



RF Test Report

For BTEK250717099A01-T01

Project No.:	BTEK250717099A01E03
Product Description:	23.0°C, 64%, 100.8kPa
Test Engineer:	Zora
Test Date:	2025-08-04



Test Summary

Item	Result
Duty Cycle	Pass
Bandwidth	Pass
Maximum Conducted Output Power	Pass
Maximum Power Spectral Density	Pass
Unwanted Emissions In Non-restricted Frequency Bands	Pass



1. Duty Cycle

1.1 Test Result

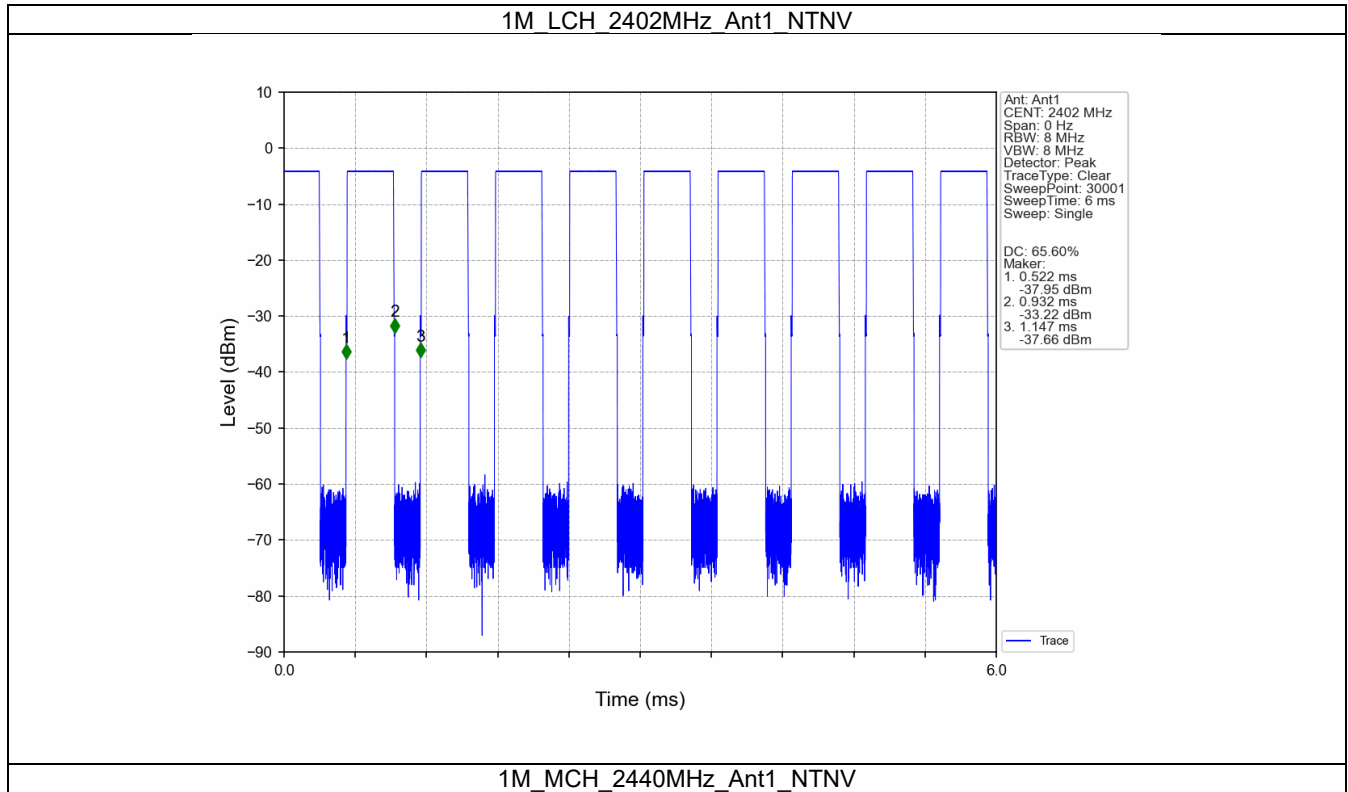
1.1.1 Ant1

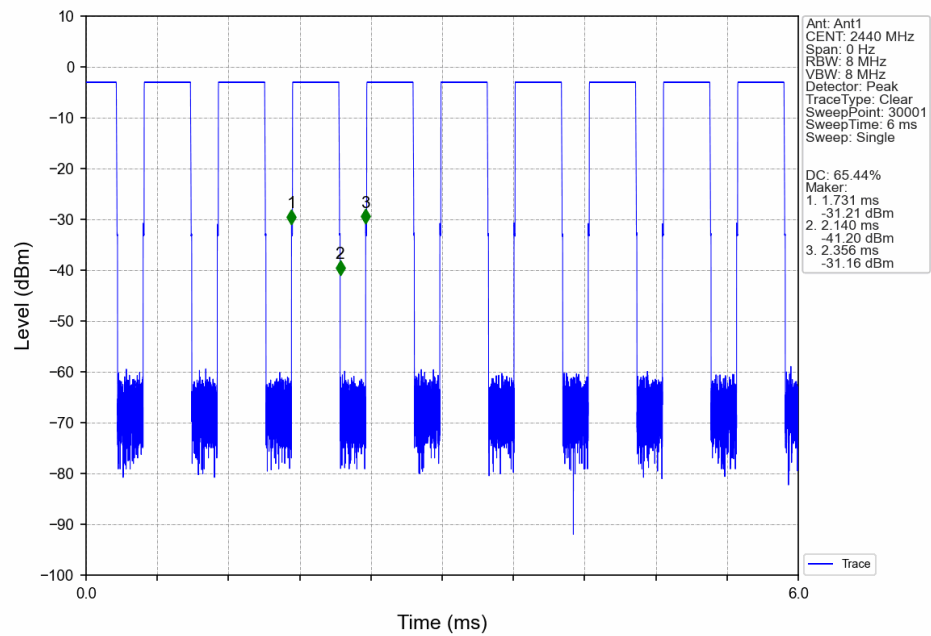
Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
1M	SISO	2402	0.410	0.625	65.60	1.83	0.03
		2440	0.409	0.625	65.44	1.84	0.03
		2480	0.410	0.625	65.60	1.83	0.00
2M	SISO	2402	0.226	0.625	36.16	4.42	0.03
		2440	0.226	0.625	36.16	4.42	0.00
		2480	0.226	0.625	36.16	4.42	0.00



