



Shenzhen CTL Testing Technology Co., Ltd.

Floor 1-A, Baisha Technology Park, No.3011, Shahexi Road, Nanshan District, Shenzhen, China 518055
Tel: +86-755-89486194 E-mail: ctl@ctl-lab.com

Annex for BLE

Test Report No.: CTL2407017011-WF

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FCCID: 2A638-WKZP027A

1. Bandwidth

1.1 Test Result

1.1.1 OBW

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	1	1.026	/	Pass
		2440	1	1.028	/	Pass
		2480	1	1.027	/	Pass
2M	SISO	2402	1	2.045	/	Pass
		2440	1	2.045	/	Pass
		2480	1	2.048	/	Pass

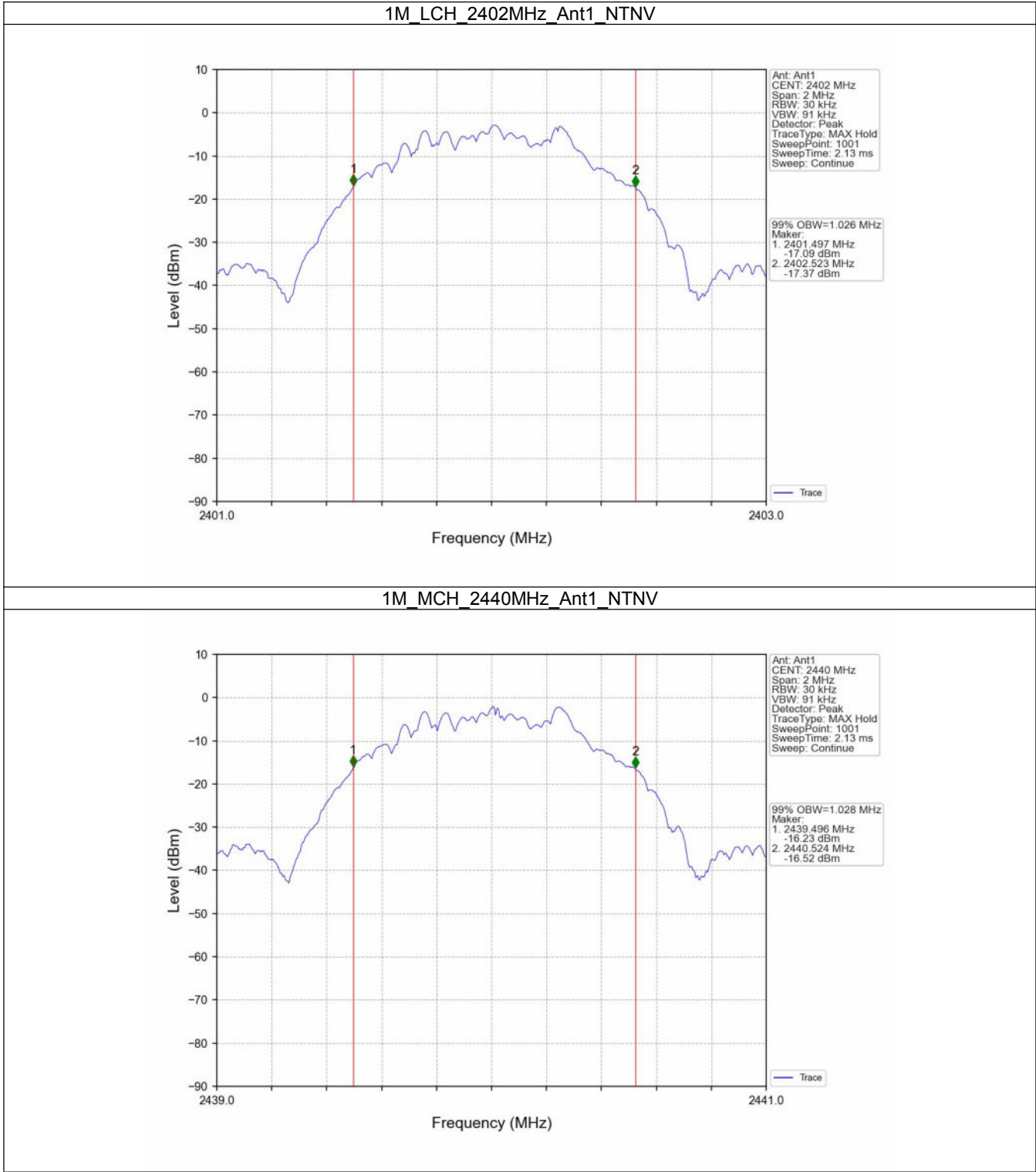
1.1.2 6dB BW

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	1	0.659	≥ 0.5	Pass
		2440	1	0.664	≥ 0.5	Pass
		2480	1	0.660	≥ 0.5	Pass
2M	SISO	2402	1	1.149	≥ 0.5	Pass
		2440	1	1.153	≥ 0.5	Pass
		2480	1	1.164	≥ 0.5	Pass

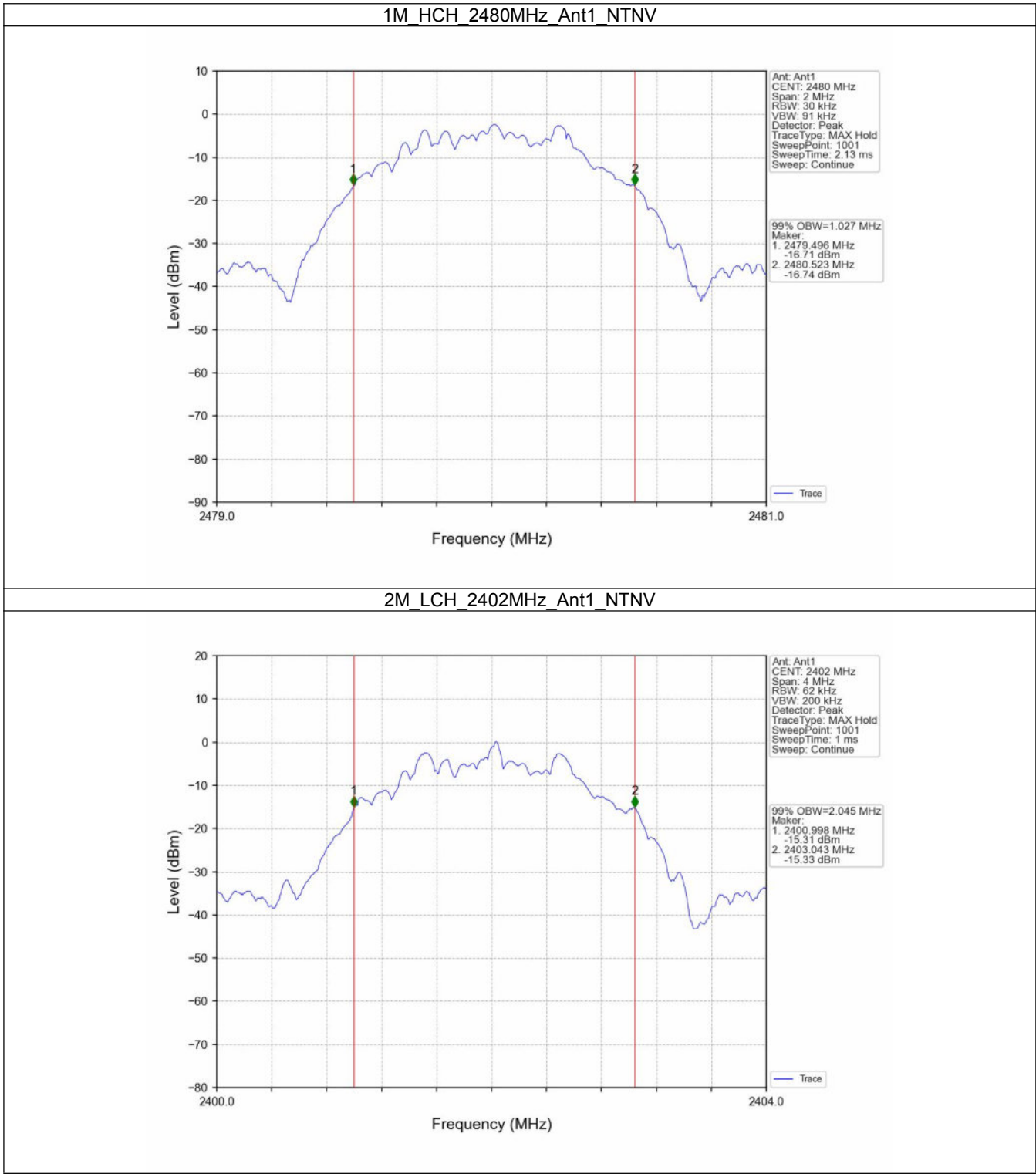
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1.2 Test Graph

