

Appendix RF test data for WIFI2.4G

(Module 1: BL-M8811CU2)

1. Duty Cycle

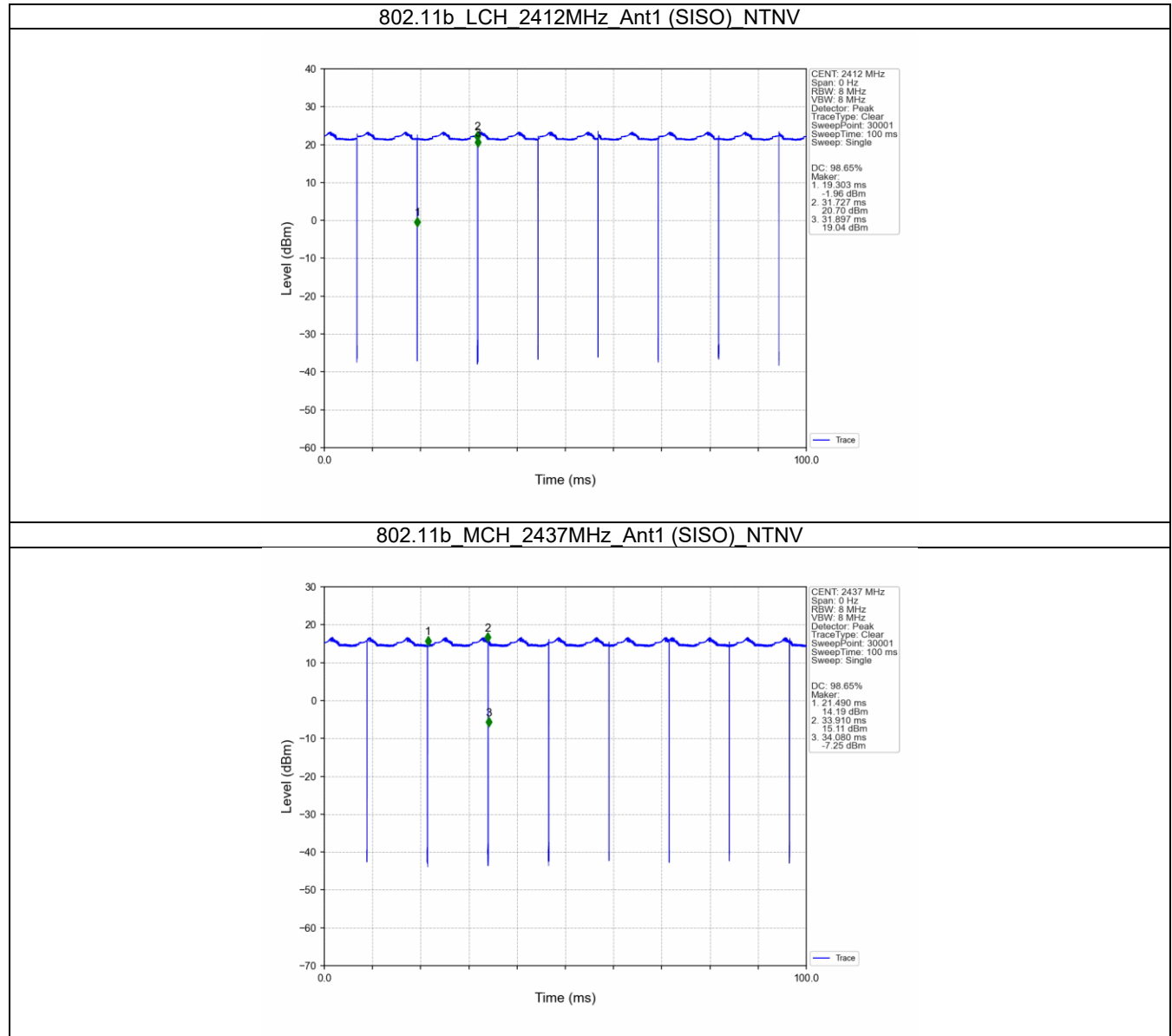
1.1 Test Result

1.1.1 Ant1

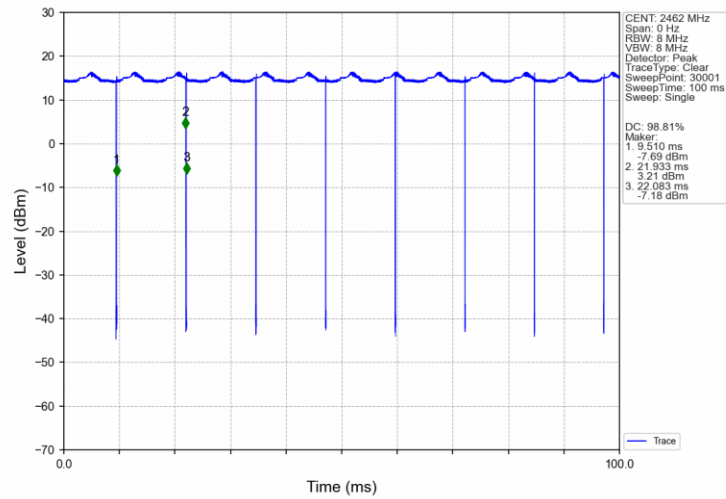
Ant1							
Mode	Tx Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11b	SISO	2412	12.424	12.594	98.65	0.06	1.06
		2437	12.420	12.590	98.65	0.06	1.06
		2462	12.423	12.573	98.81	0.05	0.63
802.11g	SISO	2412	2.067	2.238	92.36	0.35	5.13
		2437	2.072	2.228	93.00	0.32	5.56
		2462	2.068	2.211	93.53	0.29	4.76
802.11n (HT20)	SISO	2412	1.927	2.093	92.07	0.36	6.35
		2437	1.923	2.093	91.88	0.37	4.14
		2462	1.928	2.057	93.73	0.28	4.70
802.11n (HT40)	SISO	2422	0.951	1.098	86.61	0.62	10.35
		2437	0.945	1.081	87.42	0.58	8.85
		2452	0.947	1.108	85.47	0.68	10.09

