ANNEX E TEST DATA

For

Project No.:	8235EU120106W
Client:	Beijing Tongyong Technology Co., LTD
Product Description:	Wireless Mechanical Keyboard
Model No.:	MT87
FCC ID:	2BDK7-MT87
Technology:	2.4G ISM Proprietary Band
Test Engineer:	Mikey zhu
Test Date:	2024-12-06

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

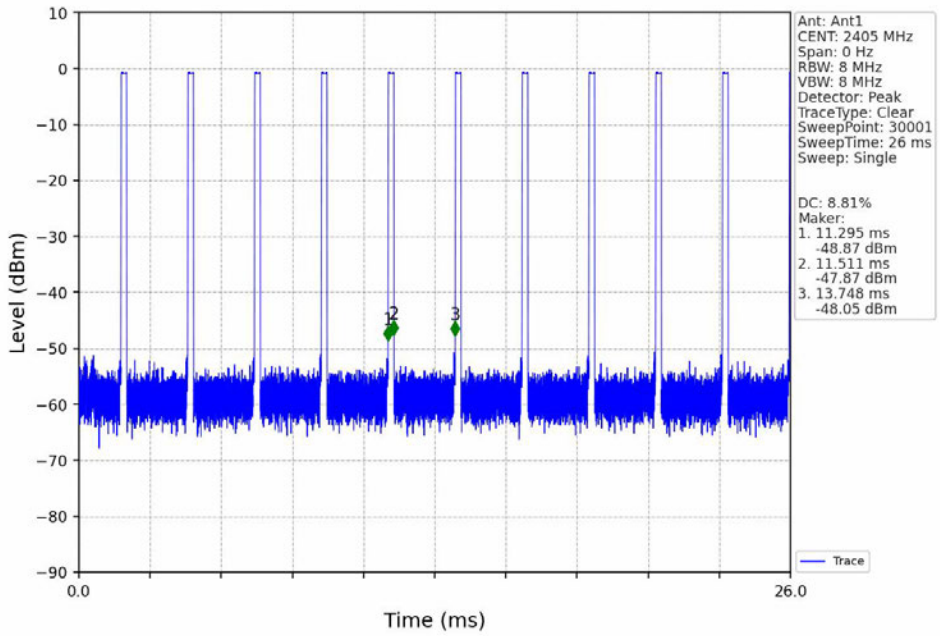
1.1.1 Ant1

Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
2.4g	SISO	2405	0.216	2.453	8.81	10.55	0.04
		2441	0.215	2.453	8.76	10.57	0.08
		2475	0.214	2.453	8.72	10.59	0.11

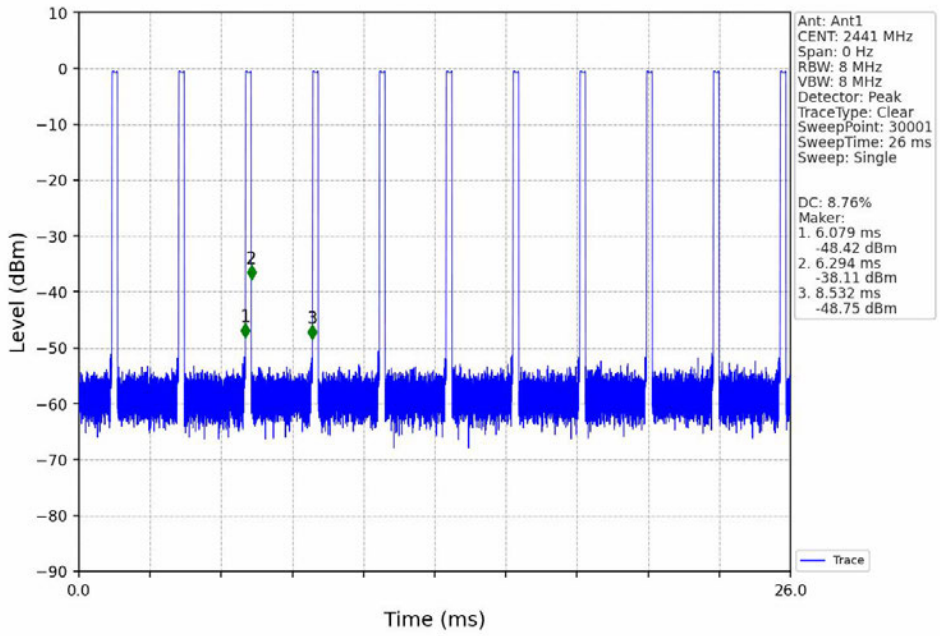
1.2 Test Graph

1.2.1 Ant1

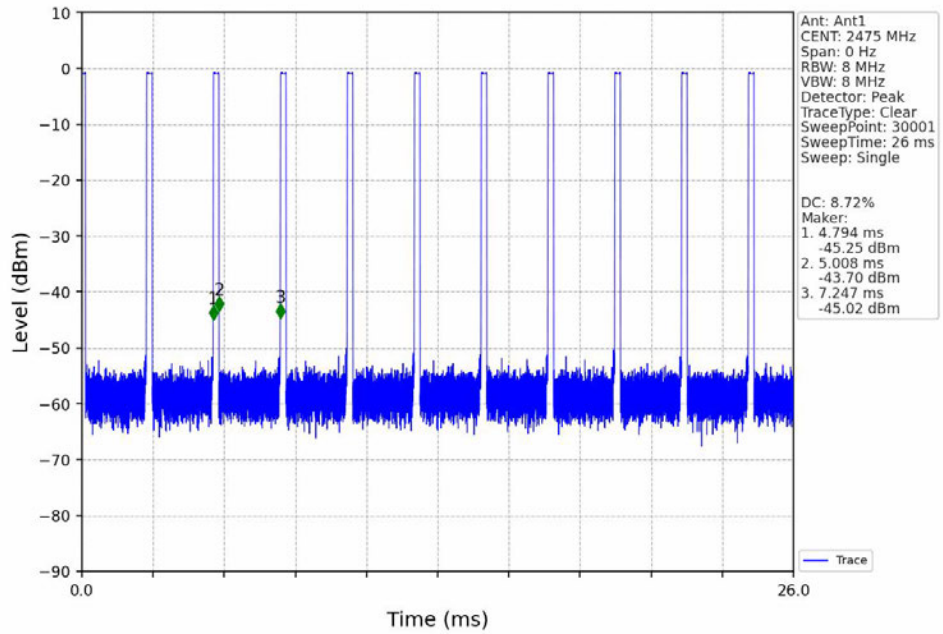
2.4g_LCH_2405MHz_Ant1_NTNV



2.4g_MCH_2441MHz_Ant1_NTNV



2.4g_HCH_2475MHz_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	
2.4g	SISO	2405	1	1.985	/	Pass
		2441	1	1.989	/	Pass
		2475	1	1.981	/	Pass

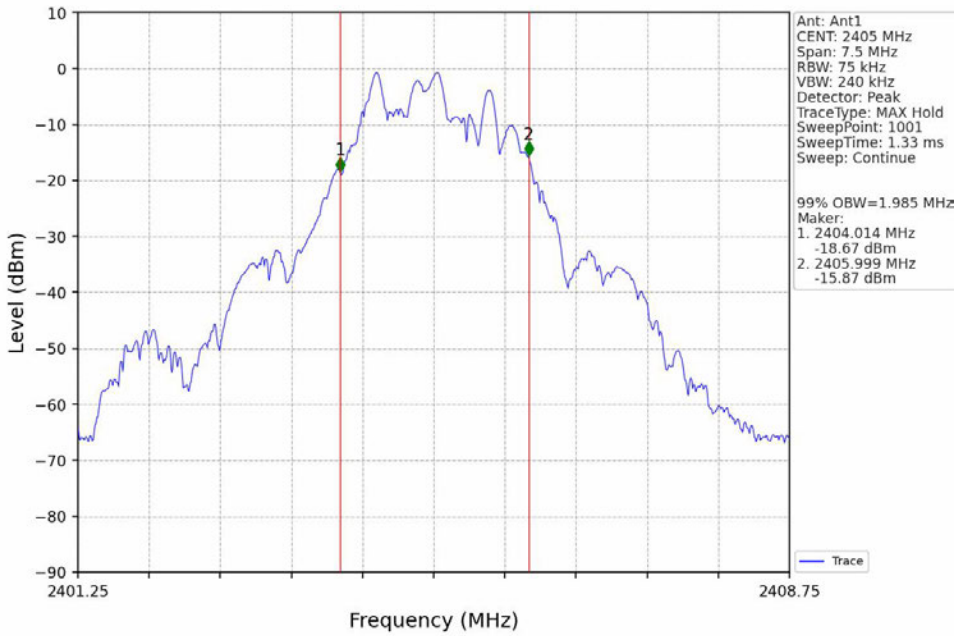
2.1.2 6dB BW

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
2.4g	SISO	2405	1	1.376	>=0.5	Pass
		2441	1	1.373	>=0.5	Pass
		2475	1	1.372	>=0.5	Pass

