Annex for BLE

Test Report No.: CTL2312127041-WF02

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1. Bandwidth

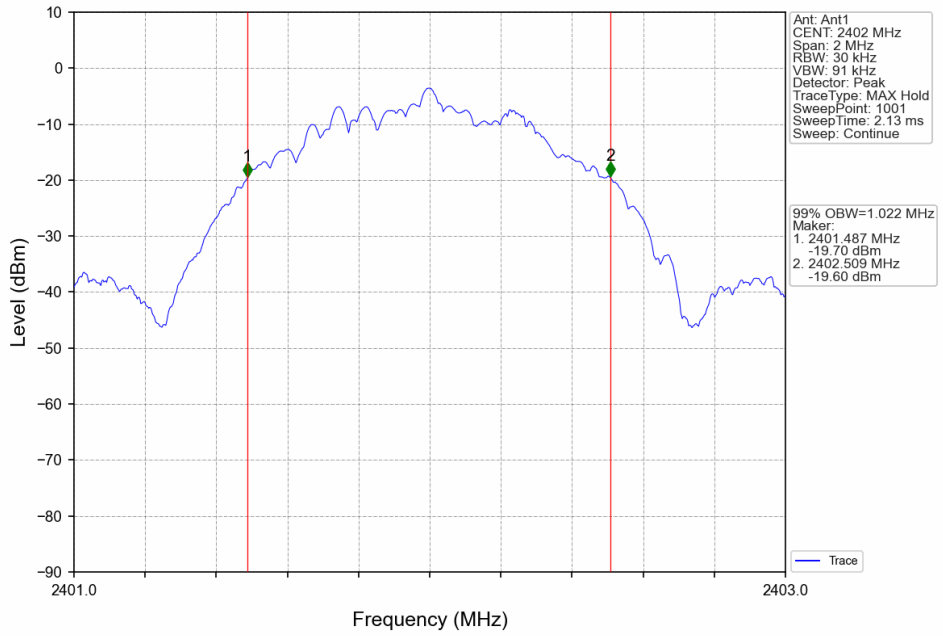
1.1 OBW

1.1.1 Test Result

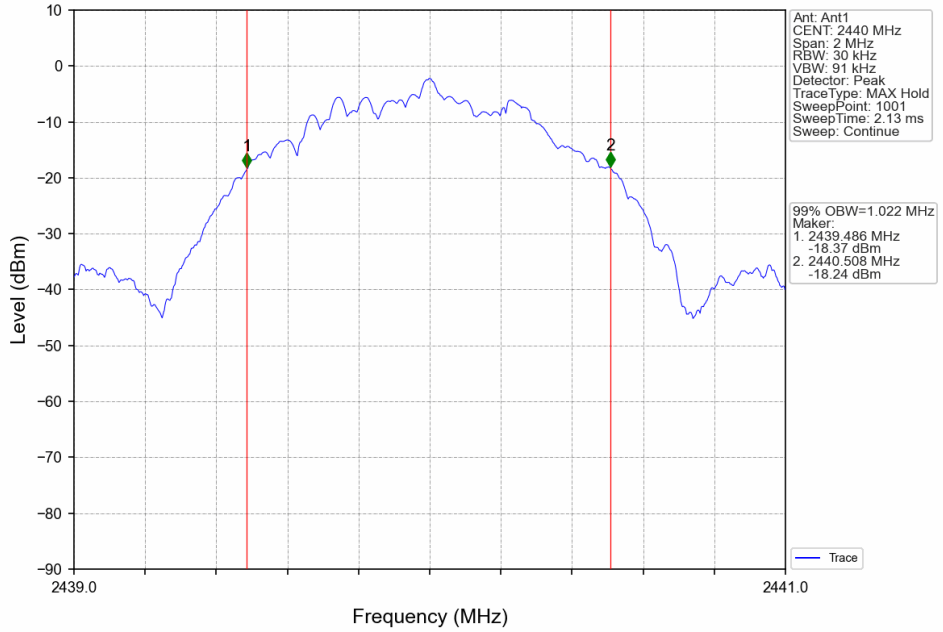
Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	1	1.022	/	Pass
		2440	1	1.022	/	Pass
		2480	1	1.022	/	Pass
2M	SISO	2402	1	2.043	/	Pass
		2440	1	2.044	/	Pass
		2480	1	2.044	/	Pass

