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Annex for BLE

Test Report No.: CTL2404187011-WF & CTL2404187011-IC

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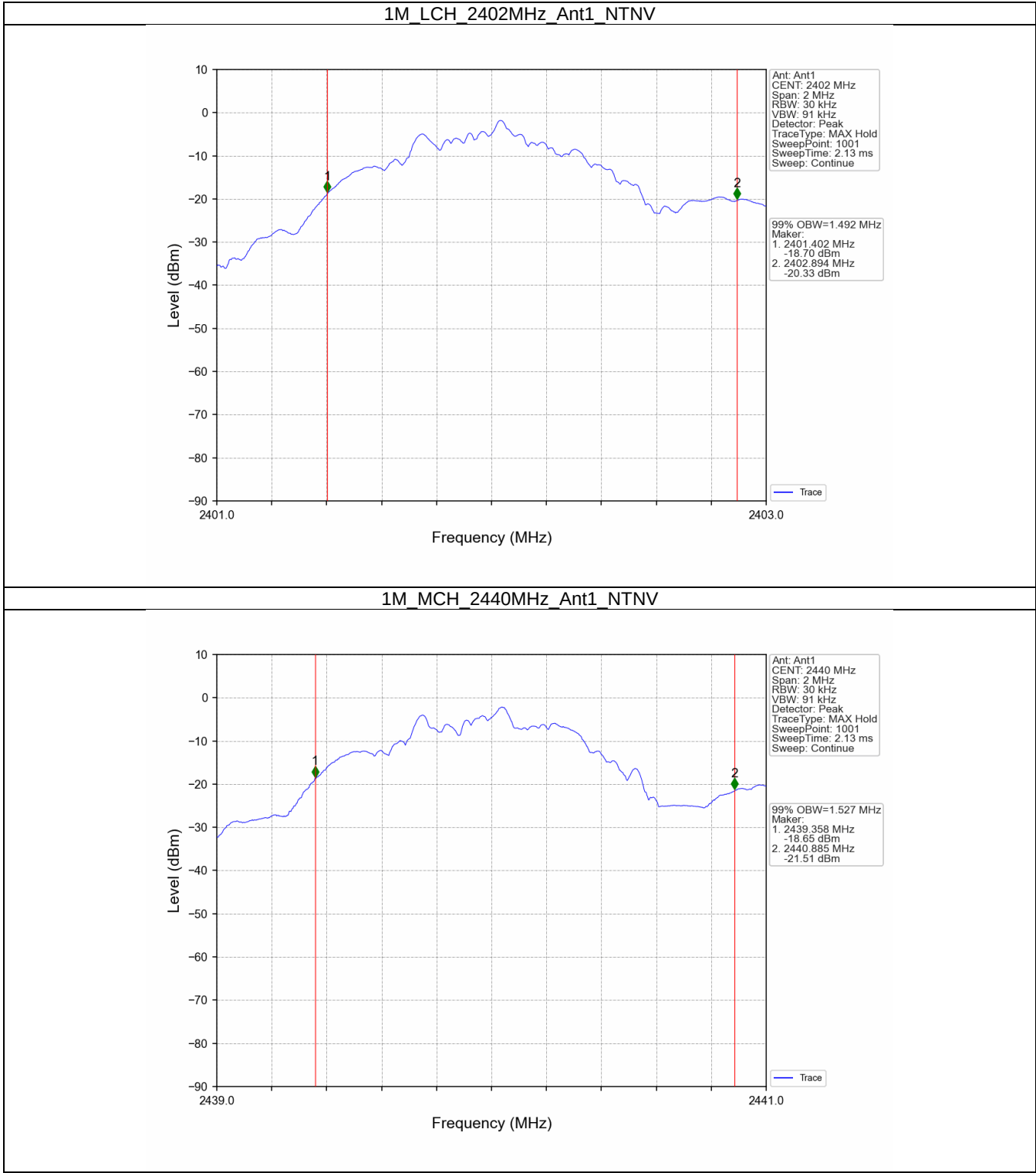
1. Bandwidth

1.1 OBW

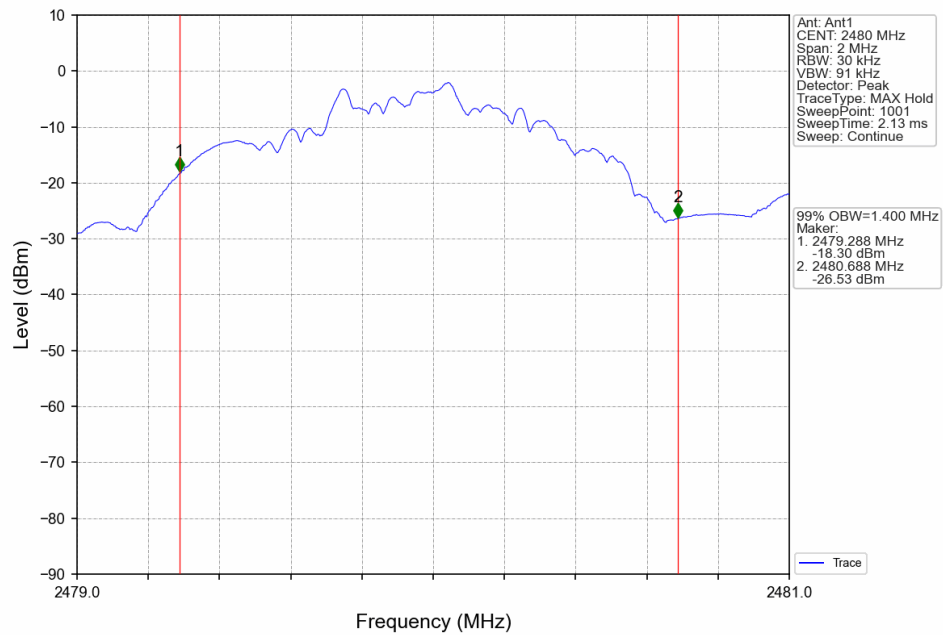
1.1.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	1	1.492	/	Pass
		2440	1	1.527	/	Pass
		2480	1	1.400	/	Pass
2M	SISO	2402	1	2.140	/	Pass
		2440	1	2.334	/	Pass
		2480	1	2.452	/	Pass

