



Appendix A for SHEM210700742201

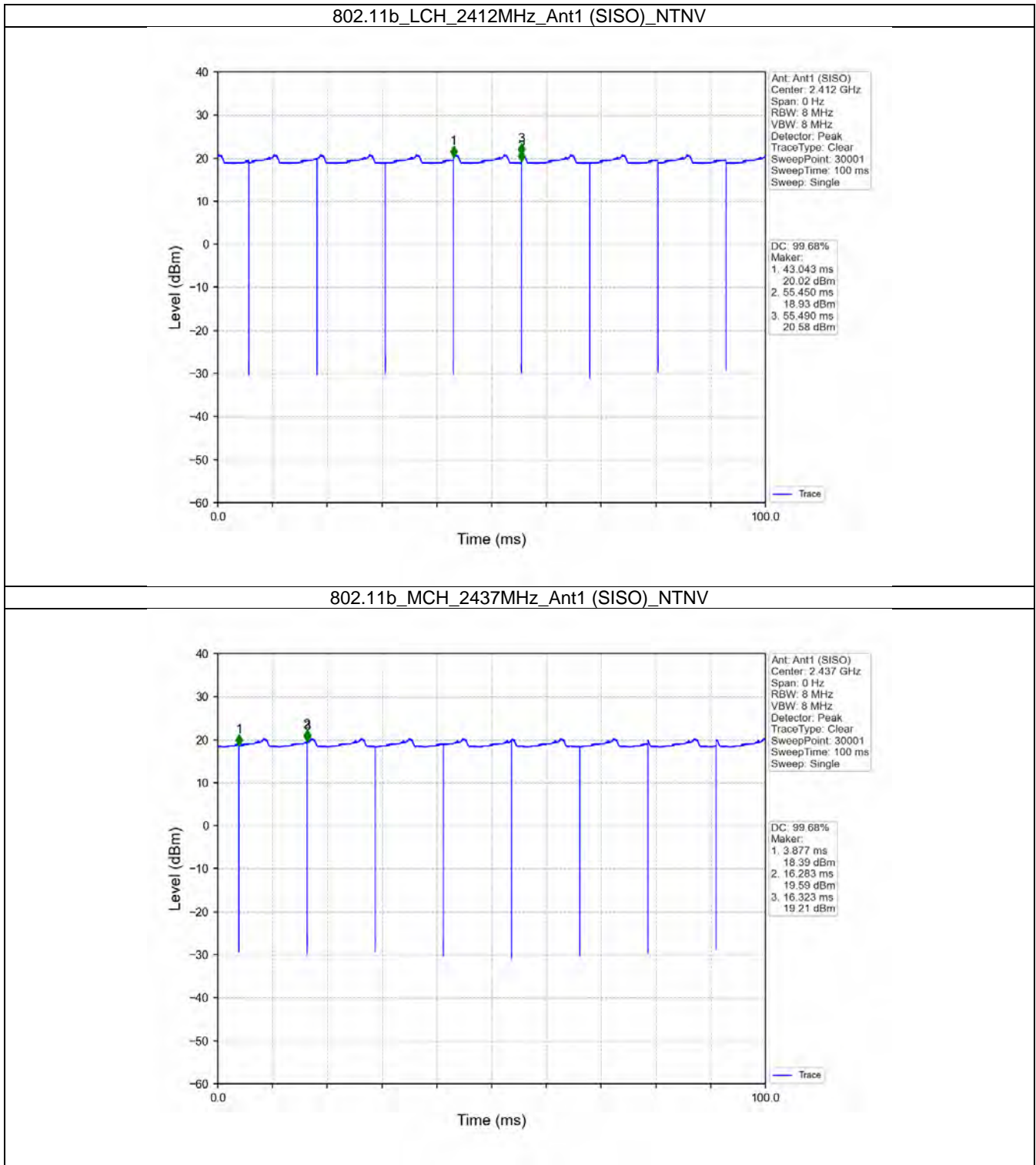
1. Duty Cycle

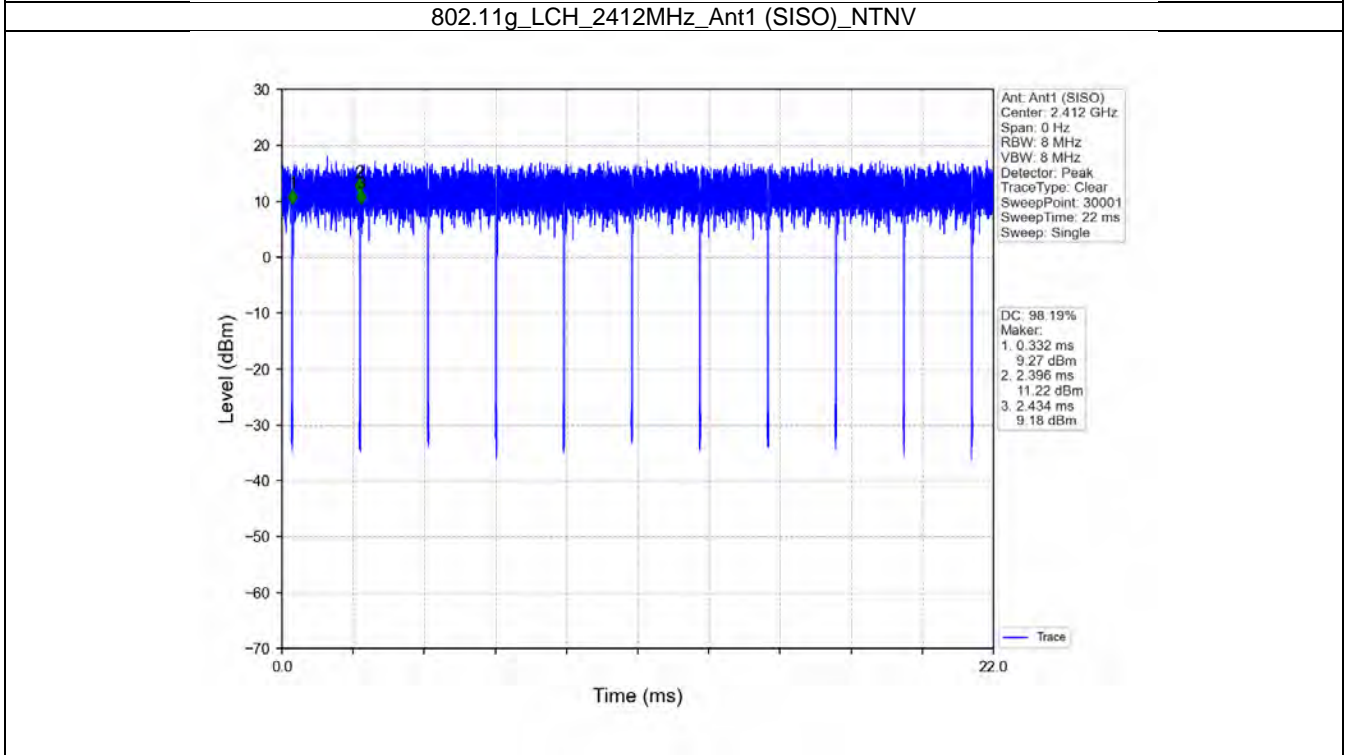
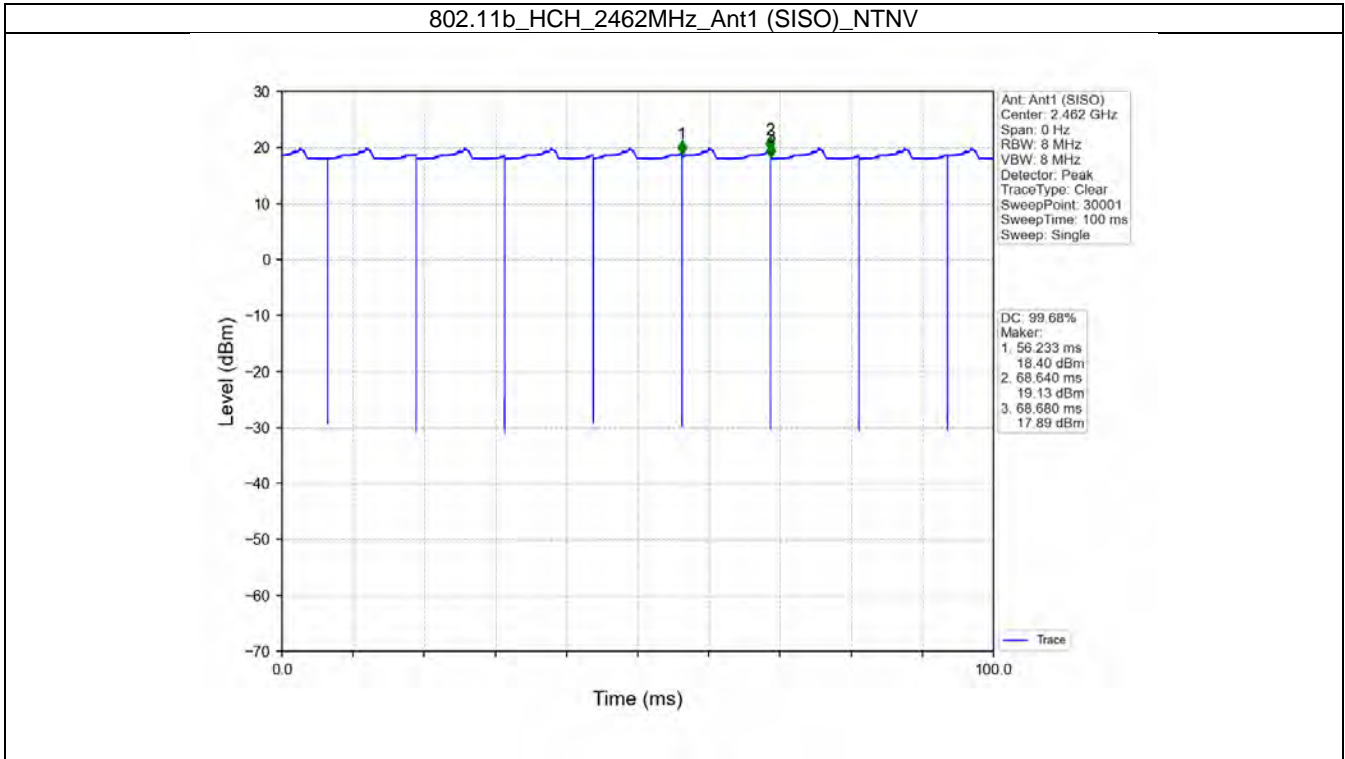
1.1 Ant1

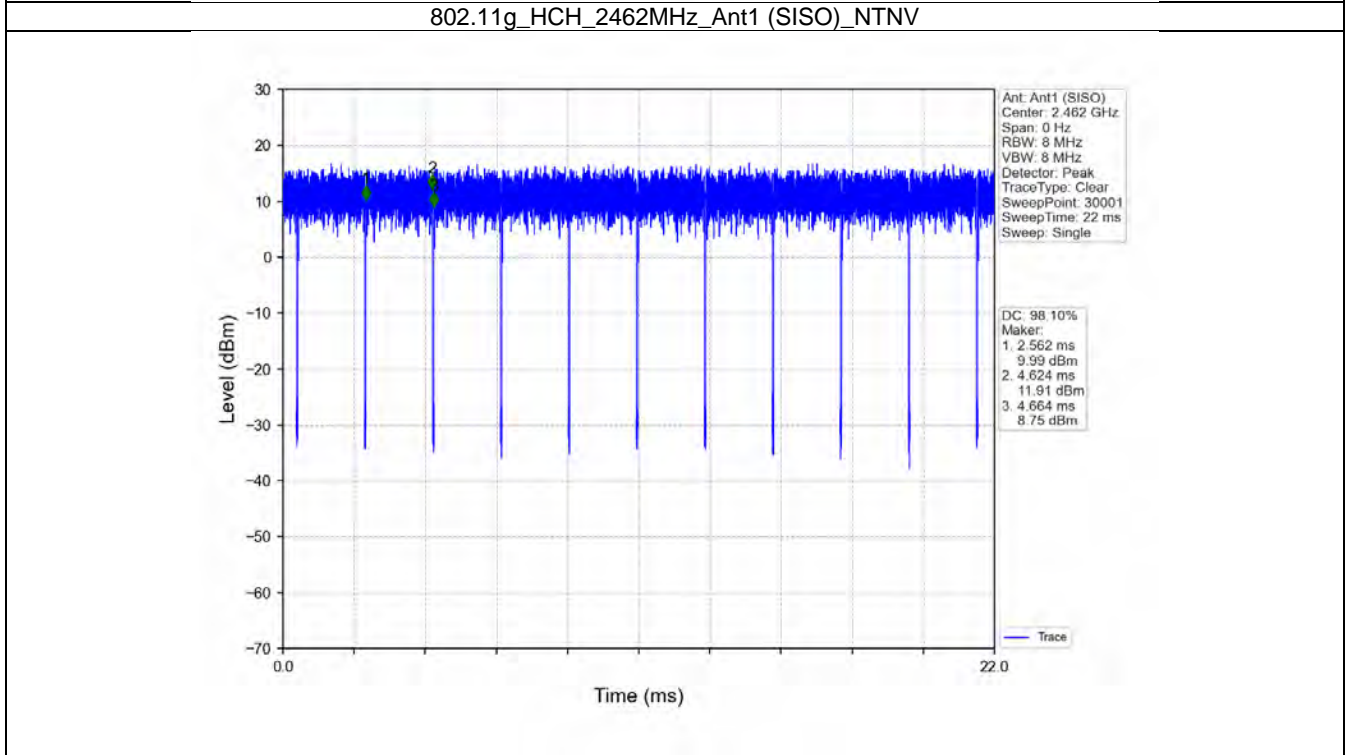
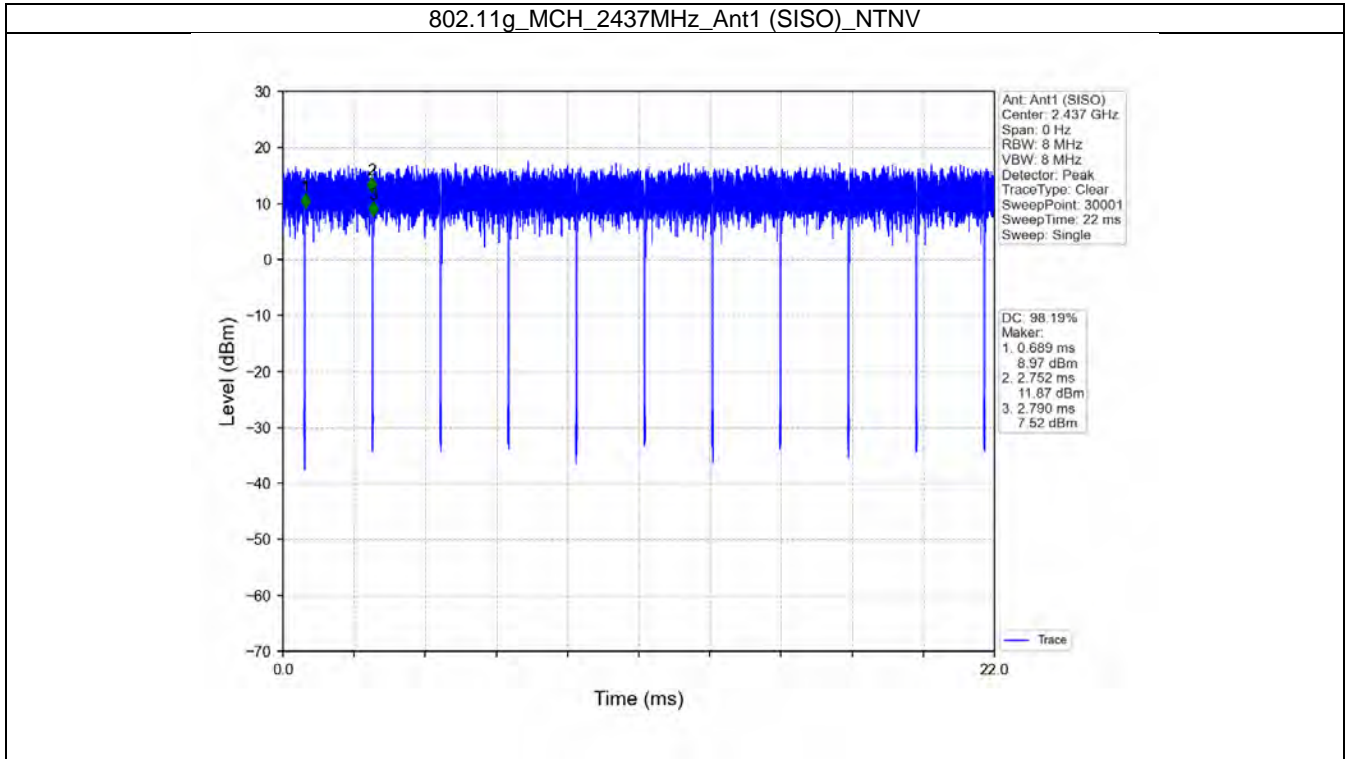
1.1.1 Test Result

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	12.407	12.447	99.68	0.01	0.03
		2437	12.406	12.446	99.68	0.01	0.03
		2462	12.407	12.447	99.68	0.01	0.03
802.11g	SISO	2412	2.064	2.102	98.19	0.08	0.00
		2437	2.063	2.101	98.19	0.08	0.00
		2462	2.062	2.102	98.10	0.08	0.00
802.11n (HT20)	SISO	2412	1.907	2.176	87.64	0.57	0.00
		2437	1.906	3.489	54.63	2.63	32.99
		2462	1.920	2.176	88.24	0.54	0.00

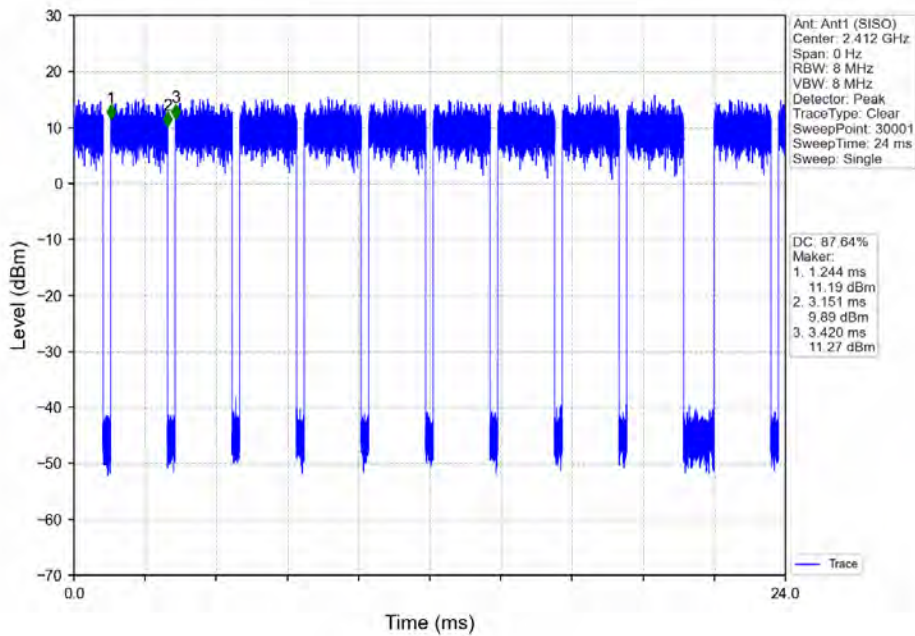
1.1.2 Test Graph



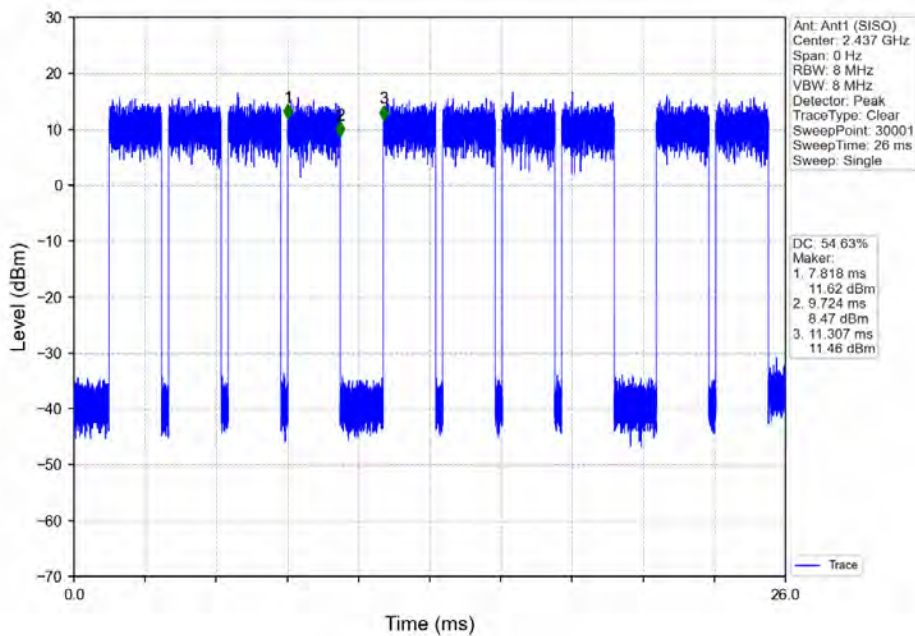


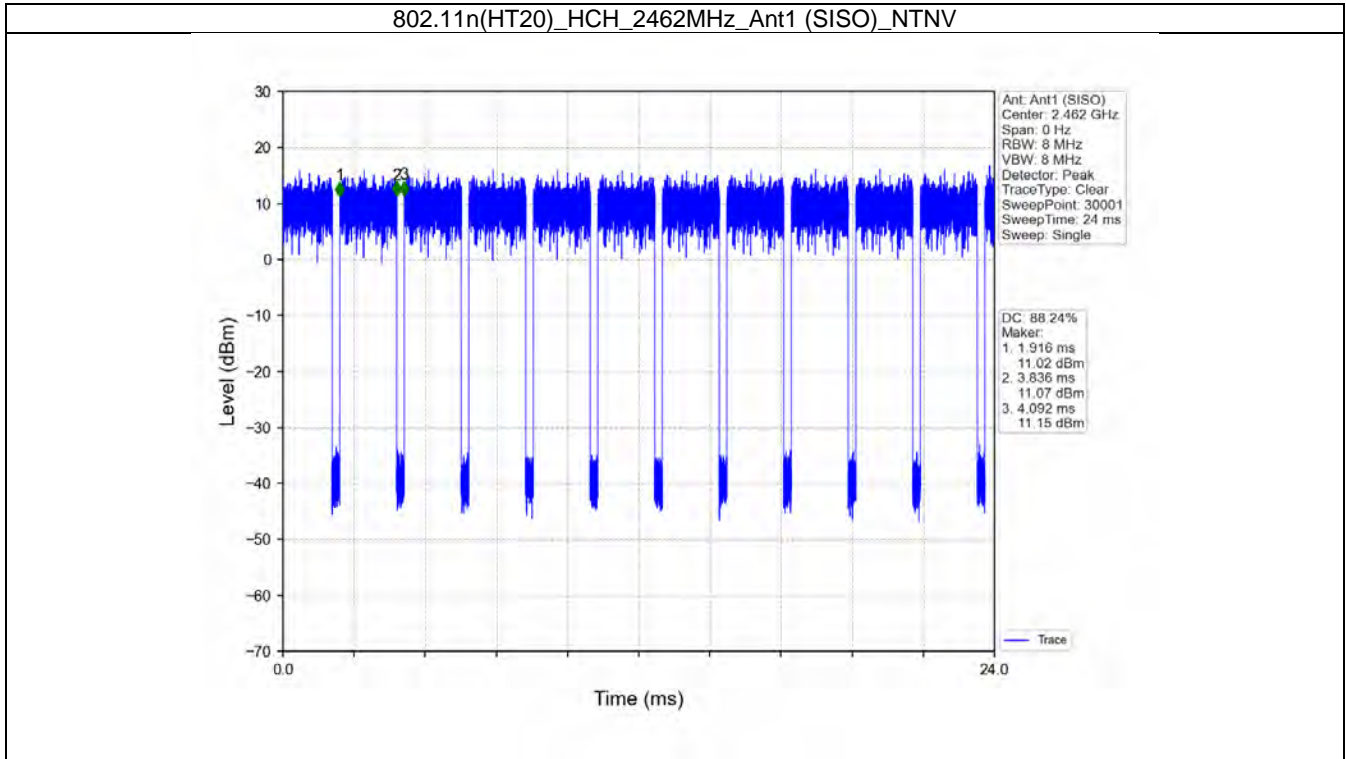


802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV





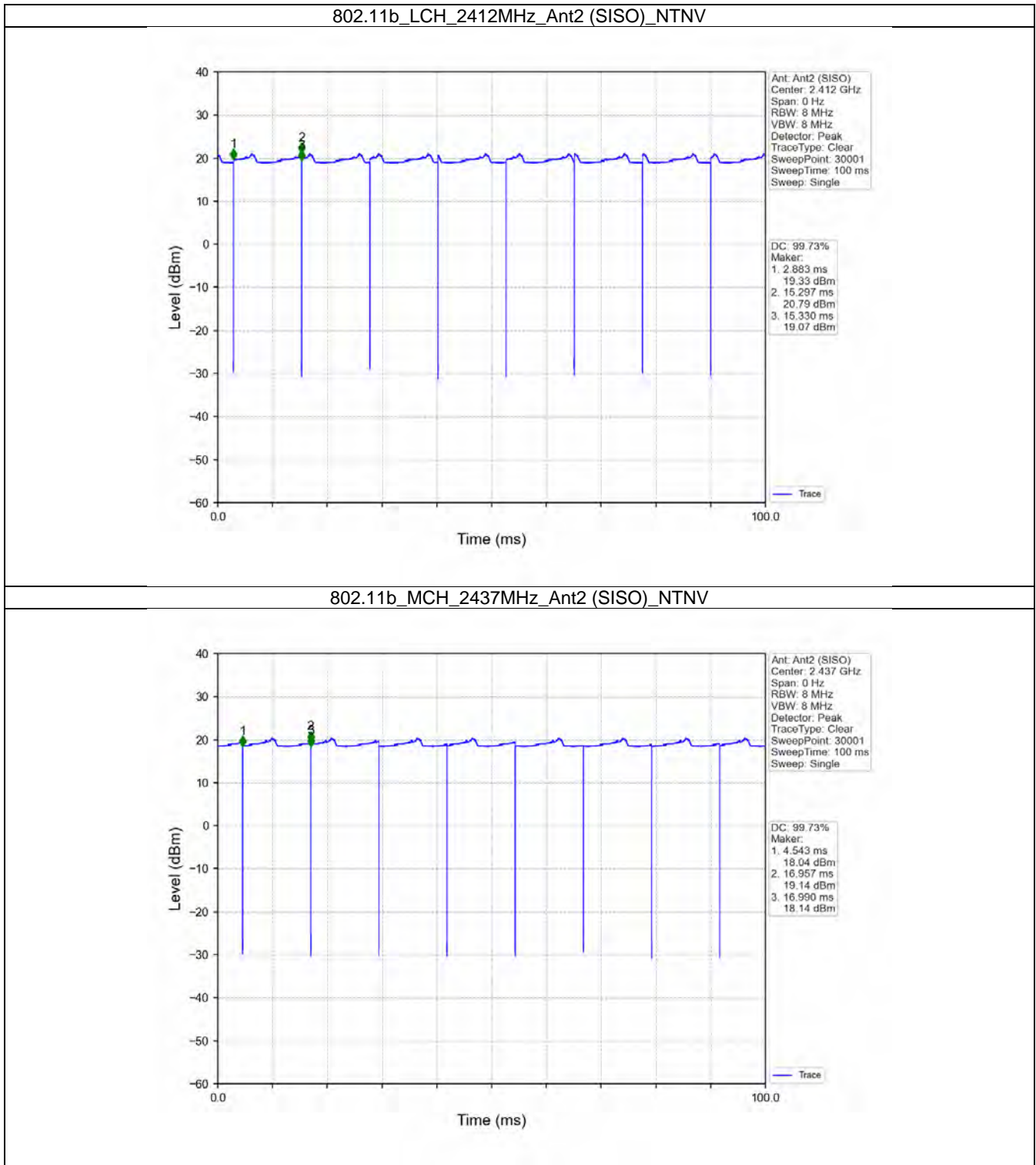


1.2 Ant2

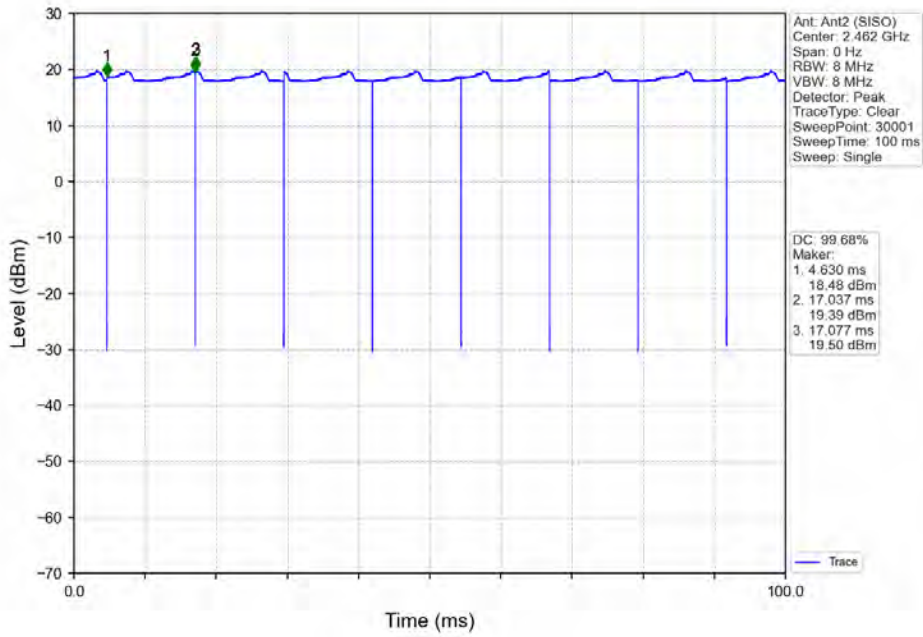
1.2.1 Test Result

Ant2							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11b	SISO	2412	12.414	12.447	99.73	0.01	0.03
		2437	12.414	12.447	99.73	0.01	0.03
		2462	12.407	12.447	99.68	0.01	0.03
802.11g	SISO	2412	2.064	2.102	98.19	0.08	0.00
		2437	2.063	2.102	98.14	0.08	0.03
		2462	2.064	2.102	98.19	0.08	0.00
802.11n (HT20)	SISO	2412	1.919	2.176	88.19	0.55	0.04
		2437	1.920	2.177	88.19	0.55	0.04
		2462	1.907	3.488	54.67	2.62	33.00