1.2.1 OBW

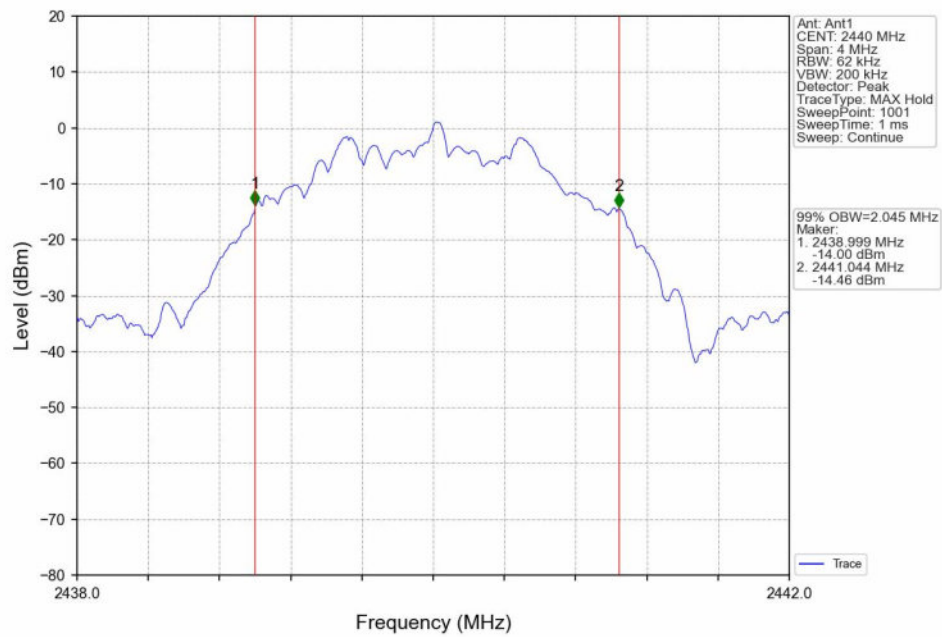


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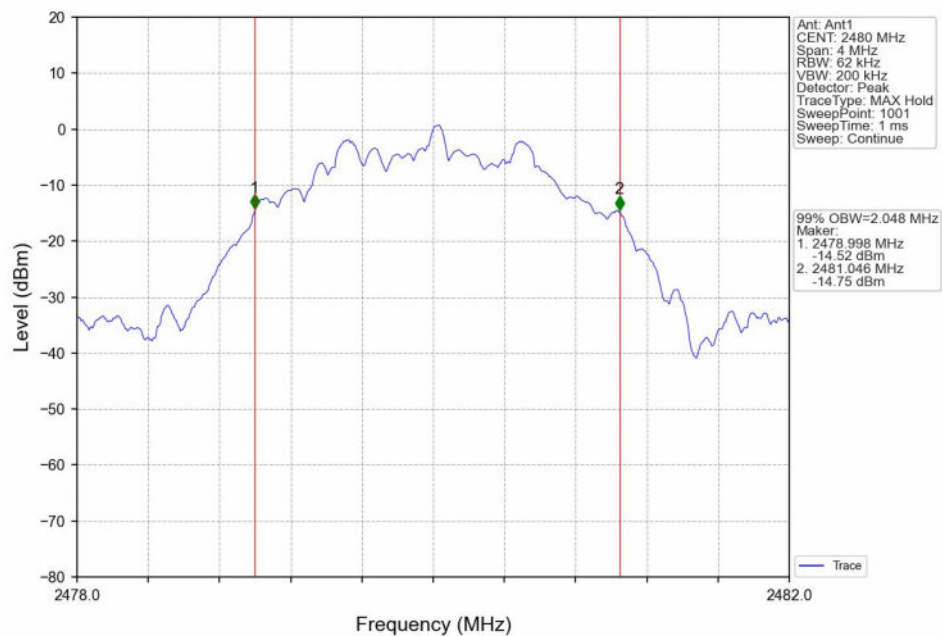