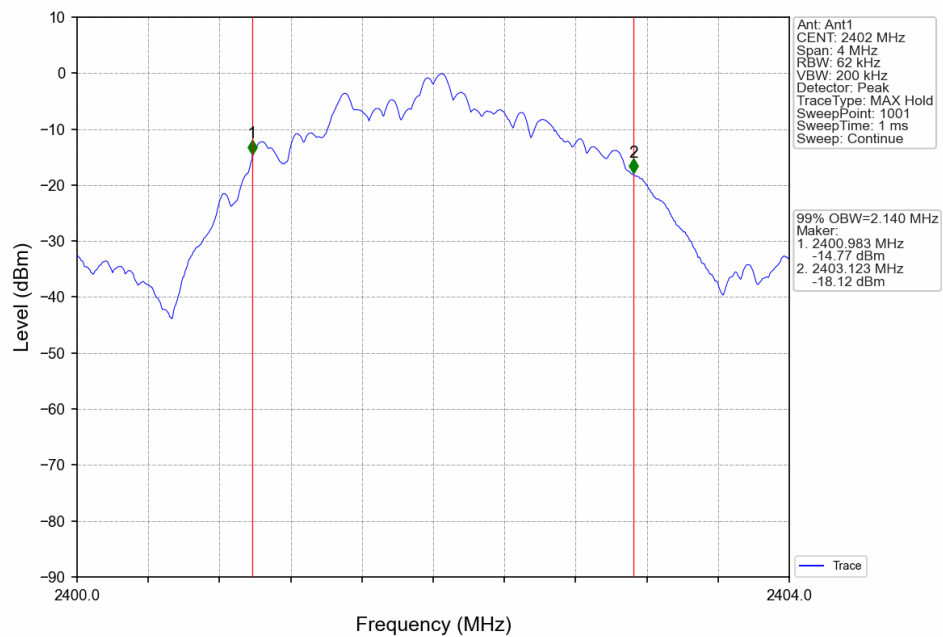
1.1.2 Test Graph

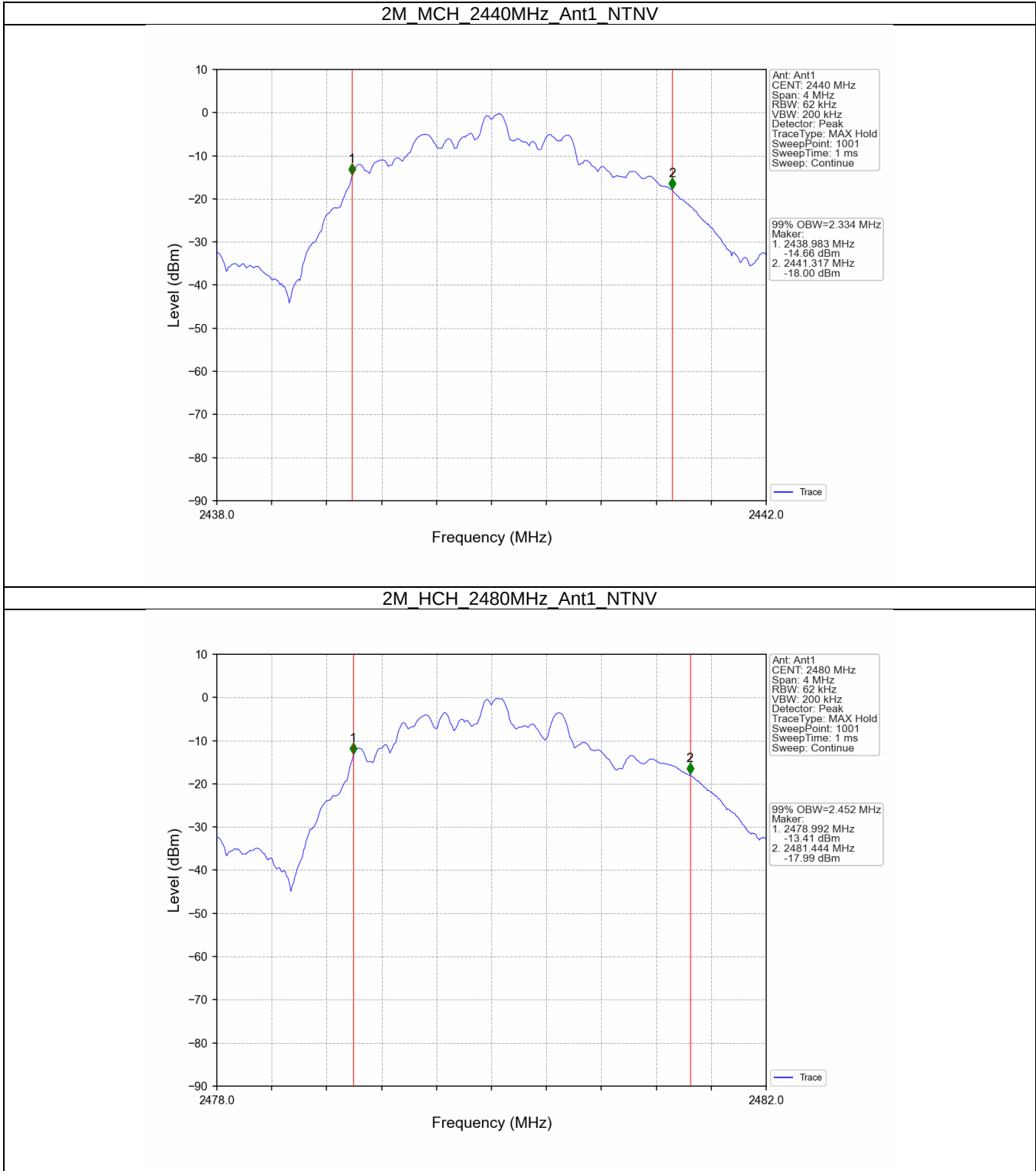


1M_HCH_2480MHz_Ant1_NTNV



2M_LCH_2402MHz_Ant1_NTNV

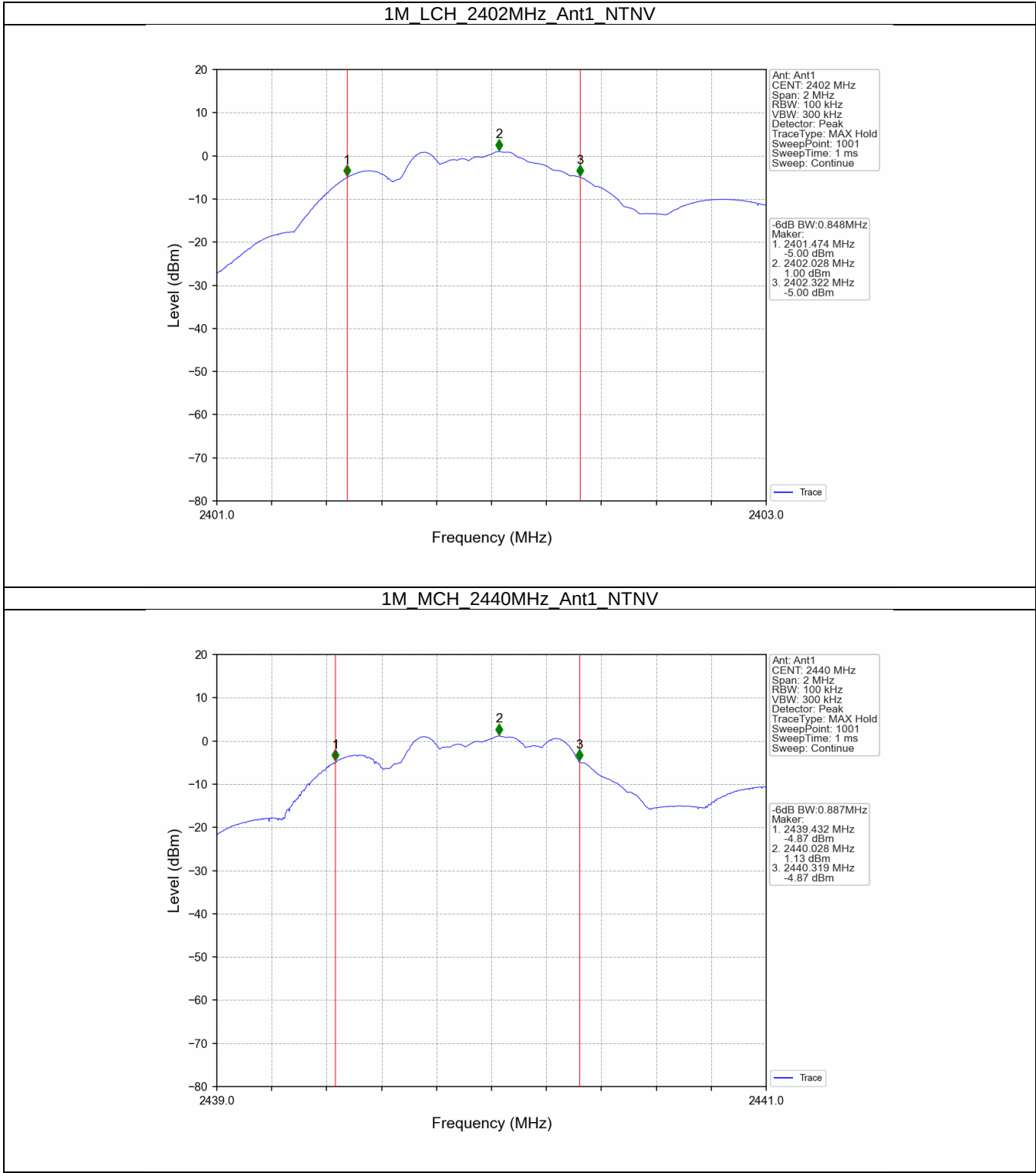




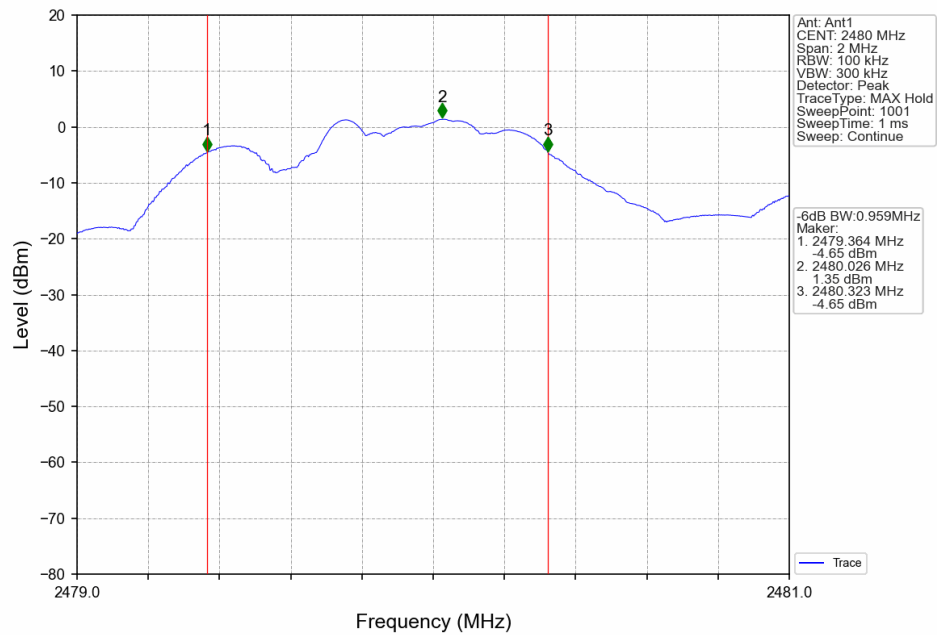
1.2 6dB BW**1.2.1 Test Result**

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	1	0.848	≥ 0.5	Pass
		2440	1	0.887	≥ 0.5	Pass
		2480	1	0.959	≥ 0.5	Pass
2M	SISO	2402	1	0.986	≥ 0.5	Pass
		2440	1	1.163	≥ 0.5	Pass
		2480	1	1.212	≥ 0.5	Pass