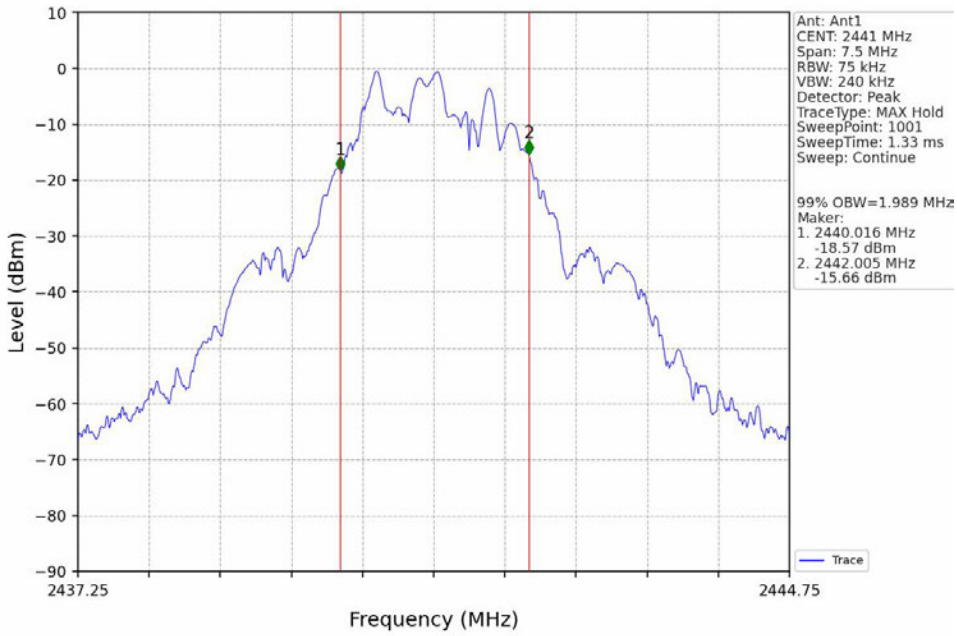
2.2 Test Graph

2.2.1 OBW

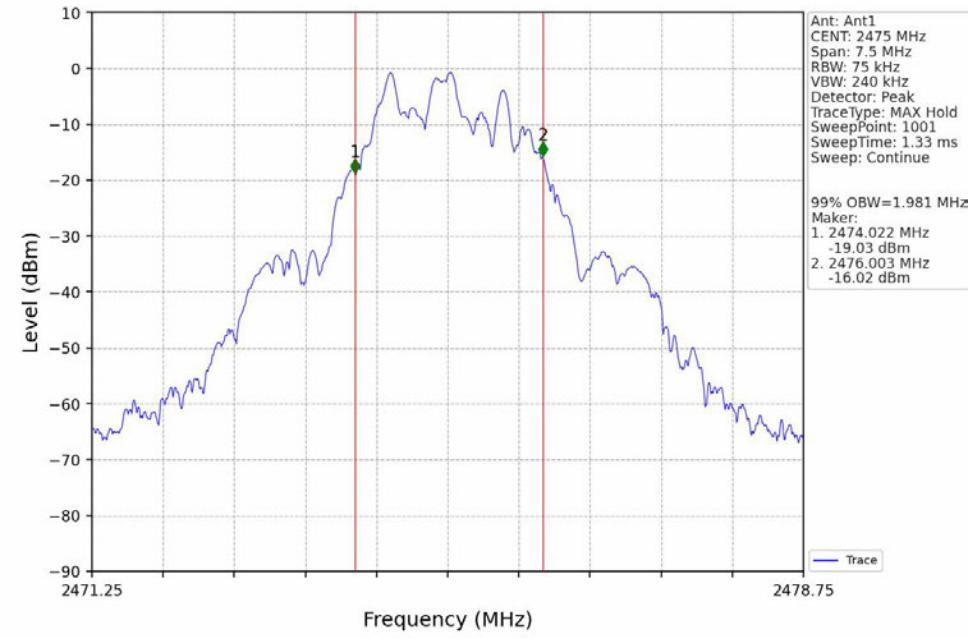
2.4g_LCH_2405MHz_Ant1_NTNV



2.4g_MCH_2441MHz_Ant1_NTNV

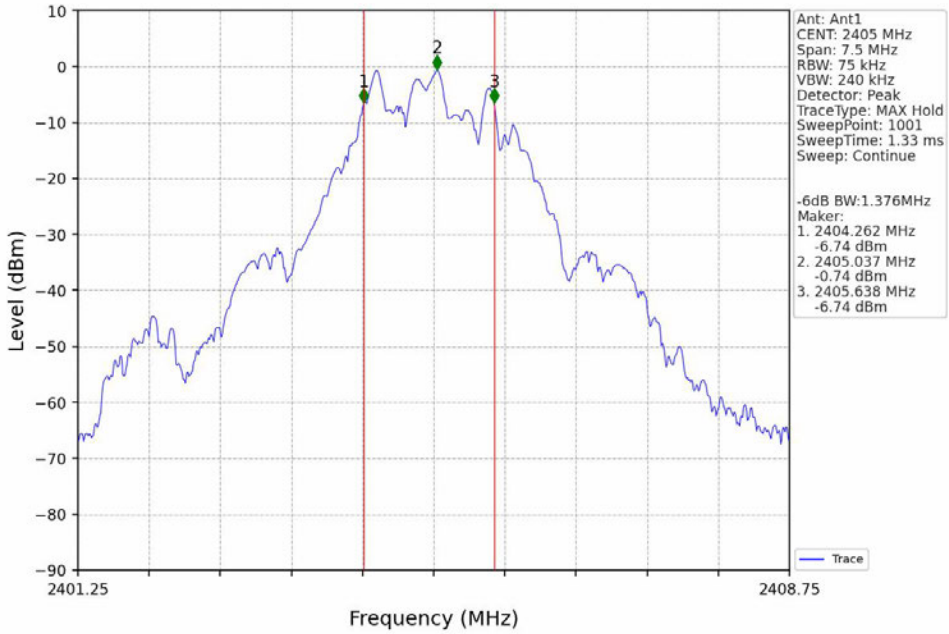


2.4g_HCH_2475MHz_Ant1_NTNV

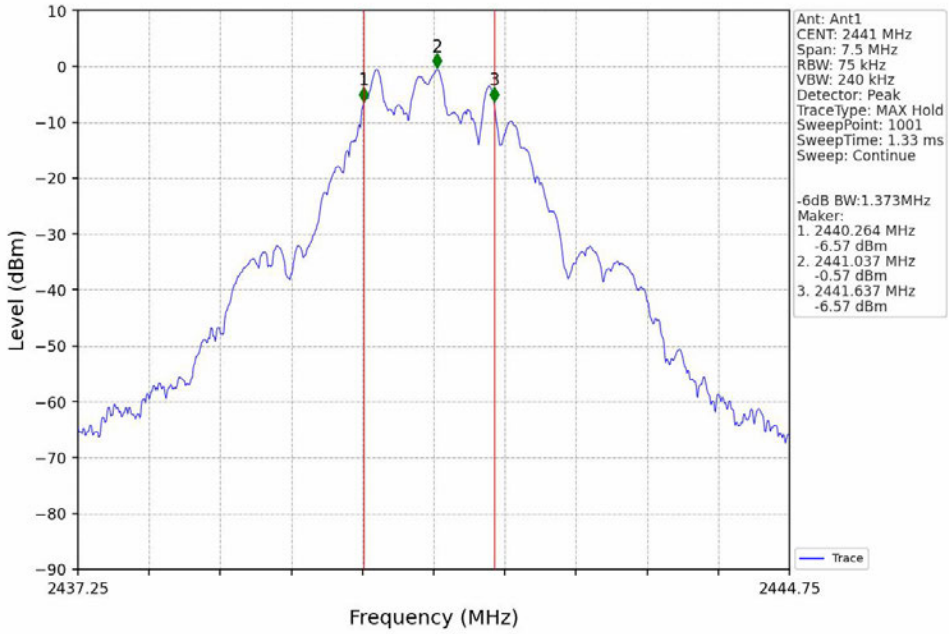


2.2.2 6dB BW

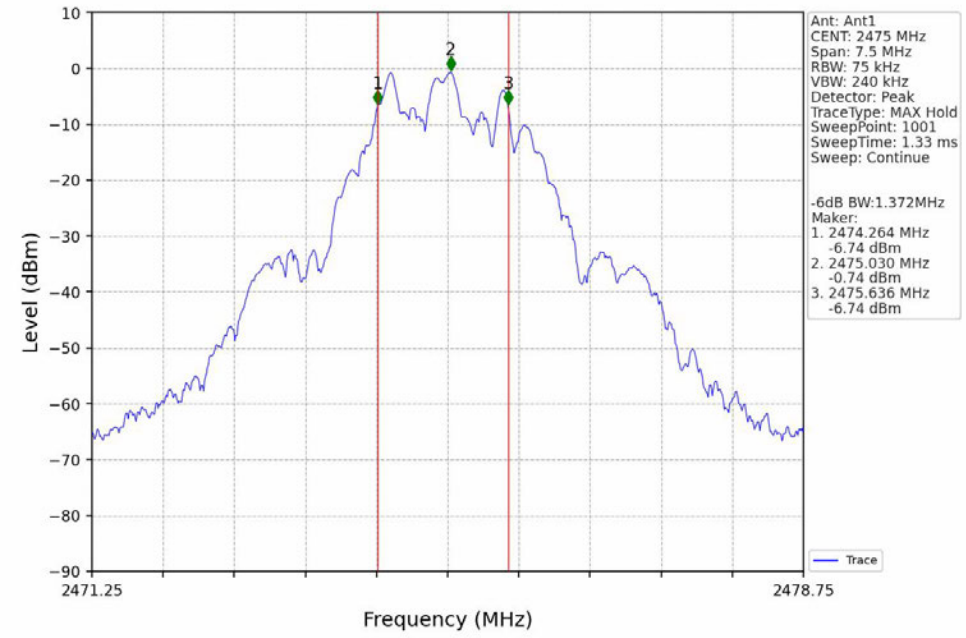
2.4g_LCH_2405MHz_Ant1_NTNV



2.4g_MCH_2441MHz_Ant1_NTNV



2.4g_HCH_2475MHz_Ant1_NTNV



3. Maximum Conducted Output Power

3.1 Test Result

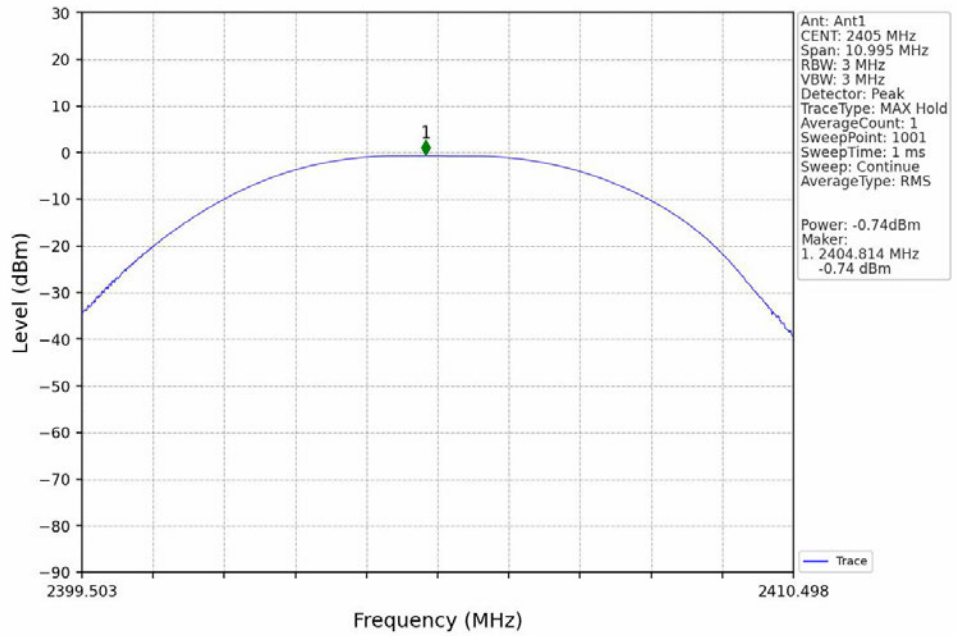
3.1.1 Power

Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
2.4g	SISO	2405	-0.74	<=30	Pass
		2441	-0.54	<=30	Pass
		2475	-0.82	<=30	Pass
Note1: Antenna Gain: Ant1: 2.34dBi;					

