



Annex for 2.4G Wi-Fi

Test Report No.: CTL2411262071-WF

TABLE OF CONTENTS

1. Duty Cycle	3
1.1 Test Result	3
1.1.1 Ant1	3
1.2 Test Graph.....	4
1.2.1 Ant1	4
2. Bandwidth.....	10
2.1 Test Result	10
2.1.1 OBW	10
2.1.2 6dB BW	10
2.2 Test Graph.....	11
2.2.1 OBW	11
2.2.2 6dB BW	17
3. Maximum Conducted Output Power	23
3.1 Test Result	23
3.1.1 Power	23
3.2 Test Graph.....	24
3.2.1 Power	24
4. Maximum Power Spectral Density	30
4.1 Test Result	30
4.1.1 PSD	30



4.2 Test Graph.....	31
4.2.1 PSD	31
5. Unwanted Emissions In Non-restricted Frequency Bands.....	37
5.1 Test Result	37
5.1.1 Ref.....	37
5.1.2 CSE	37
5.2 Test Graph.....	38
5.2.1 Ref.....	38
5.2.2 CSE	44

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1. Duty Cycle

1.1 Test Result

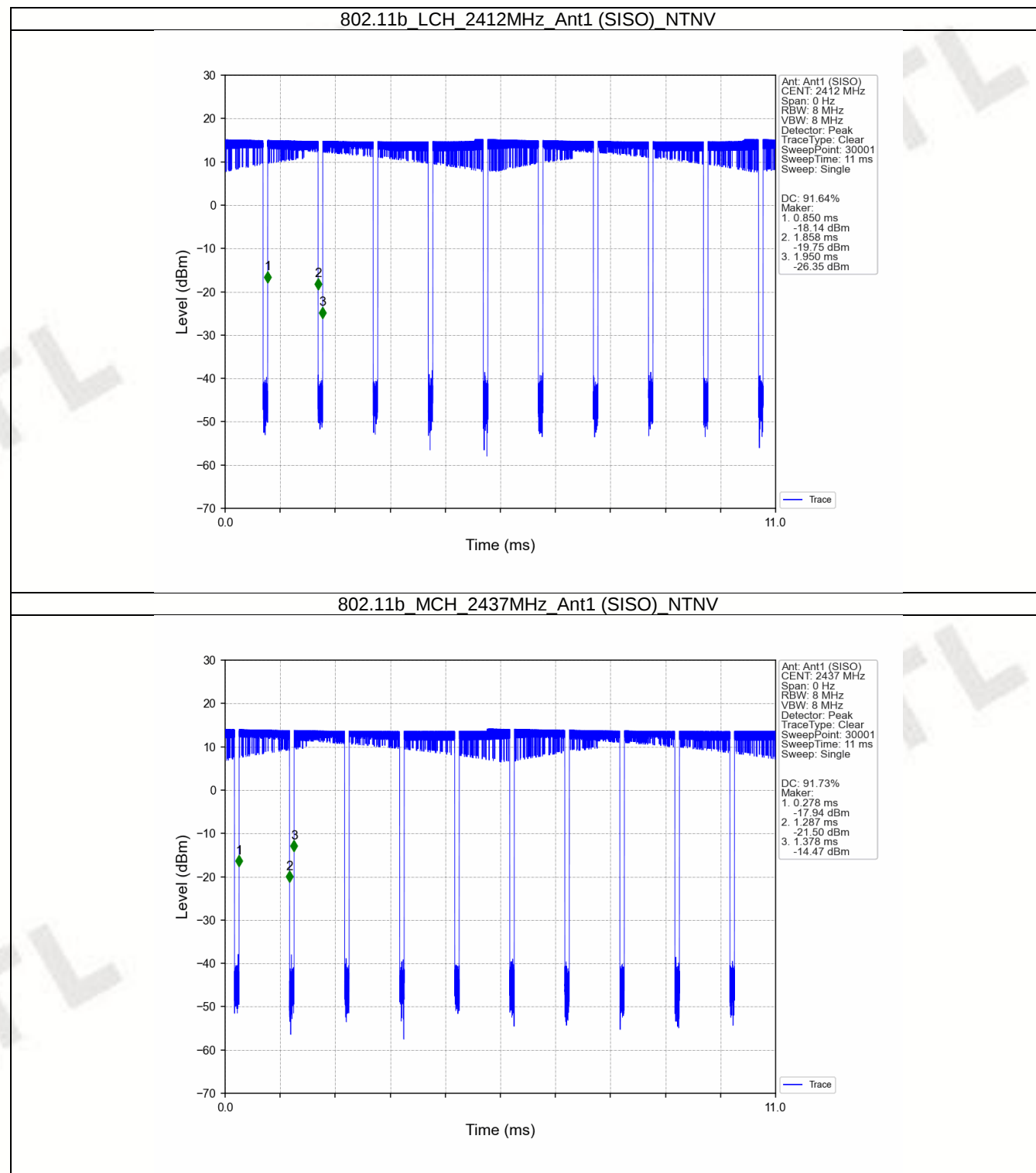
1.1.1 Ant1

Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11b	SISO	2412	1.008	1.100	91.64	0.38	0.03
		2437	1.009	1.100	91.73	0.38	0.03
		2462	1.009	1.100	91.73	0.38	0.03
802.11g	SISO	2412	0.617	0.669	92.23	0.35	0.03
		2437	0.617	0.669	92.23	0.35	0.03
		2462	0.617	0.669	92.23	0.35	0.03
802.11n (HT20)	SISO	2412	0.612	0.665	92.03	0.36	0.04
		2437	0.613	0.665	92.18	0.35	0.03
		2462	0.613	0.665	92.18	0.35	0.04
802.11n (HT40)	SISO	2422	0.613	0.665	92.18	0.35	0.04
		2437	0.613	0.665	92.18	0.35	0.04
		2452	0.613	0.665	92.18	0.35	0.04

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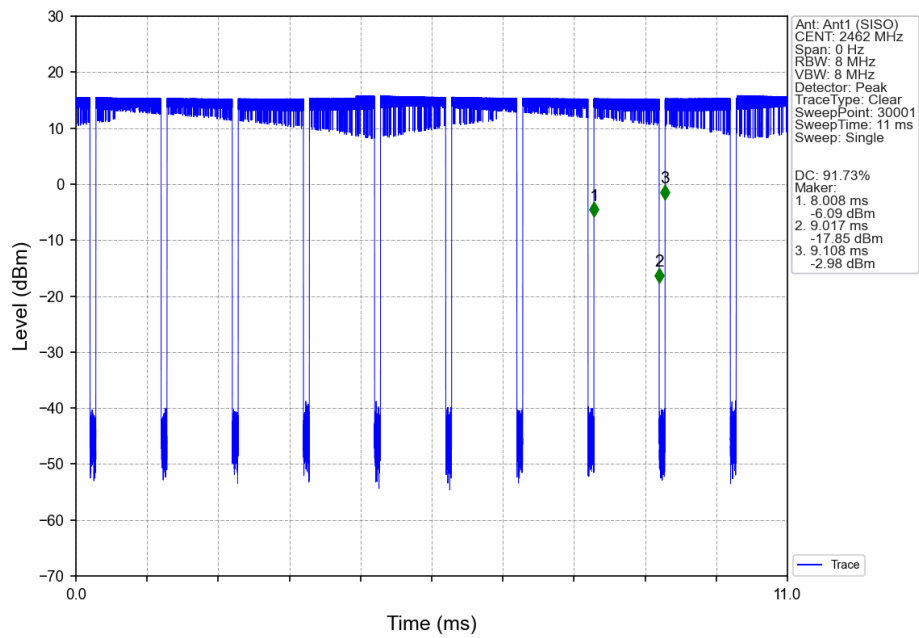
1.2 Test Graph

1.2.1 Ant1

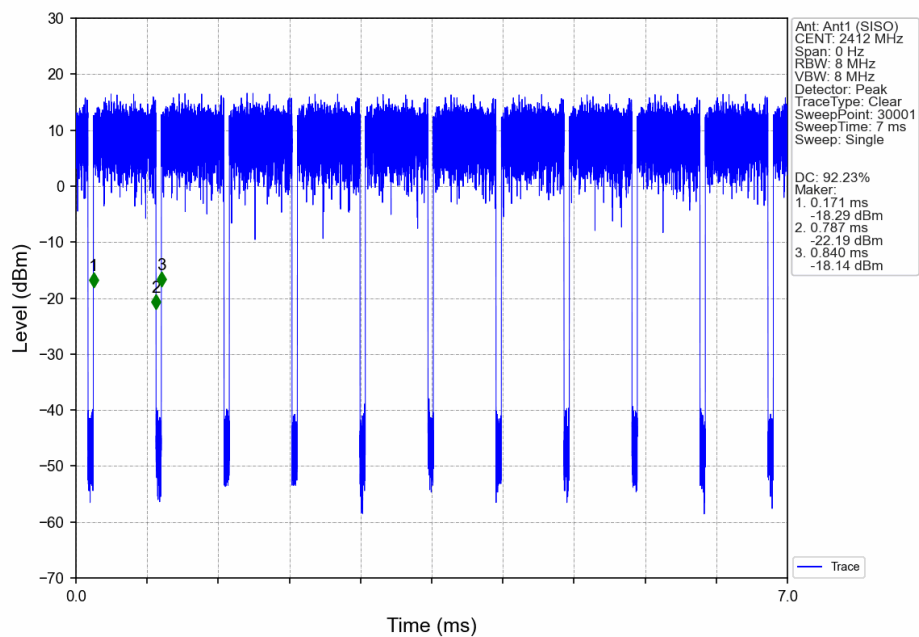


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802.11b HCH 2462MHz Ant1 (SISO) NTN

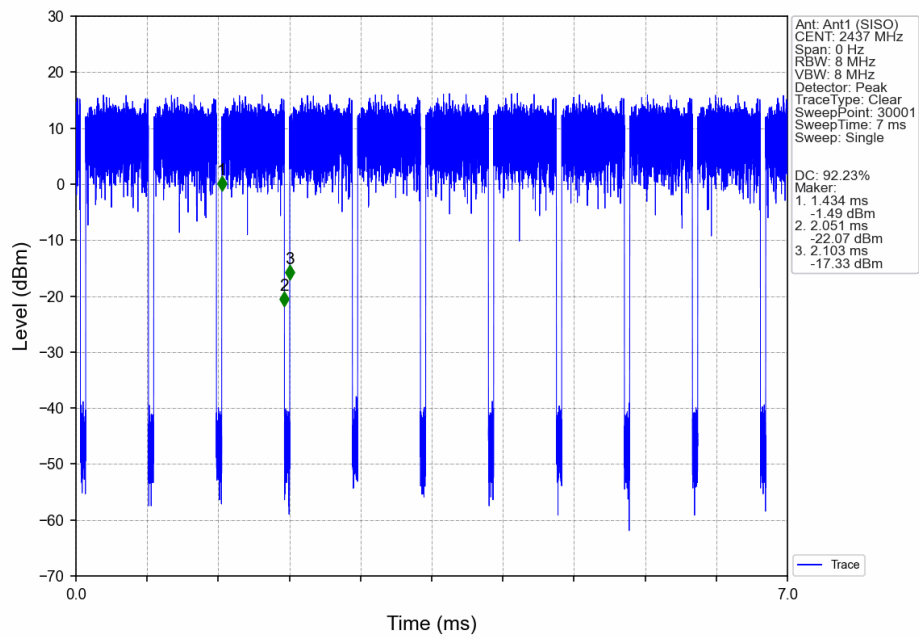


802.11g LCH 2412MHz Ant1 (SISO) NTN

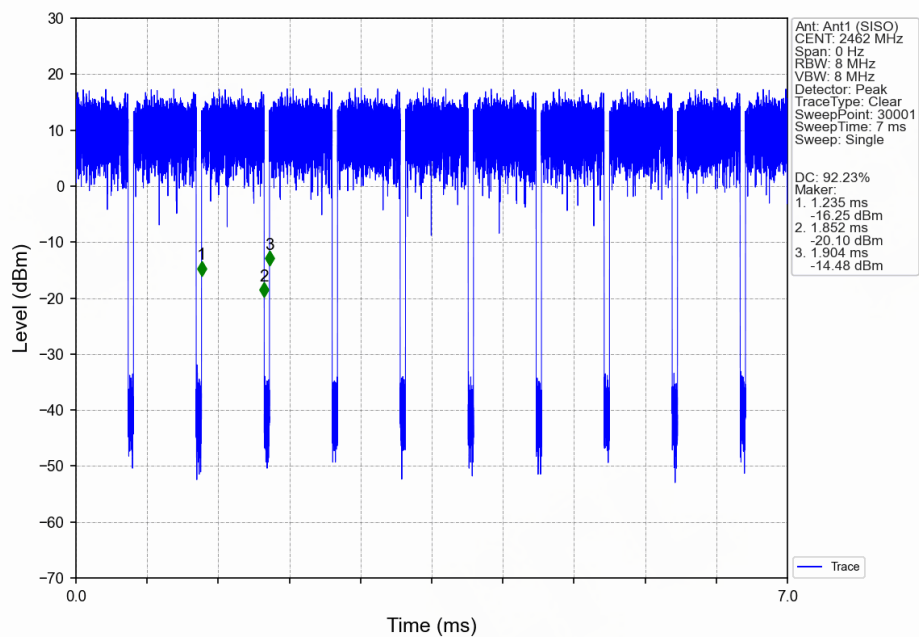


FCCID: 2BMUY-LPMS

802.11g MCH 2437MHz Ant1 (SISO) NTN

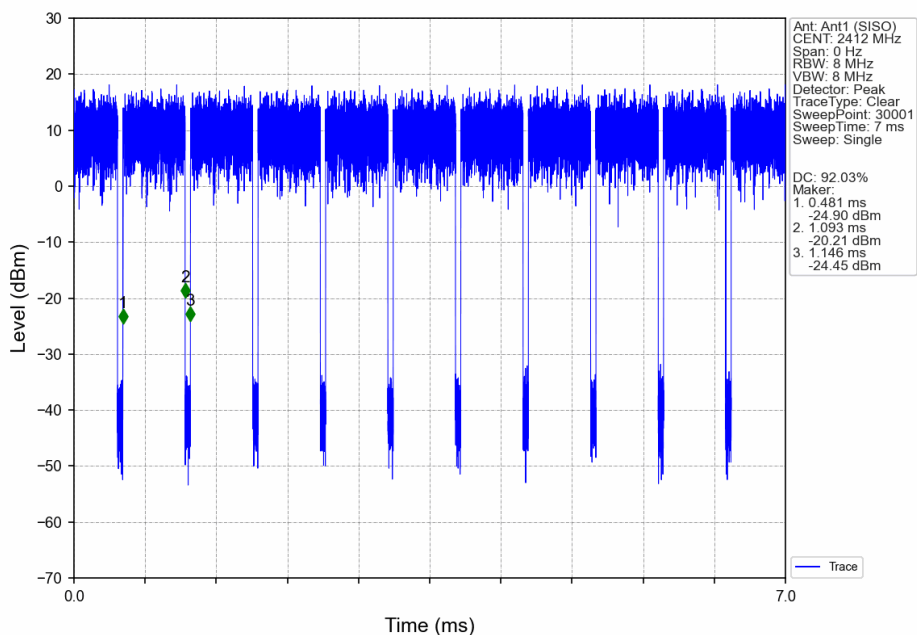


802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV

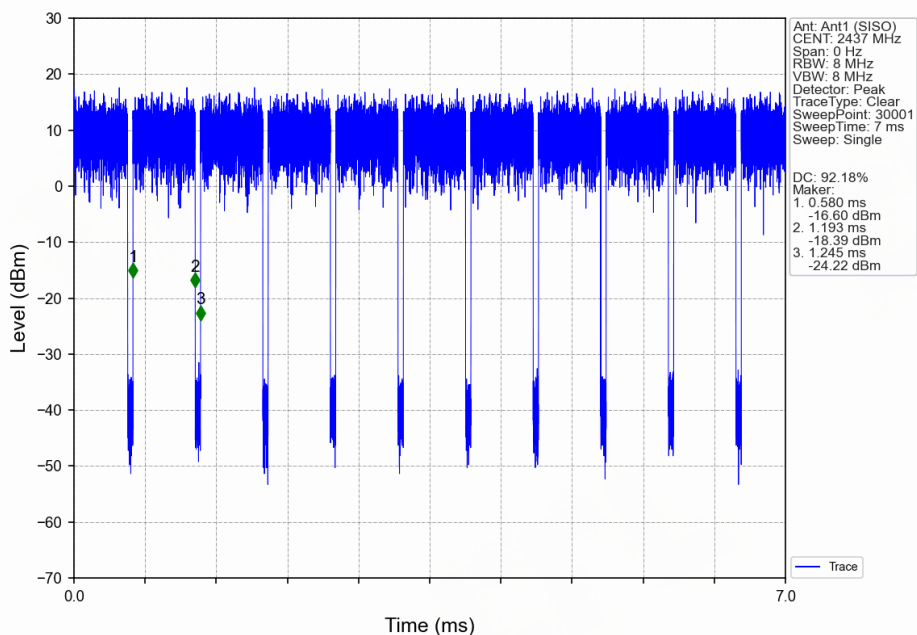


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802.11n(HT20) LCH 2412MHz Ant1 (SISO) NTV

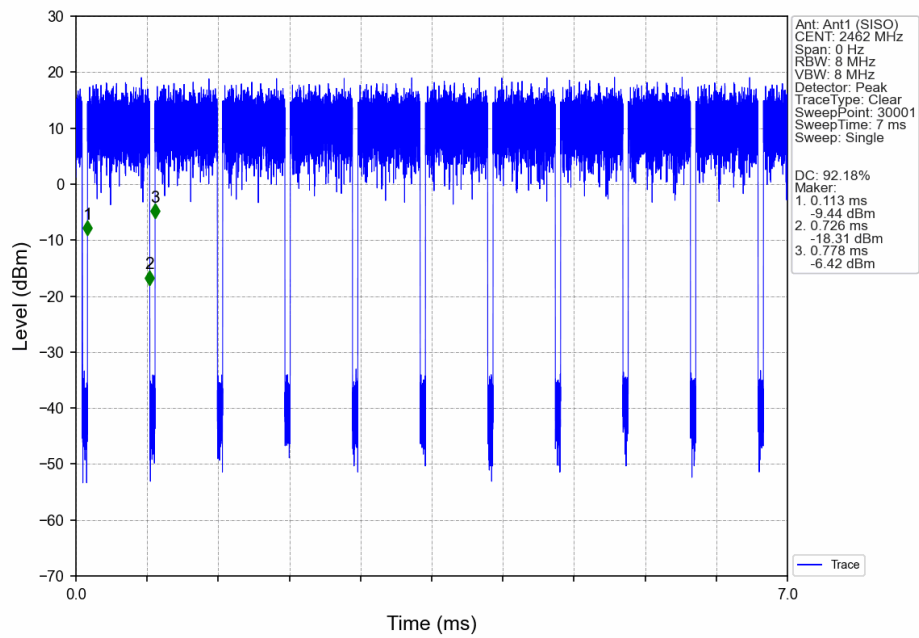


802.11n(HT20) MCH 2437MHz Ant1 (SISO) NTV

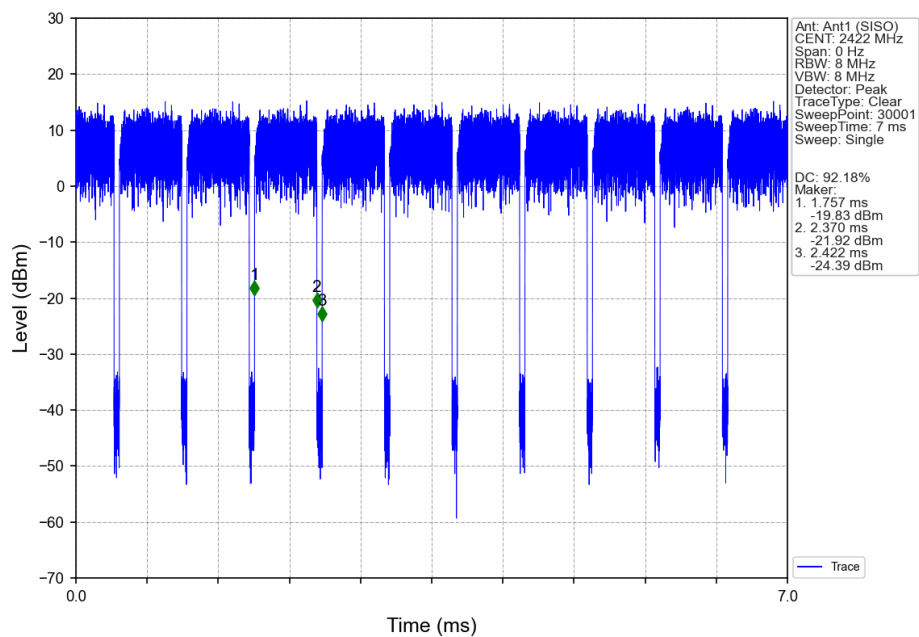


FCCID: 2BMUY-LPMS

802.11n(HT20) HCH 2462MHz Ant1 (SISO) NTV

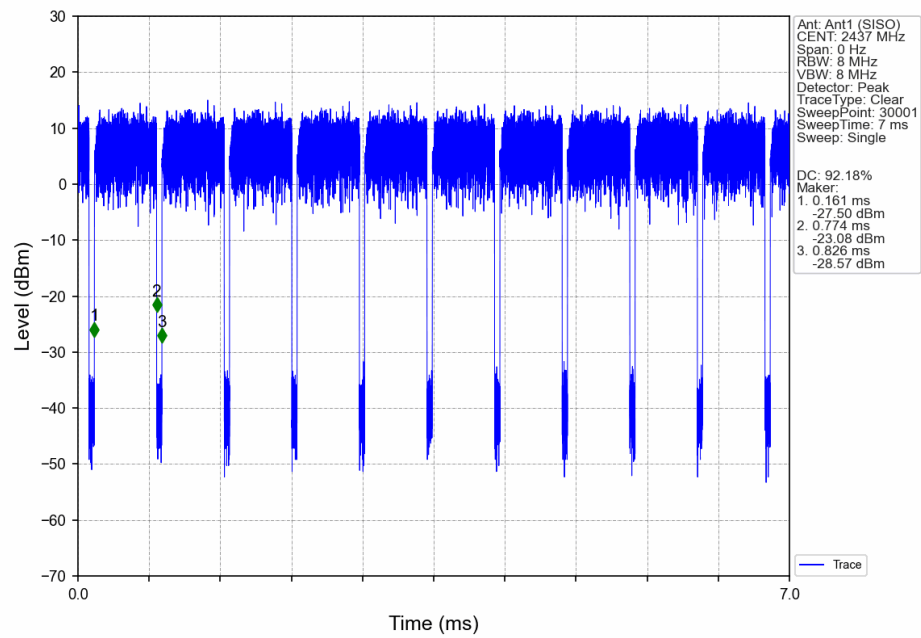


802.11n(HT40) LCH 2422MHz Ant1 (SISO) NTV

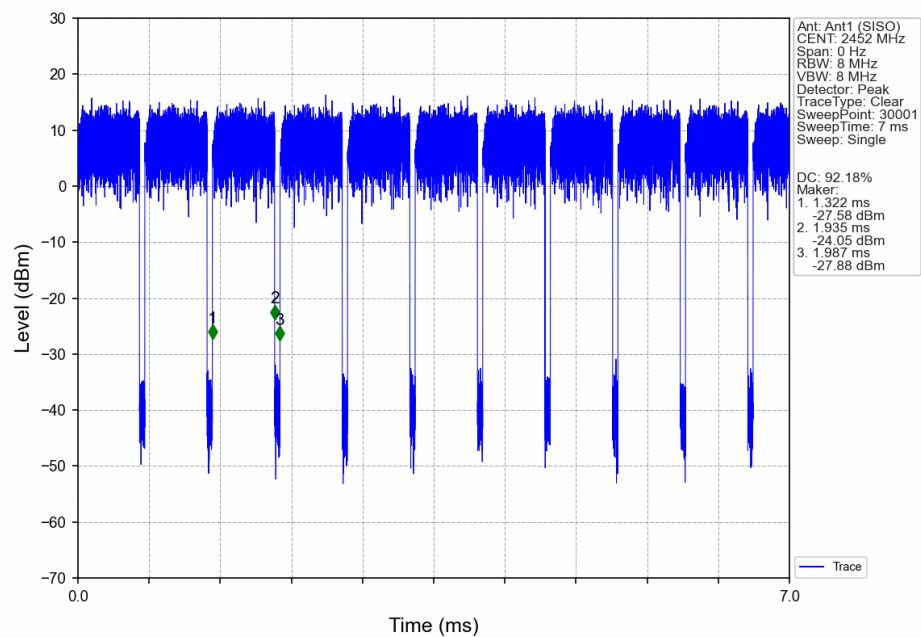


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802.11n(HT40) MCH 2437MHz Ant1 (SISO) NTV



