

Appendix Test Data for WLAN(2.4G) (Conducted Measurement)

Product Name: Smart Camera

Trade Mark: N/A

Test Model: CL200

FCC ID: 2BFDS-CL200

Environmental Conditions

Temperature:	23.8℃
Relative Humidity:	52%
ATM Pressure:	100.0 kPa
Test Engineer:	Tony luo
Supervised by:	Max zhang
NOTE	N/A

1. Duty Cycle

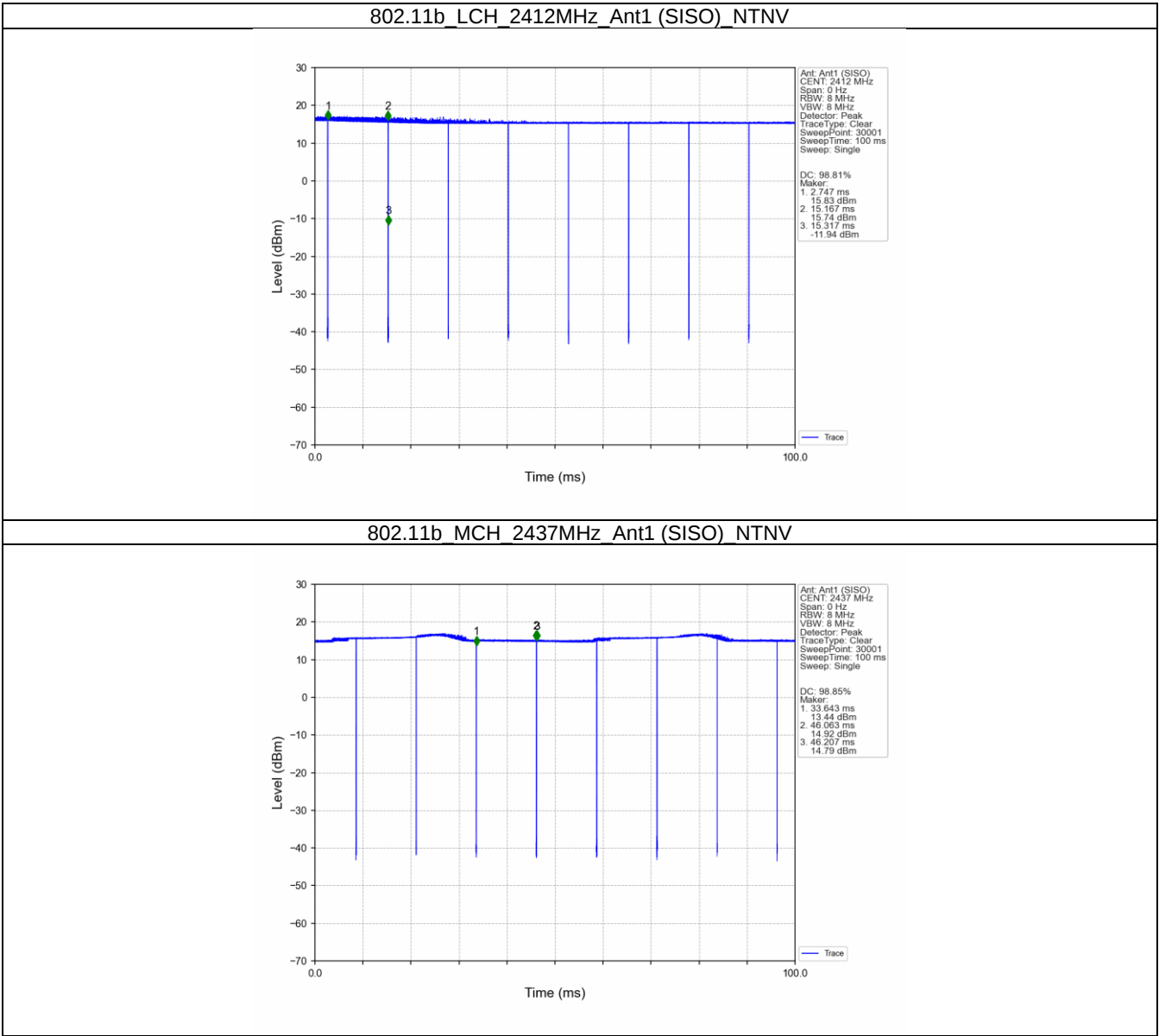
1.1 Test Result

1.1.1 Ant1

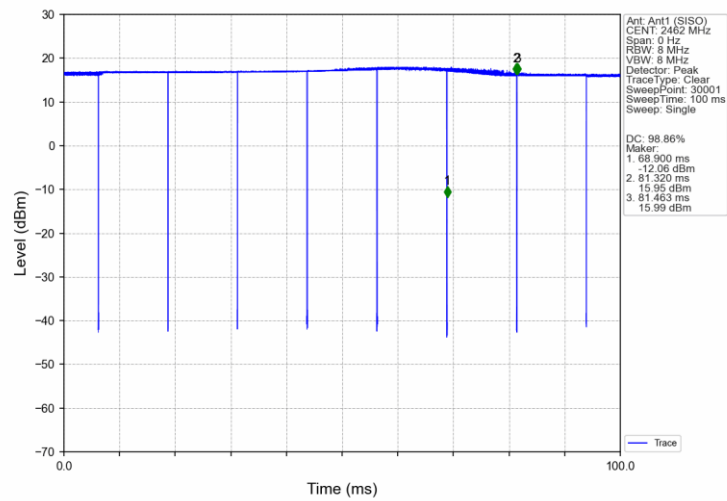
Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11b	SISO	2412	12.420	12.570	98.81	0.05	0.77
		2437	12.420	12.564	98.85	0.05	0.71
		2462	12.420	12.563	98.86	0.05	0.87
802.11g	SISO	2412	2.065	2.234	92.44	0.34	4.70
		2437	2.072	2.235	92.71	0.33	5.97
		2462	2.070	2.218	93.33	0.30	5.25
802.11n (HT20)	SISO	2412	1.922	2.091	91.92	0.37	4.53
		2437	1.921	2.091	91.87	0.37	5.46
		2462	1.926	2.055	93.72	0.28	4.73
802.11n (HT40)	SISO	2422	0.945	1.115	84.75	0.72	10.81
		2437	0.951	1.116	85.22	0.69	11.73
		2452	0.945	1.115	84.75	0.72	11.71

1.2 Test Graph

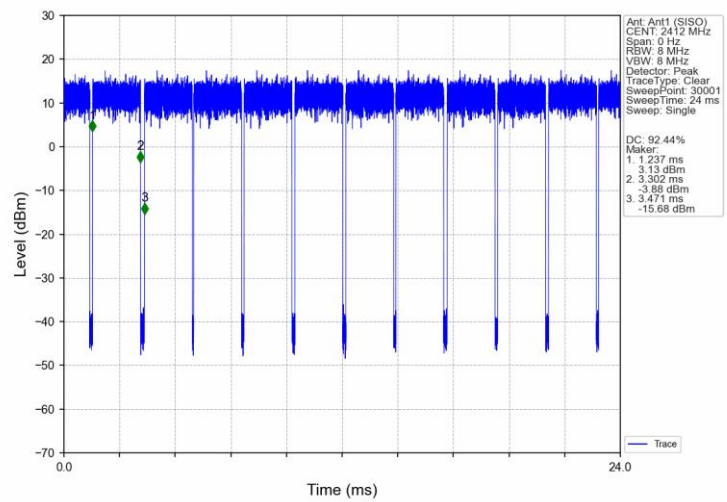
1.2.1 Ant1

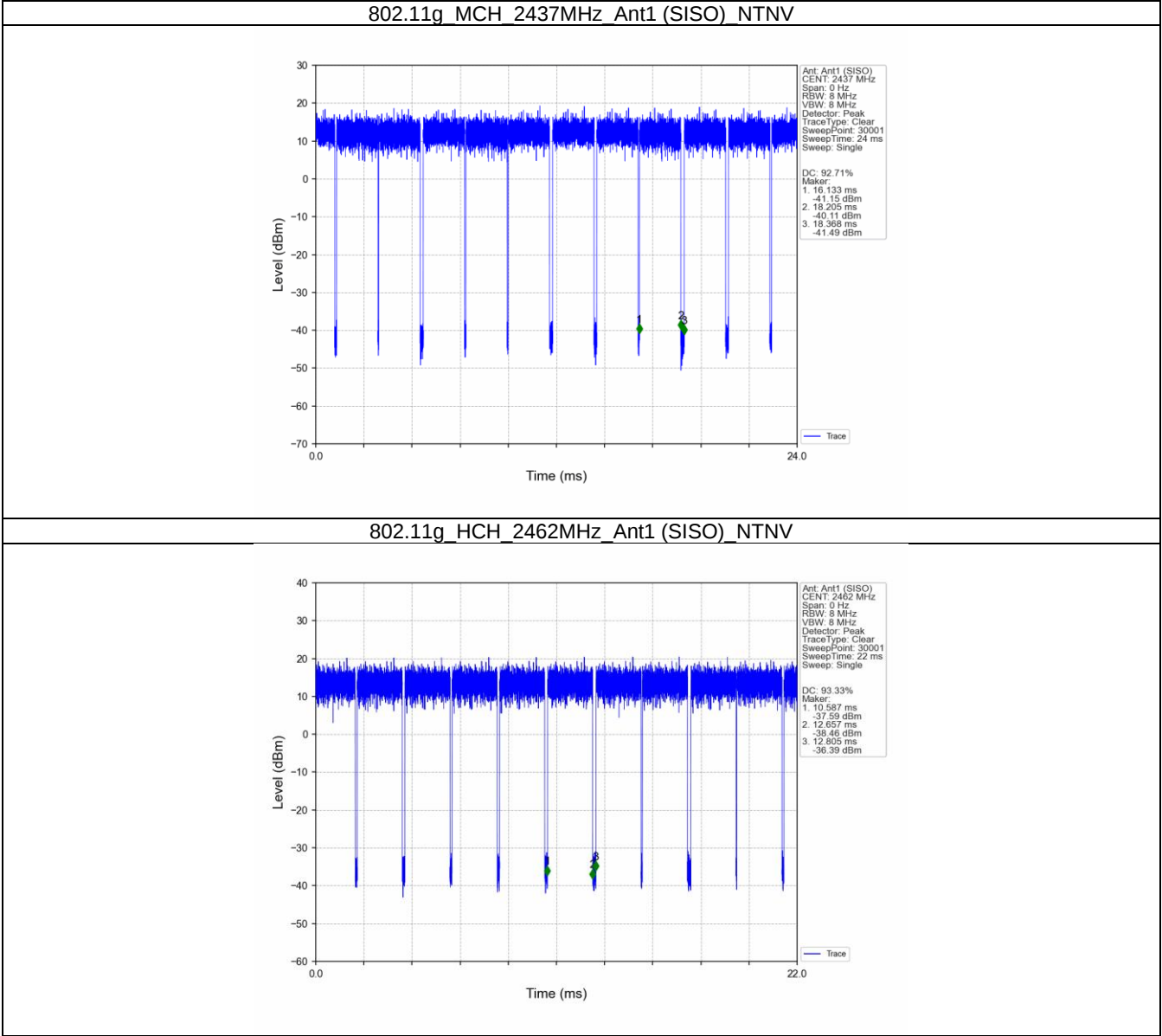


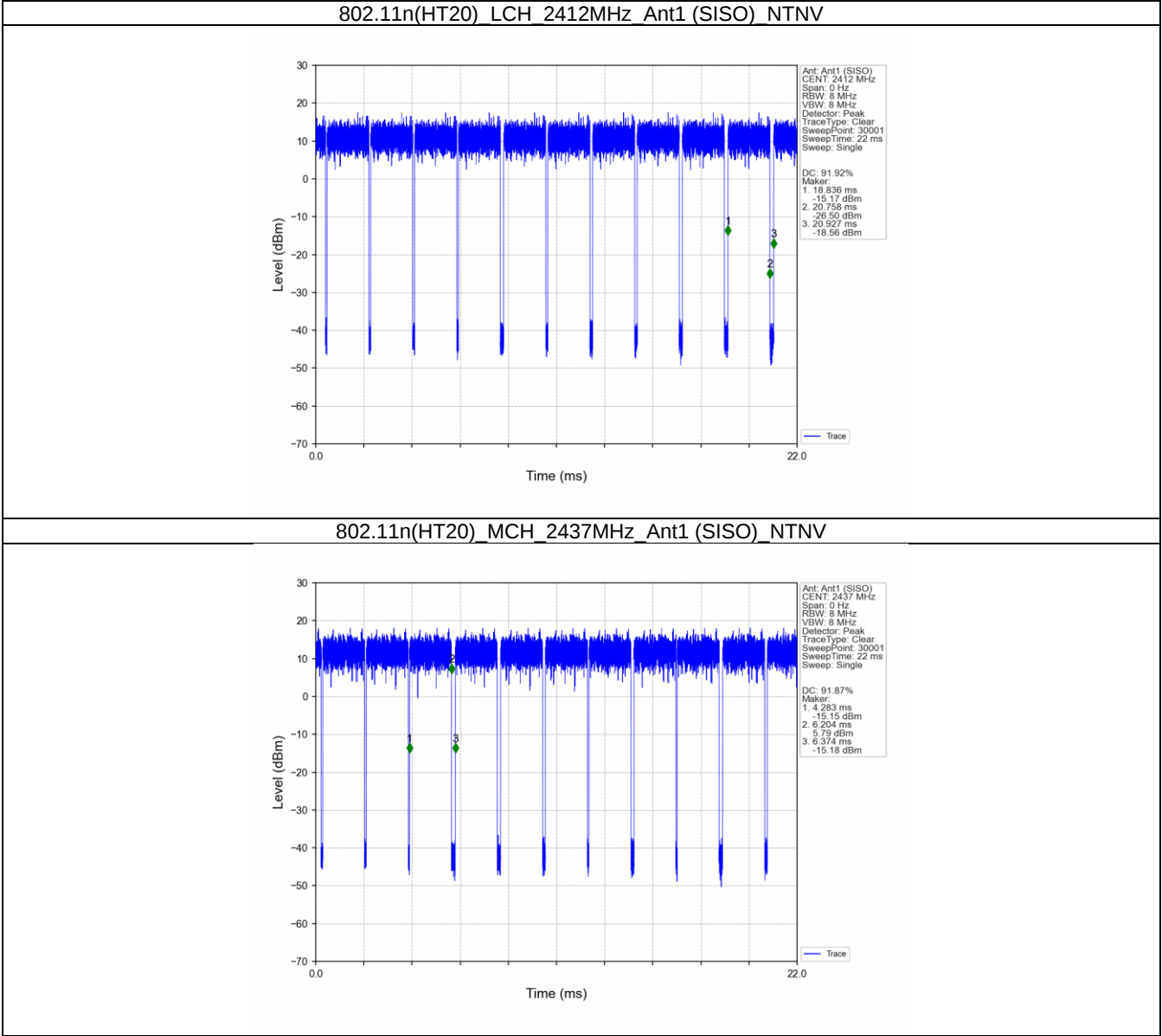
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV

