

Appendix A for SHCR220100007101

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	4.302	4.406	97.64	0.10	0.07
		2437	4.304	4.400	97.82	0.10	0.00
		2462	4.302	4.387	98.06	0.08	0.03
802.11g	SISO	2412	0.712	0.815	87.36	0.59	0.04
		2437	0.712	0.793	89.79	0.47	0.04
		2462	0.712	0.810	87.90	0.56	0.00
802.11n (HT20)	SISO	2412	0.668	0.708	94.35	0.25	0.03
		2437	0.668	0.708	94.35	0.25	0.03
		2462	0.668	0.707	94.48	0.25	0.03



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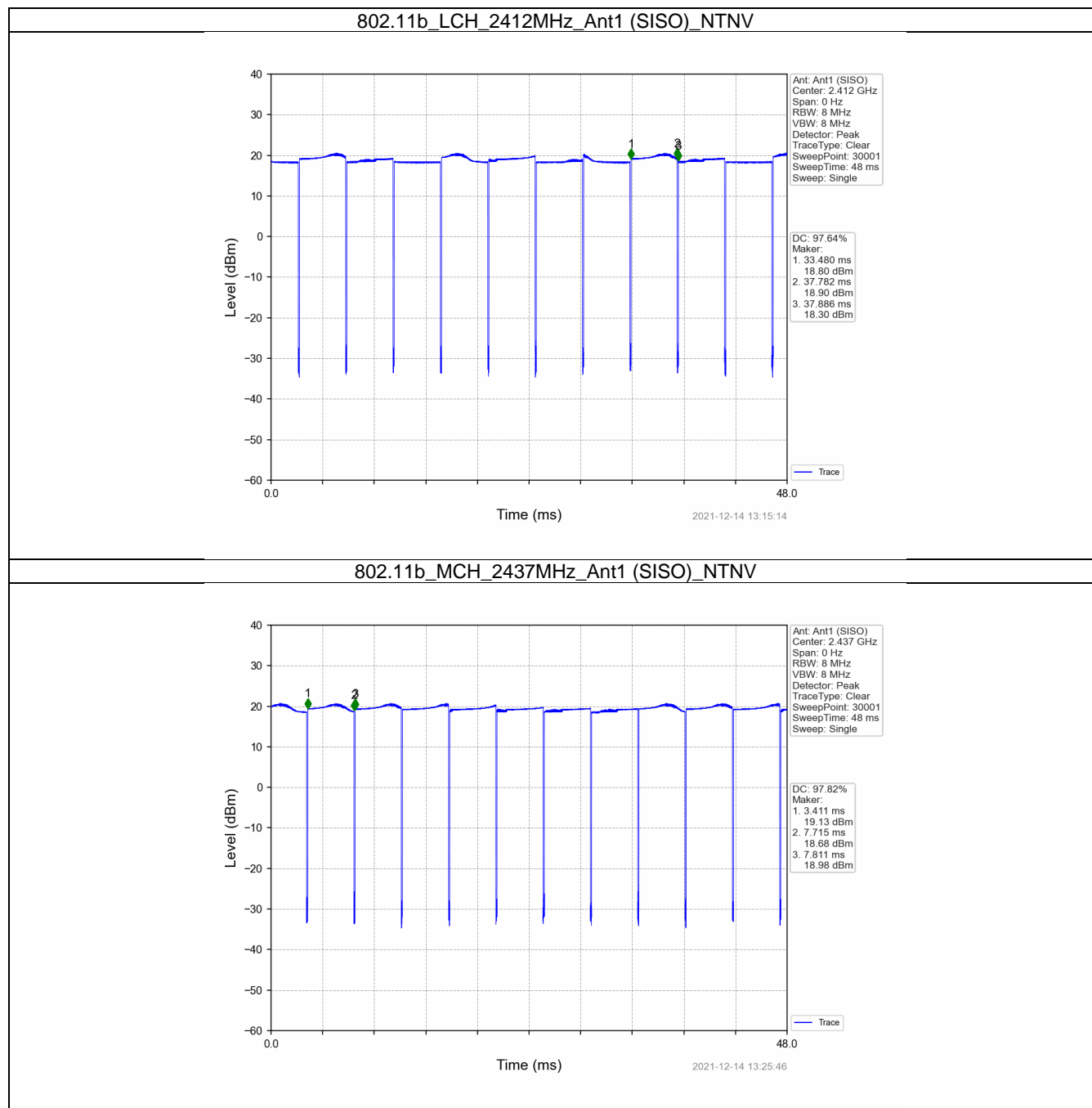
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1.1.2 Test Graph



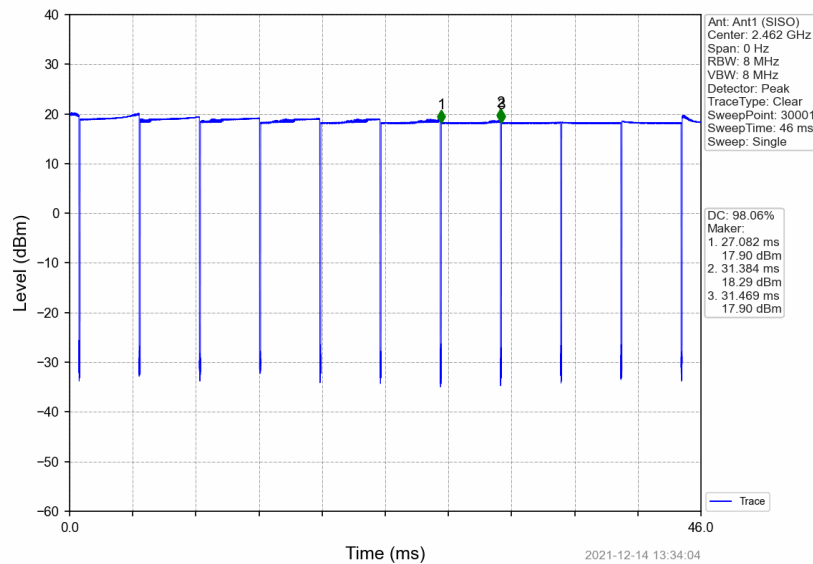
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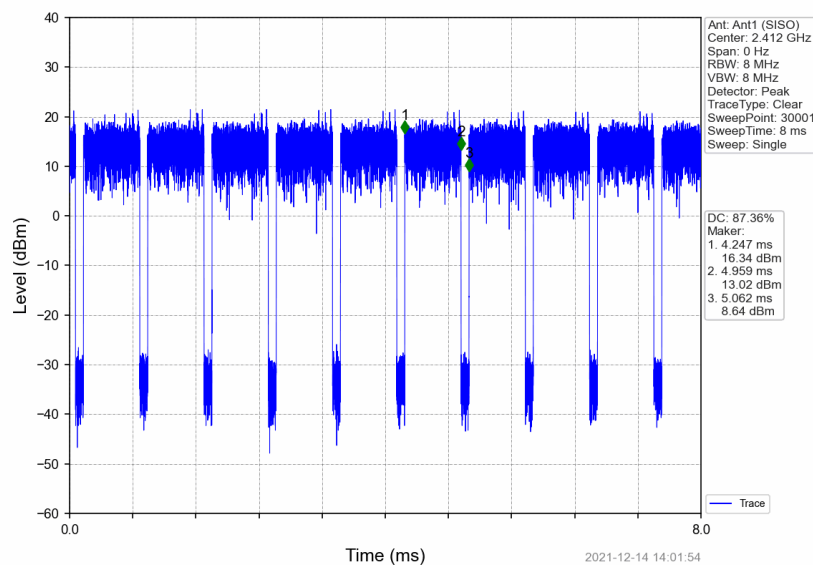
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802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



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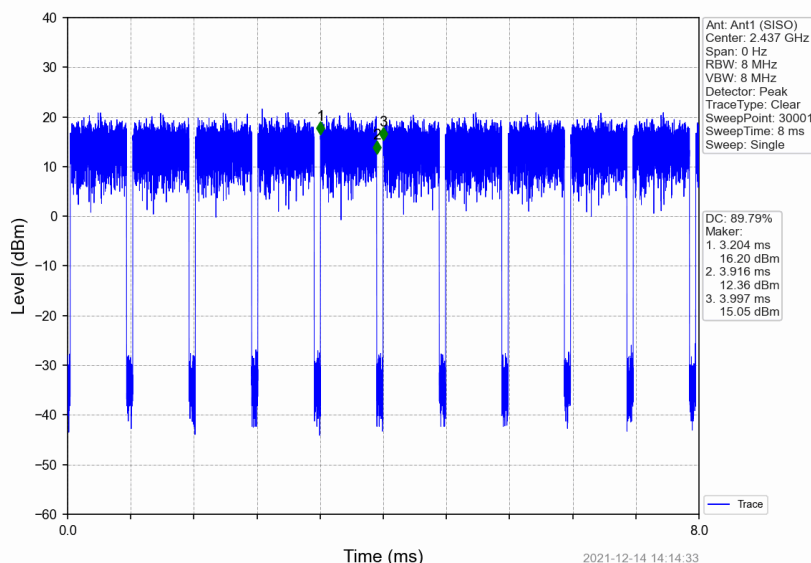
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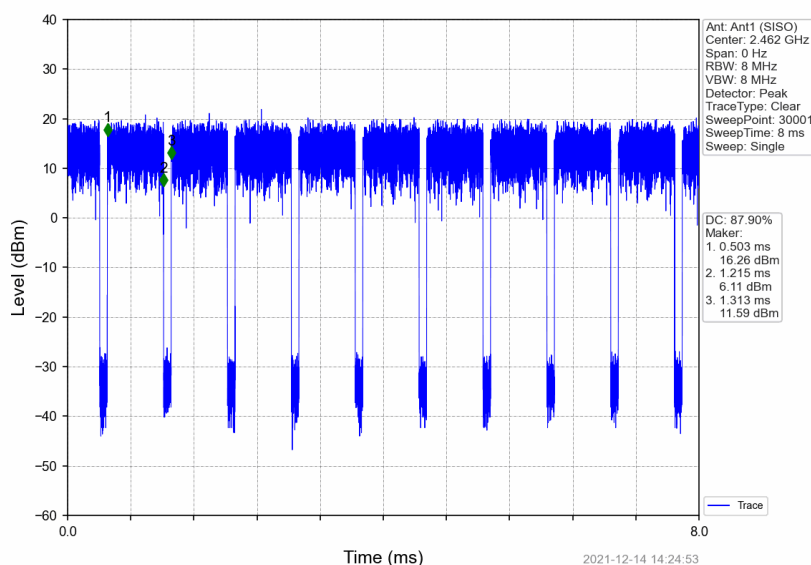
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802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



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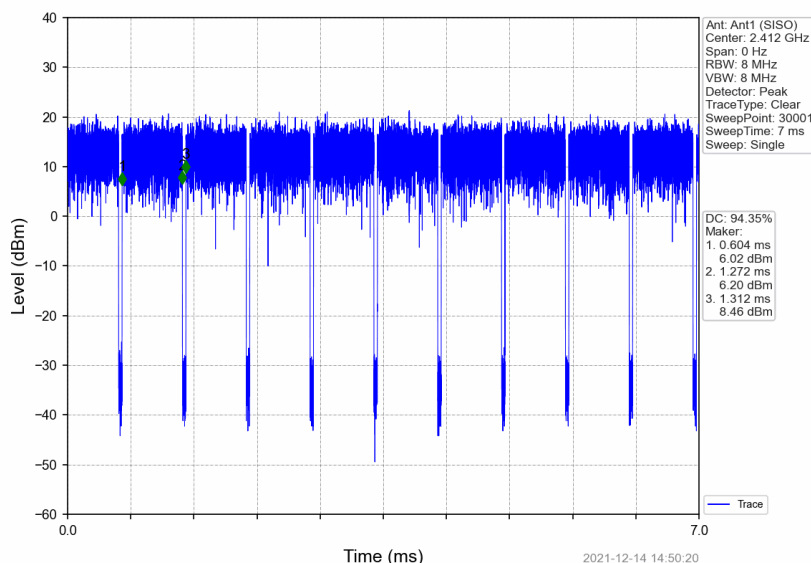
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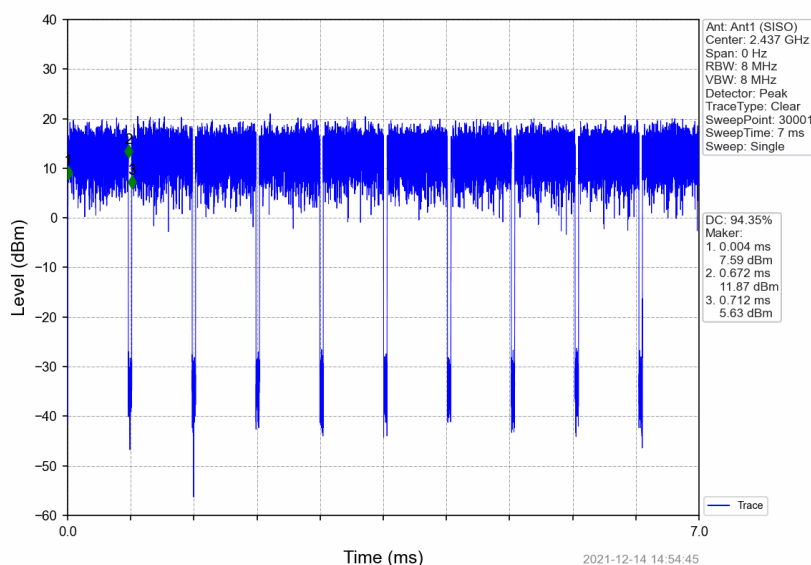
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802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



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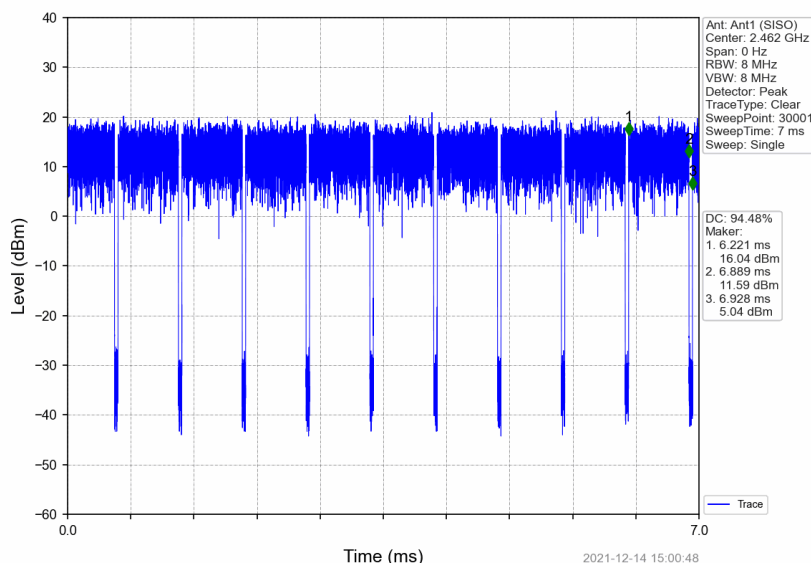
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802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