1.2 Test Graph

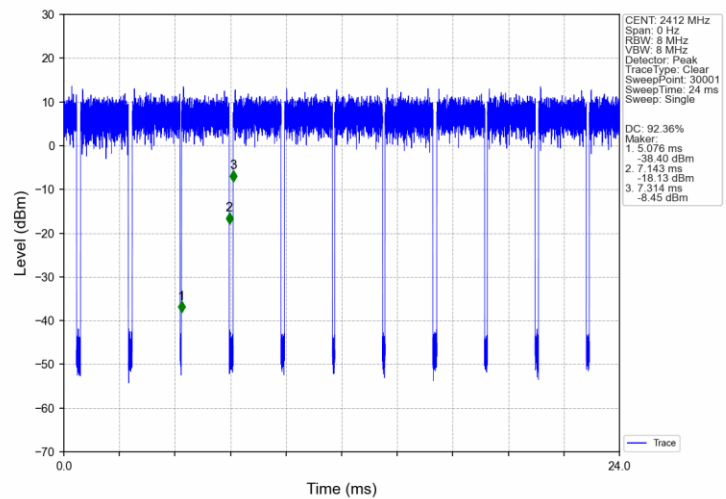
1.2.1 Ant1



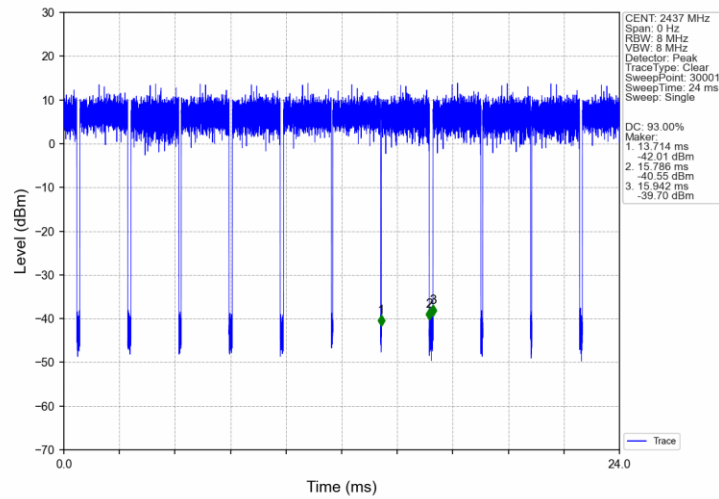
802.11b HCH 2462MHz_Ant1 (SISO) NTN



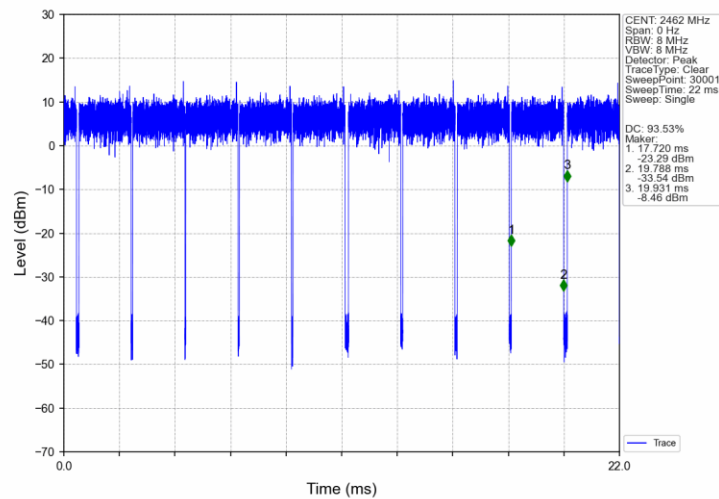
802.11g LCH 2412MHz_Ant1 (SISO) NTN



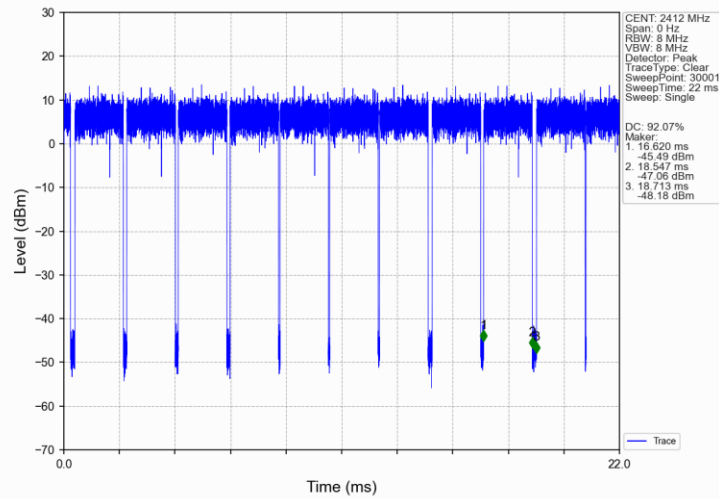