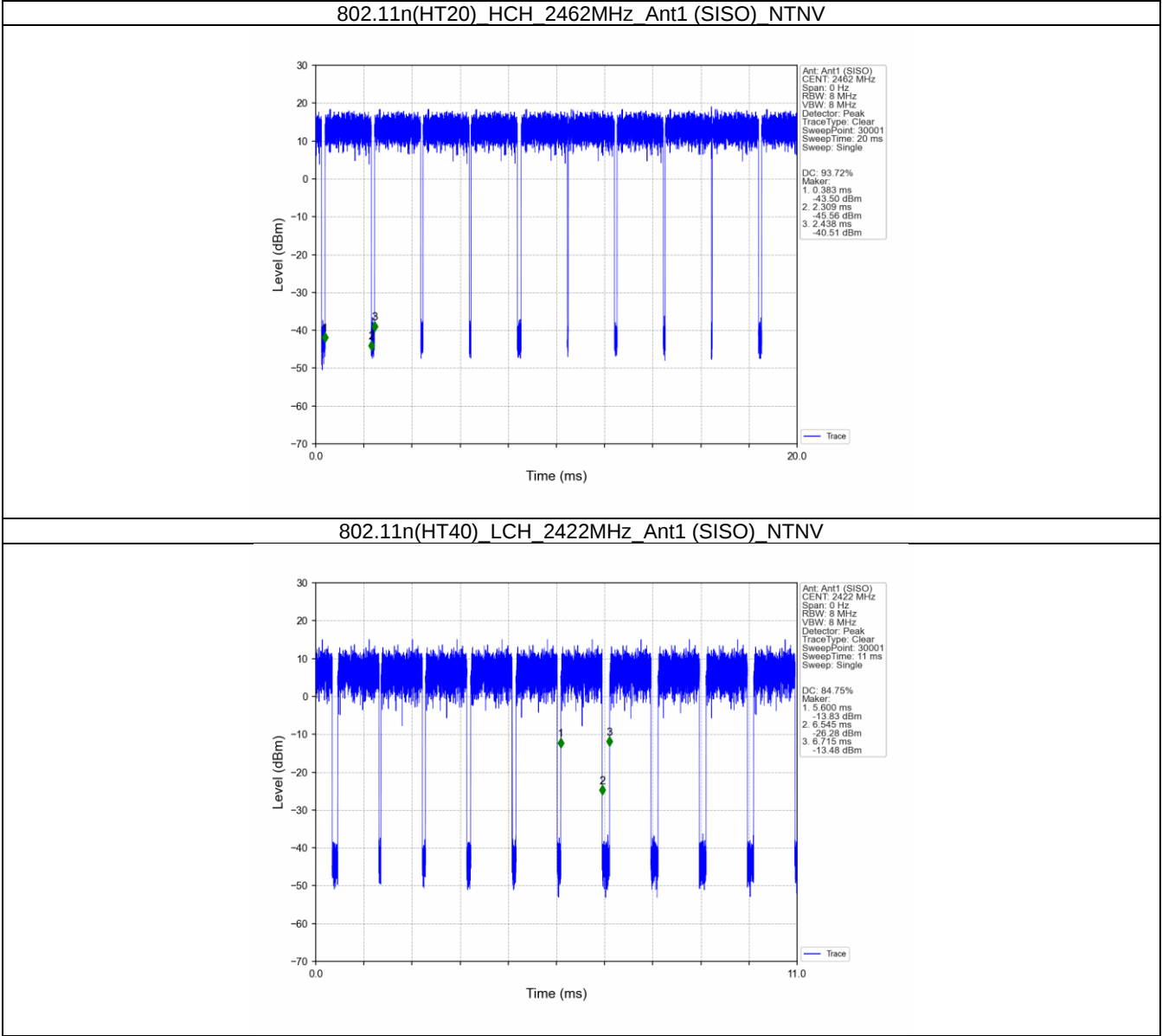


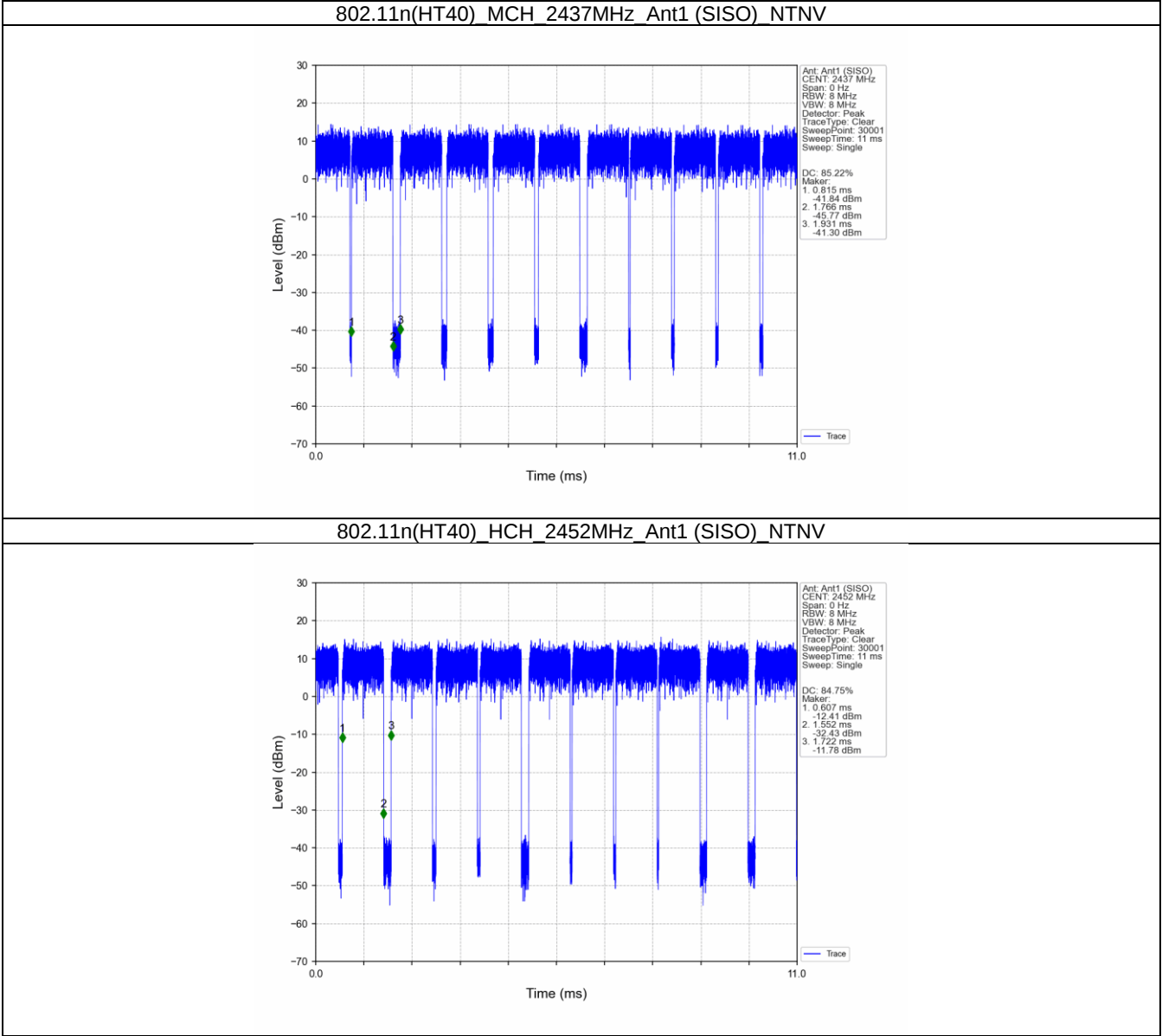
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV











2. Bandwidth

2.1 Test Result

2.1.1 OBW

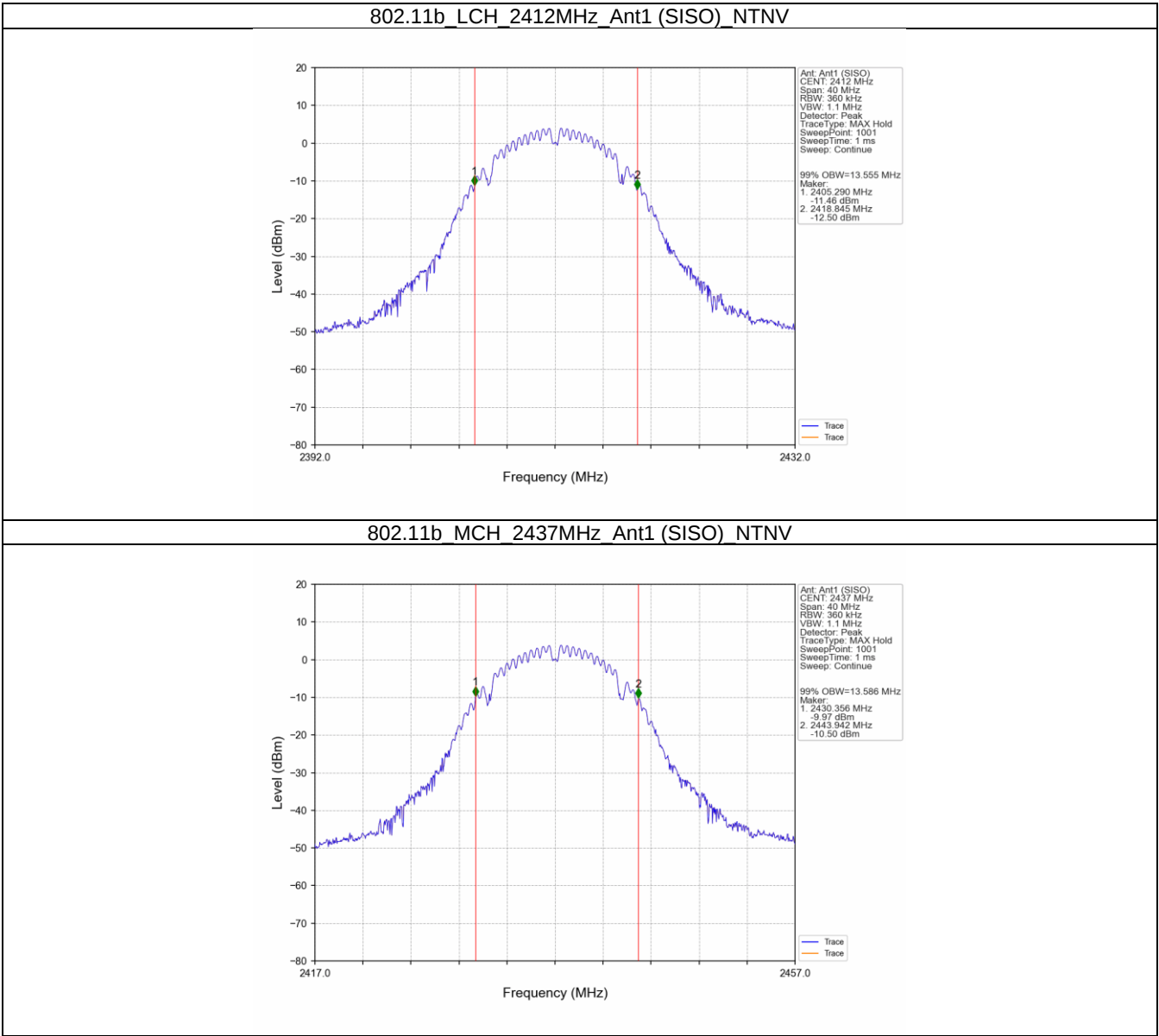
Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	13.555	/	Pass
		2437	1	13.586	/	Pass
		2462	1	13.457	/	Pass
802.11g	SISO	2412	1	17.653	/	Pass
		2437	1	17.875	/	Pass
		2462	1	17.650	/	Pass
802.11n (HT20)	SISO	2412	1	18.522	/	Pass
		2437	1	18.449	/	Pass
		2462	1	18.380	/	Pass
802.11n (HT40)	SISO	2422	1	36.947	/	Pass
		2437	1	37.255	/	Pass
		2452	1	36.710	/	Pass

2.1.2 6dB BW

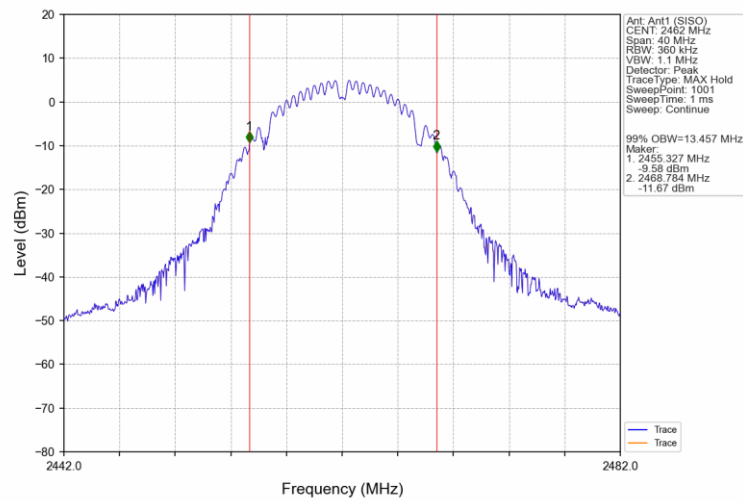
Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	9.190	≥ 0.5	Pass
		2437	1	8.756	≥ 0.5	Pass
		2462	1	9.173	≥ 0.5	Pass
802.11g	SISO	2412	1	16.927	≥ 0.5	Pass
		2437	1	16.799	≥ 0.5	Pass
		2462	1	16.840	≥ 0.5	Pass
802.11n (HT20)	SISO	2412	1	17.805	≥ 0.5	Pass
		2437	1	17.838	≥ 0.5	Pass
		2462	1	17.854	≥ 0.5	Pass
802.11n (HT40)	SISO	2422	1	36.907	≥ 0.5	Pass
		2437	1	36.297	≥ 0.5	Pass
		2452	1	36.237	≥ 0.5	Pass