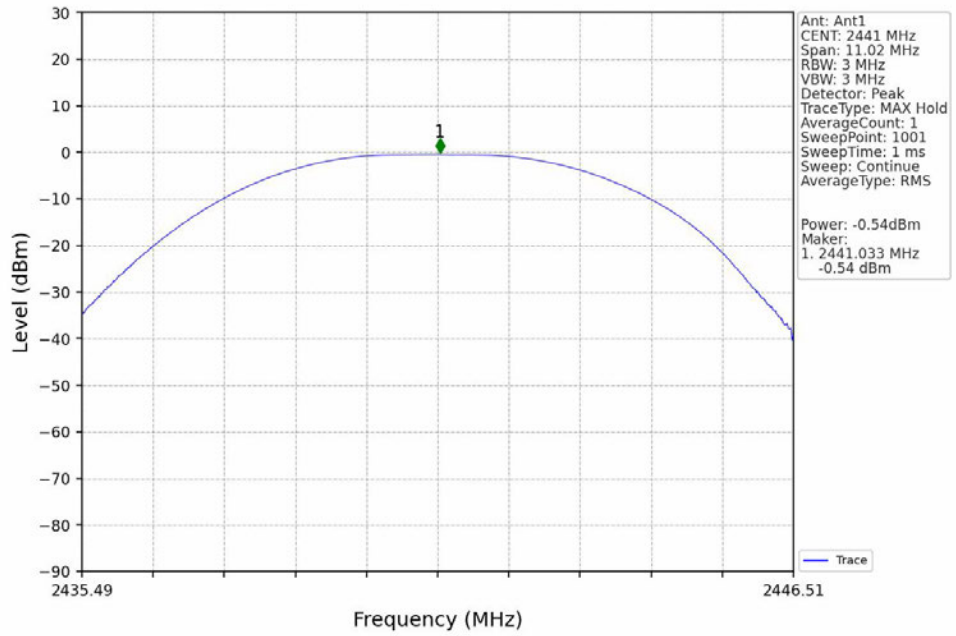
3.2 Test Graph

3.2.1 Power

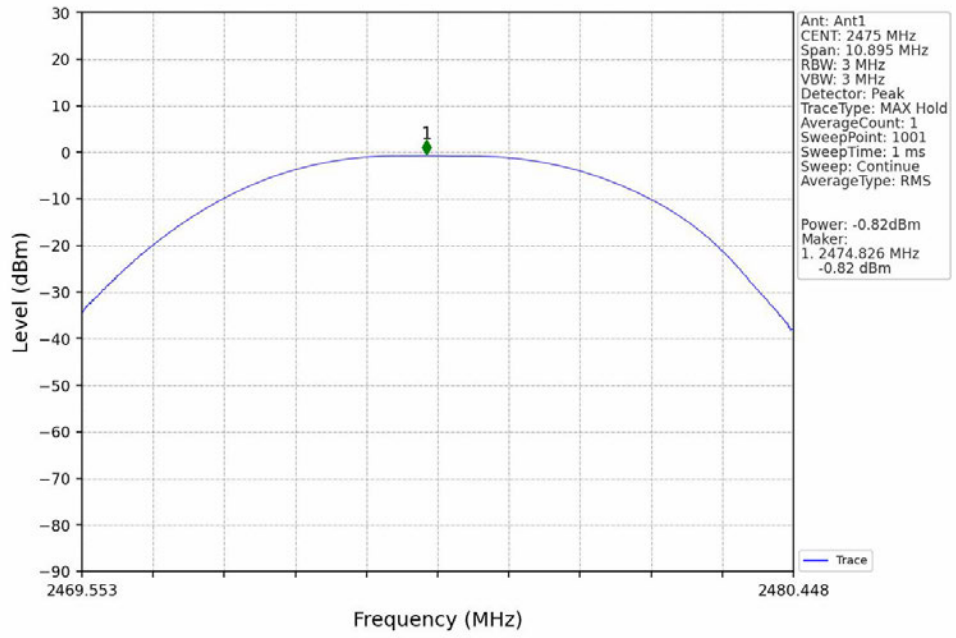
2.4g_LCH_2405MHz_Ant1_NTNV



2.4g_MCH_2441MHz_Ant1_NTNV



2.4g_HCH_2475MHz_Ant1_NTNV



4. Maximum Power Spectral Density

4.1 Test Result

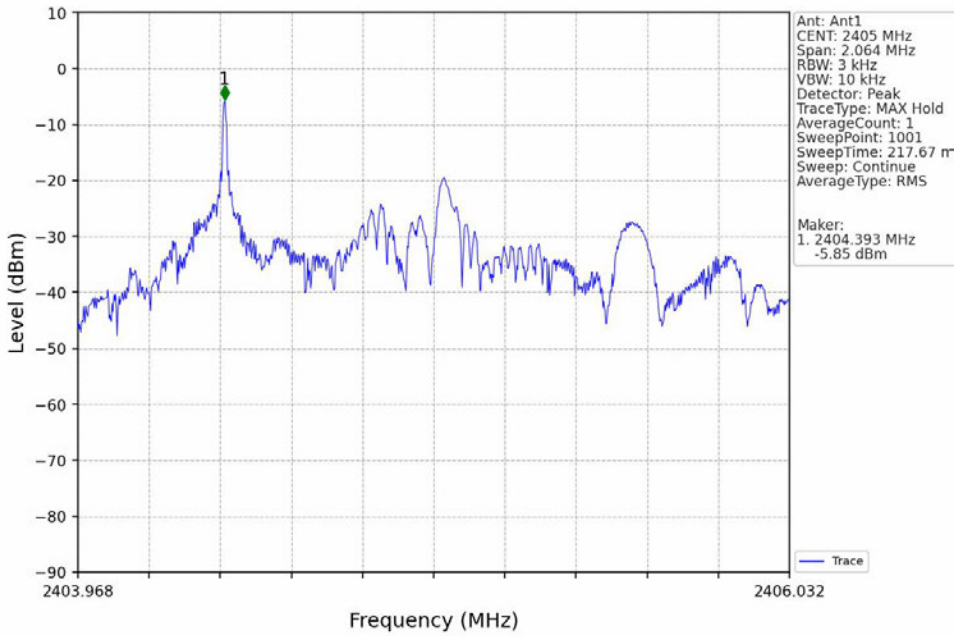
4.1.1 PSD

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			ANT1	Limit	
2.4g	SISO	2405	-5.85	<=8	Pass
		2441	-5.84	<=8	Pass
		2475	-5.86	<=8	Pass
Note1: Antenna Gain: Ant1: 2.34dBi;					

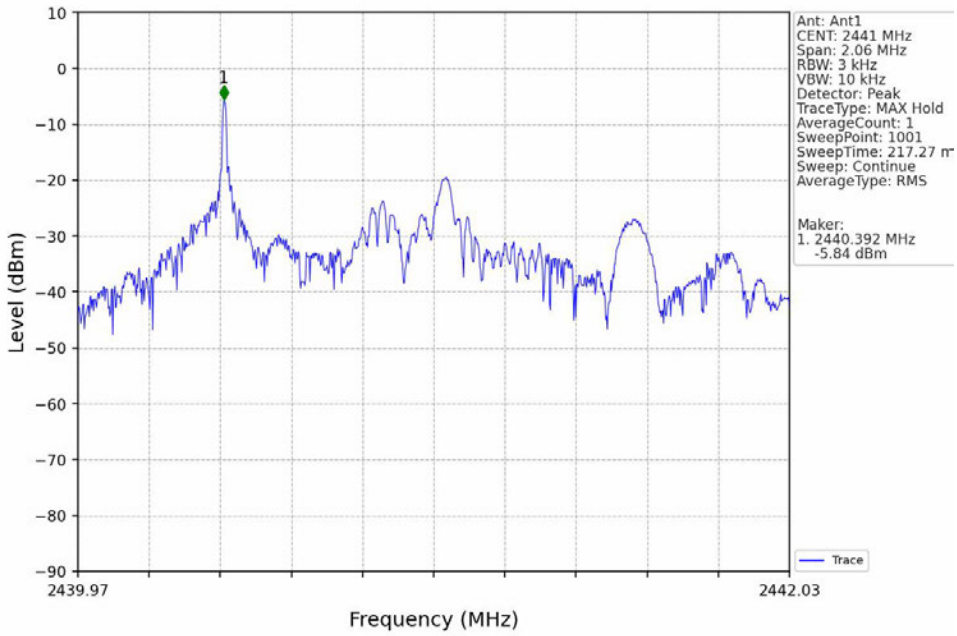
4.2 Test Graph

4.2.1 PSD