1.1.2 Test Graph

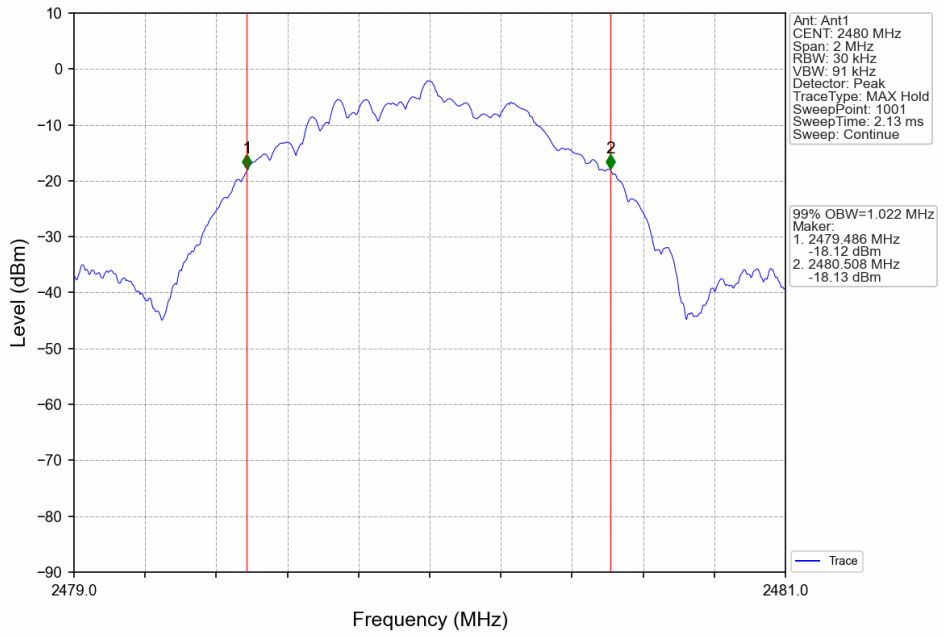
1M_LCH_2402MHz_Ant1_NTNV



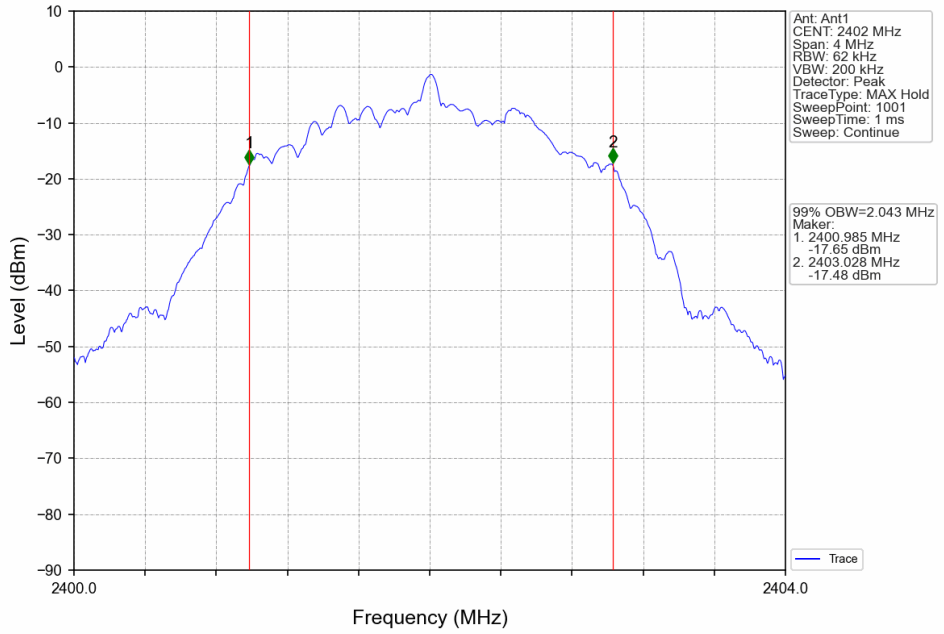
1M_MCH_2440MHz_Ant1_NTNV



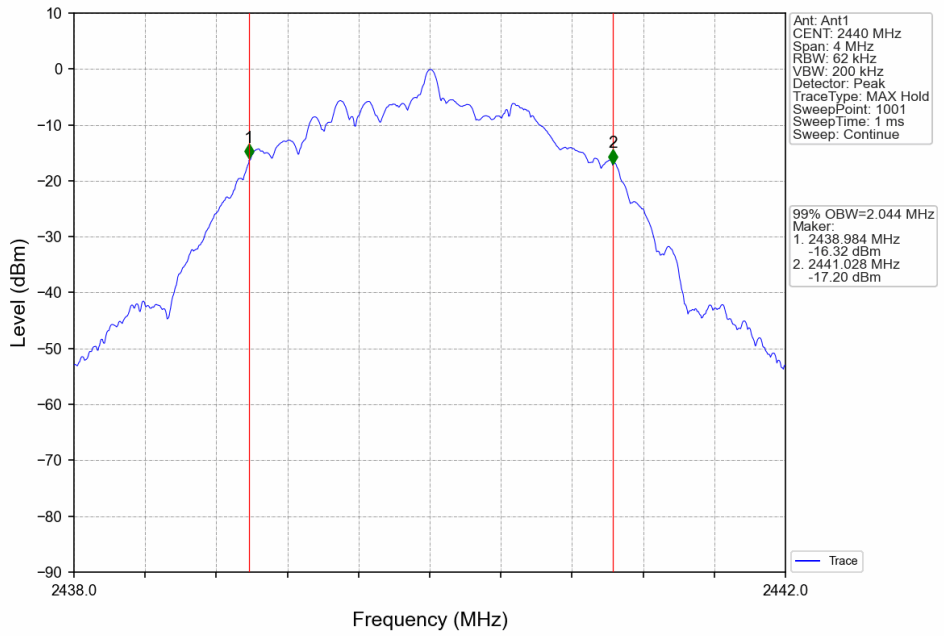
1M_HCH_2480MHz_Ant1_NTNV



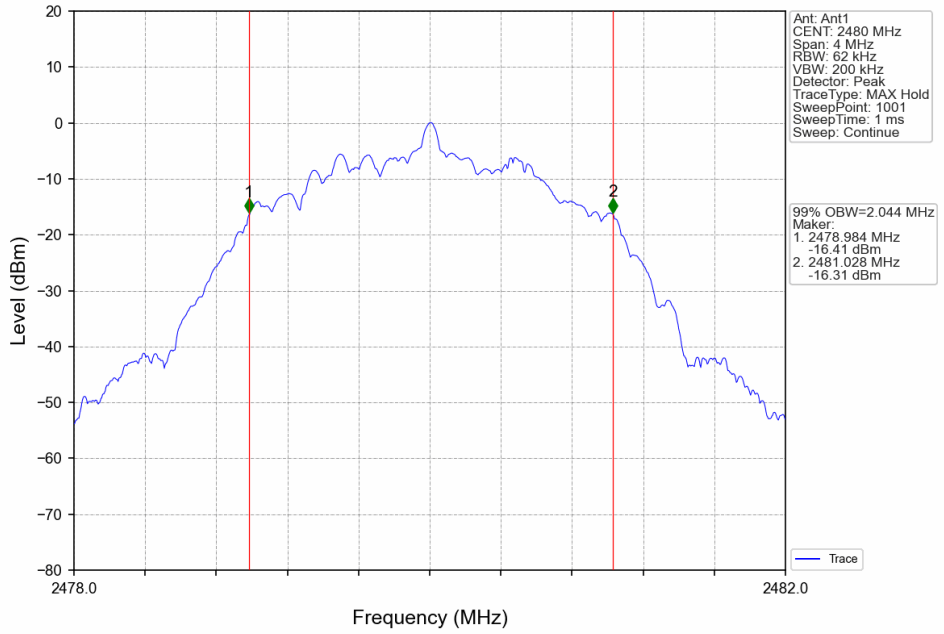
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



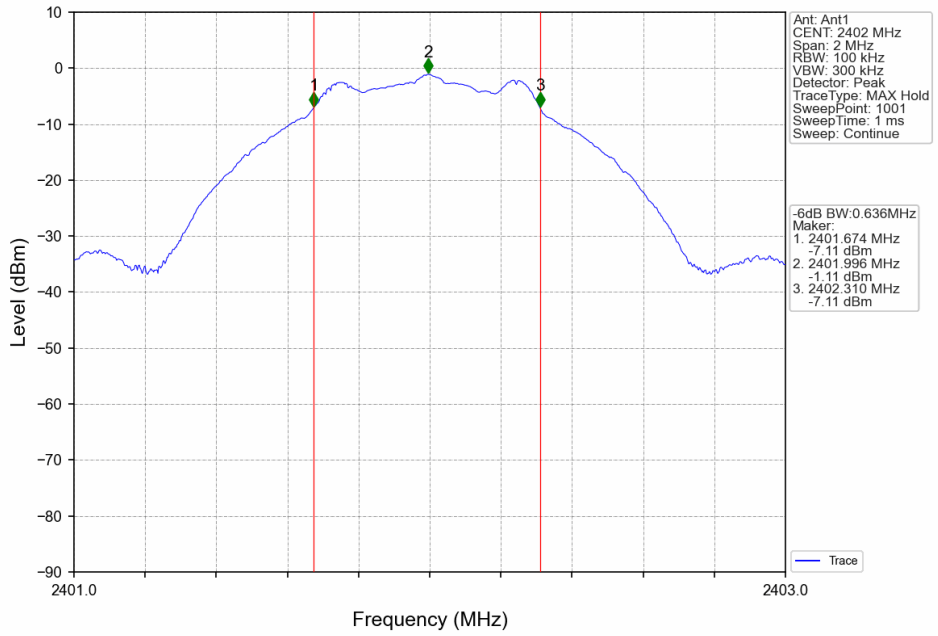
1.2 6dB BW

1.2.1 Test Result

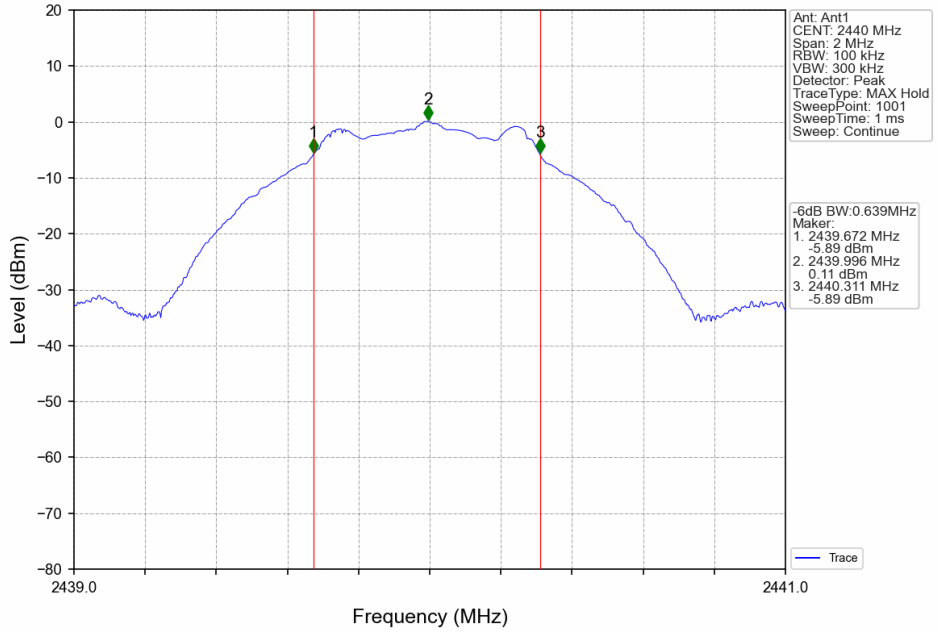
Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	1	0.636	>=0.5	Pass
		2440	1	0.639	>=0.5	Pass
		2480	1	0.636	>=0.5	Pass
2M	SISO	2402	1	1.111	>=0.5	Pass
		2440	1	1.116	>=0.5	Pass
		2480	1	1.118	>=0.5	Pass

