUT	INPUT		INPUT		INPUT		
WB6DNX	N/A	10	#####	HORN	3.0	0.55	23	30.0	53	N/A	#####	####
AF6NA	N/A	10	#####	PRIME	13.0	0.55	36	27.0	63	N/A	#####	####
	NO RESULTS			MSMT ERROR	NO RESULTS					MSMT ERROR		

1- MDS TEST: Minumum Audible Signals (MAS) and Minimum Visible Signals (MVS) are CW signals
2- MDS Signals Generated @ 144 MHz / 432 MHz /w/ VHF / UHF Signal Generator
3- MDS Score = Sig. Gen. Output - MDS Atten. - Sys. Loss + WG Flange
4- SDR RECEIVE TESTS - Signals observed on a computer display
5- Meas. EIRP = Meter Rdg. + Syst. Loss + Range Loss - EIRP Gain - WG Flange
6- EIRP Readings taken /w/ power meter or Spectrum Analyzer
7- Ant Gain Calc = 10 x LOG (((4 x Pi x (Pi x R Squared)) x Efficiency %) / LAMBDA Squared)
8- Ant. Efficiency assumed 0.55 for prime focus dish or .64 for offset dish
9- Range Loss = 20*LOG(4*Pi*(D/Lambda)) in feet
10- System Losses = Test Fixture Conversion / Insertion Loss + 300 ft. Cable Loss
11- RG6 300 ft. Cable Loss = 7.5 dB @ 144 MHz / 13 dB @ 432 MHz
12- Open WG Gain assumed to be 5 dB

13- EIRP Gain = Amp Gain - EIRP Attenuation