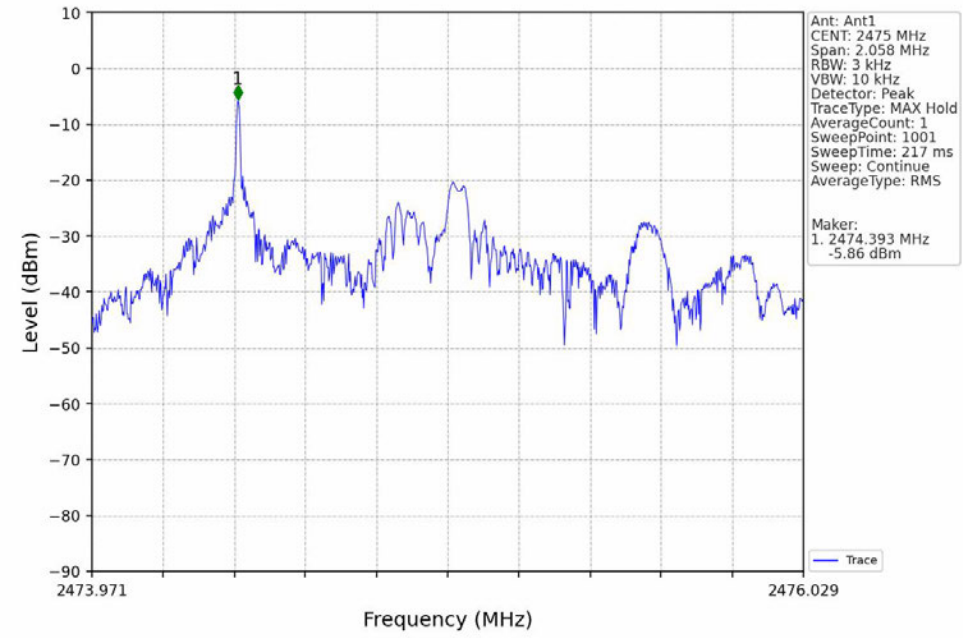
2.4g_LCH_2405MHz_Ant1_NTNV



2.4g_MCH_2441MHz_Ant1_NTNV



2.4g_HCH_2475MHz_Ant1_NTNV



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)
2.4g	SISO	2405	1	-0.85
		2441	1	-0.66
		2475	1	-0.91
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.				

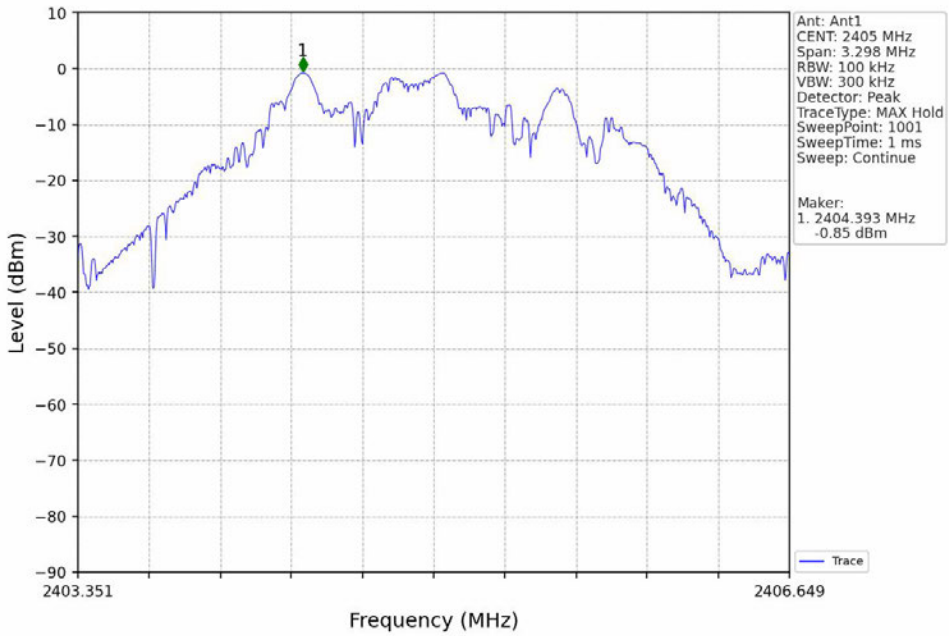
5.1.2 CSE

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
2.4g	SISO	2405	1	-0.85	-20.85	Pass
		2441	1	-0.66	-20.66	Pass
		2475	1	-0.91	-20.91	Pass
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.						