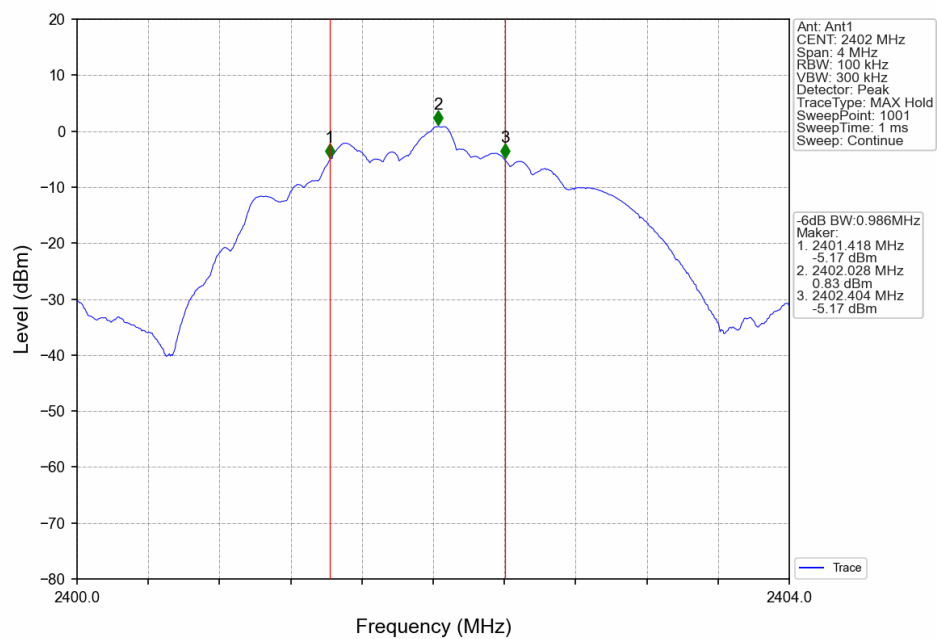
1.2.2 Test Graph



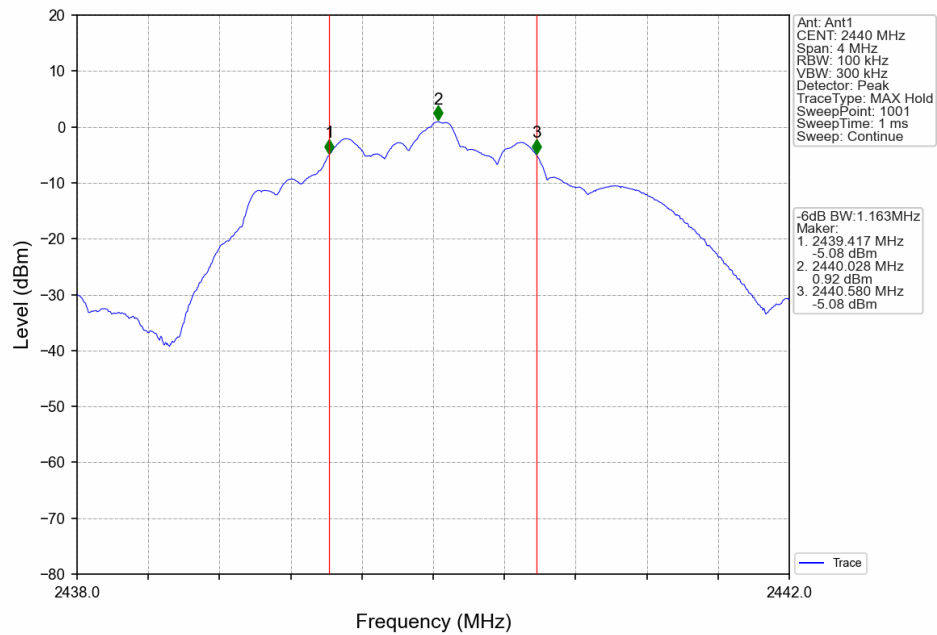
1M_HCH_2480MHz_Ant1_NTNV



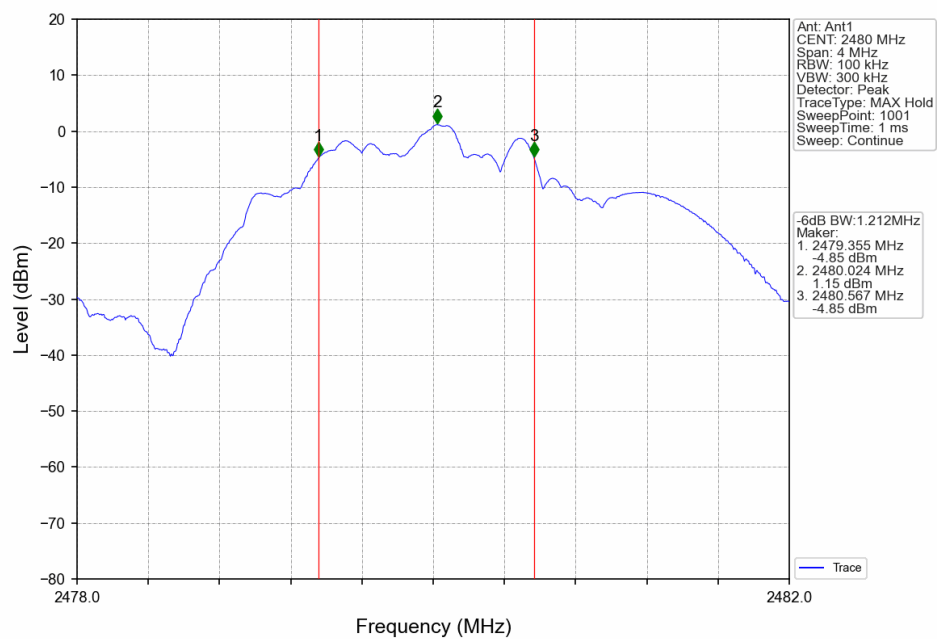
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



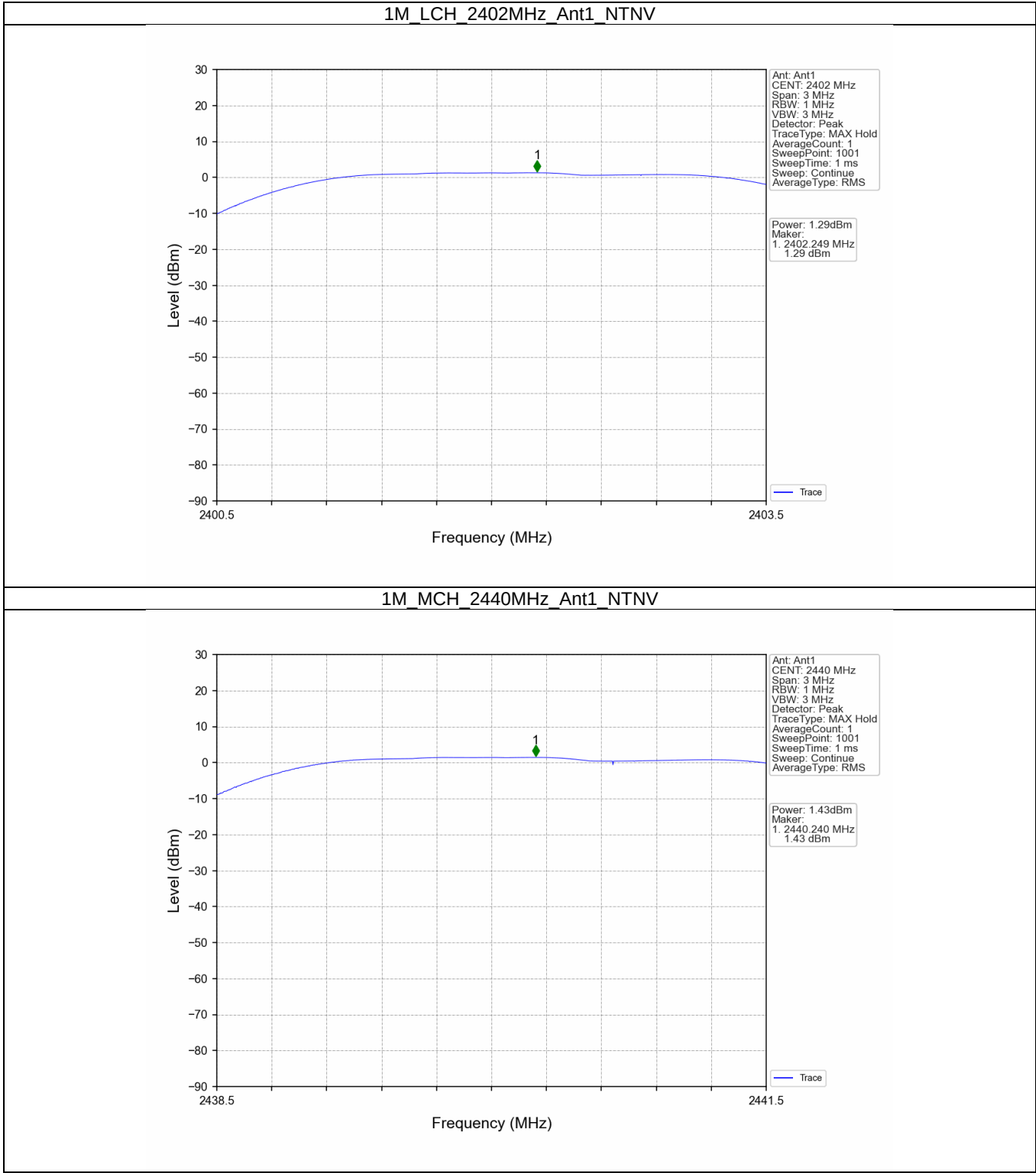
2. Maximum Conducted Output Power

2.1 Power

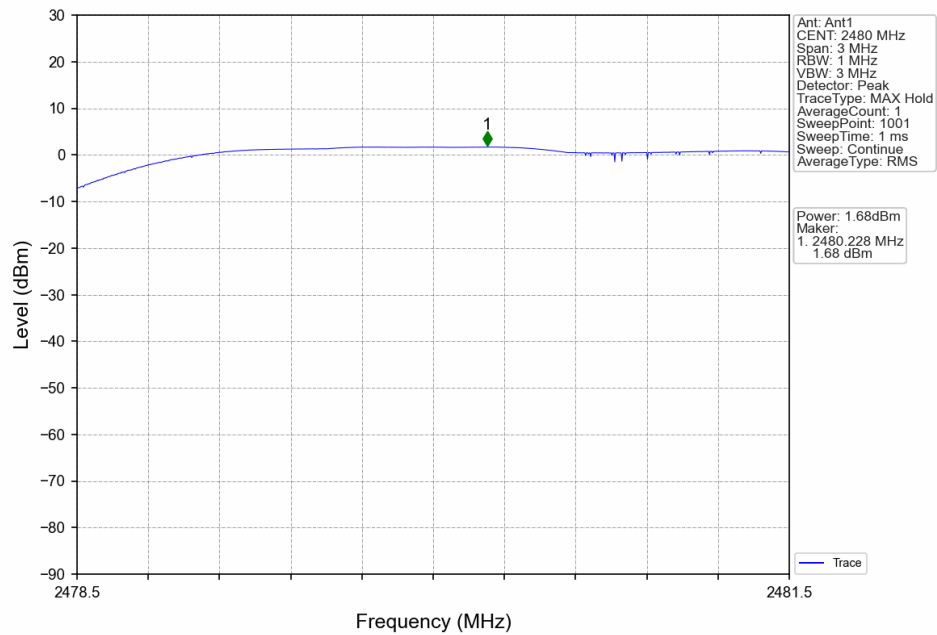
2.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
1M	SISO	2402	1.29	<=30	Pass
		2440	1.43	<=30	Pass
		2480	1.68	<=30	Pass
2M	SISO	2402	1.29	<=30	Pass
		2440	1.39	<=30	Pass
		2480	1.65	<=30	Pass
Note1: Antenna Gain: Ant1: -1.08dBi;					