1.2 Test Graph

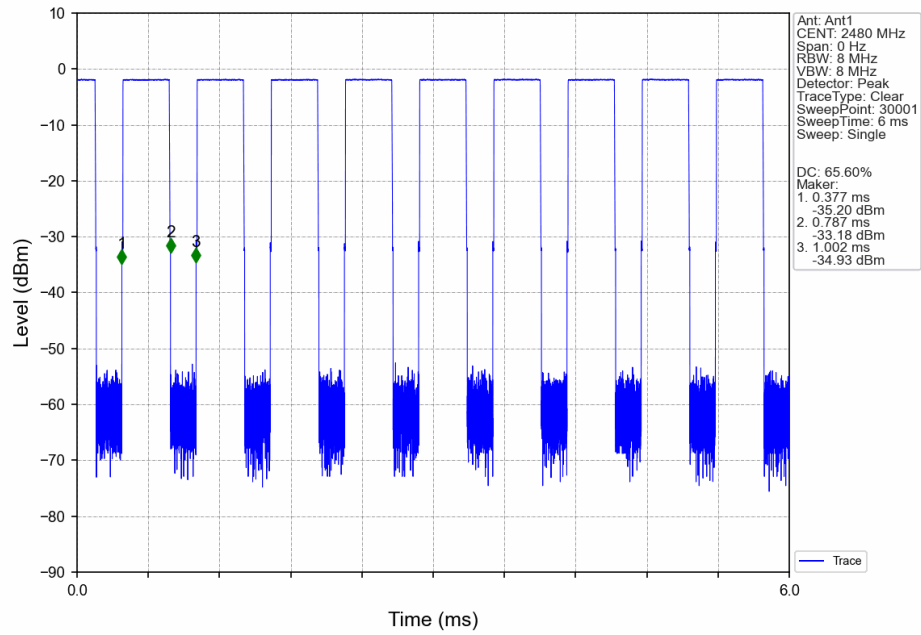
1.2.1 Ant1



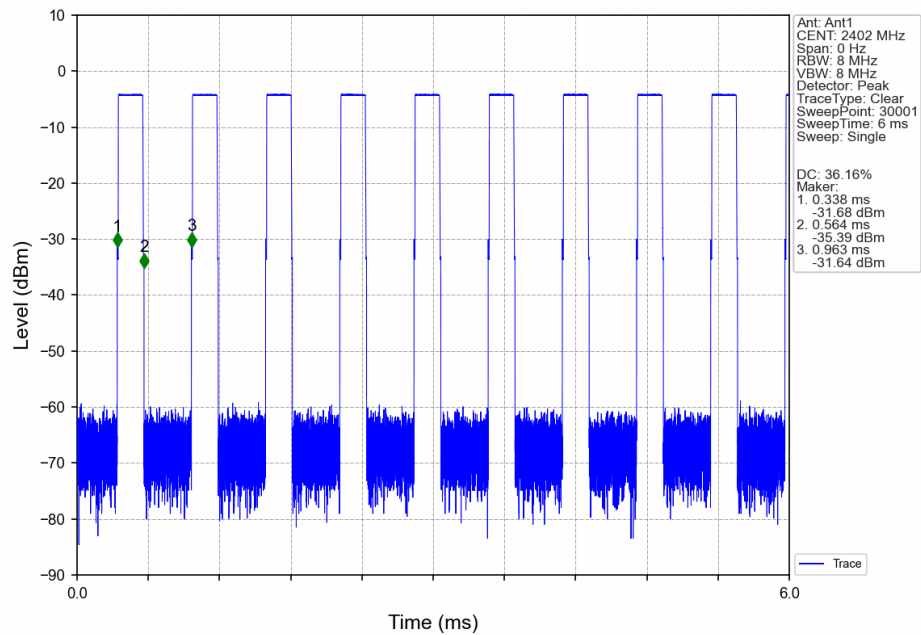




1M_HCH_2480MHz_Ant1_NTNV

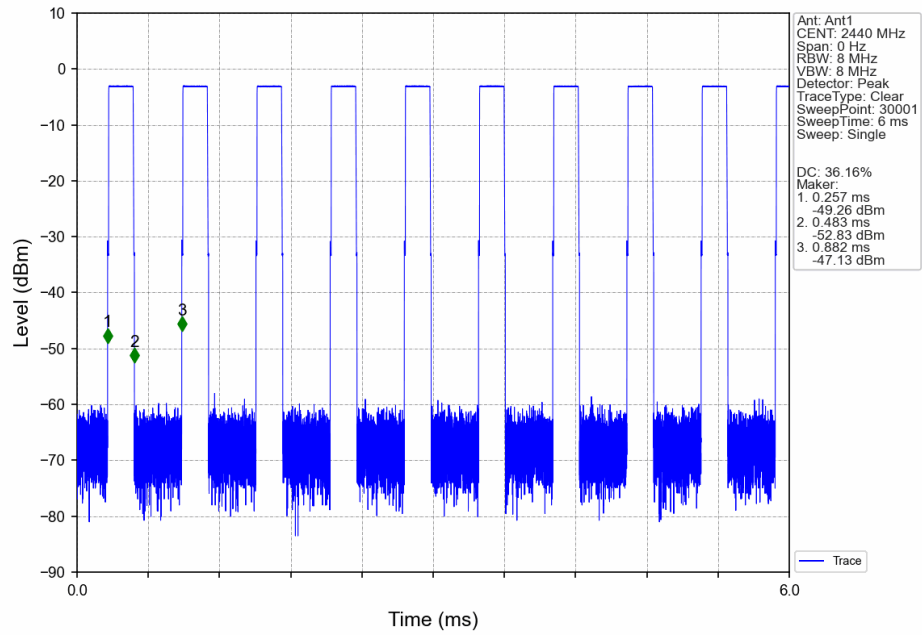


2M_LCH_2402MHz_Ant1_NTNV

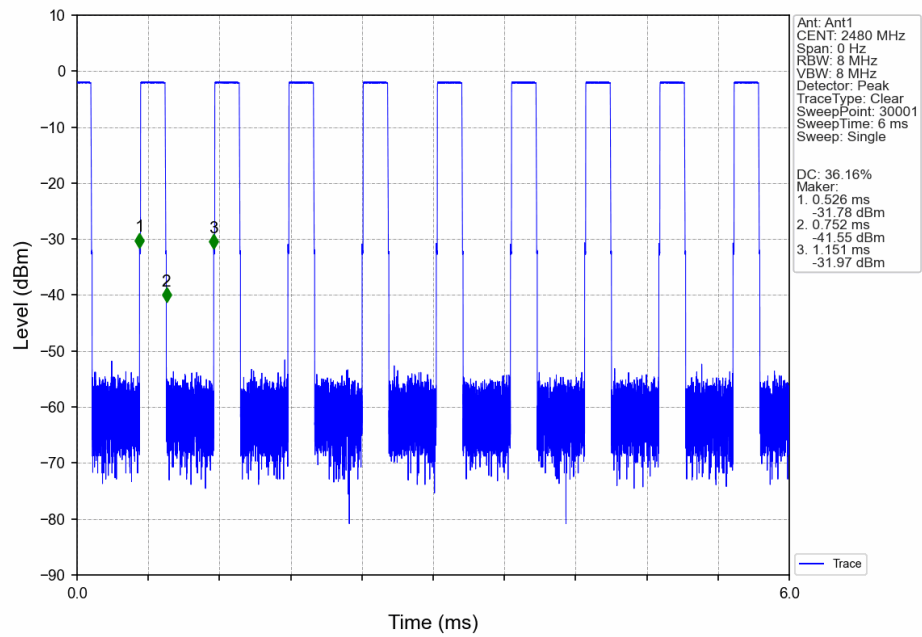




2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV





2. Bandwidth

2.1 Test Result

2.1.1 OBW

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	1	1.047	/	Pass
		2440	1	1.048	/	Pass
		2480	1	1.048	/	Pass
2M	SISO	2402	1	2.074	/	Pass
		2440	1	2.069	/	Pass
		2480	1	2.072	/	Pass

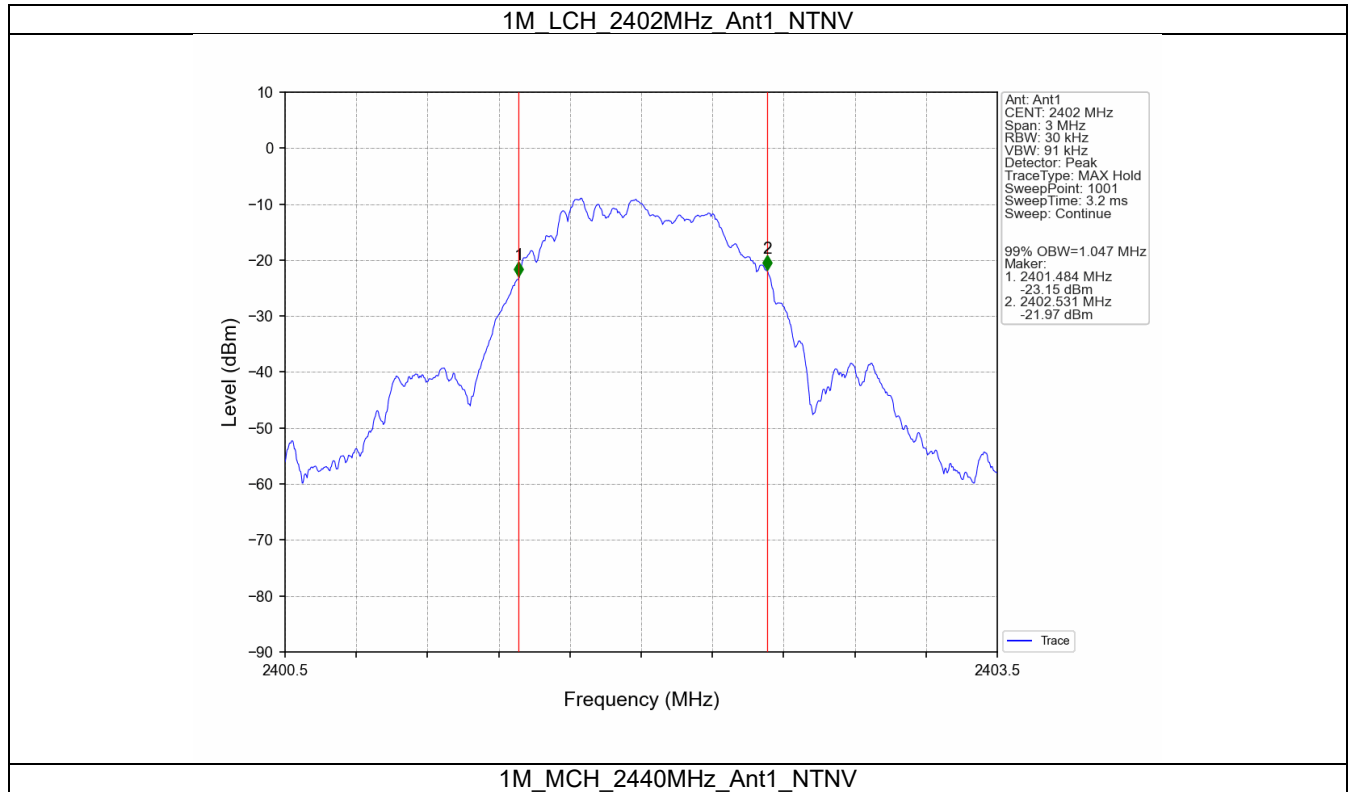
2.1.2 6dB BW

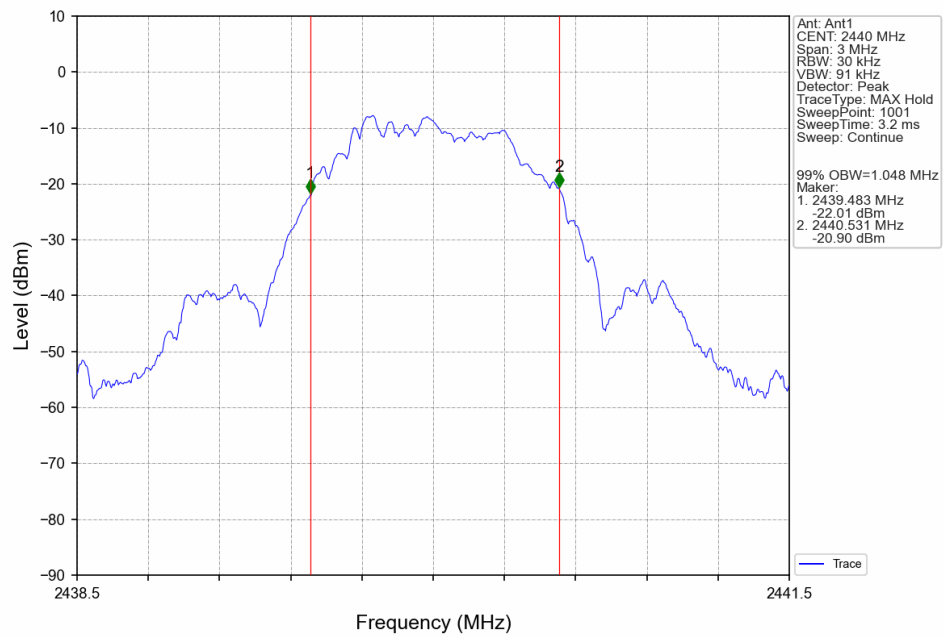
Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	1	0.722	≥ 0.5	Pass
		2440	1	0.718	≥ 0.5	Pass
		2480	1	0.722	≥ 0.5	Pass
2M	SISO	2402	1	1.219	≥ 0.5	Pass
		2440	1	1.291	≥ 0.5	Pass
		2480	1	1.219	≥ 0.5	Pass