1.2.2 Test Graph

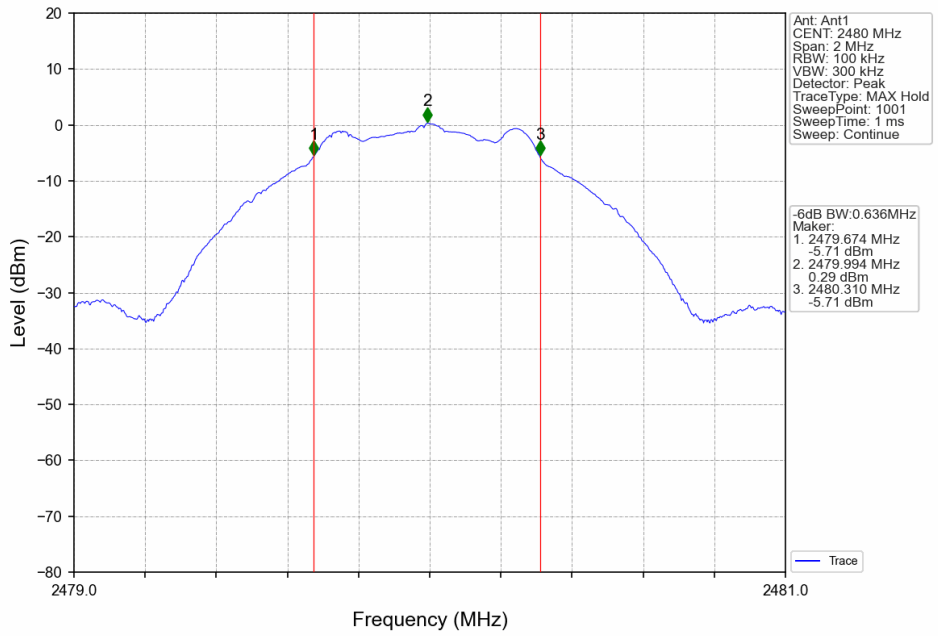
1M_LCH_2402MHz_Ant1_NTNV



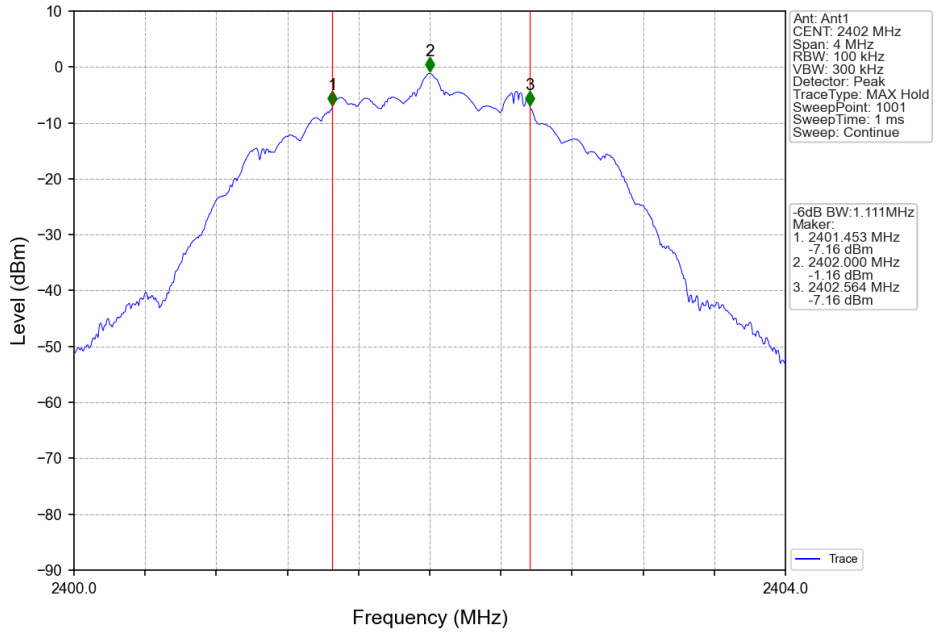
1M_MCH_2440MHz_Ant1_NTNV



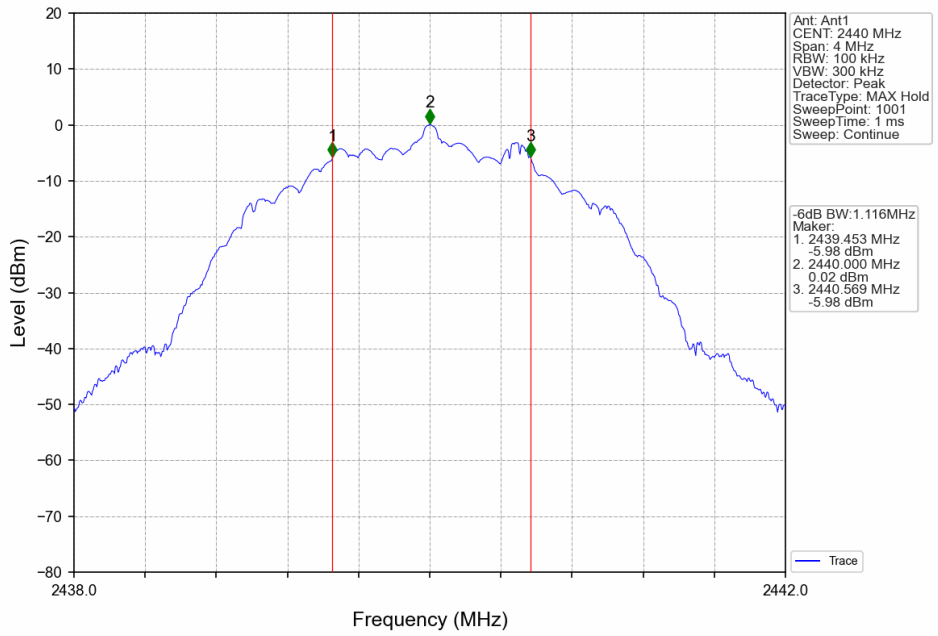
1M_HCH_2480MHz_Ant1_NTNV



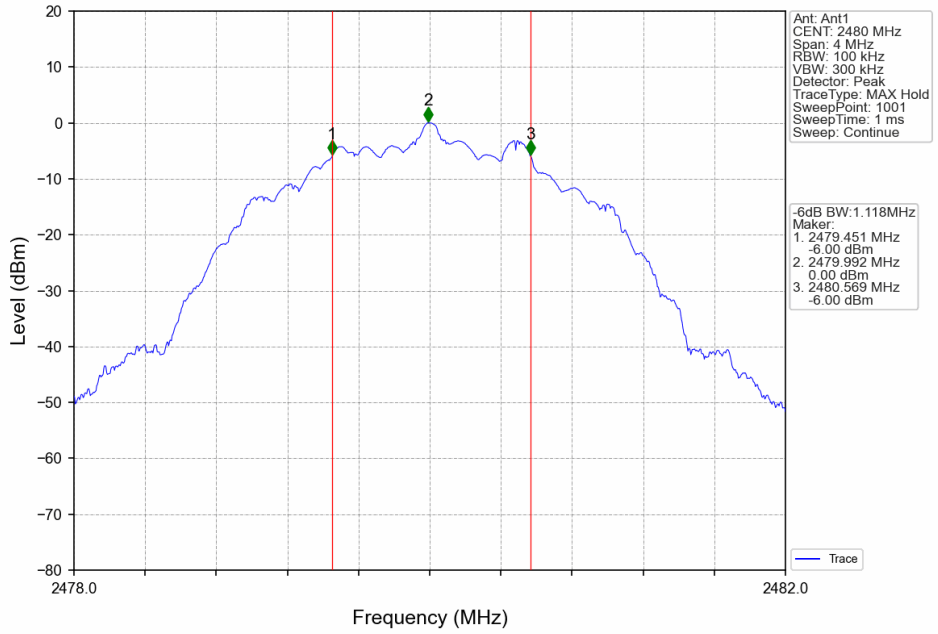
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



2. Maximum Conducted Output Power

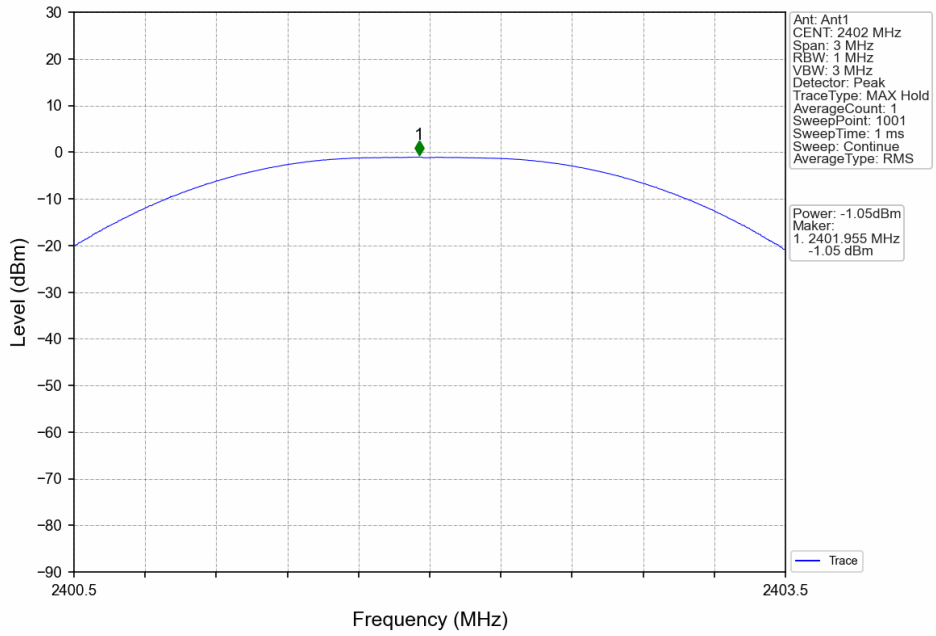
2.1 Power

2.1.1 Test Result

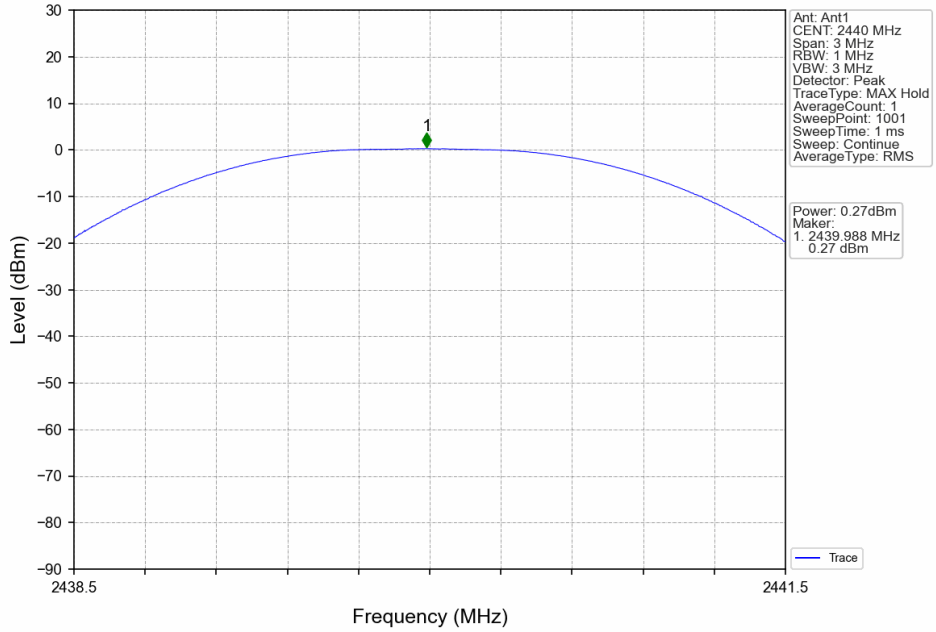
Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
1M	SISO	2402	-1.05	<=30	Pass
		2440	0.27	<=30	Pass
		2480	0.42	<=30	Pass
2M	SISO	2402	-0.99	<=30	Pass
		2440	0.18	<=30	Pass
		2480	0.42	<=30	Pass
Note1: Antenna Gain: Ant1: 4.81dBi;					

2.1.2 Test Graph

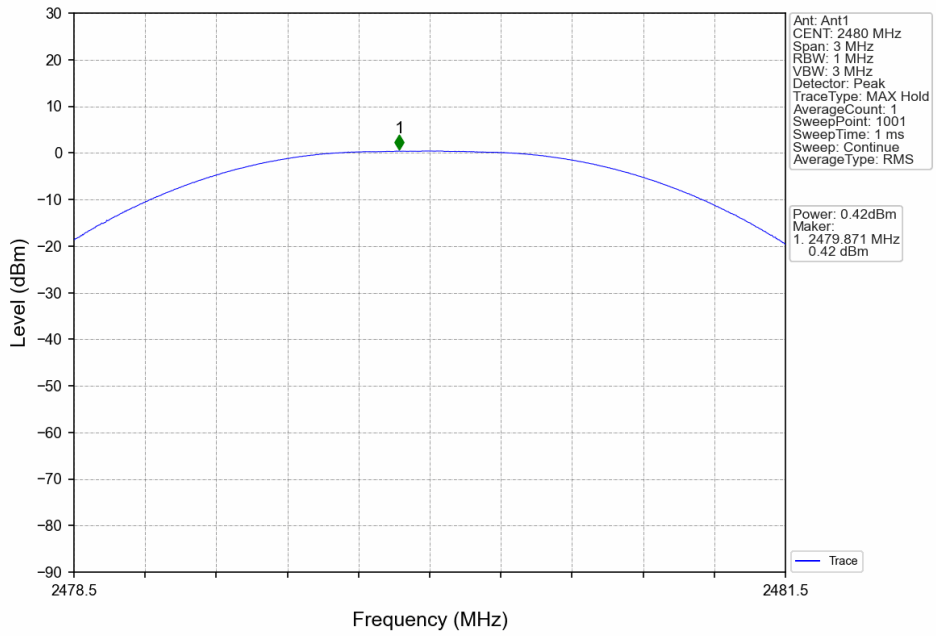
1M_LCH_2402MHz_Ant1_NTNV



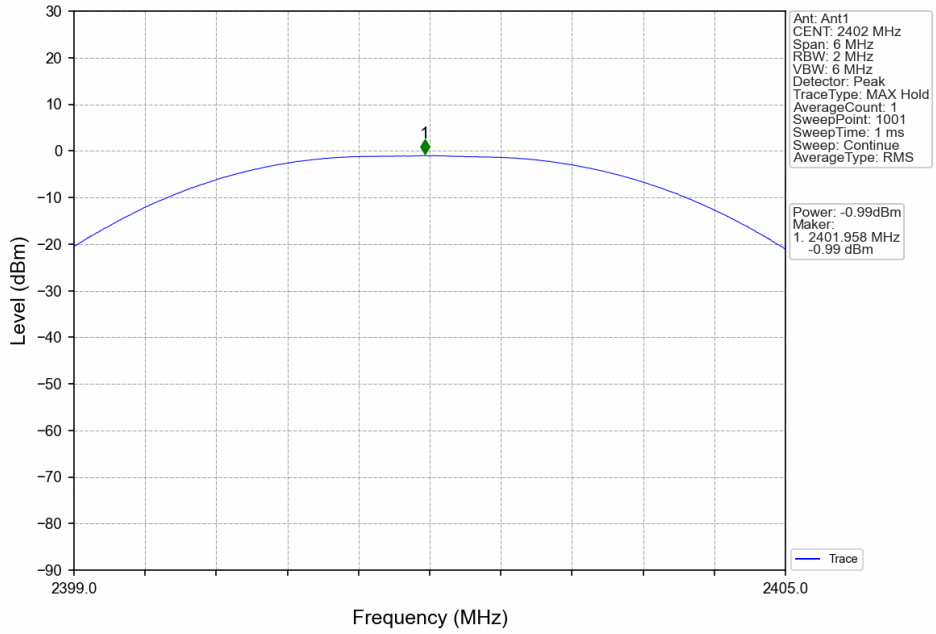
1M_MCH_2440MHz_Ant1_NTNV



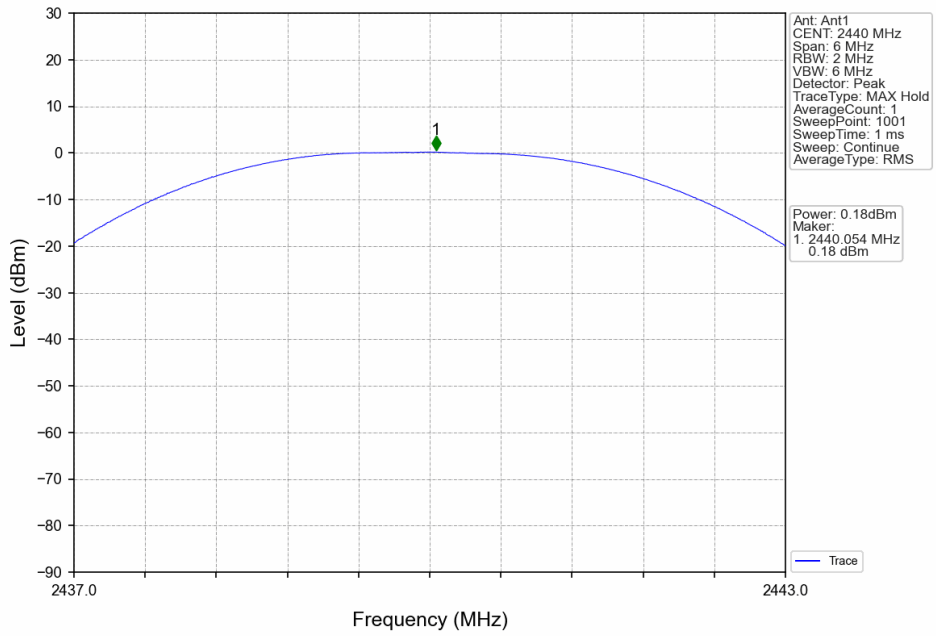
1M_HCH_2480MHz_Ant1_NTNV



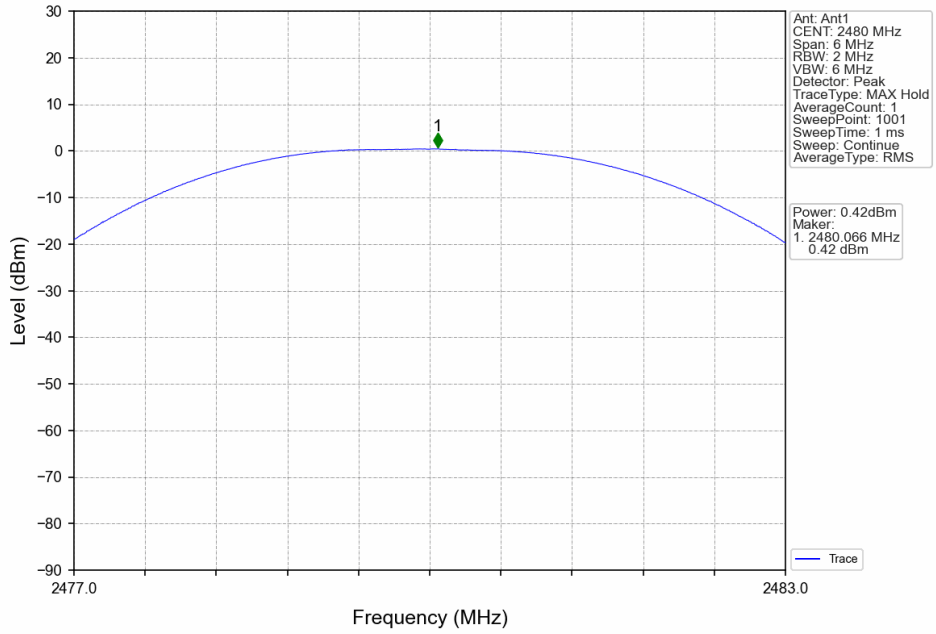
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



3. Maximum Power Spectral Density

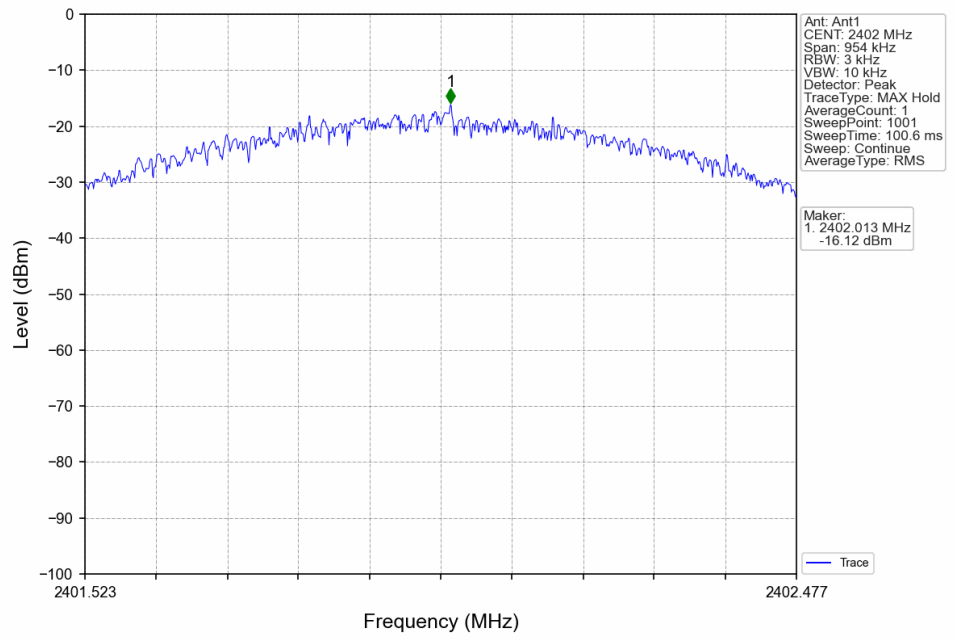
3.1 PSD

3.1.1 Test Result

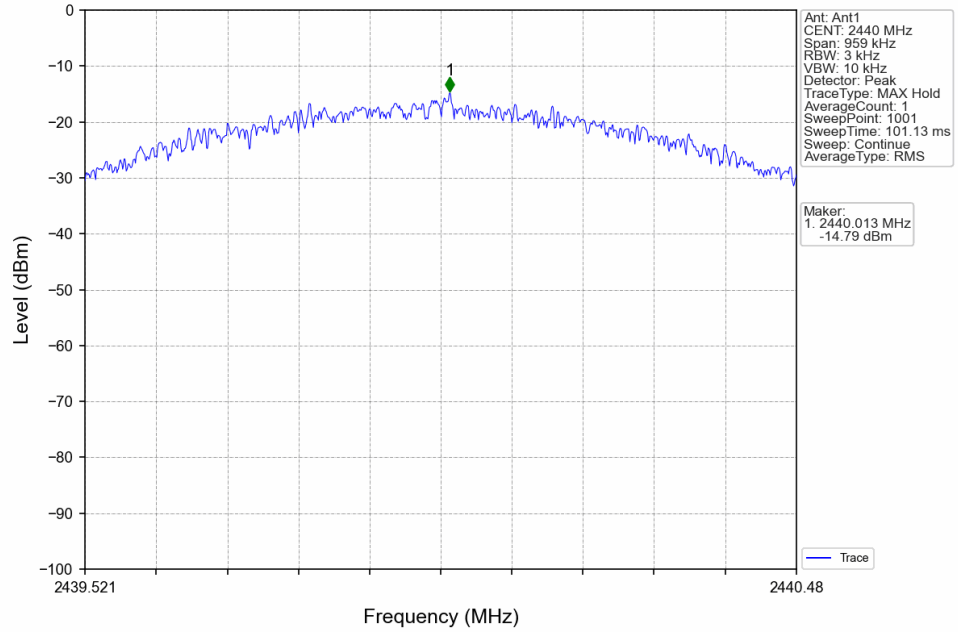
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			ANT1	Limit	
1M	SISO	2402	-16.12	<=8	Pass
		2440	-14.79	<=8	Pass
		2480	-14.57	<=8	Pass
2M	SISO	2402	-18.59	<=8	Pass
		2440	-17.13	<=8	Pass
		2480	-16.88	<=8	Pass
Note1: Antenna Gain: Ant1: 4.81dBi;					