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	13.436	Pass
		2437	1	13.386	Pass
		2462	1	13.444	Pass
802.11g	SISO	2412	1	17.281	Pass
		2437	1	17.232	Pass
		2462	1	17.122	Pass
802.11n (HT20)	SISO	2412	1	18.005	Pass
		2437	1	18.037	Pass
		2462	1	18.026	Pass



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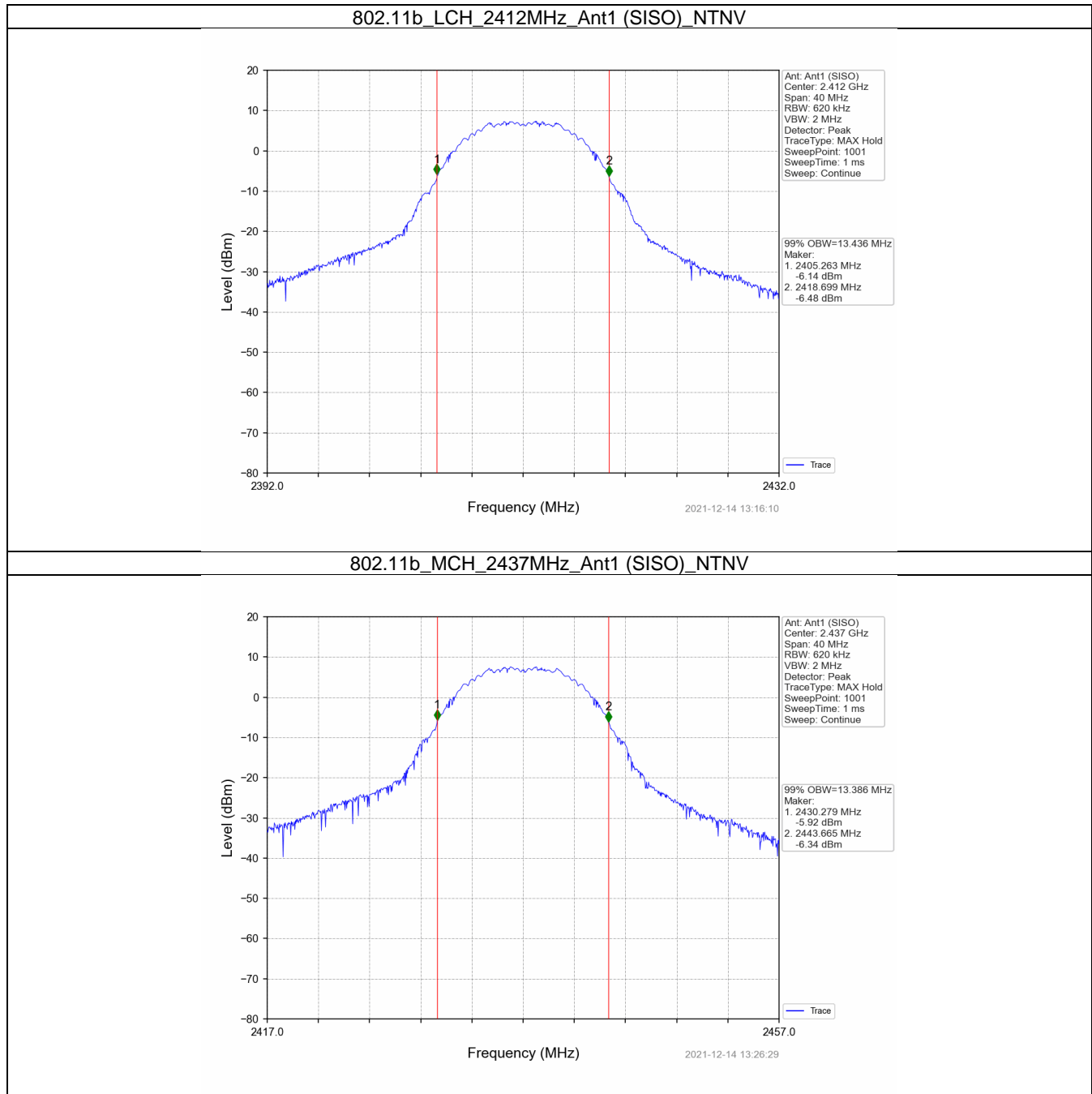
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2.1.2 Test Graph



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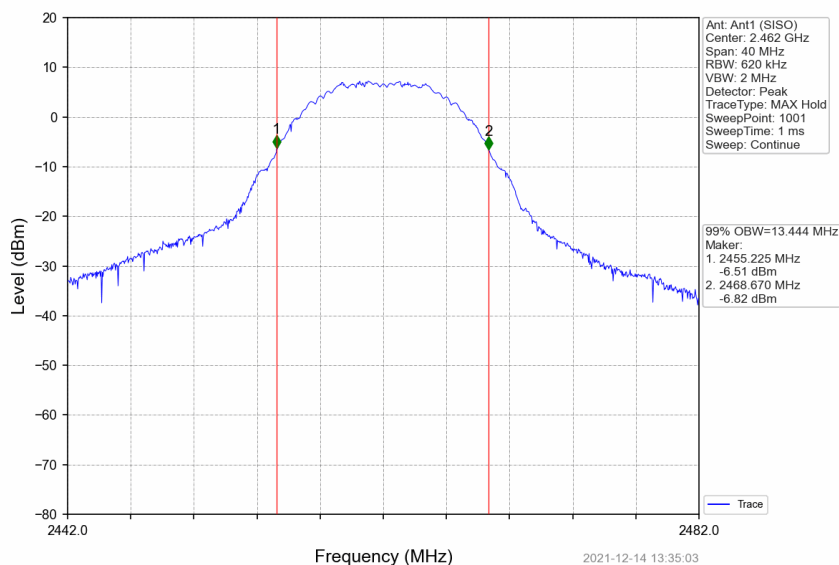
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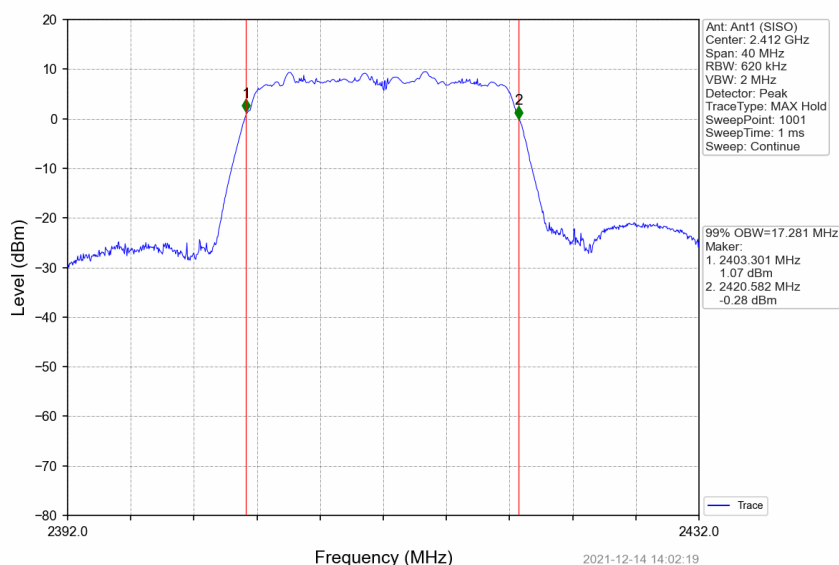
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802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



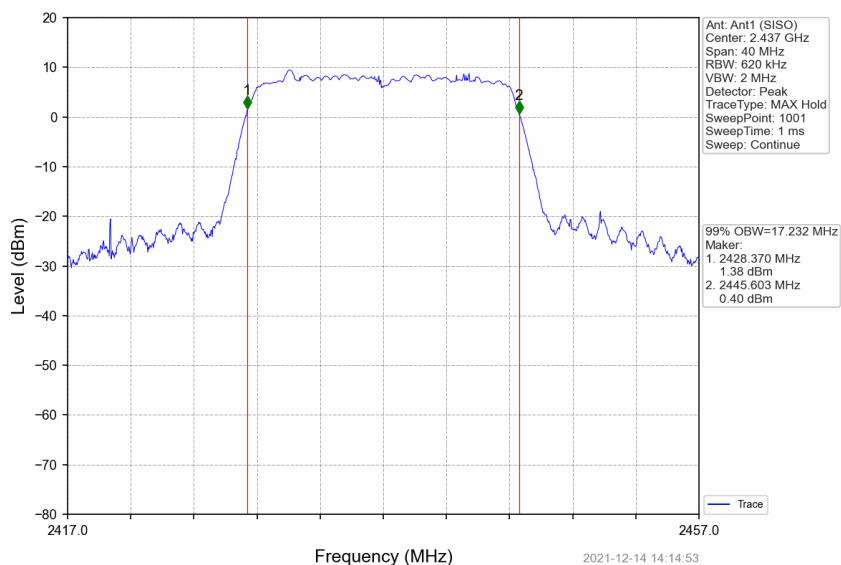
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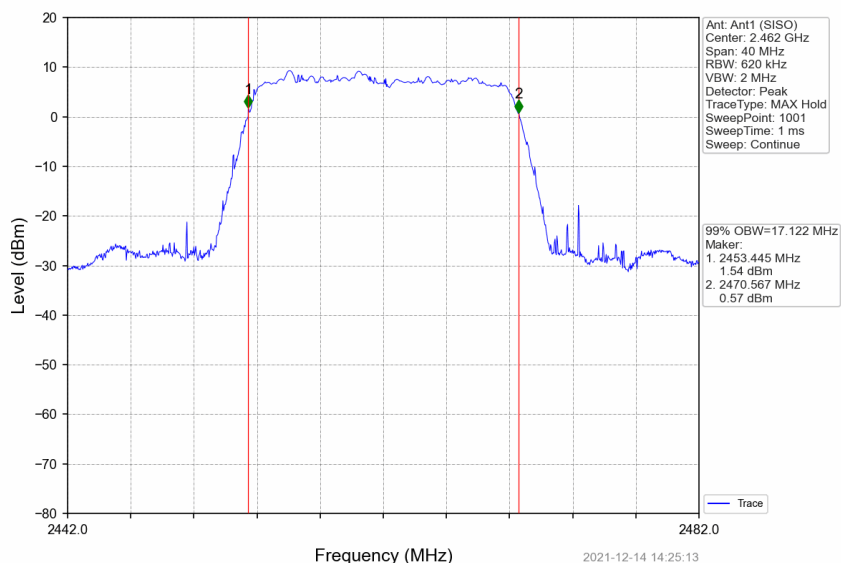
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802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



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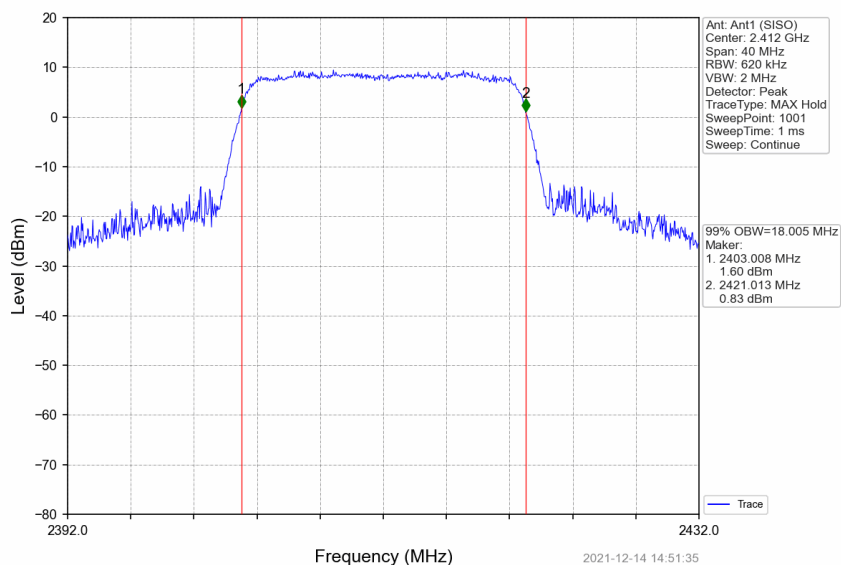
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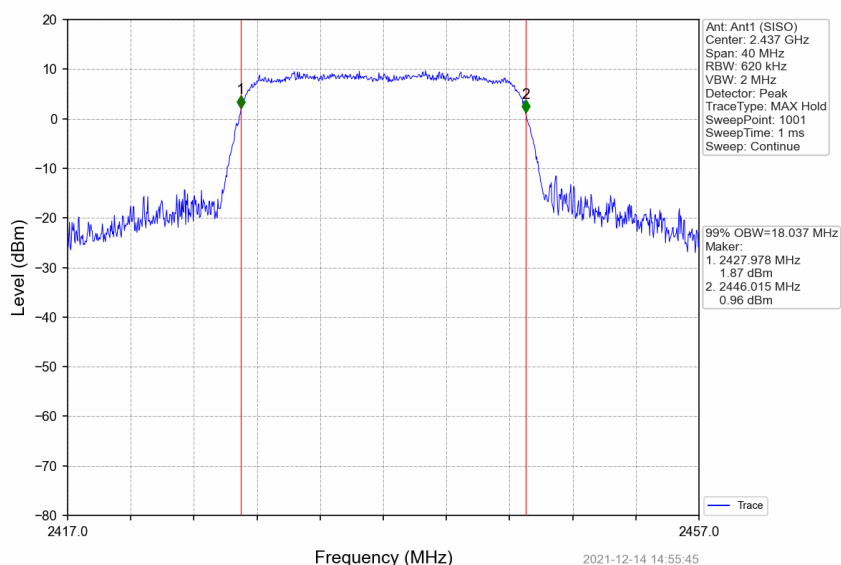
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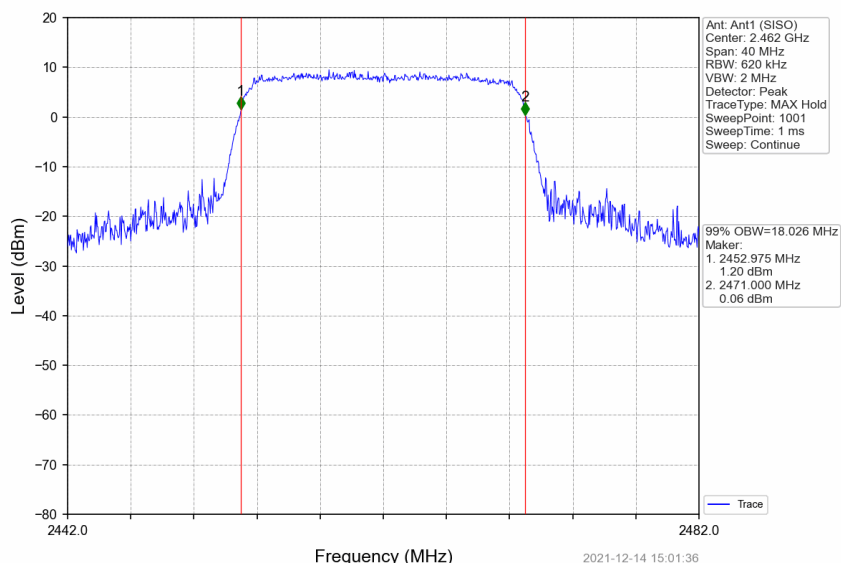
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2.2 6dB BW

