

Appendix A for SHCR211200099701

1. Duty Cycle

1.1 Ant1

1.1.1 Test Result

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	12.416	12.580	98.70	0.06	0.92
		2437	12.417	12.580	98.70	0.06	1.00
		2462	12.420	12.574	98.78	0.05	0.74
802.11g	SISO	2412	2.059	2.217	92.87	0.32	5.12
		2437	2.067	2.226	92.86	0.32	5.55
		2462	2.056	2.227	92.32	0.35	5.62
802.11n (HT20)	SISO	2412	1.911	2.091	91.39	0.39	5.83
		2437	1.920	2.091	91.82	0.37	5.90
		2462	1.912	2.091	91.44	0.39	6.31



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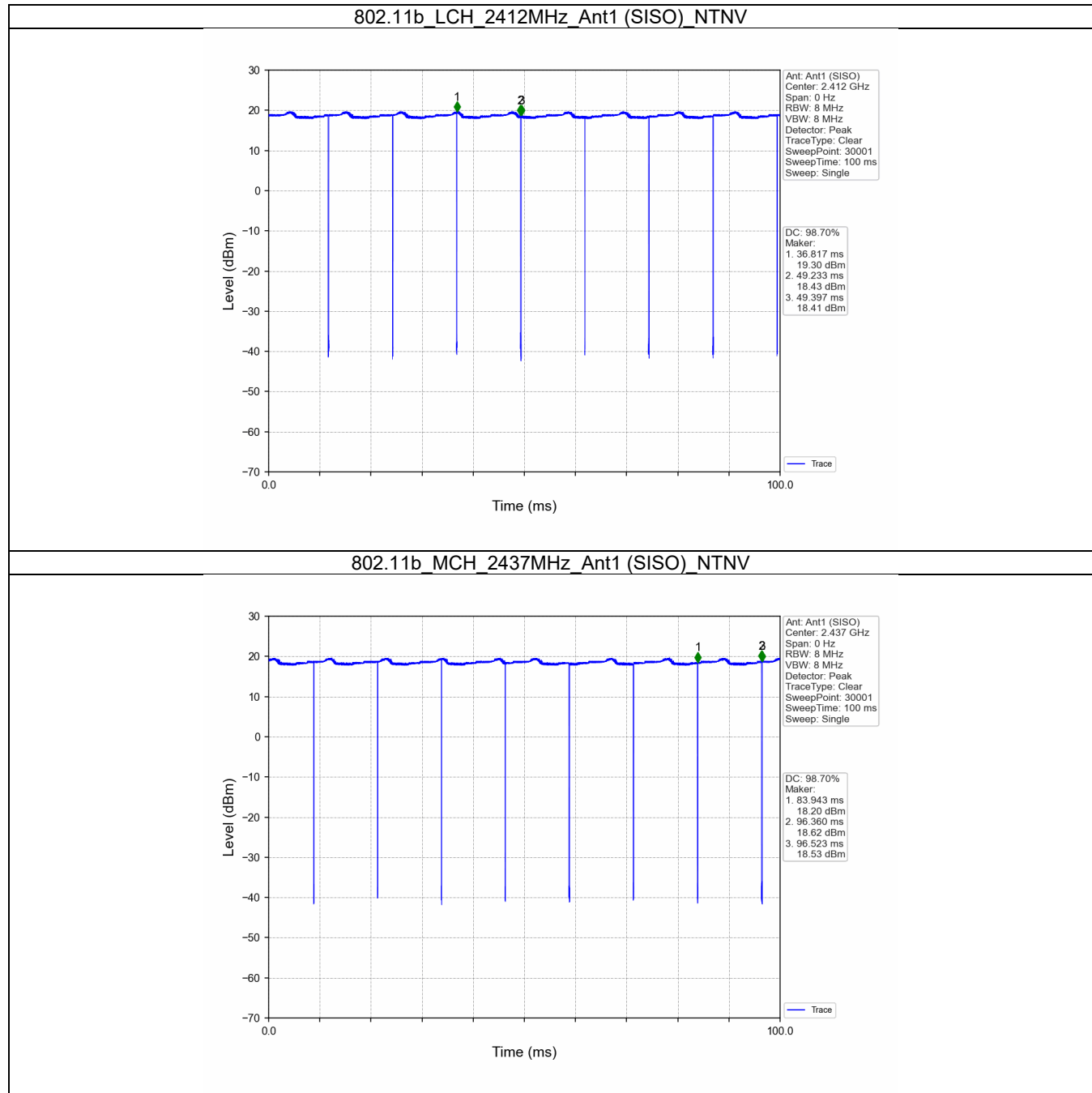
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1.1.2 Test Graph



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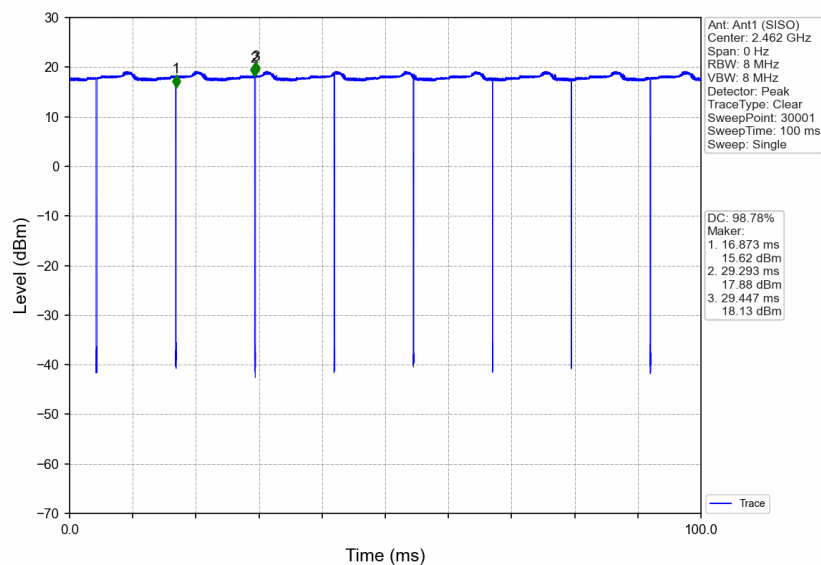
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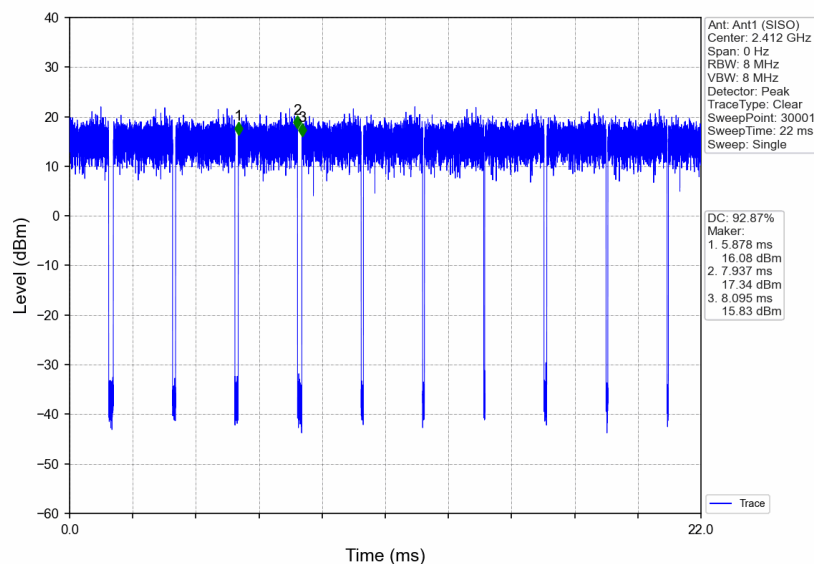
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802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



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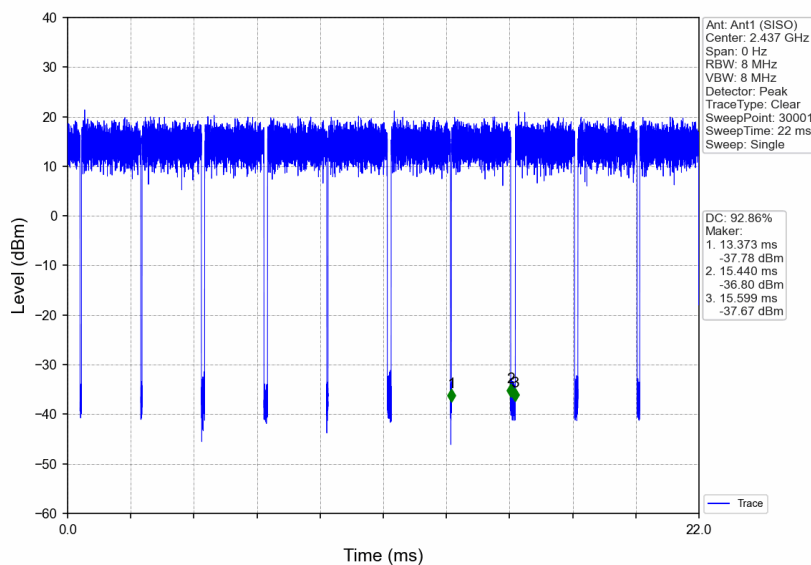
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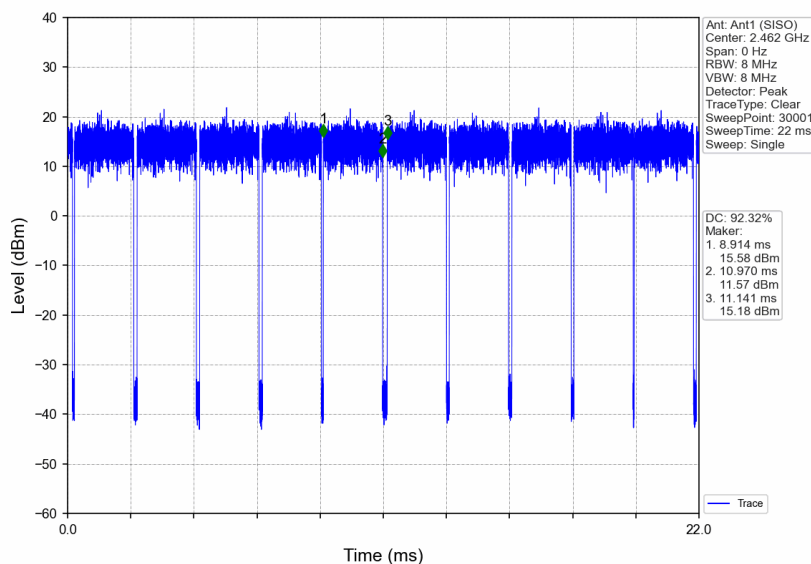
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802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



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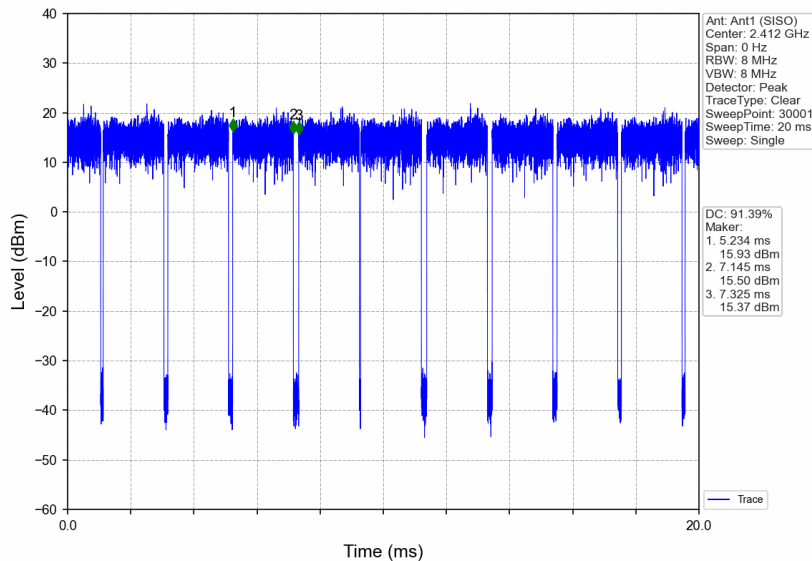
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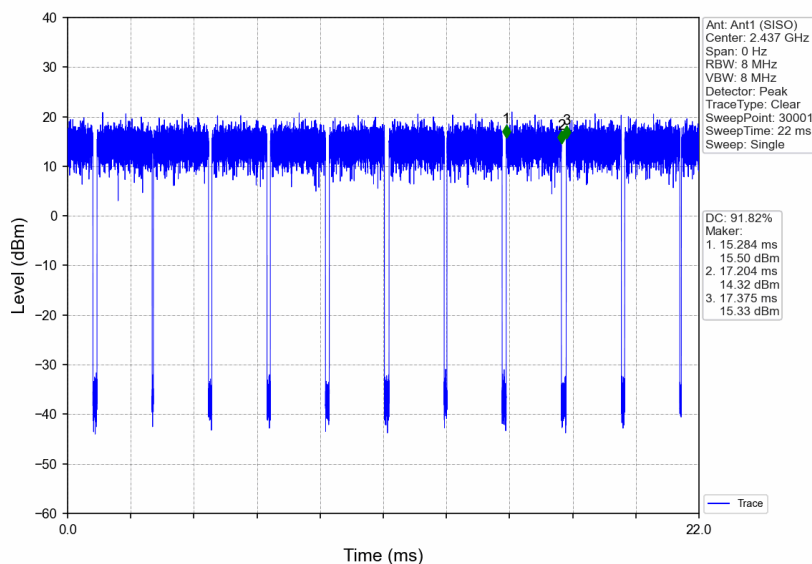
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802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



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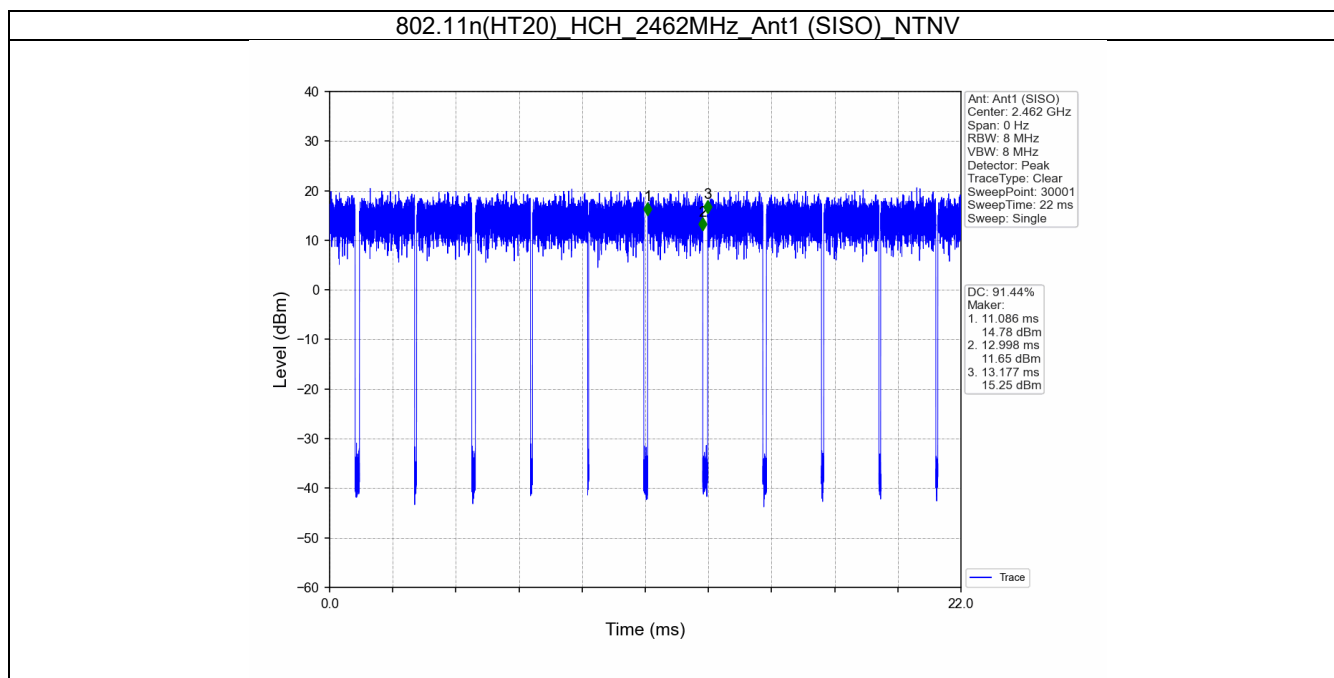
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2. Bandwidth