3.1.2 Test Graph

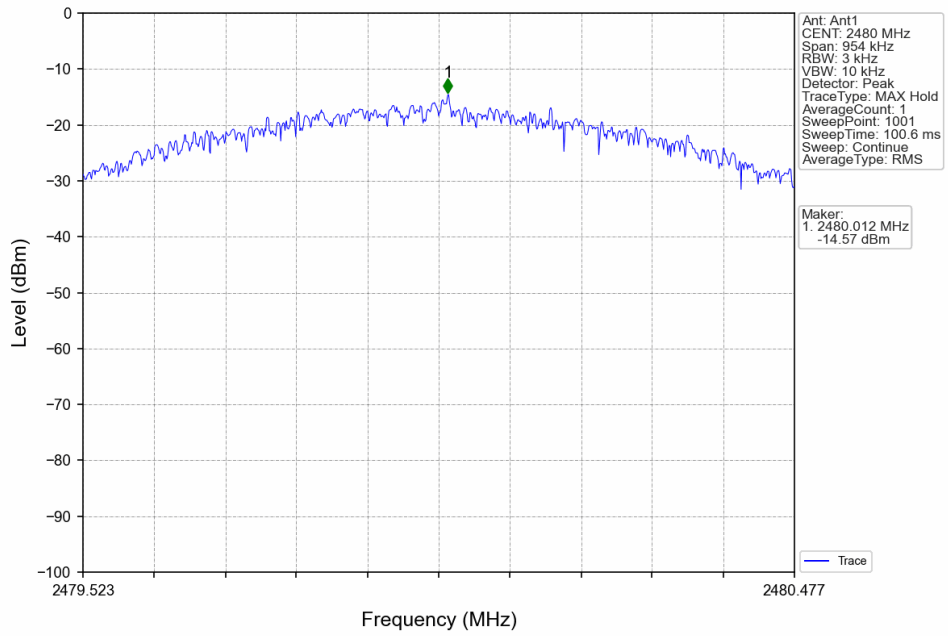
1M_LCH_2402MHz_Ant1_NTNV



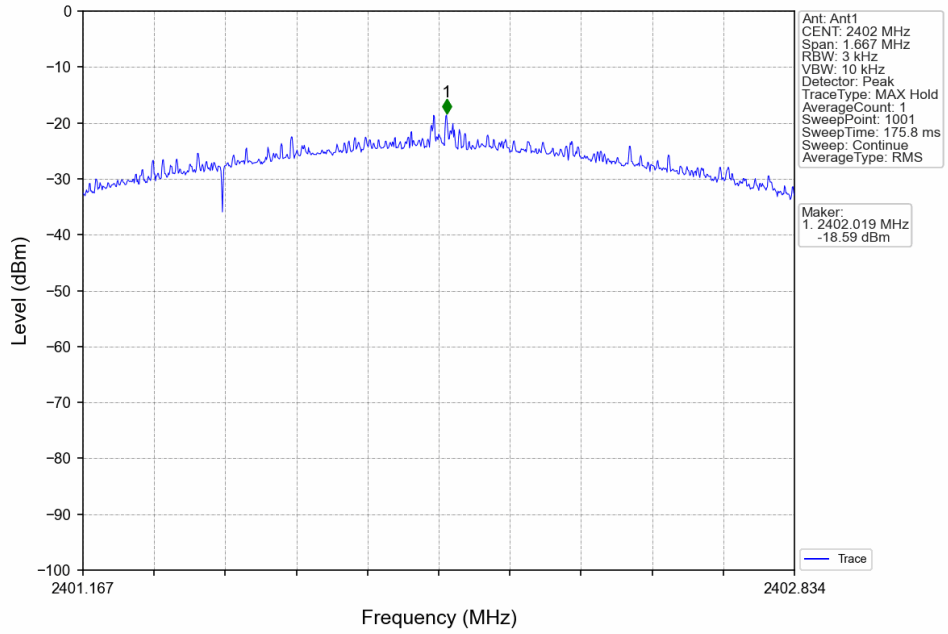
1M_MCH_2440MHz_Ant1_NTNV



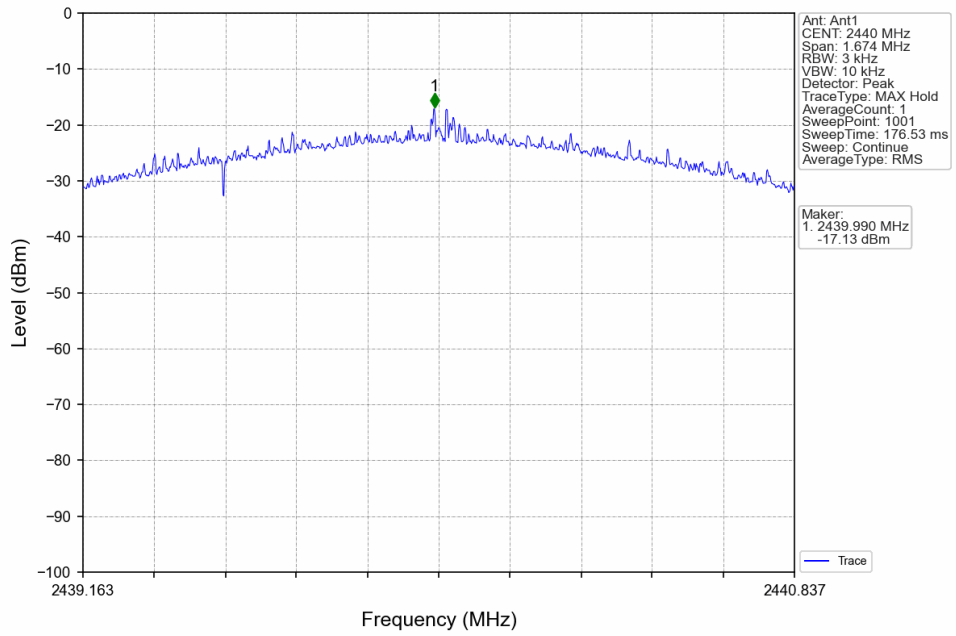
1M_HCH_2480MHz_Ant1_NTNV



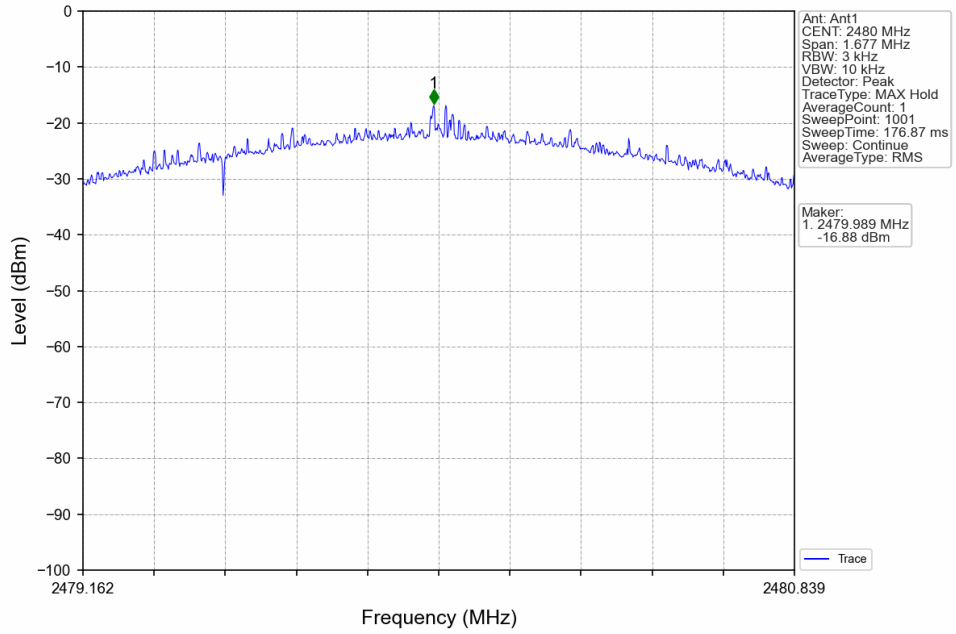
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