2.2.1 Test Result

Mode	TX Type	Frequency (MHz)	Ant	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	10.084	≥ 0.5	Pass
		2437	1	10.081	≥ 0.5	Pass
		2462	1	10.082	≥ 0.5	Pass
802.11g	SISO	2412	1	16.373	≥ 0.5	Pass
		2437	1	16.376	≥ 0.5	Pass
		2462	1	16.371	≥ 0.5	Pass
802.11n (HT20)	SISO	2412	1	17.201	≥ 0.5	Pass
		2437	1	17.138	≥ 0.5	Pass
		2462	1	17.166	≥ 0.5	Pass



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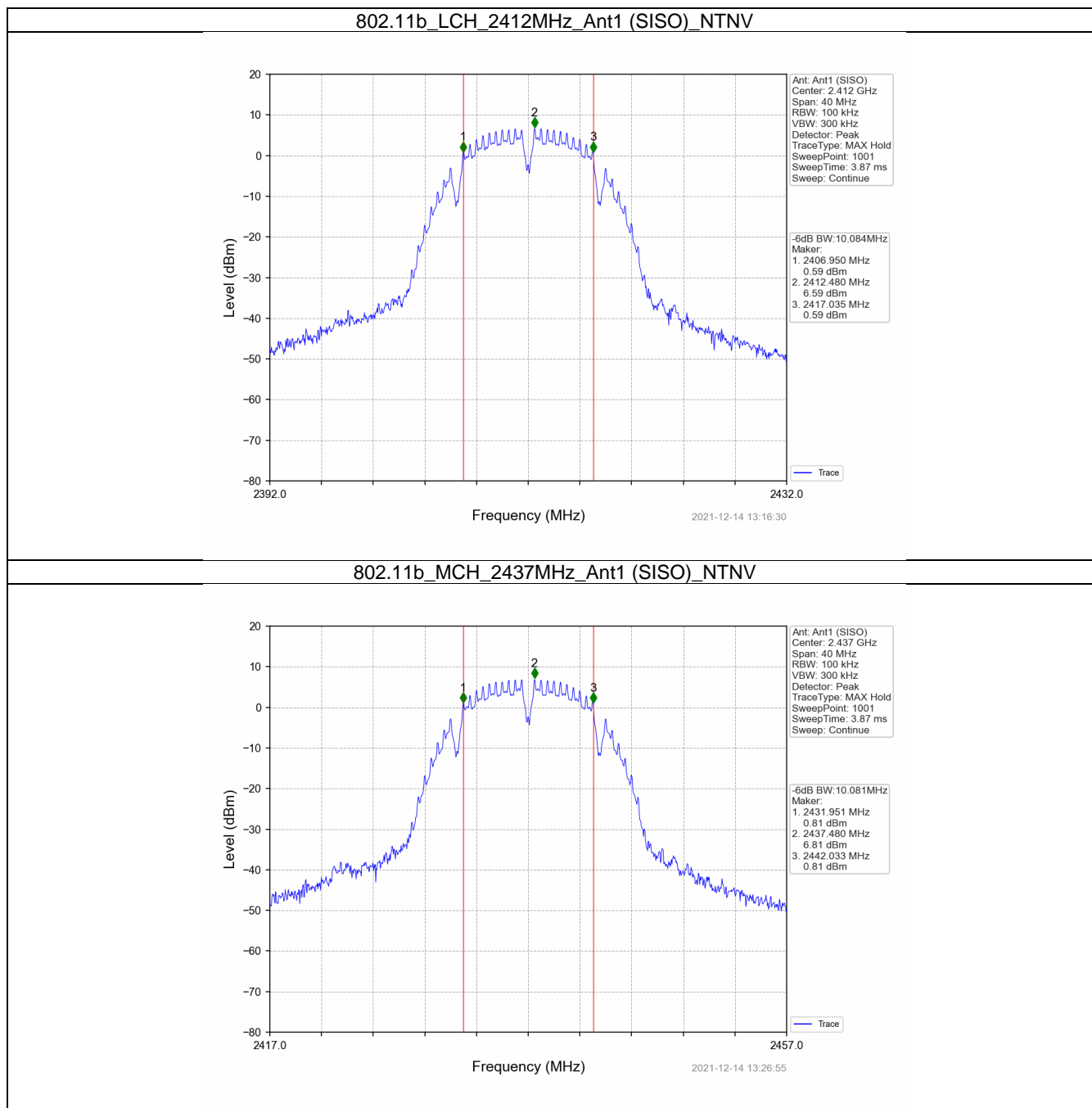
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2.2.2 Test Graph



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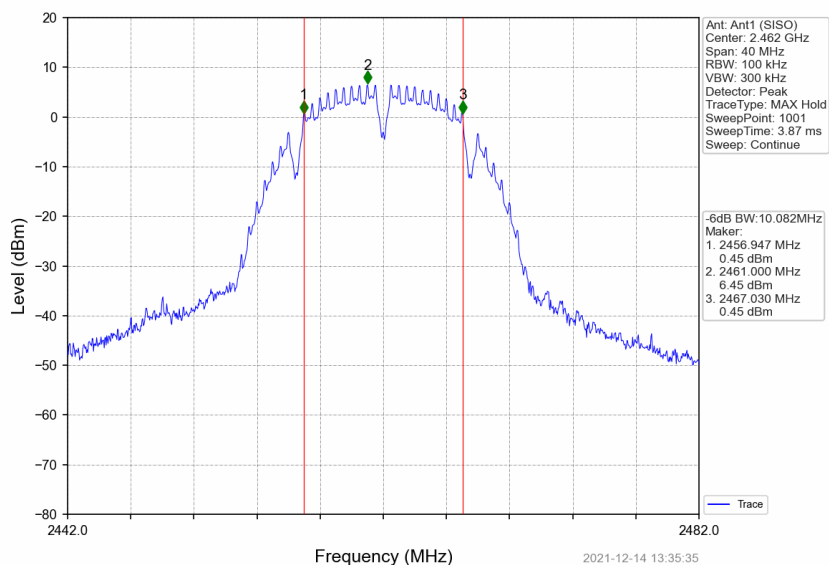
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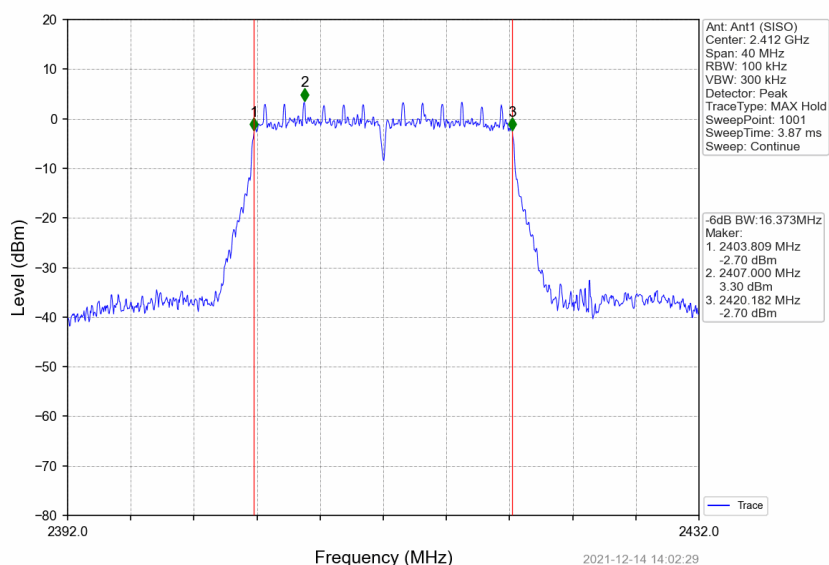
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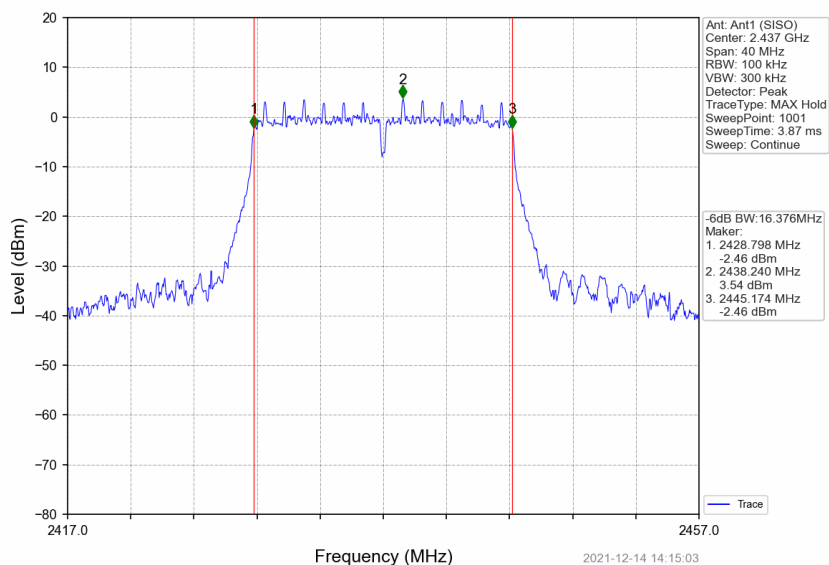
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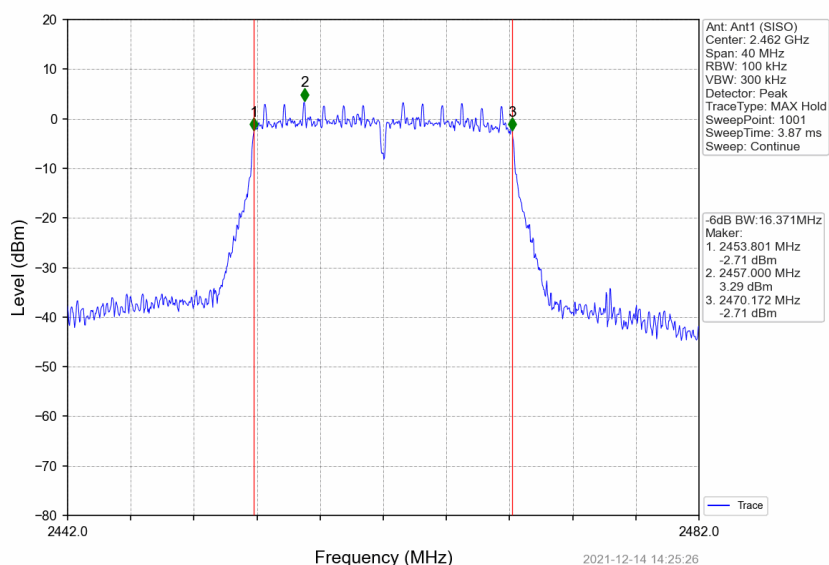
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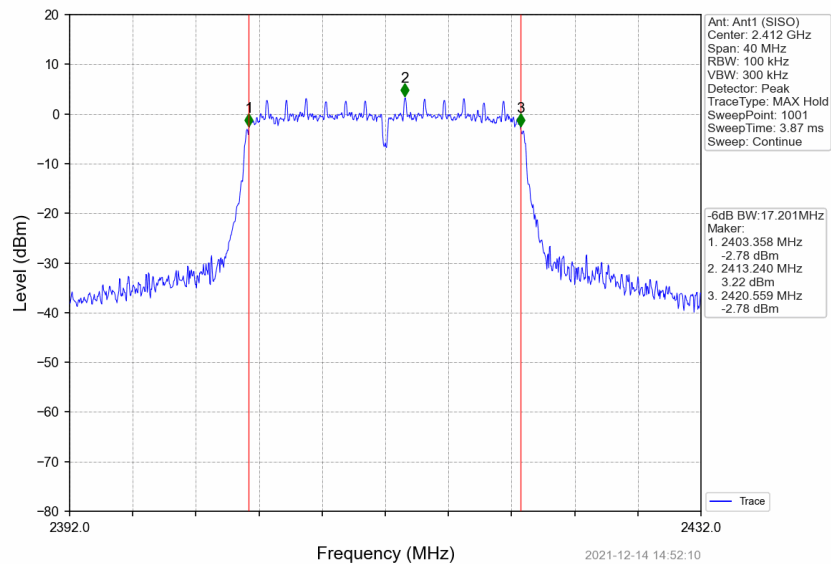
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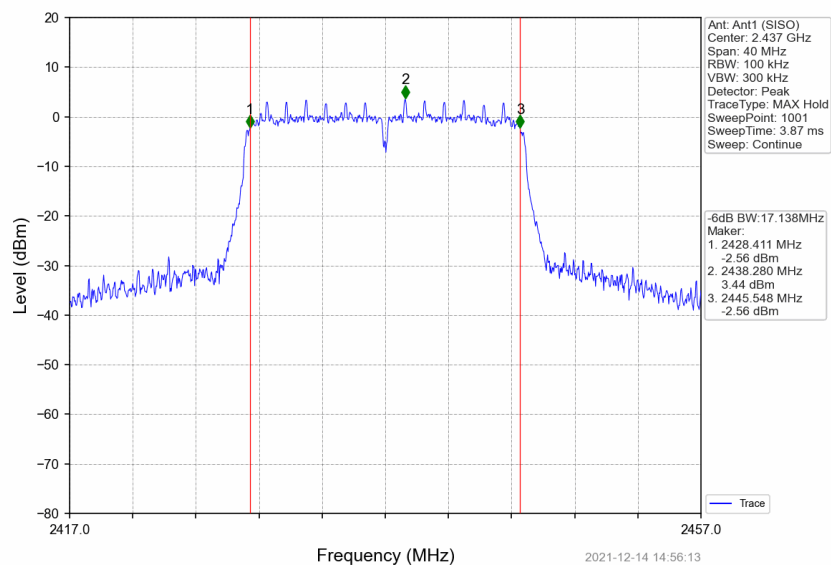
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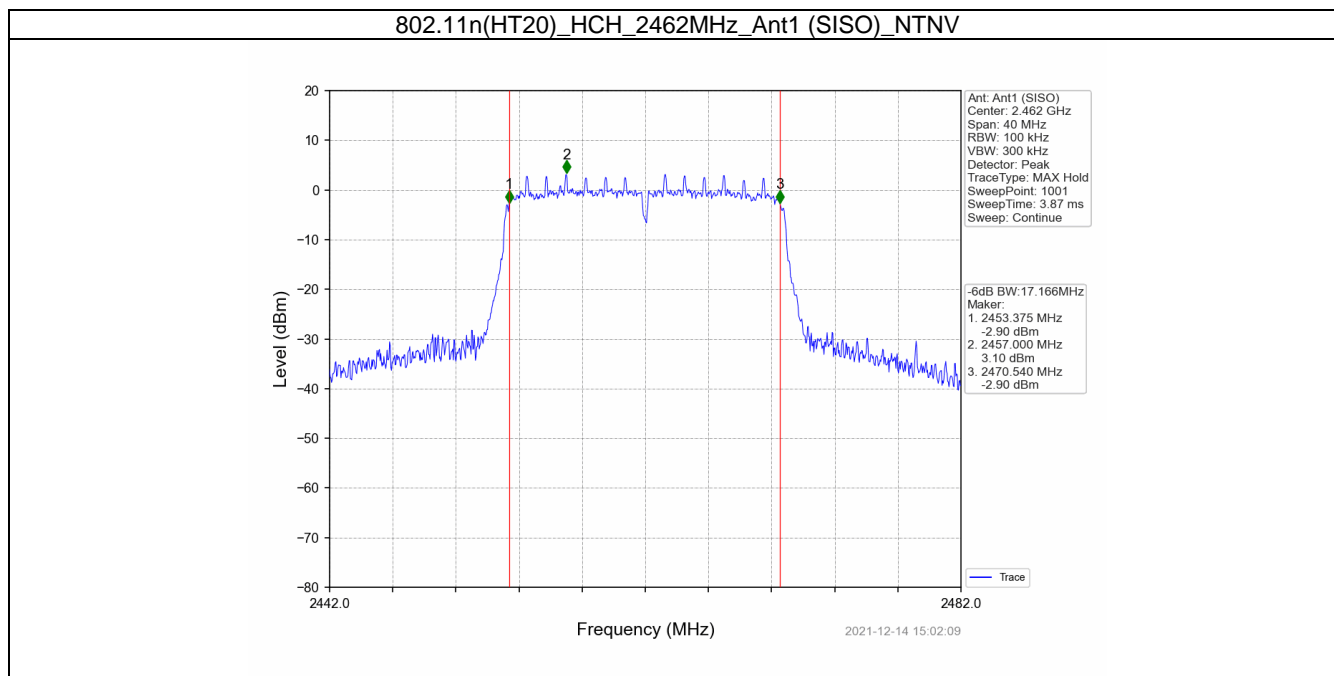
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3. Maximum Conducted Output Power