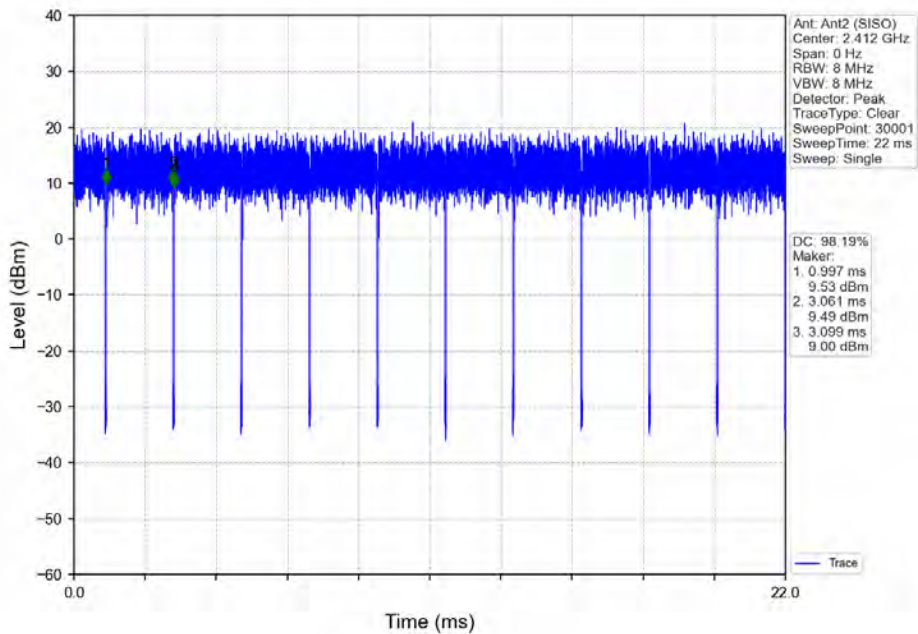
1.2.2 Test Graph



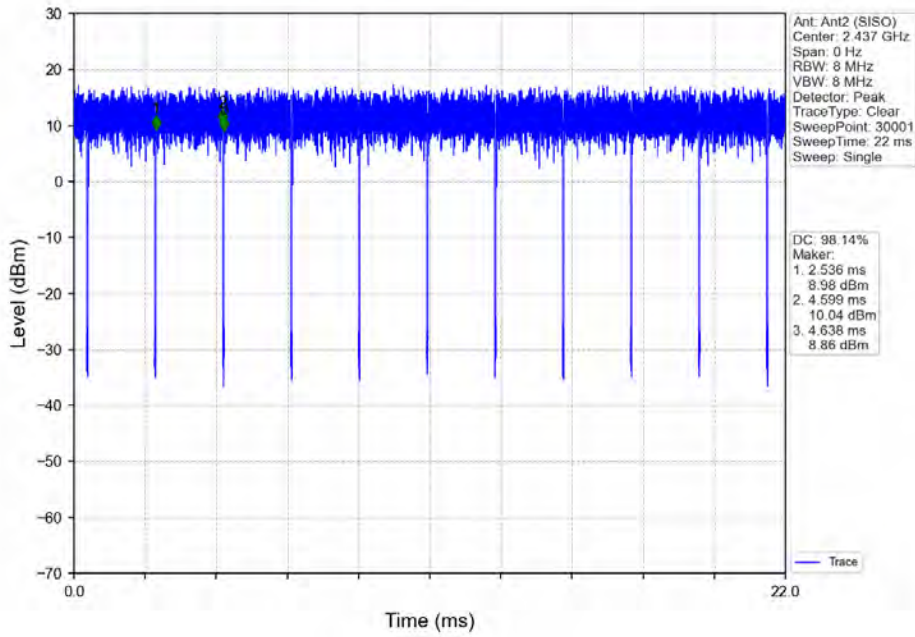
802.11b_HCH_2462MHz_Ant2 (SISO)_NTNV



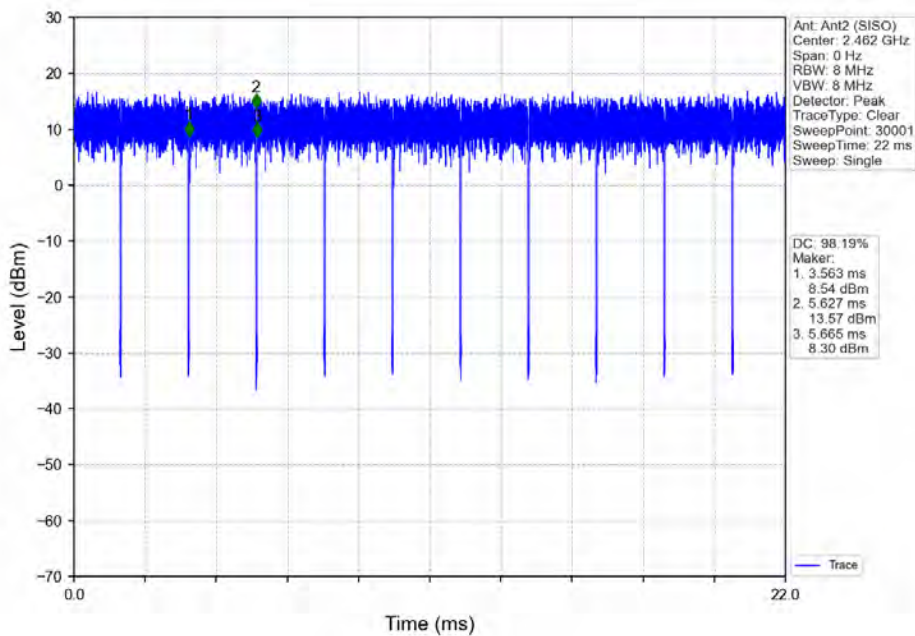
802.11g_LCH_2412MHz_Ant2 (SISO)_NTNV



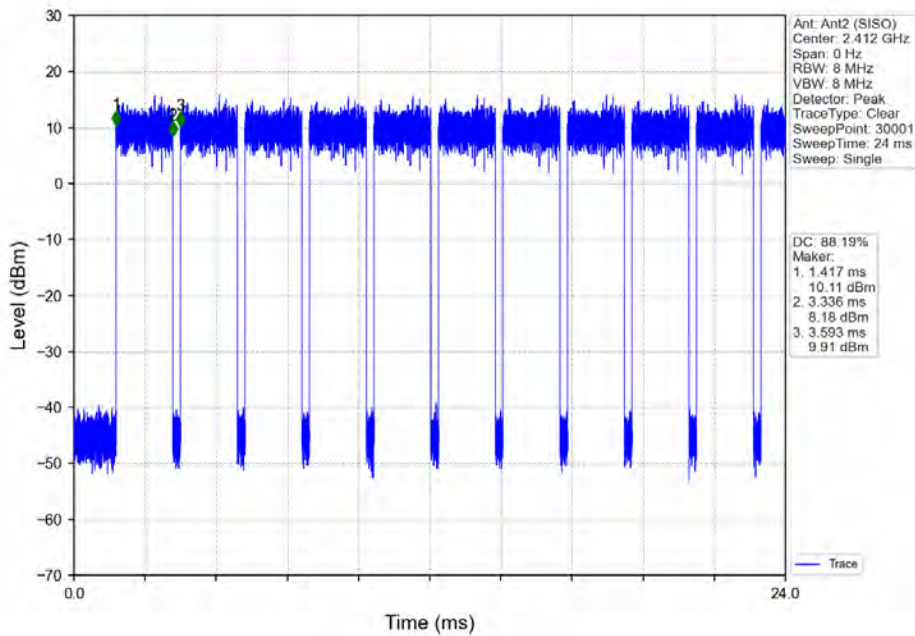
802.11g_MCH_2437MHz_Ant2 (SISO)_NTNV



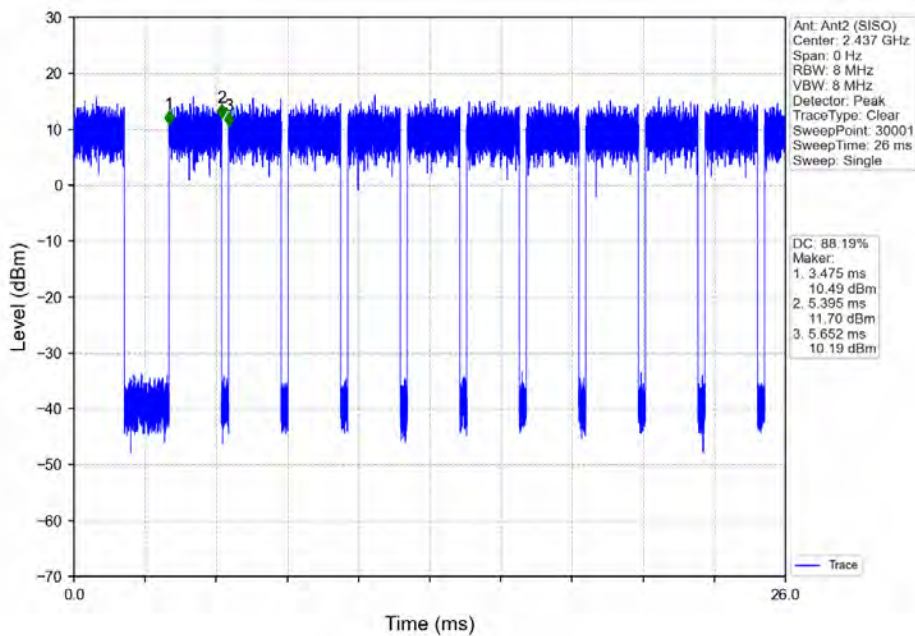
802.11g_HCH_2462MHz_Ant2 (SISO)_NTNV

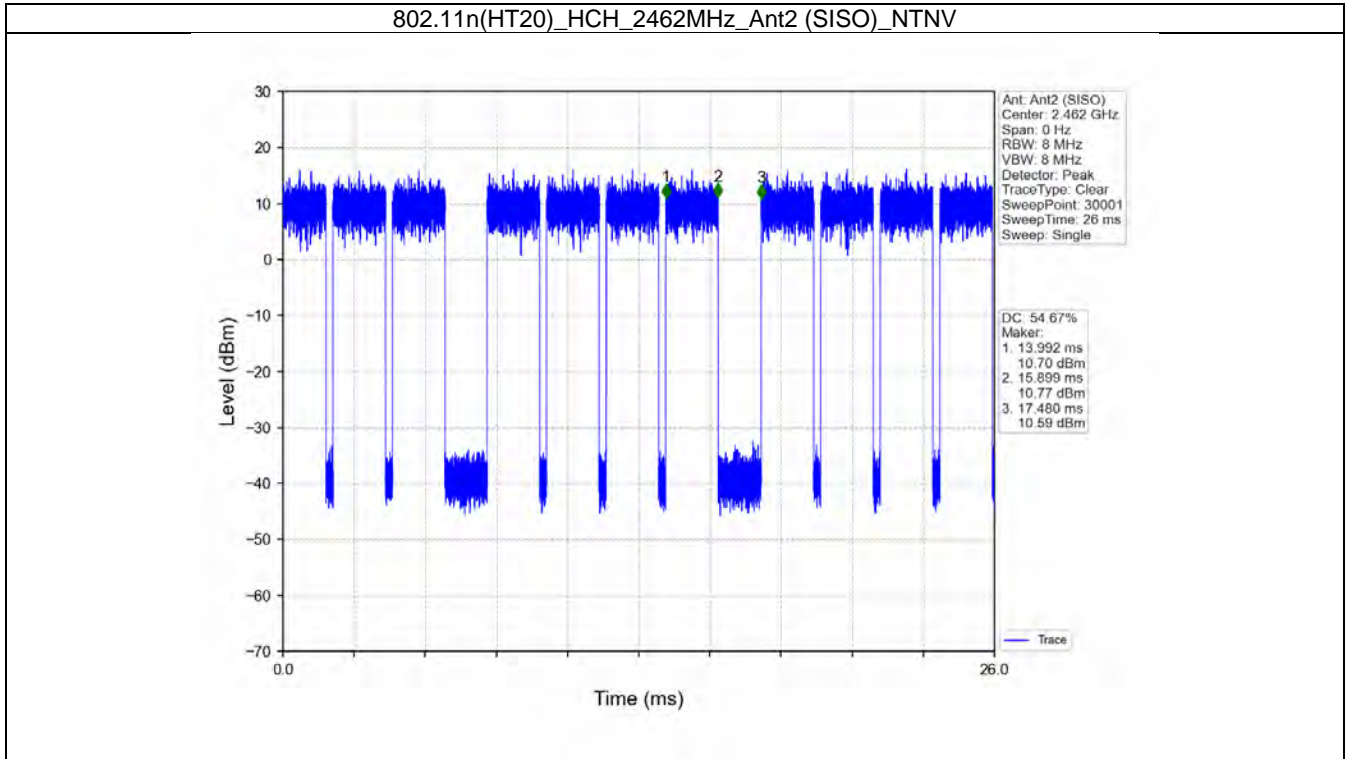


802.11n(HT20)_LCH_2412MHz_Ant2 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant2 (SISO)_NTNV







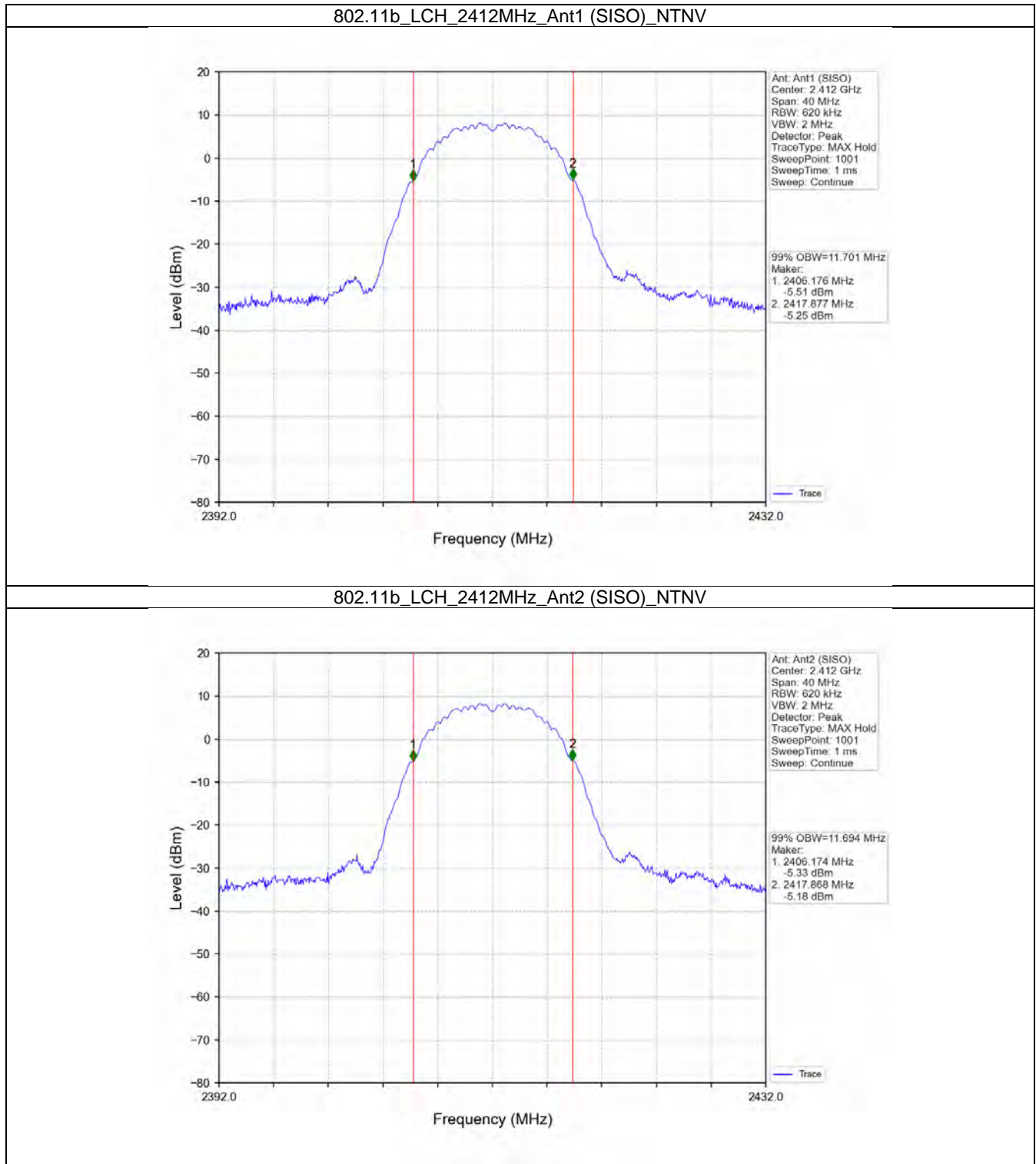
2. Bandwidth

2.1 OBW

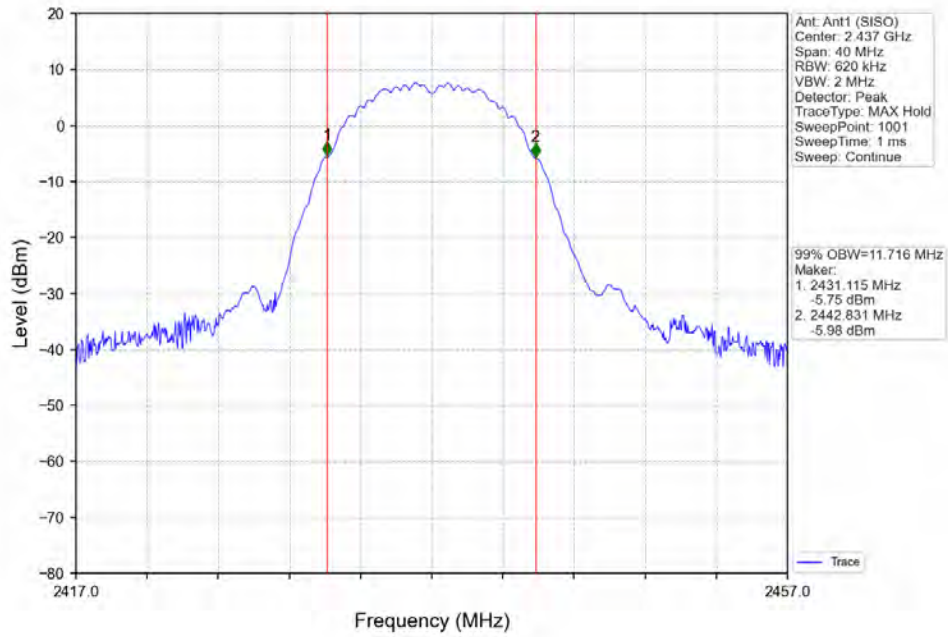
2.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Ant	99% Occupied Bandwidth (MHz)	Limit (MHz)	Verdict
802.11b	SISO	2412	1	11.701	/	Pass
			2	11.694	/	Pass
		2437	1	11.716	/	Pass
			2	11.695	/	Pass
		2462	1	11.734	/	Pass
			2	11.662	/	Pass
802.11g	SISO	2412	1	17.312	/	Pass
			2	18.274	/	Pass
		2437	1	17.390	/	Pass
			2	17.360	/	Pass
		2462	1	17.416	/	Pass
			2	17.389	/	Pass
802.11n (HT20)	SISO	2412	1	18.398	/	Pass
			2	18.487	/	Pass
		2437	1	18.673	/	Pass
			2	18.718	/	Pass
		2462	1	18.471	/	Pass
			2	18.586	/	Pass

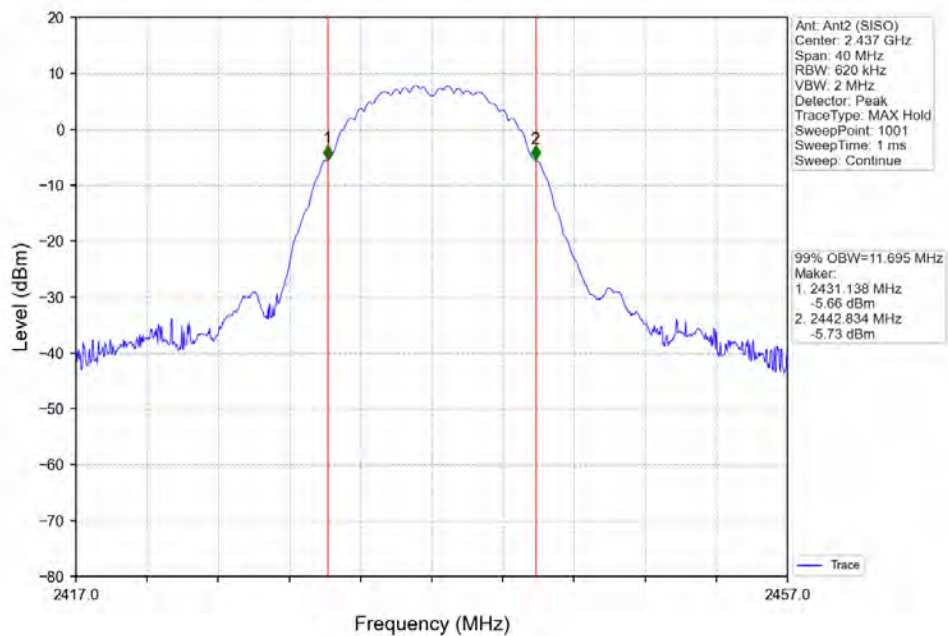
2.1.2 Test Graph



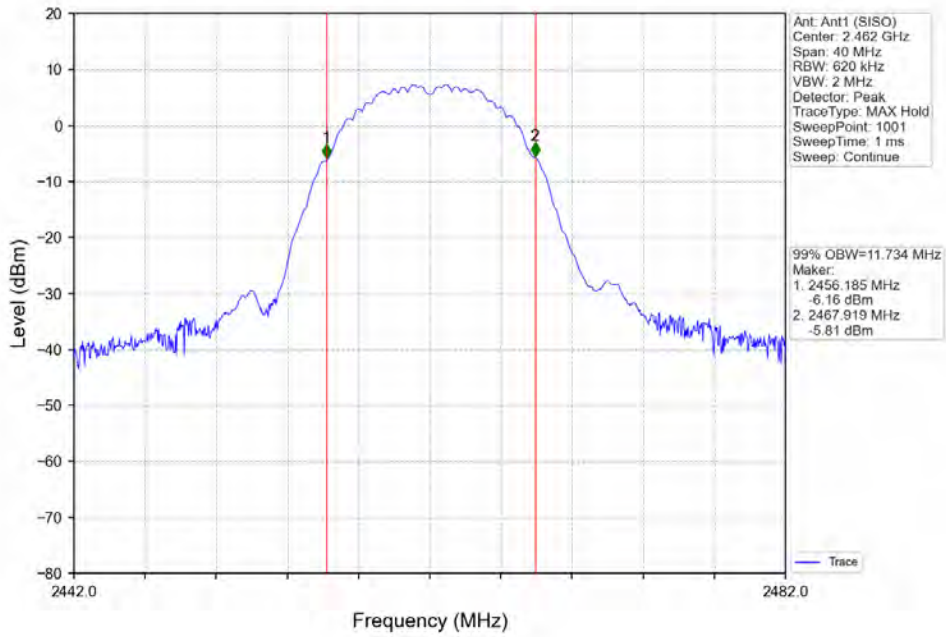
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



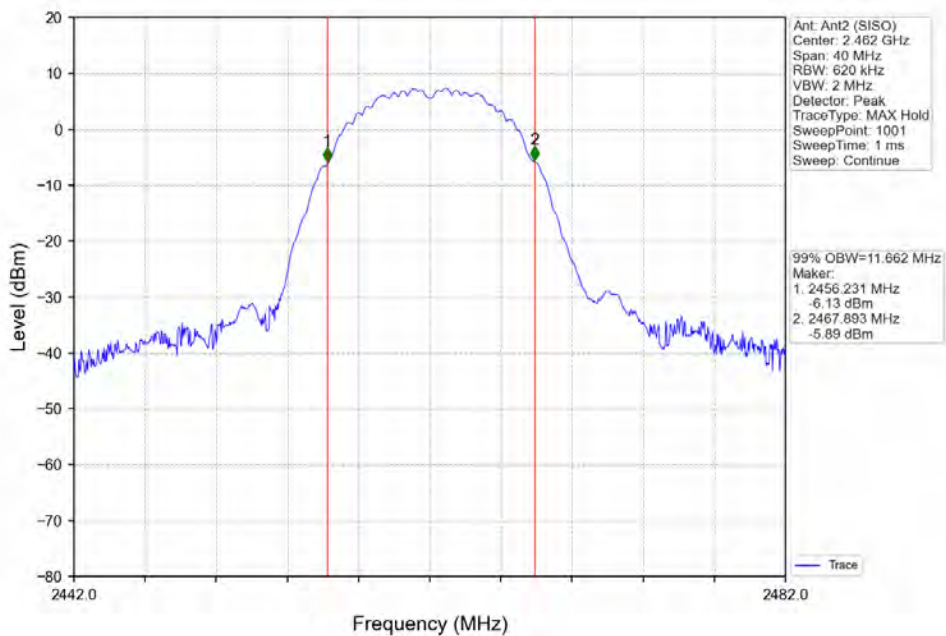
802.11b_MCH_2437MHz_Ant2 (SISO)_NTNV



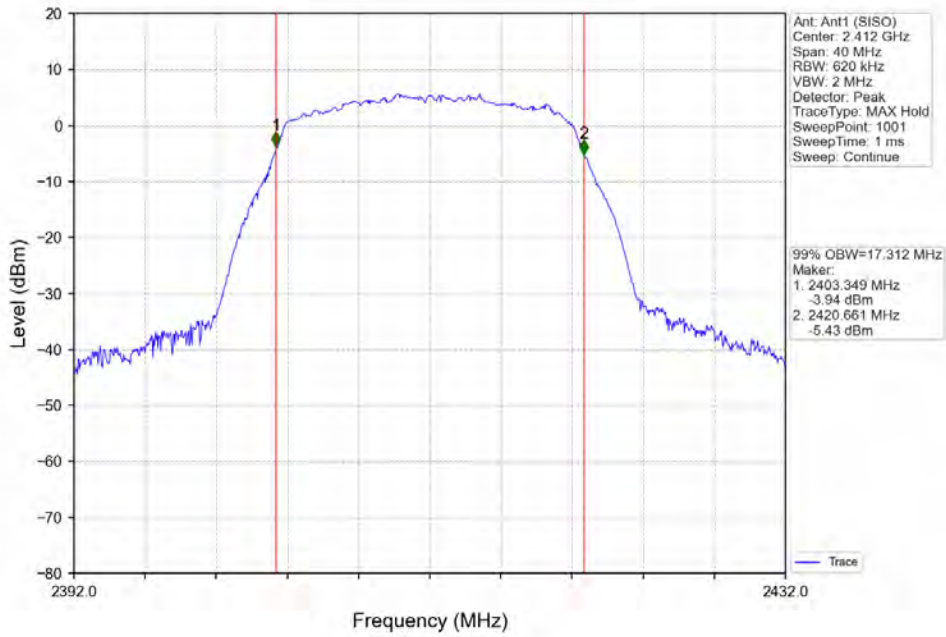
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



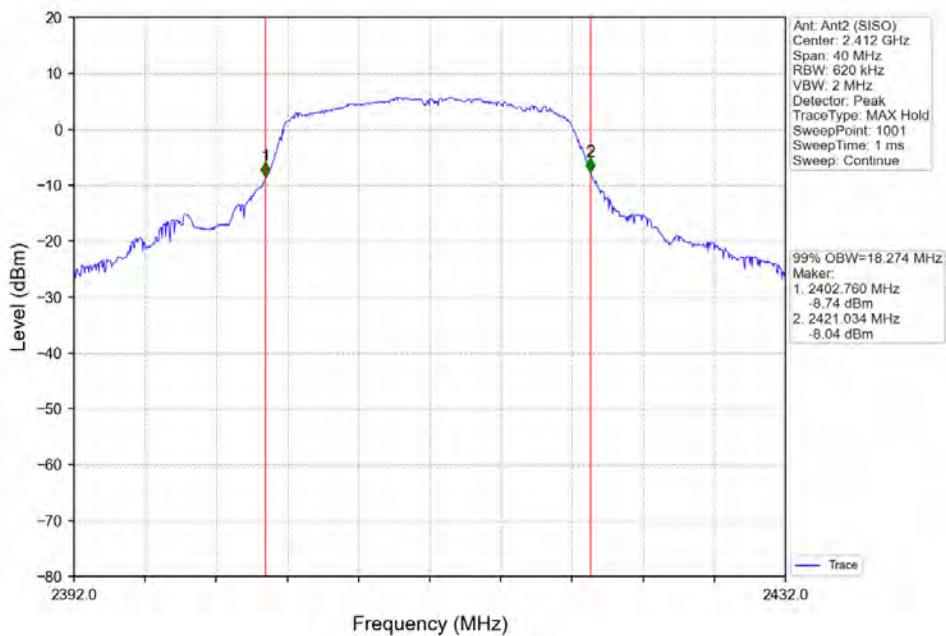
802.11b_HCH_2462MHz_Ant2 (SISO)_NTNV



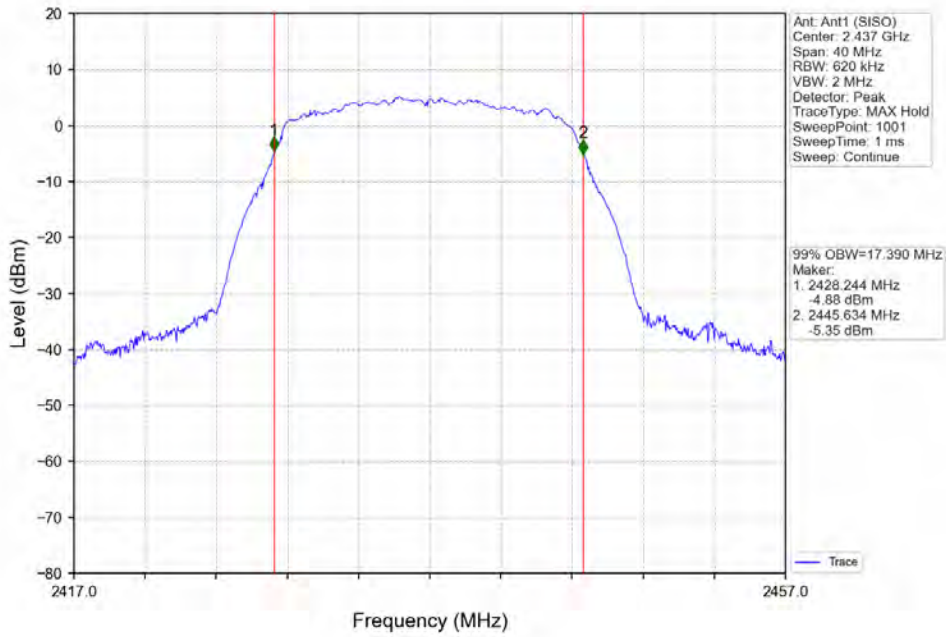
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