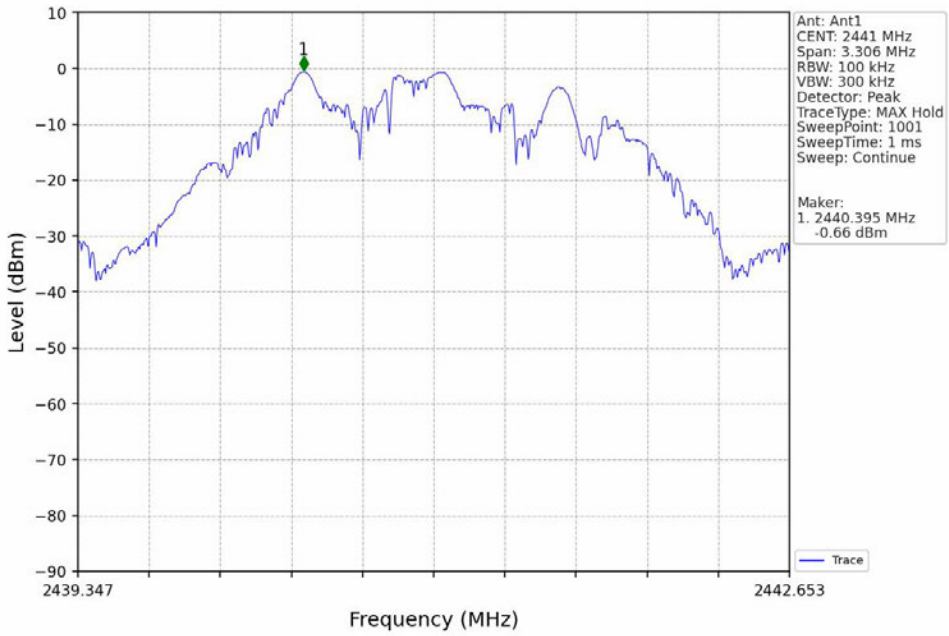
5.2 Test Graph

5.2.1 Ref

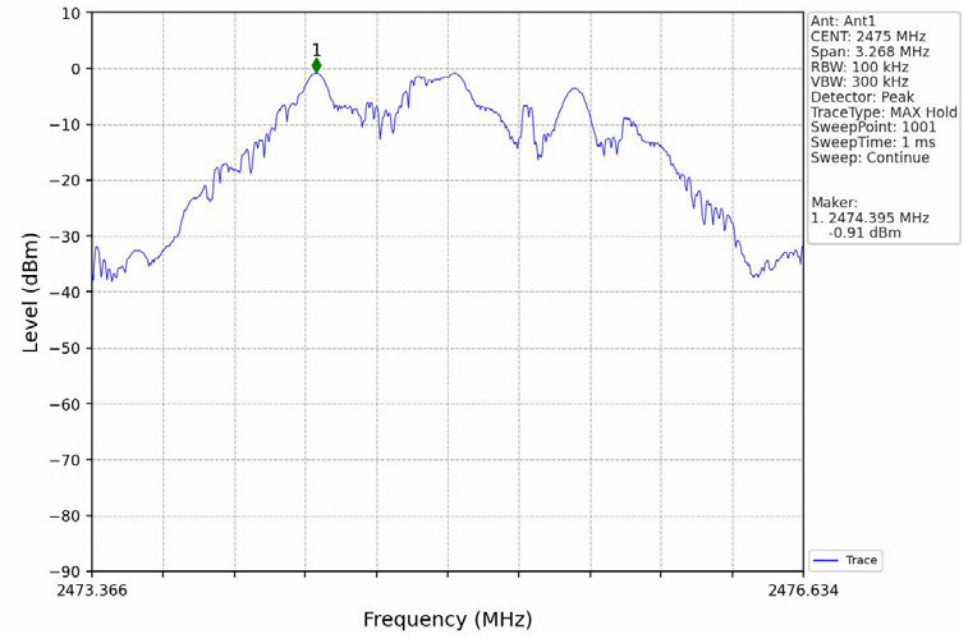
2.4g_LCH_2405MHz_Ant1_NTNV



2.4g_MCH_2441MHz_Ant1_NTNV

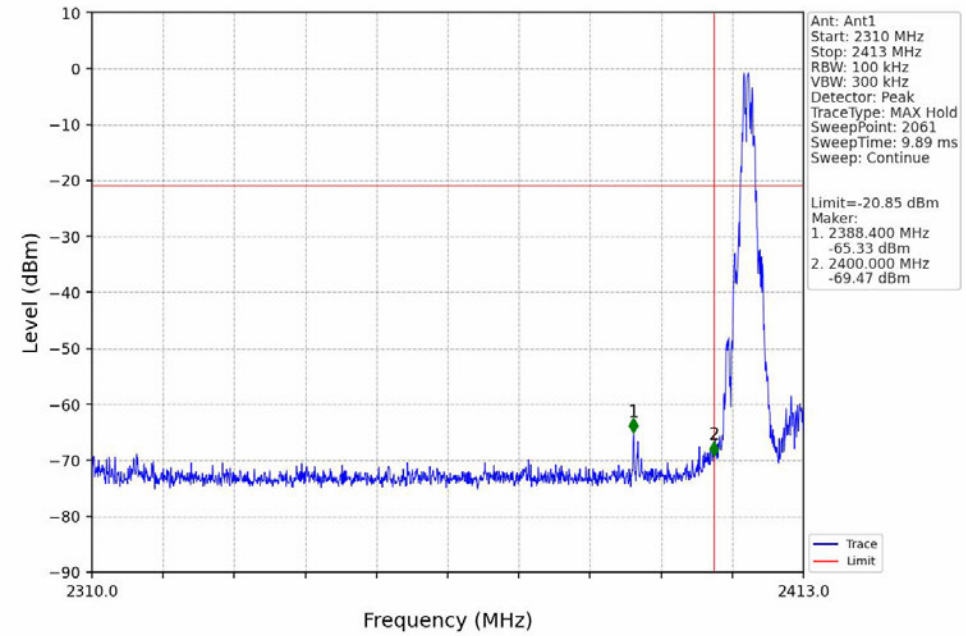


2.4g_HCH_2475MHz_Ant1_NTNV

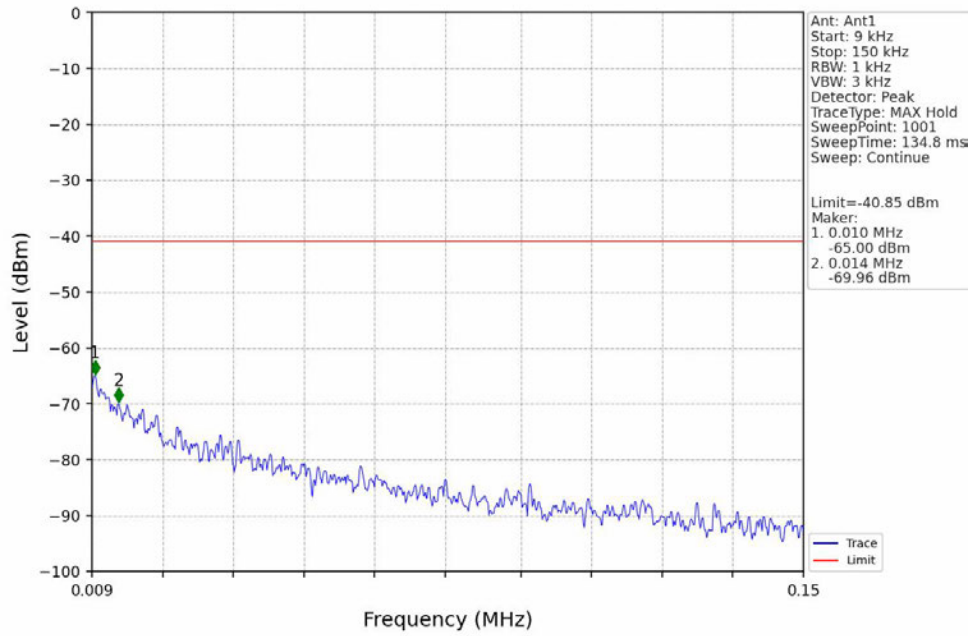


5.2.2 CSE

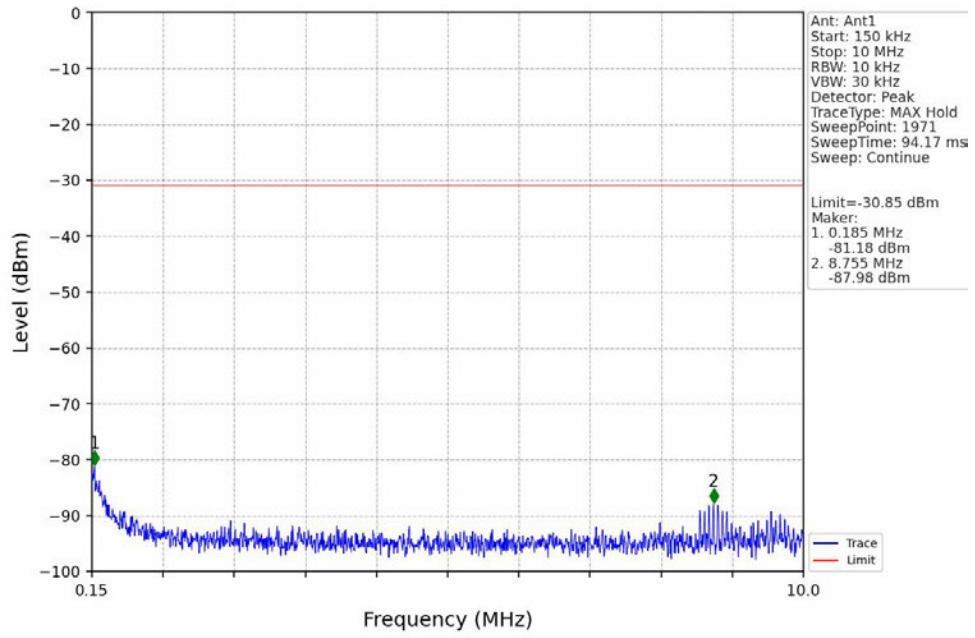