802.11g_MCH_2437MHz_Ant1 (SISO) NTN



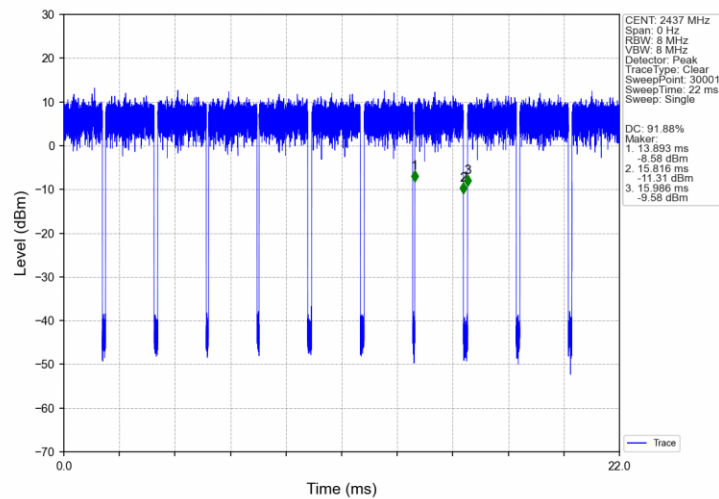
802.11g_HCH_2462MHz_Ant1 (SISO) NTN



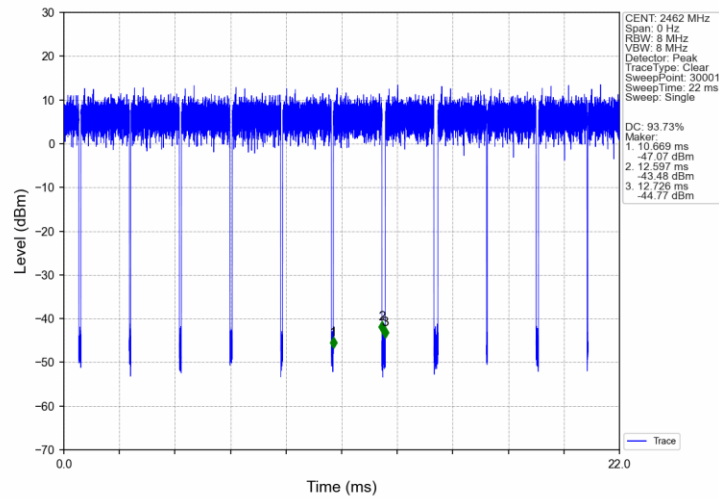
802.11n(HT20) LCH 2412MHz Ant1 (SISO) NTNV



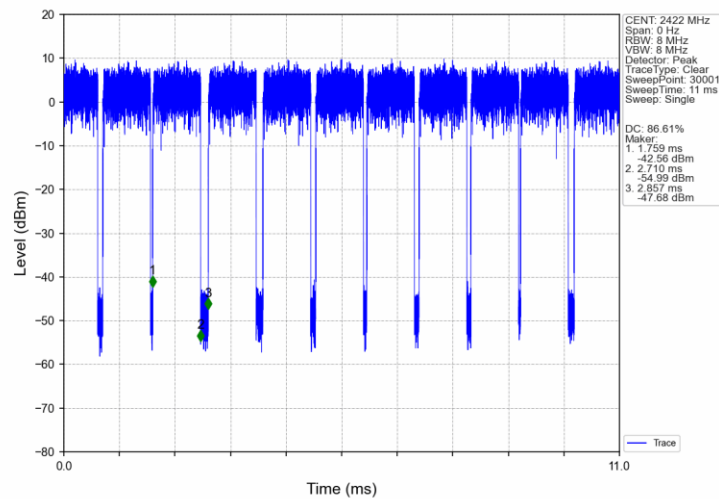