2.2 Test Graph

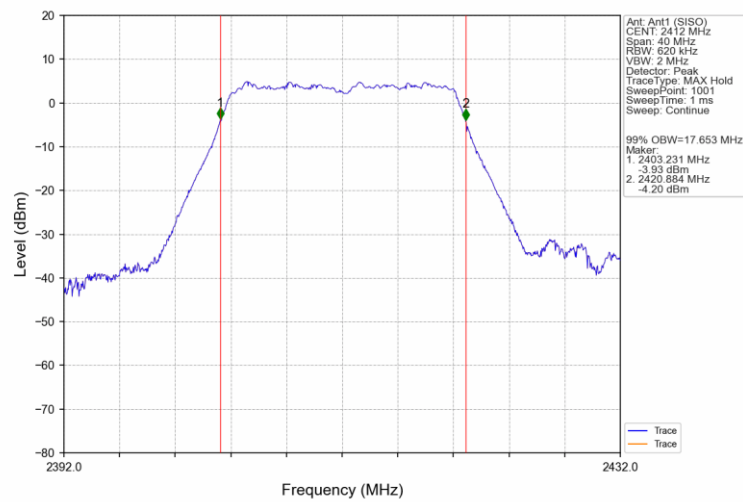
2.2.1 OBW



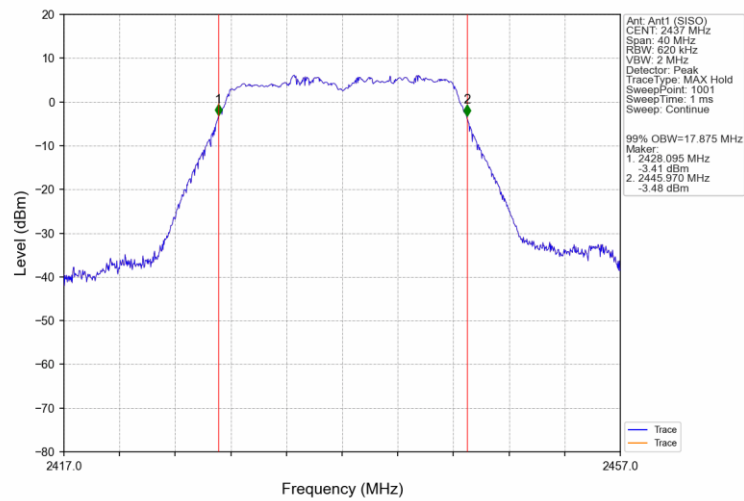
802.11b HCH 2462MHz Ant1 (SISO) NTN



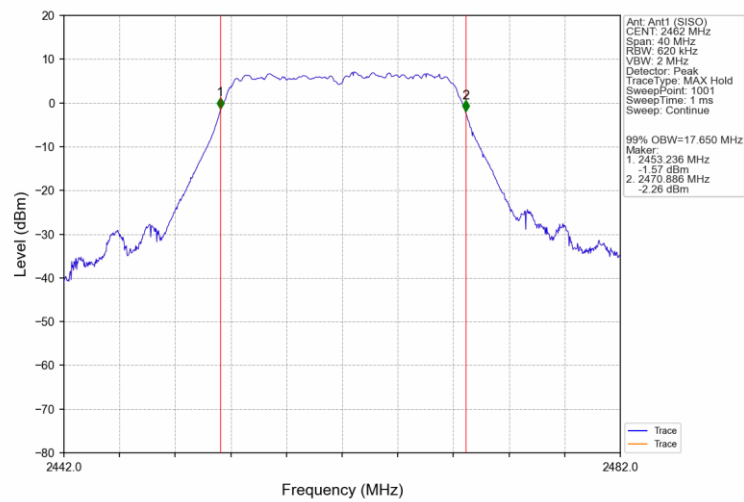
802.11g LCH 2412MHz Ant1 (SISO) NTN

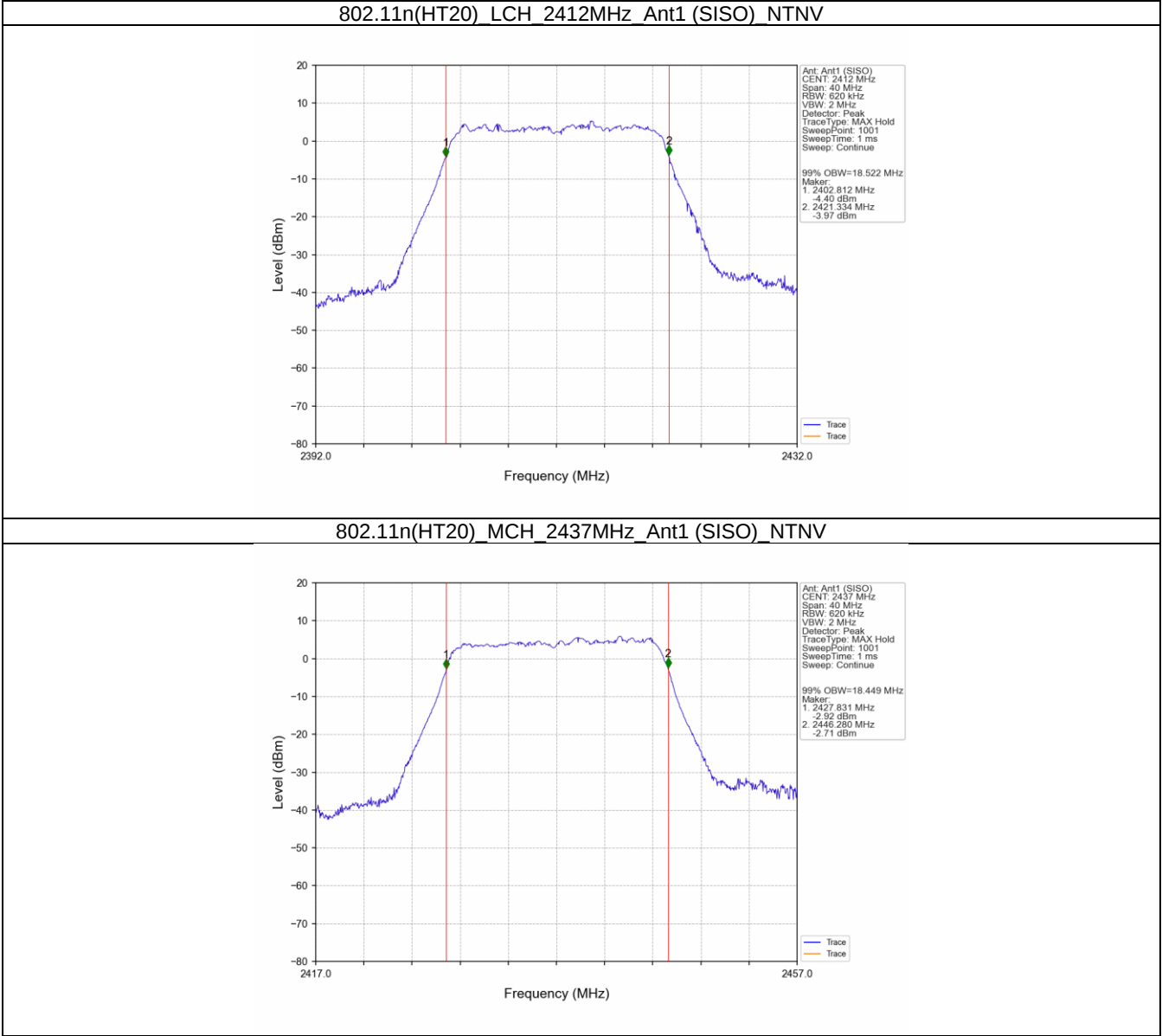


802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV

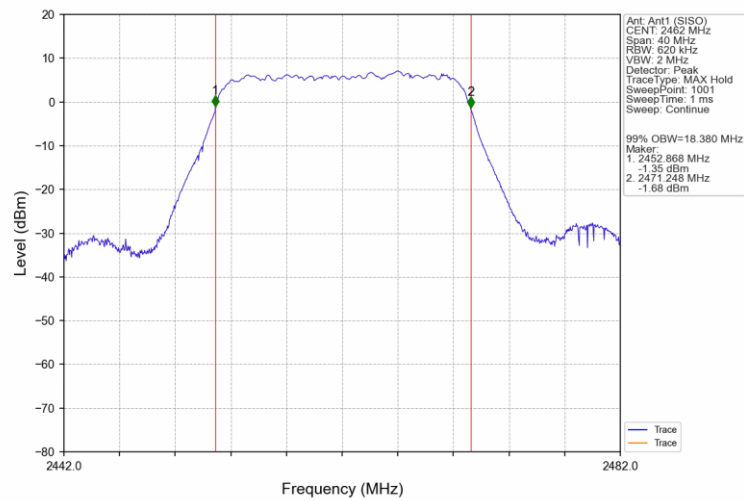


802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV

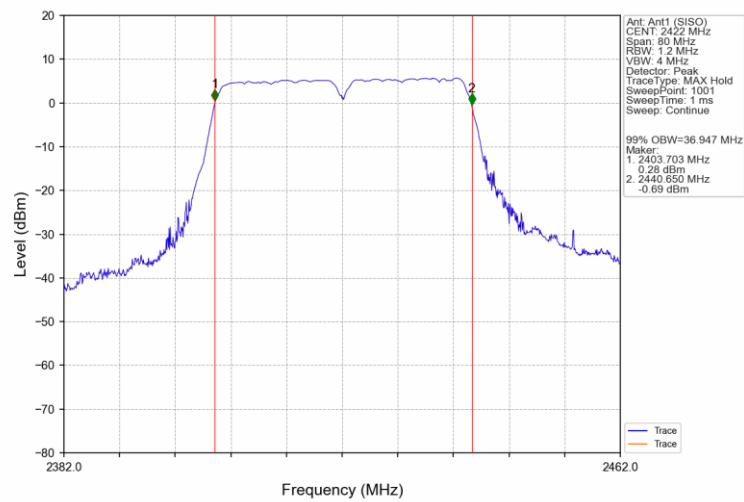




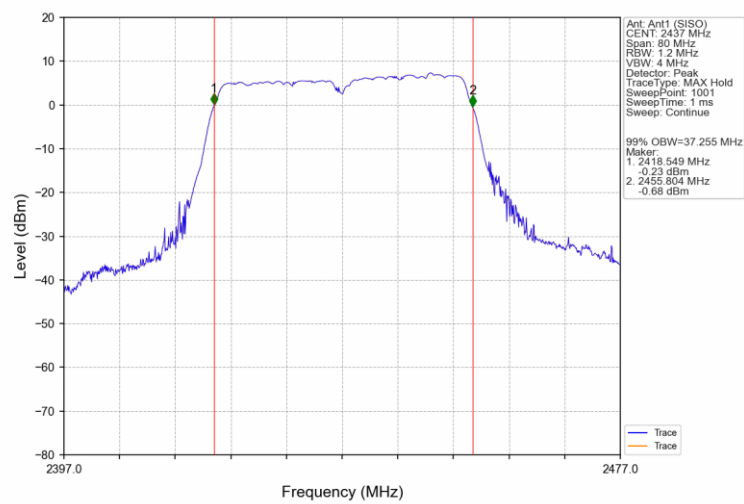
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



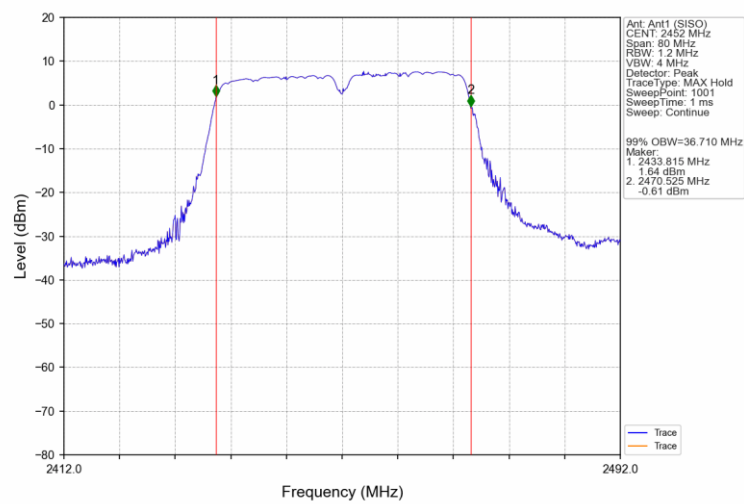
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



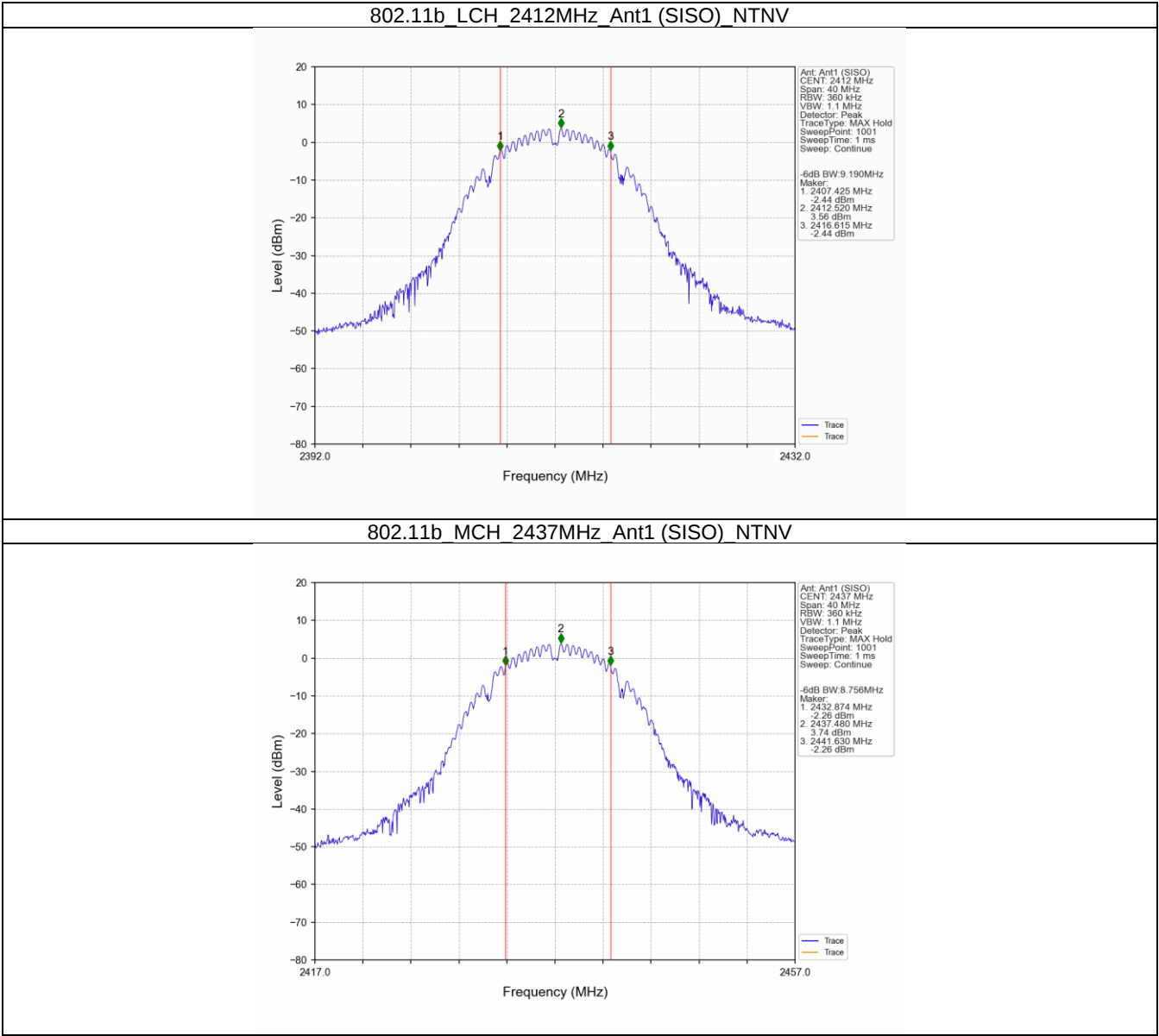
802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



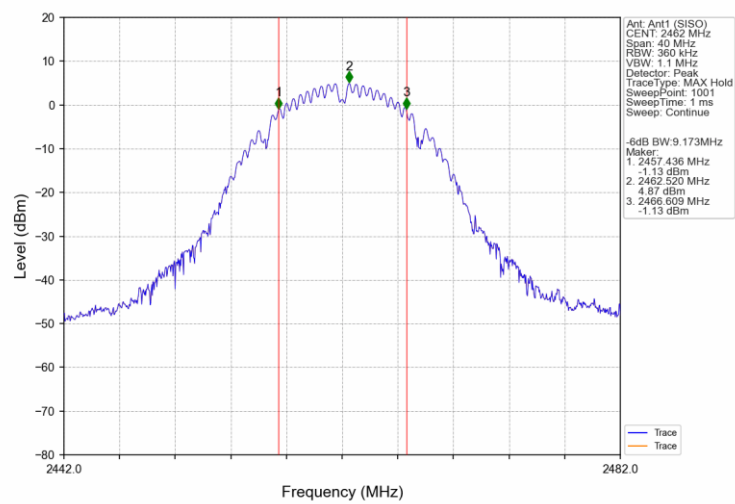
802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



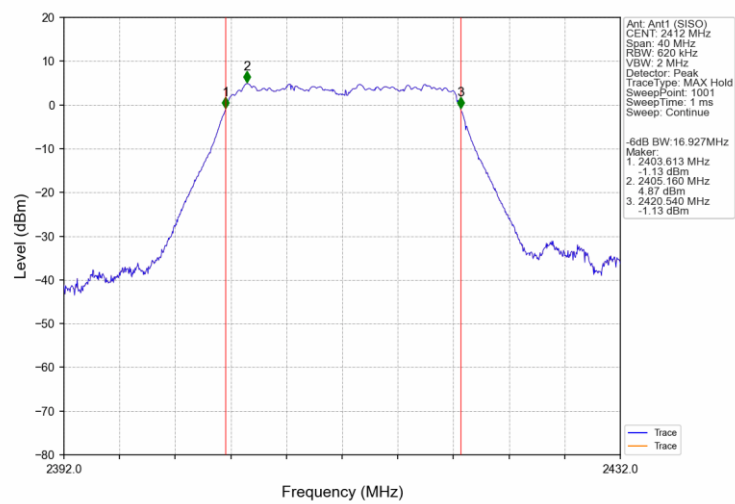
2.2.2 6dB BW



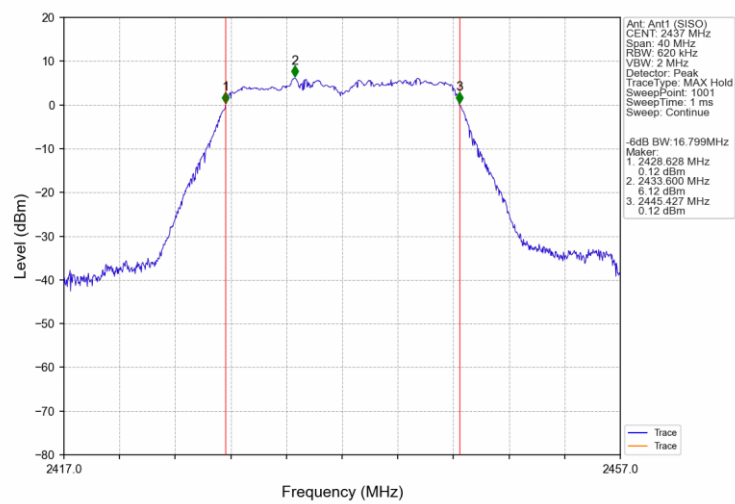
802.11b HCH 2462MHz Ant1 (SISO) NTN



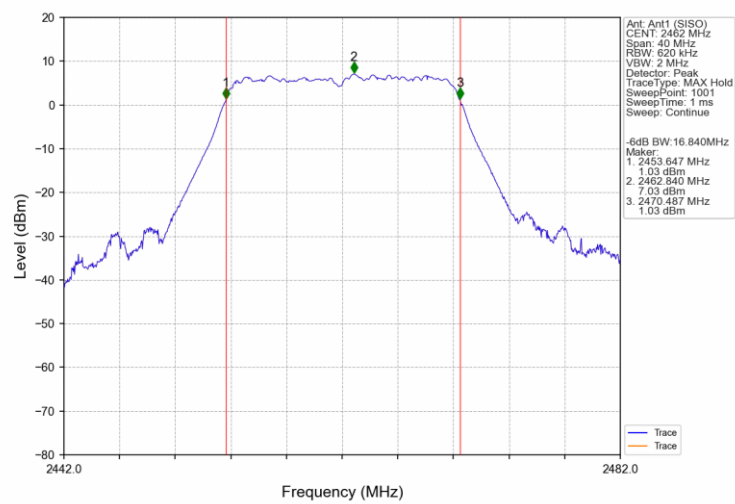
802.11g LCH 2412MHz Ant1 (SISO) NTN



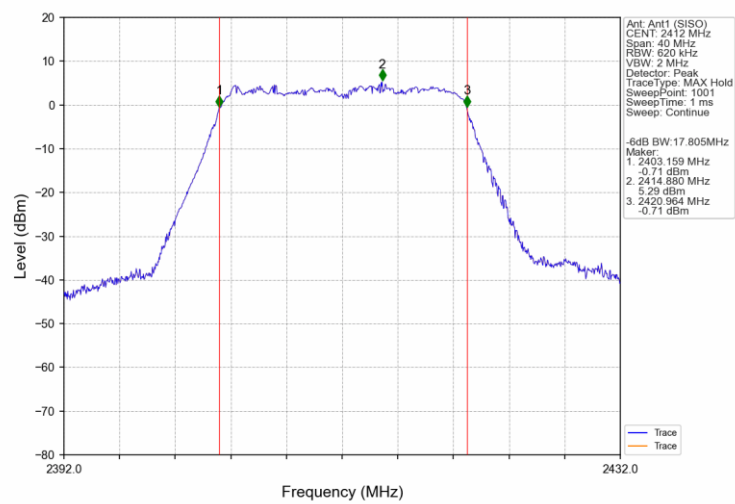
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