2.4g_LCH_2405MHz_Ant1_NTNV



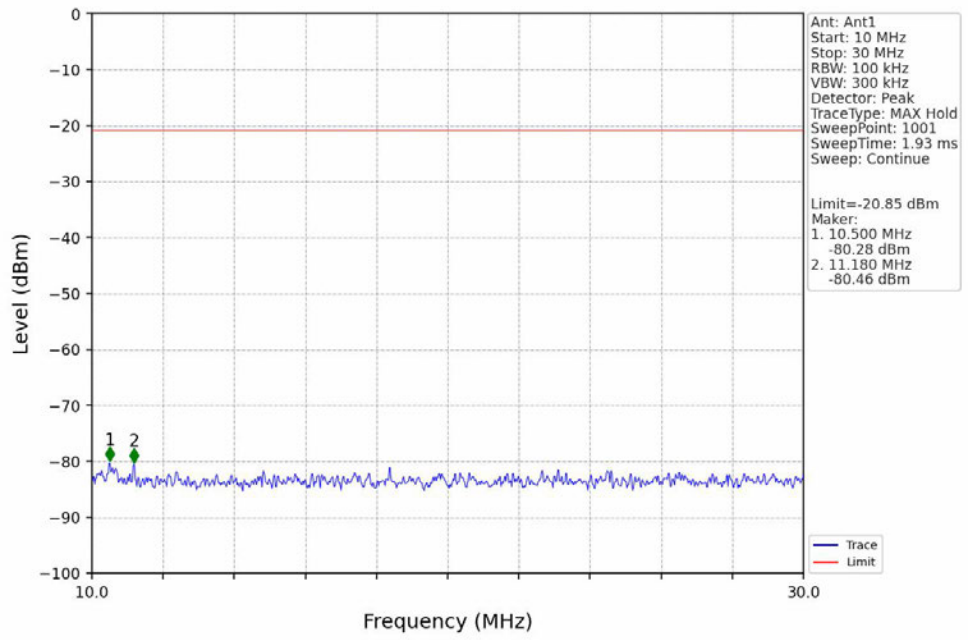
2.4g_LCH_2405MHz_Ant1_NTNV



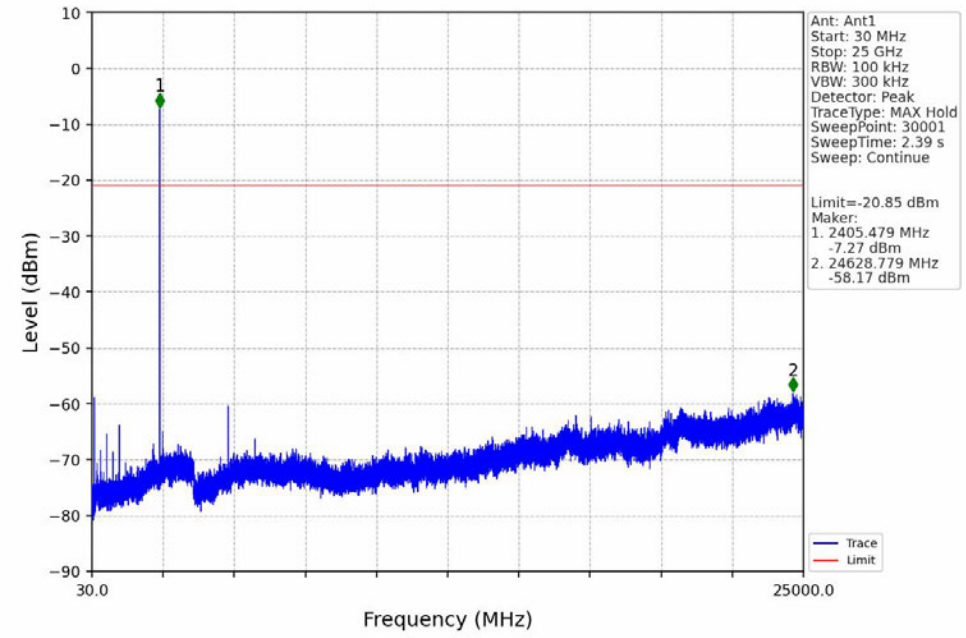
2.4g_LCH_2405MHz_Ant1_NTNV



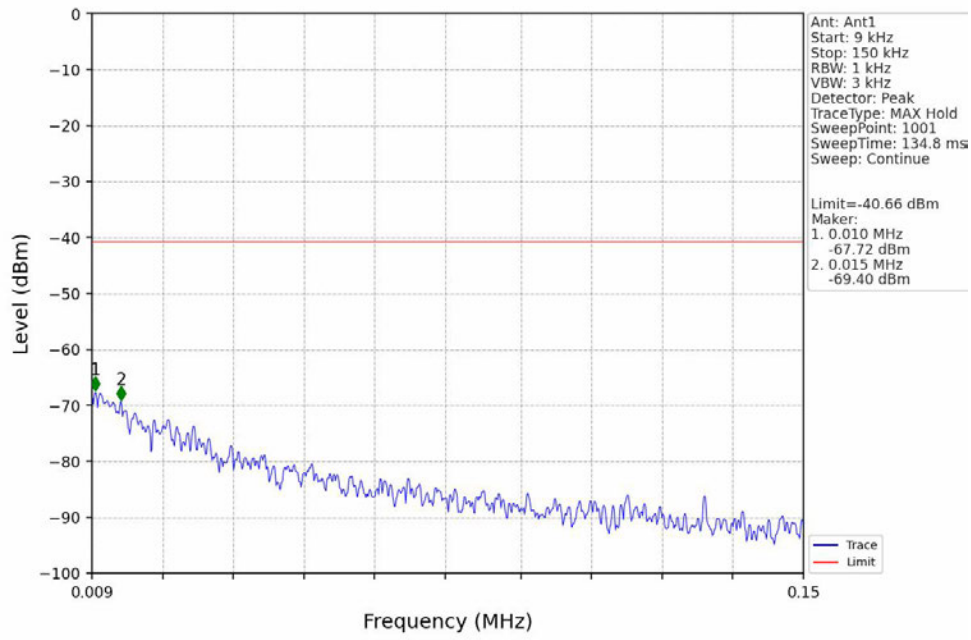
2.4g_LCH_2405MHz_Ant1_NTNV



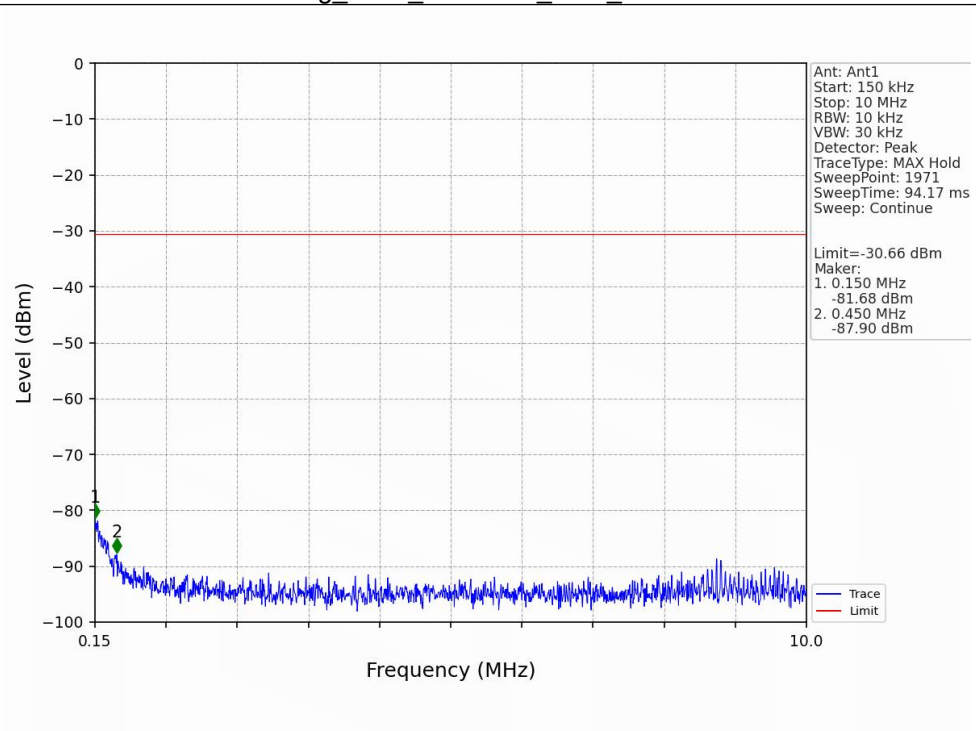
2.4g_LCH_2405MHz_Ant1_NTNV