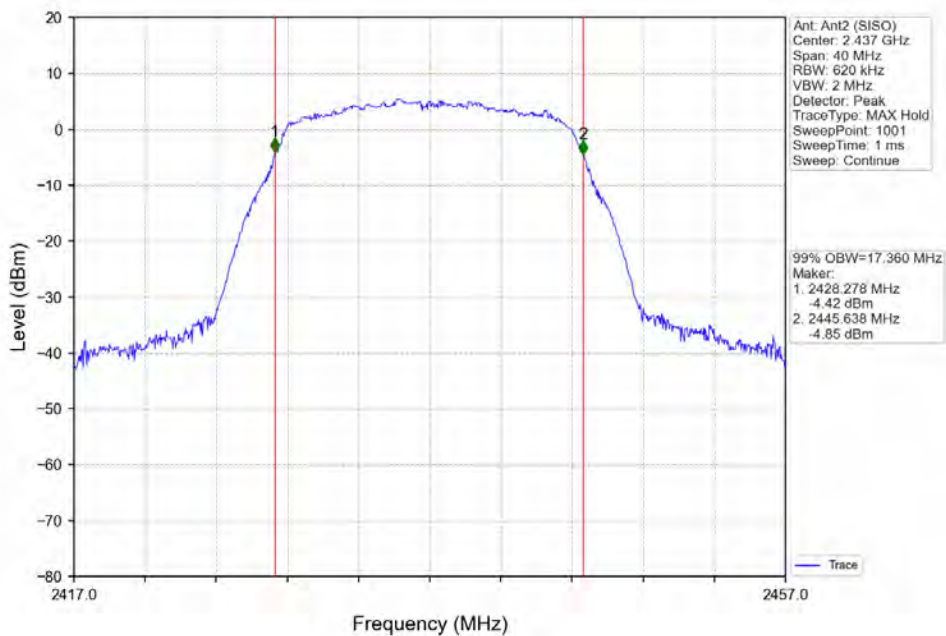
802.11g_LCH_2412MHz_Ant2 (SISO)_NTNV



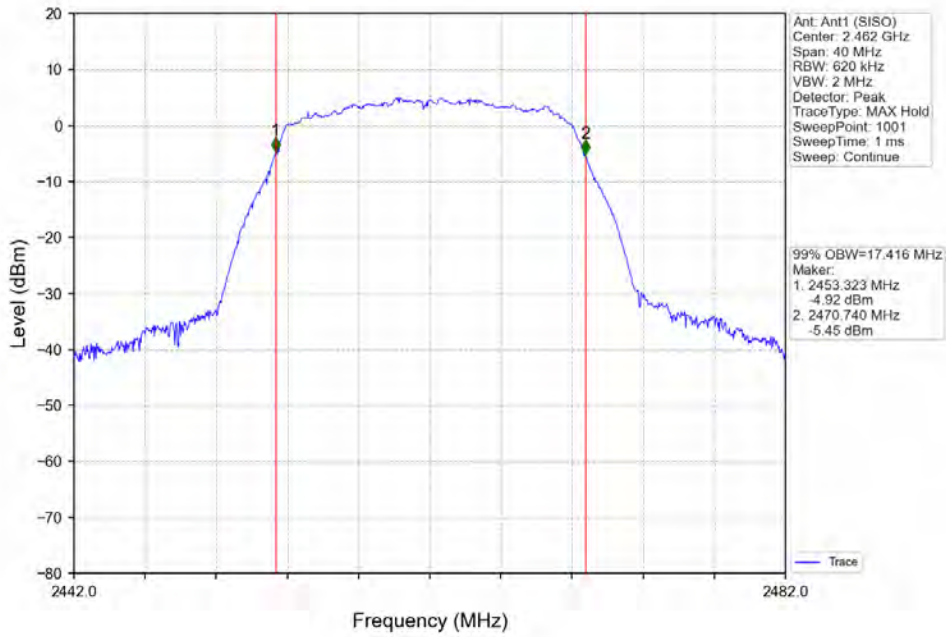
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



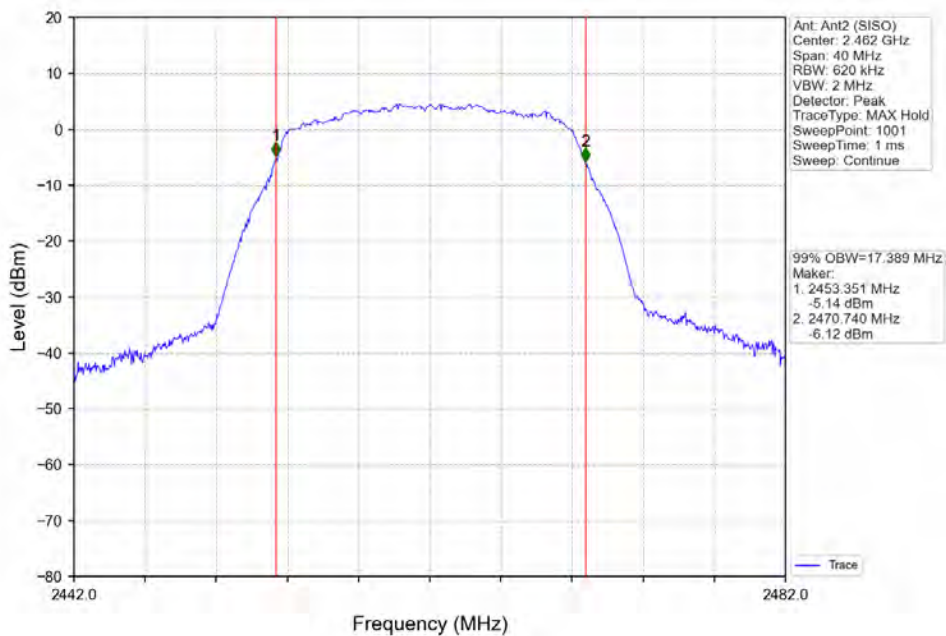
802.11g_MCH_2437MHz_Ant2 (SISO)_NTNV



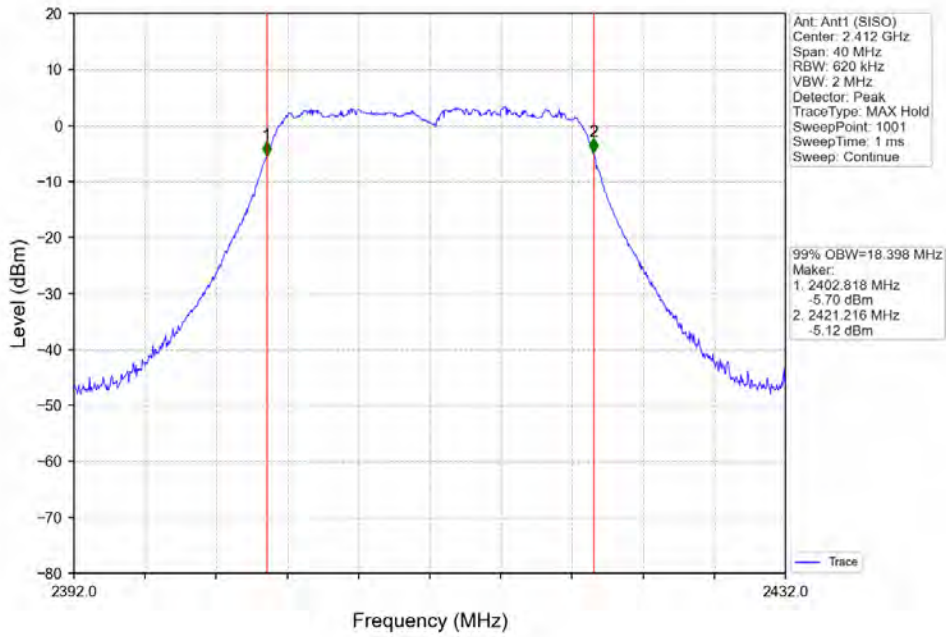
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



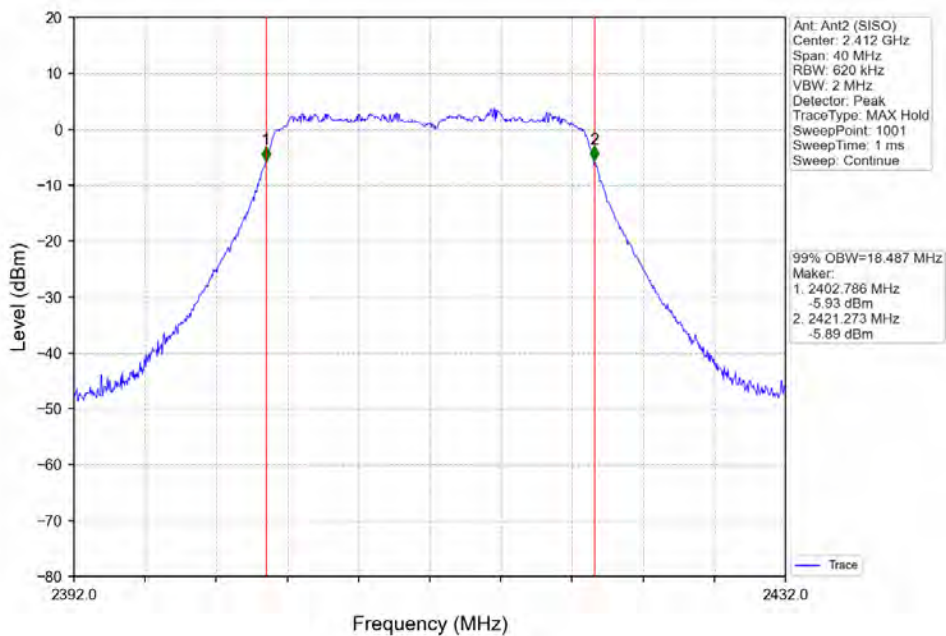
802.11g_HCH_2462MHz_Ant2 (SISO)_NTNV



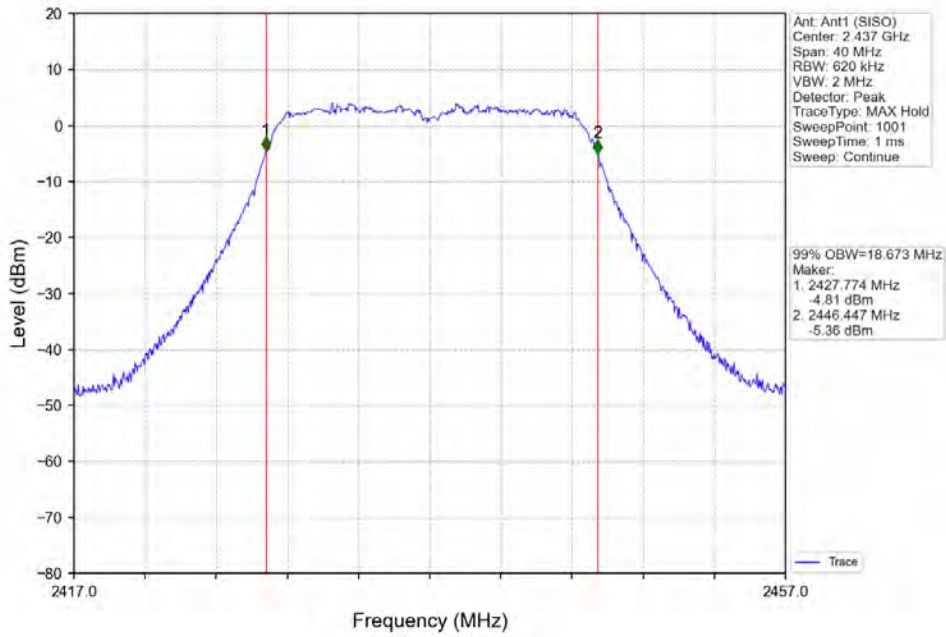
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



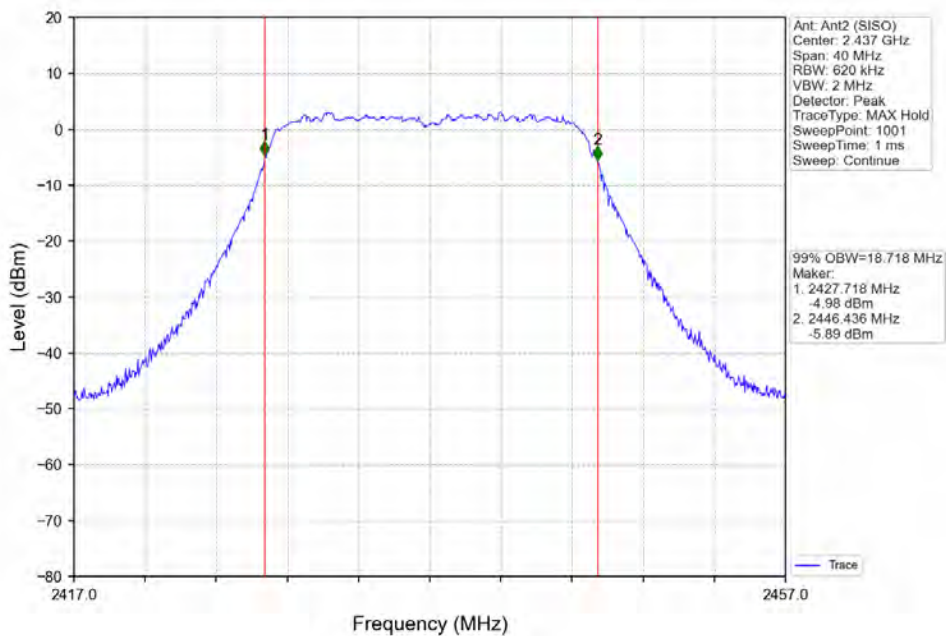
802.11n(HT20)_LCH_2412MHz_Ant2 (SISO)_NTNV



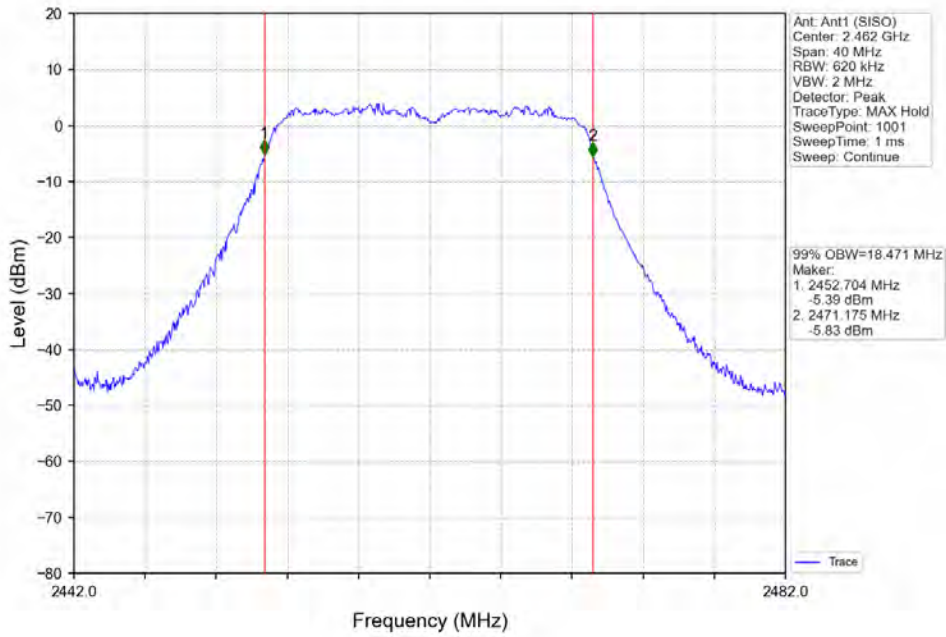
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



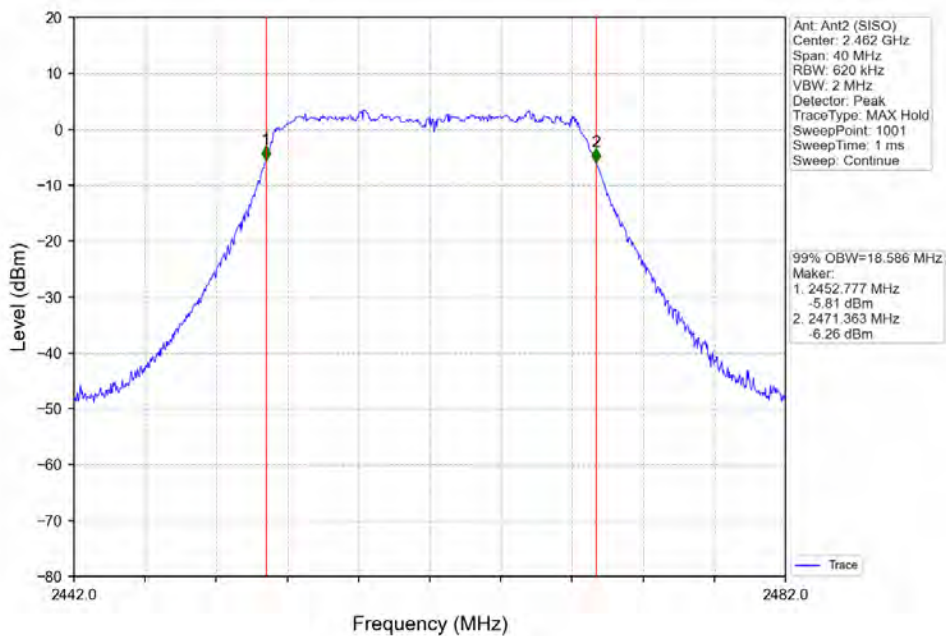
802.11n(HT20)_MCH_2437MHz_Ant2 (SISO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant2 (SISO)_NTNV



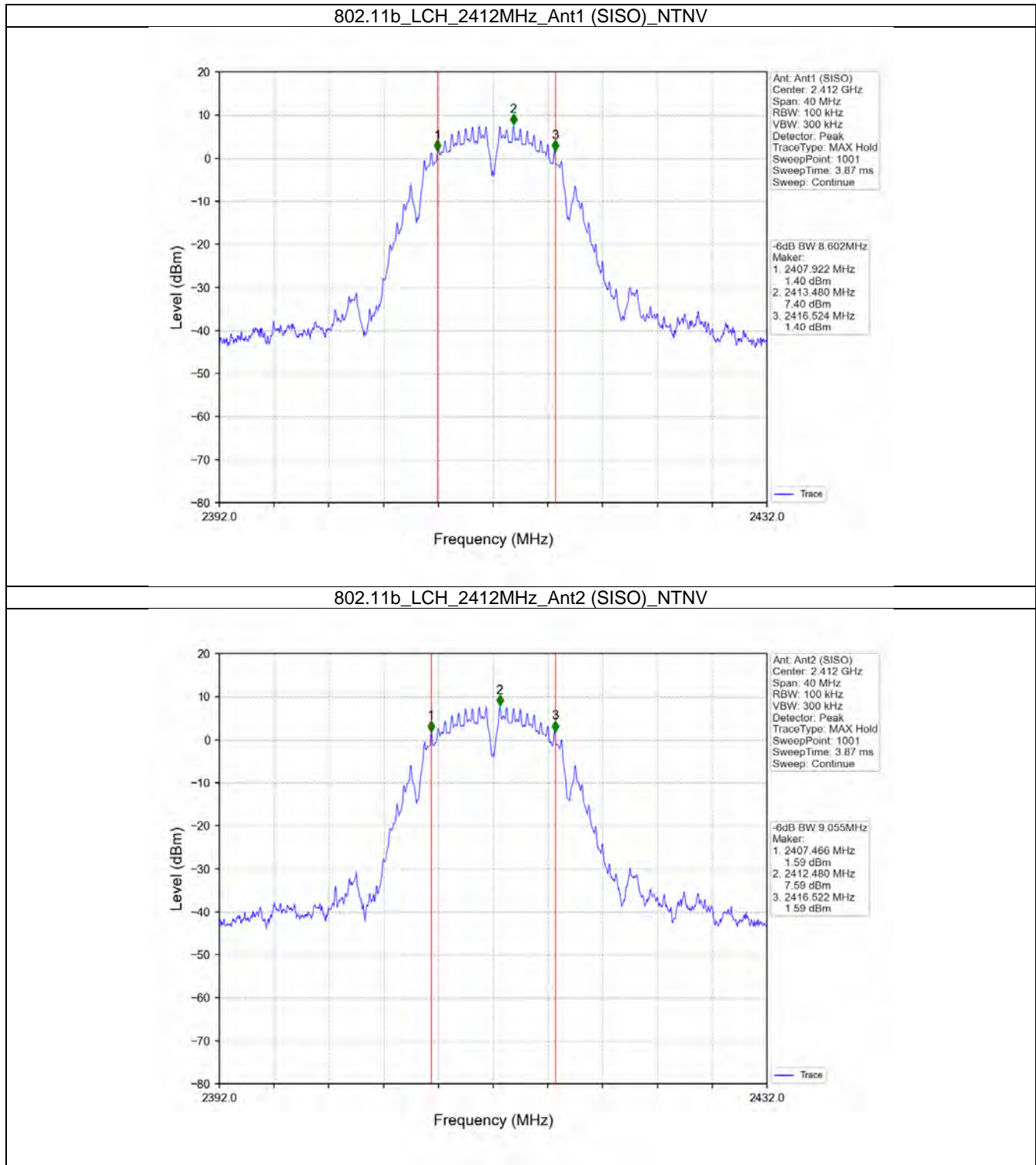


2.2 6dB BW

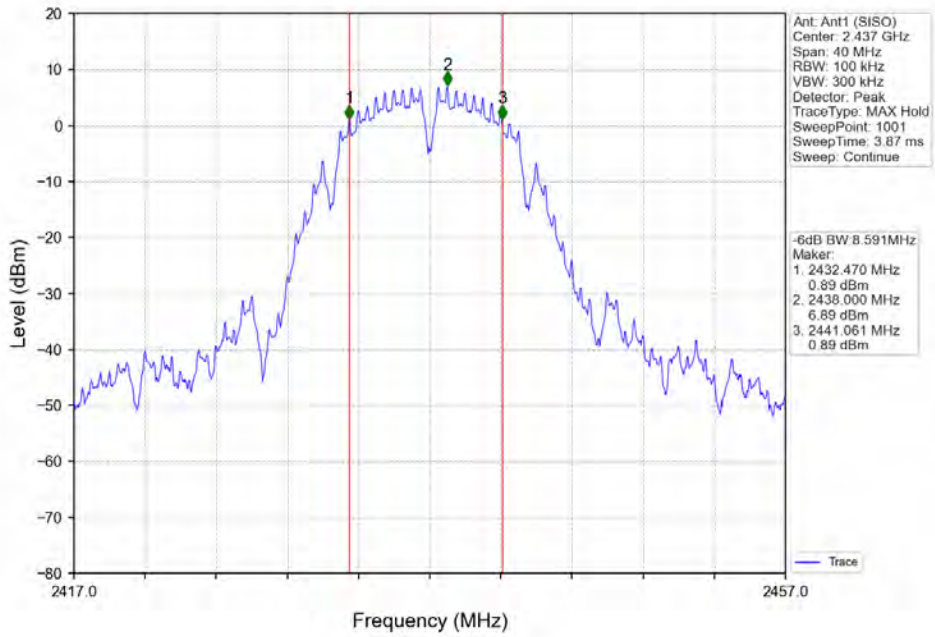
2.2.1 Test Result

Mode	TX Type	Frequency (MHz)	Ant	6dB Bandwidth (MHz)	Limit (MHz)	Verdict
802.11b	SISO	2412	1	8.602	≥ 0.5	Pass
			2	9.055	≥ 0.5	Pass
		2437	1	8.591	≥ 0.5	Pass
			2	9.080	≥ 0.5	Pass
		2462	1	9.063	≥ 0.5	Pass
			2	8.608	≥ 0.5	Pass
802.11g	SISO	2412	1	15.152	≥ 0.5	Pass
			2	15.468	≥ 0.5	Pass
		2437	1	15.173	≥ 0.5	Pass
			2	15.446	≥ 0.5	Pass
		2462	1	15.430	≥ 0.5	Pass
			2	15.759	≥ 0.5	Pass
802.11n (HT20)	SISO	2412	1	17.577	≥ 0.5	Pass
			2	17.569	≥ 0.5	Pass
		2437	1	17.339	≥ 0.5	Pass
			2	17.574	≥ 0.5	Pass
		2462	1	17.561	≥ 0.5	Pass
			2	17.327	≥ 0.5	Pass

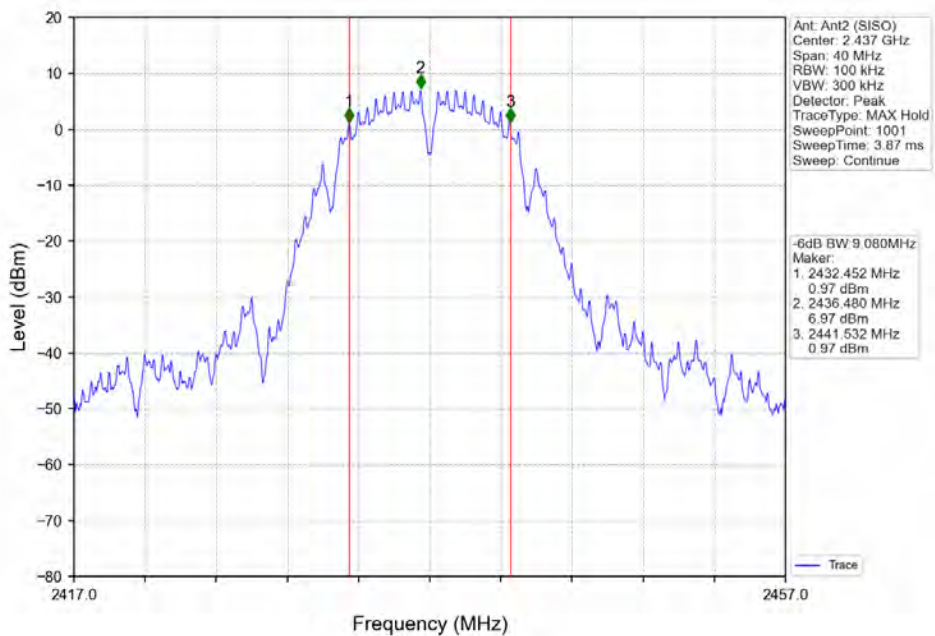
2.2.2 Test Graph



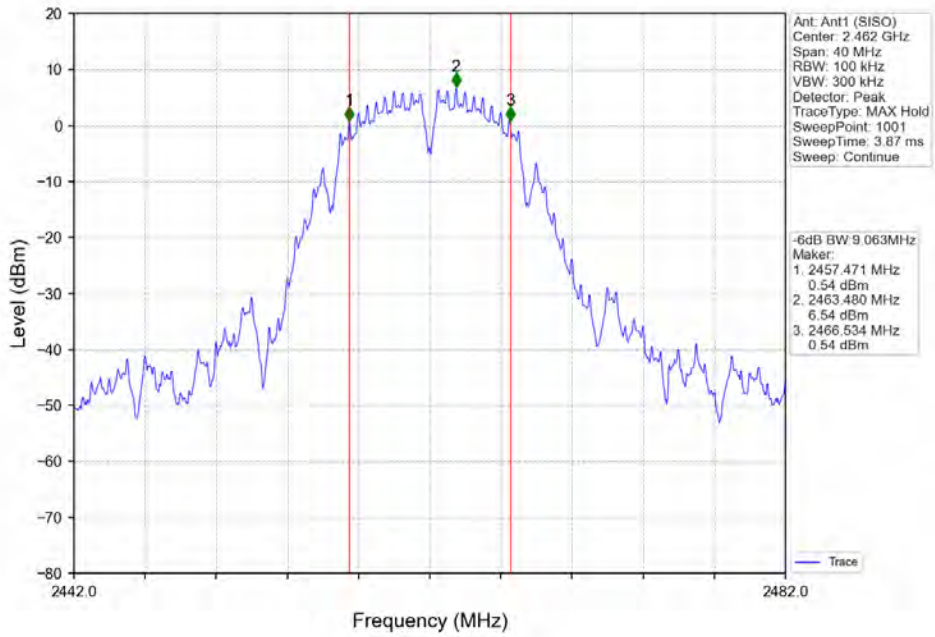
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



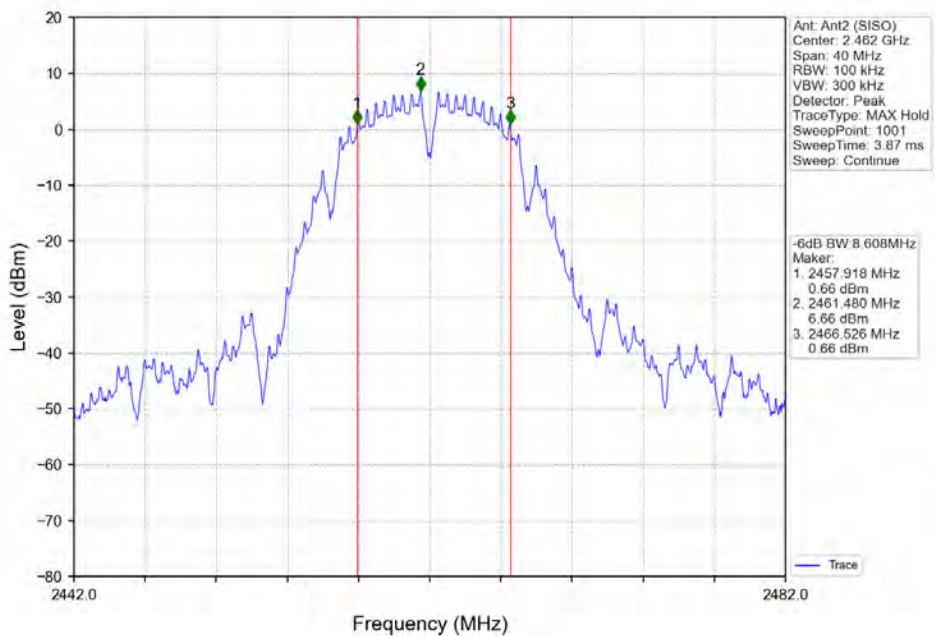
802.11b_MCH_2437MHz_Ant2 (SISO)_NTNV



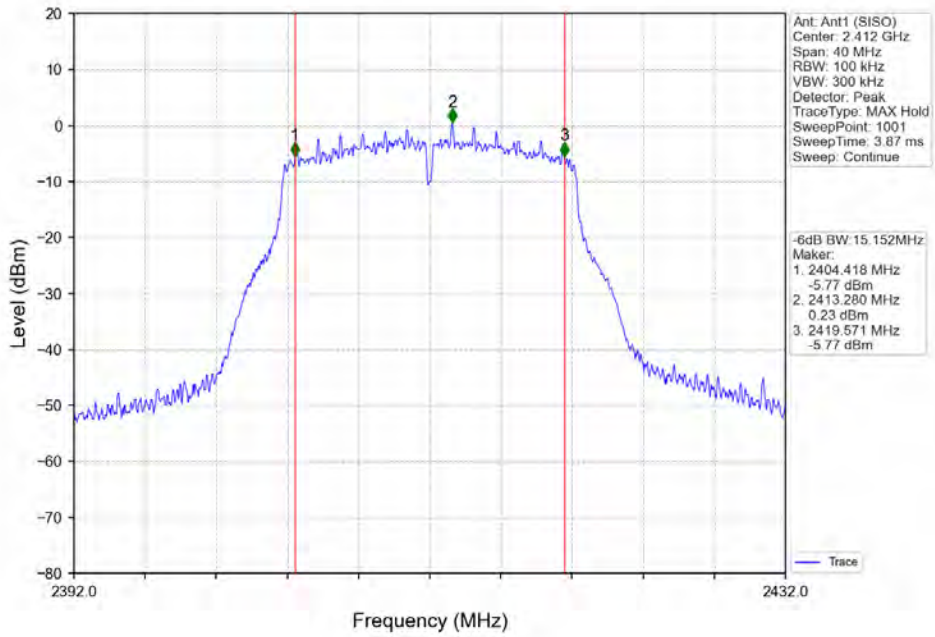
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



