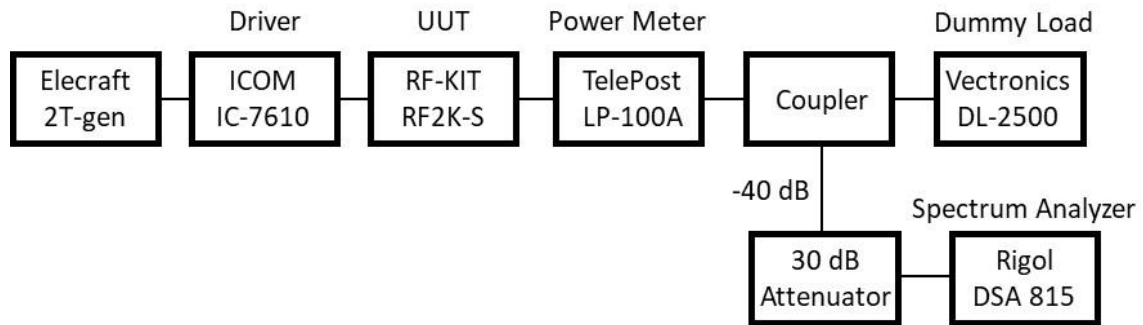


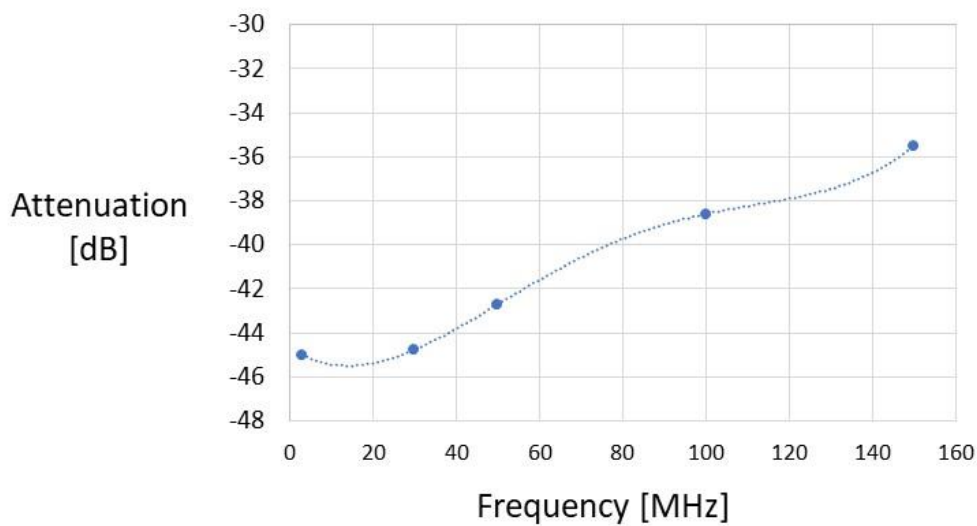
RF2K-S V2 Ser.# 43/211183 Measurements

Test setup



The high-power coupler was tested using a HP 8753D network Analyzer.¹ Test results are as follows:

Coupler Performance



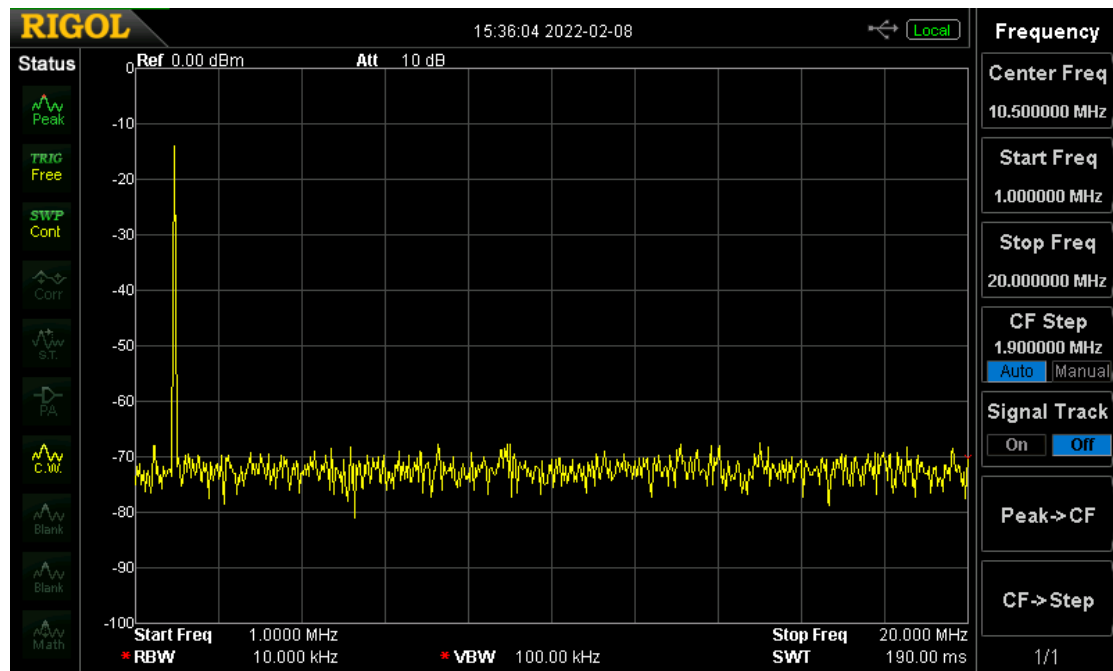
In all tests:

- RF2K-S output was set to 1,500 Watts PEP.
- Internal RF2K-S tuner was set to bypass mode.

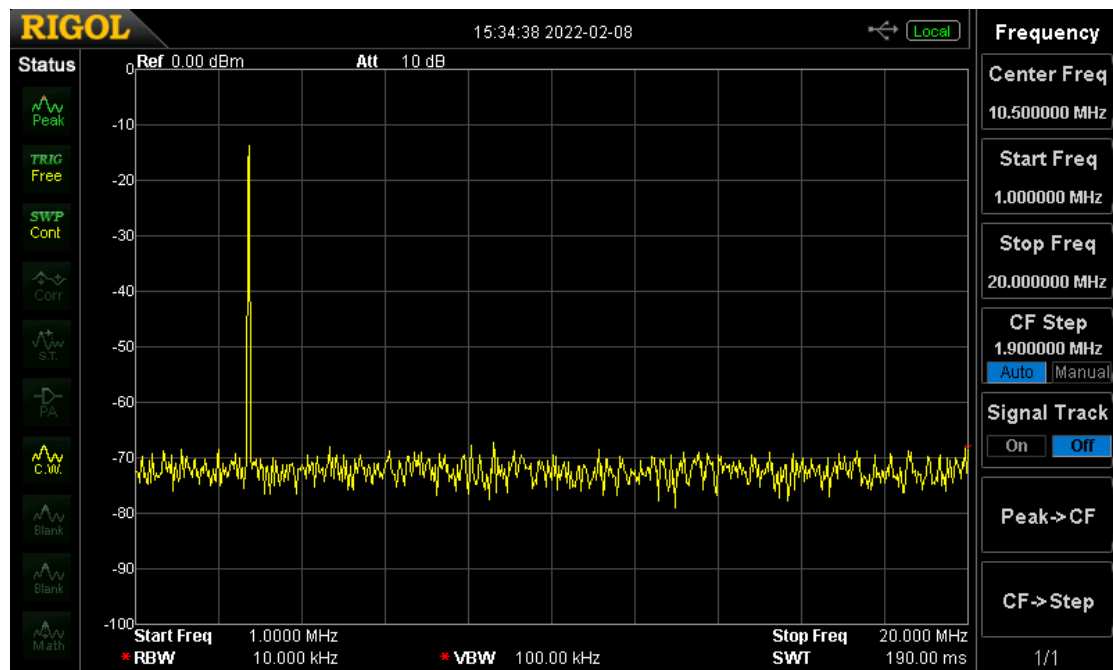
¹ Coupler designed, built and tested by 4X4WN.

Harmonics Suppression Tests:

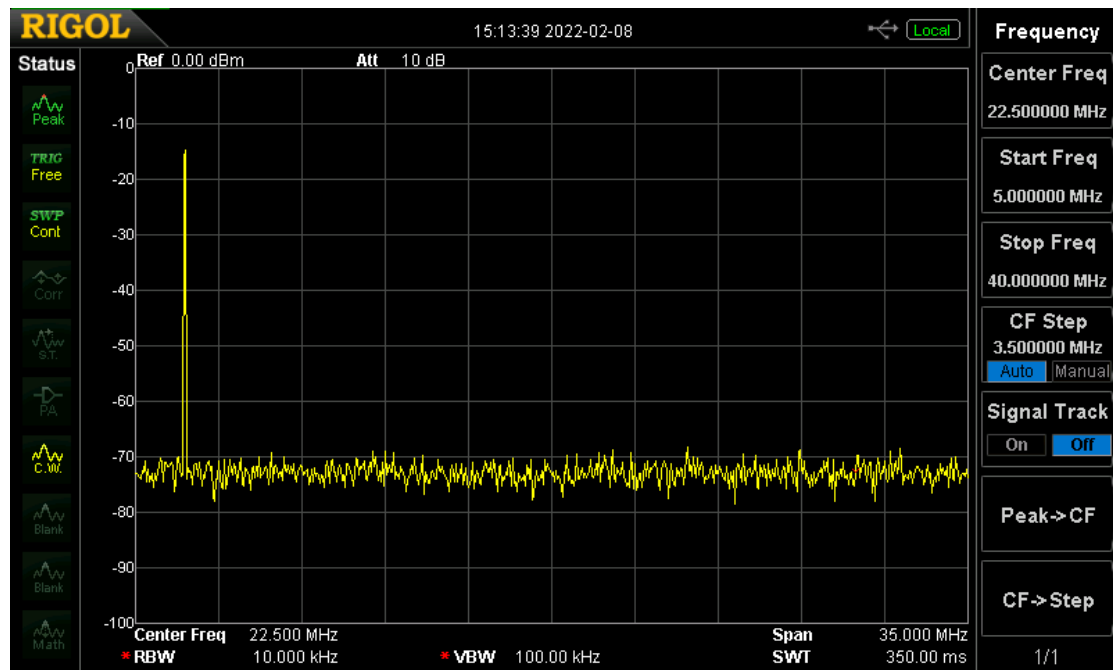
CW signal at 160m band:



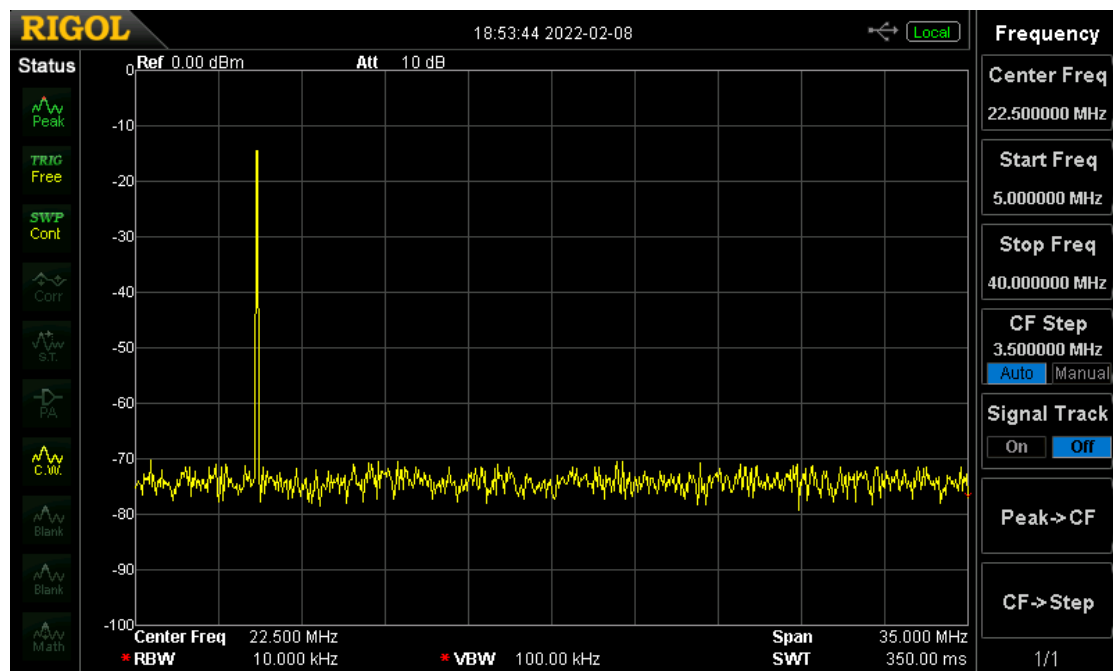
CW signal at 80m band:



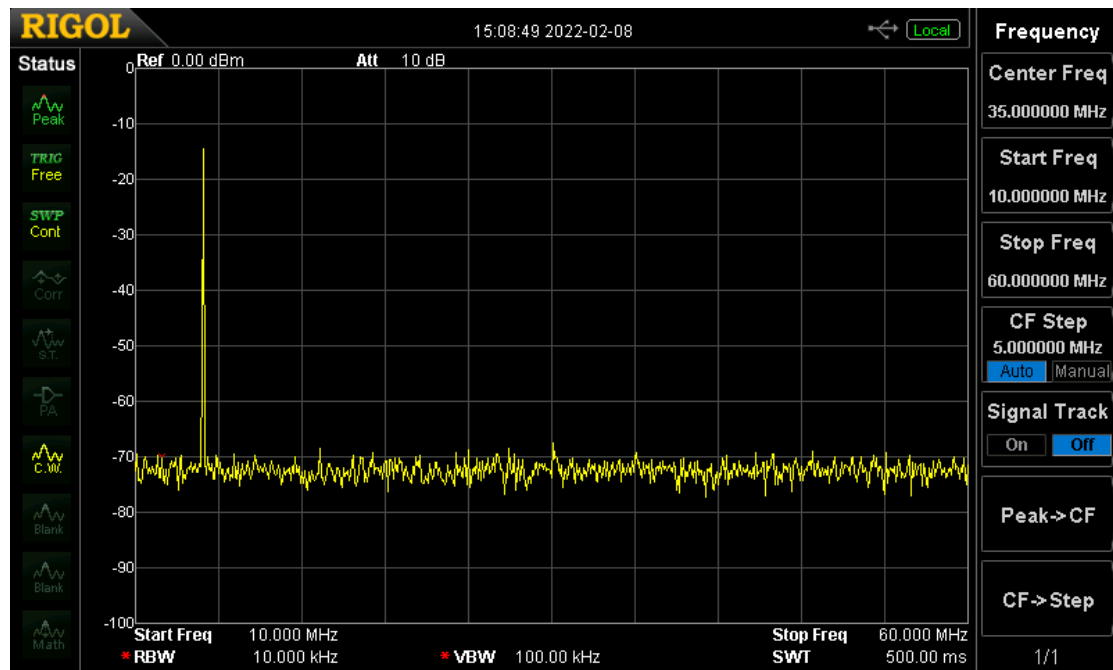
CW Signal at 40m band:



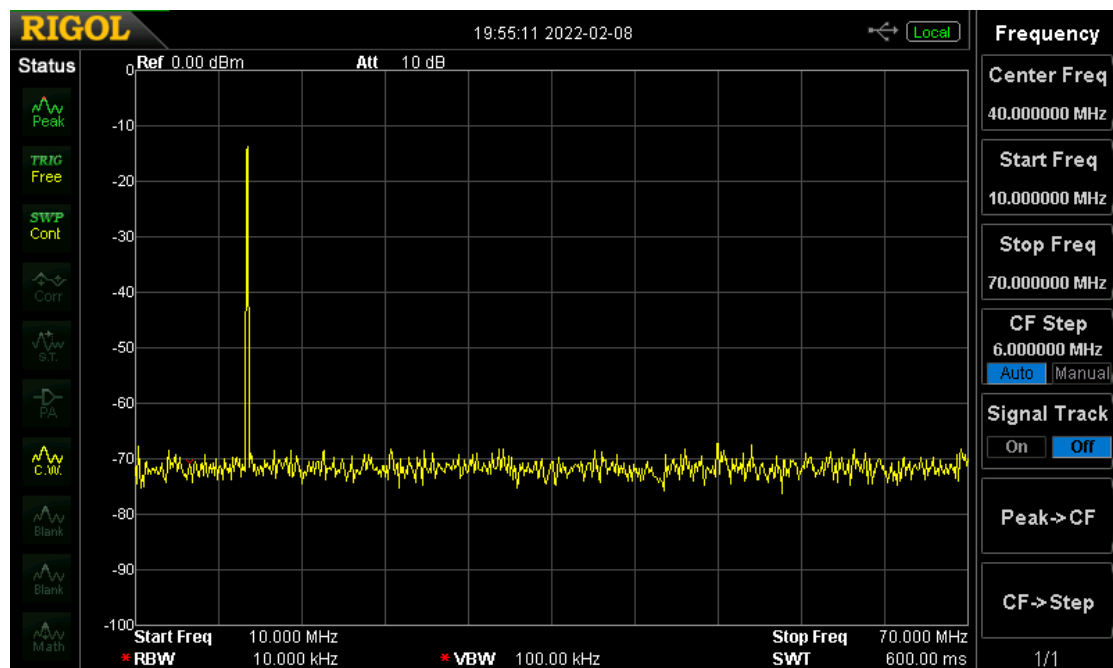
CW Signal at 30m band:



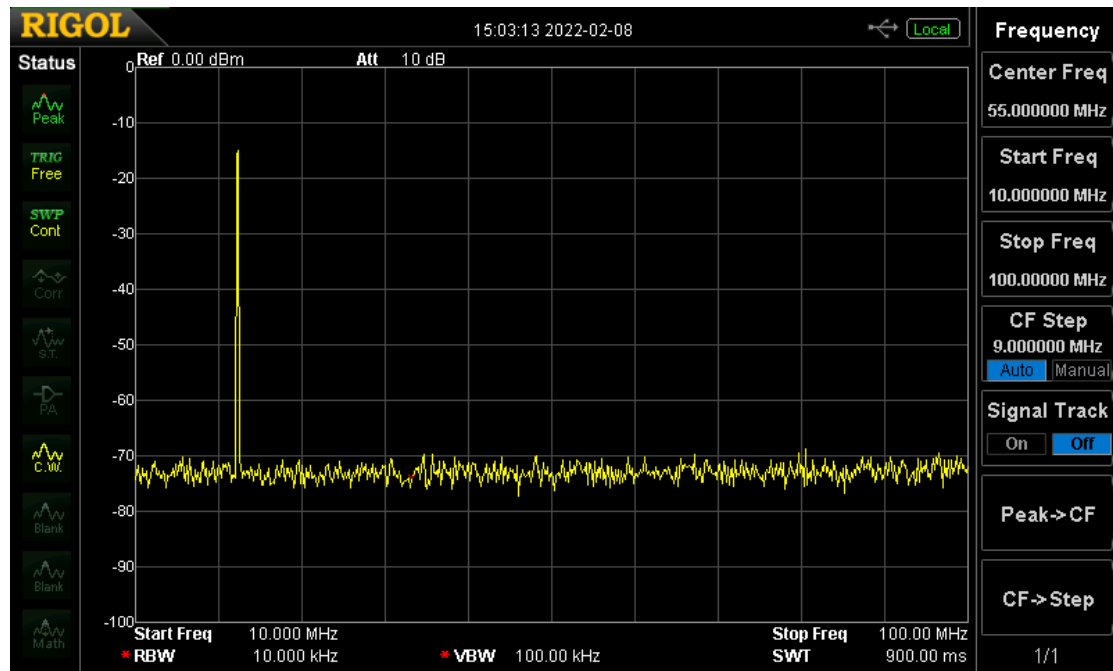
CW signal at 20m band:



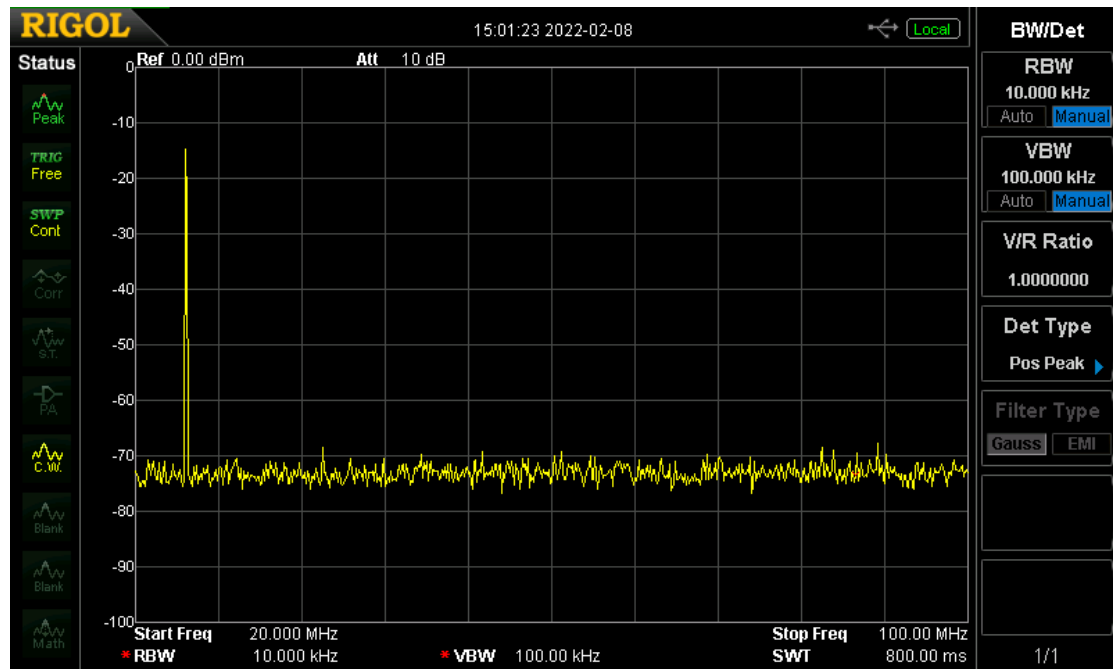
CW Signal at 17m band:



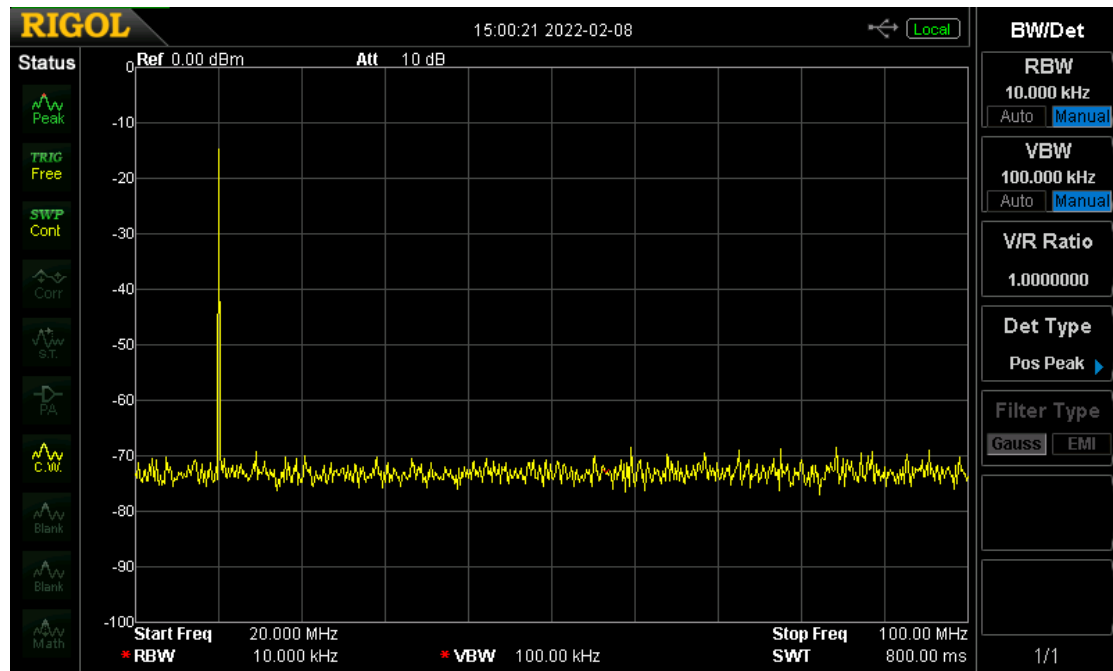
CW Signal at 15m band:



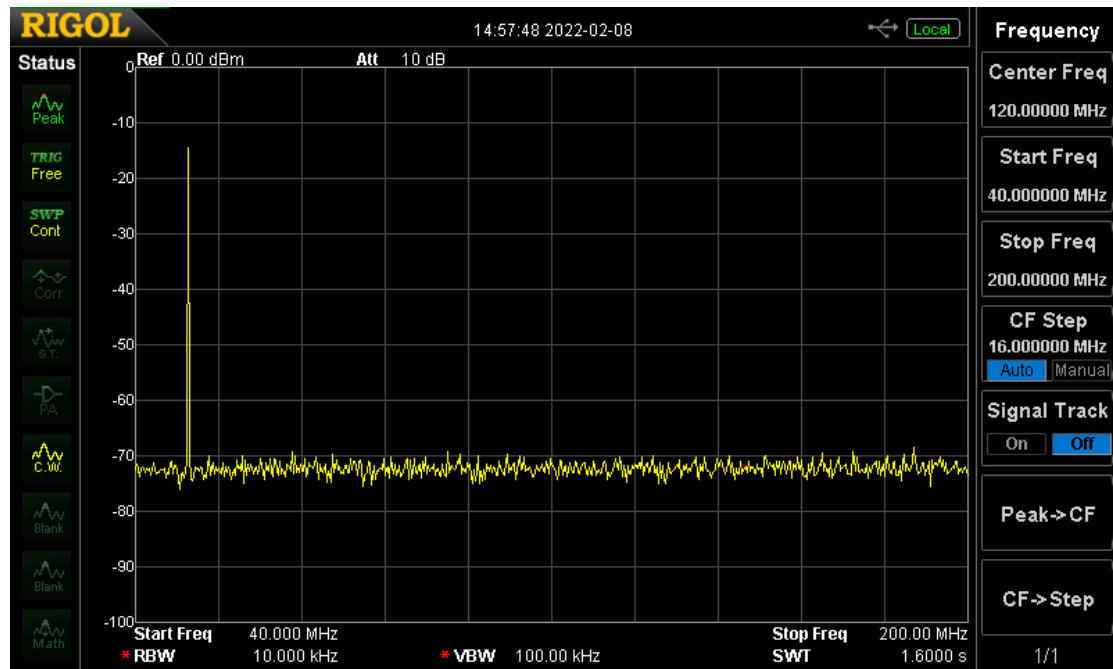
CW Signal at 12m band:



CW Signal at 10m band:



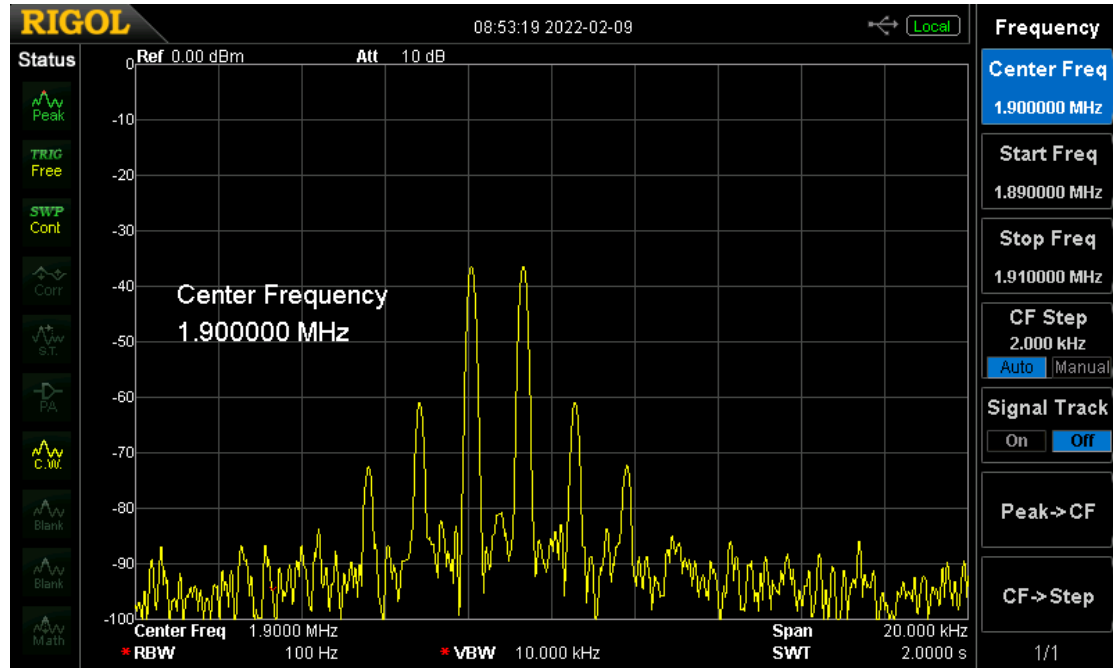
CW signal at 6m band:



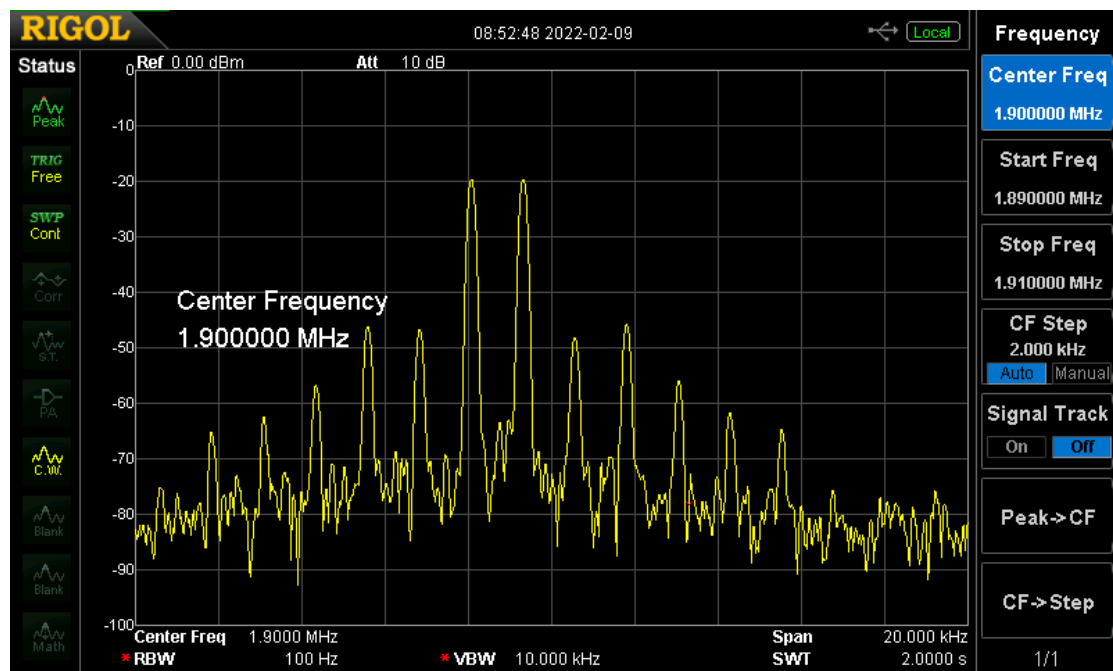
Intermodulation Distortion (IMD) Tests:

160m band:

Input:

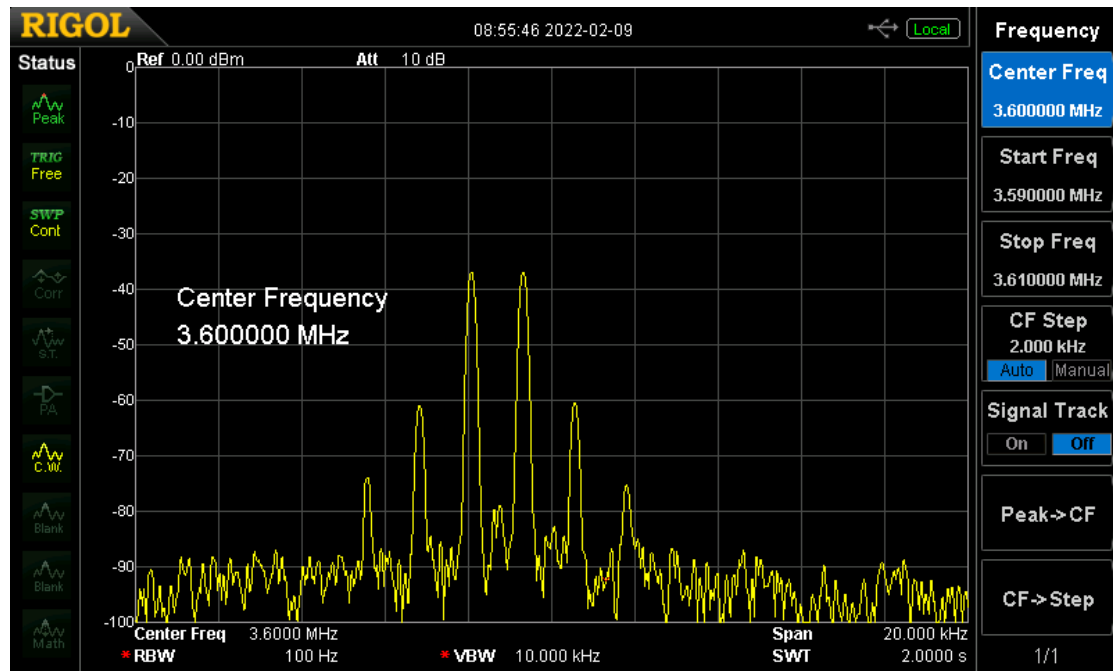


Output:

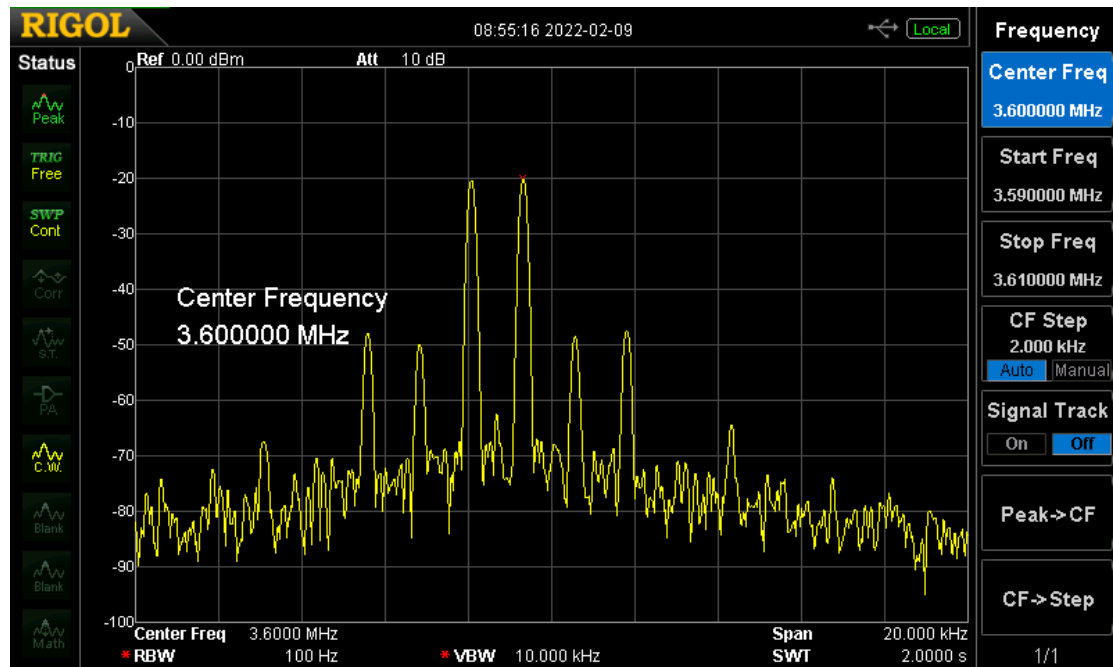


80m band:

Input:

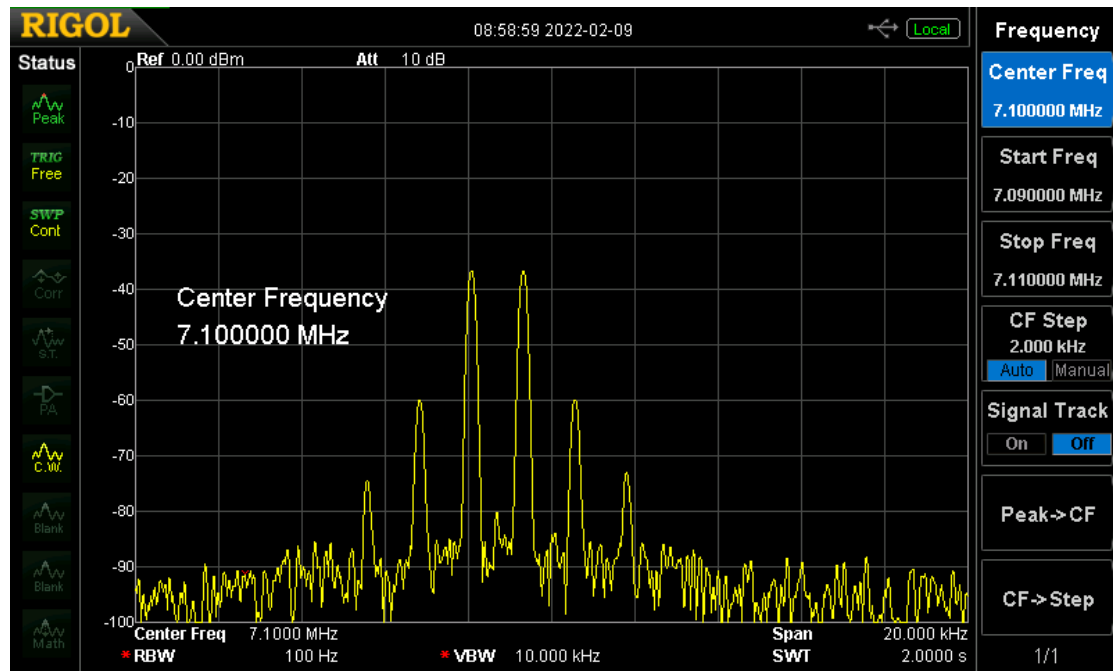


Output:

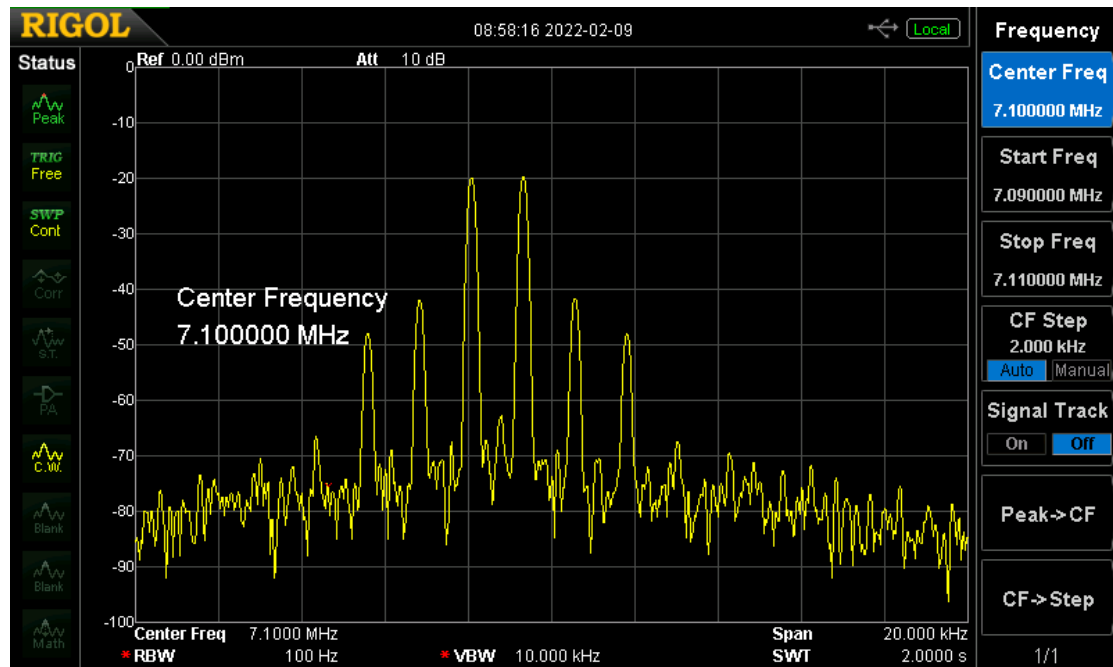


40m band:

Input:

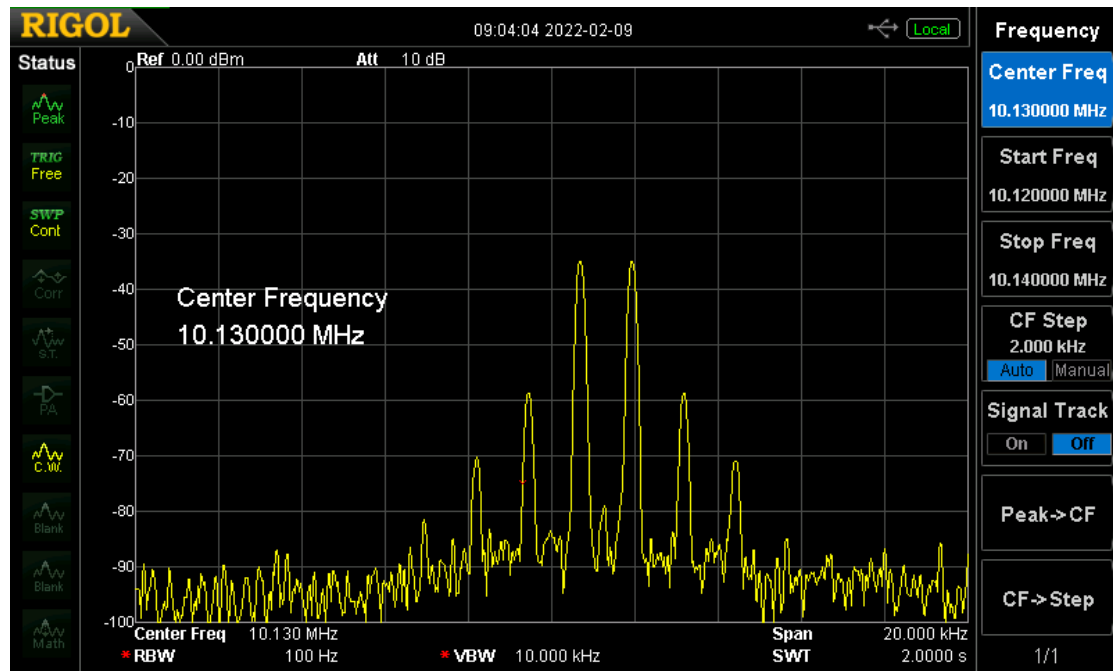


Output:

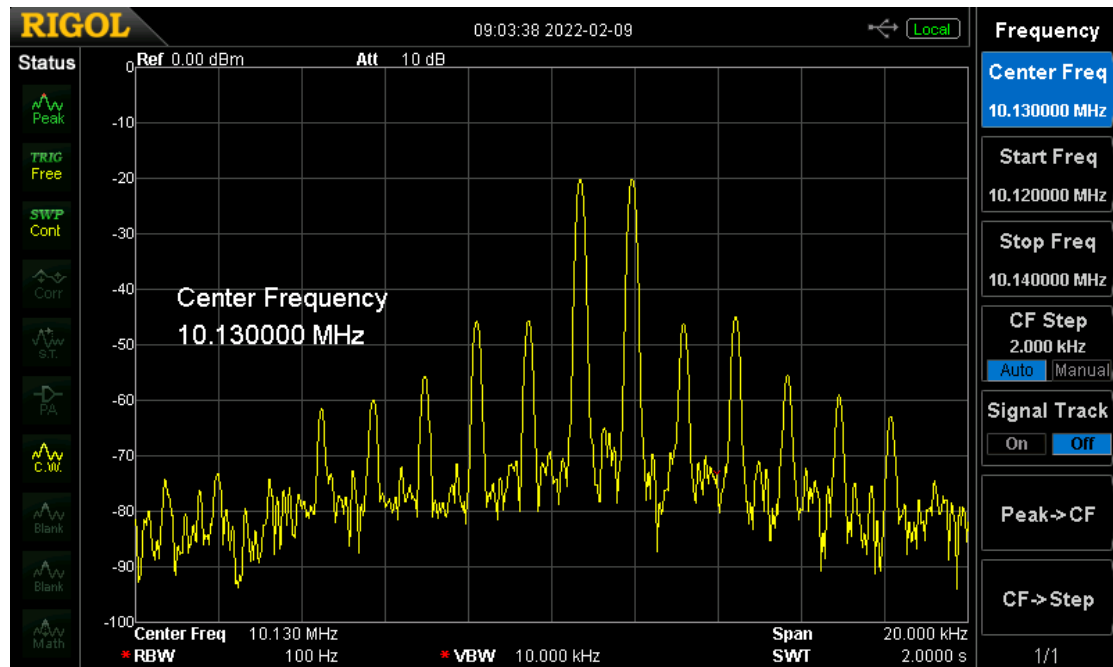


30m band:

Input:

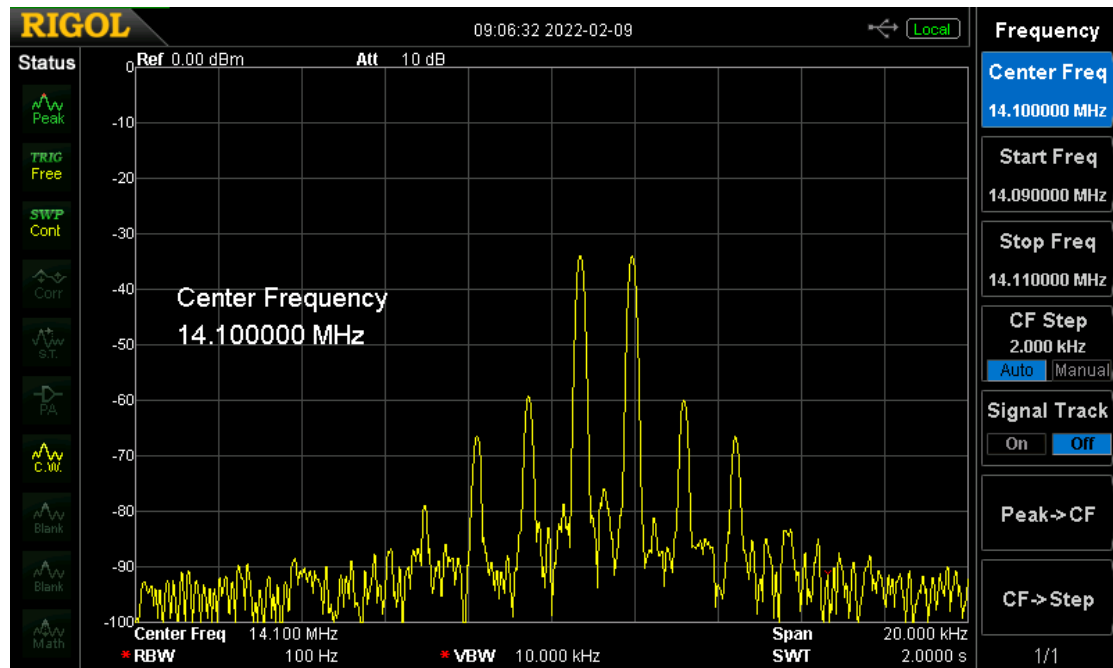


Output:

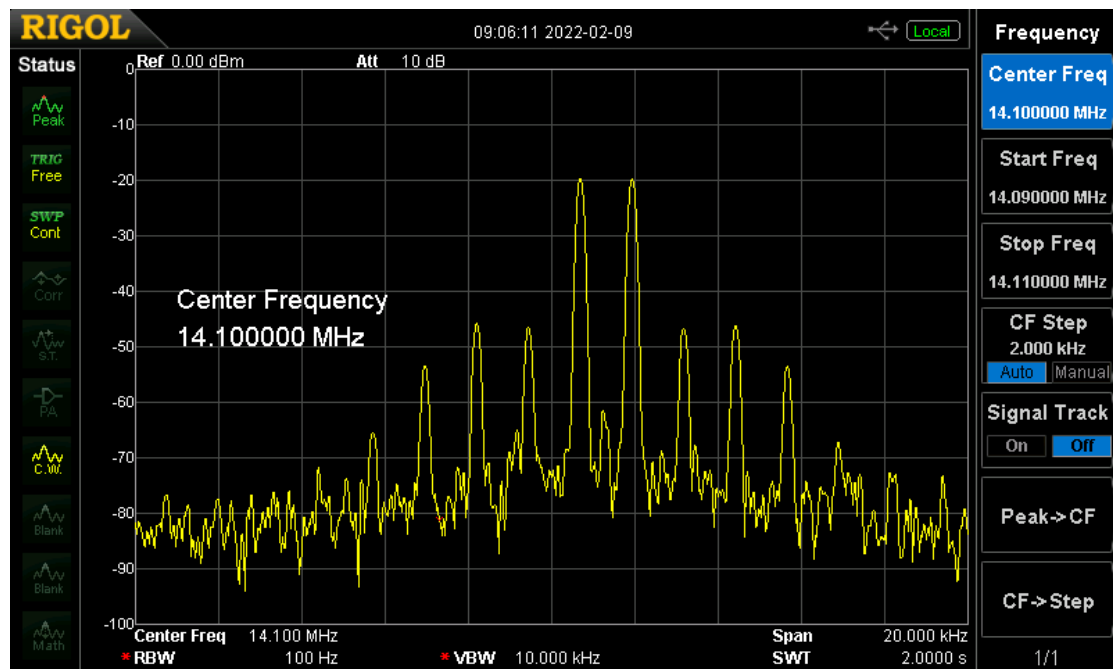


20m band:

Input:

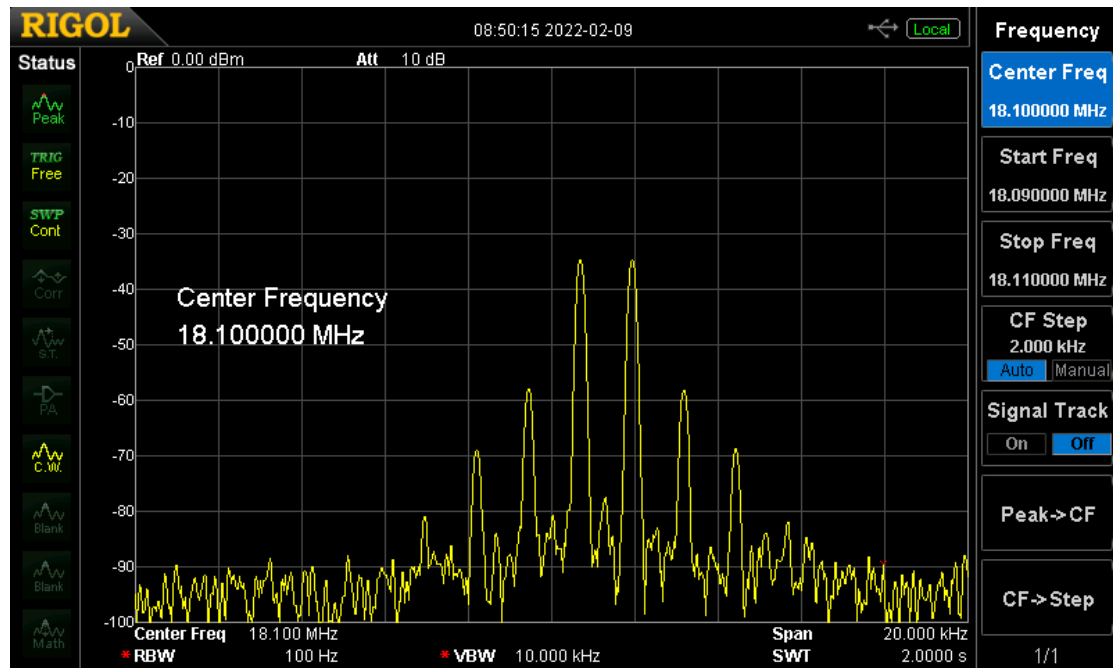


Output:

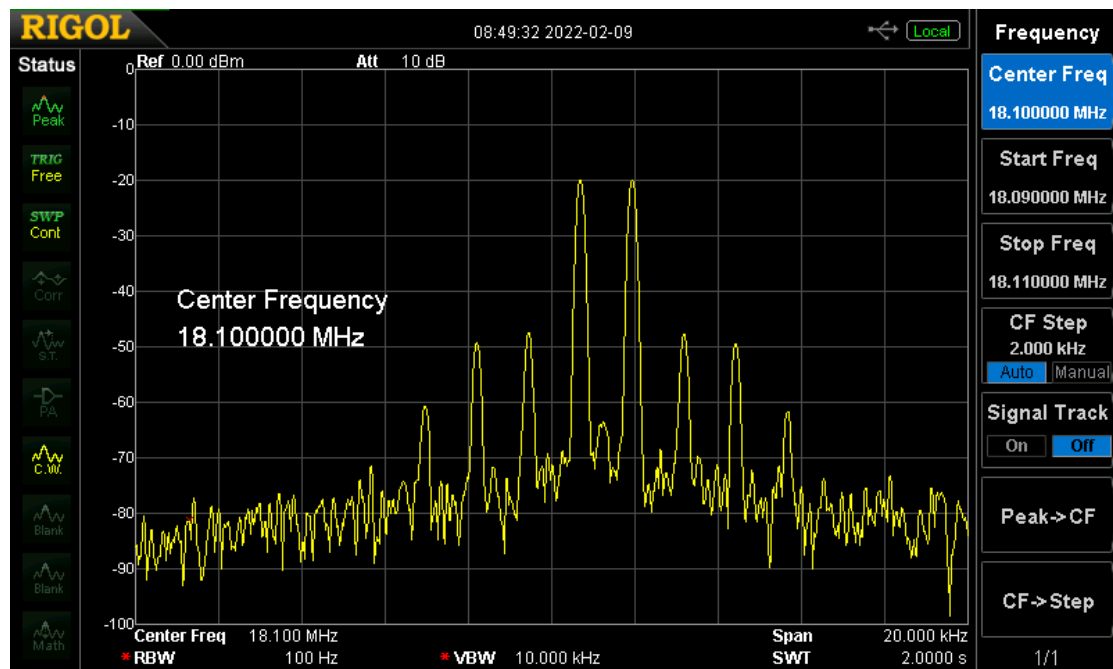


17m band:

Input:

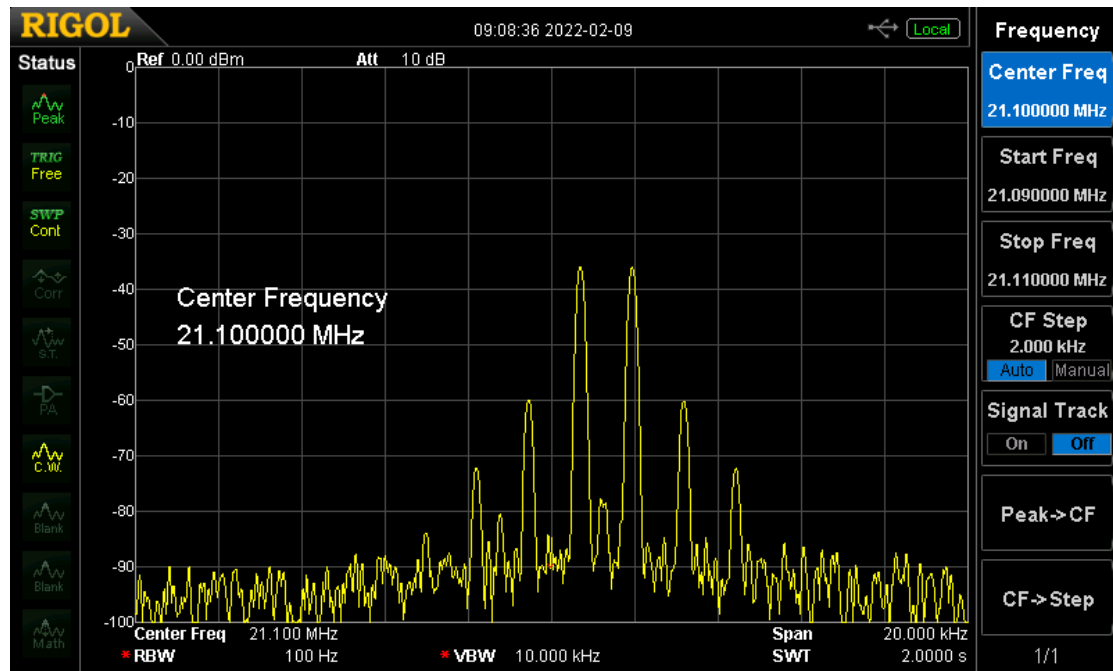


Output:

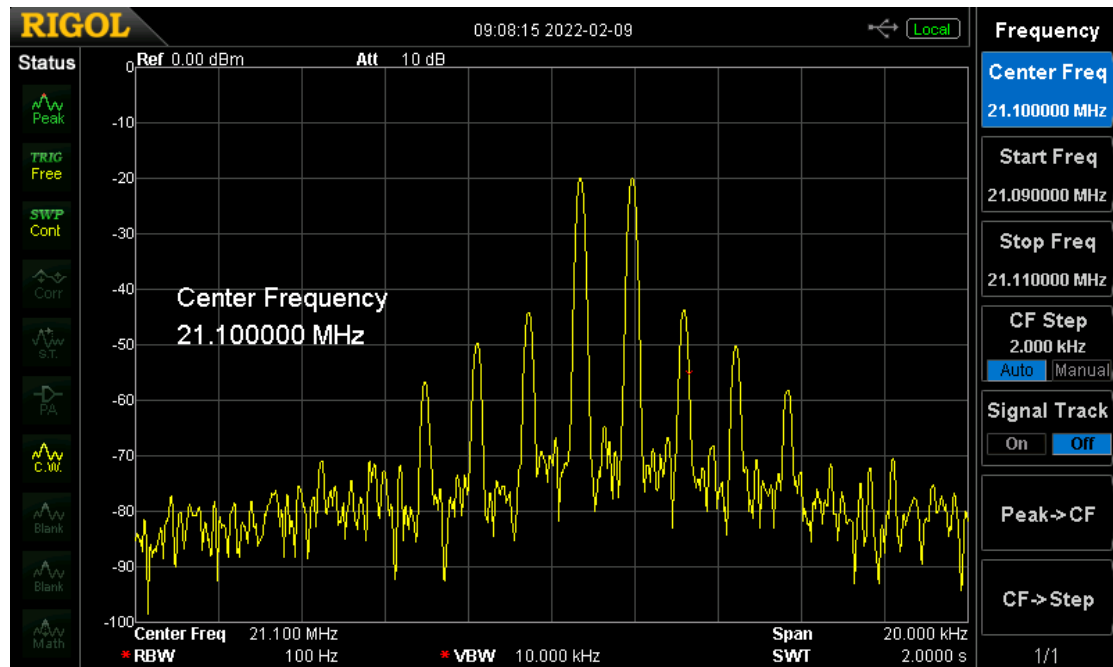


15m band:

Input:

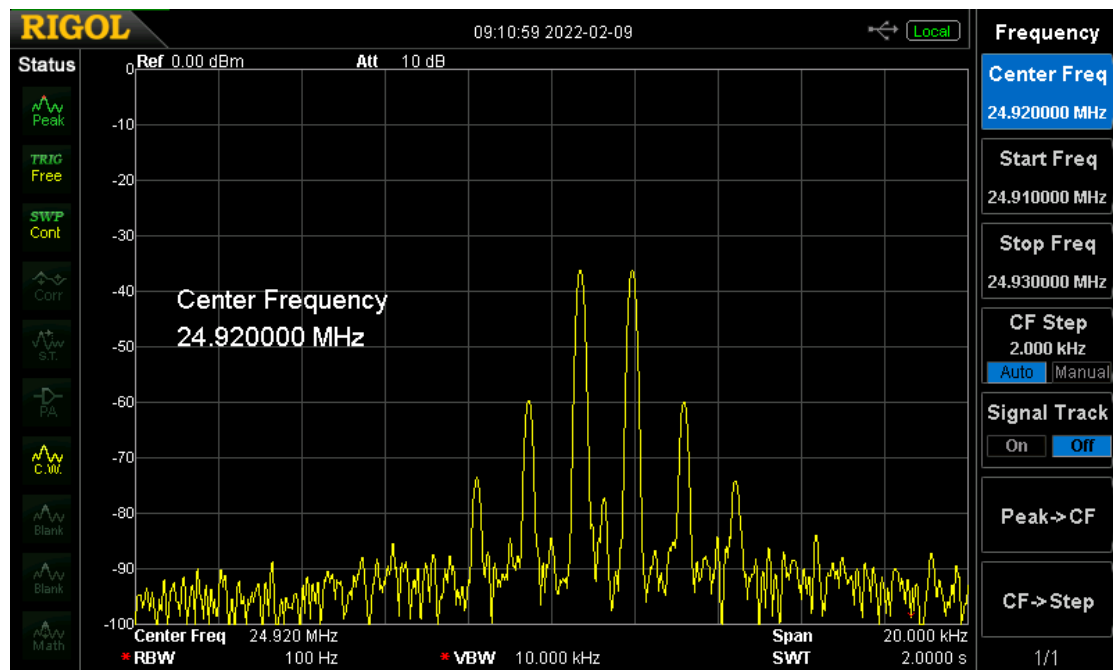


Output:

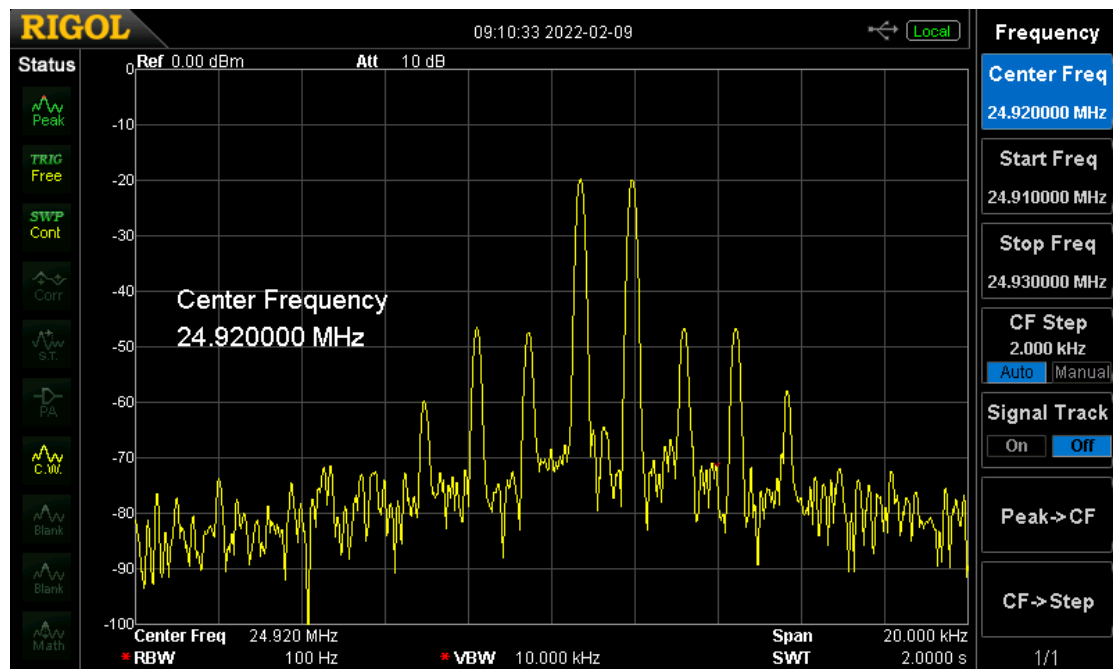


12m band:

Input:

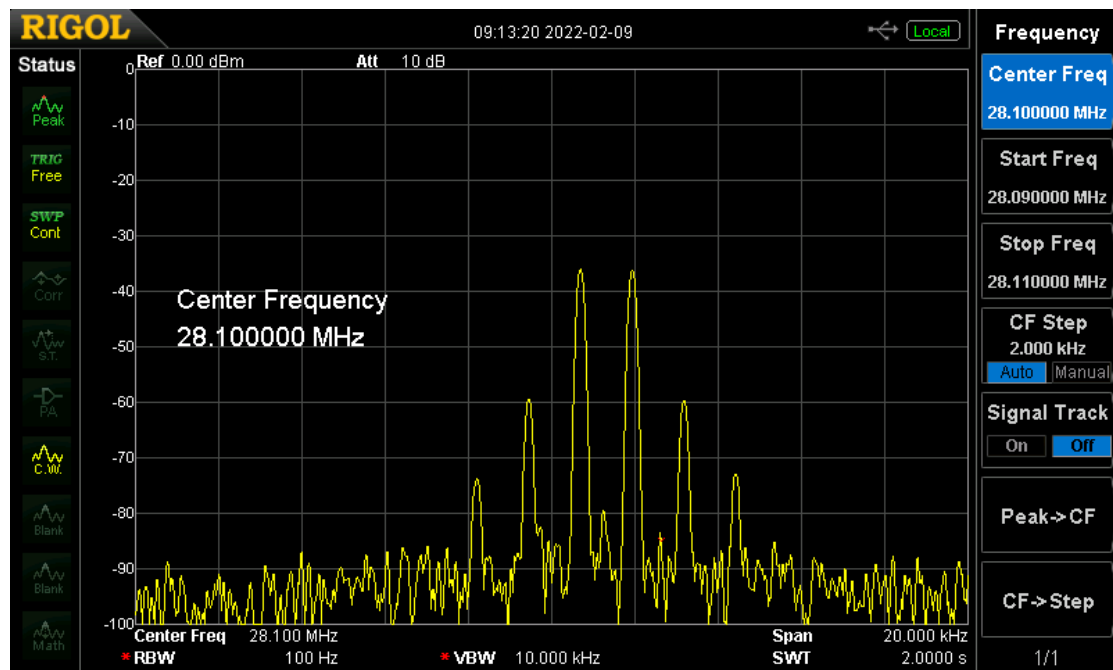


Output:

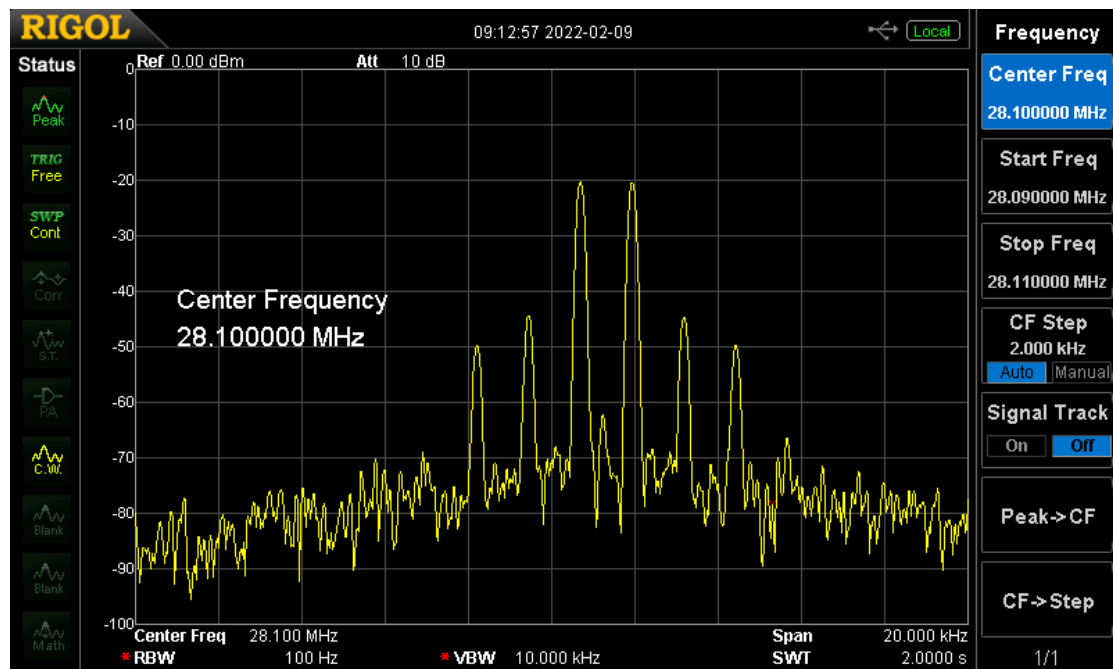


10m band:

Input:

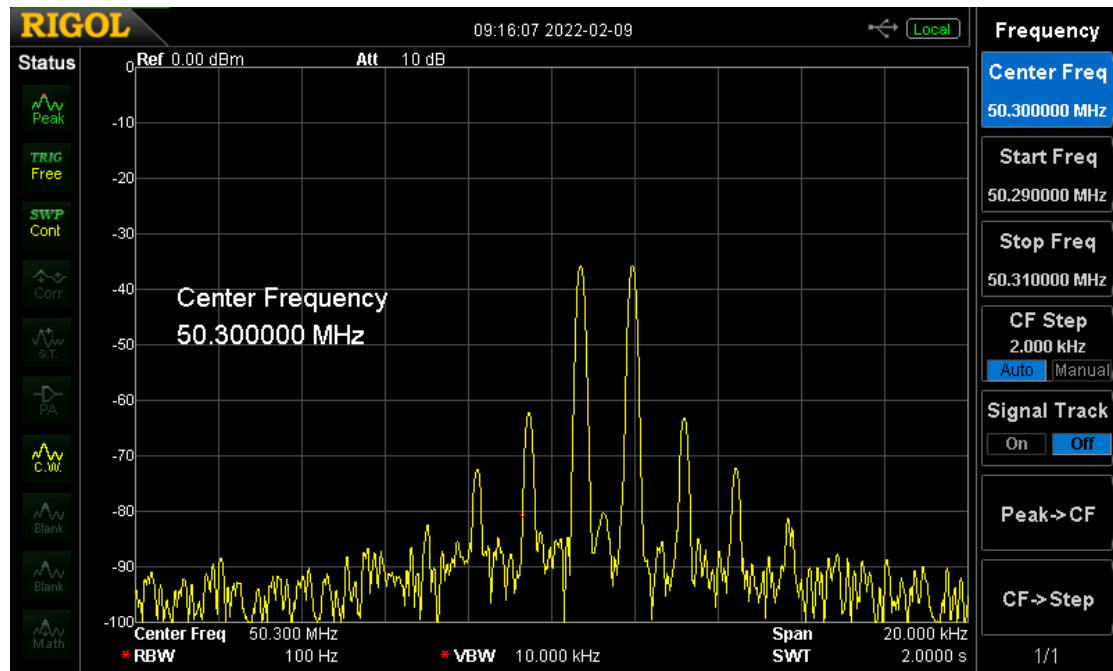


Output:

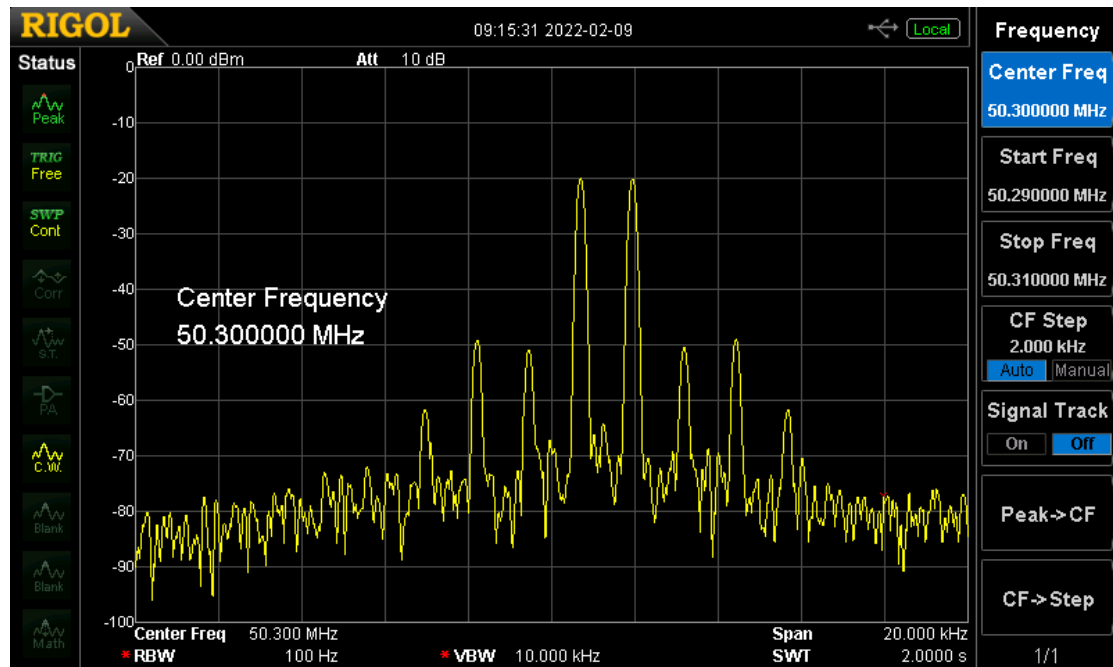


6m band:

Input:



Output:

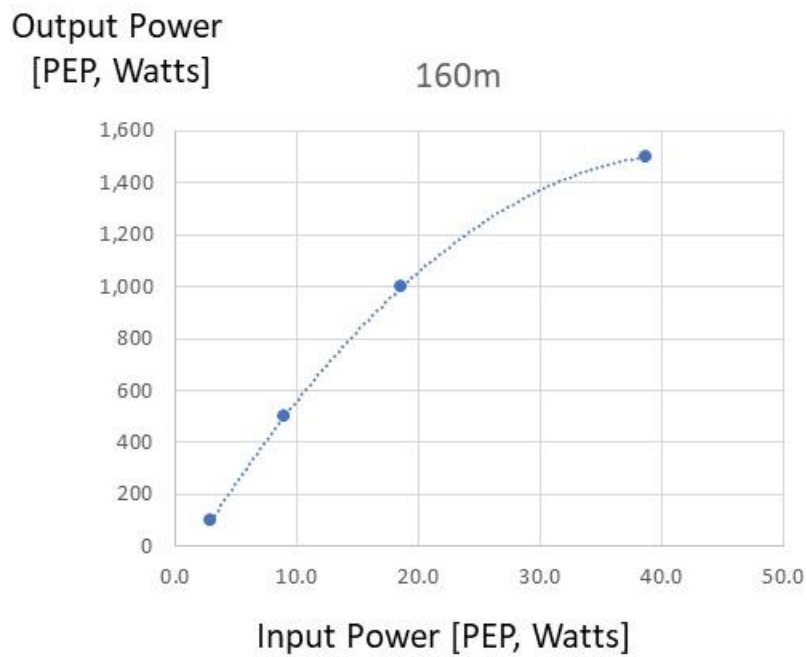


Power Gain Tests:

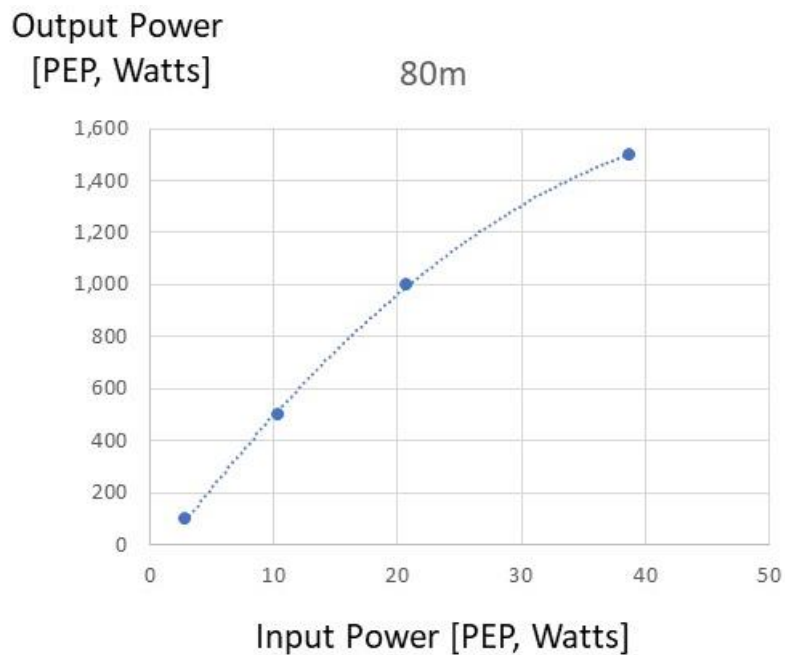
Actual measurements:

Output Power [Watts, PEP]	Input Power [Watts, PEP] Band									
	160	80	40	30	20	17	15	12	10	6
1,500	38.7	38.7	35.3	53	64	52	42	39.2	44.5	47.3
1,000	18.6	20.7	20.1	23	28.5	34.3	23	20	23	24.6
500	9.0	10.3	9.7	11	13.3	16.6	10.1	9.5	13	11.4
100	2.9	2.9	2.9	3	3.3	4	3.3	2.7	3.4	2.9

160m band:



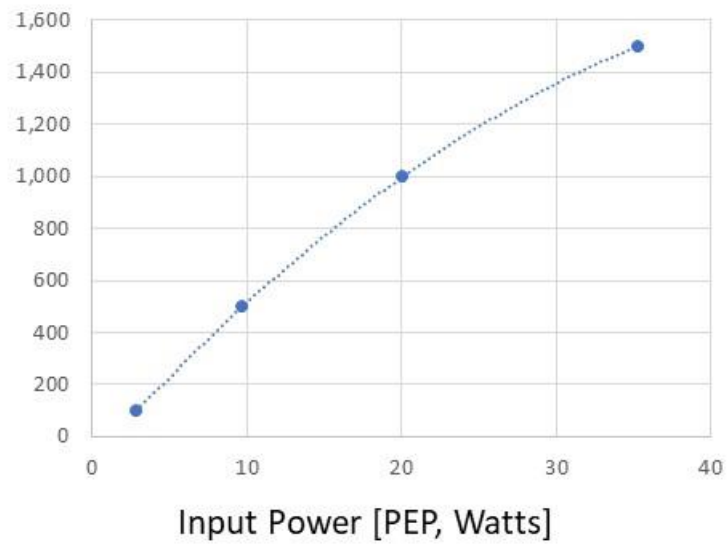
80m band:



40m band:

Output Power
[PEP, Watts]

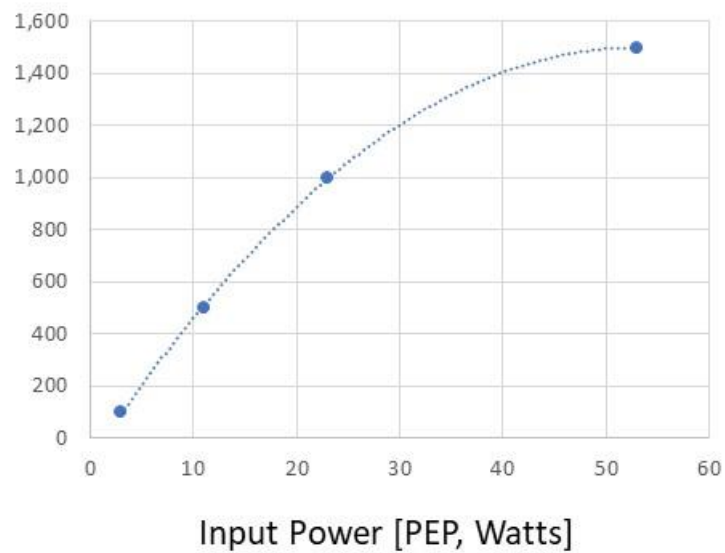
40m



30m band:

Output Power
[PEP, Watts]

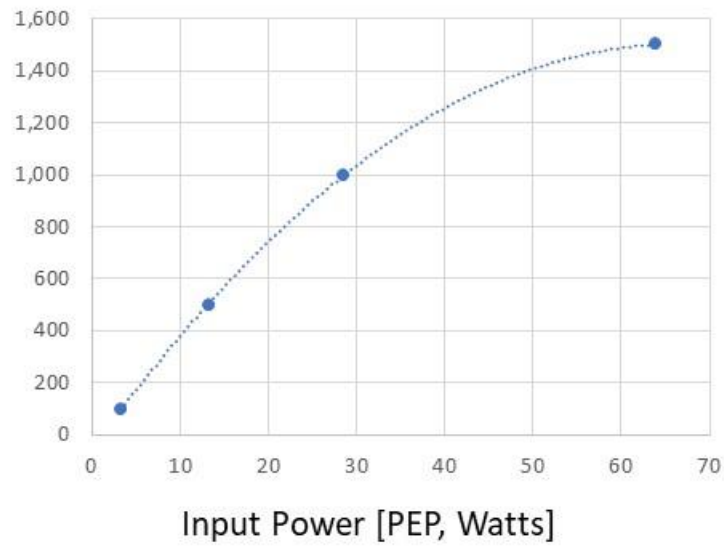
30m



20m band:

Output Power
[PEP, Watts]

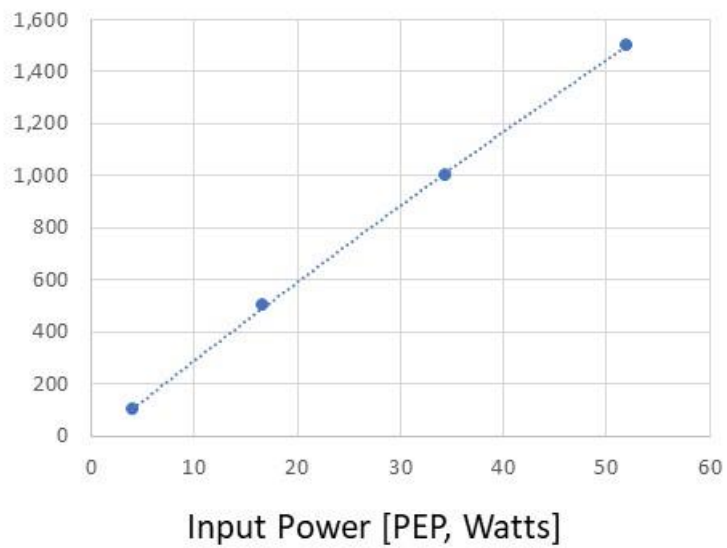
20m



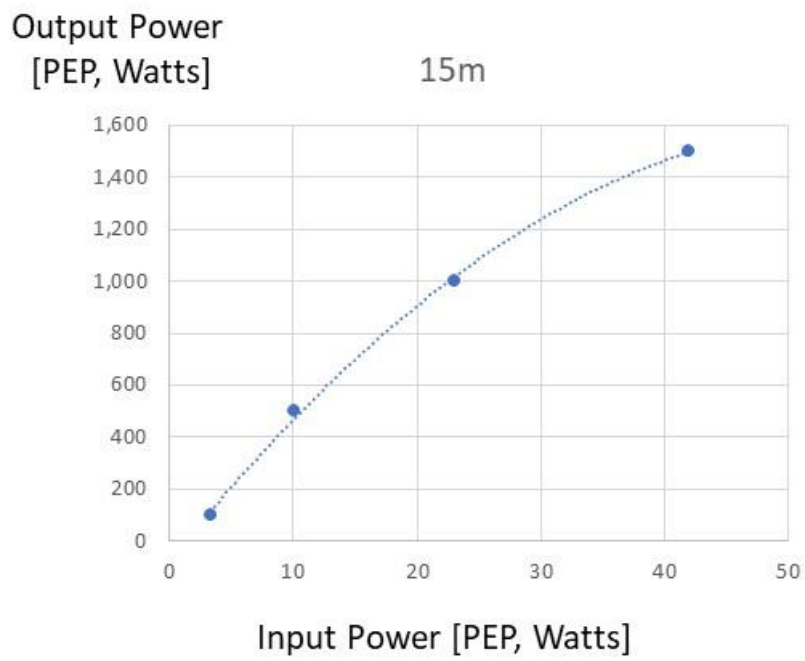
17m band:

Output Power
[PEP, Watts]

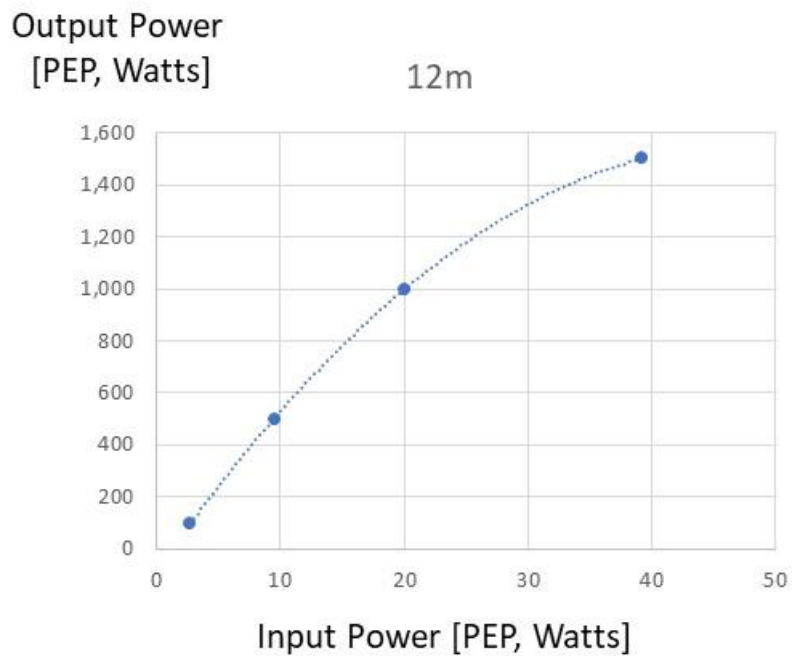
17m



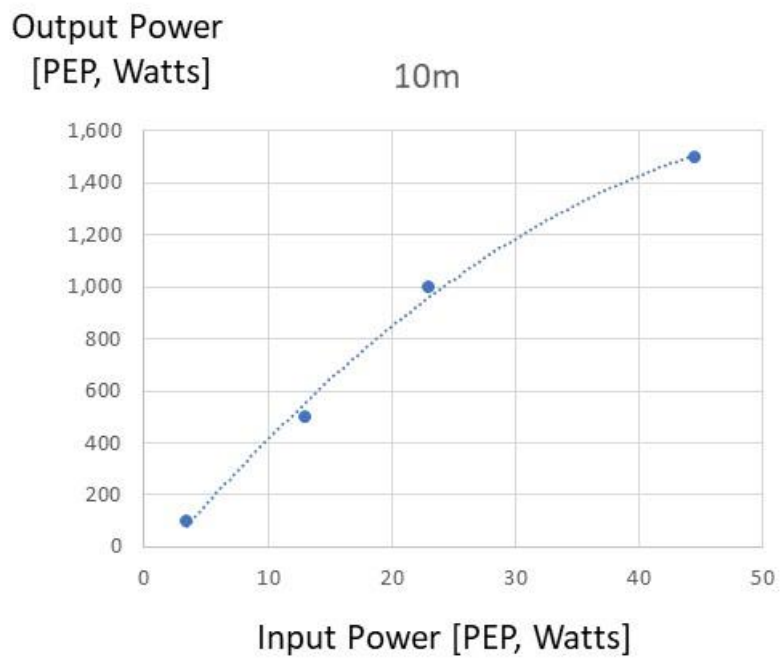
15m band:



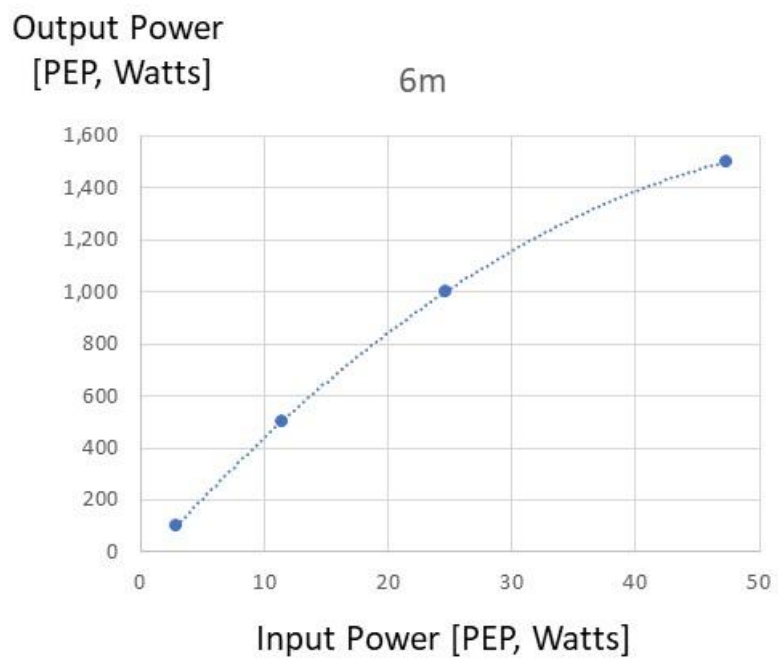
12m band:



10m band:



6m band:



Summary

Parameter	Requirements	Measurement Results
Spurious attenuation below PEP	Better than -43 dB (ITU-R SM.329-12, Table 2)	-53 dB to -55 dB
Intermodulation level below PEP	Better than -25 dB (ITU-R SM.326-7, Para 1.2.3)	<ul style="list-style-type: none">• -30 dB to -35 dB• Negligible effect on input signal 3rd order products, ~10 dB increase of 5th order products
Power gain	Up to 15 dB (FCC 47 CFR § 97.317)	13.7 dB @ 30m to 16.3 dB @ 40m

Daniel Rosenne, 4X1SK