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2M_MCH_2440MHz_Ant1_NTNV

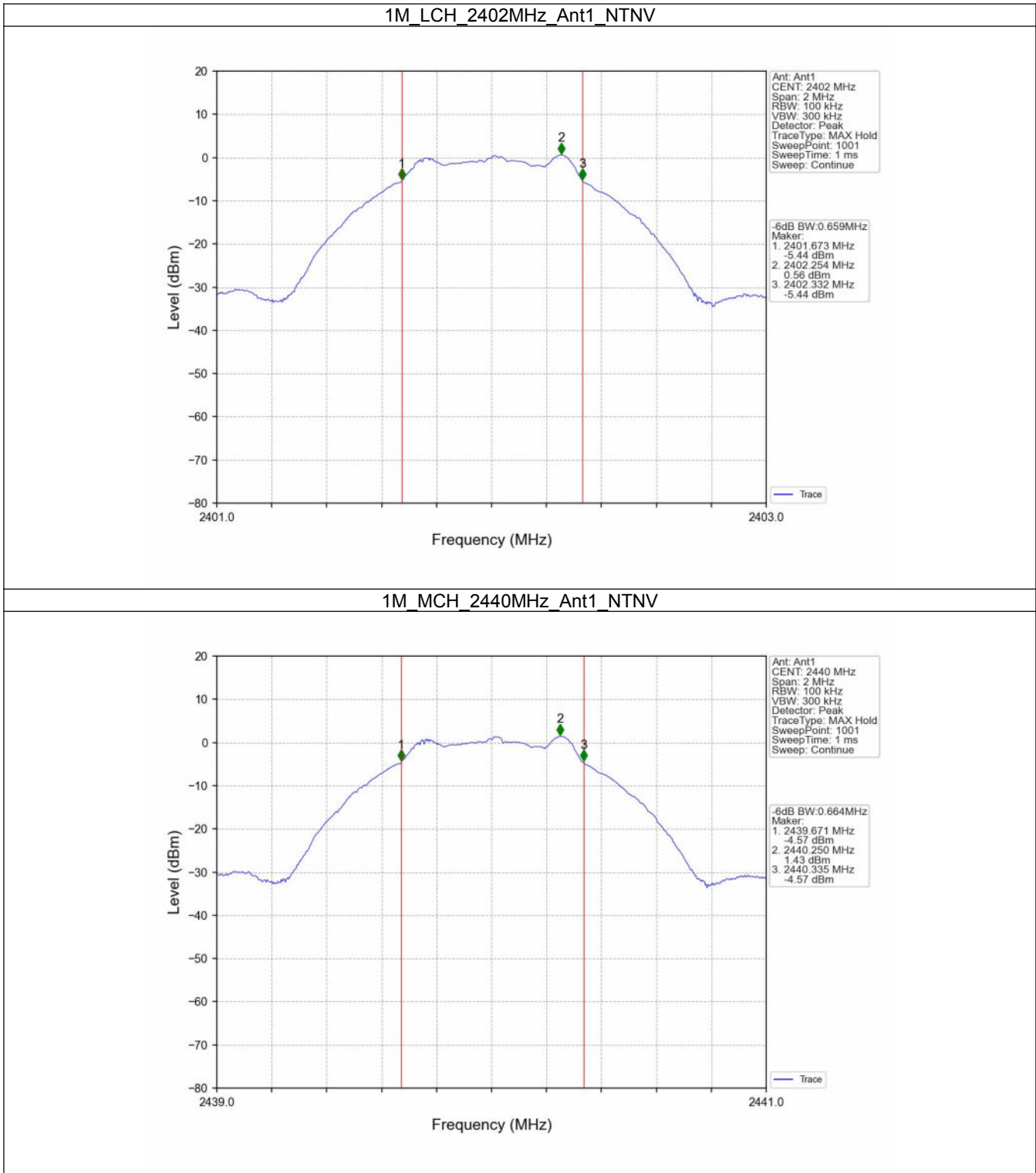


2M_HCH_2480MHz_Ant1_NTNV

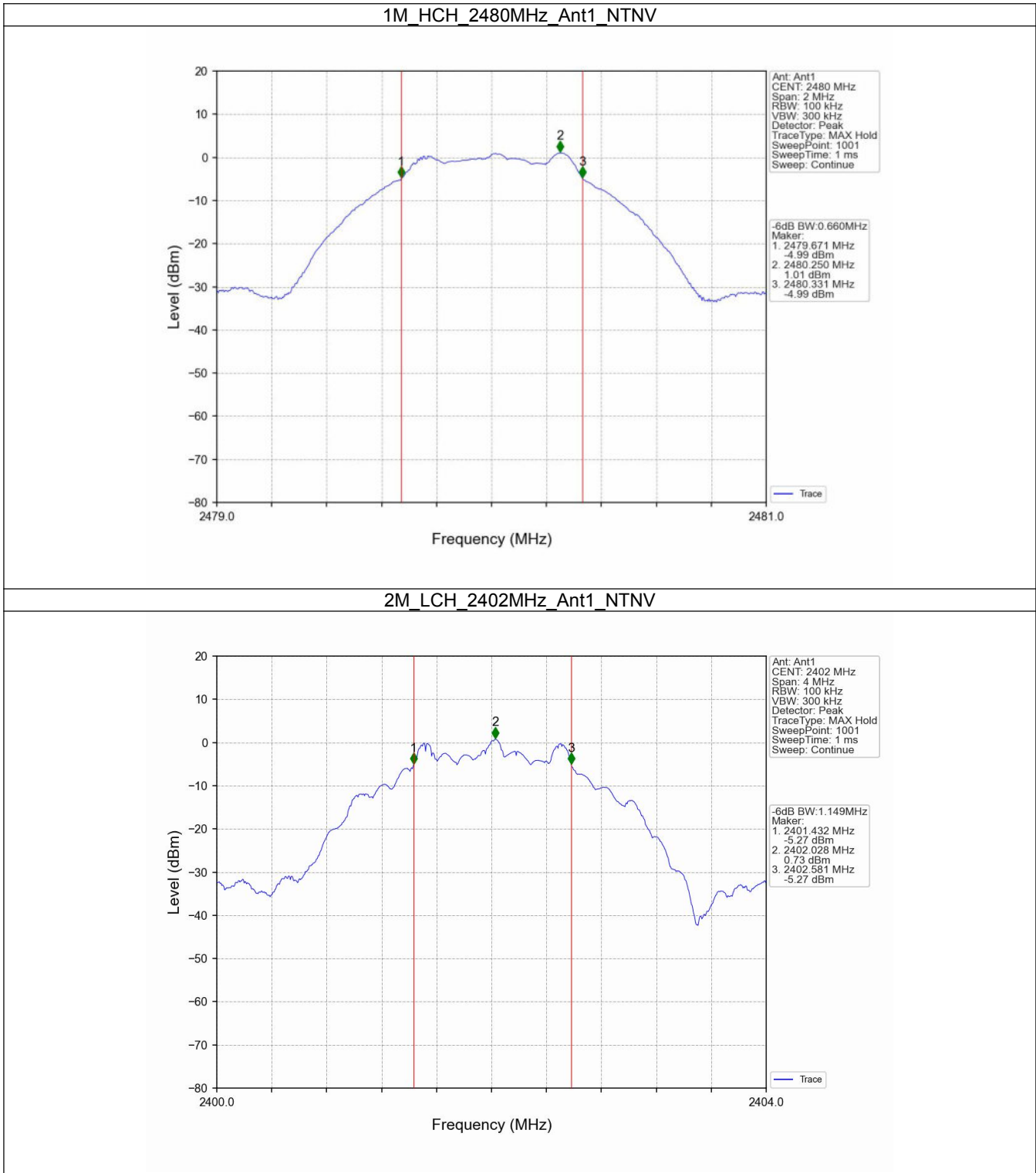


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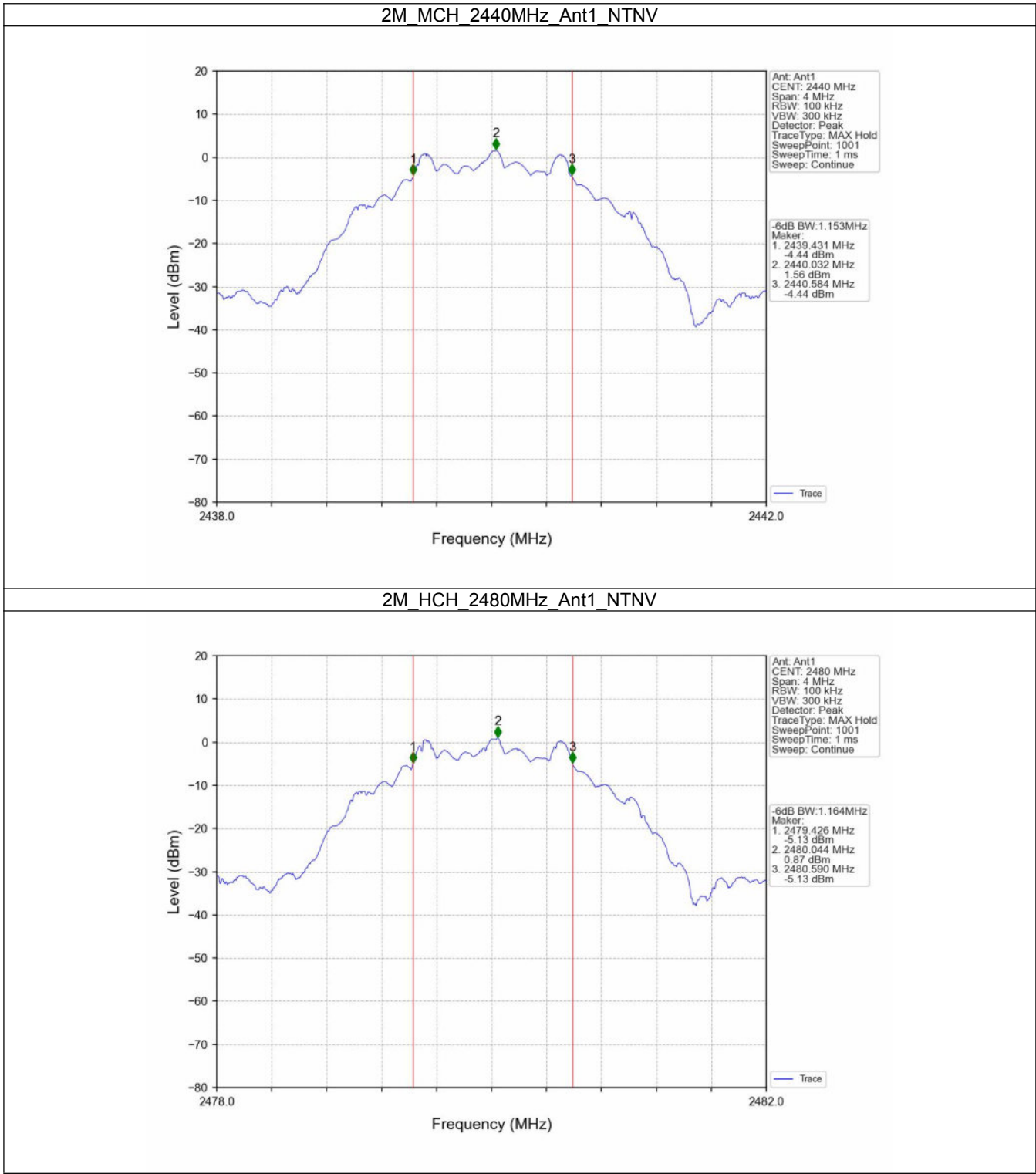
1.2.2 6dB BW



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2. Maximum Conducted Output Power

2.1 Test Result

2.1.1 Power

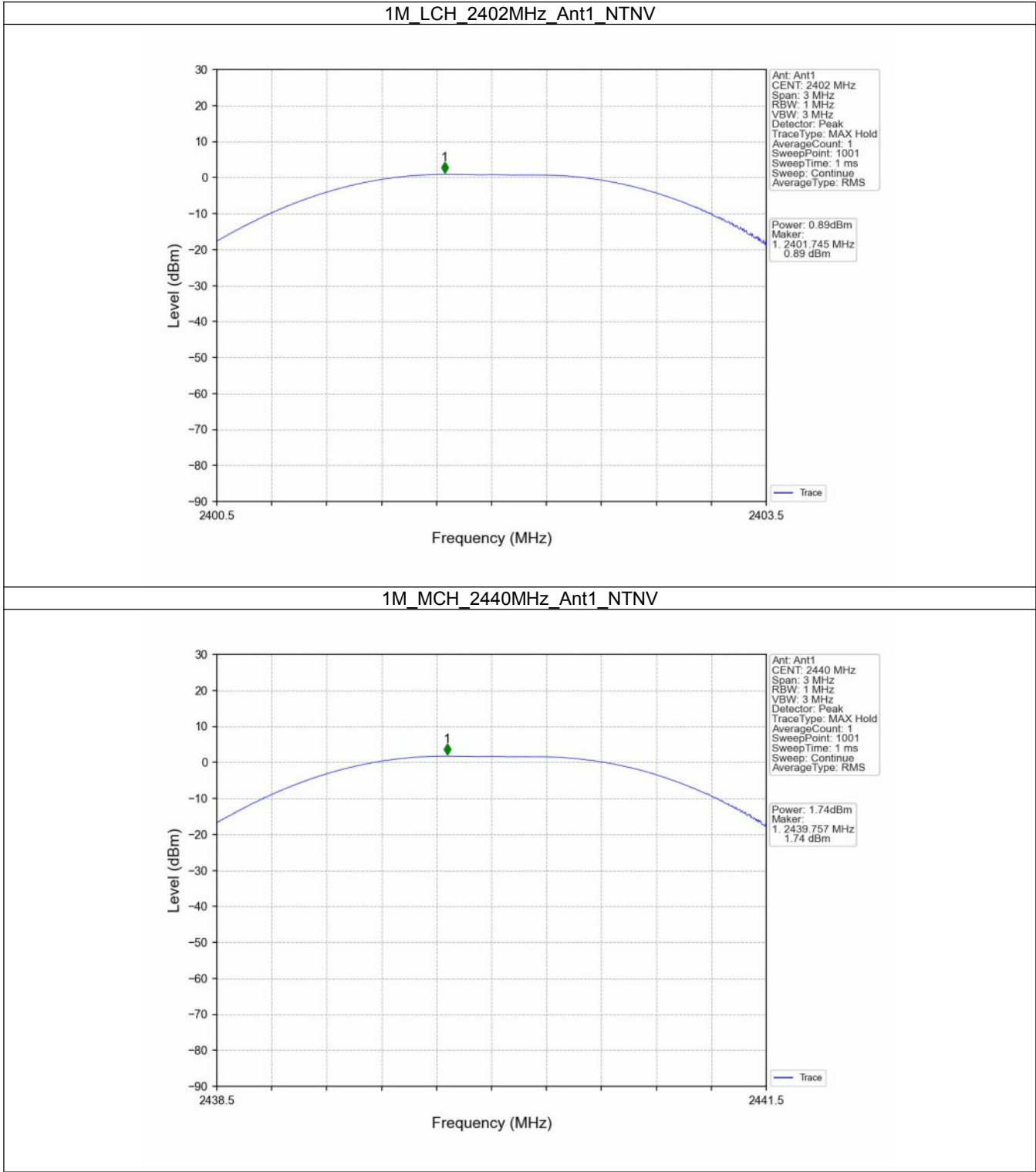
Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
1M	SISO	2402	0.89	<=30	Pass
		2440	1.74	<=30	Pass
		2480	1.34	<=30	Pass
2M	SISO	2402	1.34	<=30	Pass
		2440	2.23	<=30	Pass
		2480	1.87	<=30	Pass

Note1: Antenna Gain: Ant1: 1.08dBi;