802.11n(HT20) MCH 2437MHz Ant1 (SISO) NTNV



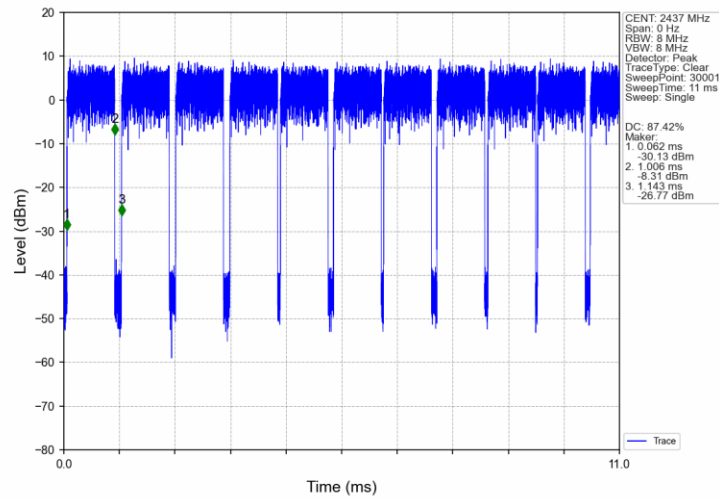
802.11n(HT20) HCH_2462MHz_Ant1 (SISO)_NTNV



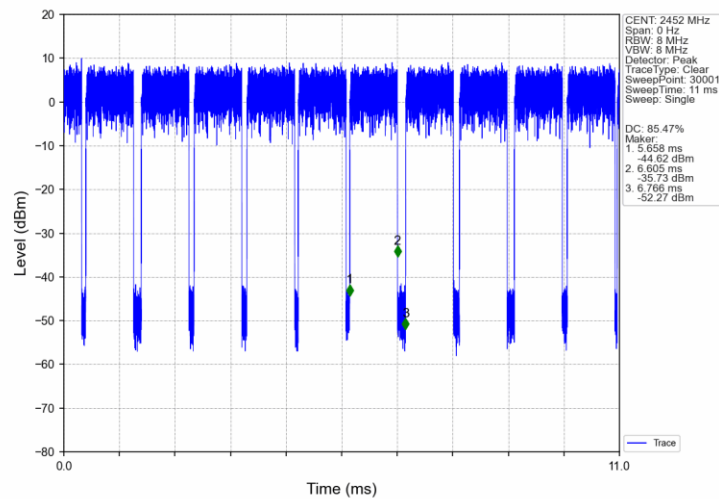
802.11n(HT40) LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40) MCH_2437MHz_Ant1 (SISO) NTN