2.1 OBW

2.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Ant	99% Occupied Bandwidth (MHz)	Verdict
				Result	
802.11b	SISO	2412	1	13.852	Pass
		2437	1	13.967	Pass
		2462	1	13.962	Pass
802.11g	SISO	2412	1	17.639	Pass
		2437	1	17.676	Pass
		2462	1	17.713	Pass
802.11n (HT20)	SISO	2412	1	18.412	Pass
		2437	1	18.462	Pass
		2462	1	18.455	Pass



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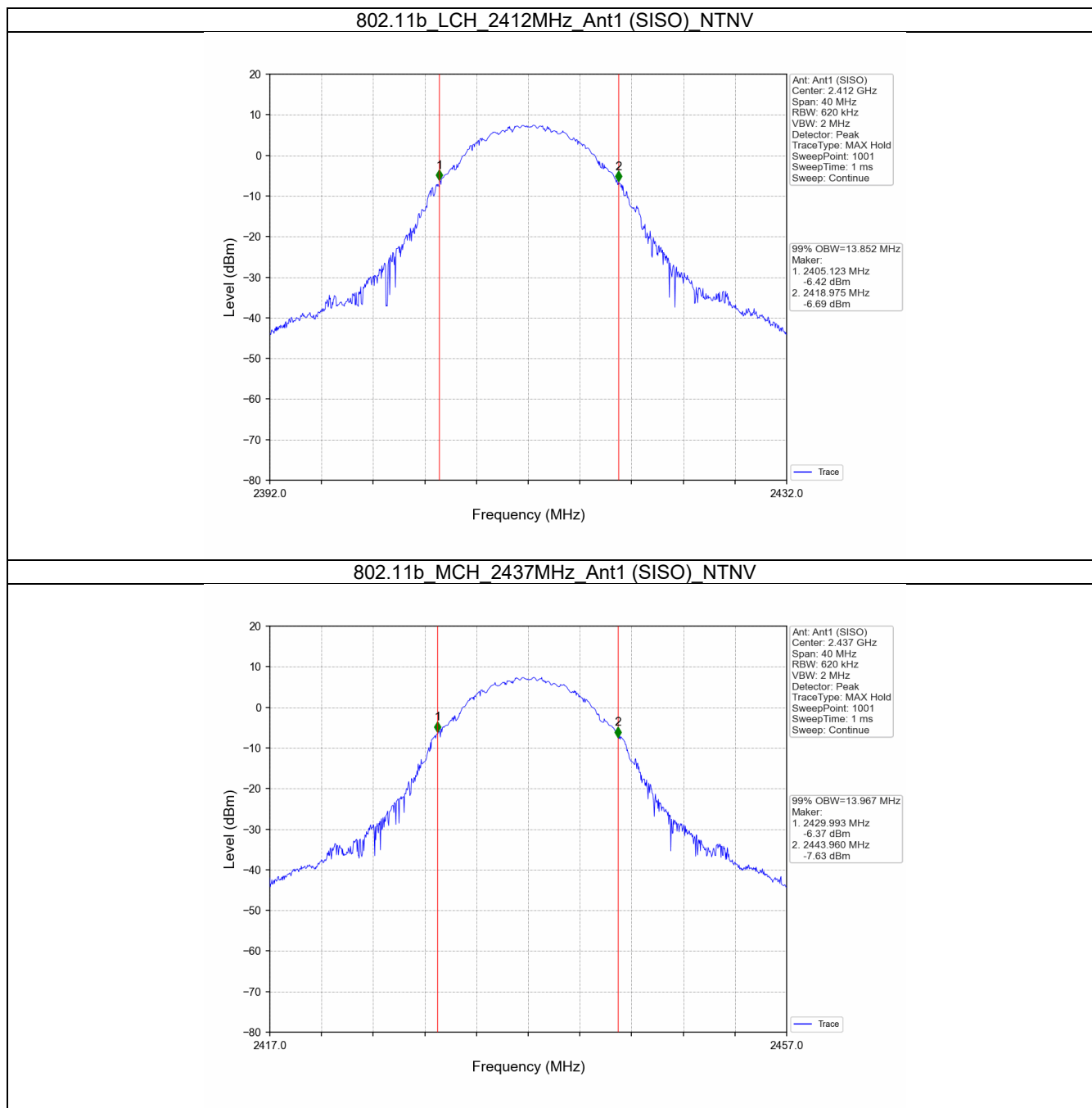
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2.1.2 Test Graph



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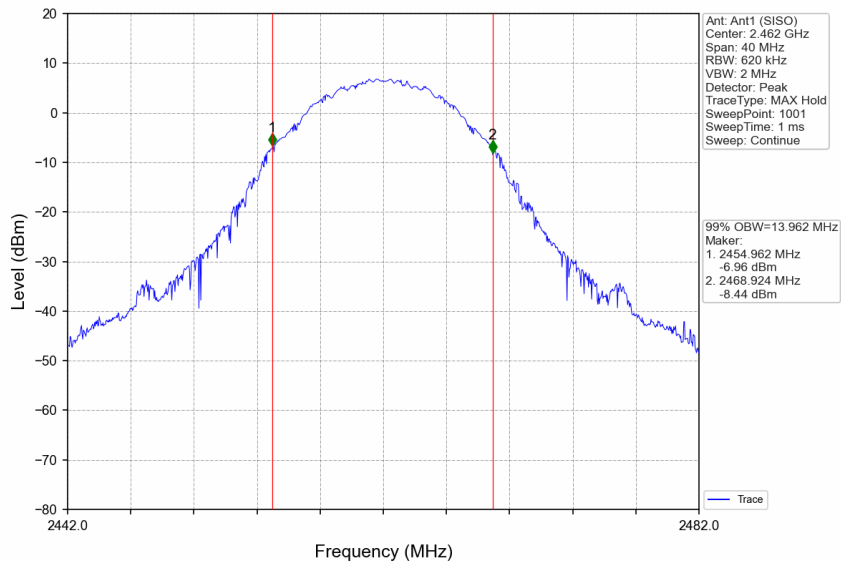
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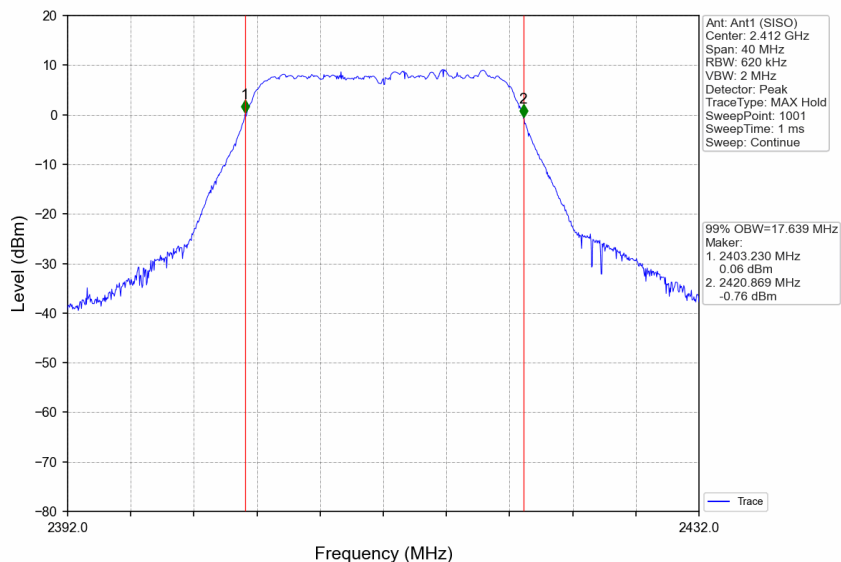
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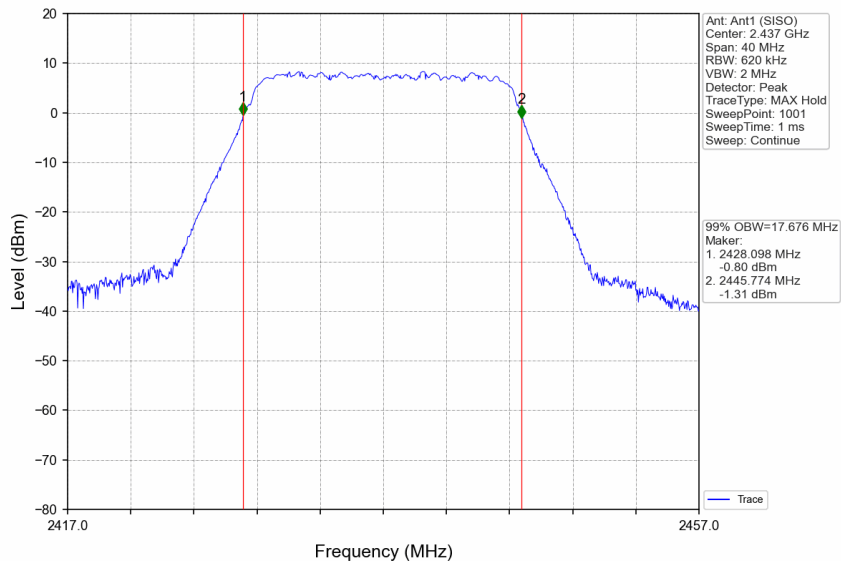
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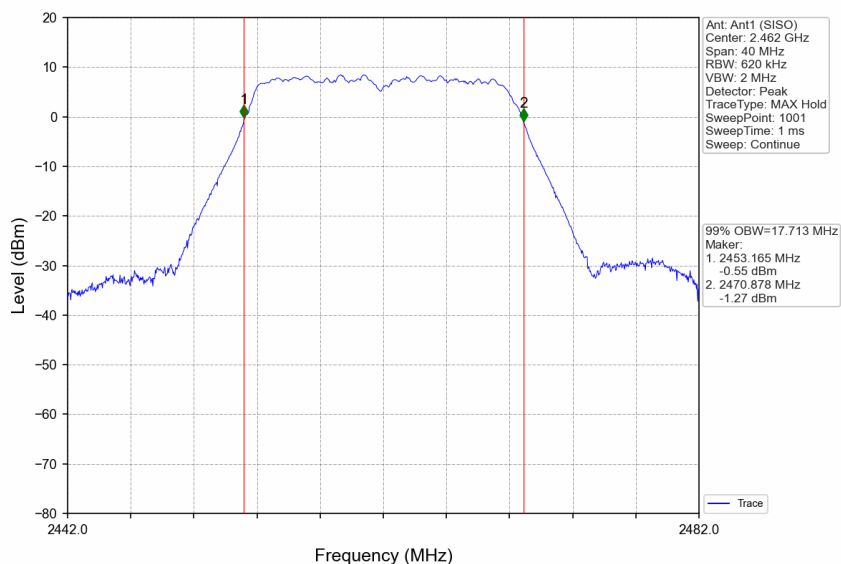
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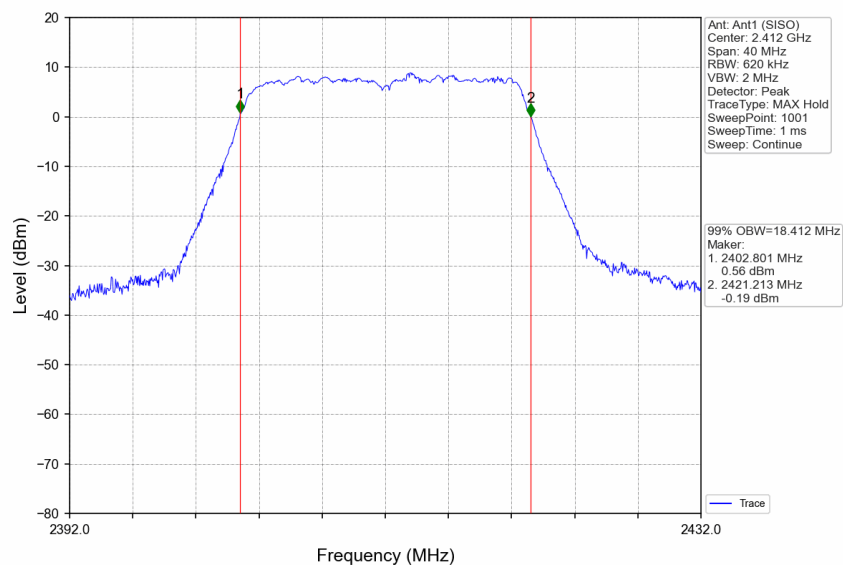
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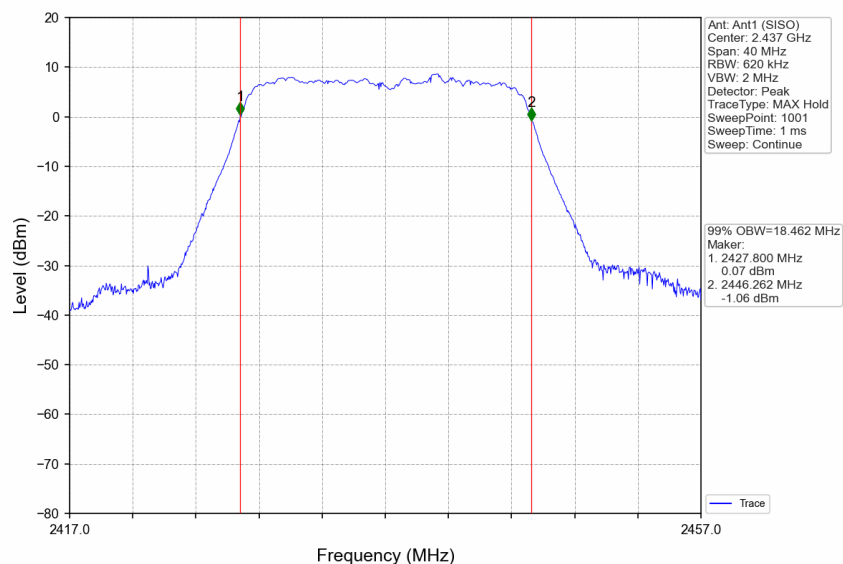
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802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