802.11n(HT40) HCH 2452MHz Ant1 (SISO) NTV



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2. Bandwidth

2.1 Test Result

2.1.1 OBW

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	13.060	/	Pass
		2437	1	13.220	/	Pass
		2462	1	13.108	/	Pass
802.11g	SISO	2412	1	17.903	/	Pass
		2437	1	18.164	/	Pass
		2462	1	17.931	/	Pass
802.11n (HT20)	SISO	2412	1	18.682	/	Pass
		2437	1	18.881	/	Pass
		2462	1	18.695	/	Pass
802.11n (HT40)	SISO	2422	1	36.588	/	Pass
		2437	1	37.052	/	Pass
		2452	1	36.540	/	Pass

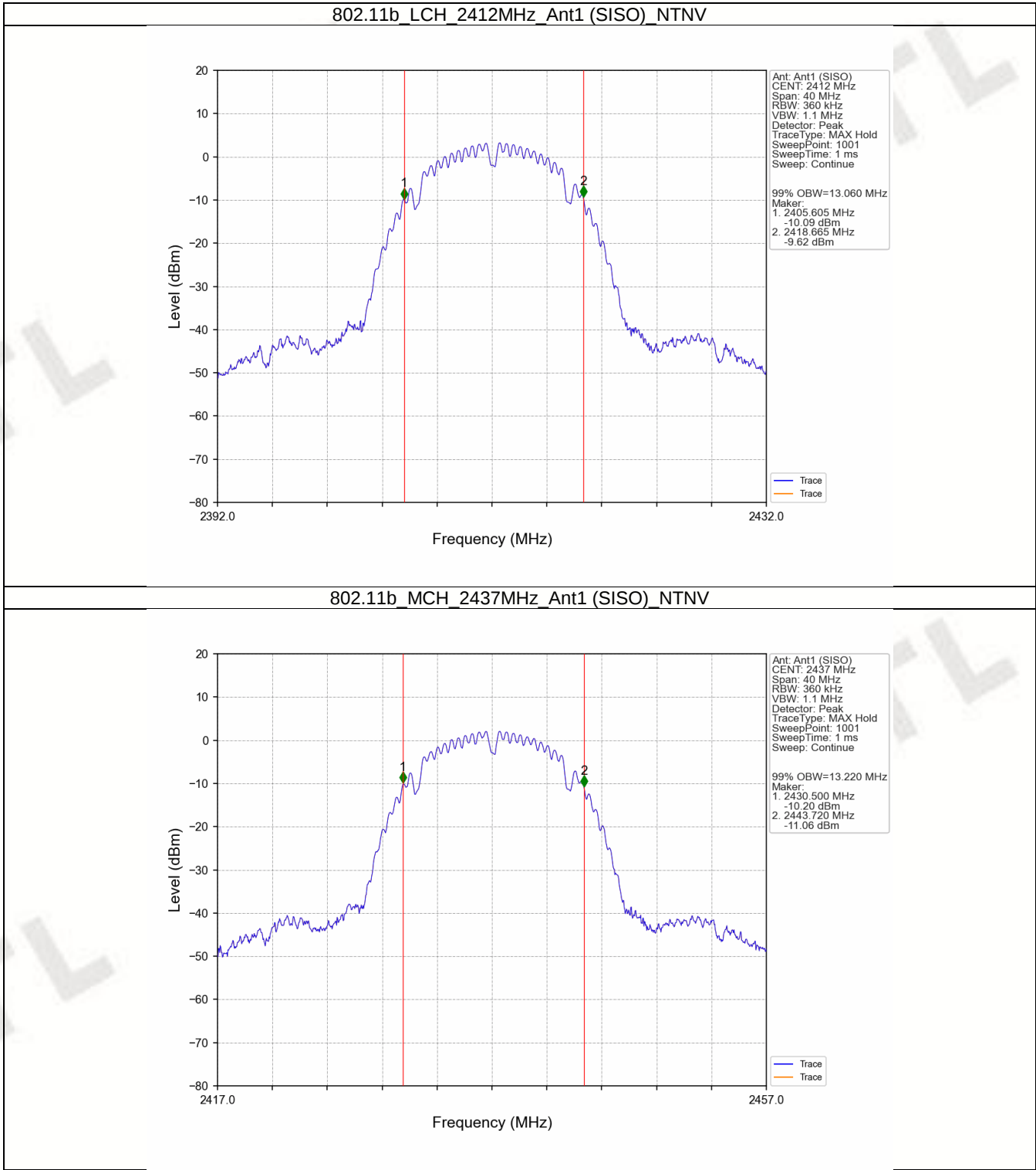
2.1.2 6dB BW

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	9.539	≥ 0.5	Pass
		2437	1	10.052	≥ 0.5	Pass
		2462	1	9.571	≥ 0.5	Pass
802.11g	SISO	2412	1	15.772	≥ 0.5	Pass
		2437	1	16.364	≥ 0.5	Pass
		2462	1	16.361	≥ 0.5	Pass
802.11n (HT20)	SISO	2412	1	16.363	≥ 0.5	Pass
		2437	1	17.580	≥ 0.5	Pass
		2462	1	16.373	≥ 0.5	Pass
802.11n (HT40)	SISO	2422	1	35.158	≥ 0.5	Pass
		2437	1	35.379	≥ 0.5	Pass
		2452	1	35.140	≥ 0.5	Pass

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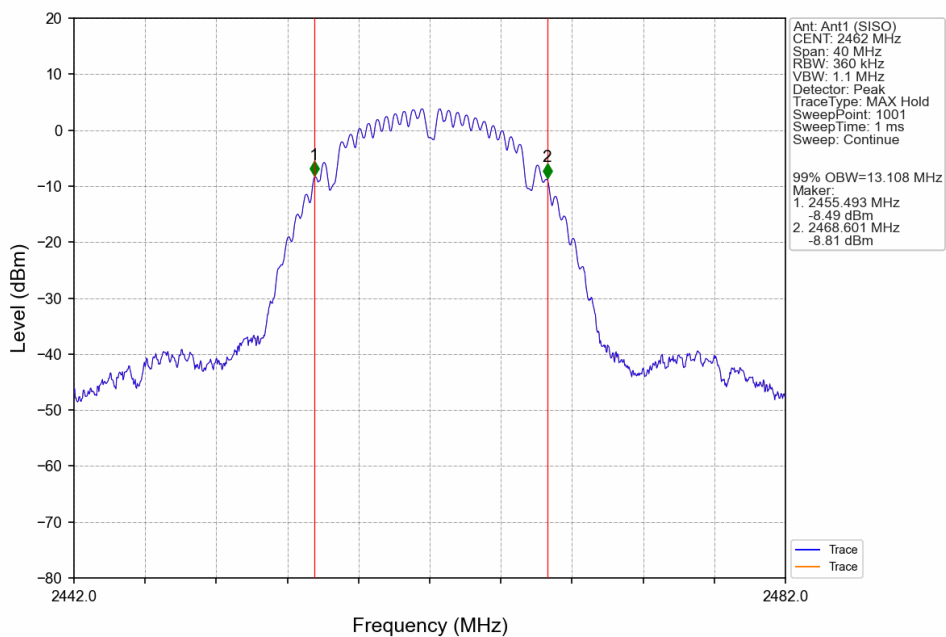
2.2 Test Graph

2.2.1 OBW

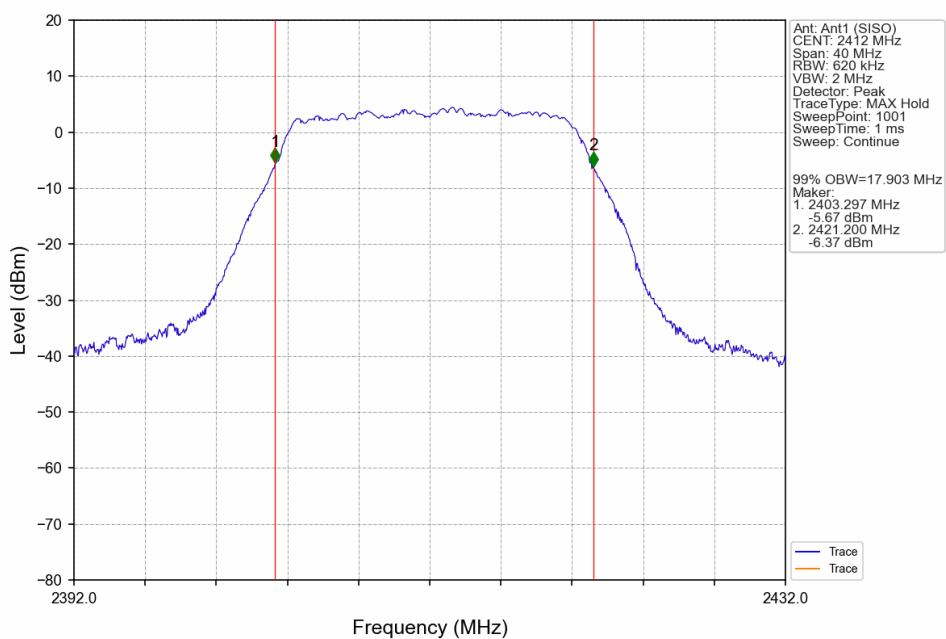


FCCID: 2BMUY-LPMS

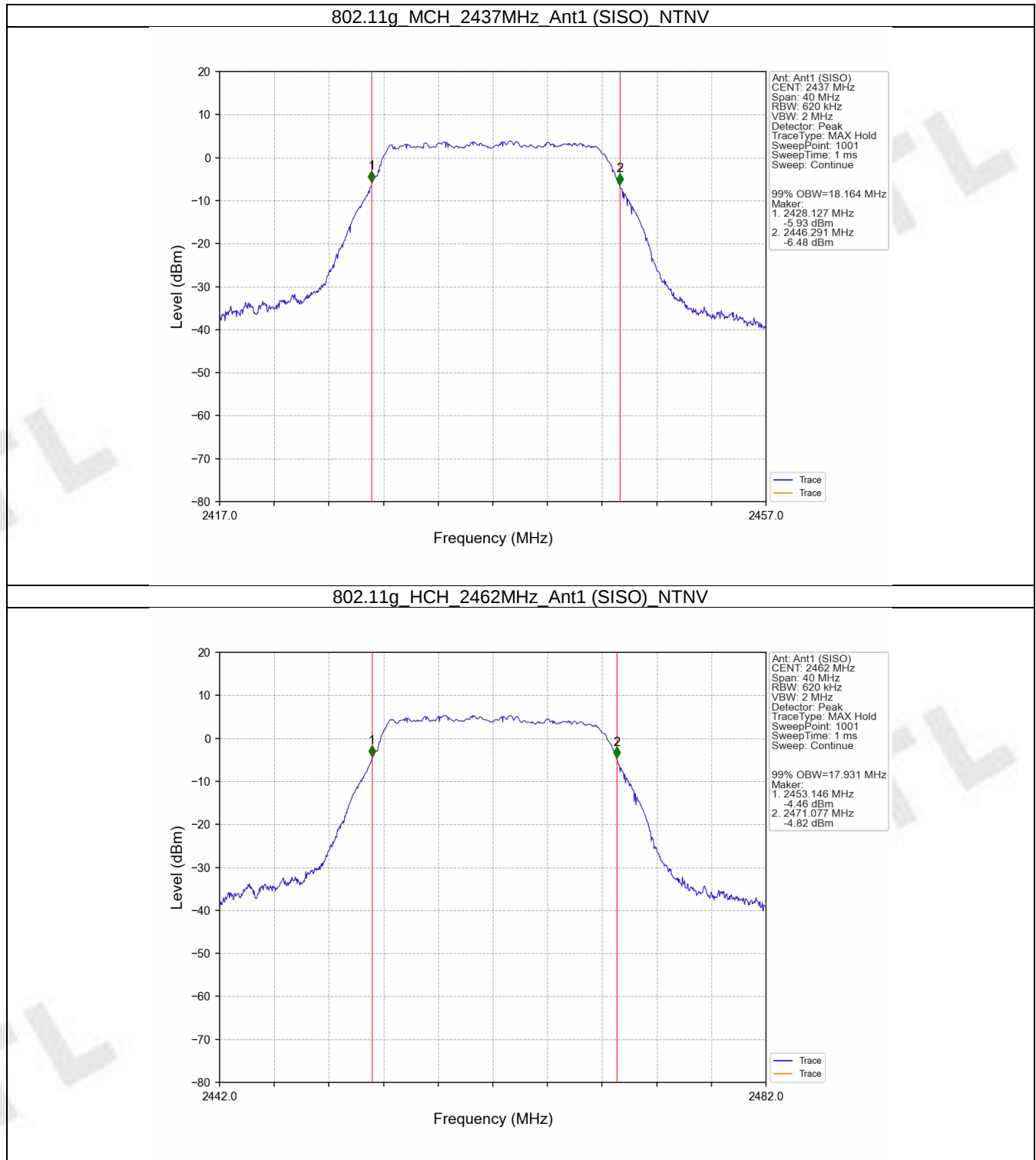
802.11b HCH 2462MHz Ant1 (SISO) NTN



802.11g LCH 2412MHz Ant1 (SISO) NTN

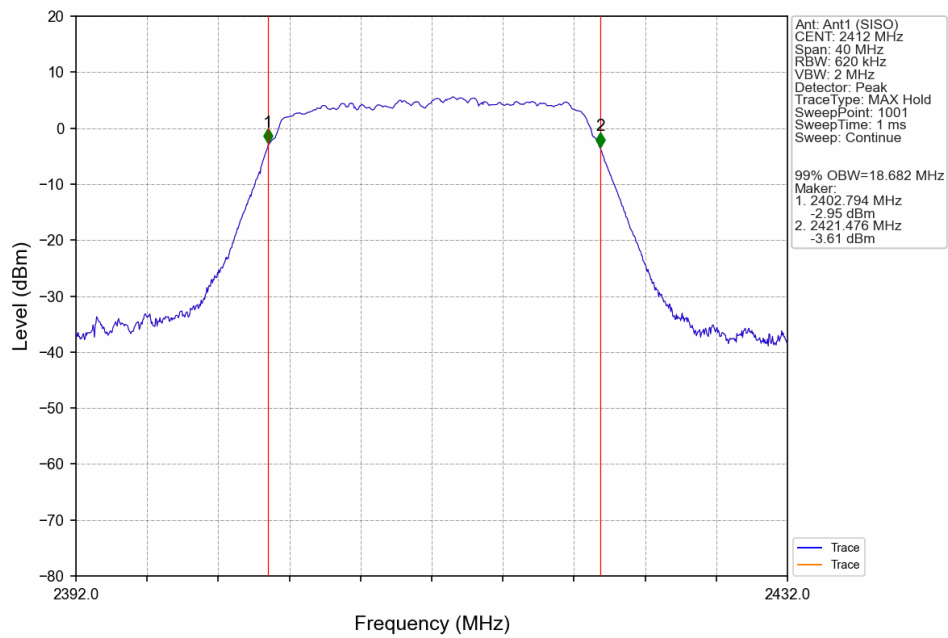


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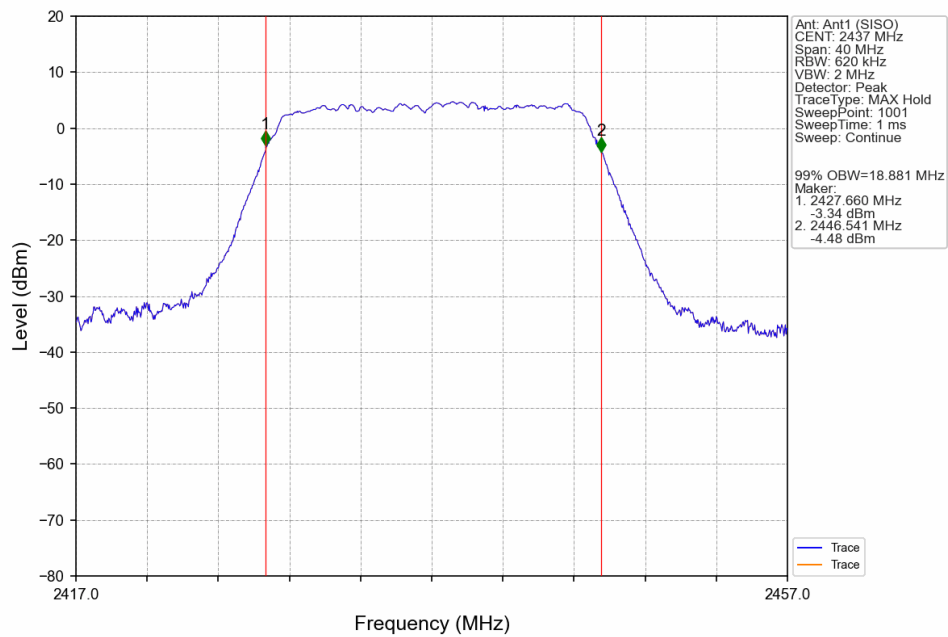


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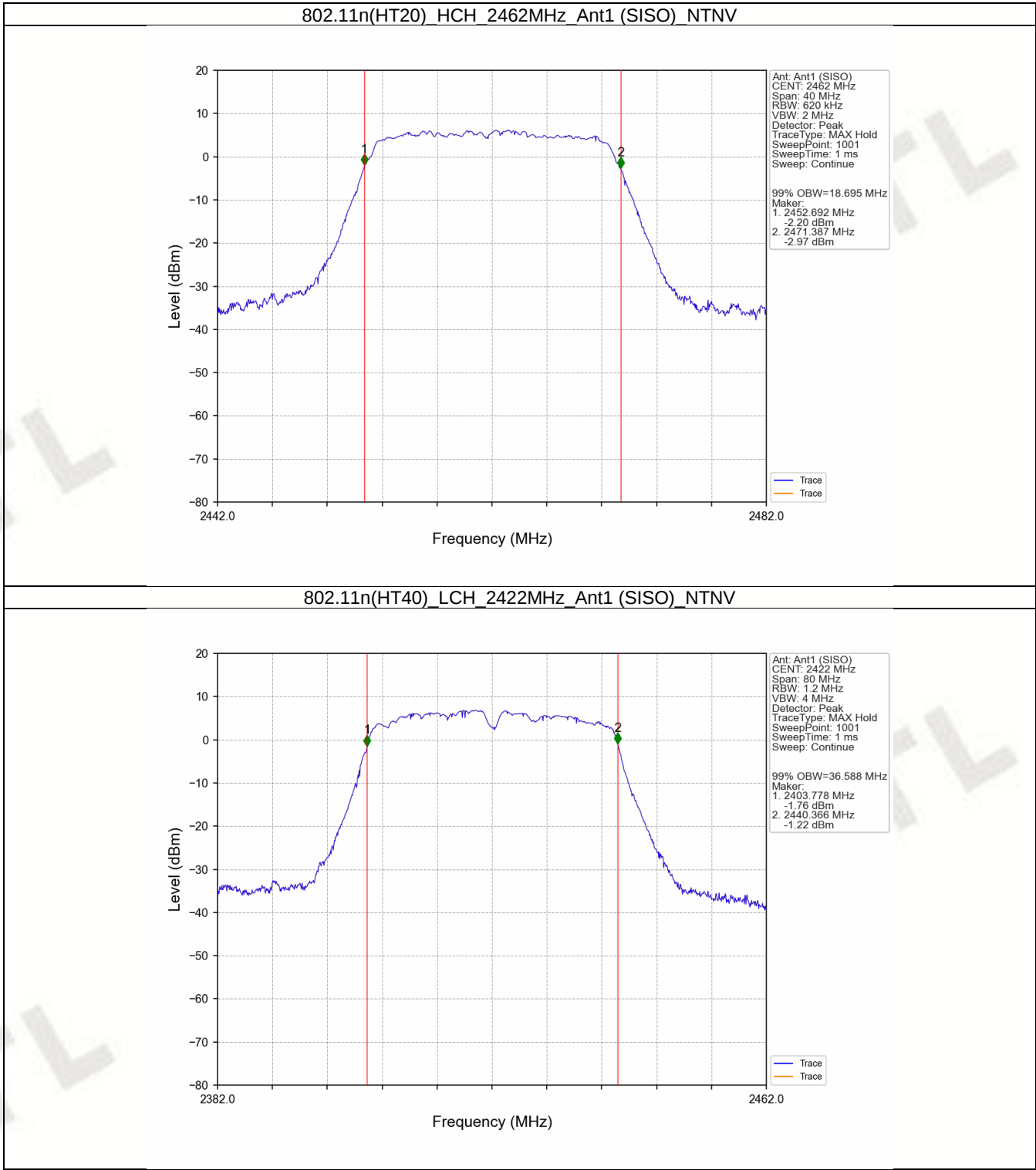
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



