

Sherwood Engineering HF Test Results

Model Flex 8600 + Maestro C Serial # 1426-1213-8600-6603 Date: 7/30/2026

IF BW 2400 –6 /-60 Hz	2401 / 2471	Ultimate	110	dB
IF BW 500 –6 /-60 Hz	496 / 643	Ultimate	110	dB
IF BW 250 -6/-60 Hz	247 / 321	Ultimate	110	dB

Front End Selectivity (A – F)	(7-pole L/C filters on contest bands)	A
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Dynamic Range 8 dB net preamp gain

Dynamic Range 20 kHz	95	dB
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Dynamic Range 10 kHz	95	dB
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Dynamic Range 5 kHz	95	dB
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Dynamic Range 2 kHz	95	dB
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ADC overload above -114 dBm noise floor, +8 dB preamp

1uV signal @ 2 kHz to 100 kHz, AGC On, AGC-T = 50	117	dB
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Reciprocal Mixing Dynamic Range (RMDR) AGC-T = 50

Spacing kHz

1 spur dB

2 108 dB

3 107 dB

4 106 dB

5 106 dB

10 110 dB

20 115 dB

50 OVF* 116* dB

* Any test level above +1 dBm results in ADC over-range (overload)

AGC-T = 50

Noise floor, 2.4 kHz 14.2 MHz, no preamp -102 dBm

Noise floor, 2.4 kHz 14.2 MHz, Preamp +16 -115 dBm

Noise floor, 2.4 kHz 14.2 MHz, Preamp +32 -128 dBm

AGC-T = 55

Sensitivity 2.4 kHz 14.2 MHz, no preamp 5.0 uV

Sensitivity 2.4 kHz 14.2 MHz, Preamp +16 1.5 uV

Sensitivity 2.4 kHz 14.2 MHz, Preamp +32 0.45 uV

AGC-T = 60

Noise floor, 500 Hz, 14.2 MHz, no preamp	-108	dBm
Noise floor, 500 Hz, 14.2 MHz, Preamp +8 dB	-114	dBm
Noise floor, 500 Hz, 14.2 MHz, Preamp +16 dB	-121	dBm
Noise floor, 500 Hz, 14.2 MHz, Preamp +24 dB	-129	dBm
Noise floor, 500 Hz, 14.2 MHz, Preamp +32 dB	-135	dBm

AGC-T = 60

Noise floor, 500 Hz, 50.125 MHz, no preamp	-107	dBm
Noise floor, 500 Hz, 50.125 MHz, Preamp +16	-124	dBm
Noise floor, 500 Hz, 50.125 MHz, Preamp +32	-135	dBm

Signal for S9, no preamp	-73 dBm	50	uV
Signal for S9, Preamp 1	-73 dBm	50	uV
Signal for S9, Preamp 2	-73 dBm	50	uV

Gain of preamp(s)

Preamp 1	(or 8 dB)	16	dB
Preamp 2	(or 24 dB)	32	dB

An 8 dB attenuator can be inserted ahead of both preamp selections.

AGC threshold is significantly affected by the AGC-T selection.

Operator should experiment with the AGC-T setting.

AGC-T settings are listed for three measurements that resulted in the optimum values.

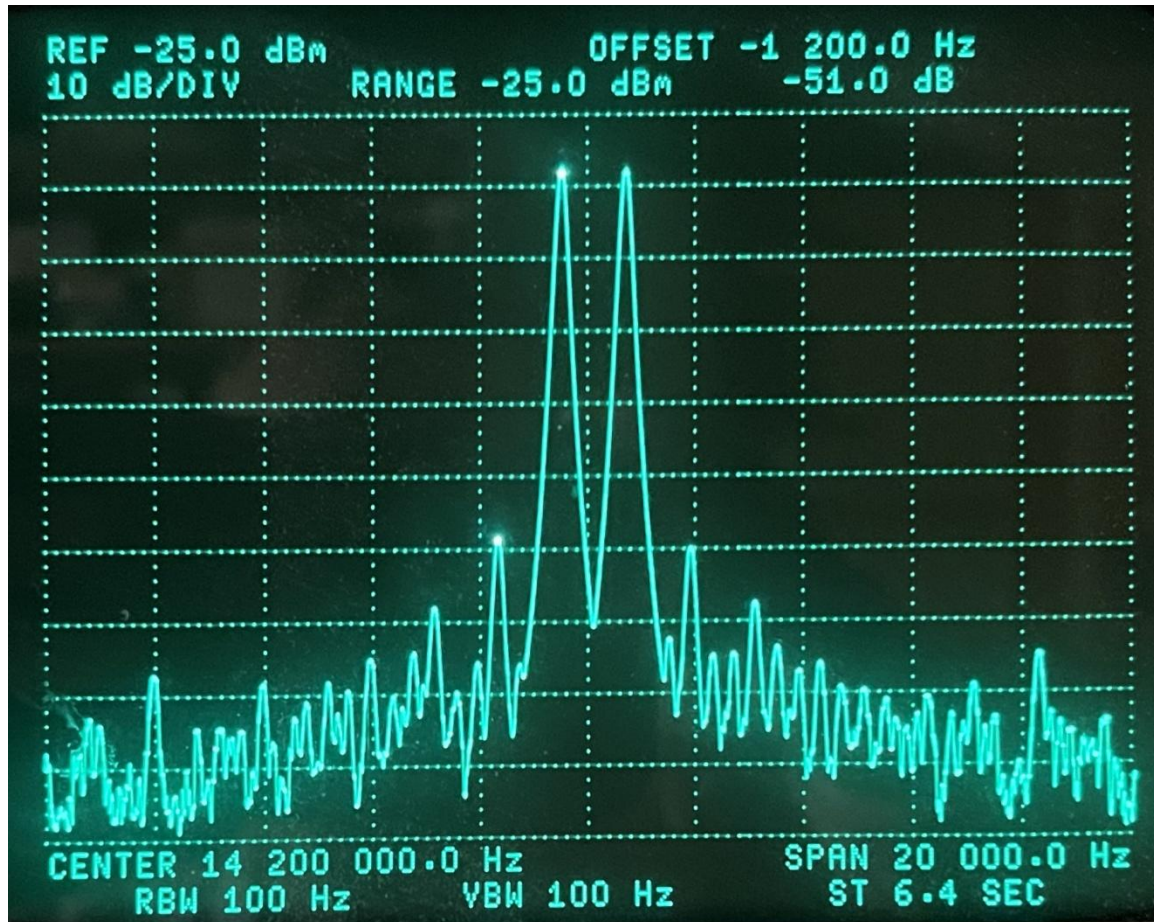
Transmit Composite Noise (phase noise + AM noise)

Offset kHz	dBc/Hz
1	-124
2	-131
5	-136
10	-141
20	-143
50	-144

See below Transmit IMD screen capture

Transmit IMD with SmartSignal predistortion, 20m 90 watts PEP

3rd order -51 dBc
5th order -57 dBc



Notes:

All testing was done using a Maestro C controller.

Flex direct sampling transceivers have less signal gain ahead of the ADC chip with no preamp or at low preamp gain settings compared to other brands. The 3rd order dynamic range (DR3) measurements for the 8600 were made with preamp gain set to +8 dB. This setting is actually an 8 dB attenuator ahead of a 16 dB preamp. This allows the DR3 tests to be run without exceeding my maximum test level required to make the measurement.

Pairs of distortion products were also noted around 62 kHz below and above the DR3 pair of 20 kHz spaced test tones. These products were down 82 dB.

Rev 1f