



Appendix A for SHEM210800957801

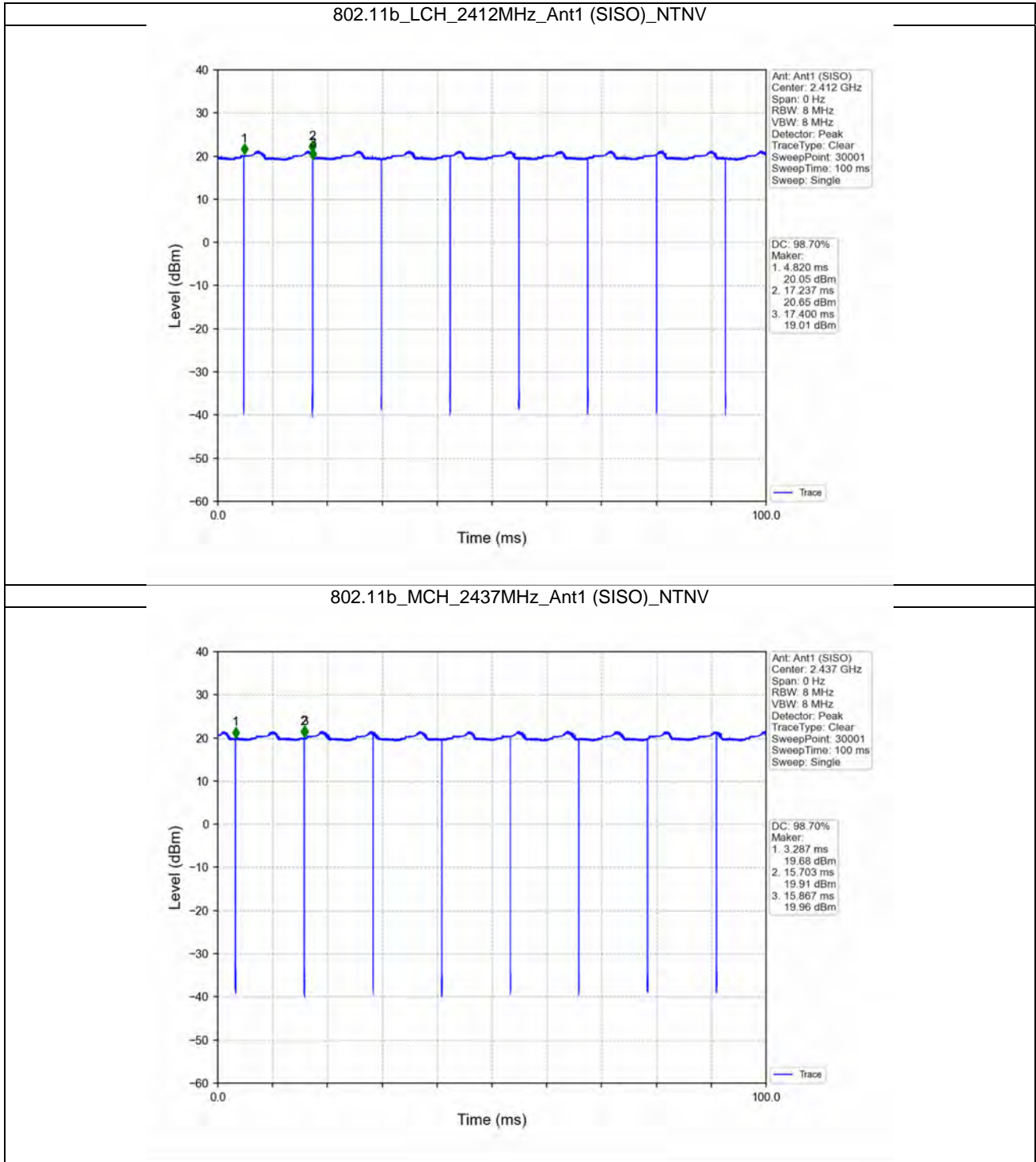
1. Duty Cycle

1.1 Ant1

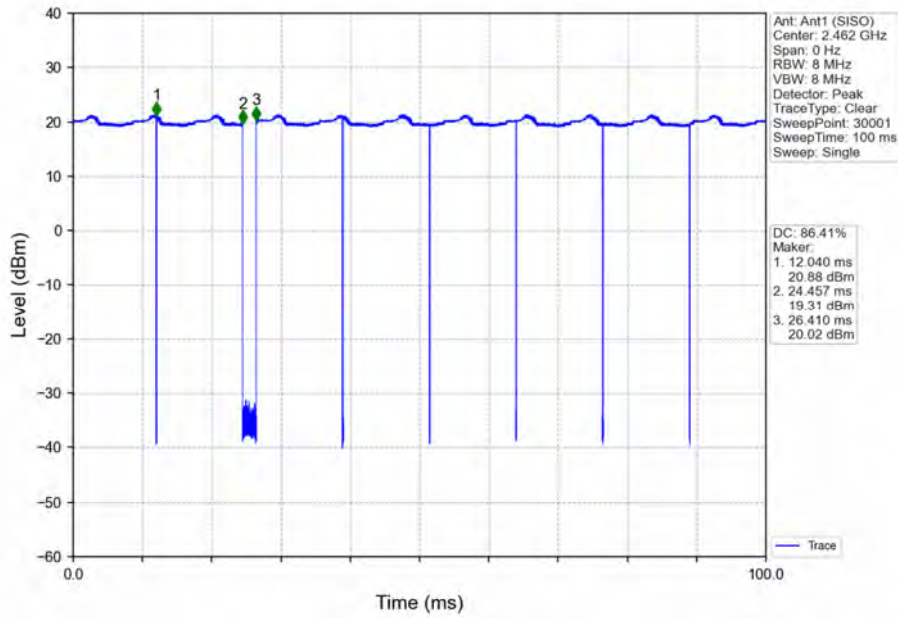
1.1.1 Test Result

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	12.417	12.580	98.70	0.06	0.71
		2437	12.416	12.580	98.70	0.06	0.95
		2462	12.417	14.370	86.41	0.63	13.25
802.11g	SISO	2412	2.064	2.216	93.14	0.31	4.76
		2437	2.064	2.225	92.76	0.33	5.58
		2462	2.063	2.234	92.35	0.35	5.12
802.11n (HT20)	MIMO	2412	1.920	2.090	91.87	0.37	5.47
		2437	1.920	2.090	91.87	0.37	5.43
		2462	1.920	2.090	91.87	0.37	5.90
802.11n (HT40)	MIMO	2422	0.944	1.105	85.43	0.68	11.02
		2437	0.944	1.096	86.13	0.65	10.30
		2452	0.944	1.105	85.43	0.68	11.01

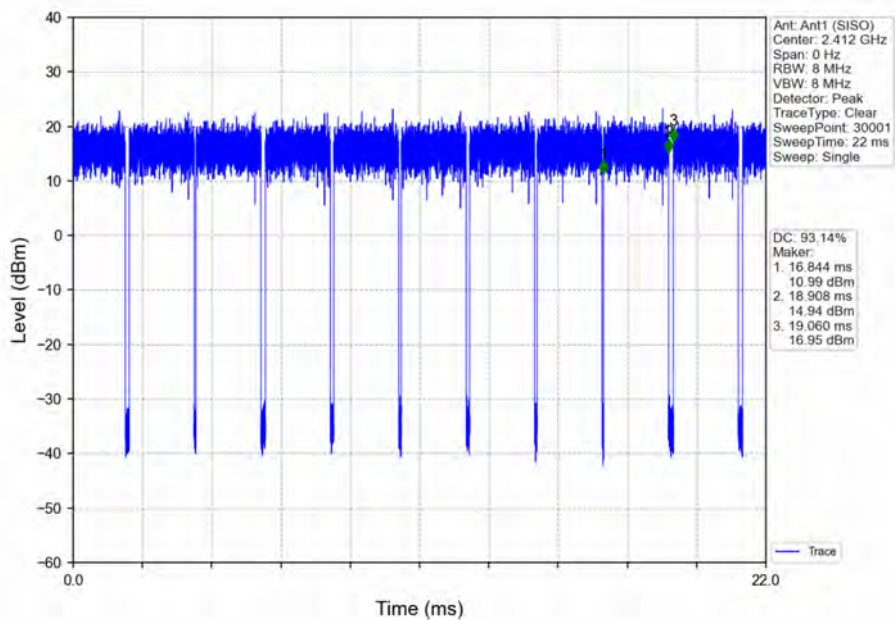
1.1.2 Test Graph



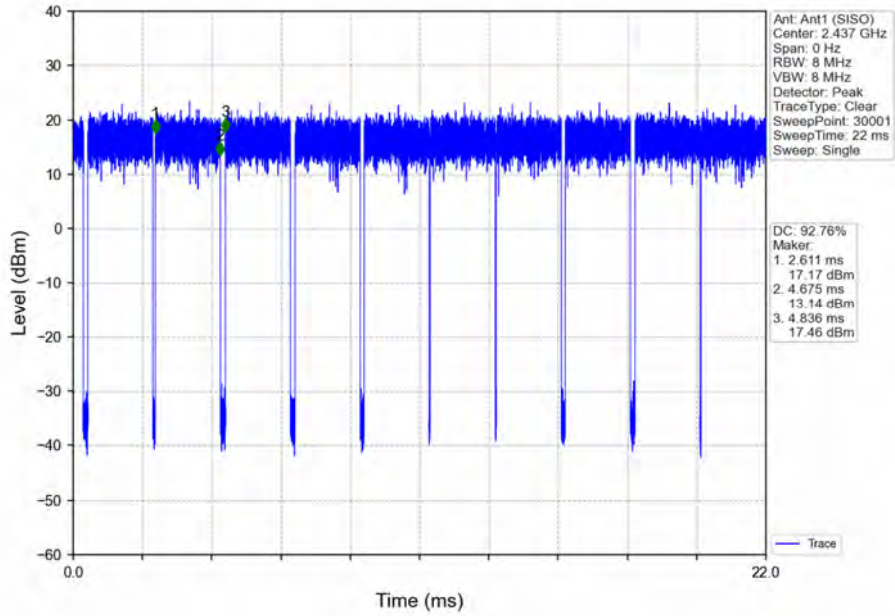
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



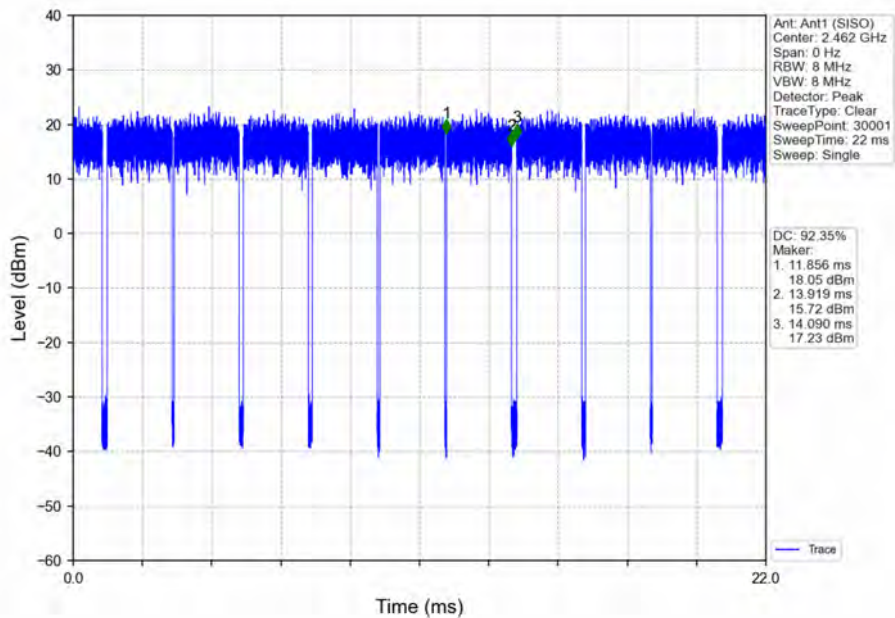
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



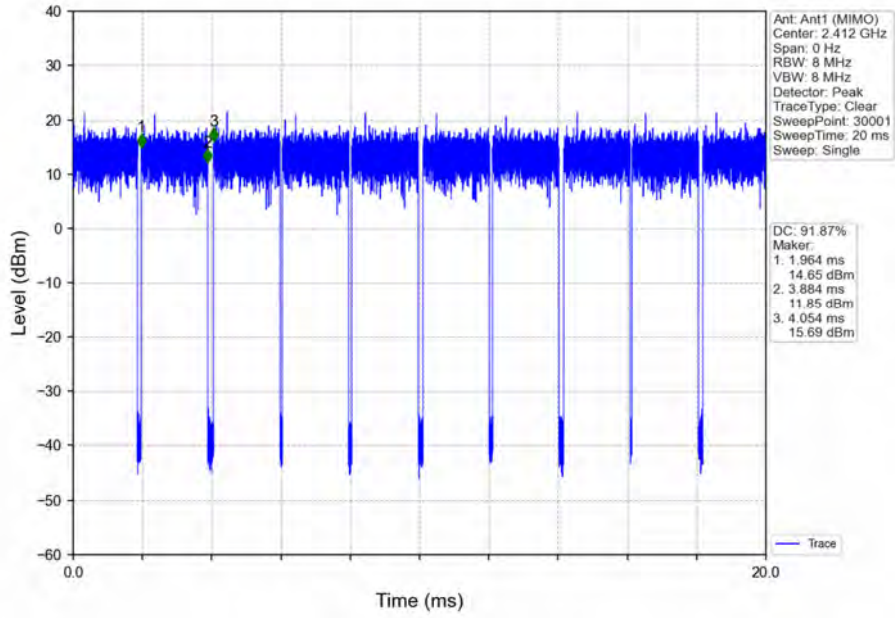
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



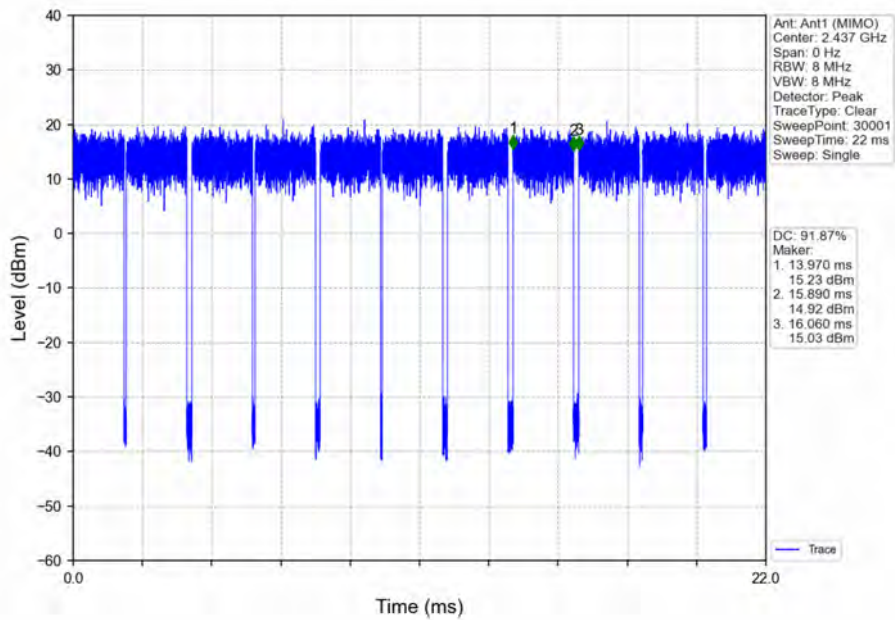
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



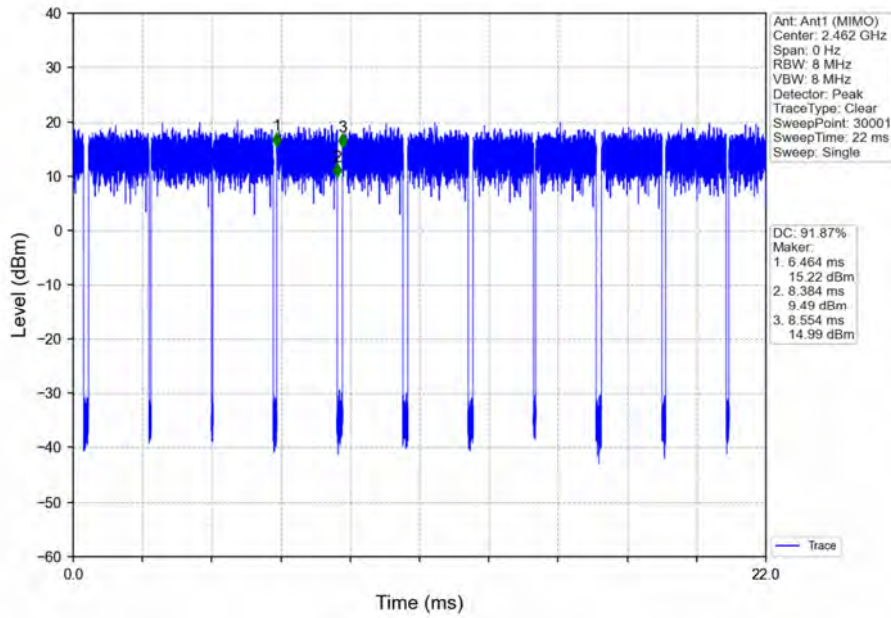
802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO)_NTNV



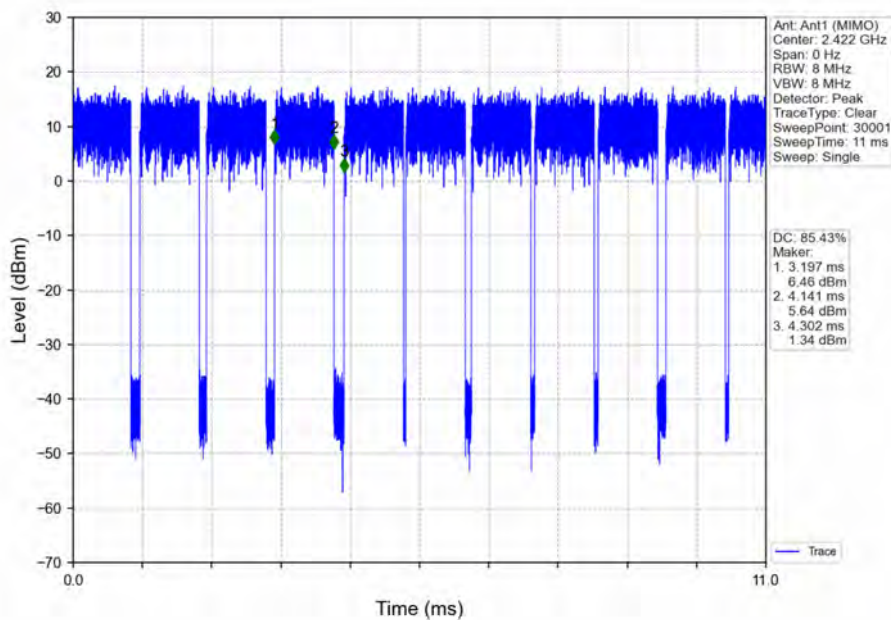
802.11n(HT20)_MCH_2437MHz_Ant1 (MIMO)_NTNV



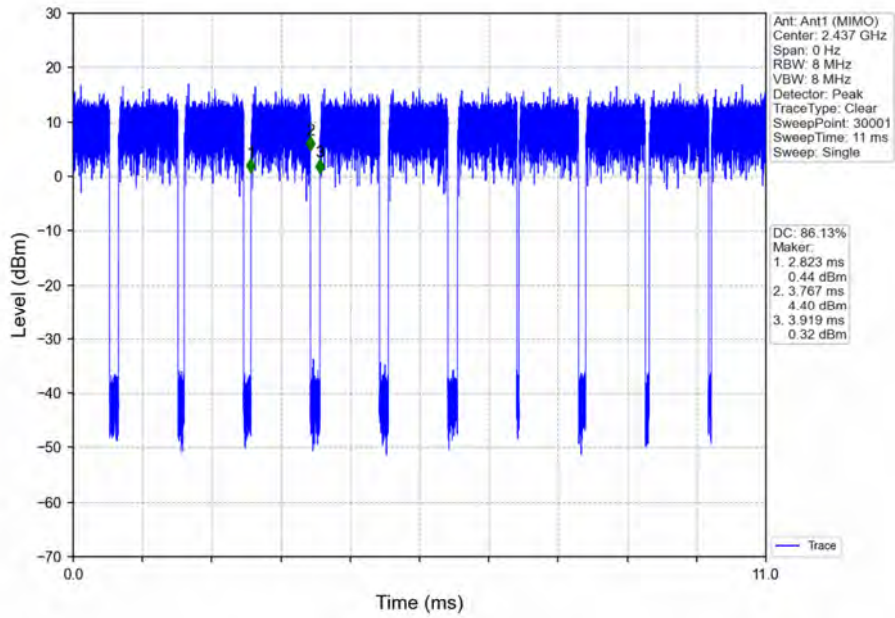
802.11n(HT20)_HCH_2462MHz_Ant1 (MIMO)_NTNV



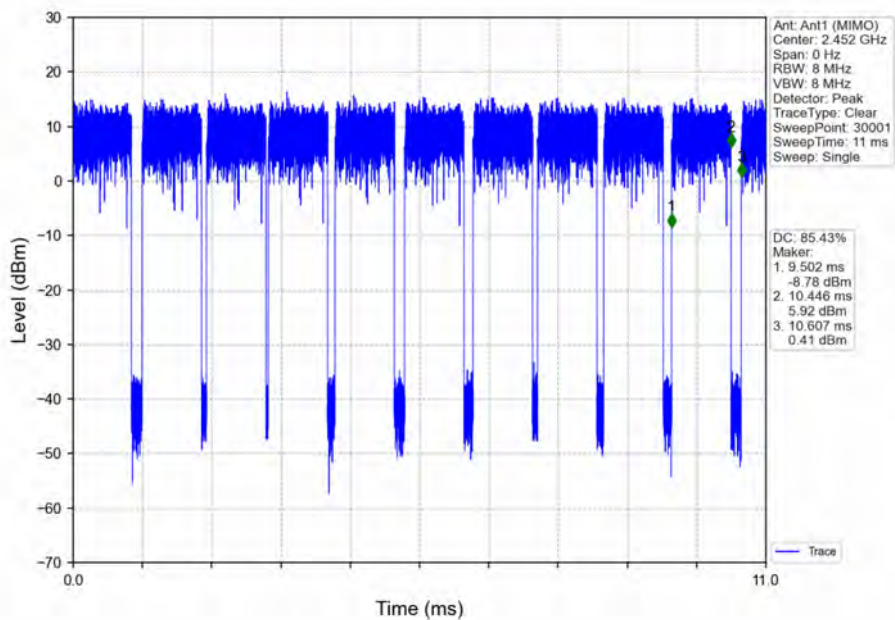
802.11n(HT40)_LCH_2422MHz_Ant1 (MIMO)_NTNV



802.11n(HT40)_MCH_2437MHz_Ant1 (MIMO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (MIMO)_NTNV





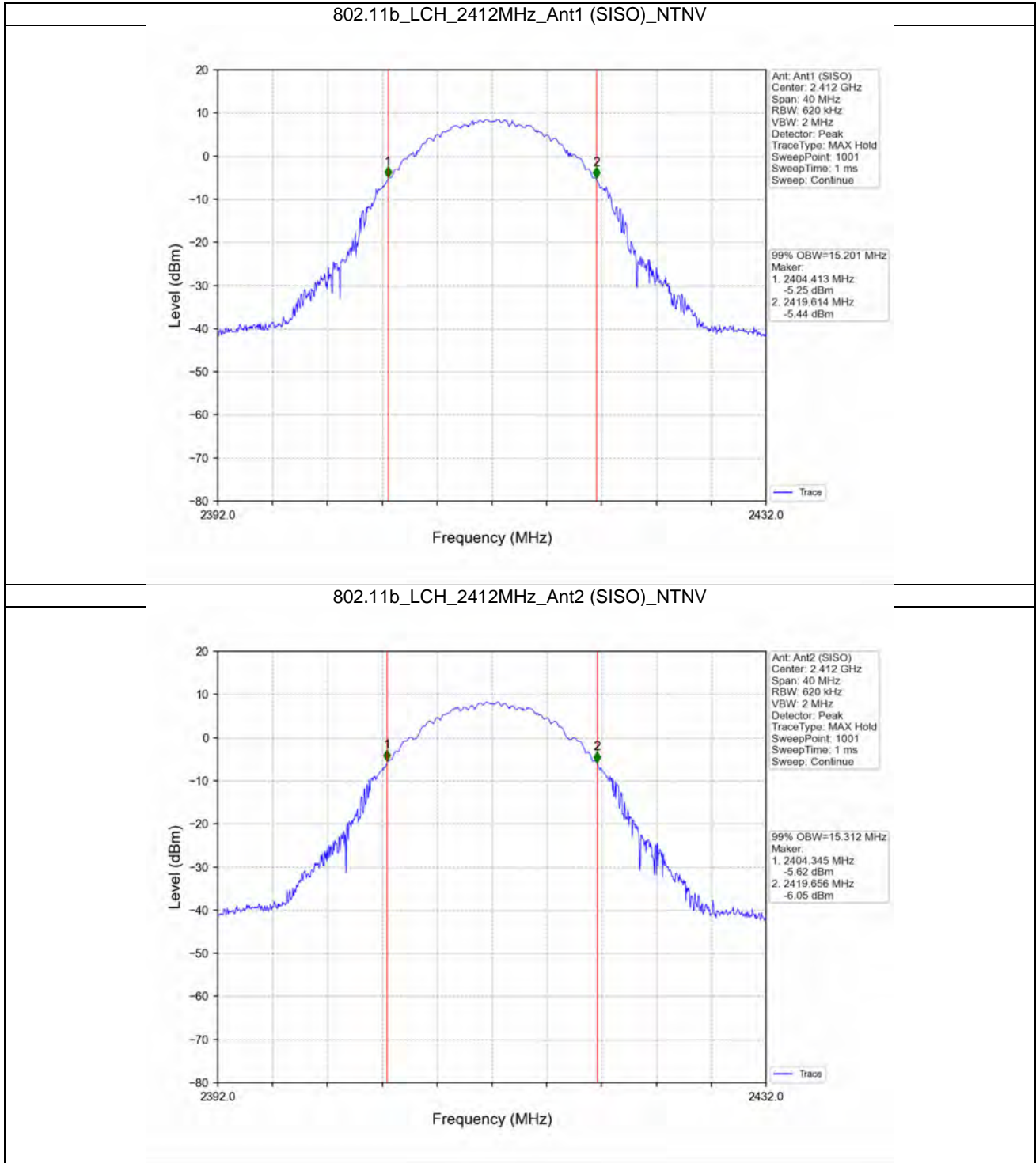
2. Bandwidth

2.1 OBW

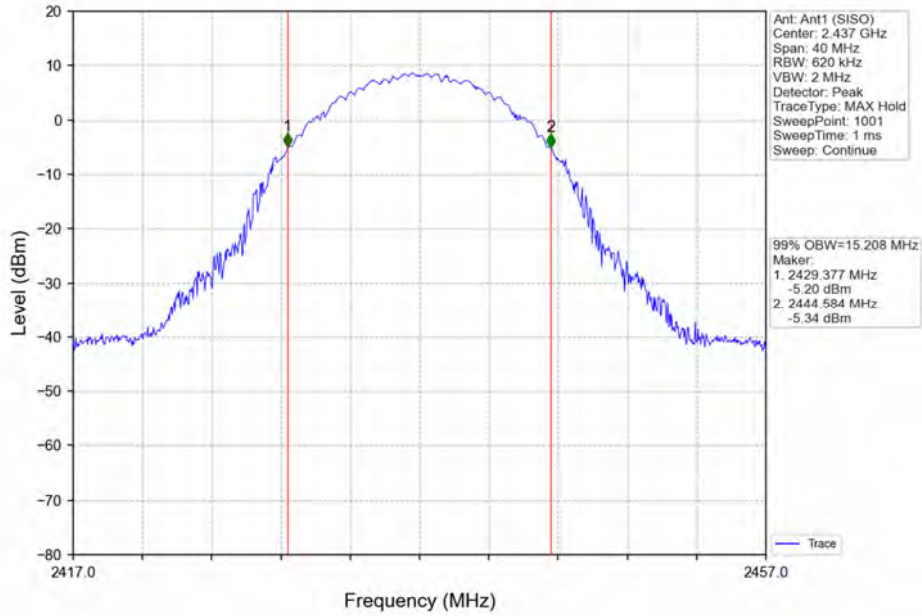
2.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Ant	99% Occupied Bandwidth (MHz)	Verdict
				Result	
802.11b	SISO	2412	1	15.201	Pass
			2	15.312	Pass
		2437	1	15.208	Pass
			2	15.268	Pass
		2462	1	15.201	Pass
			2	15.285	Pass
802.11g	SISO	2412	1	17.797	Pass
			2	17.938	Pass
		2437	1	17.917	Pass
			2	17.747	Pass
		2462	1	17.919	Pass
			2	17.758	Pass
802.11n (HT20)	MIMO	2412	1	18.843	Pass
			2	18.973	Pass
		2437	1	18.942	Pass
			2	18.918	Pass
		2462	1	19.013	Pass
			2	18.933	Pass
802.11n (HT40)	MIMO	2422	1	36.134	Pass
			2	36.163	Pass
		2437	1	36.187	Pass
			2	36.229	Pass
		2452	1	36.060	Pass
			2	36.256	Pass

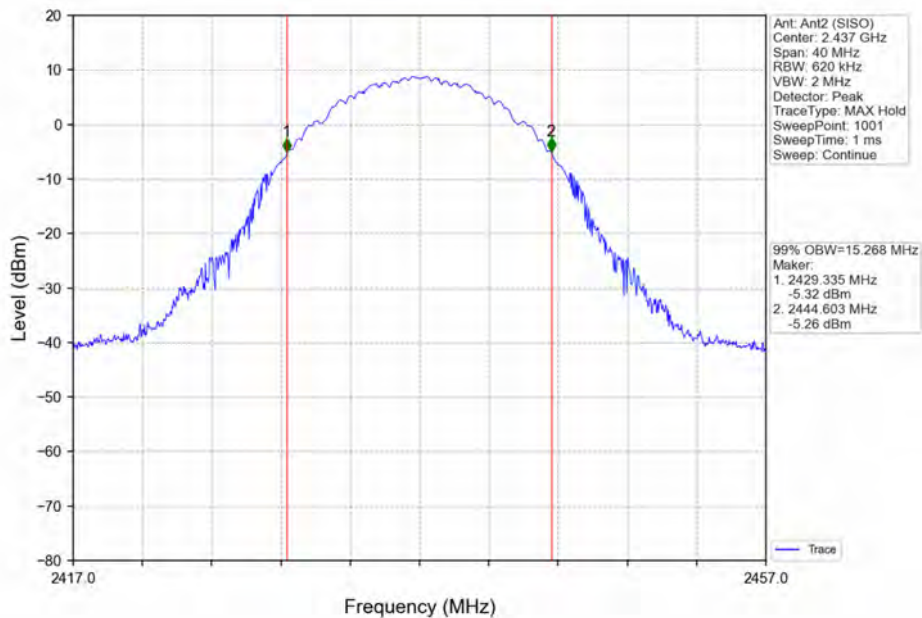
2.1.2 Test Graph



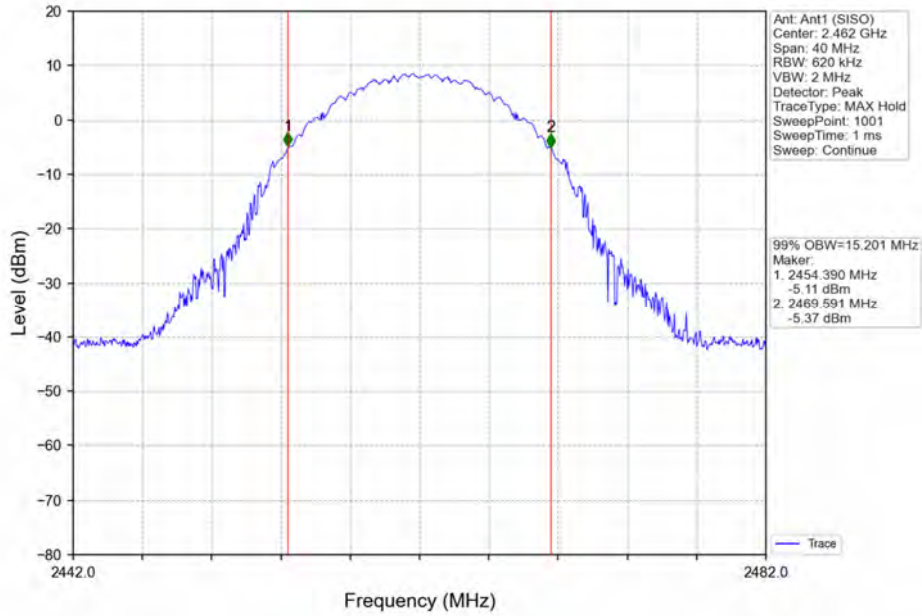
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



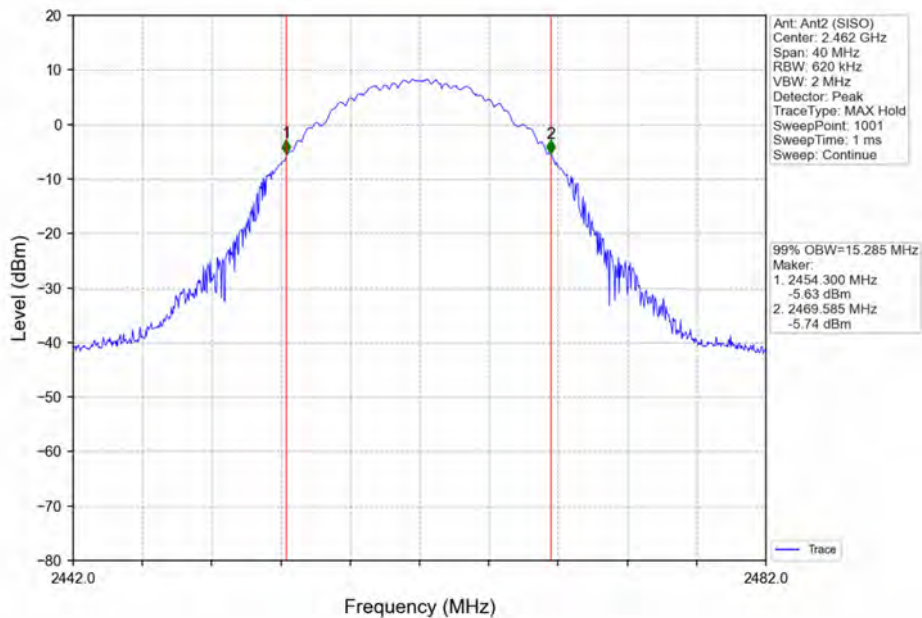
802.11b_MCH_2437MHz_Ant2 (SISO)_NTNV



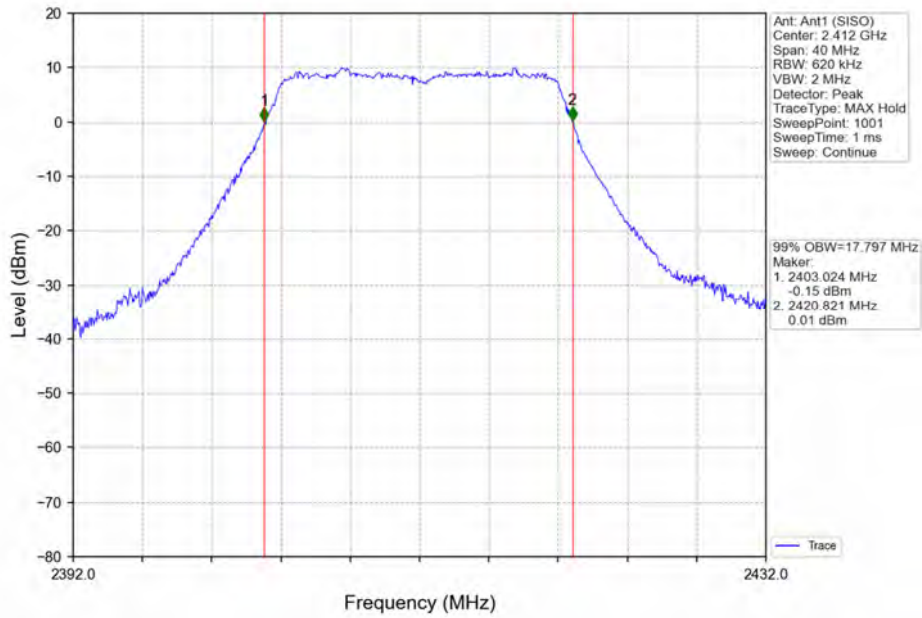
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



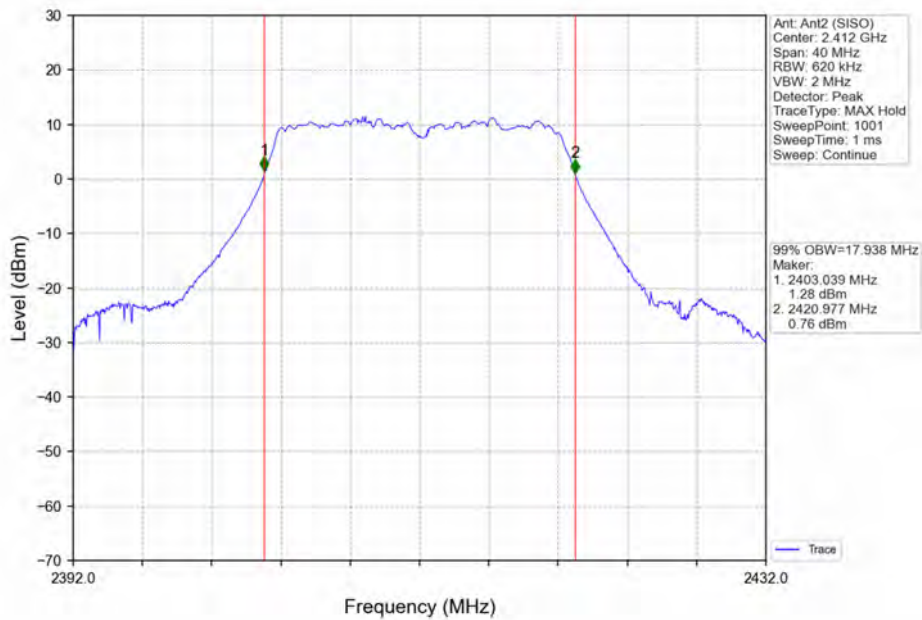
802.11b_HCH_2462MHz_Ant2 (SISO)_NTNV



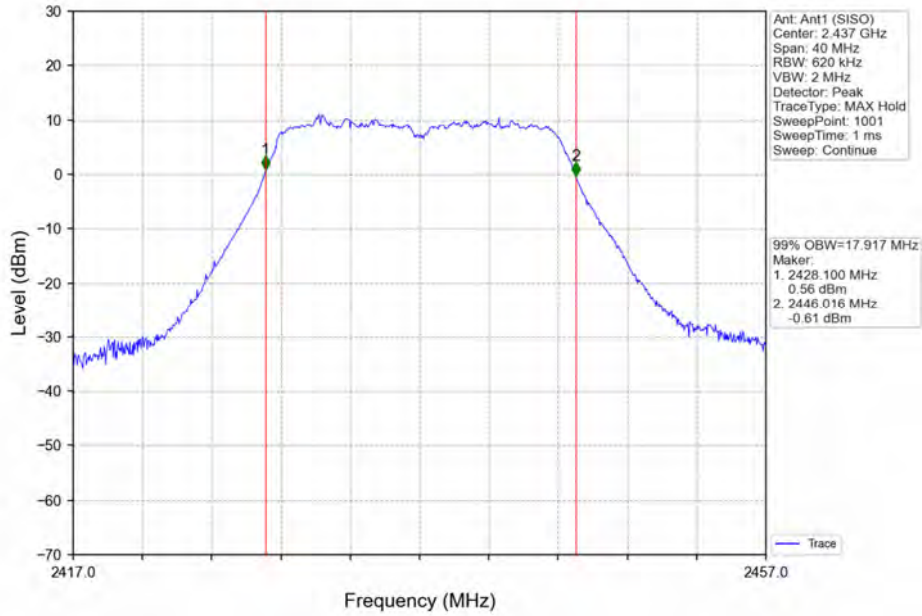
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



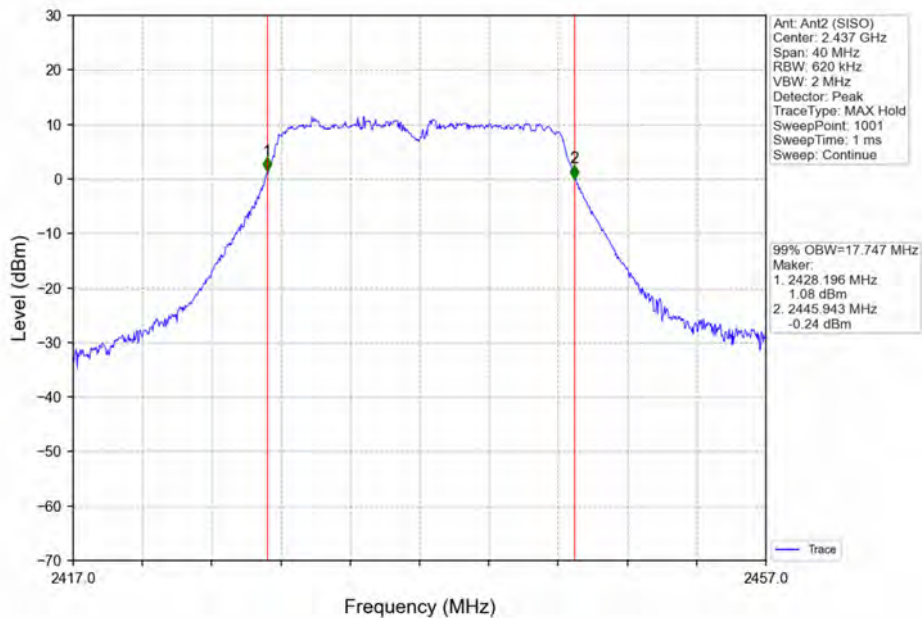
802.11g_LCH_2412MHz_Ant2 (SISO)_NTNV



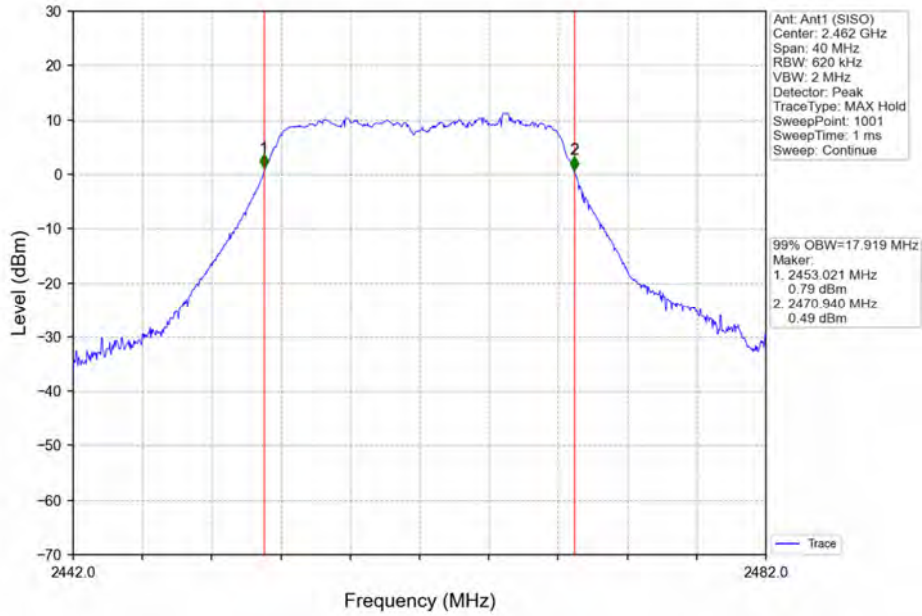
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



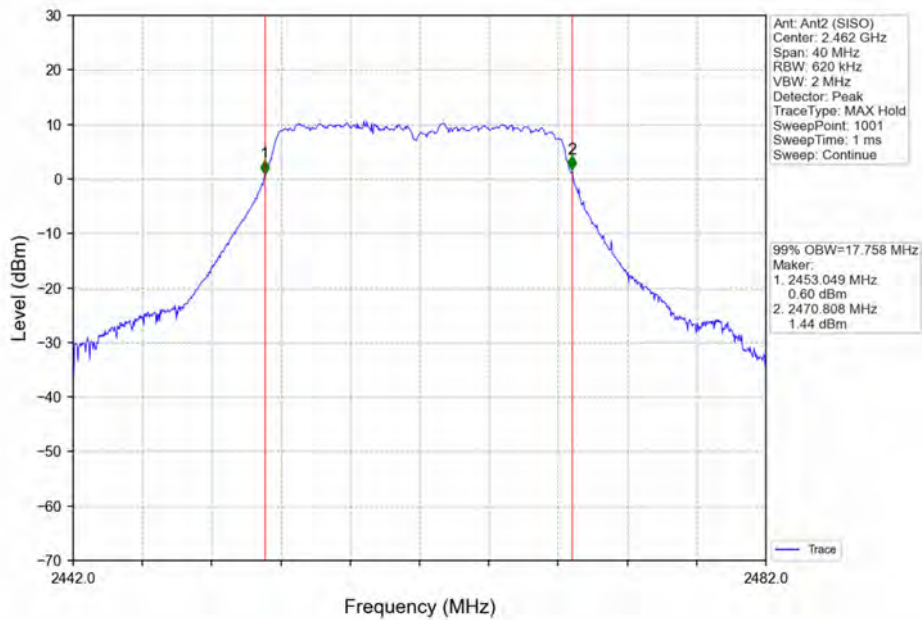
802.11g_MCH_2437MHz_Ant2 (SISO)_NTNV



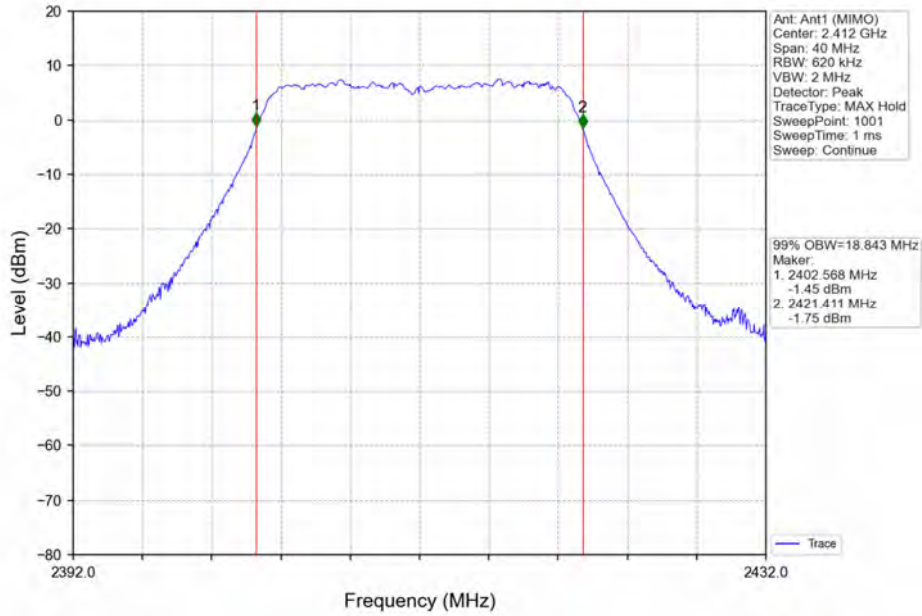
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



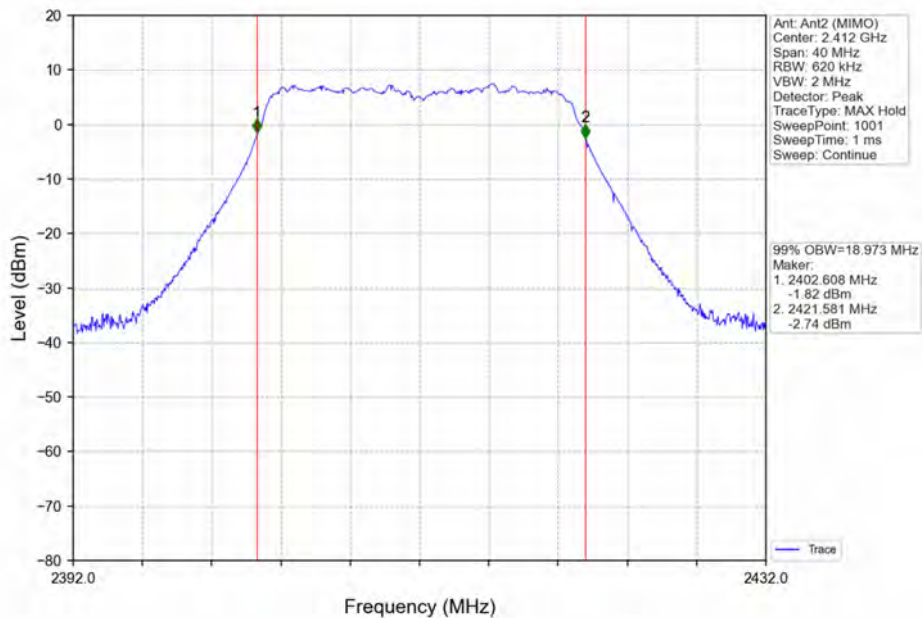
802.11g_HCH_2462MHz_Ant2 (SISO)_NTNV



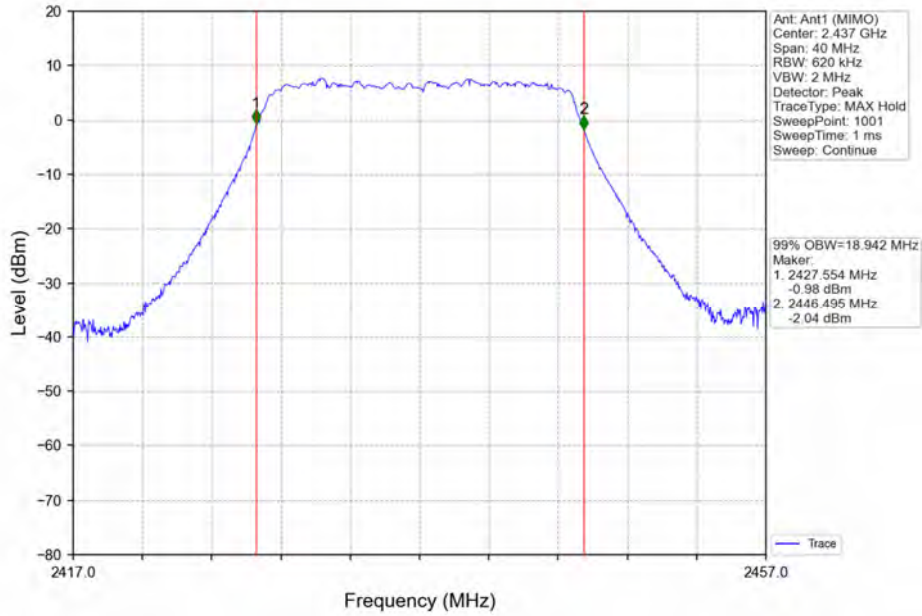
802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO)_NTNV



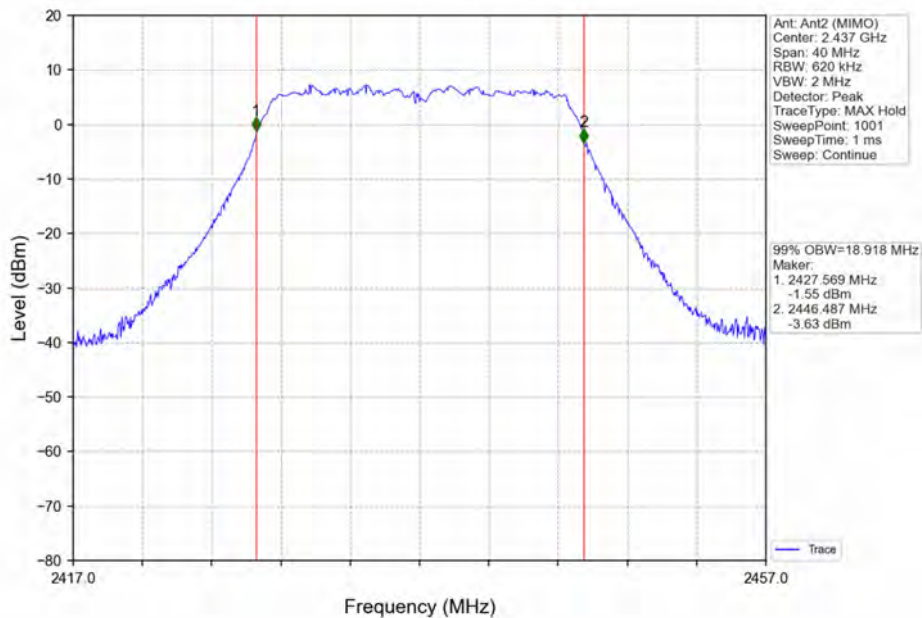
802.11n(HT20)_LCH_2412MHz_Ant2 (MIMO)_NTNV



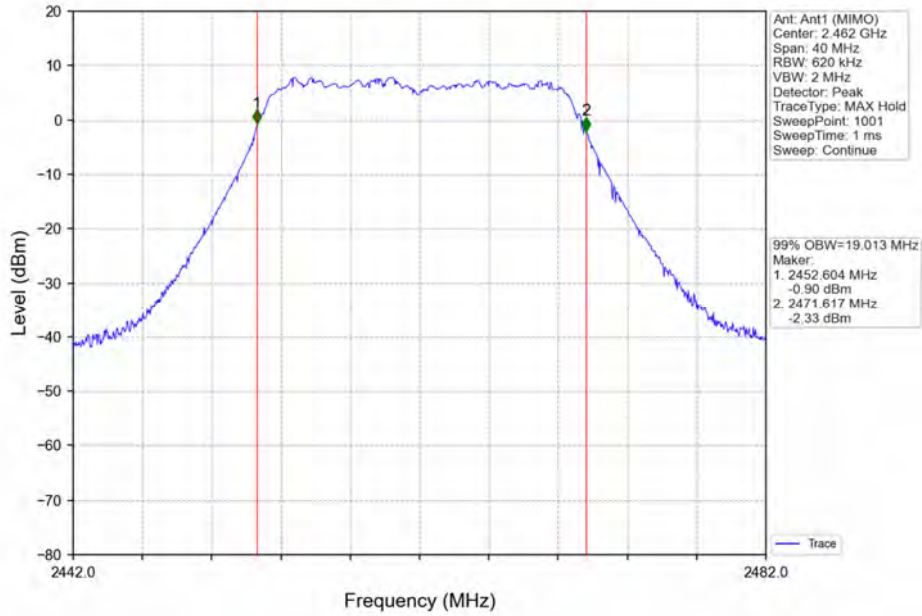
802.11n(HT20)_MCH_2437MHz_Ant1 (MIMO)_NTNV



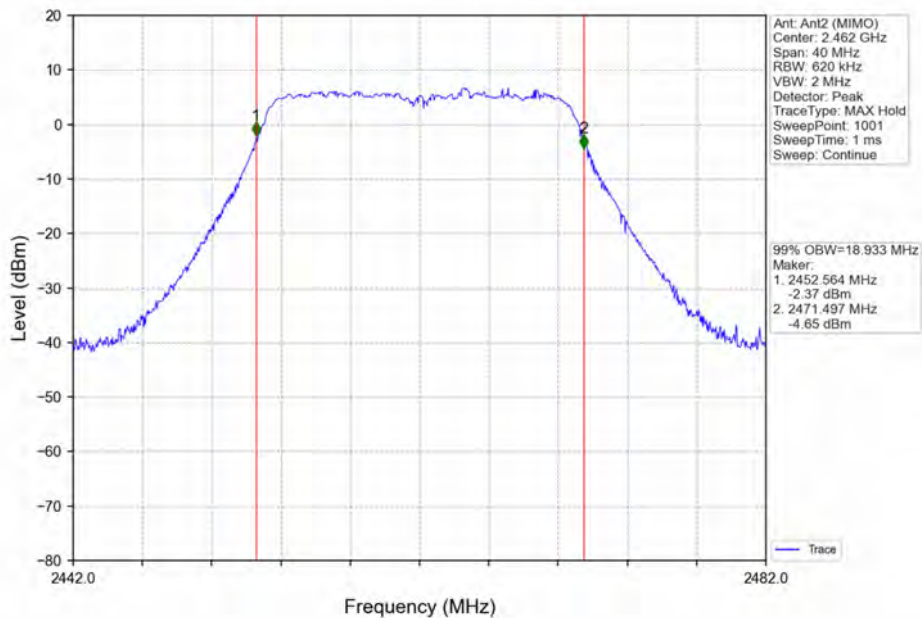
802.11n(HT20)_MCH_2437MHz_Ant2 (MIMO)_NTNV