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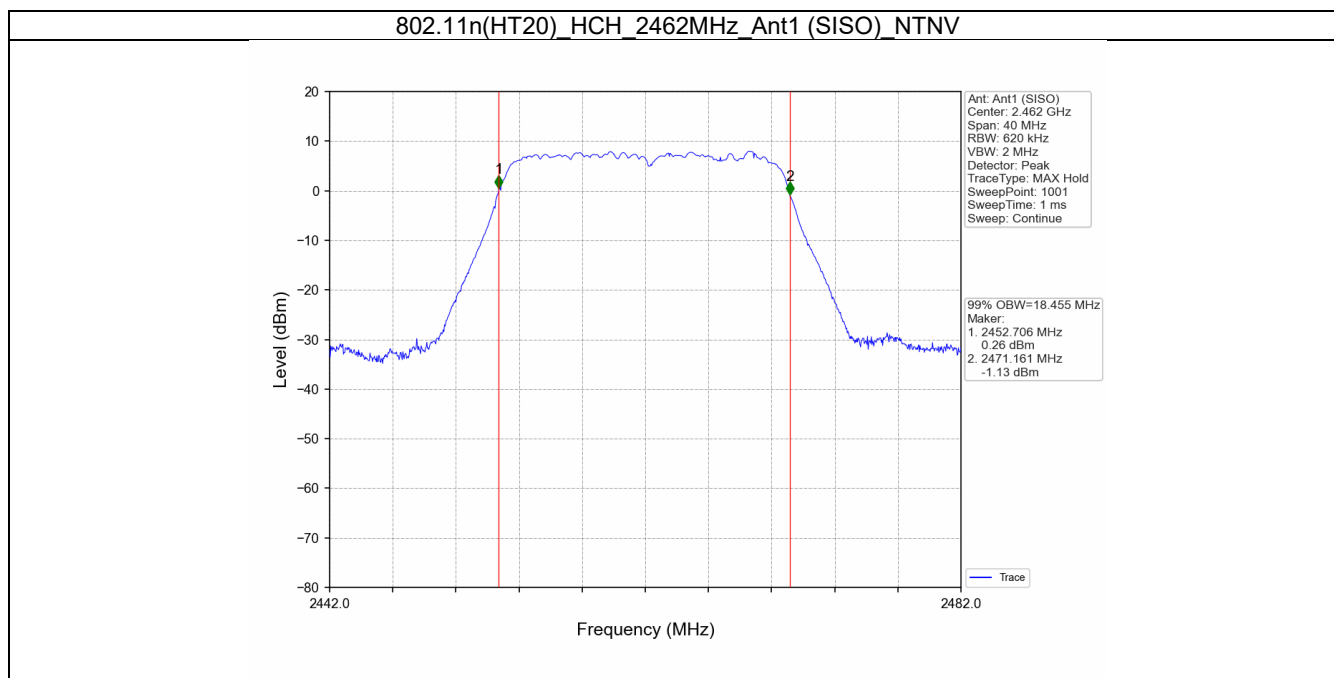
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2.2 6dB BW

2.2.1 Test Result

Mode	TX Type	Frequency (MHz)	Ant	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	9.068	≥ 0.5	Pass
		2437	1	9.064	≥ 0.5	Pass
		2462	1	9.077	≥ 0.5	Pass
802.11g	SISO	2412	1	16.386	≥ 0.5	Pass
		2437	1	16.393	≥ 0.5	Pass
		2462	1	16.370	≥ 0.5	Pass
802.11n (HT20)	SISO	2412	1	17.376	≥ 0.5	Pass
		2437	1	17.331	≥ 0.5	Pass
		2462	1	17.374	≥ 0.5	Pass



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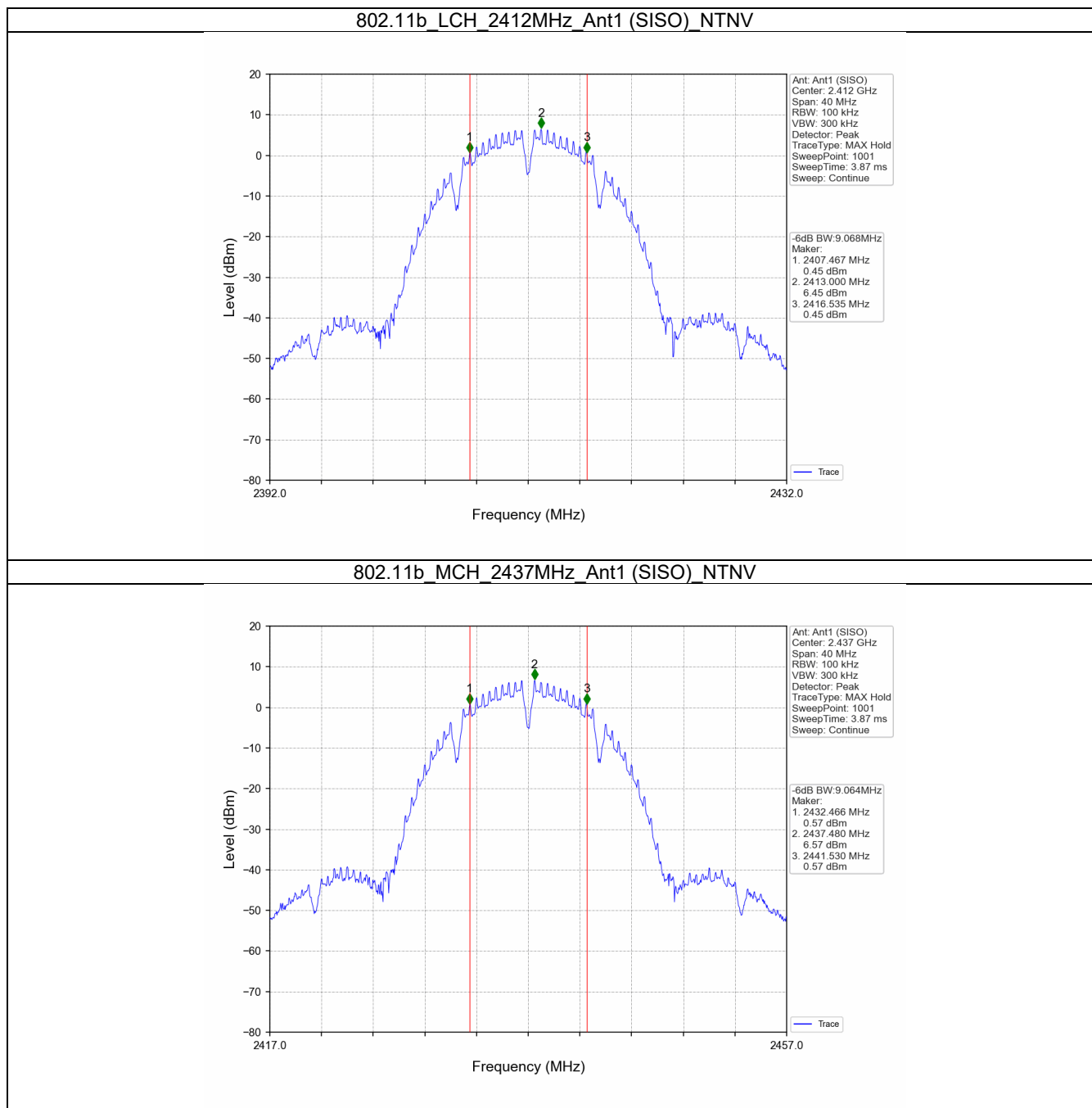
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2.2.2 Test Graph



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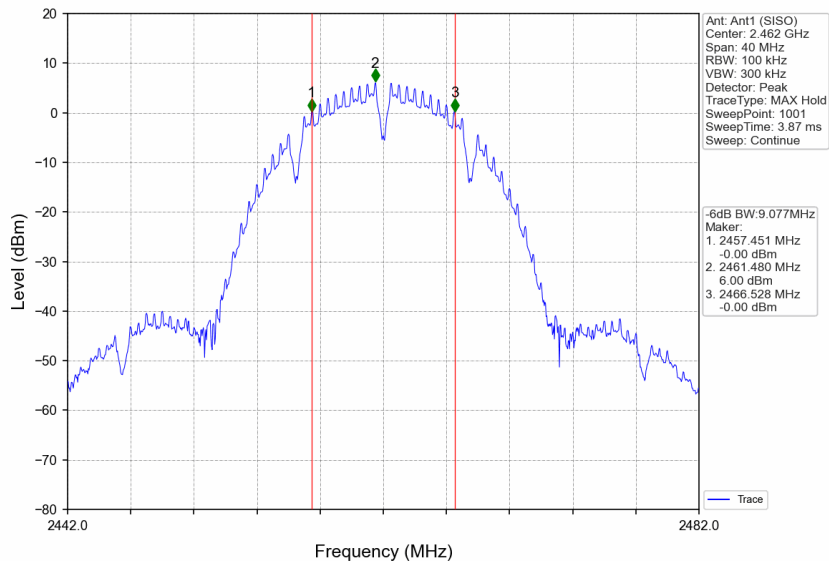
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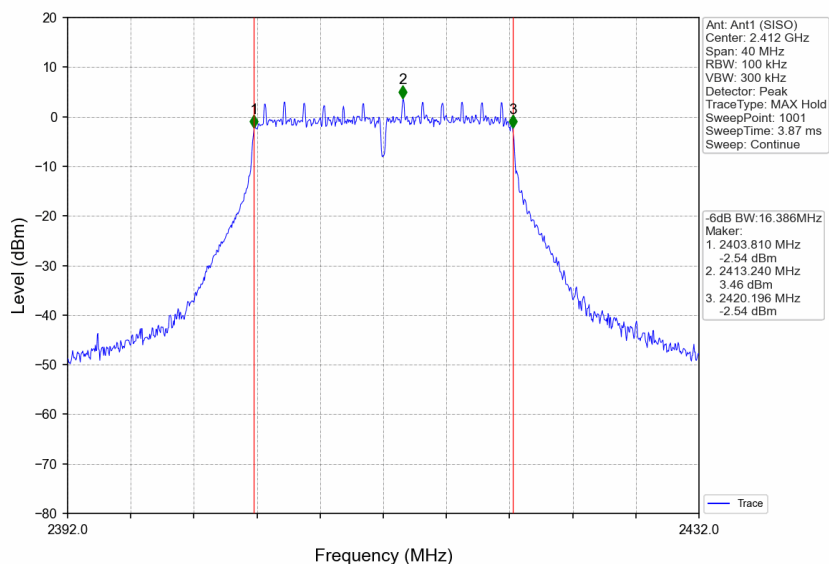
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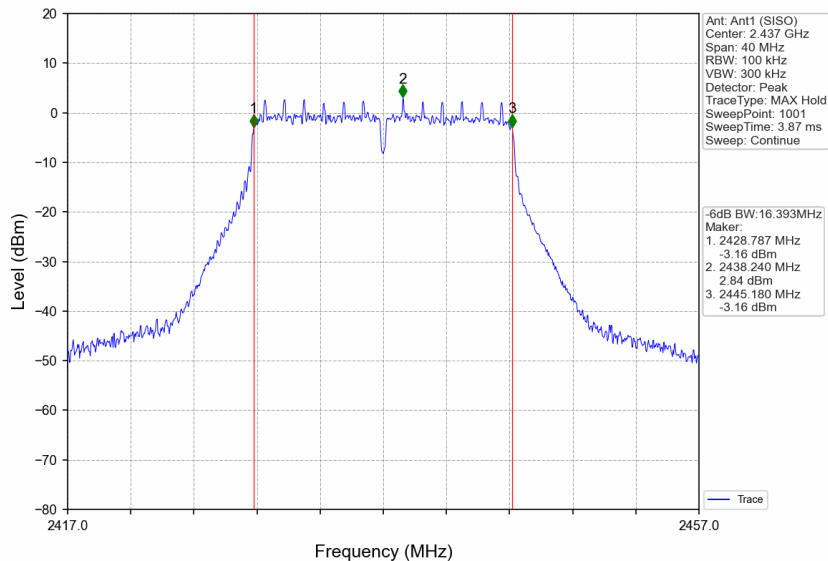
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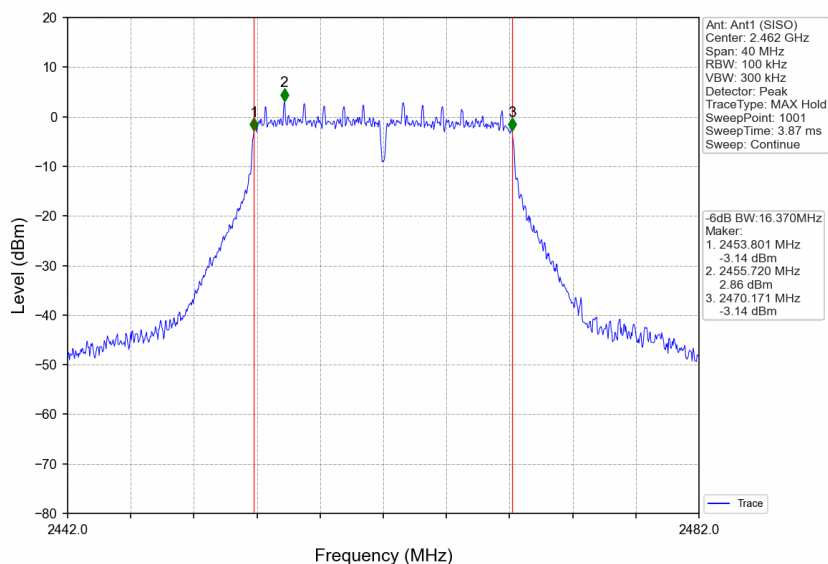
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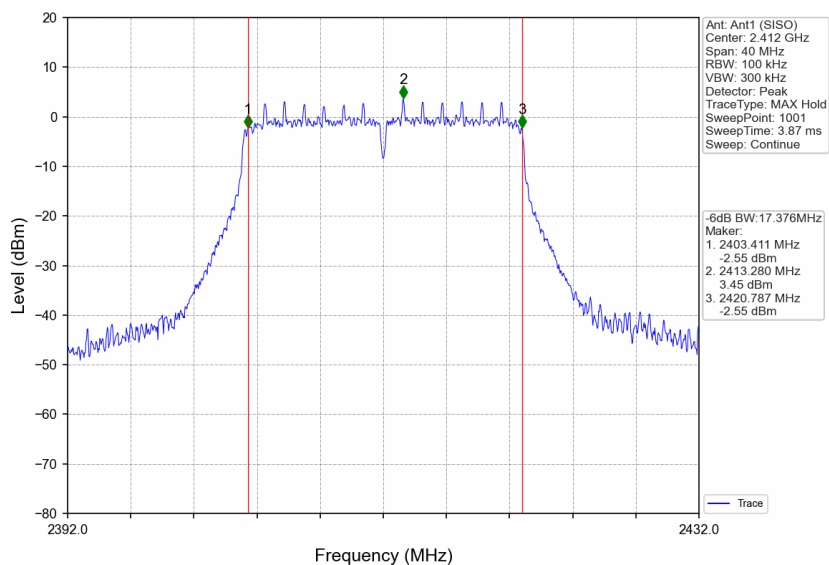
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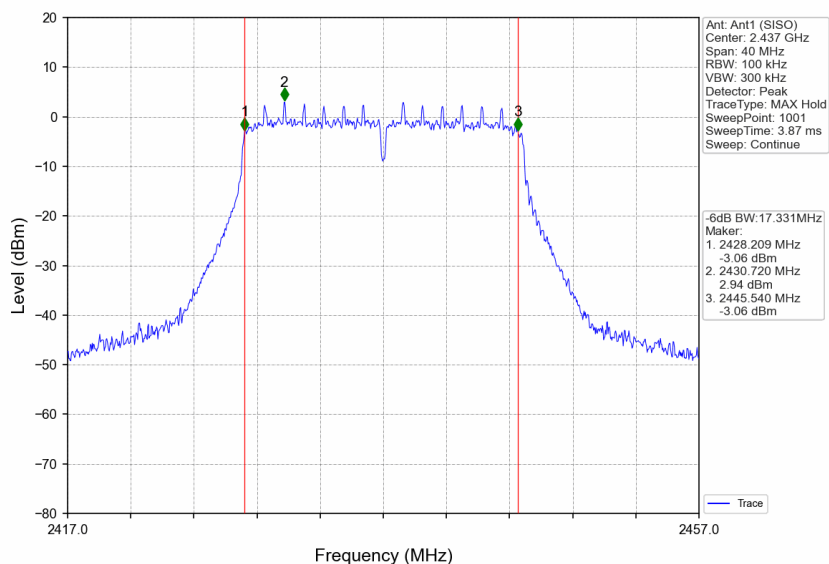
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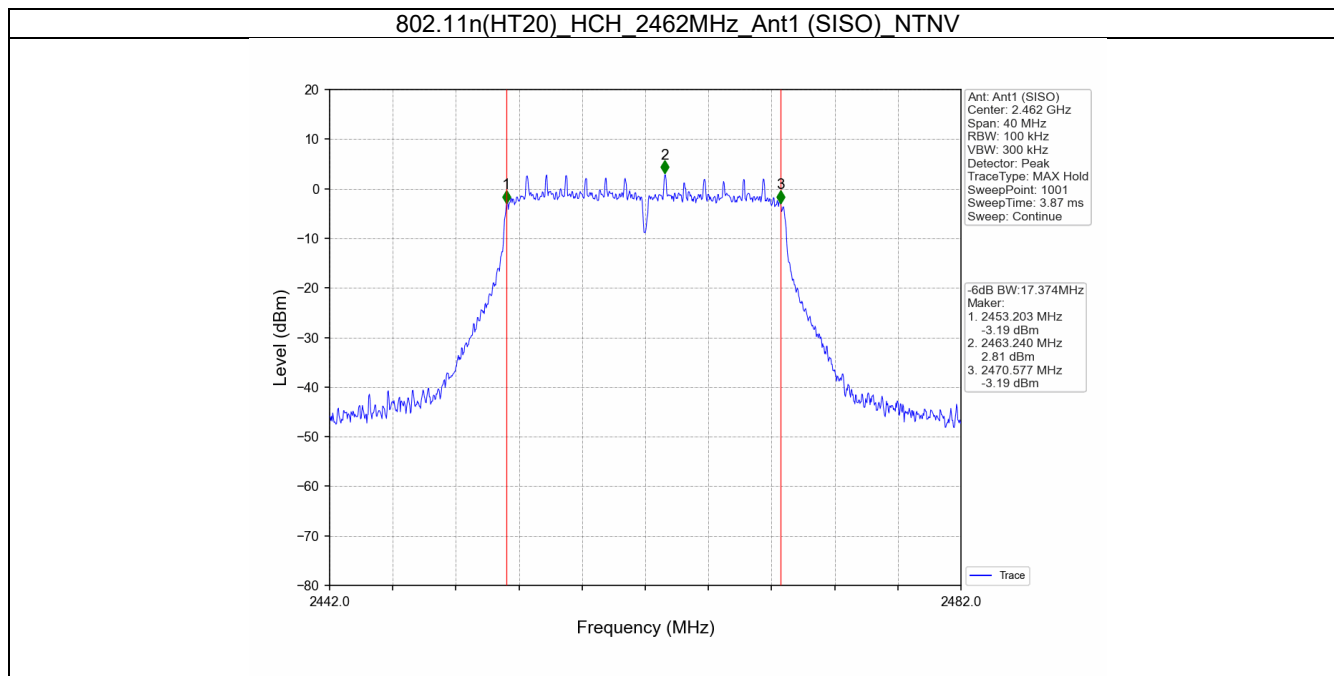
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3. Maximum Conducted Output Power