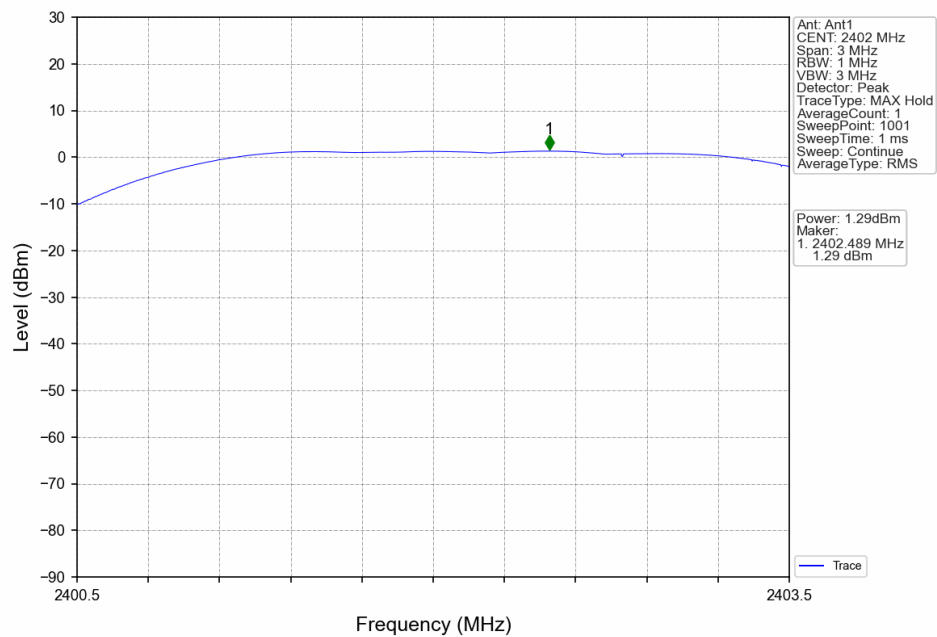
2.1.2 Test Graph



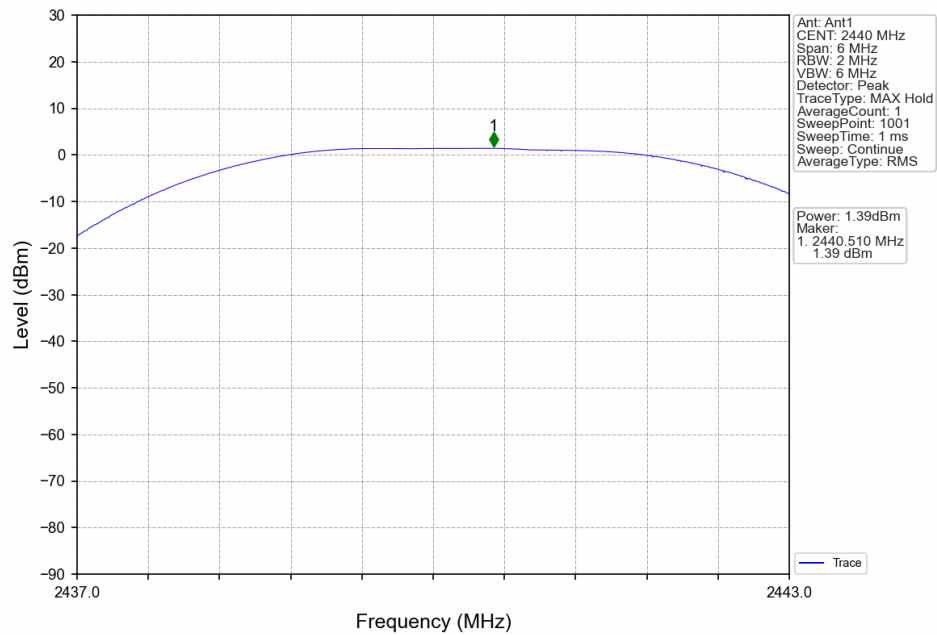
1M_HCH_2480MHz_Ant1_NTNV



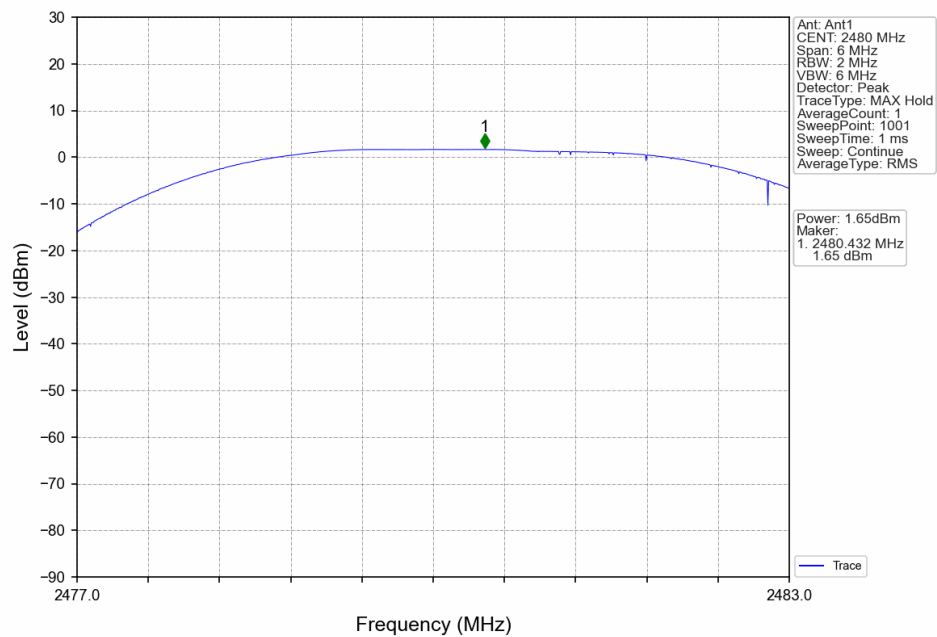
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



2.2 EIRP

2.2.1 Test Result

Mode	TX Type	Frequency (MHz)	E.I.R.P (dBm)		Verdict
			ANT1	Limit	
1M	SISO	2402	0.21	<=36.02	Pass
		2440	0.35	<=36.02	Pass
		2480	0.60	<=36.02	Pass
2M	SISO	2402	0.21	<=36.02	Pass
		2440	0.31	<=36.02	Pass
		2480	0.57	<=36.02	Pass

Note1: Antenna Gain: Ant1: -1.08dBi;