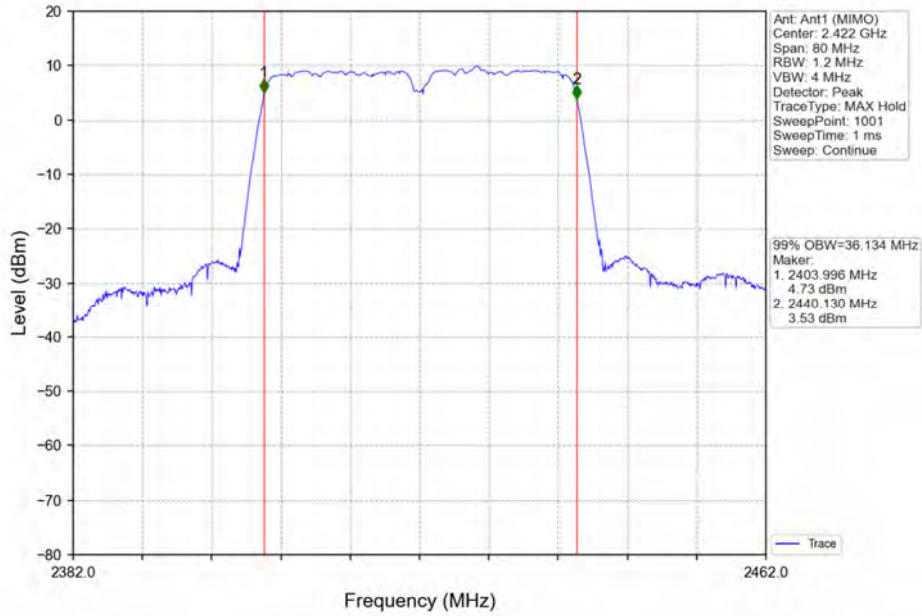
802.11n(HT20)_HCH_2462MHz_Ant1 (MIMO)_NTNV



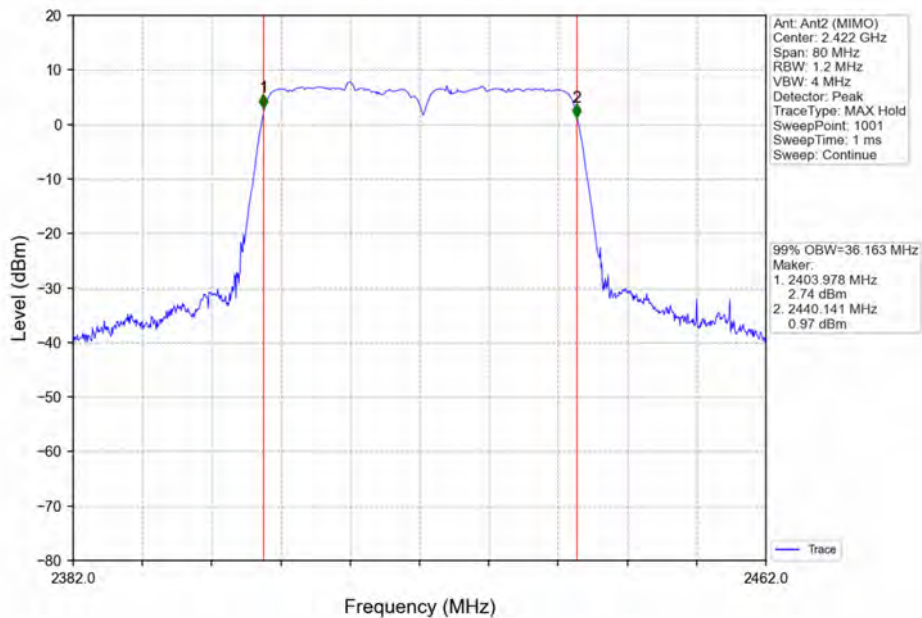
802.11n(HT20)_HCH_2462MHz_Ant2 (MIMO)_NTNV



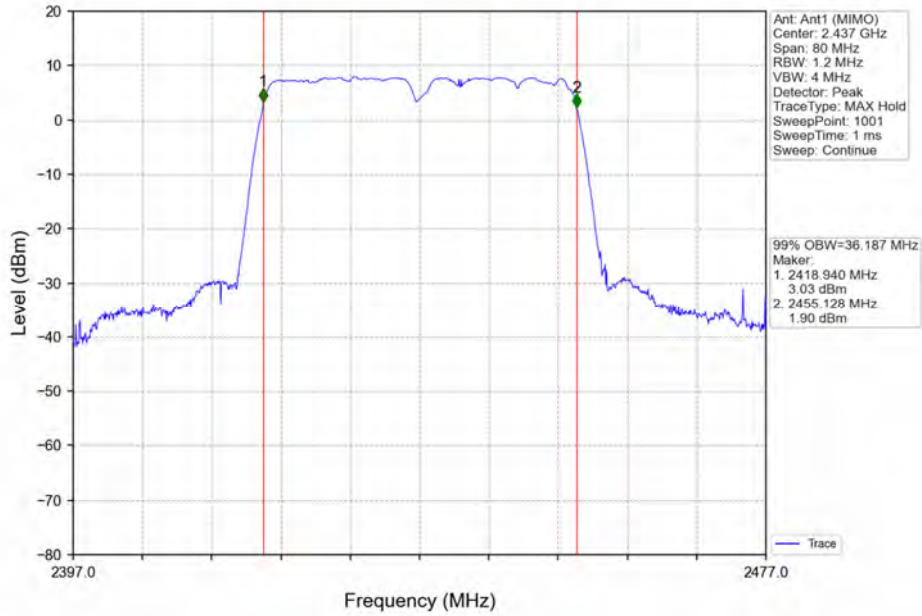
802.11n(HT40)_LCH_2422MHz_Ant1 (MIMO)_NTNV



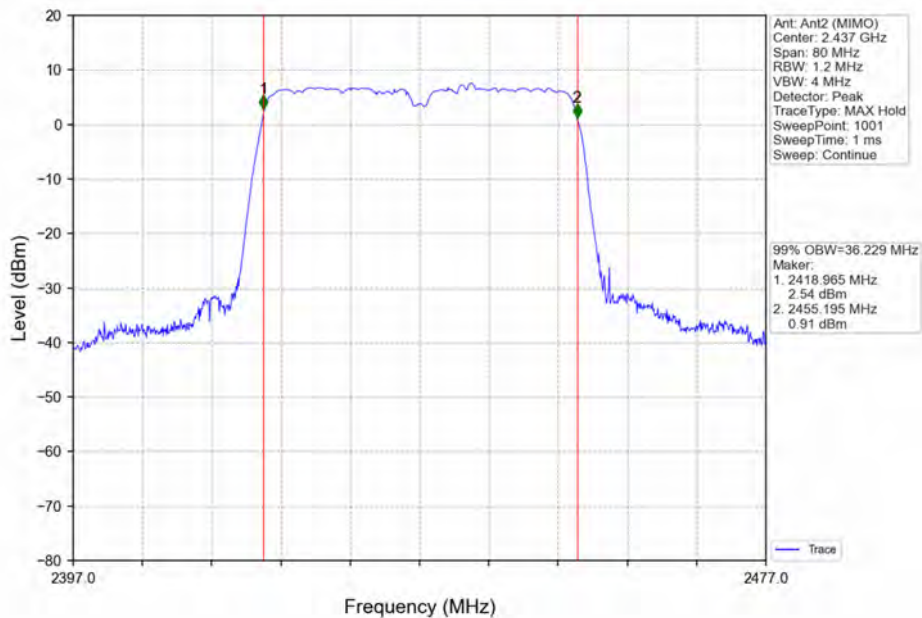
802.11n(HT40)_LCH_2422MHz_Ant2 (MIMO)_NTNV



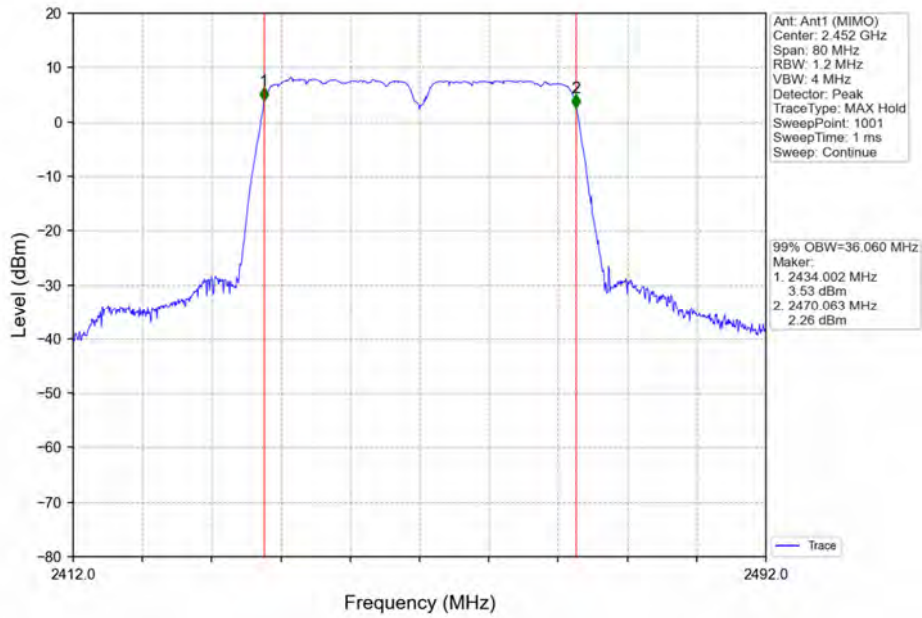
802.11n(HT40)_MCH_2437MHz_Ant1 (MIMO)_NTNV



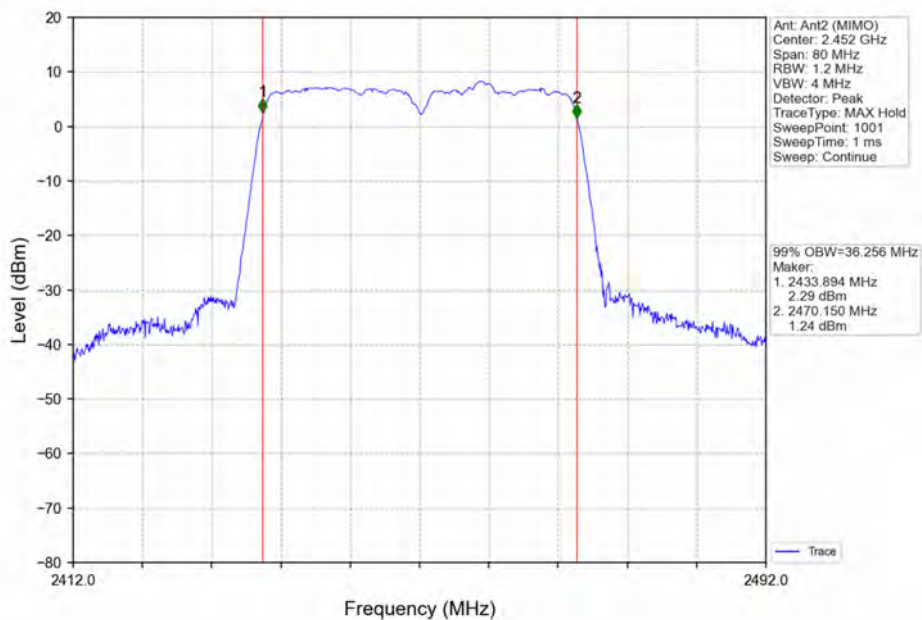
802.11n(HT40)_MCH_2437MHz_Ant2 (MIMO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (MIMO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant2 (MIMO)_NTNV



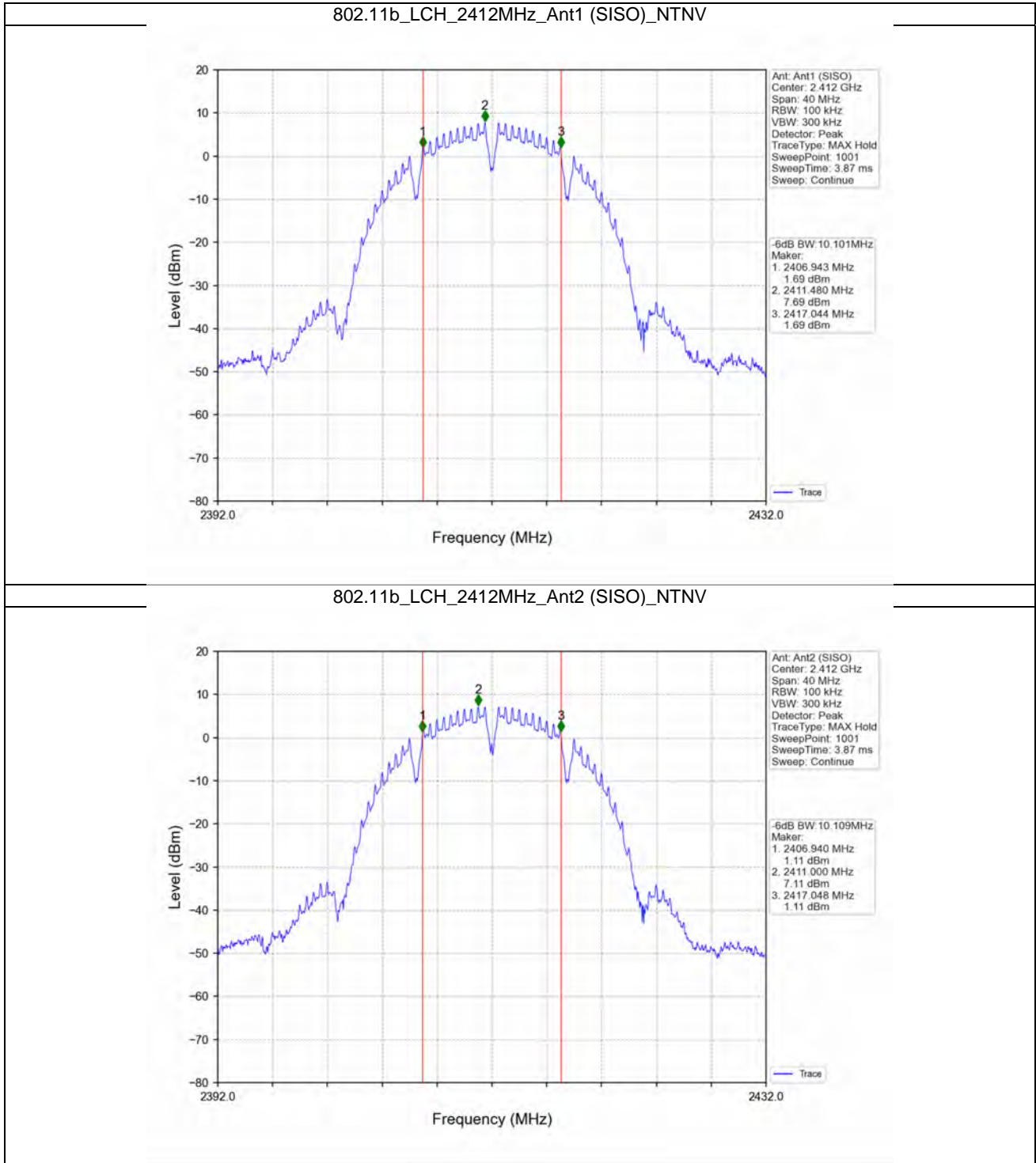


2.2 6dB BW

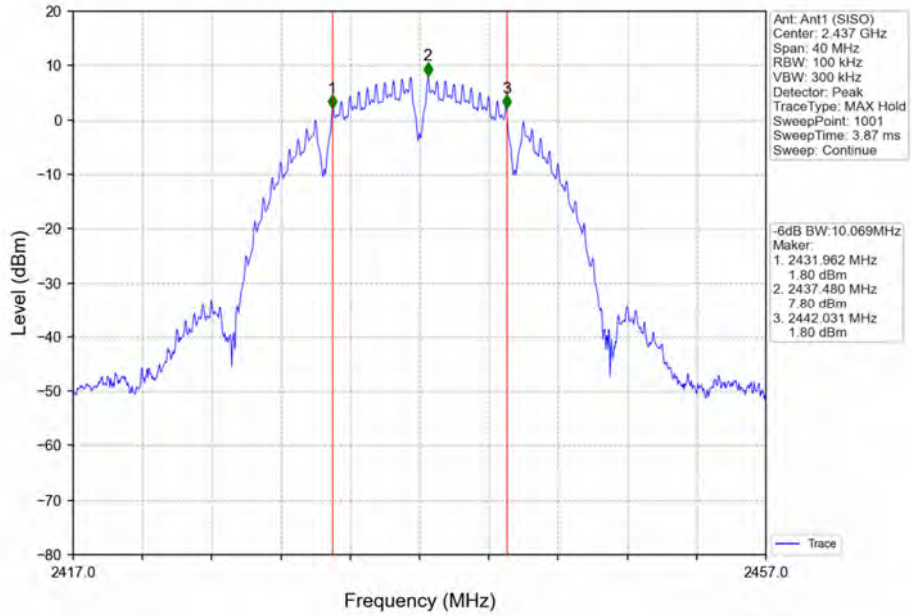
2.2.1 Test Result

Mode	TX Type	Frequency (MHz)	Ant	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	10.101	≥ 0.5	Pass
			2	10.109	≥ 0.5	Pass
		2437	1	10.069	≥ 0.5	Pass
			2	10.085	≥ 0.5	Pass
		2462	1	10.098	≥ 0.5	Pass
			2	10.088	≥ 0.5	Pass
802.11g	SISO	2412	1	16.445	≥ 0.5	Pass
			2	16.422	≥ 0.5	Pass
		2437	1	16.407	≥ 0.5	Pass
			2	16.417	≥ 0.5	Pass
		2462	1	16.405	≥ 0.5	Pass
			2	16.417	≥ 0.5	Pass
802.11n (HT20)	MIMO	2412	1	17.607	≥ 0.5	Pass
			2	17.628	≥ 0.5	Pass
		2437	1	17.615	≥ 0.5	Pass
			2	17.619	≥ 0.5	Pass
		2462	1	17.609	≥ 0.5	Pass
			2	17.621	≥ 0.5	Pass
802.11n (HT40)	MIMO	2422	1	35.744	≥ 0.5	Pass
			2	35.717	≥ 0.5	Pass
		2437	1	35.834	≥ 0.5	Pass
			2	35.754	≥ 0.5	Pass
		2452	1	35.741	≥ 0.5	Pass
			2	35.657	≥ 0.5	Pass

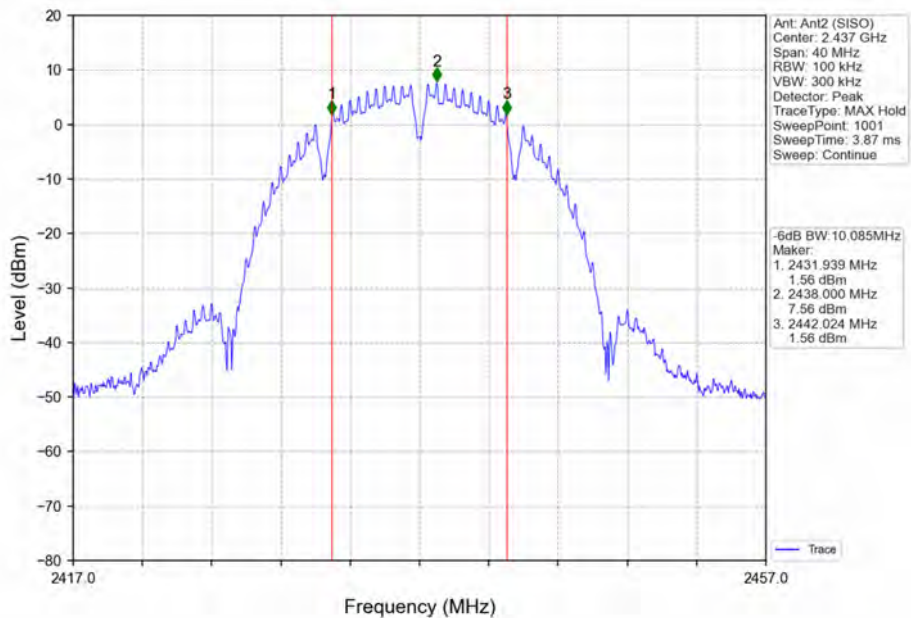
2.2.2 Test Graph



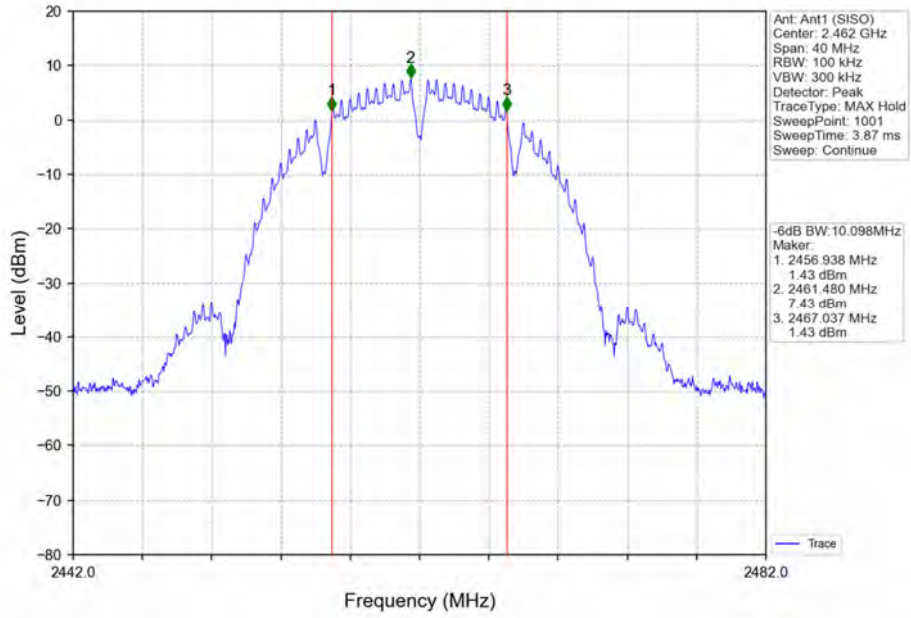
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



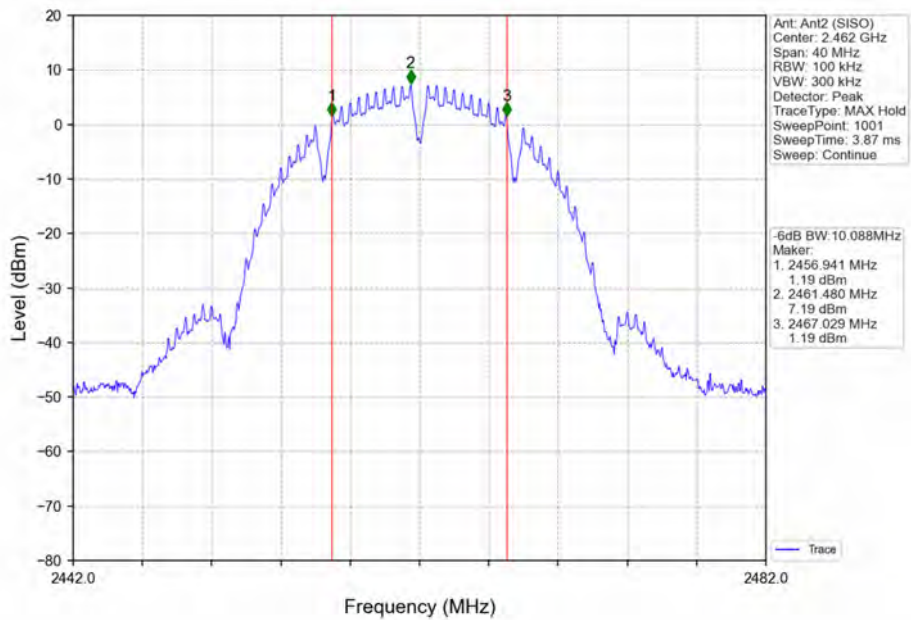
802.11b_MCH_2437MHz_Ant2 (SISO)_NTNV



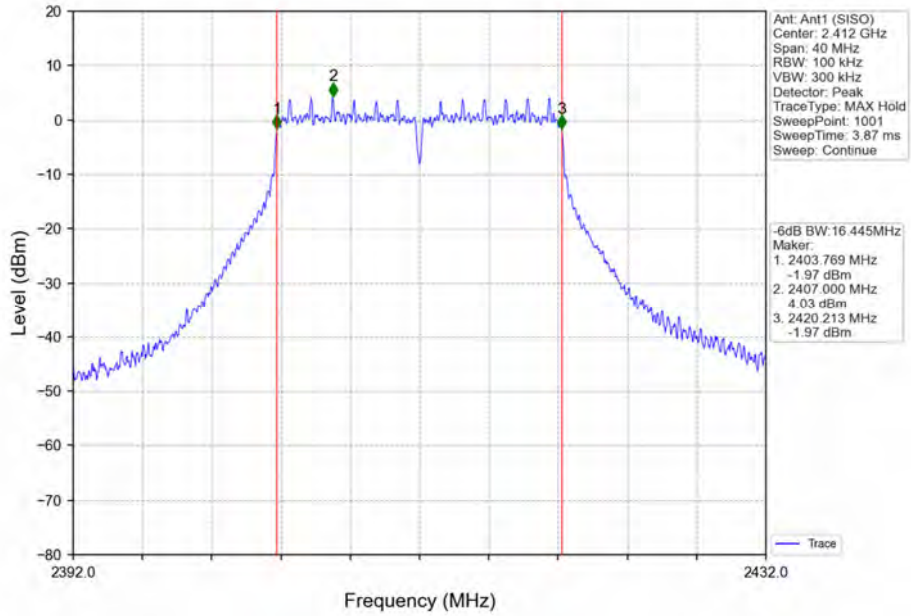
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



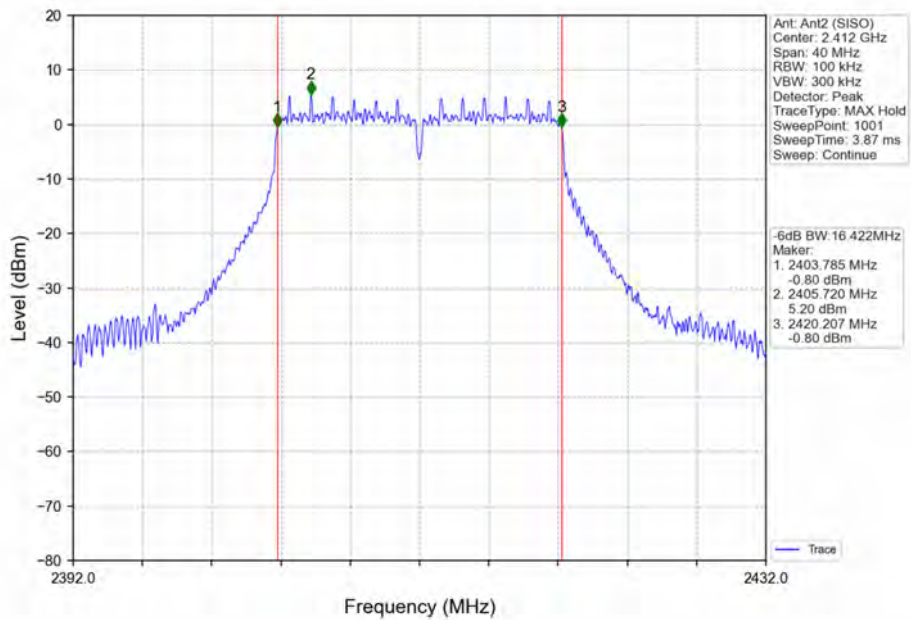
802.11b_HCH_2462MHz_Ant2 (SISO)_NTNV



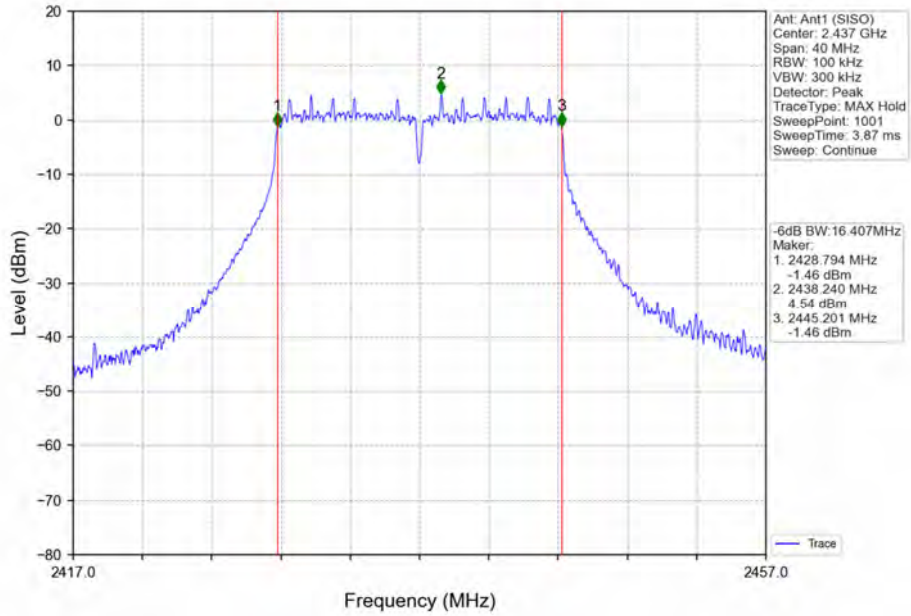
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



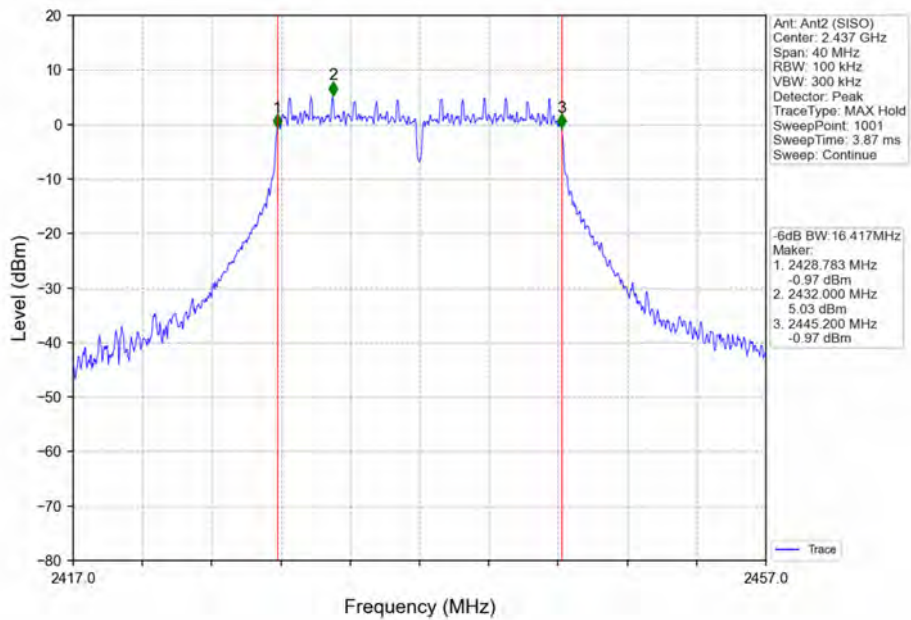
802.11g_LCH_2412MHz_Ant2 (SISO)_NTNV



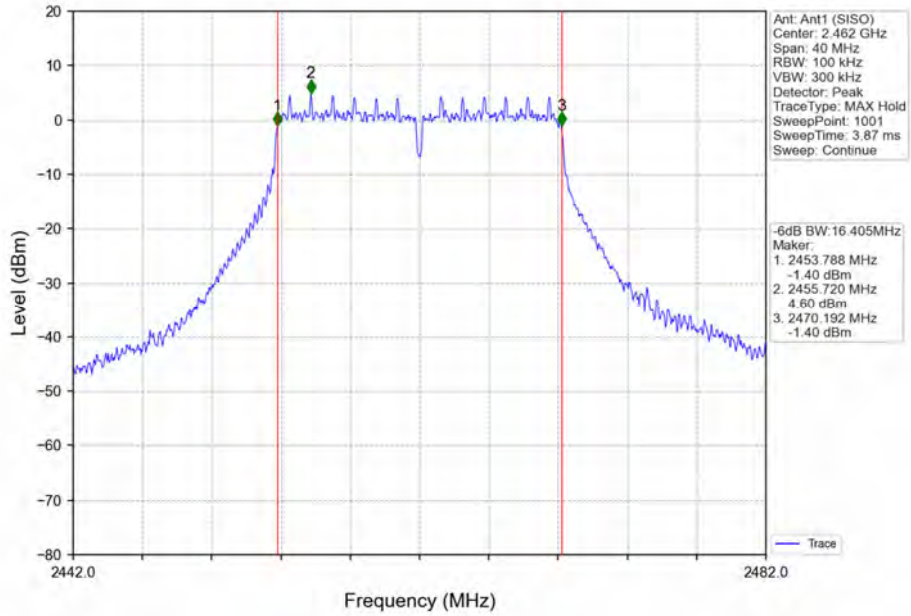
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



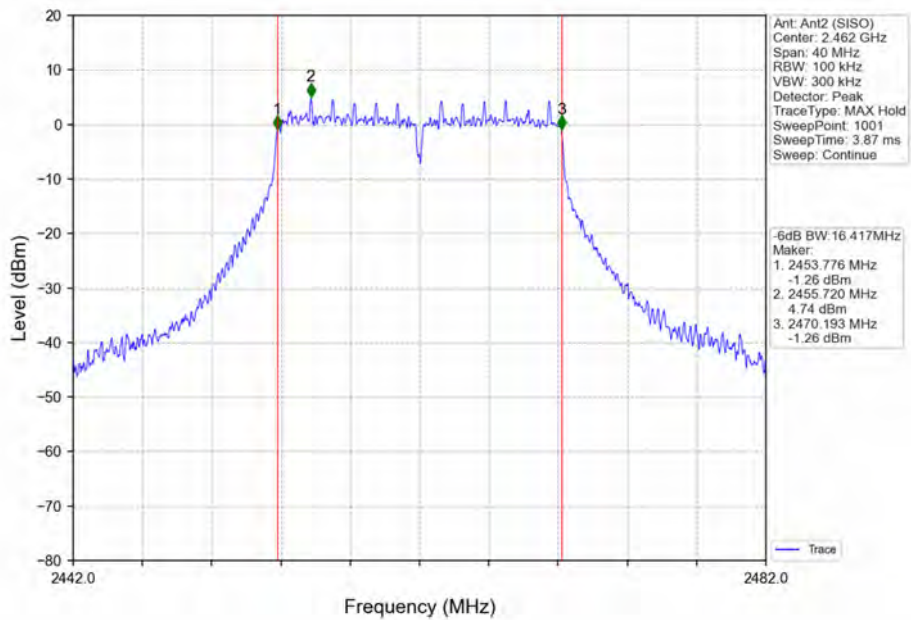
802.11g_MCH_2437MHz_Ant2 (SISO)_NTNV



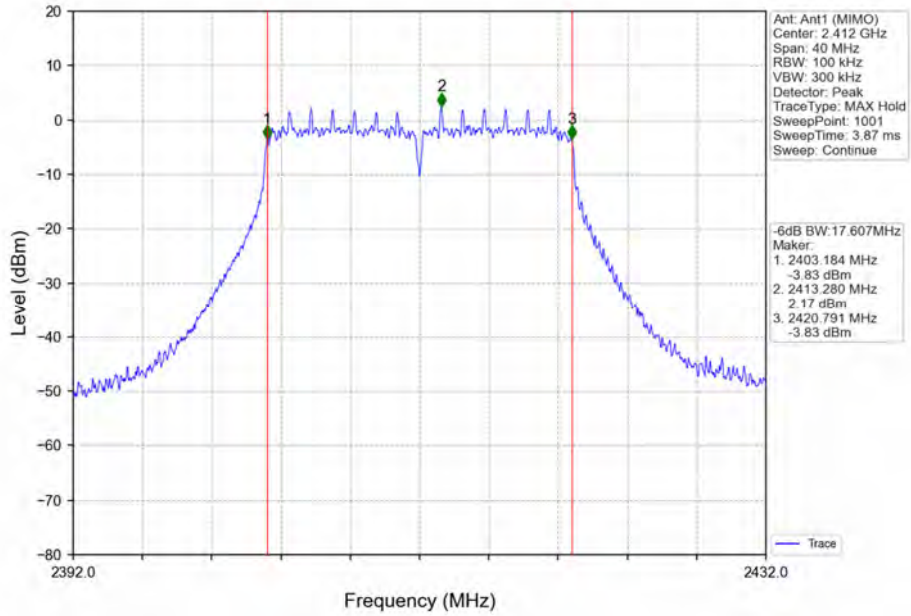
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



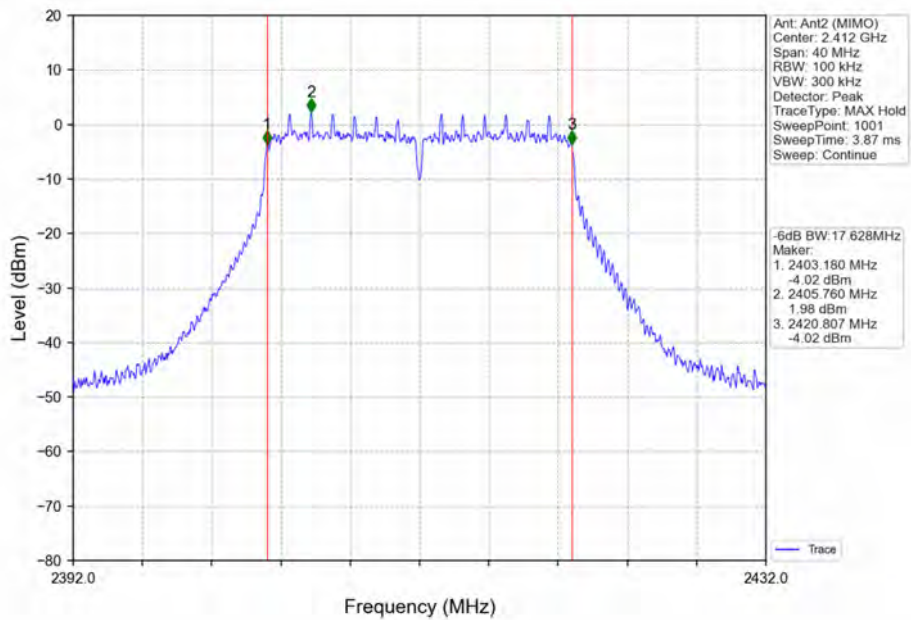
802.11g_HCH_2462MHz_Ant2 (SISO)_NTNV



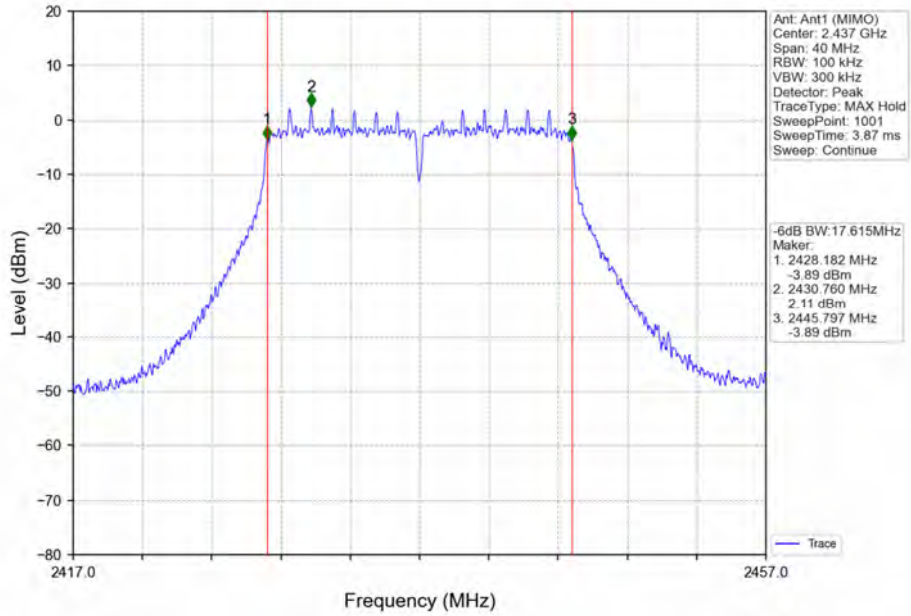
802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO)_NTNV



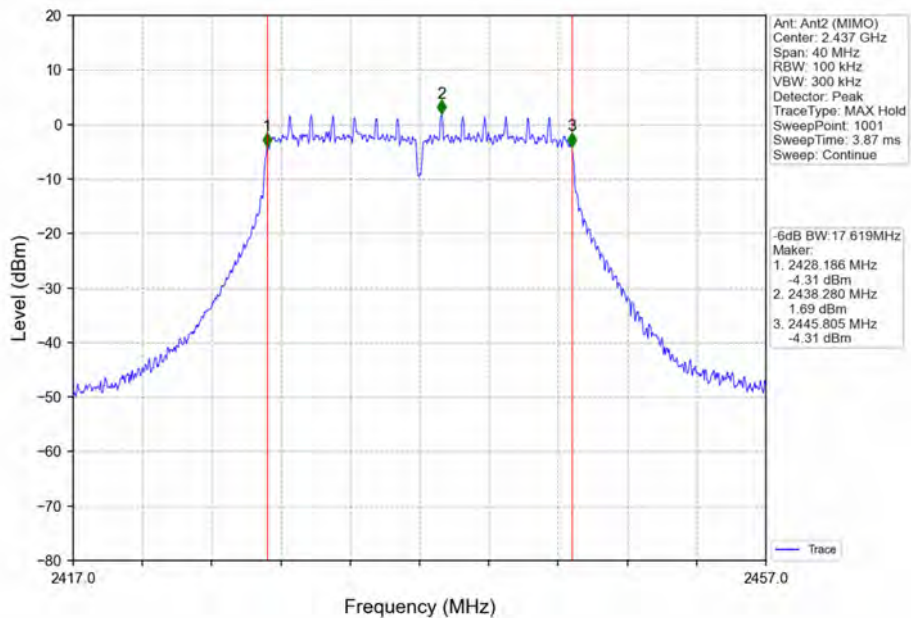
802.11n(HT20)_LCH_2412MHz_Ant2 (MIMO)_NTNV



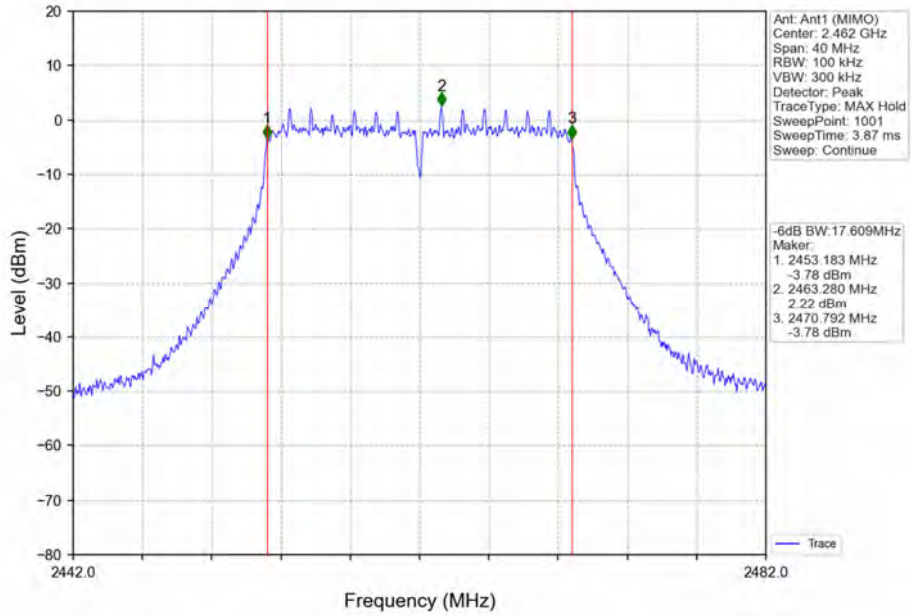
802.11n(HT20)_MCH_2437MHz_Ant1 (MIMO)_NTNV



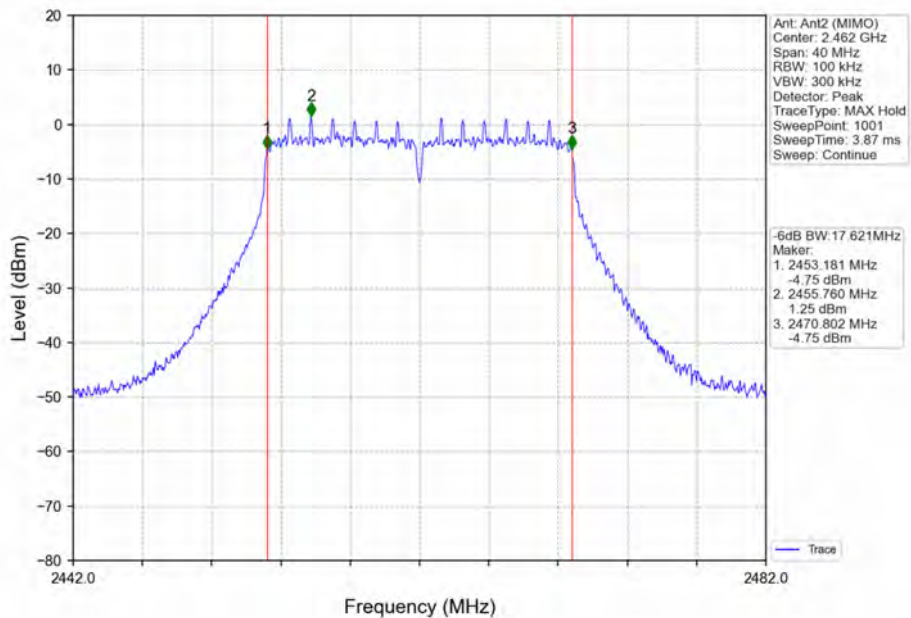
802.11n(HT20)_MCH_2437MHz_Ant2 (MIMO)_NTNV



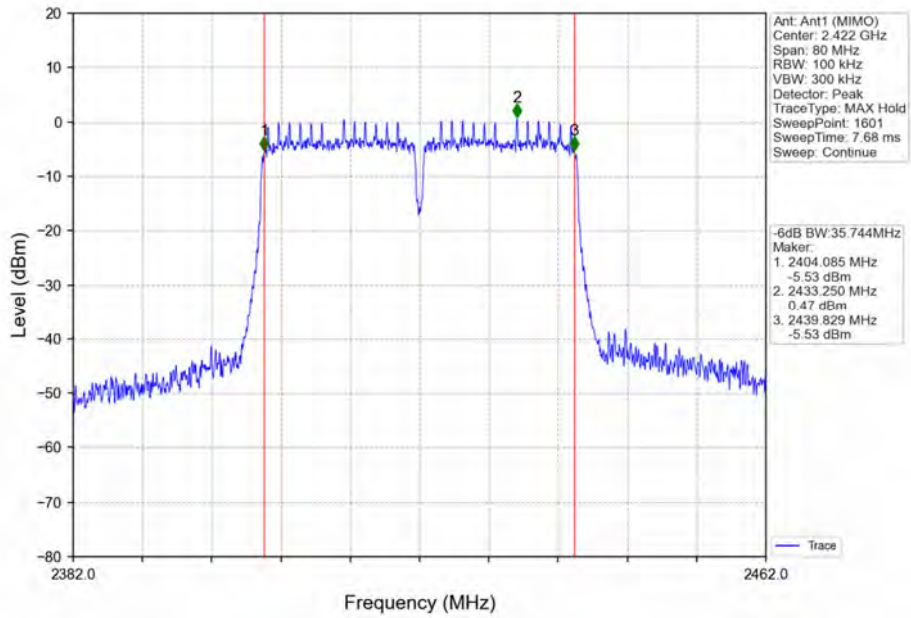
802.11n(HT20)_HCH_2462MHz_Ant1 (MIMO)_NTNV



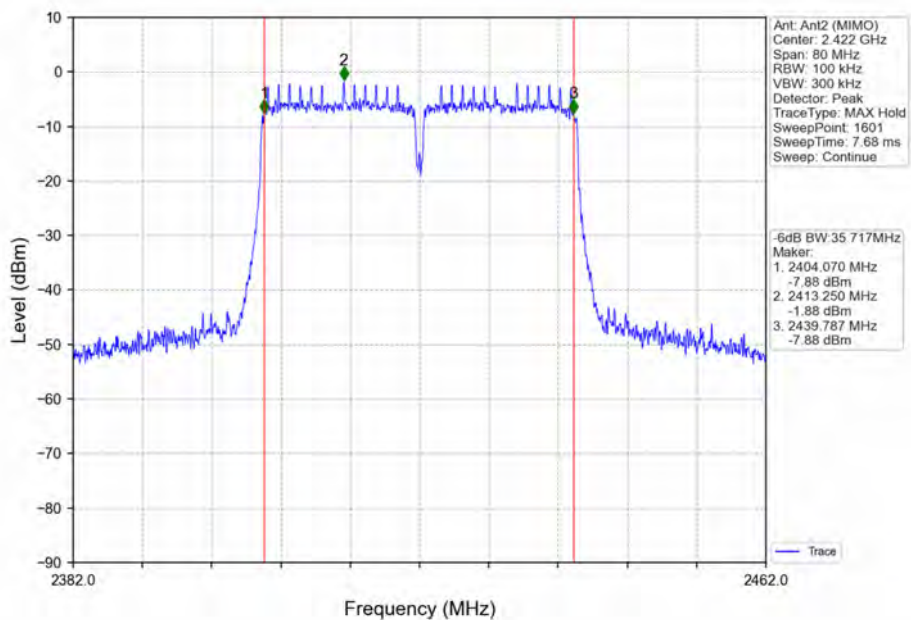
802.11n(HT20)_HCH_2462MHz_Ant2 (MIMO)_NTNV



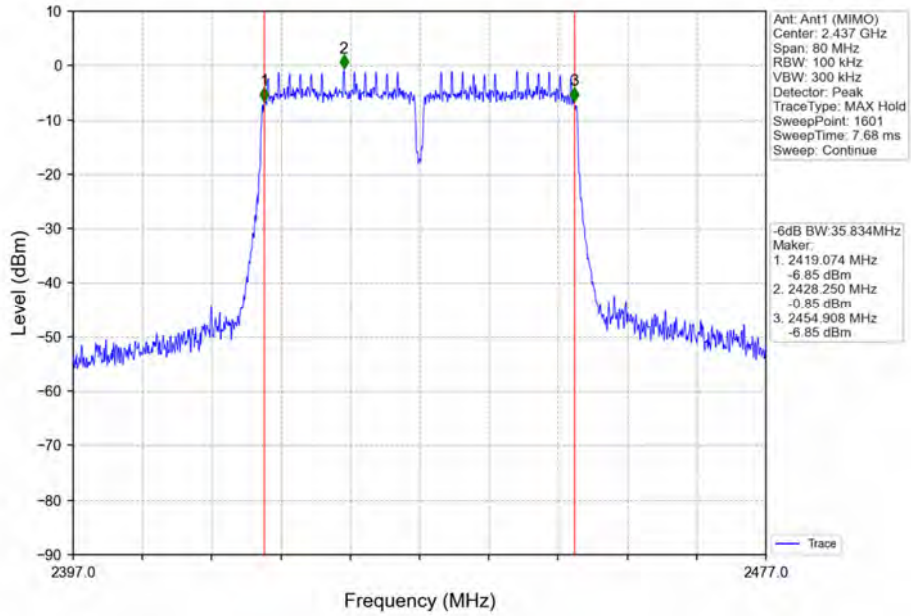
802.11n(HT40)_LCH_2422MHz_Ant1 (MIMO)_NTNV



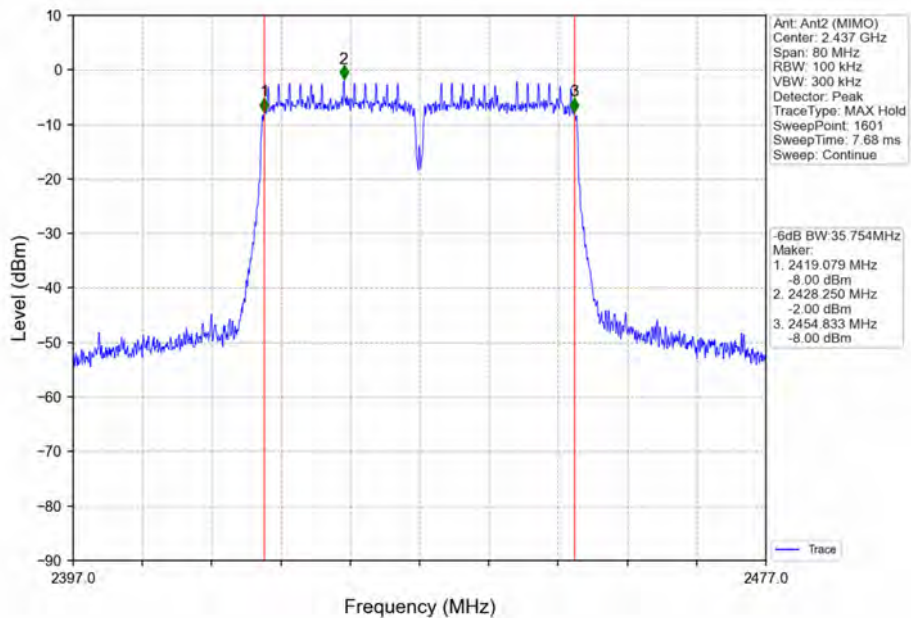
802.11n(HT40)_LCH_2422MHz_Ant2 (MIMO)_NTNV



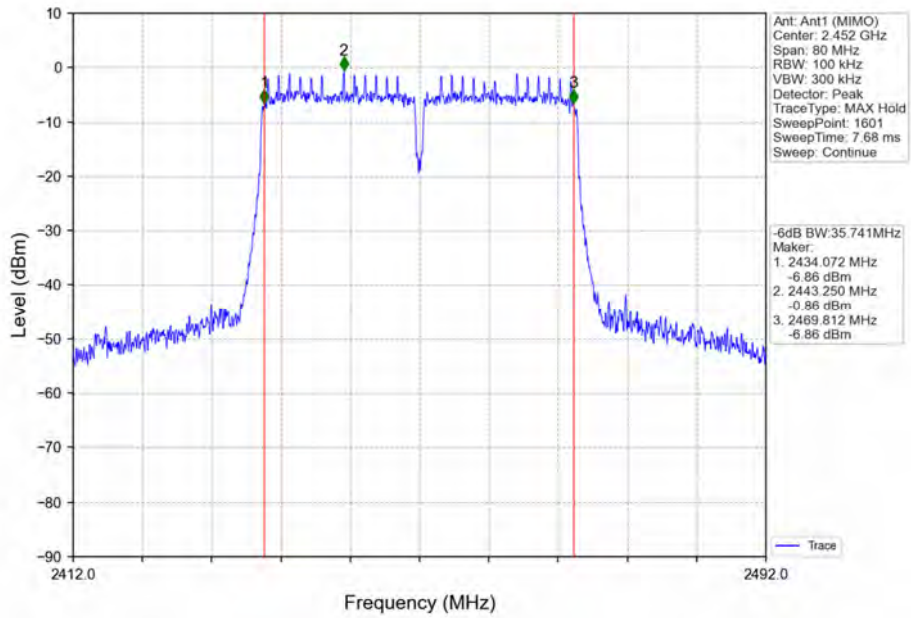
802.11n(HT40)_MCH_2437MHz_Ant1 (MIMO)_NTNV