3.1 Power

3.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)		Verdict
			Ant1	Limit	
802.11b	SISO	2412	14.77	<=30	Pass
		2437	14.71	<=30	Pass
		2462	14.11	<=30	Pass
802.11g	SISO	2412	14.50	<=30	Pass
		2437	14.09	<=30	Pass
		2462	14.03	<=30	Pass
802.11n (HT20)	SISO	2412	14.46	<=30	Pass
		2437	14.03	<=30	Pass
		2462	14.01	<=30	Pass

Note1: Antenna Gain: Ant1: 2.6dBi;



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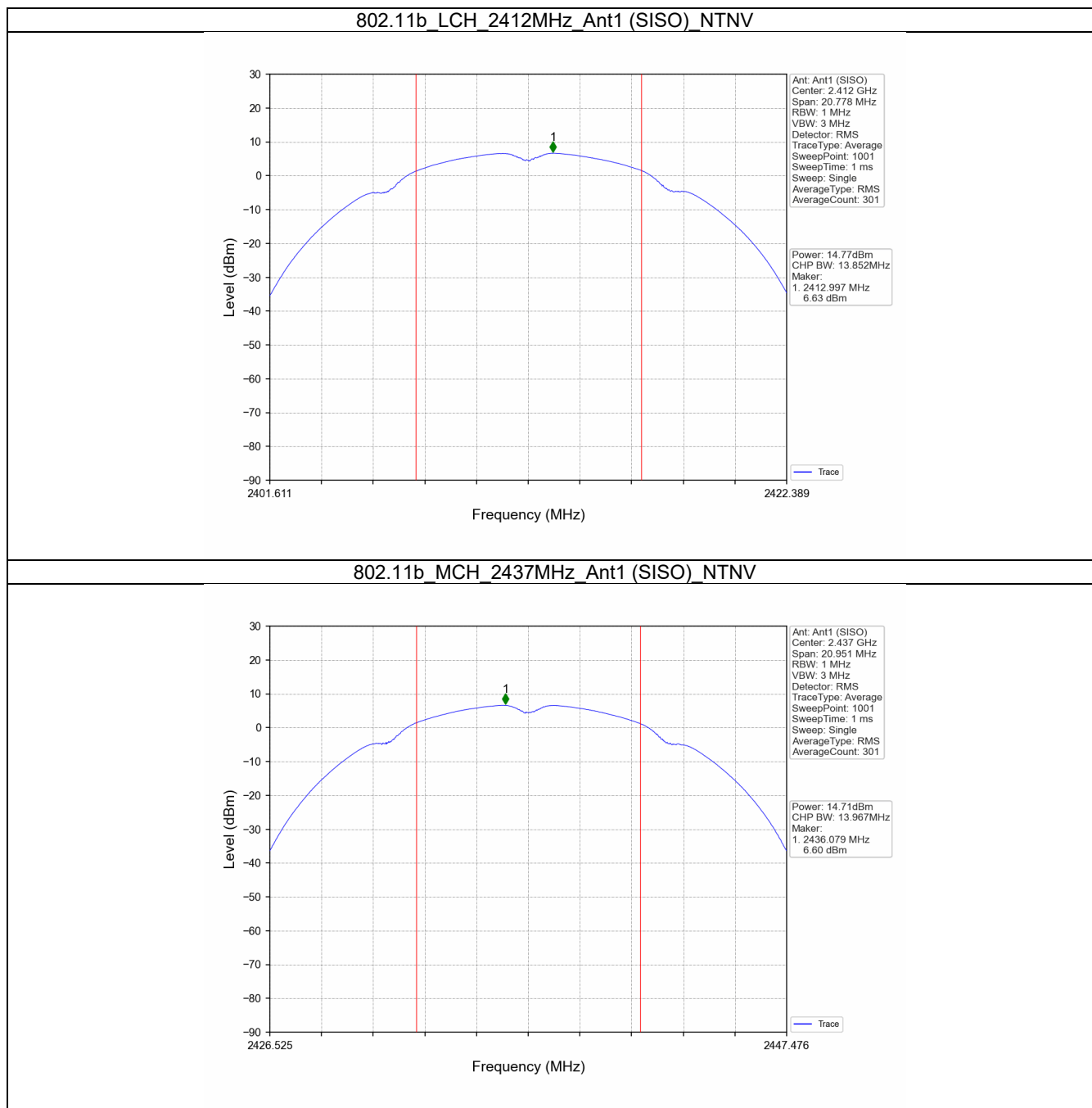
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3.1.2 Test Graph



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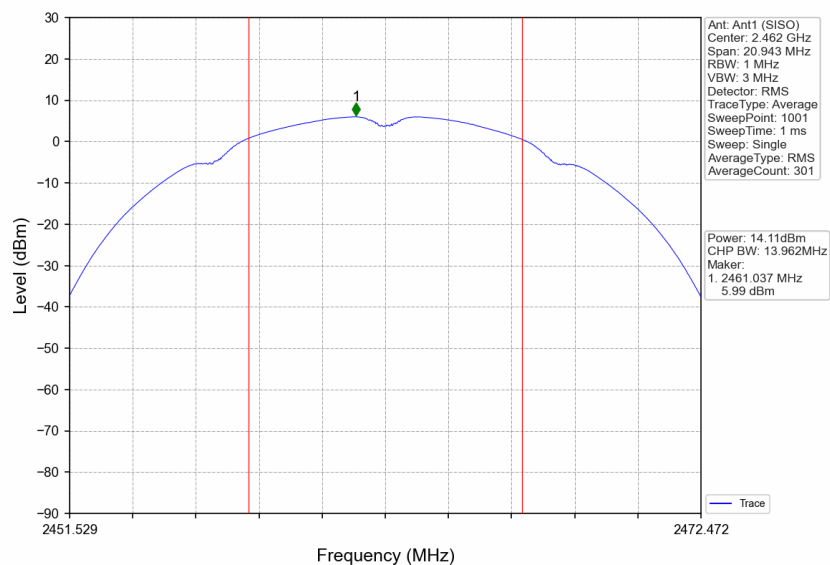
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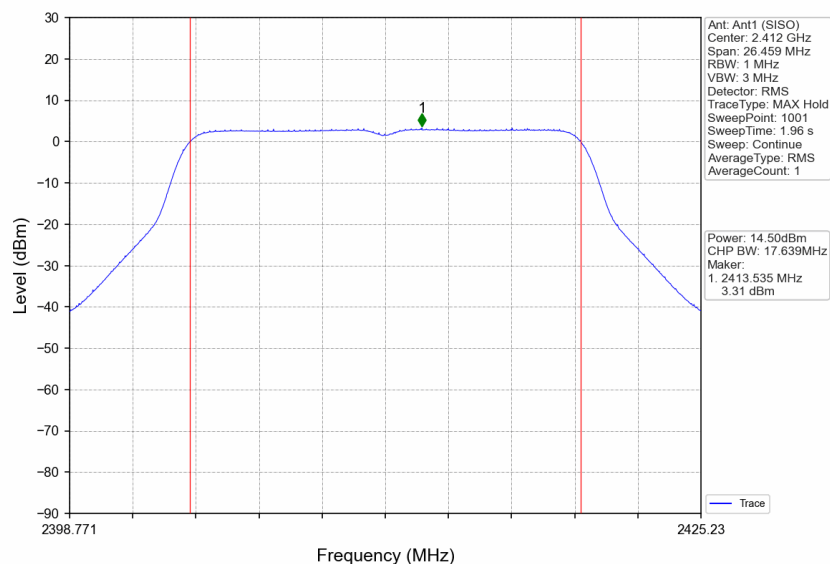
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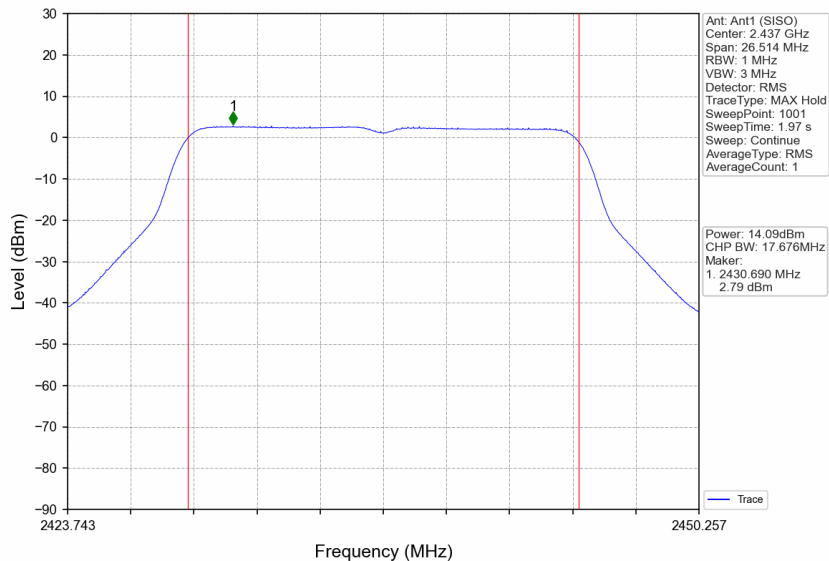
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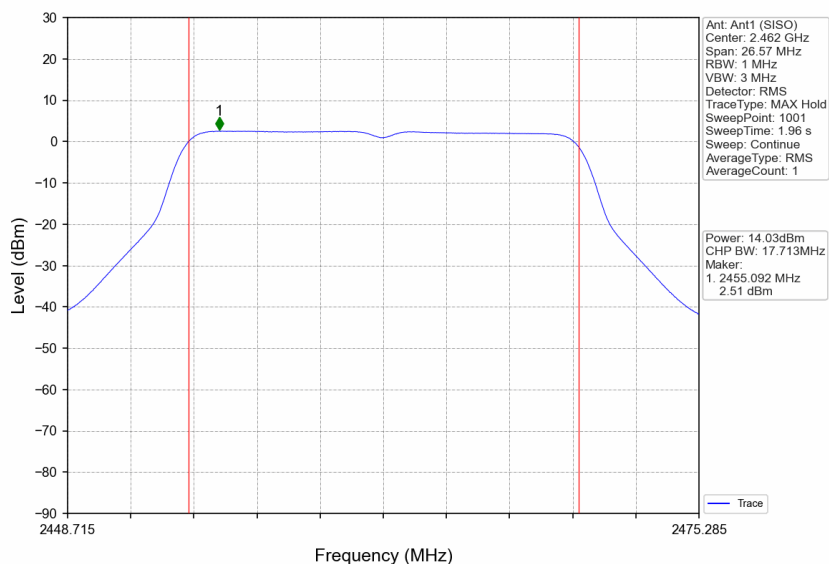
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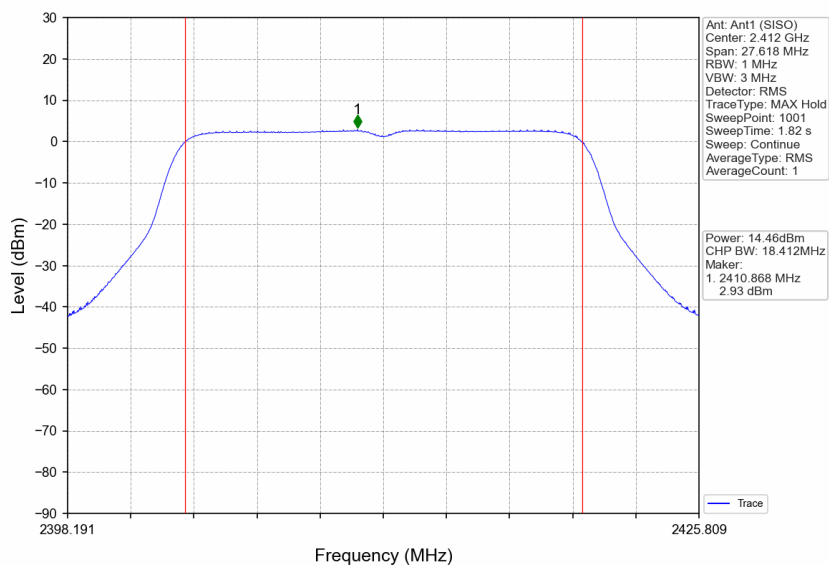
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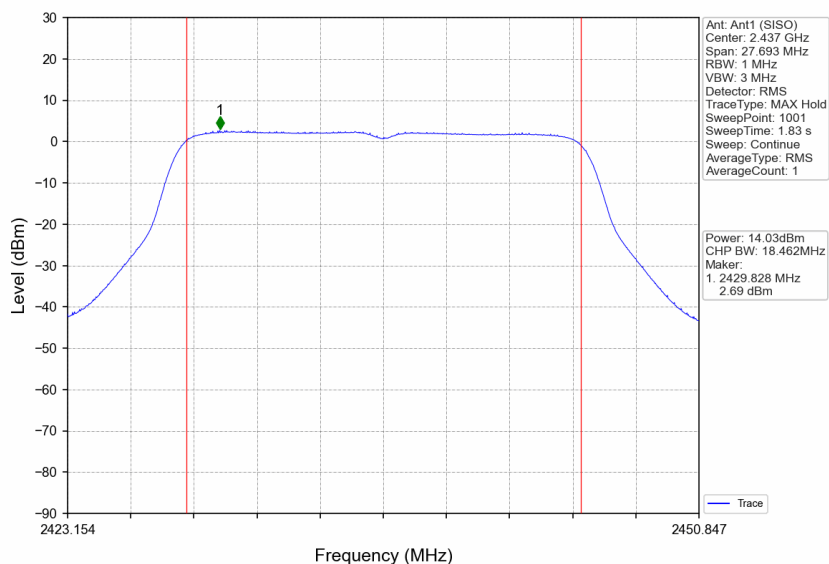
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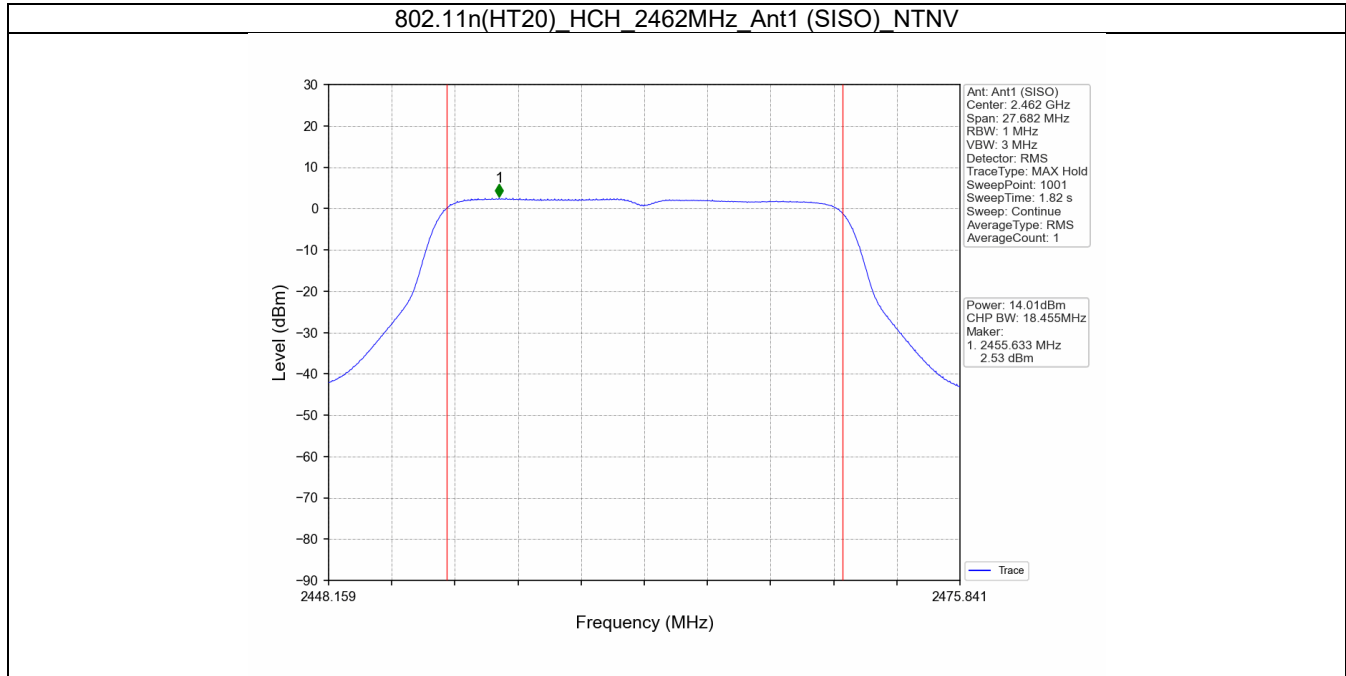
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4. Maximum Power Spectral Density

4.1 PSD

4.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			Ant1	Limit	
802.11b	SISO	2412	-7.33	<=8	Pass
		2437	-8.04	<=8	Pass
		2462	-8.68	<=8	Pass
802.11g	SISO	2412	-8.74	<=8	Pass
		2437	-11.00	<=8	Pass
		2462	-10.79	<=8	Pass
802.11n (HT20)	SISO	2412	-10.90	<=8	Pass
		2437	-11.50	<=8	Pass
		2462	-11.21	<=8	Pass

Note1: Antenna Gain: Ant1: 2.6dBi;



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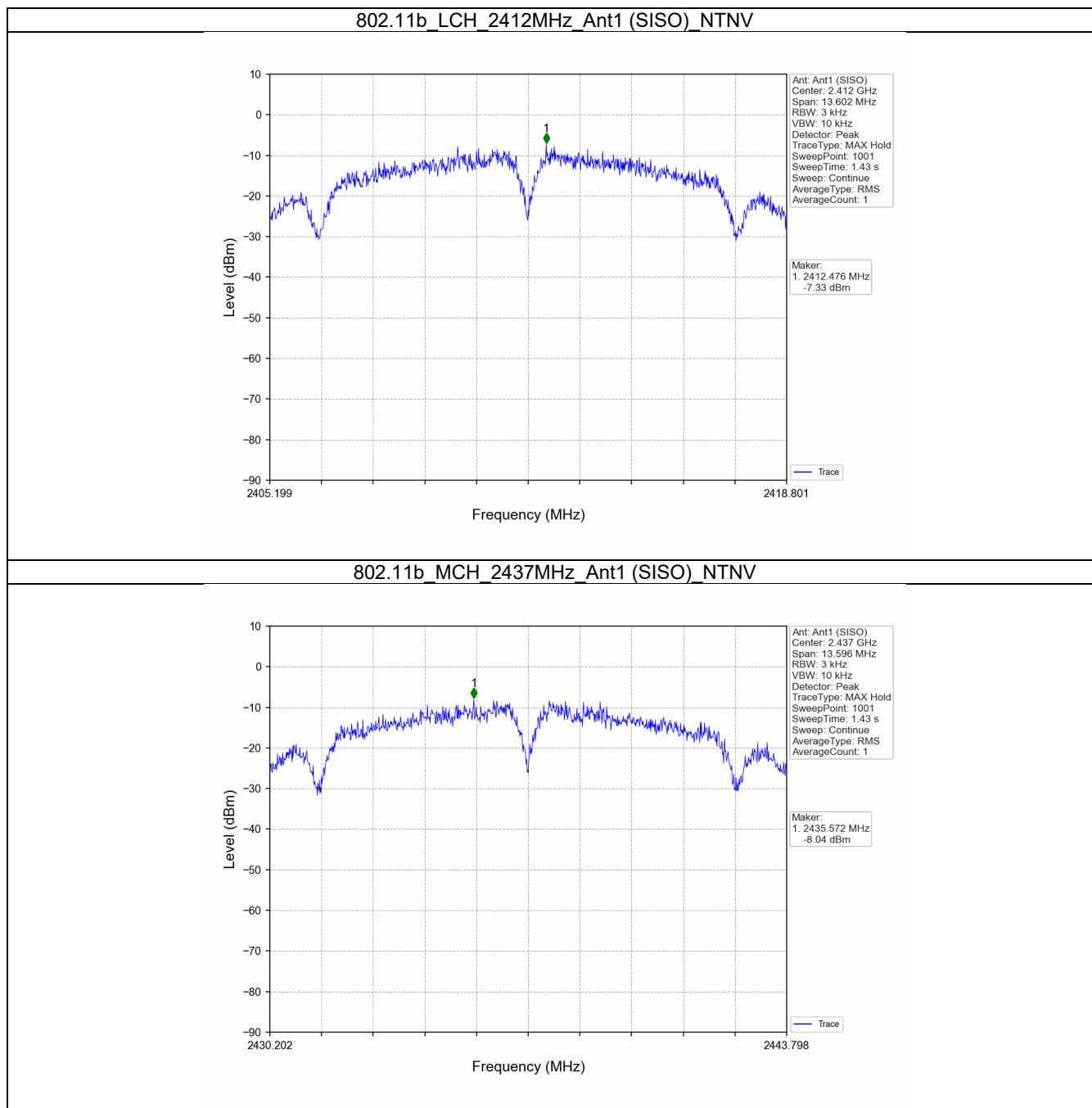
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4.1.2 Test Graph



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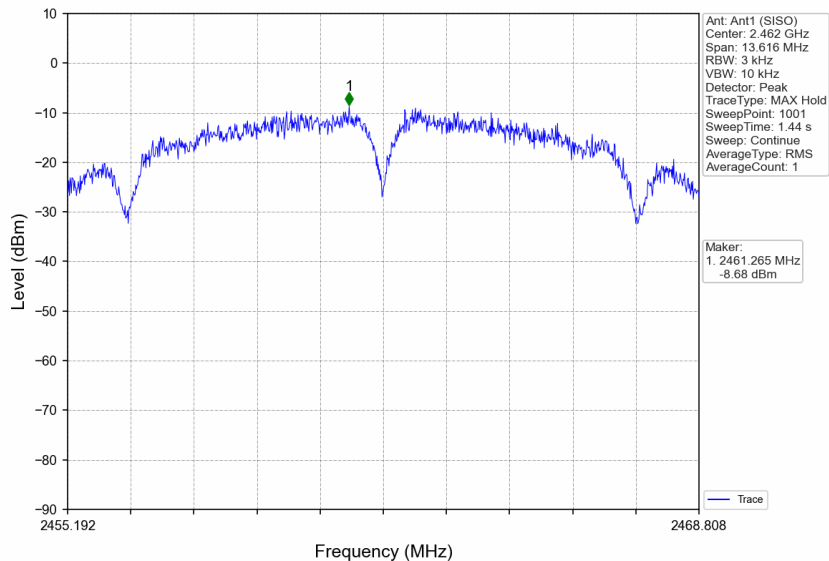
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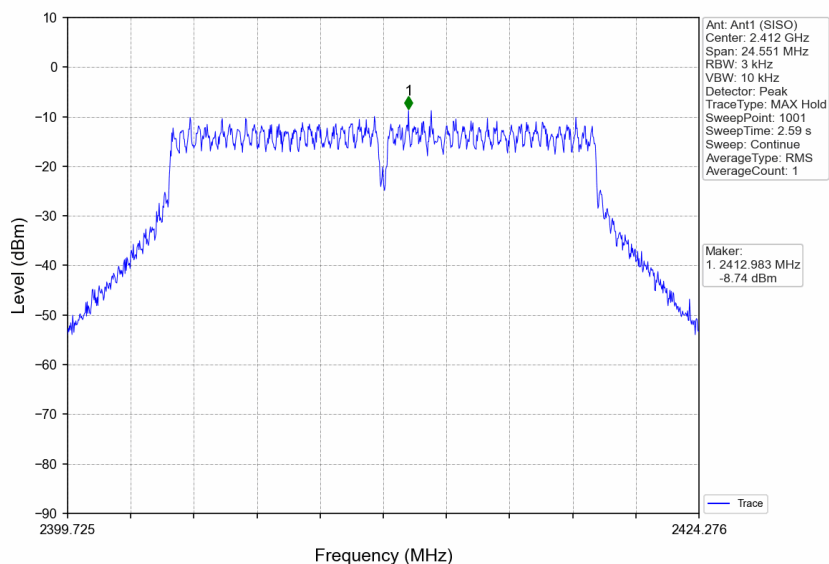
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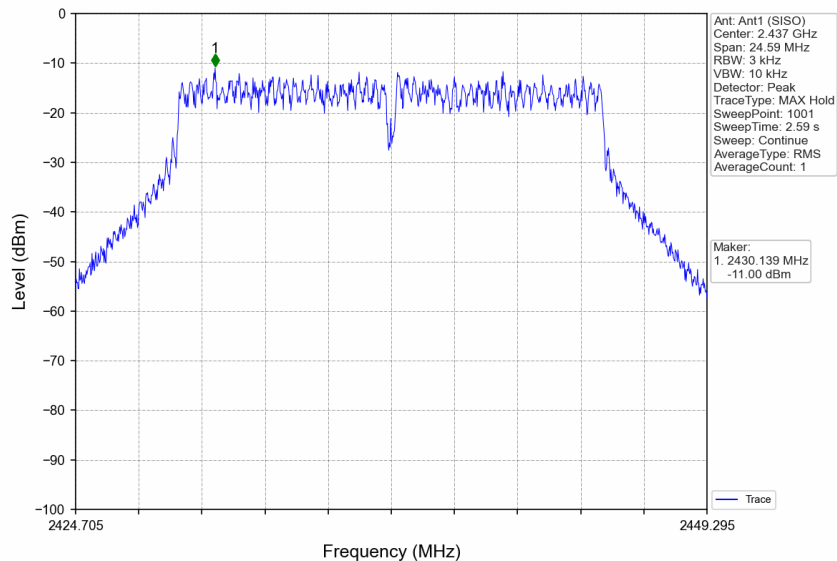
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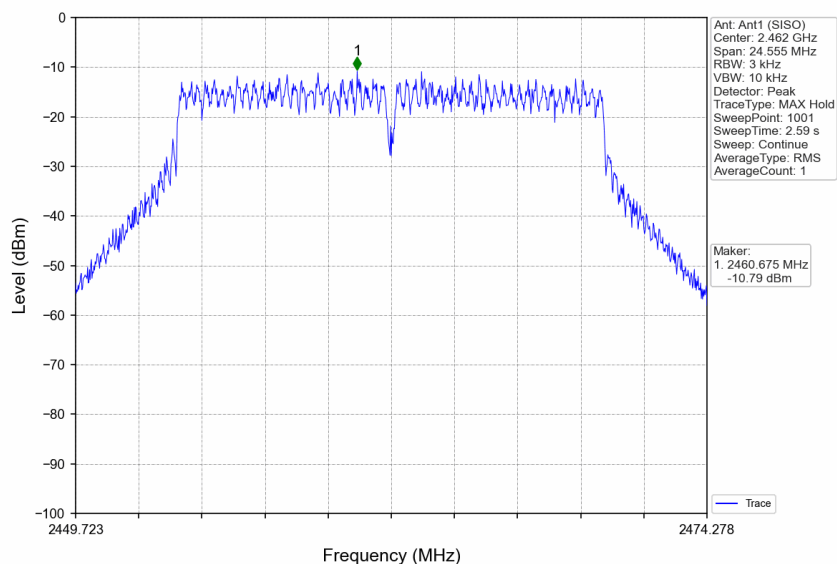
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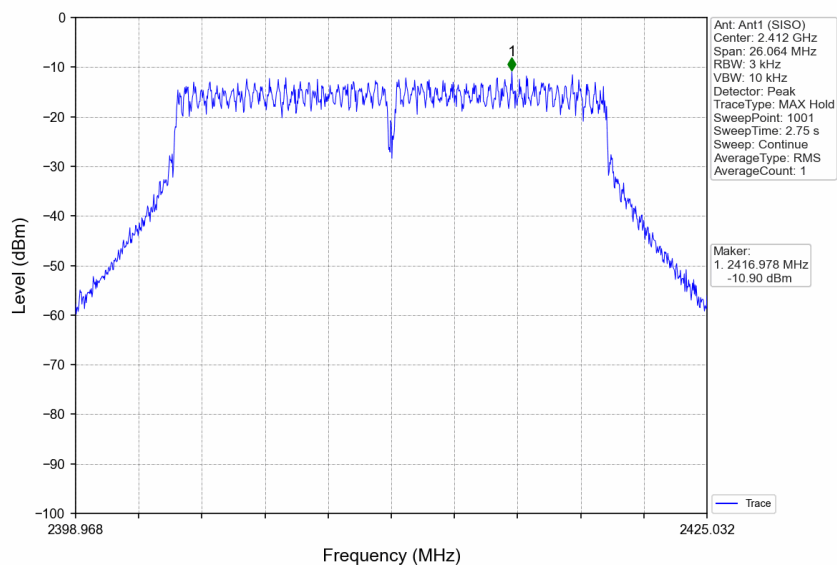
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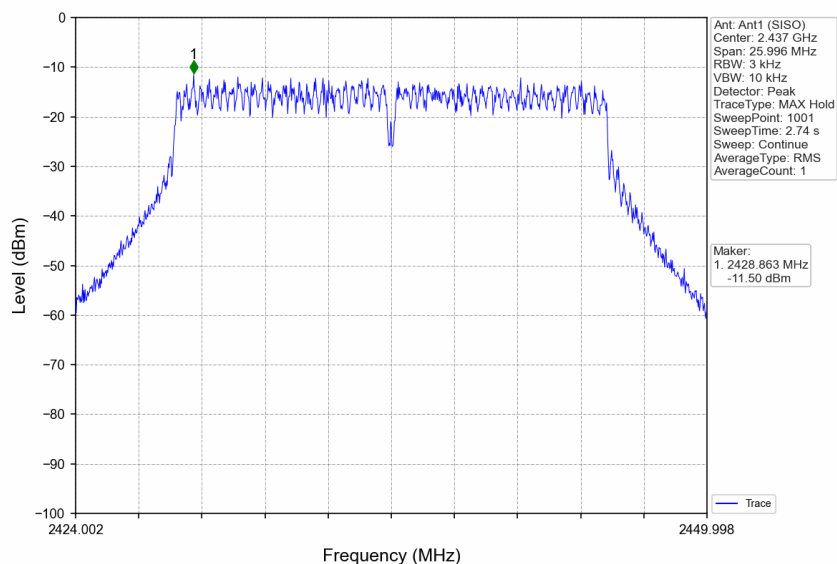
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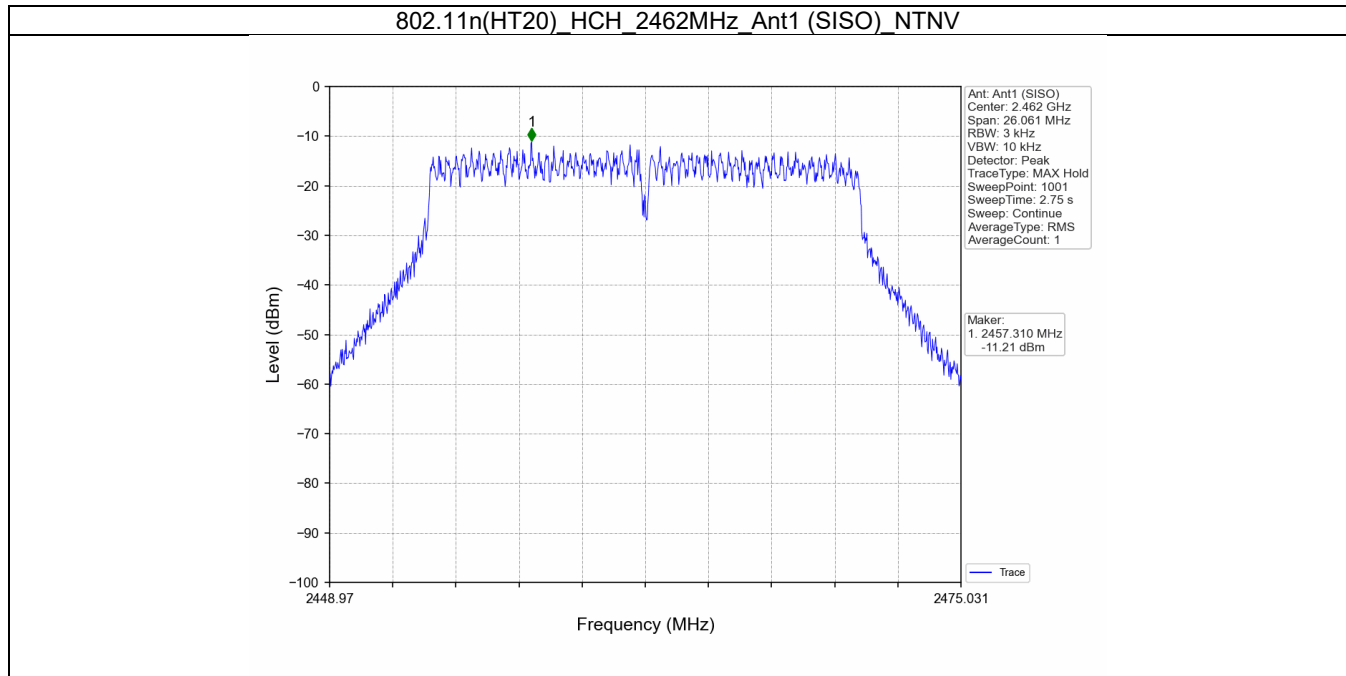
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Compliance Certification Services (Kunshan) Inc.
EMC Laboratory



5. Unwanted Emissions In Non-restricted Frequency Bands

5.1 Ref

5.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Ant	Level of Reference (dBm)
802.11b	SISO	2412	1	6.65
		2437	1	6.40
		2462	1	5.87
802.11g	SISO	2412	1	2.94
		2437	1	2.89
		2462	1	2.75
802.11n (HT20)	SISO	2412	1	3.35
		2437	1	2.89
		2462	1	2.83

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.

Note2: RBW = 1MHz was used during the pre-test. The final test will be performed at RBW=100kHz while the margin is less than 3dB.



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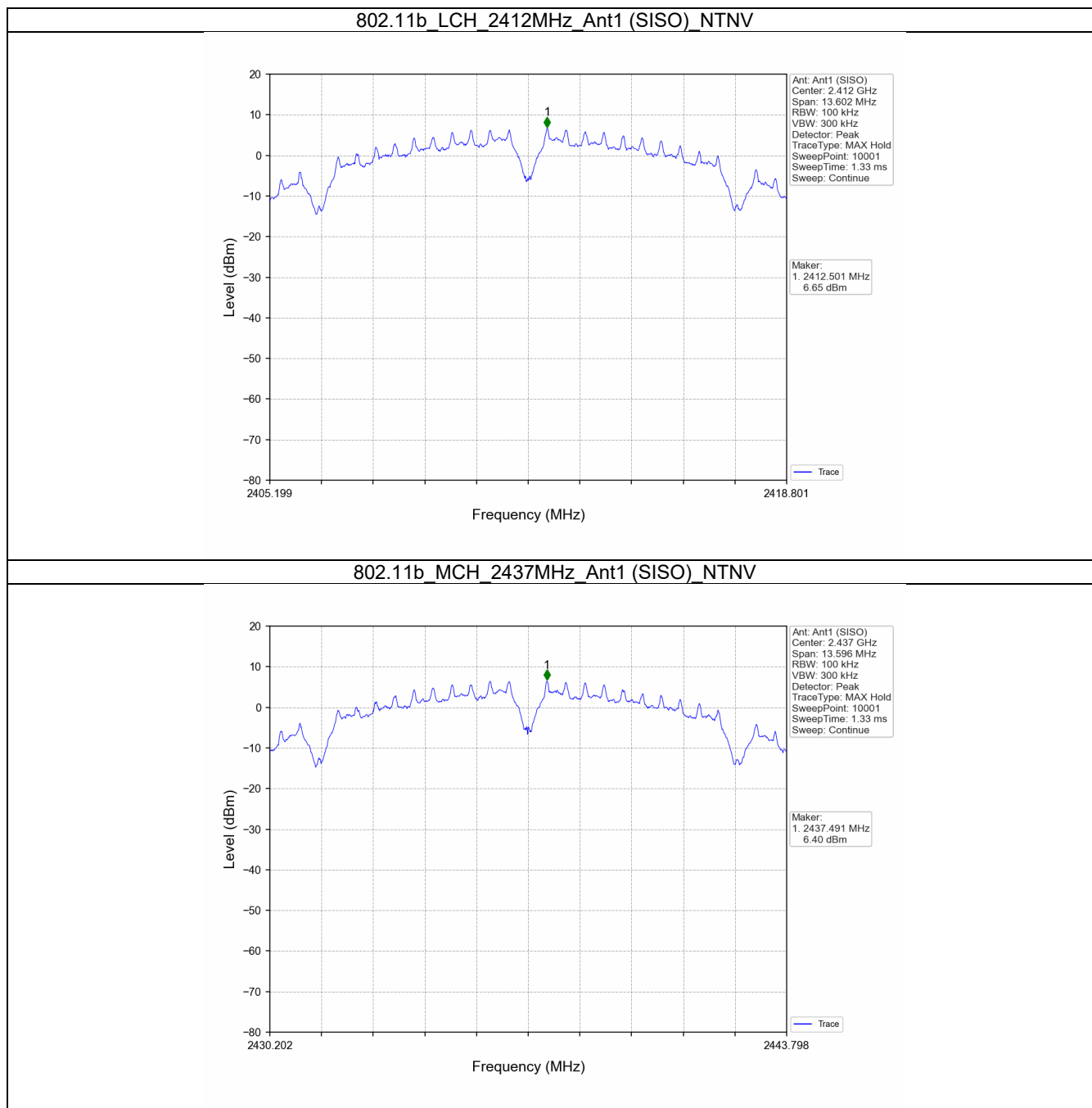
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5.1.2 Test Graph



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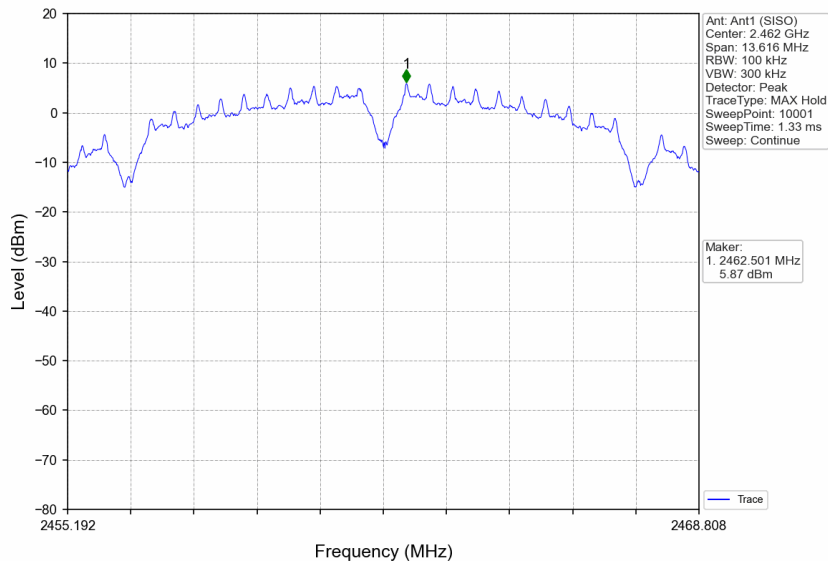
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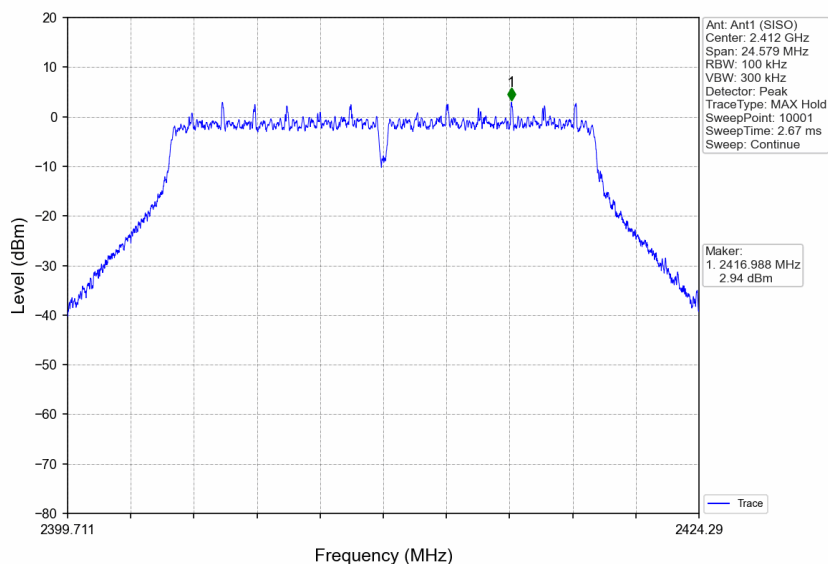
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802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



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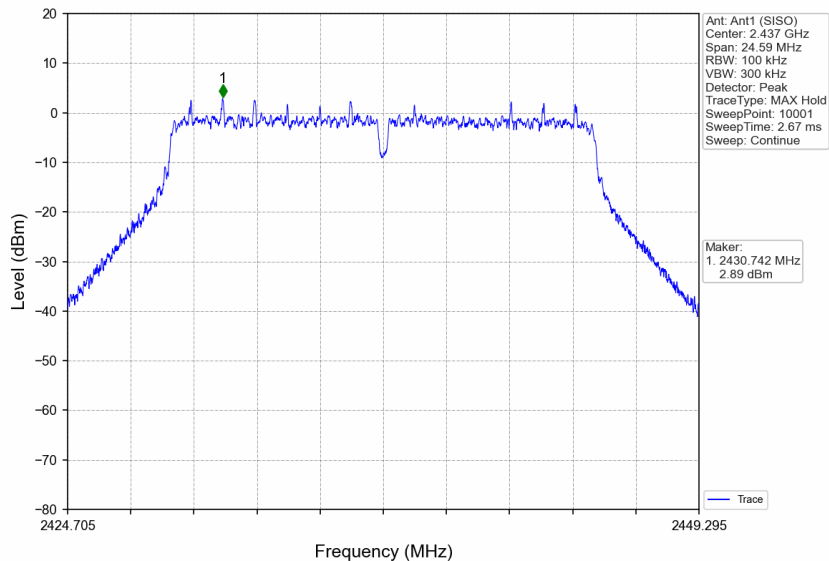
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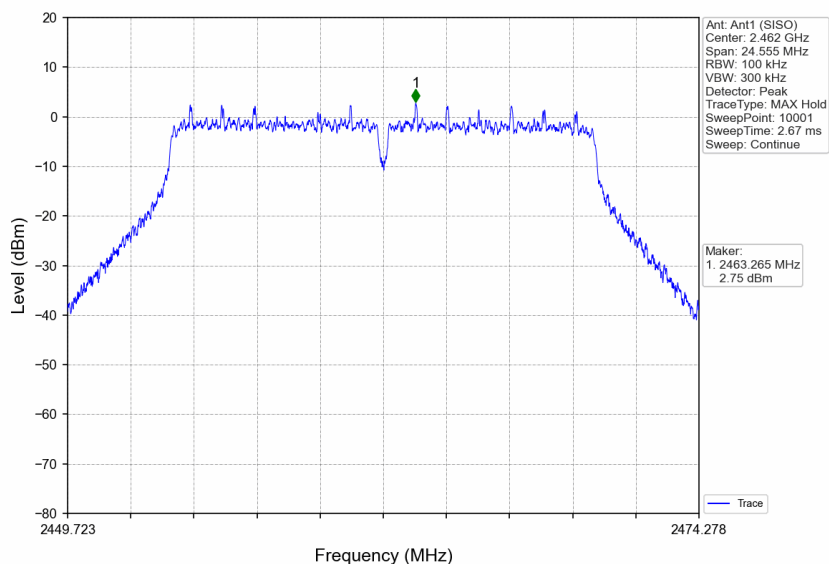
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802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