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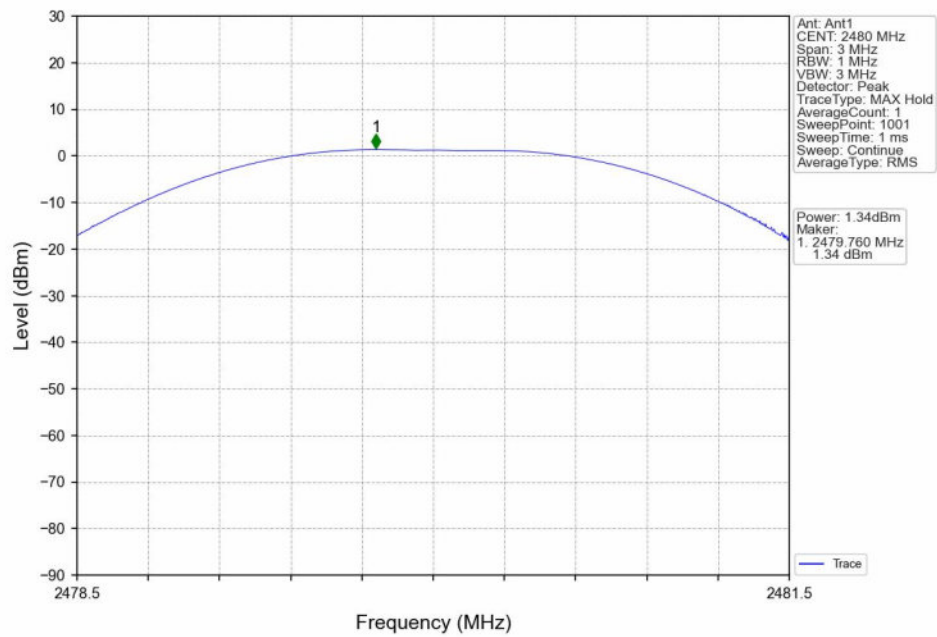
2.2 Test Graph

2.2.1 Power

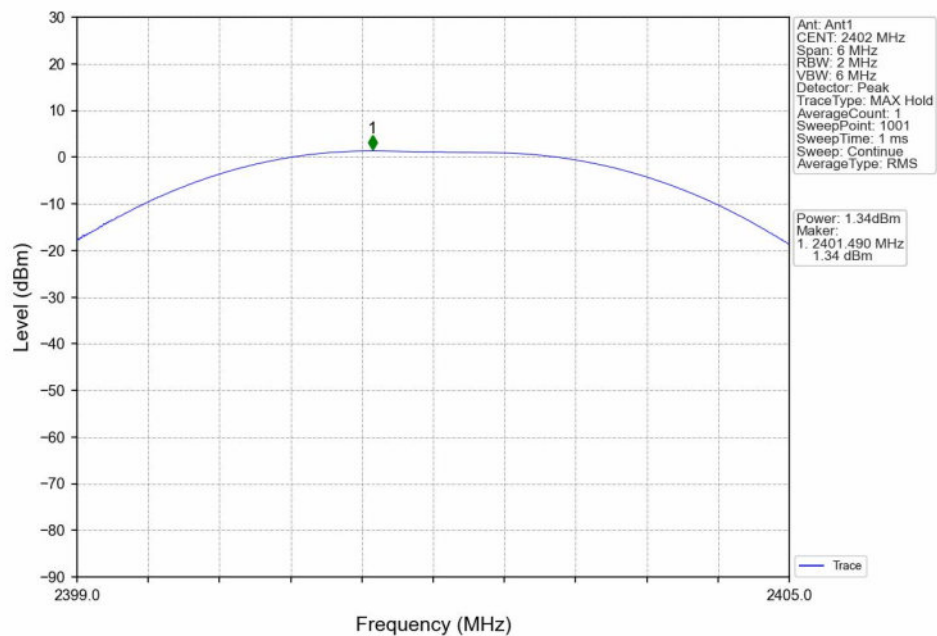


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1M_HCH_2480MHz_Ant1_NTNV

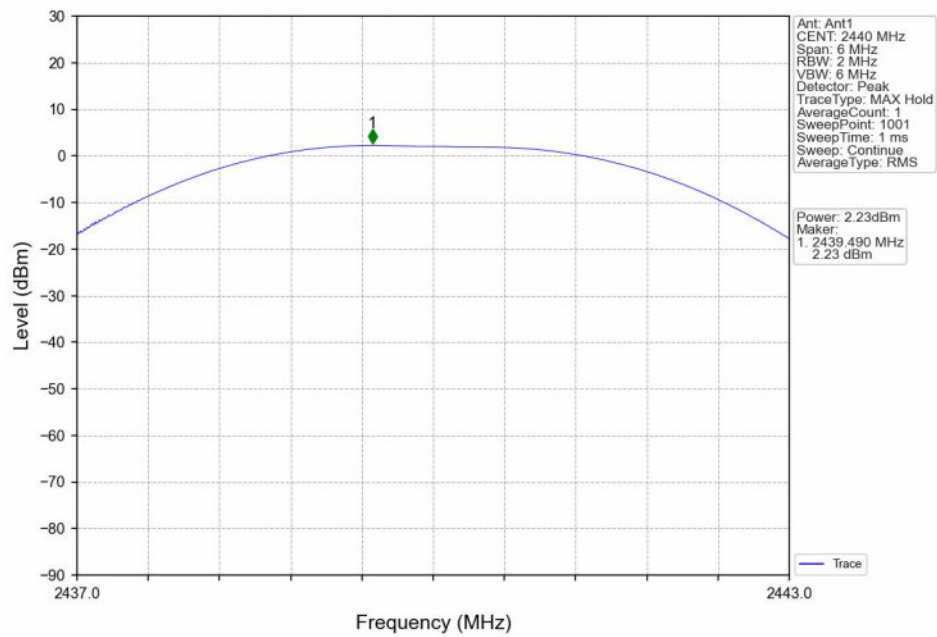


2M_LCH_2402MHz_Ant1_NTNV

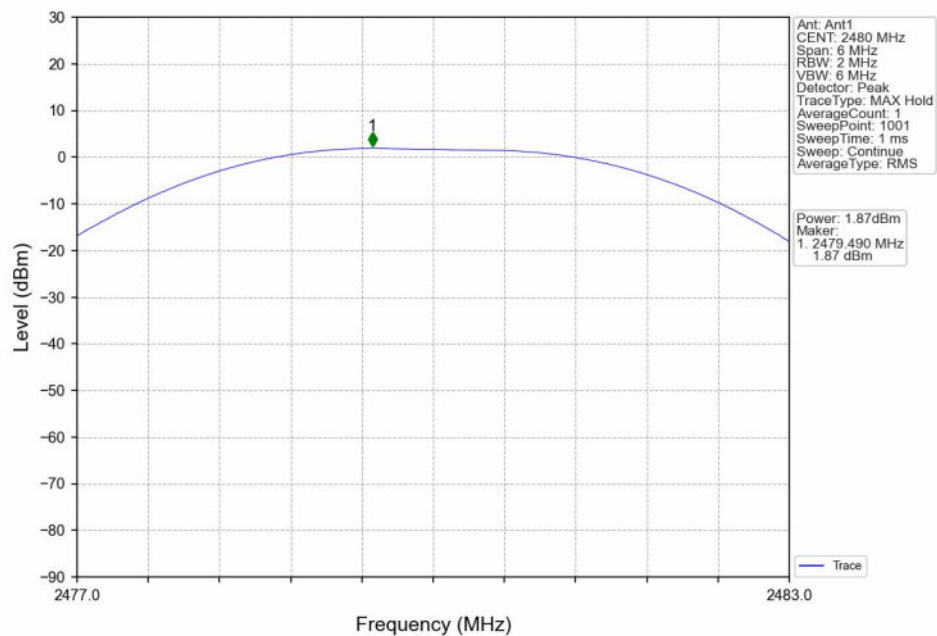


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2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



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3. Maximum Power Spectral Density