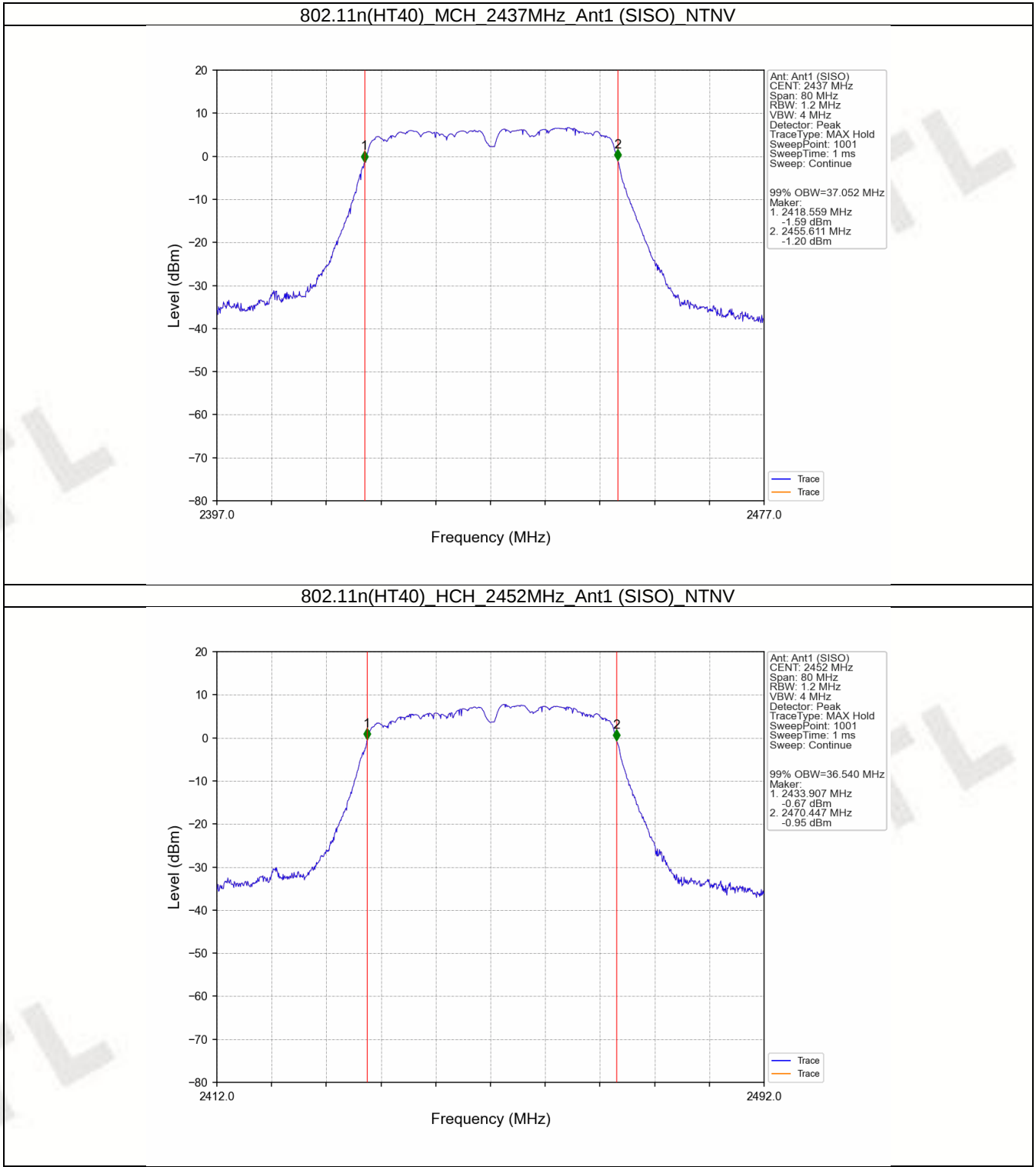
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



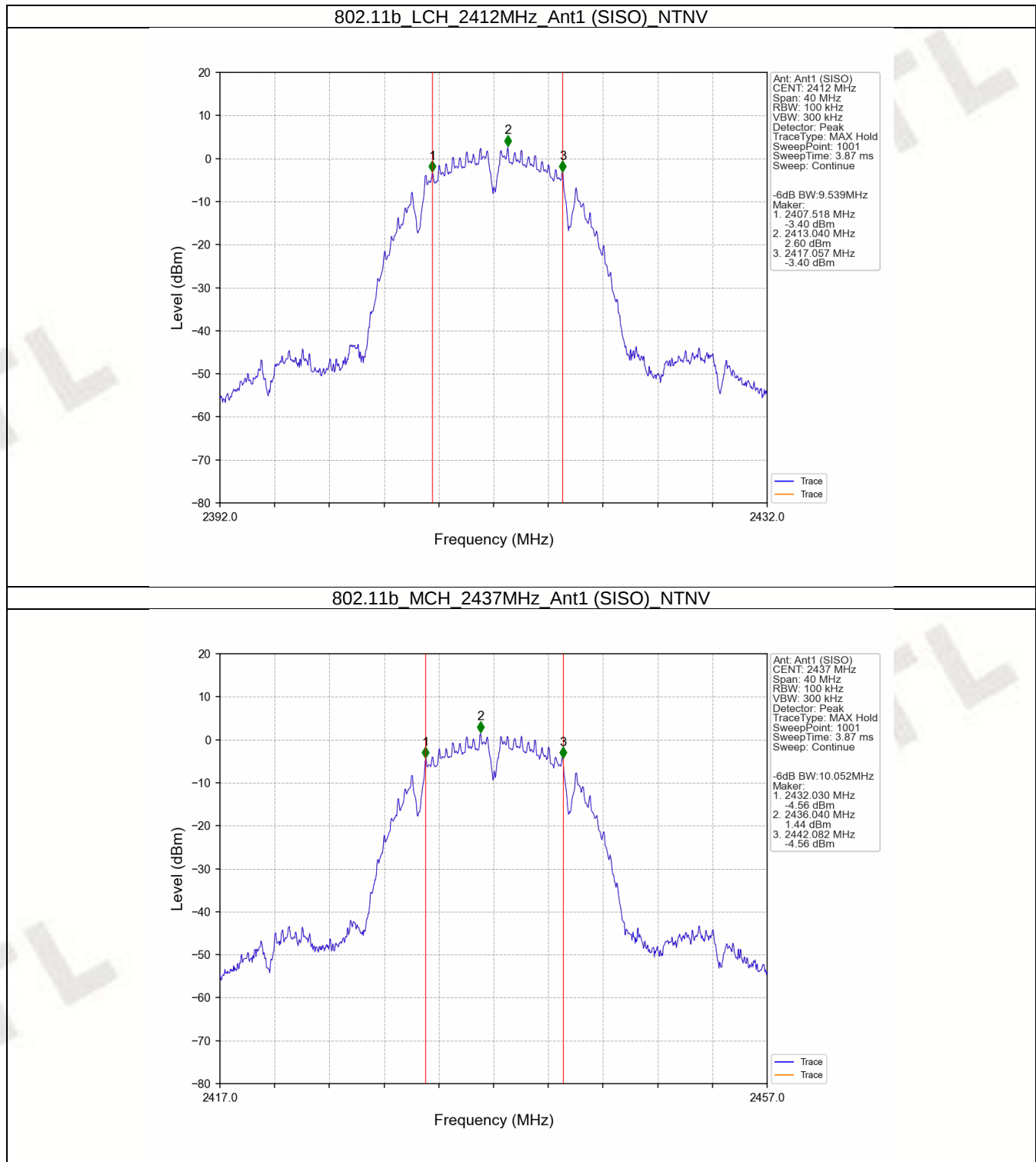
FCCID: 2BMUY-LPMS



FCCID: 2BMUY-LPMS

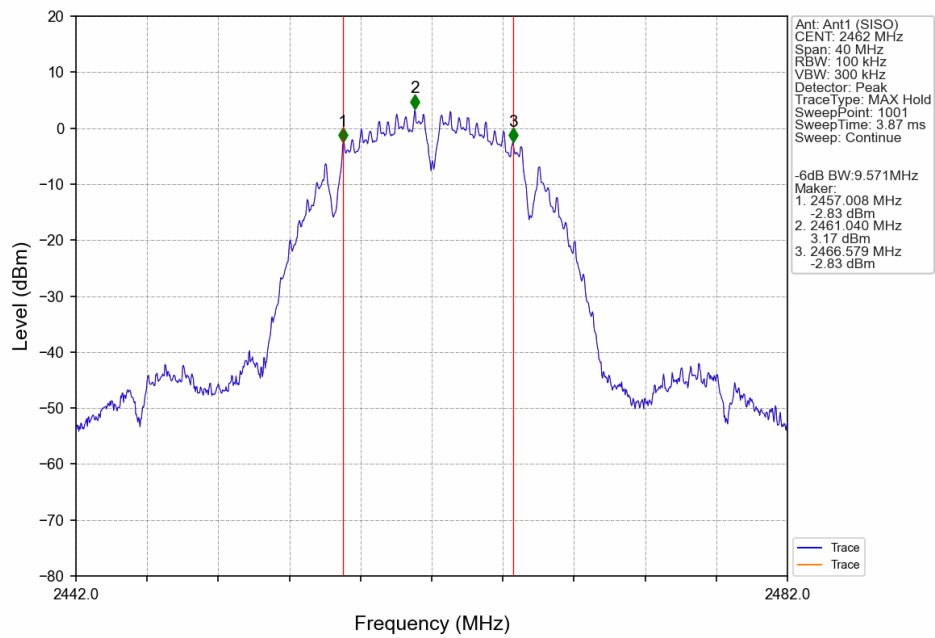


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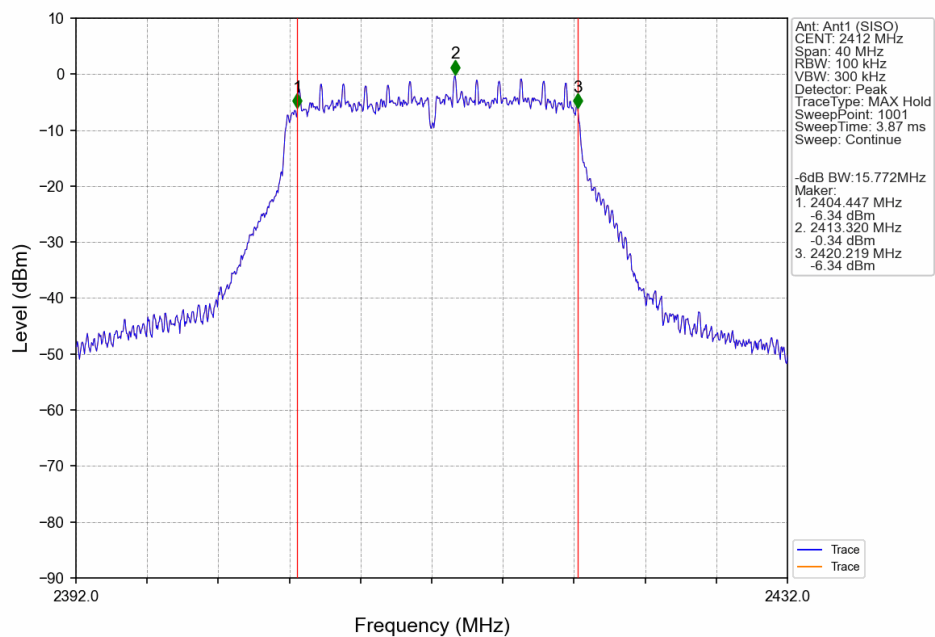
2.2.2 6dB BW

FCCID: 2BMUY-LPMS

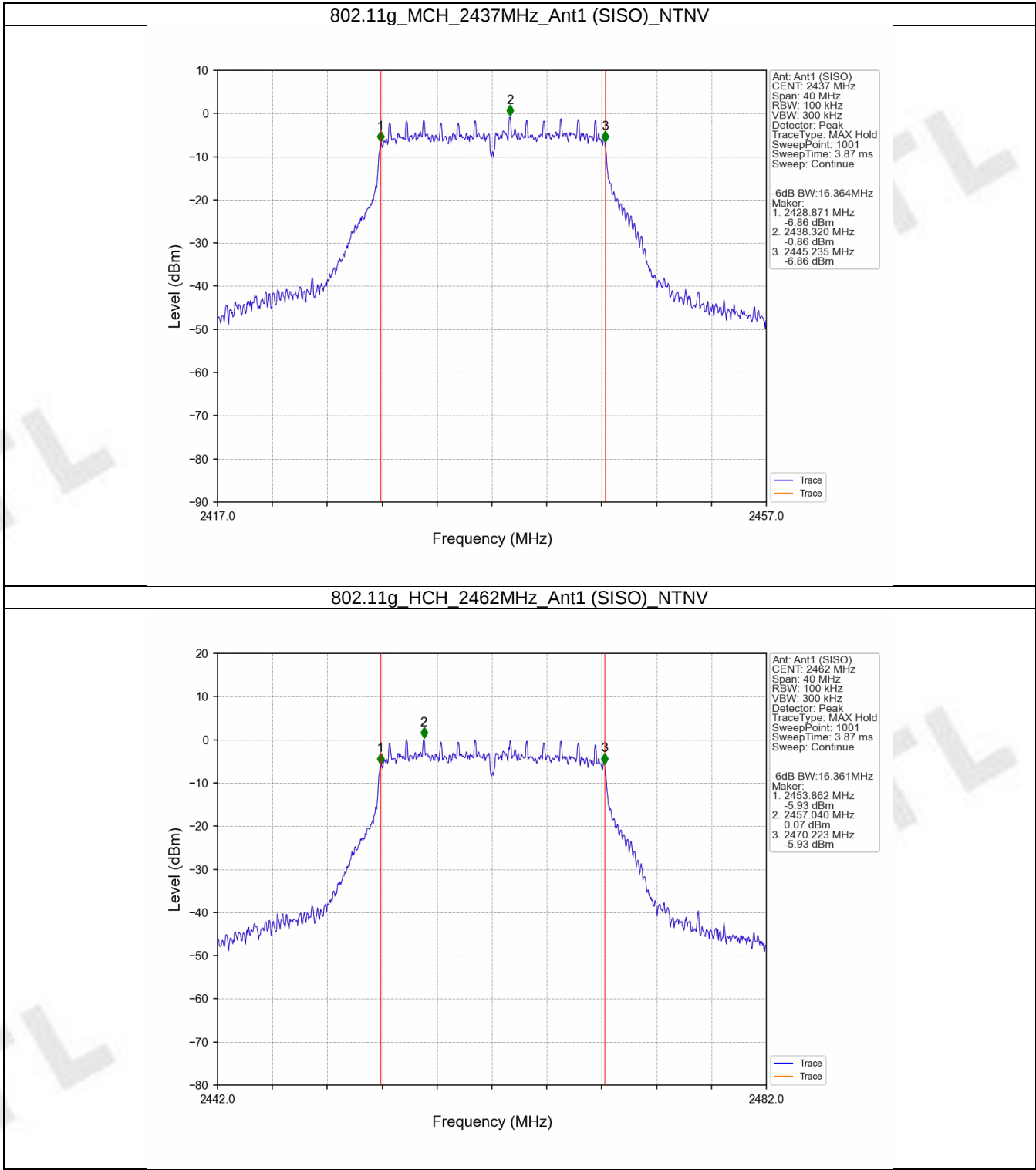
802.11b HCH 2462MHz Ant1 (SISO) NTN



802.11g LCH 2412MHz Ant1 (SISO) NTN

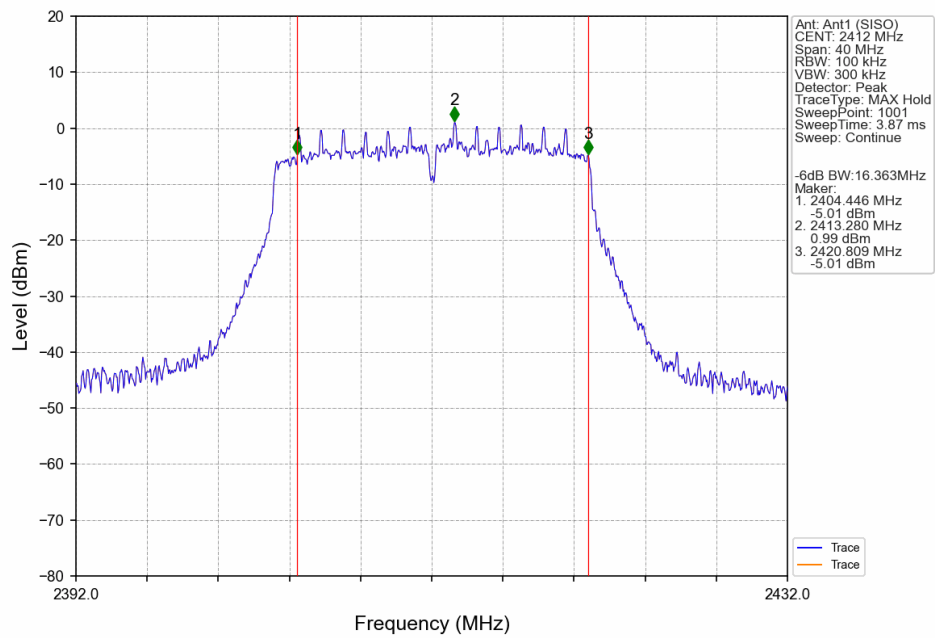


FCCID: 2BMUY-LPMS

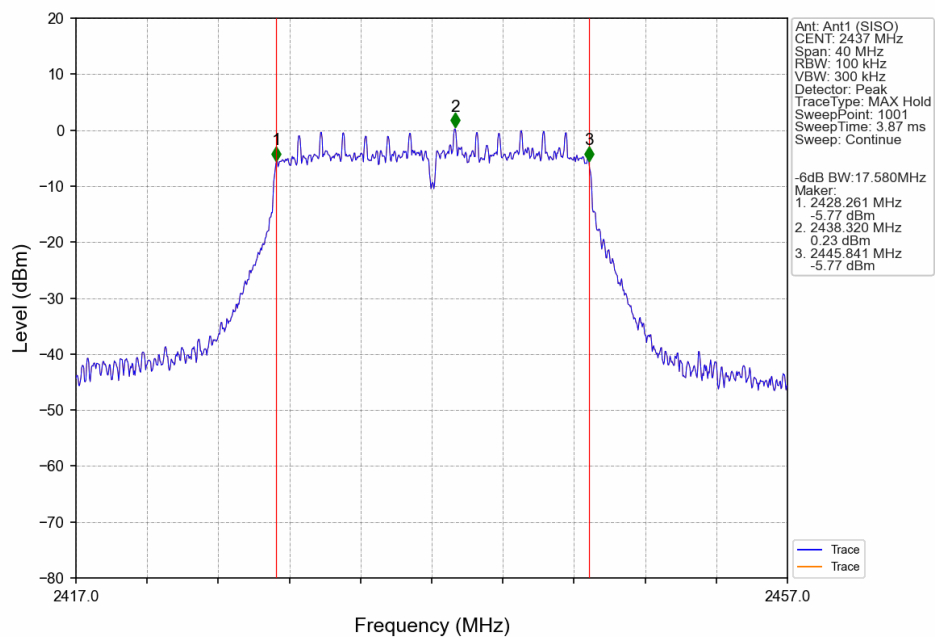


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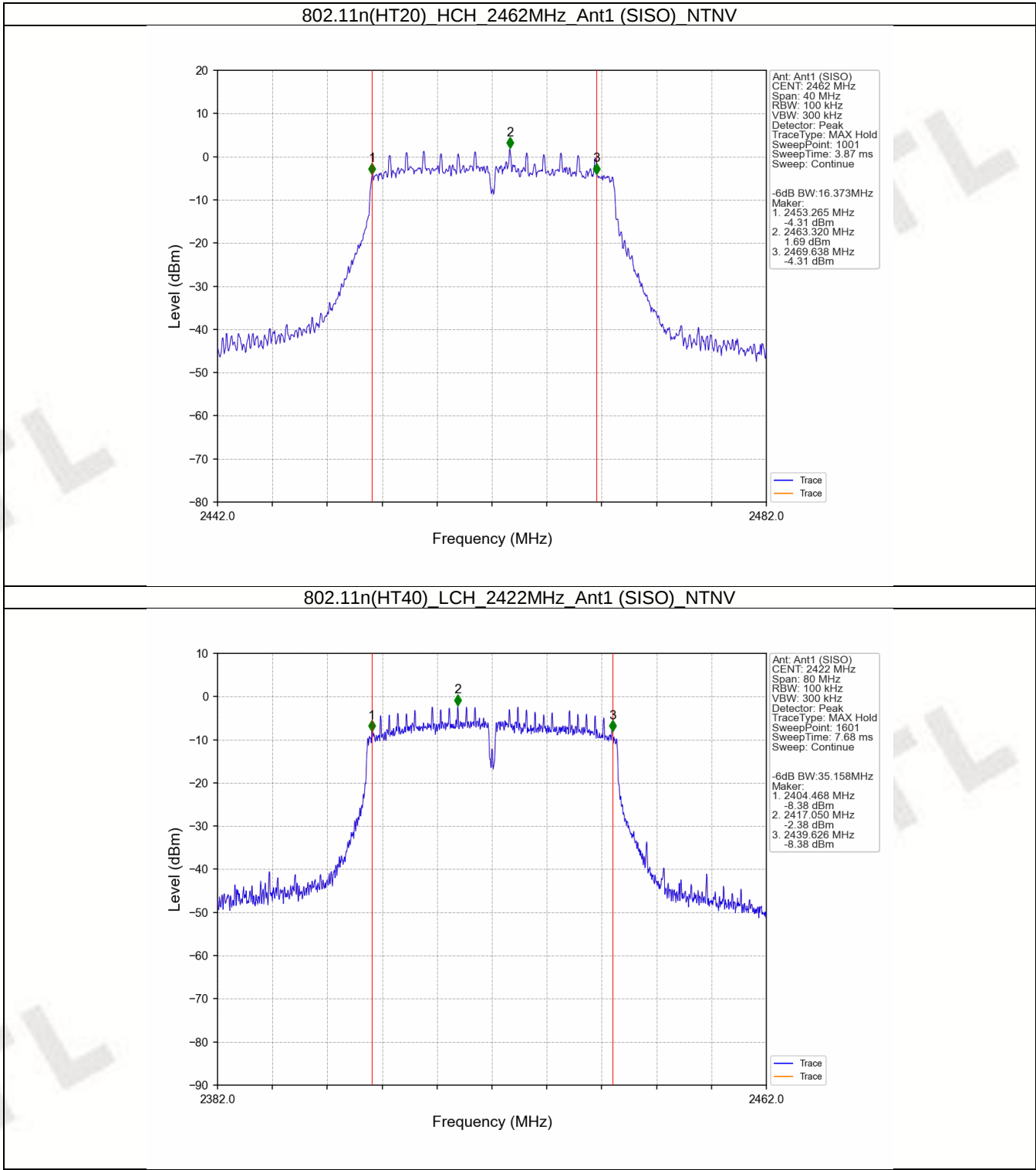
802.11n(HT20) LCH 2412MHz Ant1 (SISO) NTV