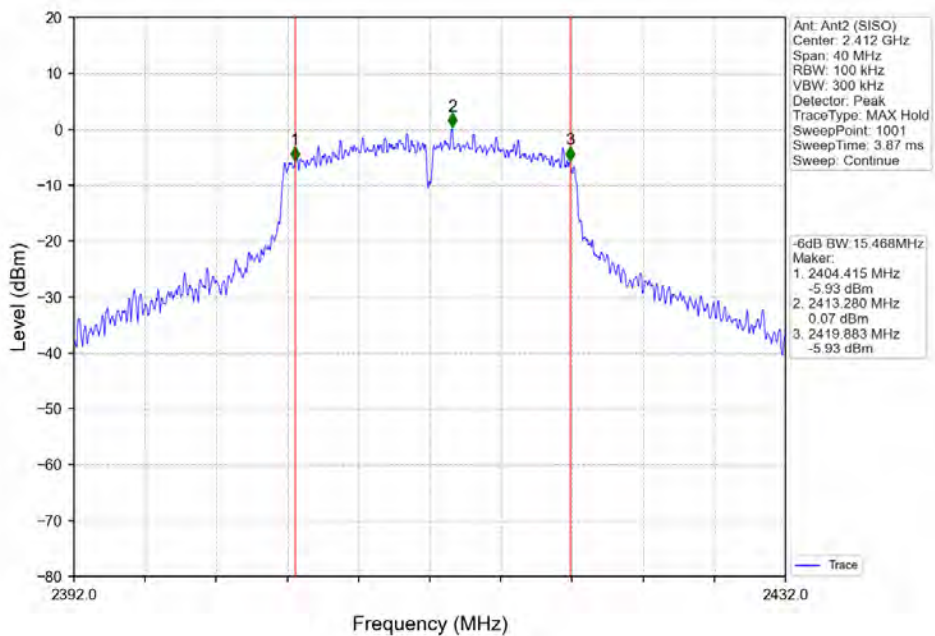
802.11b_HCH_2462MHz_Ant2 (SISO)_NTNV



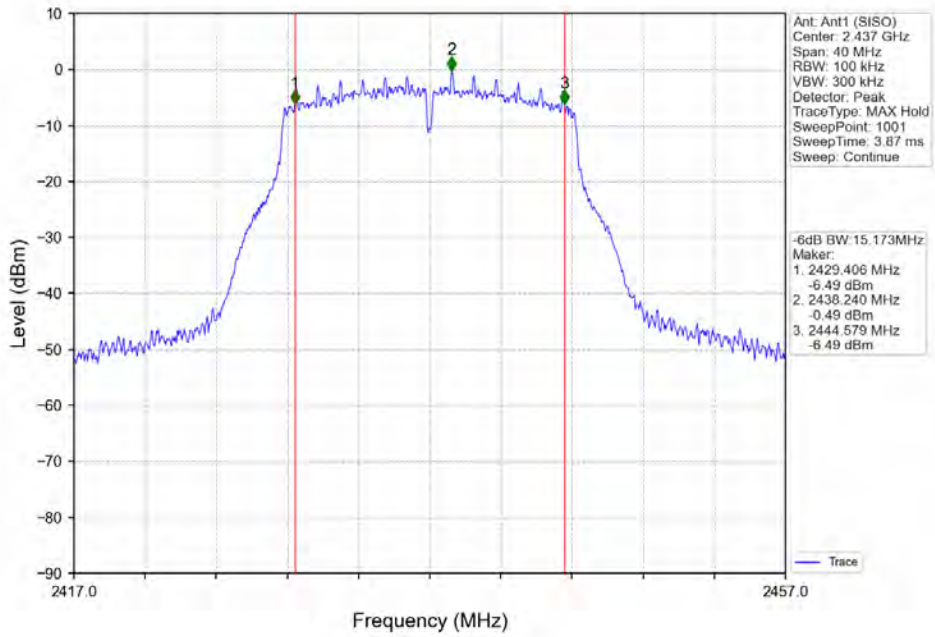
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



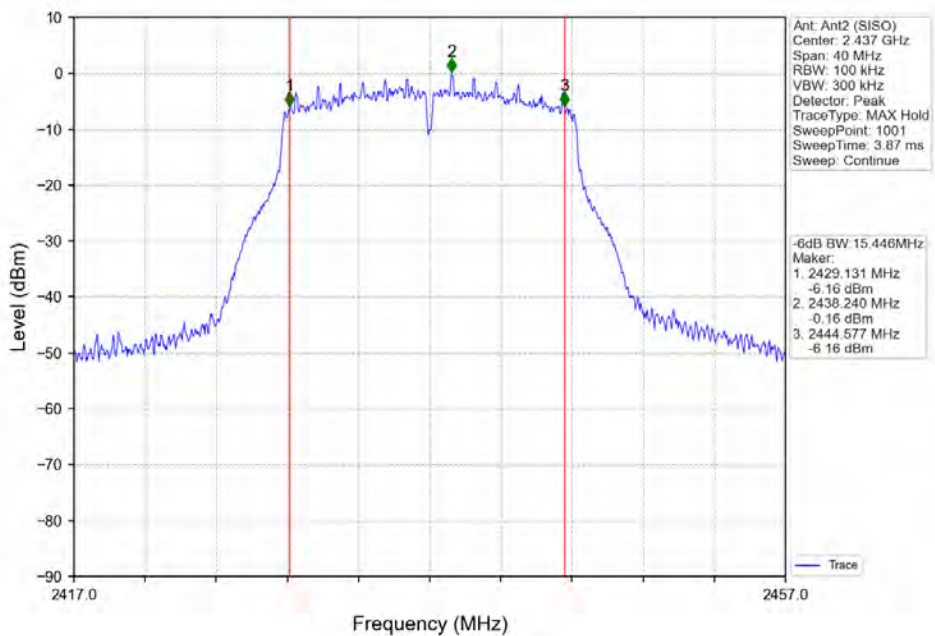
802.11g_LCH_2412MHz_Ant2 (SISO)_NTNV



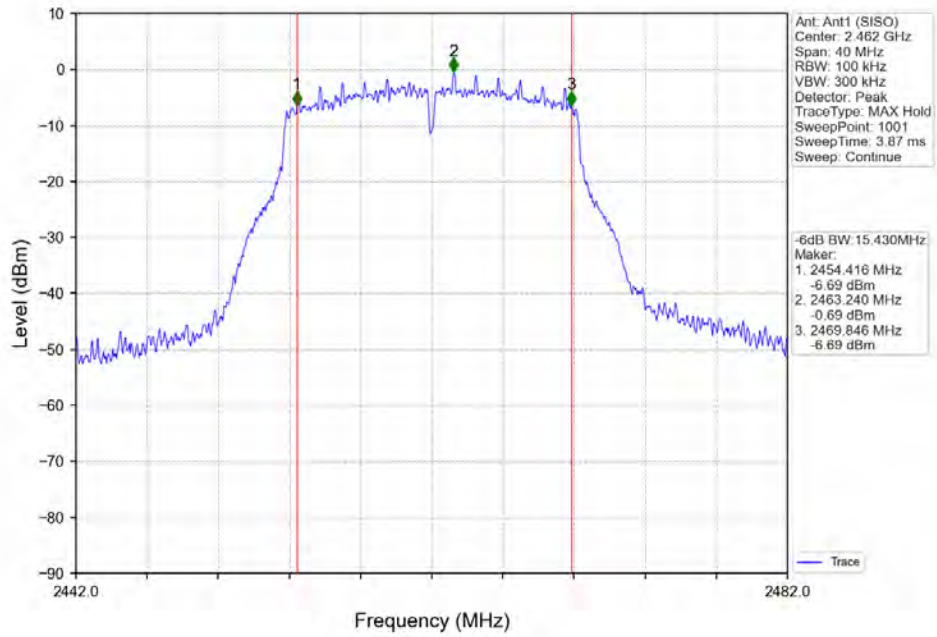
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



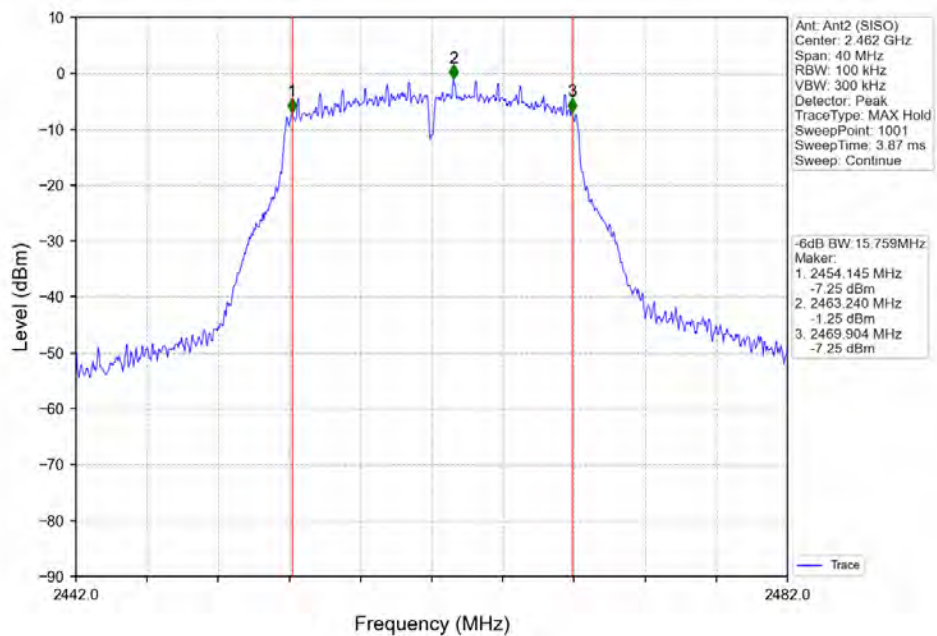
802.11g_MCH_2437MHz_Ant2 (SISO)_NTNV



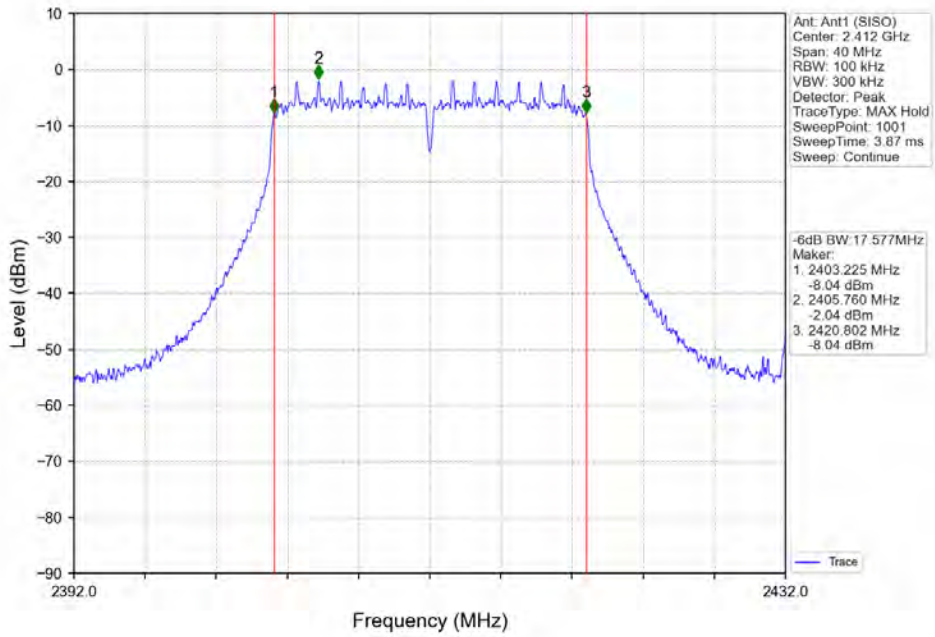
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



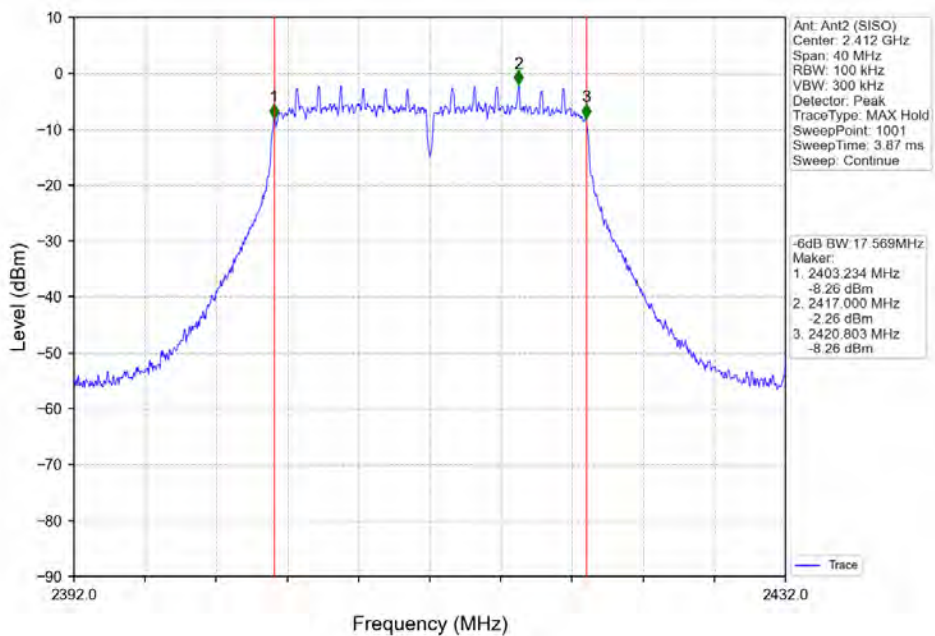
802.11g_HCH_2462MHz_Ant2 (SISO)_NTNV



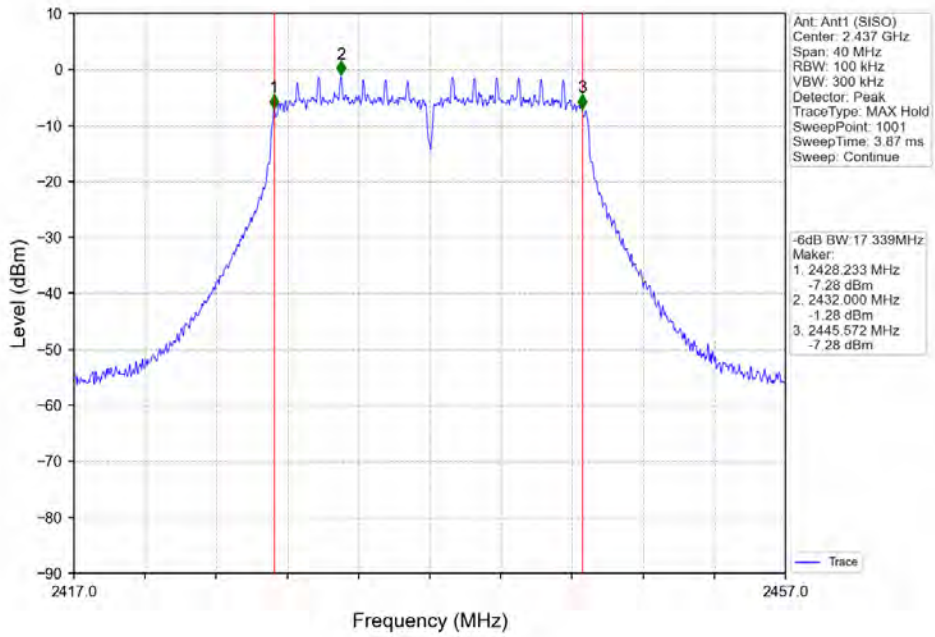
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



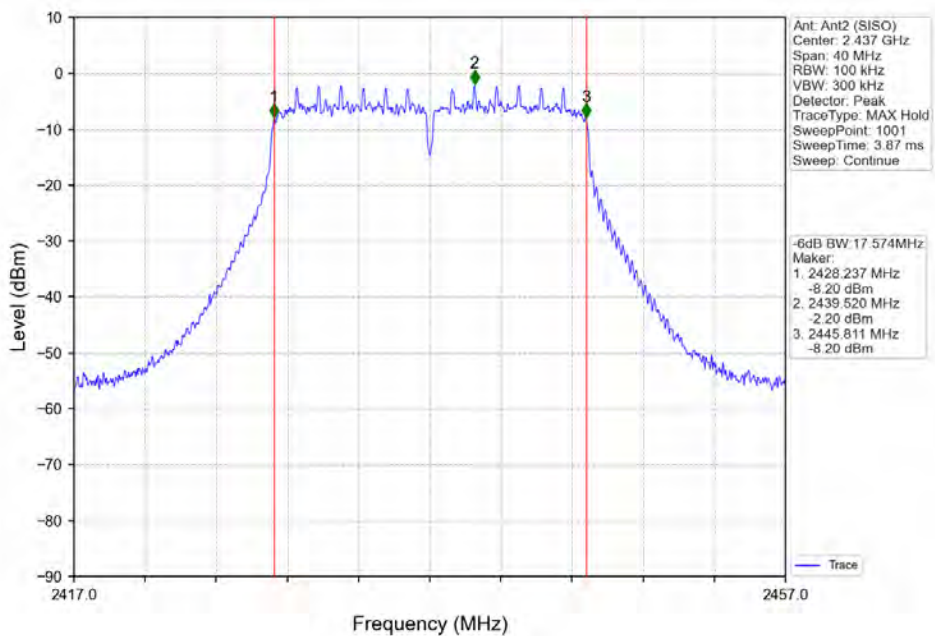
802.11n(HT20)_LCH_2412MHz_Ant2 (SISO)_NTNV



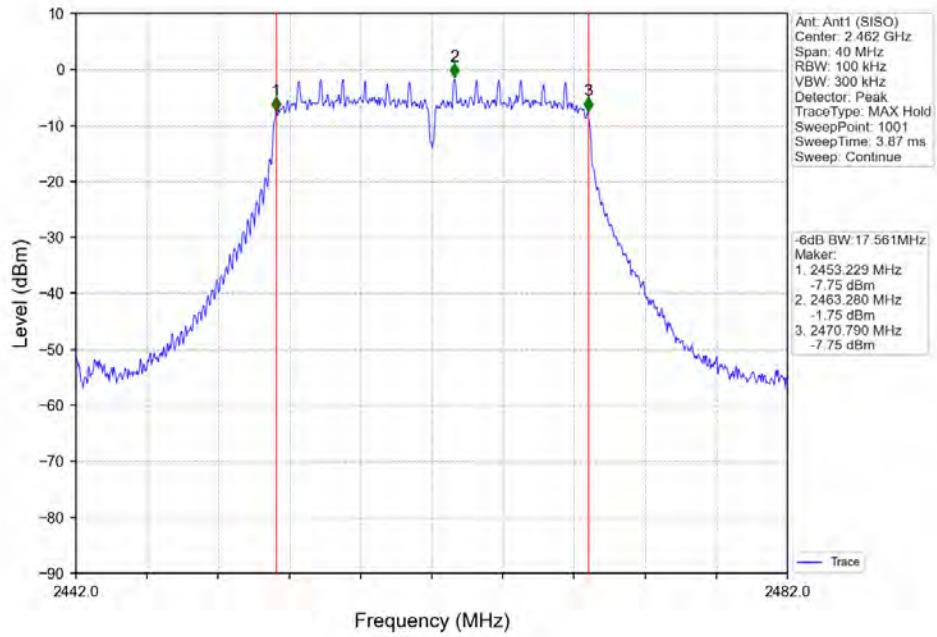
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



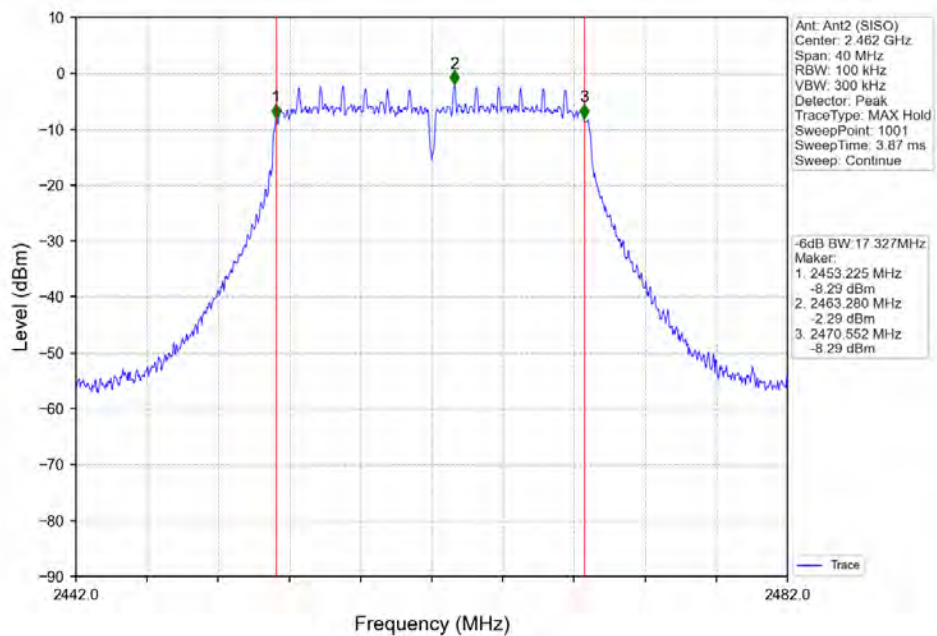
802.11n(HT20)_MCH_2437MHz_Ant2 (SISO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant2 (SISO)_NTNV



3. Maximum Conducted Output Power

3.1 Power

3.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Measured Peak Output Power (dBm)			Verdict
			Ant1	Ant2	Limit	
802.11b	SISO	2412	18.30	18.55	<=30	Pass
		2437	17.75	18.11	<=30	Pass
		2462	17.63	17.54	<=30	Pass
802.11g	SISO	2412	18.38	18.41	<=30	Pass
		2437	17.85	18.16	<=30	Pass
		2462	17.84	17.55	<=30	Pass
802.11n (HT20)	SISO	2412	17.01	16.81	<=30	Pass
		2437	17.56	16.83	<=30	Pass
		2462	17.14	16.77	<=30	Pass

Note1: Antenna Gain: Ant1: 1.55dBi; Ant2: 1.55dBi;

4. Maximum Power Spectral Density

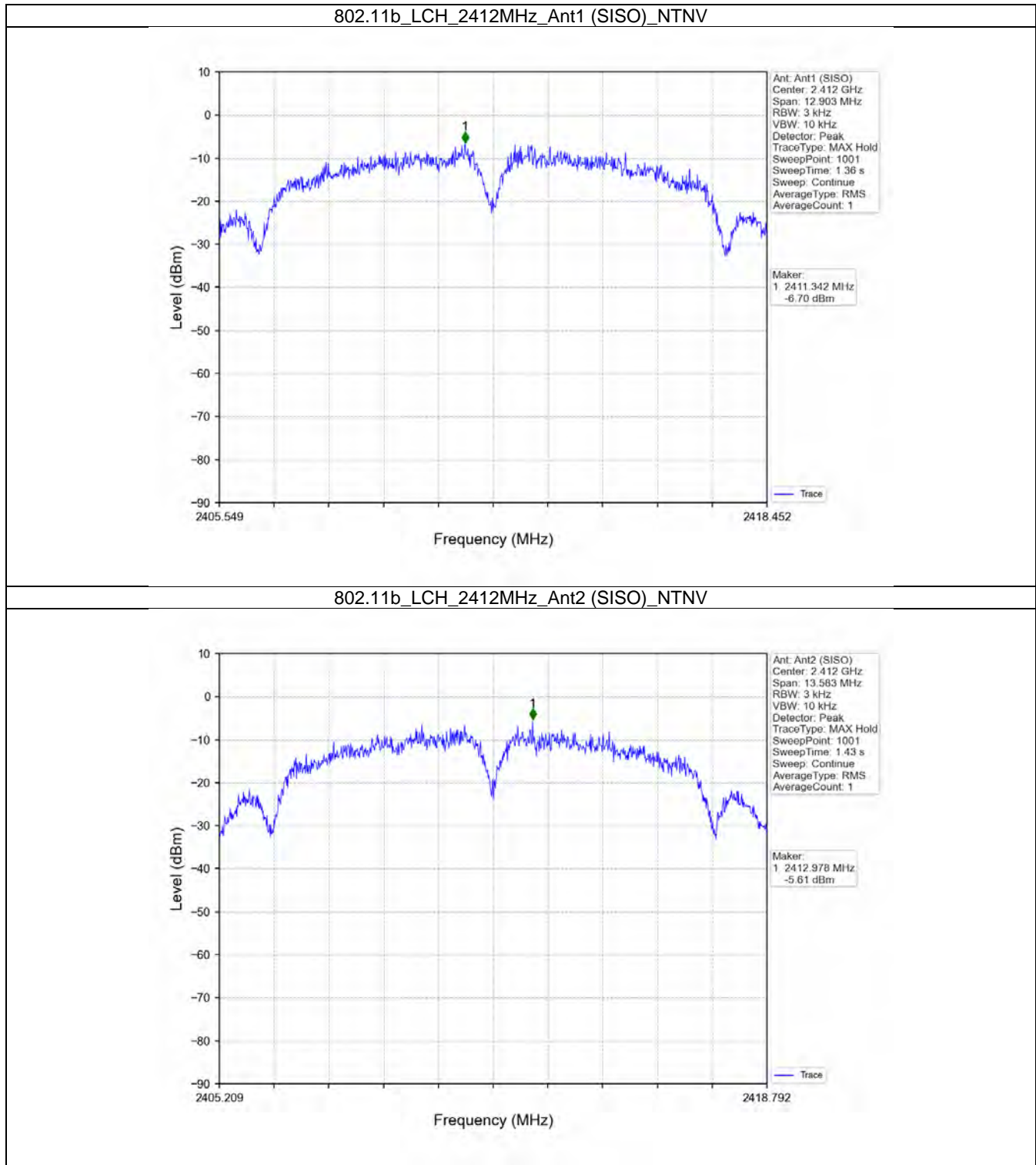
4.1 PSD

4.1.1 Test Result

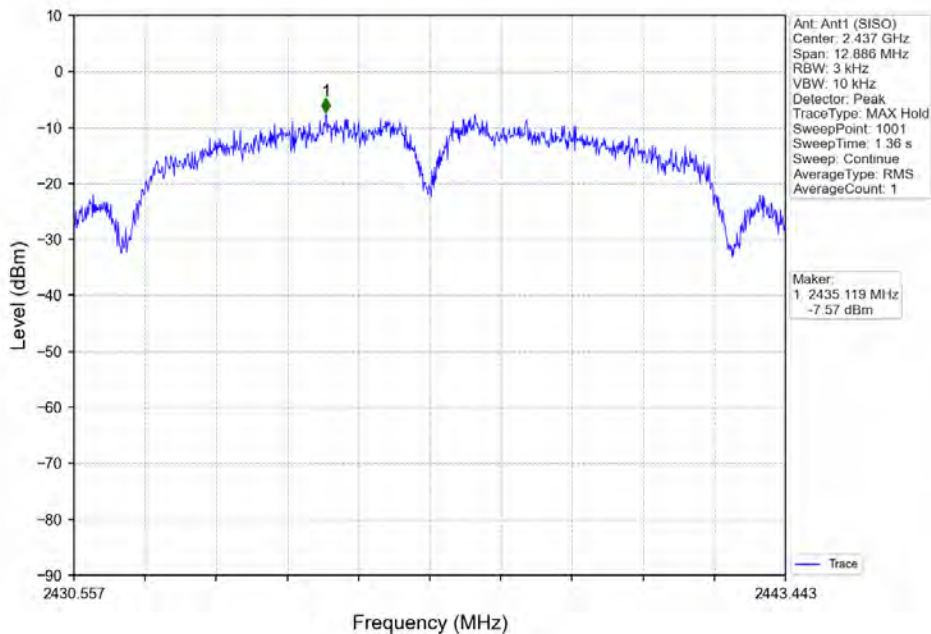
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)			Verdict
			Ant1	Ant2	Limit	
802.11b	SISO	2412	-6.70	-5.61	<=8	Pass
		2437	-7.57	-6.40	<=8	Pass
		2462	-7.34	-7.74	<=8	Pass
802.11g	SISO	2412	-13.74	-13.05	<=8	Pass
		2437	-13.76	-14.04	<=8	Pass
		2462	-14.19	-14.91	<=8	Pass
802.11n (HT20)	SISO	2412	-15.46	-17.36	<=8	Pass
		2437	-16.47	-16.06	<=8	Pass
		2462	-16.28	-16.88	<=8	Pass

Note1: Antenna Gain: Ant1: 1.55dBi; Ant2: 1.55dBi;

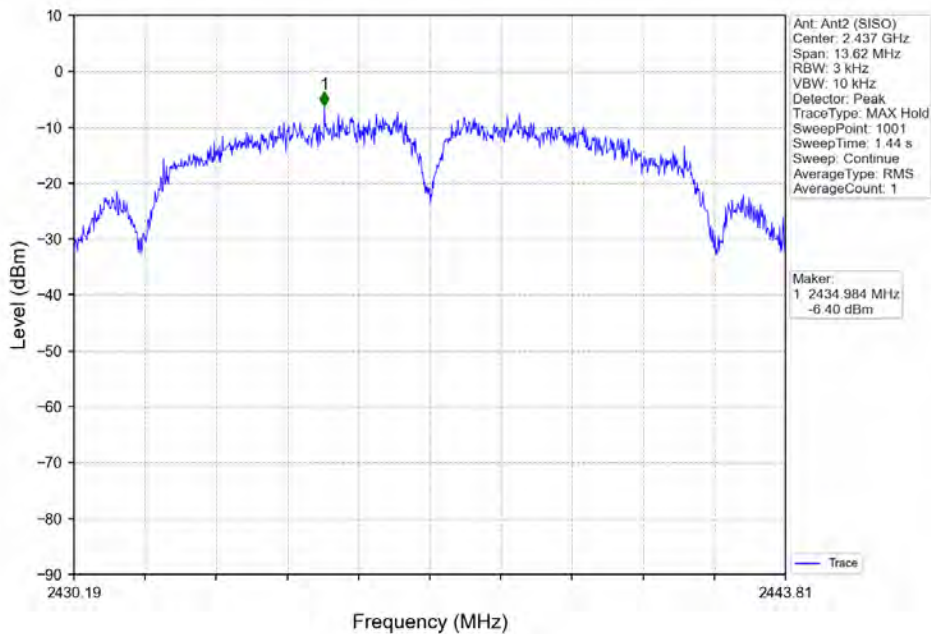
4.1.2 Test Graph

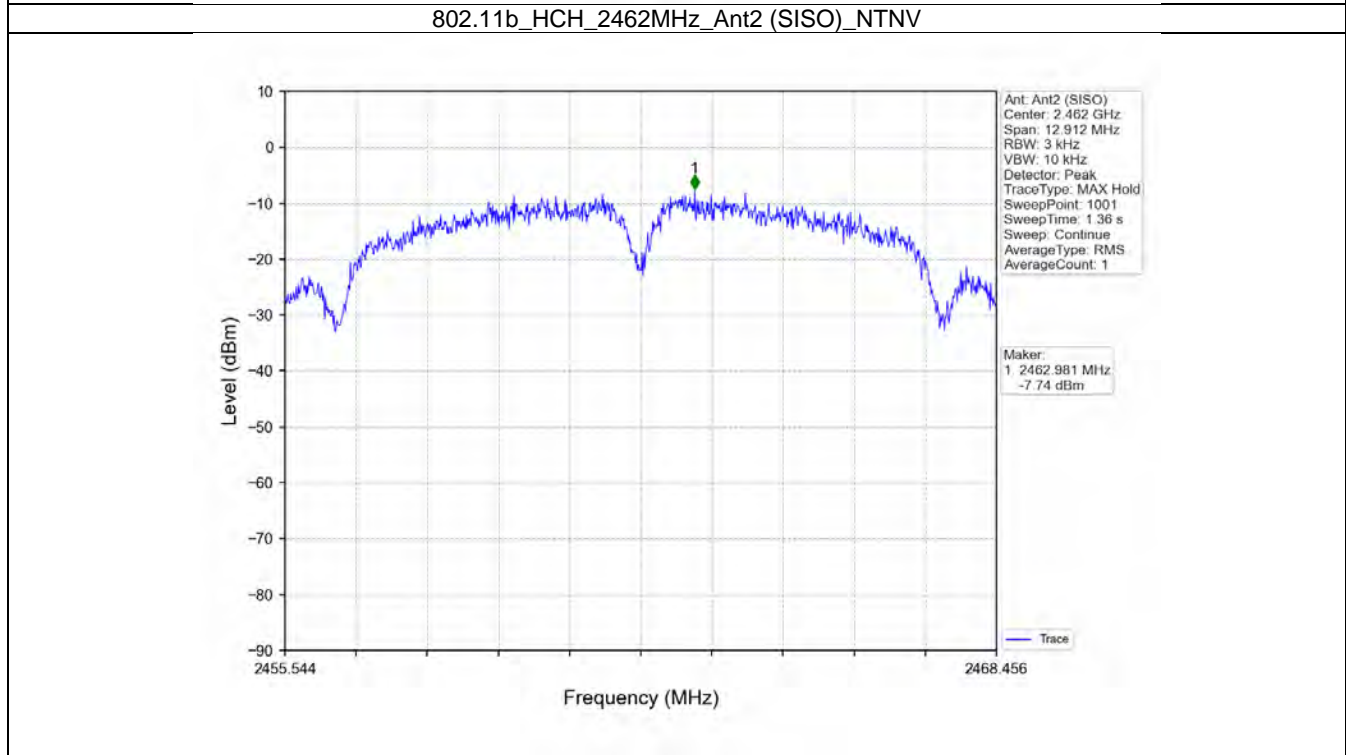
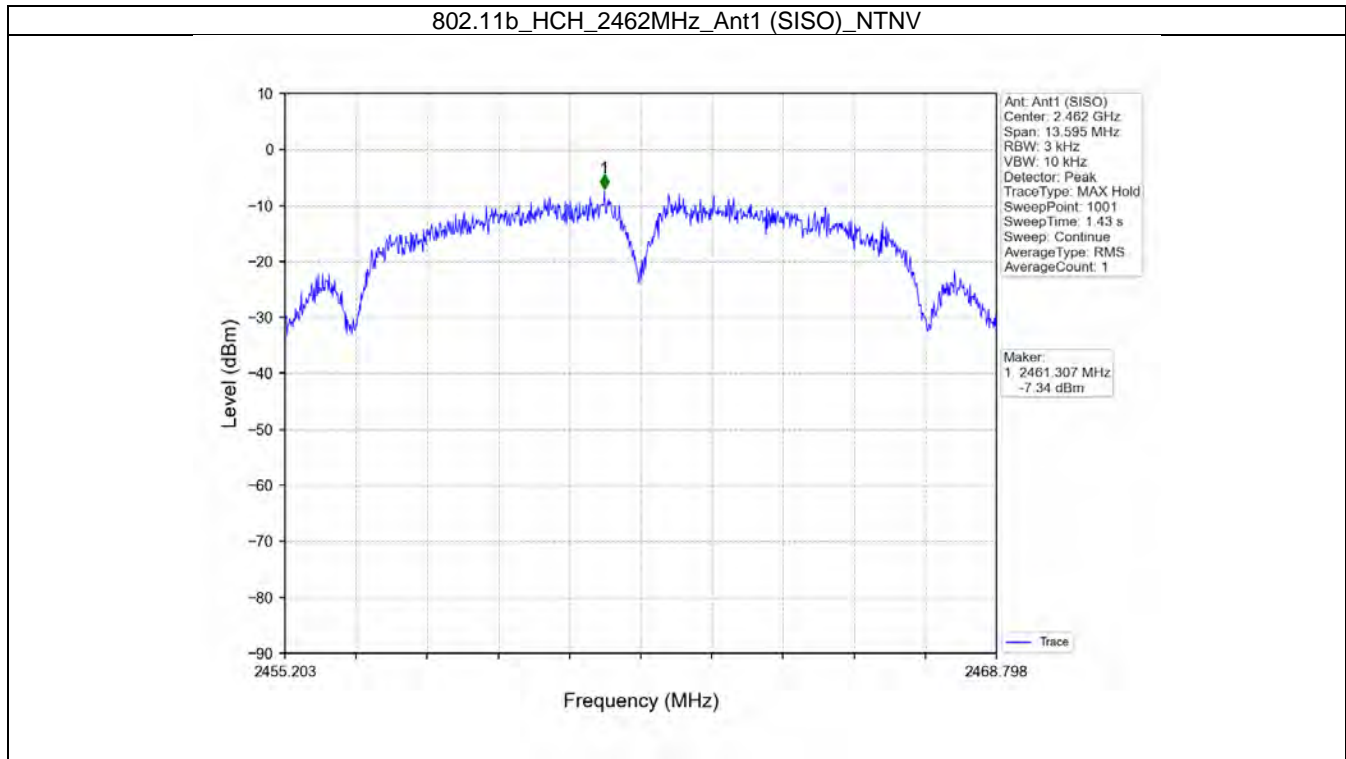