3.1 Test Result

3.1.1 PSD

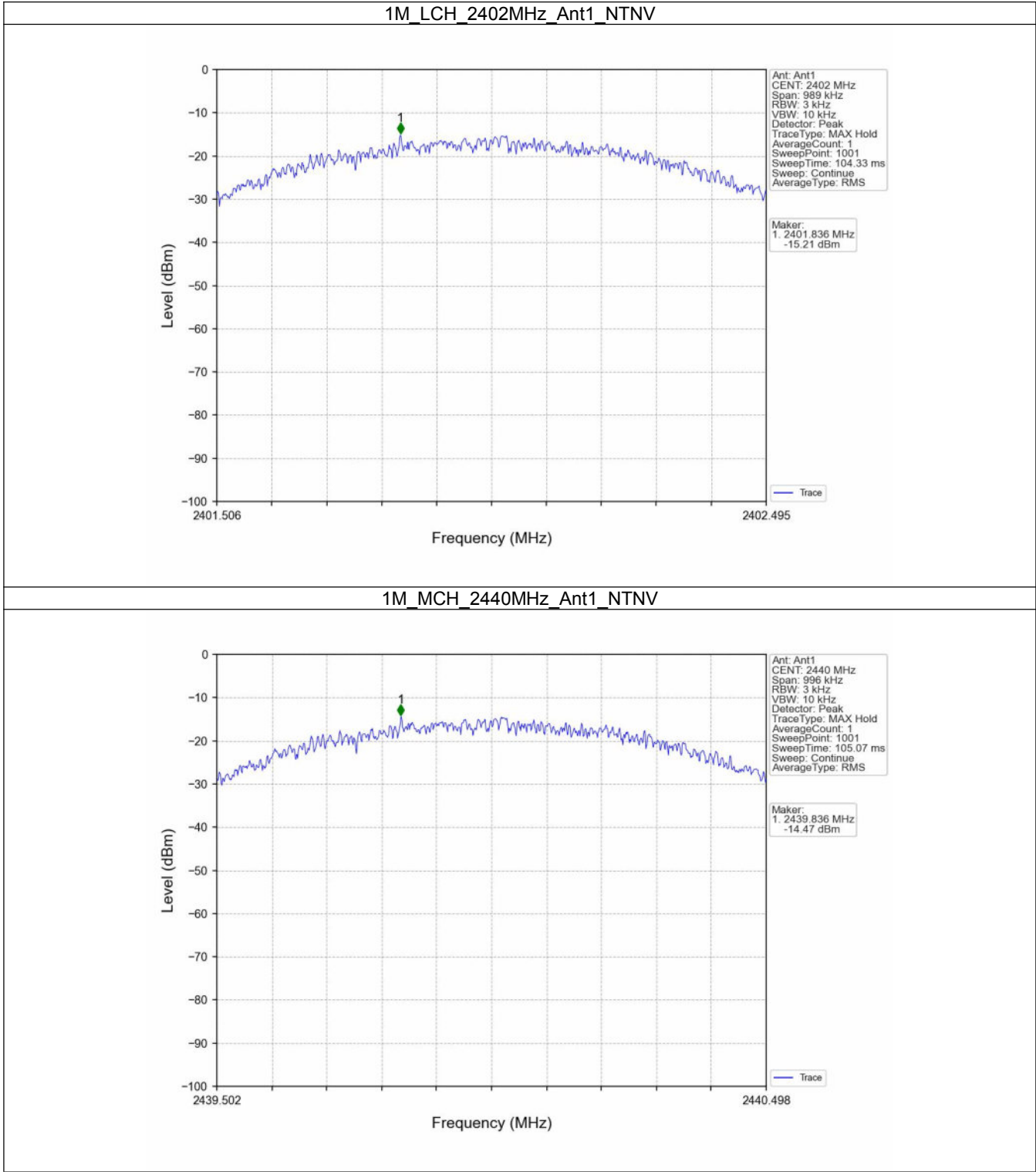
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			ANT1	Limit	
1M	SISO	2402	-15.21	<=8	Pass
		2440	-14.47	<=8	Pass
		2480	-14.79	<=8	Pass
2M	SISO	2402	-17.60	<=8	Pass
		2440	-16.35	<=8	Pass
		2480	-17.15	<=8	Pass

Note1: Antenna Gain: Ant1: 1.08dBi;

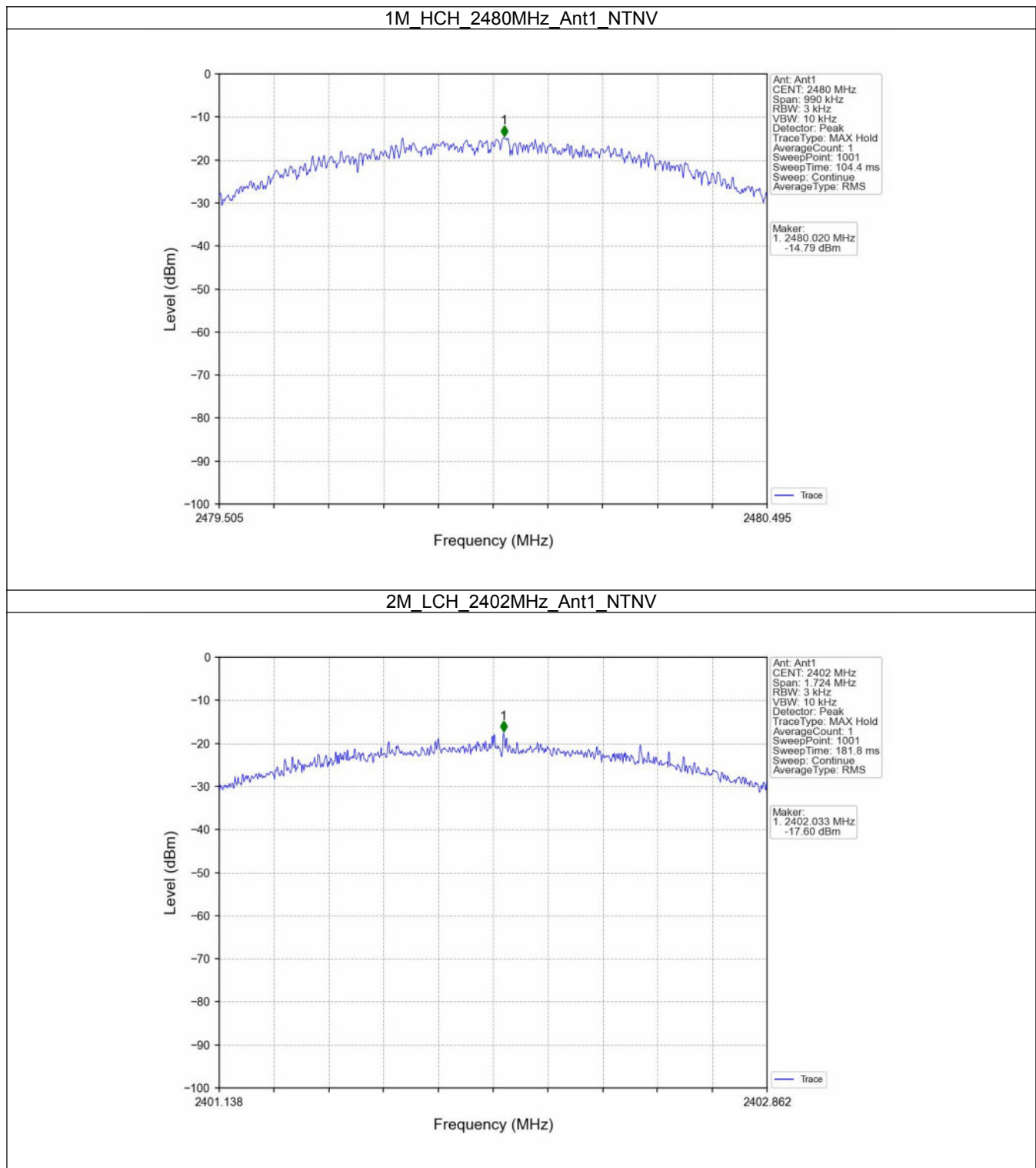
FCCID: 2A638-WKZP027A

3.2 Test Graph

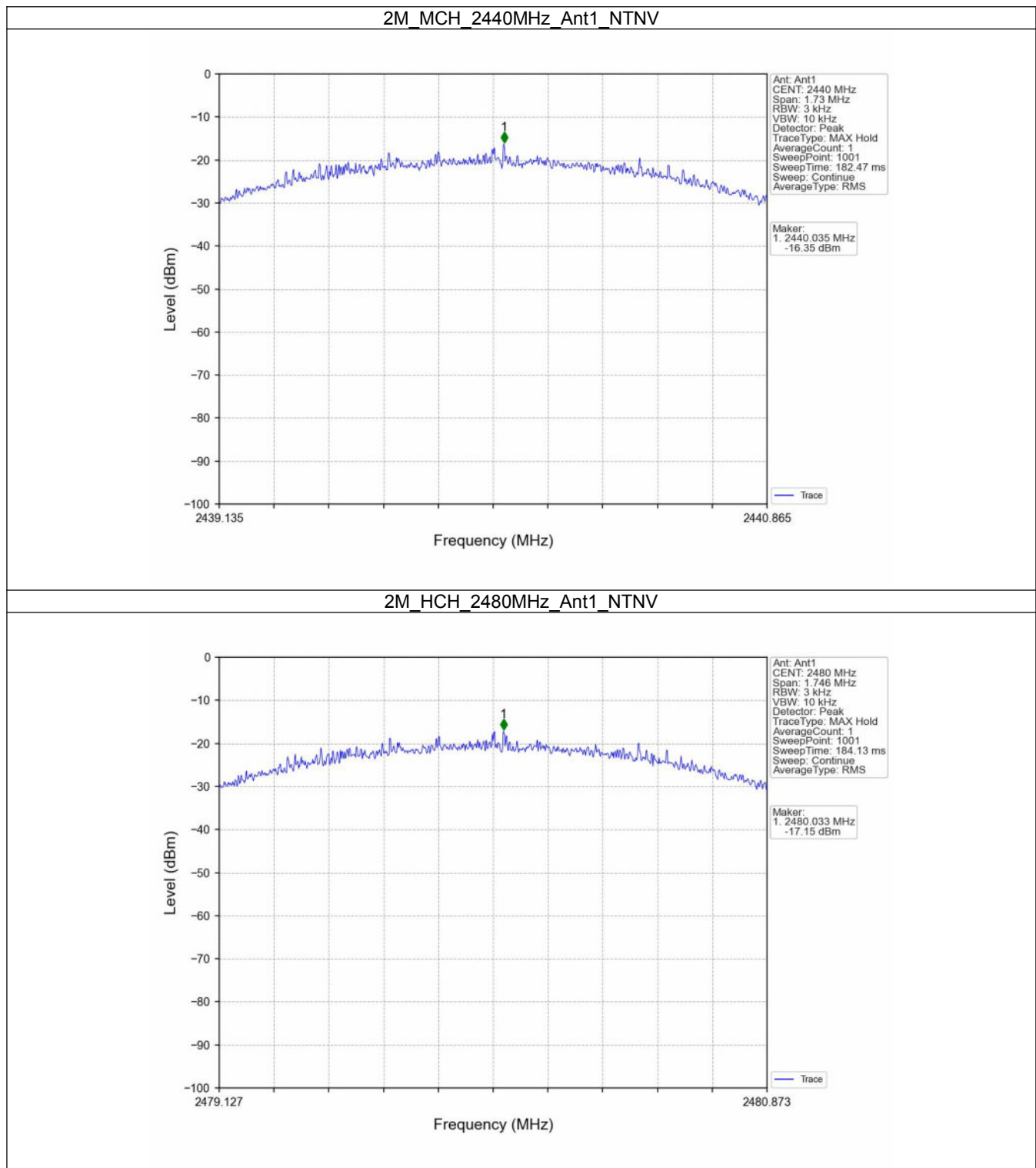
3.2.1 PSD



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4. Unwanted Emissions In Non-restricted Frequency Bands