4. Unwanted Emissions In Non-restricted Frequency Bands

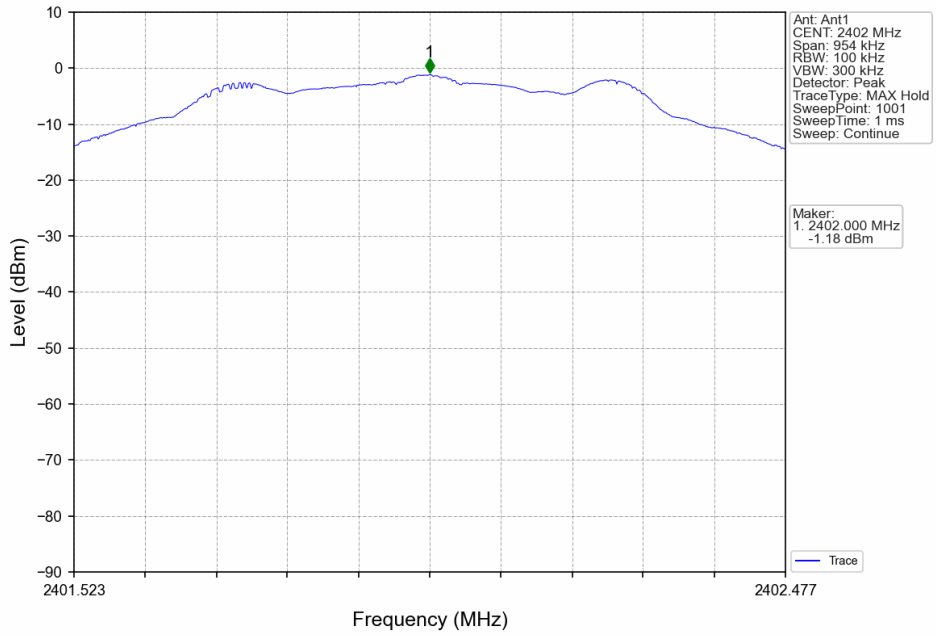
4.1 Ref

4.1.1 Test Result

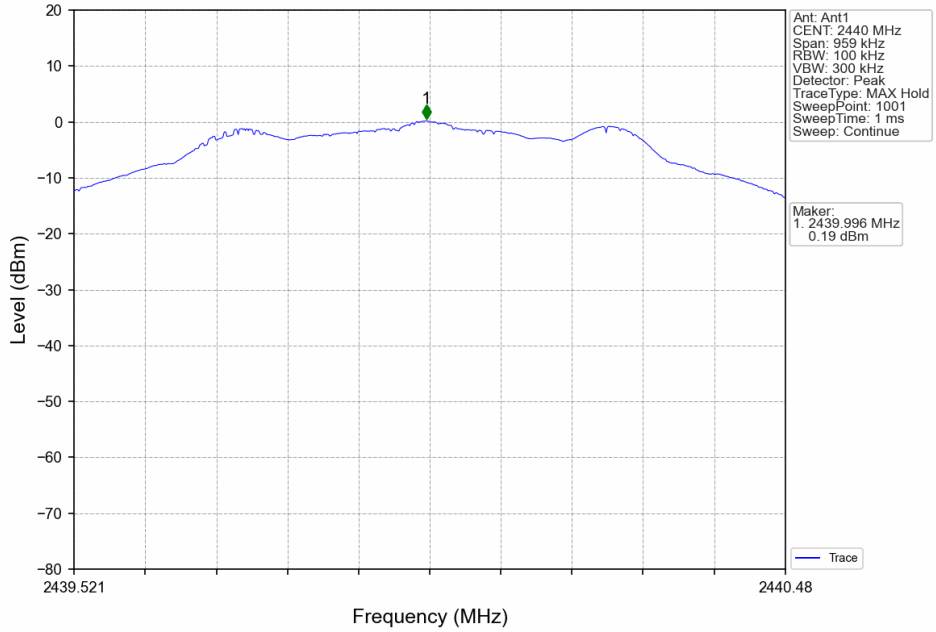
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
1M	SISO	2402	1	-1.18
		2440	1	0.19
		2480	1	**0.31**
2M	SISO	2402	1	-1.36
		2440	1	-0.01
		2480	1	**0.28**
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.				

4.1.2 Test Graph

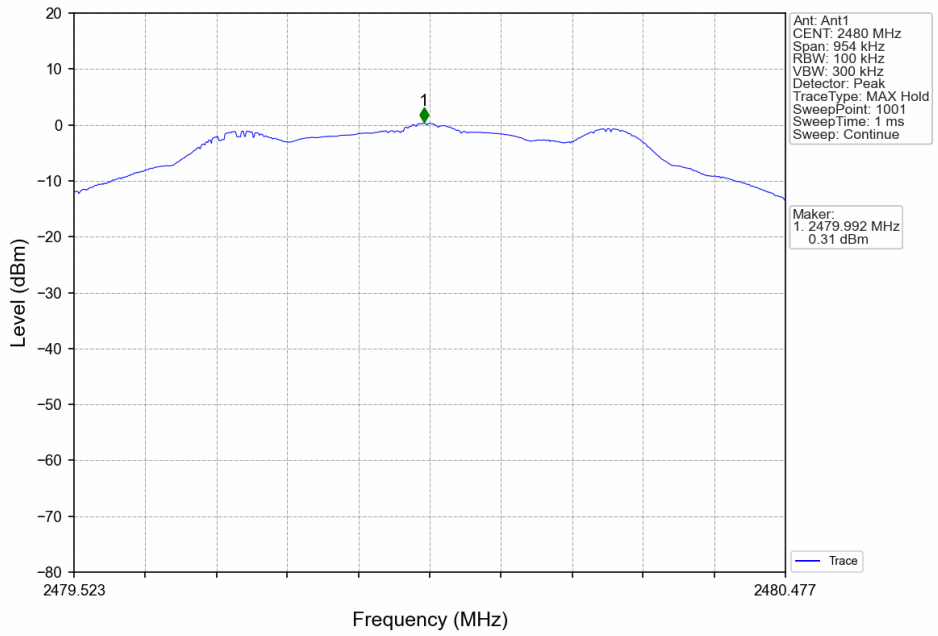
1M_LCH_2402MHz_Ant1_NTNV



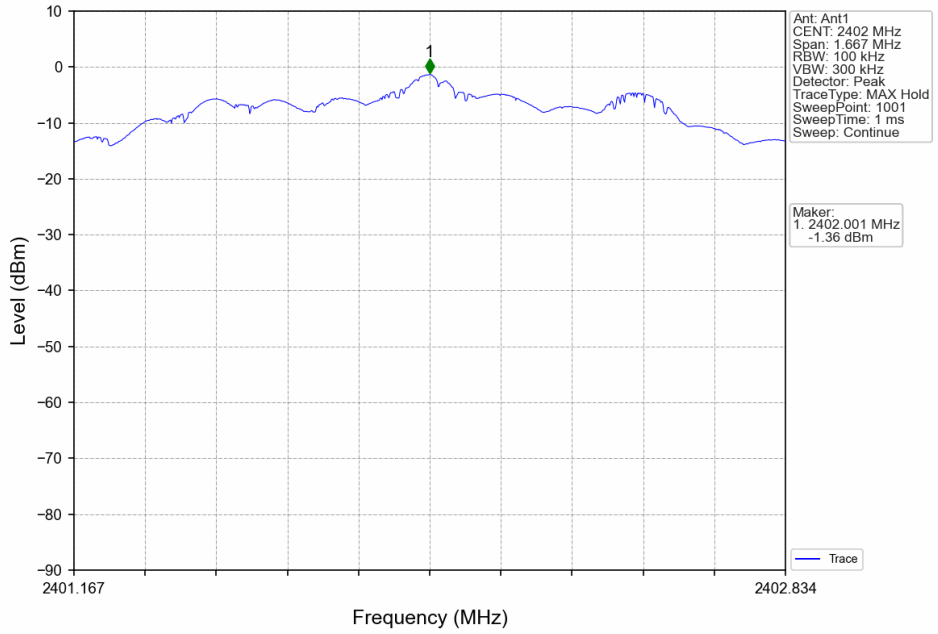
1M_MCH_2440MHz_Ant1_NTNV



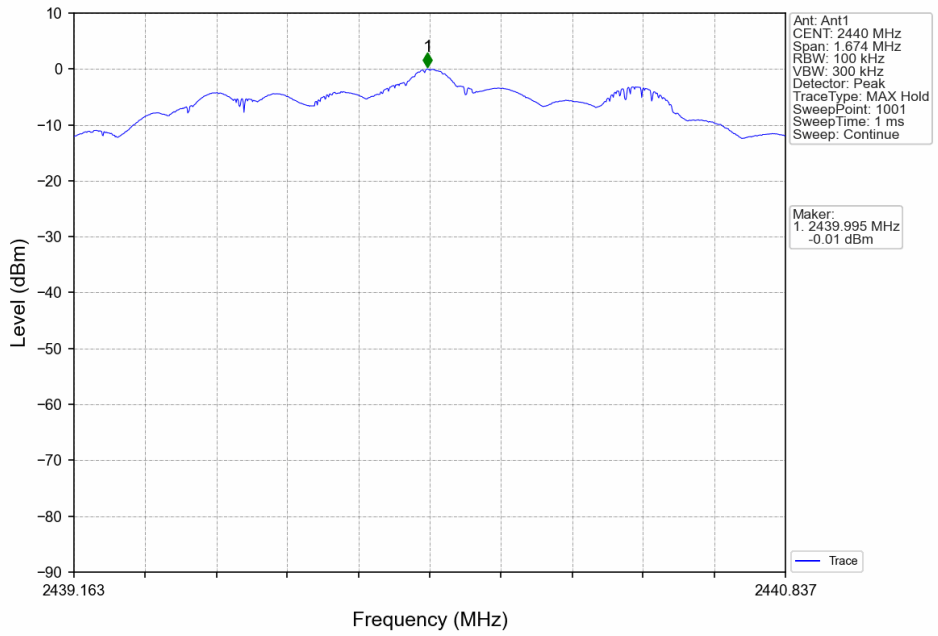
1M_HCH_2480MHz_Ant1_NTNV



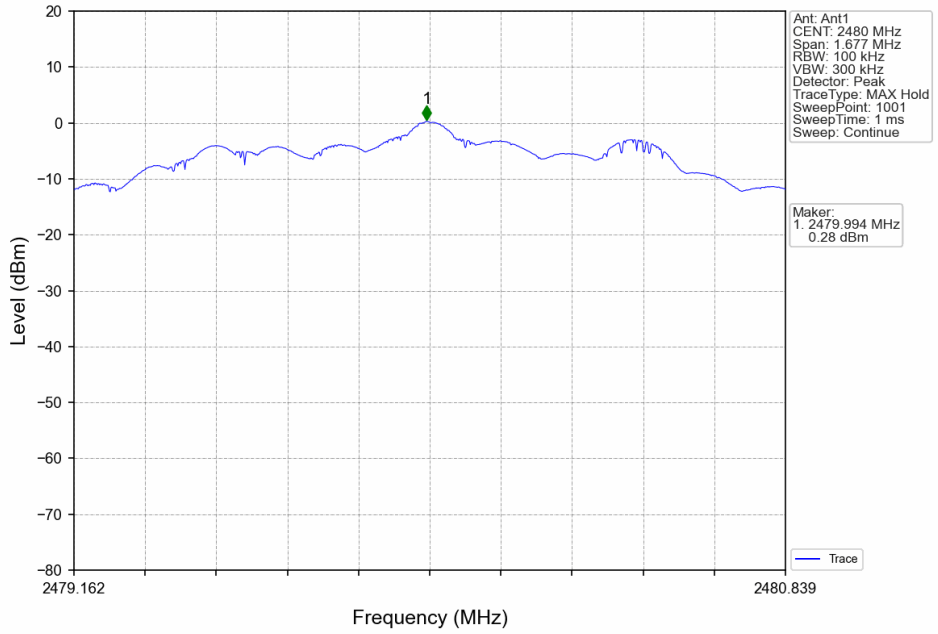
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