802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV

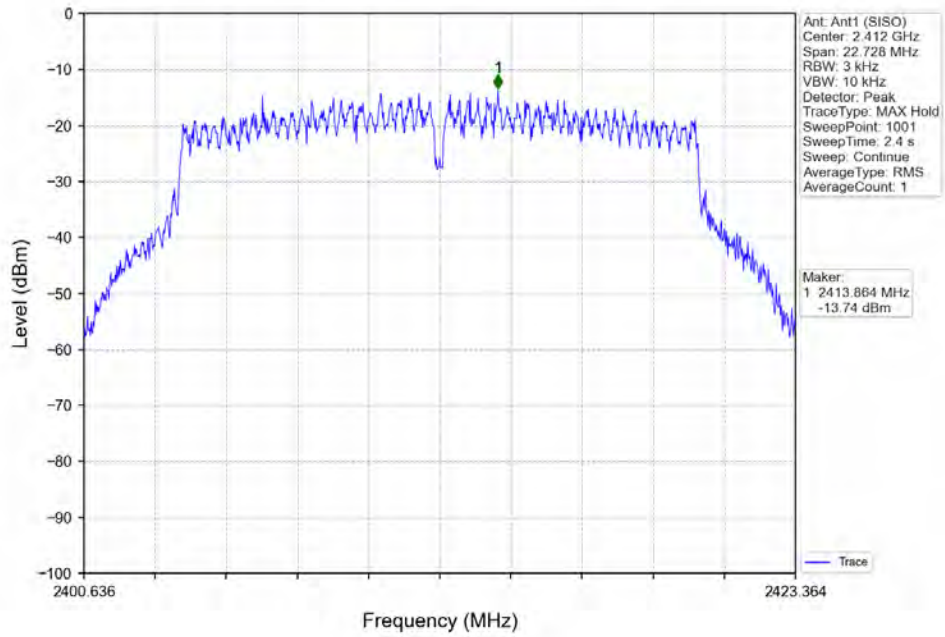


802.11b_MCH_2437MHz_Ant2 (SISO)_NTNV

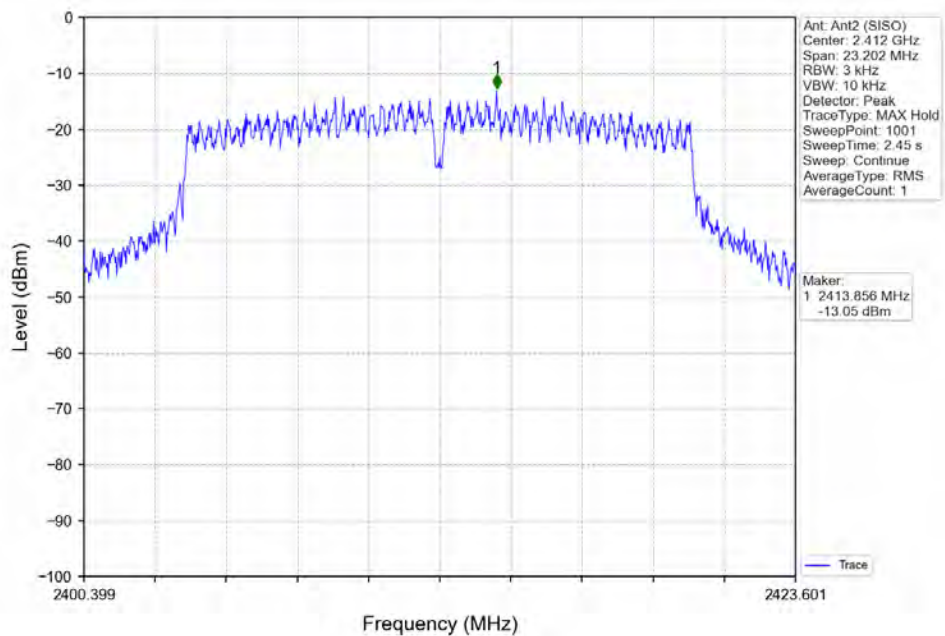




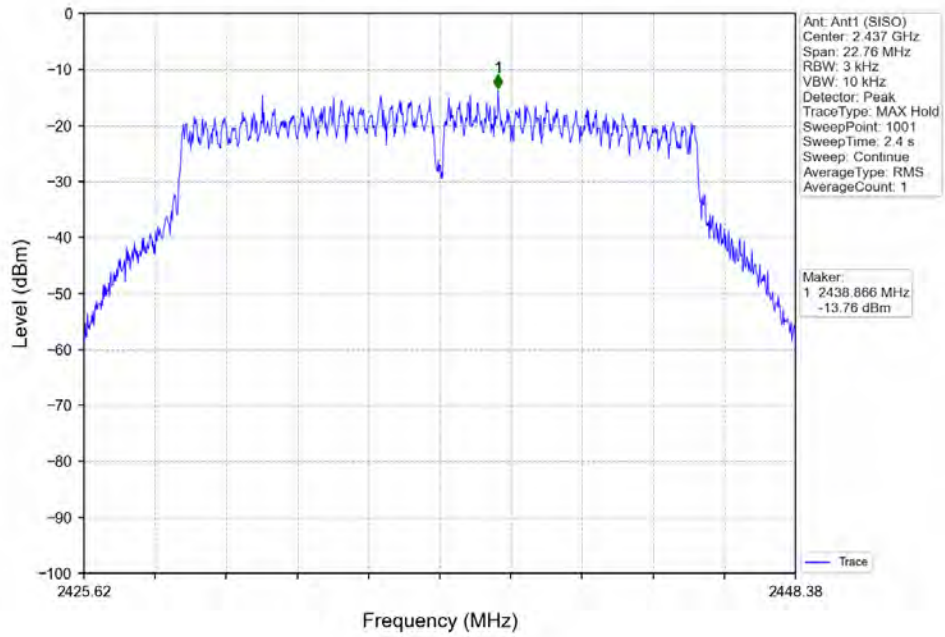
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



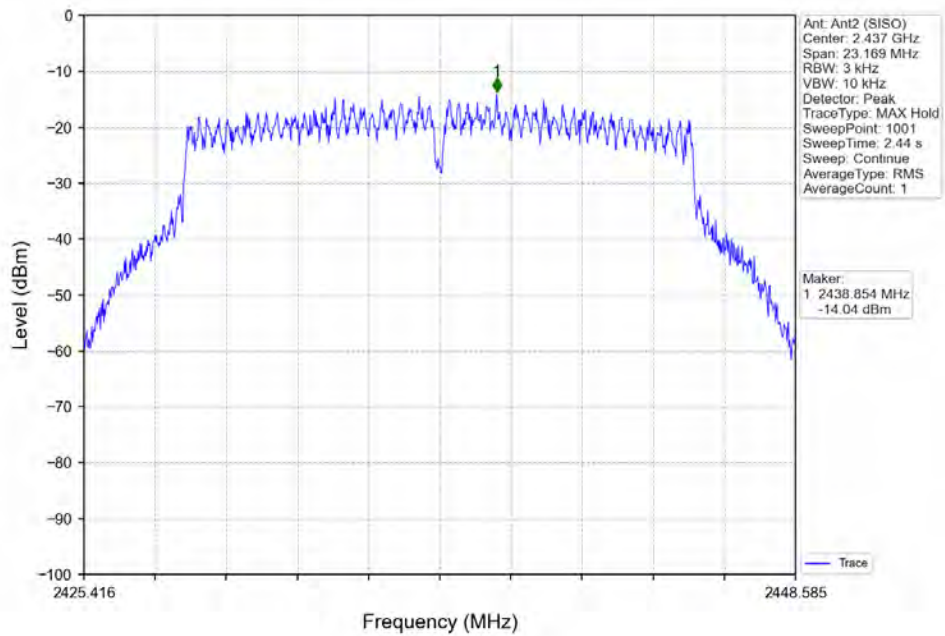
802.11g_LCH_2412MHz_Ant2 (SISO)_NTNV



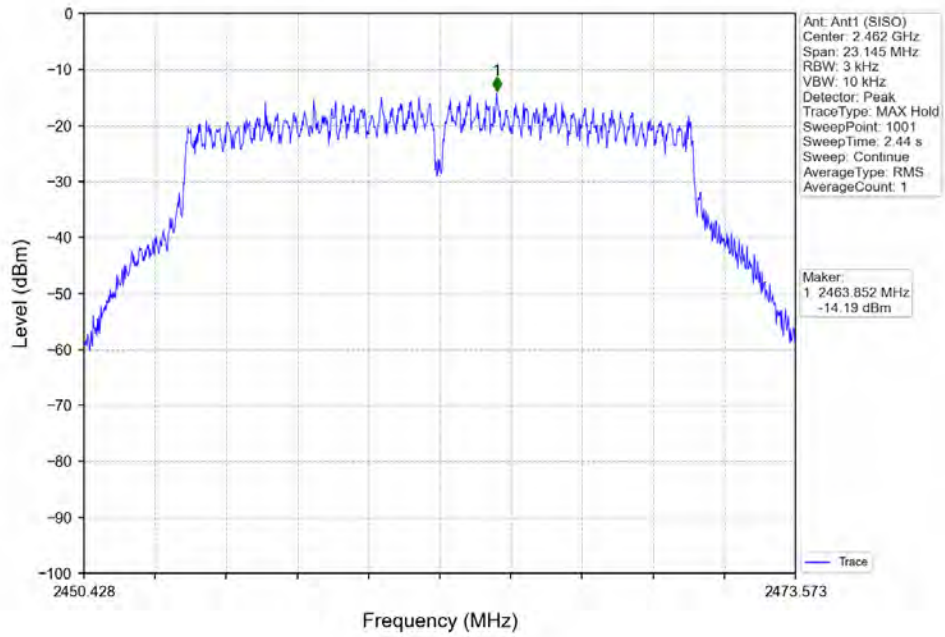
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



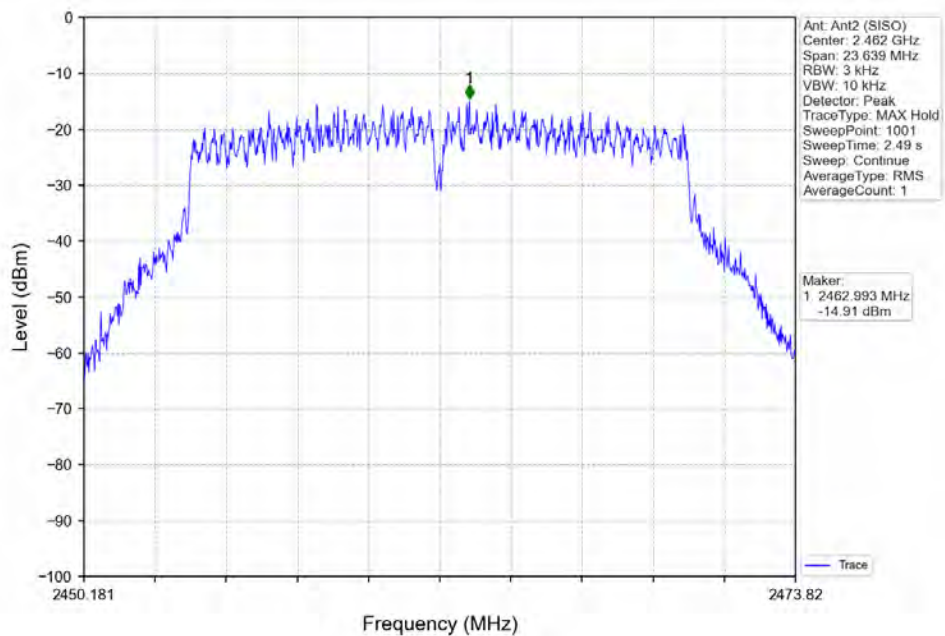
802.11g_MCH_2437MHz_Ant2 (SISO)_NTNV



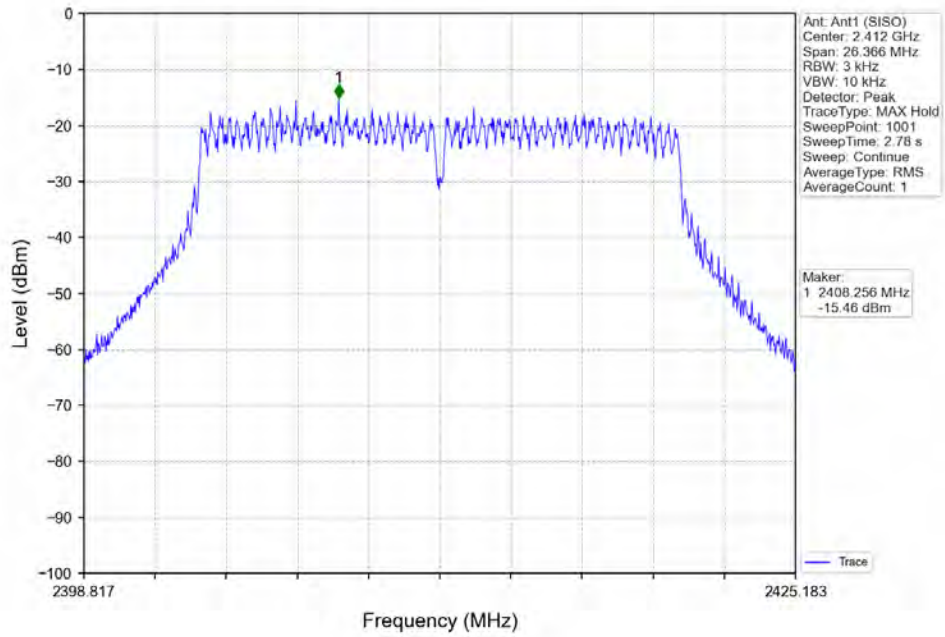
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



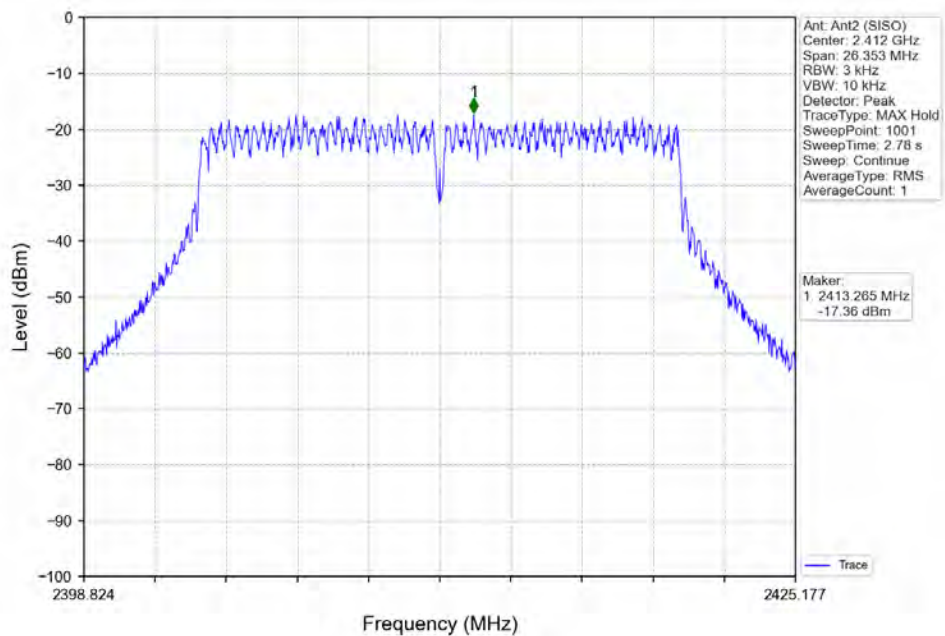
802.11g_HCH_2462MHz_Ant2 (SISO)_NTNV



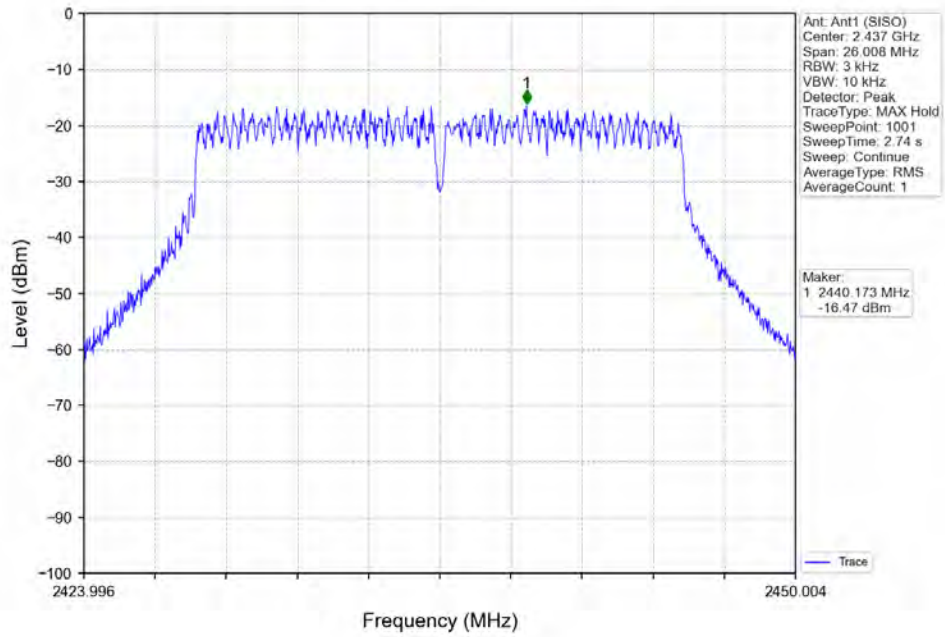
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



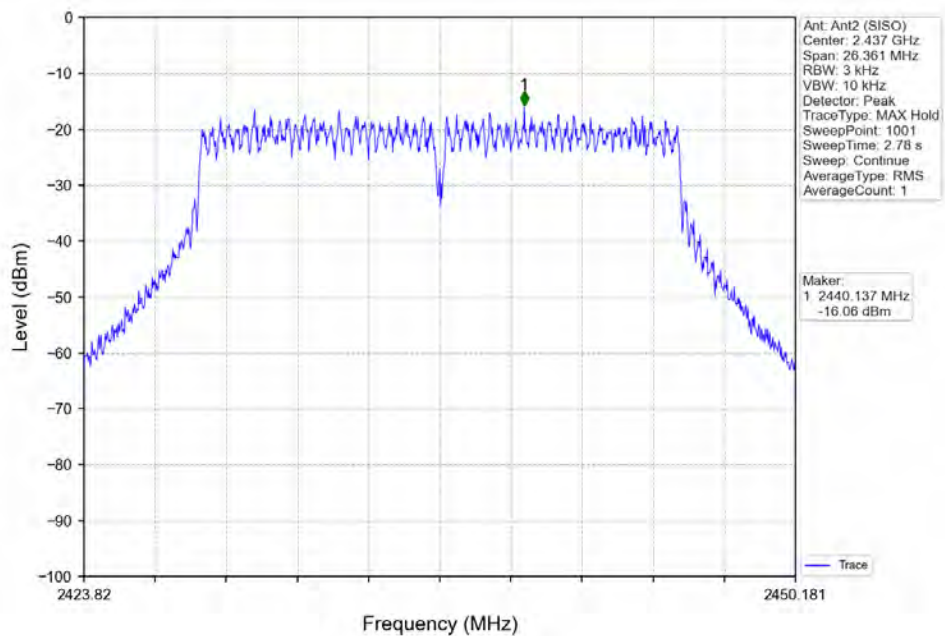
802.11n(HT20)_LCH_2412MHz_Ant2 (SISO)_NTNV



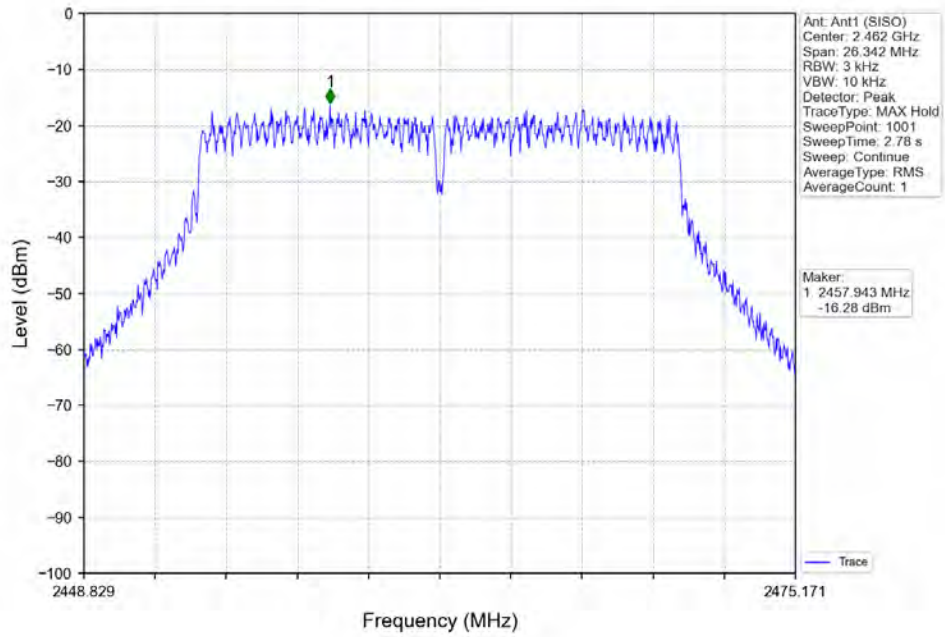
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



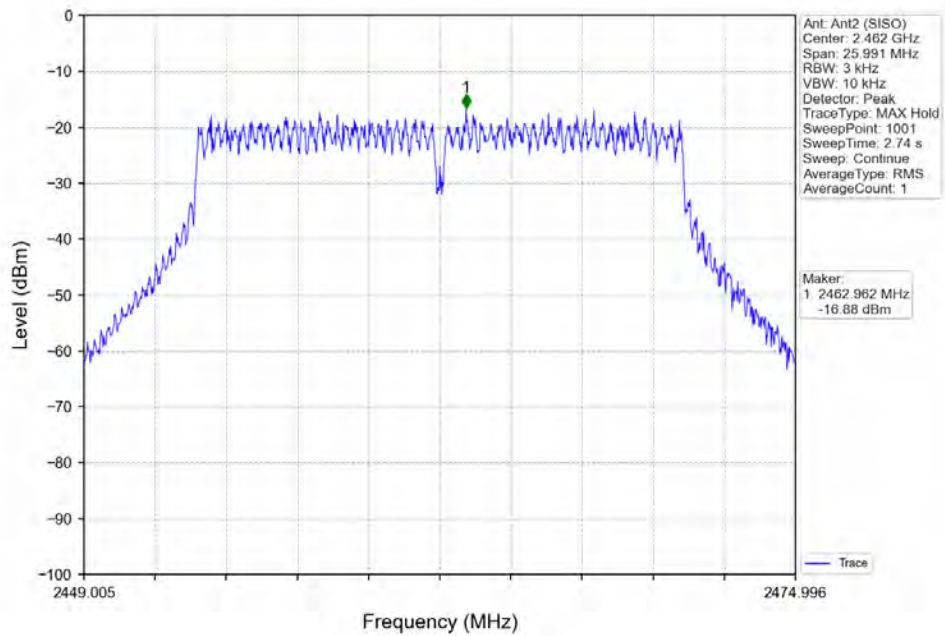
802.11n(HT20)_MCH_2437MHz_Ant2 (SISO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant2 (SISO)_NTNV



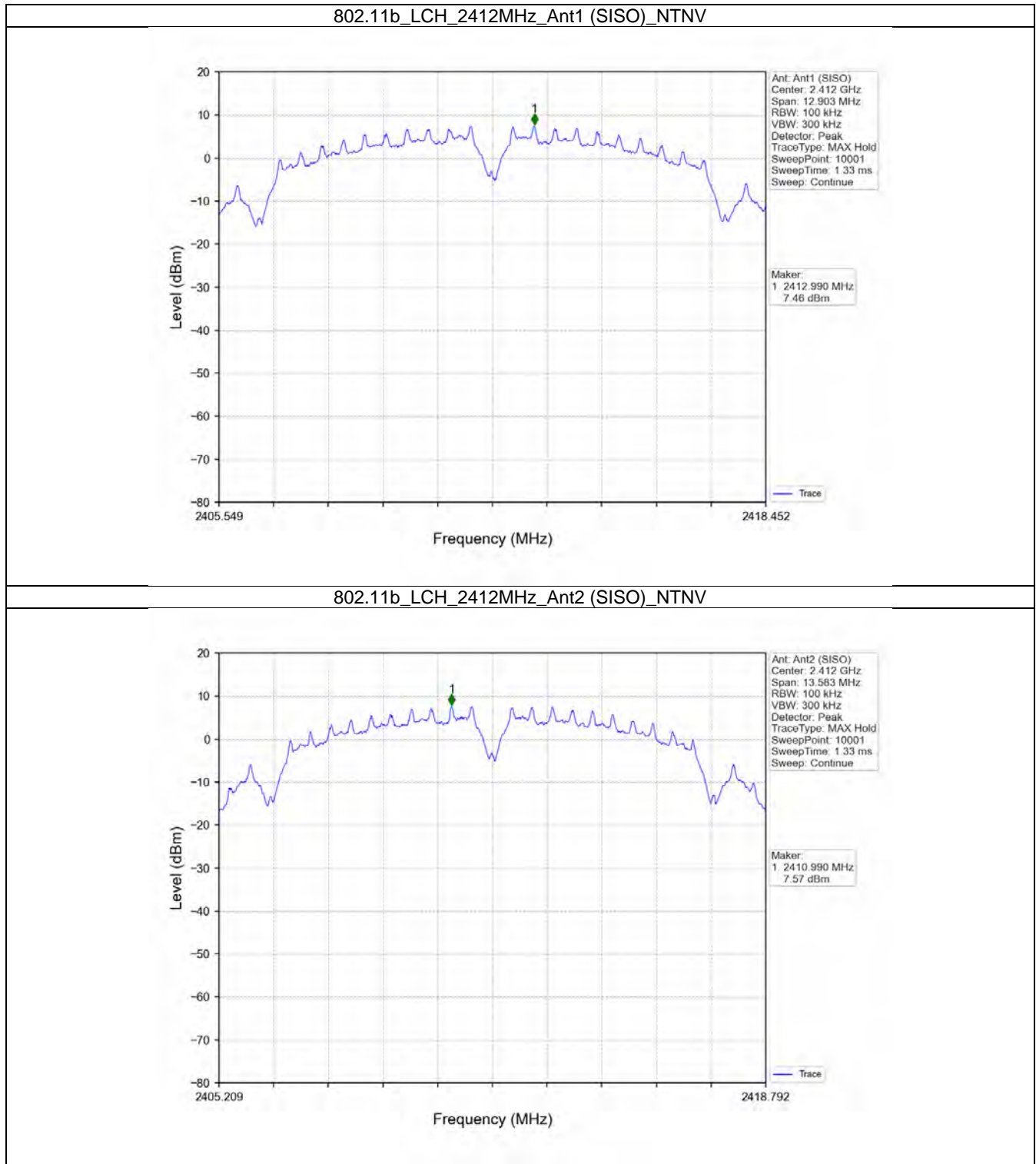
5. Unwanted Emissions In Non-restricted Frequency Bands