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	15.39	<=30	Pass
		2437	15.60	<=30	Pass
		2462	15.16	<=30	Pass
802.11g	SISO	2412	14.54	<=30	Pass
		2437	14.69	<=30	Pass
		2462	14.40	<=30	Pass
802.11n (HT20)	SISO	2412	14.26	<=30	Pass
		2437	14.47	<=30	Pass
		2462	14.17	<=30	Pass

Note1: Antenna Gain: Ant1: 2.84dBi;



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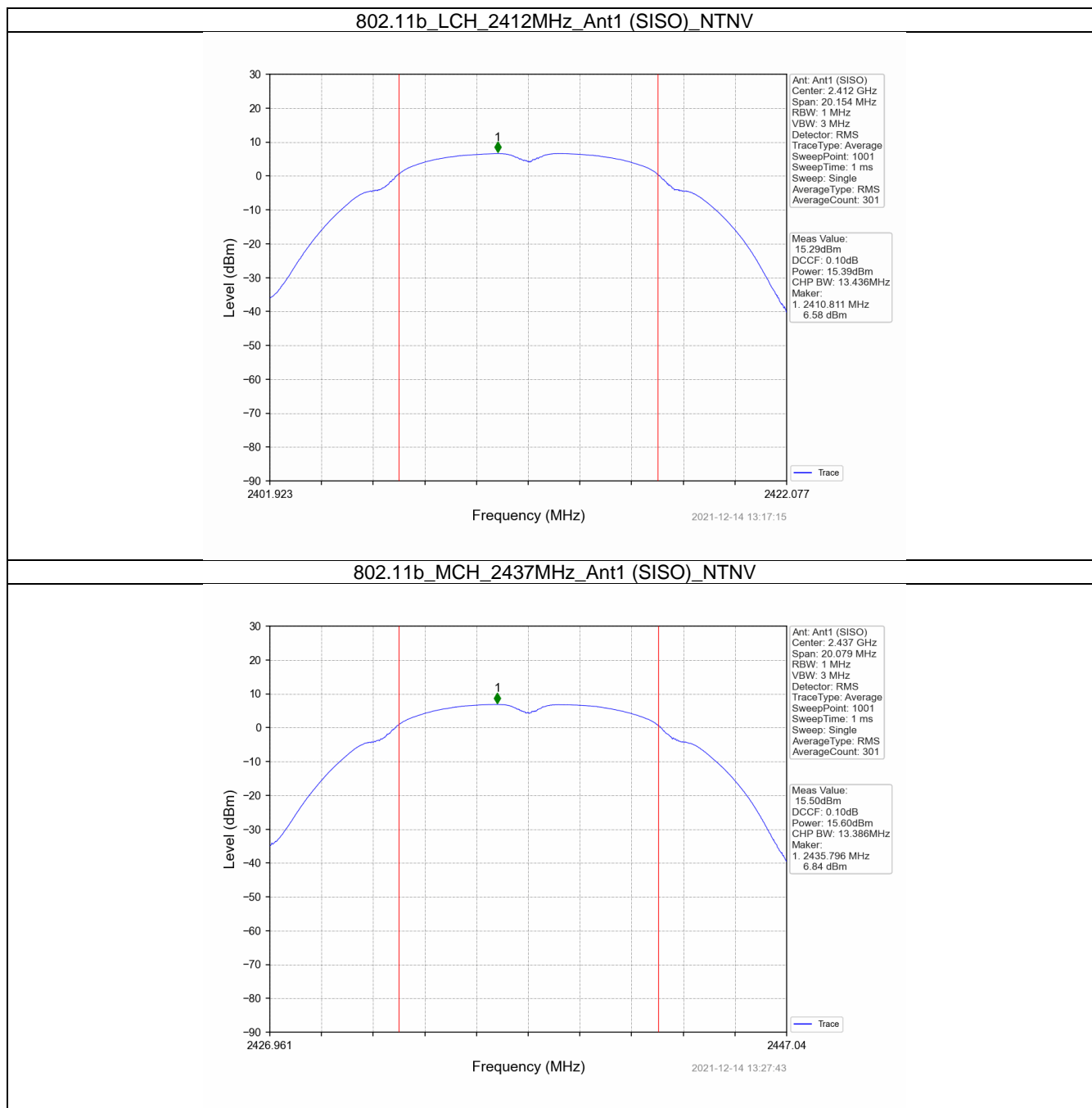
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3.1.2 Test Graph



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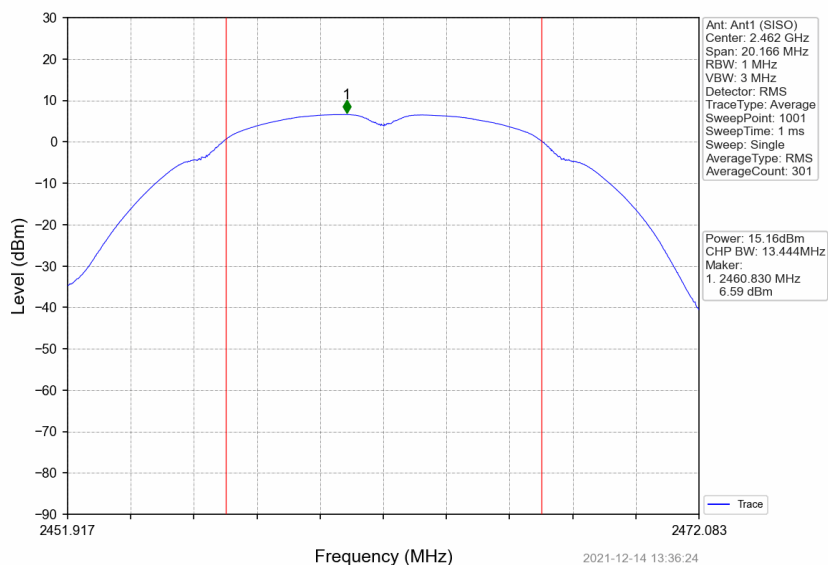
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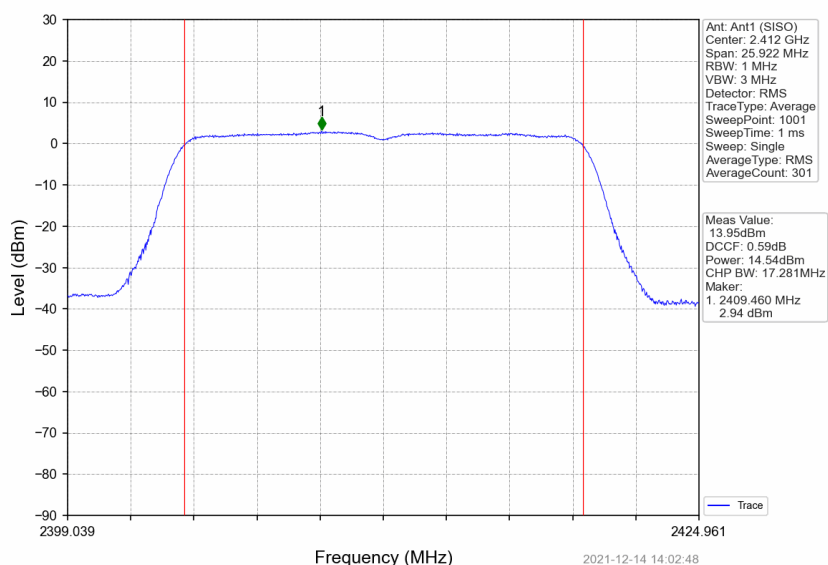
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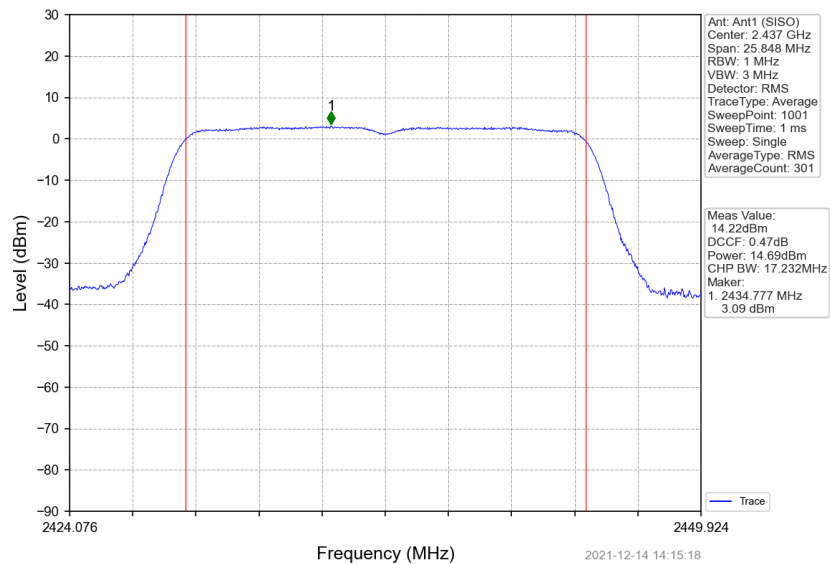
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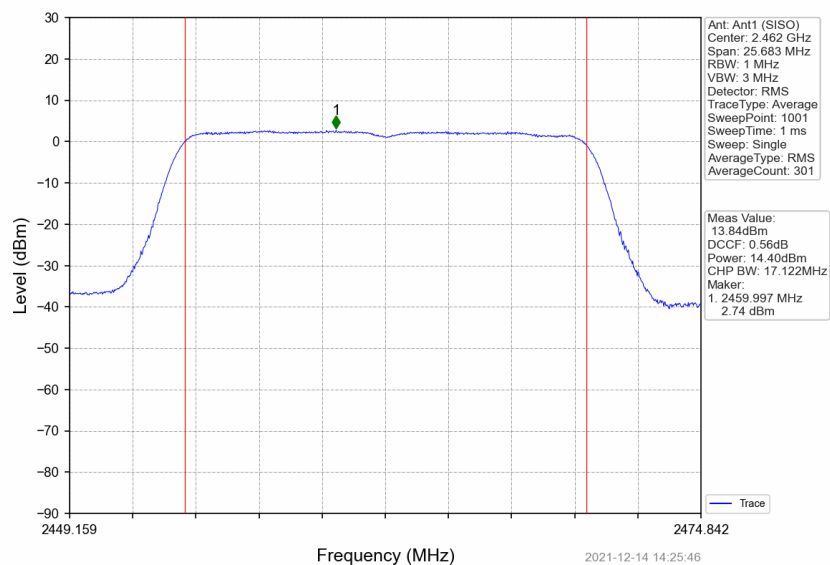
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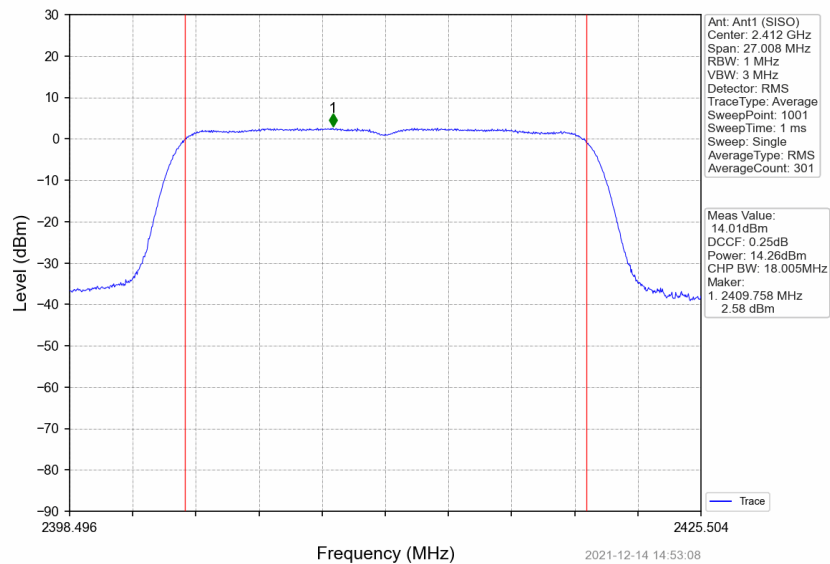
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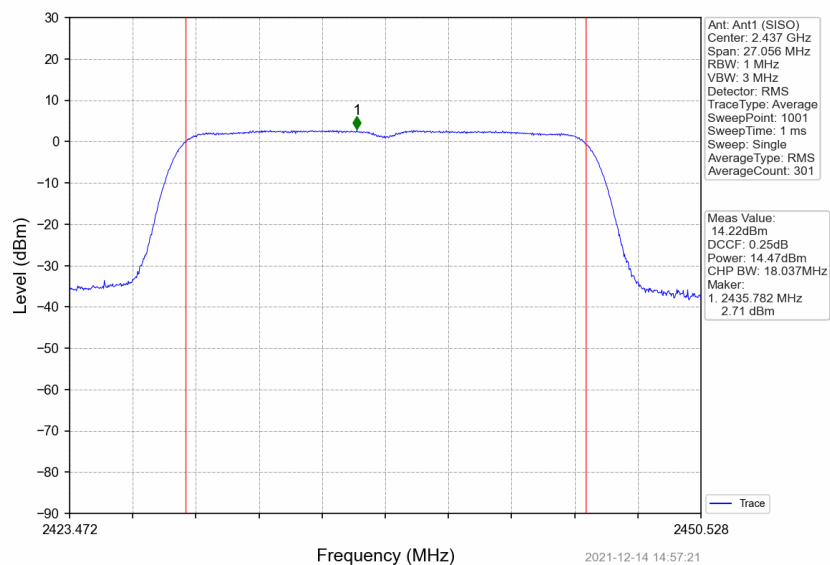
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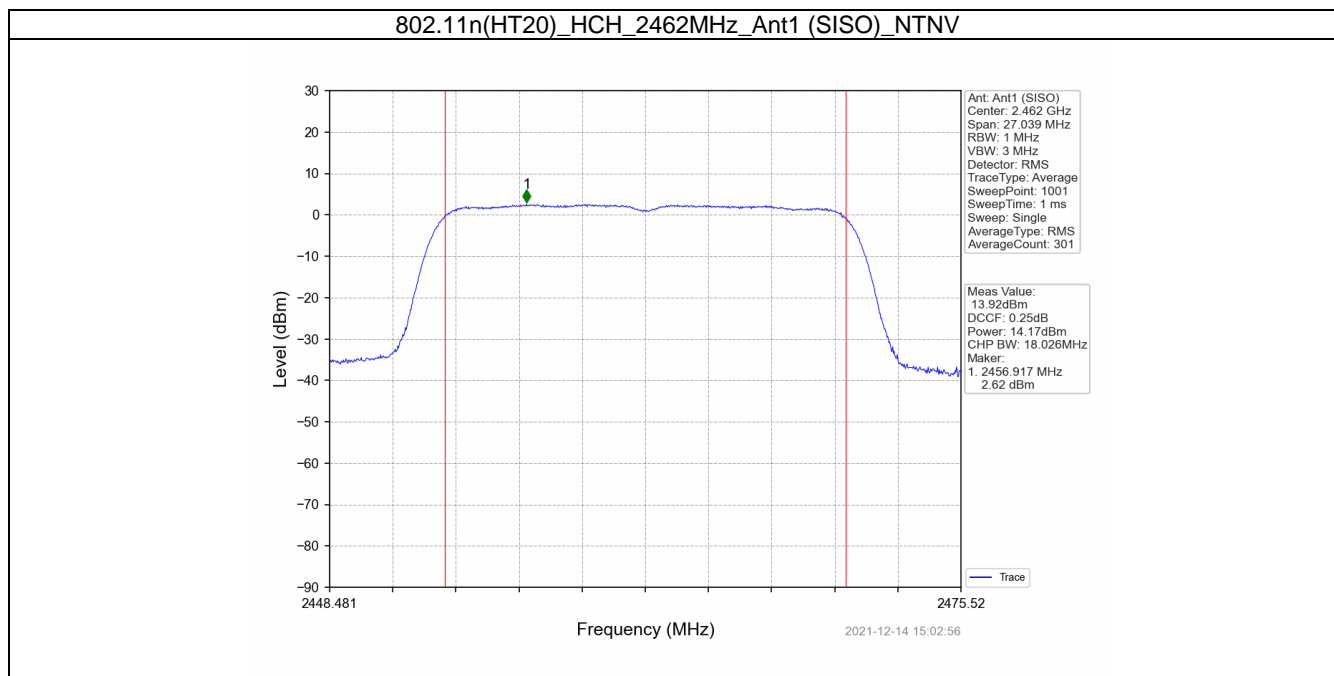
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4. Maximum Power Spectral Density

