

Sherwood Engineering HF Test Results

Model Lab599 TX-500

Serial # 5061

Test Date: 10/13/2020

Ultimate rejection, 500 Hz CW, 2 kHz offset >100 dB

Dynamic Range of radio, no preamp

Dynamic Range 20 kHz 79 dB

Dynamic Range 10 kHz 79 dB

Dynamic Range 5 kHz 79 dB

Dynamic Range 2 kHz 79 dB

Blocking or ADC overload above noise floor

1uV signal @ 100 kHz, AGC On, phase-noise limited 112 dB

Reciprocal Mixing Dynamic Range (RMDR)

Spacing kHz	dB	
2.5	104	dB
5	106	dB
10	108	dB
15	109	dB
20	109	dB
25	109	dB
30	109	dB
40	108	dB
50	107	dB
75	107	dB
100	109	dB
200	114	dB
300	117	dB
400	118	dB
500	118	dB

Noise floor, SSB bandwidth 14 MHz, no preamp	-111	dBm
Noise floor, SSB bandwidth 14 MHz, Preamp On	-129	dBm
Noise floor, SSB bandwidth 14 MHz, Attenuator On	-91	dBm
Sensitivity SSB at 14 MHz, no preamp	2.0	uV
Sensitivity SSB at 14 MHz, Preamp On	0.25	uV
Sensitivity SSB at 14 MHz, Attenuator On	19	uV
Noise floor, 500 Hz, 14.2 MHz, no preamp	-122	dBm
Noise floor, 500 Hz, 14.2 MHz, Preamp On	-138	dBm
Noise floor, 500 Hz, 14.2 MHz, Attenuator On	-102	dBm
Noise floor, SSB, 50.125 MHz, no preamp		dBm
Noise floor, SSB, 50.125 MHz, Preamp 1		dBm
Noise floor, SSB, 50.125 MHz, Preamp 2		dBm
Sensitivity, SSB, 50.125 MHz, no preamp		uV
Sensitivity, SSB, 50.125 MHz, Preamp 1		uV
Sensitivity, SSB, 50.125 MHz, Preamp 2		uV
Noise floor, 500 Hz, 50.125 MHz, no preamp		dBm
Noise floor, 500 Hz, 50.125 MHz, Preamp 1 On		dBm
Noise floor, 500 Hz, 50.125 MHz, Preamp 2 On		dBm
Signal for S9, no preamp	500	uV
Signal for S9, Preamp On	50	uV
Gain of preamp		
Preamp	20	dB
Attenuator	20	dB
AGC threshold at 3 dB, no preamp	16	uV
AGC threshold at 3 dB, Preamp On	1.8	uV
AGC threshold at 3 dB, Attenuator On	156	uV

Notes:

Switching the IF offset / DSP On/Off did not affect the dynamic range.
Occasional spurious beatnotes when testing dynamic range and ultimate rejection.
It would be useful to also have 10 dB preamp and attenuator options.
Granularity of the S meter is rather coarse.