4.1 Test Result

4.1.1 Ref

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
1M	SISO	2402	1	0.57
		2440	1	1.42
		2480	1	1.00
2M	SISO	2402	1	0.65
		2440	1	1.55
		2480	1	1.18

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 CSE

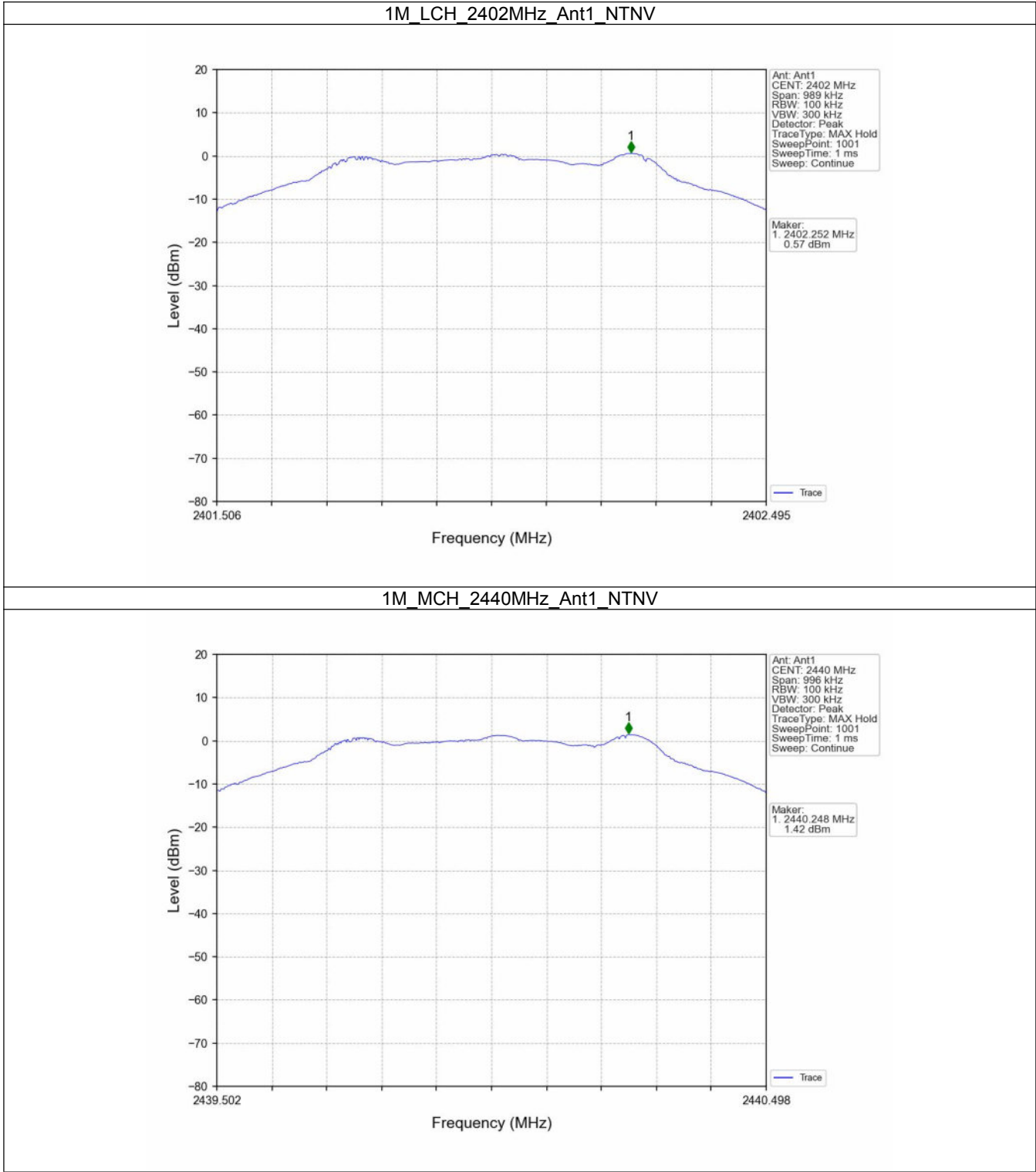
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
1M	SISO	2402	1	1.42	-18.58	Pass
		2440	1	1.42	-18.58	Pass
		2480	1	1.42	-18.58	Pass
2M	SISO	2402	1	1.55	-18.45	Pass
		2440	1	1.55	-18.45	Pass
		2480	1	1.55	-18.45	Pass

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.

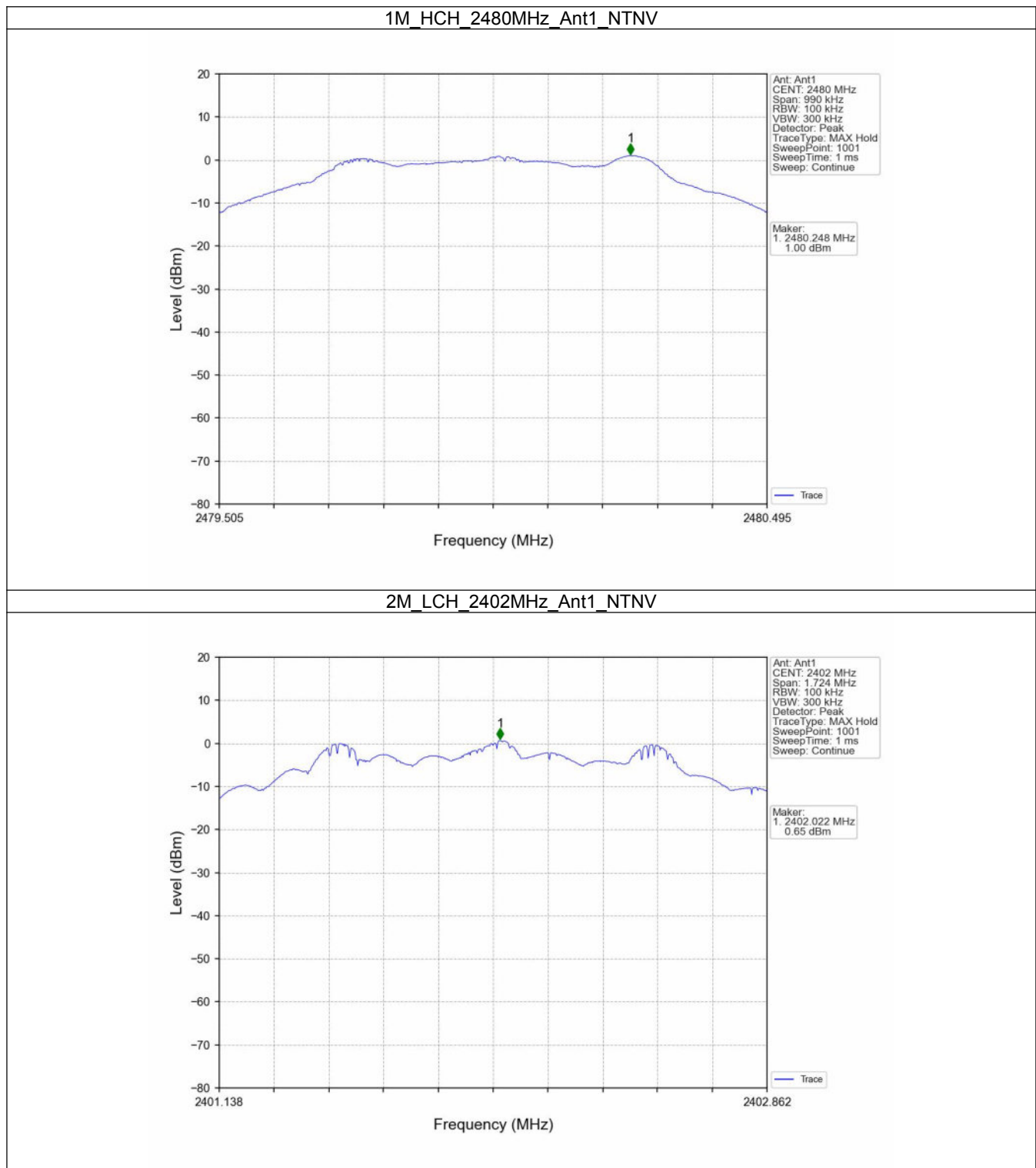
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4.2 Test Graph