4.1 PSD

4.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			Ant1	Limit	
802.11b	SISO	2412	-7.99	<=8	Pass
		2437	-7.44	<=8	Pass
		2462	-6.57	<=8	Pass
802.11g	SISO	2412	-10.48	<=8	Pass
		2437	-10.82	<=8	Pass
		2462	-11.16	<=8	Pass
802.11n (HT20)	SISO	2412	-11.33	<=8	Pass
		2437	-10.81	<=8	Pass
		2462	-11.07	<=8	Pass

Note1: Antenna Gain: Ant1: 2.84dBi;



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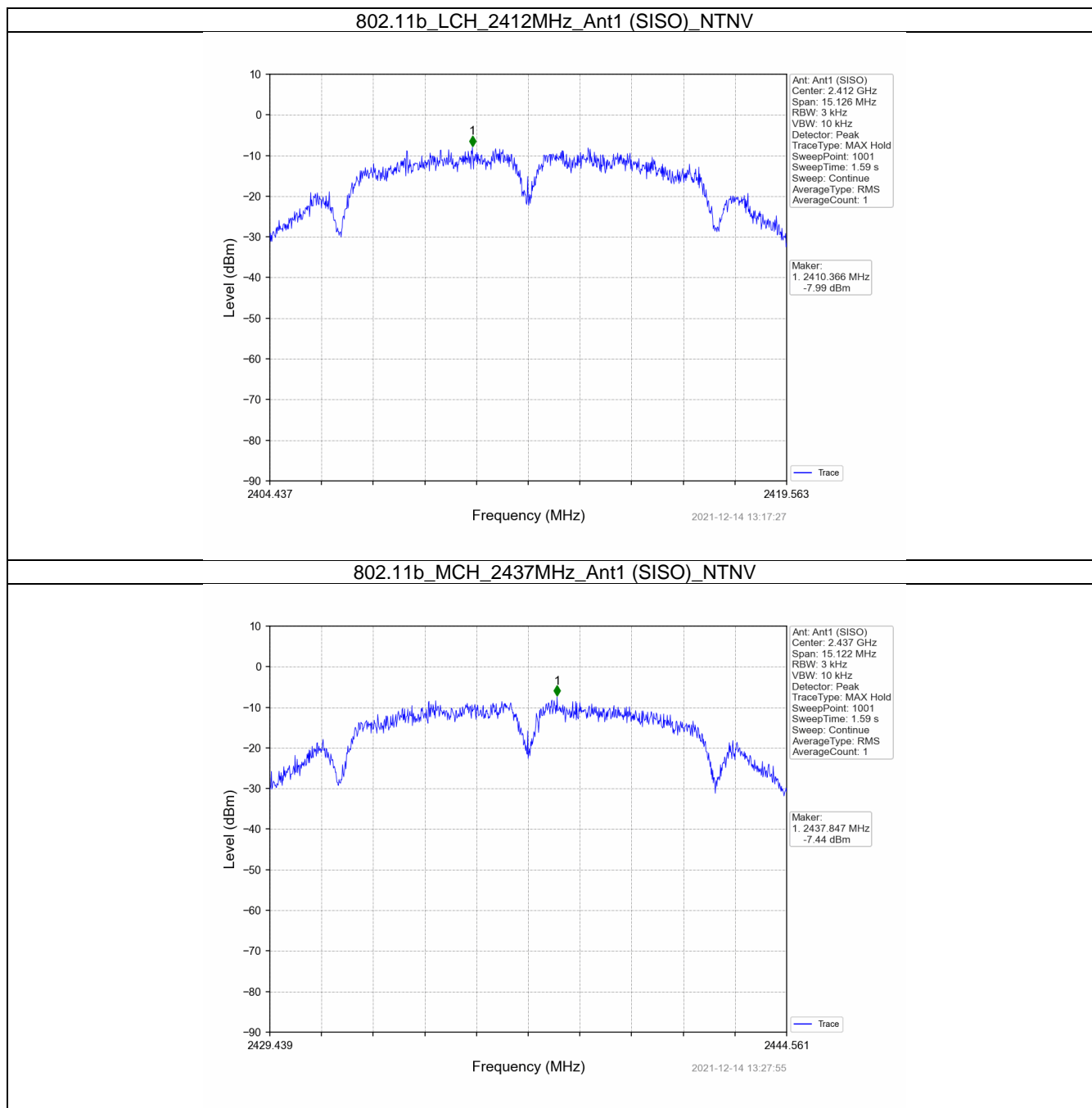
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4.1.2 Test Graph



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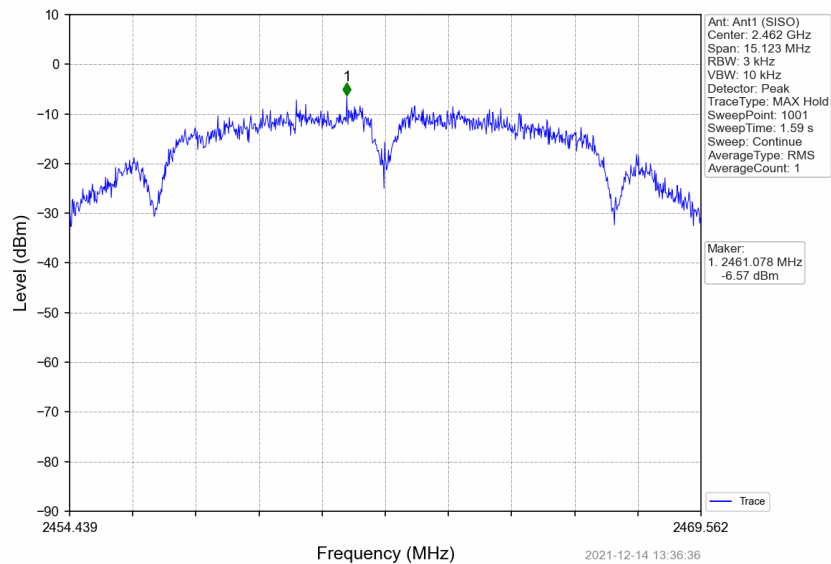
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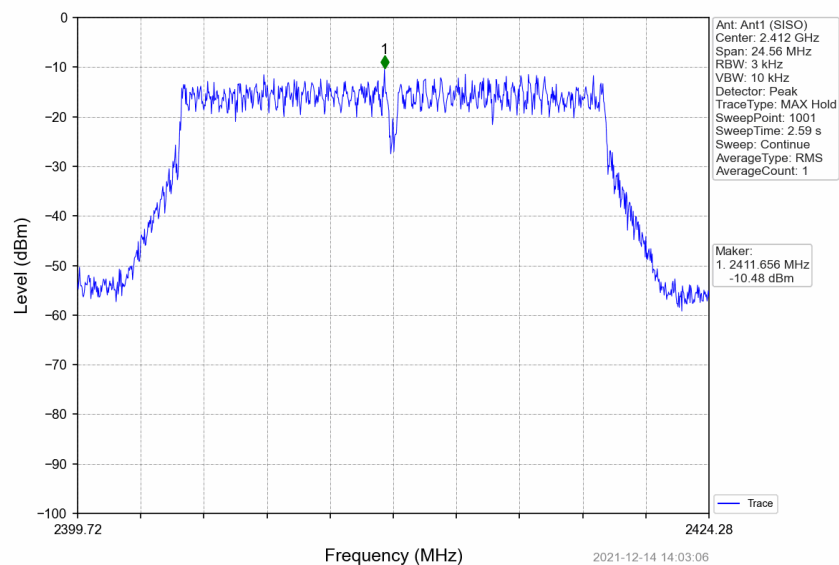
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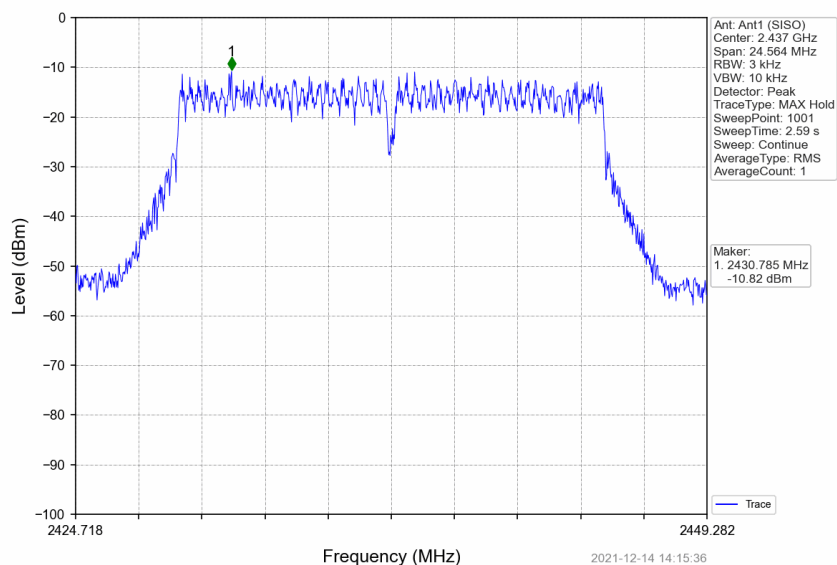
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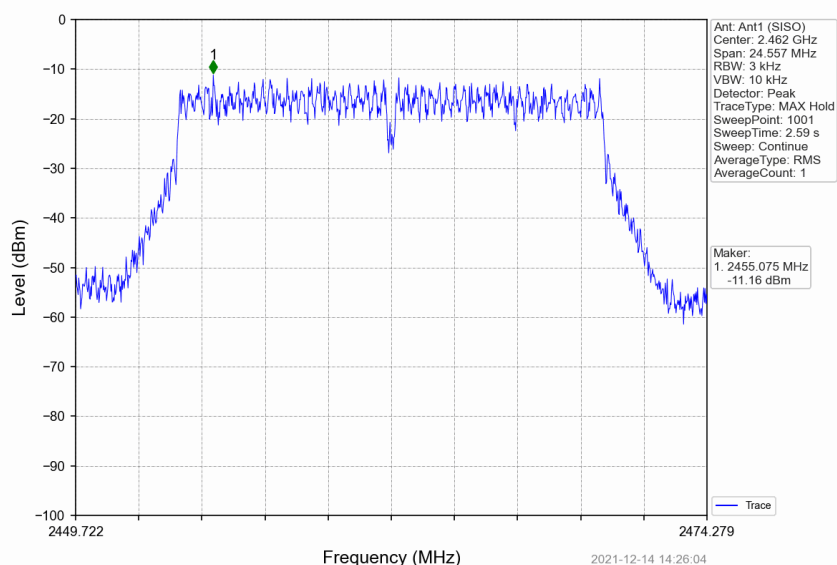
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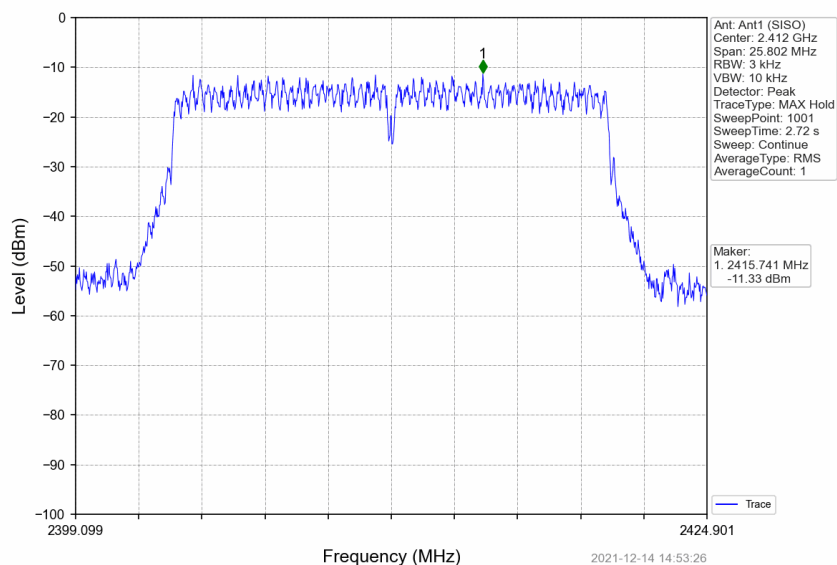
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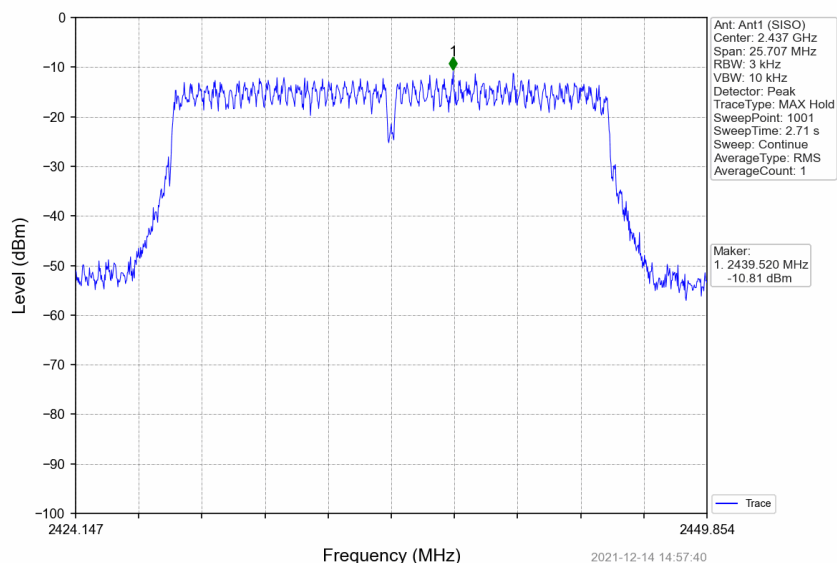
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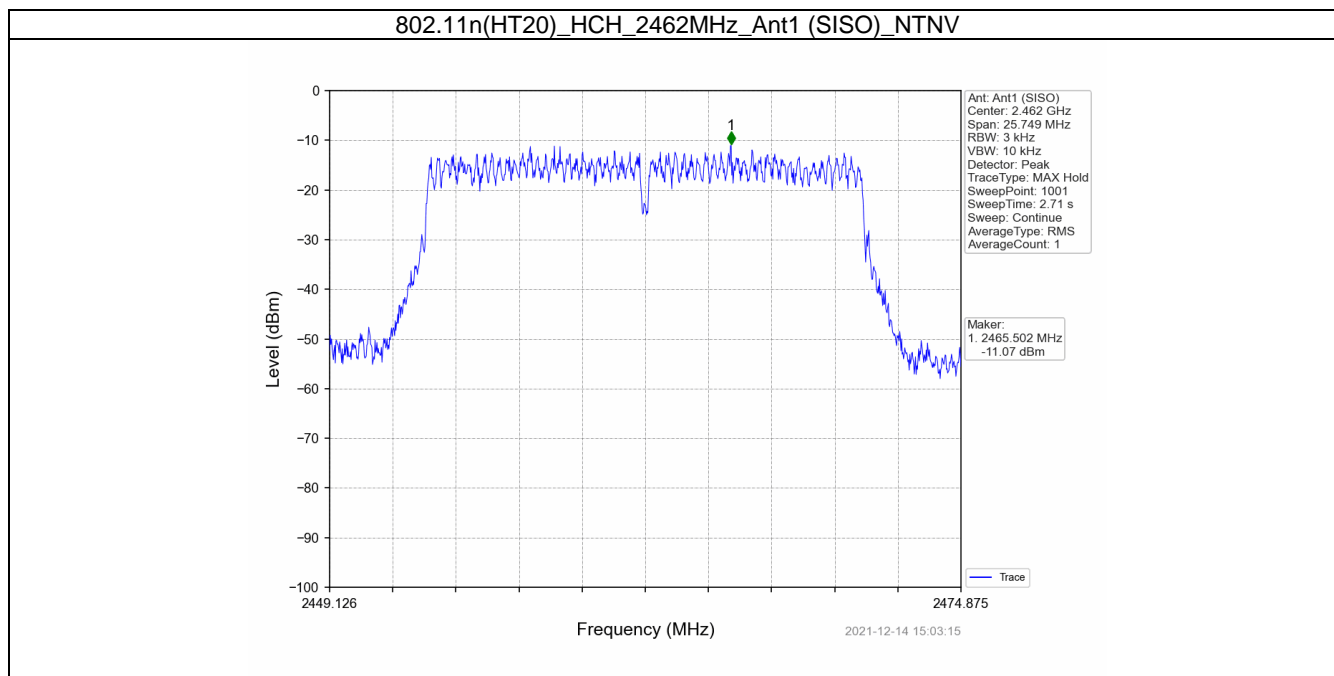
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5. Unwanted Emissions In Non-restricted Frequency Bands