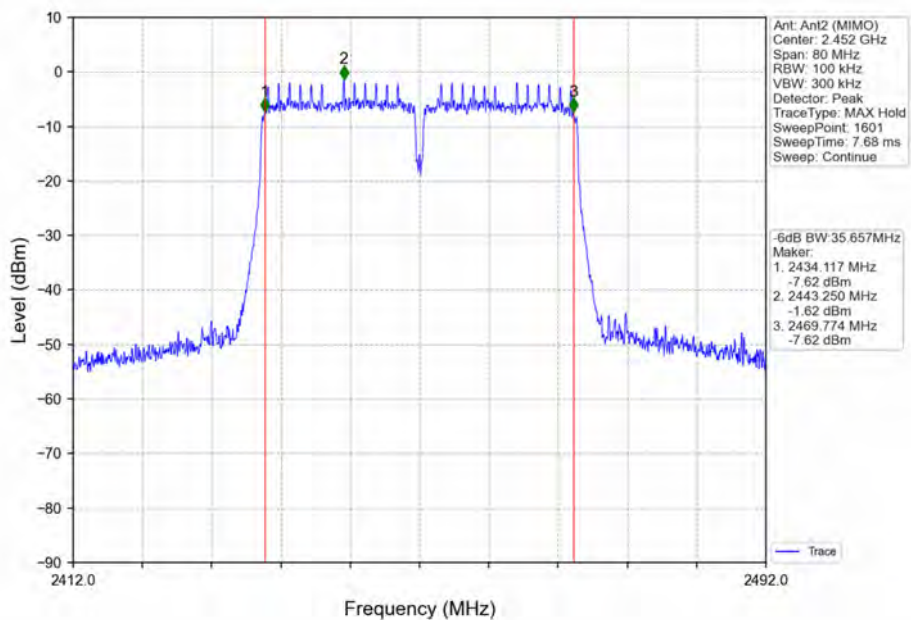
802.11n(HT40)_MCH_2437MHz_Ant2 (MIMO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (MIMO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant2 (MIMO)_NTNV





3. Maximum Conducted Output Power

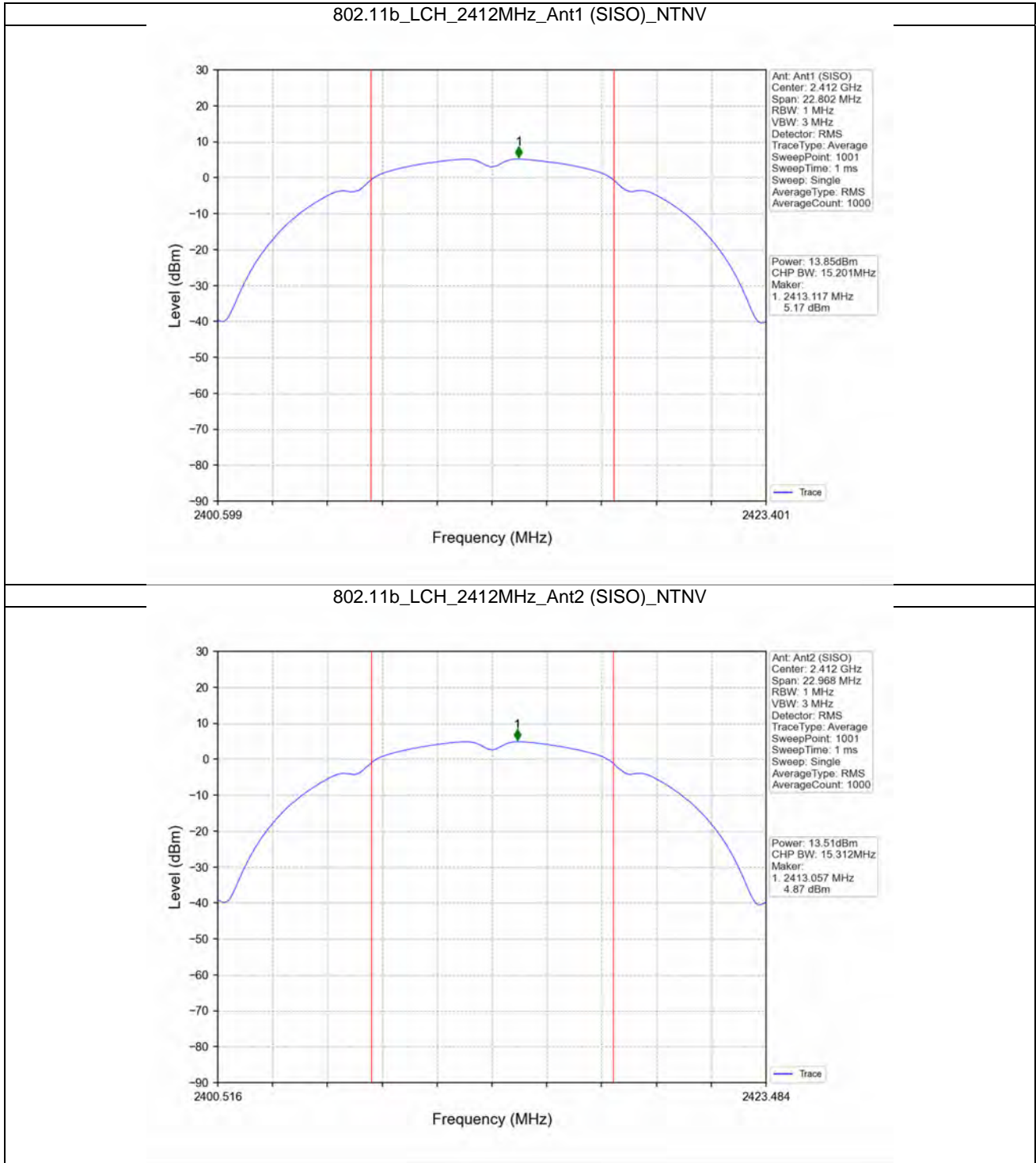
3.1 Power

3.1.1 Test Result

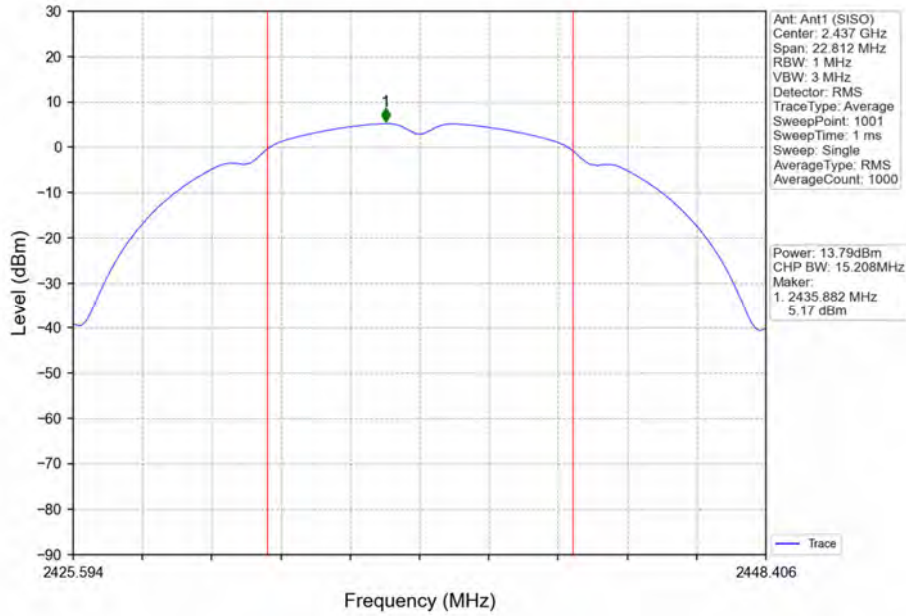
Mode	TX Type	Frequency (MHz)	Maximum Conducted Output Power (dBm)				Verdict
			Ant1	Ant2	MIMO	Limit	
802.11b	SISO	2412	13.85	13.51	/	<=30	Pass
		2437	13.79	13.37	/	<=30	Pass
		2462	13.61	12.72	/	<=30	Pass
802.11g	SISO	2412	15.48	16.51	/	<=30	Pass
		2437	15.75	16.26	/	<=30	Pass
		2462	15.91	15.83	/	<=30	Pass
802.11n (HT20)	MIMO	2412	13.45	13.30	16.39	<=30	Pass
		2437	13.44	12.98	16.23	<=30	Pass
		2462	13.48	12.42	15.99	<=30	Pass
802.11n (HT40)	MIMO	2422	14.45	12.14	16.46	<=30	Pass
		2437	13.19	12.05	15.67	<=30	Pass
		2452	12.98	12.33	15.68	<=30	Pass

Note1: Antenna Gain: Ant1: 1.43dBi; Ant2: 1.43dBi;
Note2: Directional Gain: 4.44dBi

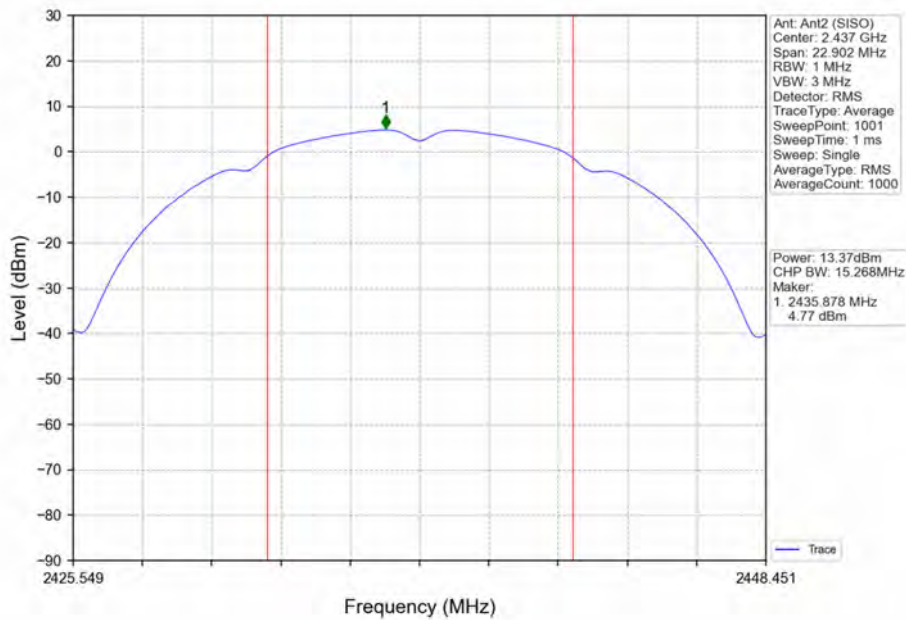
3.1.2 Test Graph



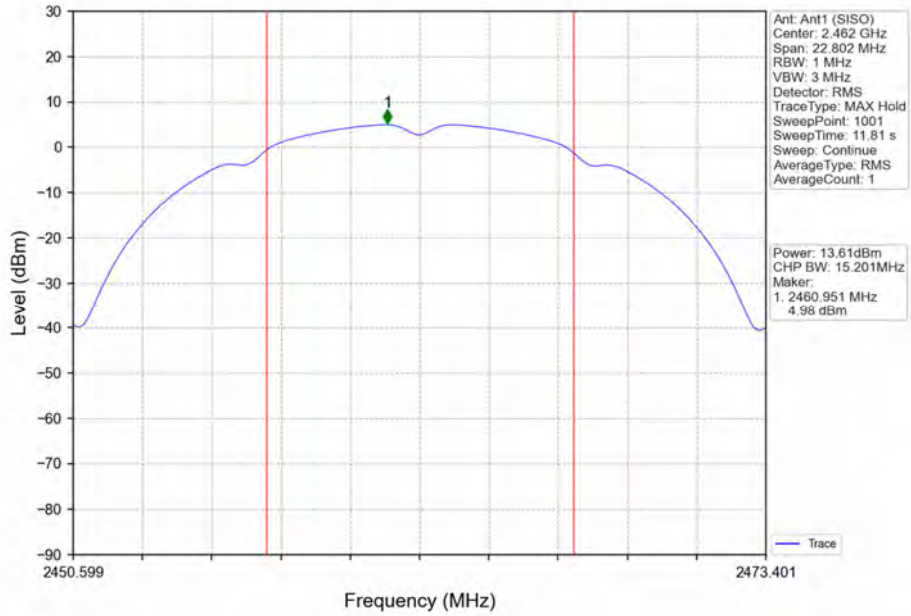
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



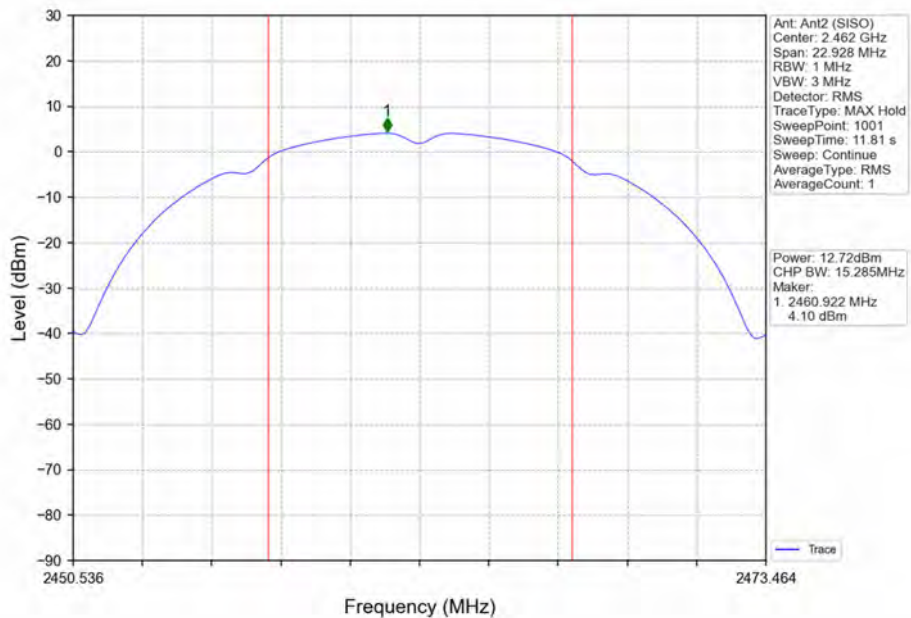
802.11b_MCH_2437MHz_Ant2 (SISO)_NTNV



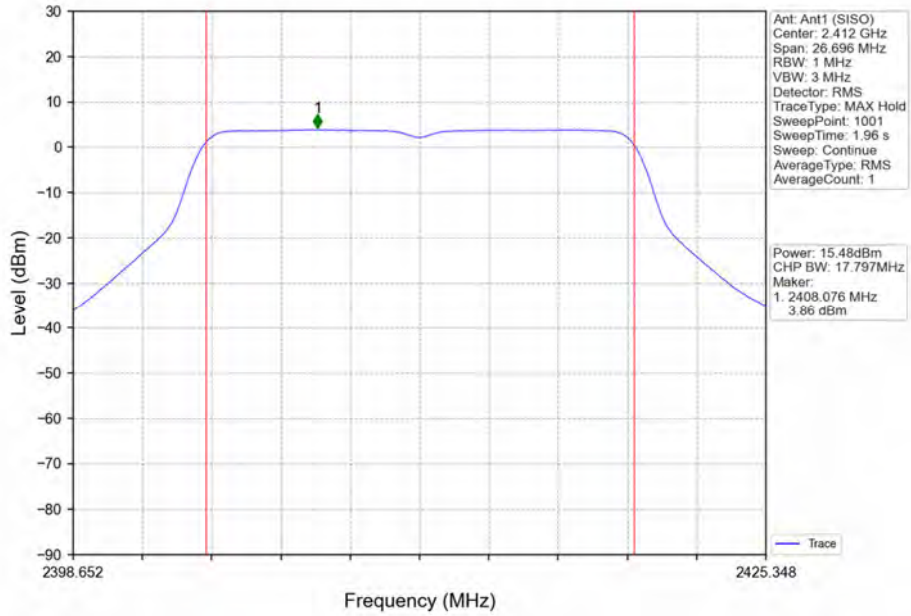
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



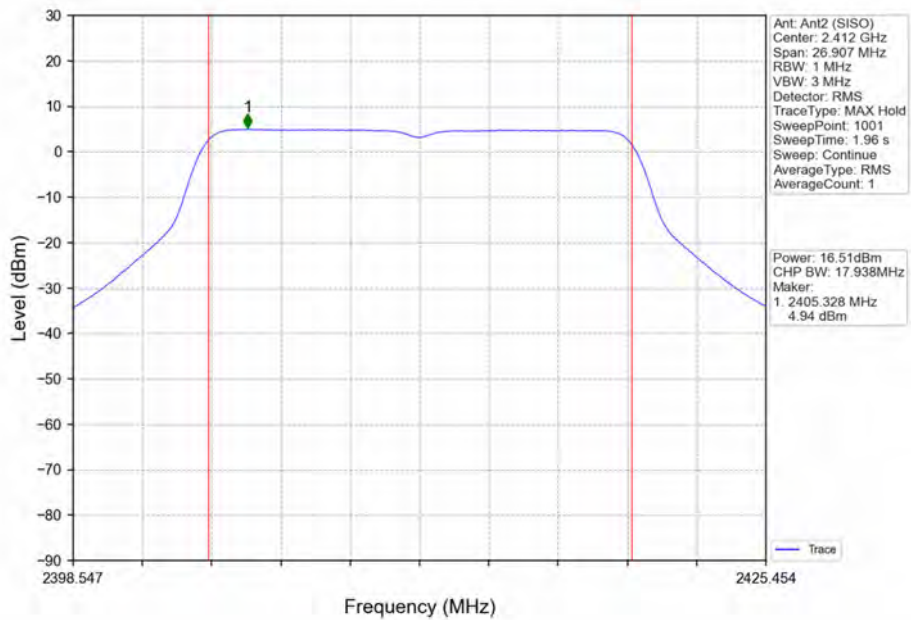
802.11b_HCH_2462MHz_Ant2 (SISO)_NTNV



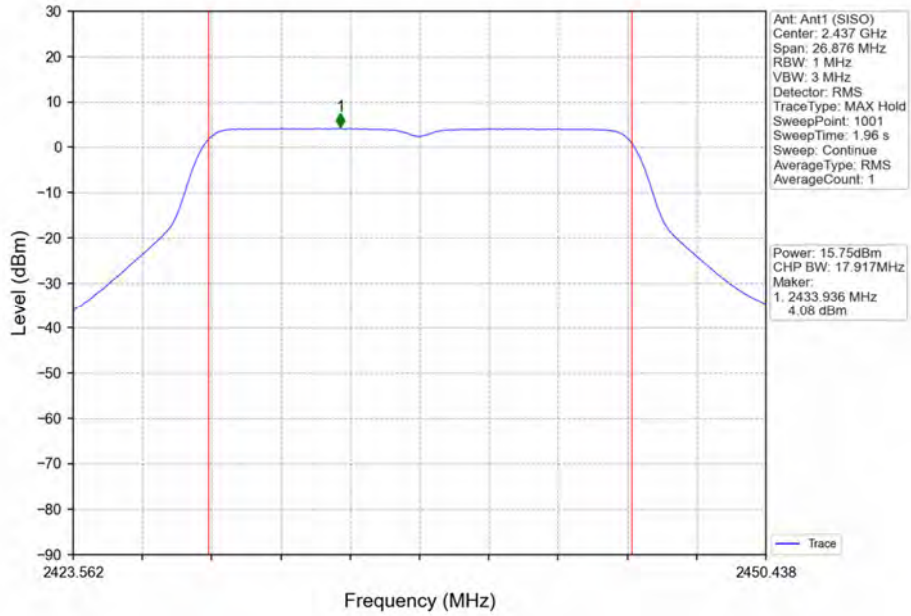
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



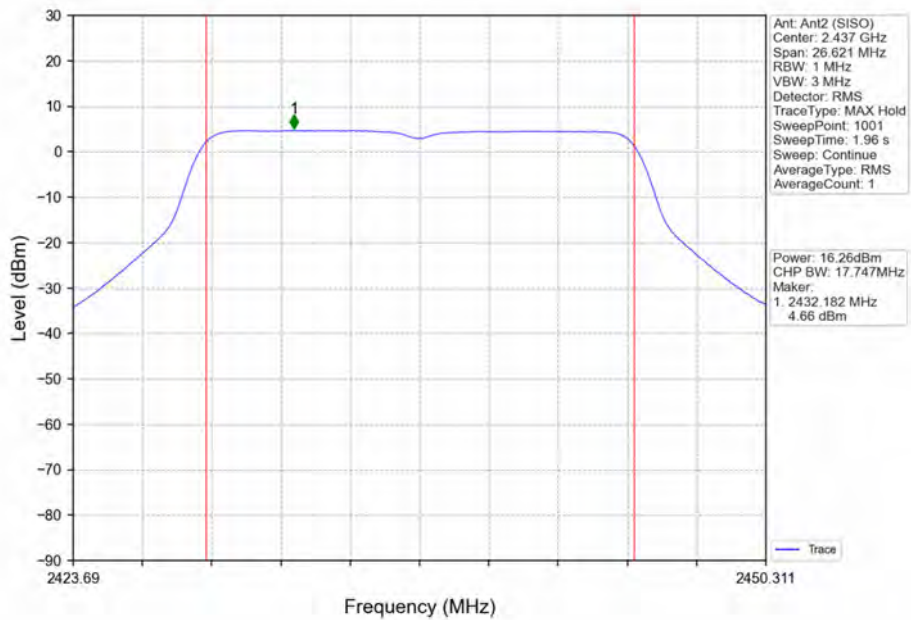
802.11g_LCH_2412MHz_Ant2 (SISO)_NTNV



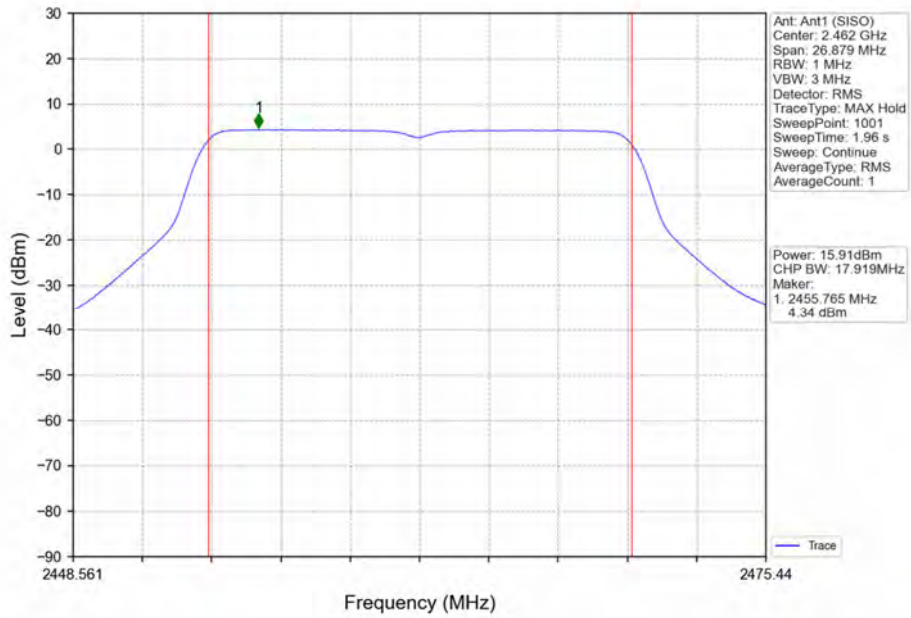
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



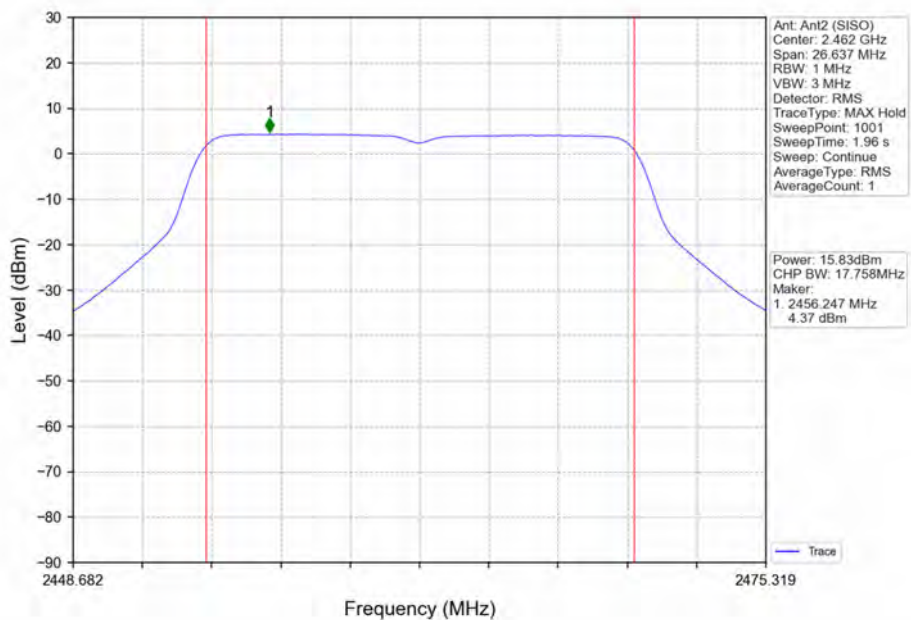
802.11g_MCH_2437MHz_Ant2 (SISO)_NTNV



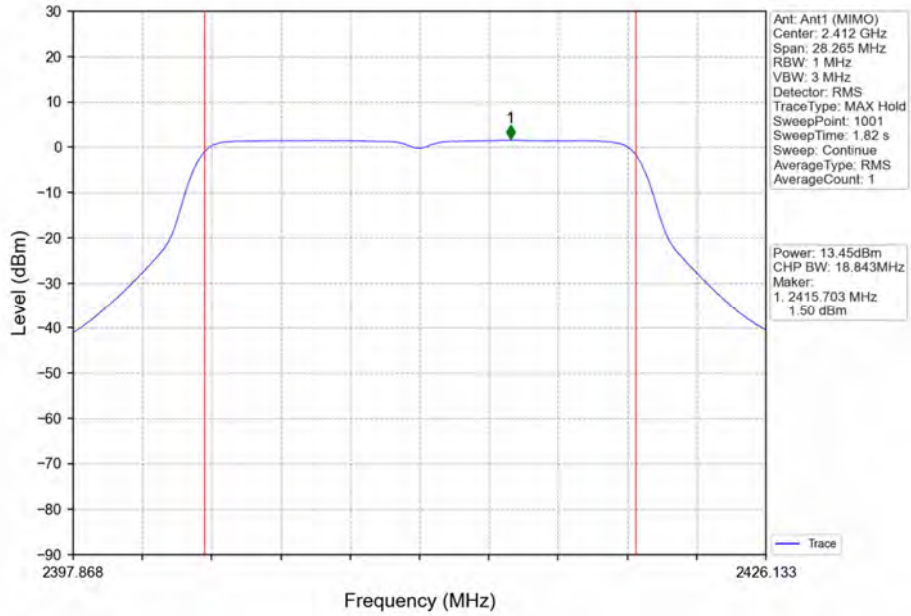
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



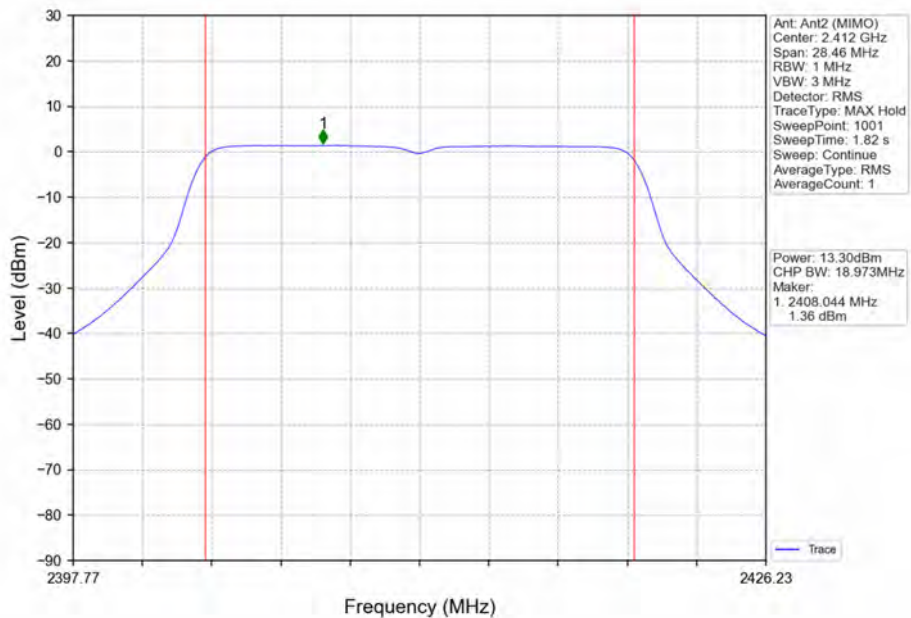
802.11g_HCH_2462MHz_Ant2 (SISO)_NTNV



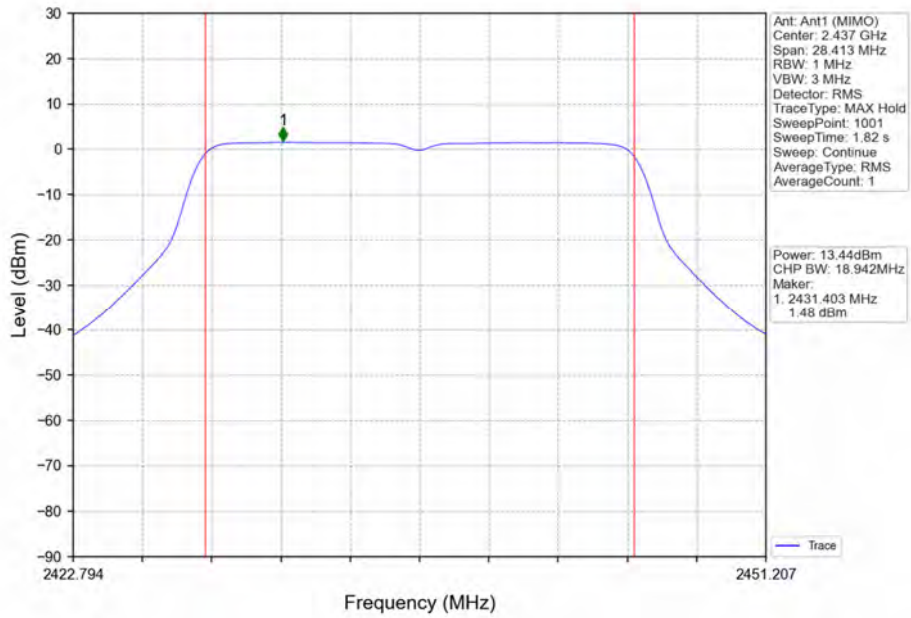
802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO)_NTNV



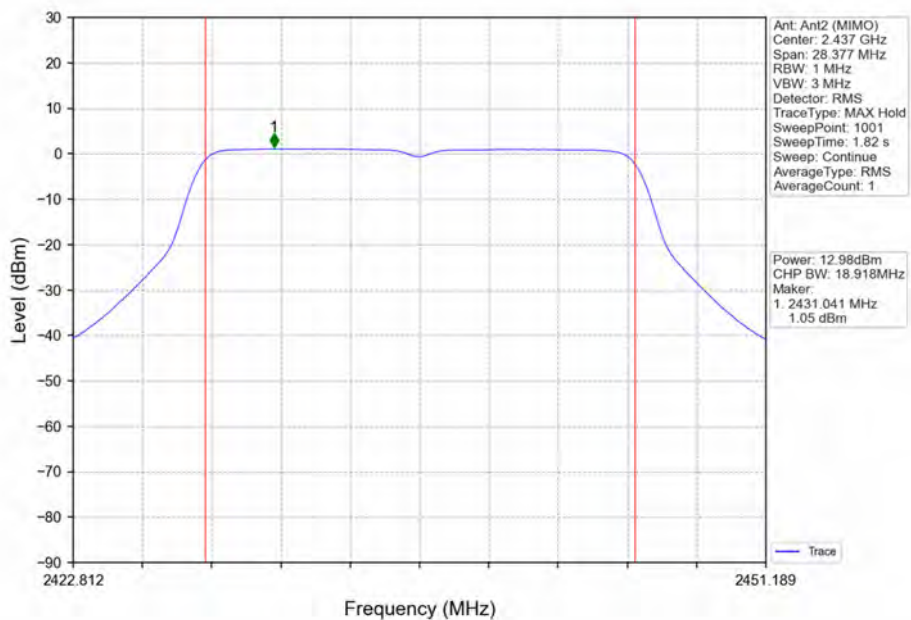
802.11n(HT20)_LCH_2412MHz_Ant2 (MIMO)_NTNV



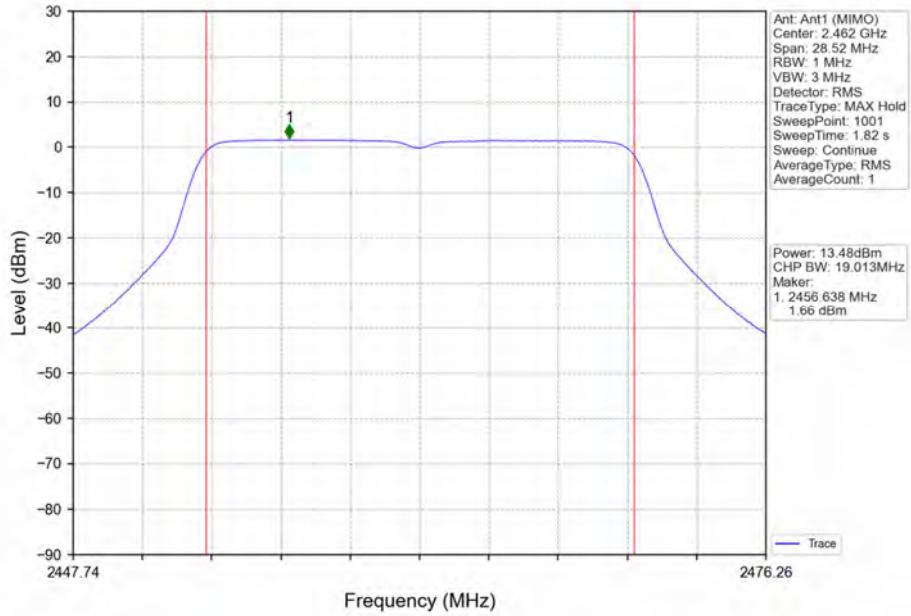
802.11n(HT20)_MCH_2437MHz_Ant1 (MIMO)_NTNV



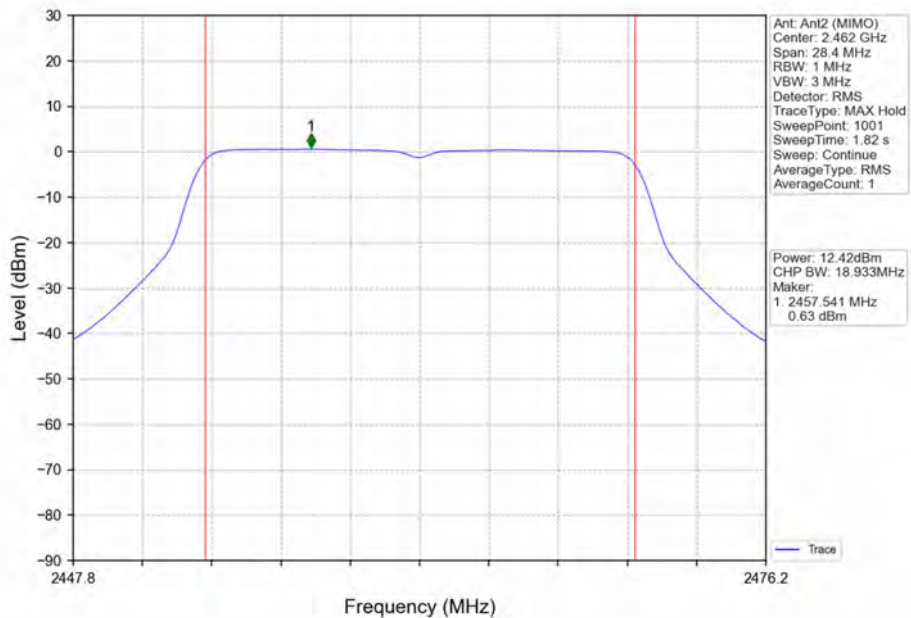
802.11n(HT20)_MCH_2437MHz_Ant2 (MIMO)_NTNV



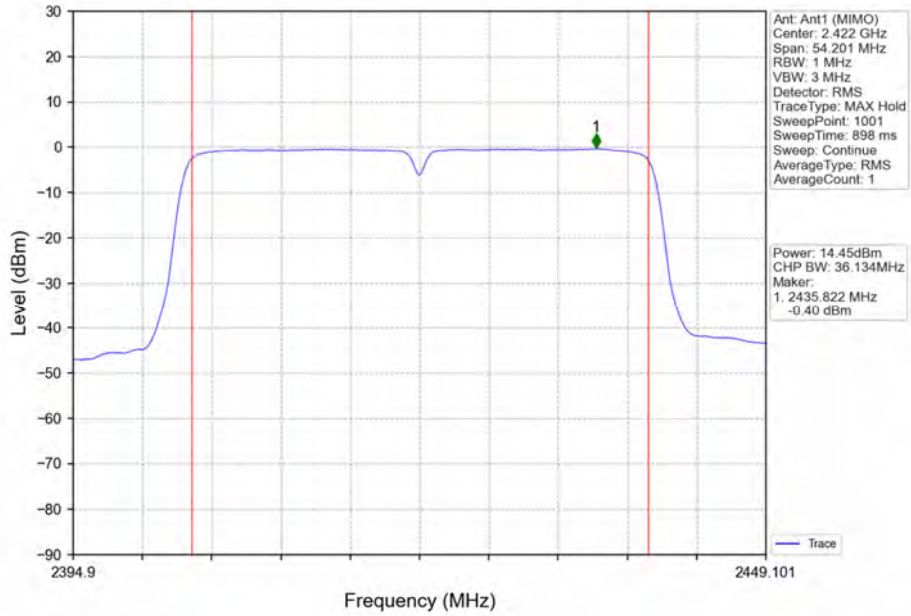
802.11n(HT20)_HCH_2462MHz_Ant1 (MIMO)_NTNV



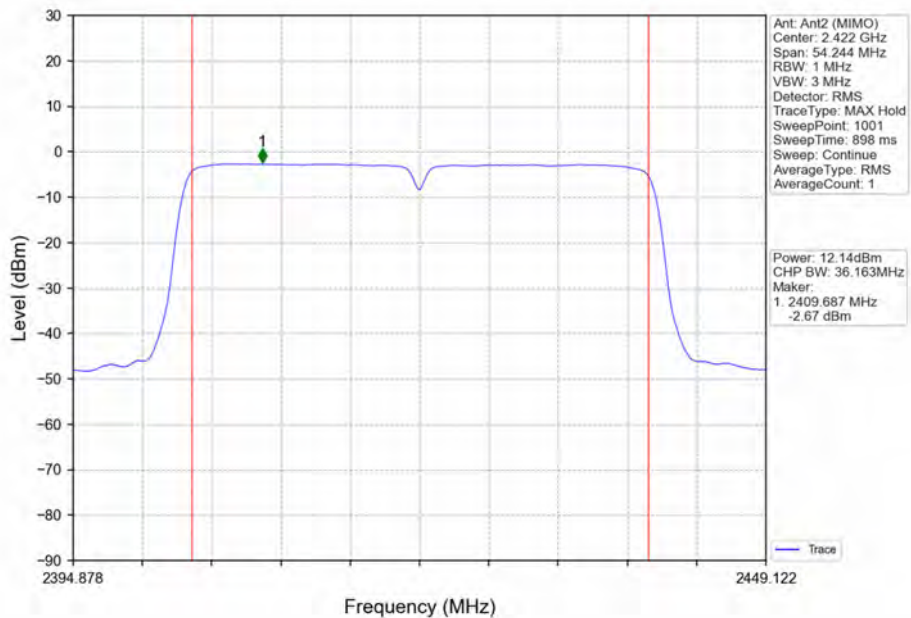
802.11n(HT20)_HCH_2462MHz_Ant2 (MIMO)_NTNV



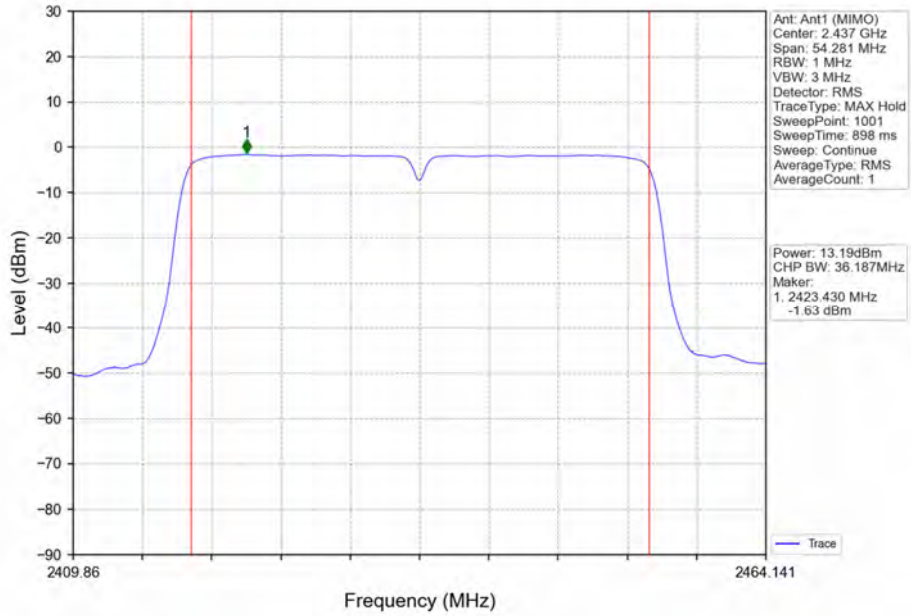
802.11n(HT40)_LCH_2422MHz_Ant1 (MIMO)_NTNV



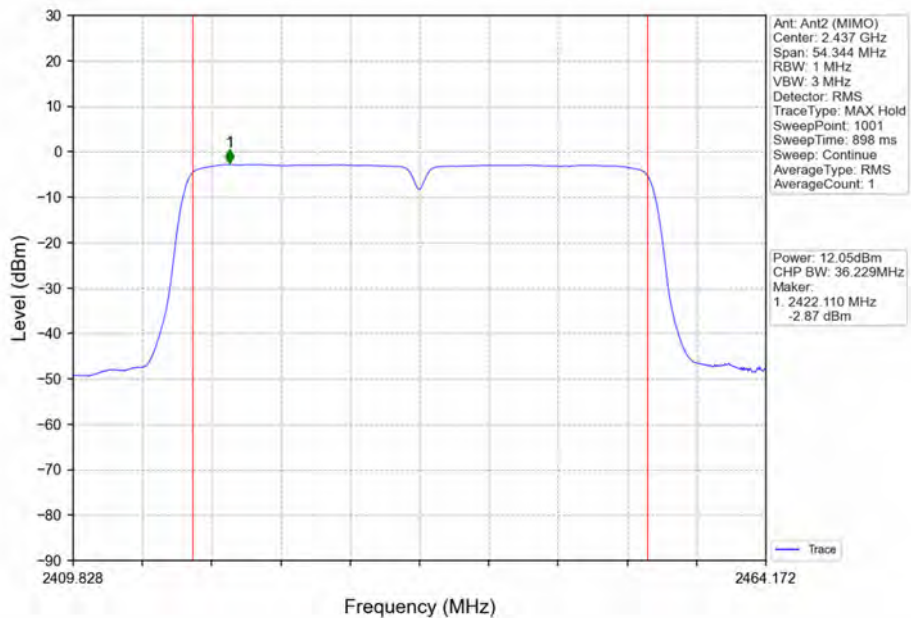
802.11n(HT40)_LCH_2422MHz_Ant2 (MIMO)_NTNV



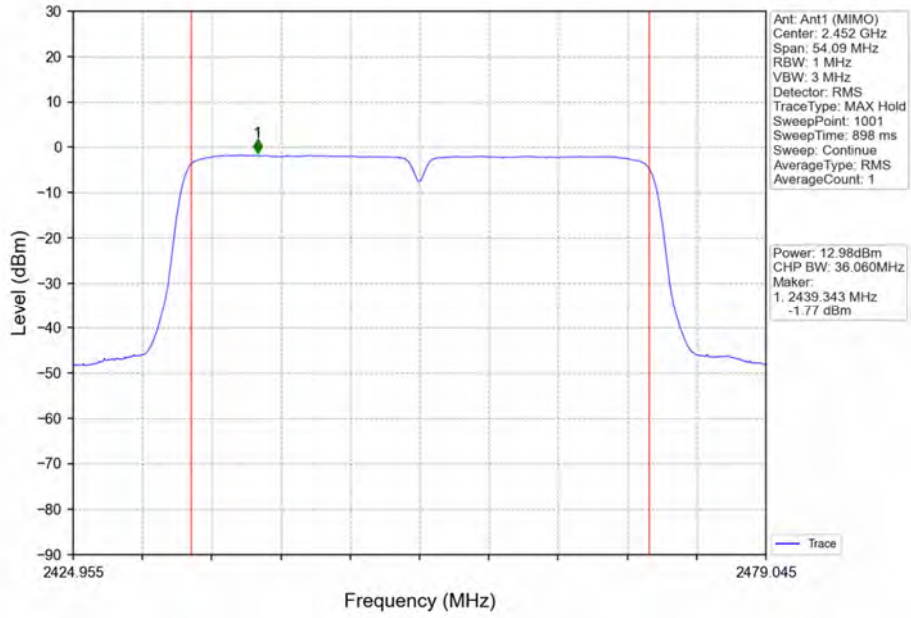
802.11n(HT40)_MCH_2437MHz_Ant1 (MIMO)_NTNV



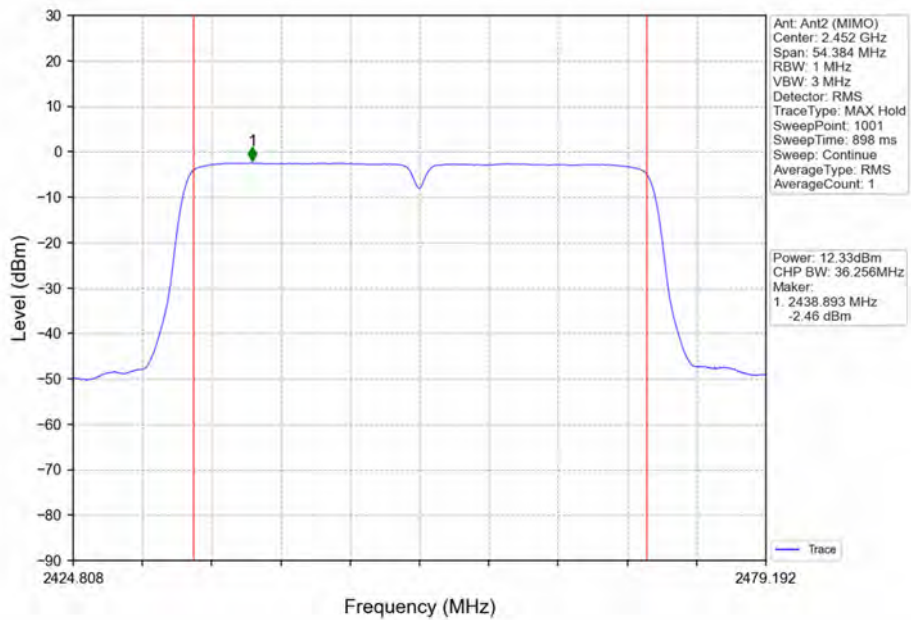
802.11n(HT40)_MCH_2437MHz_Ant2 (MIMO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (MIMO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant2 (MIMO)_NTNV



4. Maximum Power Spectral Density

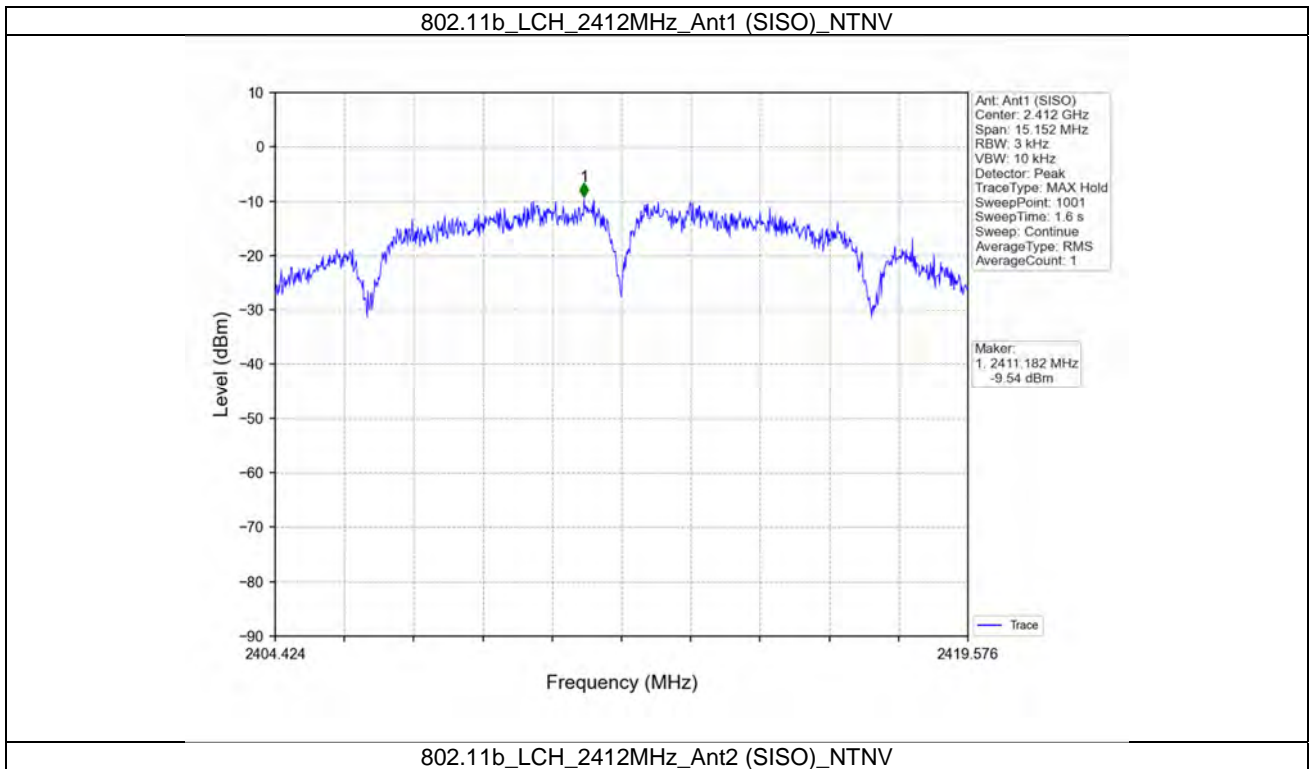
4.1 PSD

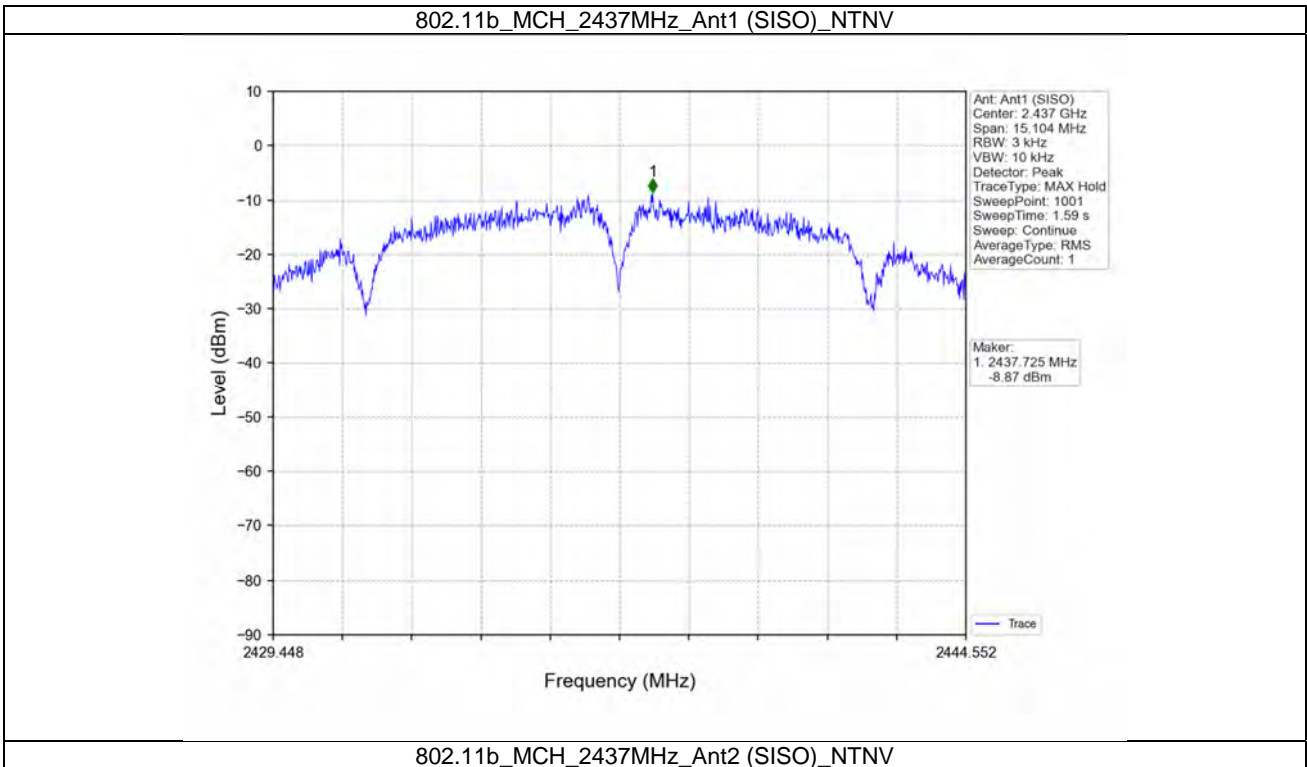
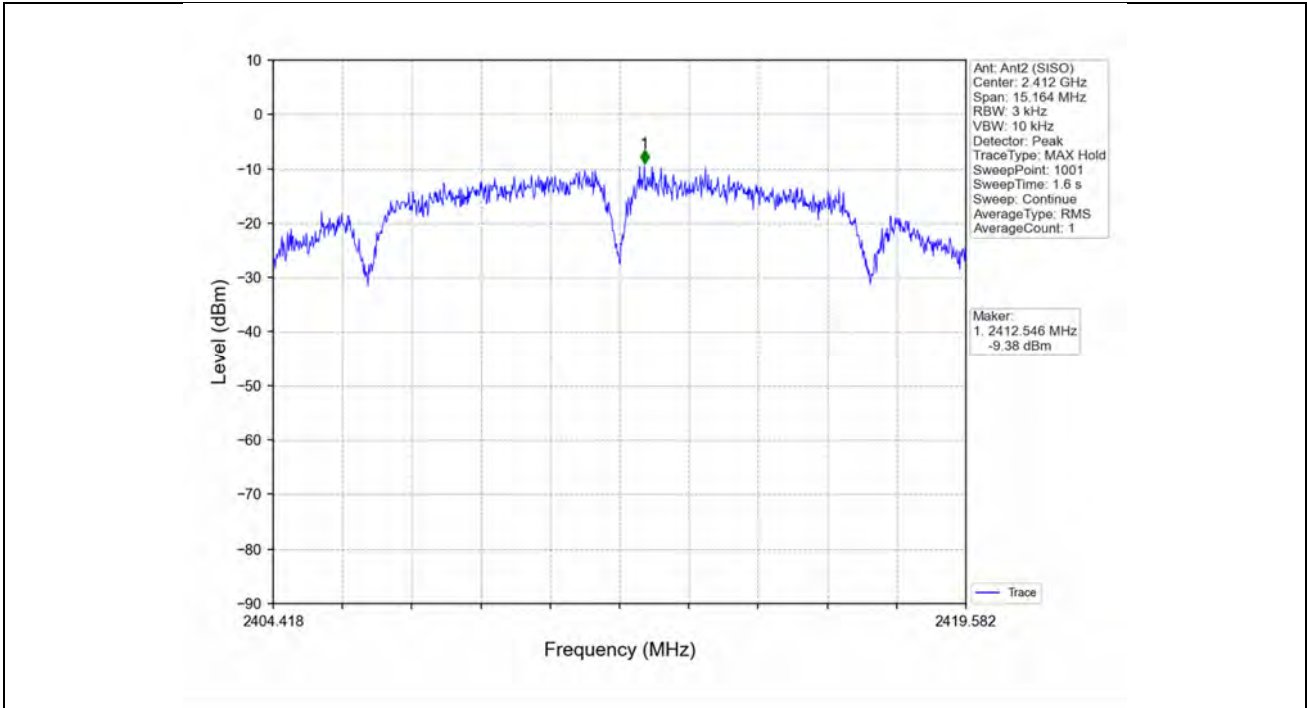
4.1.1 Test Result