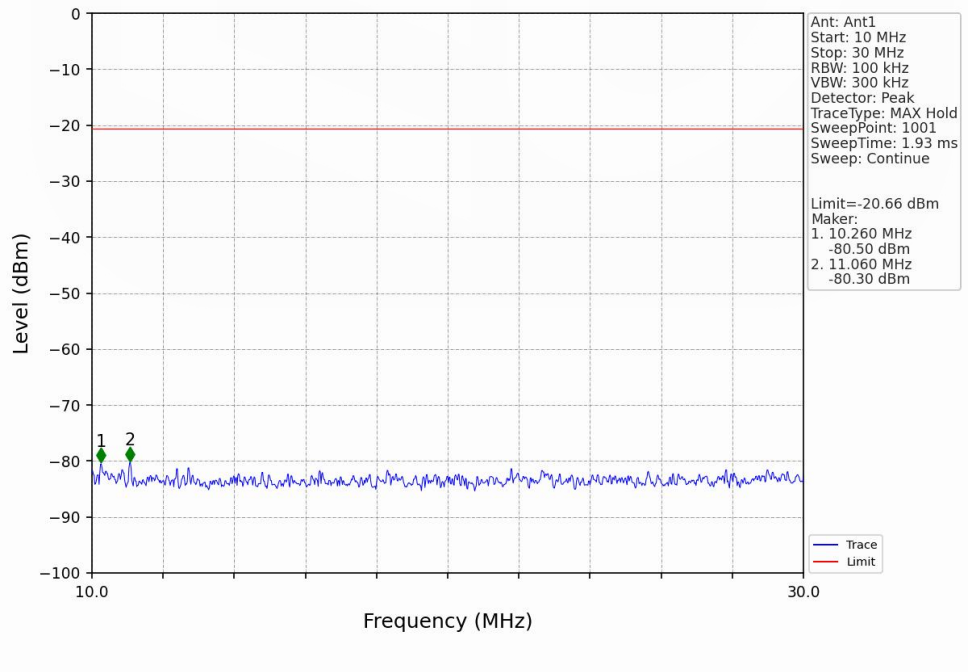
2.4g_MCH_2441MHz_Ant1_NTNV



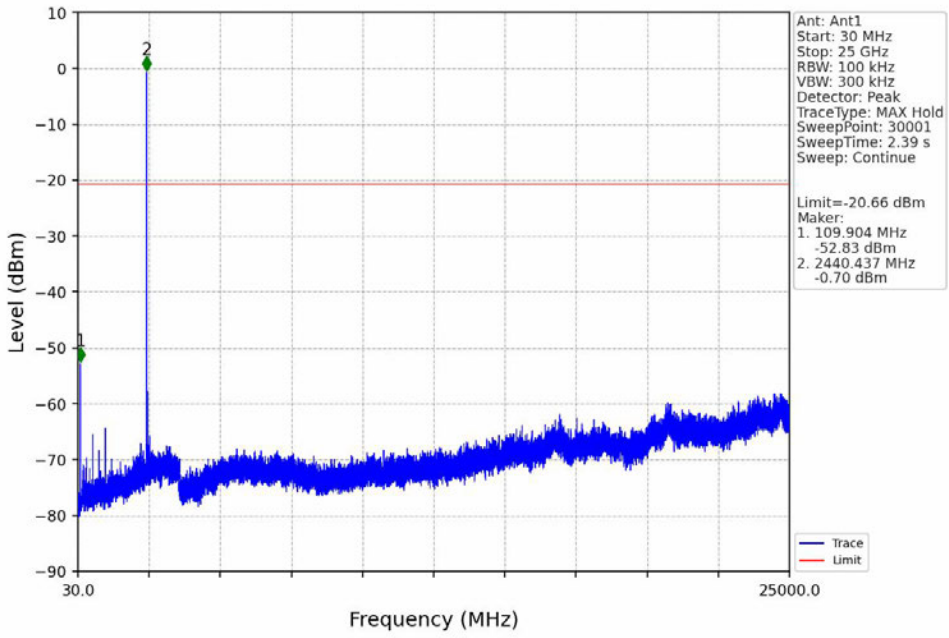
2.4g_MCH_2441MHz_Ant1_NTNV



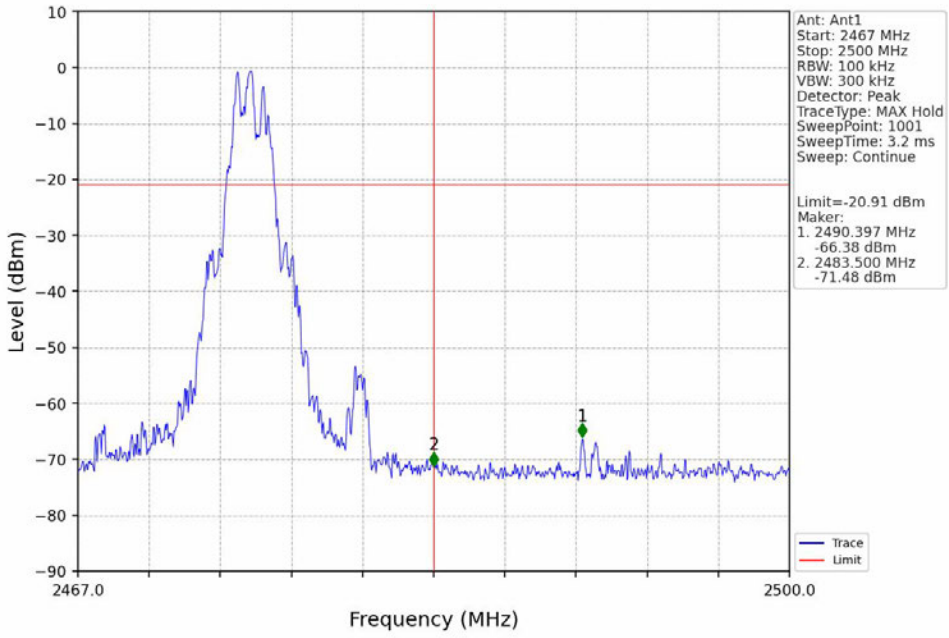
2.4g_MCH_2441MHz_Ant1_NTNV



2.4g_MCH_2441MHz_Ant1_NTNV



2.4g_HCH_2475MHz_Ant1_NTNV