5.1 Ref

5.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Ant	Level of Reference (dBm)
802.11b	SISO	2412	1	6.42
		2437	1	6.73
		2462	1	6.34
802.11g	SISO	2412	1	3.30
		2437	1	3.33
		2462	1	3.21
802.11n (HT20)	SISO	2412	1	3.07
		2437	1	3.37
		2462	1	3.07

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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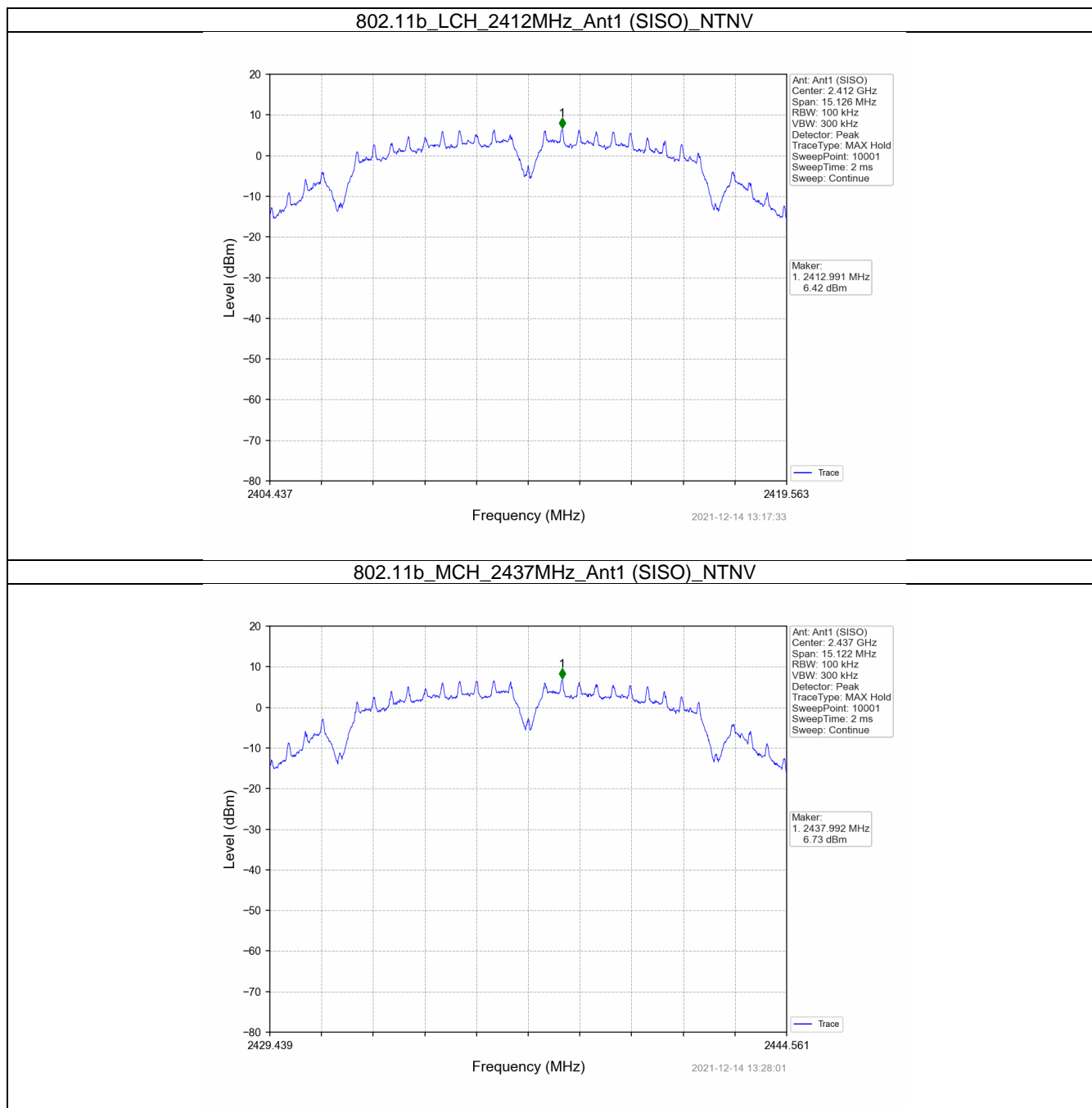
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5.1.2 Test Graph



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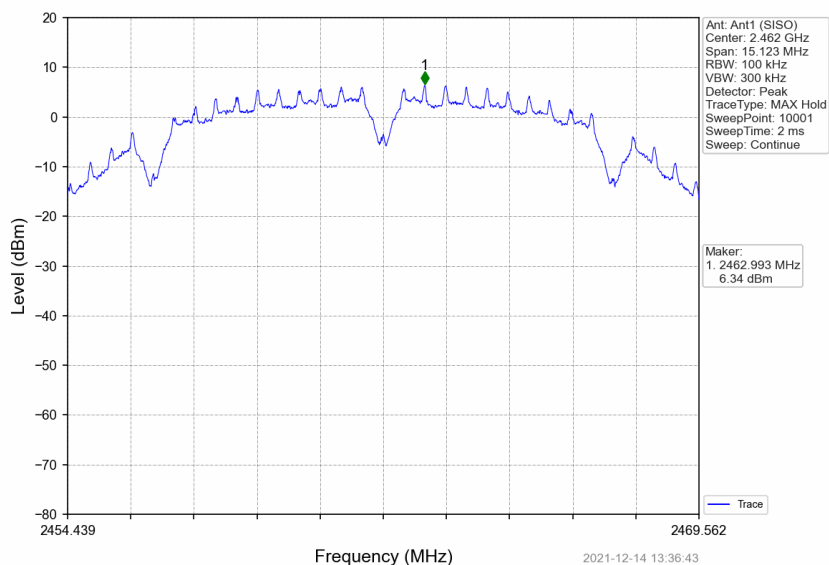
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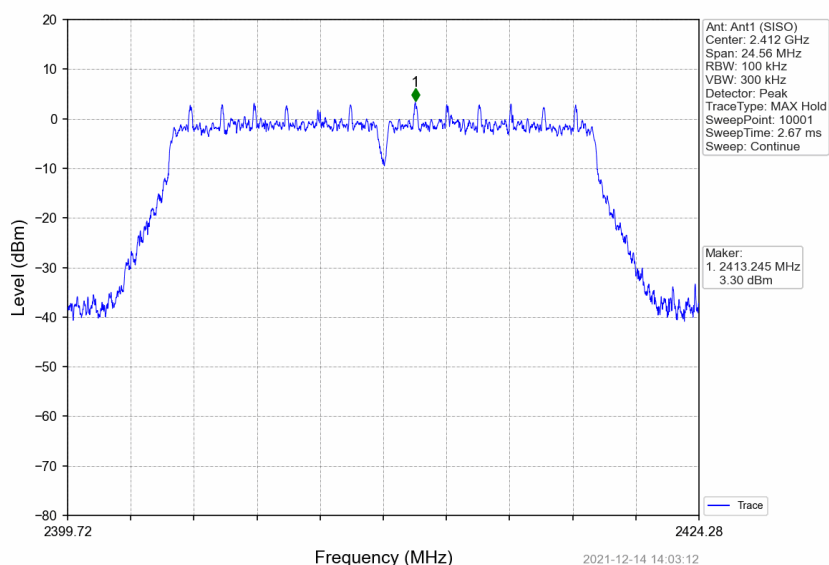
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802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



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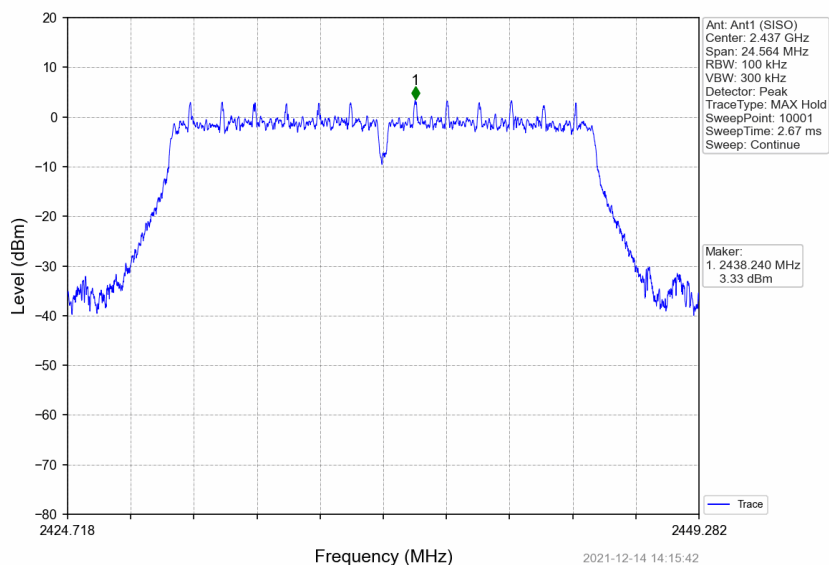
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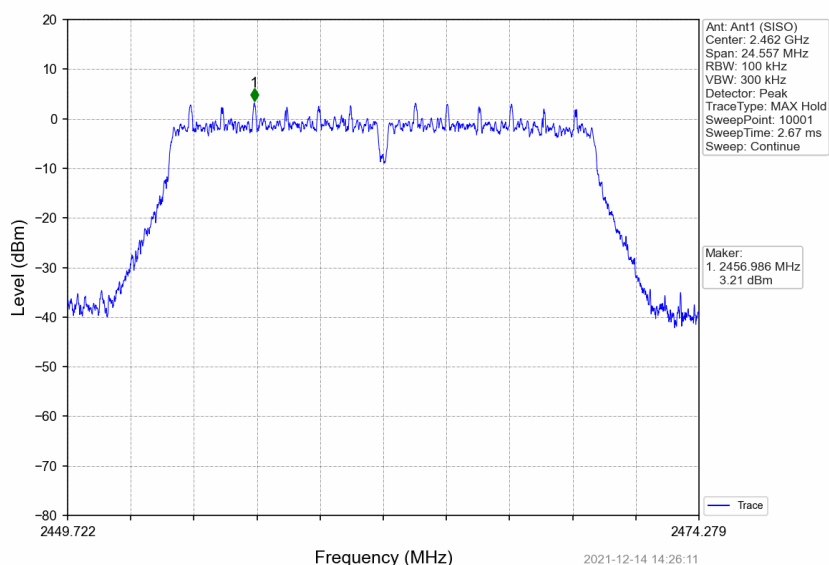
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802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