Note2: E.I.R.P = Measured Power + Antenna Gain

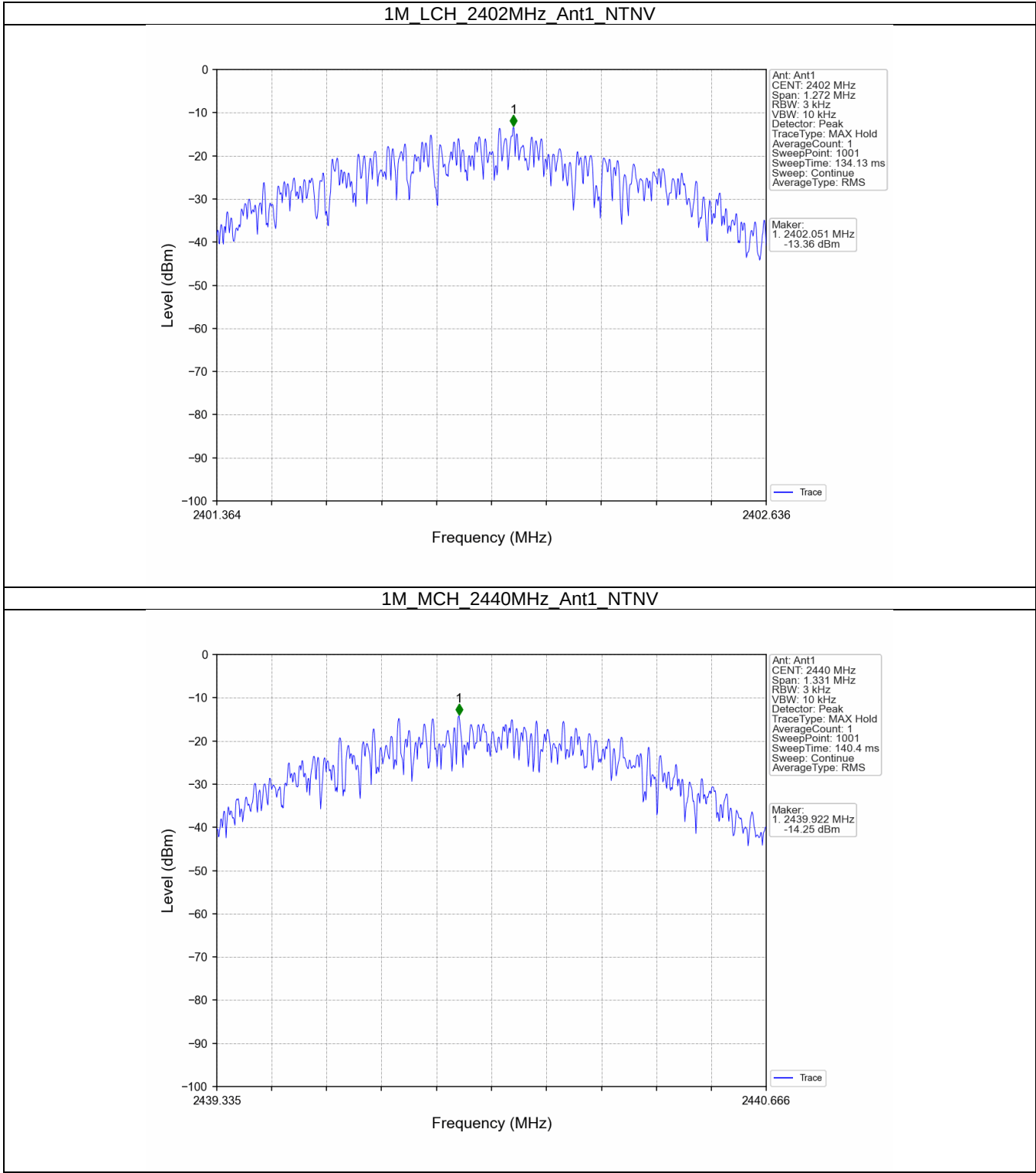
3. Maximum Power Spectral Density

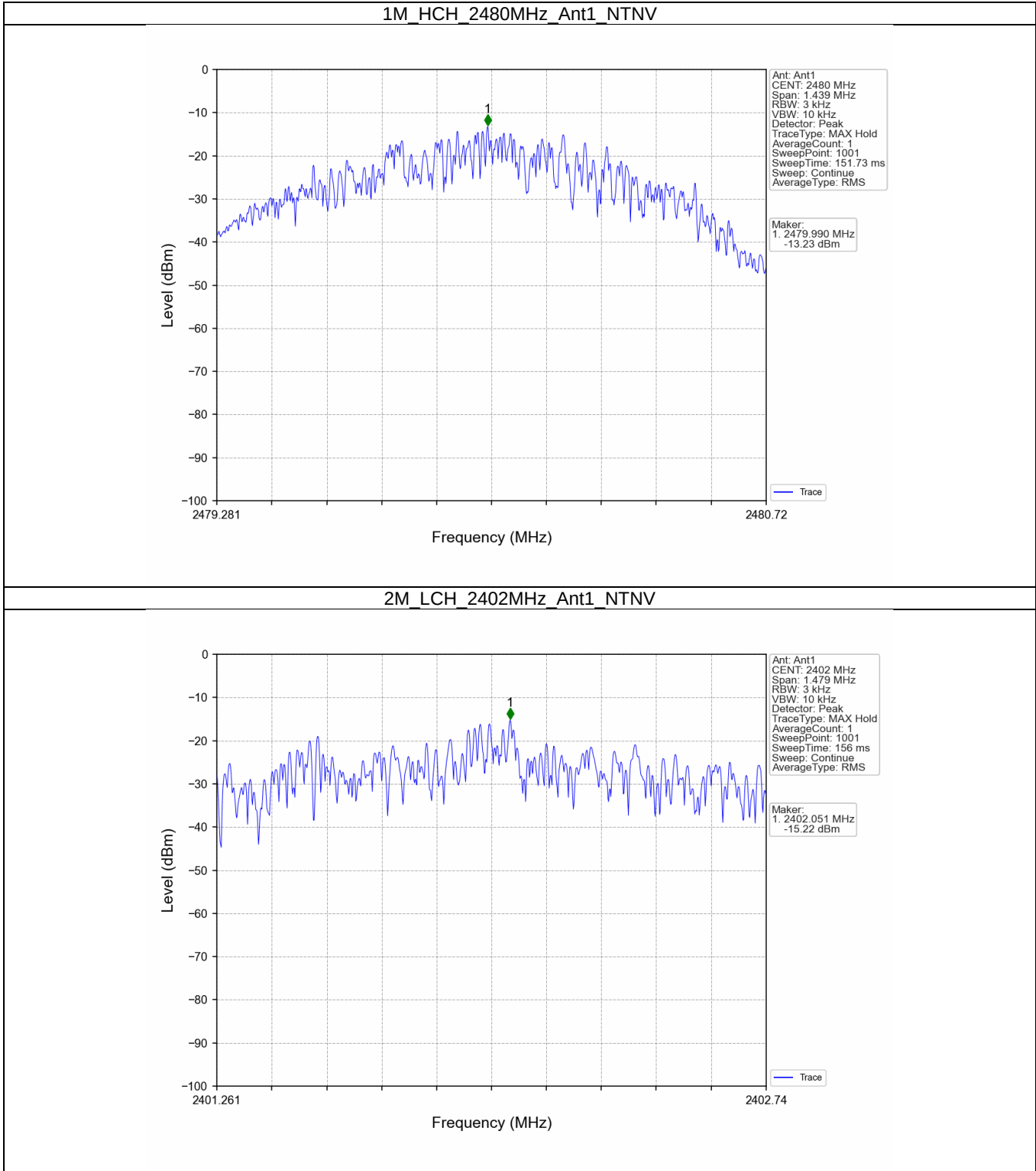
3.1 PSD

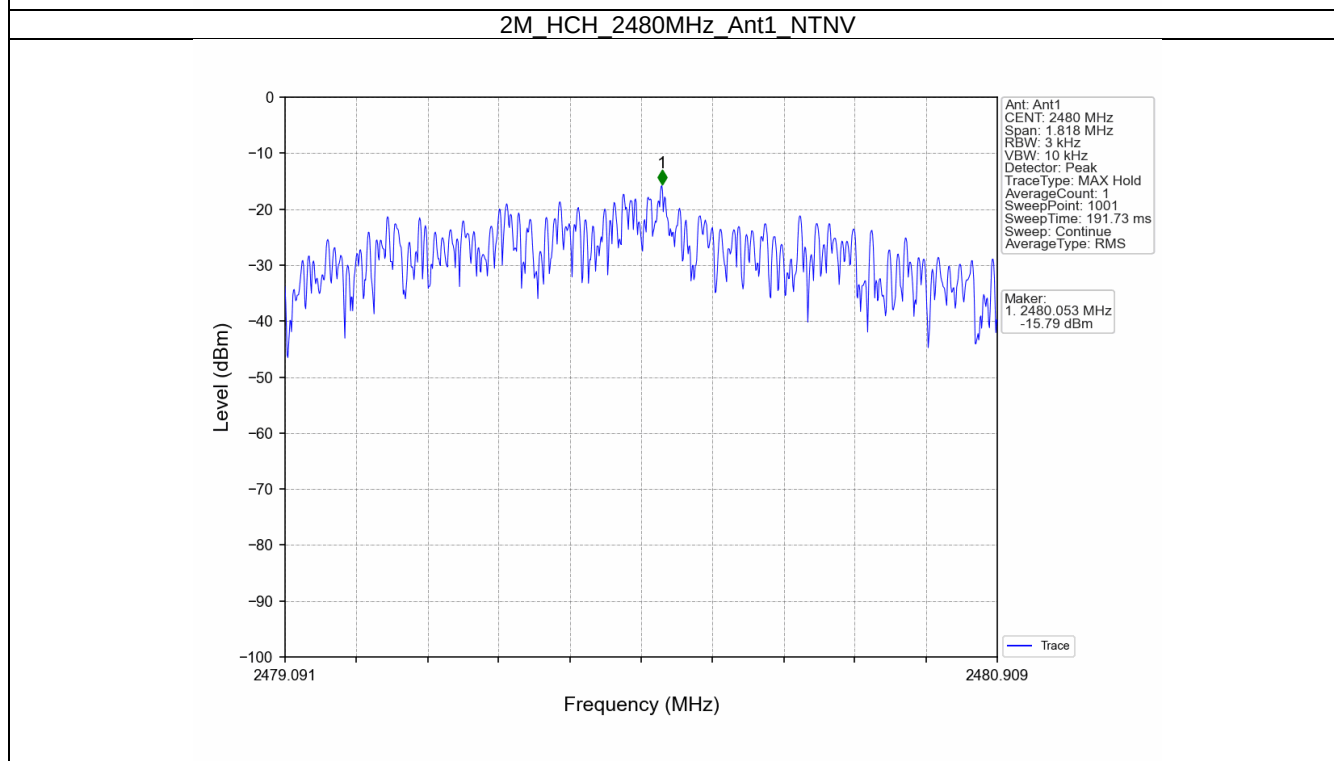
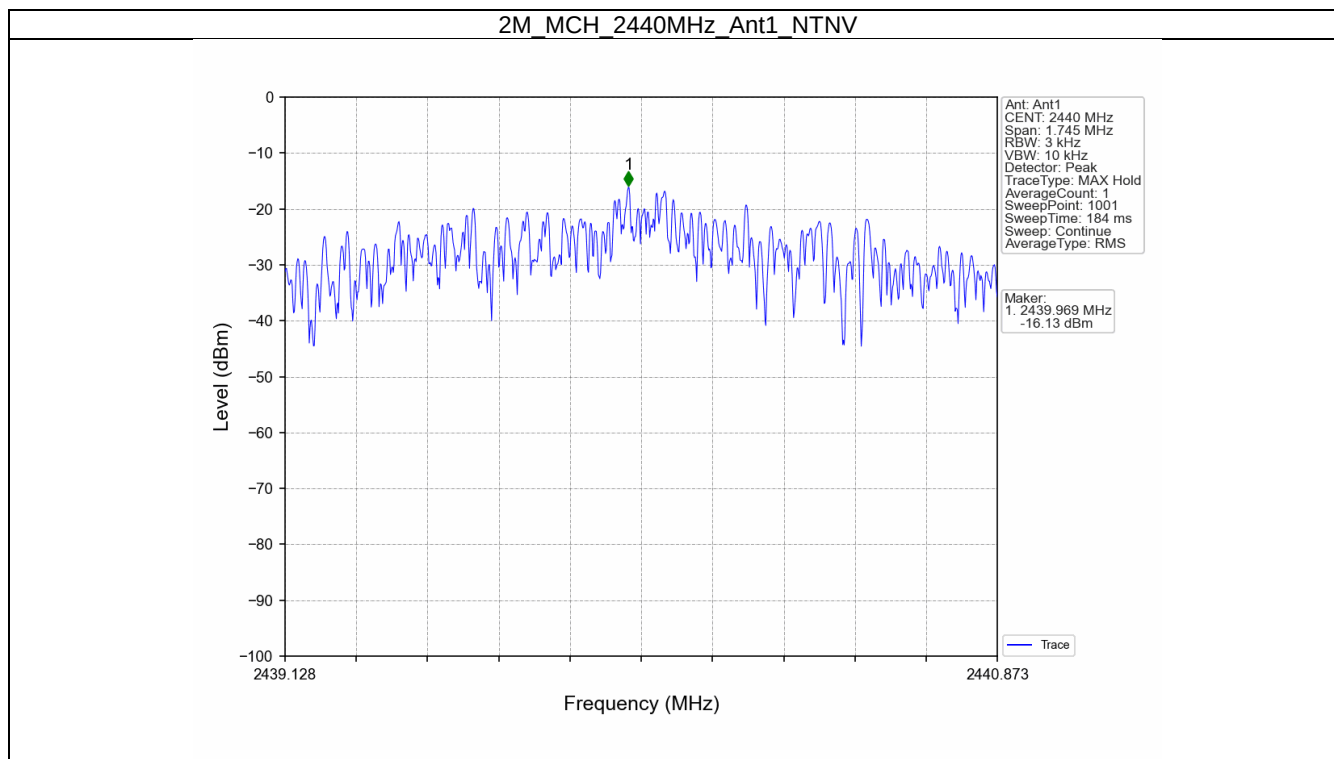
3.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			ANT1	Limit	
1M	SISO	2402	-13.36	<=8	Pass
		2440	-14.25	<=8	Pass
		2480	-13.23	<=8	Pass
2M	SISO	2402	-15.22	<=8	Pass
		2440	-16.13	<=8	Pass
		2480	-15.79	<=8	Pass
Note1: Antenna Gain: Ant1: -1.08dBi;					