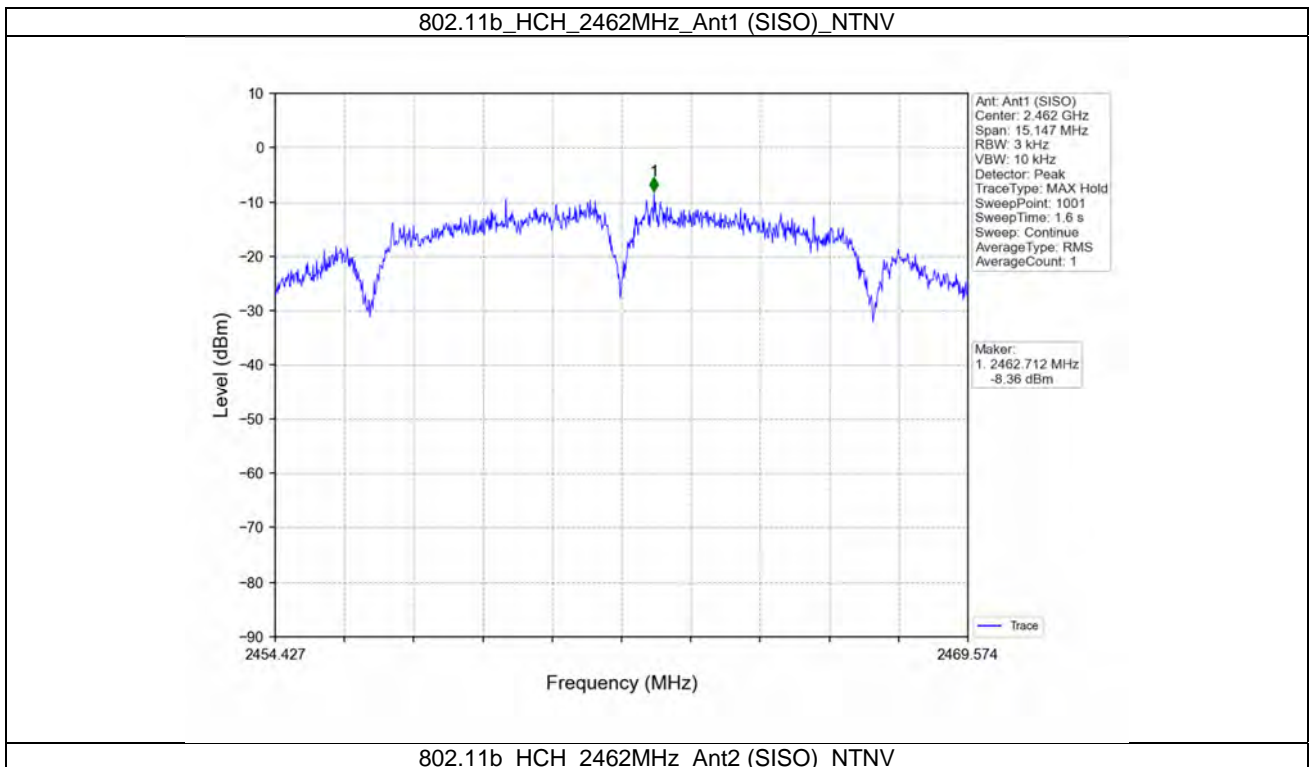
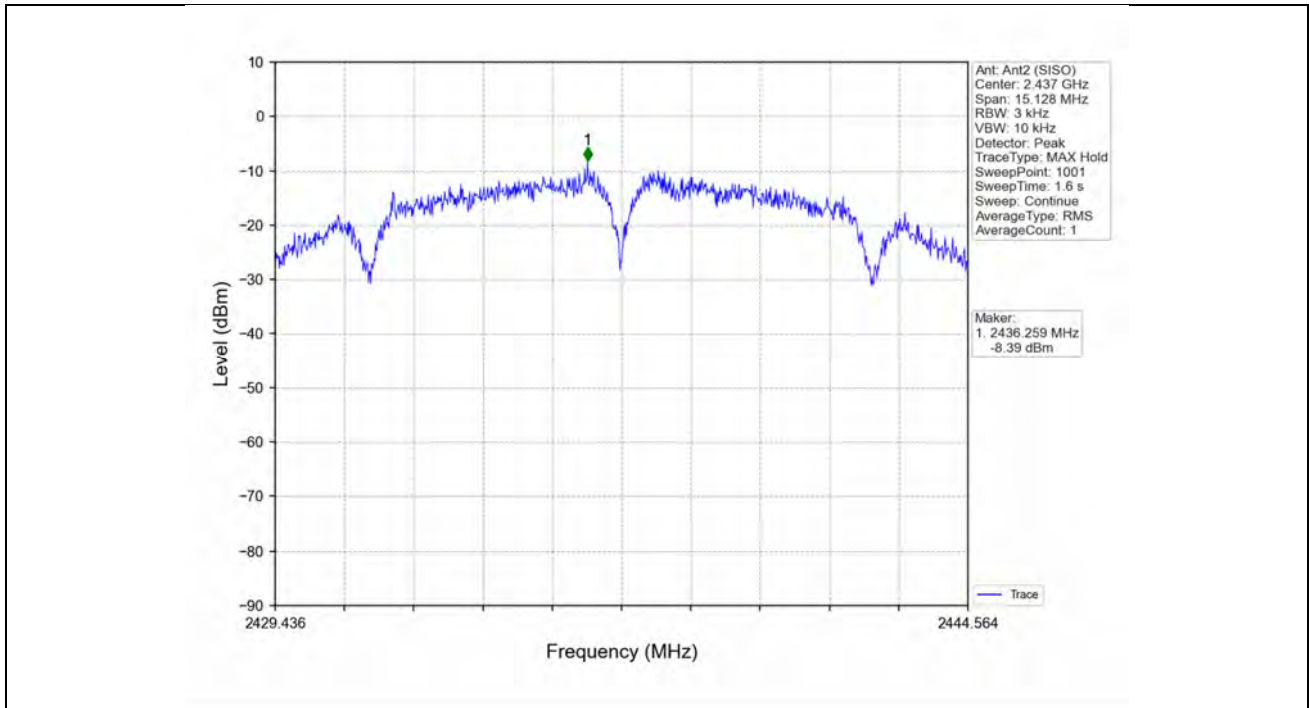
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)				Verdict
			Ant1	Ant2	MIMO	Limit	
802.11b	SISO	2412	-9.54	-9.38	/	<=8	Pass
		2437	-8.87	-8.39	/	<=8	Pass
		2462	-8.36	-11.07	/	<=8	Pass
802.11g	SISO	2412	-10.13	-8.51	/	<=8	Pass
		2437	-8.72	-8.98	/	<=8	Pass
		2462	-9.97	-9.51	/	<=8	Pass
802.11n (HT20)	MIMO	2412	-11.91	-12.01	-9.51	<=8	Pass
		2437	-11.92	-12.15	-9.13	<=8	Pass
		2462	-12.41	-13.46	-10.68	<=8	Pass
802.11n (HT40)	MIMO	2422	-14.61	-15.88	-13.10	<=8	Pass
		2437	-14.39	-16.54	-12.42	<=8	Pass
		2452	-15.48	-16.03	-13.49	<=8	Pass

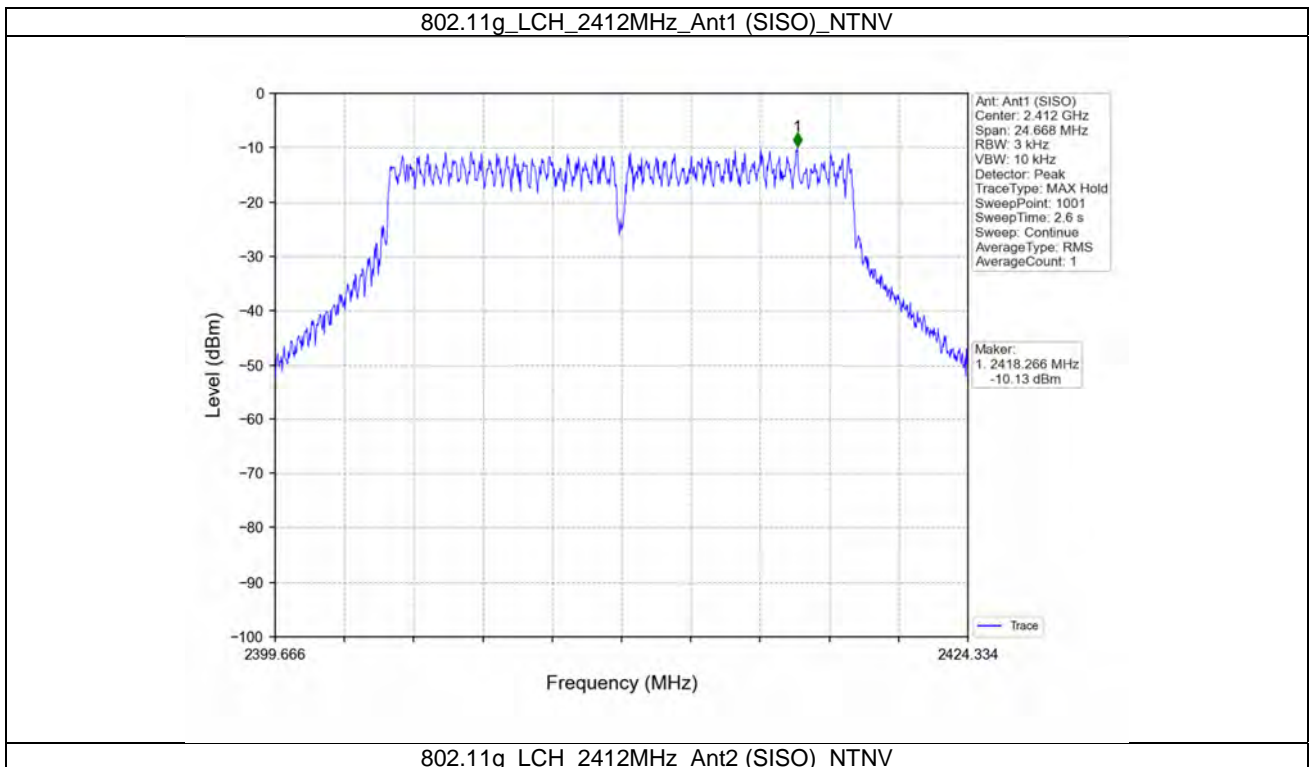
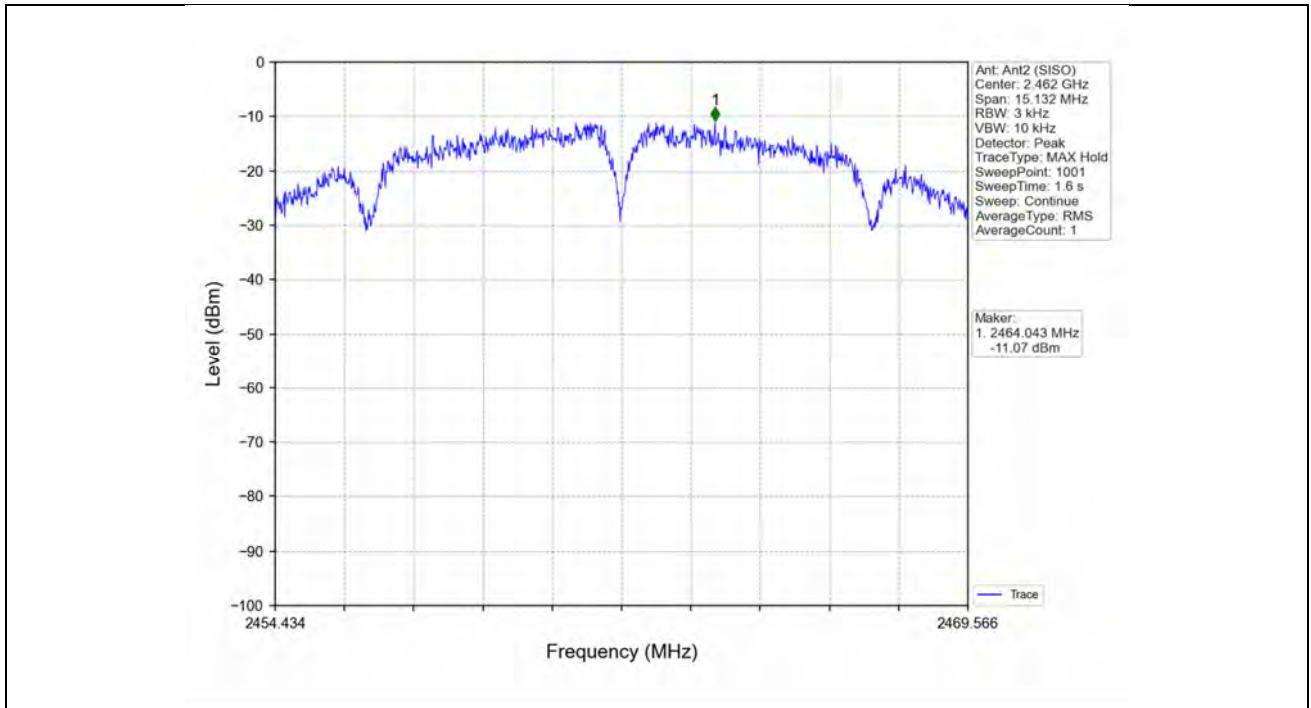
Note1: Antenna Gain: Ant1: 1.43dBi; Ant2: 1.43dBi;

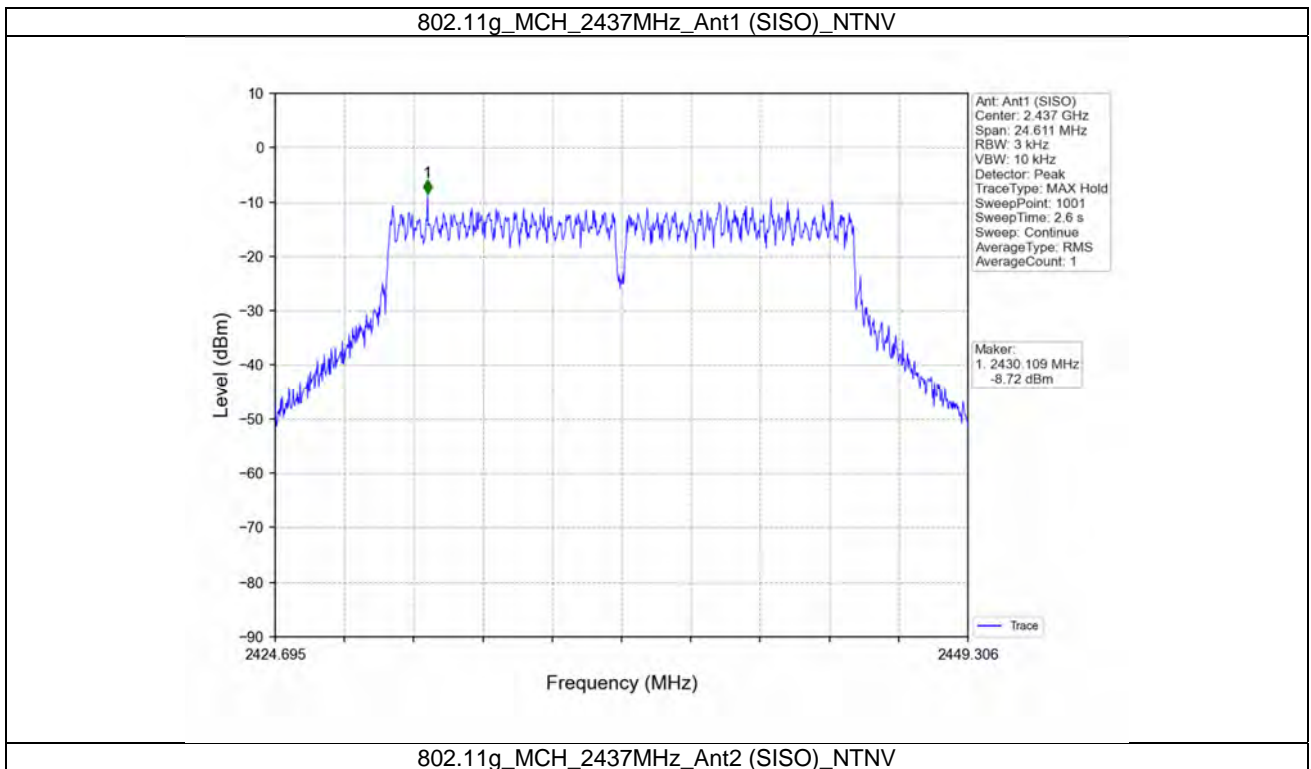
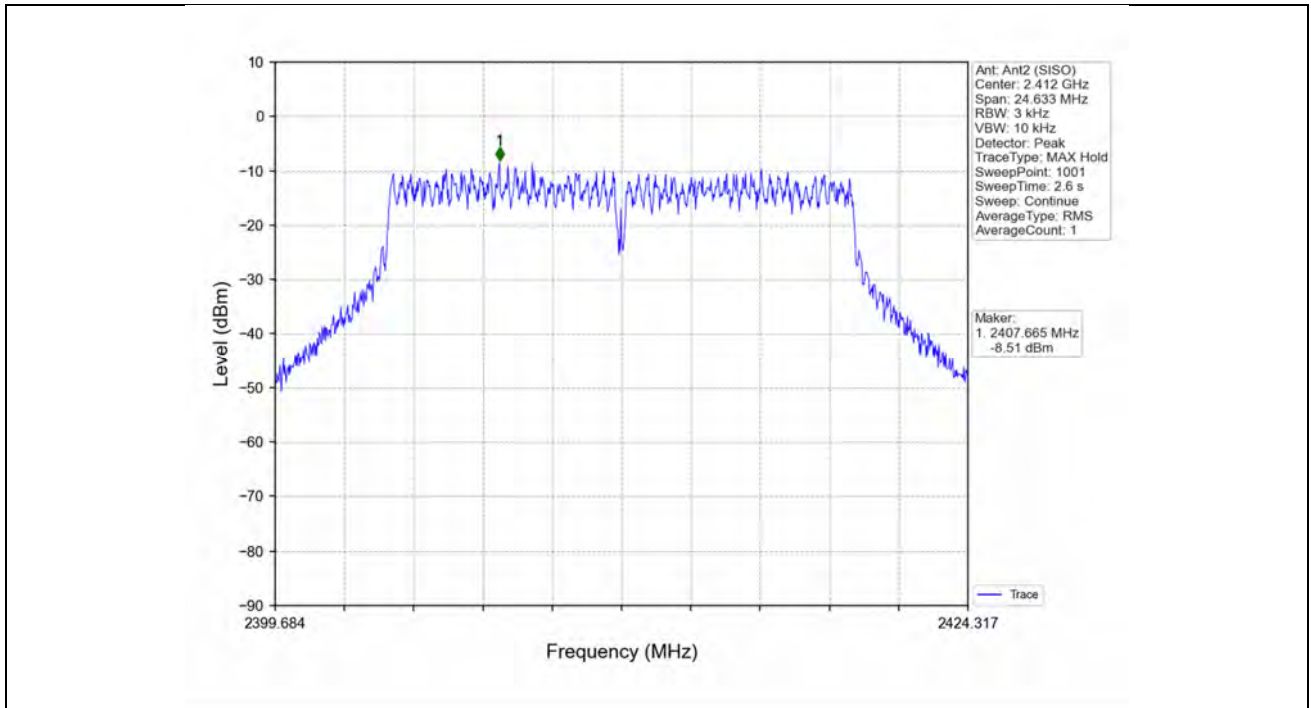
4.1.2 Test Graph

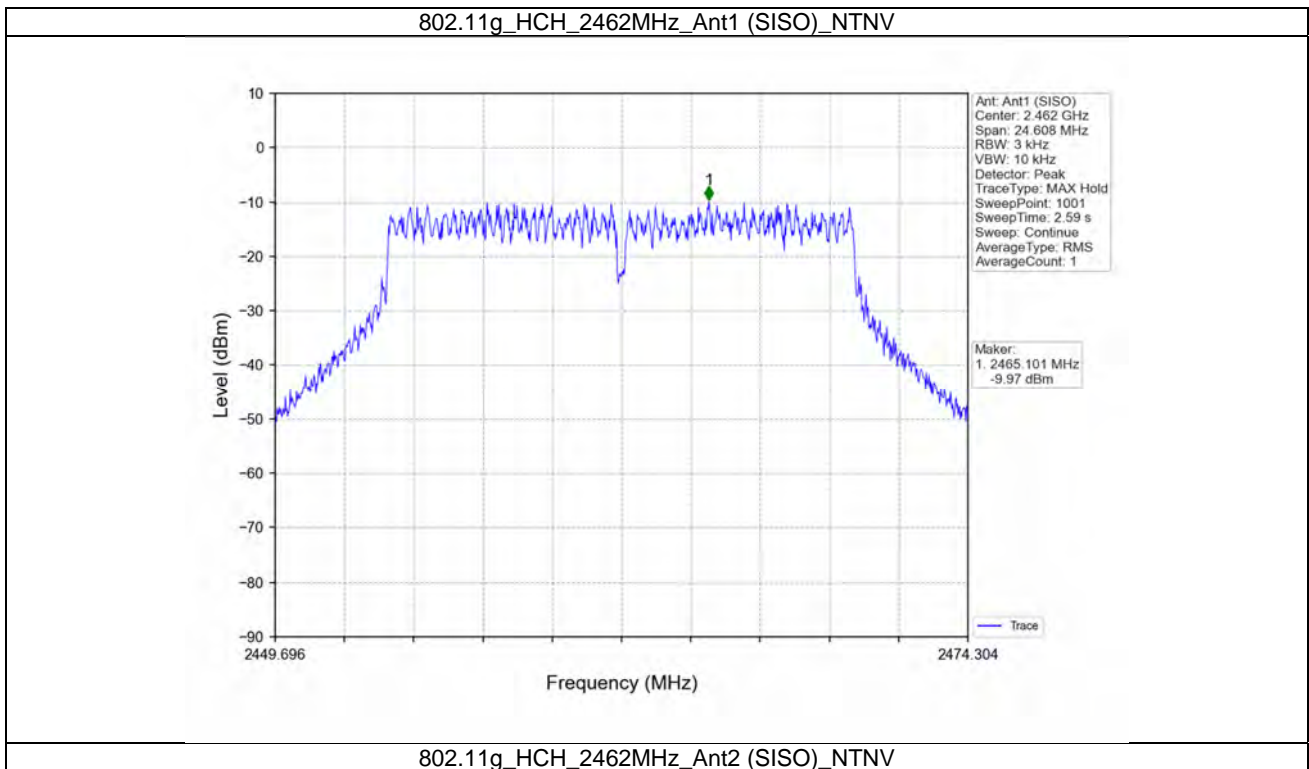
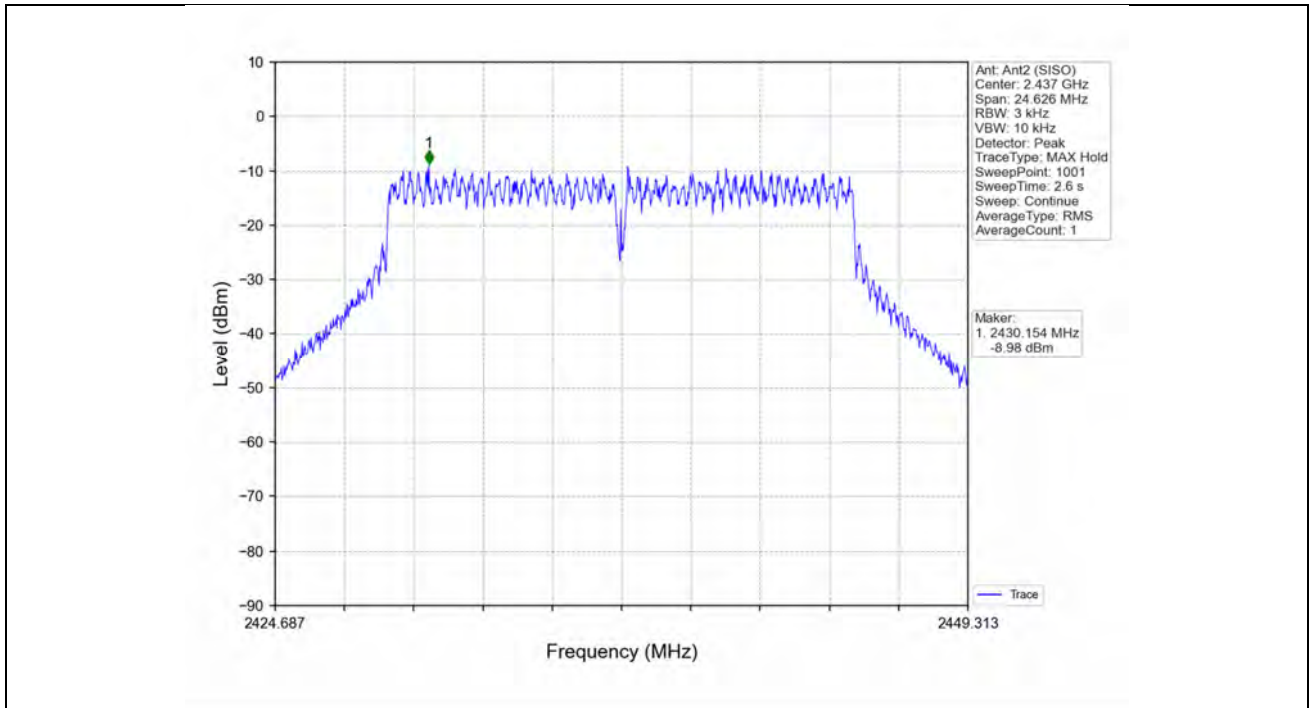


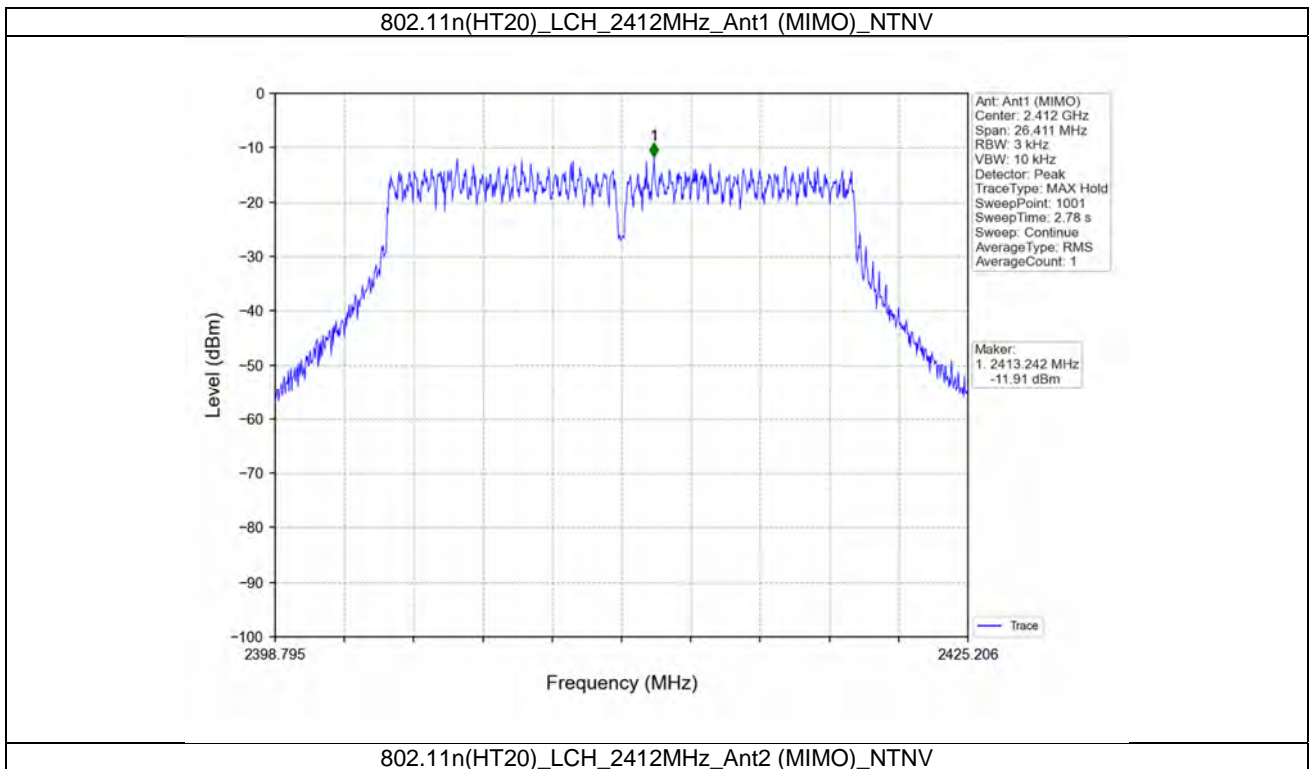
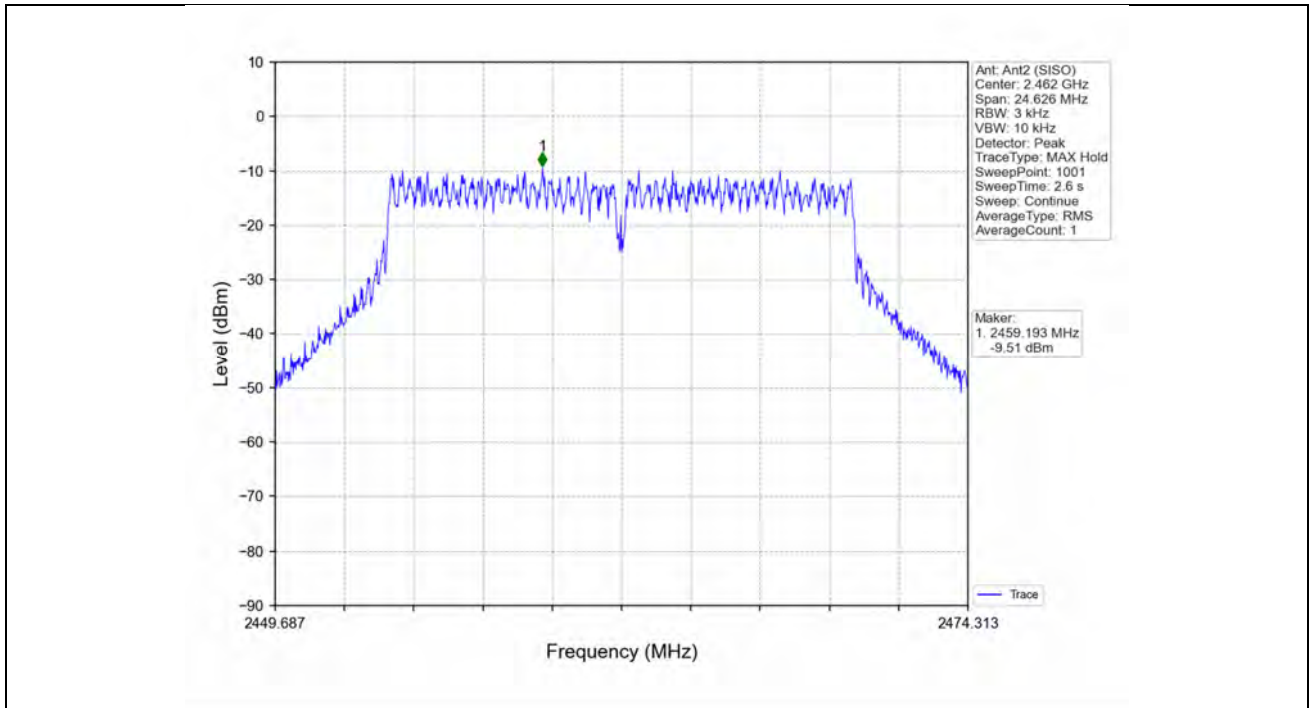


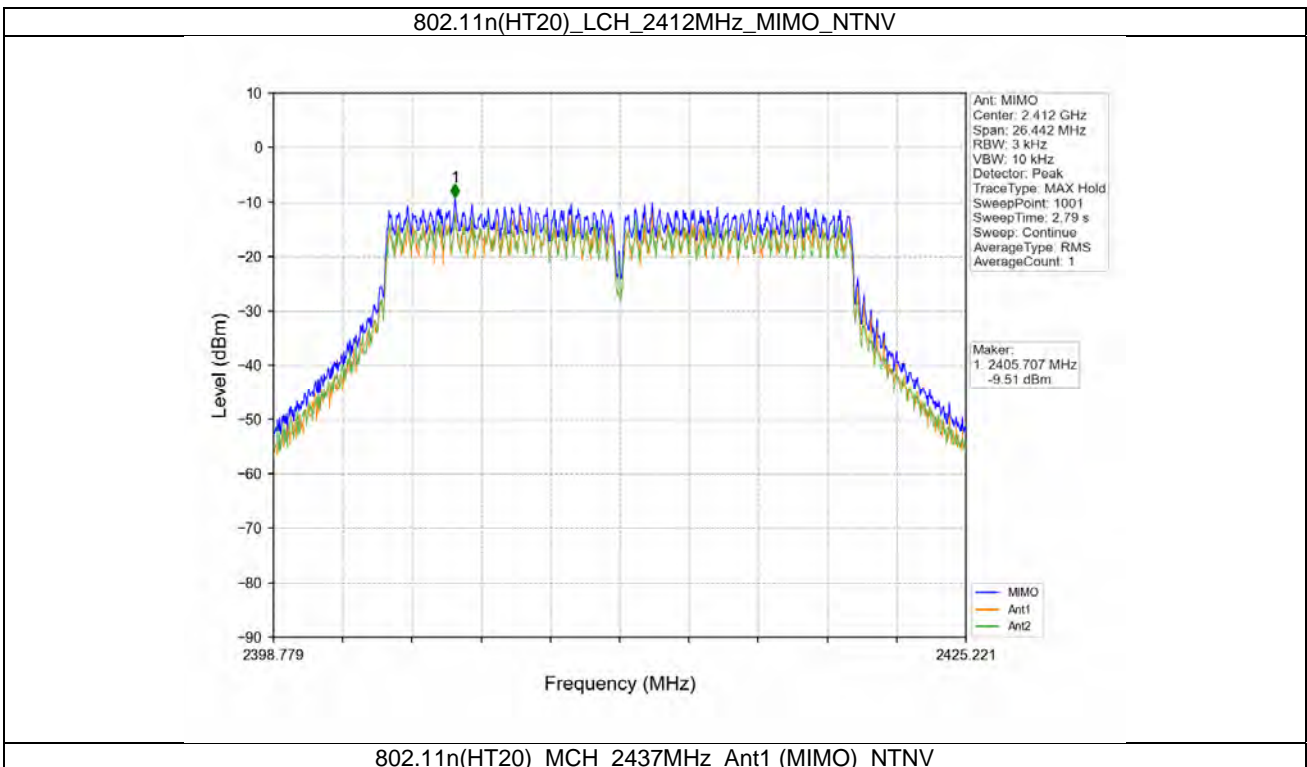
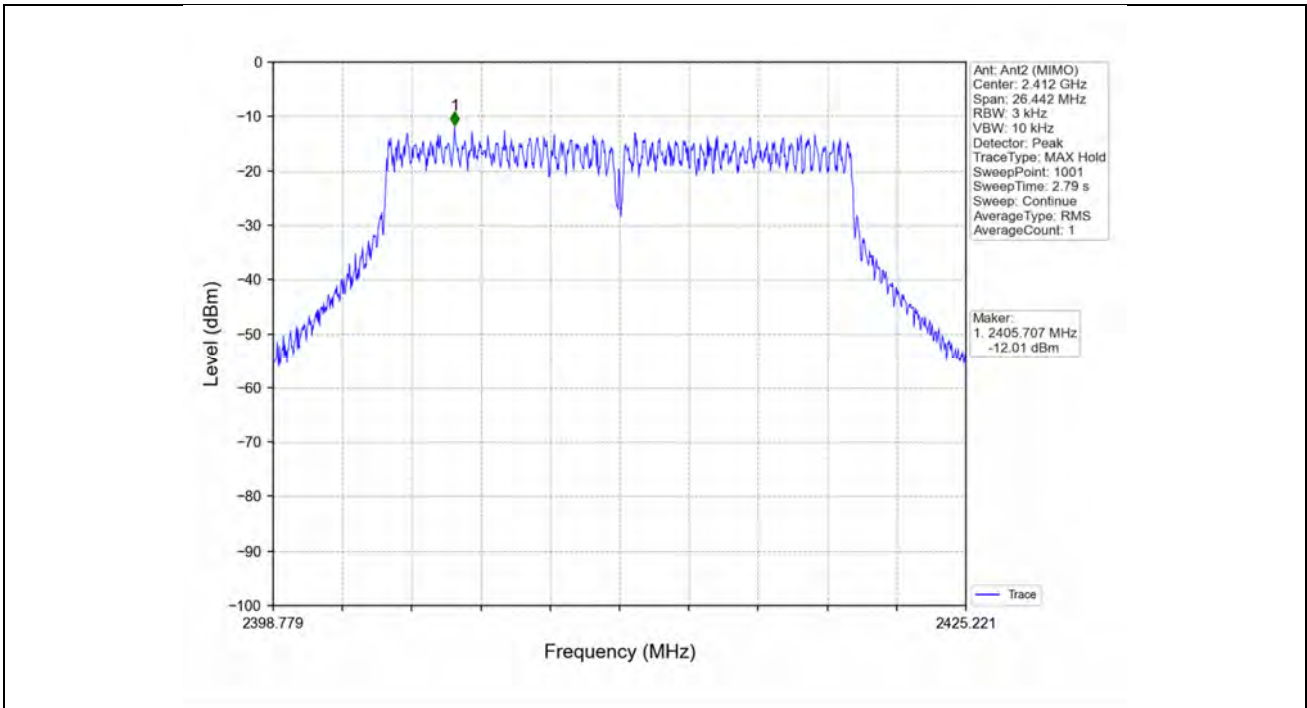


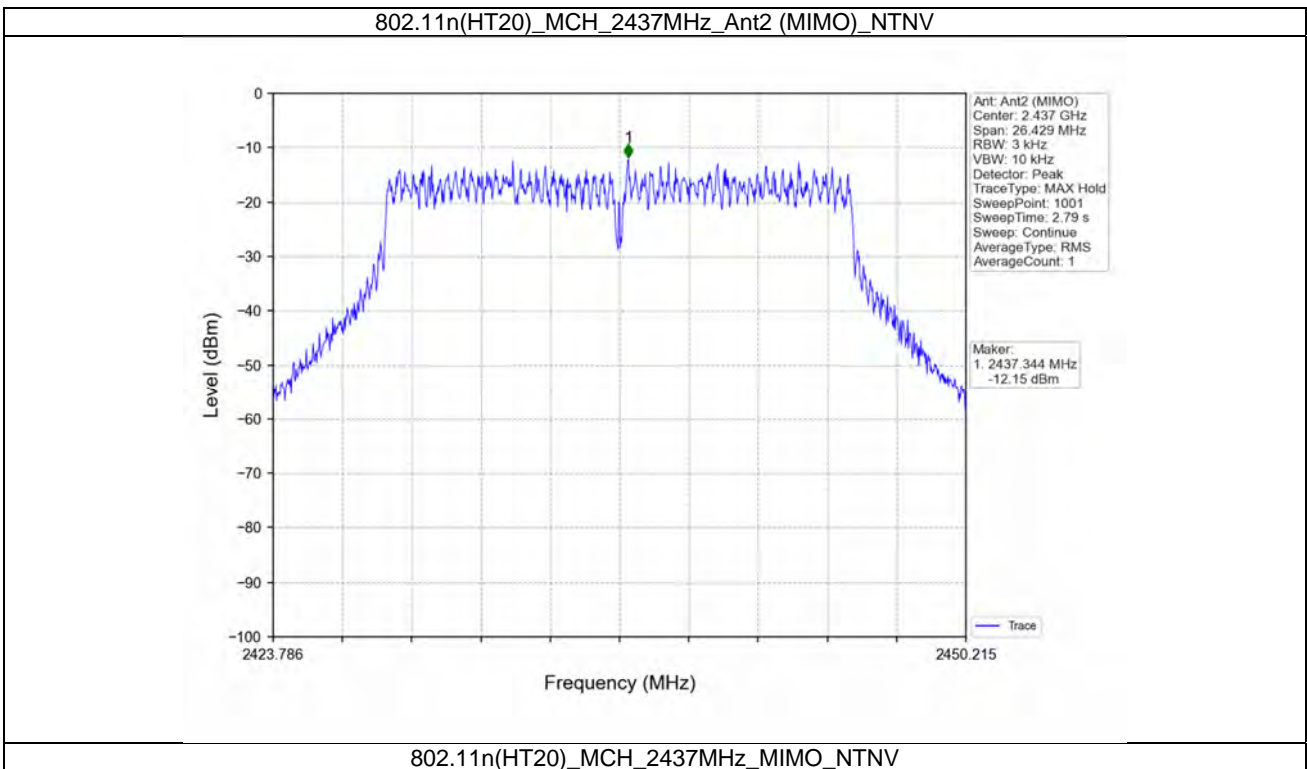
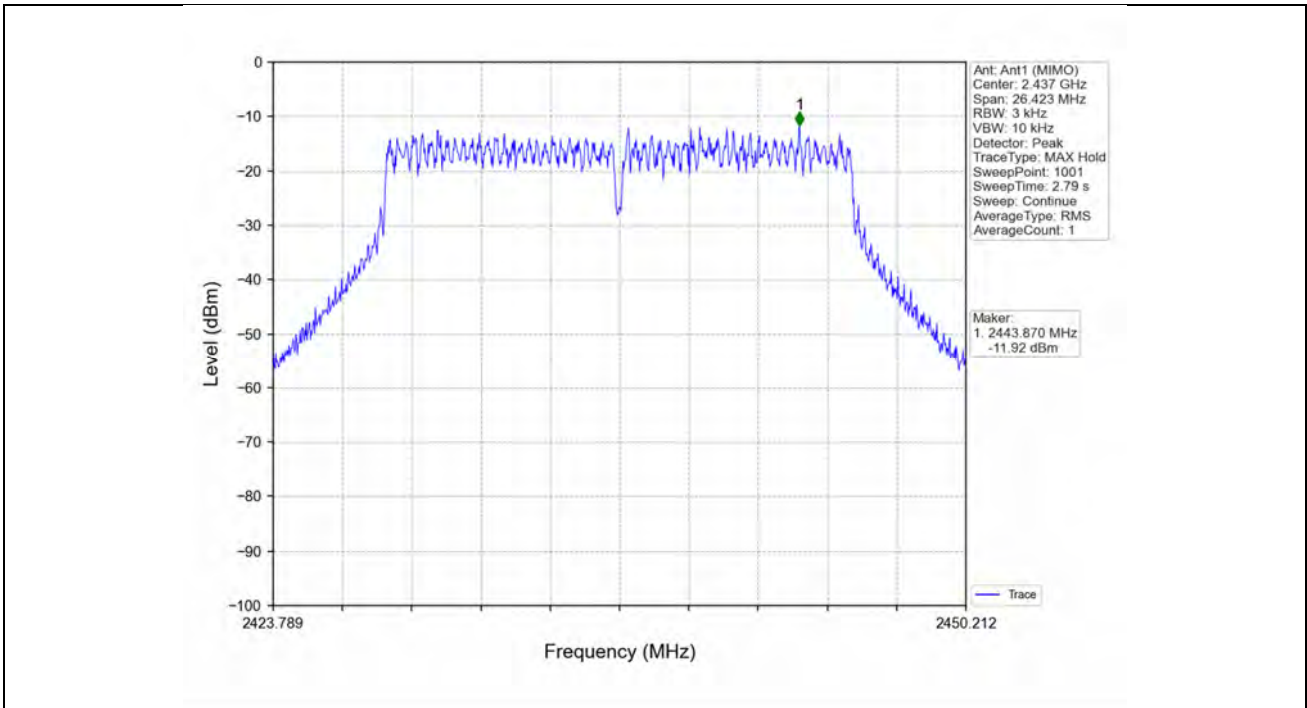


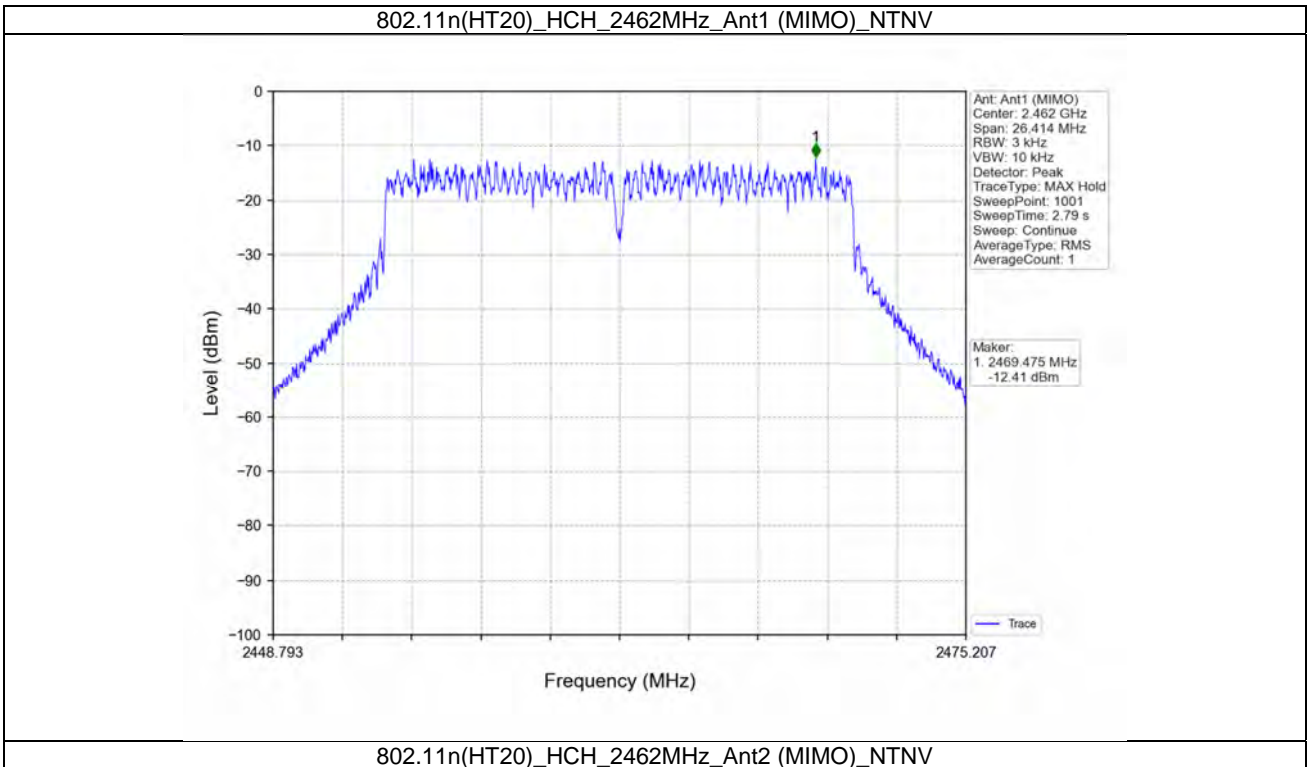
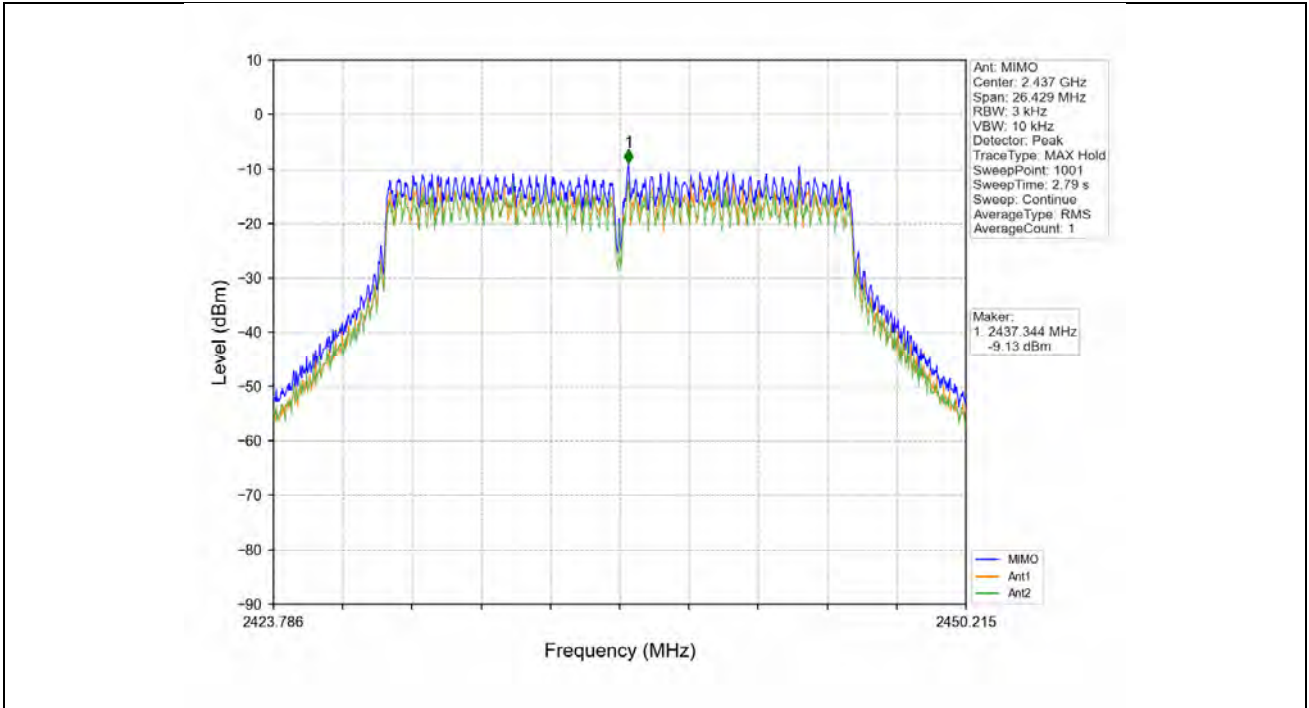


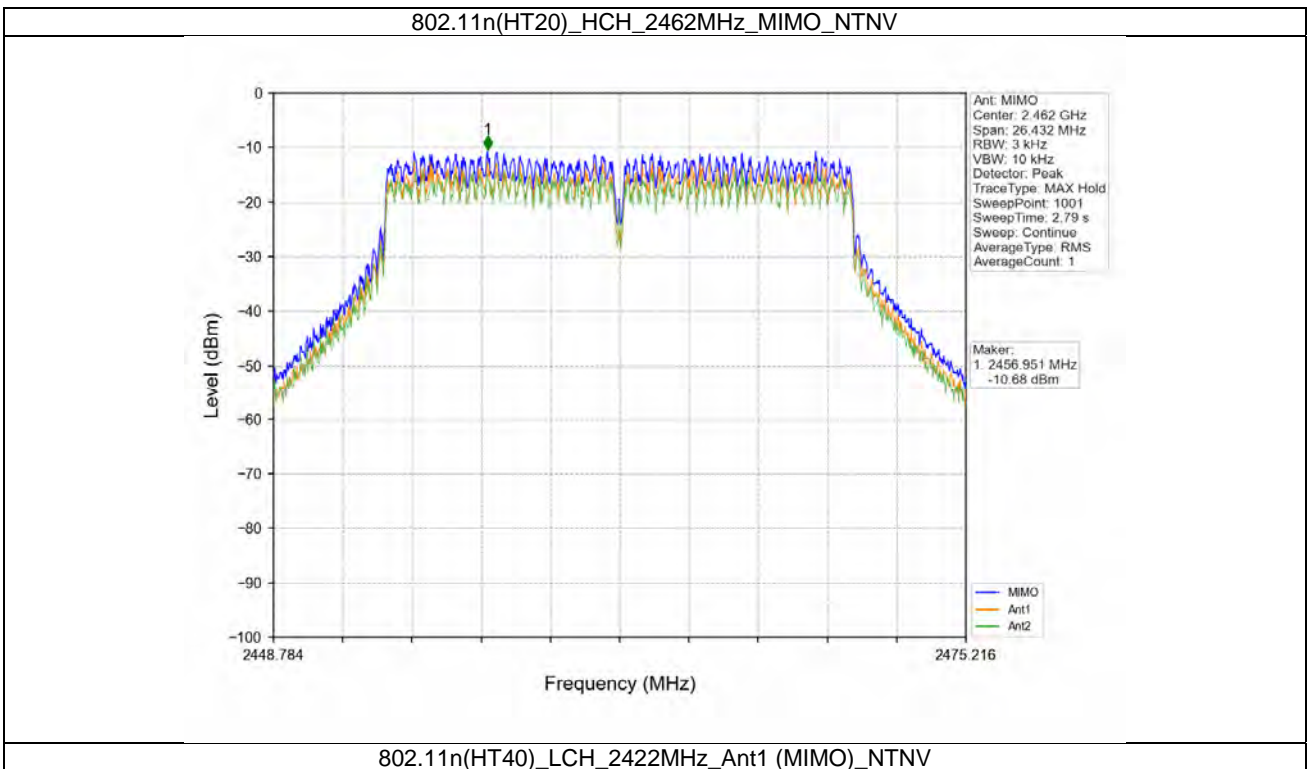
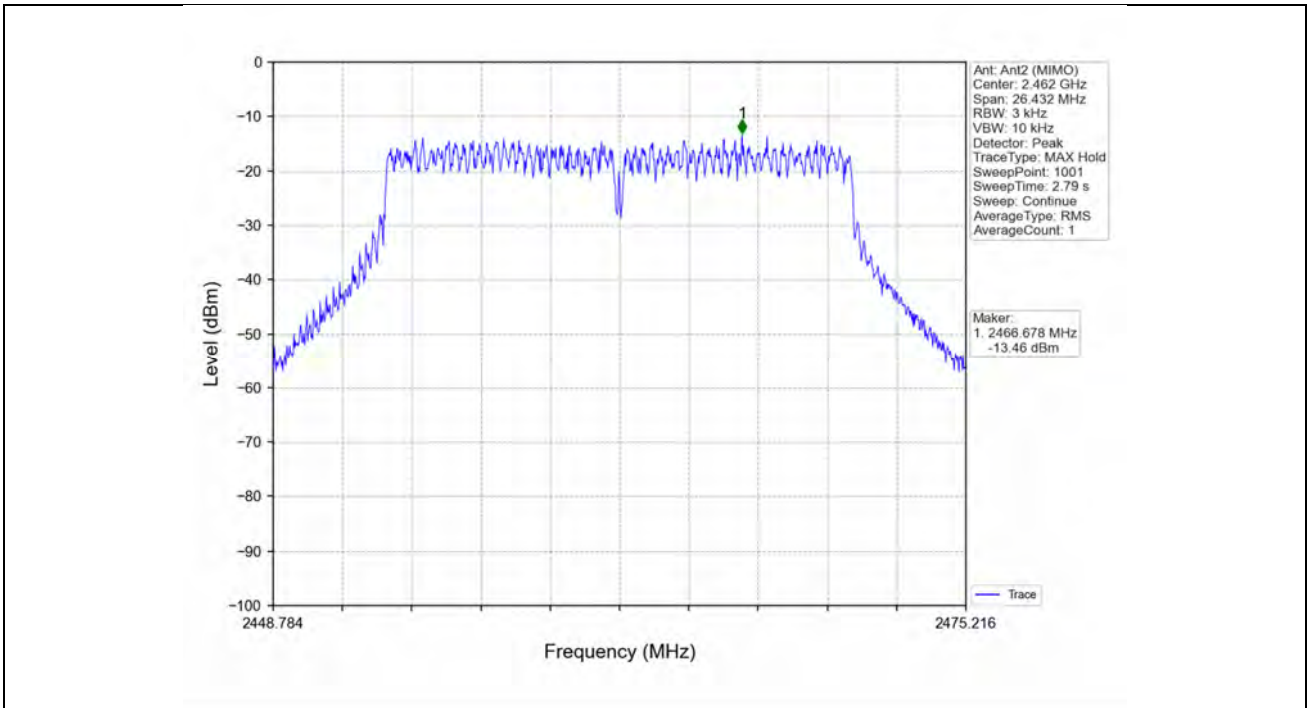