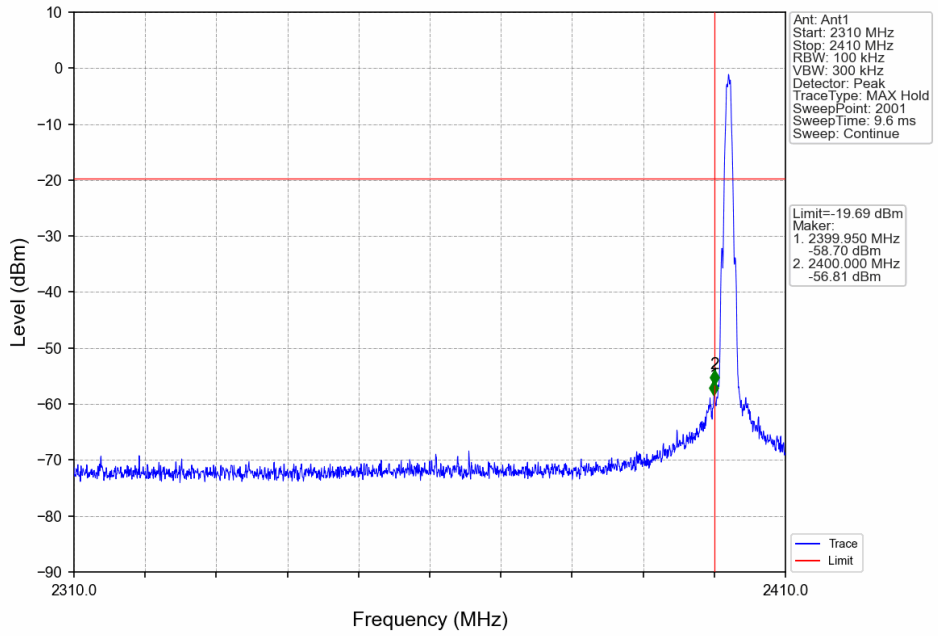
4.2 CSE

4.2.1 Test Result

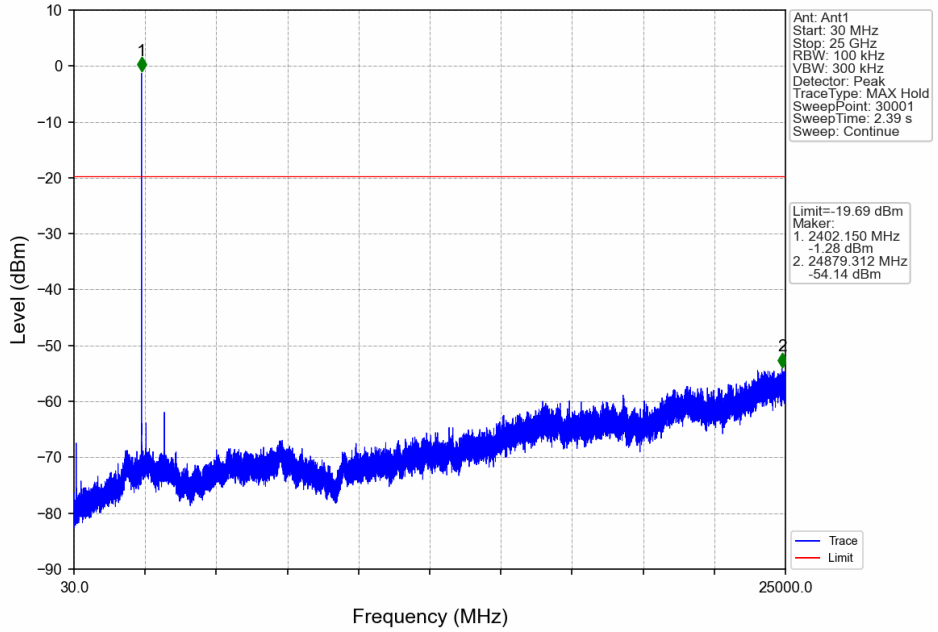
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
1M	SISO	2402	1	0.31	-19.69	Pass
		2440	1	0.31	-19.69	Pass
		2480	1	0.31	-19.69	Pass
2M	SISO	2402	1	0.28	-19.72	Pass
		2440	1	0.28	-19.72	Pass
		2480	1	0.28	-19.72	Pass
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.						