3.1.2 Test Graph







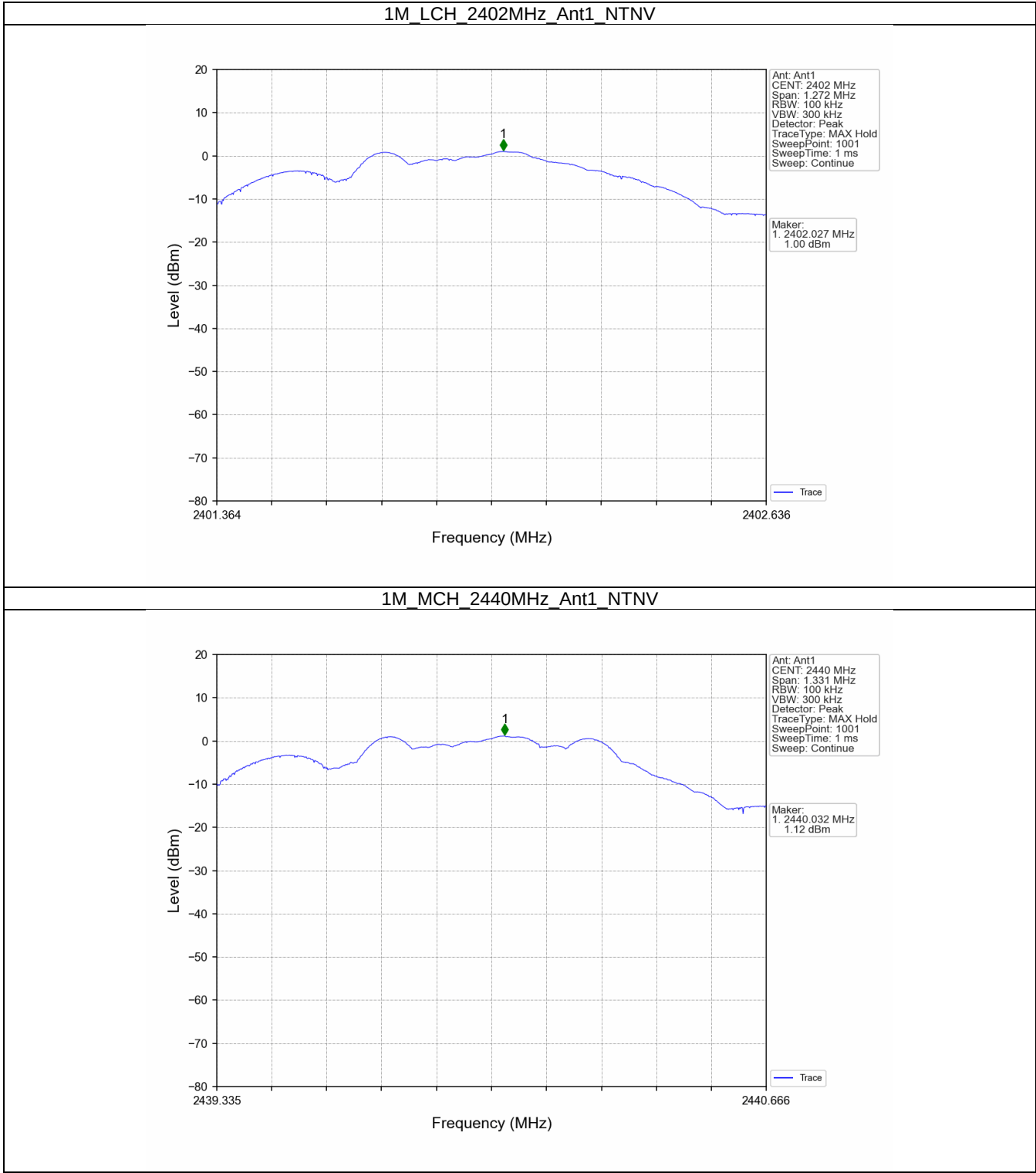
4. Unwanted Emissions In Non-restricted Frequency Bands

4.1 Ref

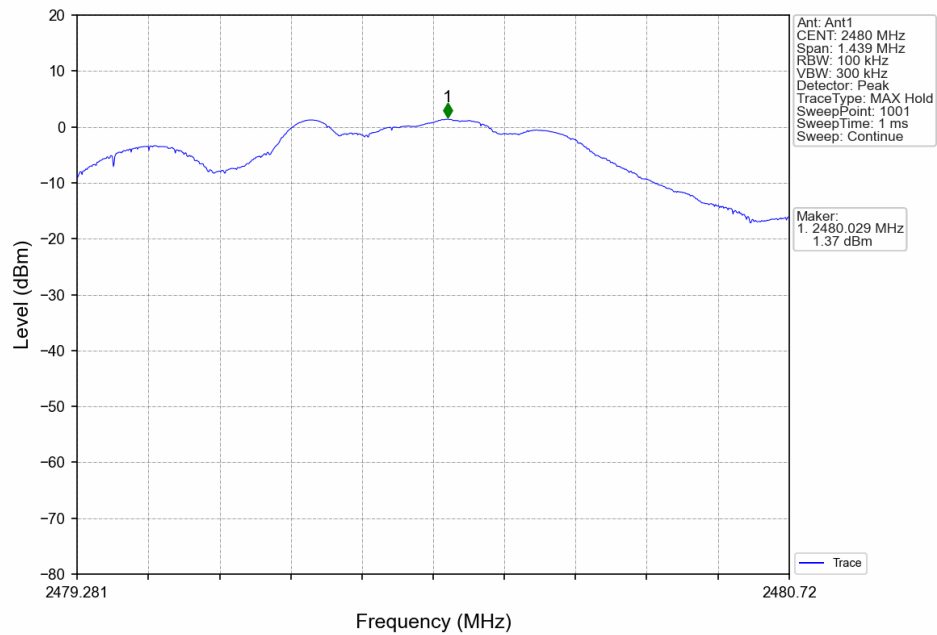
4.1.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
1M	SISO	2402	1	1.00
		2440	1	1.12
		2480	1	1.37
2M	SISO	2402	1	0.91
		2440	1	0.98
		2480	1	1.24
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.				