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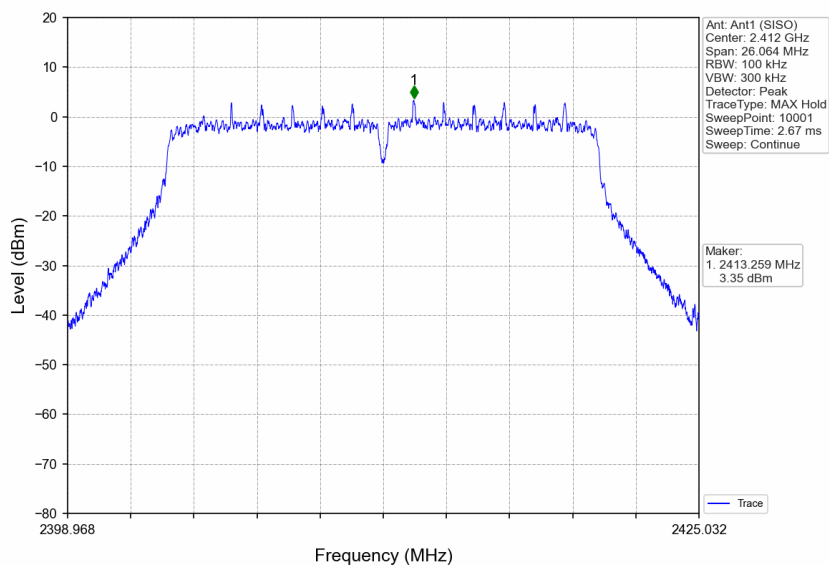
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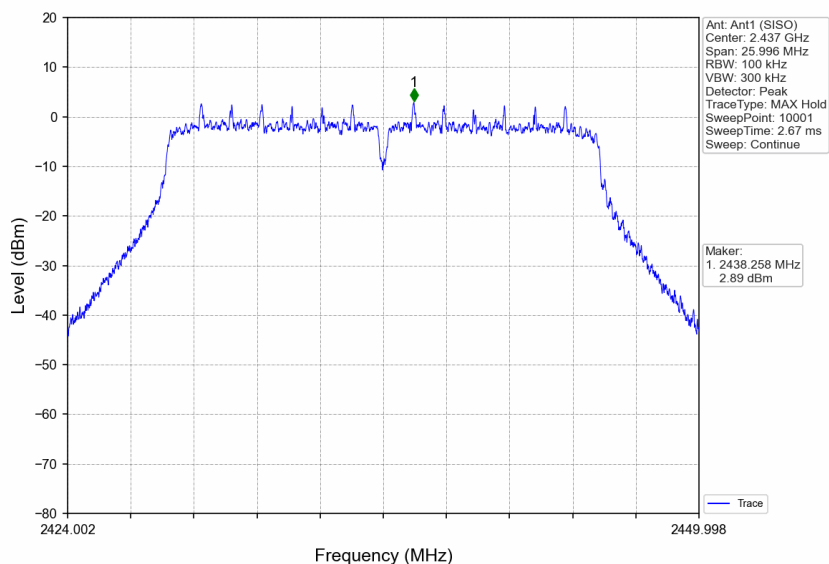
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802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



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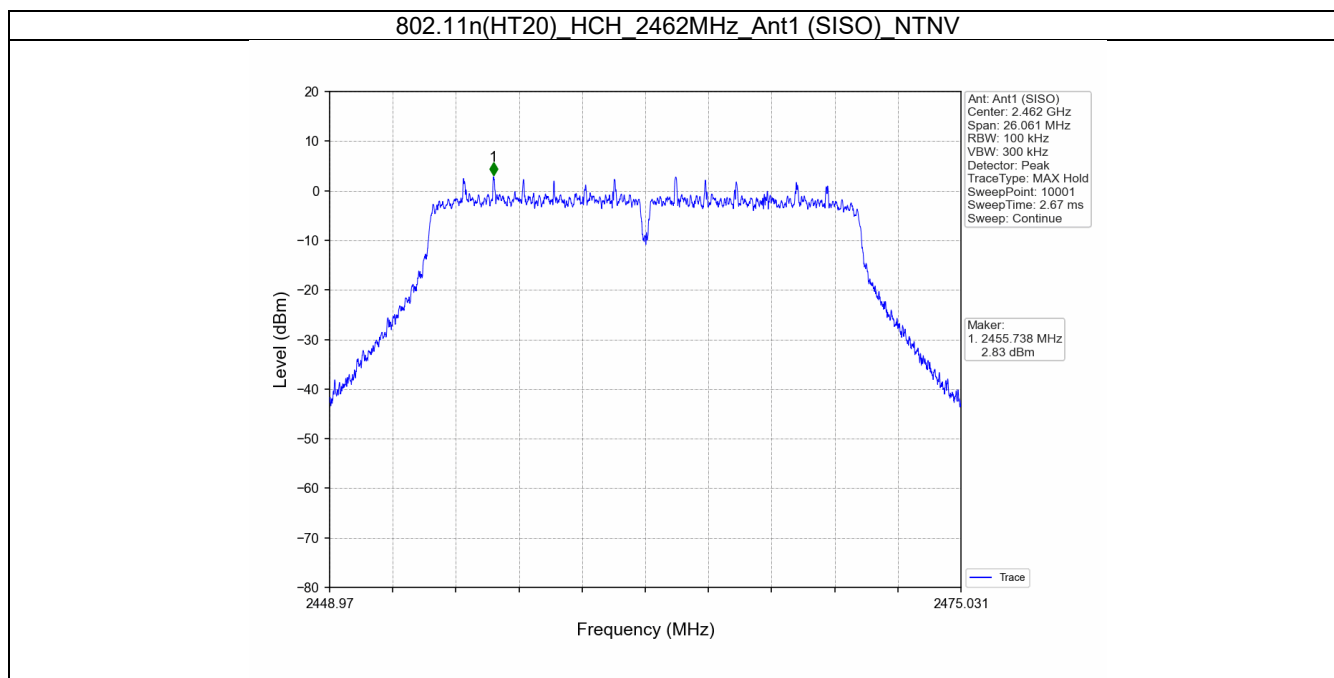
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5.2 CSE

5.2.1 Test Result

Mode	TX Type	Frequency (MHz)	Ant	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	1	6.65	-23.35	Pass
		2437	1	6.65	-23.35	Pass
		2462	1	6.65	-23.35	Pass
802.11g	SISO	2412	1	2.94	-27.06	Pass
		2437	1	2.94	-27.06	Pass
		2462	1	2.94	-27.06	Pass
802.11n (HT20)	SISO	2412	1	3.35	-26.65	Pass
		2437	1	3.35	-26.65	Pass
		2462	1	3.35	-26.65	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.

Note2: RBW = 1MHz was used during the pre-test. The final test will be performed at RBW=100kHz while the margin is less than 3dB.



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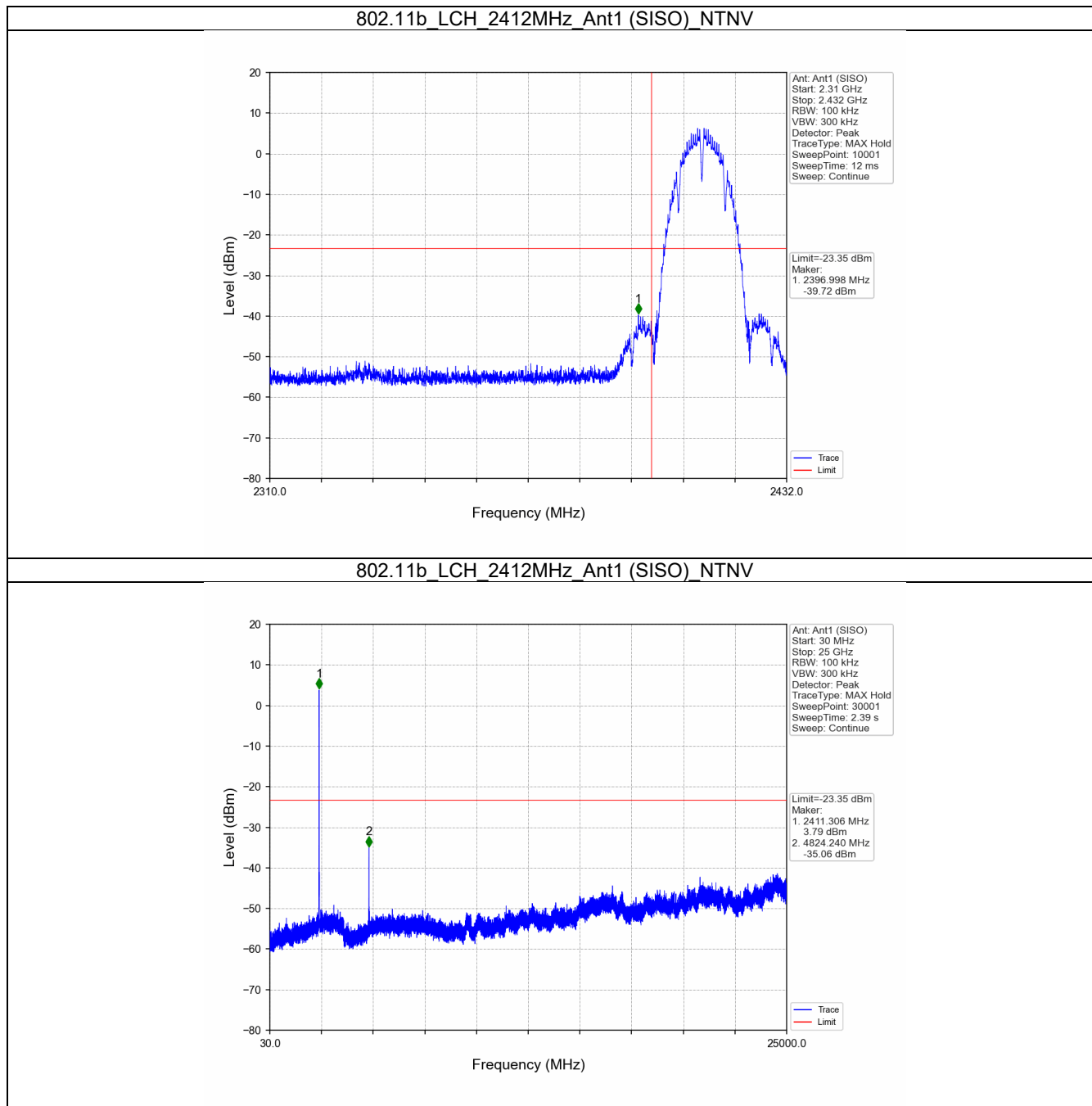
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5.2.2 Test Graph



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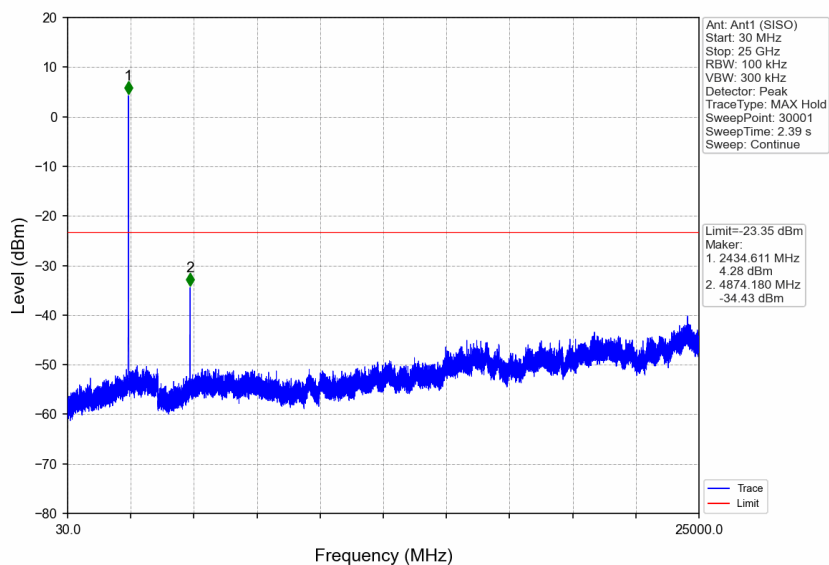
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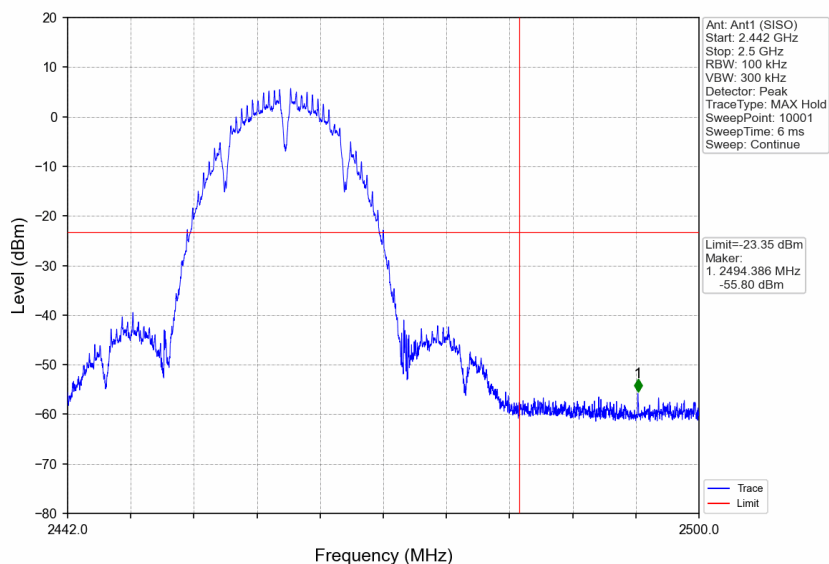
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802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



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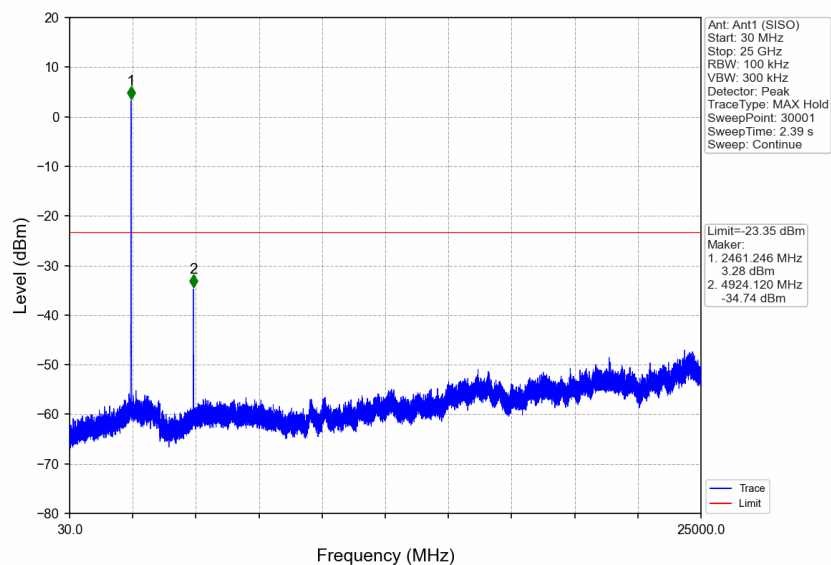
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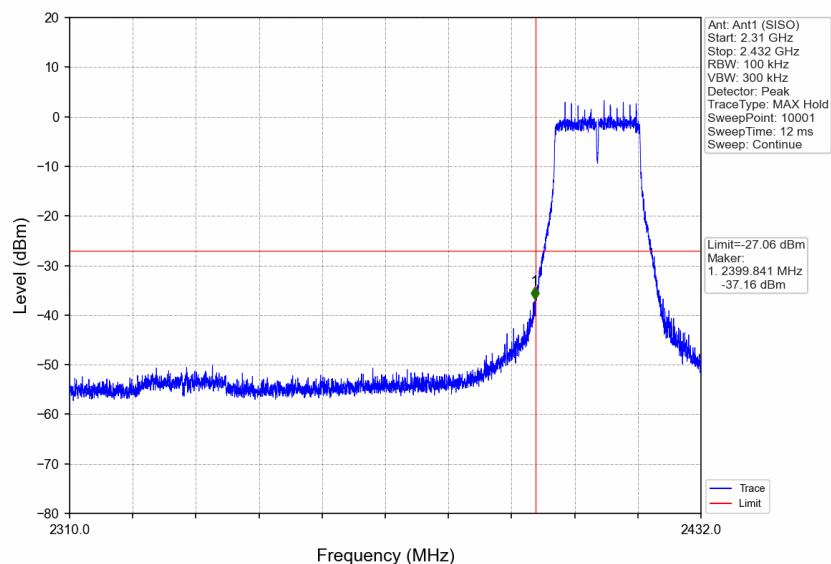
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802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