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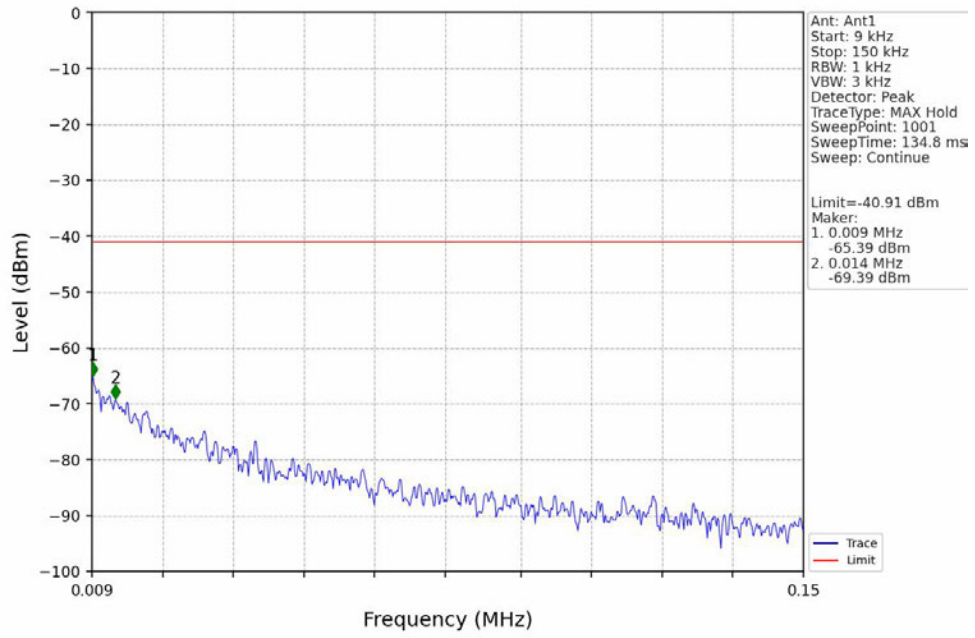
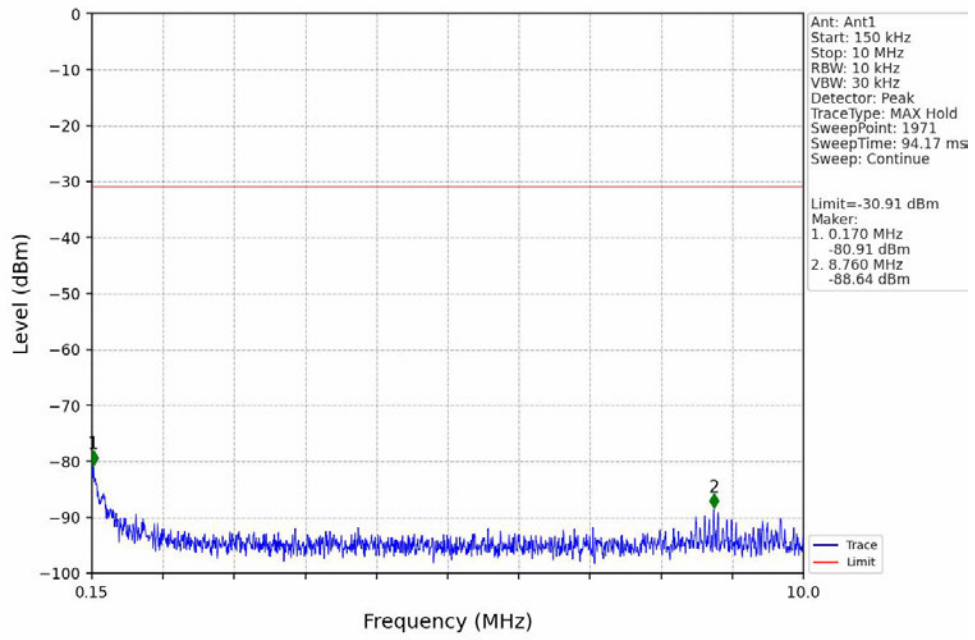
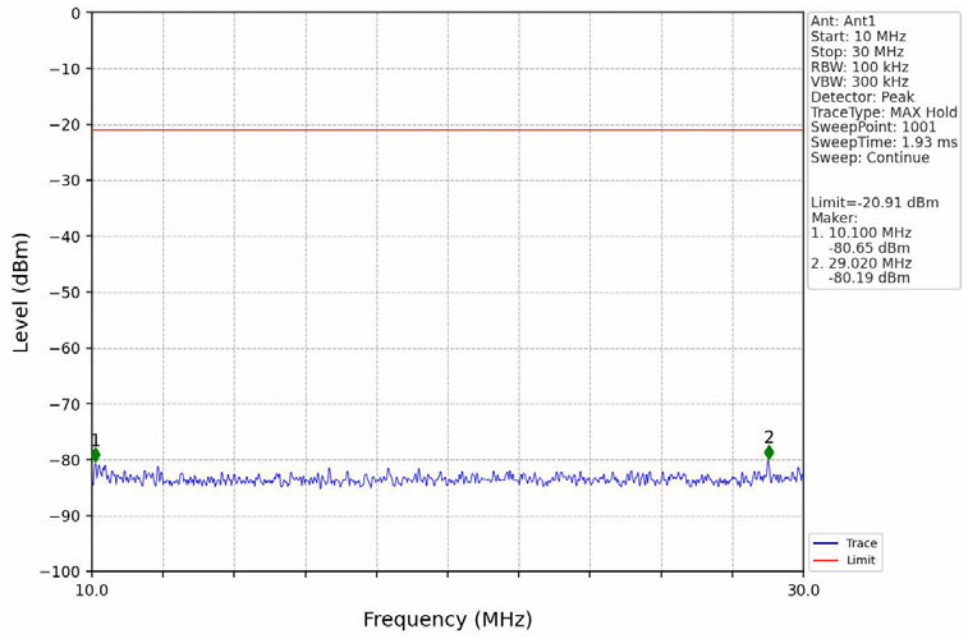


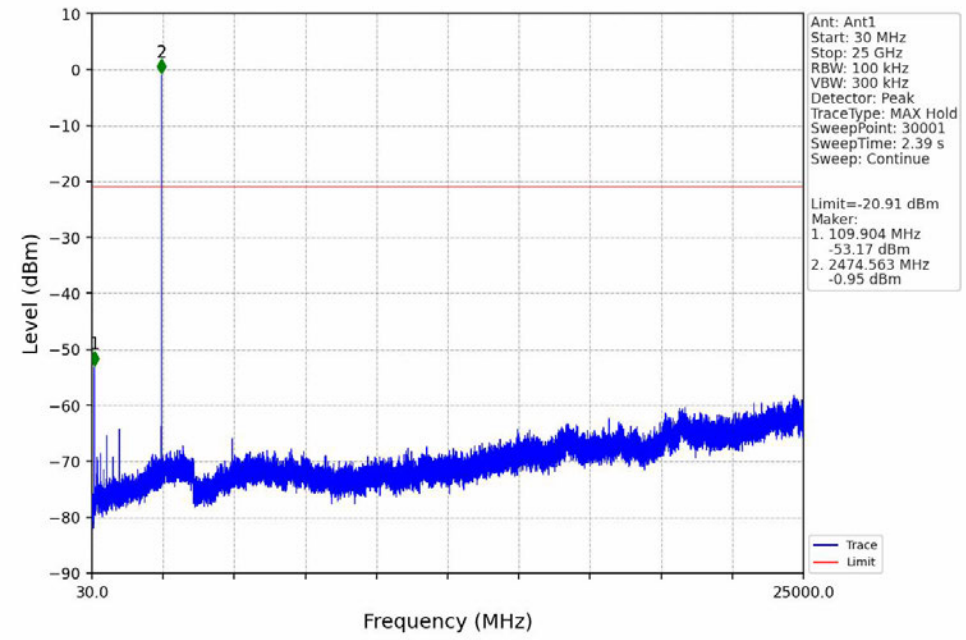
2.4g_HCH_2475MHz_Ant1_NTNV



2.4g_HCH_2475MHz_Ant1_NTNV



2.4g_HCH_2475MHz_Ant1_NTNV



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