802.11n(HT20) MCH 2437MHz Ant1 (SISO) NTV

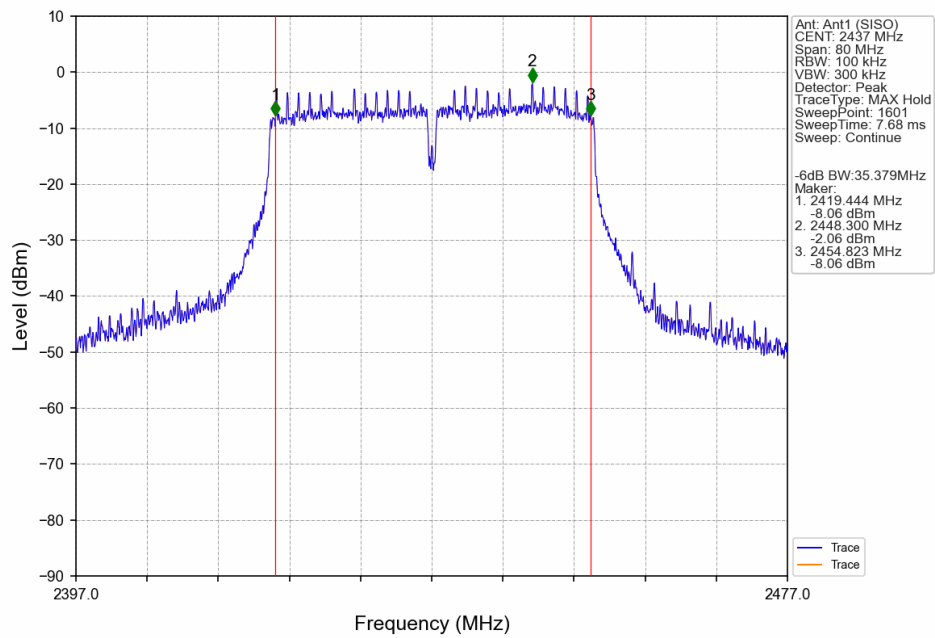


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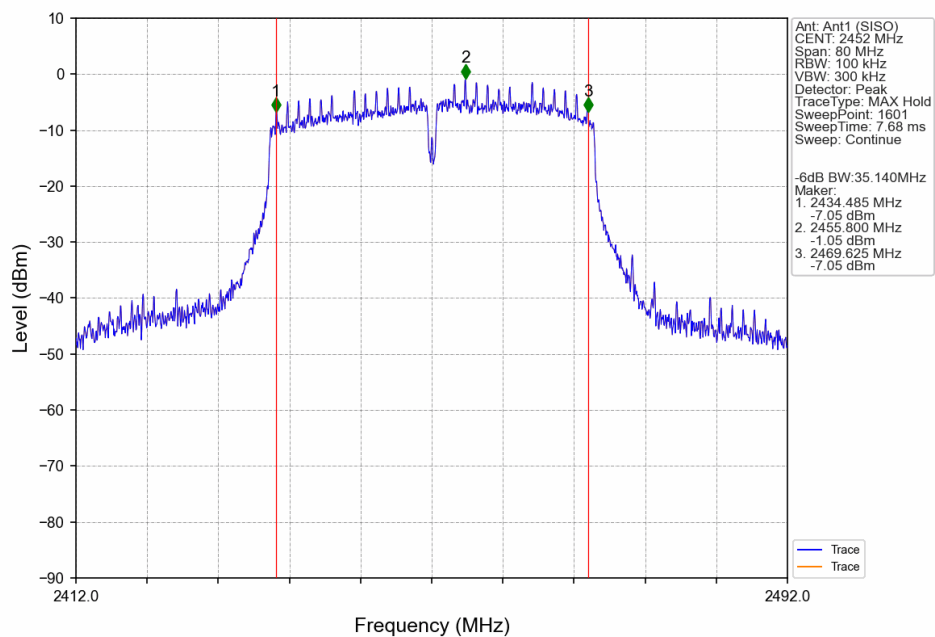


FCCID: 2BMUY-LPMS

802.11n(HT40) MCH 2437MHz Ant1 (SISO) NTNV



802.11n(HT40) HCH 2452MHz Ant1 (SISO) NTNV



FCCID: 2BMUY-LPMS

3. Maximum Conducted Output Power

3.1 Test Result

3.1.1 Power

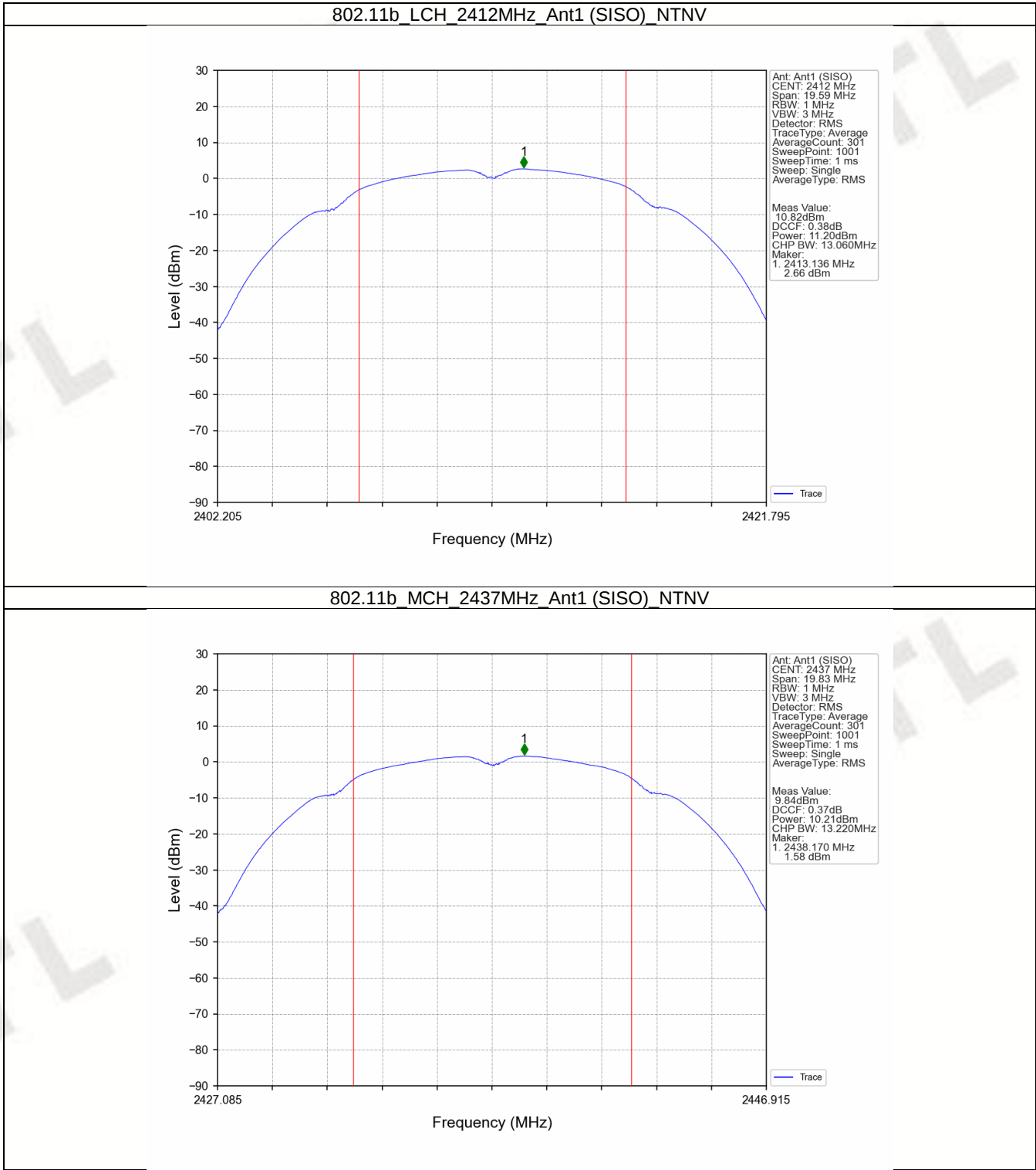
Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	11.20	<=30	Pass
		2437	10.21	<=30	Pass
		2462	11.88	<=30	Pass
802.11g	SISO	2412	10.27	<=30	Pass
		2437	10.07	<=30	Pass
		2462	11.36	<=30	Pass
802.11n (HT20)	SISO	2412	11.64	<=30	Pass
		2437	11.19	<=30	Pass
		2462	12.47	<=30	Pass
802.11n (HT40)	SISO	2422	11.37	<=30	Pass
		2437	11.55	<=30	Pass
		2452	12.06	<=30	Pass

Note1: Antenna Gain: Ant1: 1.86dBi;

FCCID: 2BMUY-LPMS

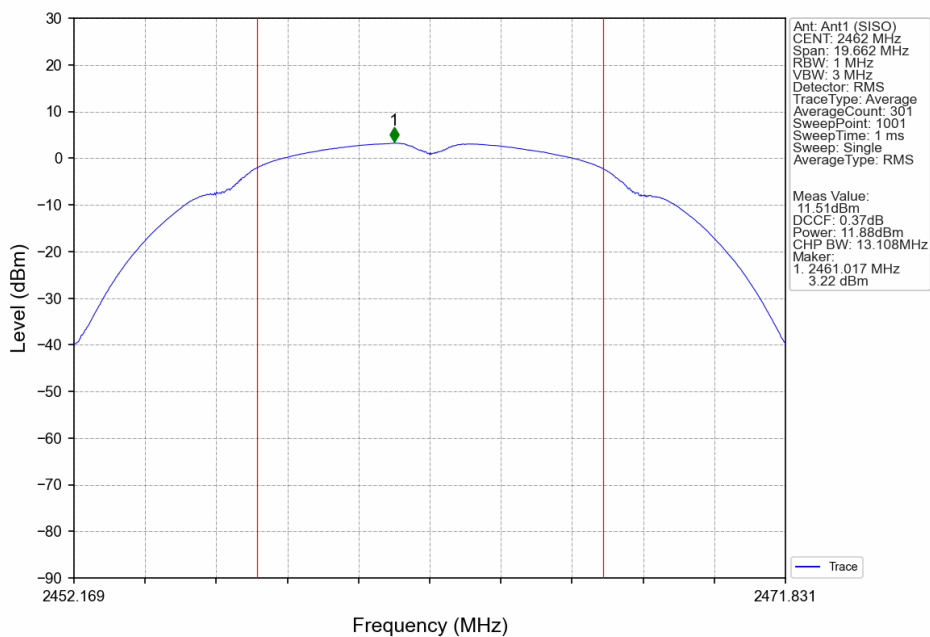
3.2 Test Graph

3.2.1 Power

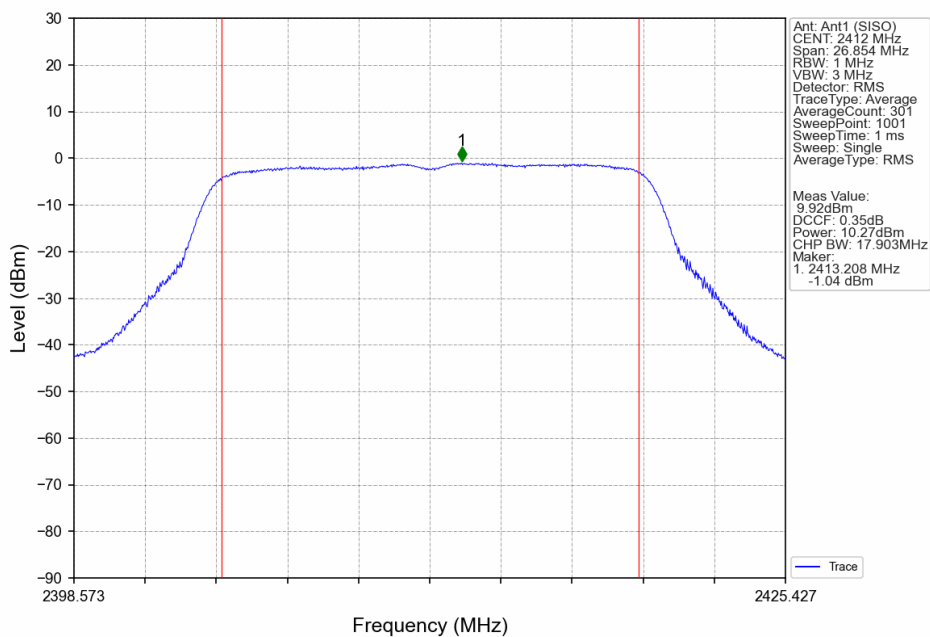


FCCID: 2BMUY-LPMS

802.11b HCH 2462MHz Ant1 (SISO) NTN

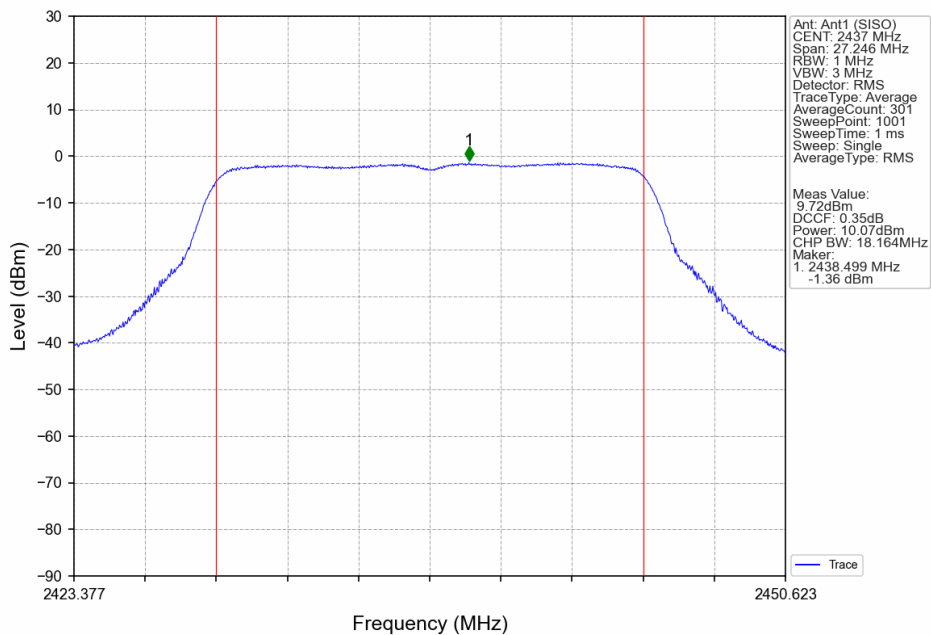


802.11g LCH 2412MHz Ant1 (SISO) NTN

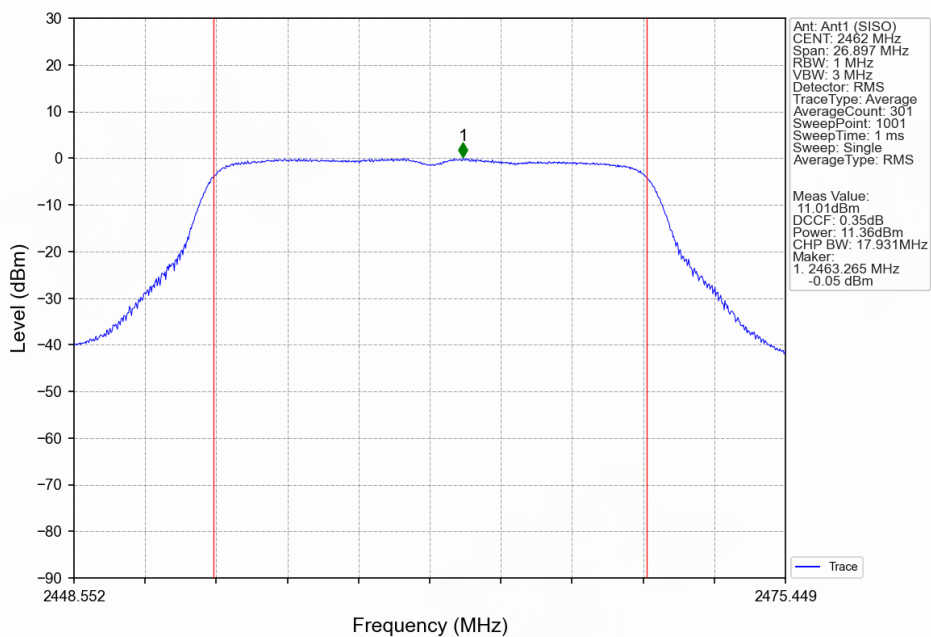


FCCID: 2BMUY-LPMS

802.11g MCH 2437MHz Ant1 (SISO) NTN

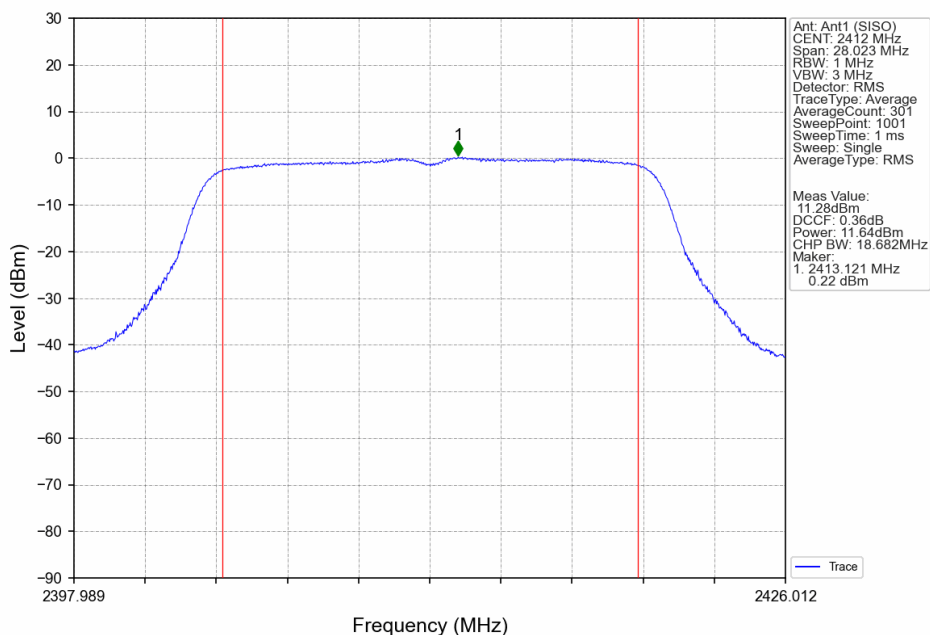


802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV

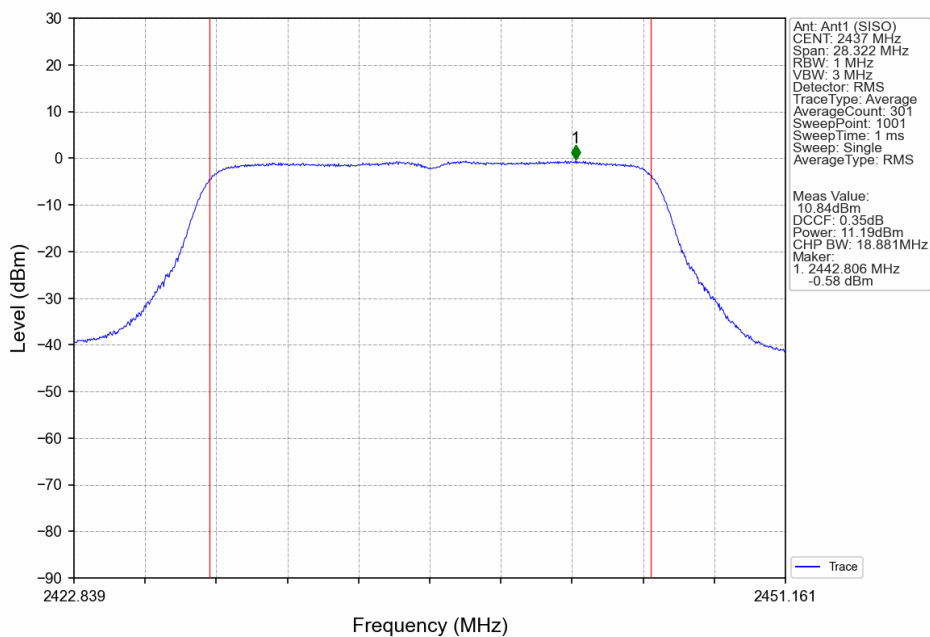


FCCID: 2BMUY-LPMS

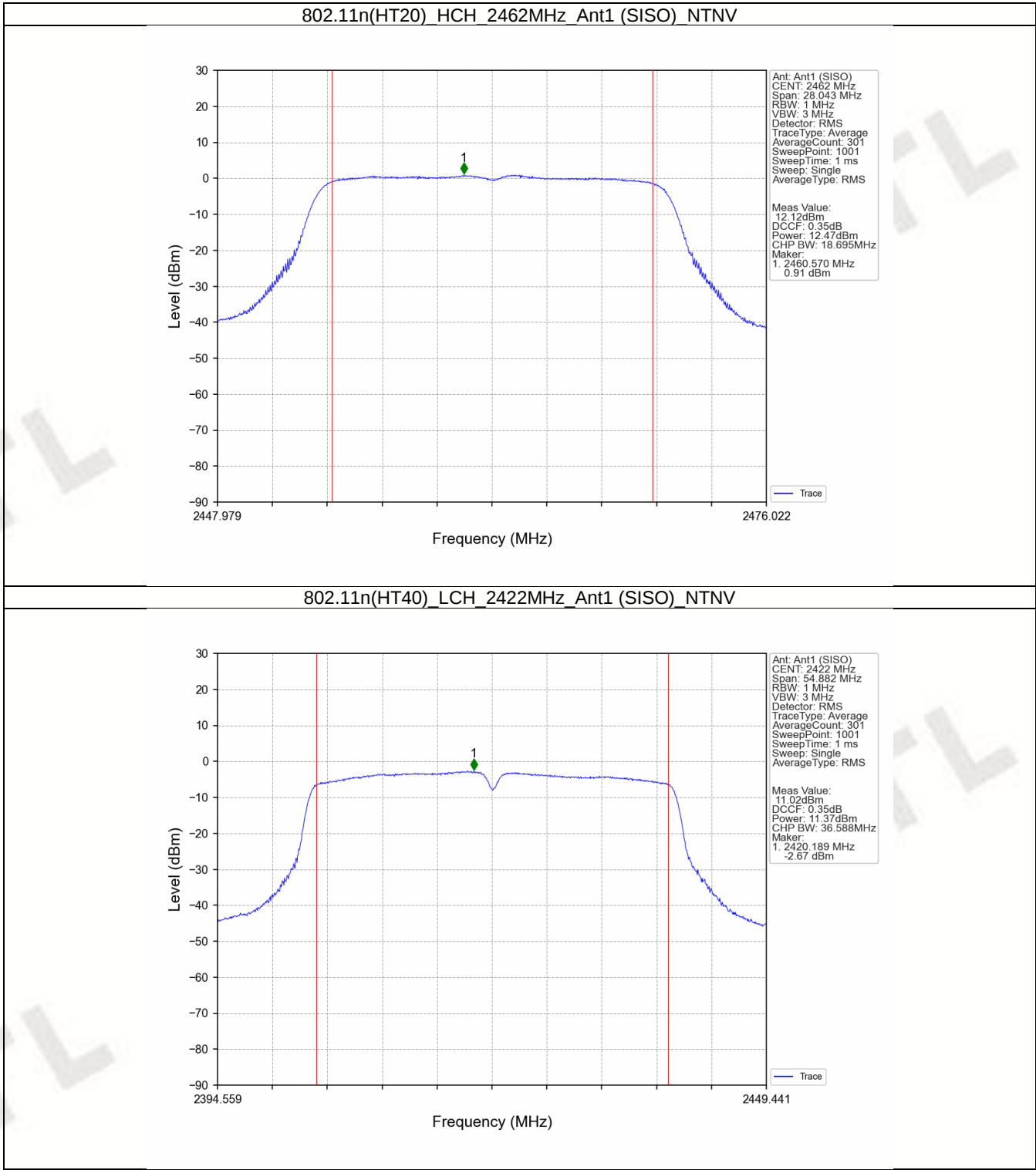
802.11n(HT20) LCH 2412MHz Ant1 (SISO) NTNV