2.2 Test Graph

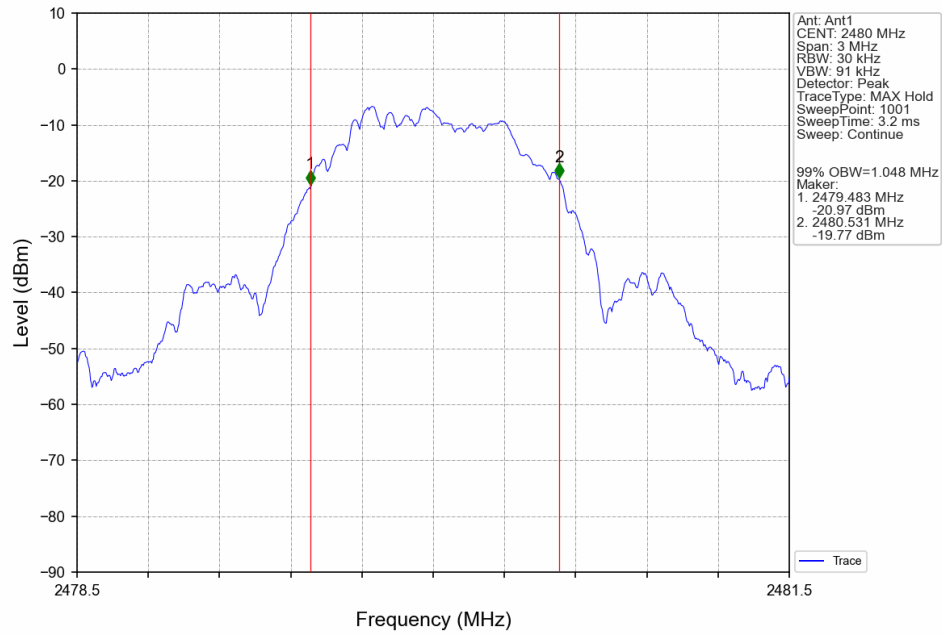
2.2.1 OBW



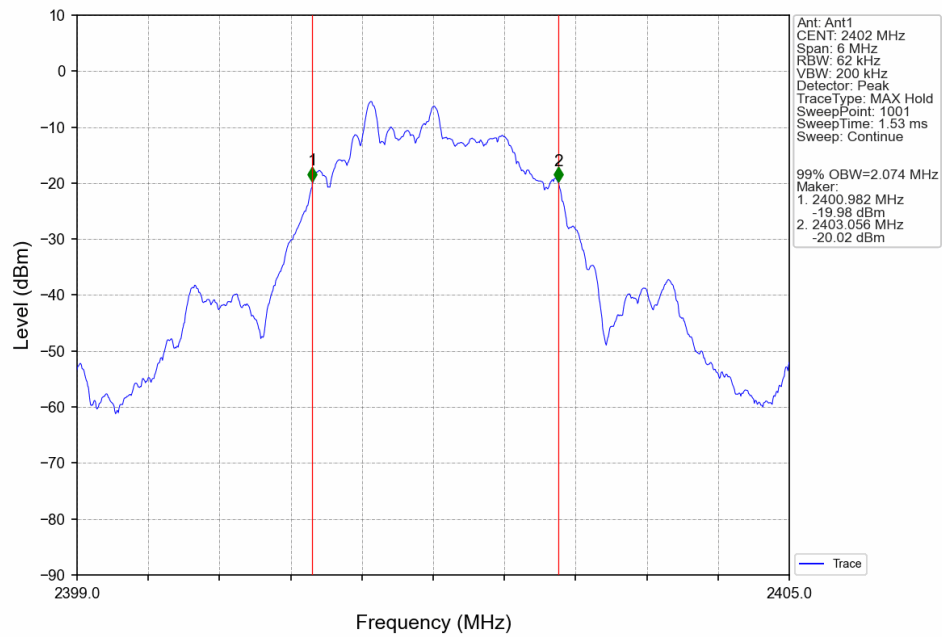




1M_HCH_2480MHz_Ant1_NTNV

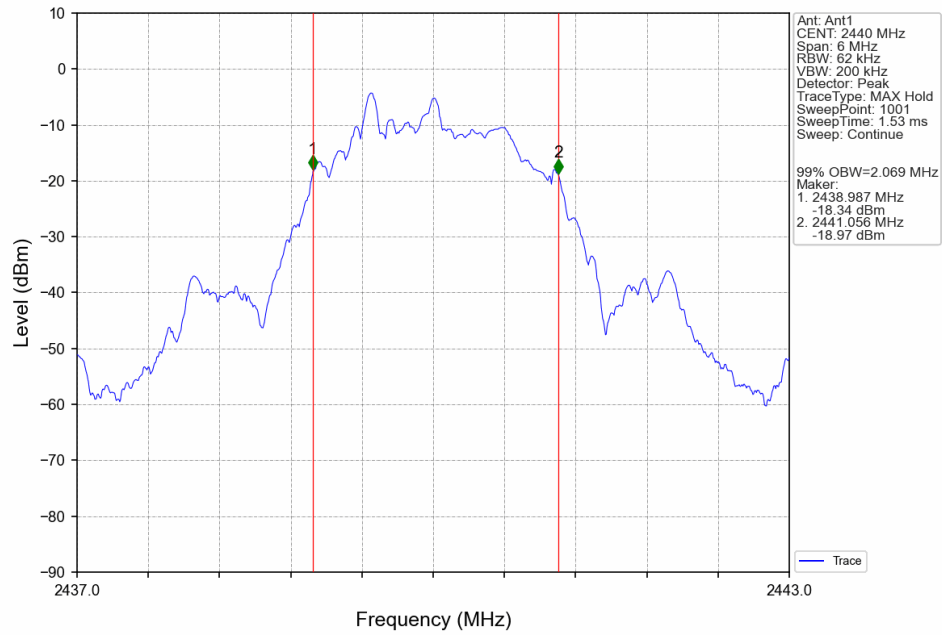


2M_LCH_2402MHz_Ant1_NTNV

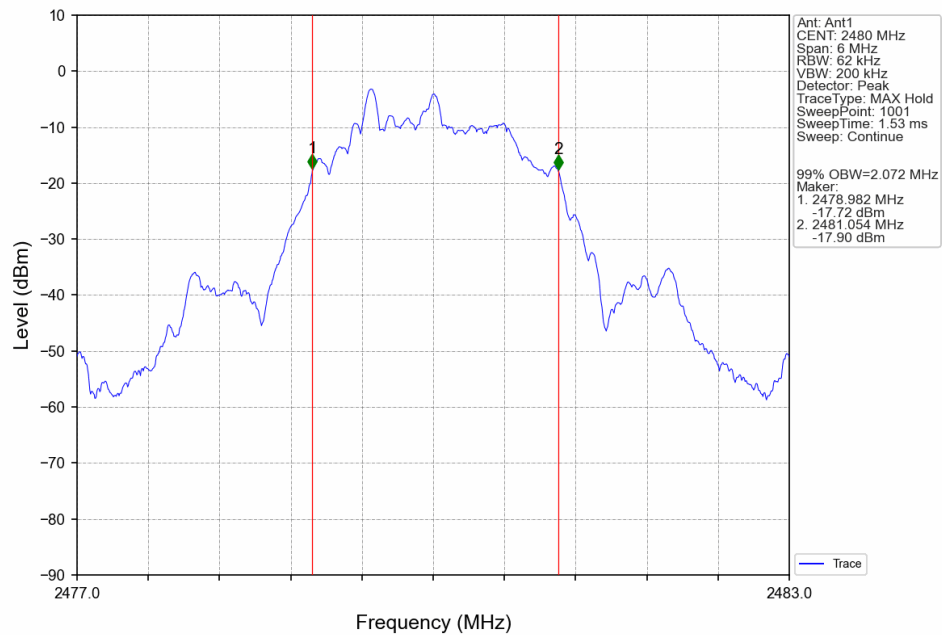




2M_MCH_2440MHz_Ant1_NTNV

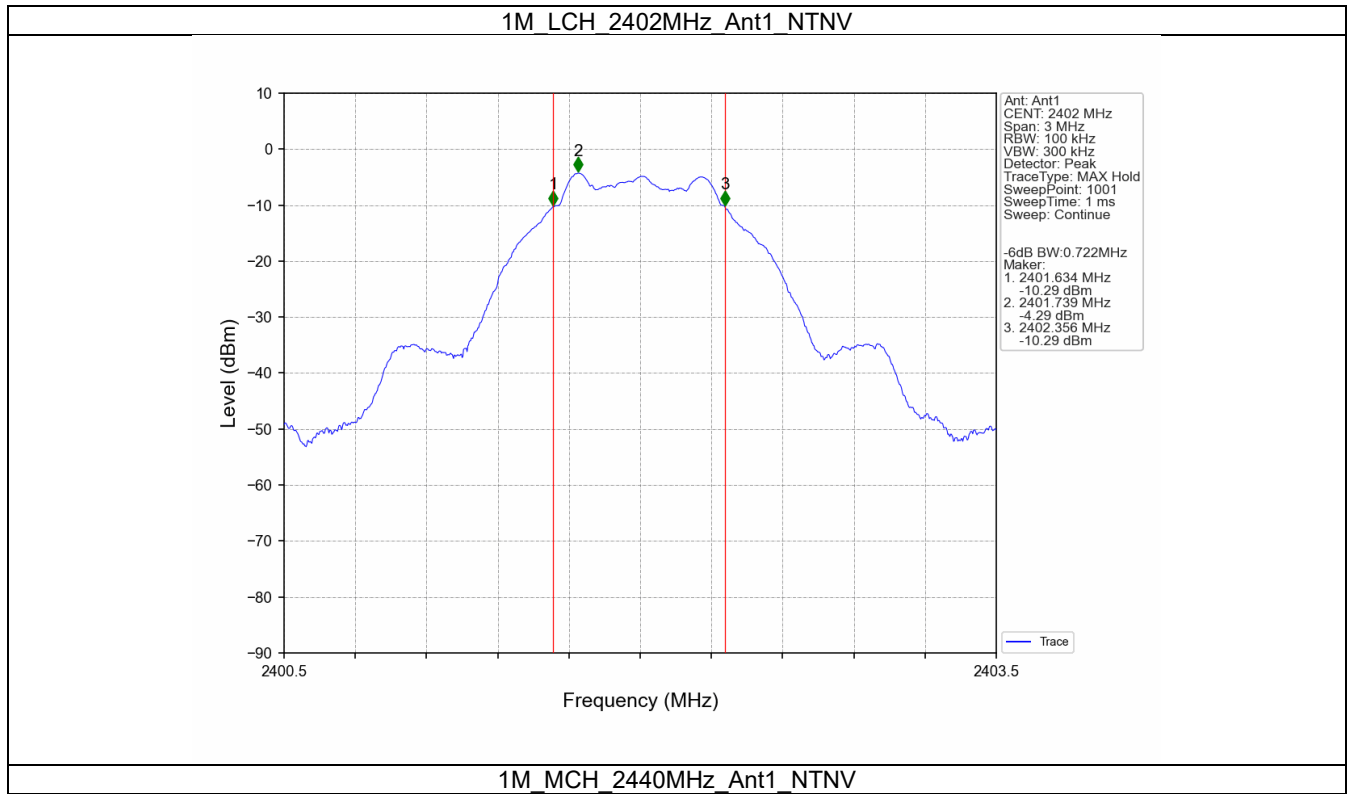


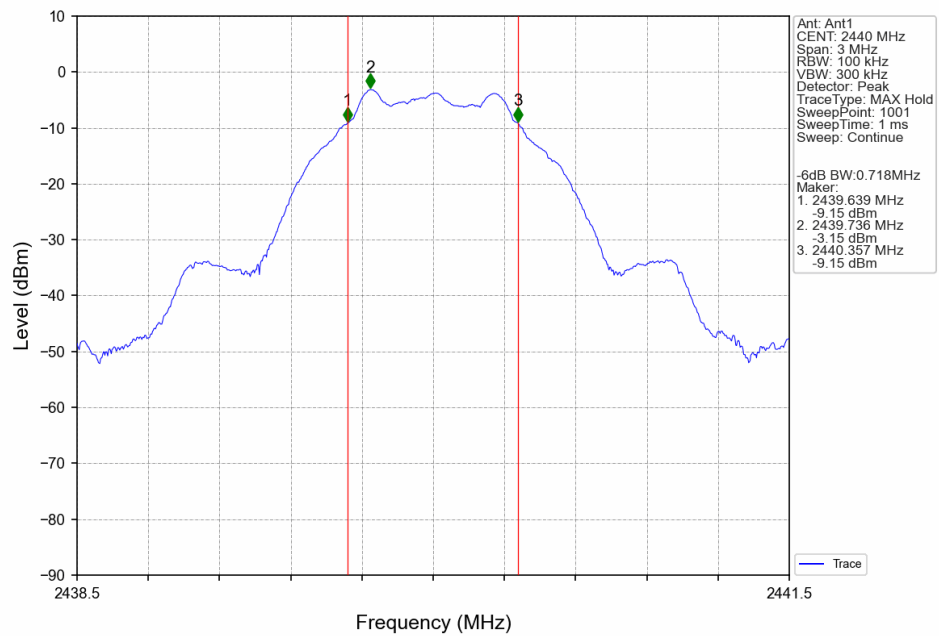
2M_HCH_2480MHz_Ant1_NTNV





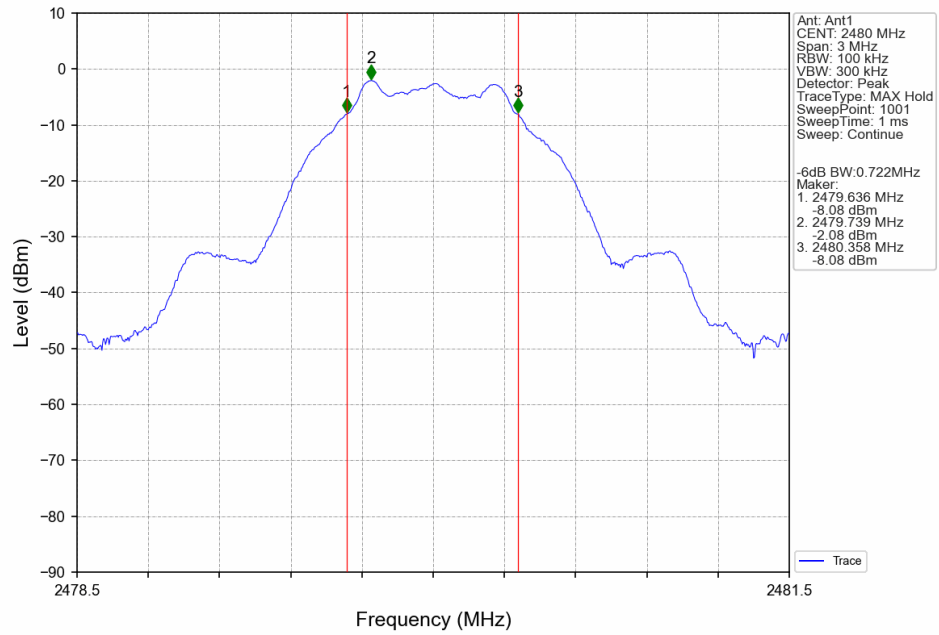
2.2.2 6dB BW



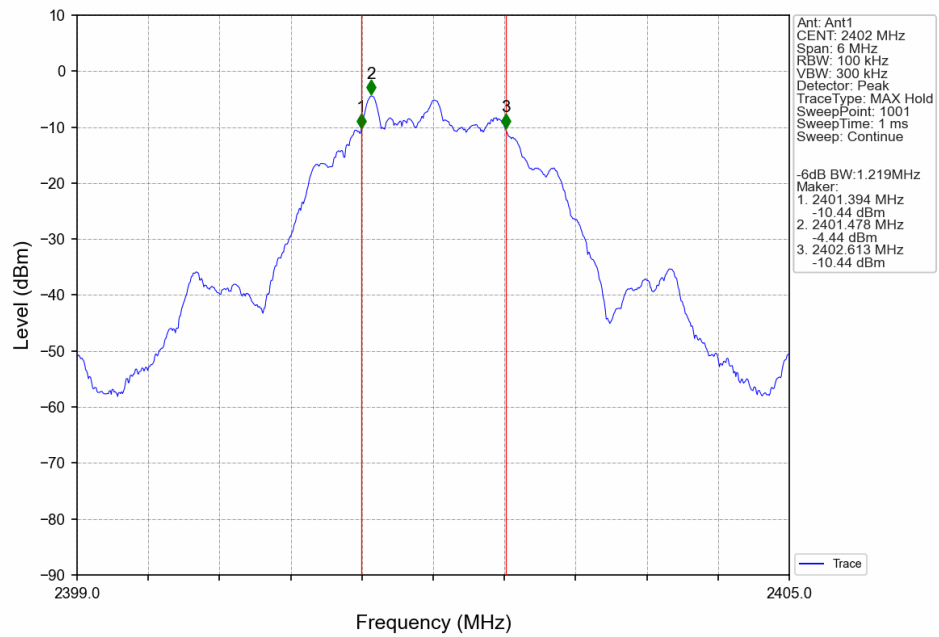




1M_HCH_2480MHz_Ant1_NTNV

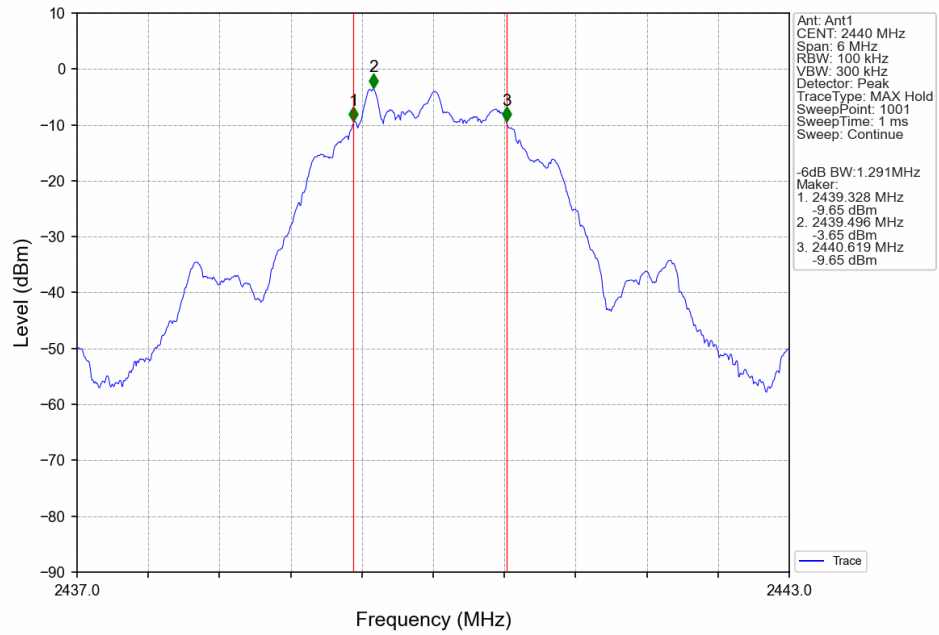


2M_LCH_2402MHz_Ant1_NTNV

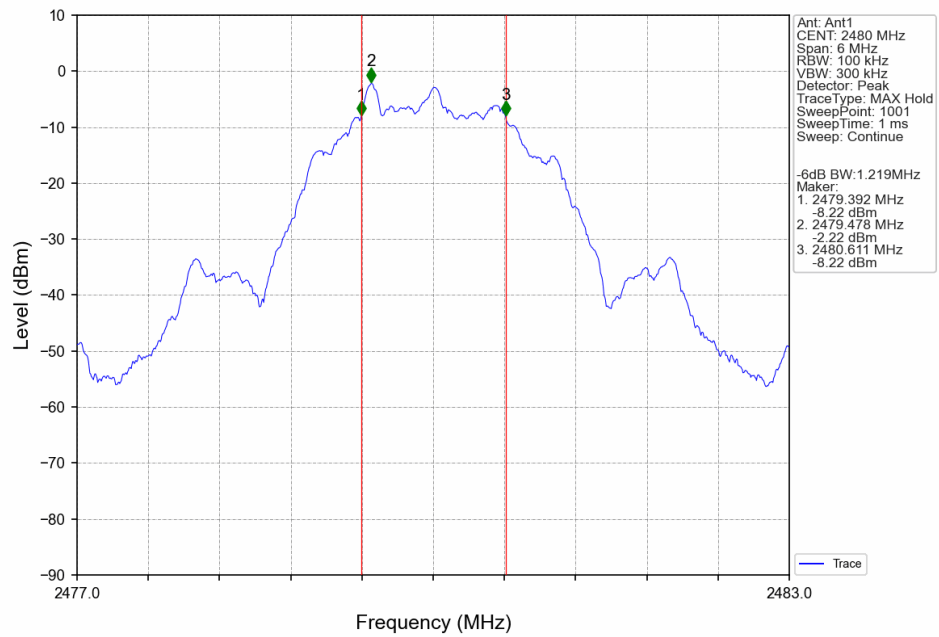




2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV





3. Maximum Conducted Output Power

3.1 Test Result

3.1.1 Power

Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
1M	SISO	2402	-4.02	≤ 30	Pass
		2440	-2.97	≤ 30	Pass
		2480	-1.87	≤ 30	Pass
2M	SISO	2402	-4.14	≤ 30	Pass
		2440	-3.10	≤ 30	Pass
		2480	-2.00	≤ 30	Pass

Note1: Antenna Gain: Ant1: -0.37dBi;

Note2: Testing power, the duty cycle of the modulated wave is greater than 98%.

4. Maximum Power Spectral Density

4.1 Test Result

4.1.1 PSD

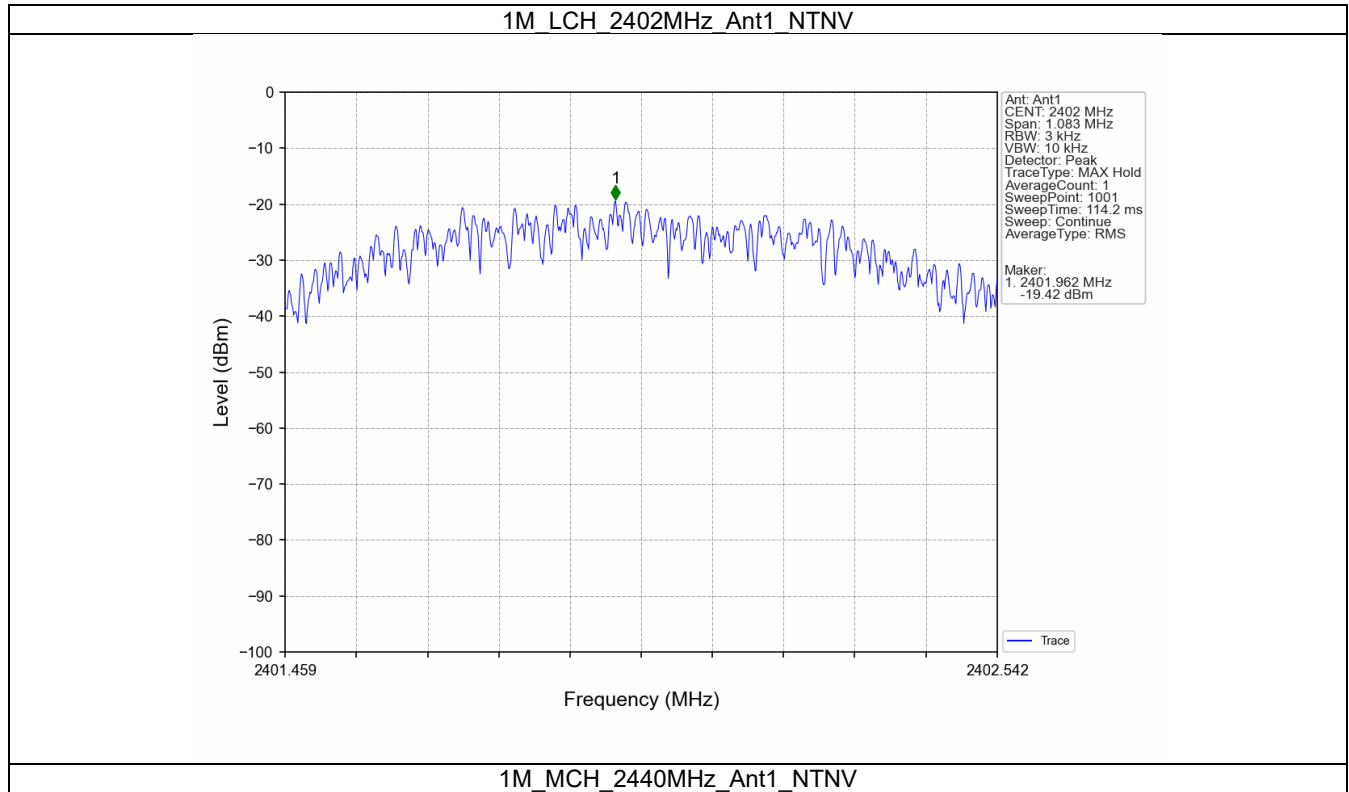
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			ANT1	Limit	
1M	SISO	2402	-19.42	≤ 8	Pass
		2440	-18.46	≤ 8	Pass
		2480	-17.31	≤ 8	Pass
2M	SISO	2402	-22.89	≤ 8	Pass
		2440	-21.79	≤ 8	Pass
		2480	-20.95	≤ 8	Pass