4.2.2 Test Graph

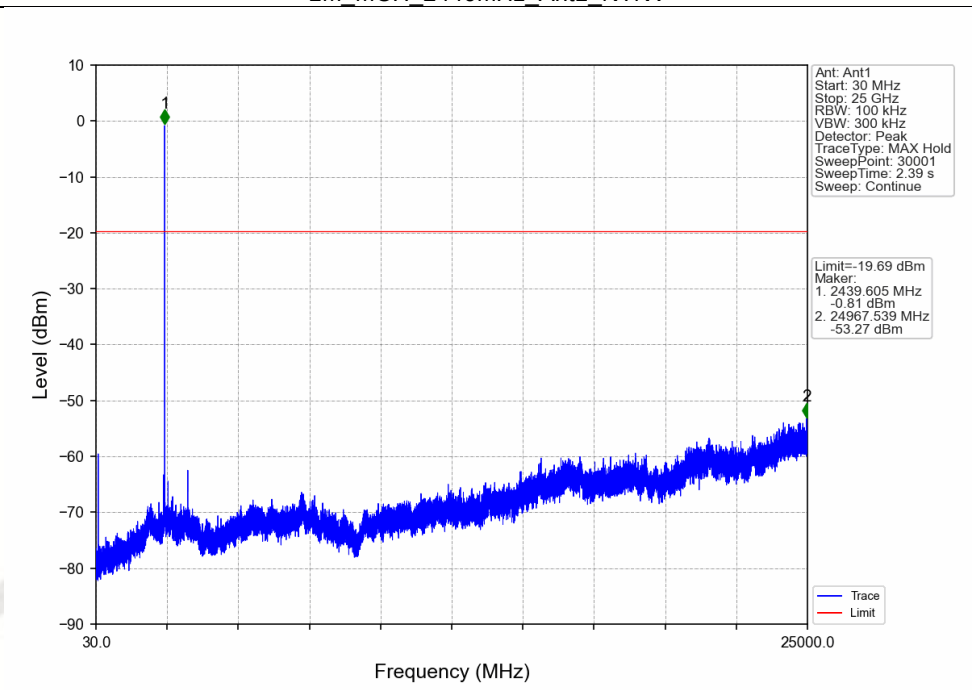
1M_LCH_2402MHz_Ant1_NTNV



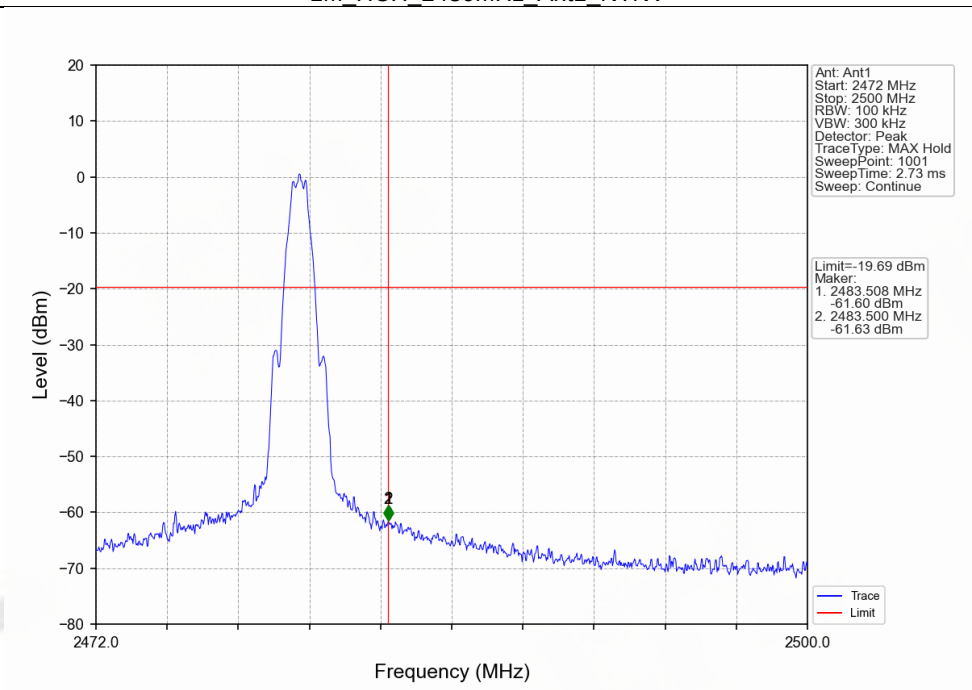
1M_LCH_2402MHz_Ant1_NTNV



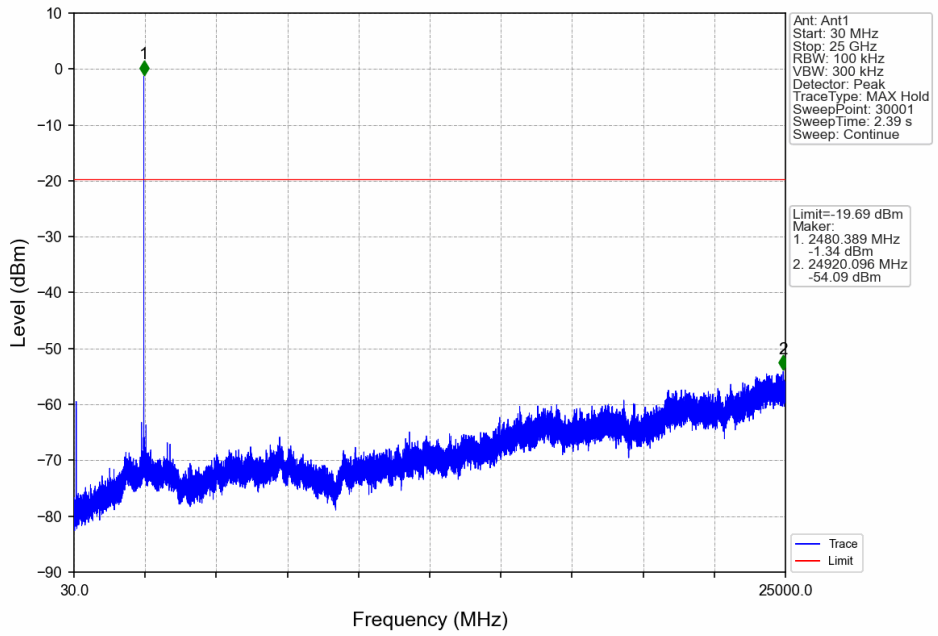
1M_MCH_2440MHz_Ant1_NTNV



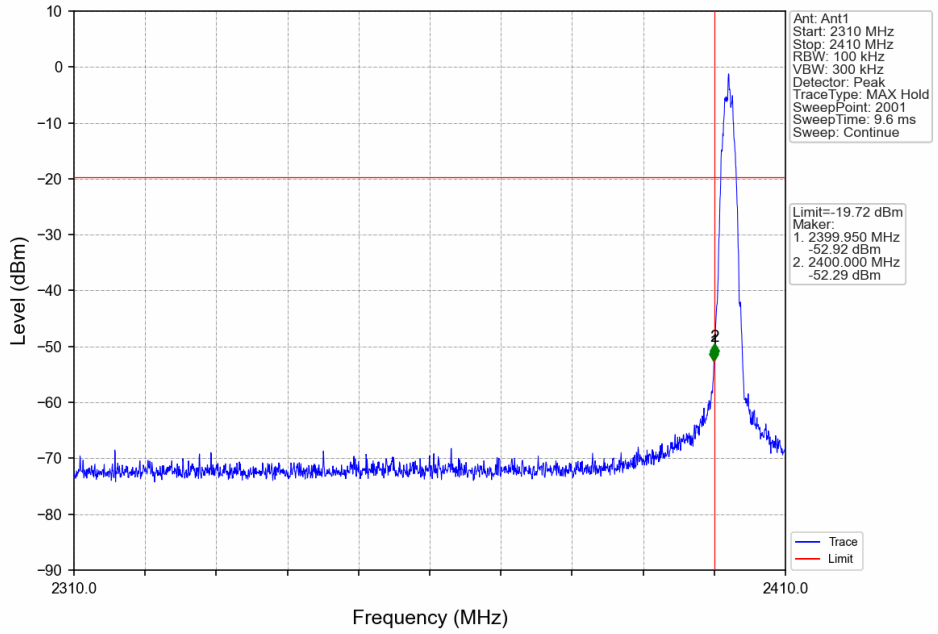
1M_HCH_2480MHz_Ant1_NTNV



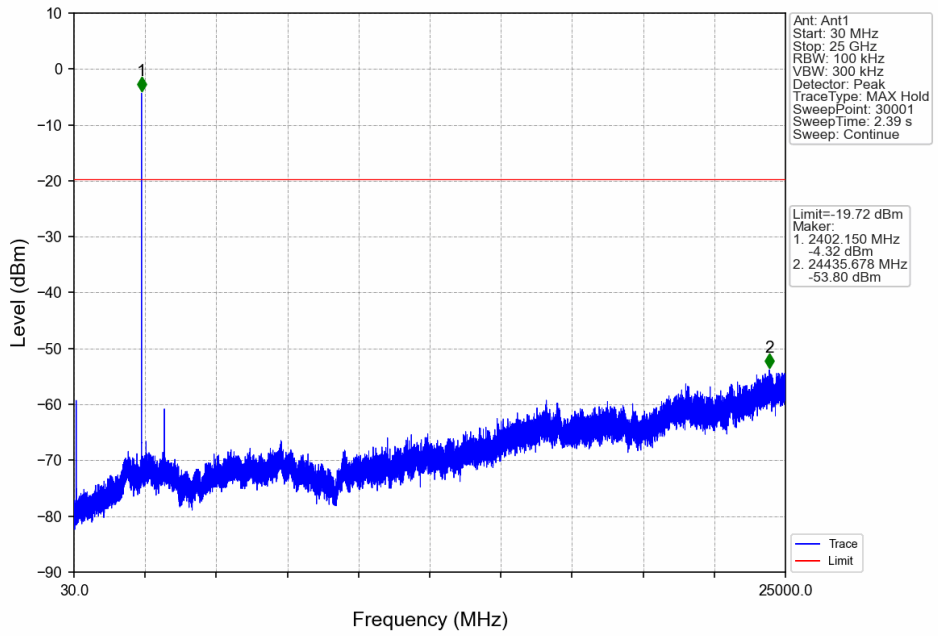
1M_HCH_2480MHz_Ant1_NTNV



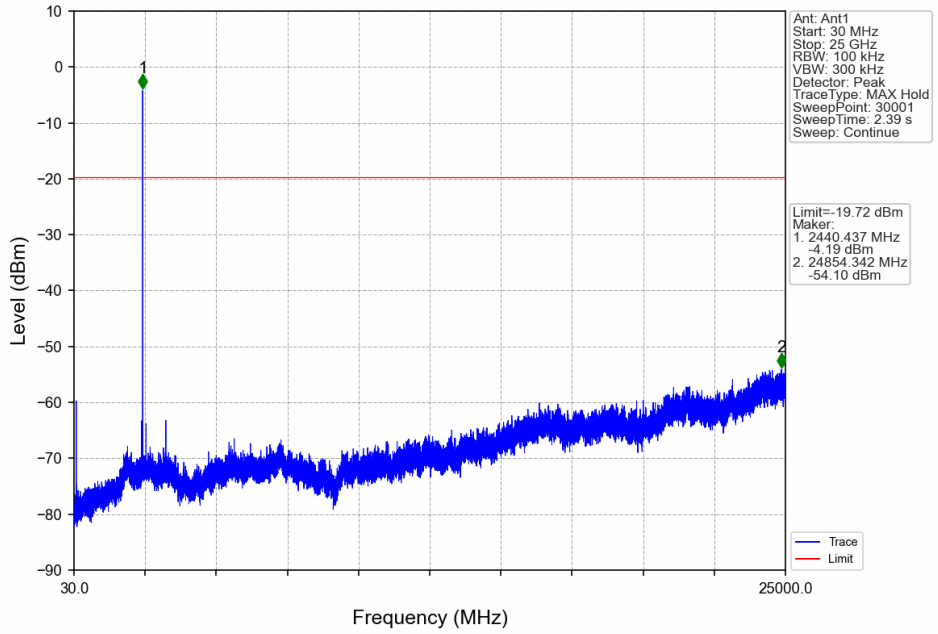
2M_LCH_2402MHz_Ant1_NTNV



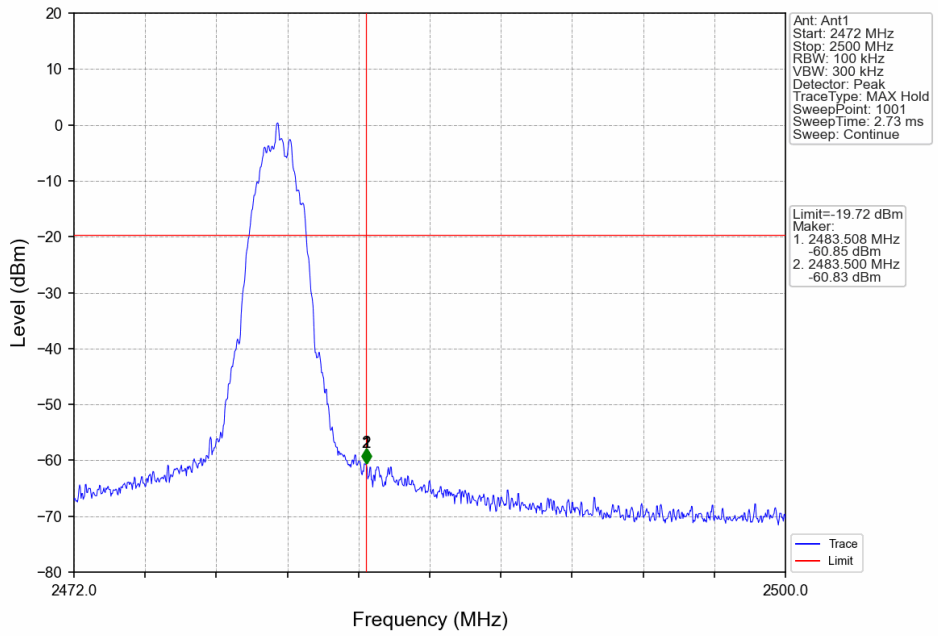
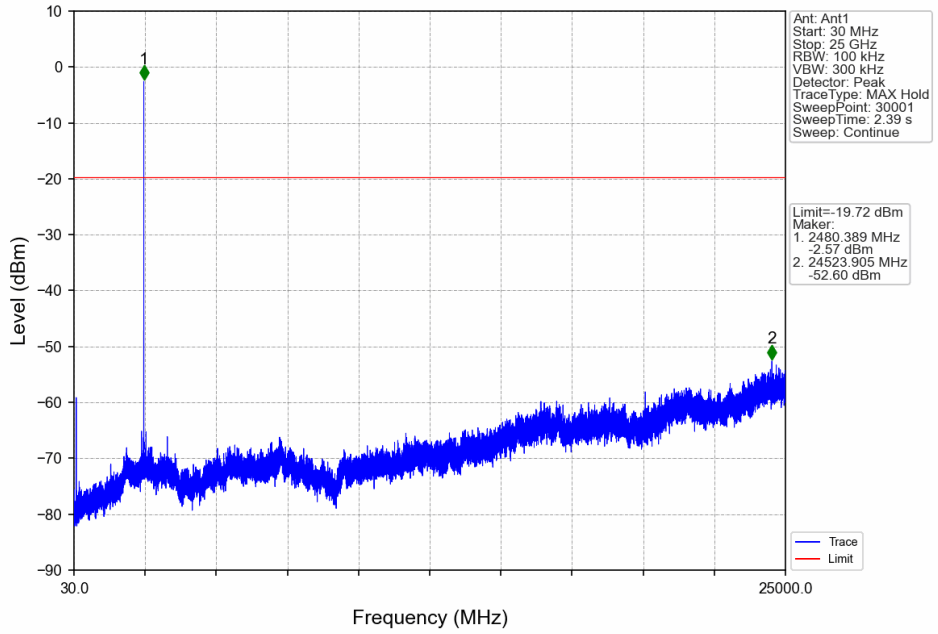
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV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