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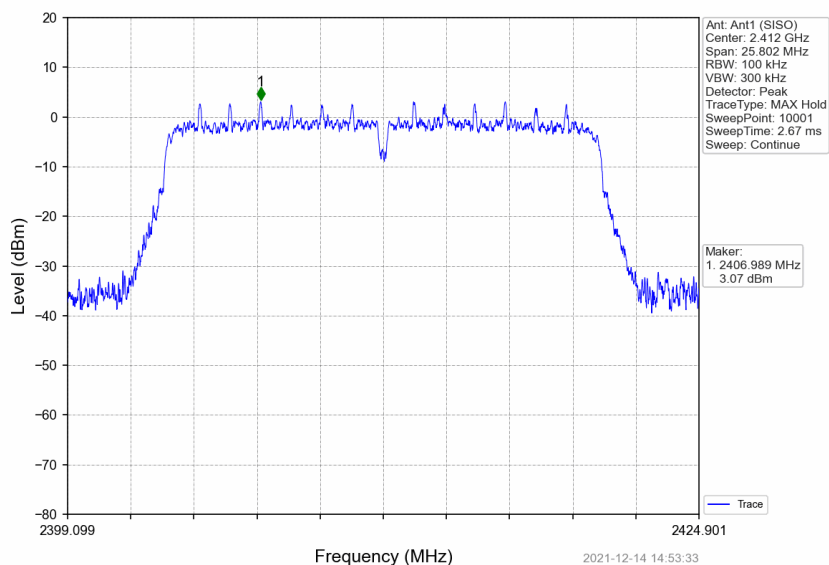
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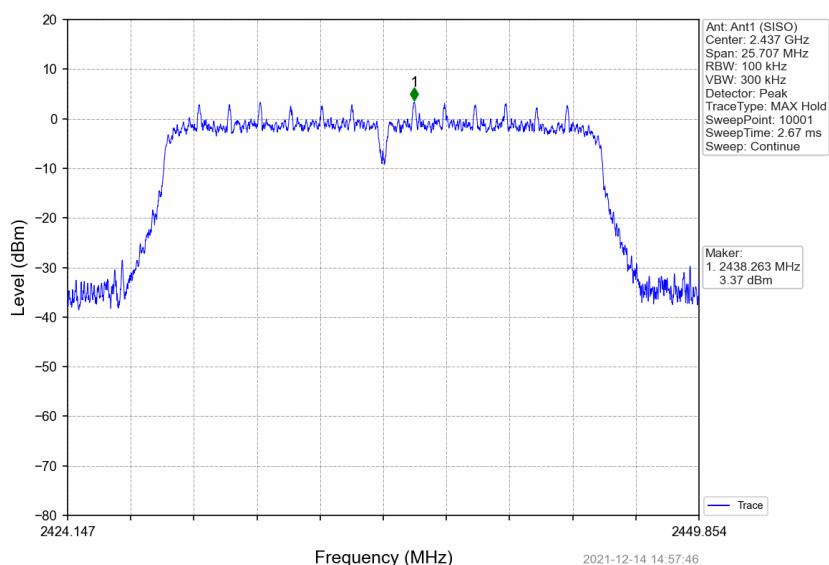
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802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



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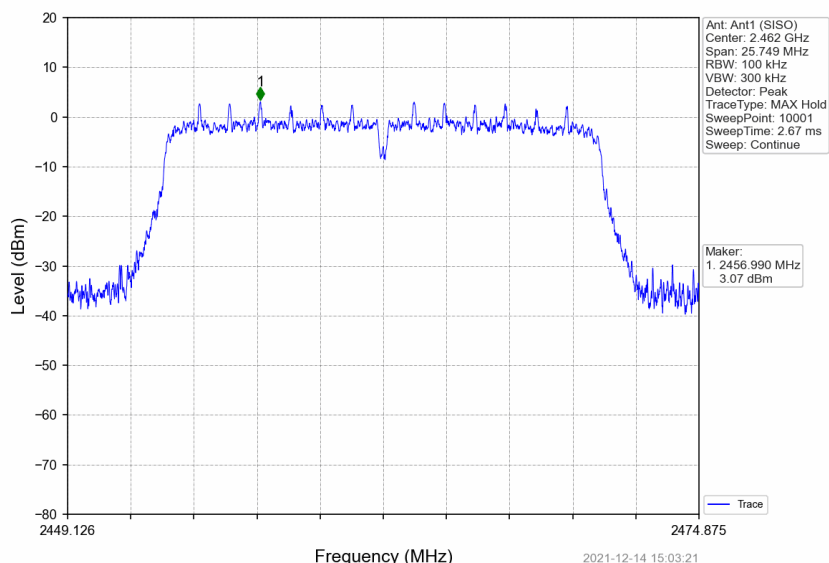
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802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



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	6.73	-23.27	Pass
		2437	1	6.73	-23.27	Pass
		2462	1	6.73	-23.27	Pass
802.11g	SISO	2412	1	3.33	-26.67	Pass
		2437	1	3.33	-26.67	Pass
		2462	1	3.33	-26.67	Pass
802.11n (HT20)	SISO	2412	1	3.37	-26.63	Pass
		2437	1	3.37	-26.63	Pass
		2462	1	3.37	-26.63	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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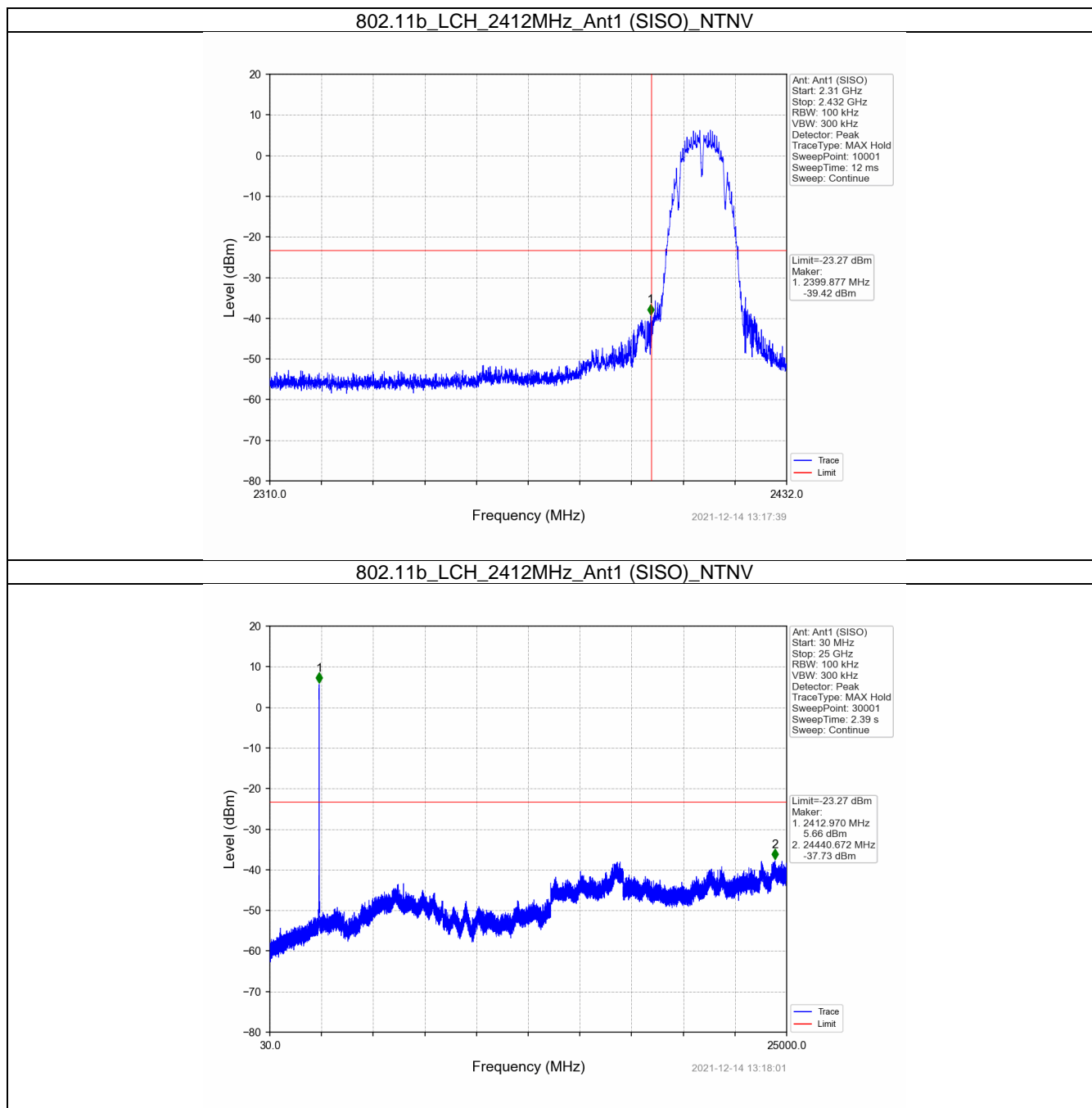
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5.2.2 Test Graph



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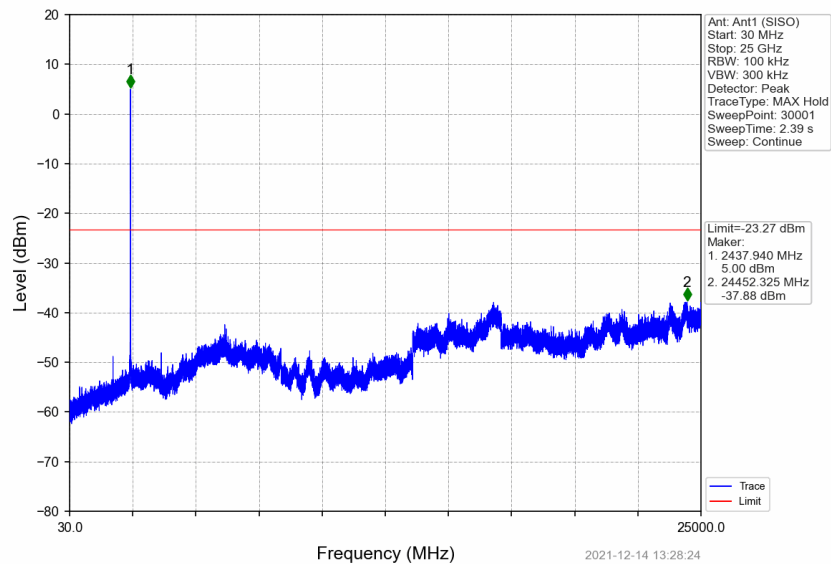
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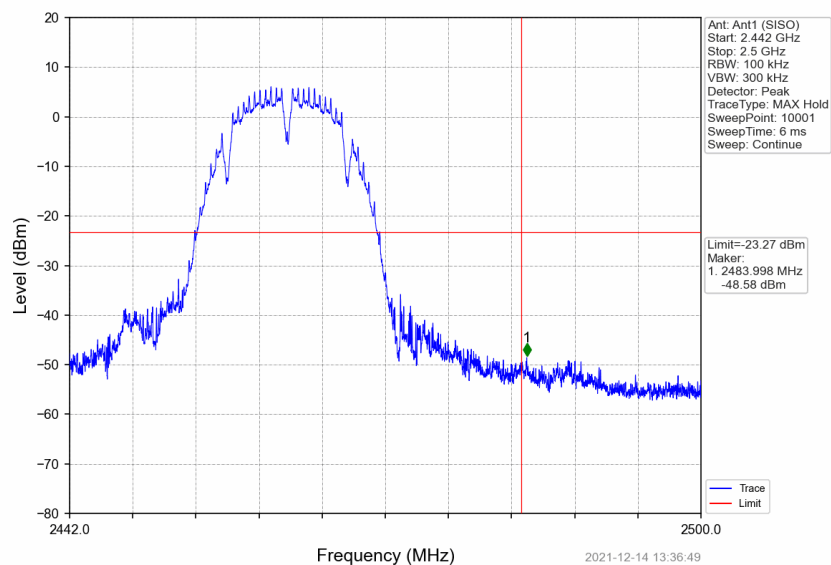
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802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



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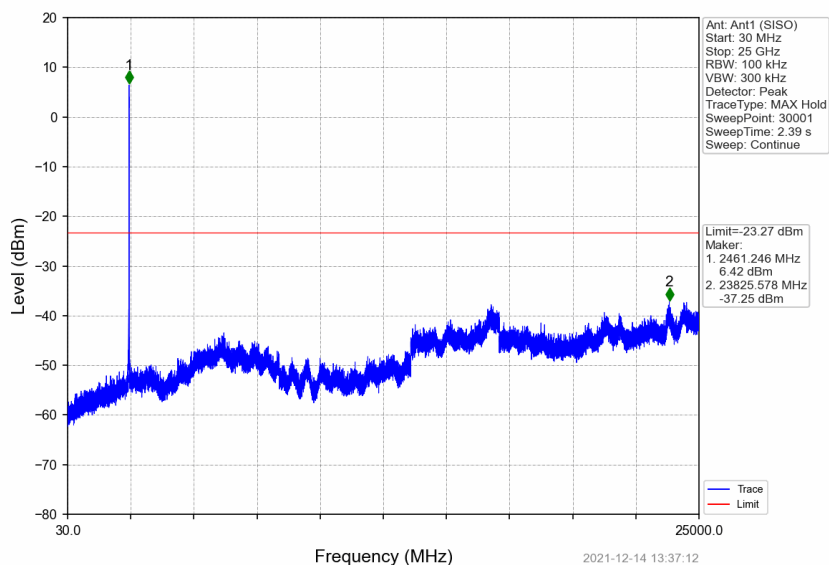
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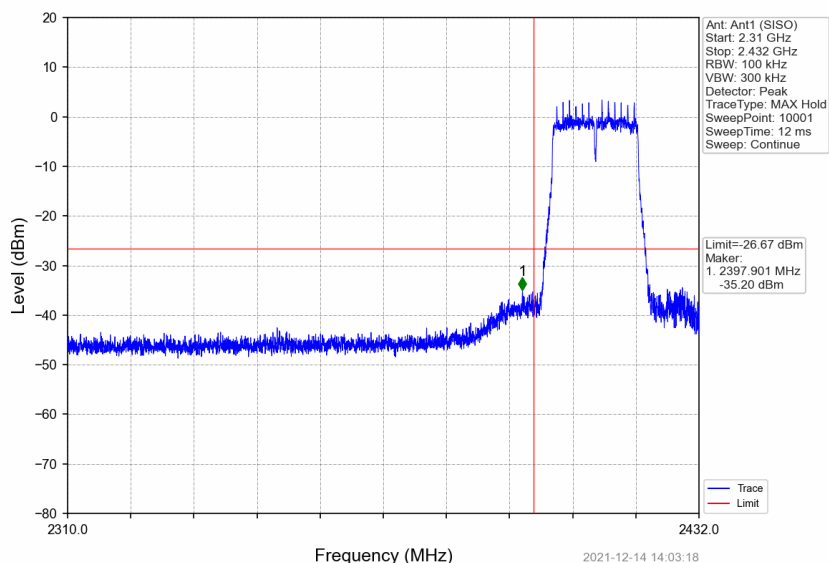
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802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