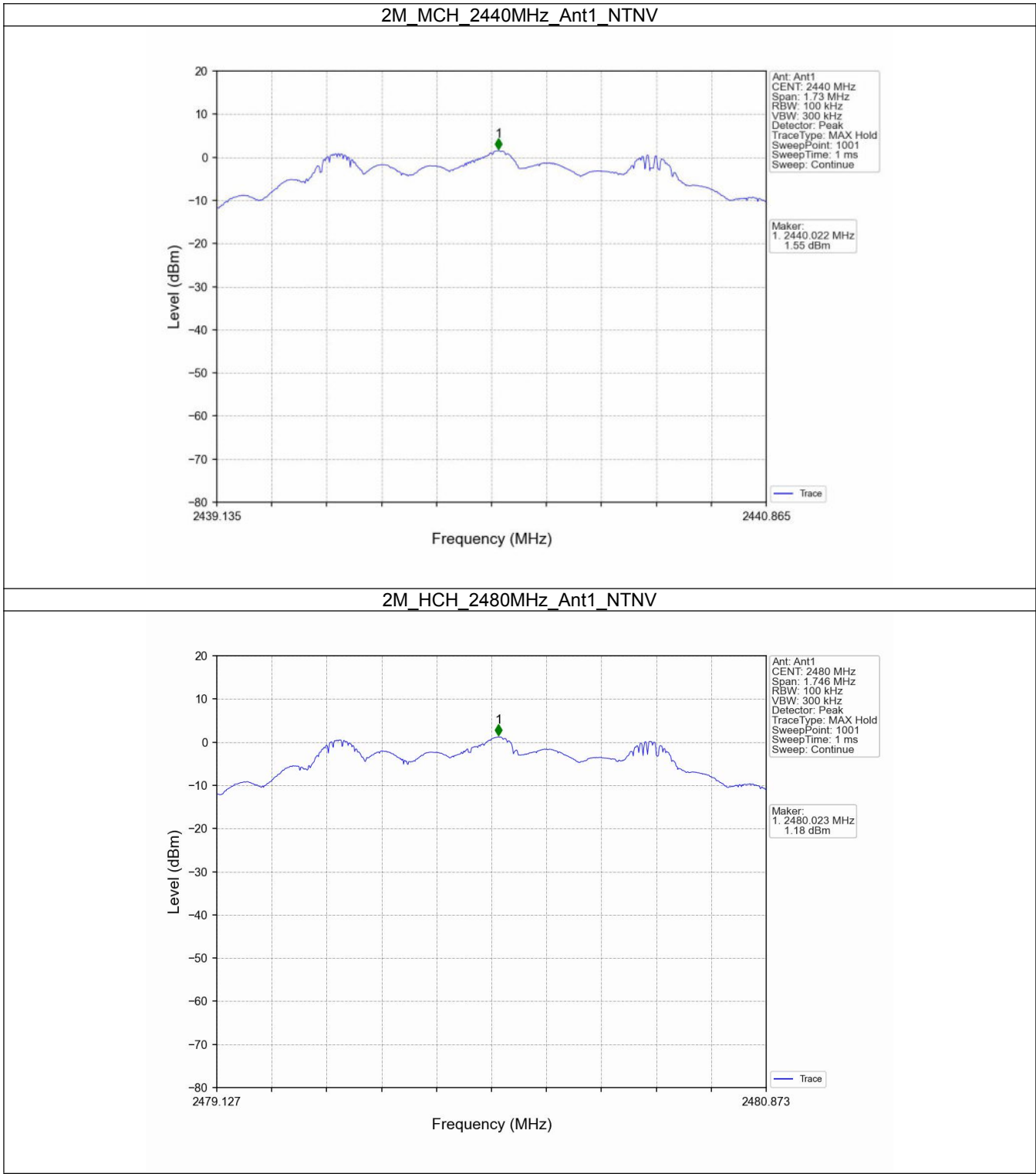
4.2.1 Ref



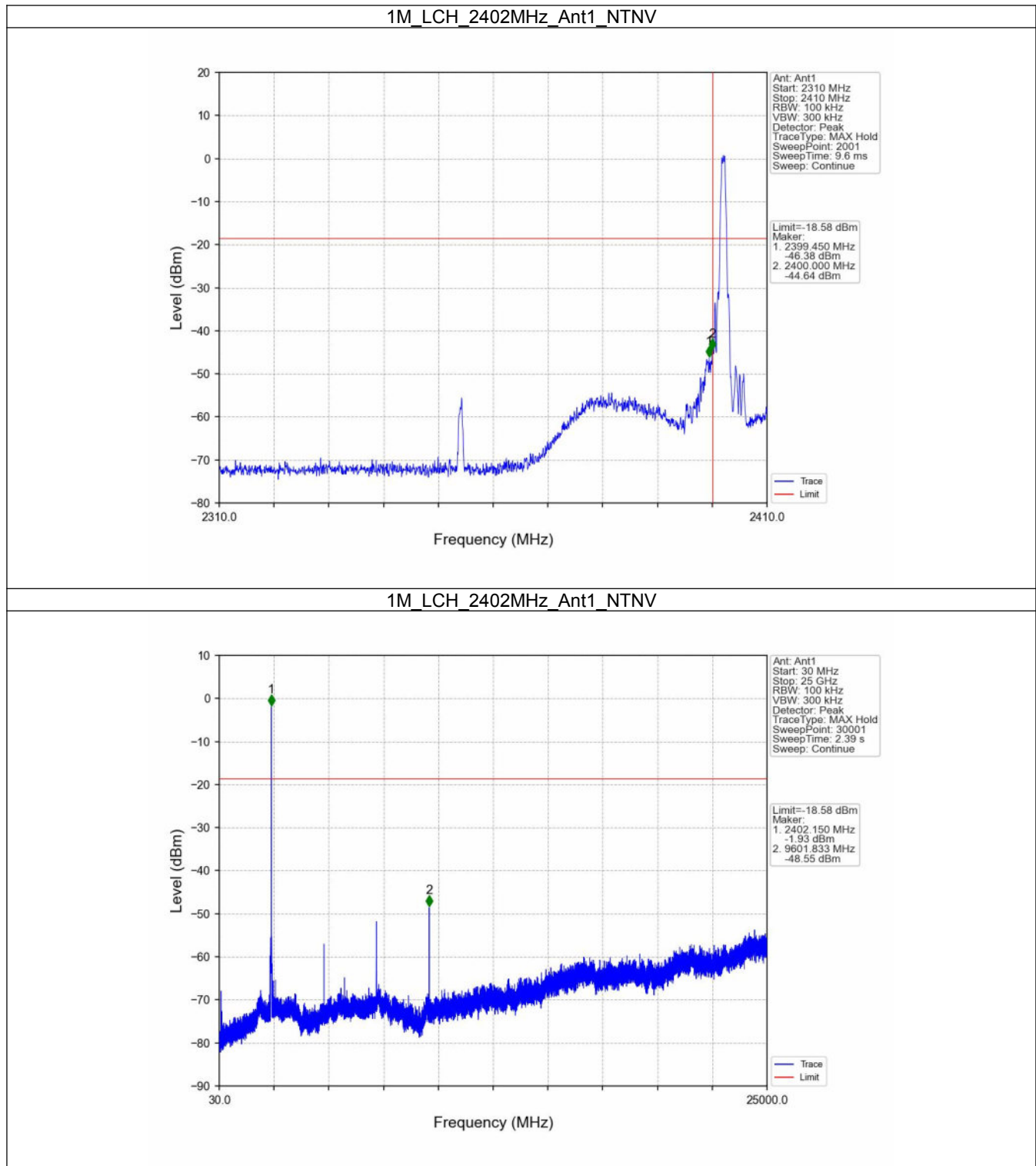
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FCCID: 2A638-WKZP027A