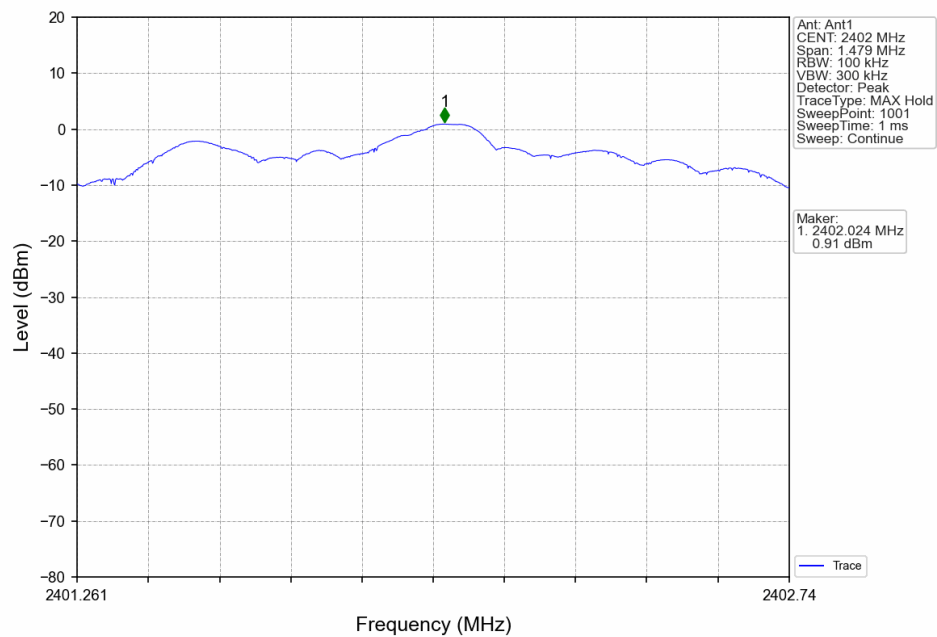
4.1.2 Test Graph



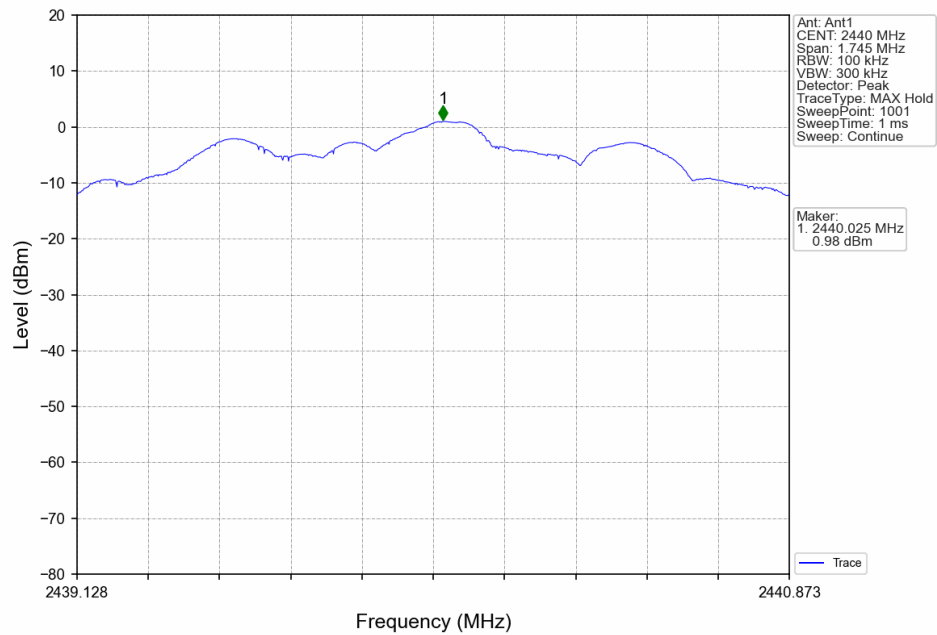
1M_HCH_2480MHz_Ant1_NTNV



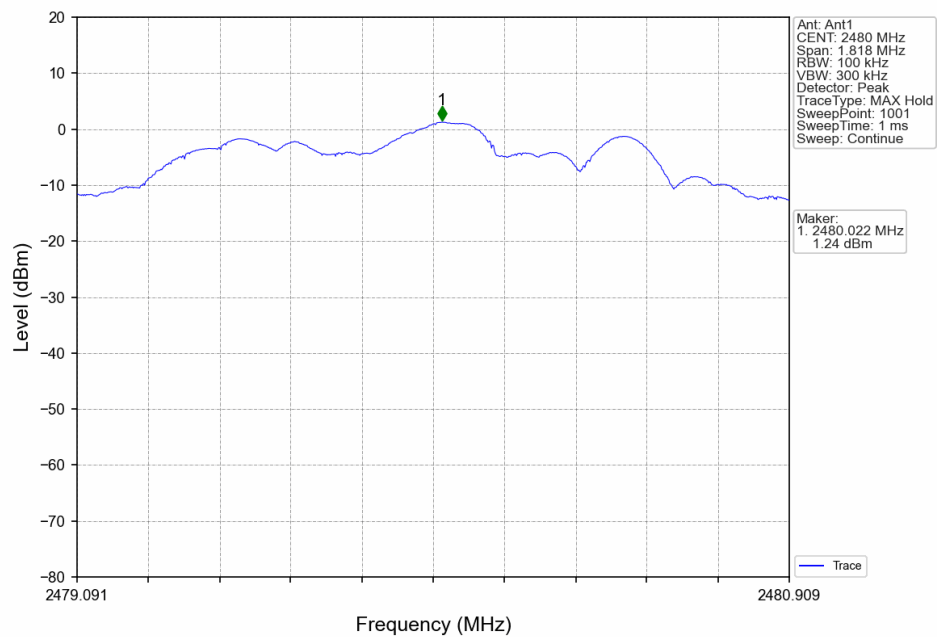
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