802.11n(HT20) MCH 2437MHz Ant1 (SISO) NTNV

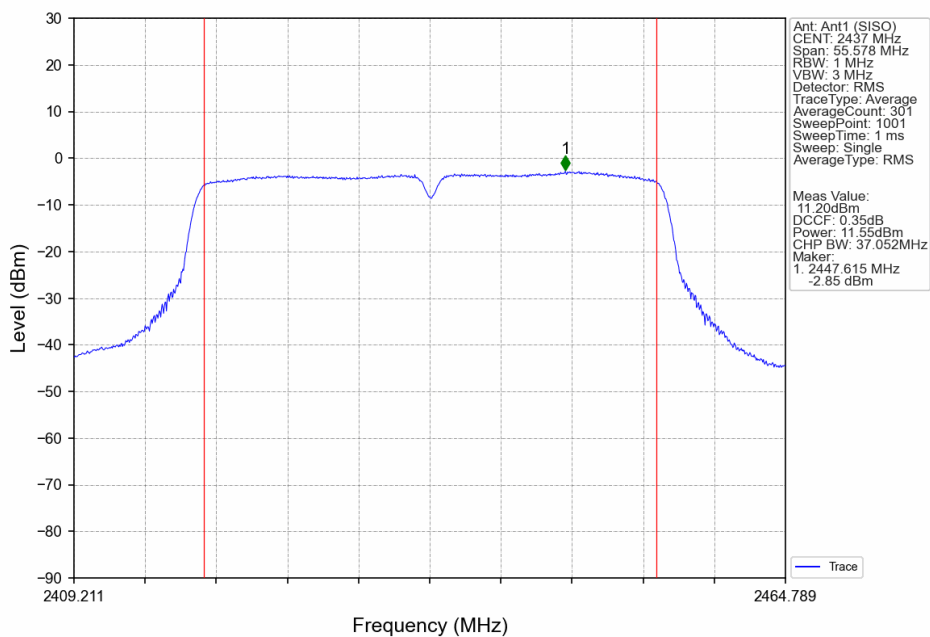


FCCID: 2BMUY-LPMS

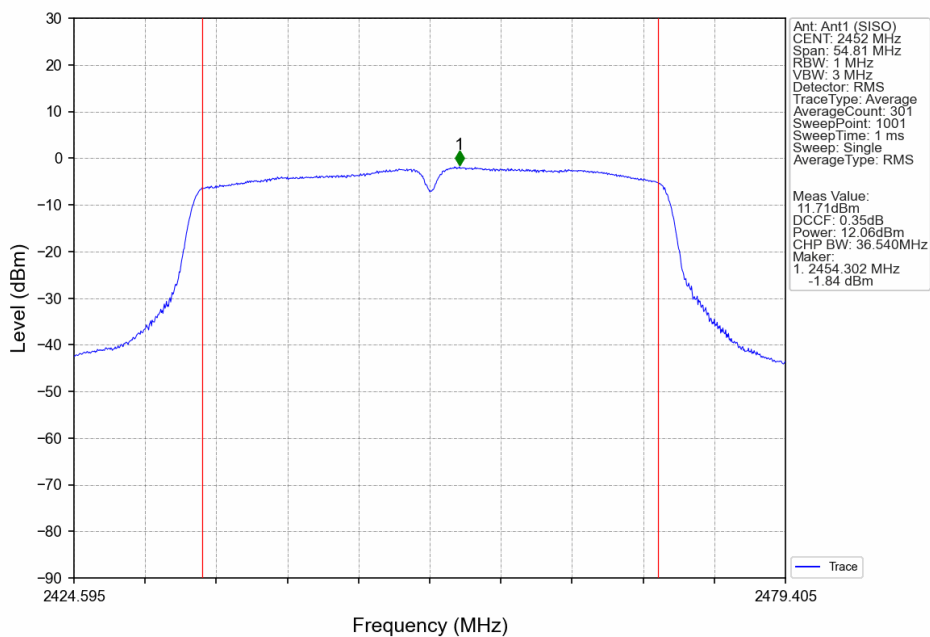


FCCID: 2BMUY-LPMS

802.11n(HT40) MCH 2437MHz Ant1 (SISO) NTNV



802.11n(HT40) HCH 2452MHz Ant1 (SISO) NTNV



FCCID: 2BMUY-LPMS

4. Maximum Power Spectral Density

4.1 Test Result

4.1.1 PSD

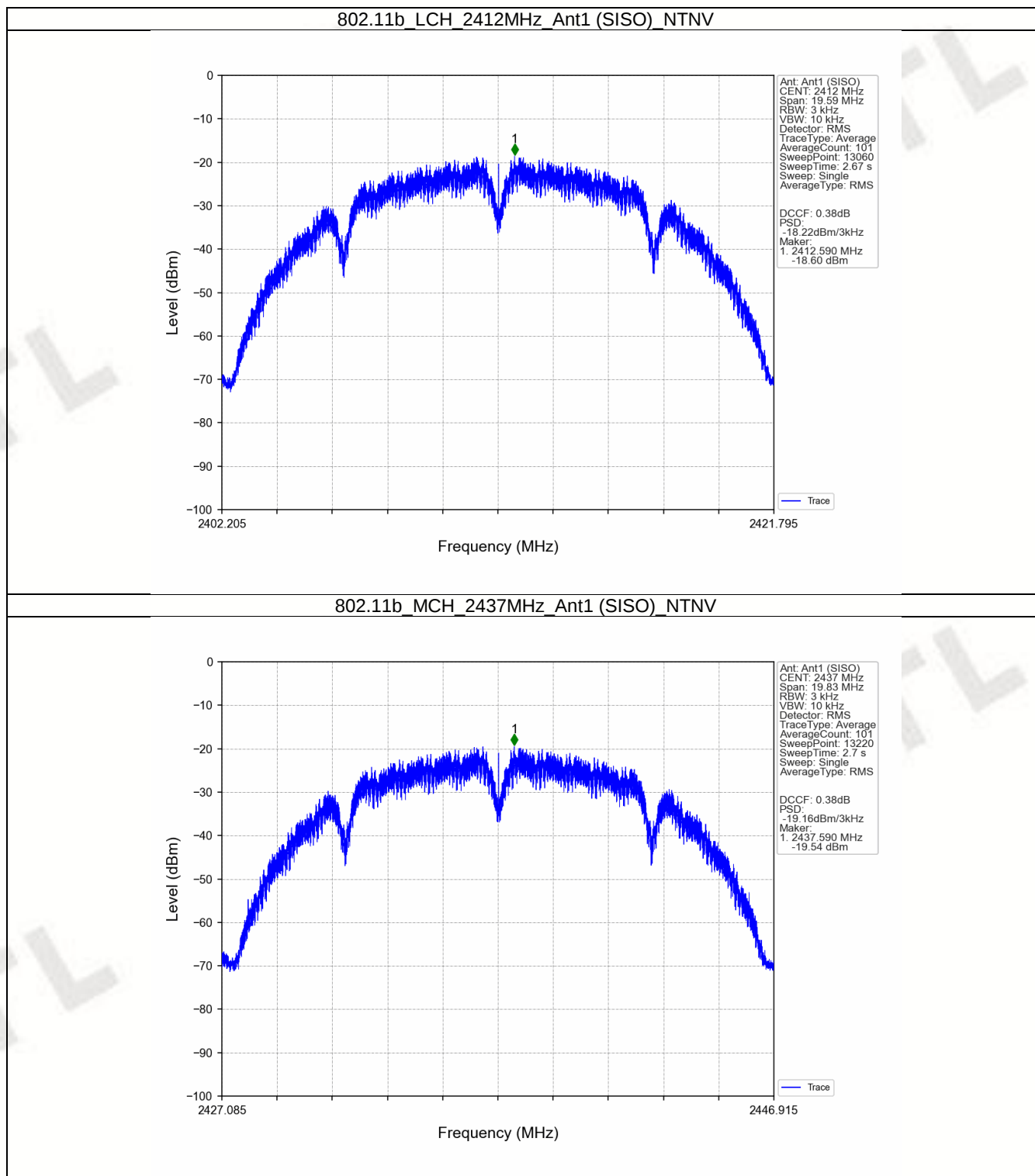
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	-18.22	<=8	Pass
		2437	-19.16	<=8	Pass
		2462	-17.37	<=8	Pass
802.11g	SISO	2412	-19.30	<=8	Pass
		2437	-19.78	<=8	Pass
		2462	-18.11	<=8	Pass
802.11n (HT20)	SISO	2412	-17.49	<=8	Pass
		2437	-18.42	<=8	Pass
		2462	-16.63	<=8	Pass
802.11n (HT40)	SISO	2422	-19.90	<=8	Pass
		2437	-20.20	<=8	Pass
		2452	-18.67	<=8	Pass

Note1: Antenna Gain: Ant1: 1.86dBi;

FCCID: 2BMUY-LPMS

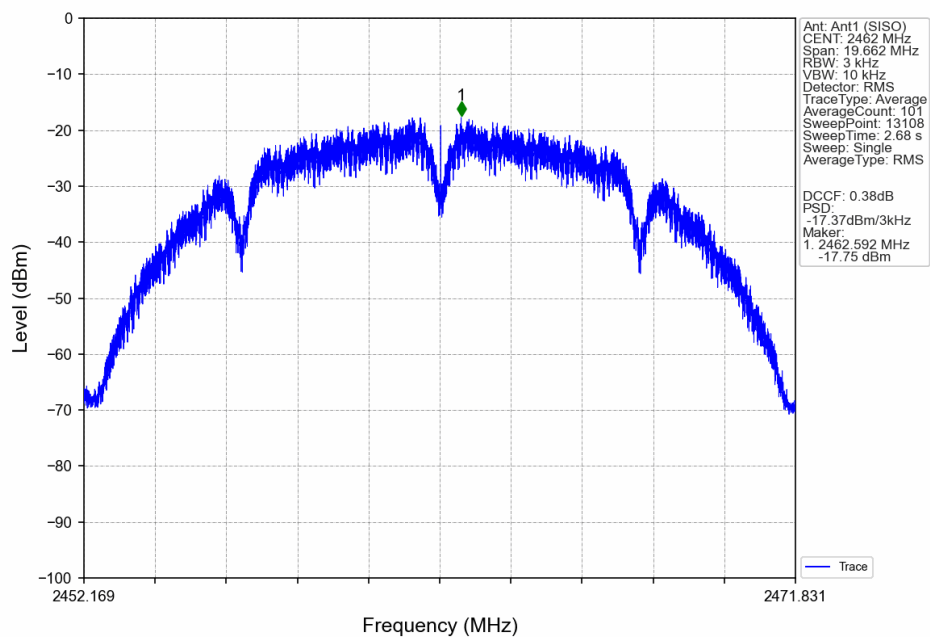
4.2 Test Graph

4.2.1 PSD

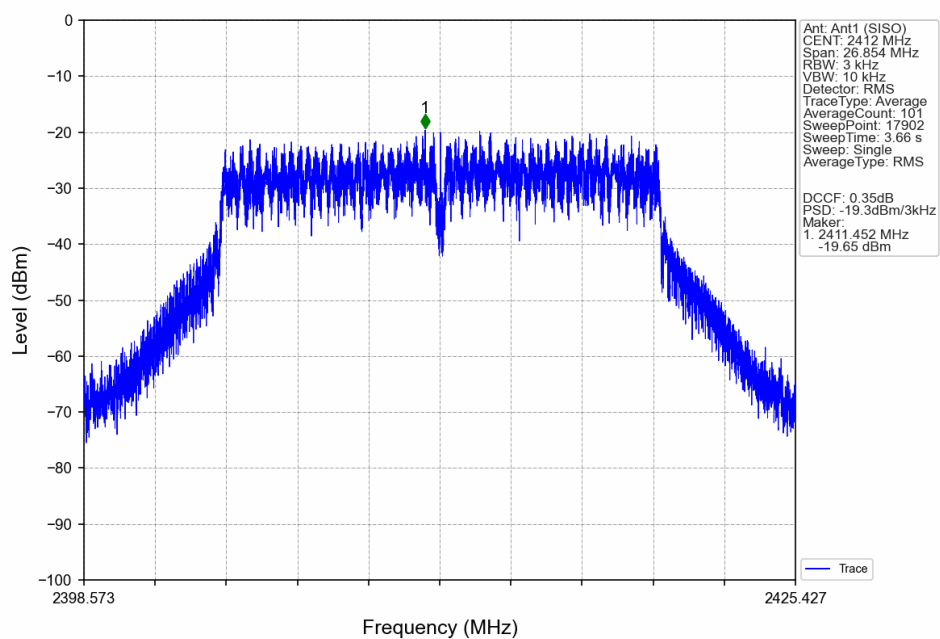


FCCID: 2BMUY-LPMS

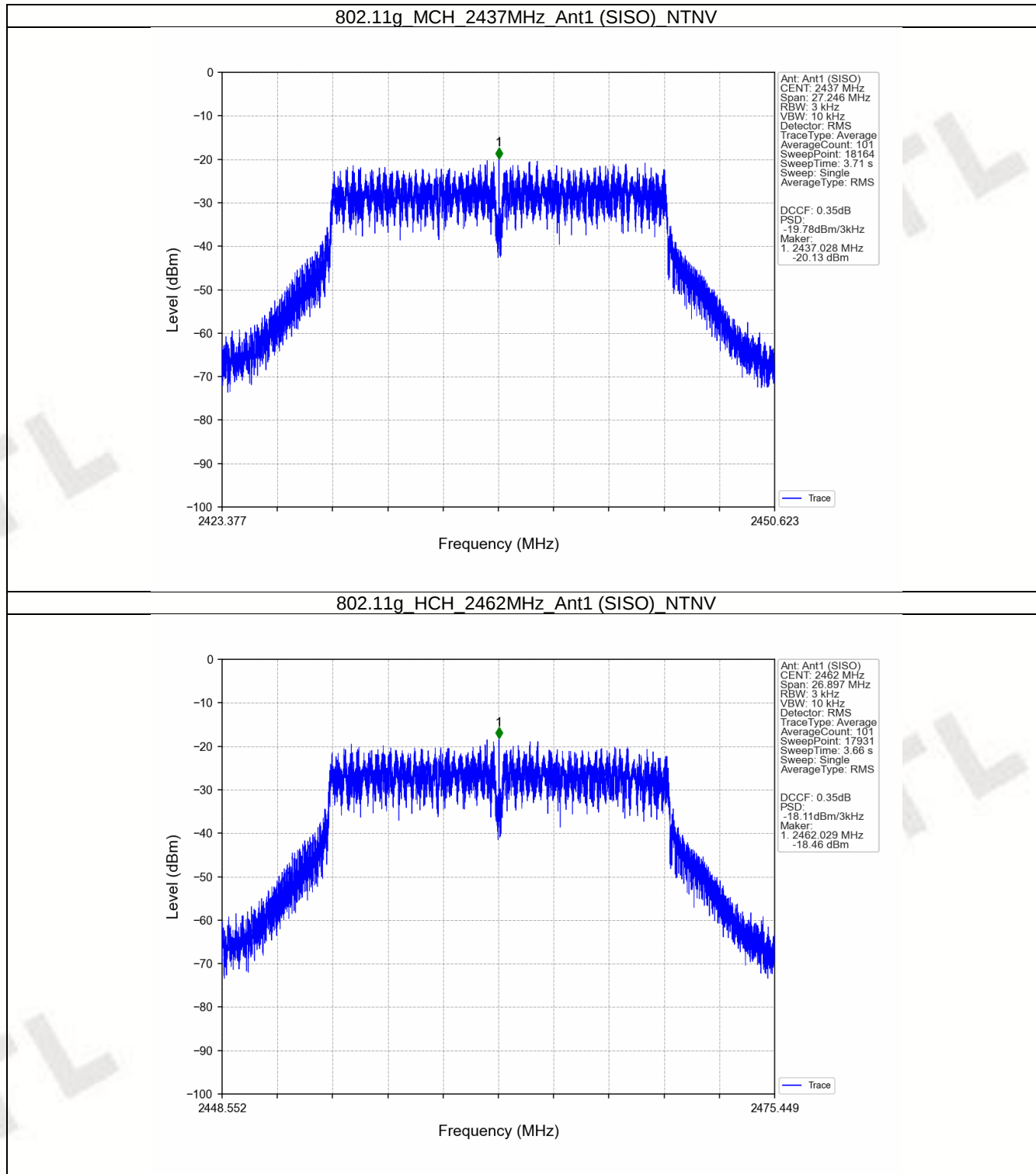
802.11b HCH 2462MHz Ant1 (SISO) NTN



802.11g LCH 2412MHz Ant1 (SISO) NTN

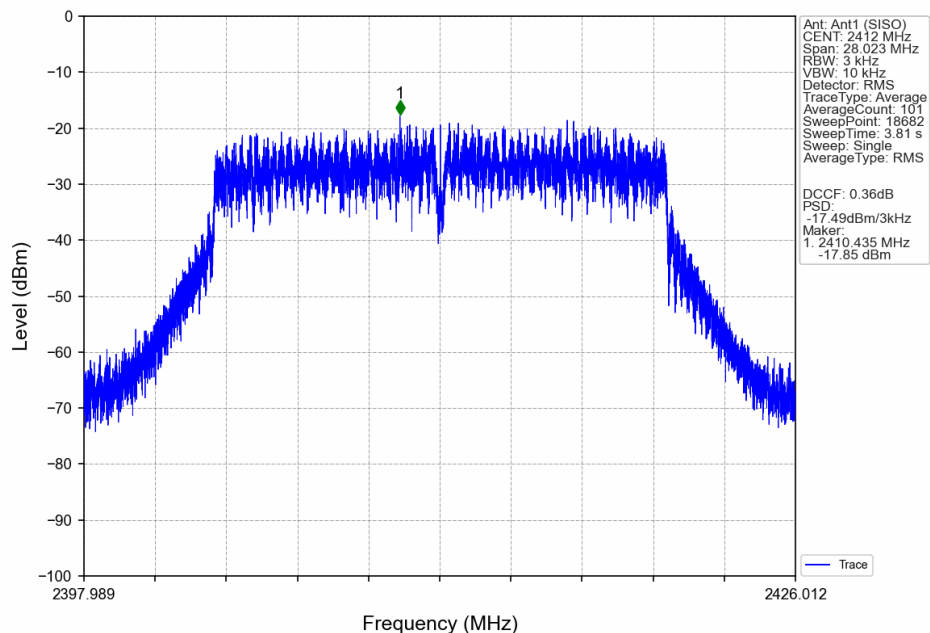


FCCID: 2BMUY-LPMS

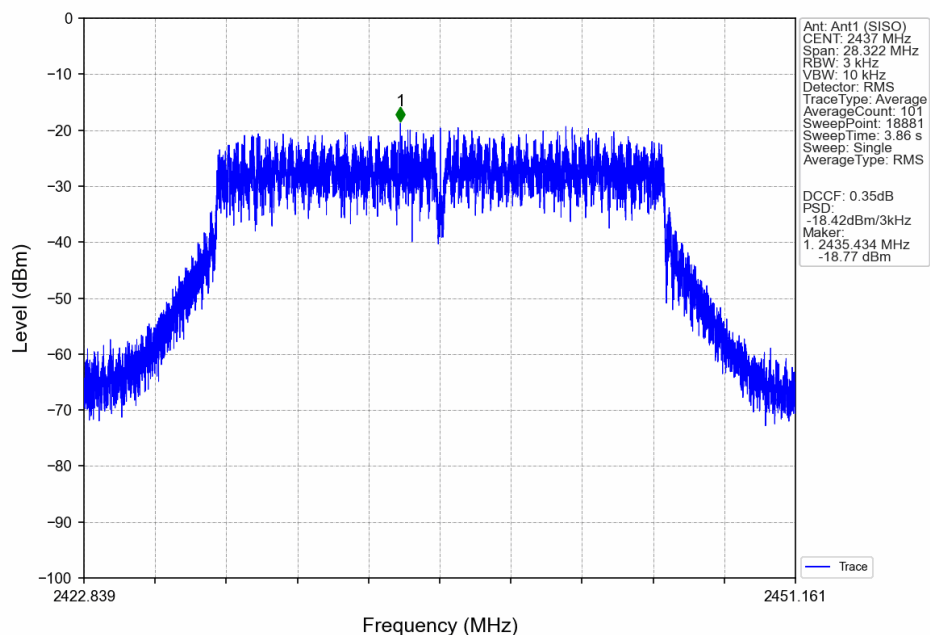


FCCID: 2BMUY-LPMS

802.11n(HT20) LCH 2412MHz Ant1 (SISO) NTV

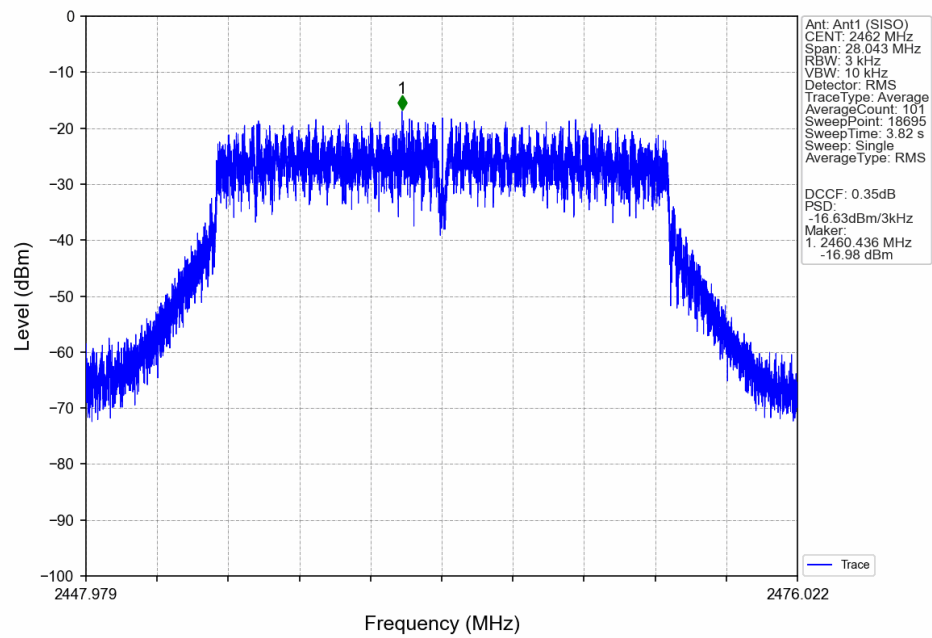


802.11n(HT20) MCH 2437MHz Ant1 (SISO) NTV

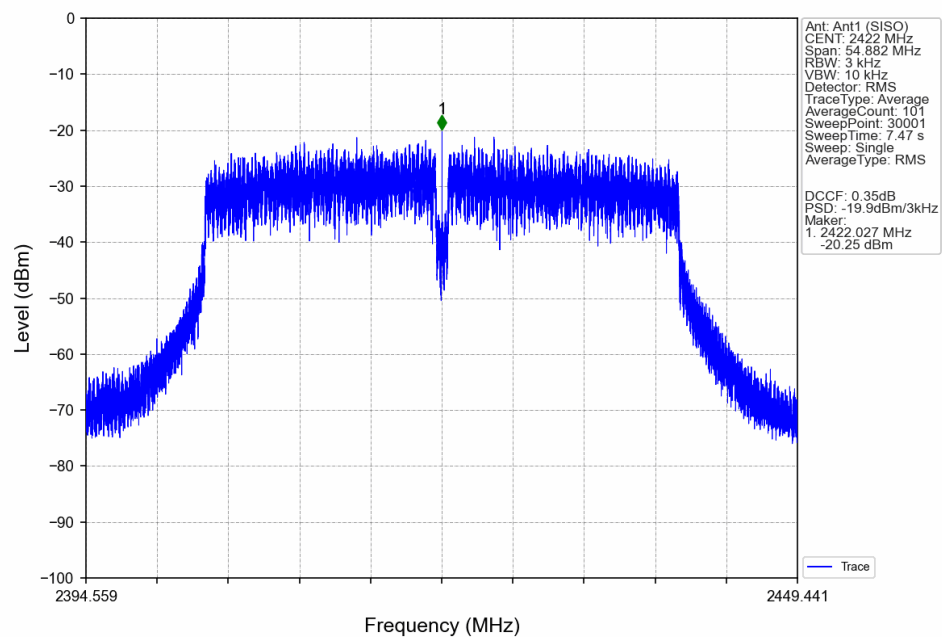


FCCID: 2BMUY-LPMS

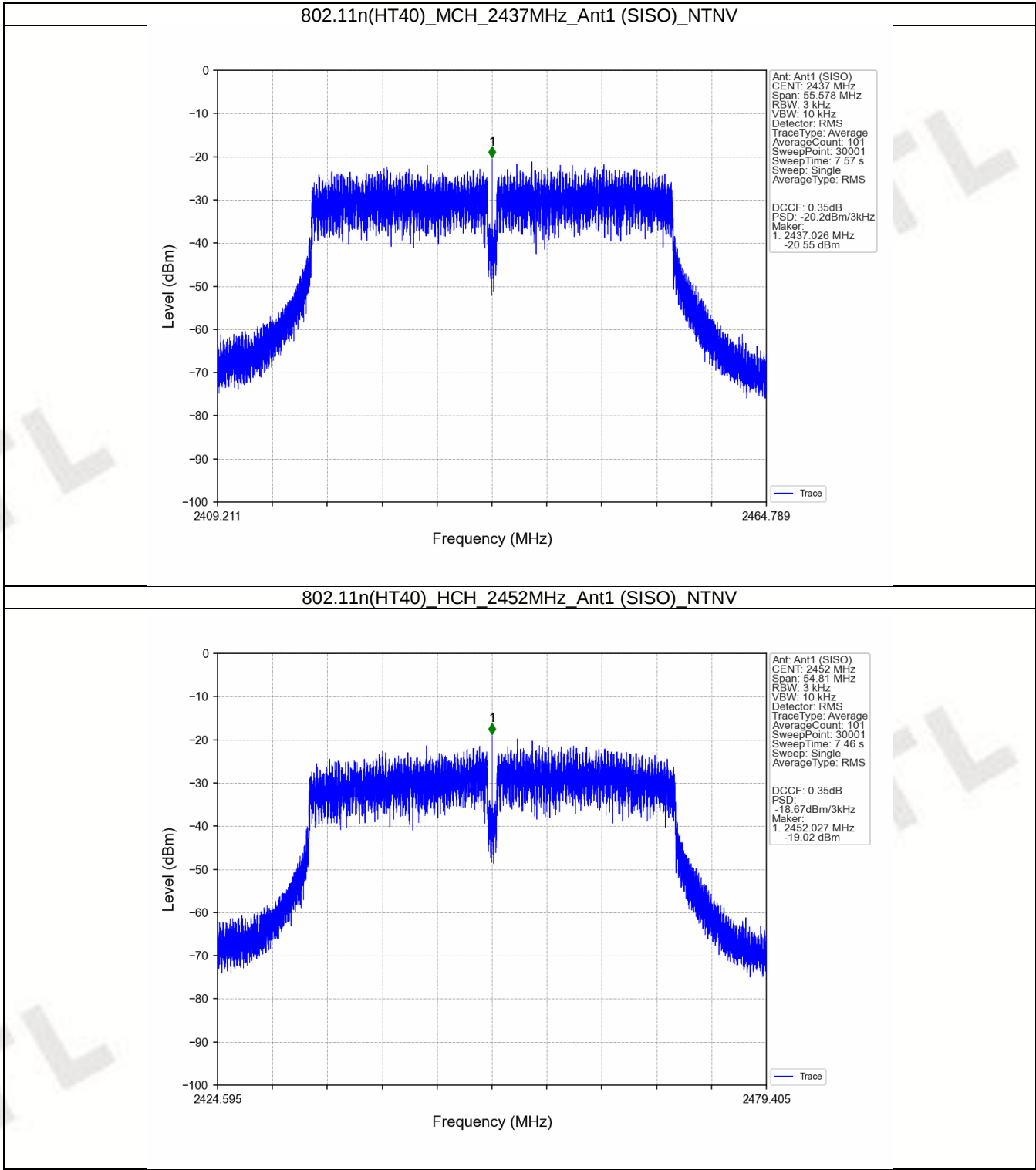
802.11n(HT20) HCH 2462MHz Ant1 (SISO) NTV



802.11n(HT40) LCH 2422MHz Ant1 (SISO) NTV



FCCID: 2BMUY-LPMS



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)
802.11b	SISO	2412	1	2.36
		2437	1	1.72
		2462	1	3.08
802.11g	SISO	2412	1	-0.67
		2437	1	-0.99
		2462	1	0.38
802.11n (HT20)	SISO	2412	1	0.84
		2437	1	0.11
		2462	1	1.60
802.11n (HT40)	SISO	2422	1	-2.22
		2437	1	-2.42
		2452	1	-1.11

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

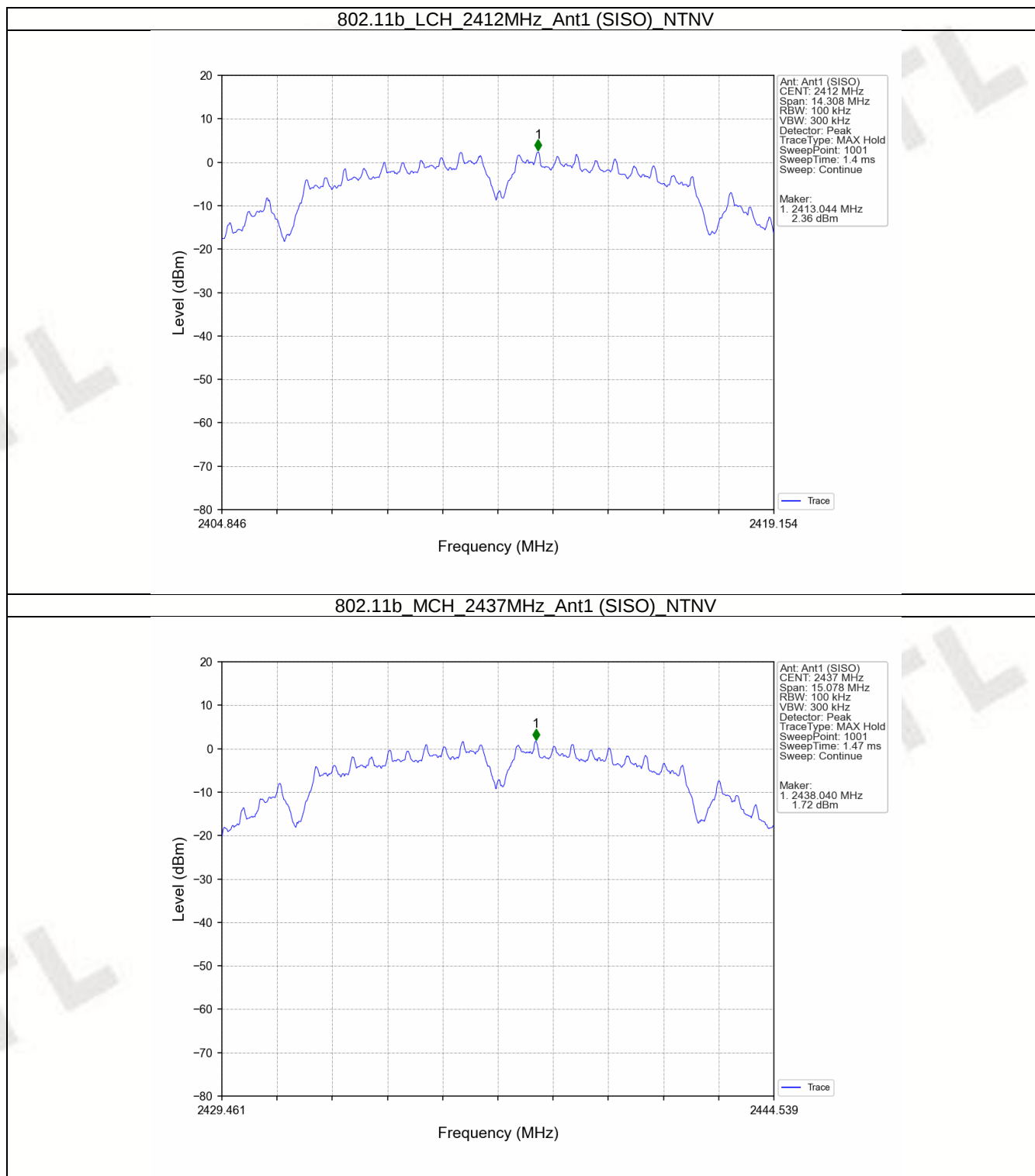
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	1	3.08	-26.92	Pass
		2437	1	3.08	-26.92	Pass
		2462	1	3.08	-26.92	Pass
802.11g	SISO	2412	1	0.38	-29.62	Pass
		2437	1	0.38	-29.62	Pass
		2462	1	0.38	-29.62	Pass
802.11n (HT20)	SISO	2412	1	1.60	-28.40	Pass
		2437	1	1.60	-28.40	Pass
		2462	1	1.60	-28.40	Pass
802.11n (HT40)	SISO	2422	1	-1.11	-31.11	Pass
		2437	1	-1.11	-31.11	Pass
		2452	1	-1.11	-31.11	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.

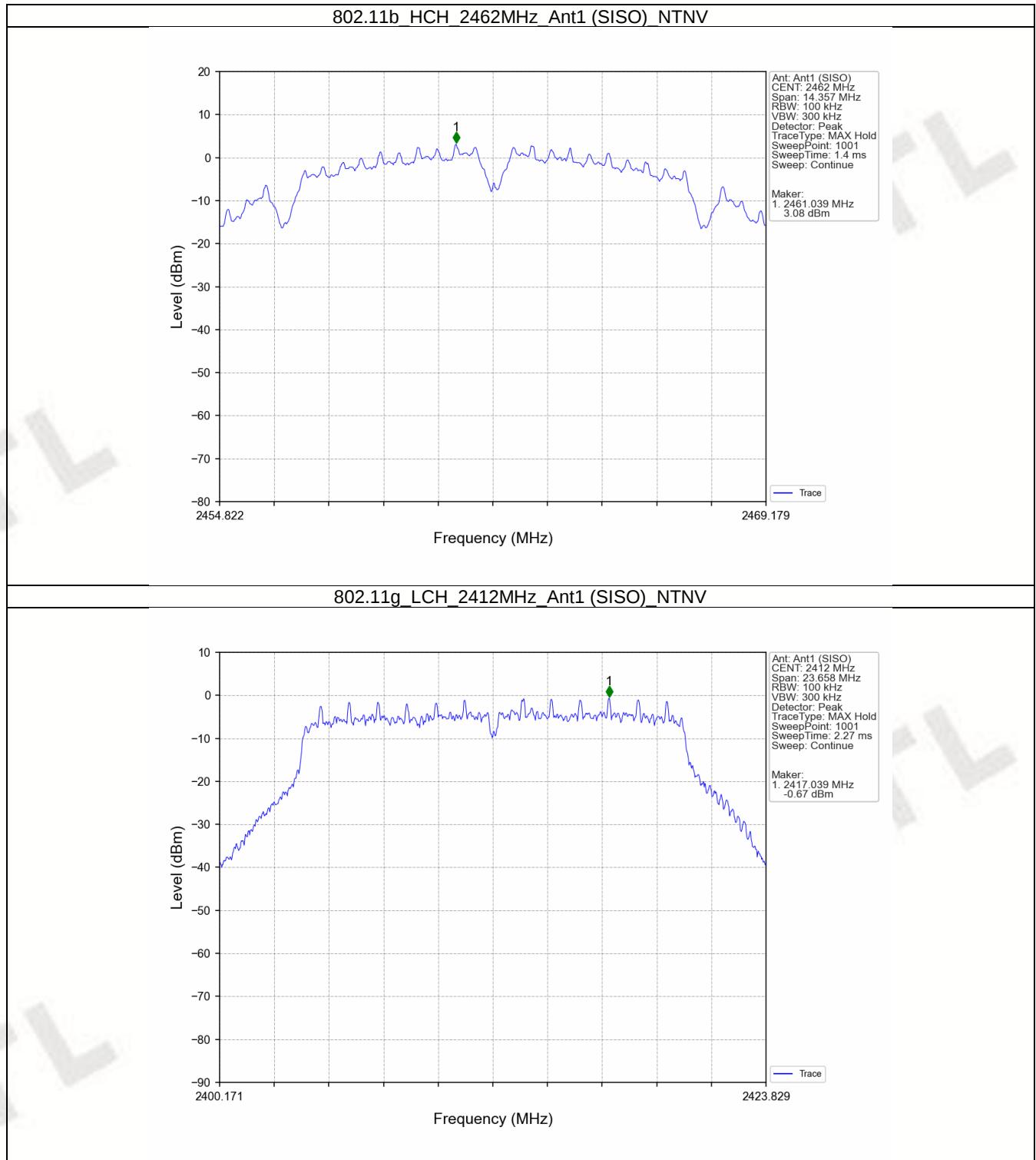
FCCID: 2BMUY-LPMS

5.2 Test Graph

5.2.1 Ref

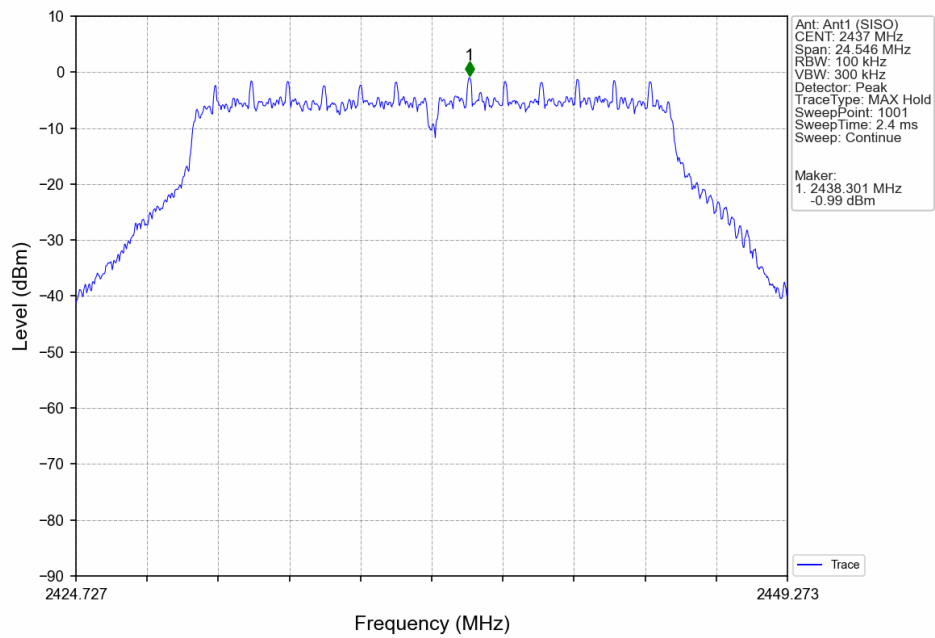


FCCID: 2BMUY-LPMS

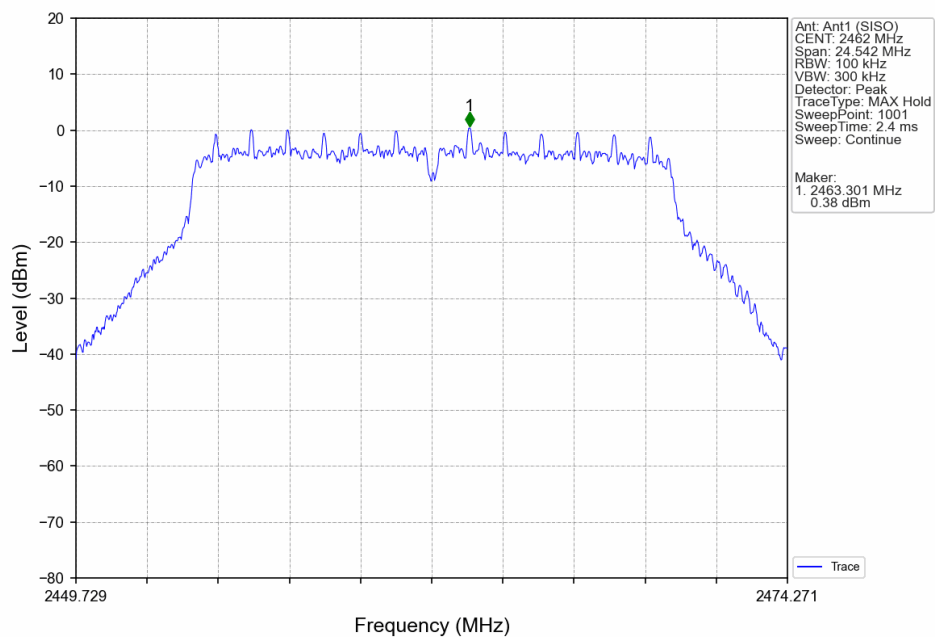


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802.11g MCH 2437MHz Ant1 (SISO) NTN

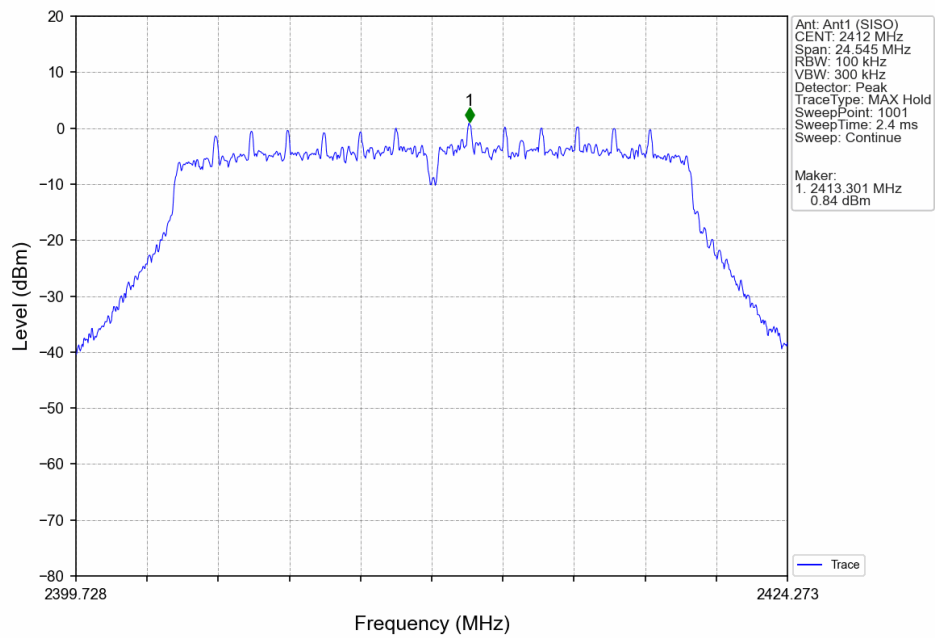


802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV

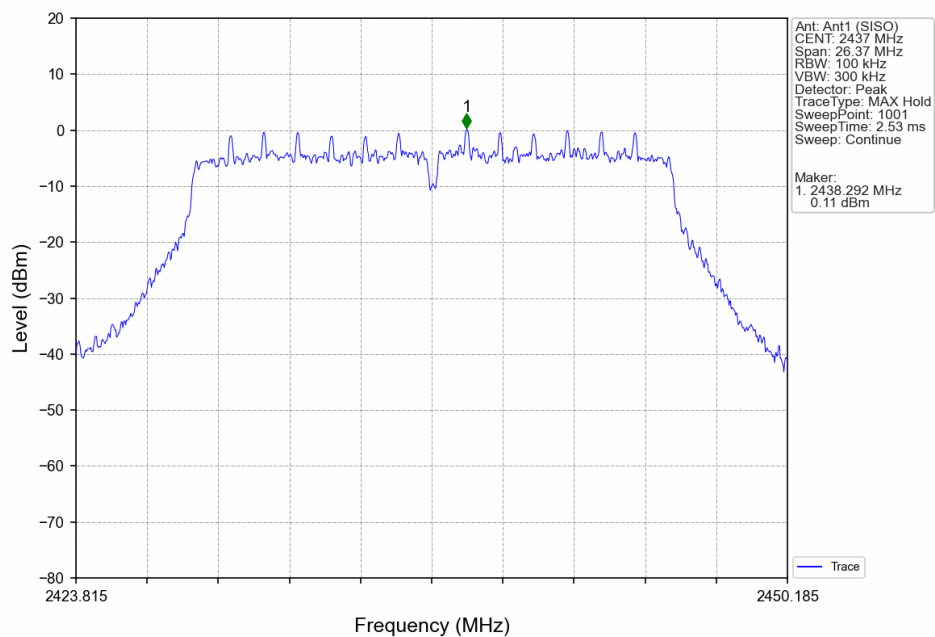


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802.11n(HT20) LCH 2412MHz Ant1 (SISO) NTNV