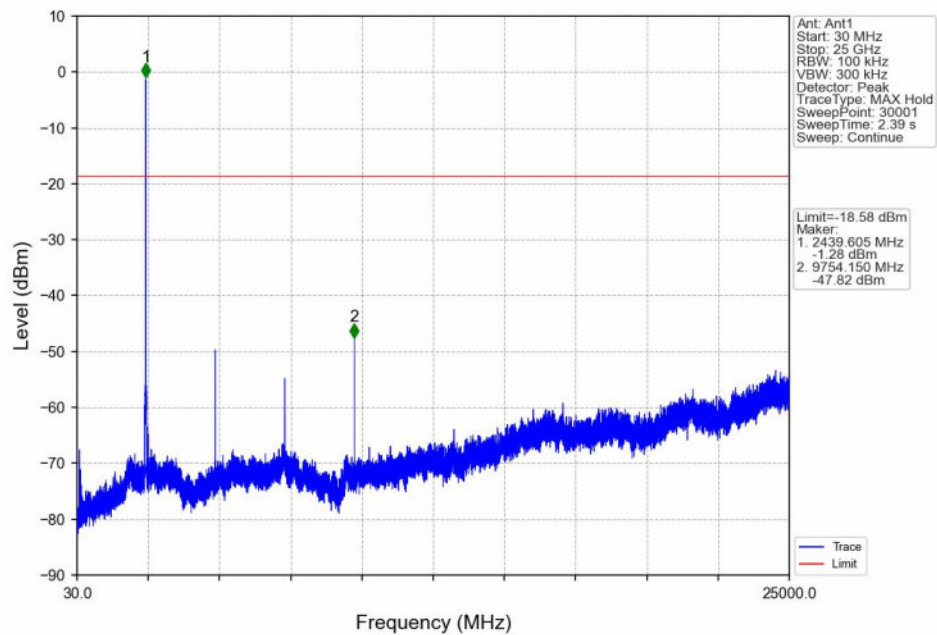


FCCID: 2A638-WKZP027A

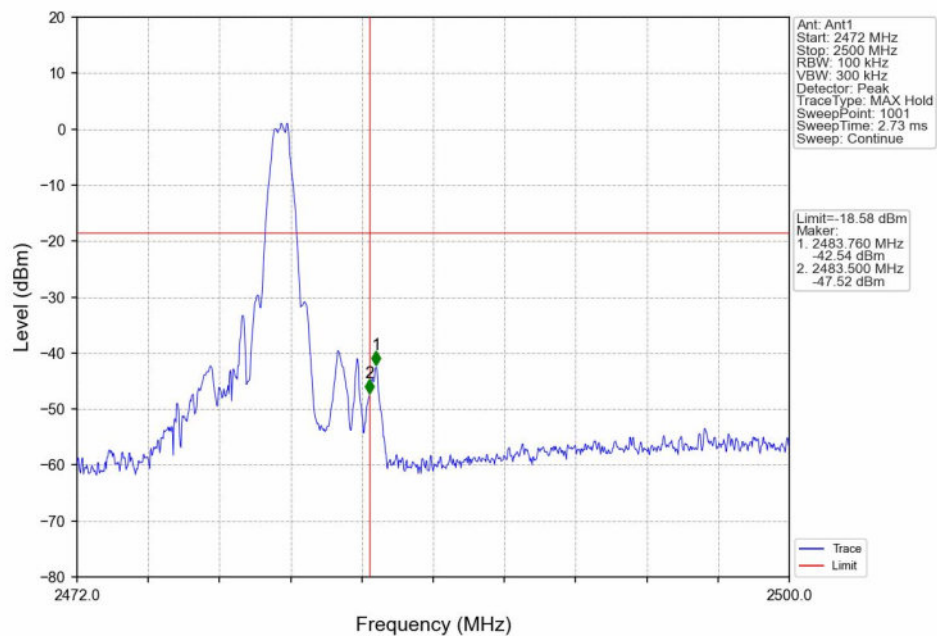
4.2.2 CSE

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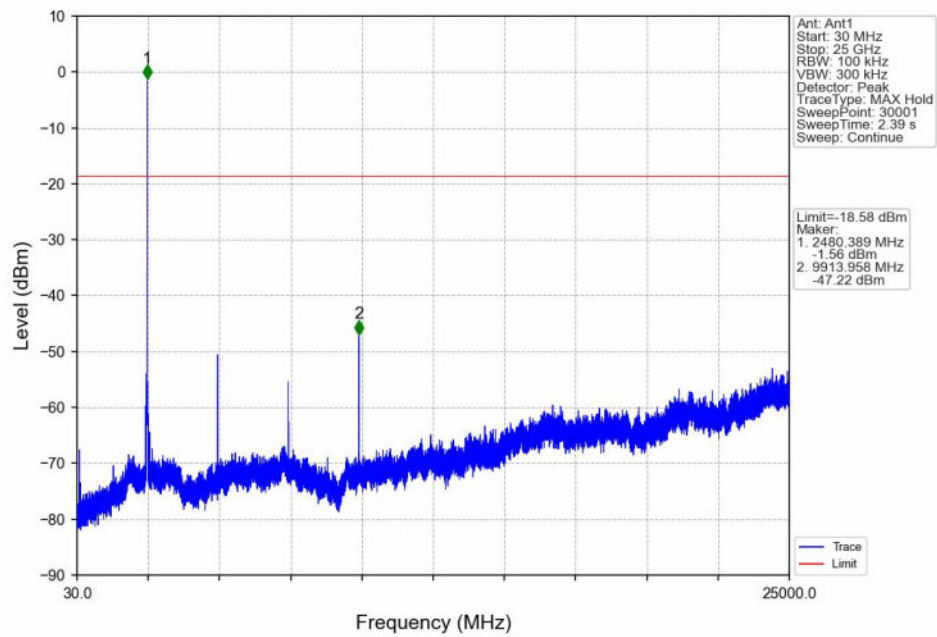


1M_HCH_2480MHz_Ant1_NTNV

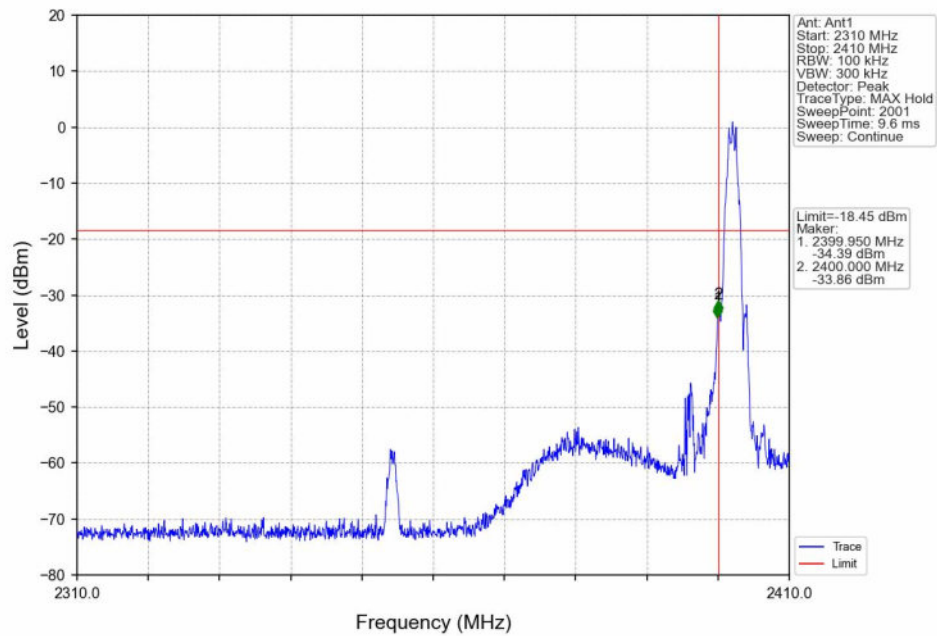


FCCID: 2A638-WKZP027A

1M_HCH_2480MHz_Ant1_NTNV

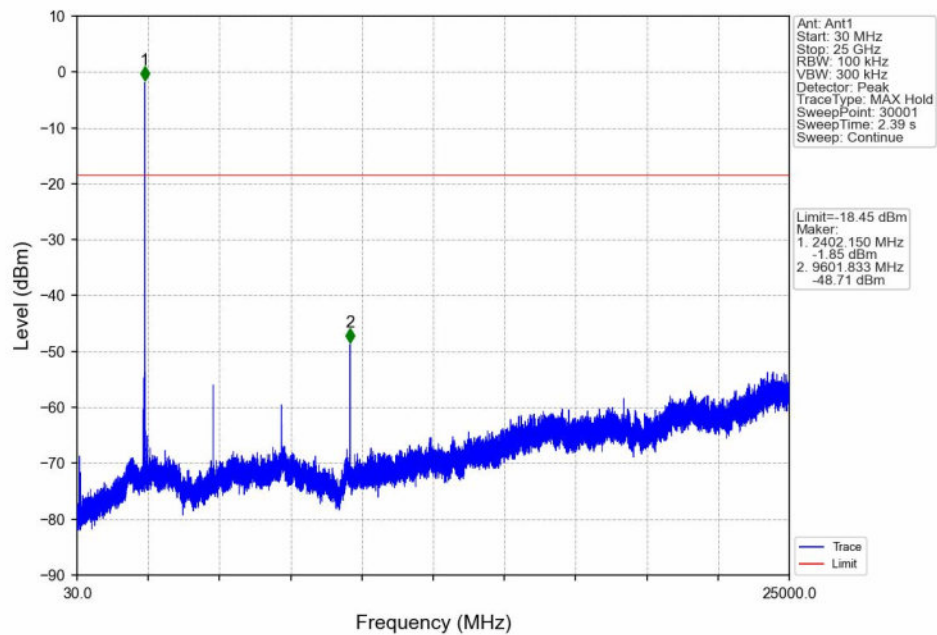


2M_LCH_2402MHz_Ant1_NTNV

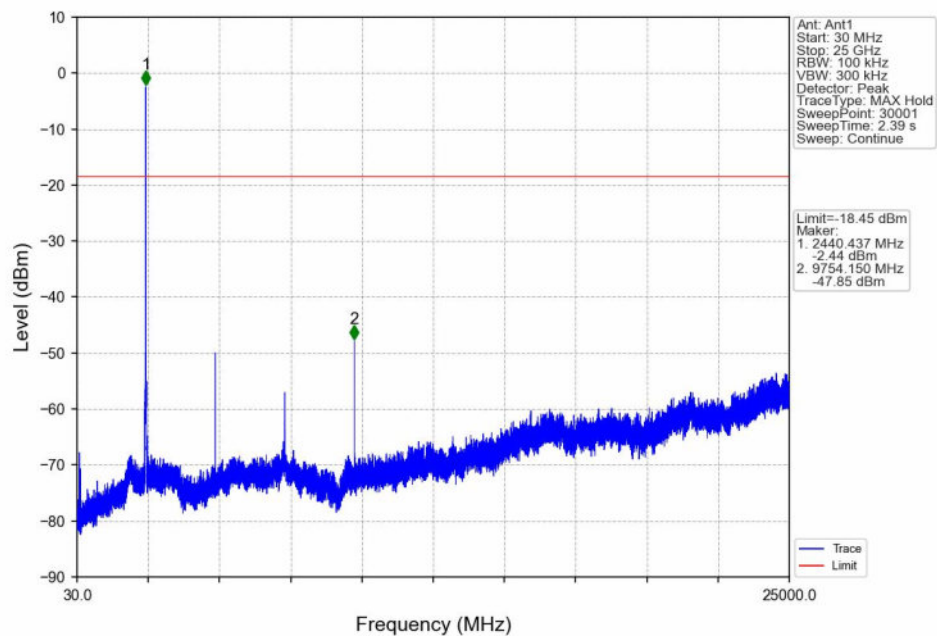


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2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV



FCCID: 2A638-WKZP027A