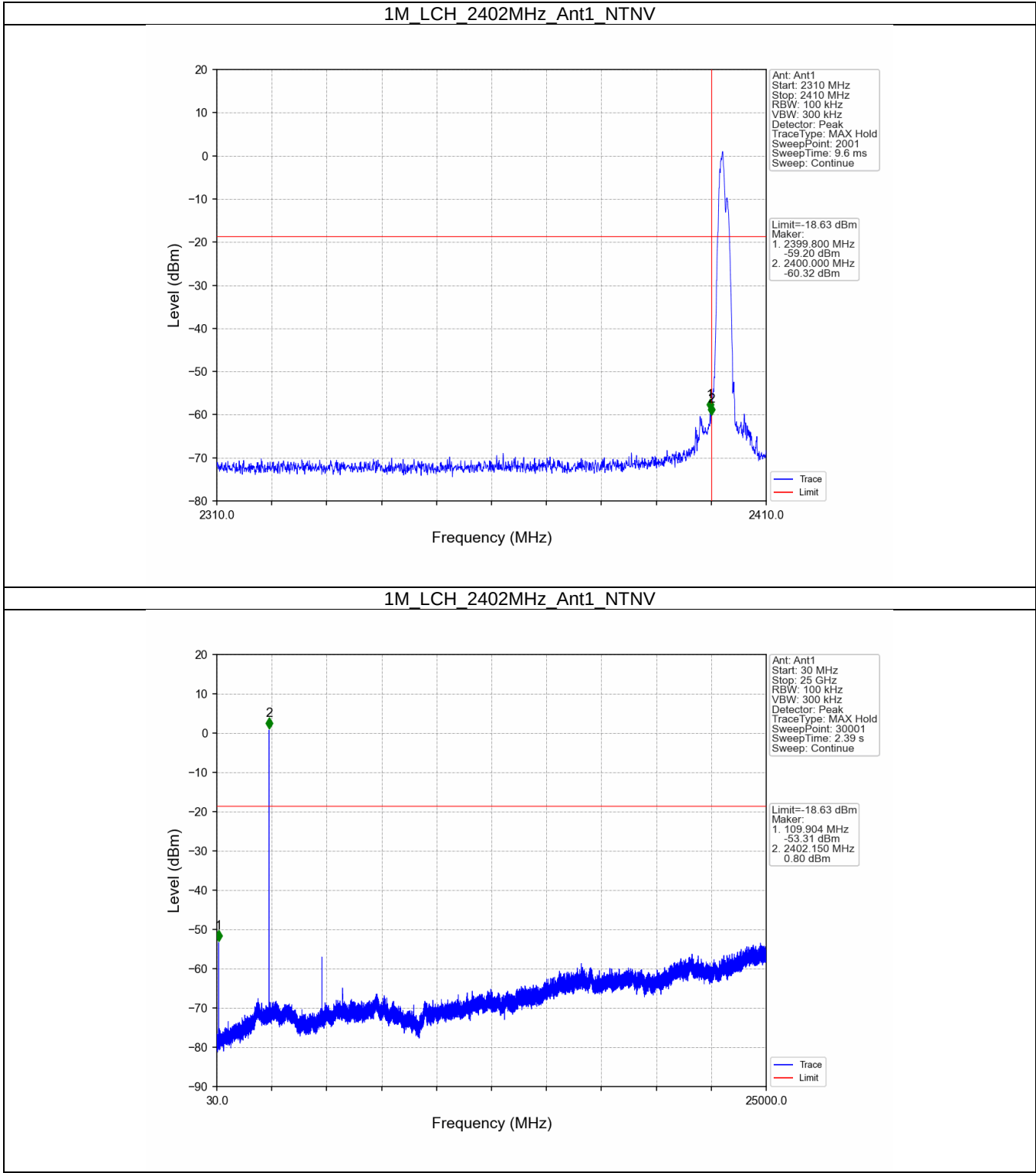
4.2 CSE

4.2.1 Test Result

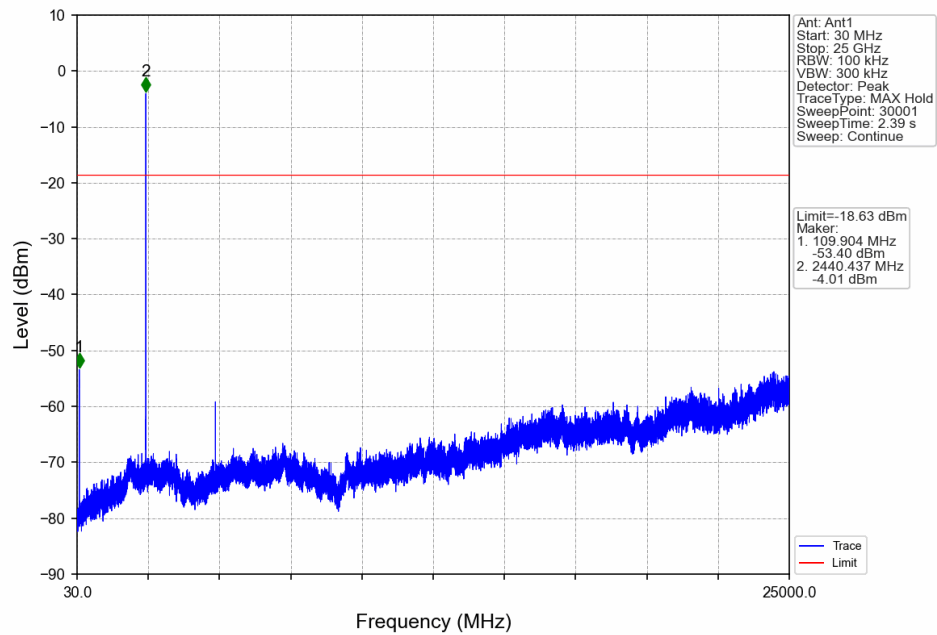
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
1M	SISO	2402	1	1.37	-18.63	Pass
		2440	1	1.37	-18.63	Pass
		2480	1	1.37	-18.63	Pass
2M	SISO	2402	1	1.24	-18.76	Pass
		2440	1	1.24	-18.76	Pass
		2480	1	1.24	-18.76	Pass

Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

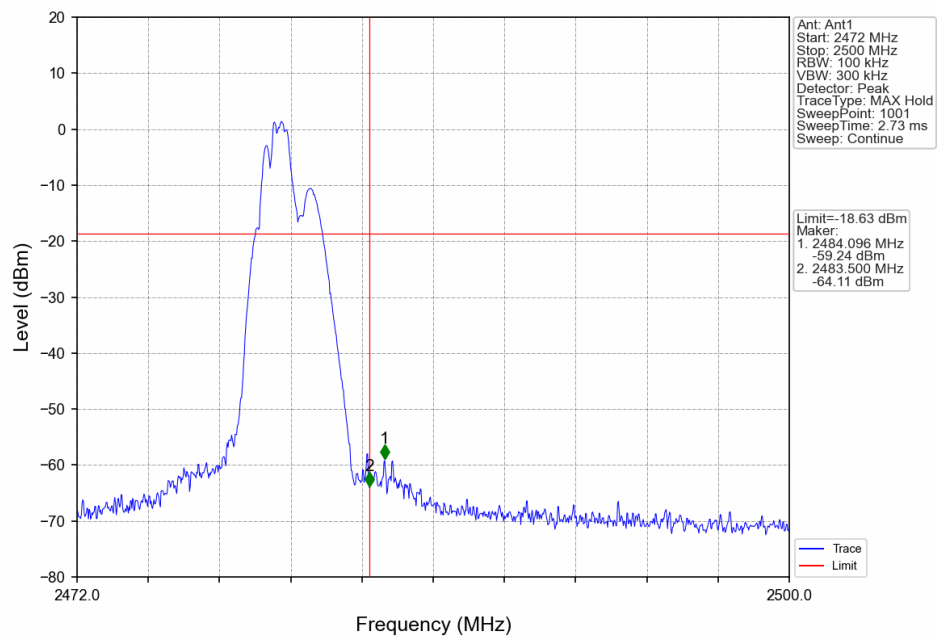
4.2.2 Test Graph



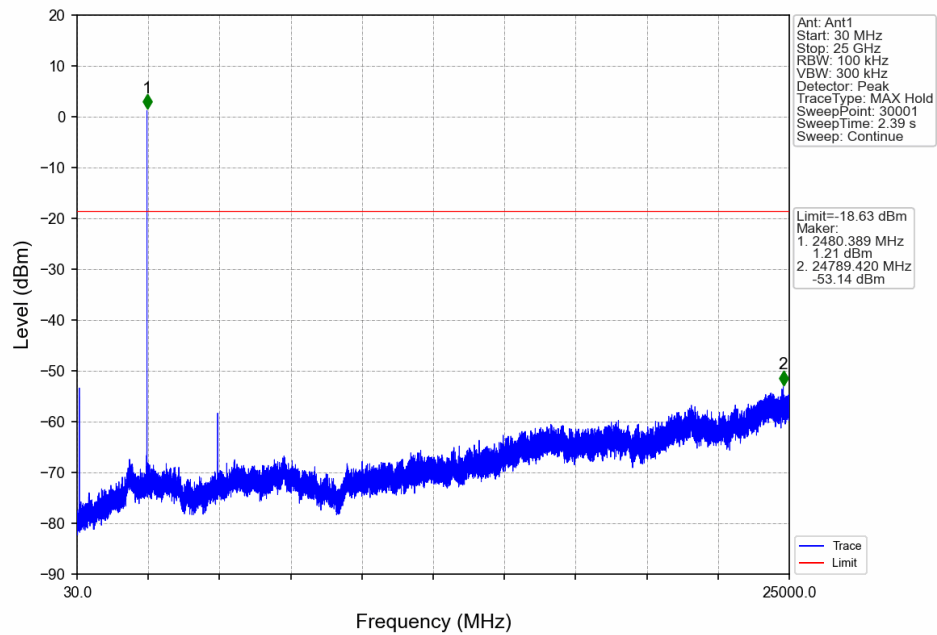
1M_MCH_2440MHz_Ant1_NTNV



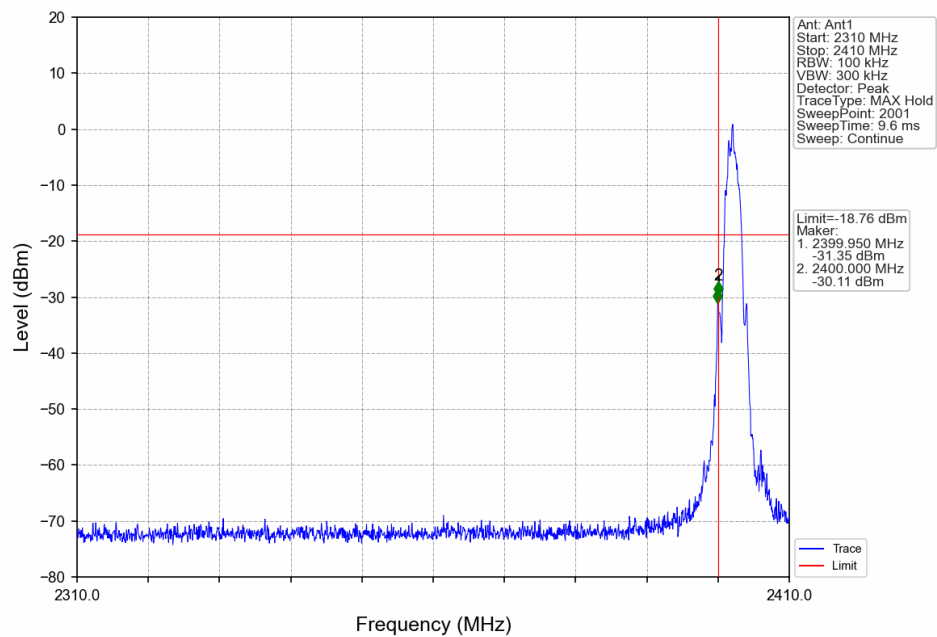
1M_HCH_2480MHz_Ant1_NTNV



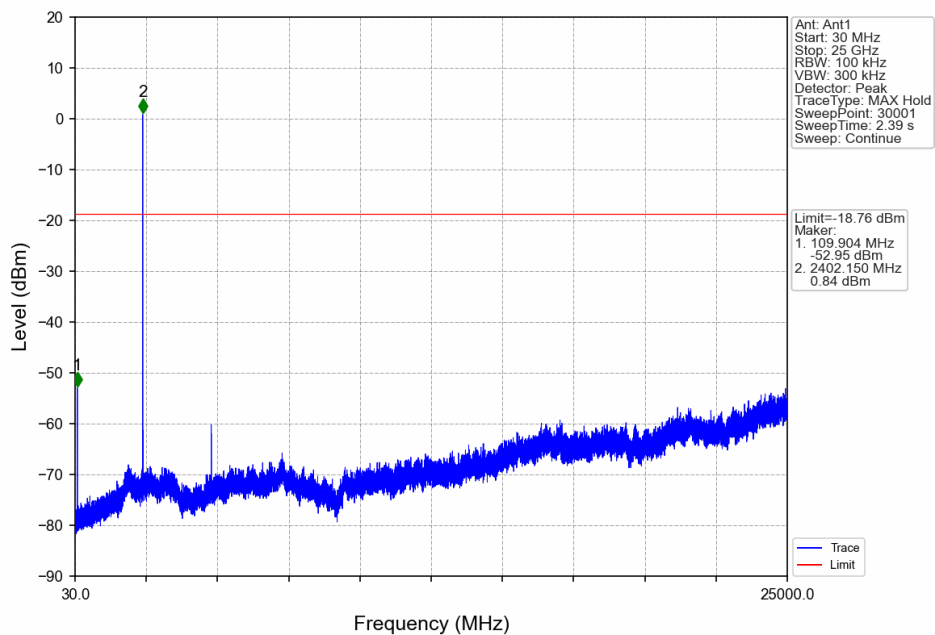
1M_HCH_2480MHz_Ant1_NTNV



2M_LCH_2402MHz_Ant1_NTNV



2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV