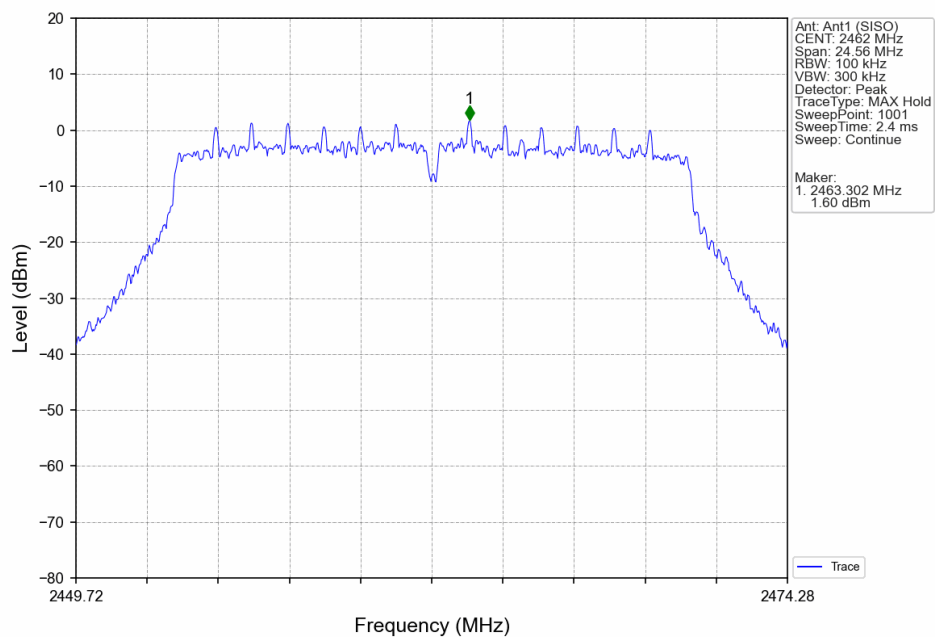


802.11n(HT20) MCH 2437MHz Ant1 (SISO) NTNV

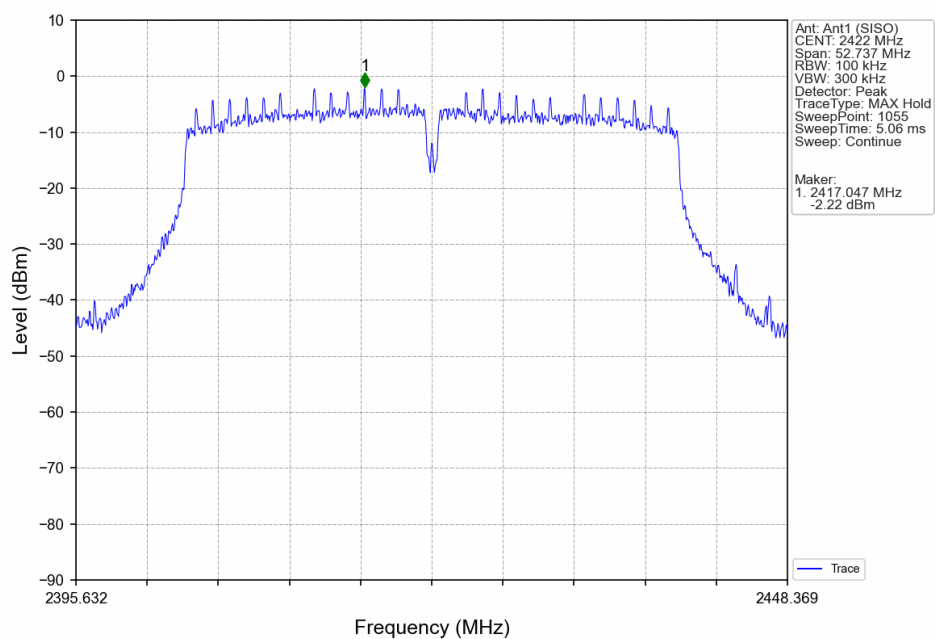


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802.11n(HT20) HCH 2462MHz Ant1 (SISO) NTNV

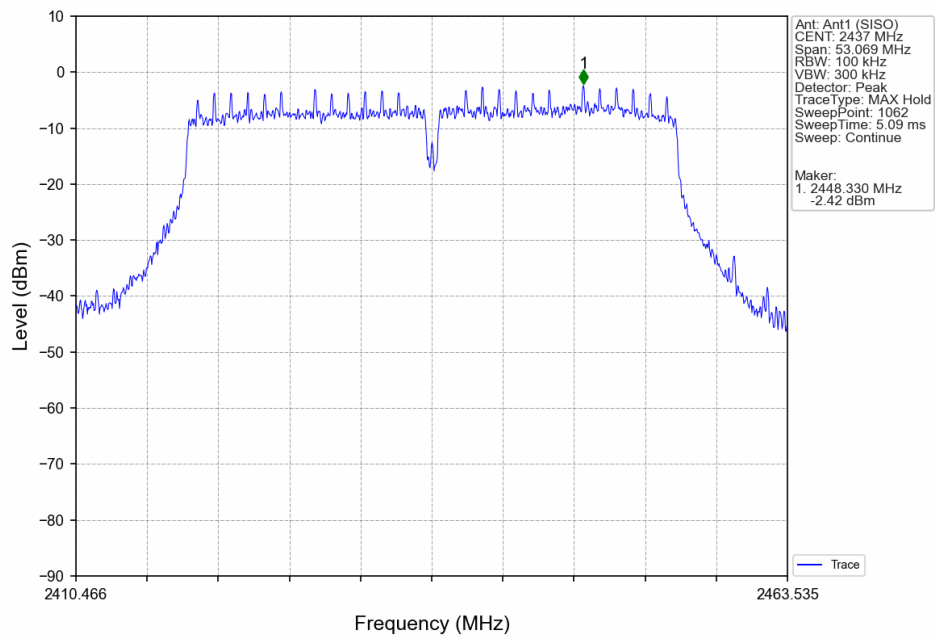


802.11n(HT40) LCH 2422MHz Ant1 (SISO) NTNV

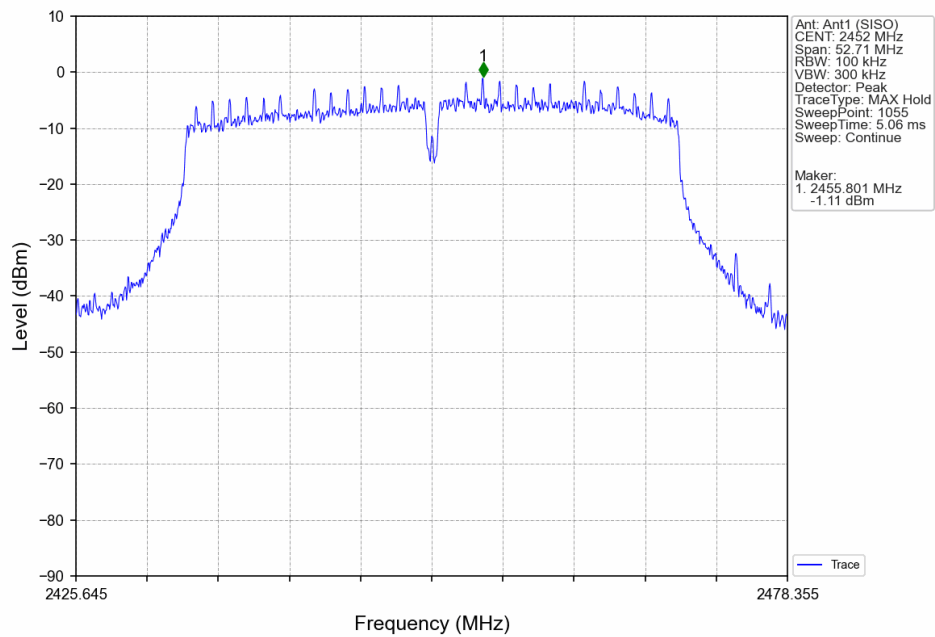


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802.11n(HT40) MCH 2437MHz Ant1 (SISO) NTNV

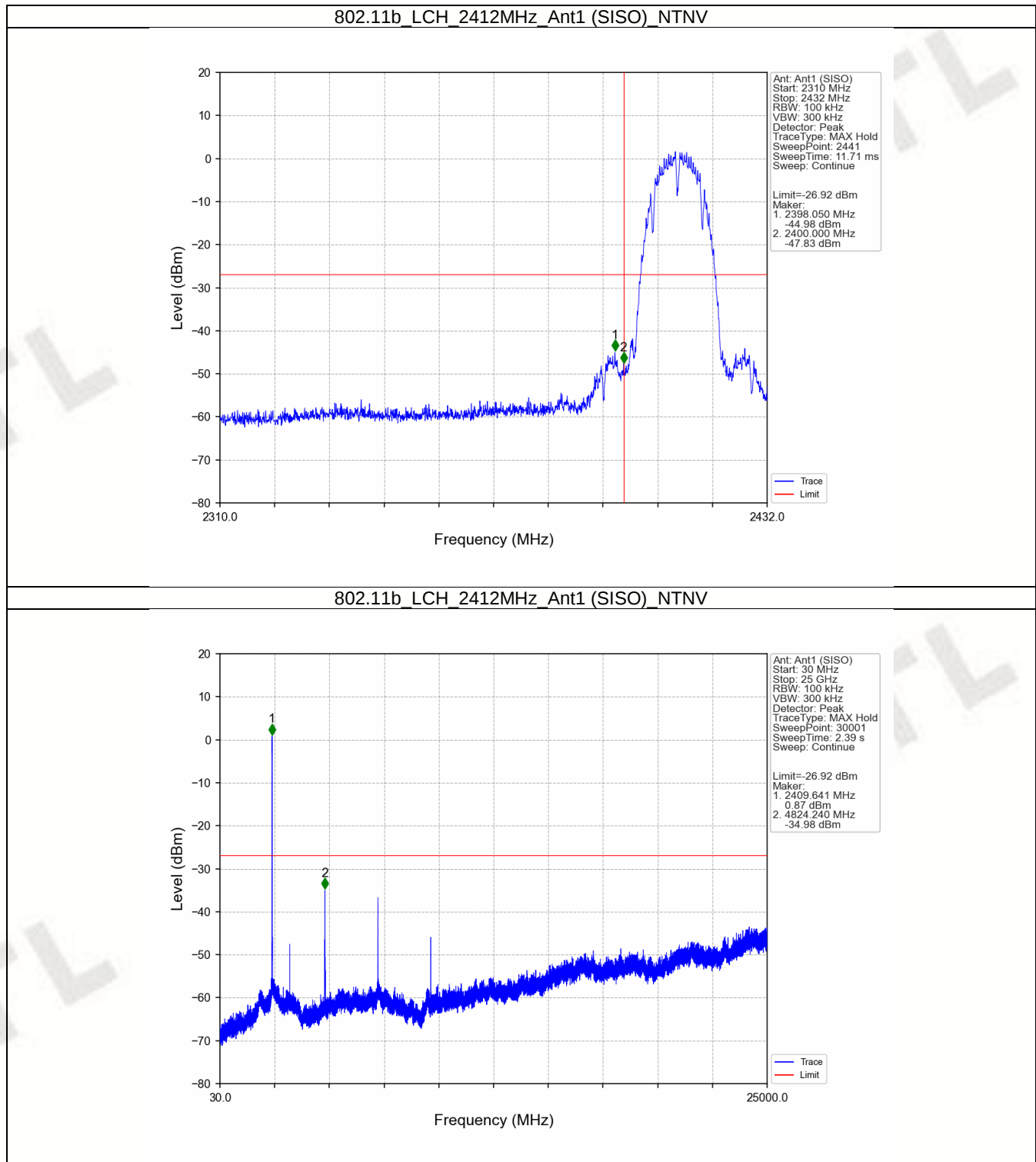


802.11n(HT40) HCH 2452MHz Ant1 (SISO) NTNV



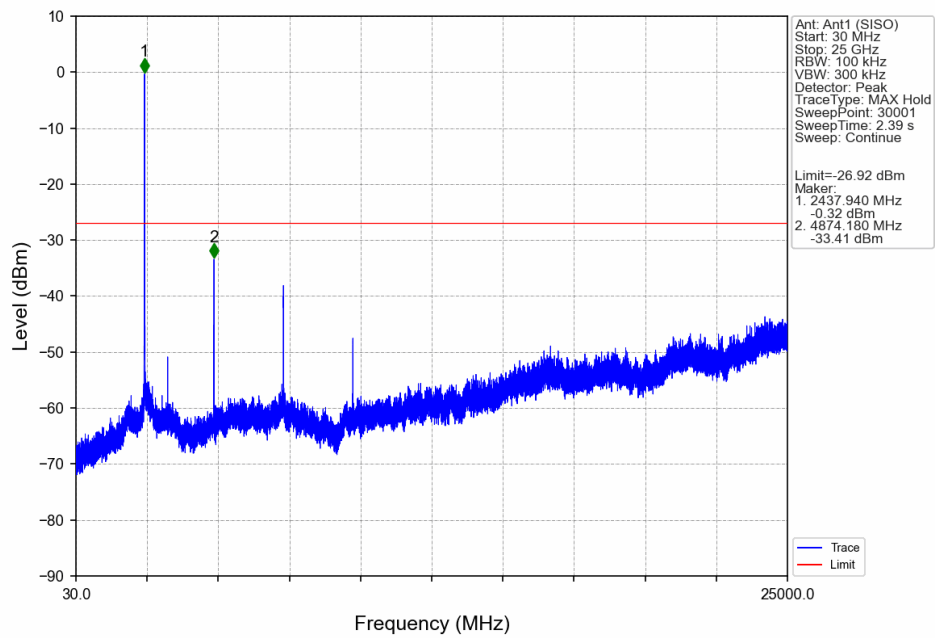
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5.2.2 CSE

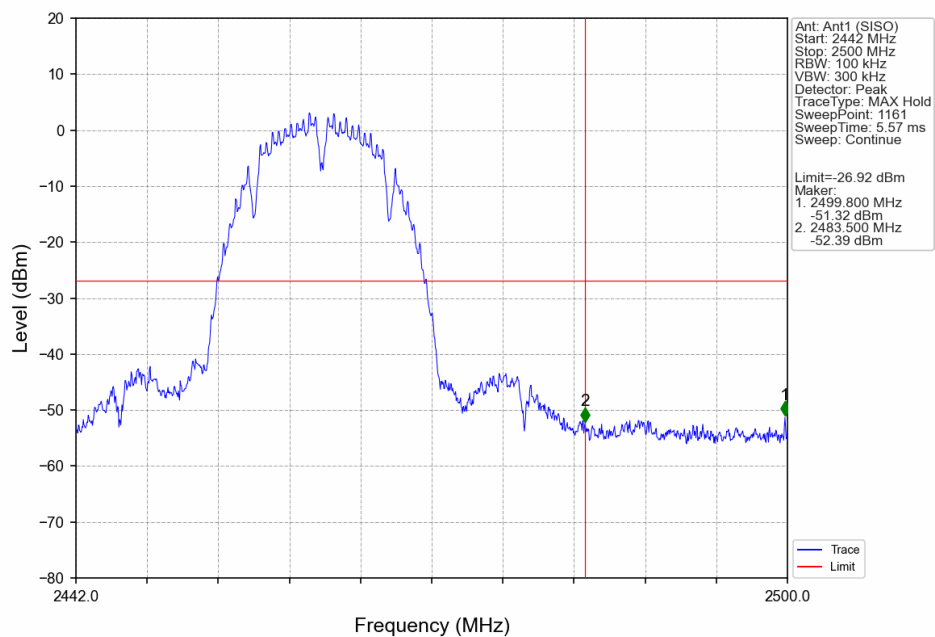


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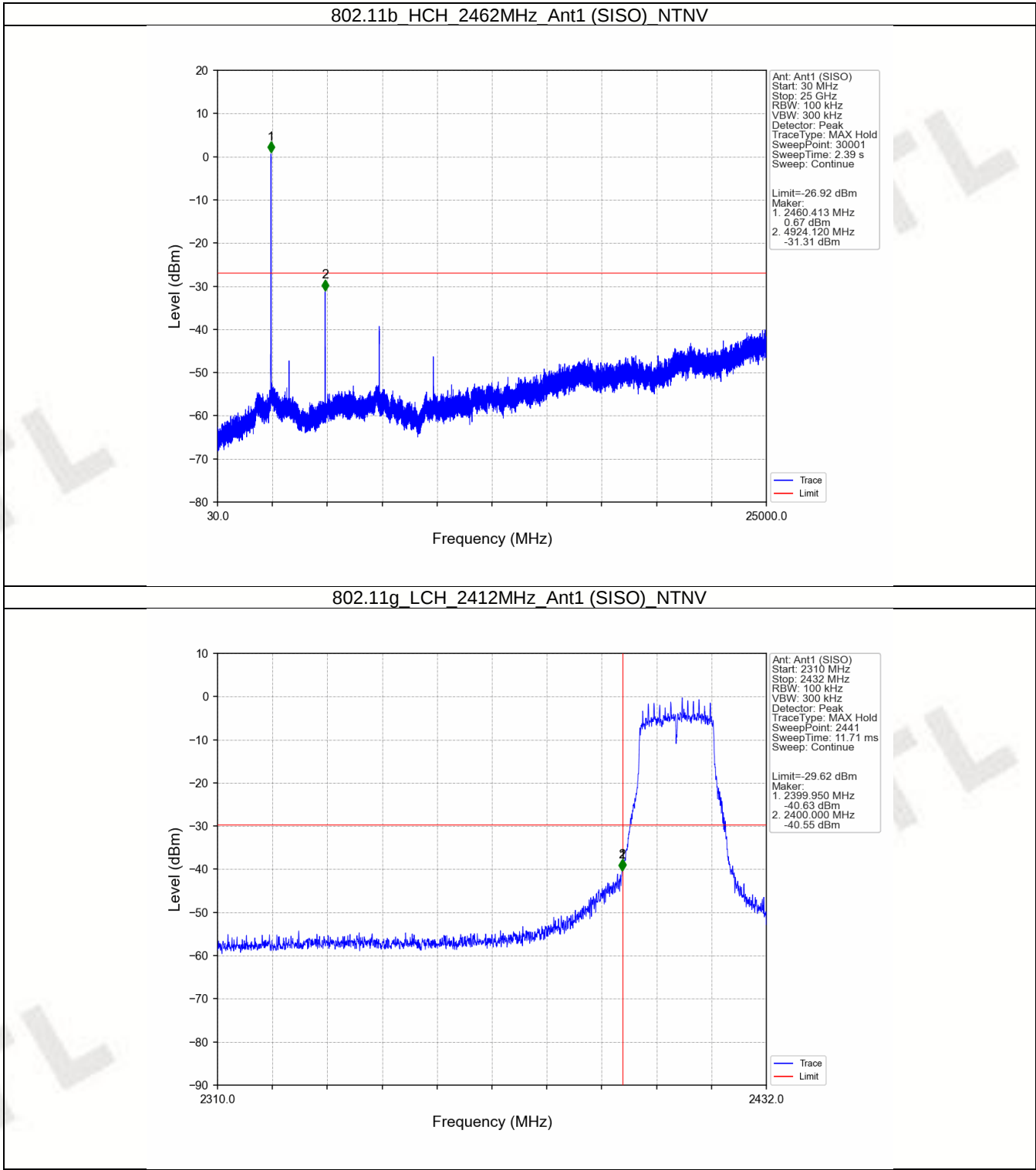
802.11b MCH 2437MHz Ant1 (SISO) NTN



802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV

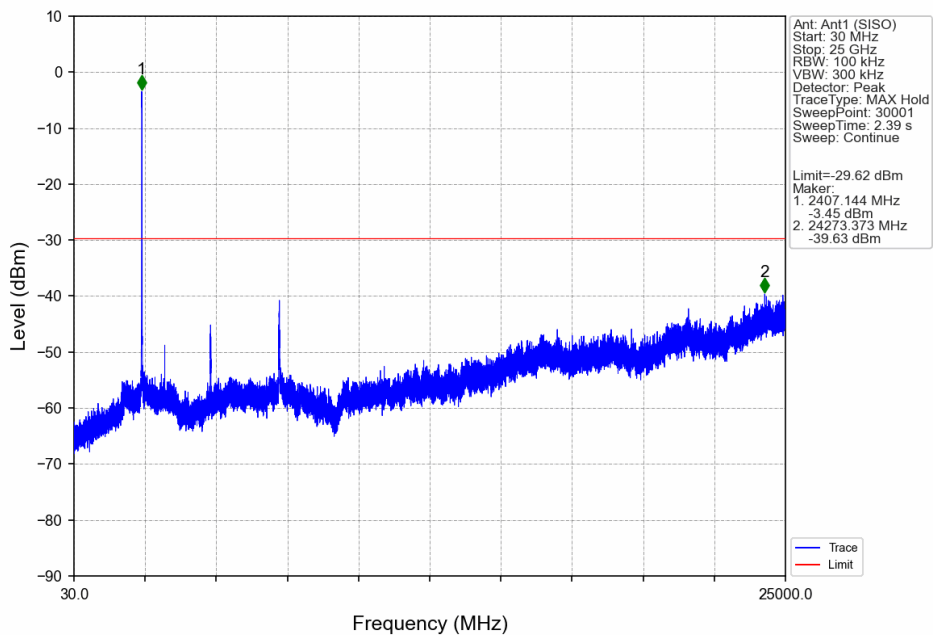


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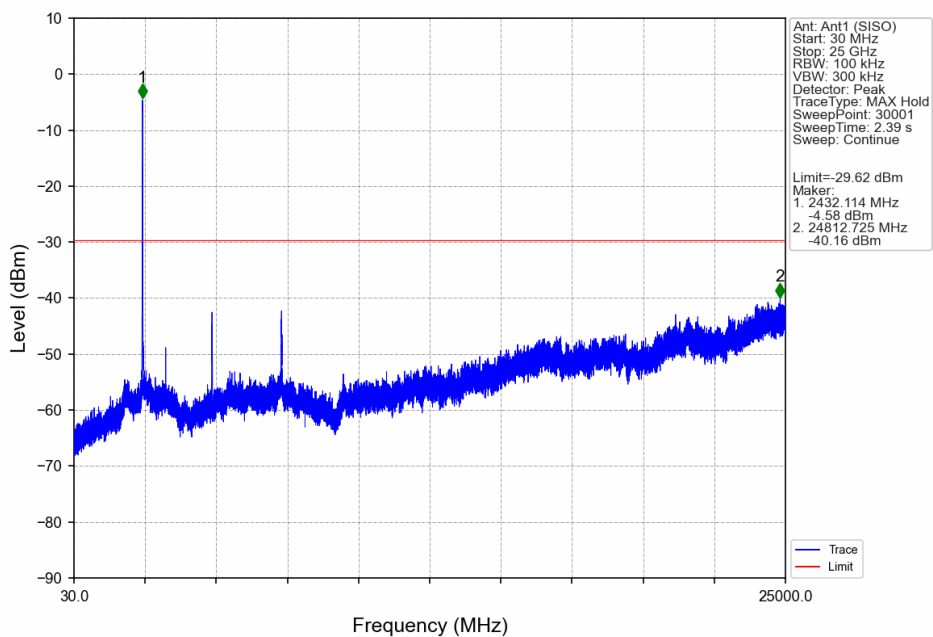