802.11n(HT40) HCH_2452MHz_Ant1 (SISO) NTN



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	14.883	/	Pass
		2437	1	14.826	/	Pass
		2462	1	14.824	/	Pass
802.11g	SISO	2412	1	17.232	/	Pass
		2437	1	17.107	/	Pass
		2462	1	17.311	/	Pass
802.11n (HT20)	SISO	2412	1	18.104	/	Pass
		2437	1	18.116	/	Pass
		2462	1	18.190	/	Pass
802.11n (HT40)	SISO	2422	1	36.117	/	Pass
		2437	1	36.304	/	Pass
		2452	1	36.197	/	Pass

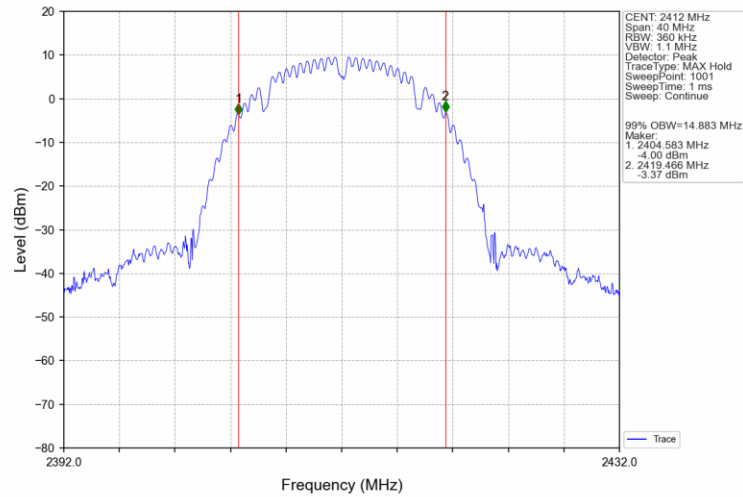
2.1.2 6dB BW

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	10.114	≥ 0.5	Pass
		2437	1	10.119	≥ 0.5	Pass
		2462	1	10.131	≥ 0.5	Pass
802.11g	SISO	2412	1	16.350	≥ 0.5	Pass
		2437	1	16.347	≥ 0.5	Pass
		2462	1	16.331	≥ 0.5	Pass
802.11n (HT20)	SISO	2412	1	17.106	≥ 0.5	Pass
		2437	1	17.066	≥ 0.5	Pass
		2462	1	16.823	≥ 0.5	Pass
802.11n (HT40)	SISO	2422	1	35.130	≥ 0.5	Pass
		2437	1	35.125	≥ 0.5	Pass
		2452	1	35.175	≥ 0.5	Pass