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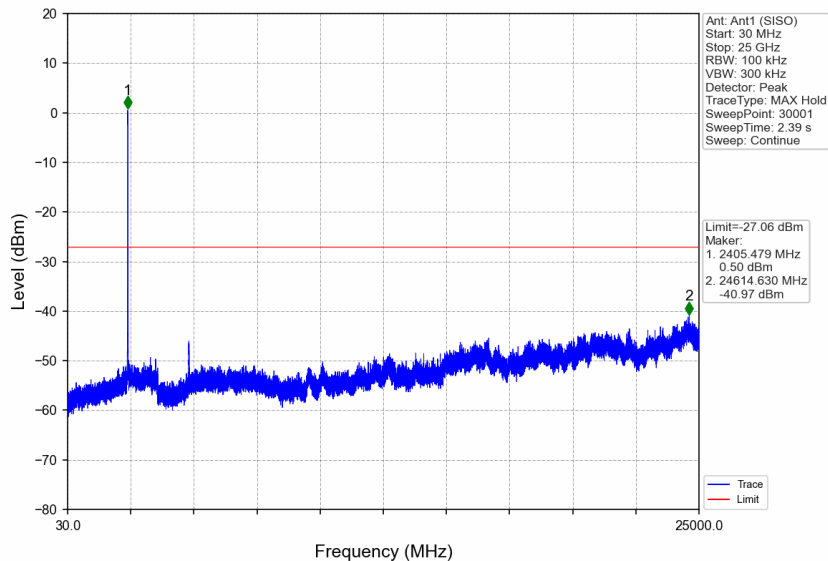
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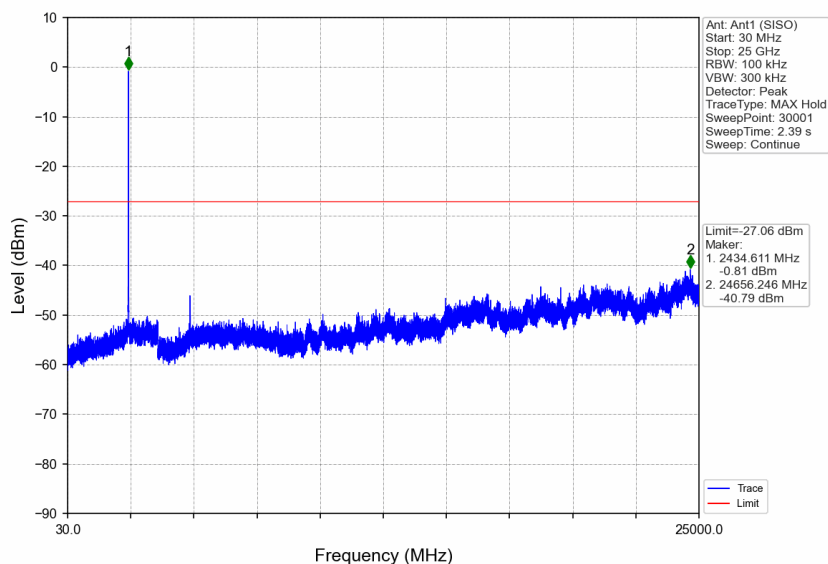
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802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



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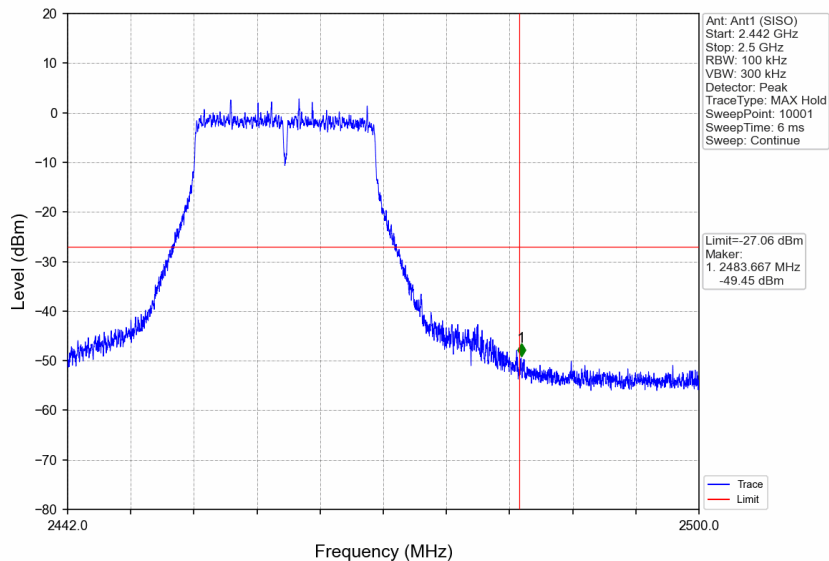
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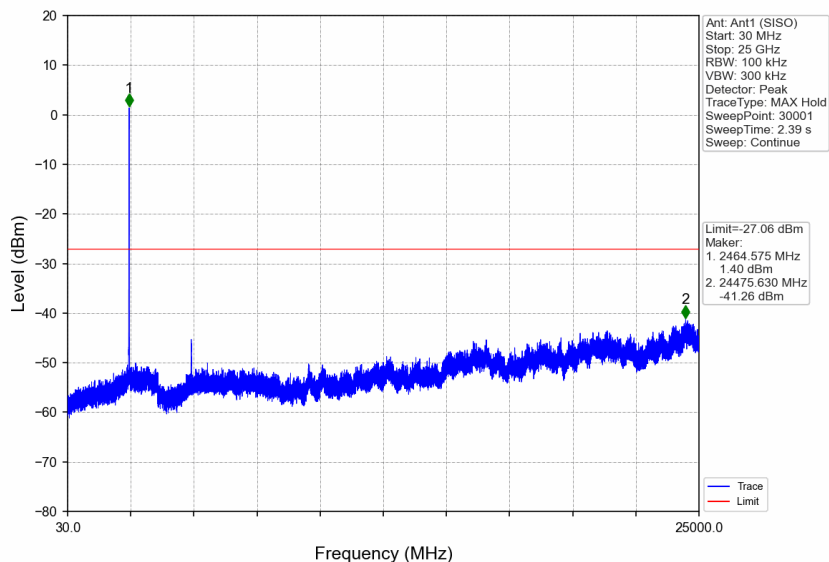
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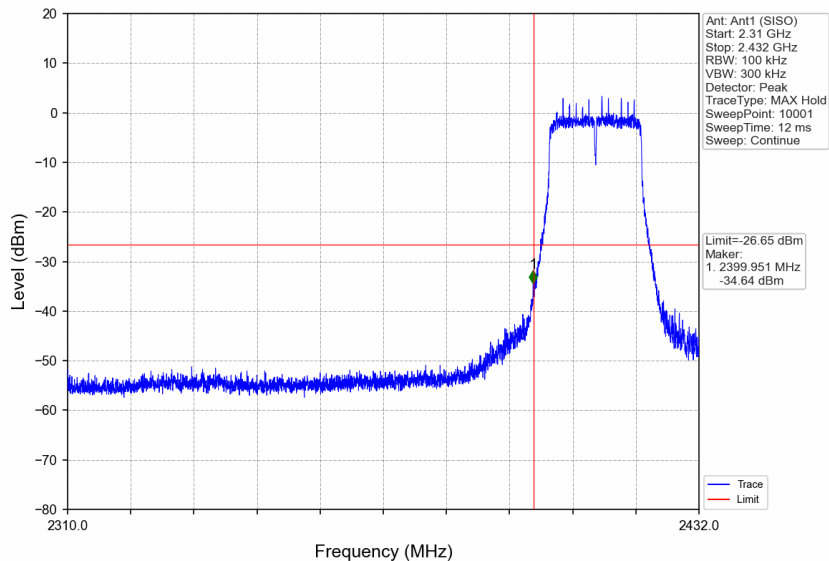
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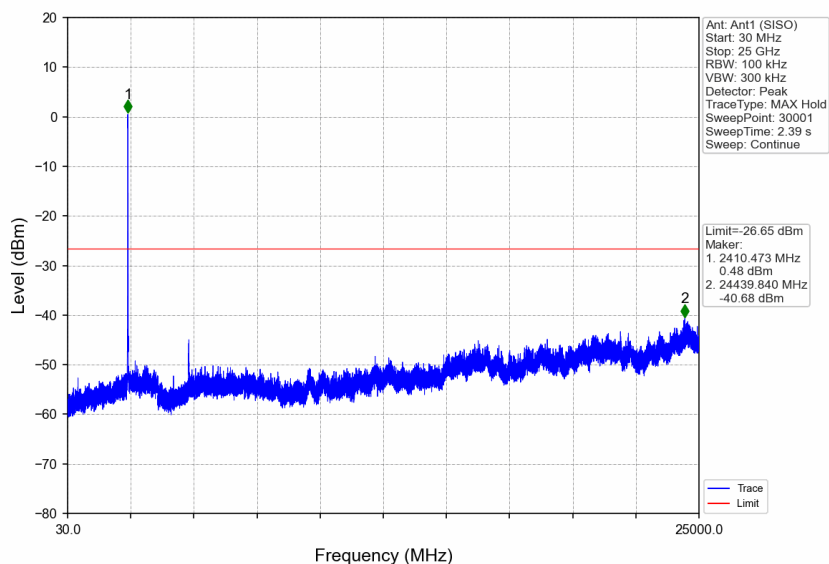
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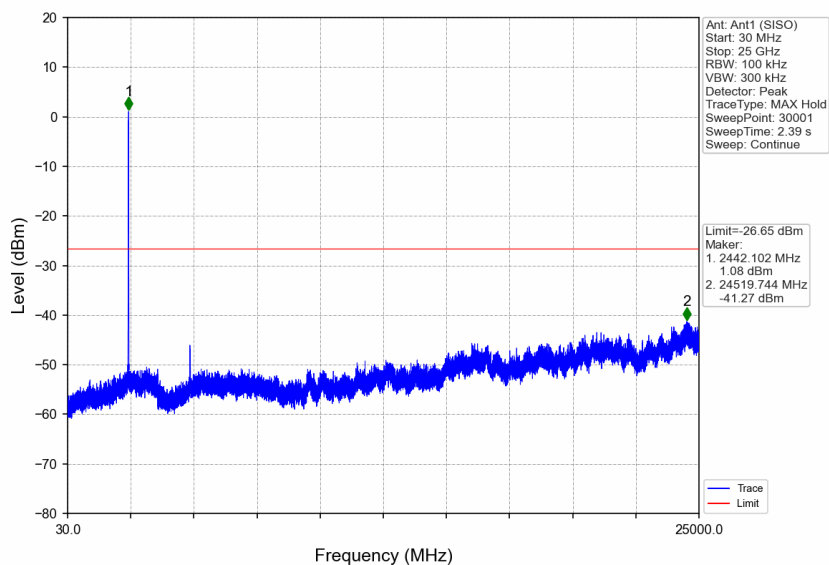
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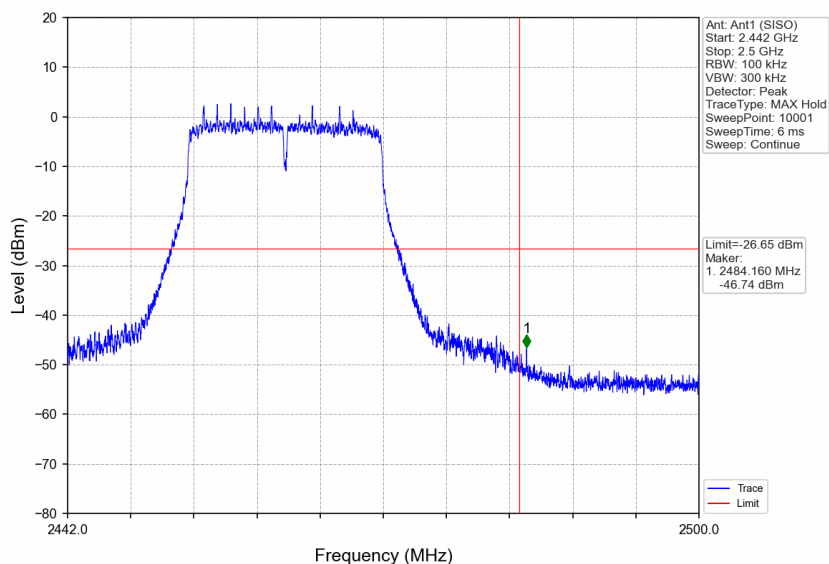
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802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



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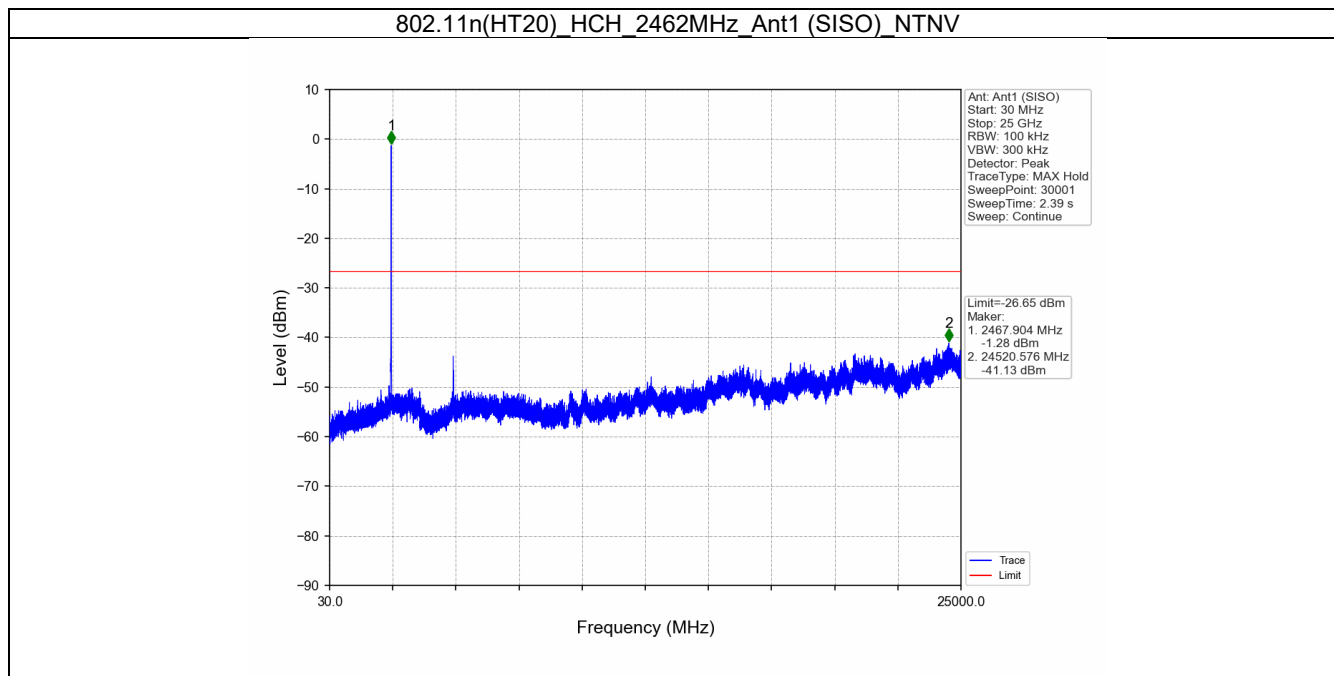
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