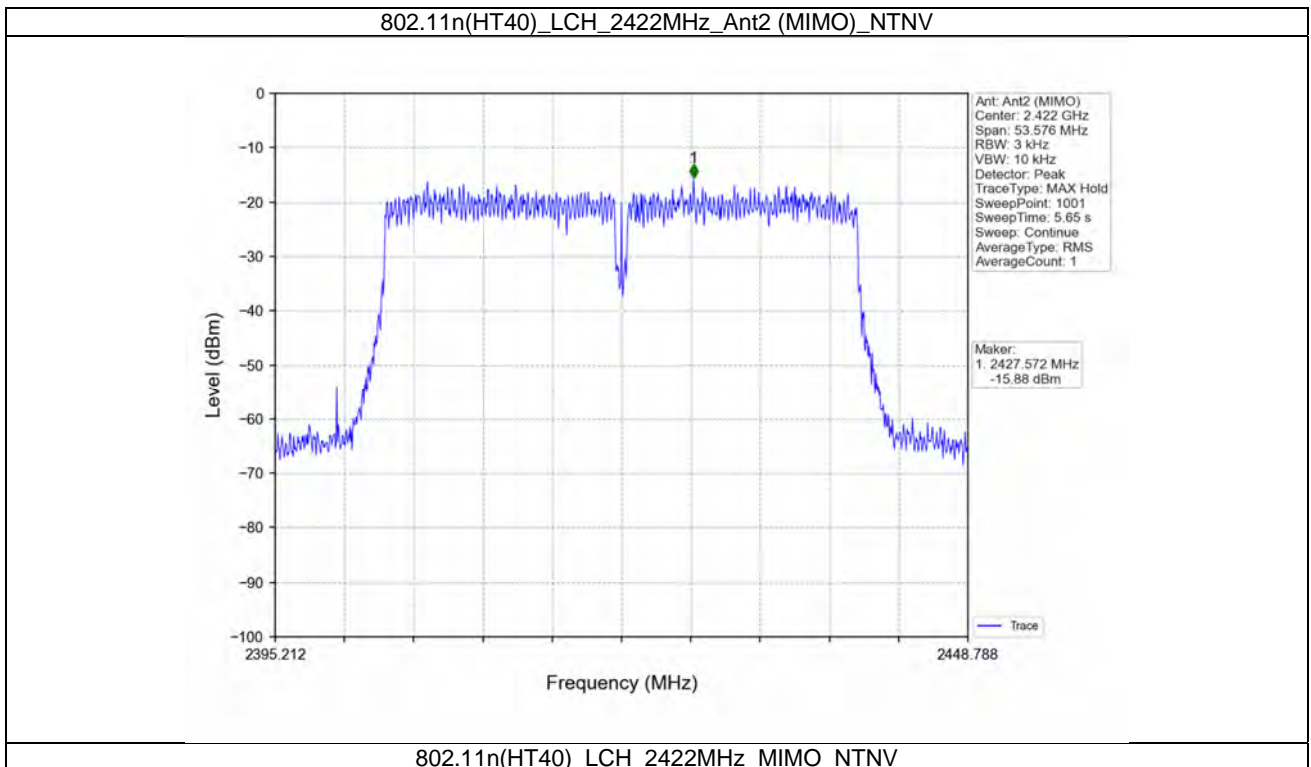
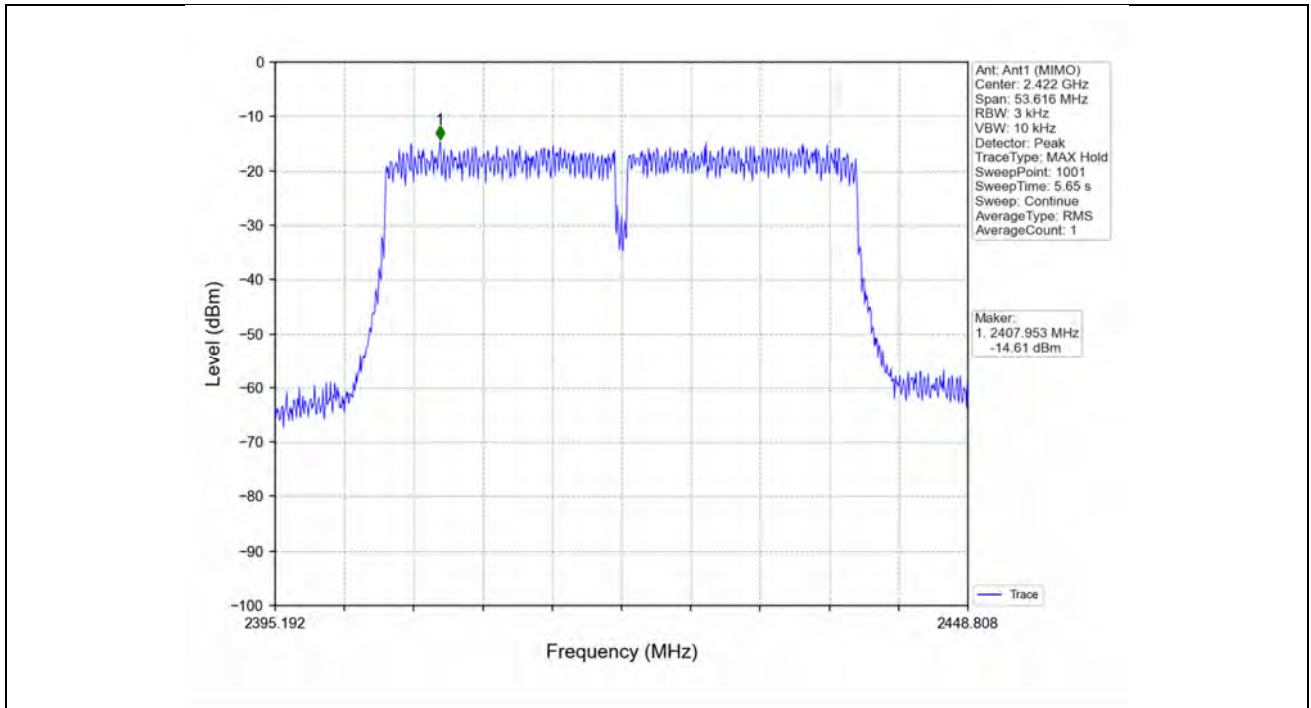


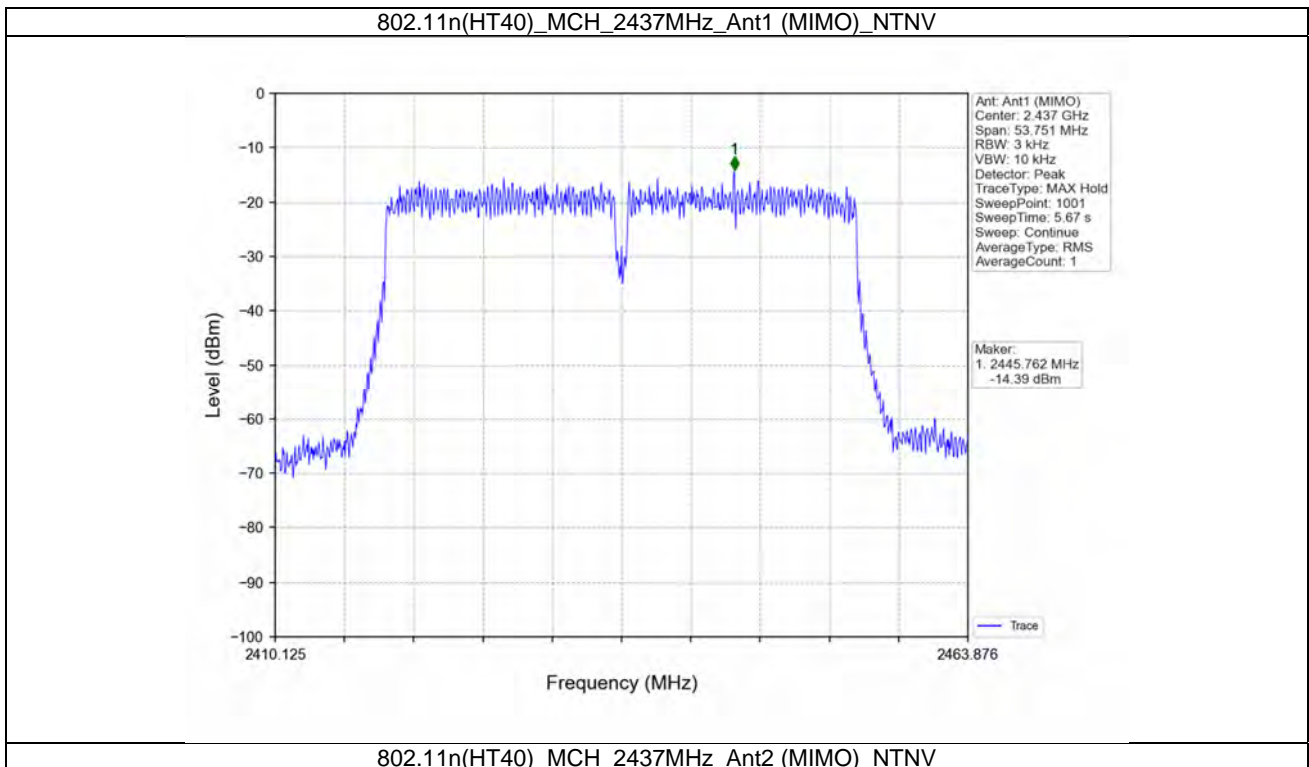
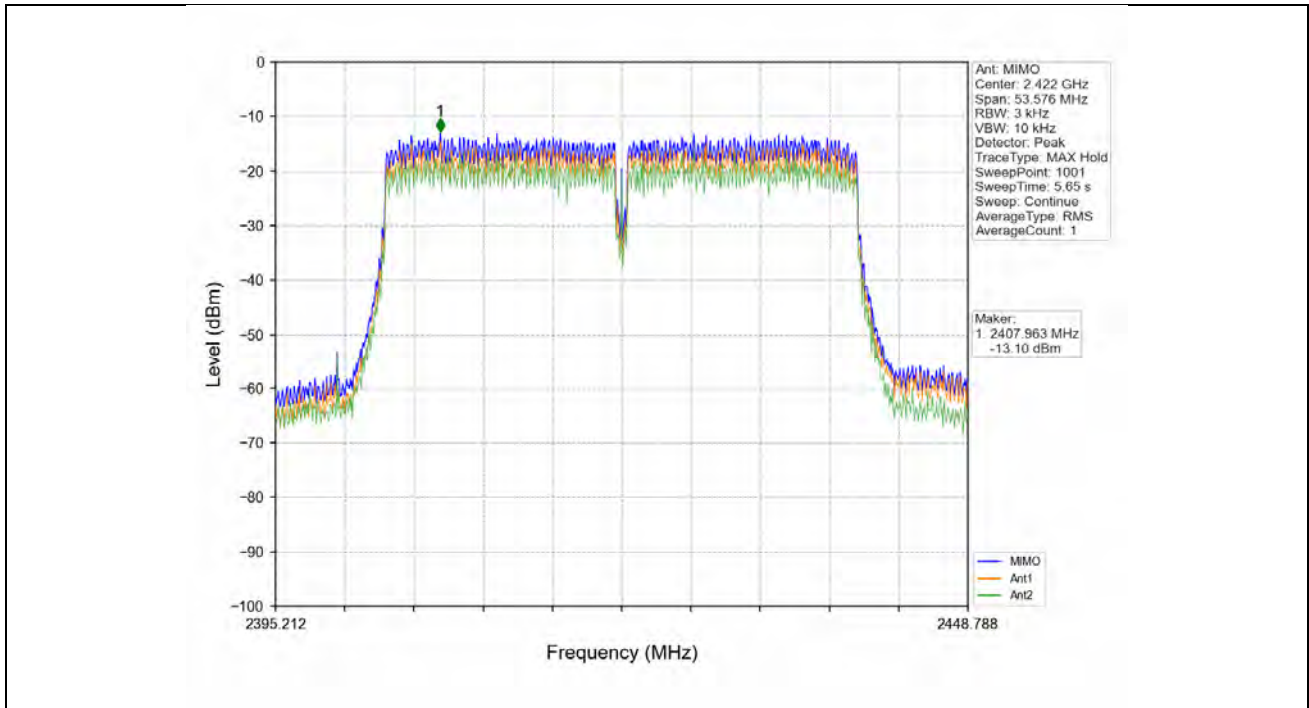


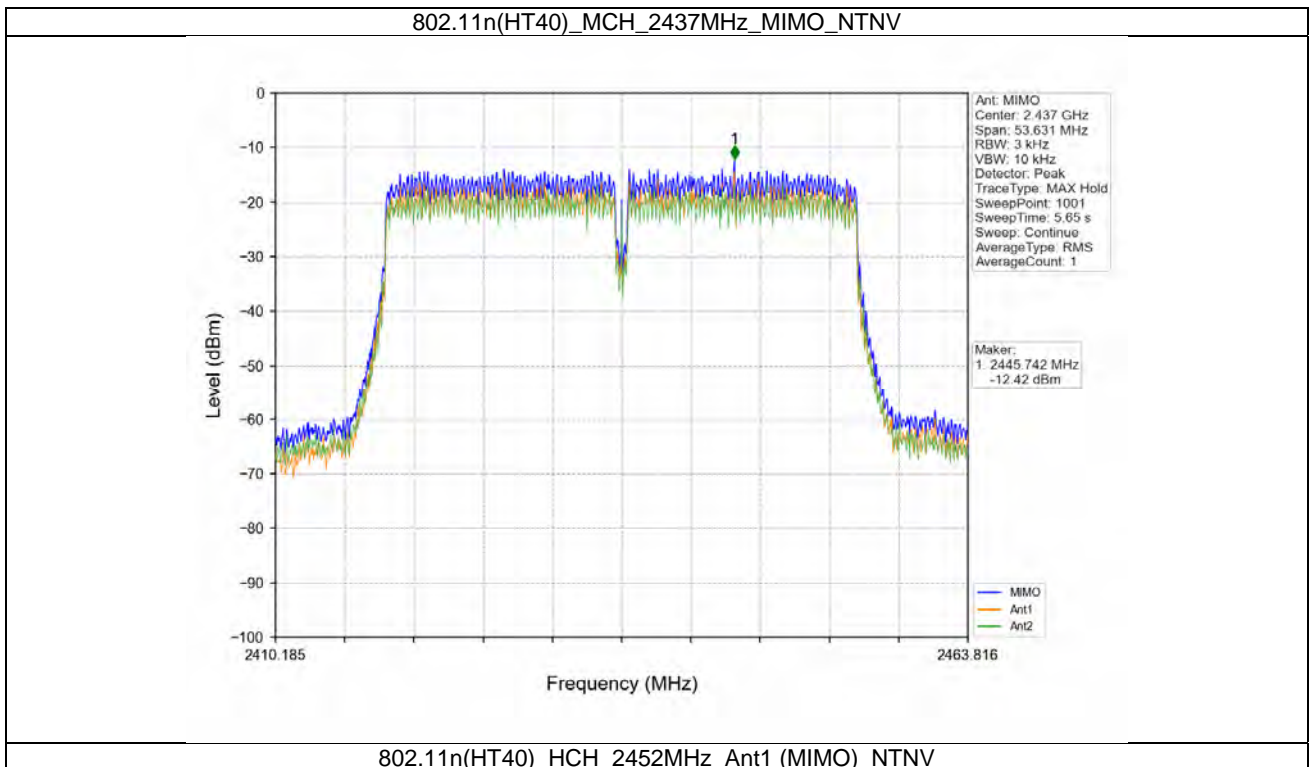
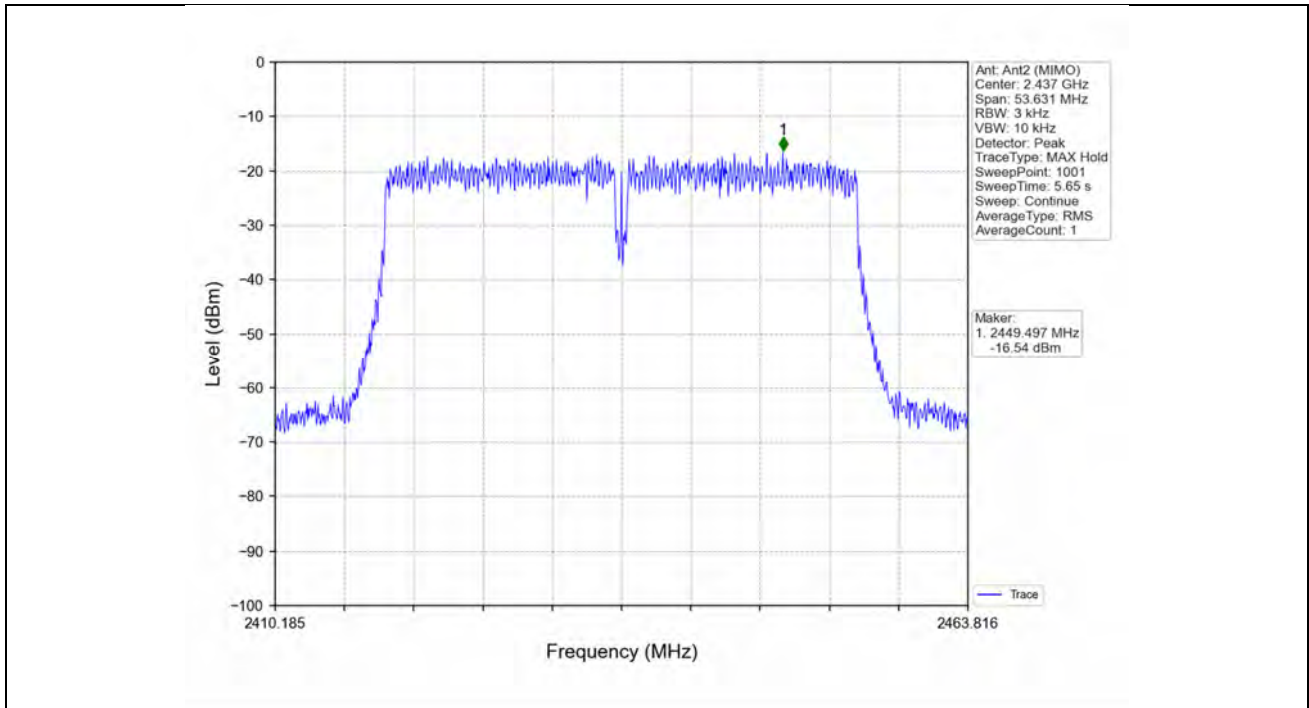




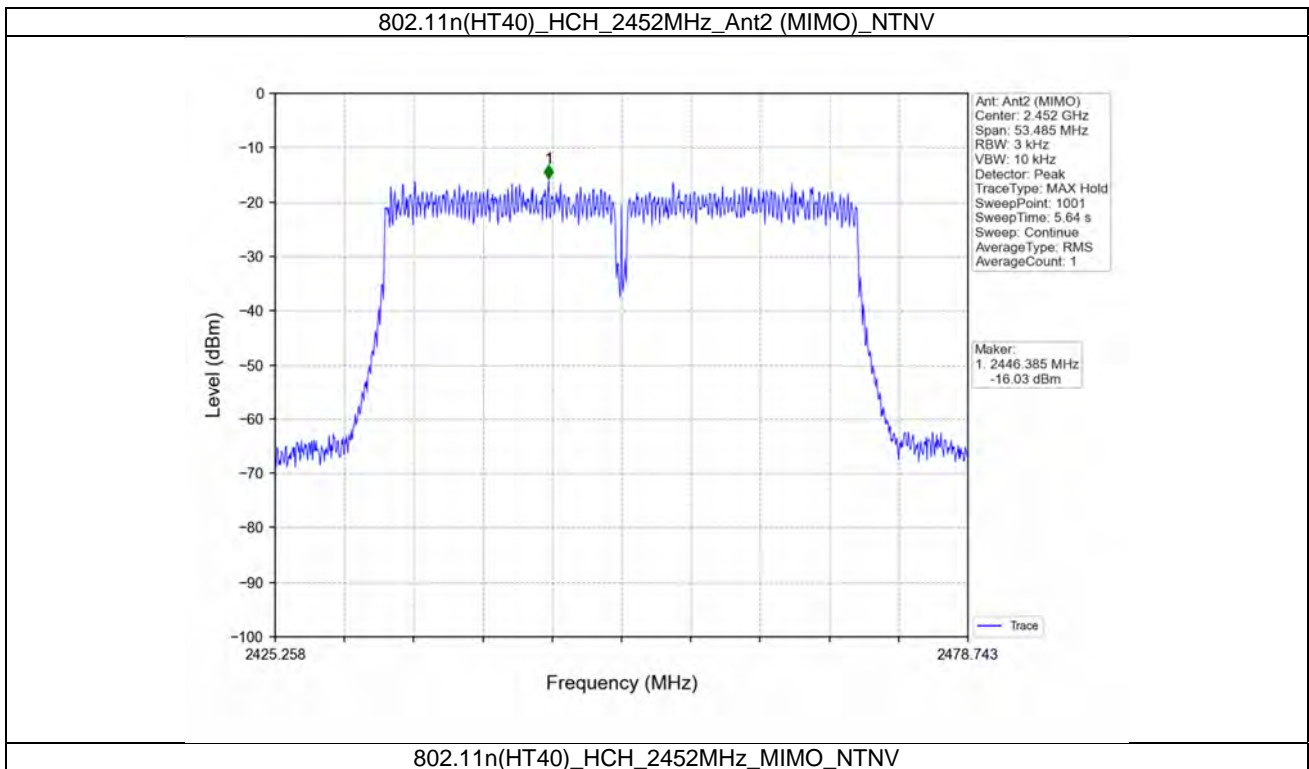
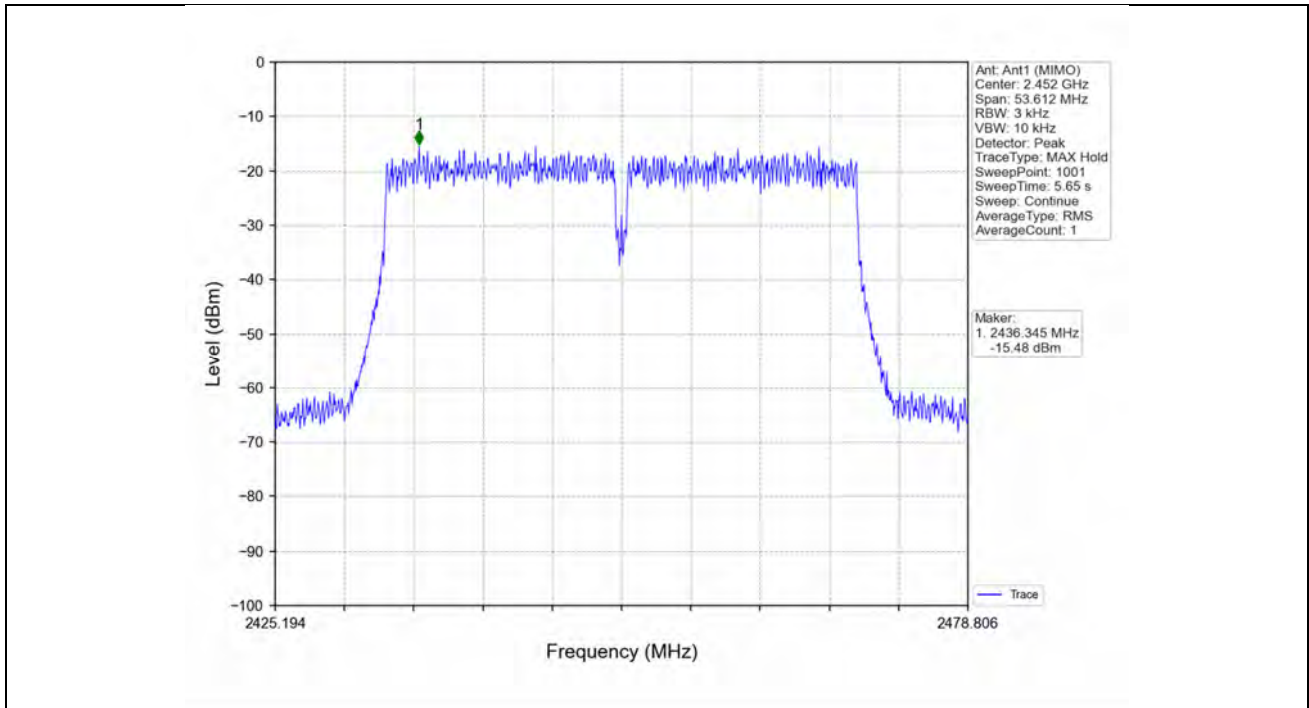
802.11n(HT40)_LCH_2422MHz_Ant1 (MIMO)_NTNV

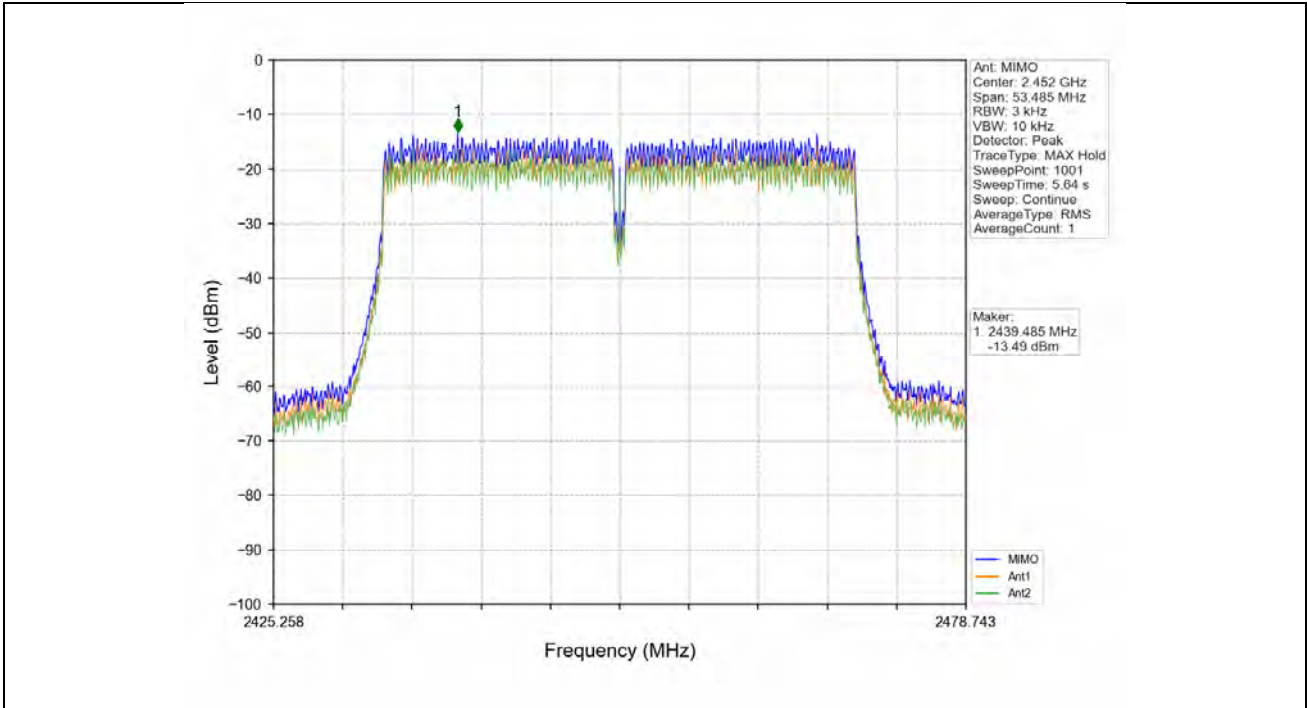






802.11n(HT40)_HCH_2452MHz_Ant1 (MIMO)_NTNV





5. Unwanted Emissions In Non-restricted Frequency Bands

5.1 Ref

5.1.1 Test Result

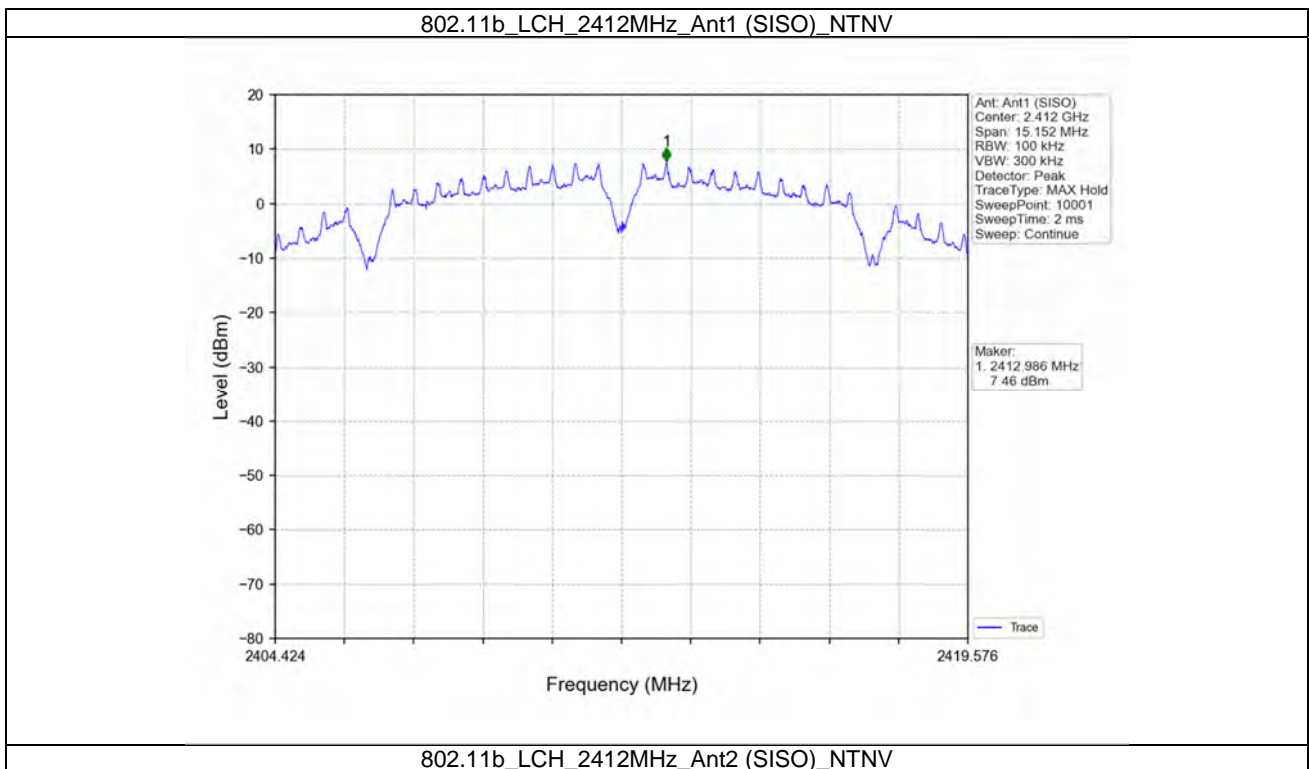
Mode	TX Type	Frequency (MHz)	Ant	Level of Reference (dBm)
802.11b	SISO	2412	1	7.46
			2	7.03
		2437	1	7.45
			2	7.60
		2462	1	6.93
			2	6.26
802.11g	SISO	2412	1	3.82
			2	5.09
		2437	1	4.34
			2	4.70
		2462	1	4.44
			2	4.50
802.11n (HT20)	MIMO	2412	1	2.11
			2	1.88
		2437	1	2.12
			2	1.54
		2462	1	2.14
			2	1.16
802.11n	MIMO	2422	1	0.32

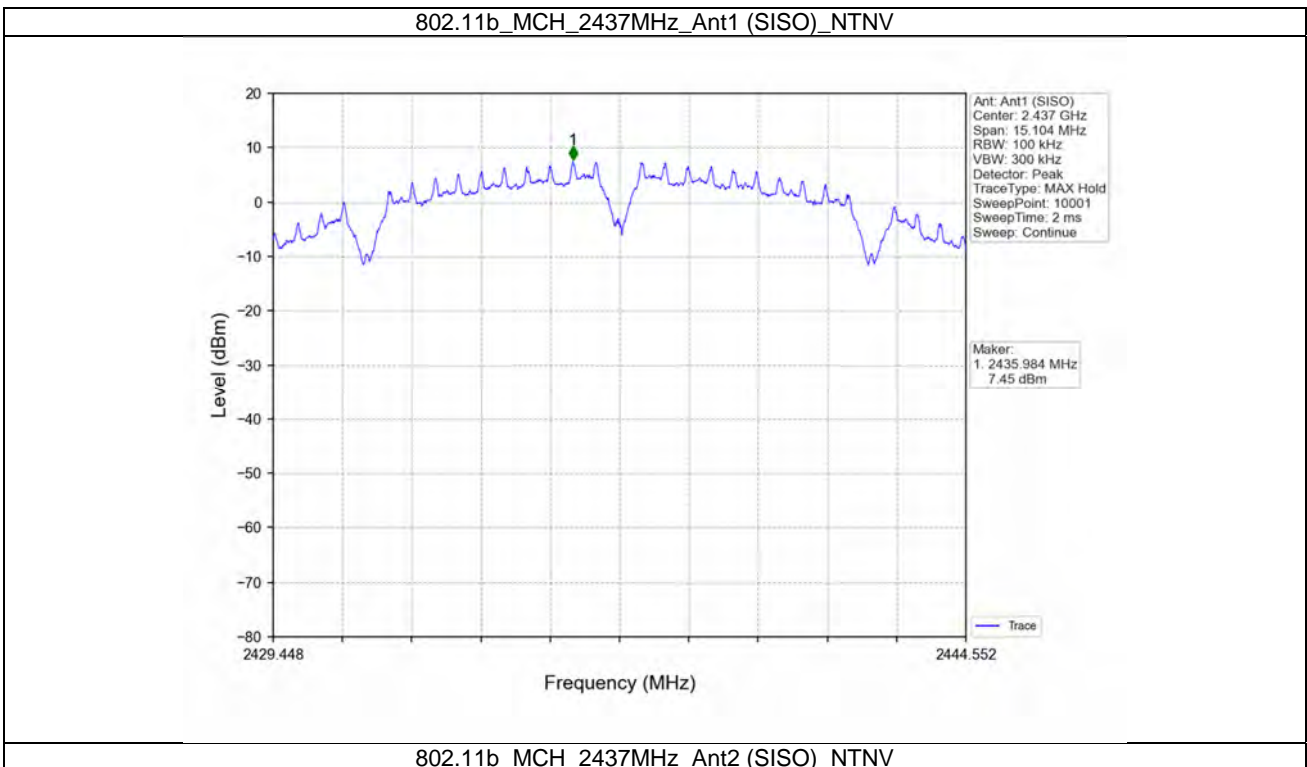
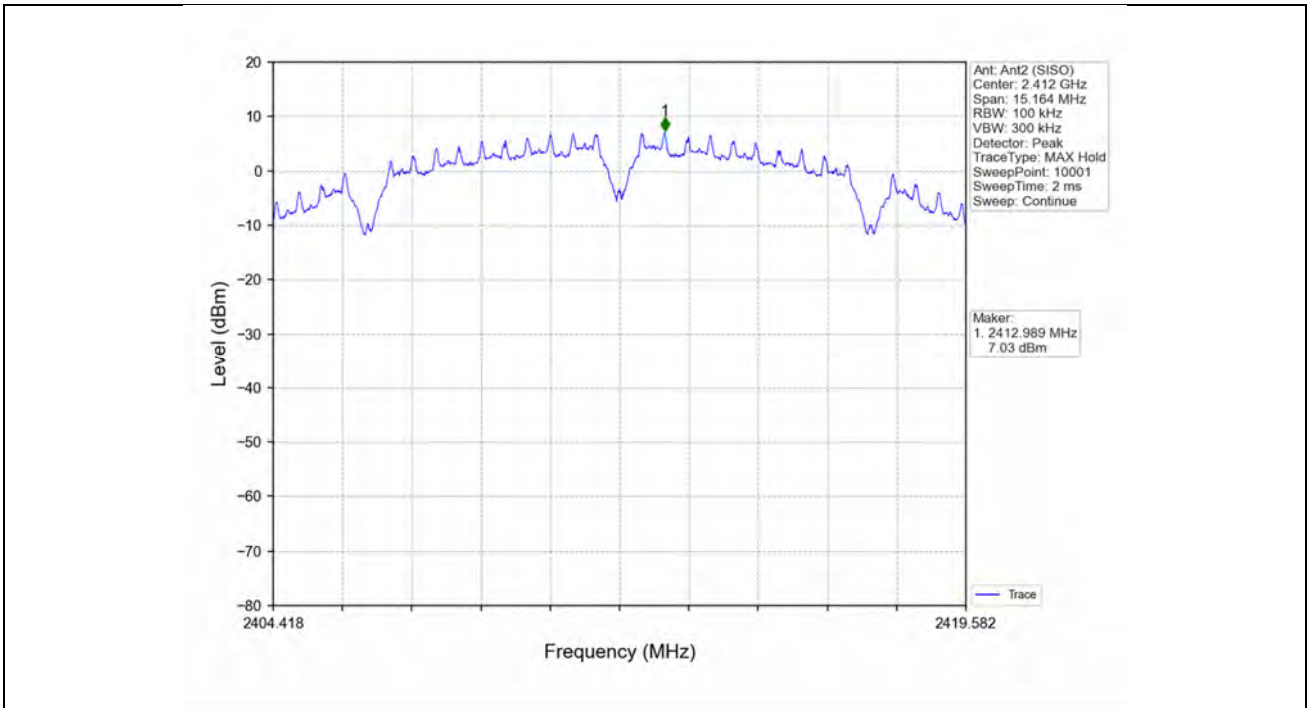


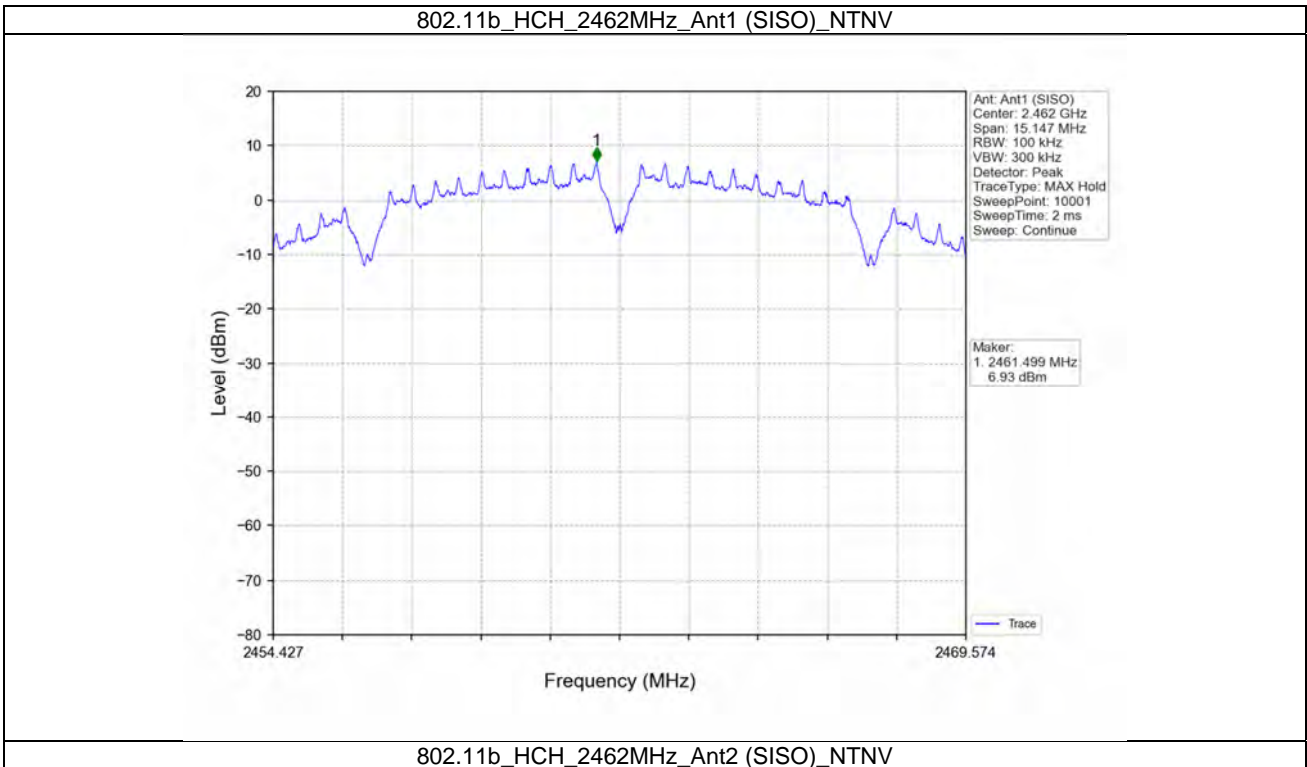
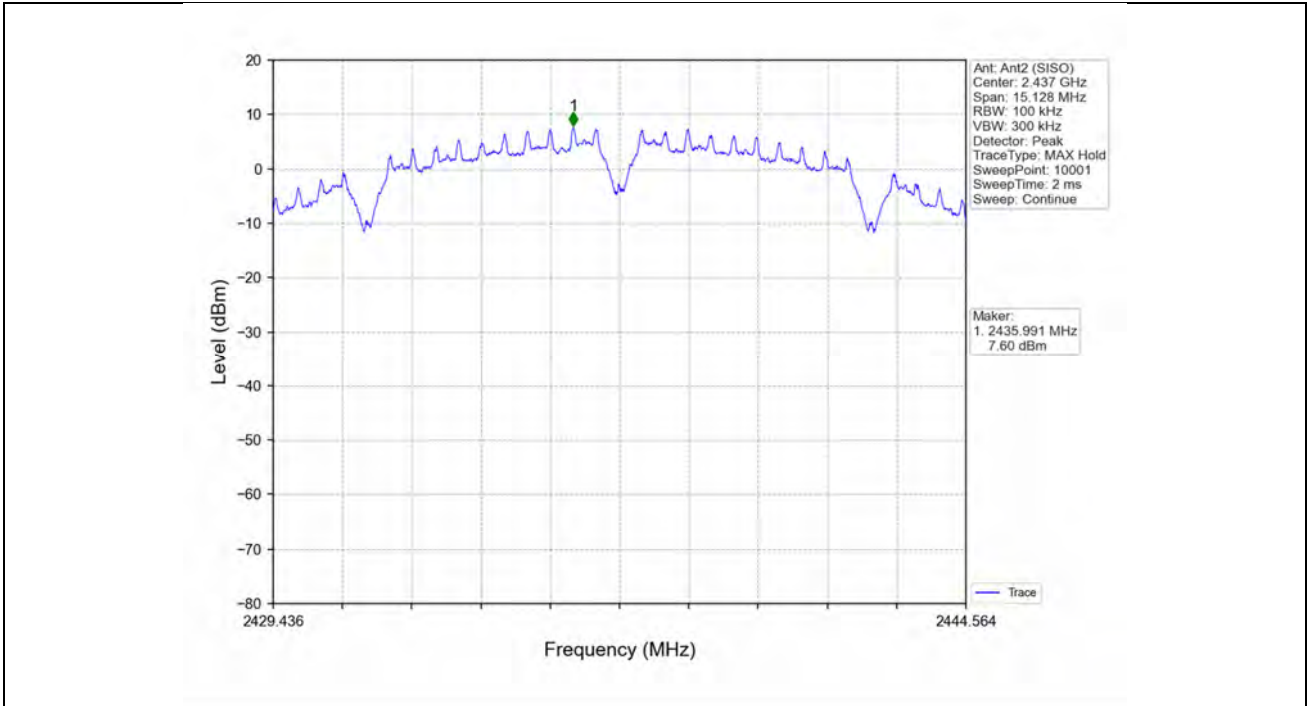
(HT40)		2	-1.86
	2437	1	-1.02
		2	-2.27
	2452	1	-1.34
		2	-1.64

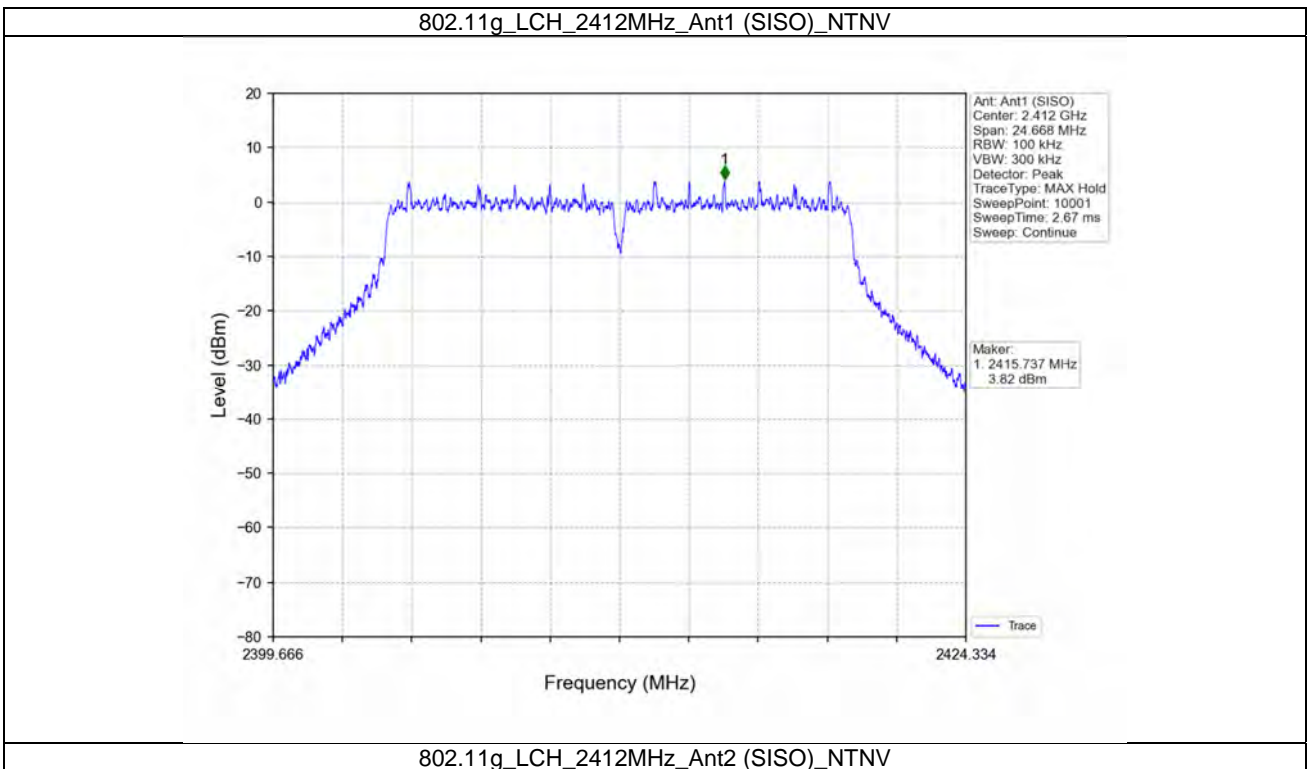
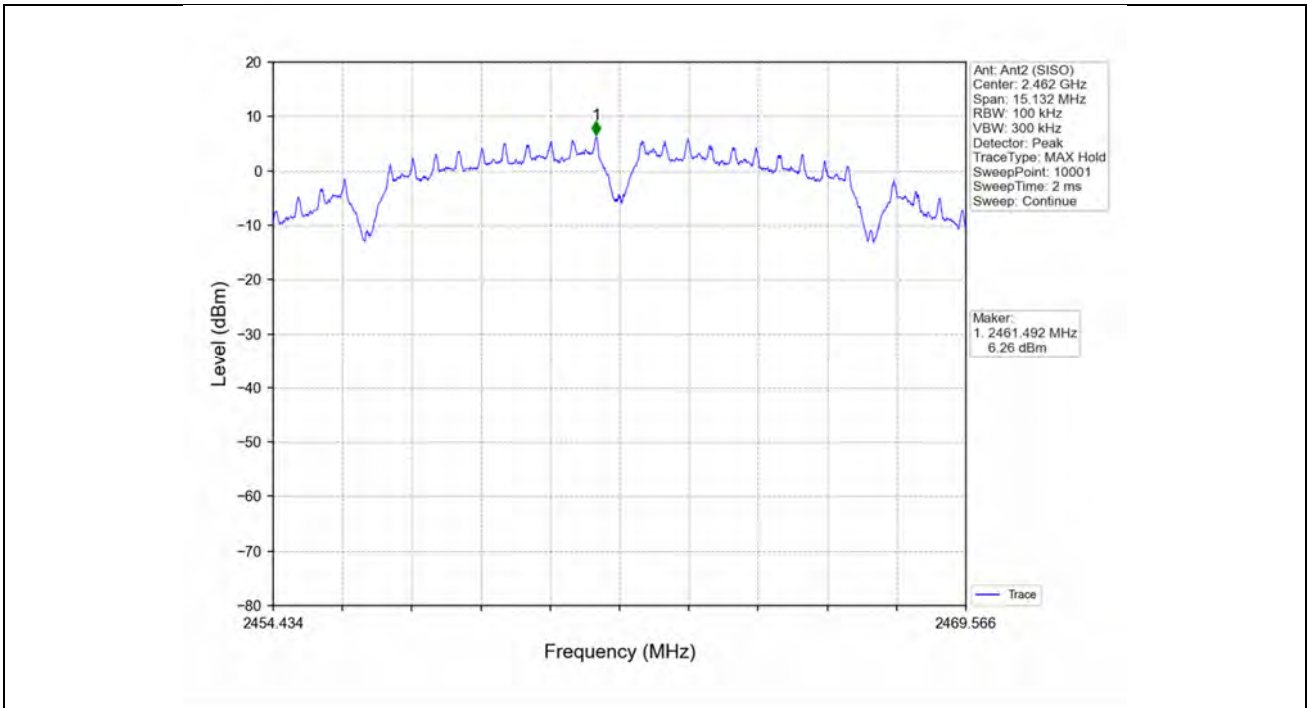
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

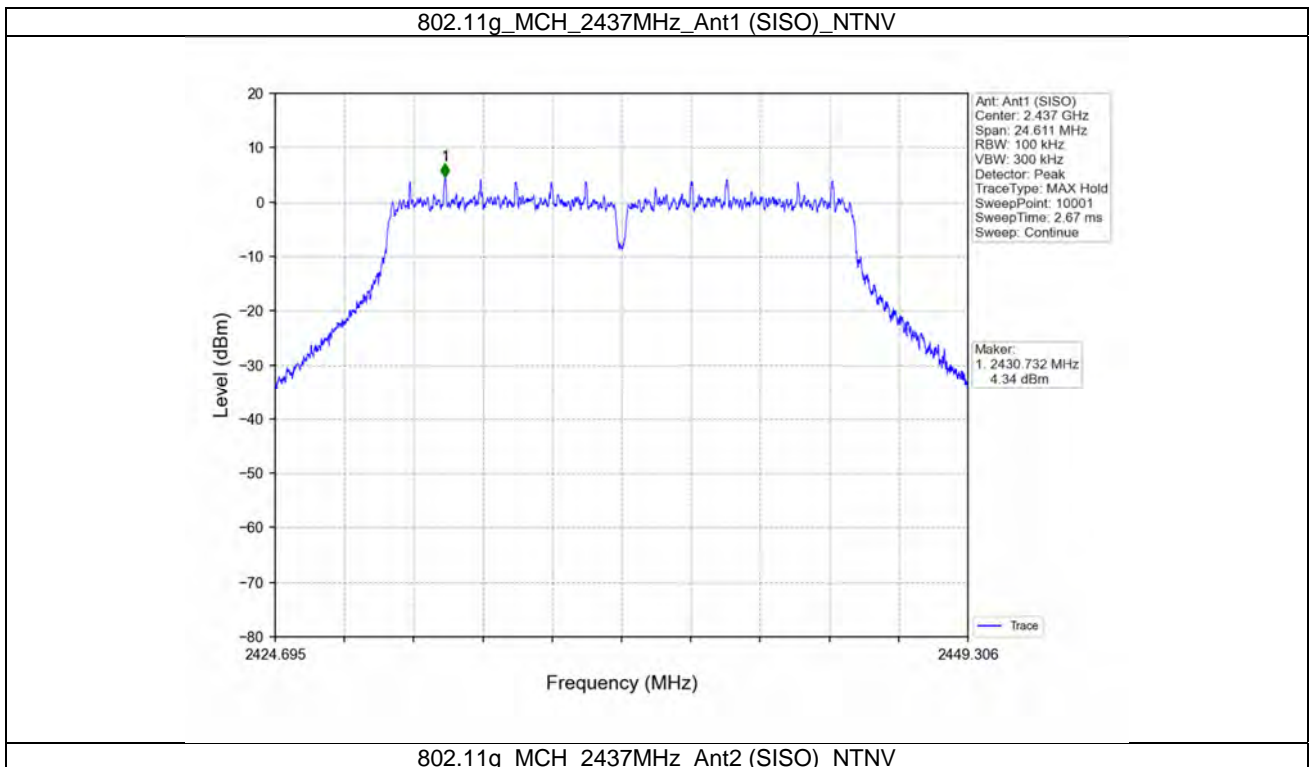
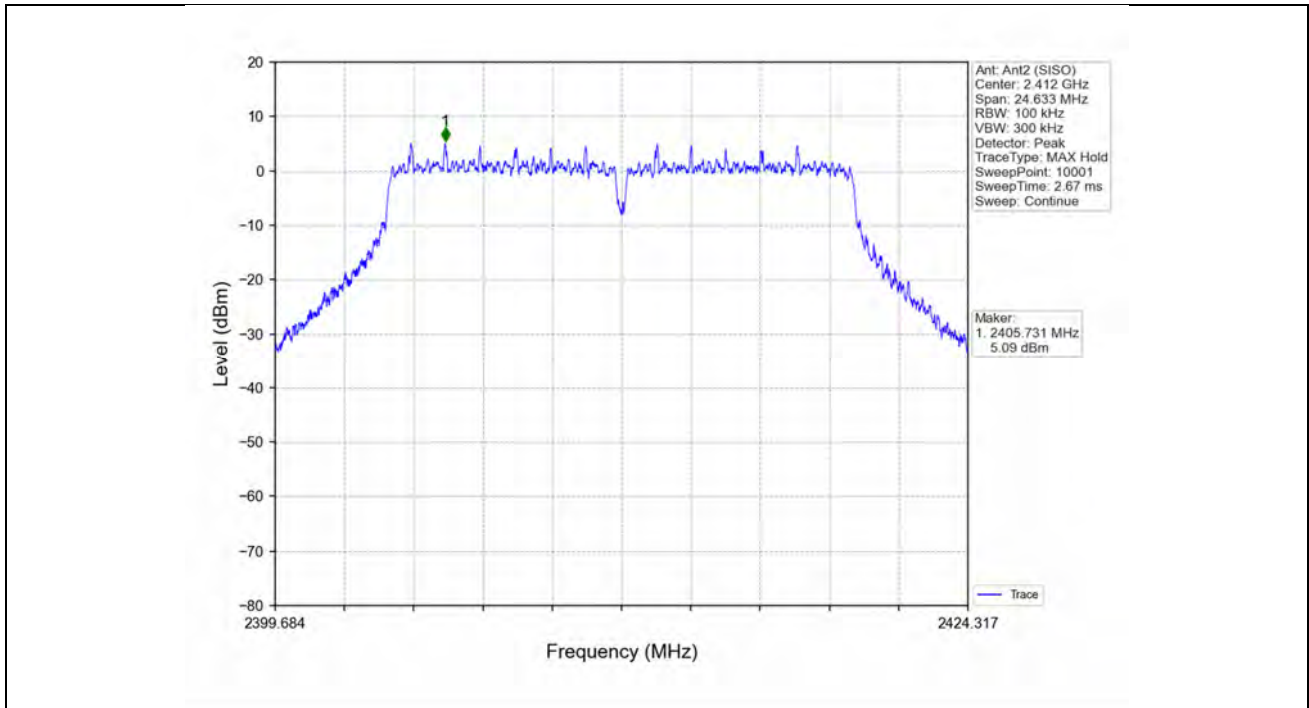
5.1.2 Test Graph