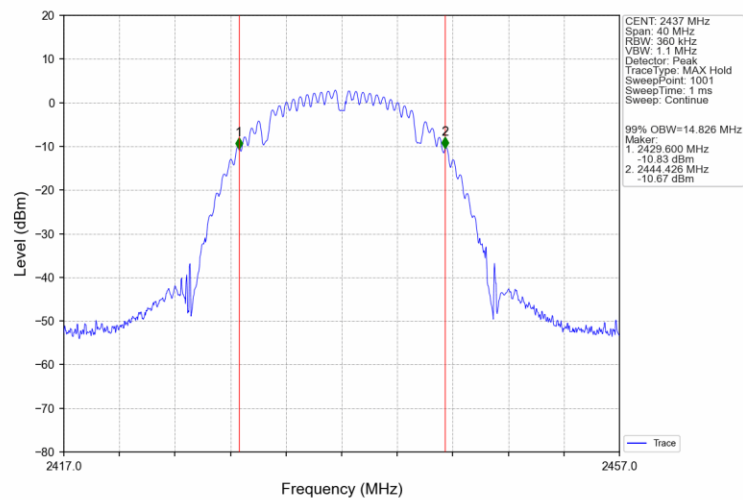
2.2 Test Graph

2.2.1 OBW

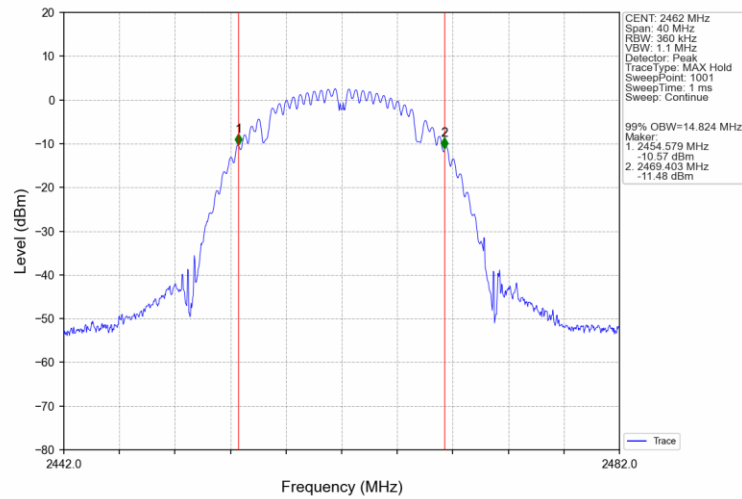
802.11b_LCH_2412MHz_Ant1 (SISO) NTNv



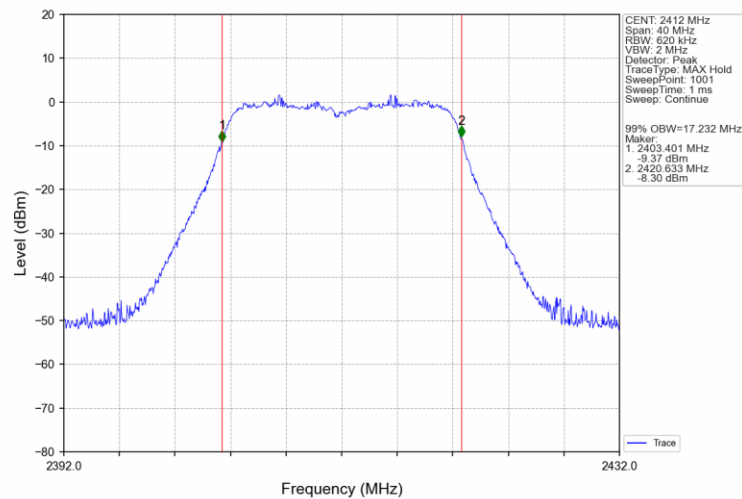
802.11b_MCH_2437MHz_Ant1 (SISO) NTNv



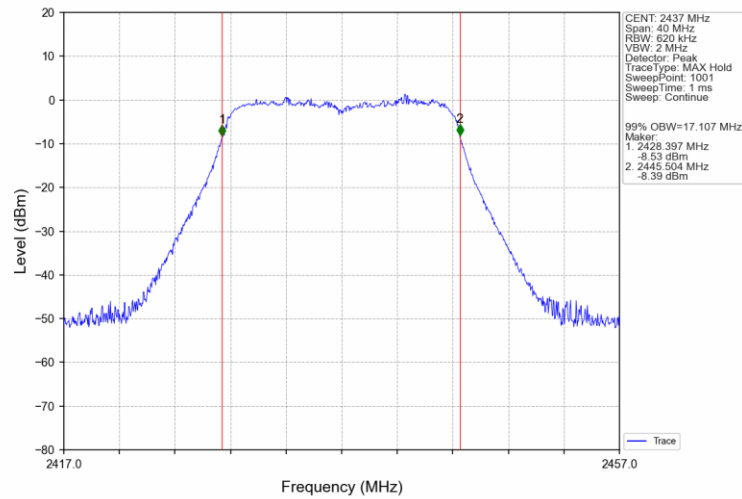
802.11b HCH 2462MHz_Ant1 (SISO) NTN