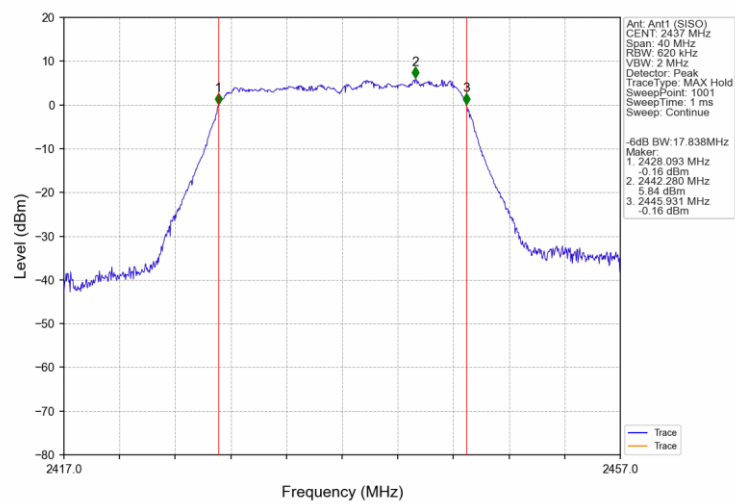
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV

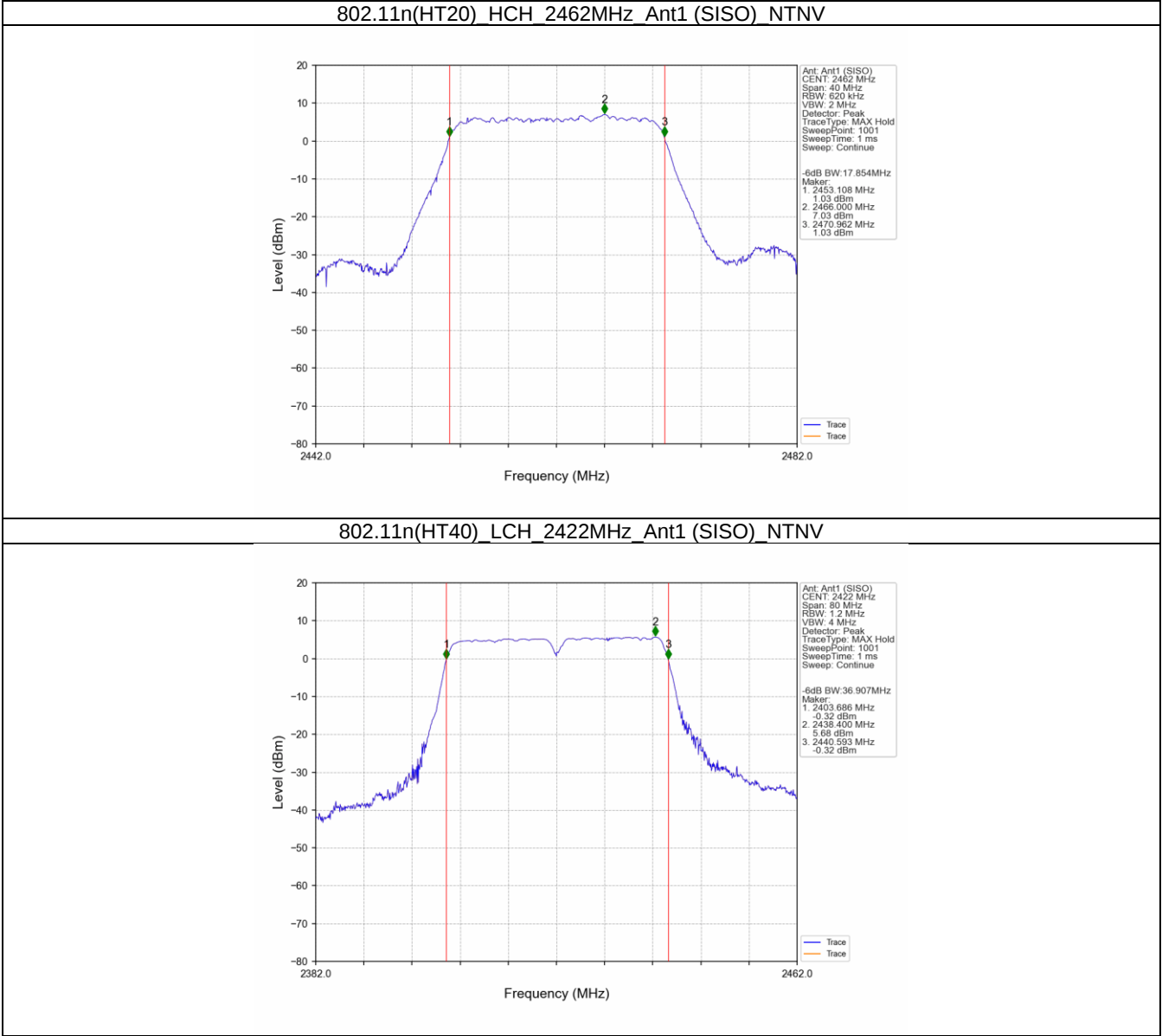


802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV

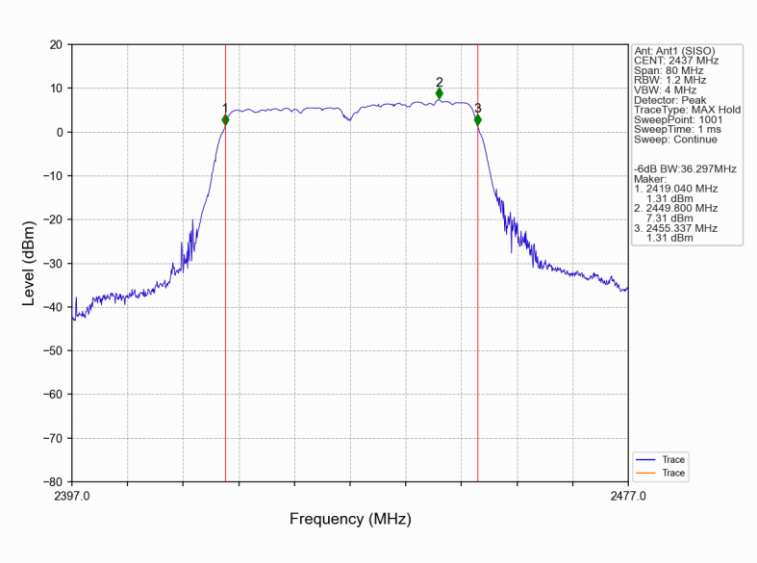


802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV

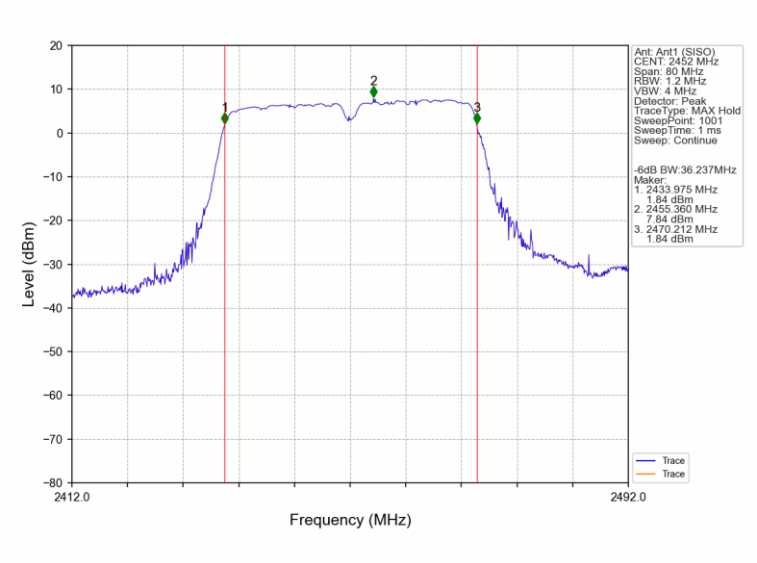




802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



3. Maximum Conducted Output Power

3.1 Test Result

3.1.1 Power

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	11.06	<=30	Pass
		2437	11.44	<=30	Pass
		2462	12.61	<=30	Pass
802.11g	SISO	2412	10.54	<=30	Pass
		2437	11.37	<=30	Pass
		2462	12.77	<=30	Pass
802.11n (HT20)	SISO	2412	10.43	<=30	Pass
		2437	11.29	<=30	Pass
		2462	12.67	<=30	Pass
802.11n (HT40)	SISO	2422	10.84	<=30	Pass
		2437	11.57	<=30	Pass
		2452	12.35	<=30	Pass

Note1: Antenna Gain: Ant1: 3.0dBi;

4. Maximum Power Spectral Density

4.1 Test Result

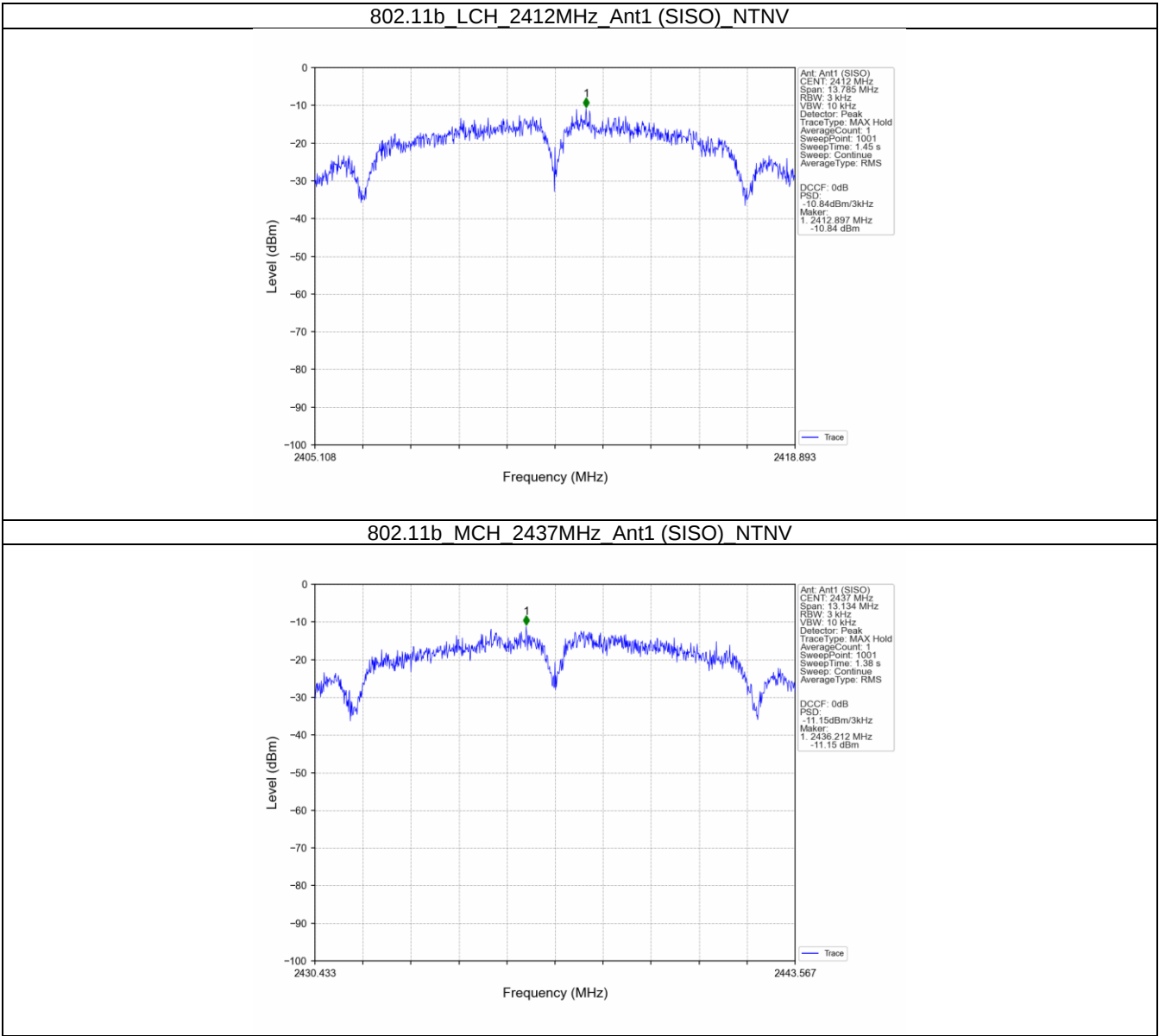
4.1.1 PSD

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	-10.84	<=8	Pass
		2437	-11.15	<=8	Pass
		2462	-9.47	<=8	Pass
802.11g	SISO	2412	-15.12	<=8	Pass
		2437	-13.53	<=8	Pass
		2462	-11.92	<=8	Pass
802.11n (HT20)	SISO	2412	-14.76	<=8	Pass
		2437	-14.09	<=8	Pass
		2462	-12.82	<=8	Pass
802.11n (HT40)	SISO	2422	-17.39	<=8	Pass
		2437	-15.11	<=8	Pass
		2452	-15.75	<=8	Pass

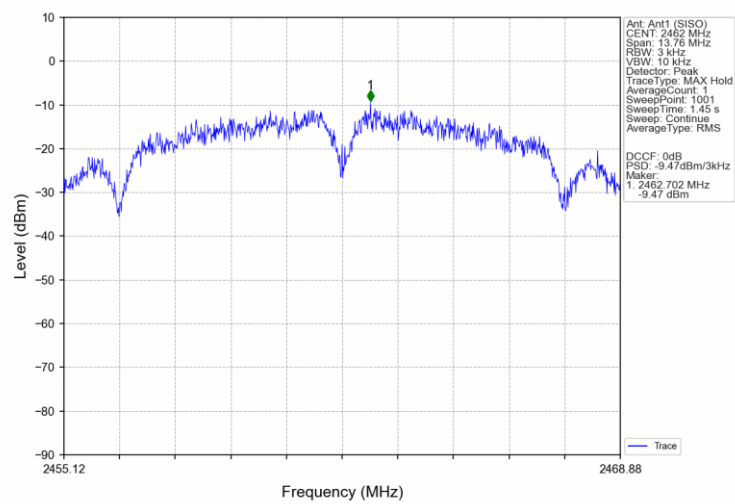
Note1: Antenna Gain: Ant1: 3.0dBi;