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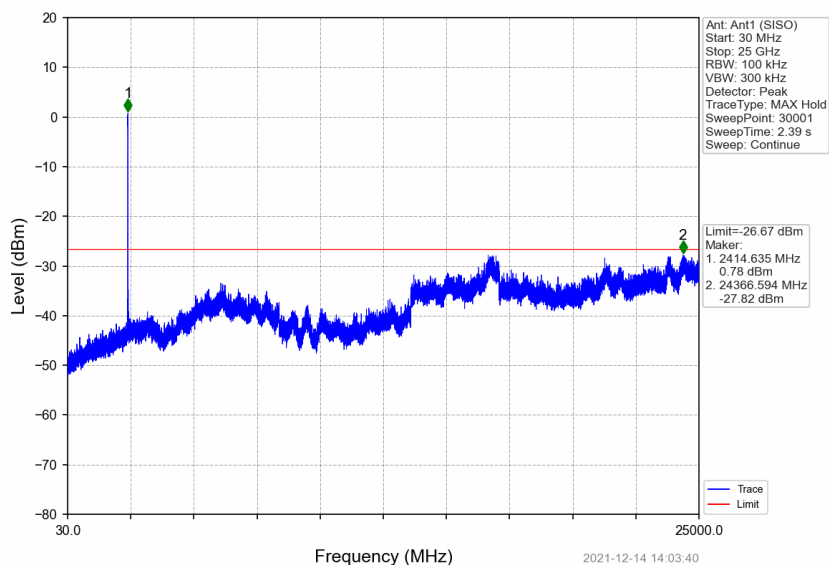
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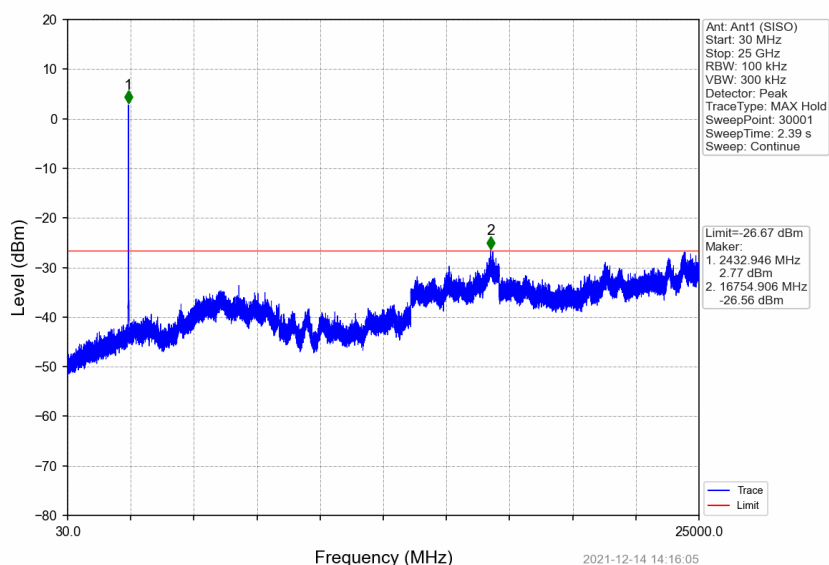
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802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



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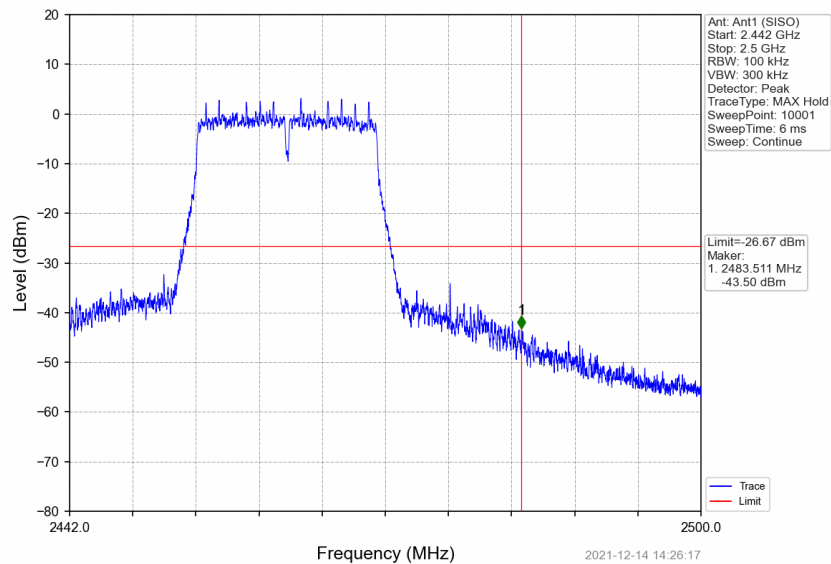
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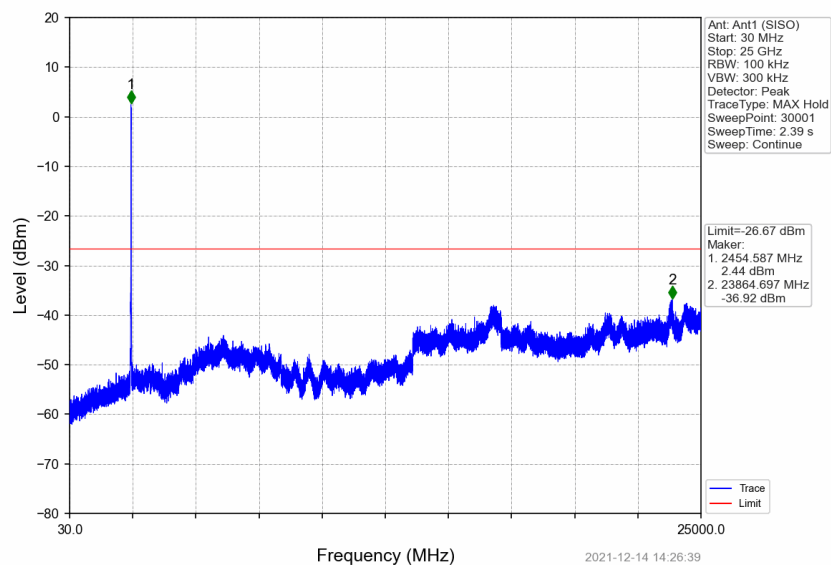
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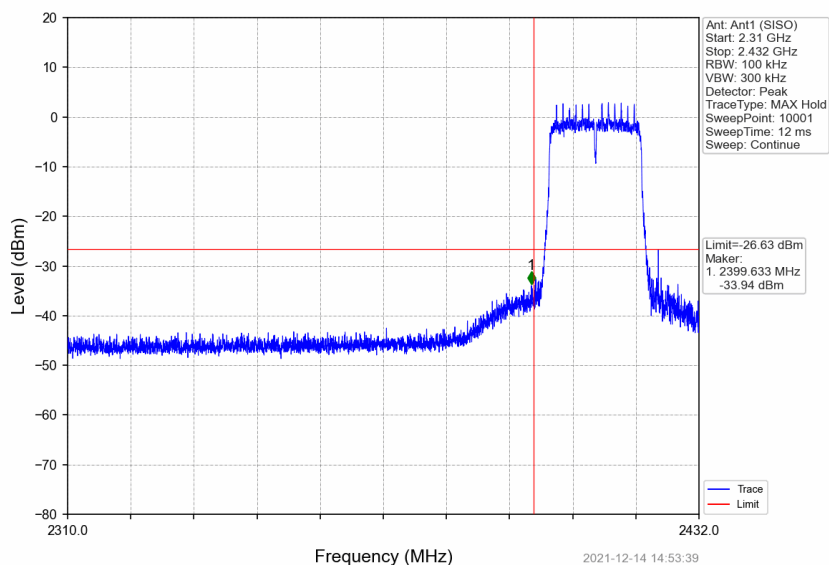
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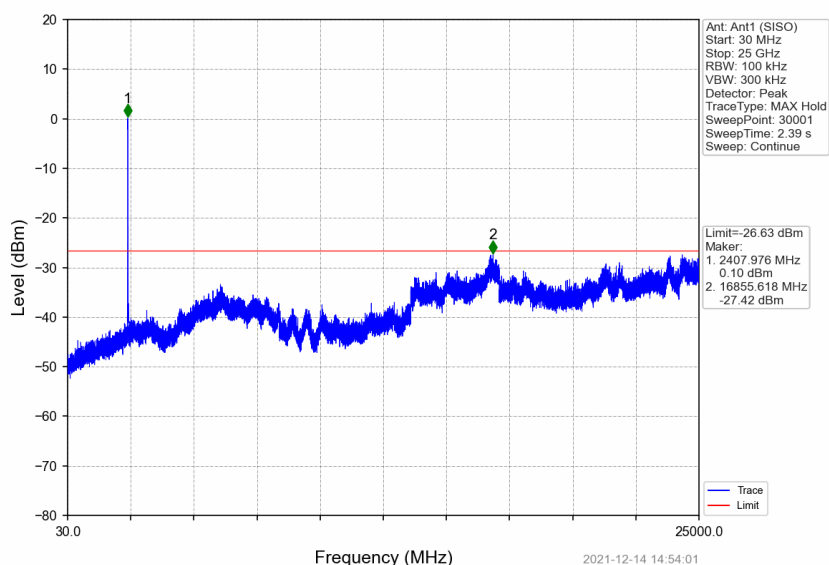
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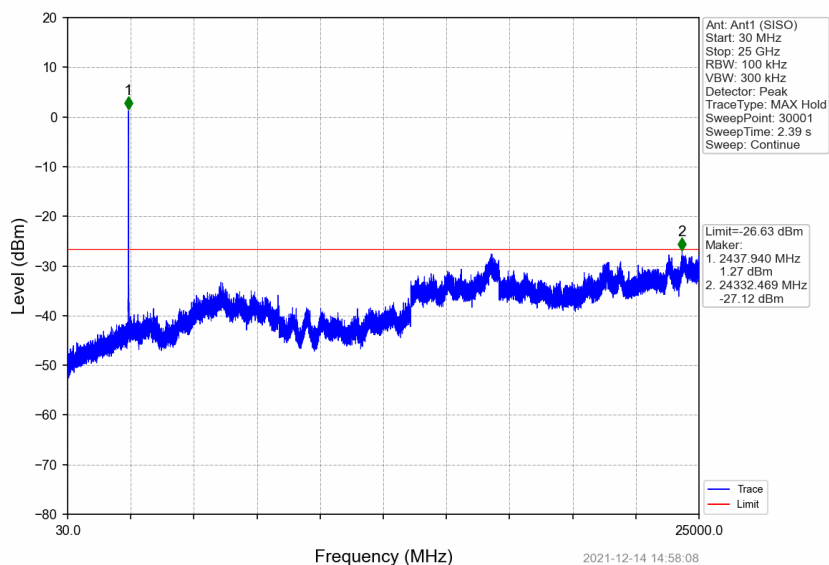
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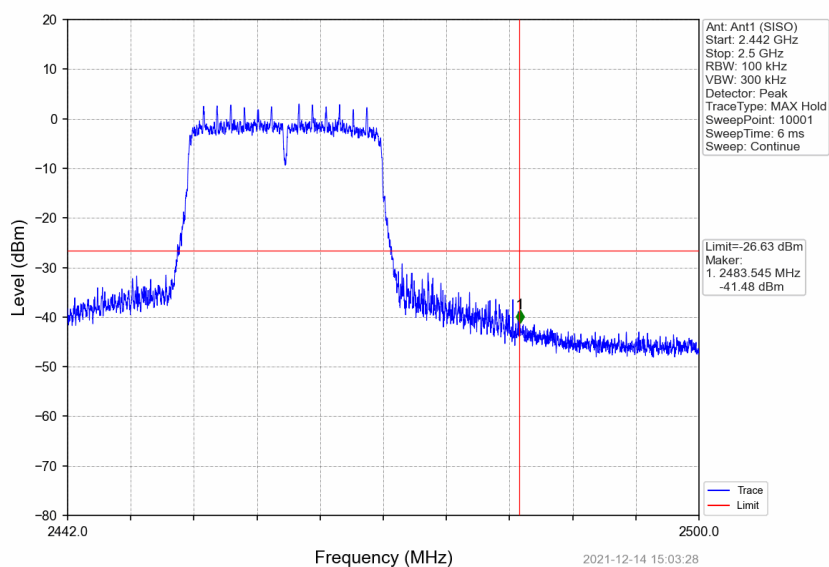
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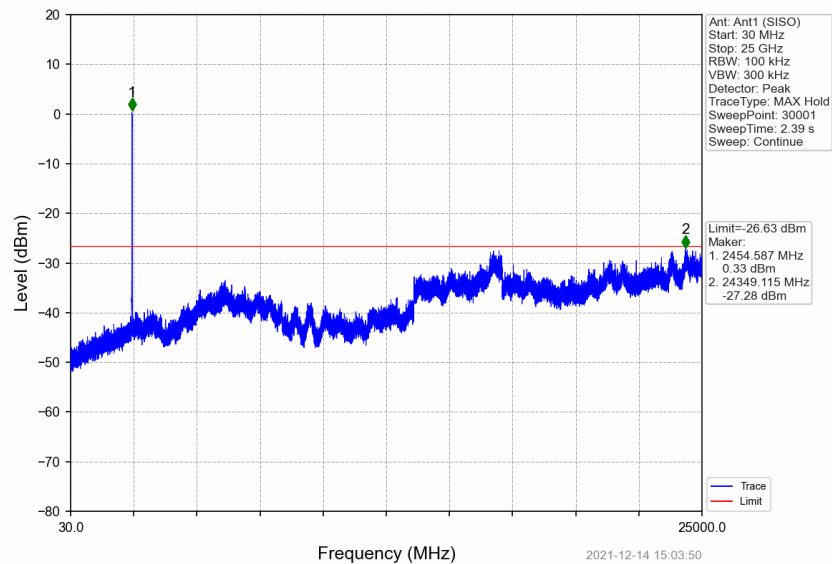
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