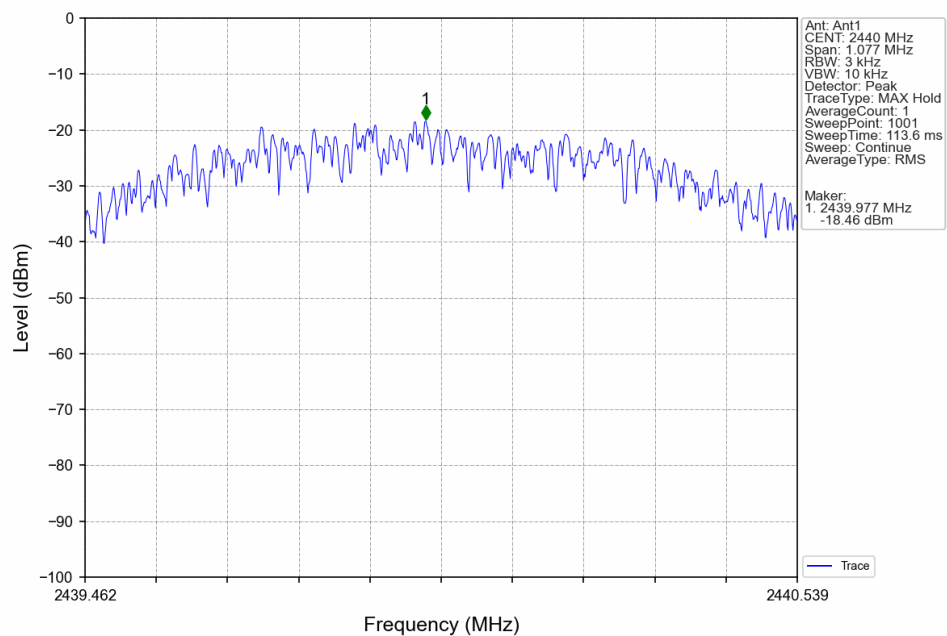
Note1: Antenna Gain: Ant1: -0.37dBi;

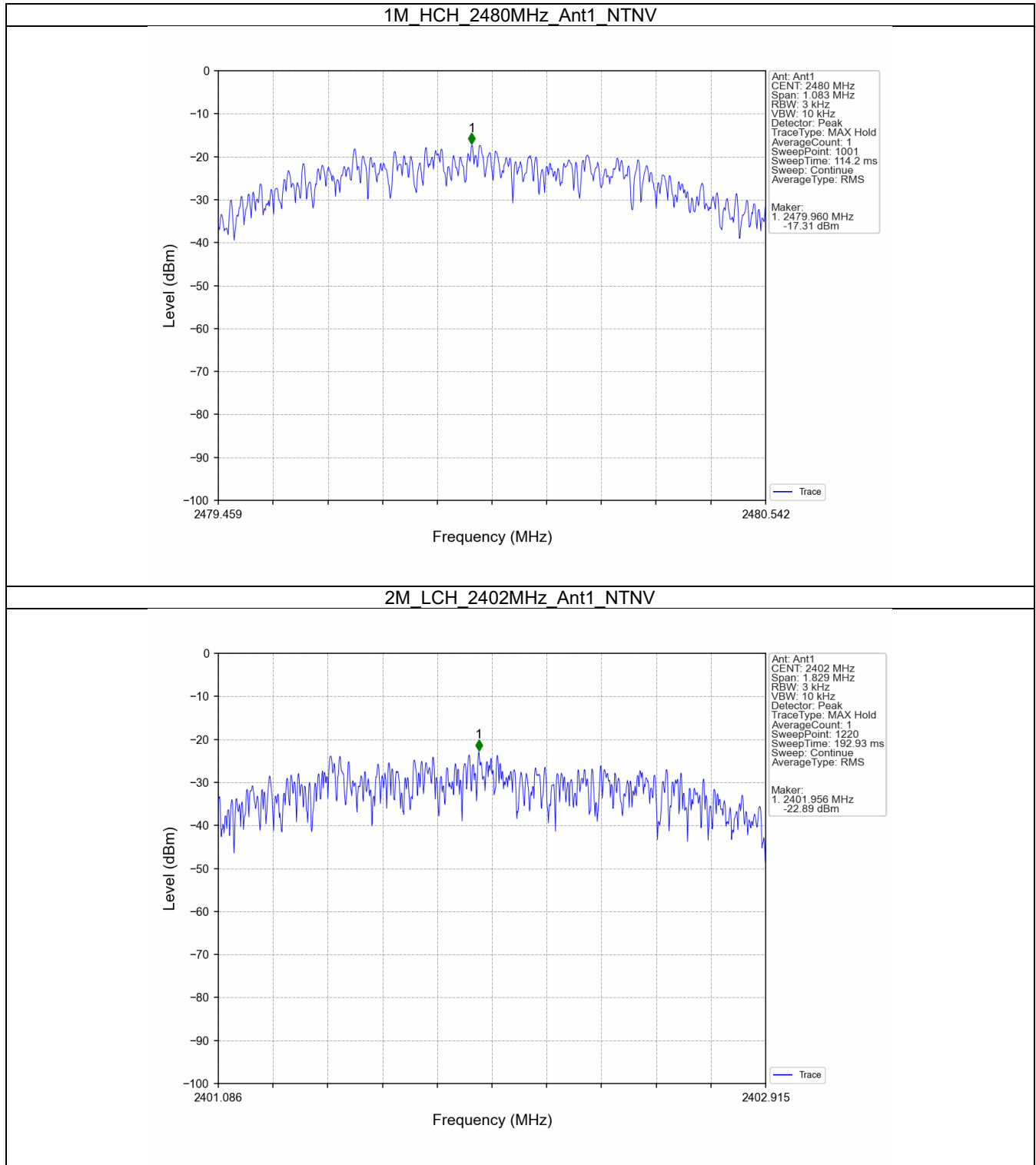


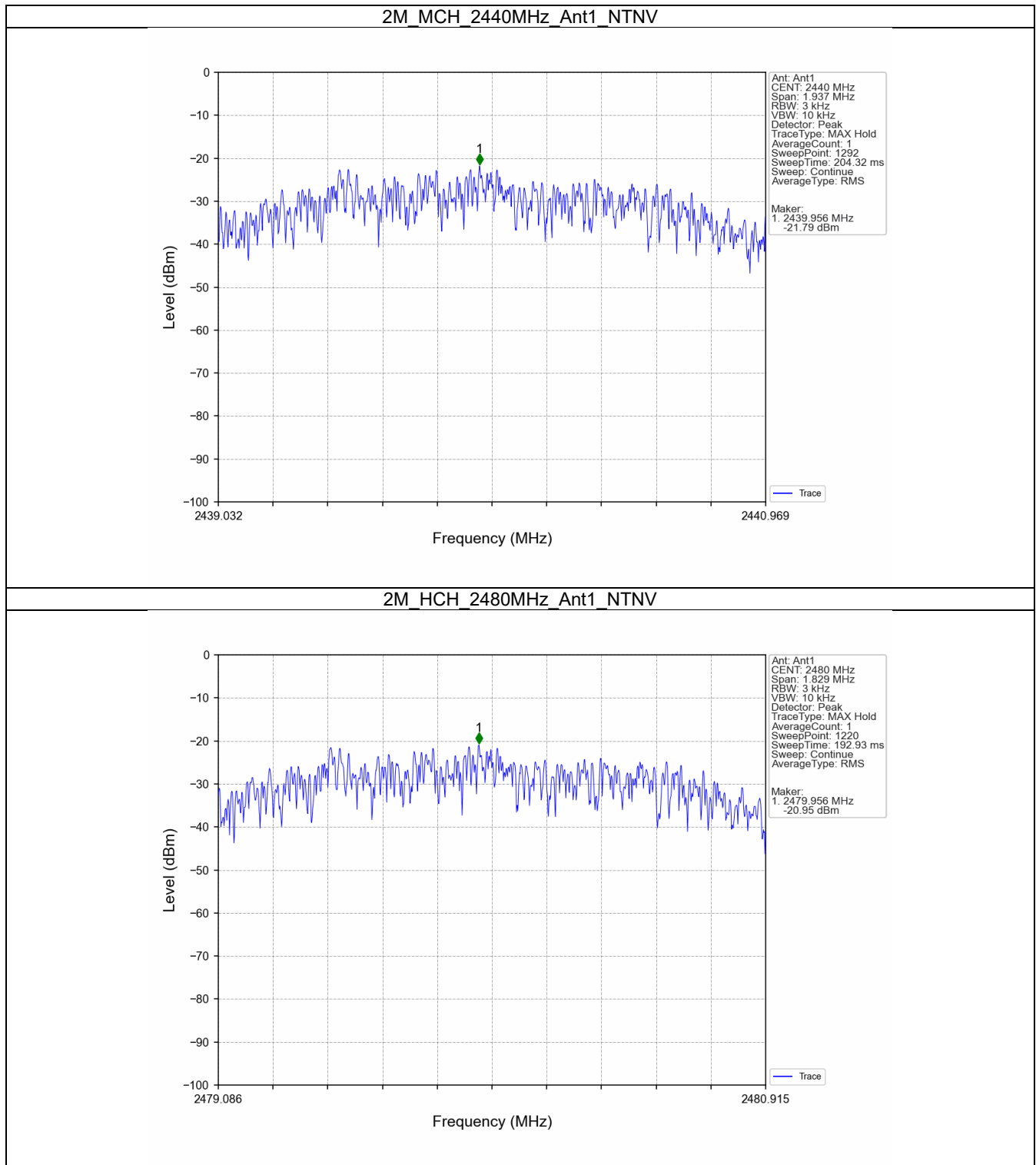
4.2 Test Graph

4.2.1 PSD











5. Unwanted Emissions In Non-restricted Frequency Bands

5.1 Test Result

5.1.1 Ref

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
1M	SISO	2402	1	-4.28
		2440	1	-3.16
		2480	1	-2.04
2M	SISO	2402	1	-4.48
		2440	1	-3.35
		2480	1	-2.26

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.