4.2 Test Graph

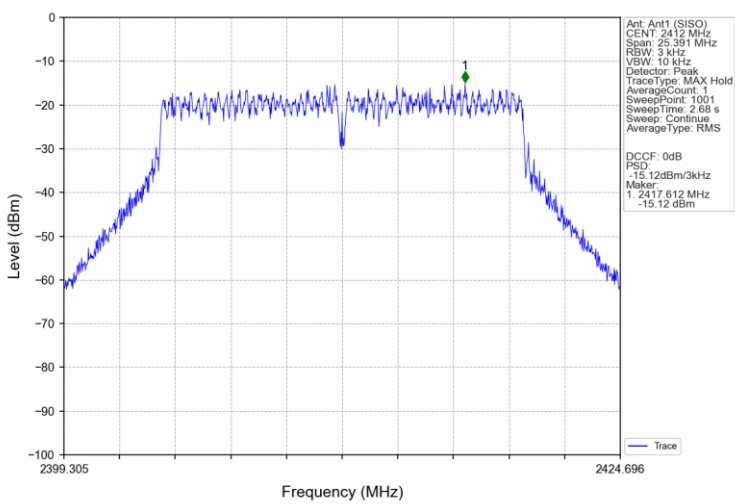
4.2.1 PSD

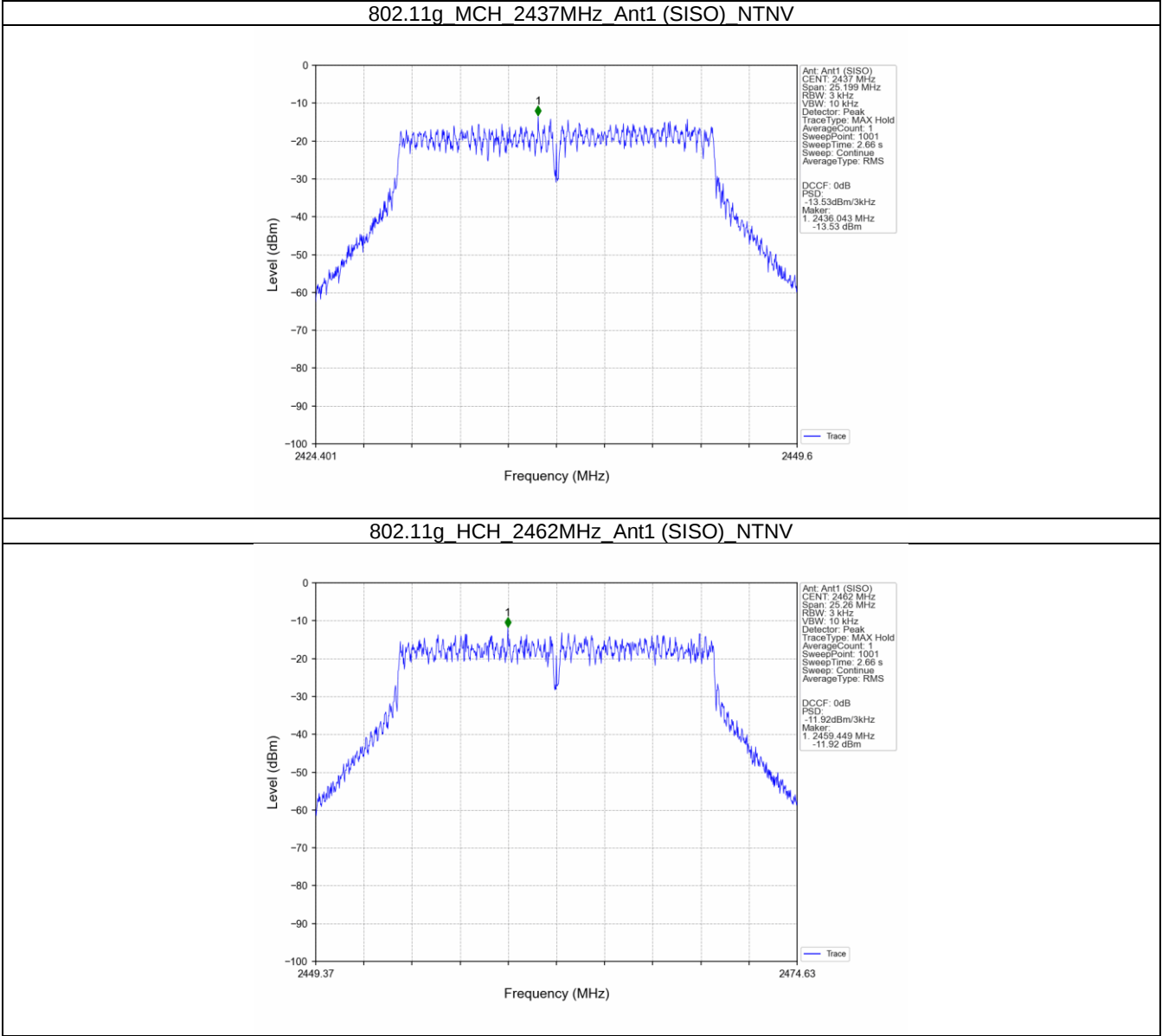


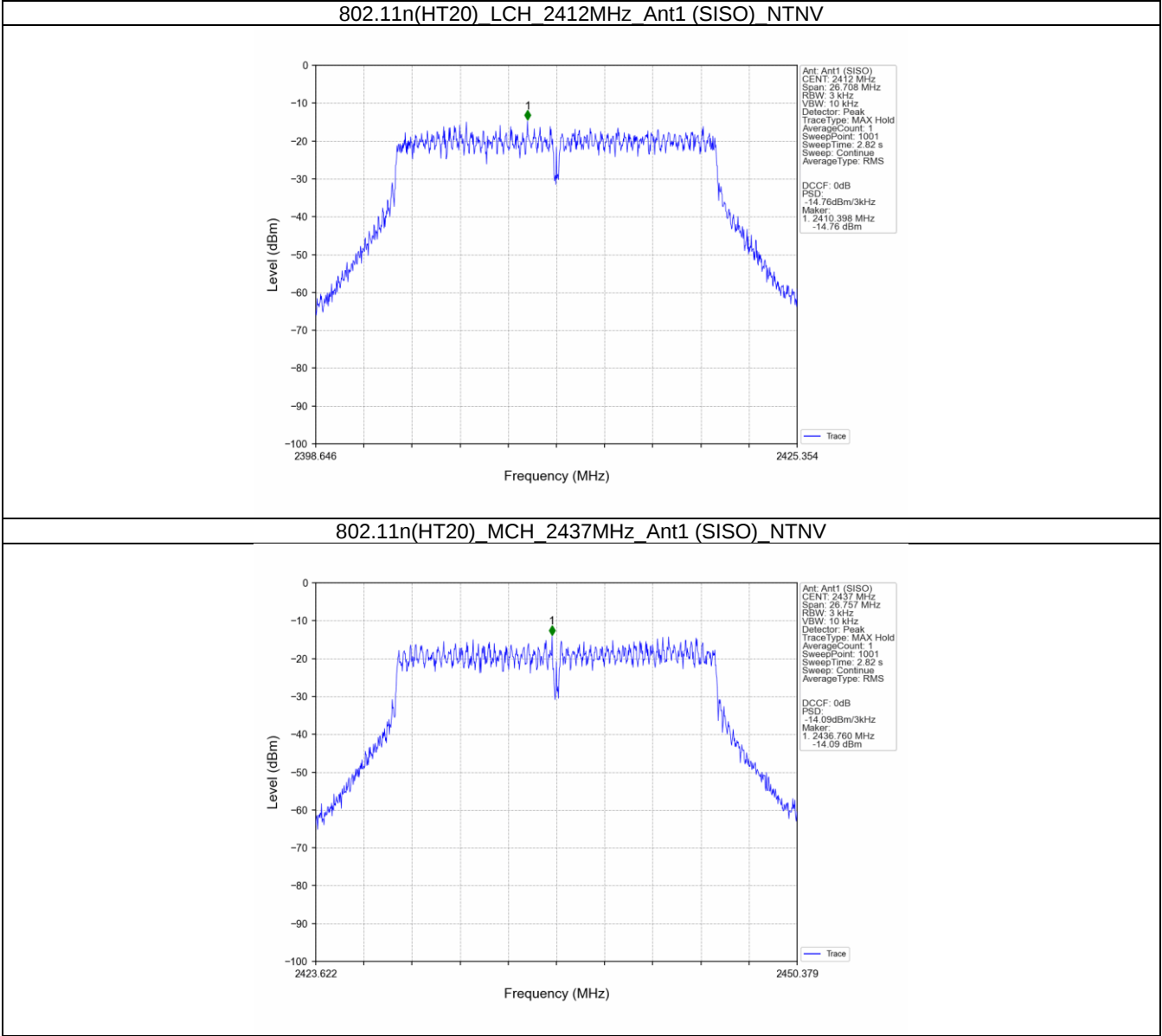
802.11b HCH 2462MHz Ant1 (SISO) NTN

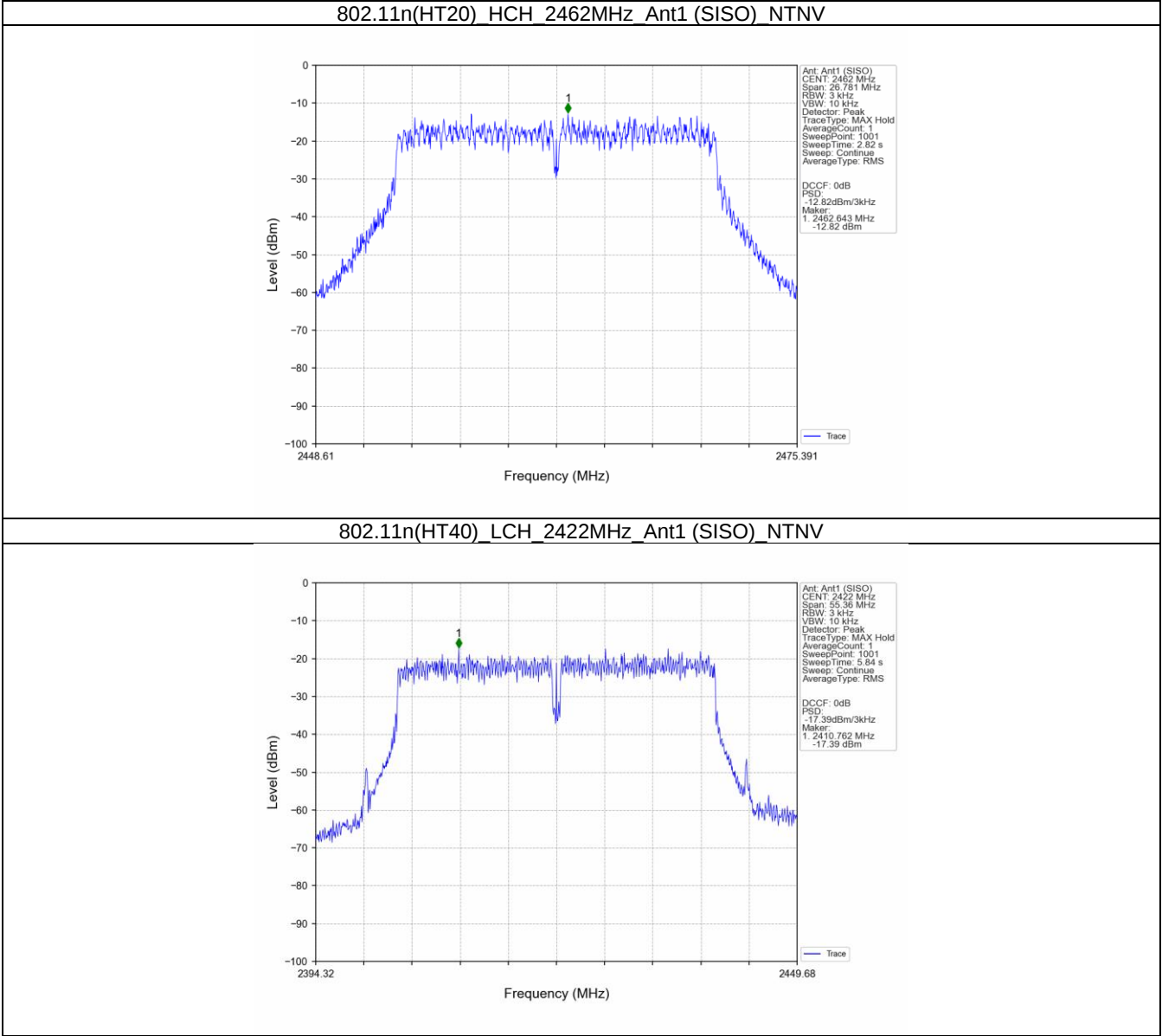


802.11g LCH 2412MHz Ant1 (SISO) NTN

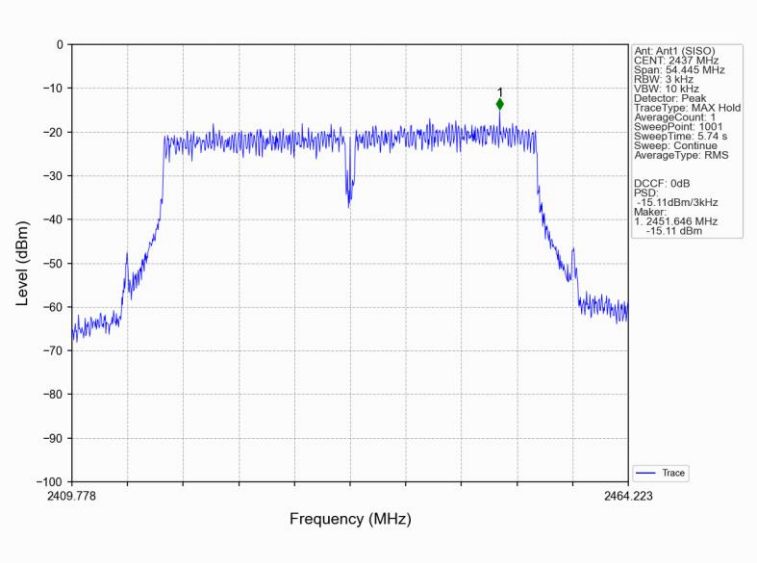




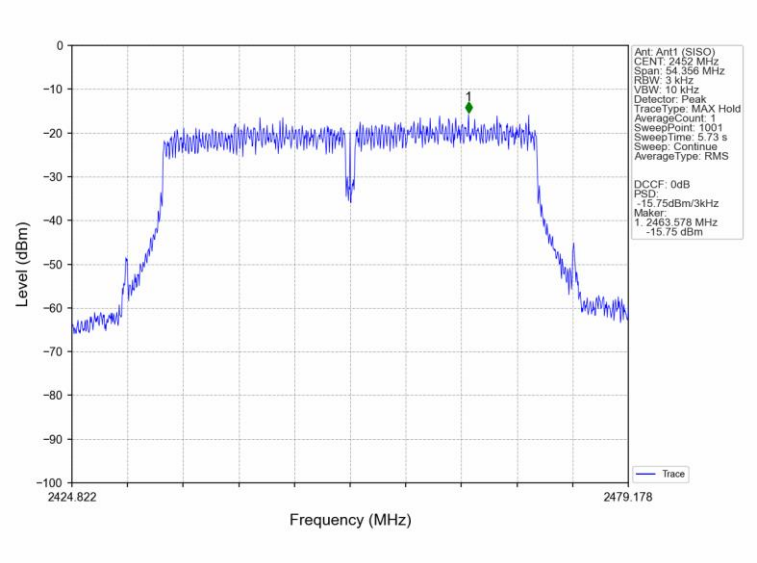




802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



5. Unwanted Emissions In Non-restricted Frequency Bands

5.1 Test Result

5.1.1 Ref

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
802.11b	SISO	2412	1	3.01
		2437	1	3.38
		2462	1	4.65
802.11g	SISO	2412	1	-0.65
		2437	1	0.30
		2462	1	1.53
802.11n (HT20)	SISO	2412	1	-0.54
		2437	1	0.45
		2462	1	1.87
802.11n (HT40)	SISO	2422	1	-3.36
		2437	1	-2.06
		2452	1	-1.29

Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.