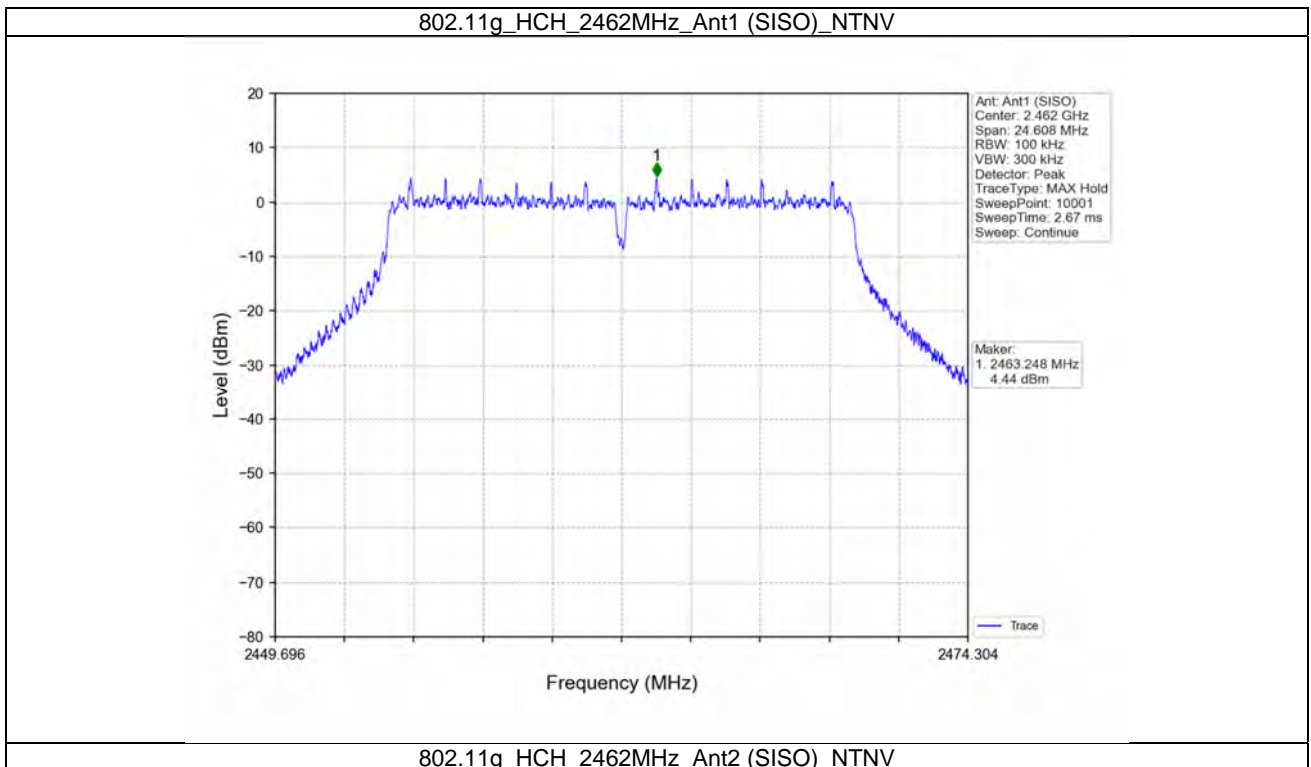
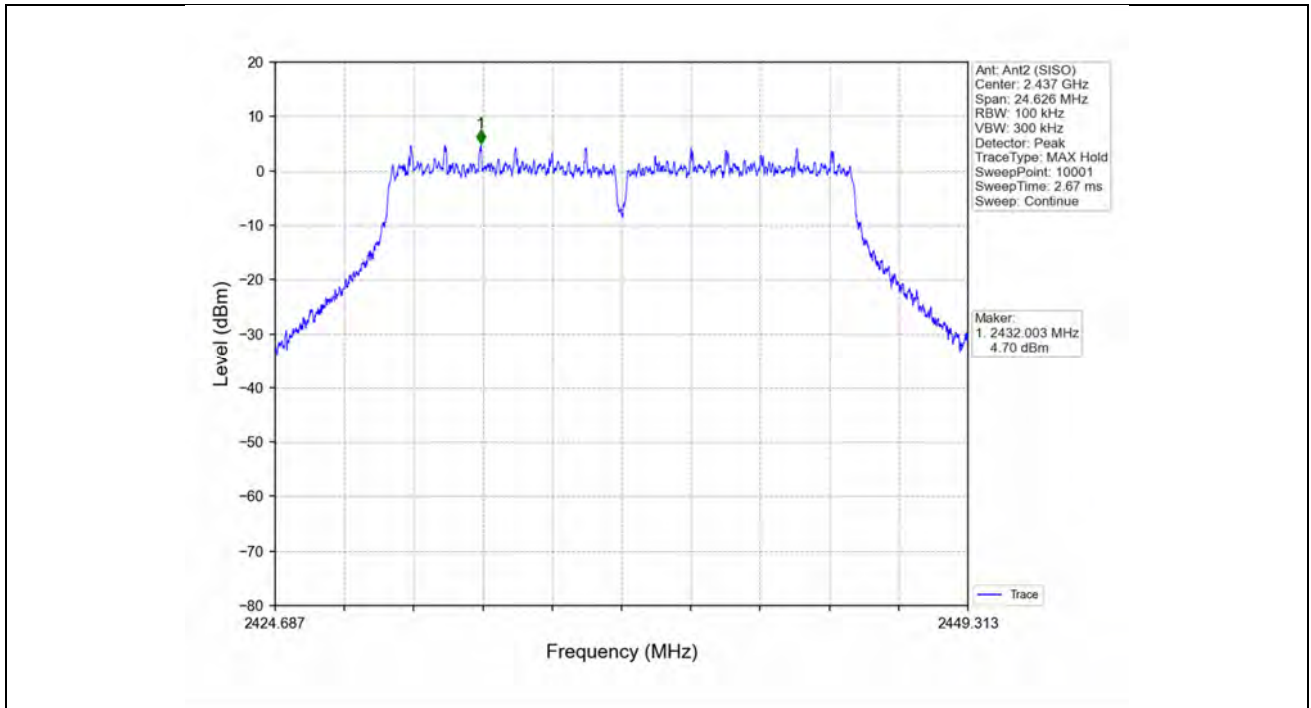


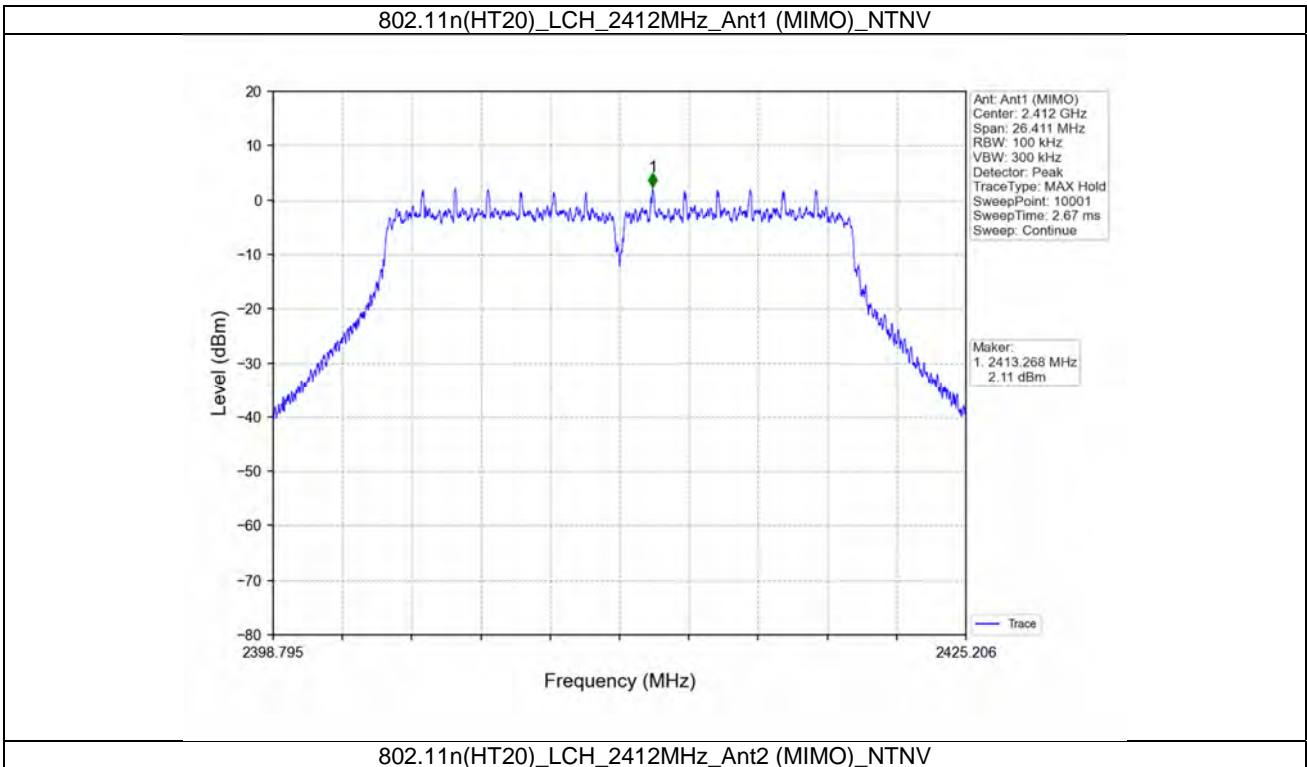
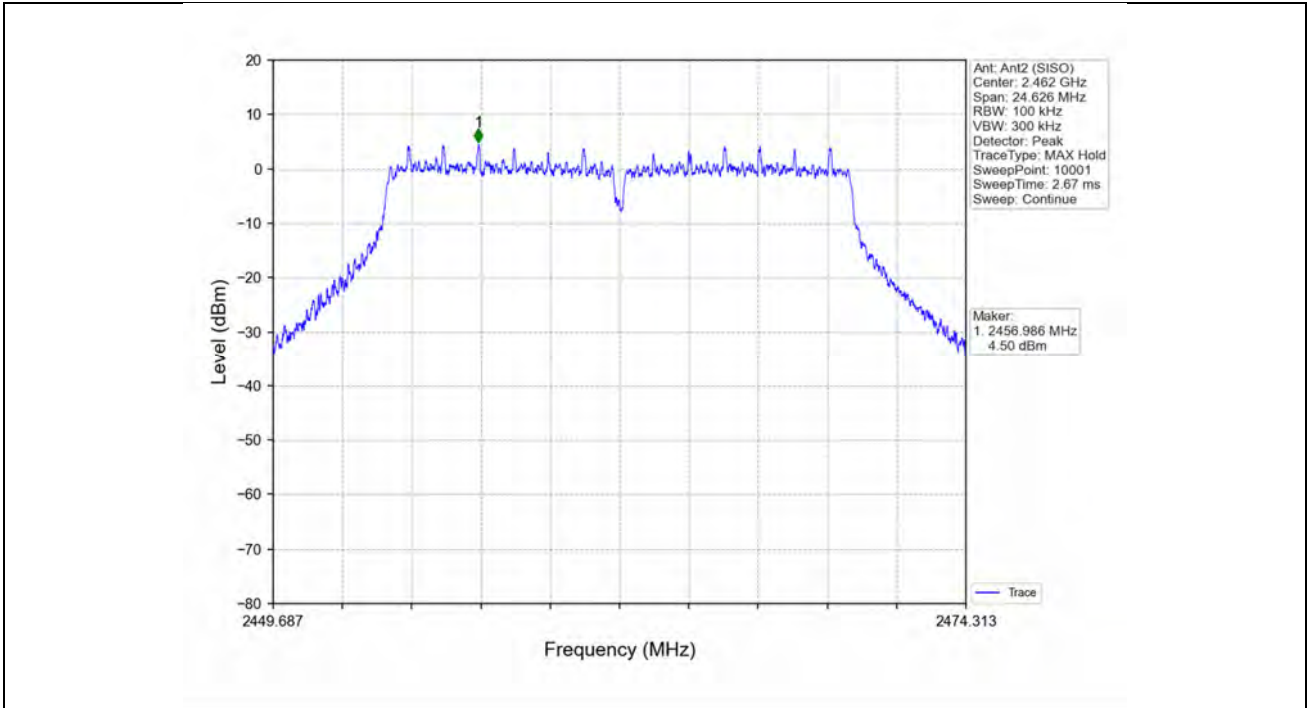


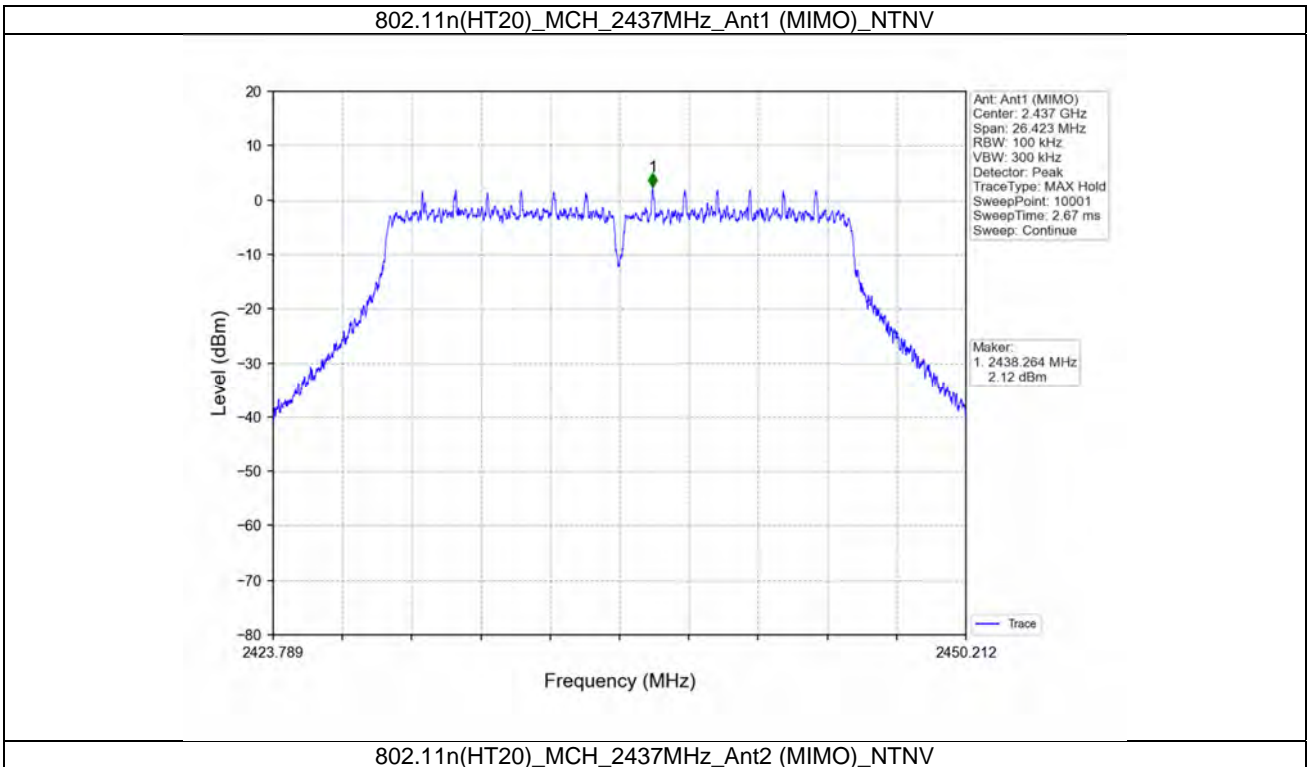
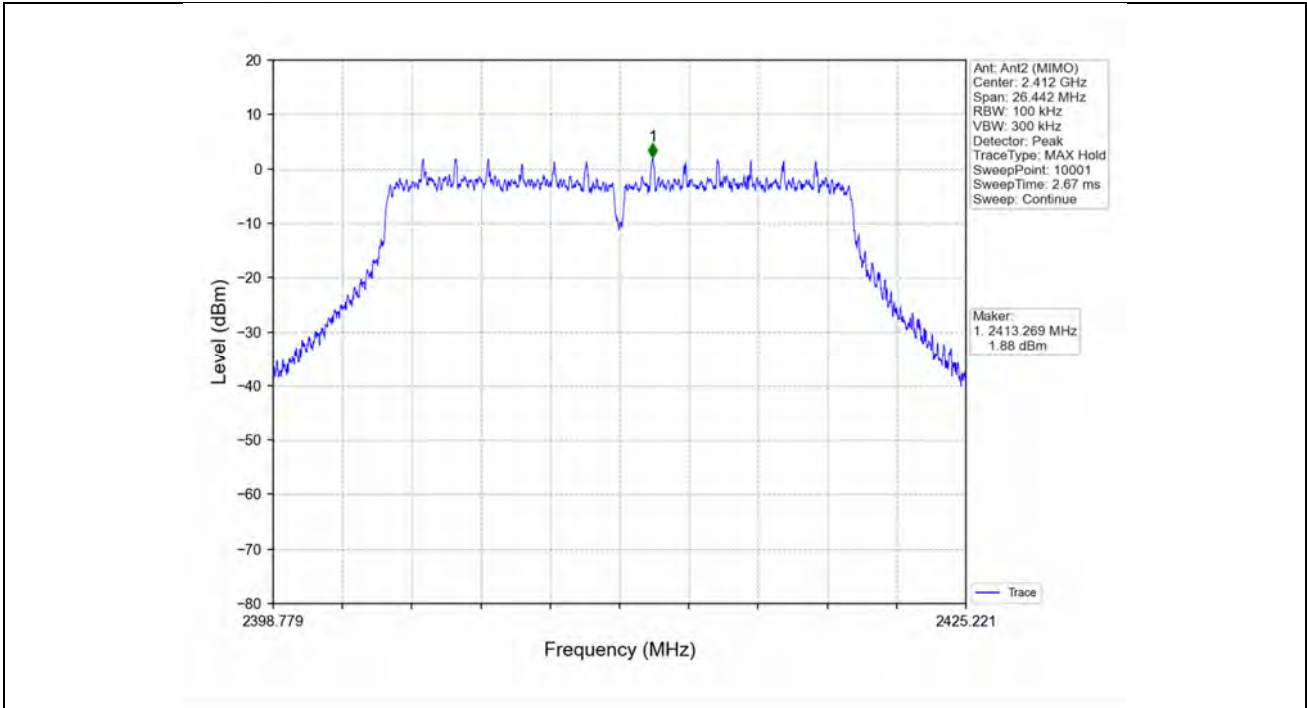


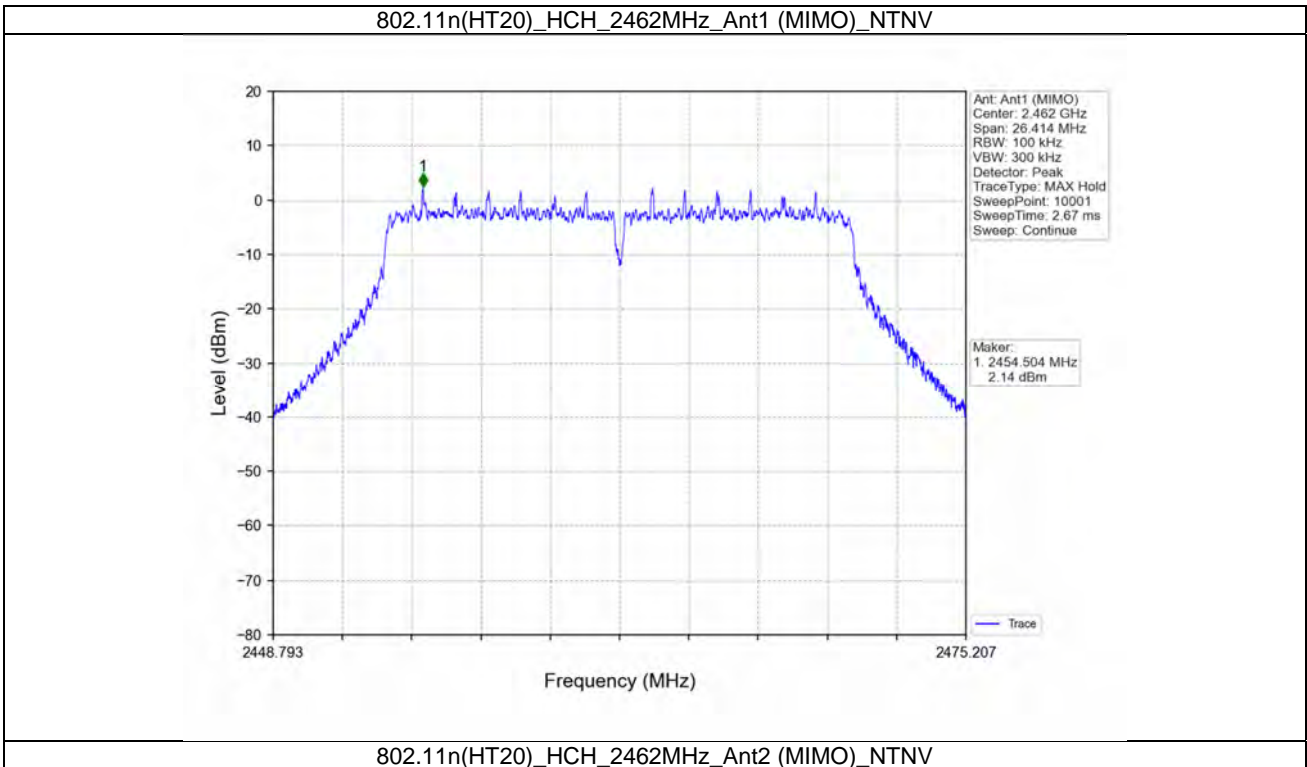
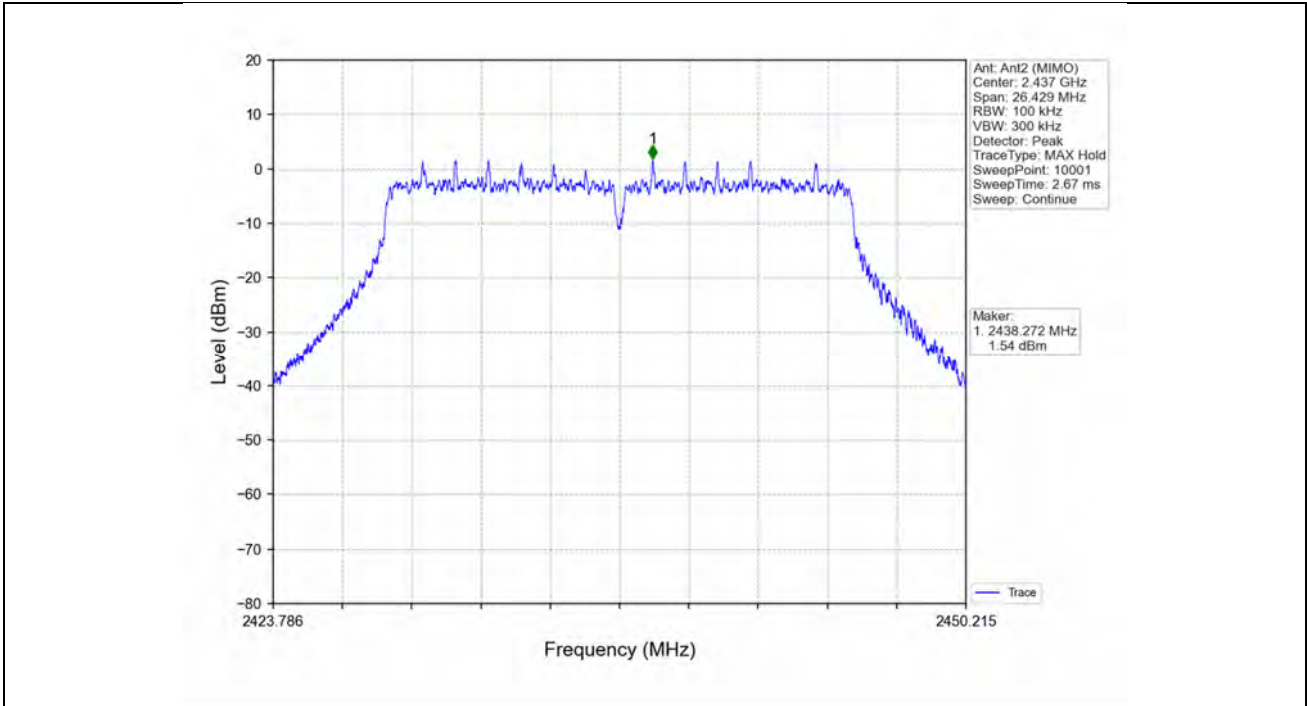


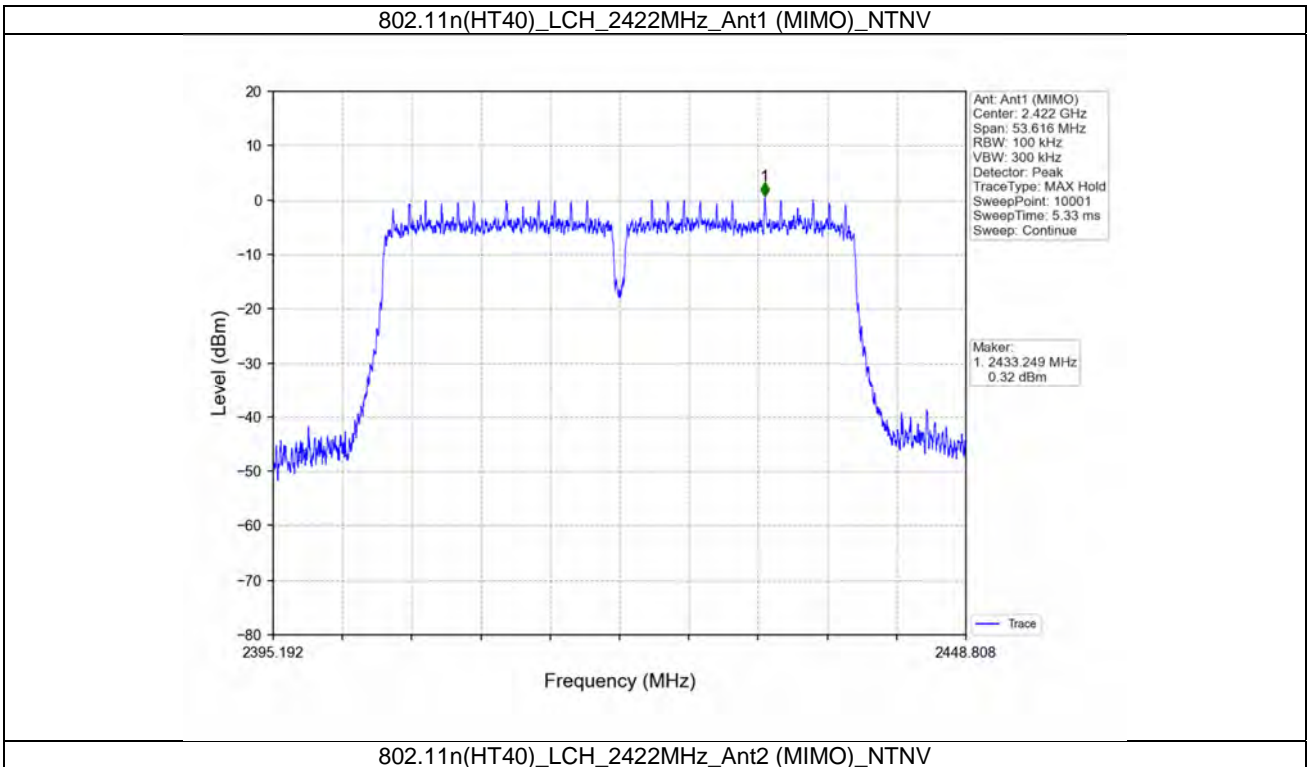
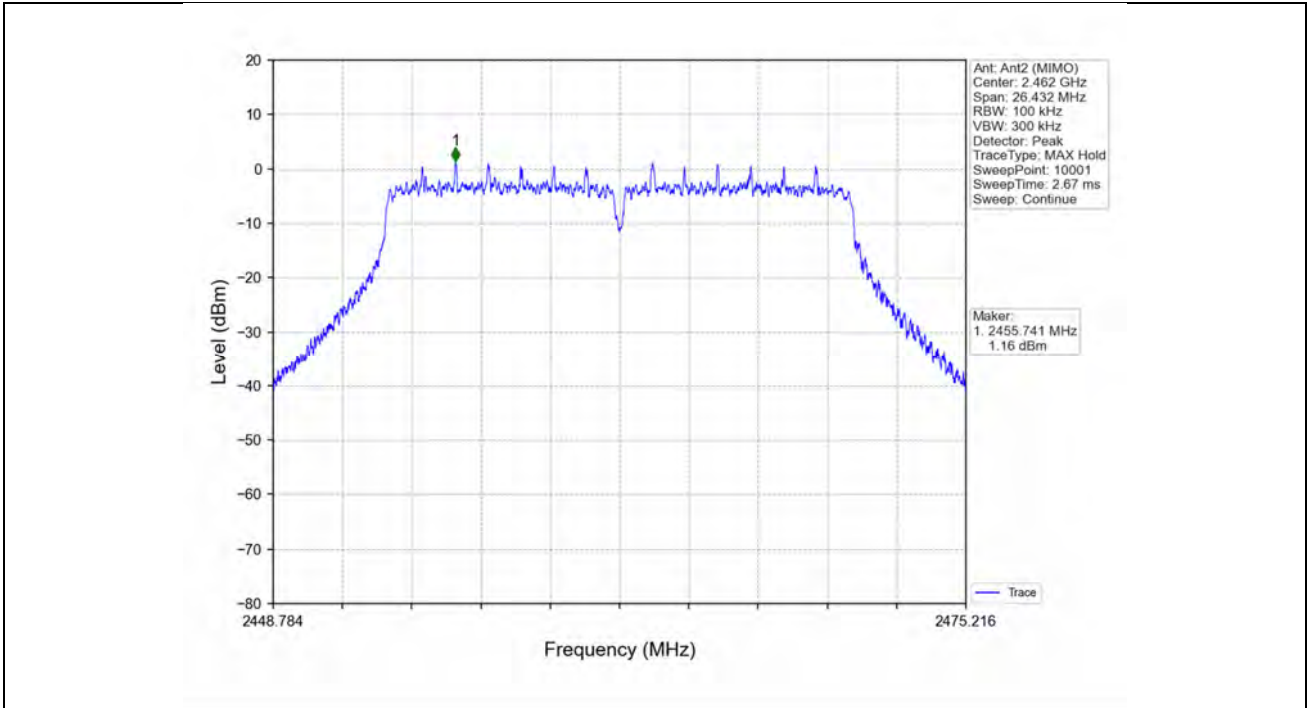


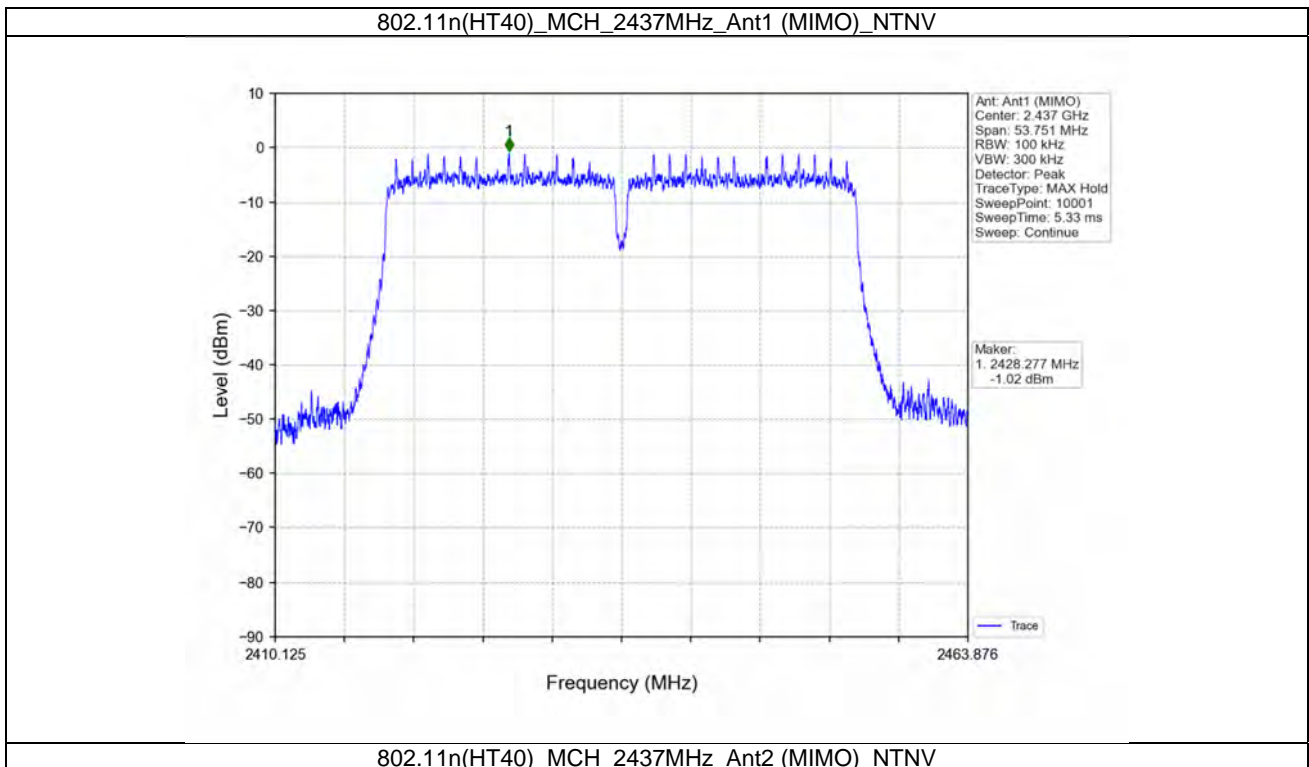
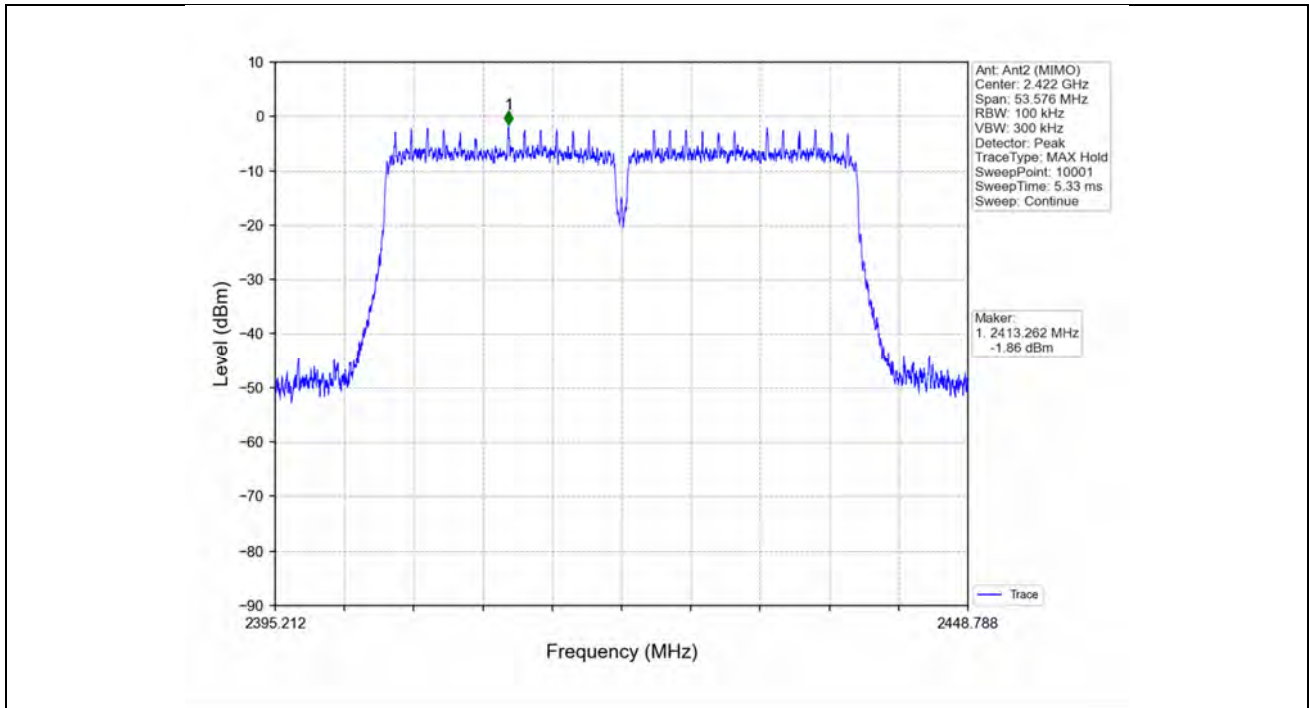


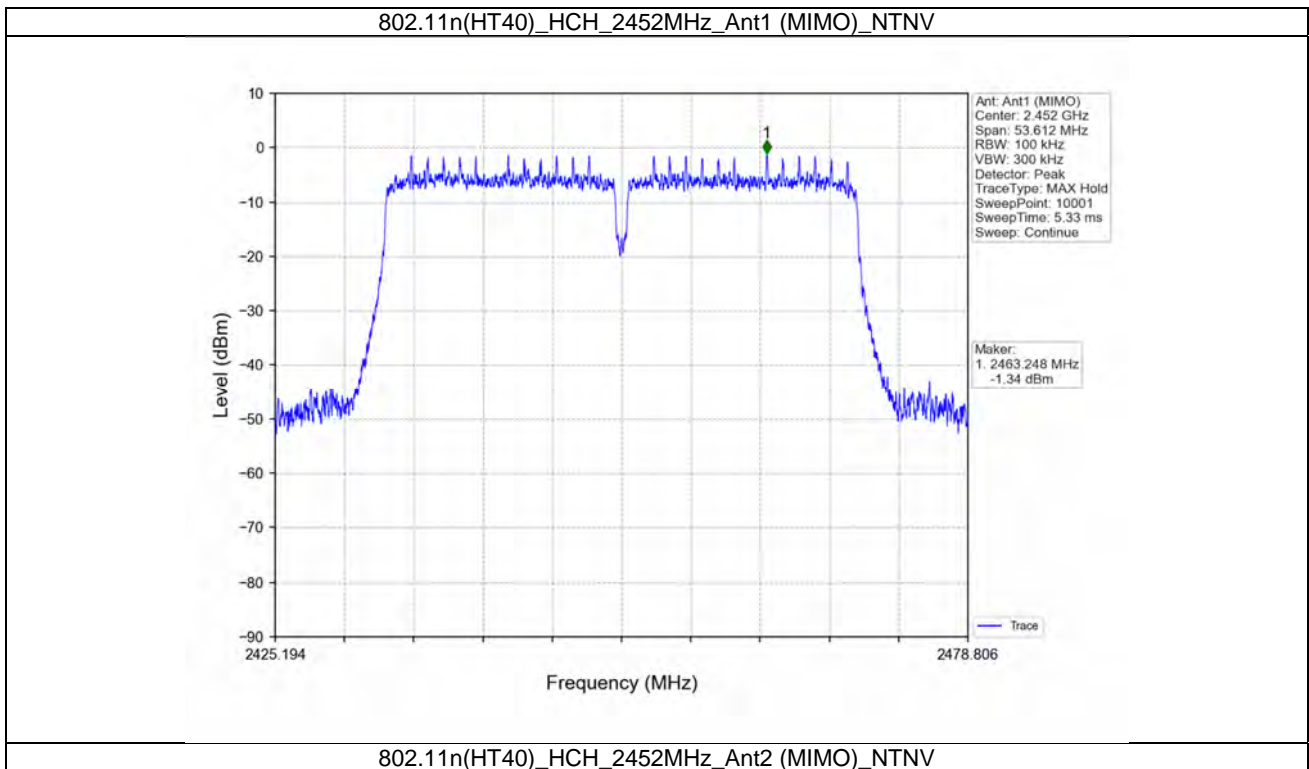
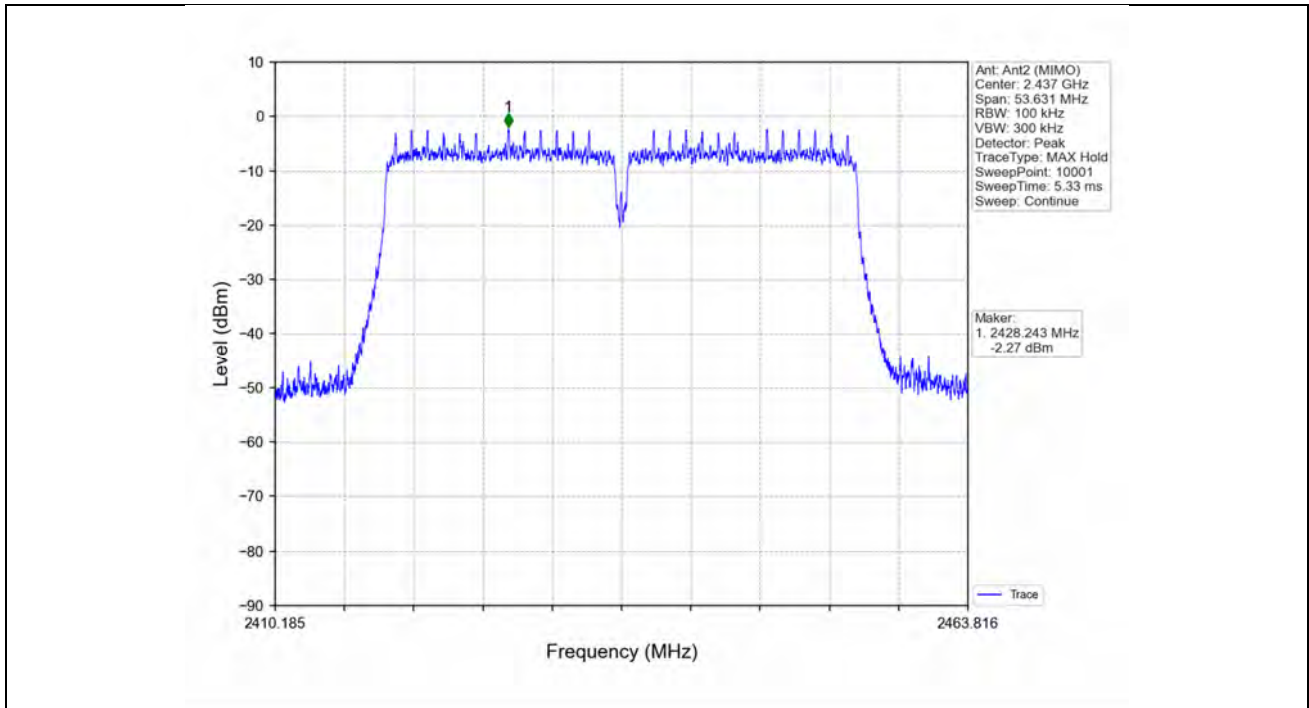


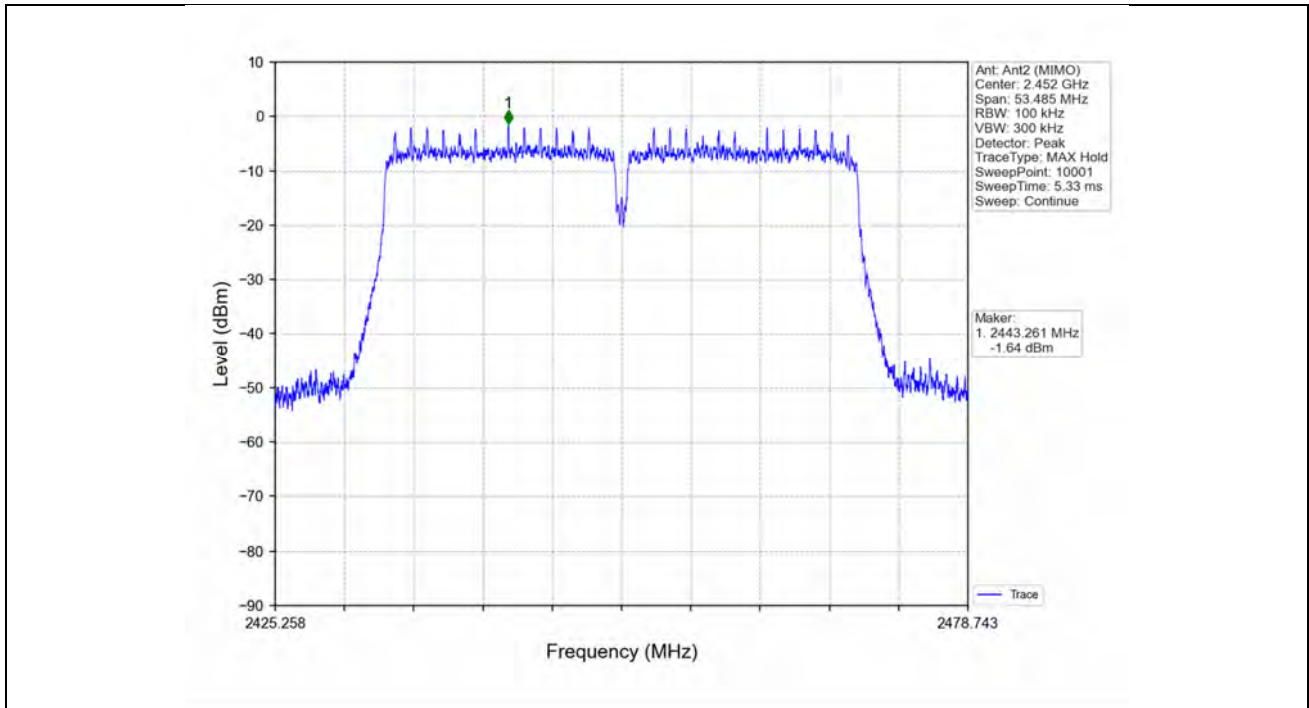












5.2 CSE

5.2.1 Test Result

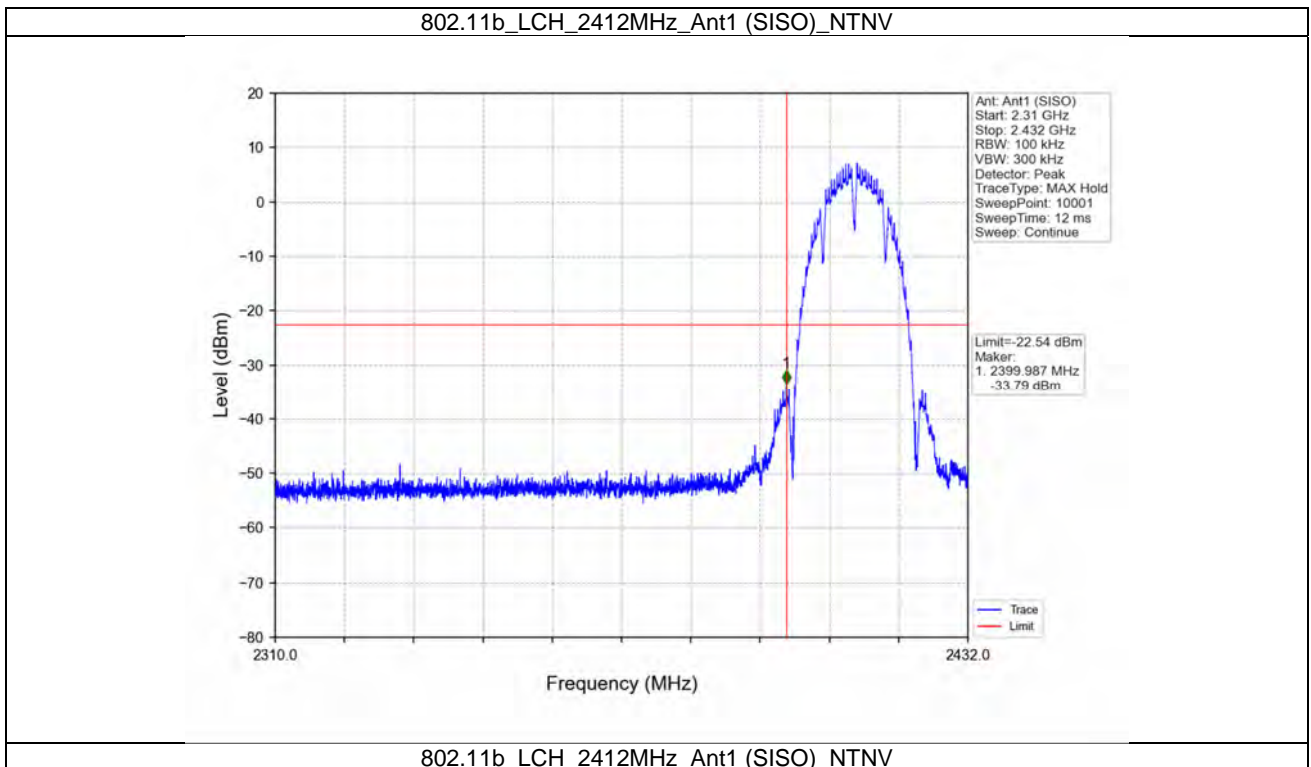
Mode	TX Type	Frequency (MHz)	Ant	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	1	7.46	-22.54	Pass
			2	7.60	-22.40	Pass
		2437	1	7.46	-22.54	Pass
			2	7.60	-22.40	Pass
		2462	1	7.46	-22.54	Pass
			2	7.60	-22.40	Pass
802.11g	SISO	2412	1	4.44	-25.56	Pass
			2	5.09	-24.91	Pass
		2437	1	4.44	-25.56	Pass
			2	5.09	-24.91	Pass
		2462	1	4.44	-25.56	Pass
			2	5.09	-24.91	Pass
802.11n (HT20)	MIMO	2412	1	2.14	-27.86	Pass
			2	1.88	-28.12	Pass
		2437	1	2.14	-27.86	Pass
			2	1.88	-28.12	Pass
		2462	1	2.14	-27.86	Pass
			2	1.88	-28.12	Pass
802.11n (HT40)	MIMO	2422	1	0.32	-29.68	Pass
			2	-1.64	-31.64	Pass
		2437	1	0.32	-29.68	Pass
			2	-1.64	-31.64	Pass

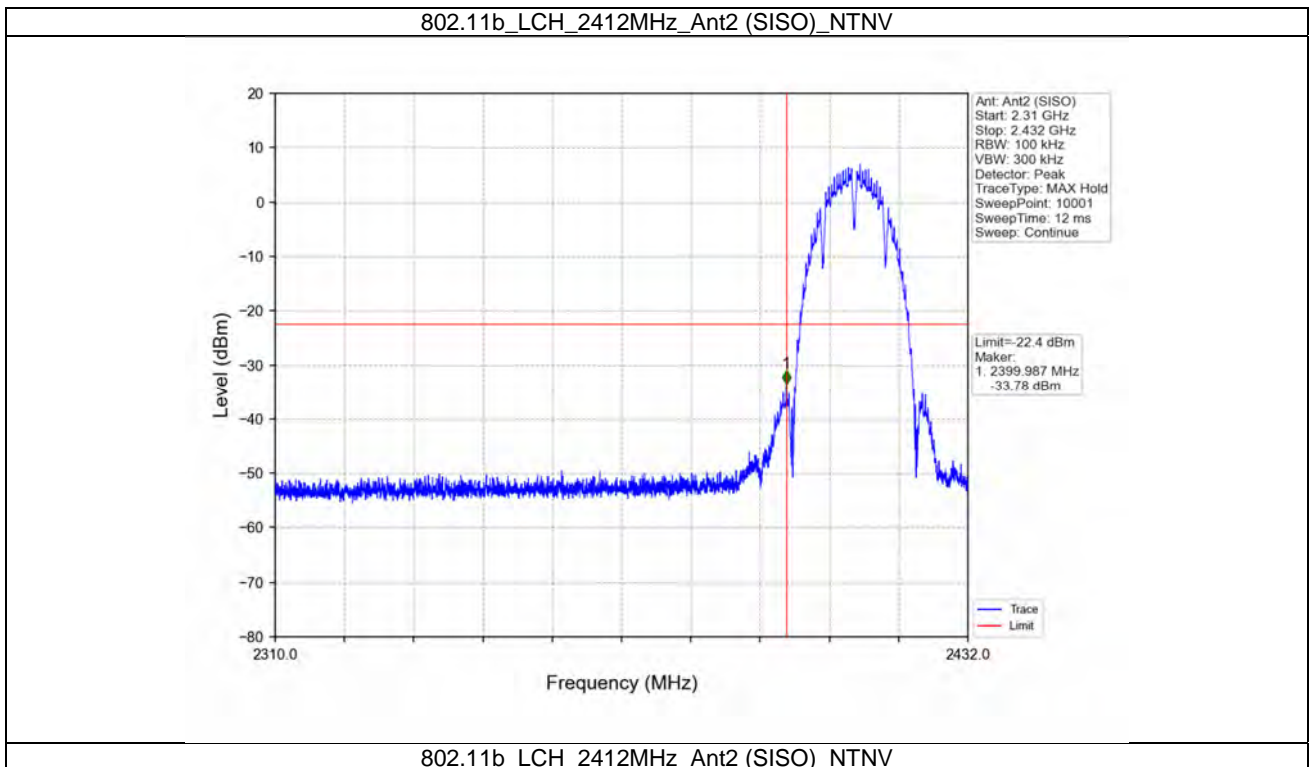
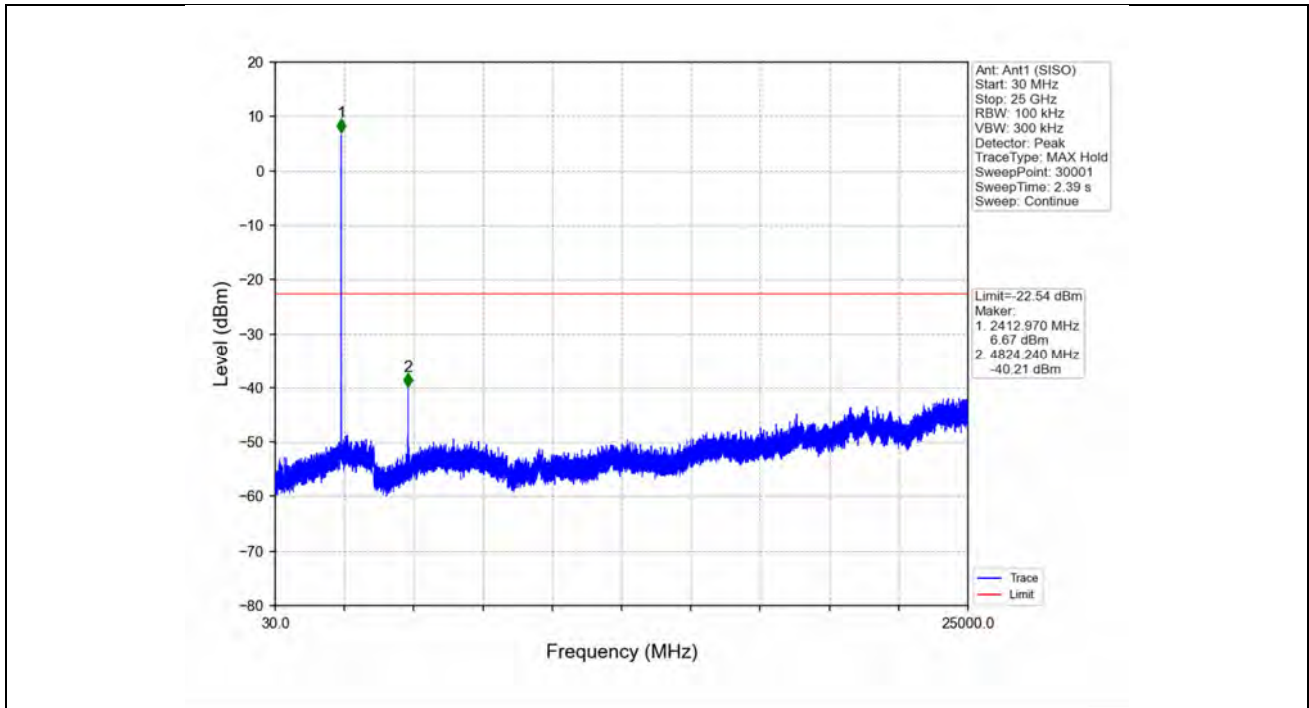


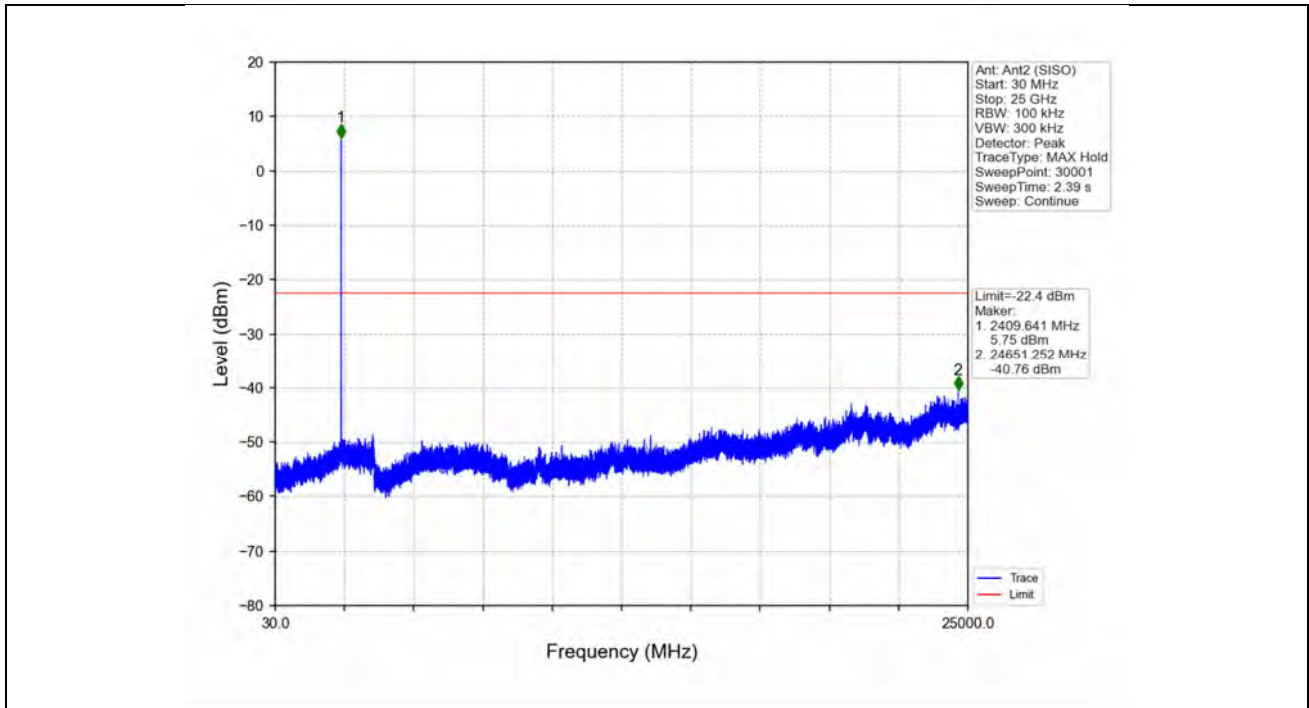
		2452	1	0.32	-29.68	Pass
			2	-1.64	-31.64	Pass

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.