5.1.2 CSE

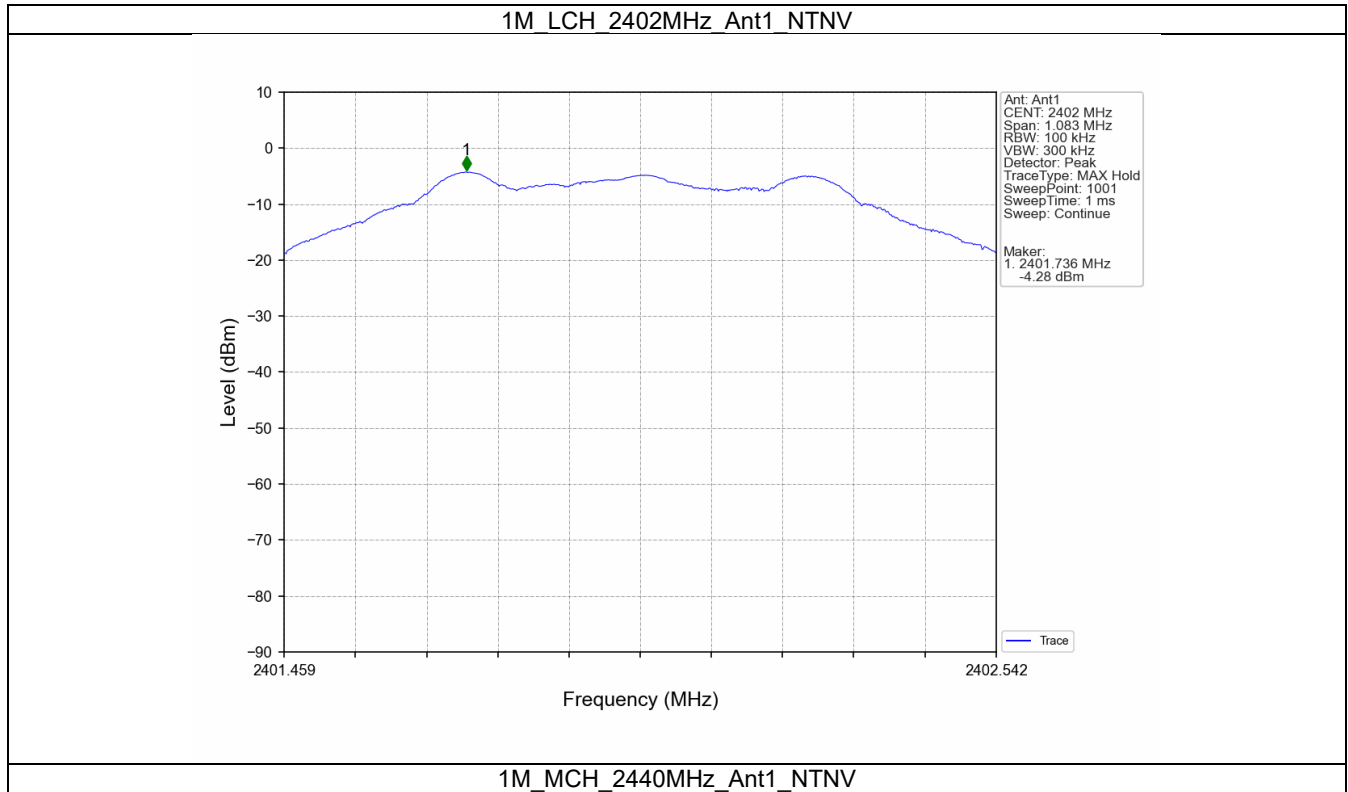
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
1M	SISO	2402	1	-2.04	-22.04	Pass
		2440	1	-2.04	-22.04	Pass
		2480	1	-2.04	-22.04	Pass
2M	SISO	2402	1	-2.26	-22.26	Pass
		2440	1	-2.26	-22.26	Pass
		2480	1	-2.26	-22.26	Pass

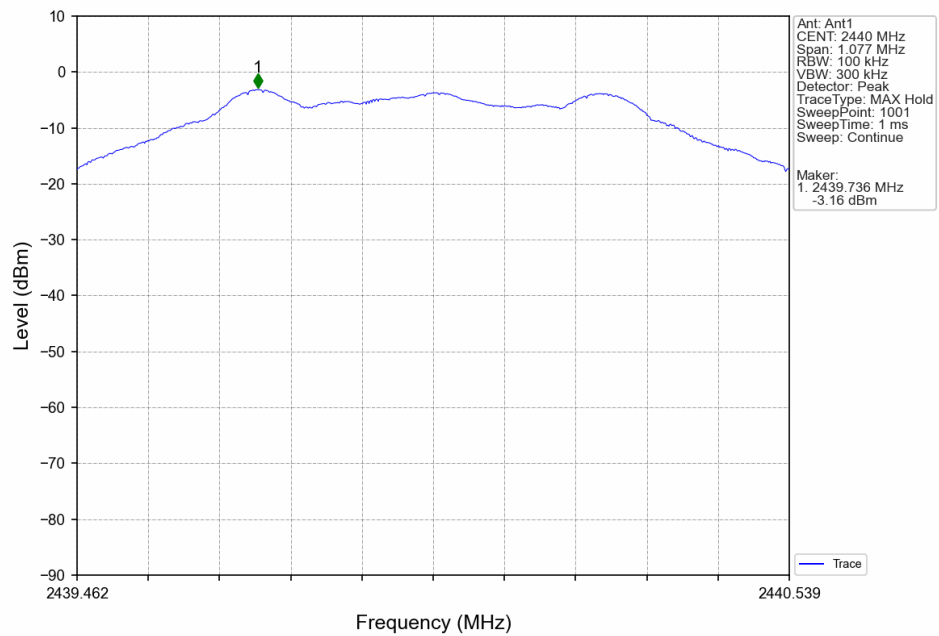
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.