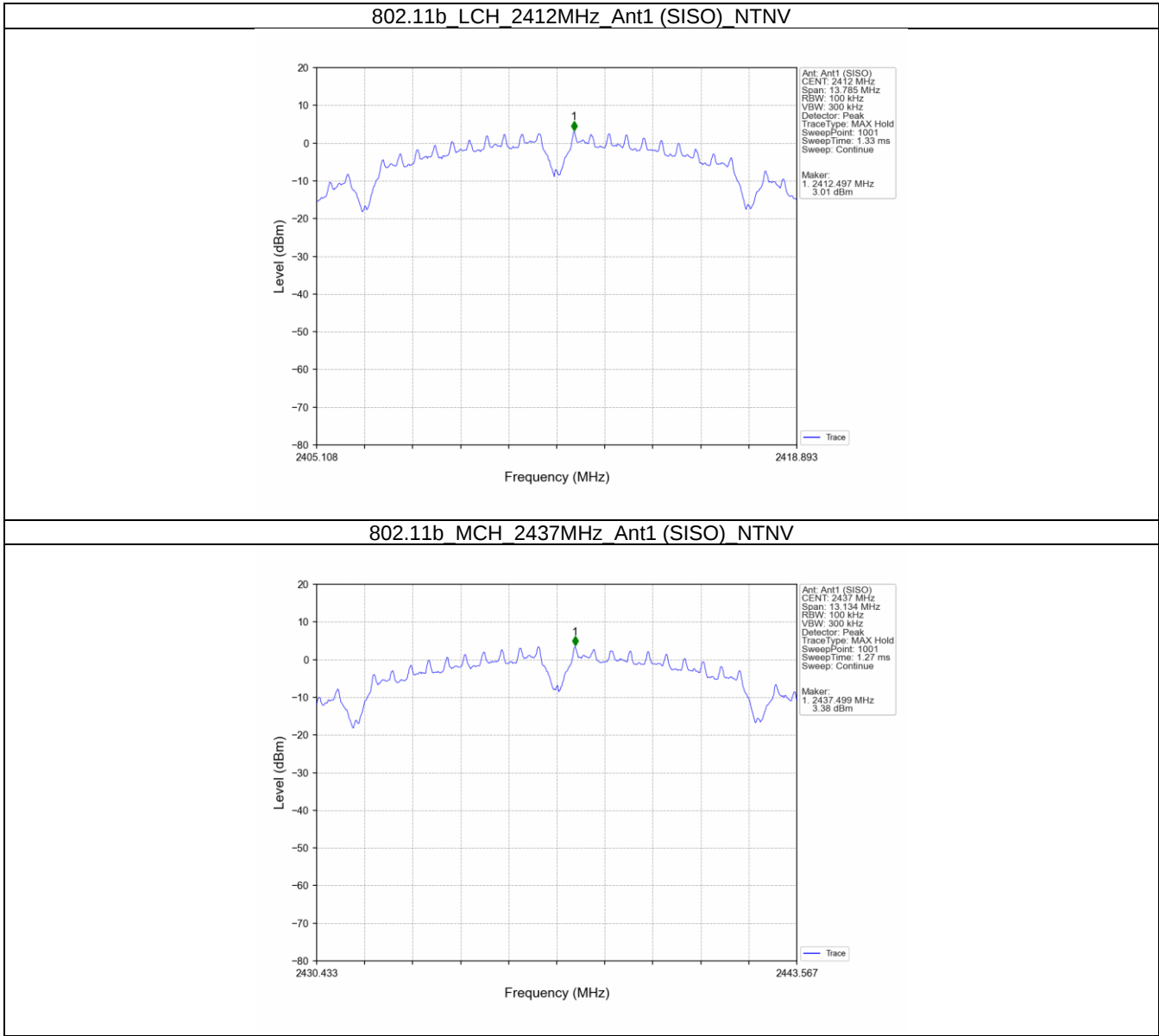
5.1.2 CSE

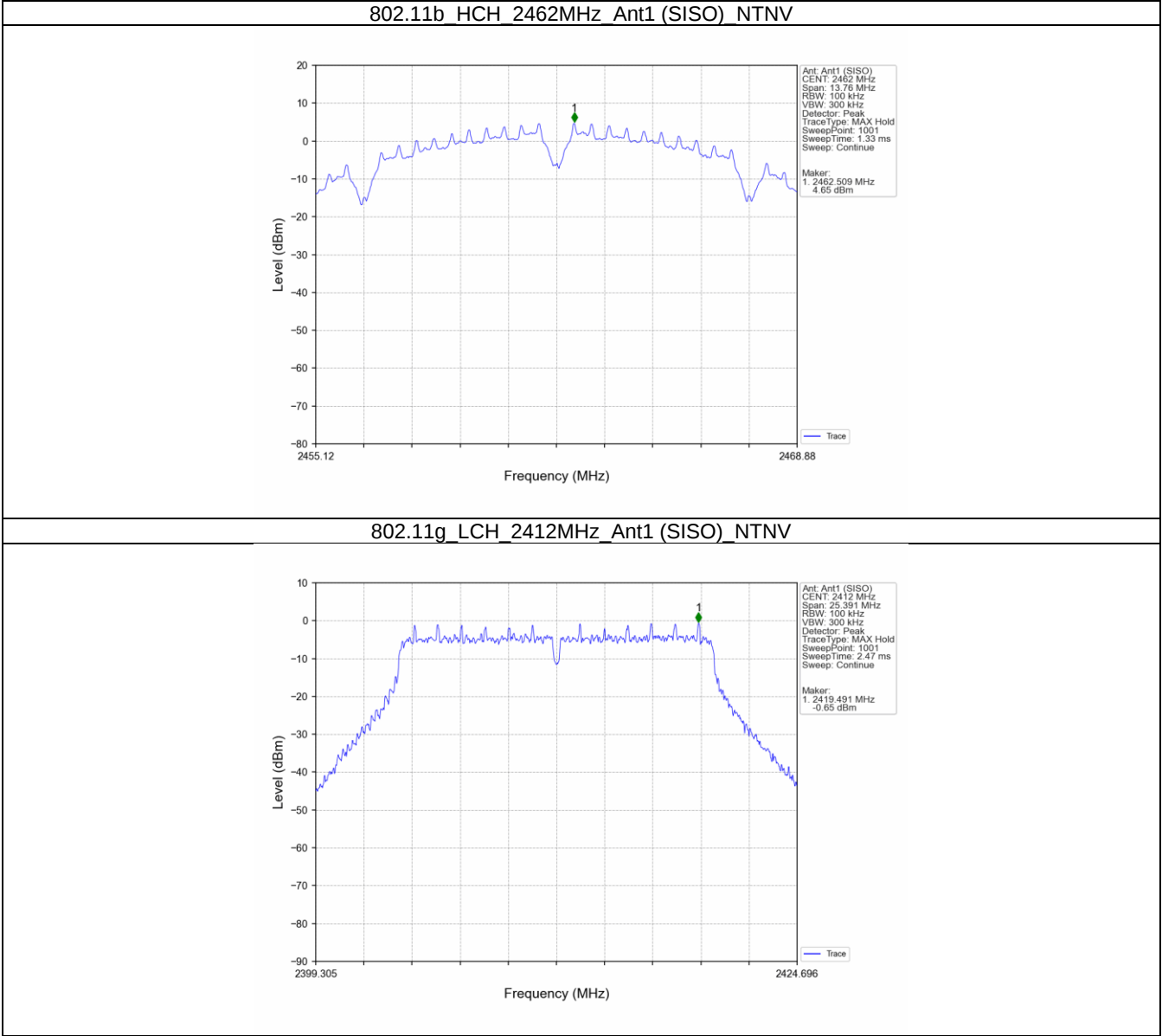
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	1	4.65	-25.35	Pass
		2437	1	4.65	-25.35	Pass
		2462	1	4.65	-25.35	Pass
802.11g	SISO	2412	1	1.53	-28.47	Pass
		2437	1	1.53	-28.47	Pass
		2462	1	1.53	-28.47	Pass
802.11n (HT20)	SISO	2412	1	1.87	-28.13	Pass
		2437	1	1.87	-28.13	Pass
		2462	1	1.87	-28.13	Pass
802.11n (HT40)	SISO	2422	1	-1.29	-31.29	Pass
		2437	1	-1.29	-31.29	Pass
		2452	1	-1.29	-31.29	Pass

Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.

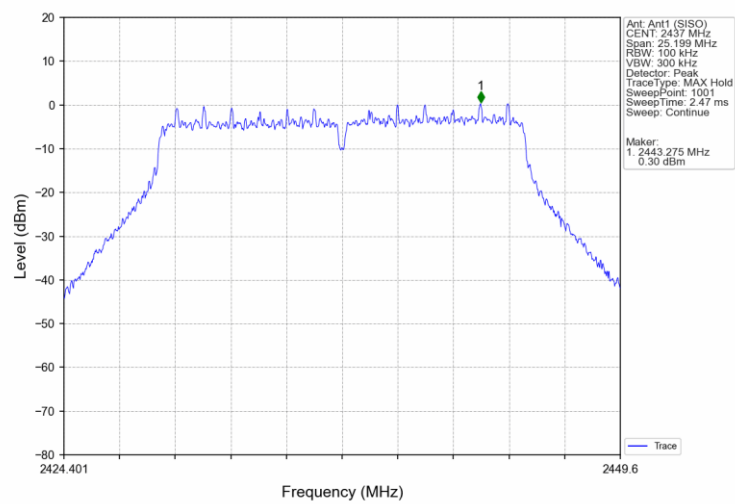
5.2 Test Graph

5.2.1 Ref

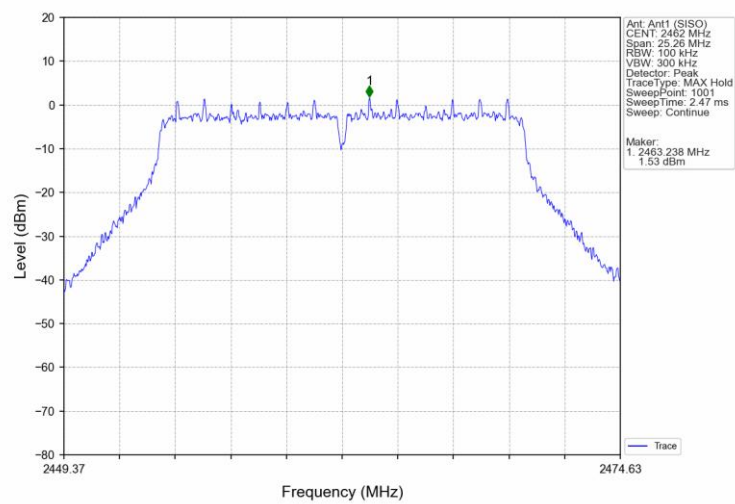


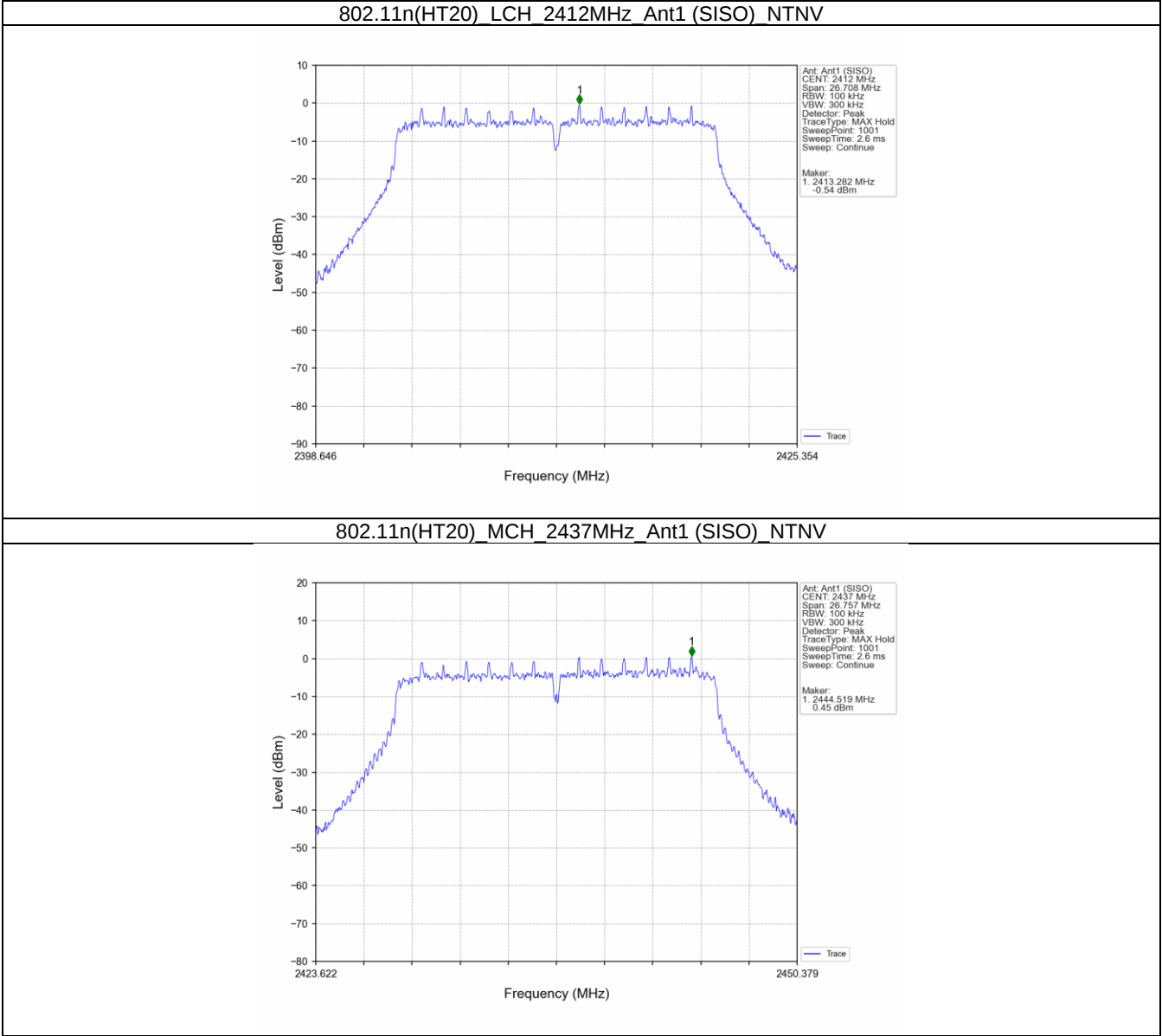


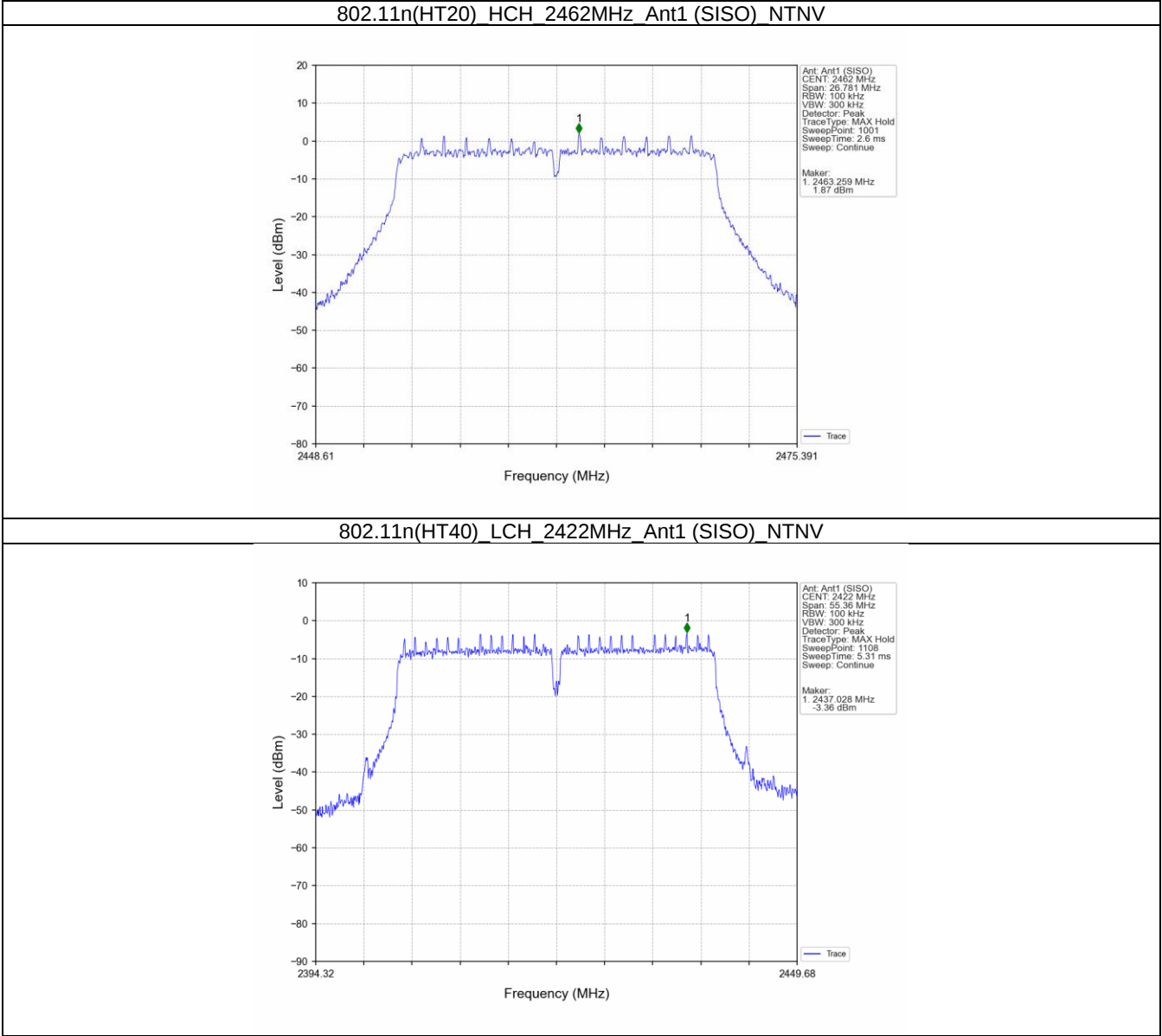
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV

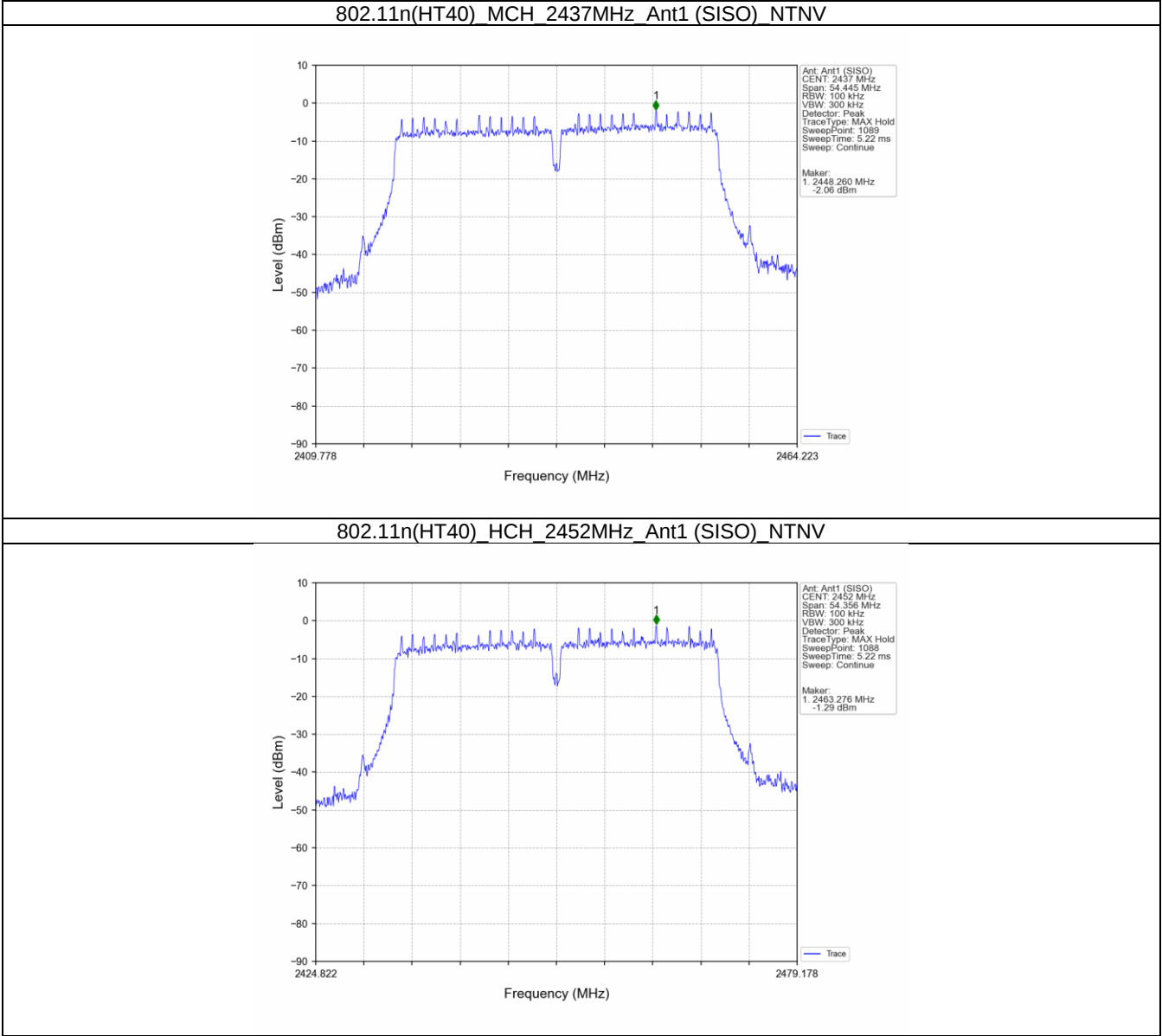


802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV

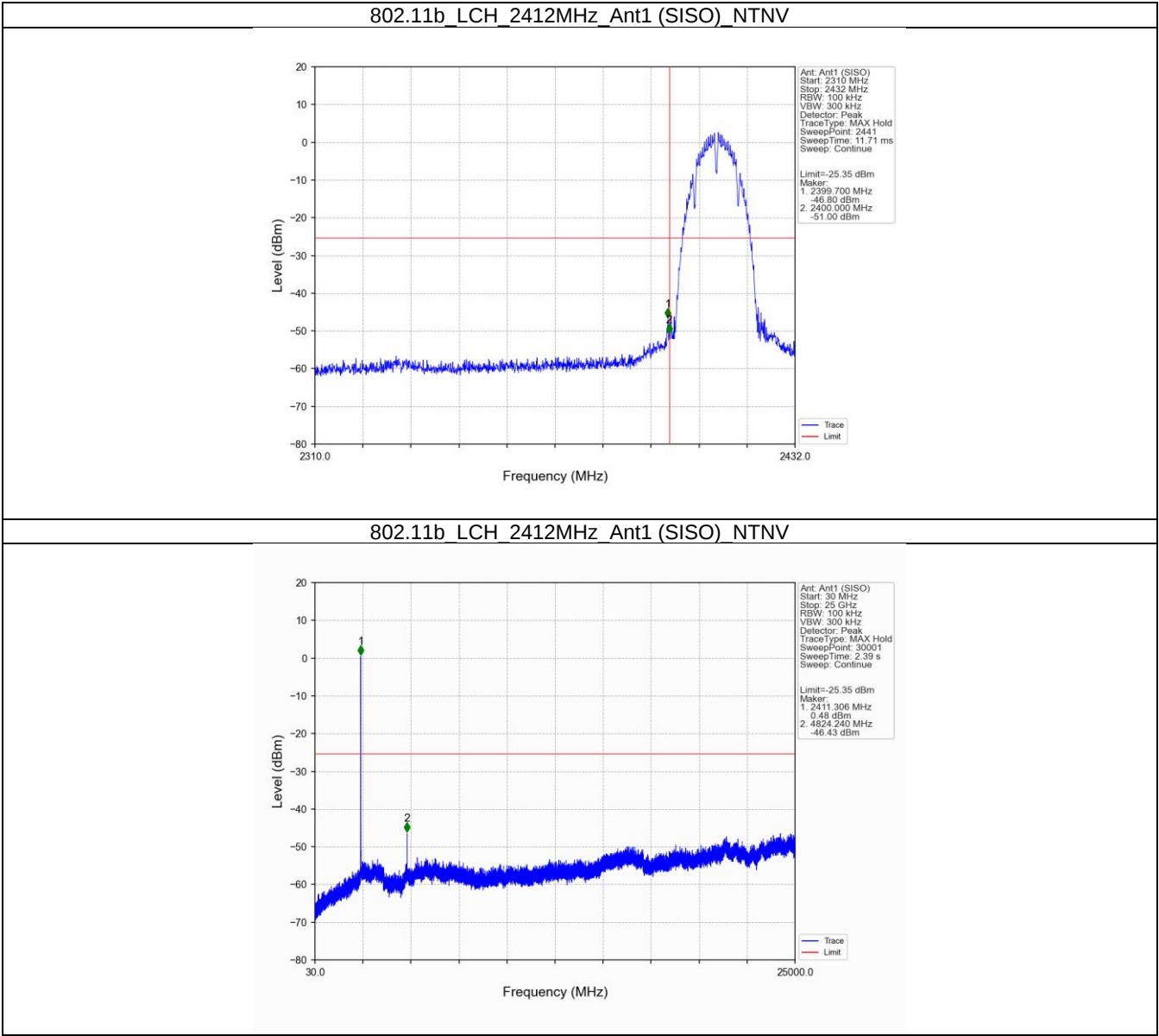




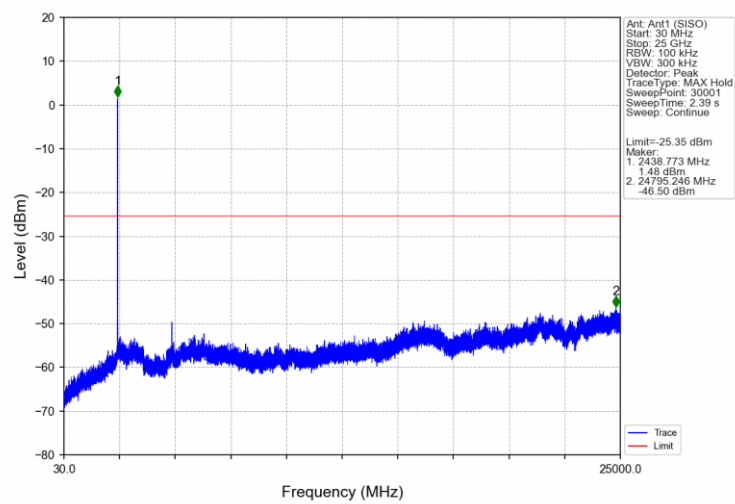




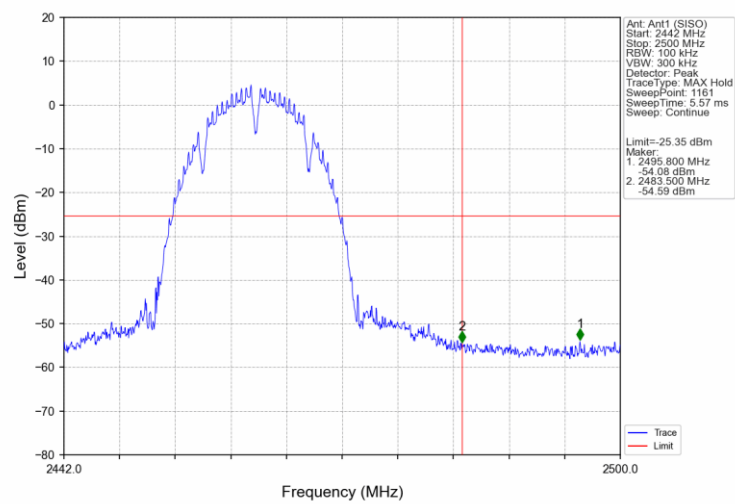
5.2.2 CSE



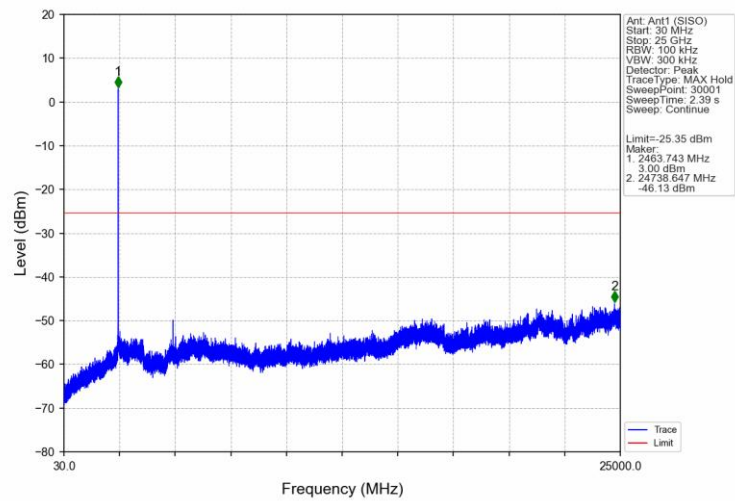
802.11b MCH 2437MHz Ant1 (SISO) NTN



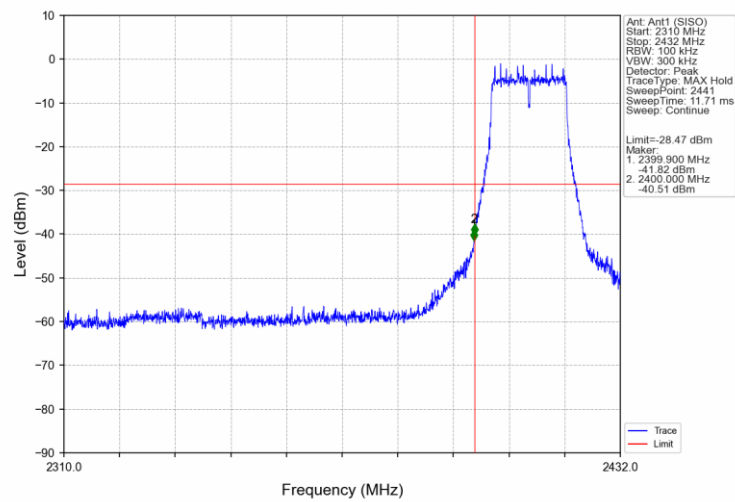
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



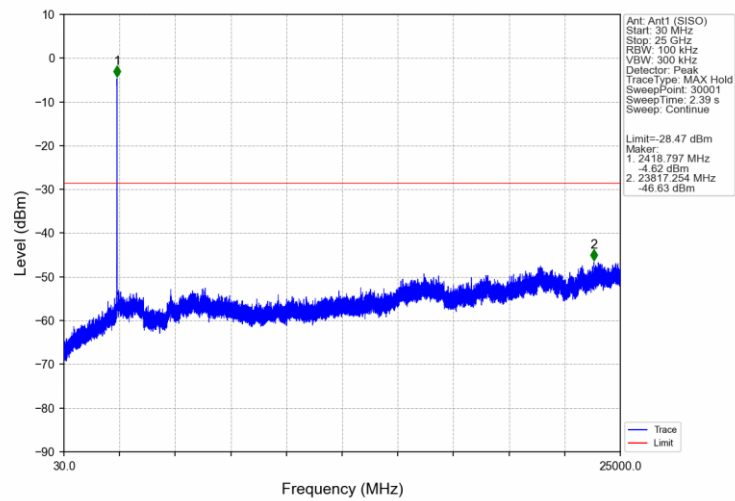
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



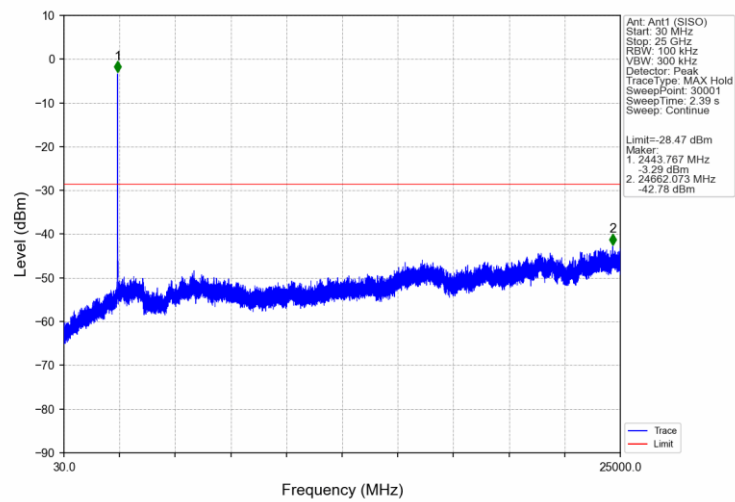
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV

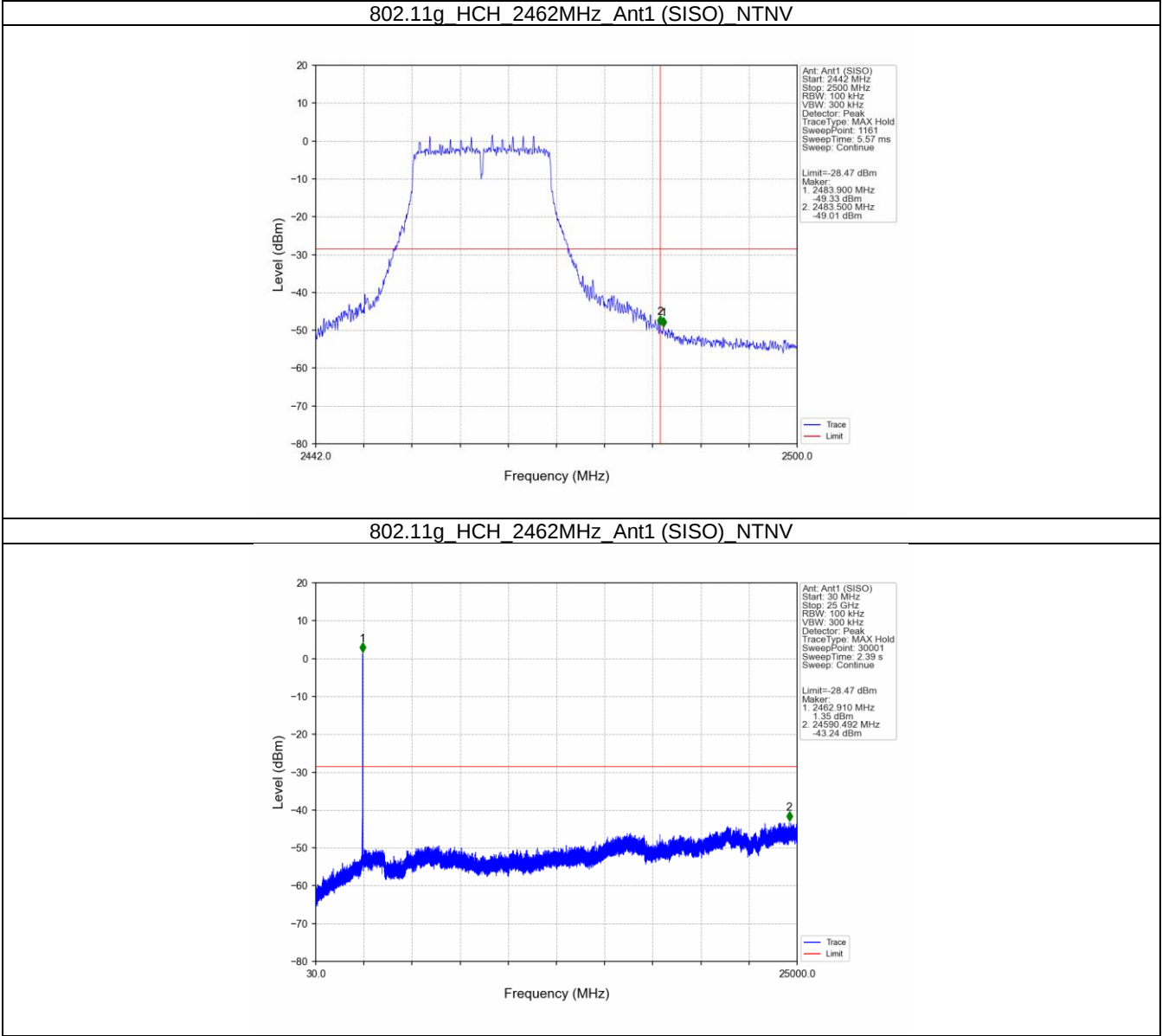


802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV

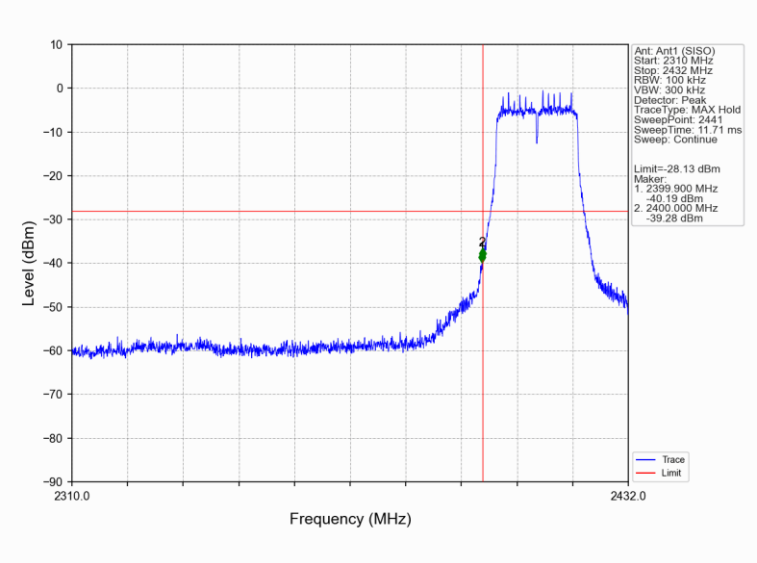


802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV

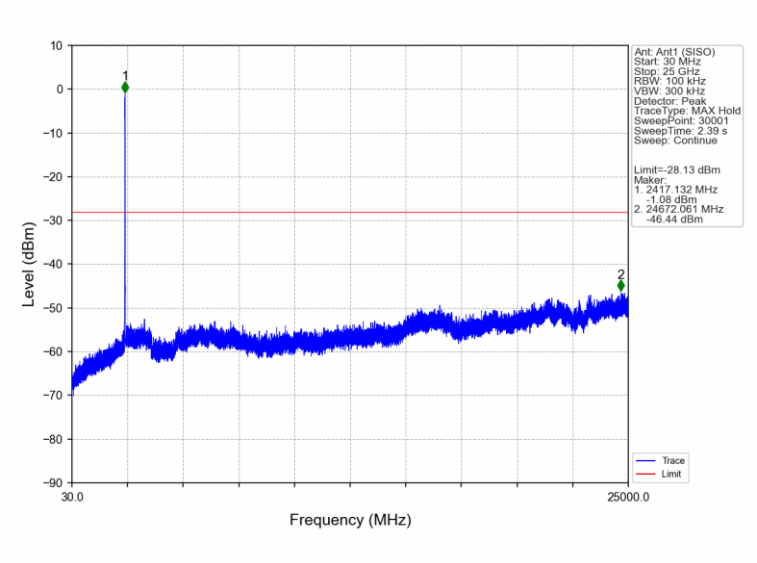


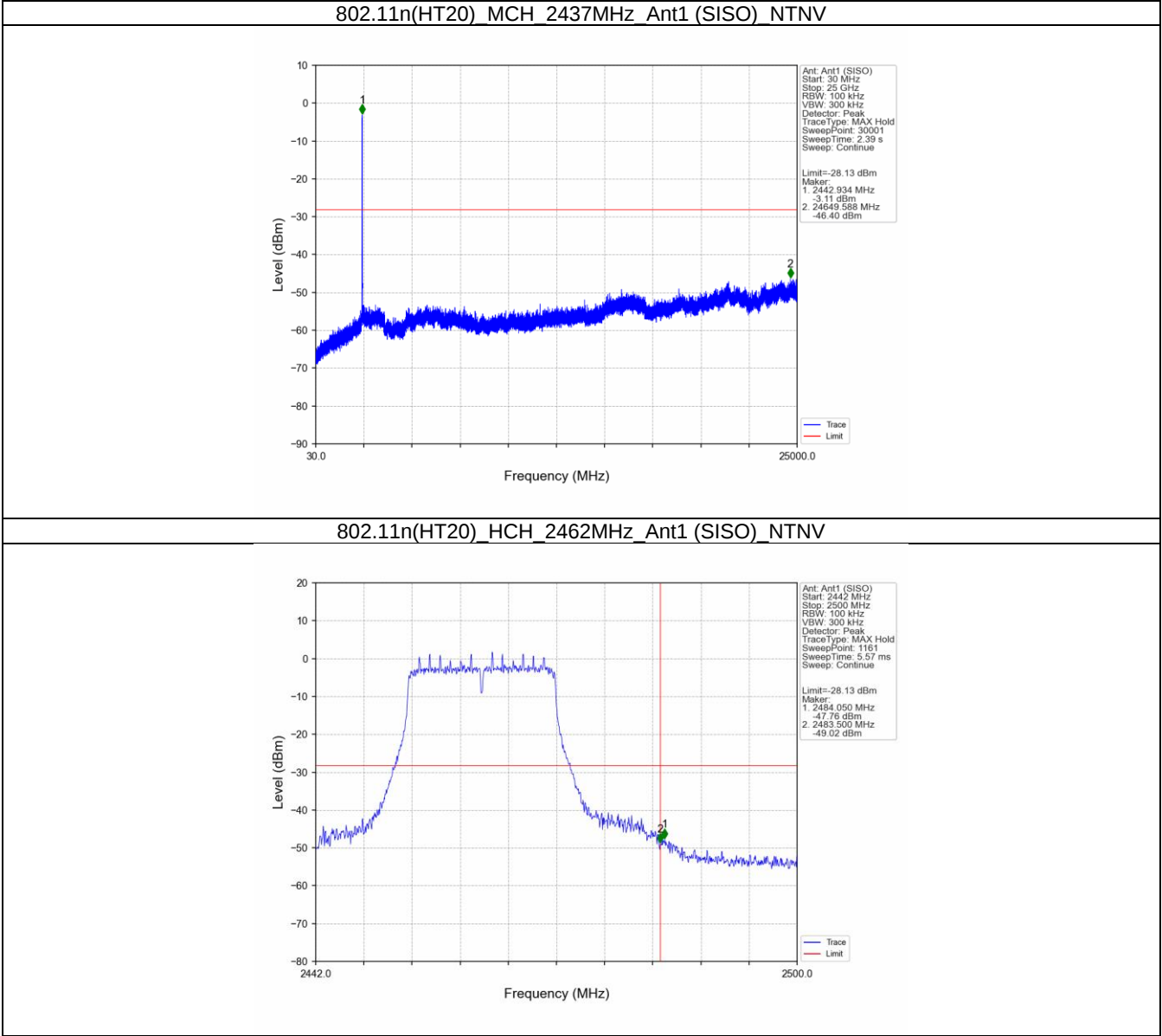


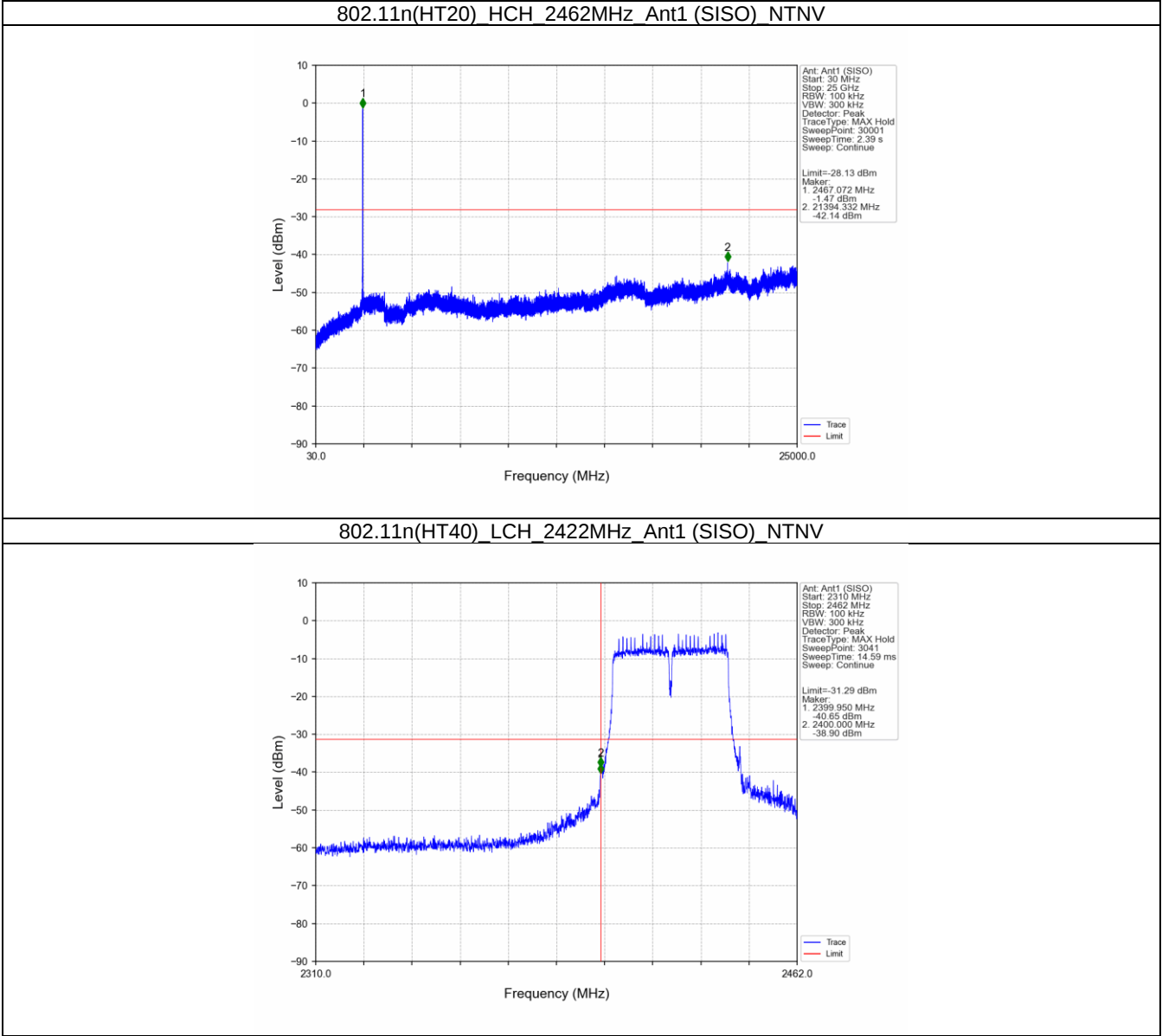
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



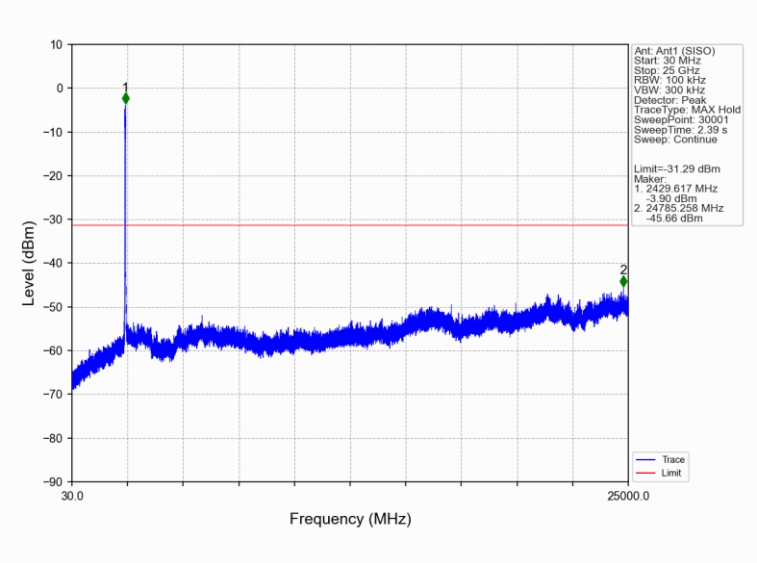
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



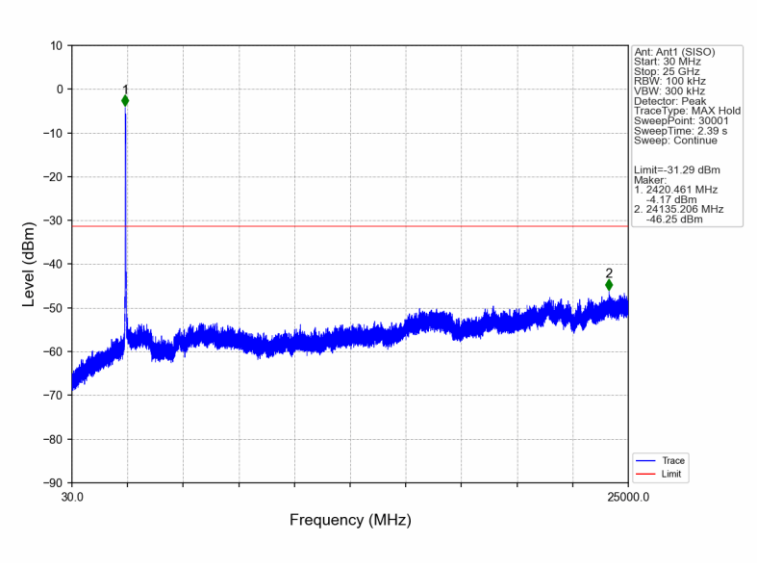


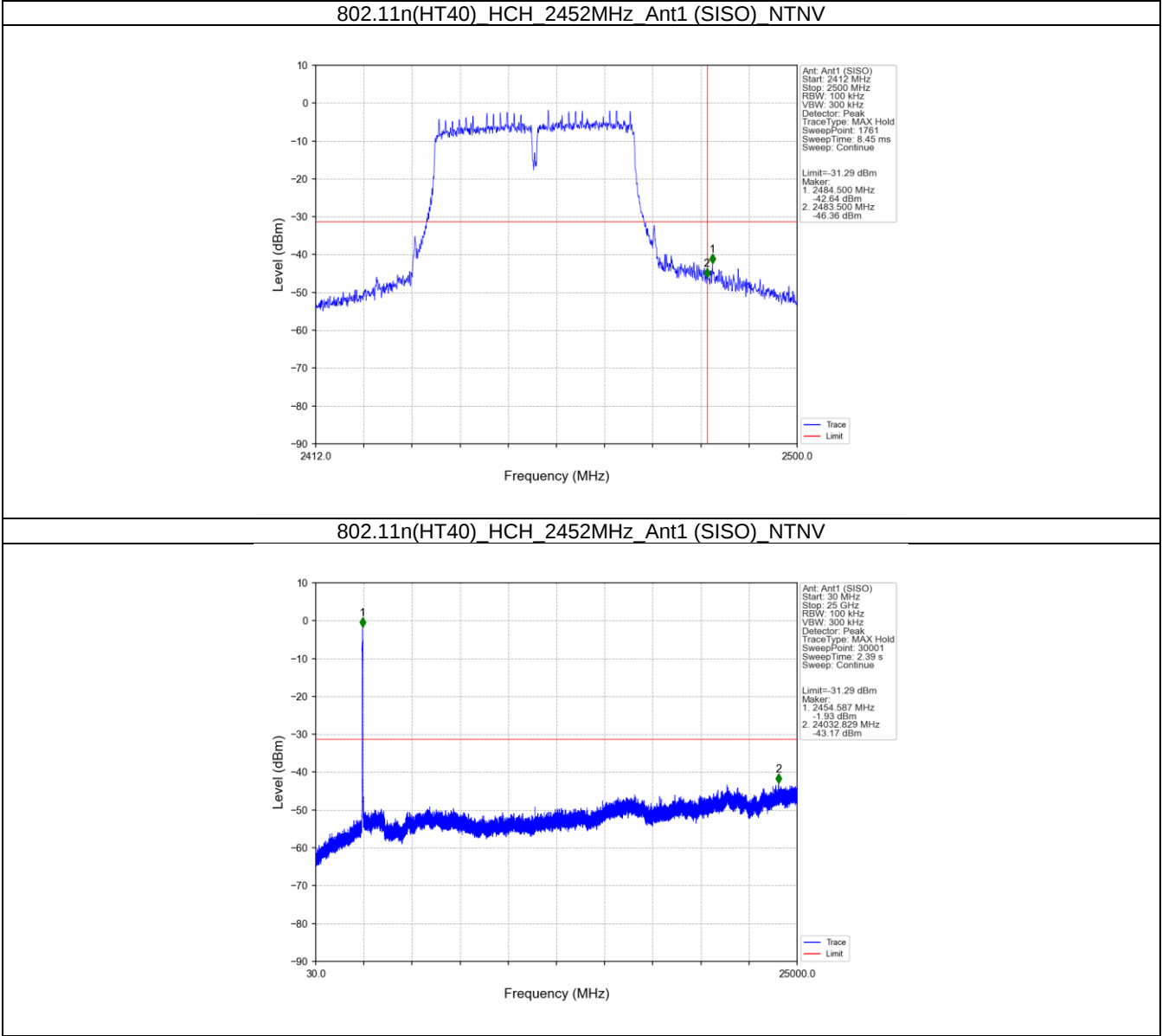


802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV





6. Form731

6.1 Test Result

6.1.1 Form731

Lower Freq (MHz)	High Freq (MHz)	MAX Power (W)	MAX Power (dBm)
2412	2462	0.0189	12.77
2422	2452	0.0172	12.35