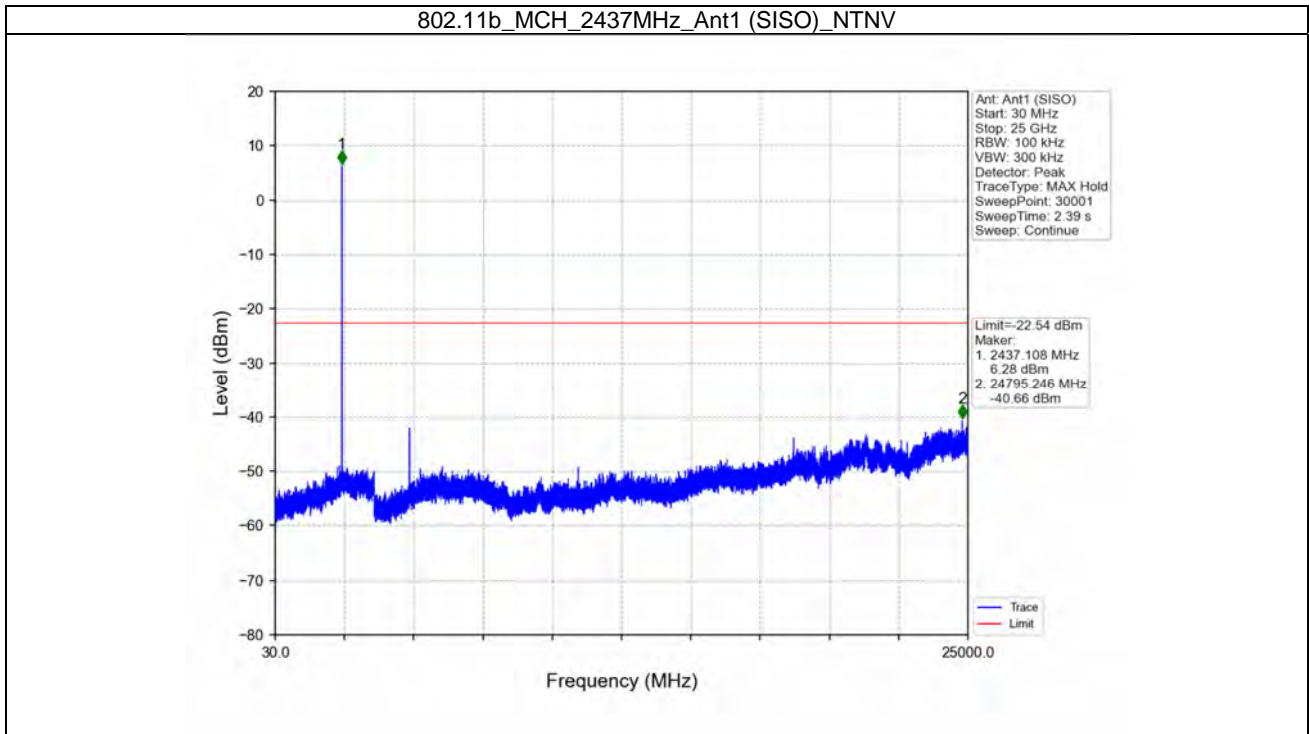
5.2.2 Test Graph



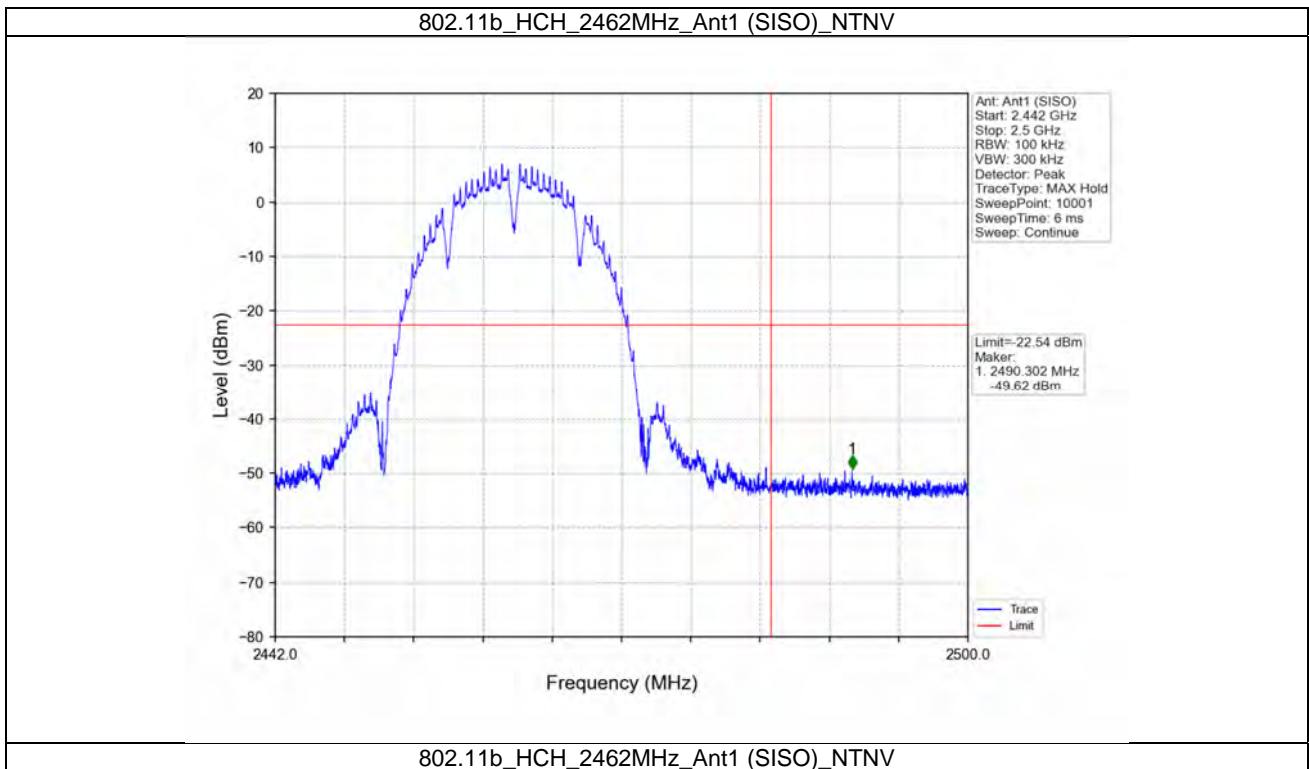
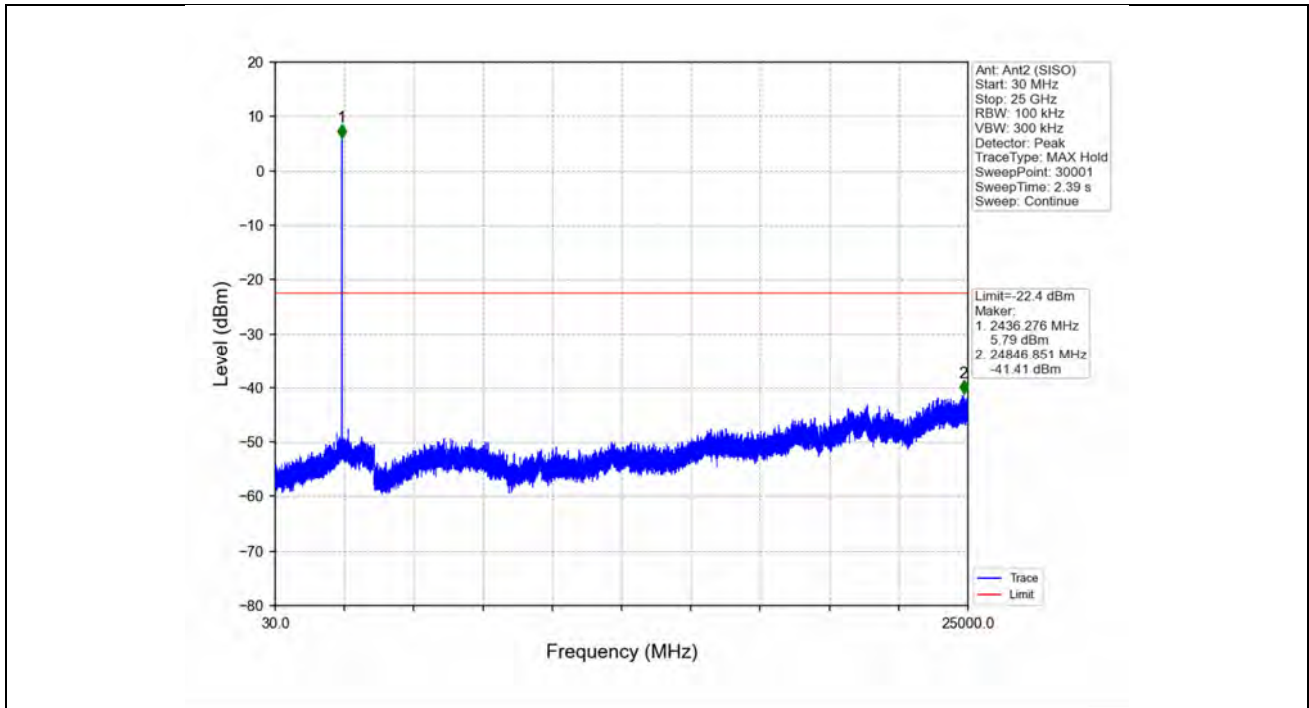


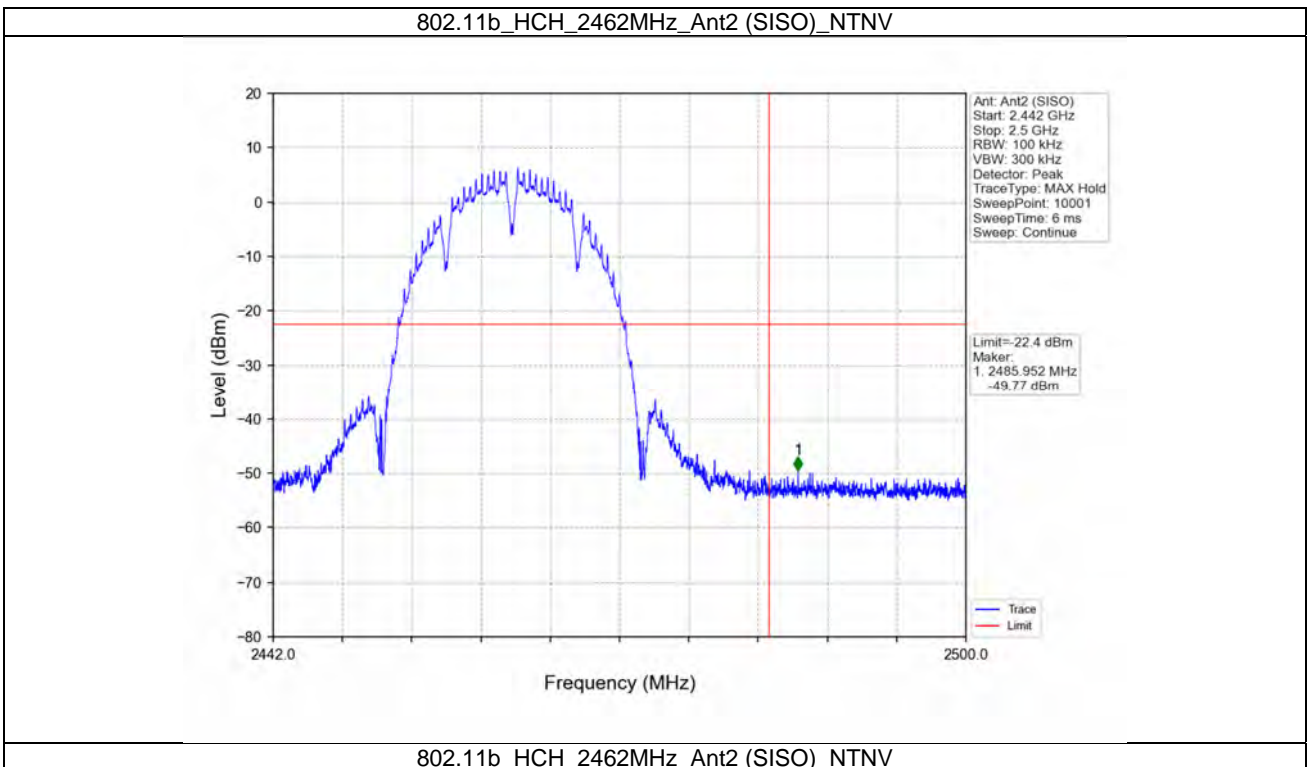
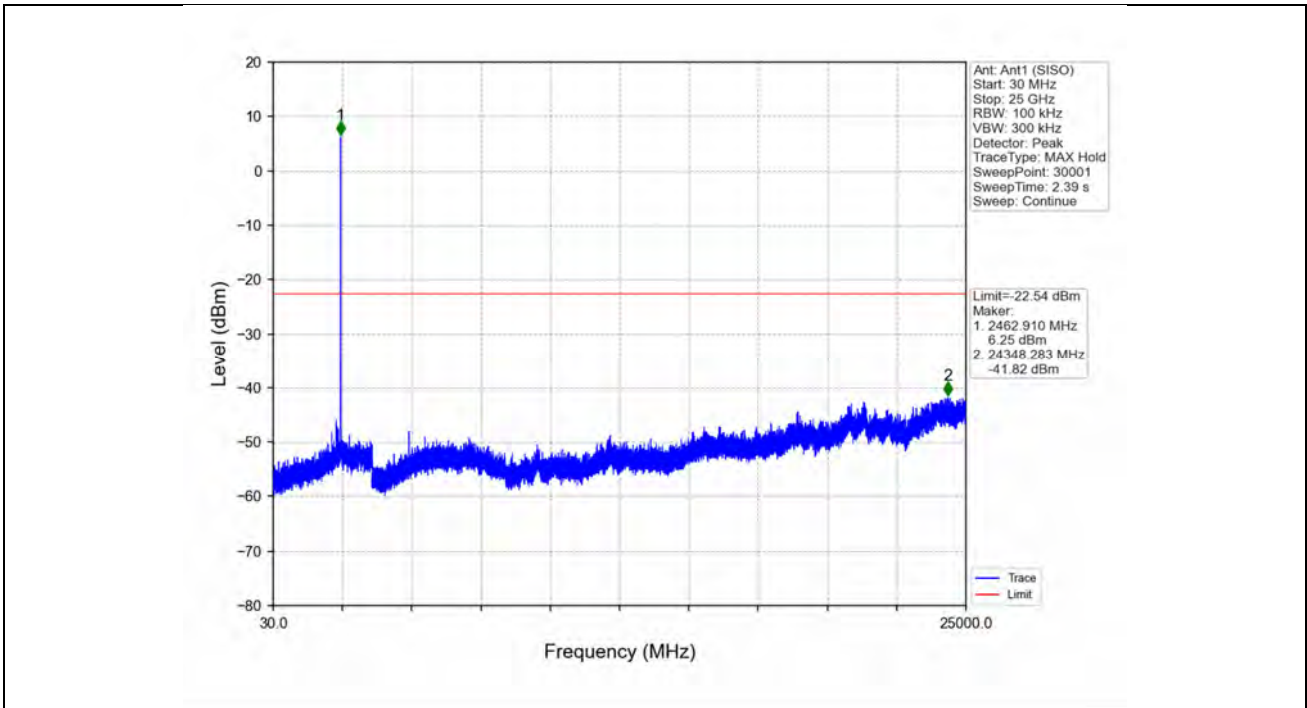


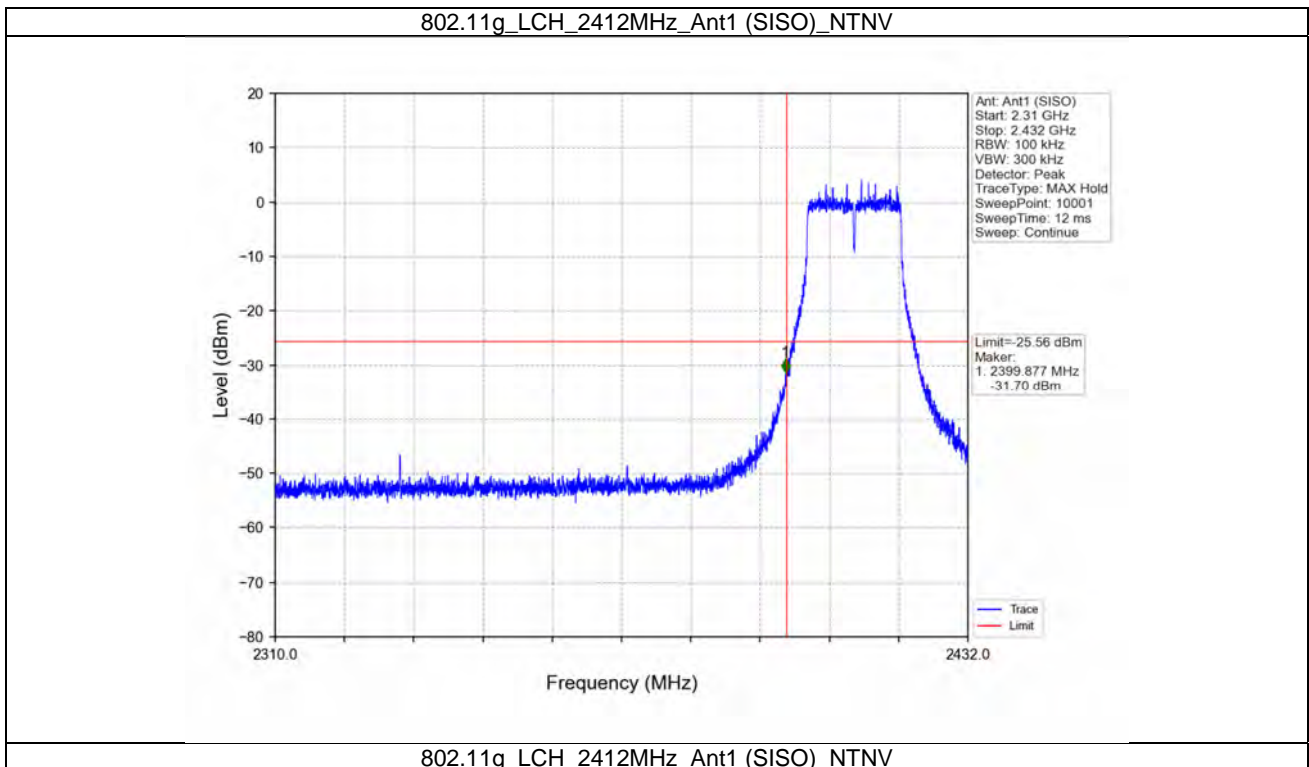
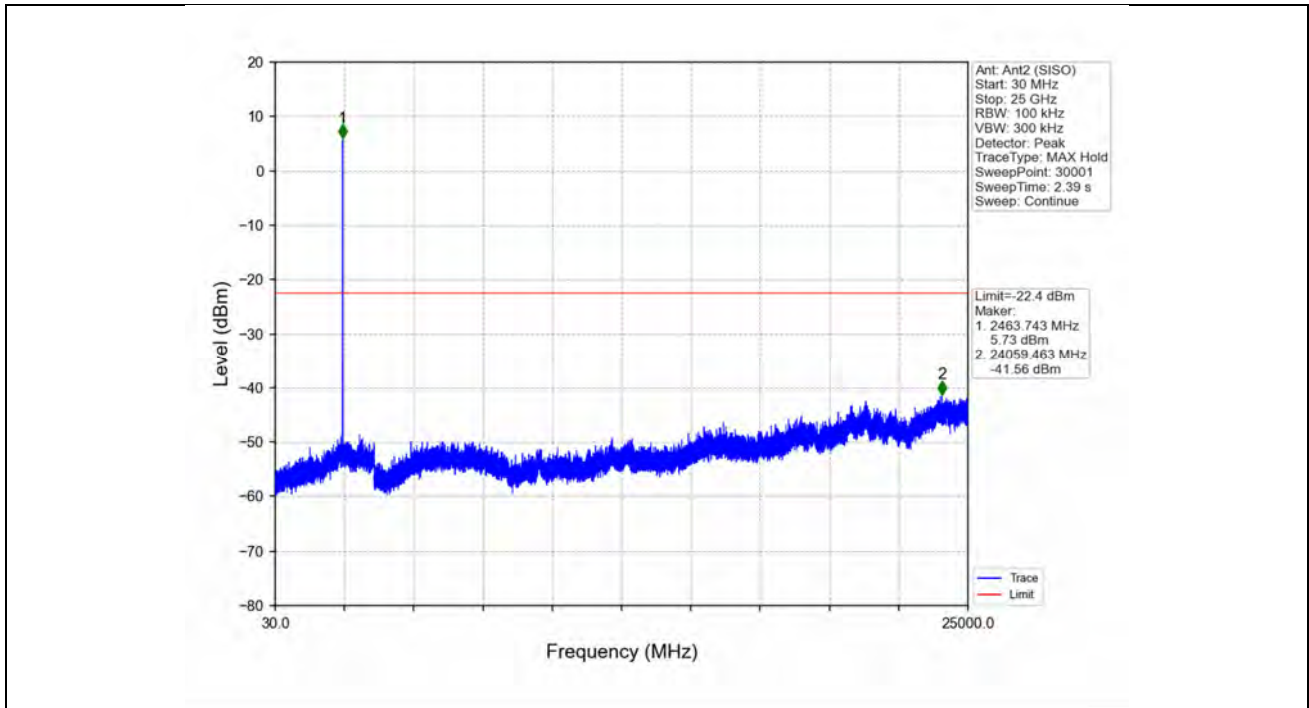
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV

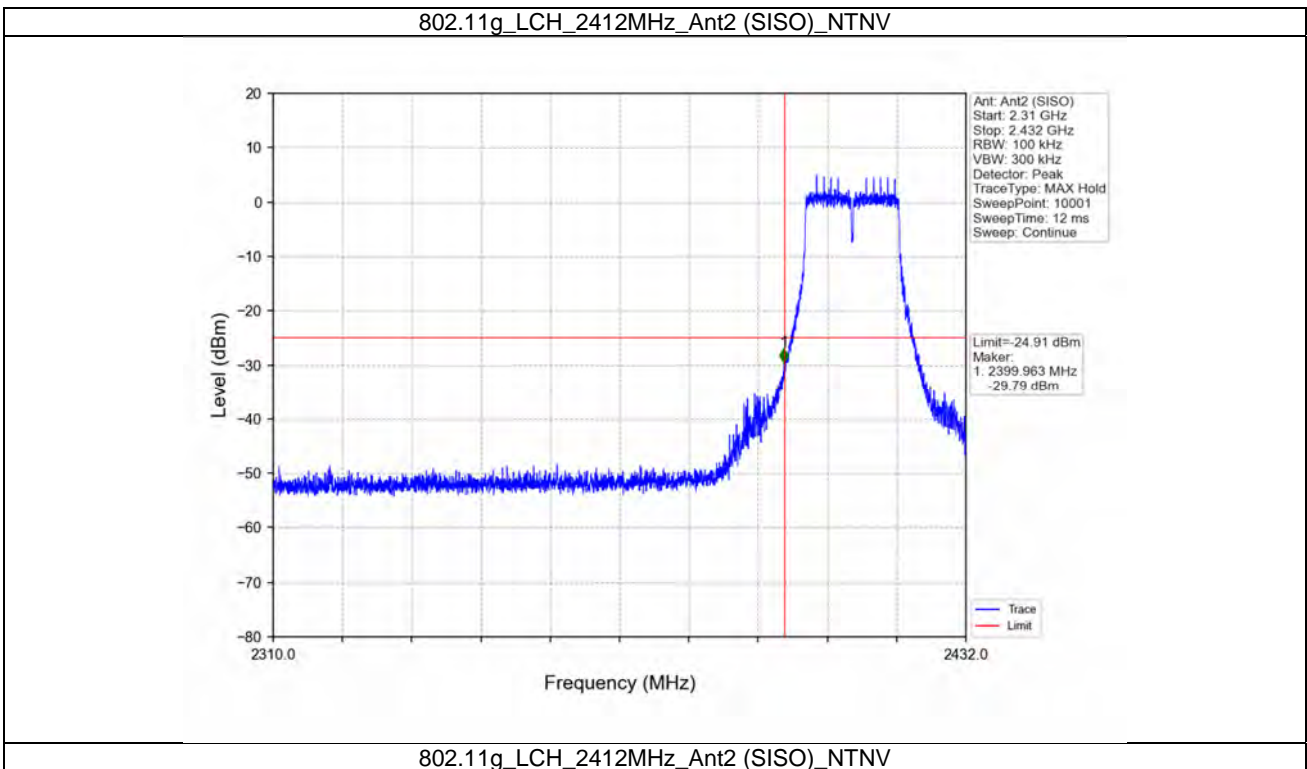
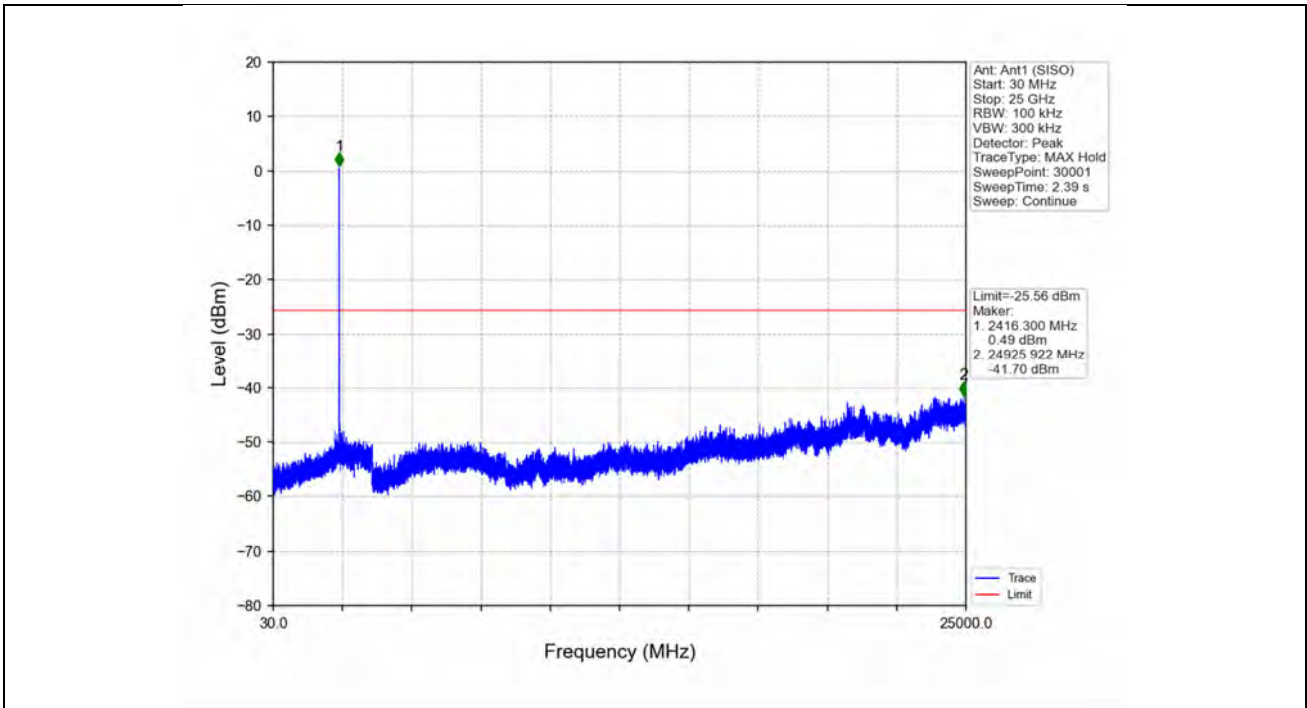


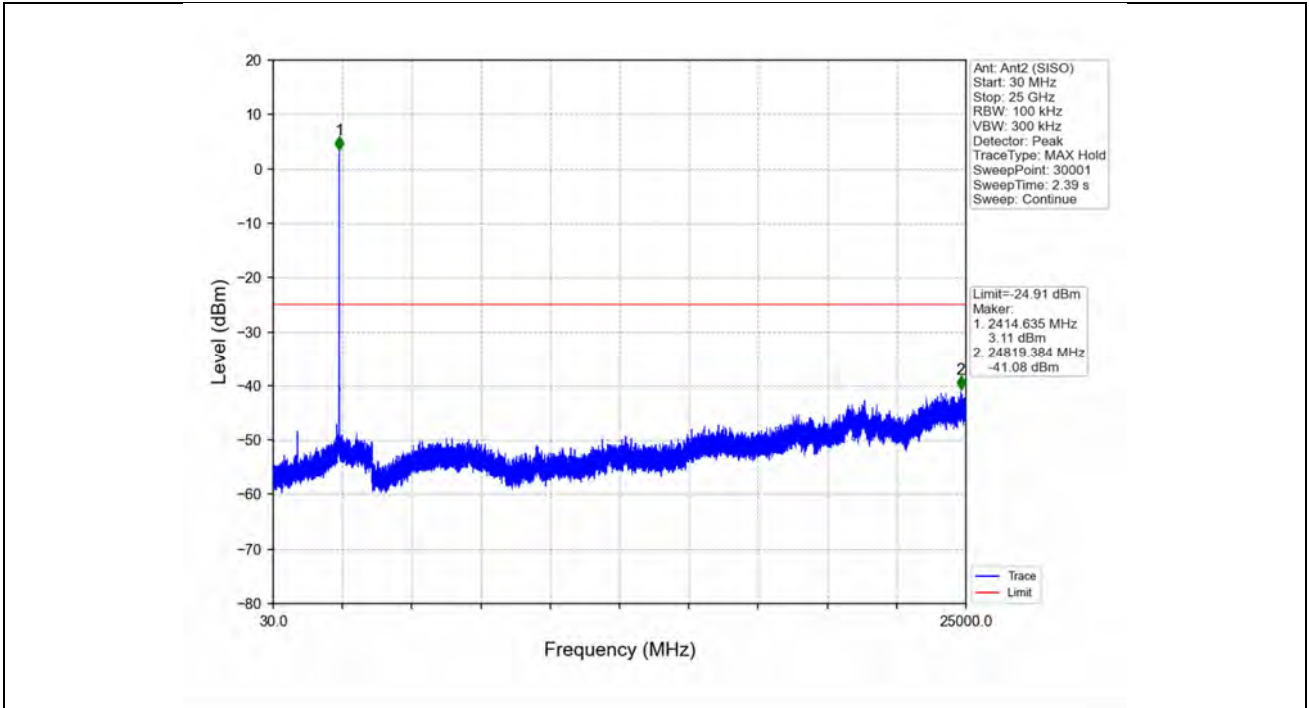
802.11b_MCH_2437MHz_Ant2 (SISO)_NTNV



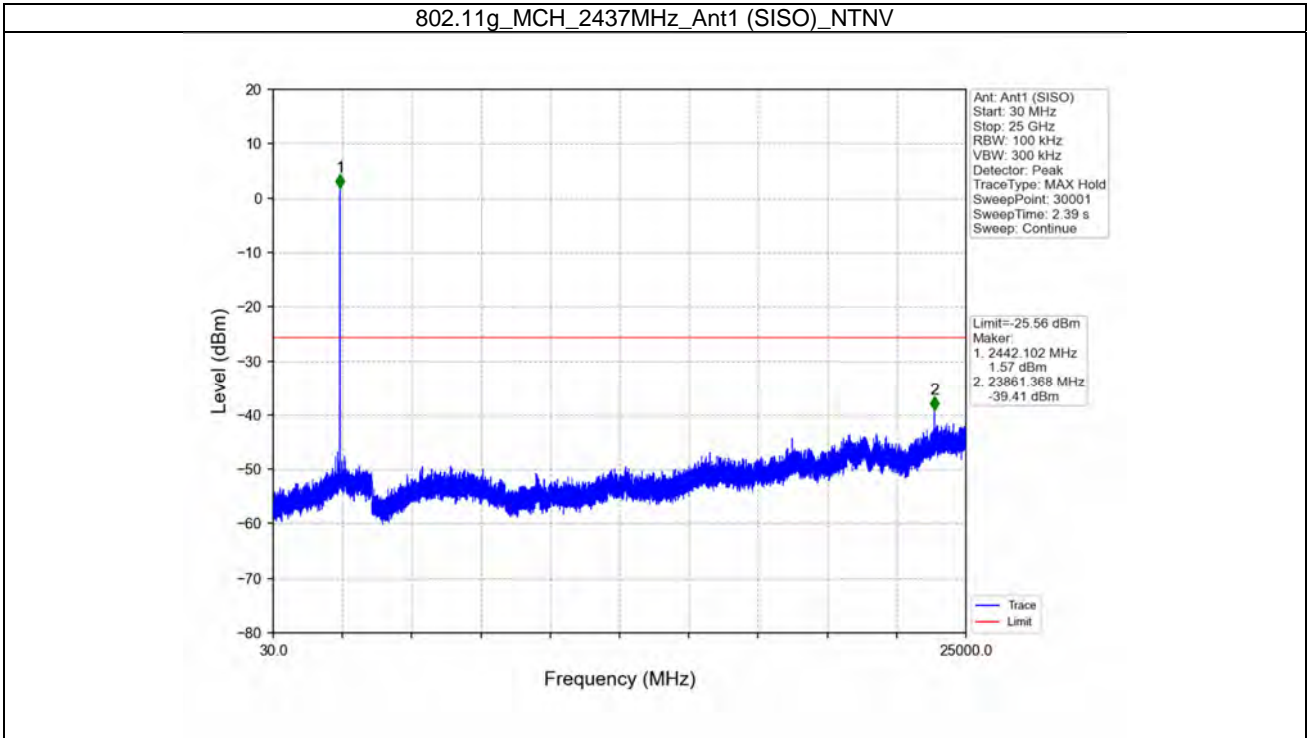




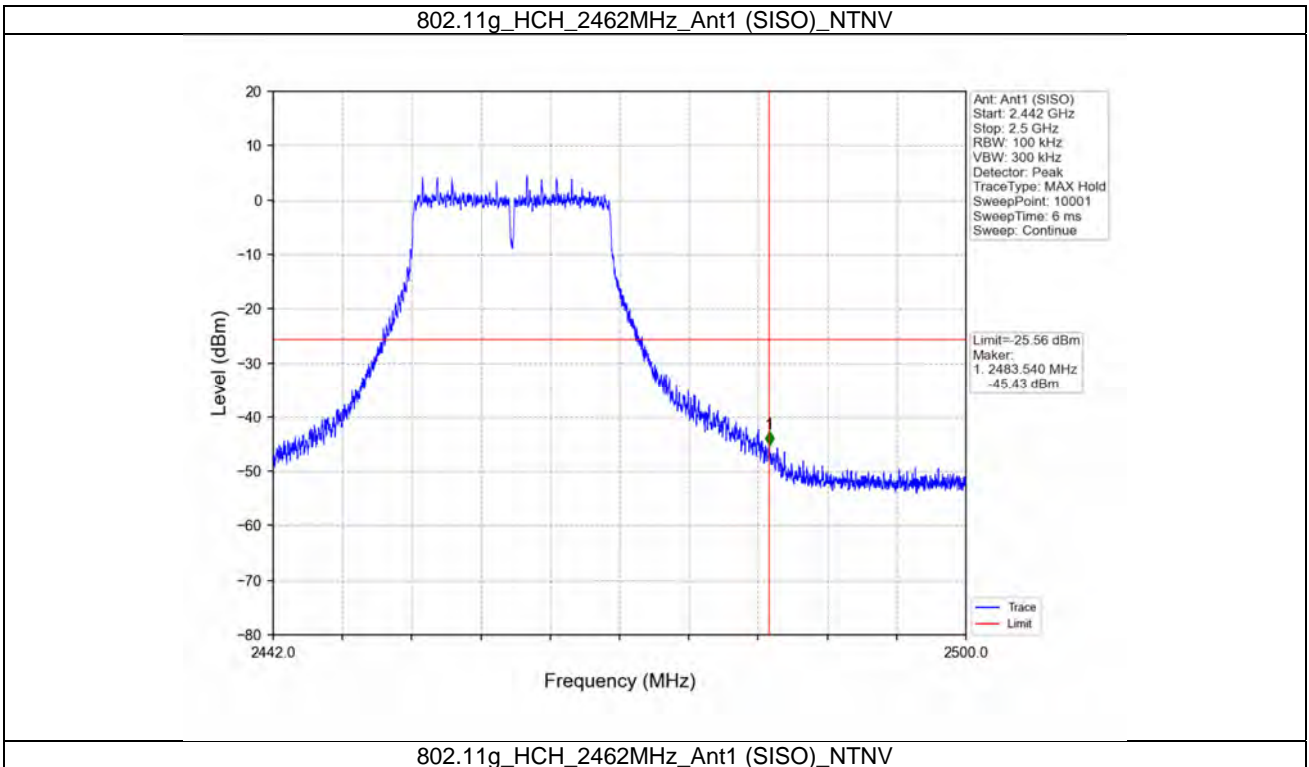
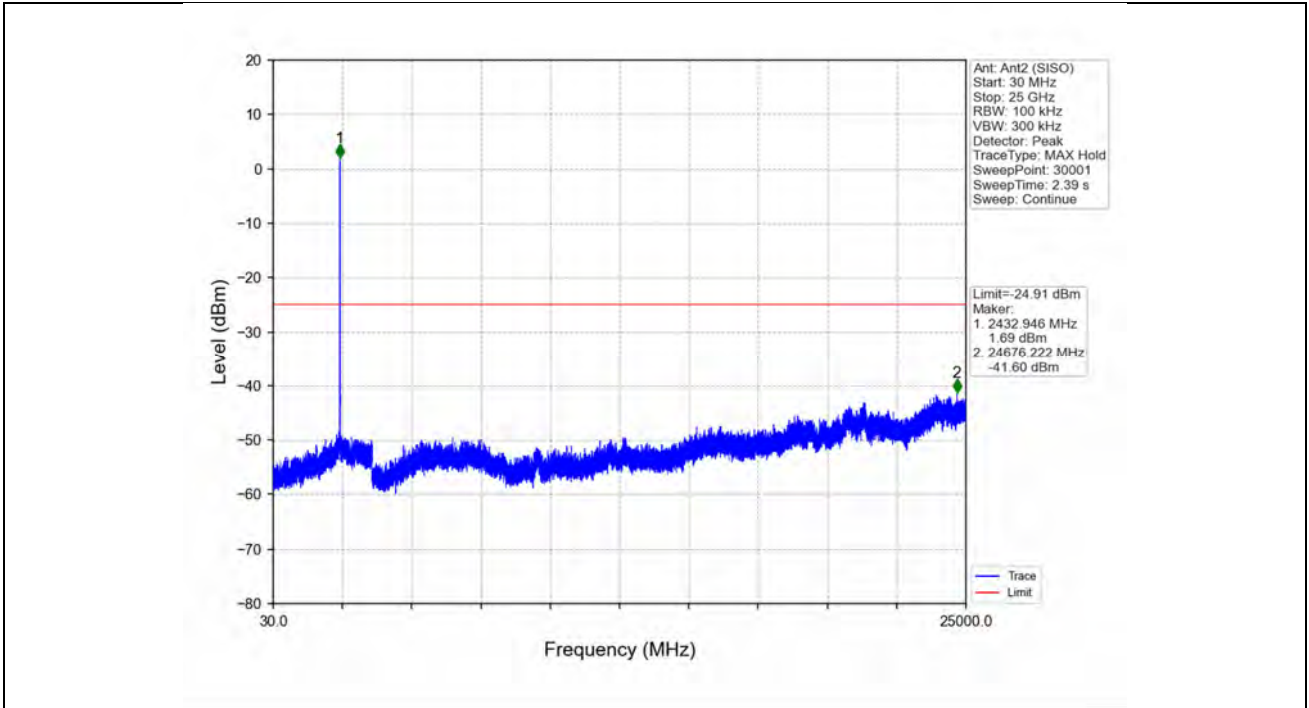


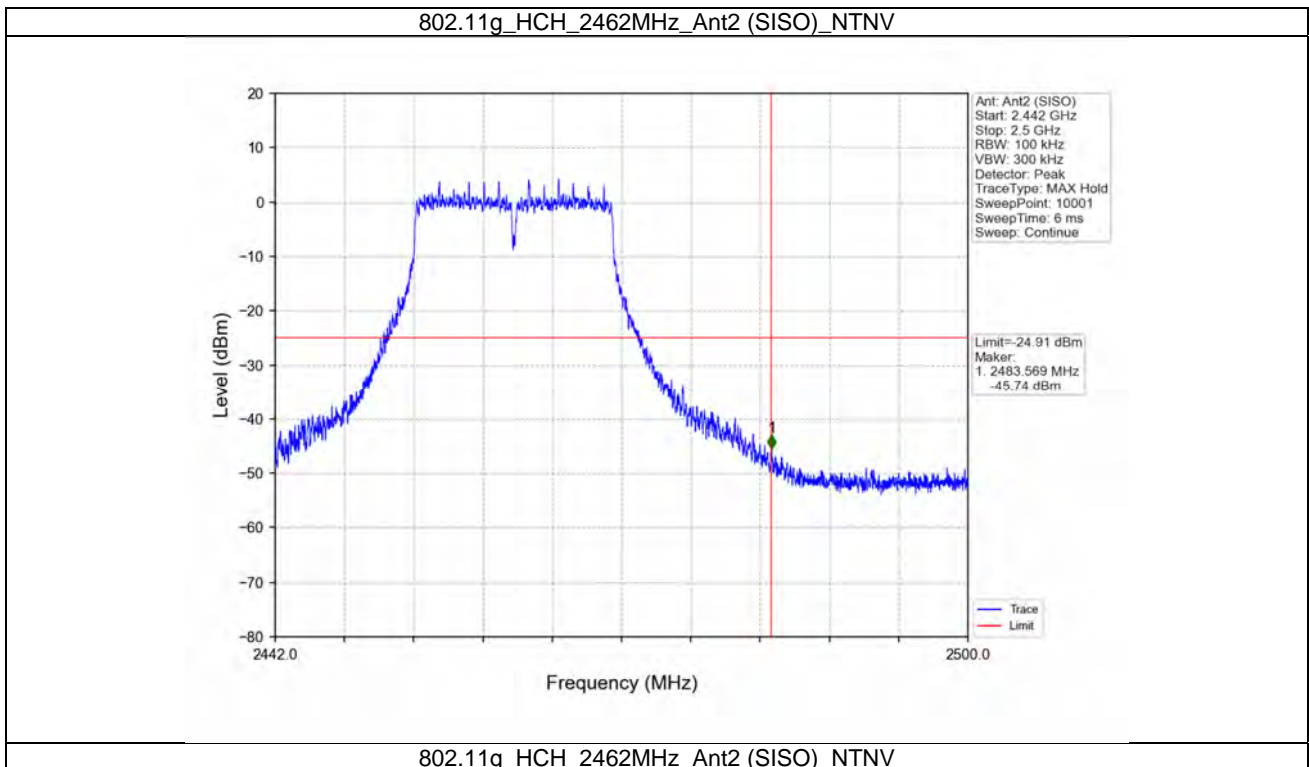
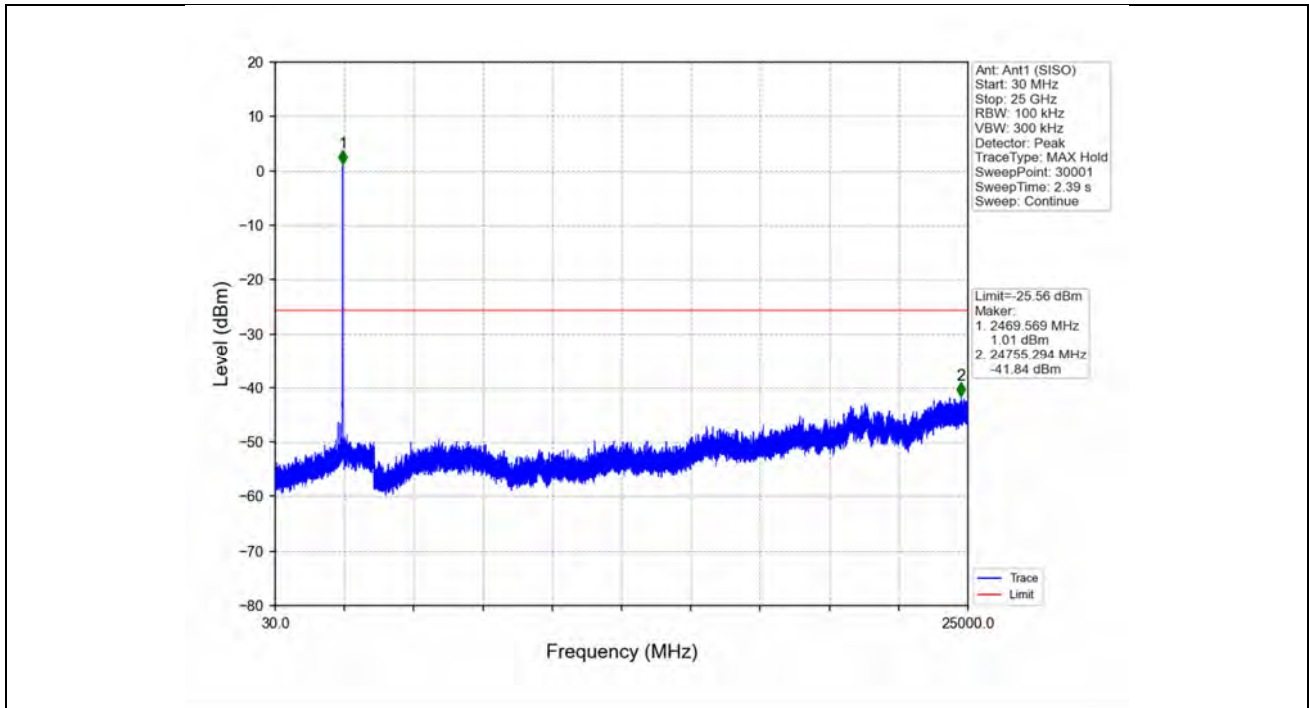


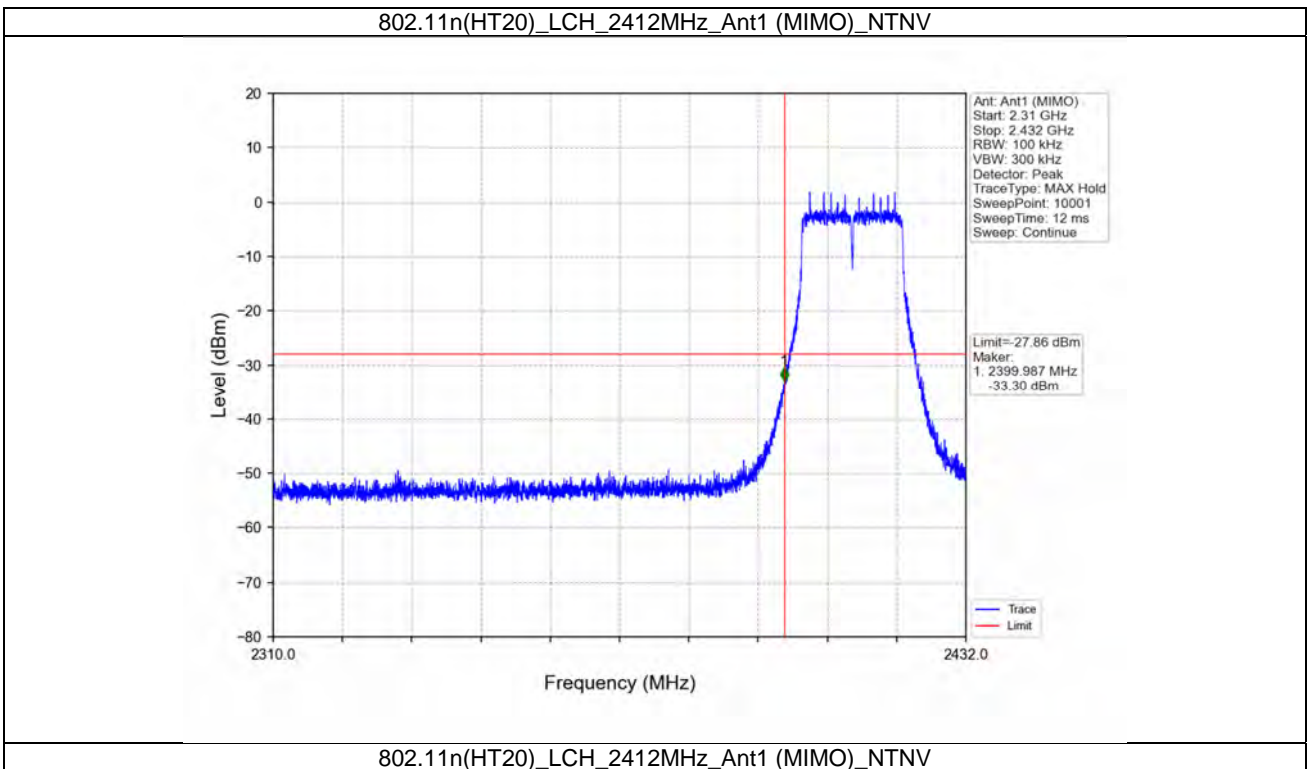
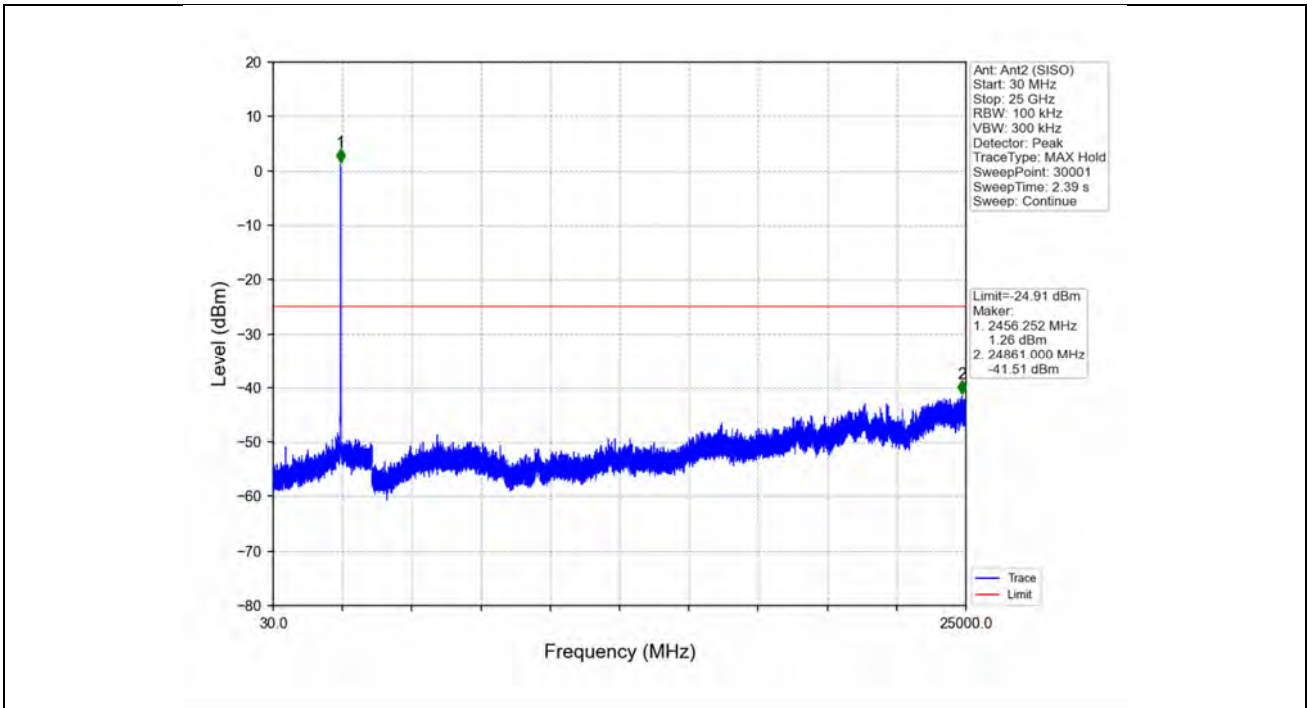
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV

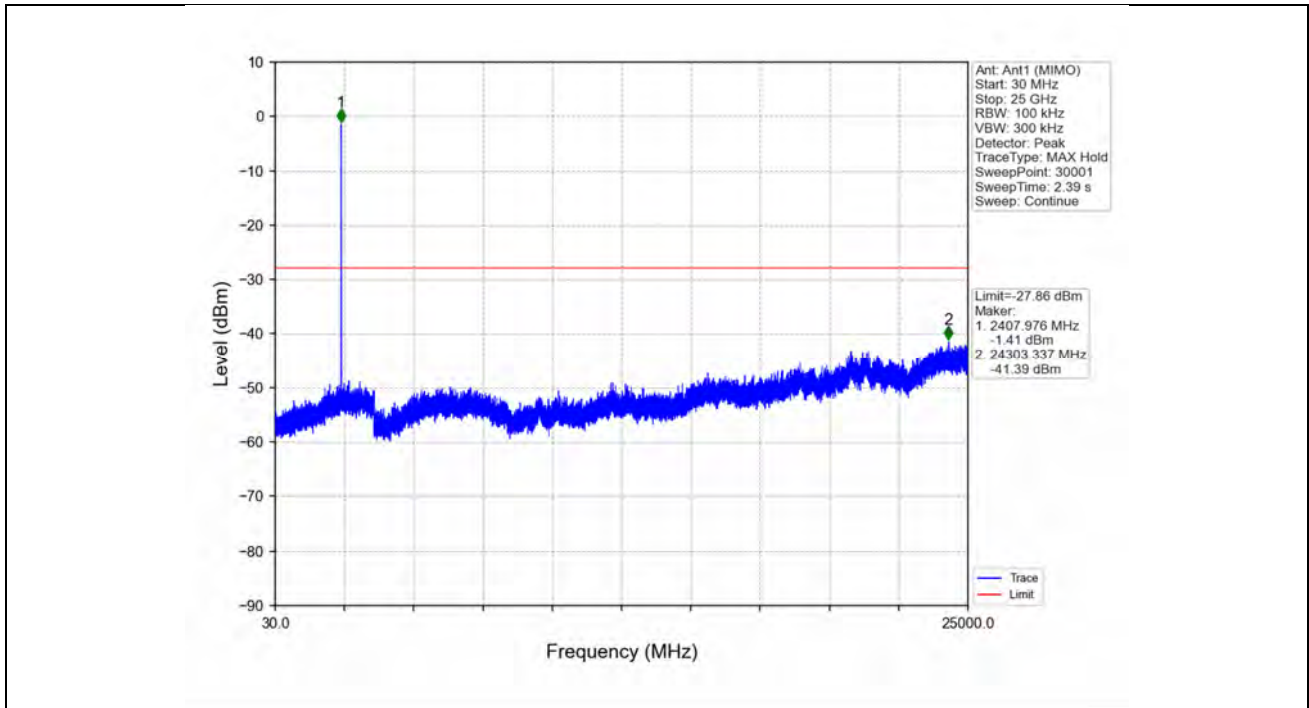


802.11g_MCH_2437MHz_Ant2 (SISO)_NTNV

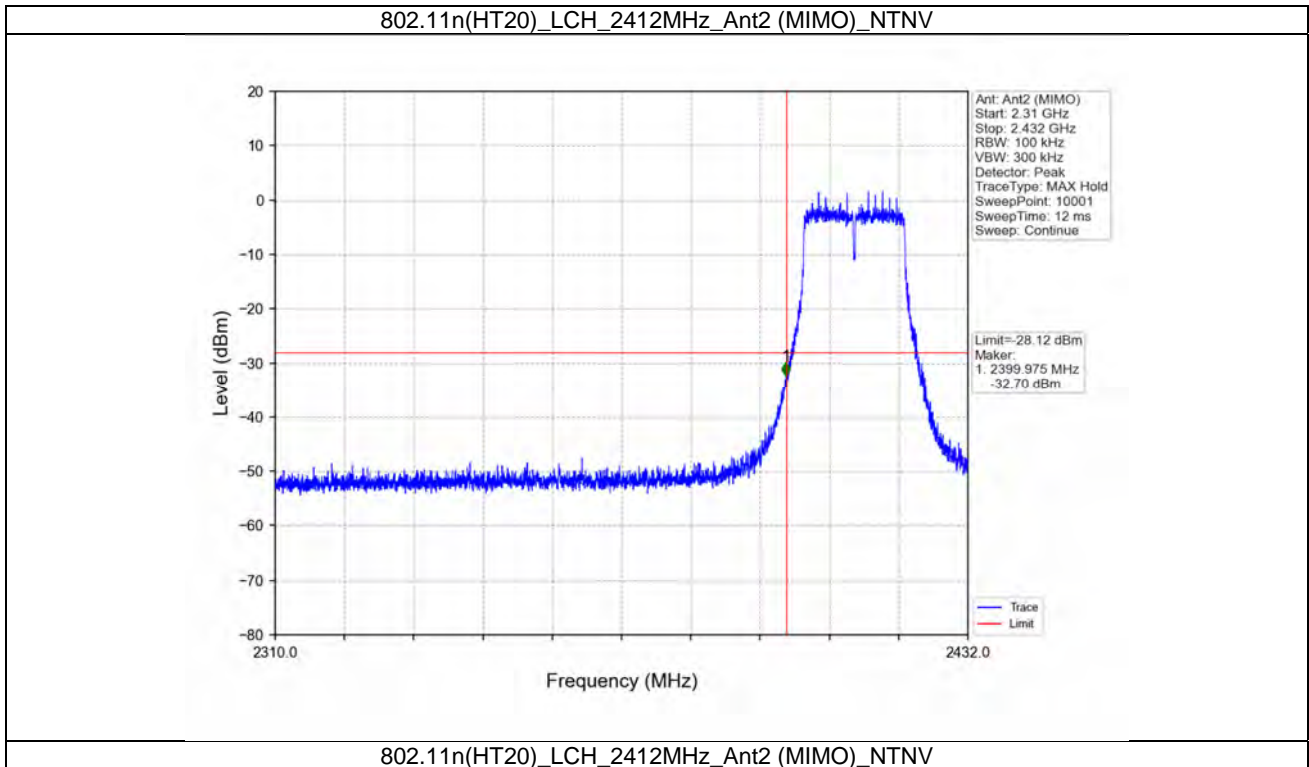




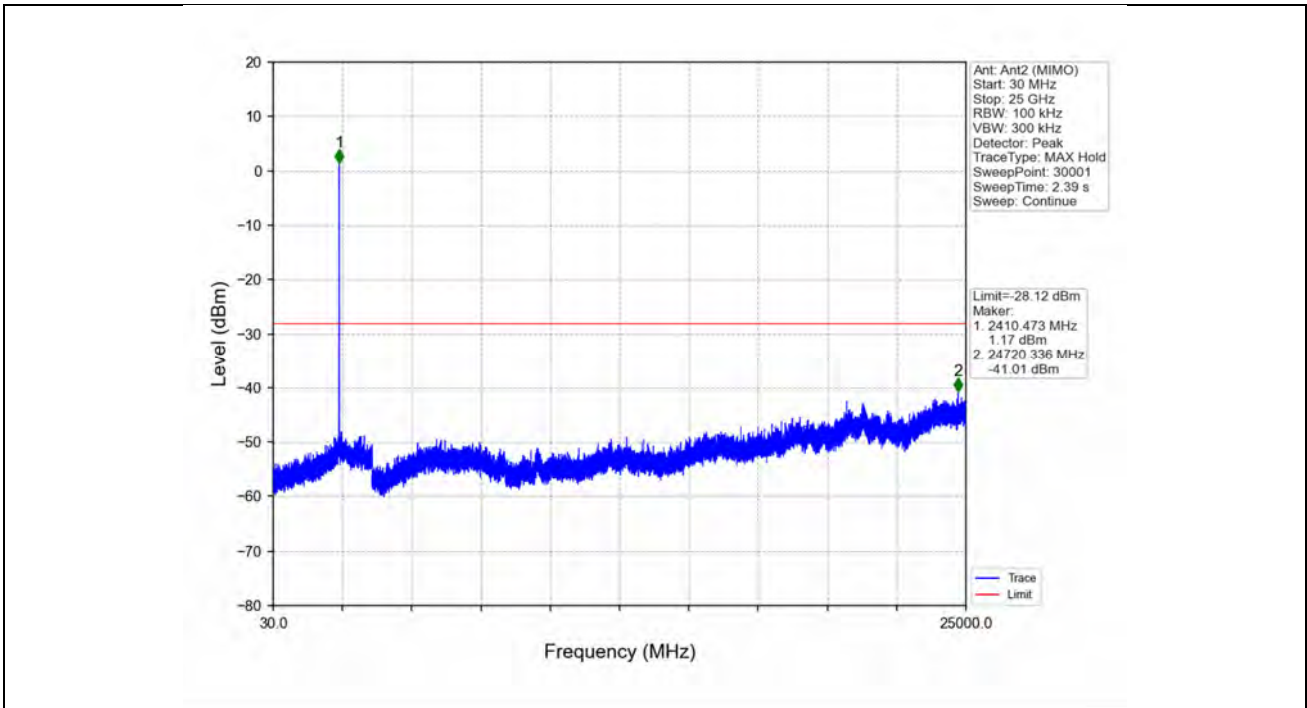




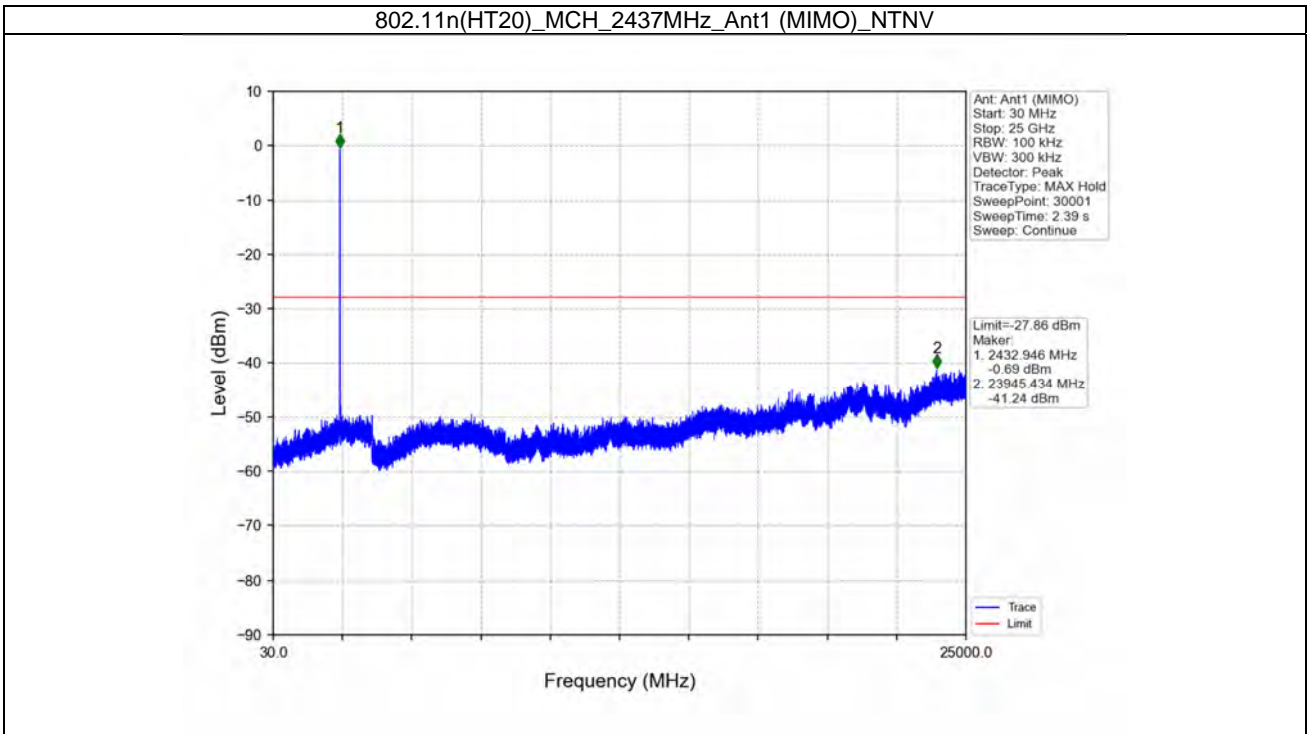
802.11n(HT20)_LCH_2412MHz_Ant2 (MIMO)_NTNV



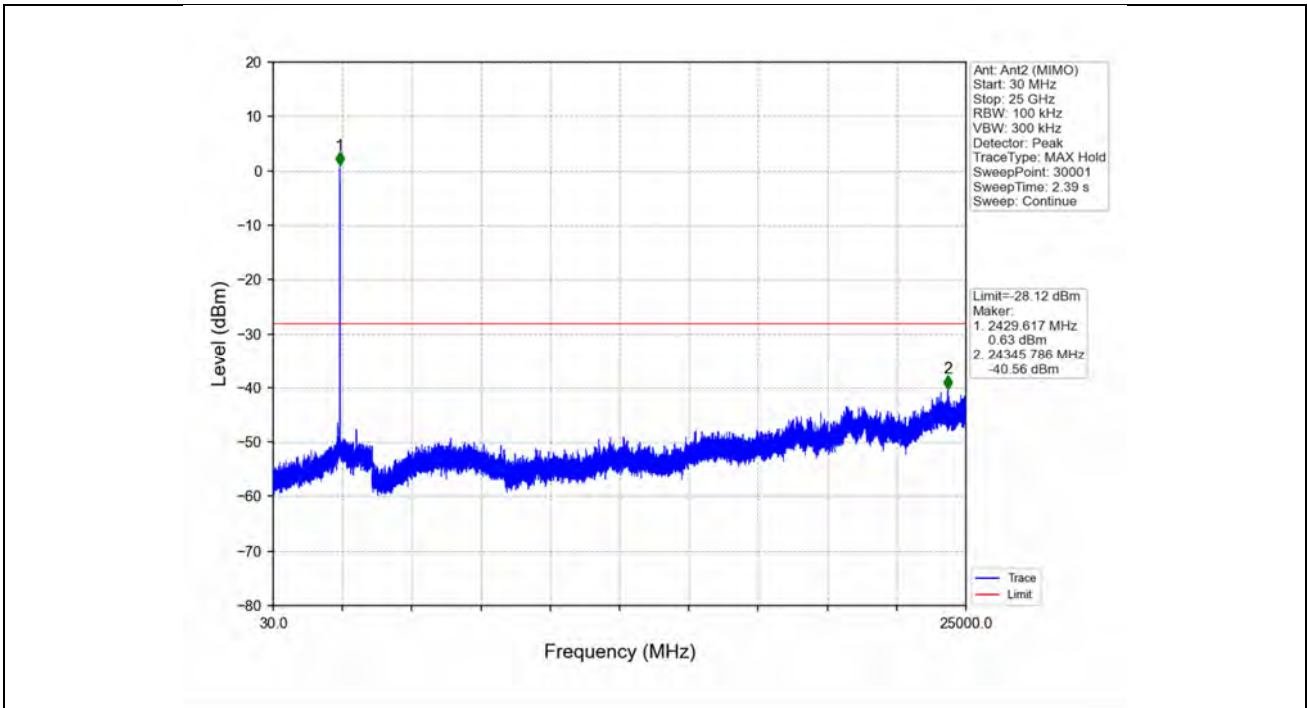
802.11n(HT20)_LCH_2412MHz_Ant2 (MIMO)_NTNV



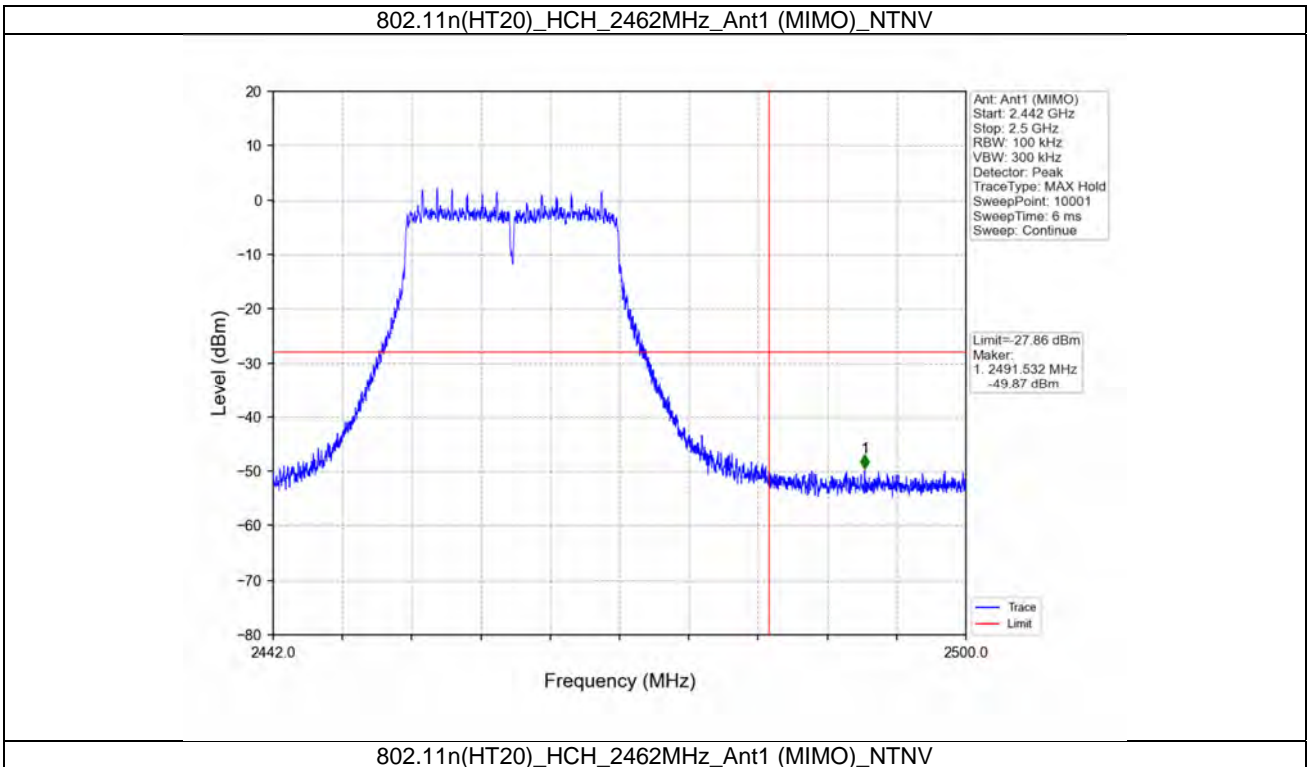
802.11n(HT20)_MCH_2437MHz_Ant1 (MIMO)_NTNV



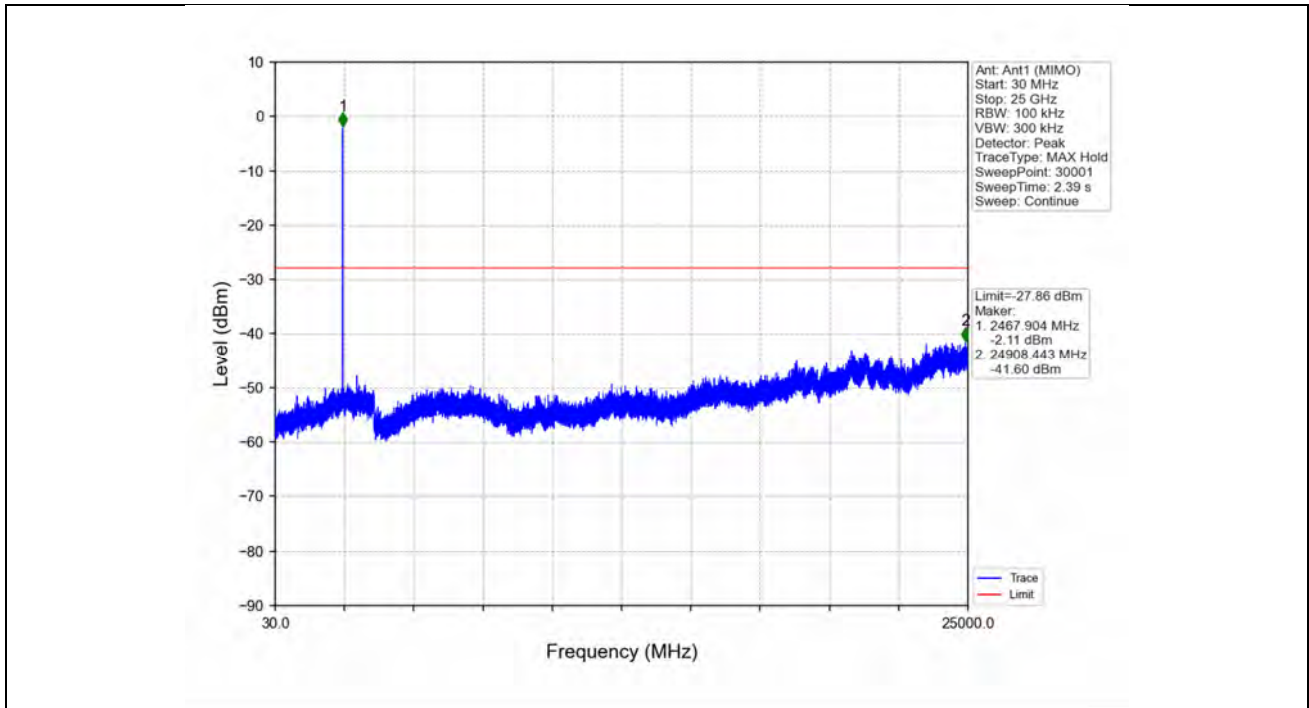
802.11n(HT20)_MCH_2437MHz_Ant2 (MIMO)_NTNV



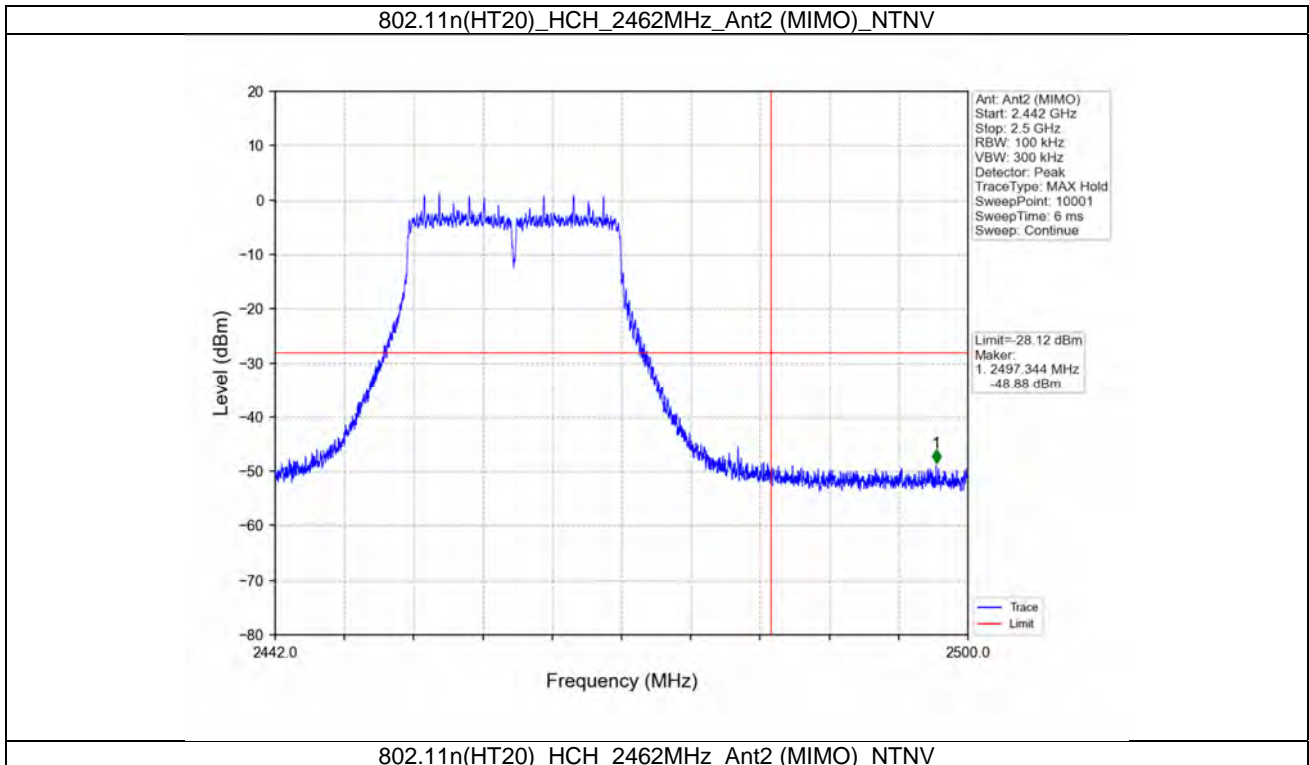
802.11n(HT20)_HCH_2462MHz_Ant1 (MIMO)_NTNV



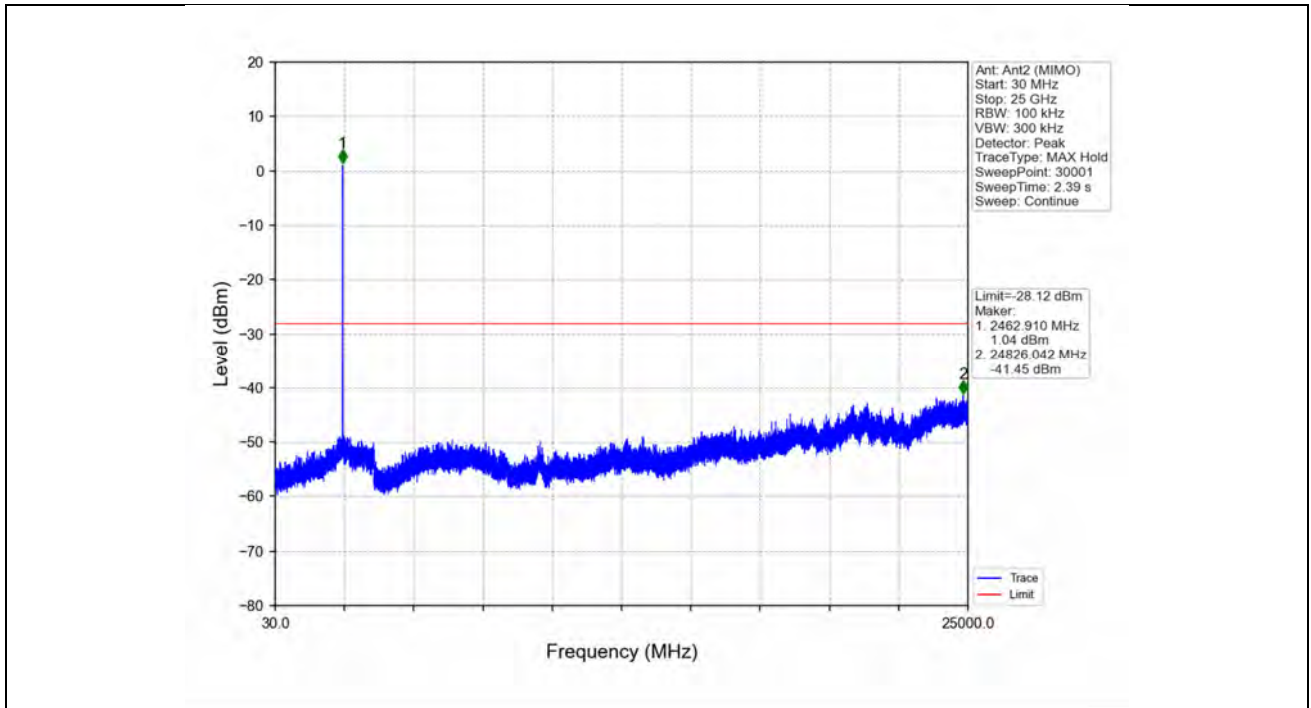
802.11n(HT20)_HCH_2462MHz_Ant1 (MIMO)_NTNV



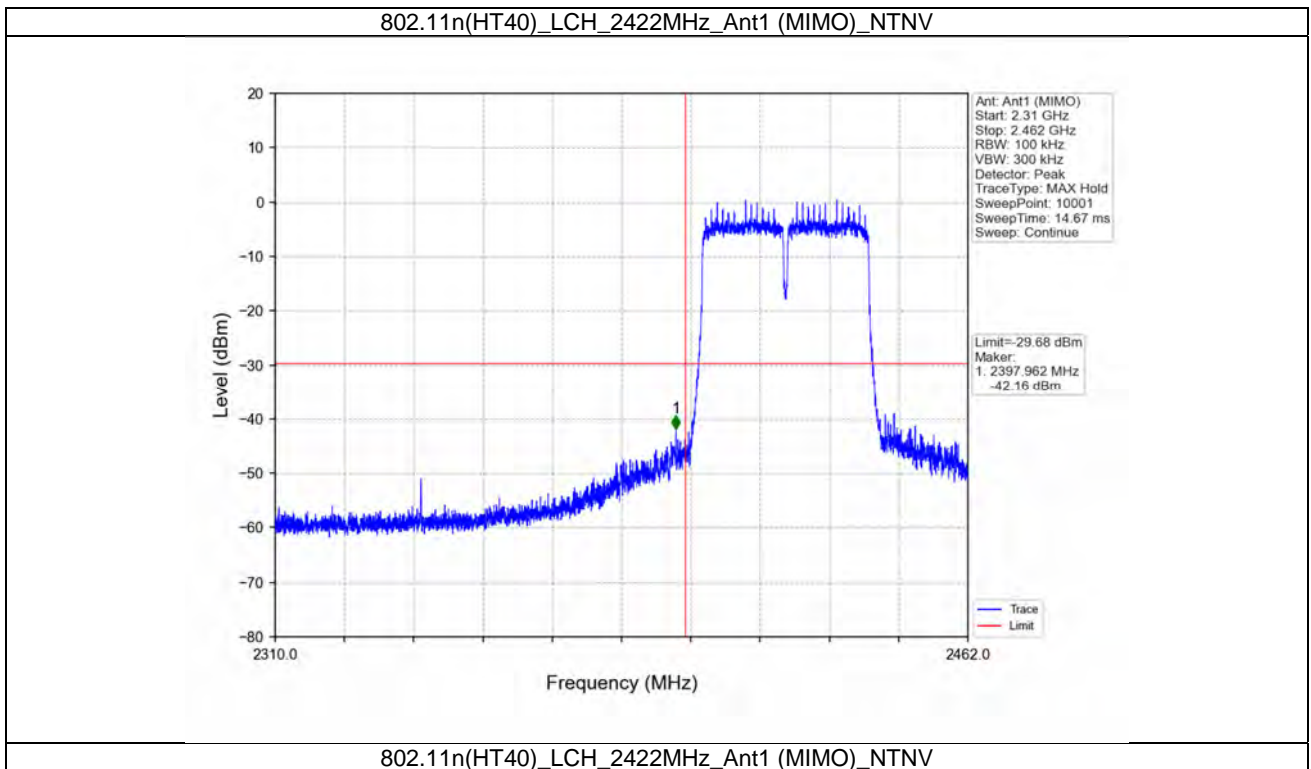
802.11n(HT20)_HCH_2462MHz_Ant2 (MIMO)_NTNV



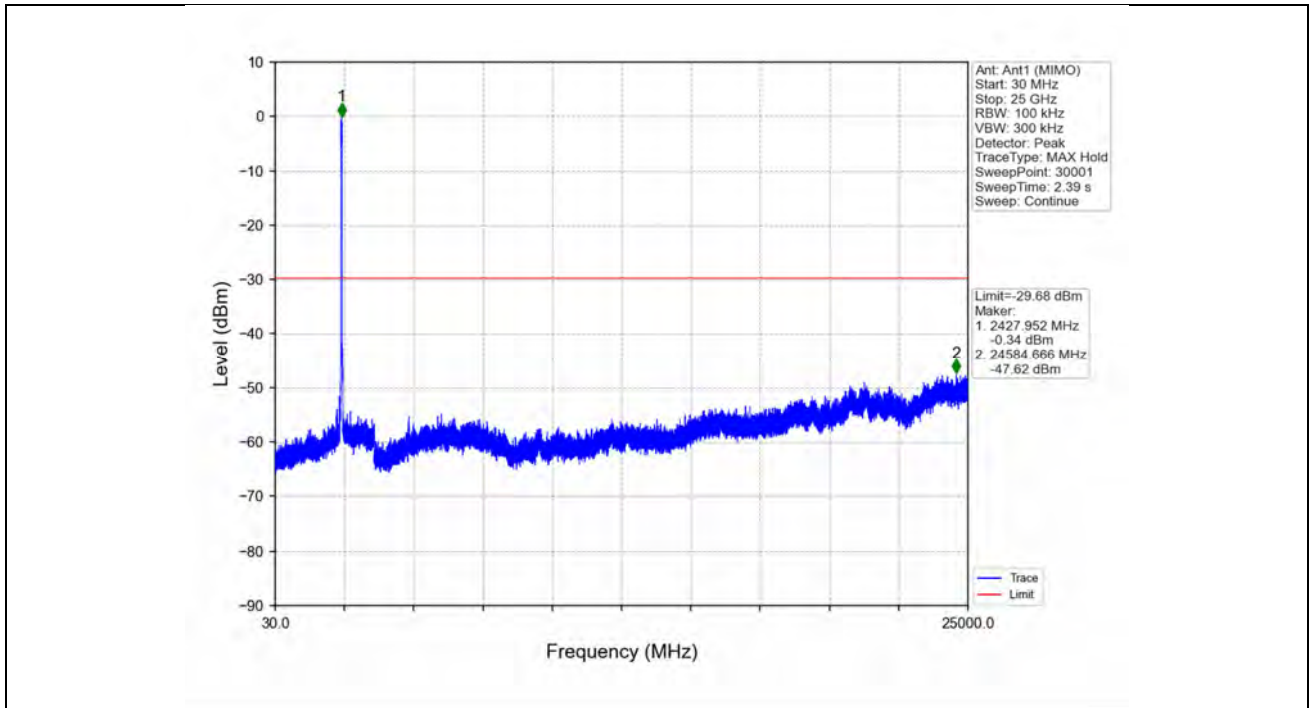
802.11n(HT20)_HCH_2462MHz_Ant2 (MIMO)_NTNV



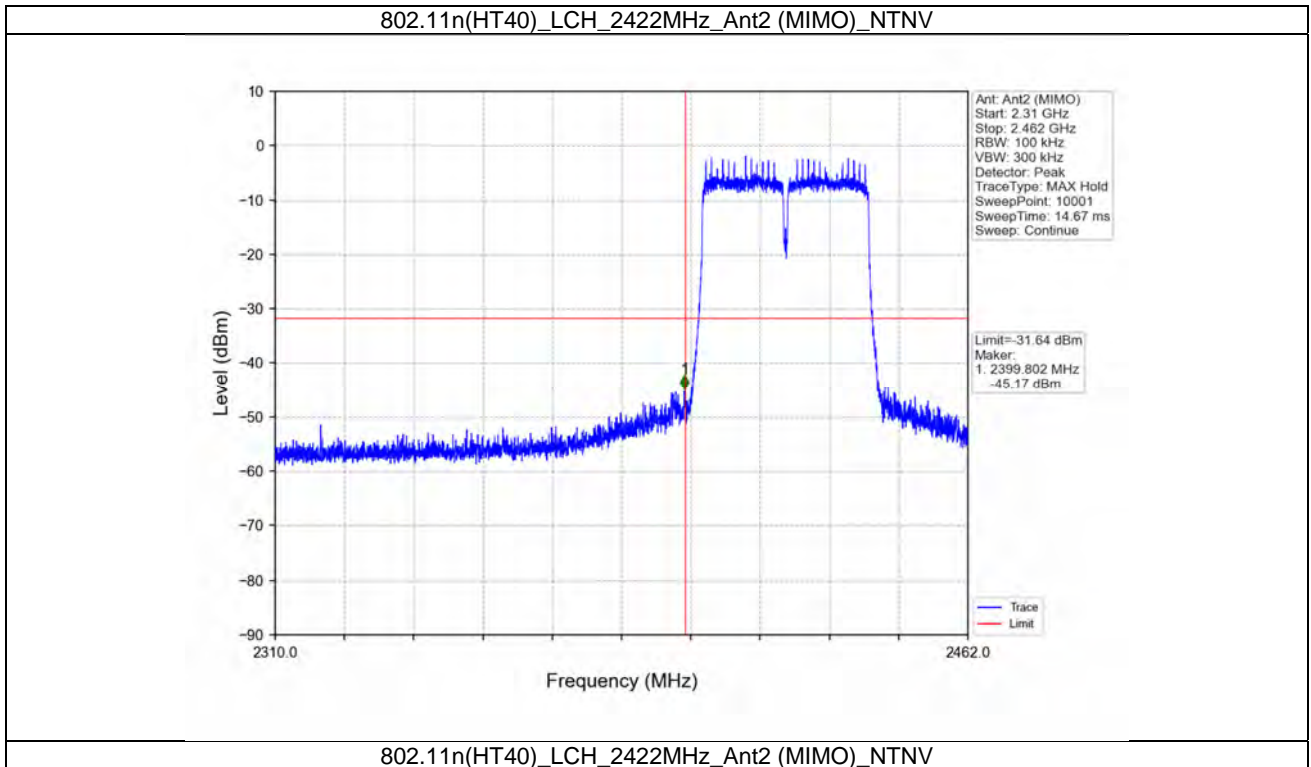
802.11n(HT40)_LCH_2422MHz_Ant1 (MIMO)_NTNV



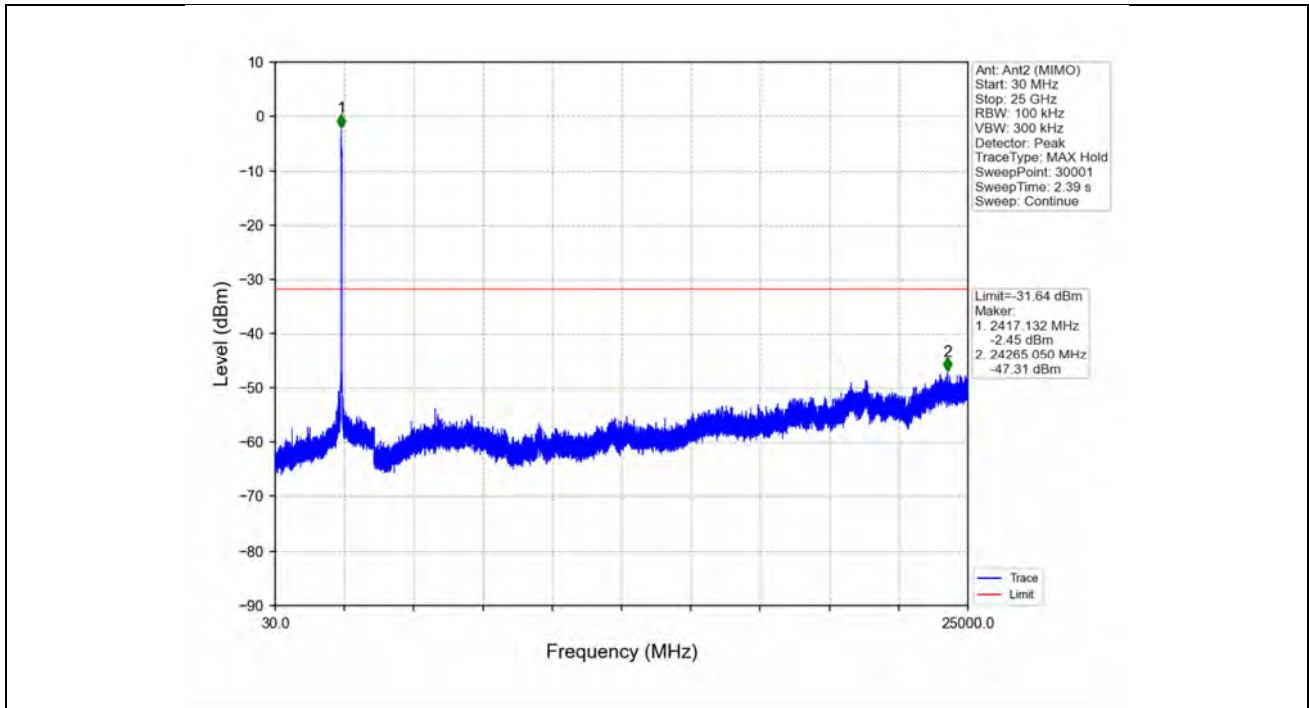
802.11n(HT40)_LCH_2422MHz_Ant1 (MIMO)_NTNV



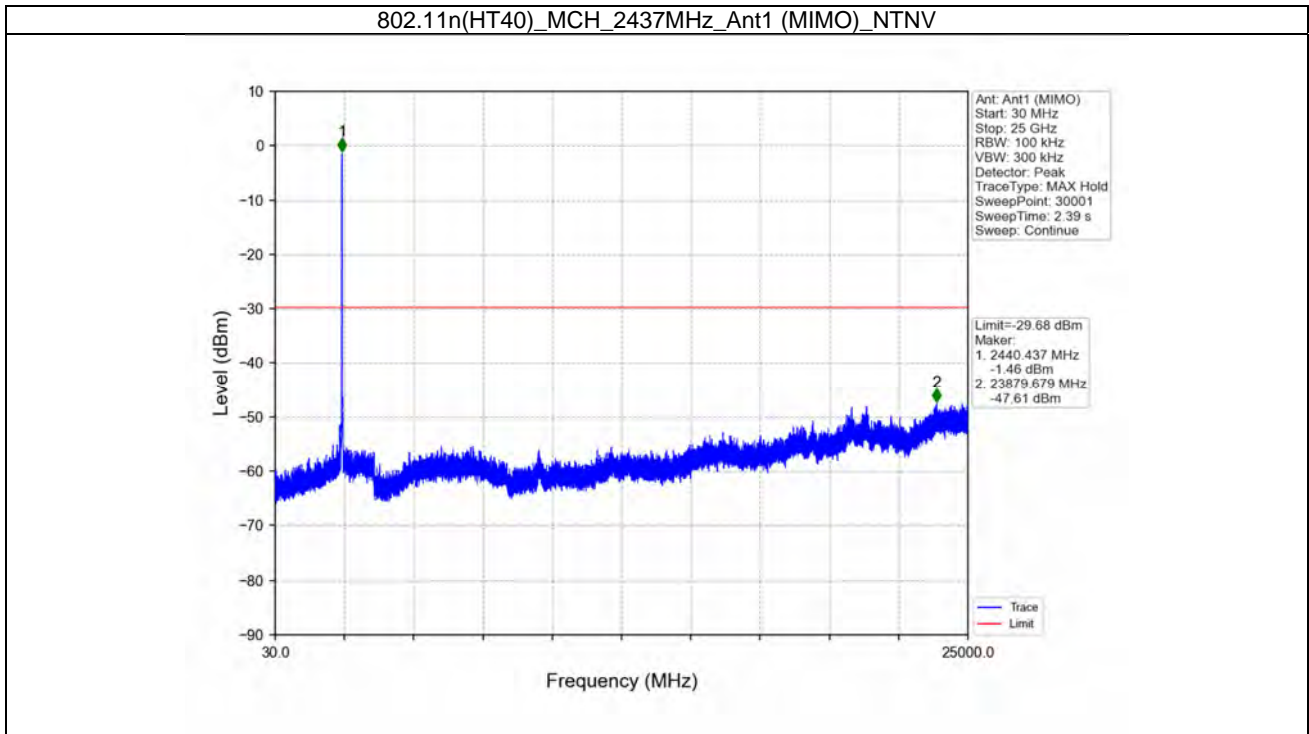
802.11n(HT40)_LCH_2422MHz_Ant2 (MIMO)_NTNV



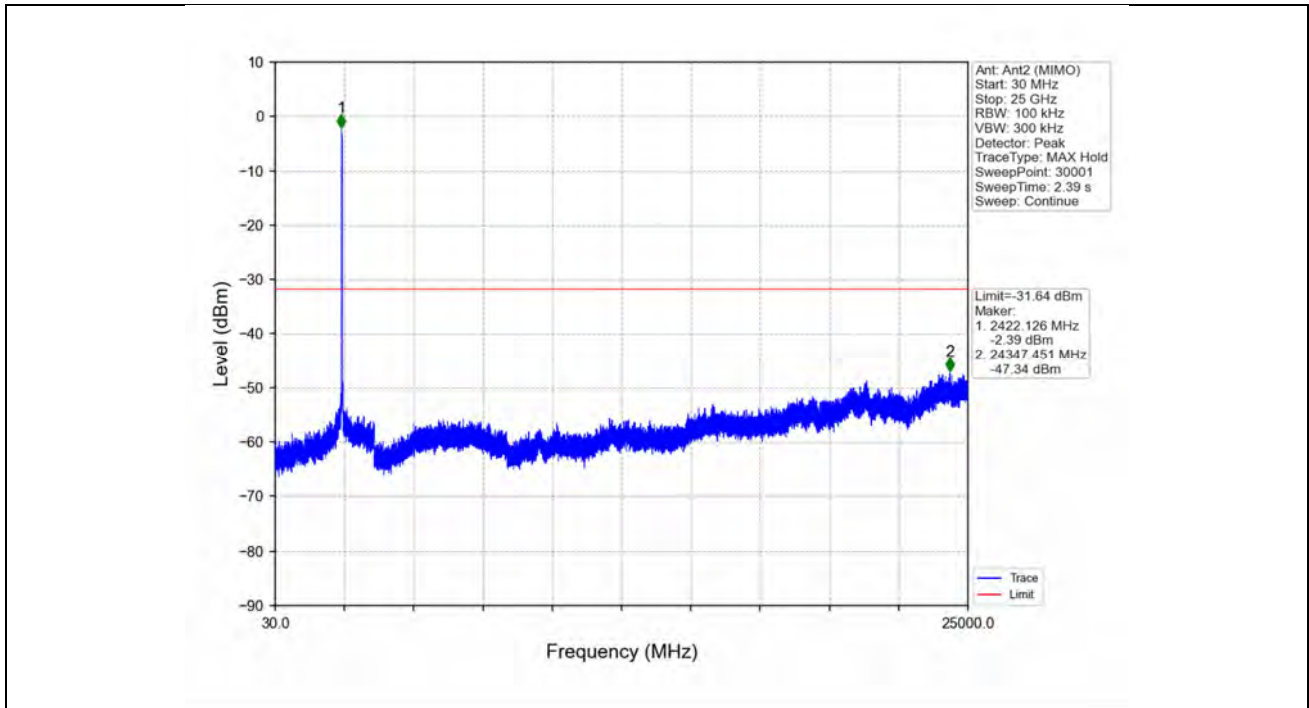
802.11n(HT40)_LCH_2422MHz_Ant2 (MIMO)_NTNV



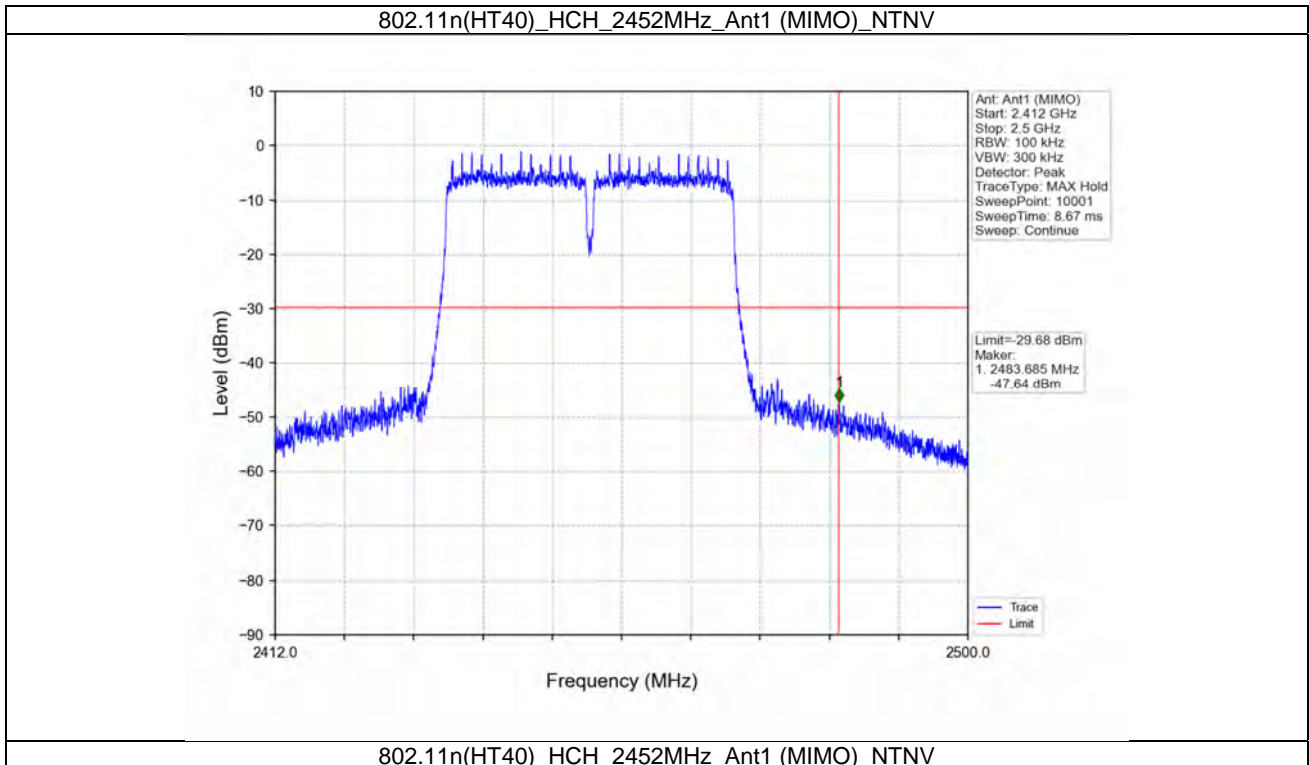
802.11n(HT40)_MCH_2437MHz_Ant1 (MIMO)_NTNV



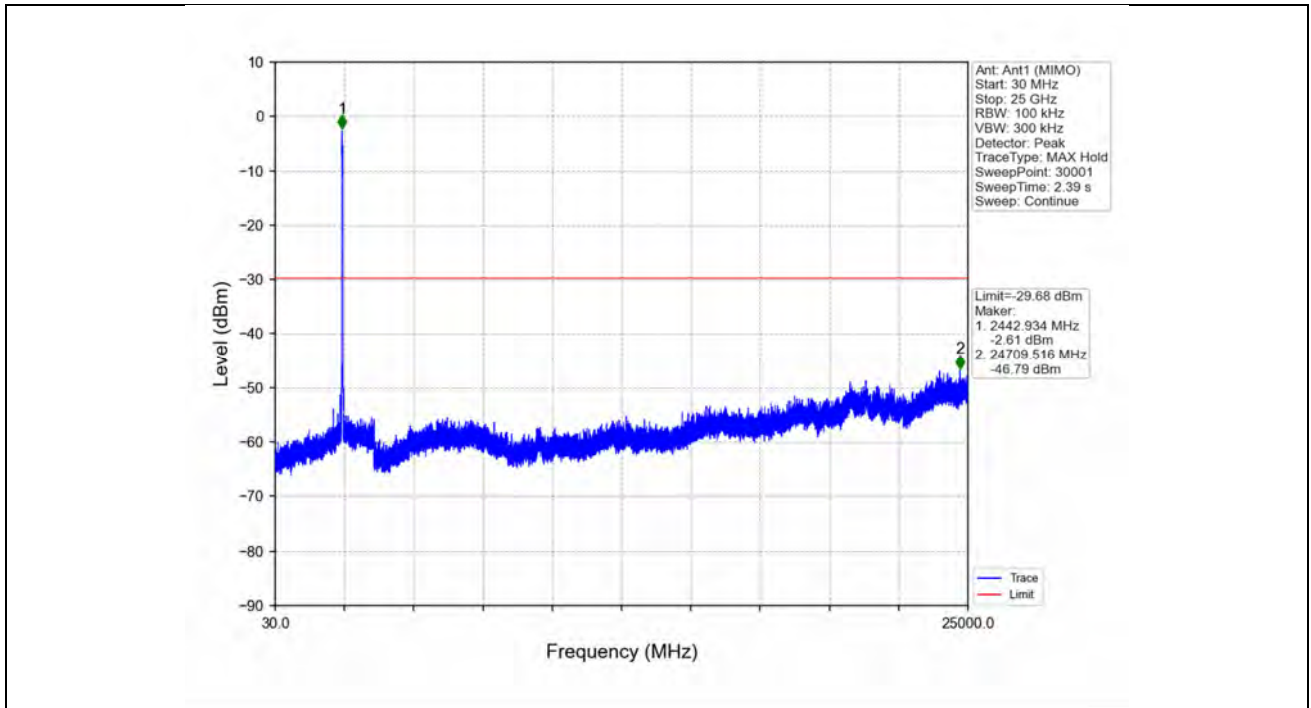
802.11n(HT40)_MCH_2437MHz_Ant2 (MIMO)_NTNV



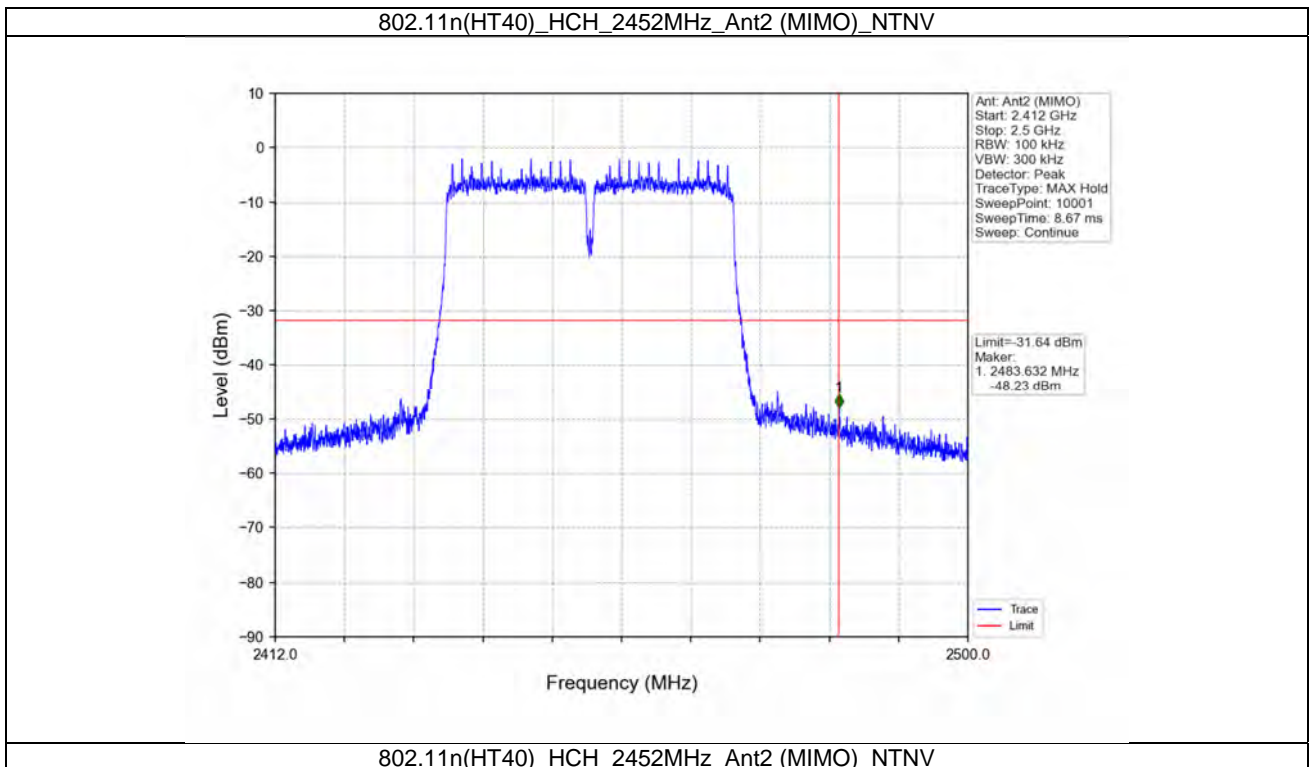
802.11n(HT40)_HCH_2452MHz_Ant1 (MIMO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (MIMO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant2 (MIMO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant2 (MIMO)_NTNV