5.2 Test Graph

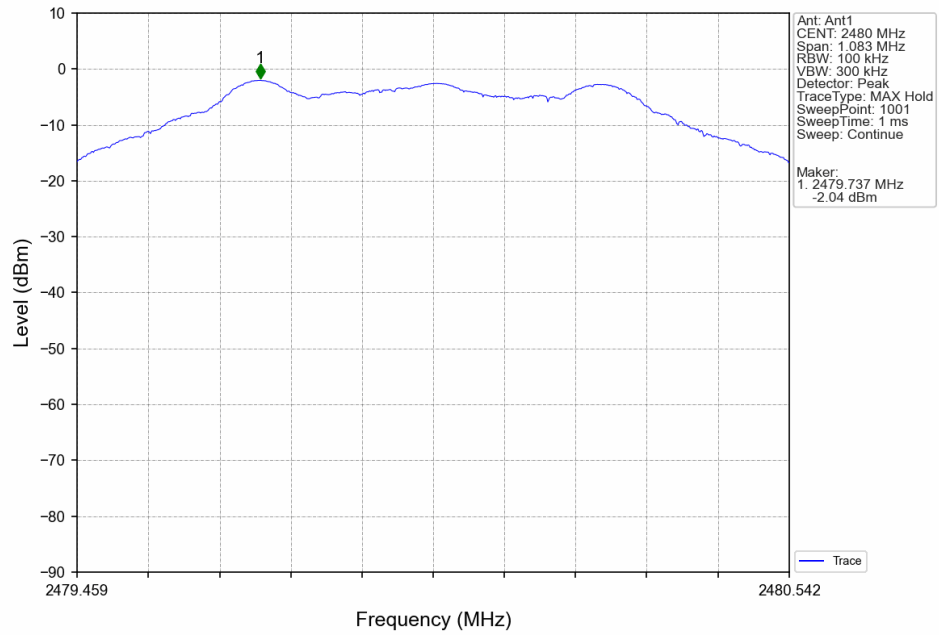
5.2.1 Ref



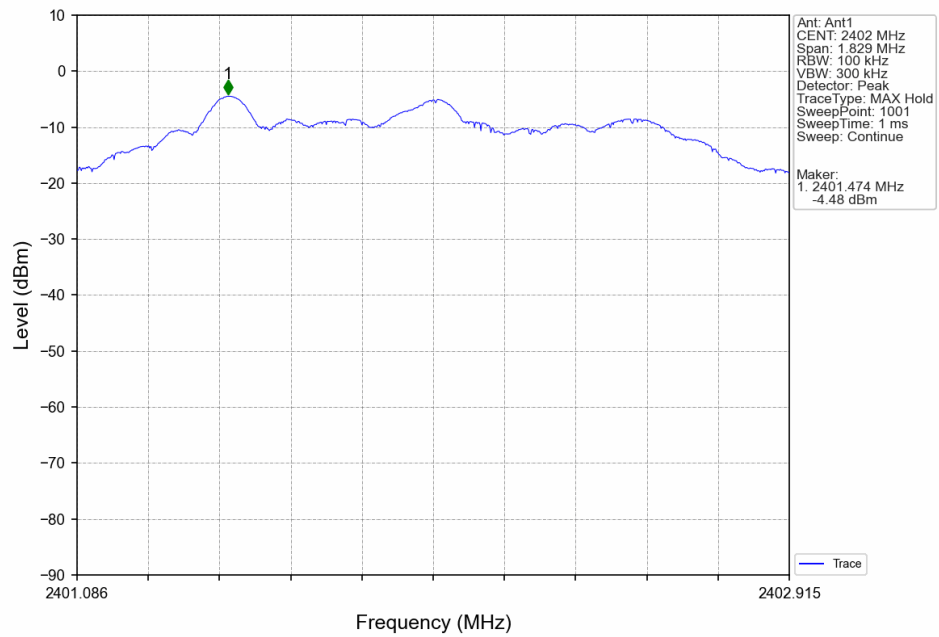




1M_HCH_2480MHz_Ant1_NTNV

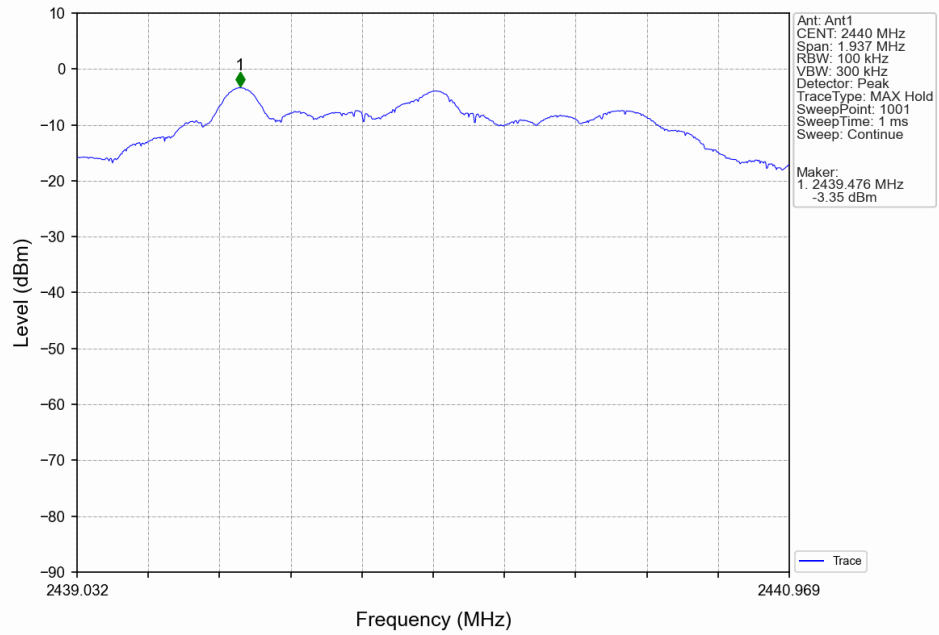


2M_LCH_2402MHz_Ant1_NTNV

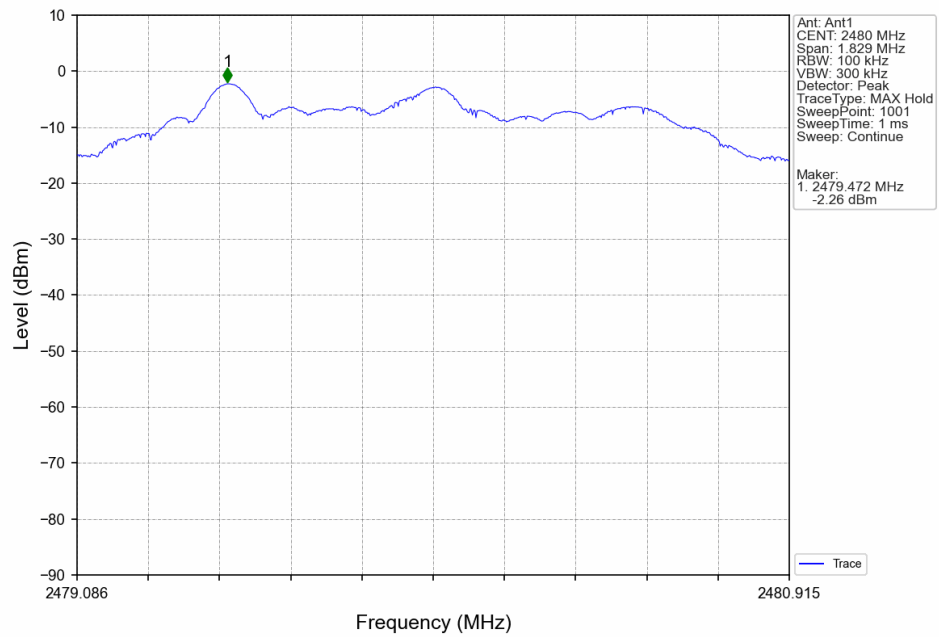




2M_MCH_2440MHz_Ant1_NTNV

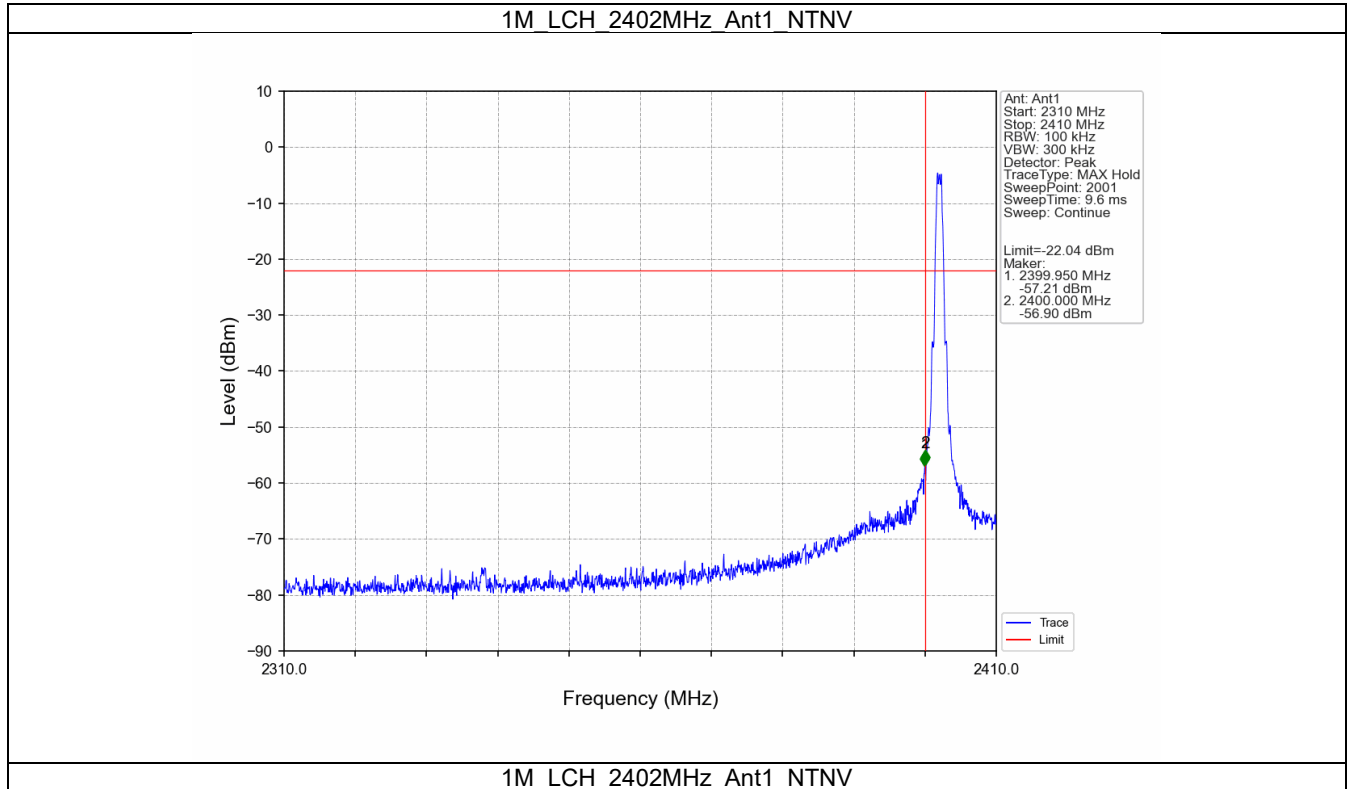


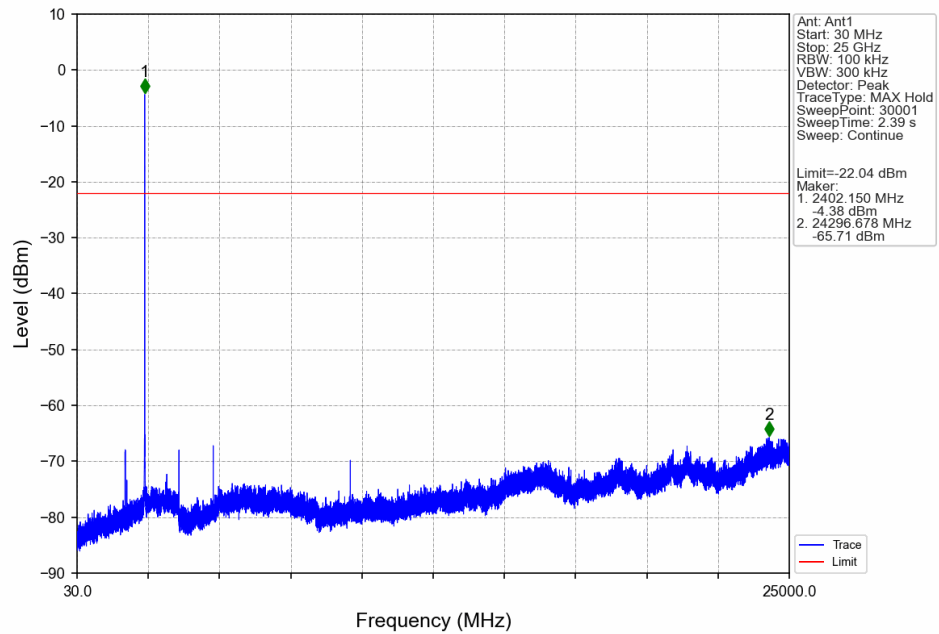
2M_HCH_2480MHz_Ant1_NTNV





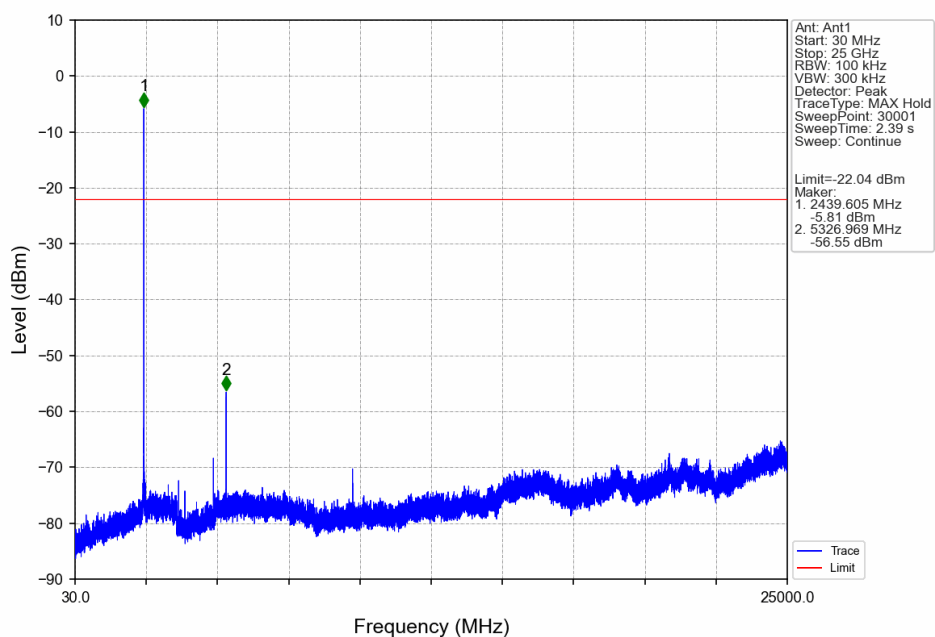
5.2.2 CSE