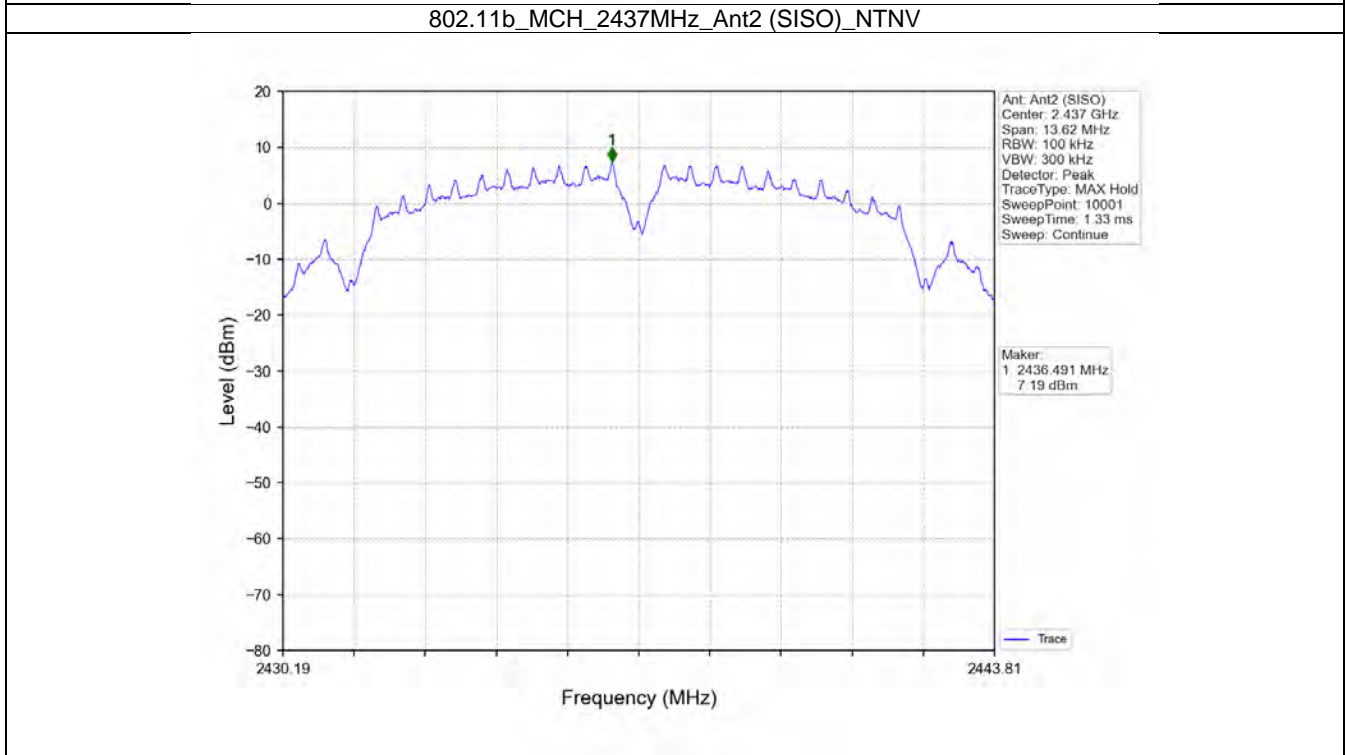
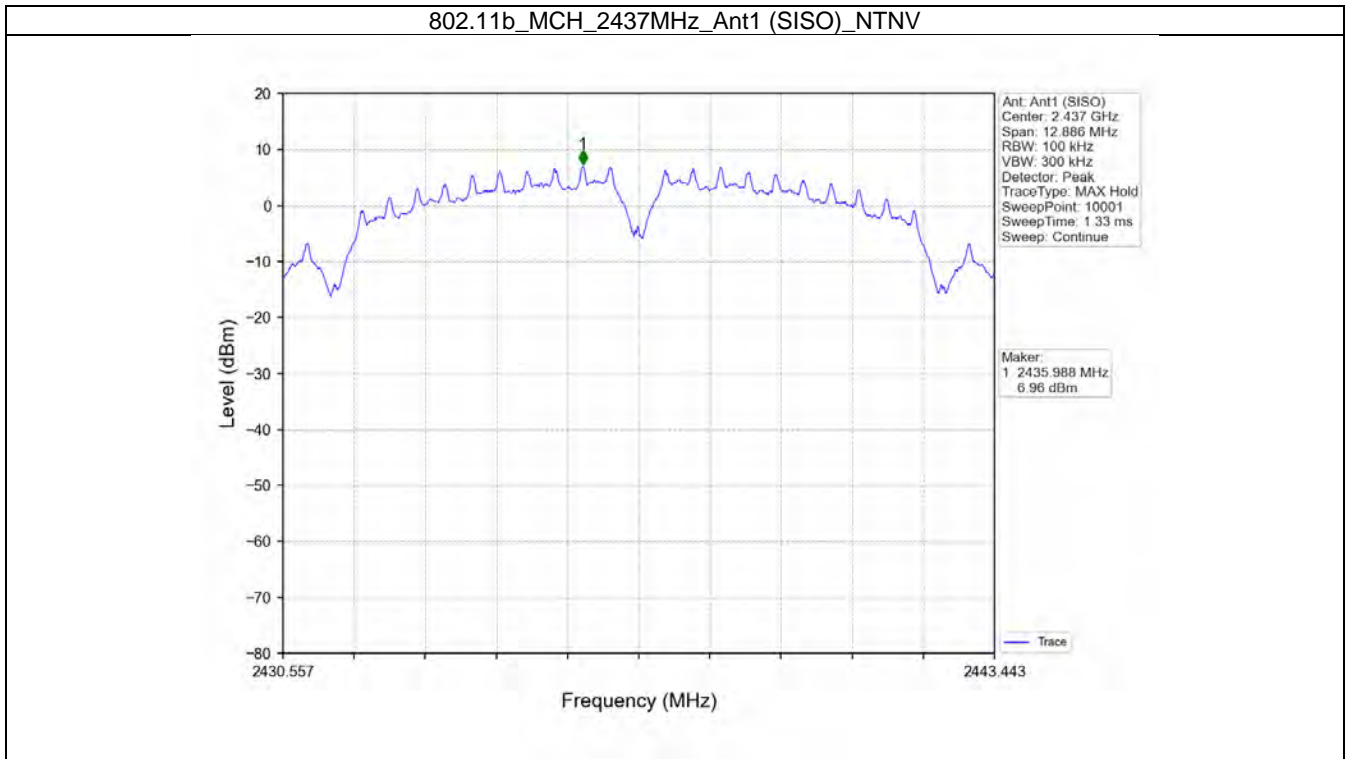
5.1 Ref

5.1.1 Test Result

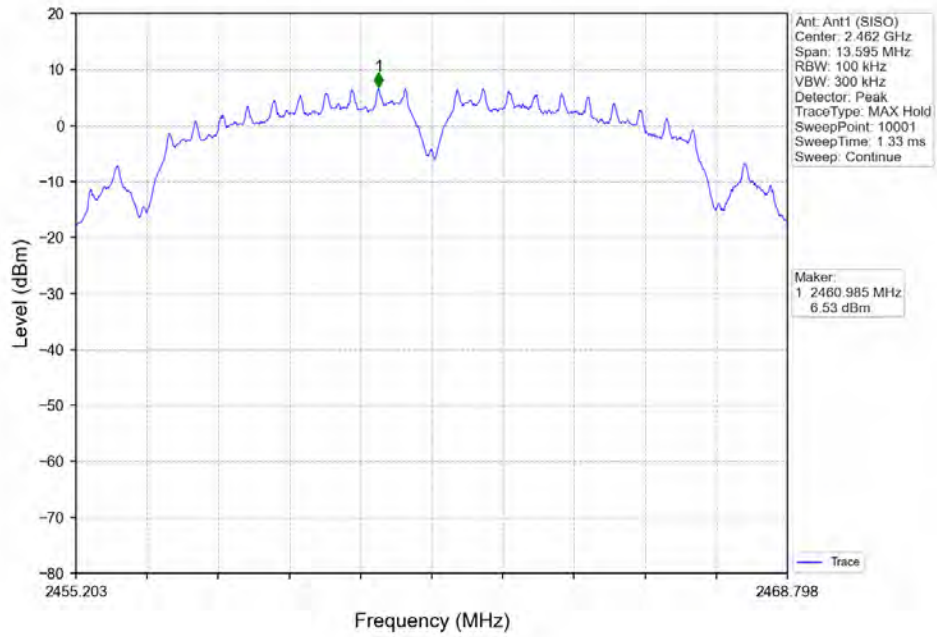
Mode	TX Type	Frequency (MHz)	Ant	Level of Reference (dBm)
802.11b	SISO	2412	1	7.46
			2	7.57
		2437	1	6.96
			2	7.19
		2462	1	6.53
			2	6.49
802.11g	SISO	2412	1	-0.29
			2	-0.03
		2437	1	-0.77
			2	-0.37
		2462	1	-0.62
			2	-0.73
802.11n (HT20)	SISO	2412	1	-1.74
			2	-2.29
		2437	1	-1.50
			2	-2.20
		2462	1	-1.79
			2	-2.46
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 Test Graph

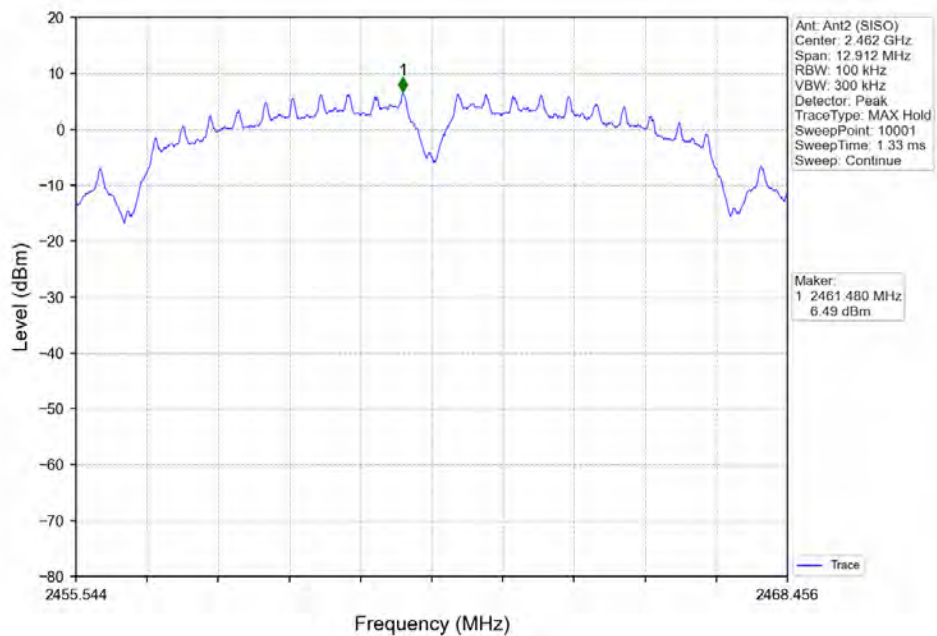




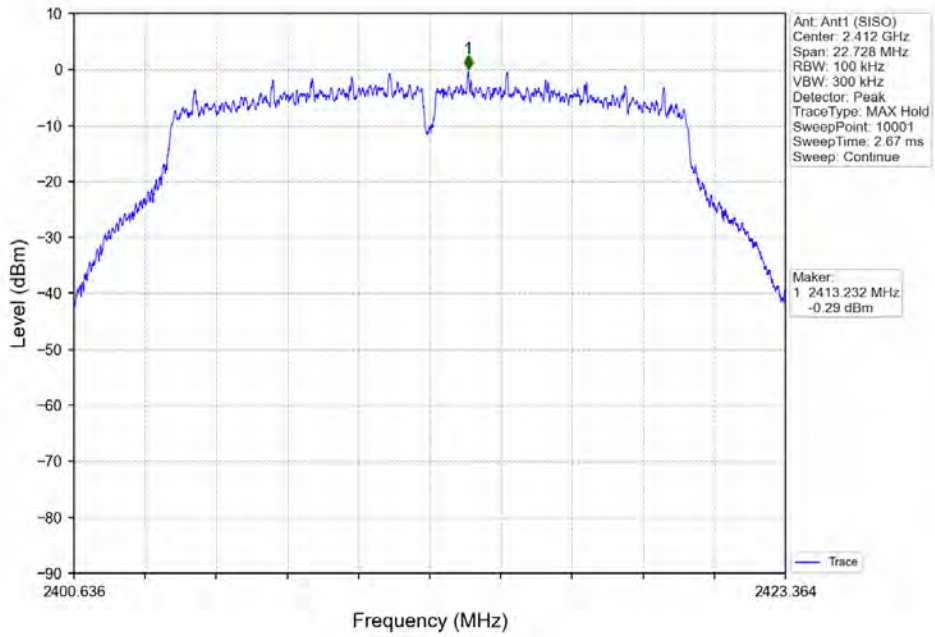
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



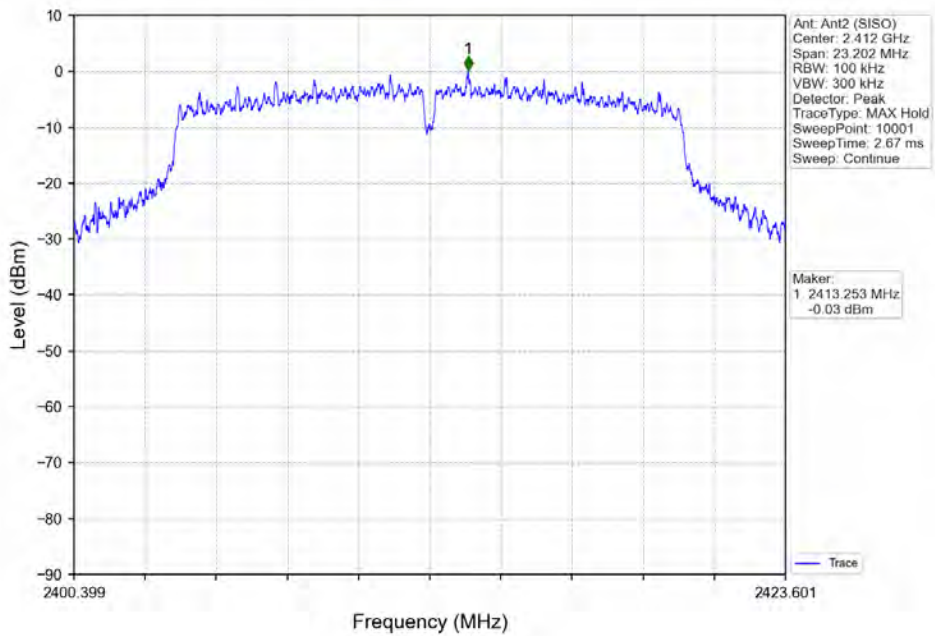
802.11b_HCH_2462MHz_Ant2 (SISO)_NTNV

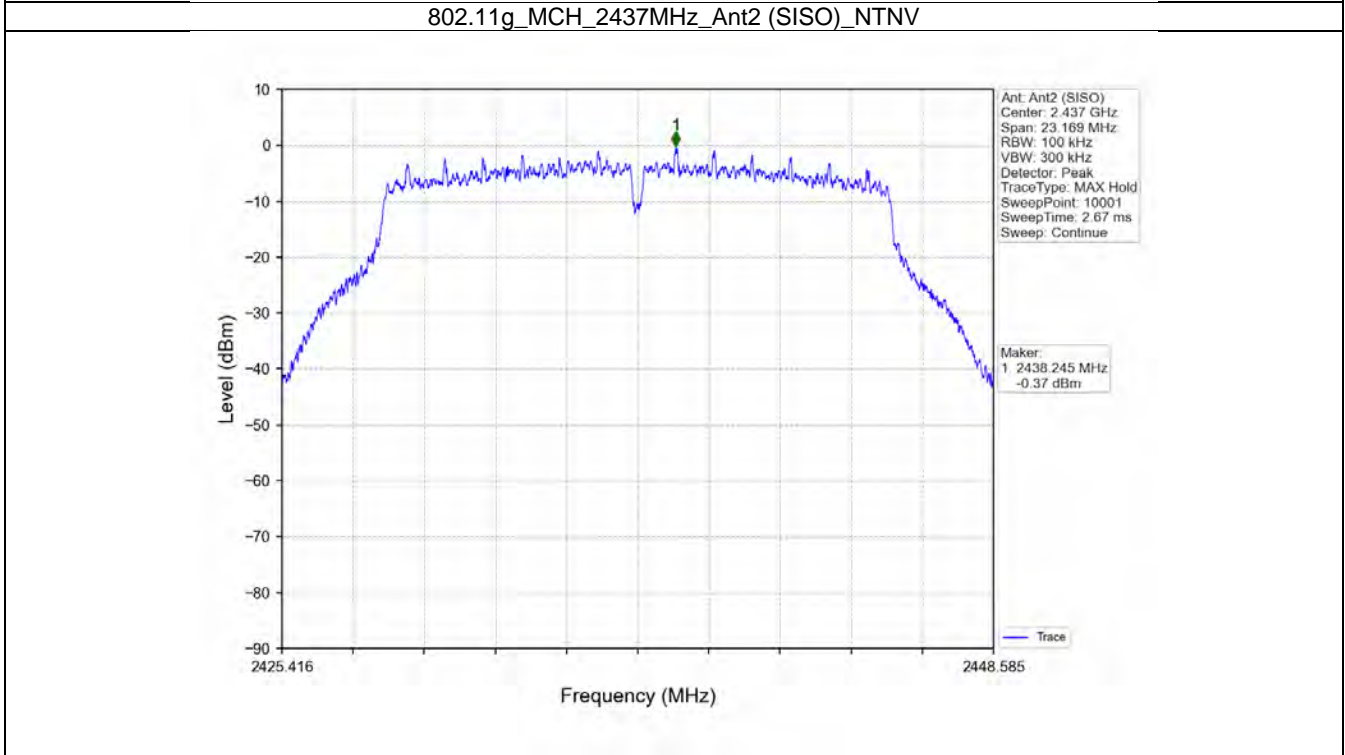
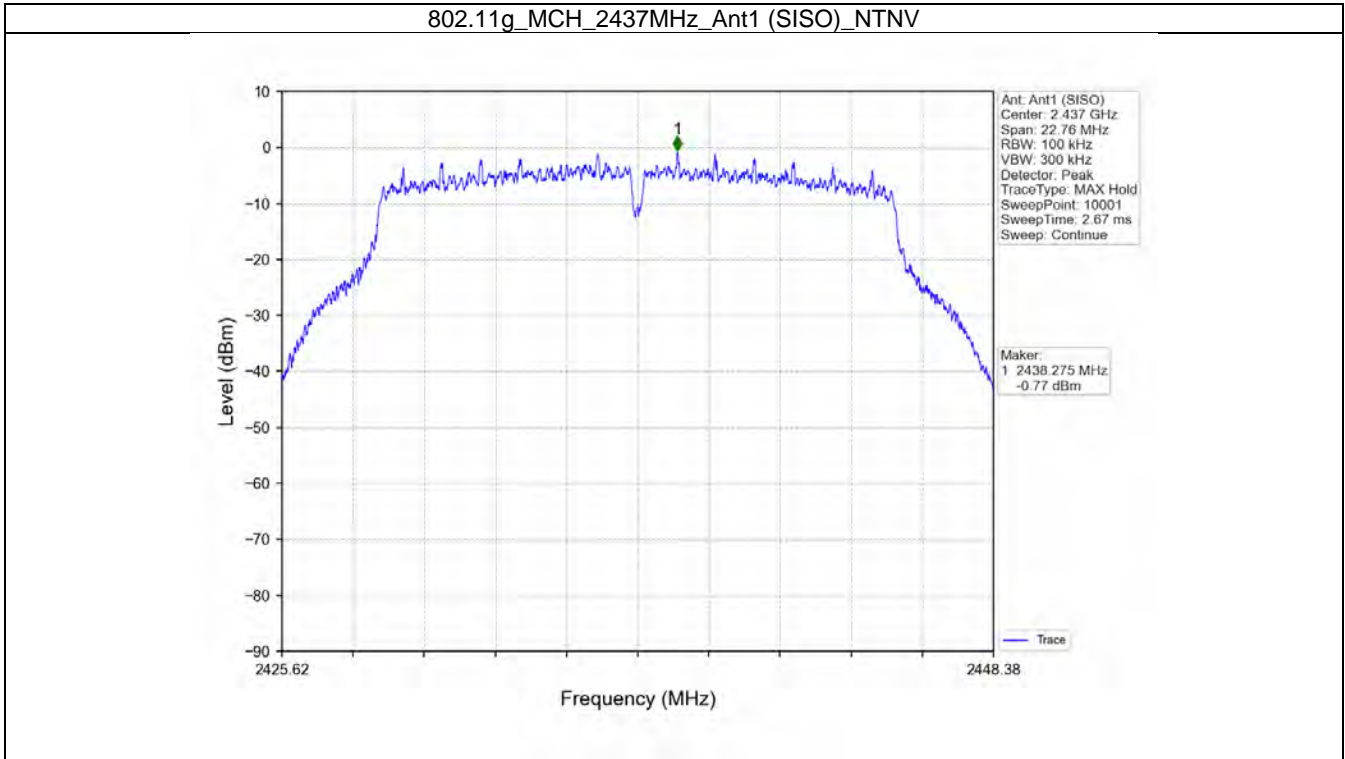


802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV

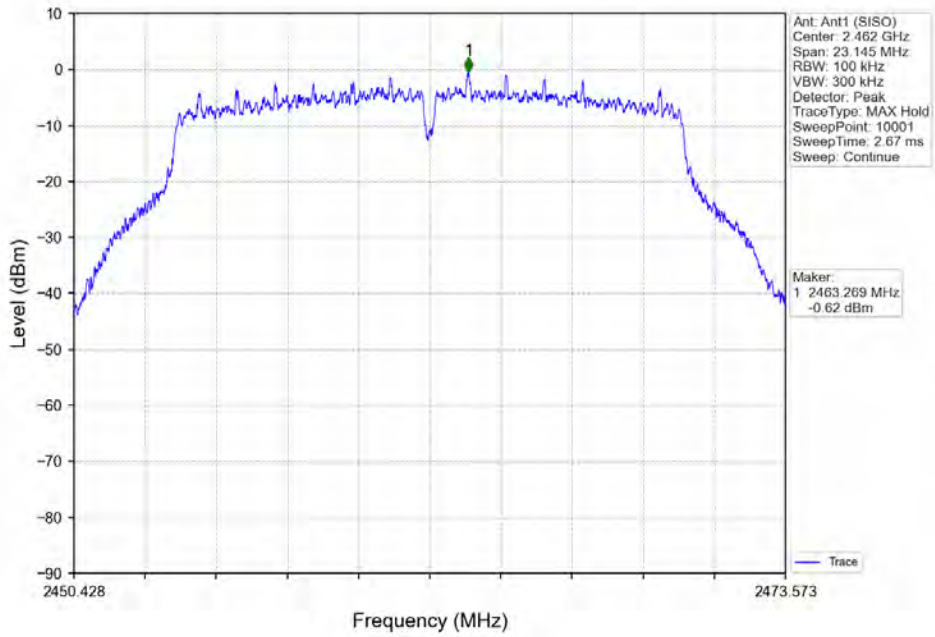


802.11g_LCH_2412MHz_Ant2 (SISO)_NTNV

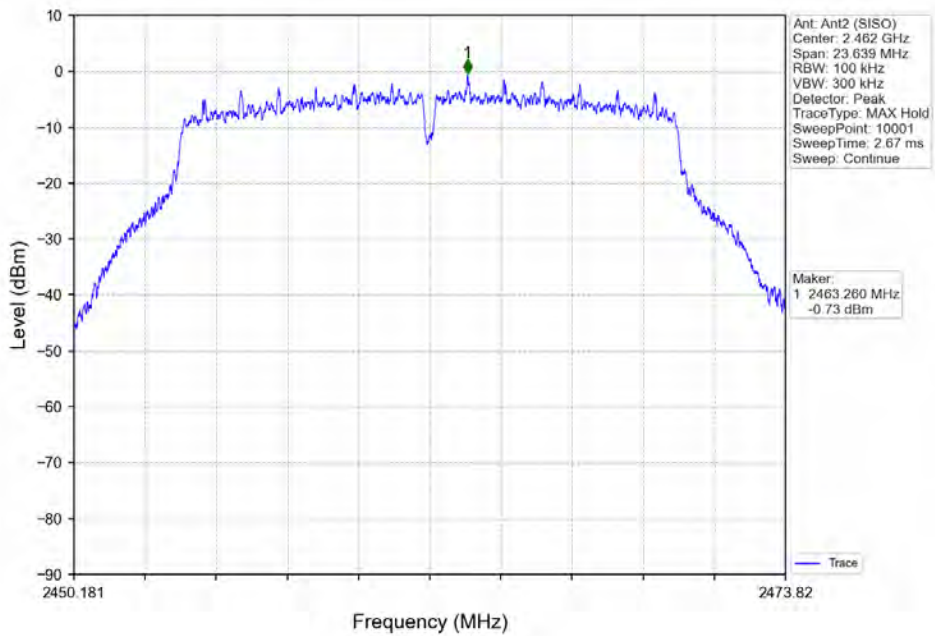




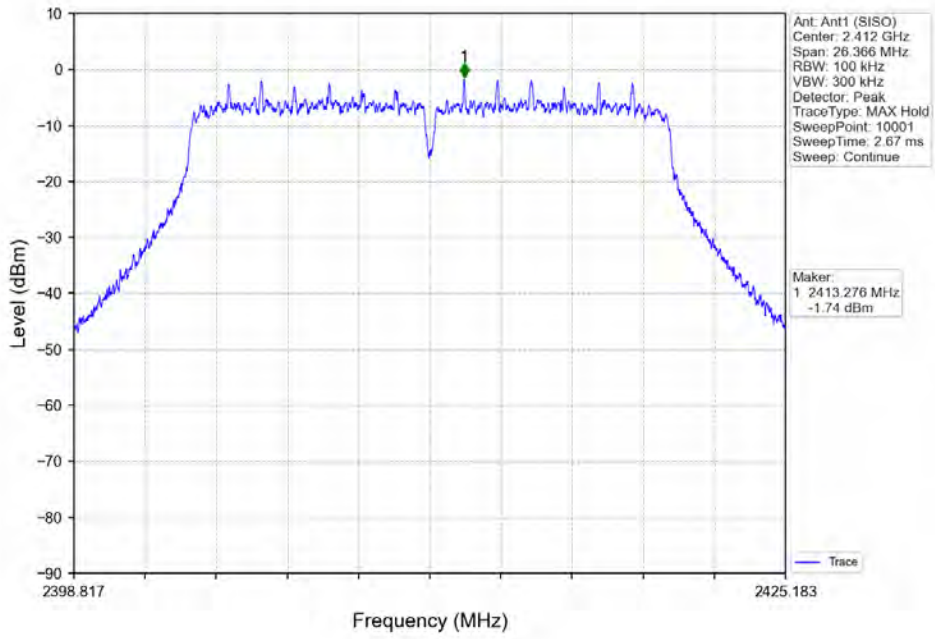
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



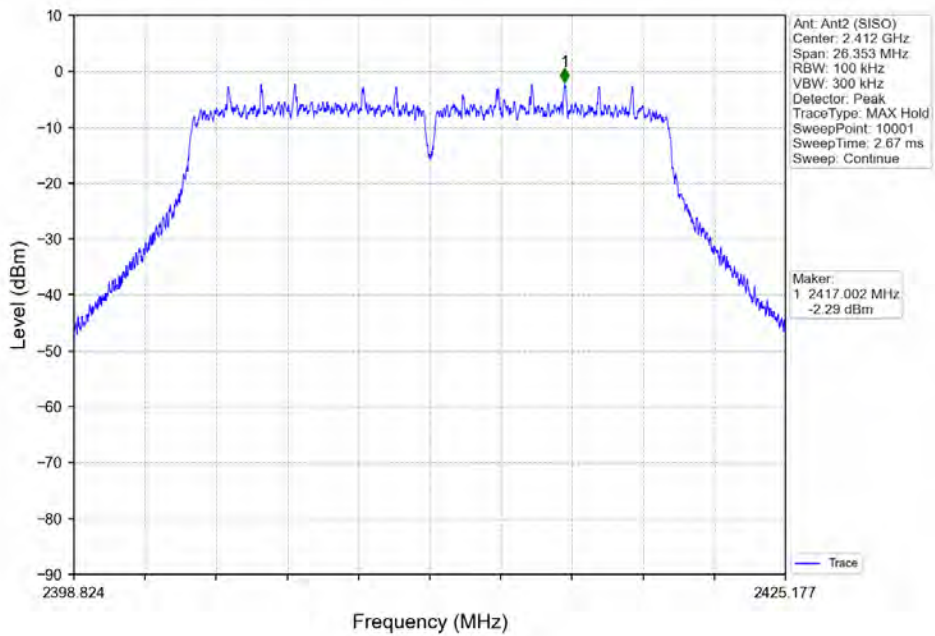
802.11g_HCH_2462MHz_Ant2 (SISO)_NTNV



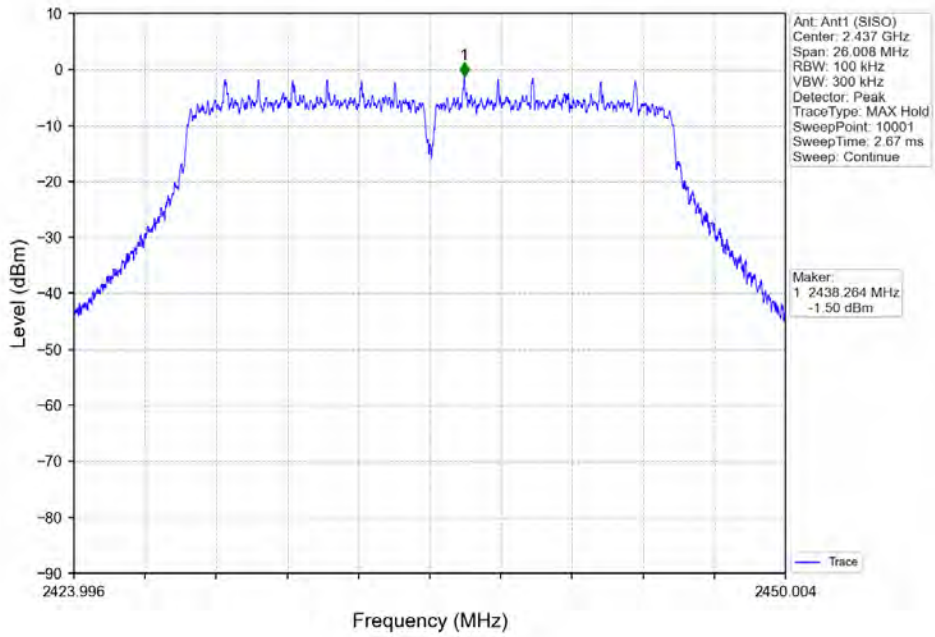
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



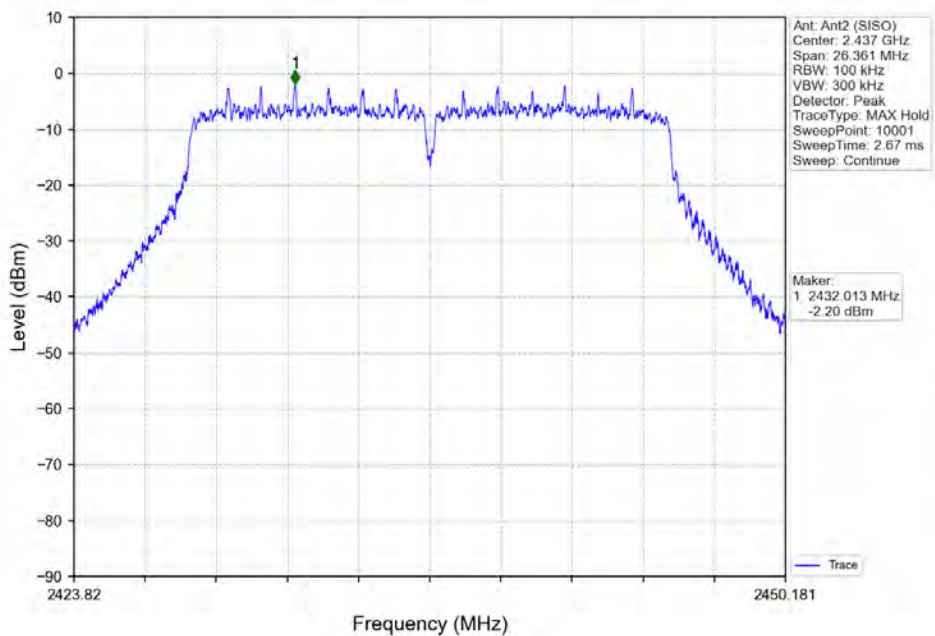
802.11n(HT20)_LCH_2412MHz_Ant2 (SISO)_NTNV