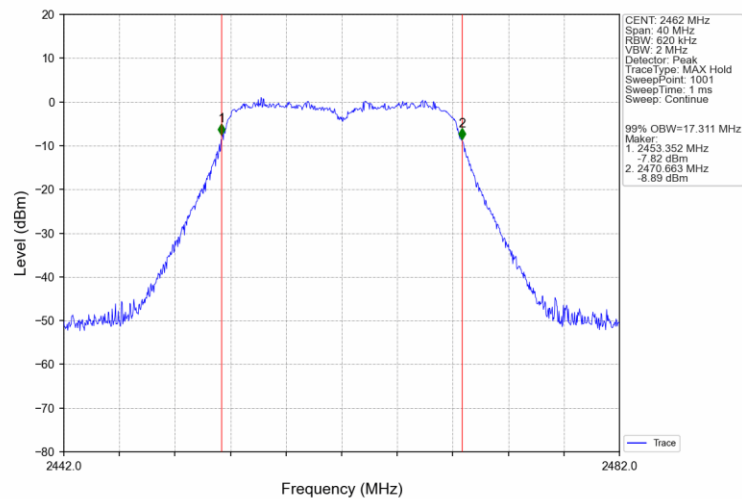
802.11g LCH 2412MHz_Ant1 (SISO) NTN



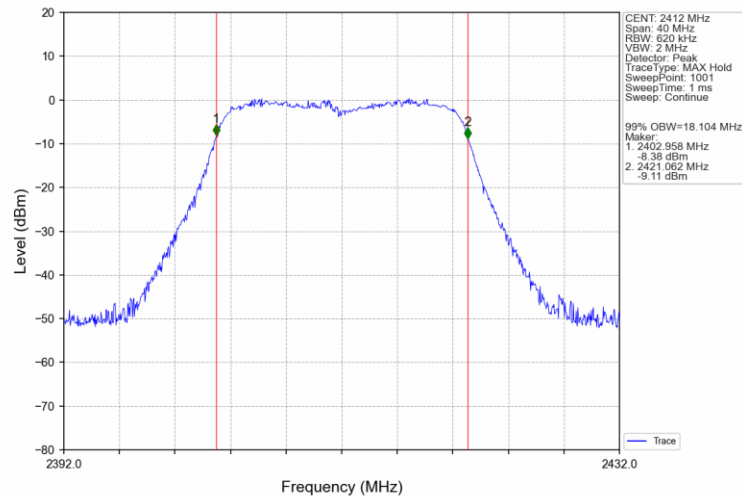
802.11g_MCH_2437MHz_Ant1 (SISO) NTNv



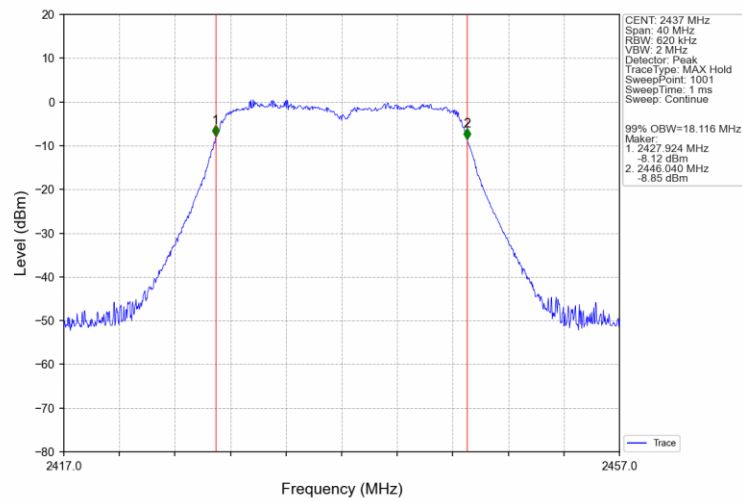
802.11g_HCH_2462MHz_Ant1 (SISO) NTNv



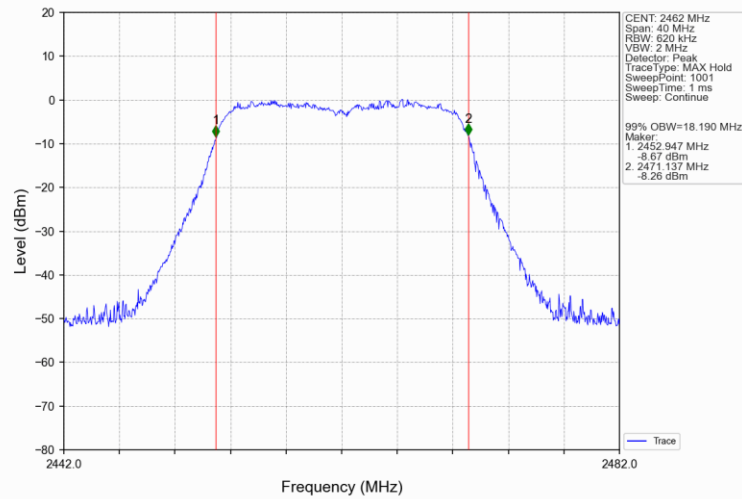
802.11n(HT20) LCH 2412MHz Ant1 (SISO) NTNV