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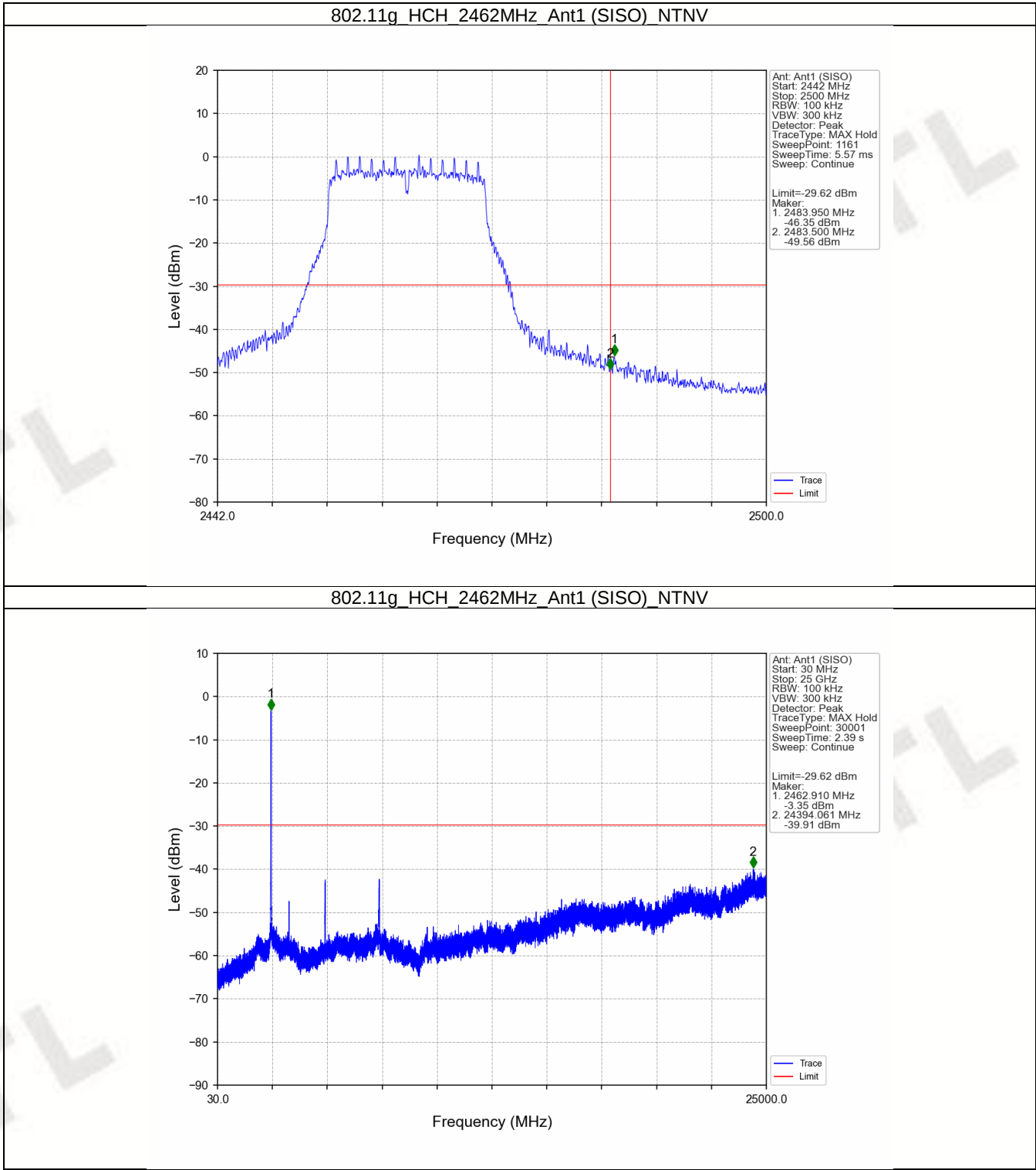
802.11g LCH 2412MHz Ant1 (SISO) NTN



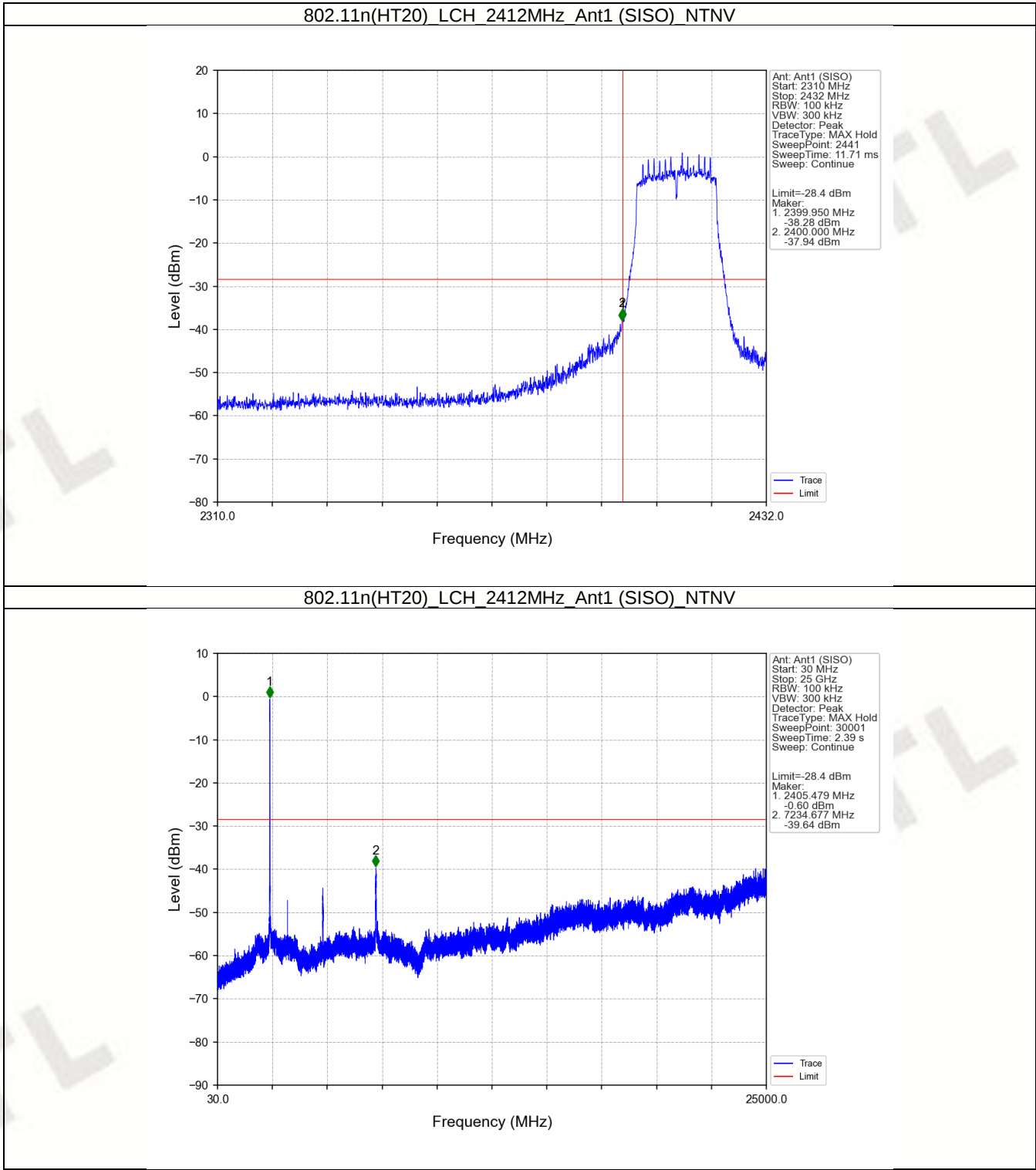
802.11g_MCH_2437MHz_Ant1 (SISO)_NTN



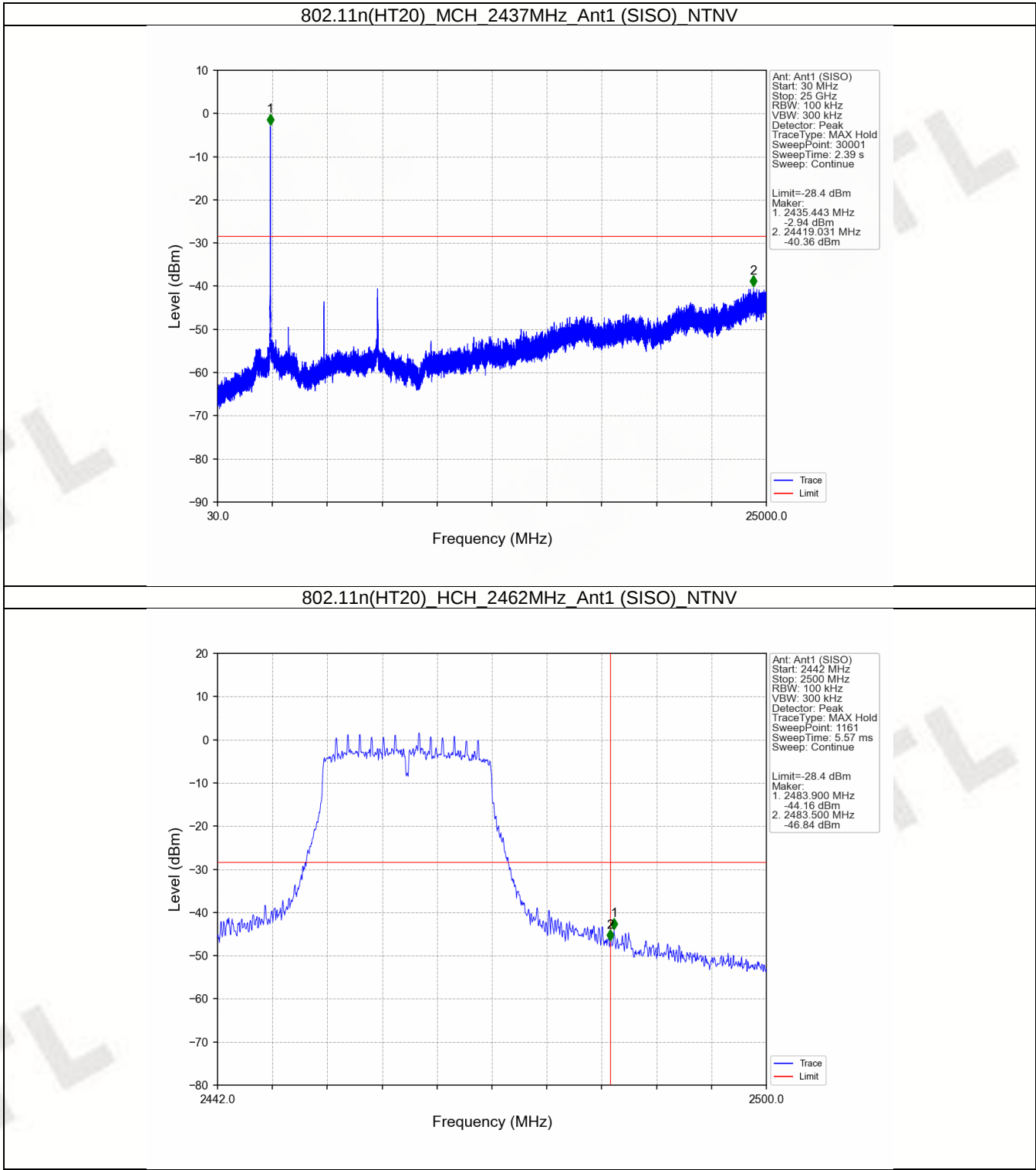
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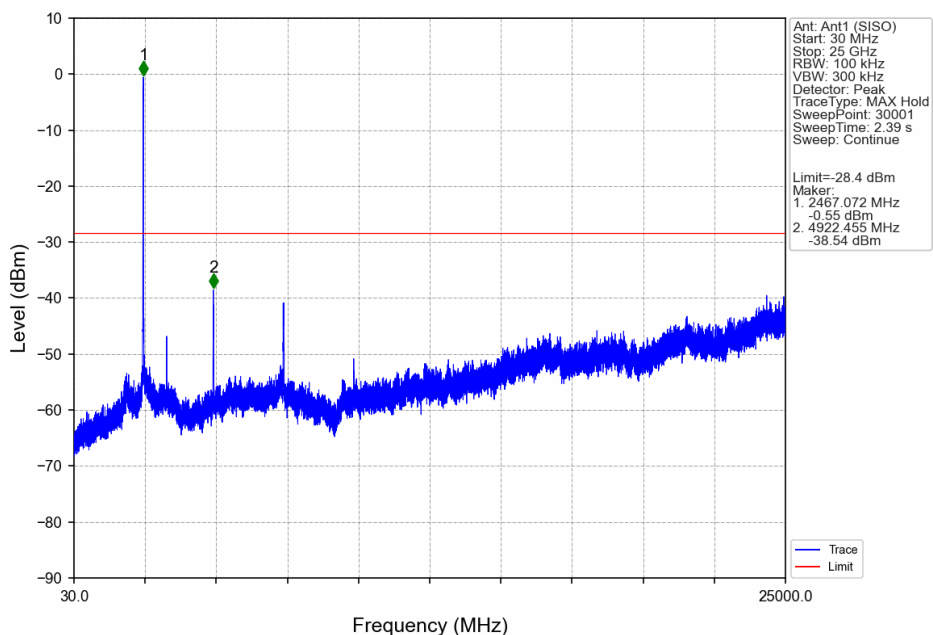


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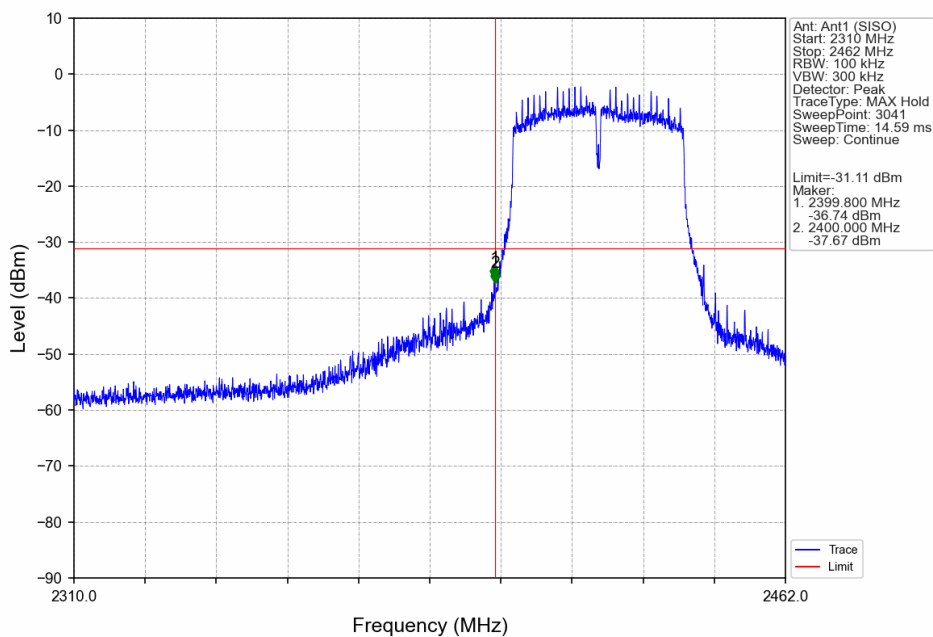


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802.11n(HT20) HCH 2462MHz Ant1 (SISO) NTV

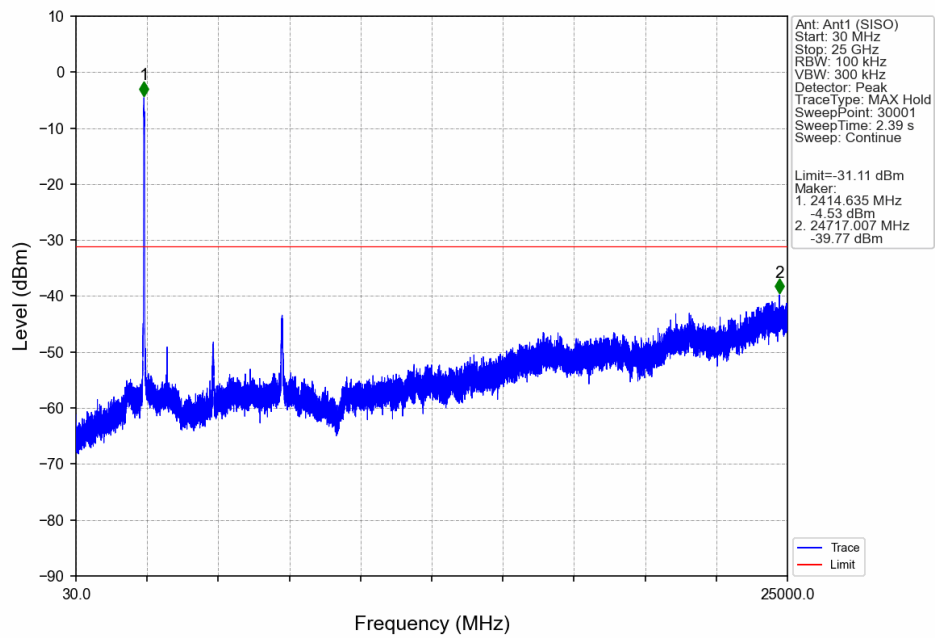


802.11n(HT40) LCH 2422MHz Ant1 (SISO) NTV

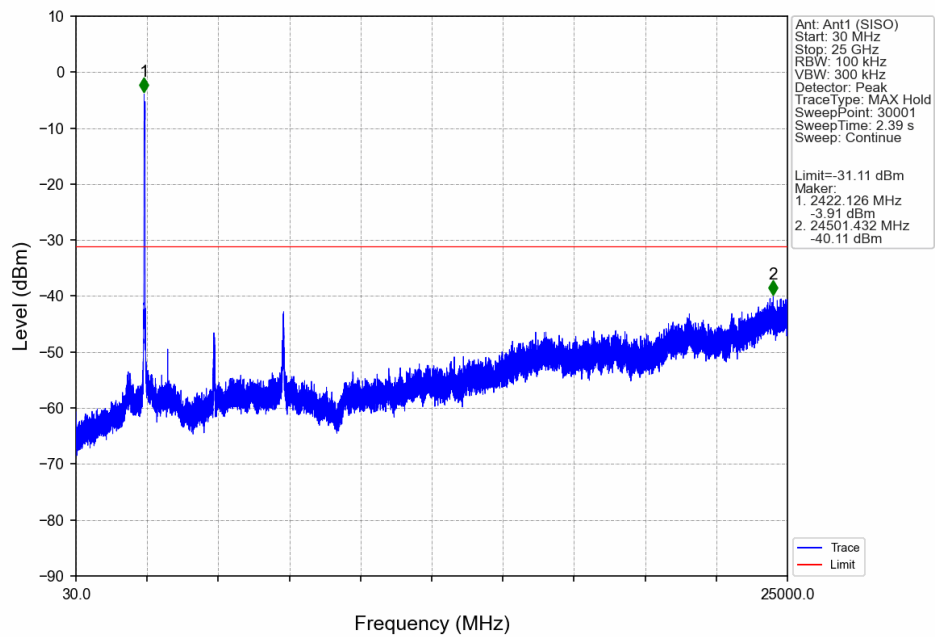


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802.11n(HT40) LCH 2422MHz Ant1 (SISO) NTNV

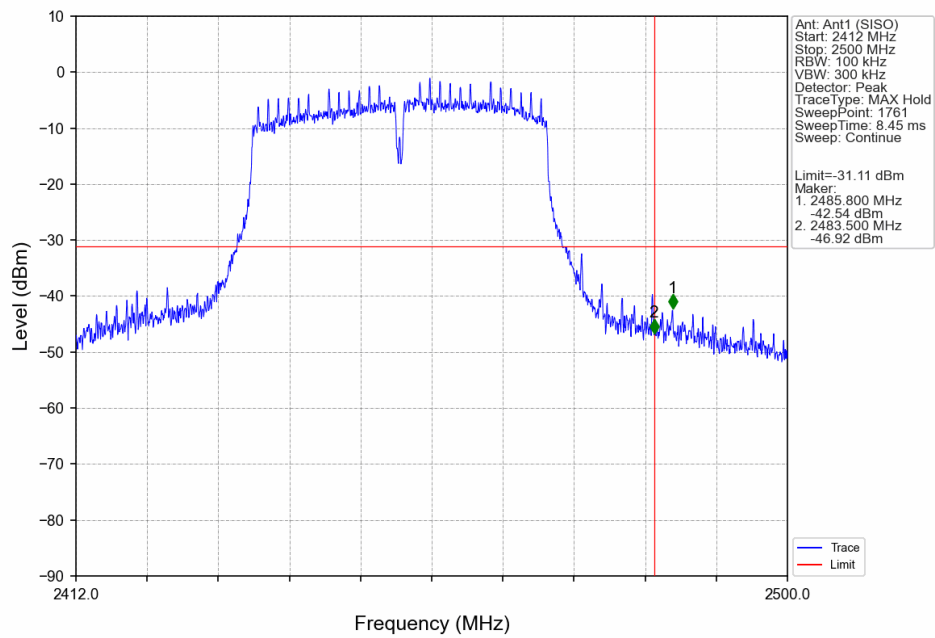


802.11n(HT40) MCH 2437MHz Ant1 (SISO) NTNV



FCCID: 2BMUY-LPMS

802.11n(HT40) HCH 2452MHz Ant1 (SISO) NTNV



802.11n(HT40) HCH 2452MHz Ant1 (SISO) NTNV