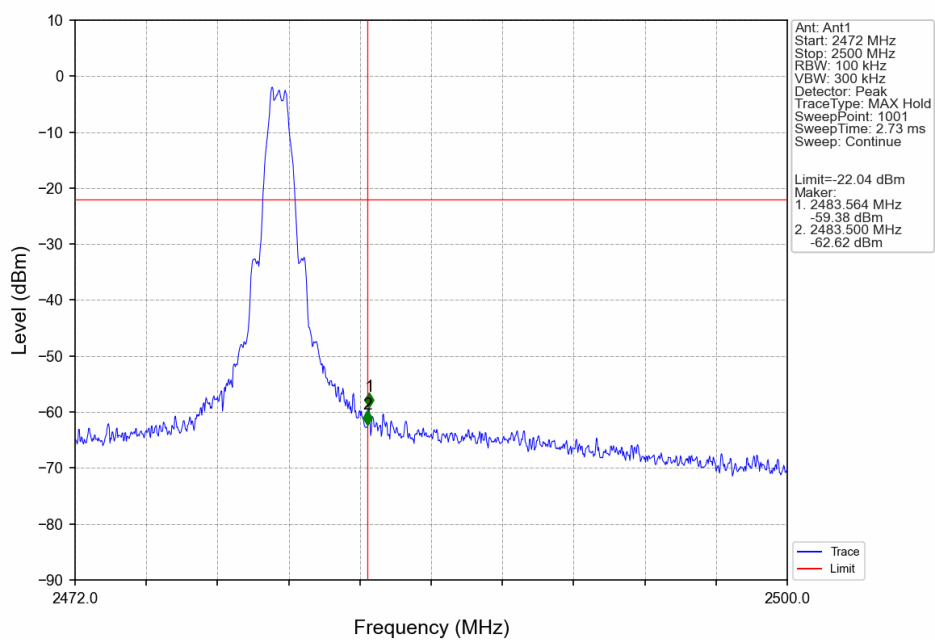




1M_MCH_2440MHz_Ant1_NTNV

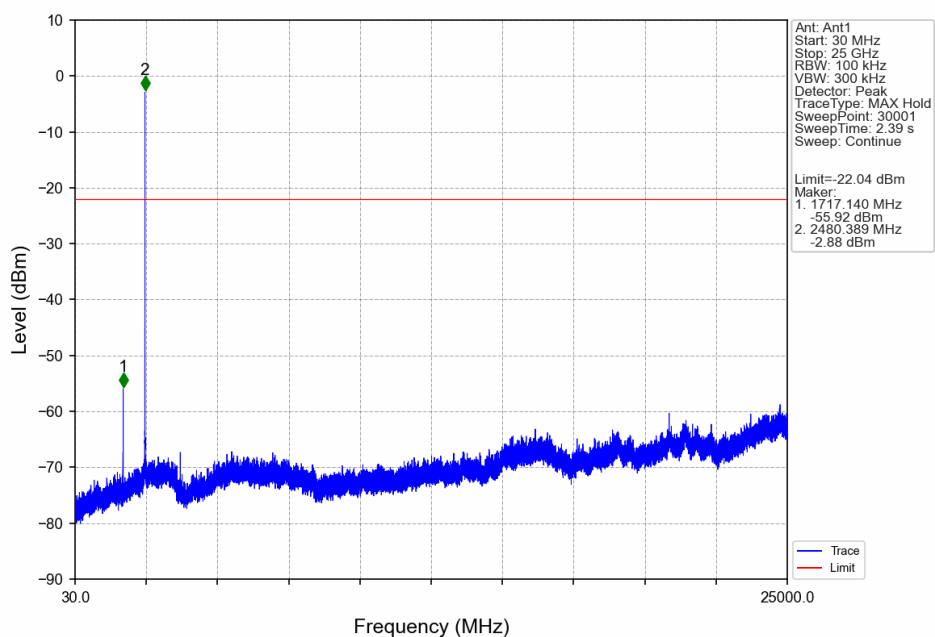


1M_HCH_2480MHz_Ant1_NTNV

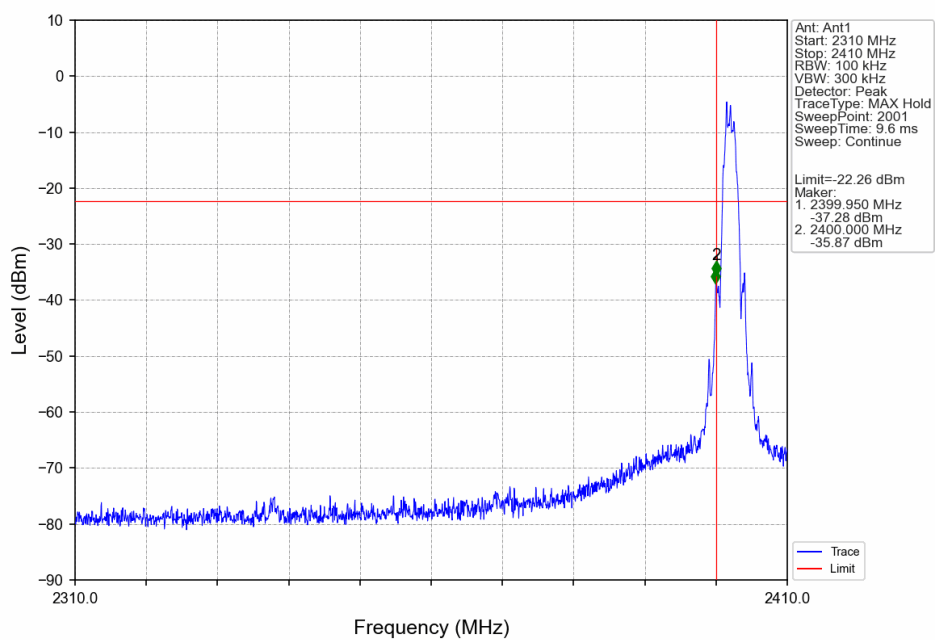




1M_HCH_2480MHz_Ant1_NTNV

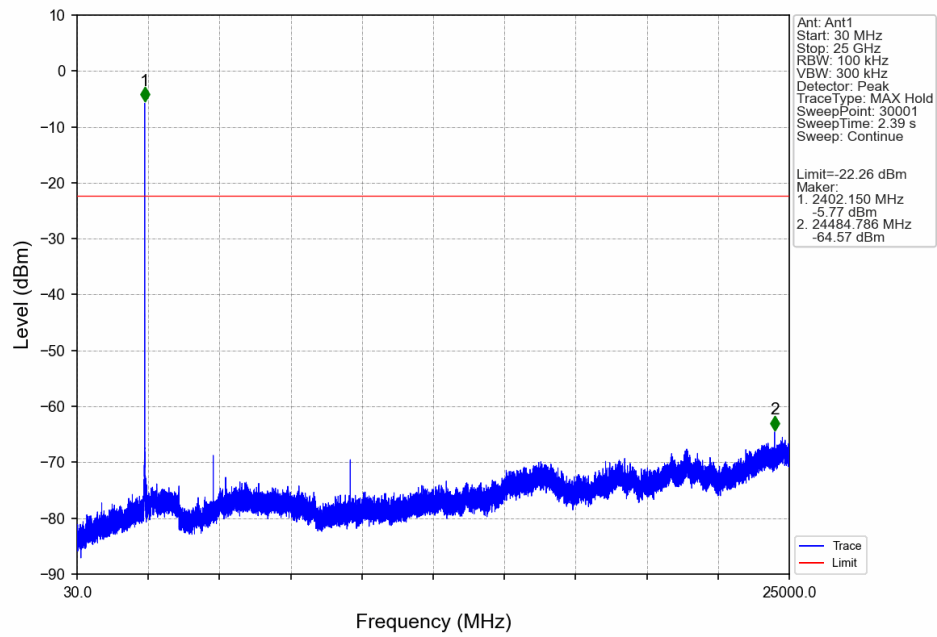


2M_LCH_2402MHz_Ant1_NTNV

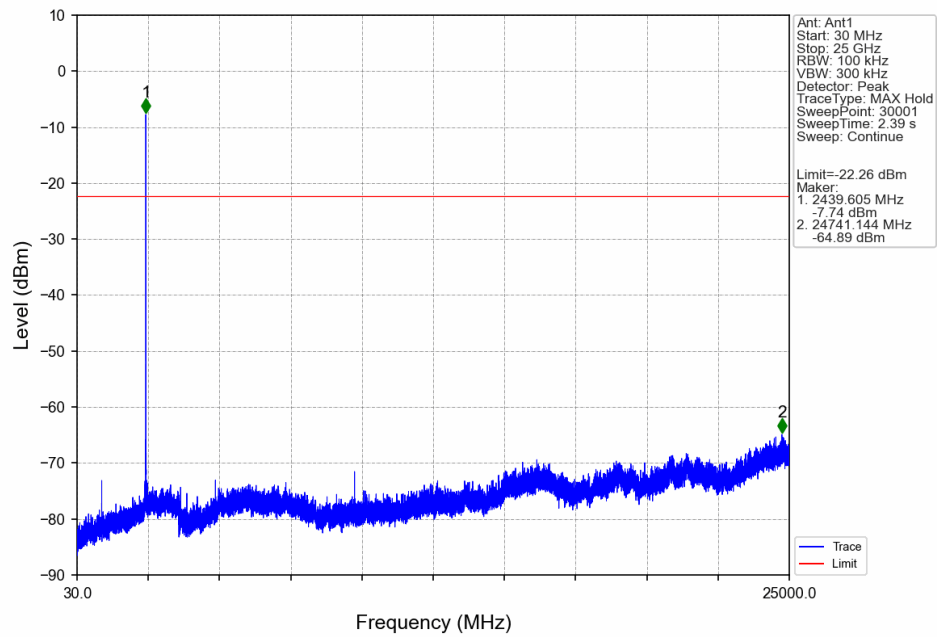




2M_LCH_2402MHz_Ant1_NTNV

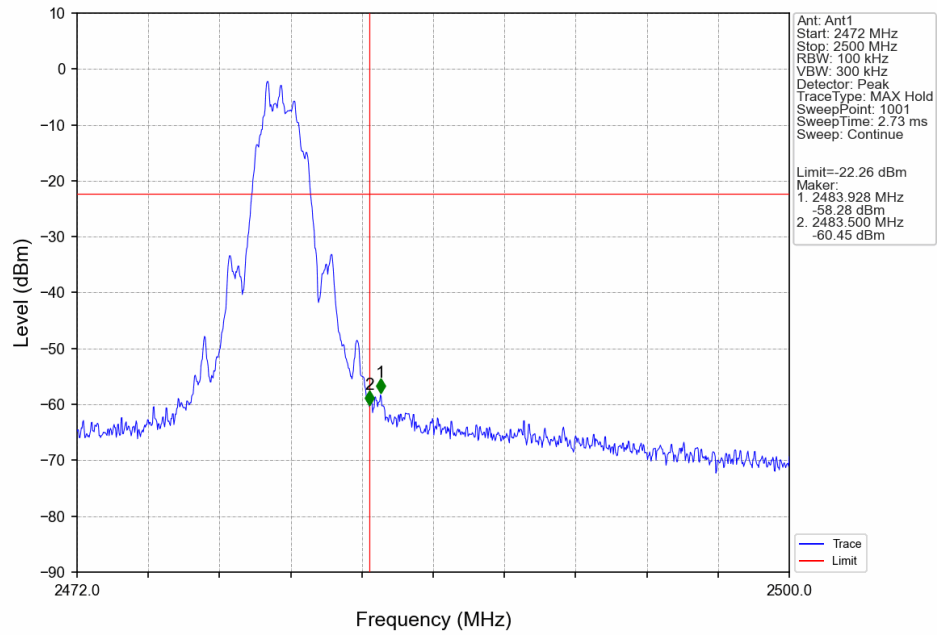


2M_MCH_2440MHz_Ant1_NTNV





2M_HCH_2480MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV