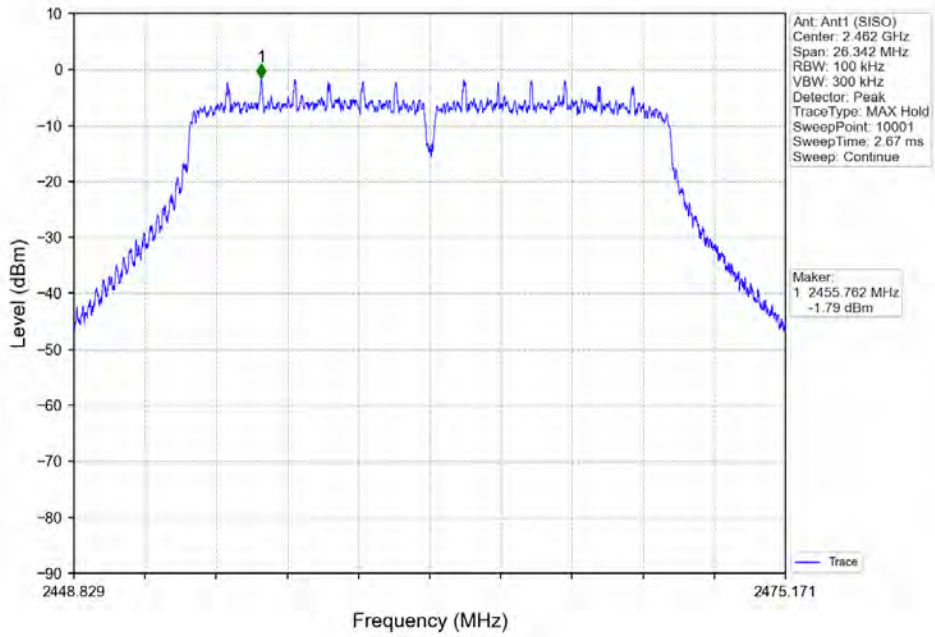
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



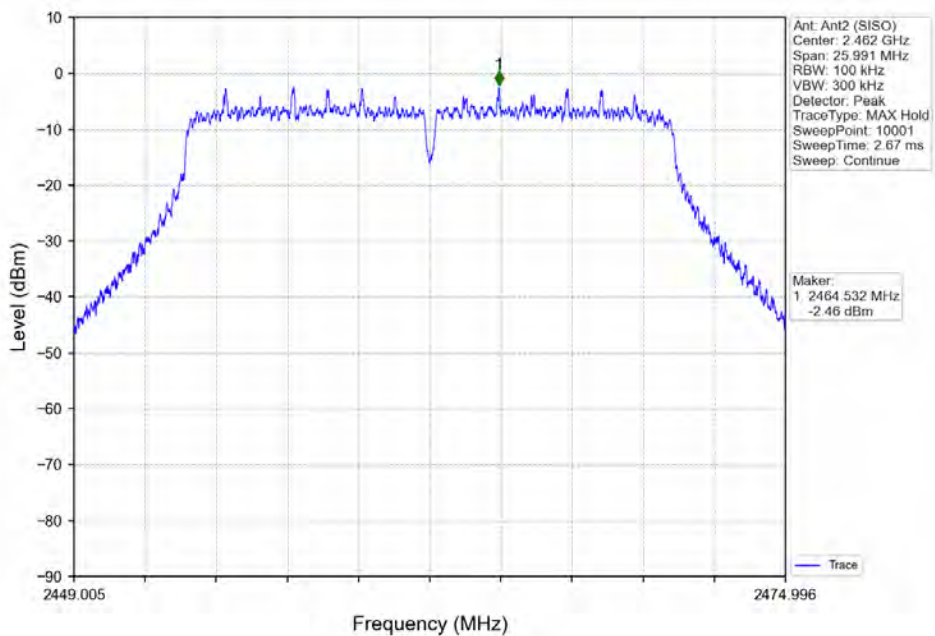
802.11n(HT20)_MCH_2437MHz_Ant2 (SISO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant2 (SISO)_NTNV





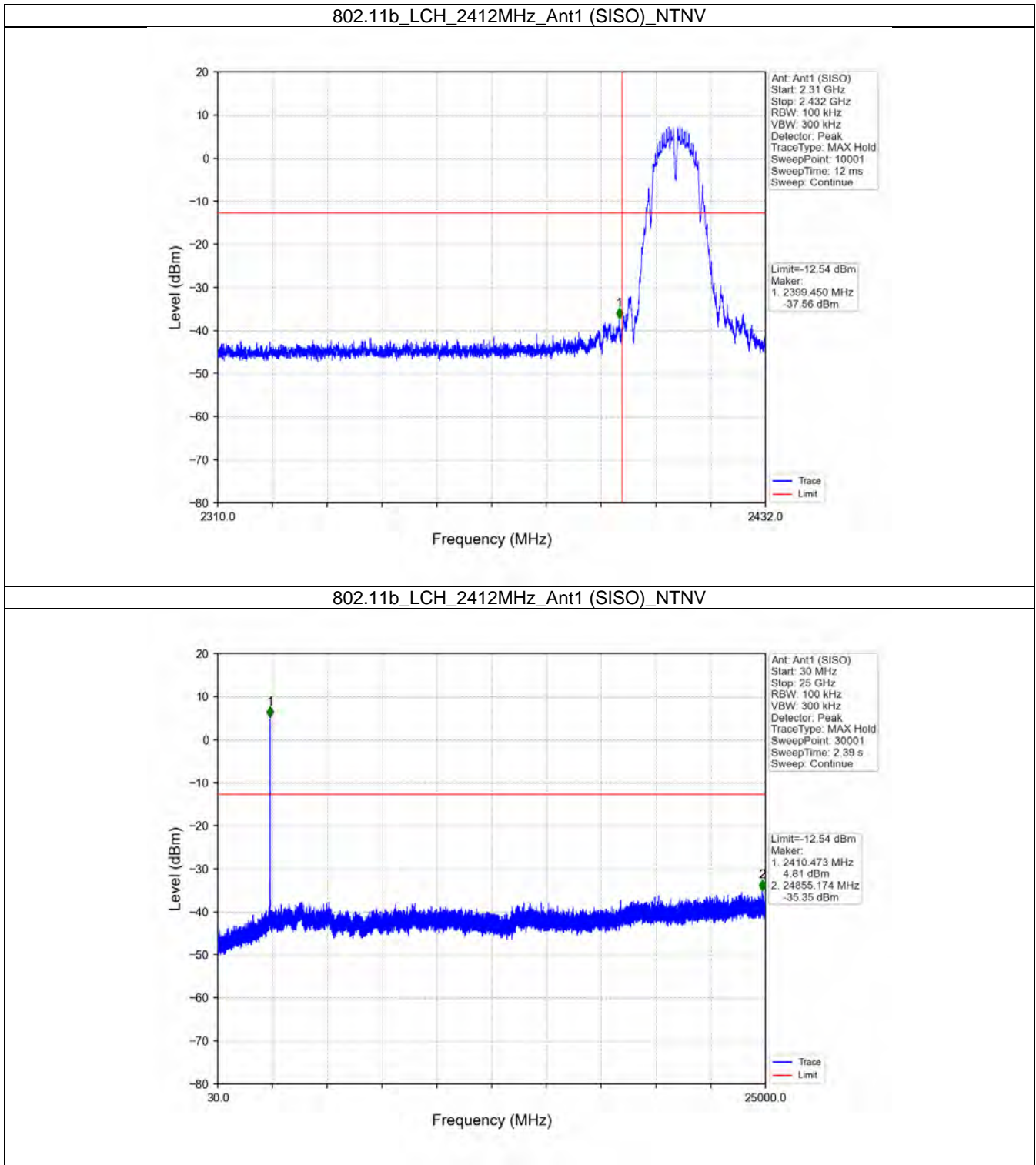
5.2 CSE

5.2.1 Test Result

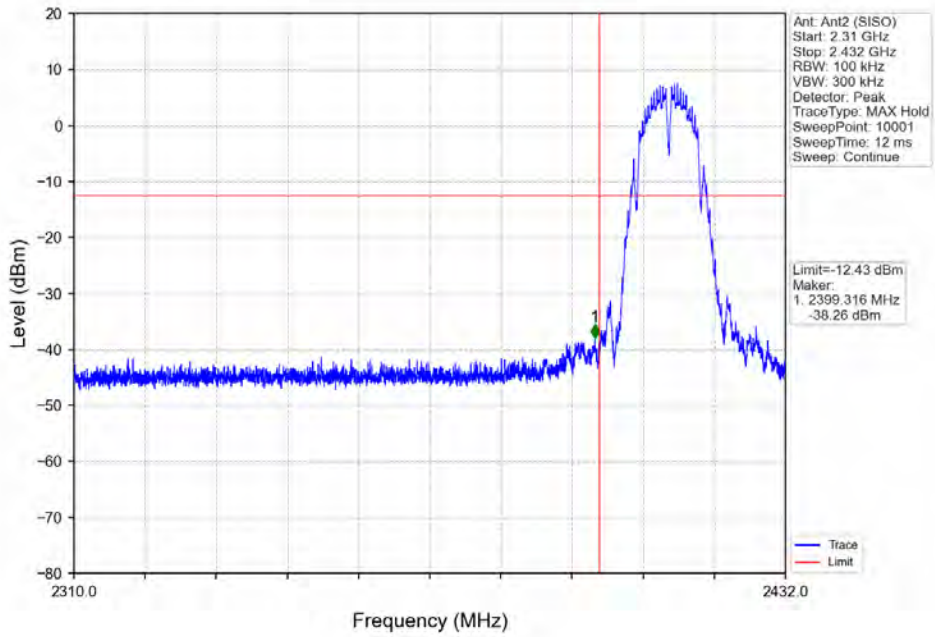
Mode	TX Type	Frequency (MHz)	Ant	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	1	7.46	-12.54	Pass
			2	7.57	-12.43	Pass
		2437	1	7.46	-12.54	Pass
			2	7.57	-12.43	Pass
		2462	1	7.46	-12.54	Pass
			2	7.57	-12.43	Pass
802.11g	SISO	2412	1	-0.29	-20.29	Pass
			2	-0.03	-20.03	Pass
		2437	1	-0.29	-20.29	Pass
			2	-0.03	-20.03	Pass
		2462	1	-0.29	-20.29	Pass
			2	-0.03	-20.03	Pass
802.11n (HT20)	SISO	2412	1	-1.50	-21.50	Pass
			2	-2.20	-22.20	Pass
		2437	1	-1.50	-21.50	Pass
			2	-2.20	-22.20	Pass
		2462	1	-1.50	-21.50	Pass
			2	-2.20	-22.20	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.

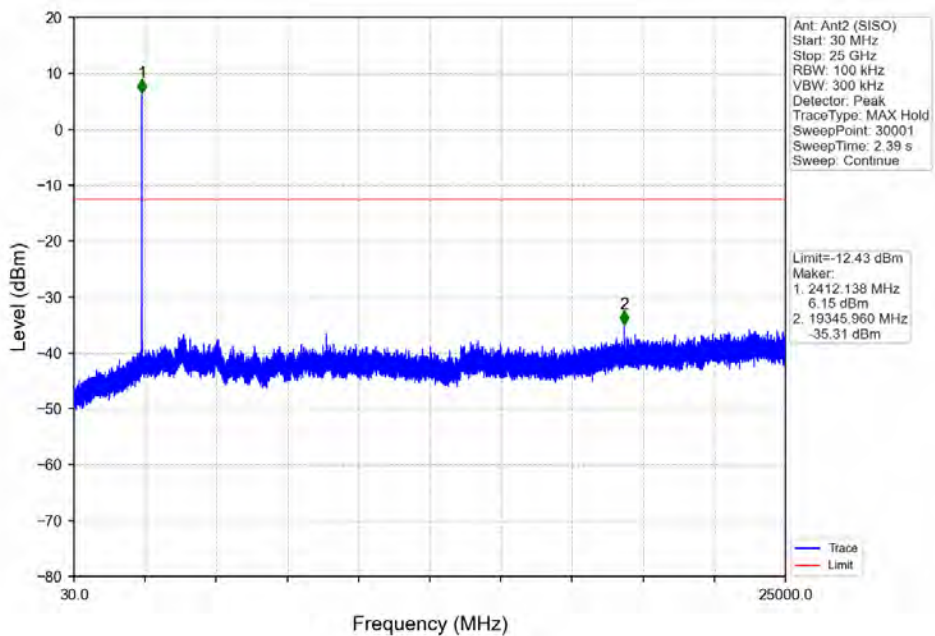
5.2.2 Test Graph



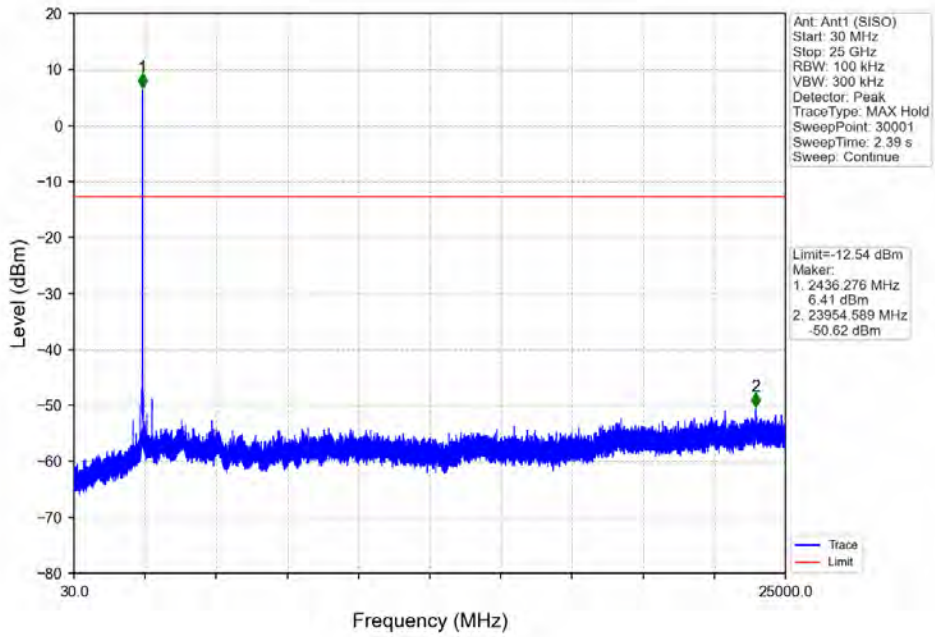
802.11b_LCH_2412MHz_Ant2 (SISO)_NTNV



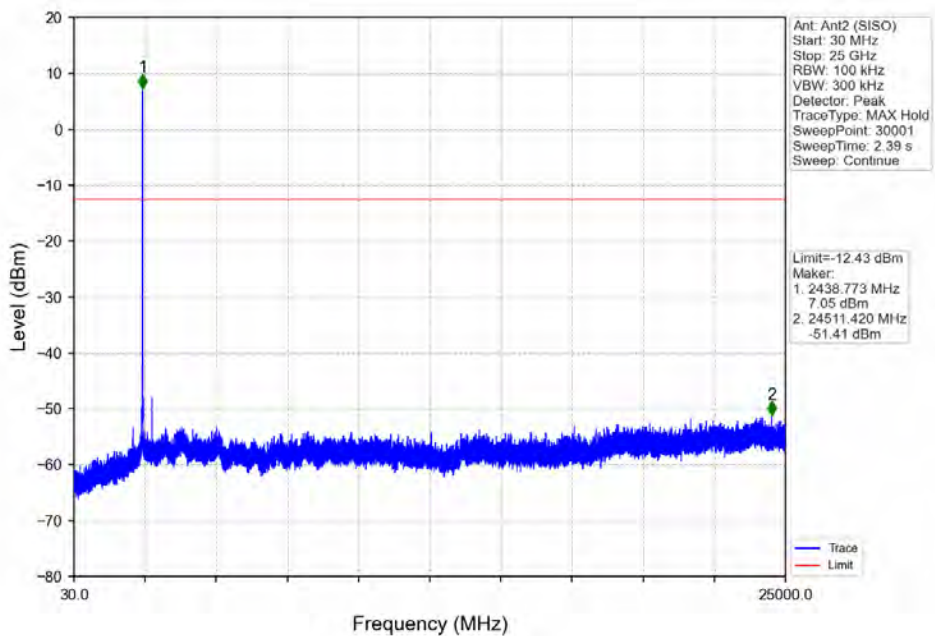
802.11b_LCH_2412MHz_Ant2 (SISO)_NTNV



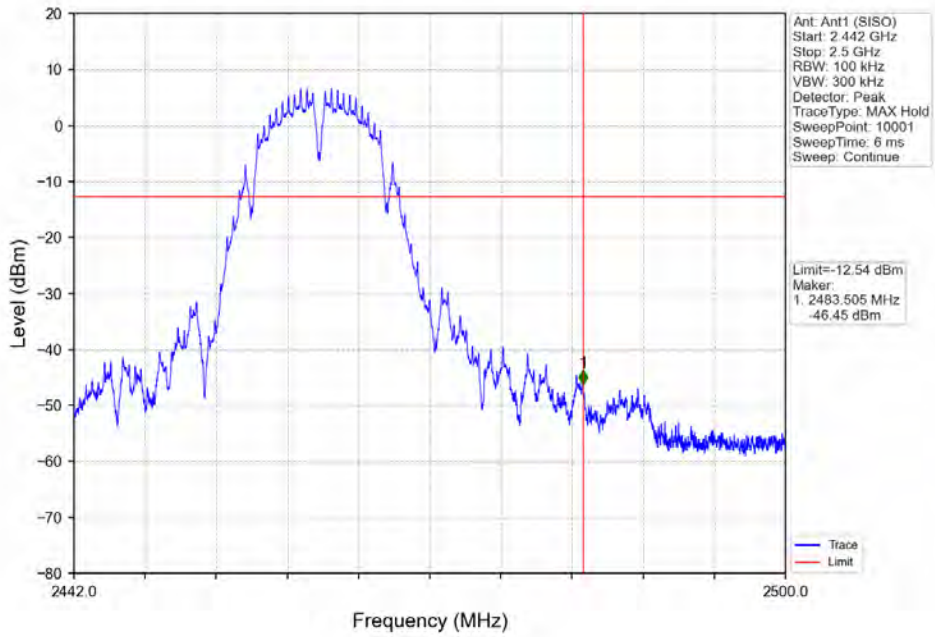
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



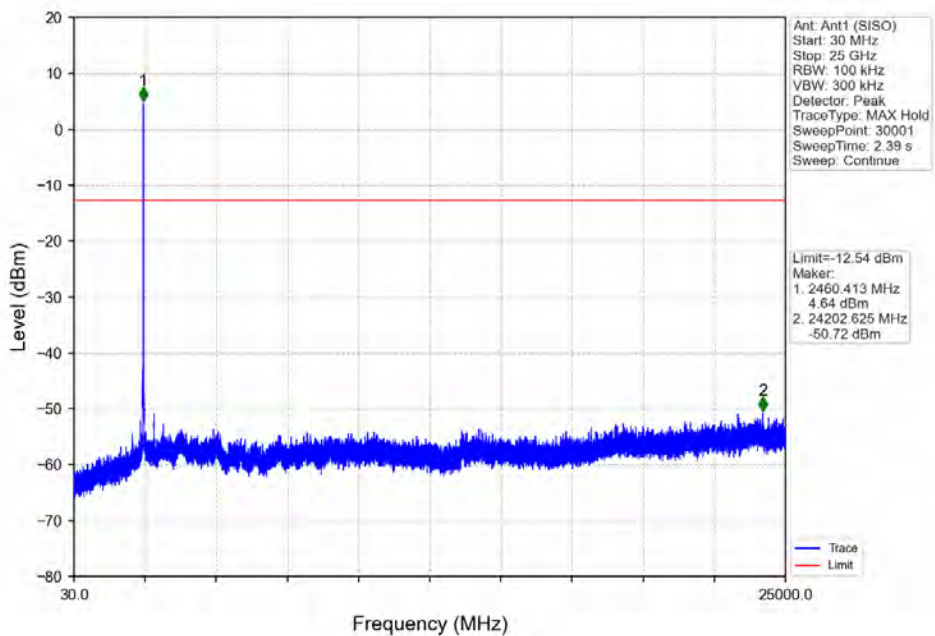
802.11b_MCH_2437MHz_Ant2 (SISO)_NTNV



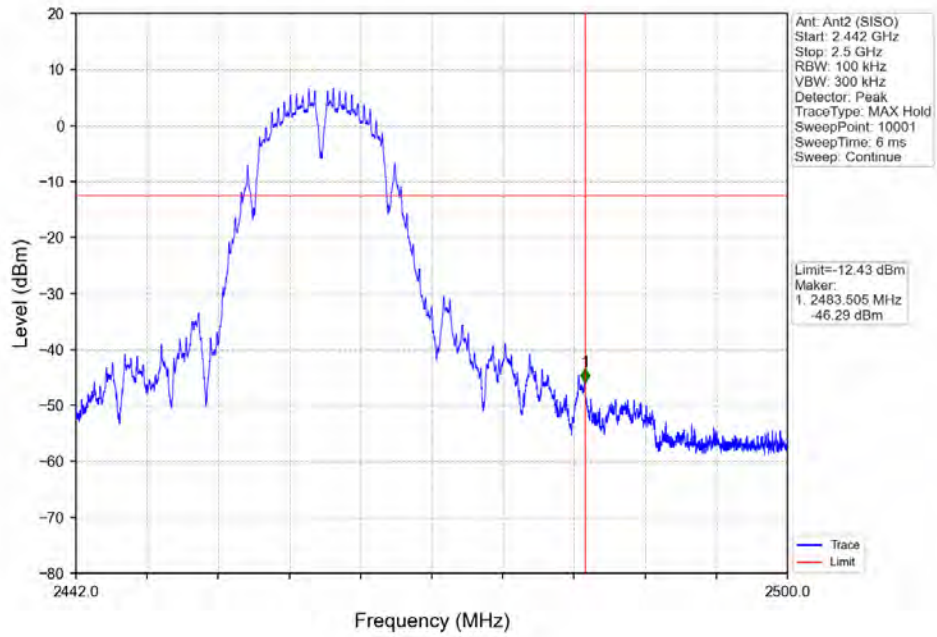
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



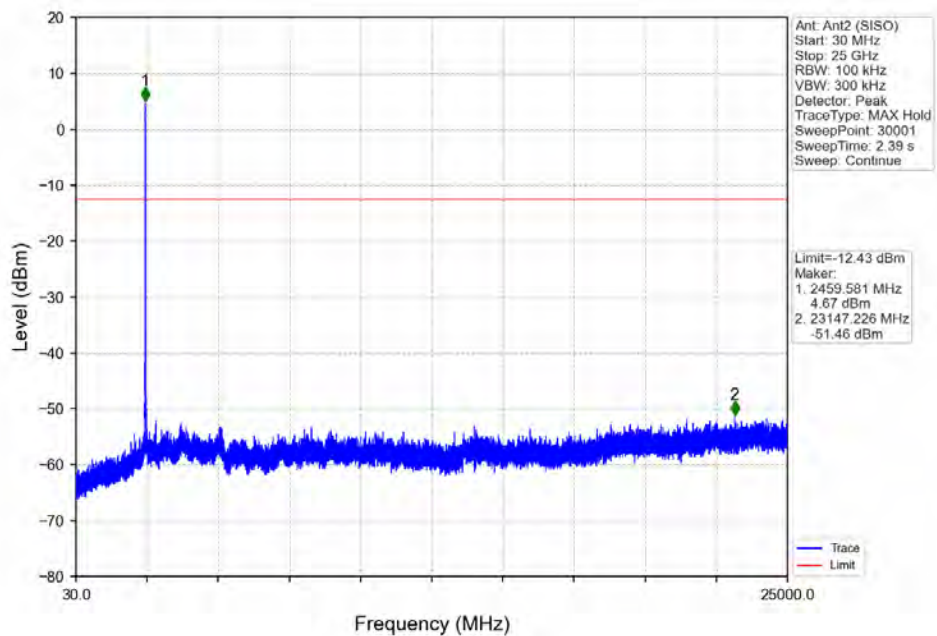
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV

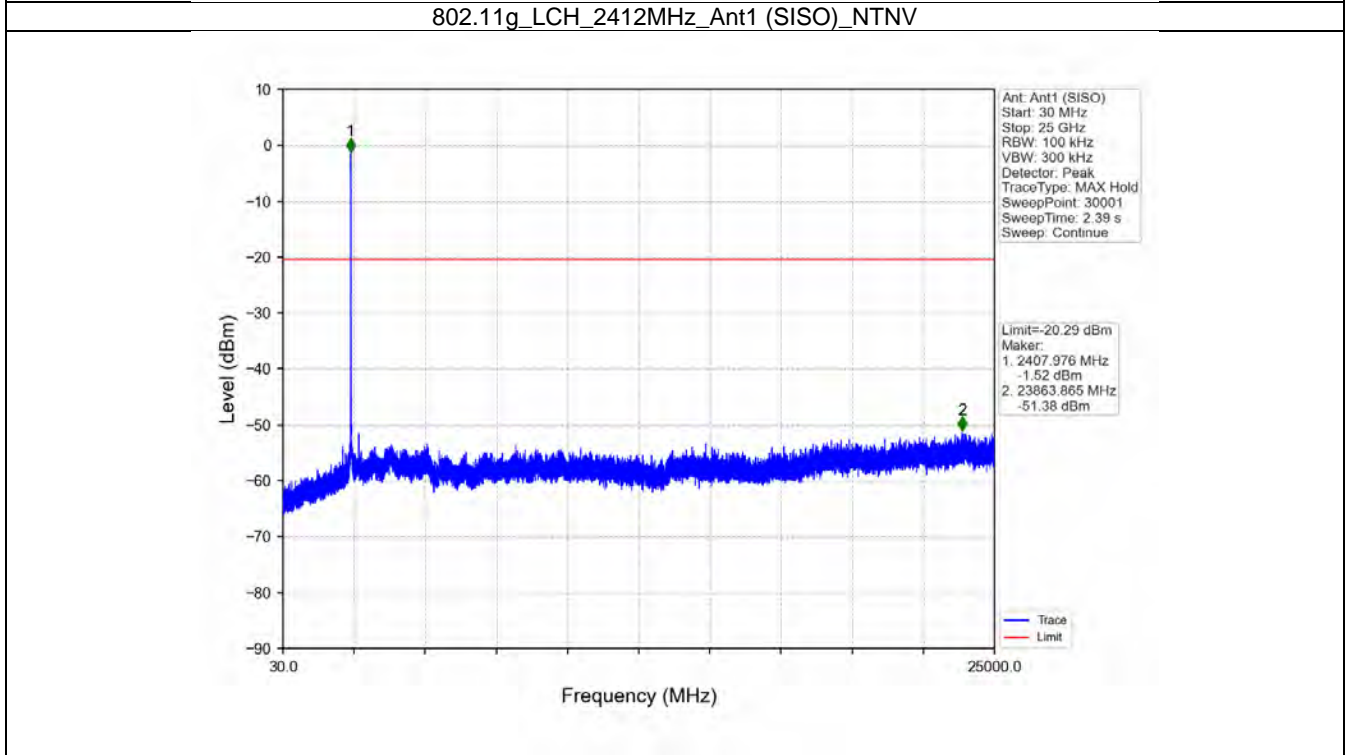
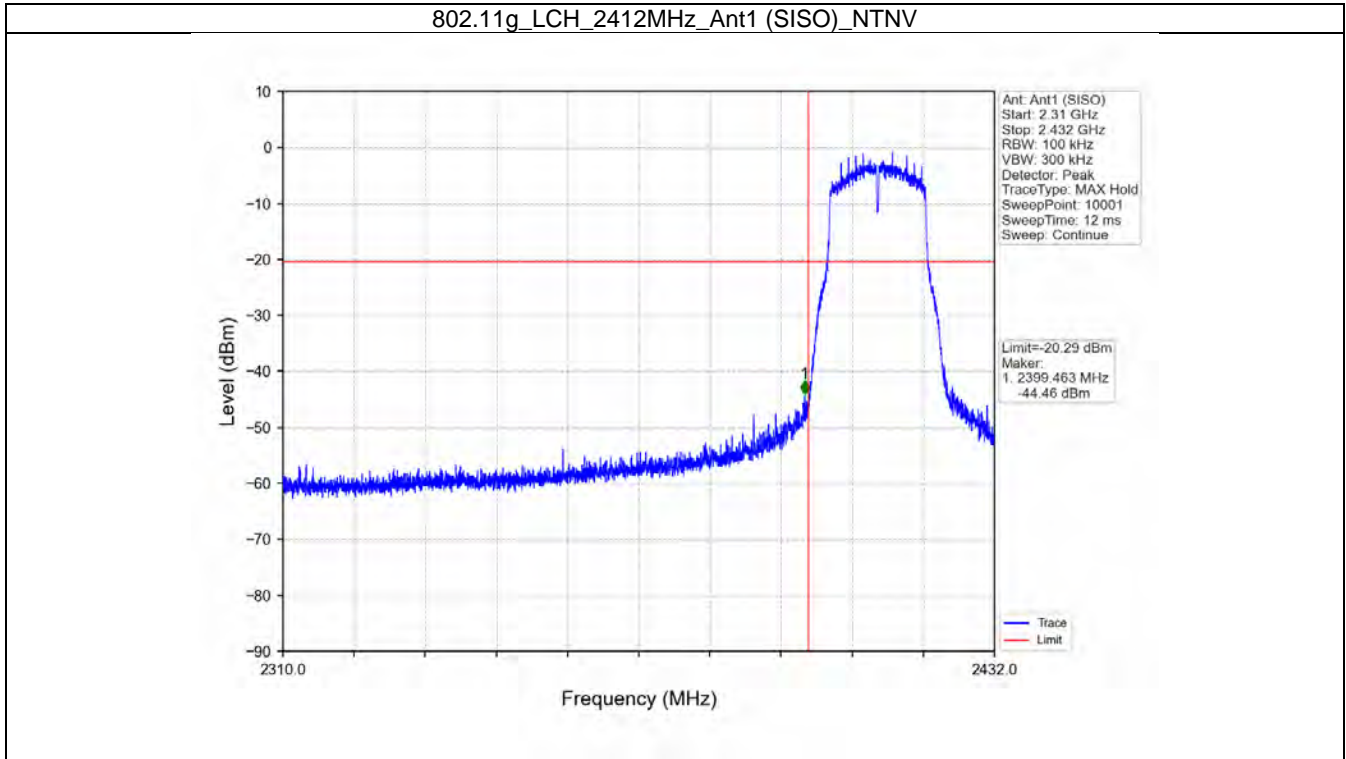


802.11b_HCH_2462MHz_Ant2 (SISO)_NTNV

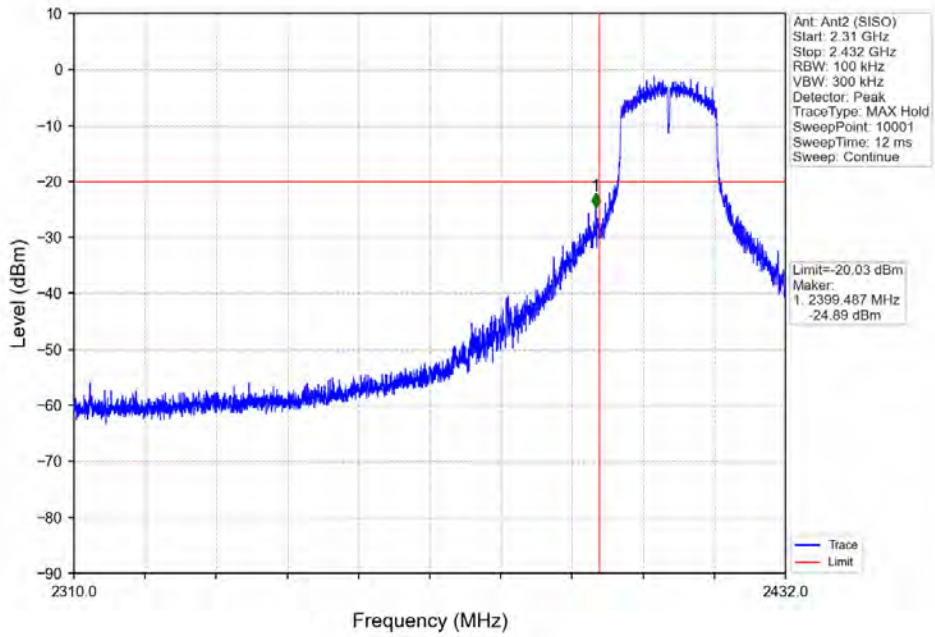


802.11b_HCH_2462MHz_Ant2 (SISO)_NTNV

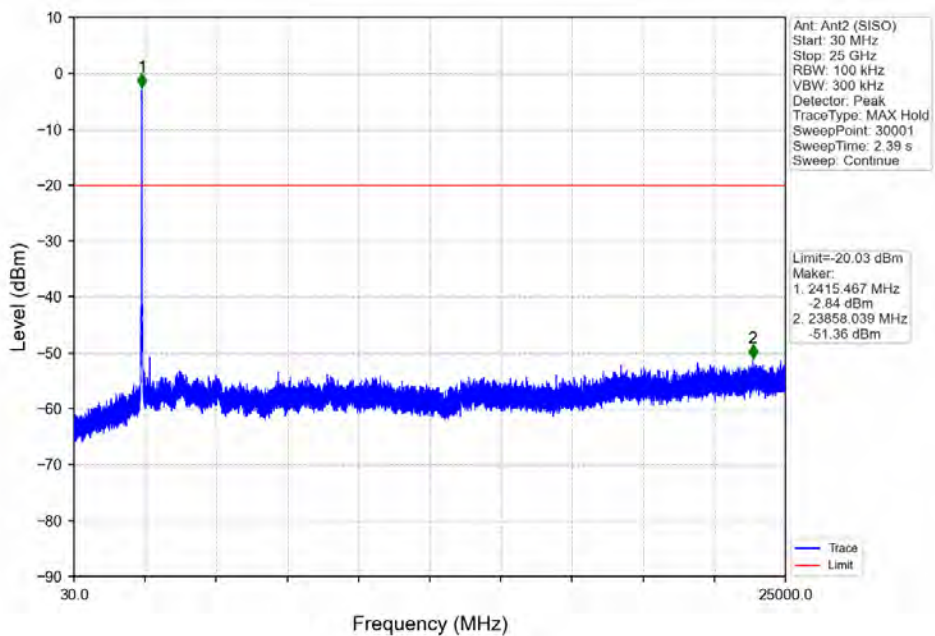




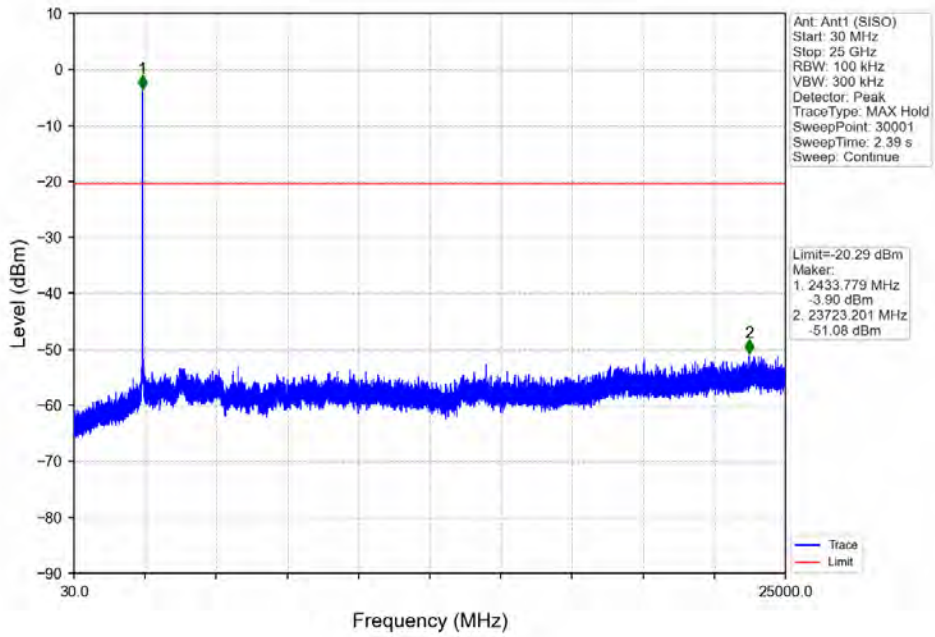
802.11g_LCH_2412MHz_Ant2 (SISO)_NTNV



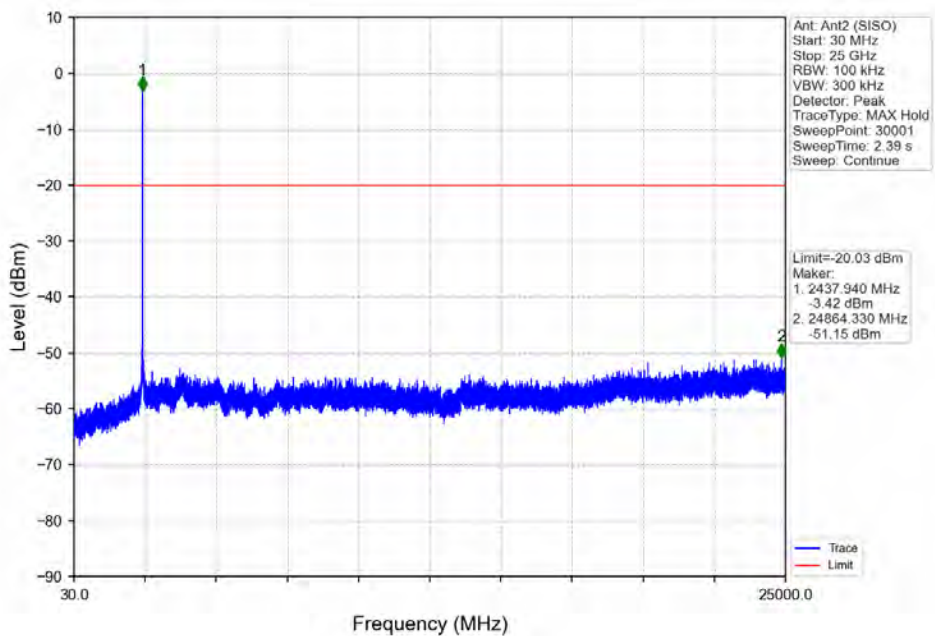
802.11g_LCH_2412MHz_Ant2 (SISO)_NTNV



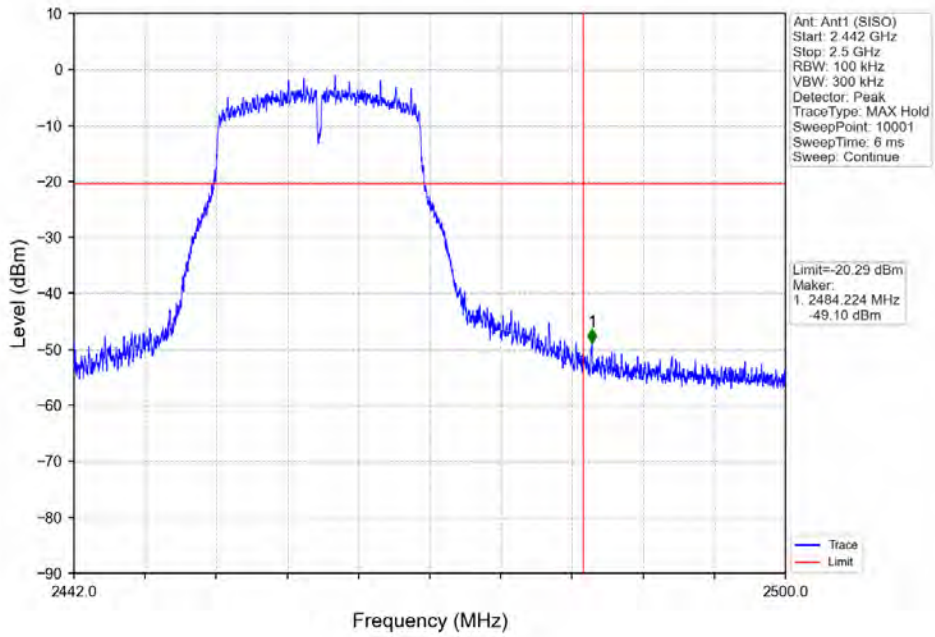
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



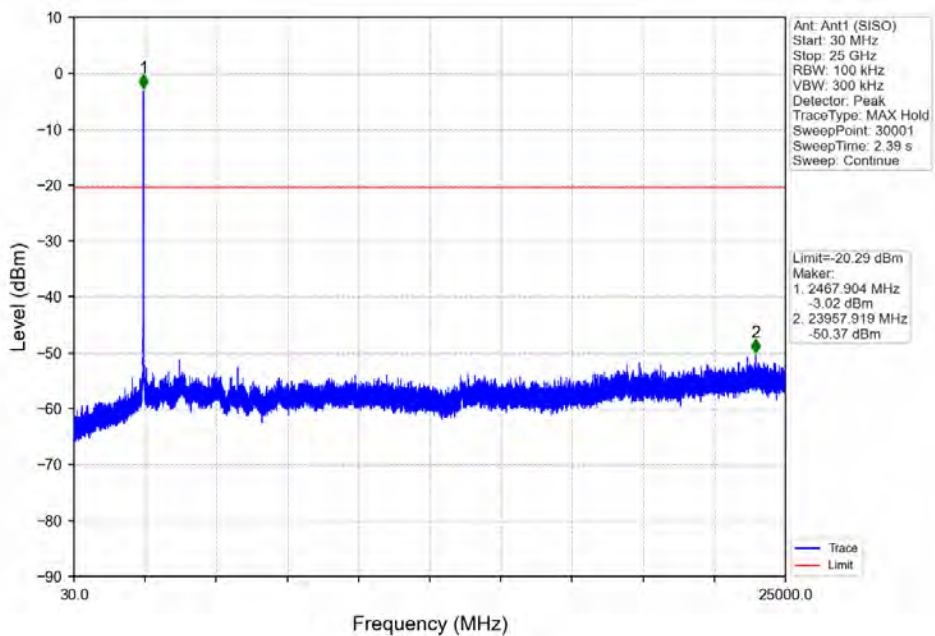
802.11g_MCH_2437MHz_Ant2 (SISO)_NTNV



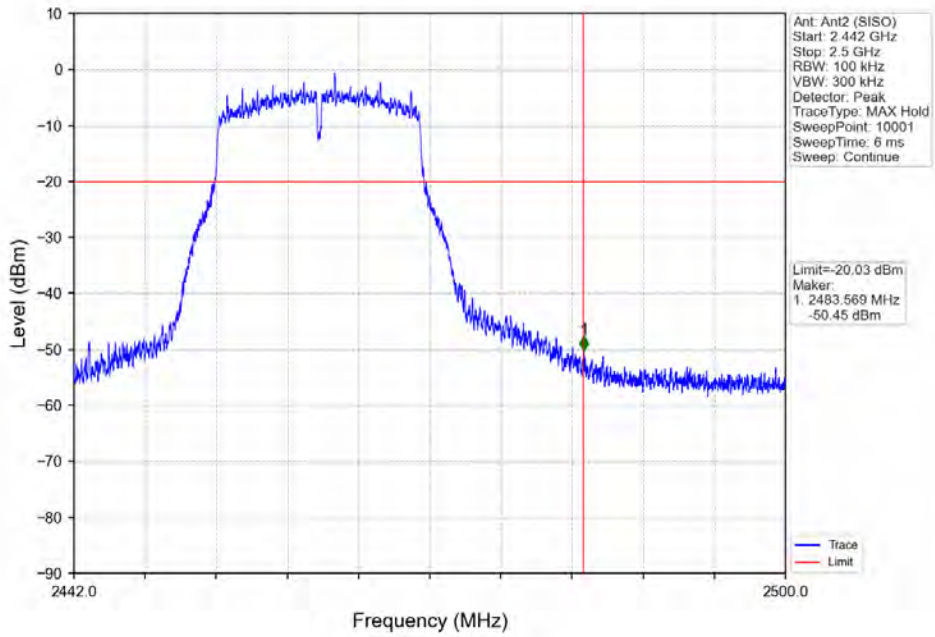
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



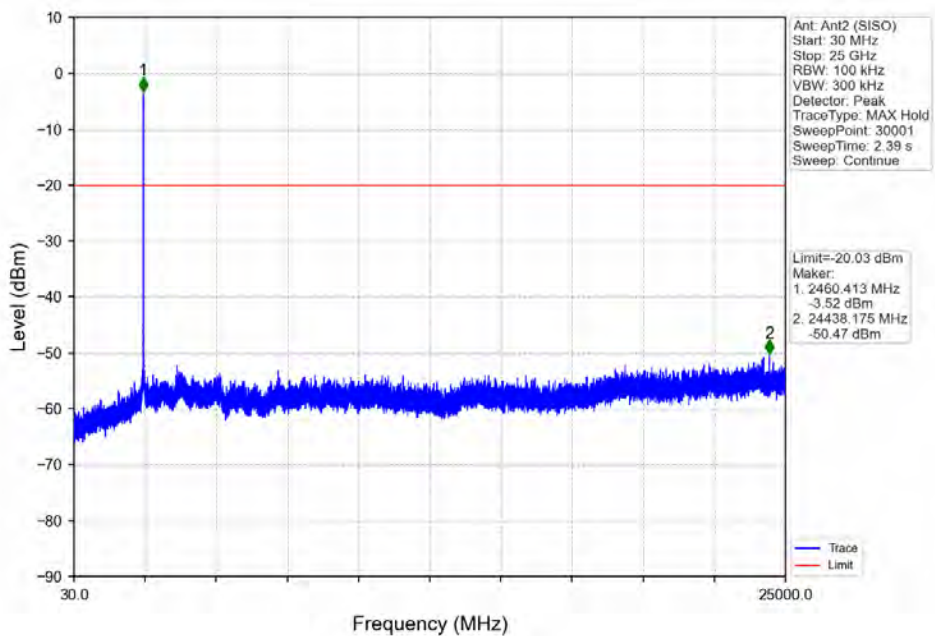
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



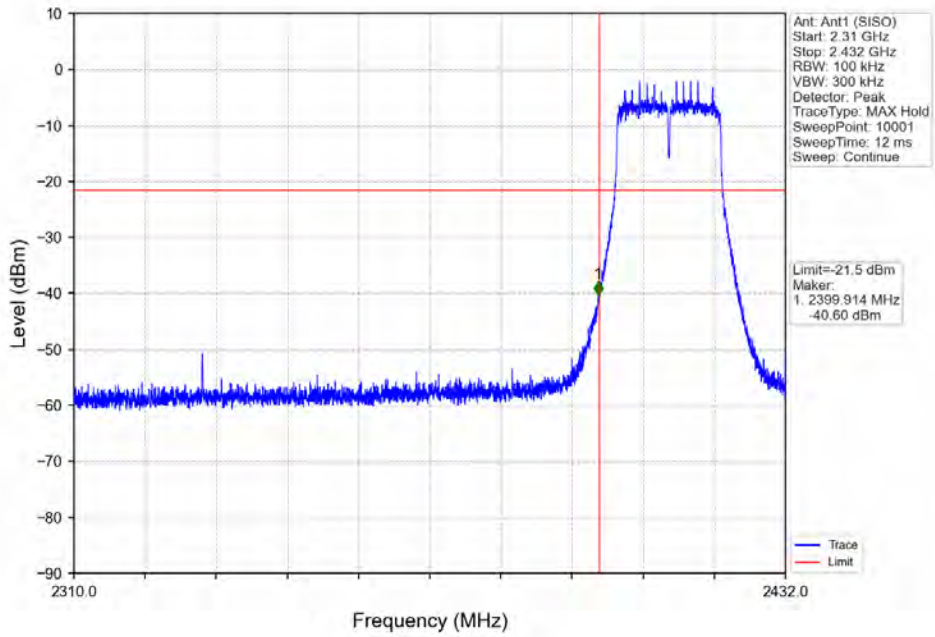
802.11g_HCH_2462MHz_Ant2 (SISO)_NTNV



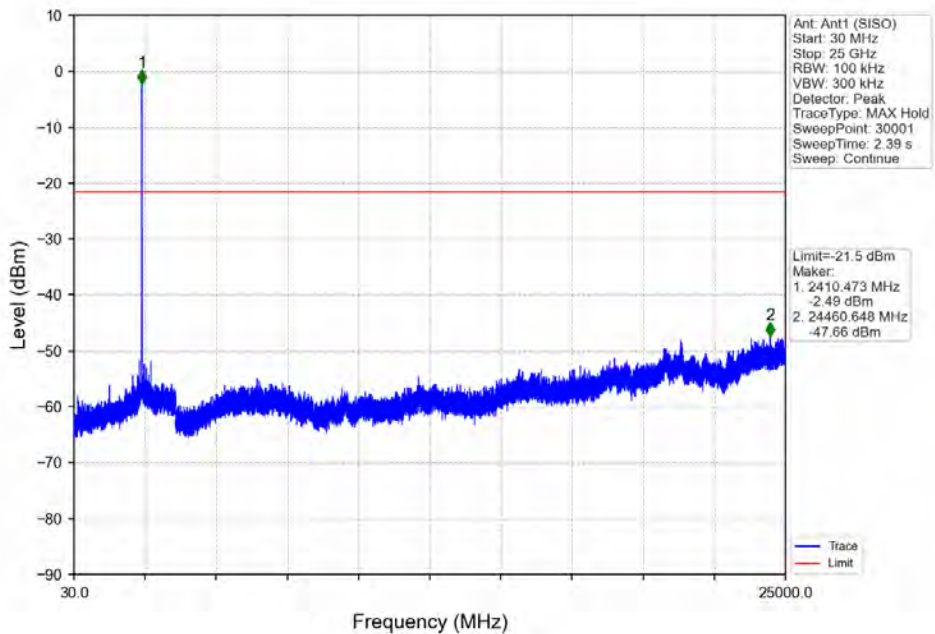
802.11g_HCH_2462MHz_Ant2 (SISO)_NTNV



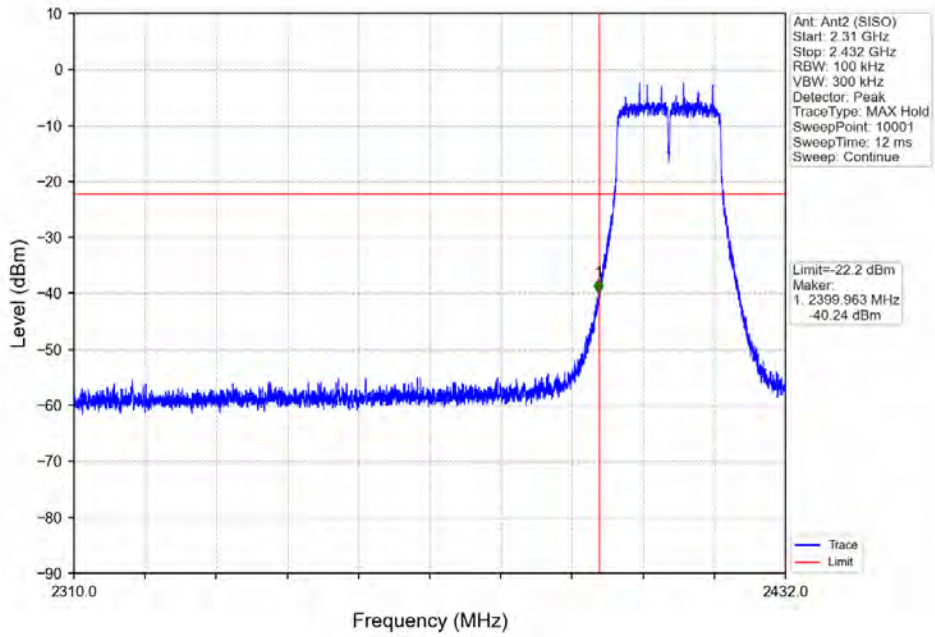
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



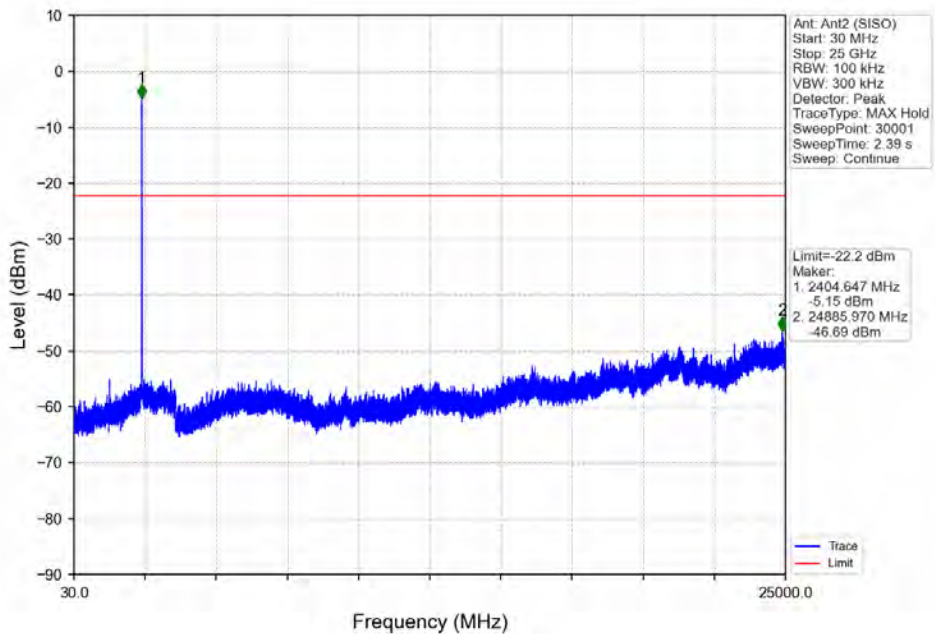
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



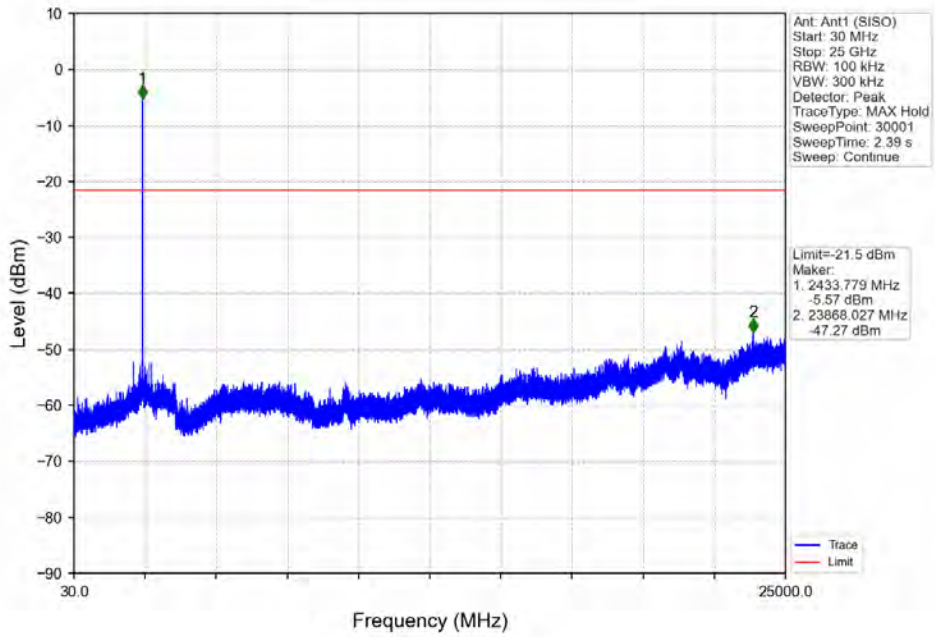
802.11n(HT20)_LCH_2412MHz_Ant2 (SISO)_NTNV



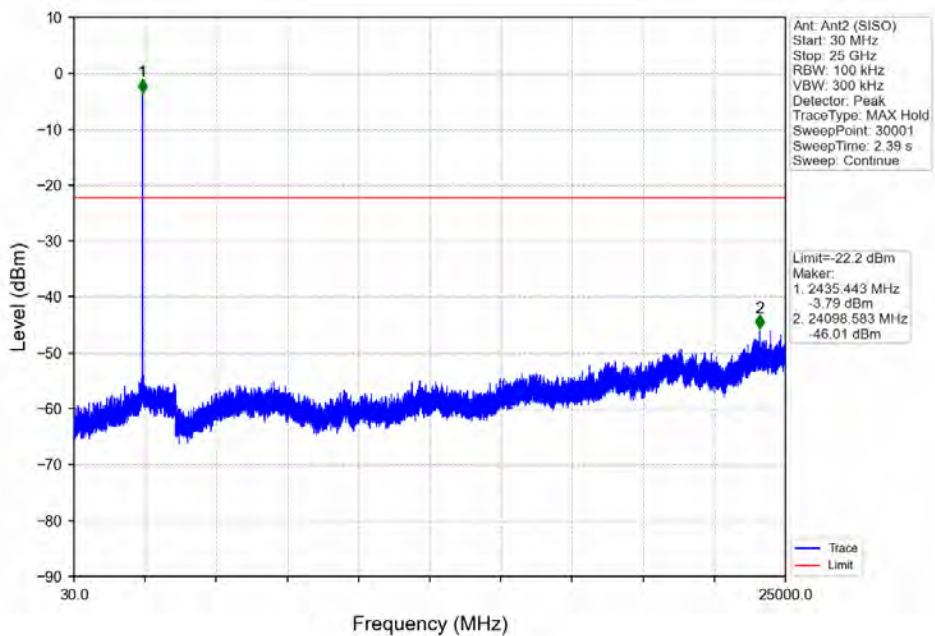
802.11n(HT20)_LCH_2412MHz_Ant2 (SISO)_NTNV



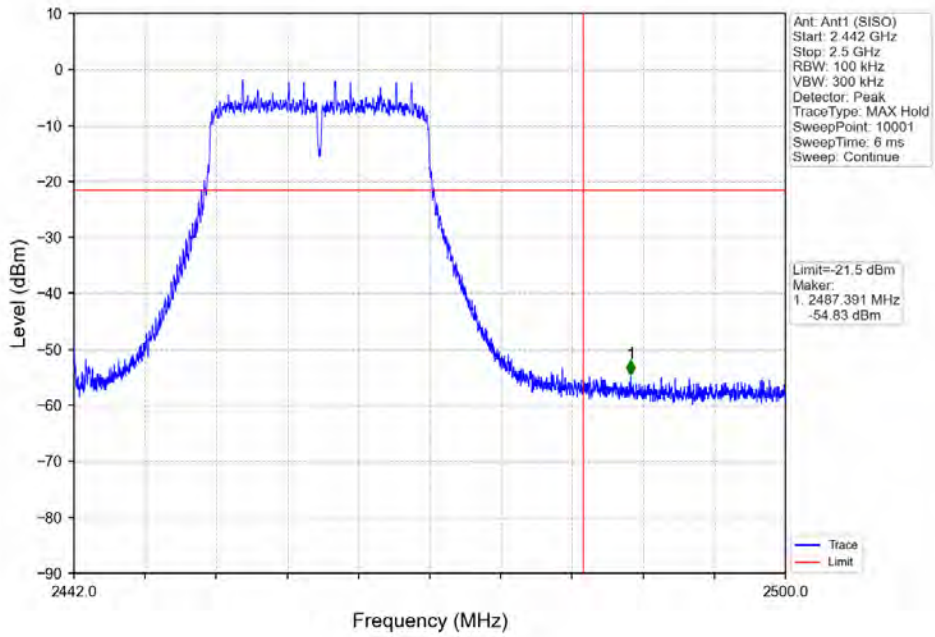
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



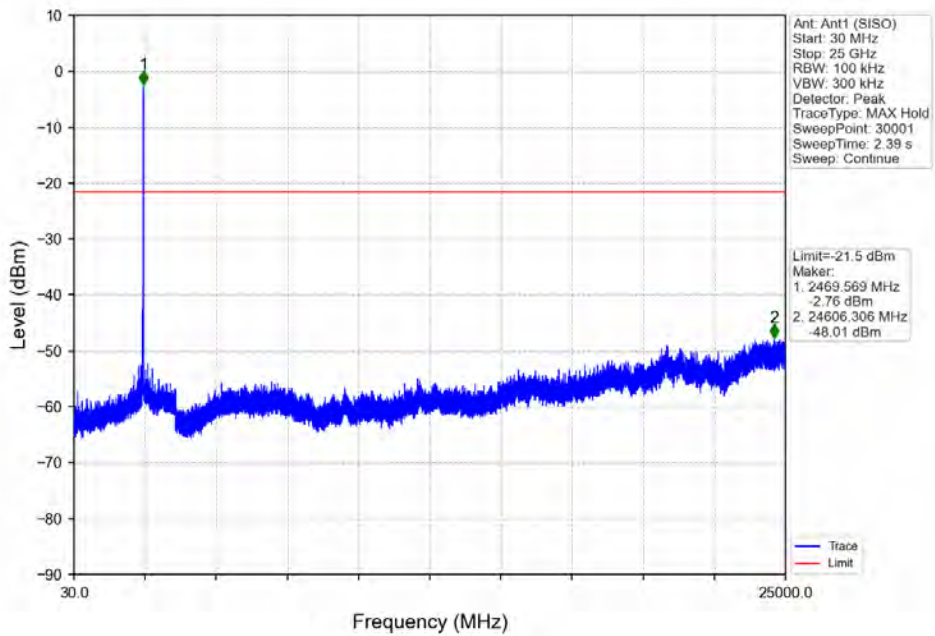
802.11n(HT20)_MCH_2437MHz_Ant2 (SISO)_NTNV



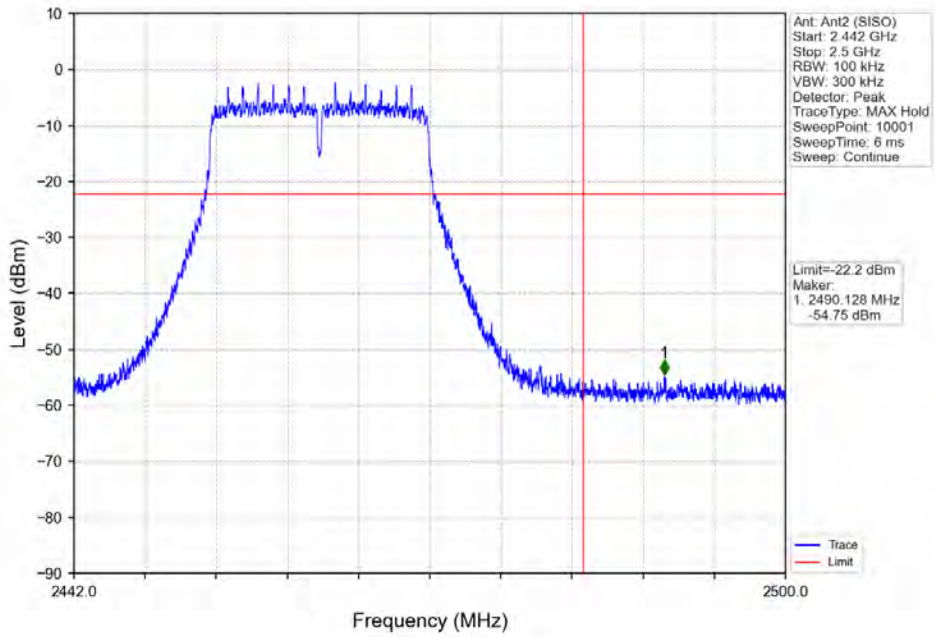
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant2 (SISO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant2 (SISO)_NTNV