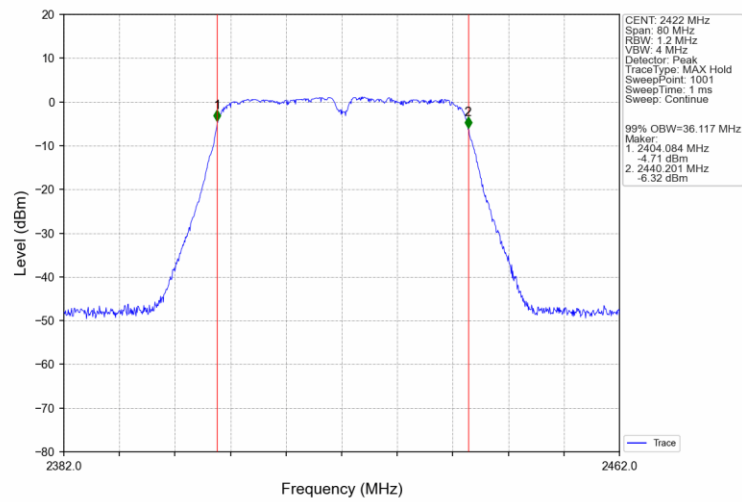
802.11n(HT20) MCH 2437MHz Ant1 (SISO) NTNV



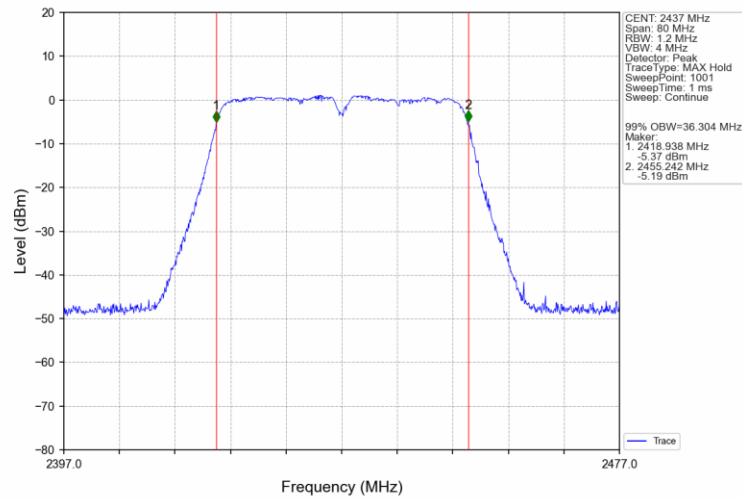
802.11n(HT20) HCH_2462MHz_Ant1 (SISO) NTNV



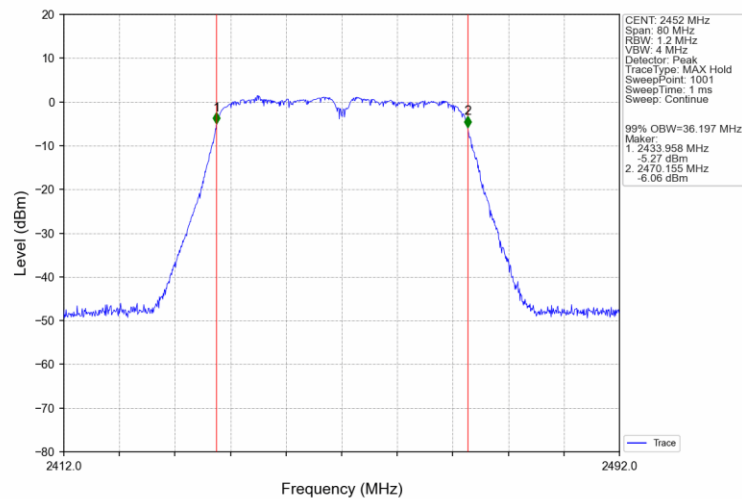
802.11n(HT40) LCH_2422MHz_Ant1 (SISO) NTNV



802.11n(HT40) MCH_2437MHz_Ant1 (SISO) NTNv

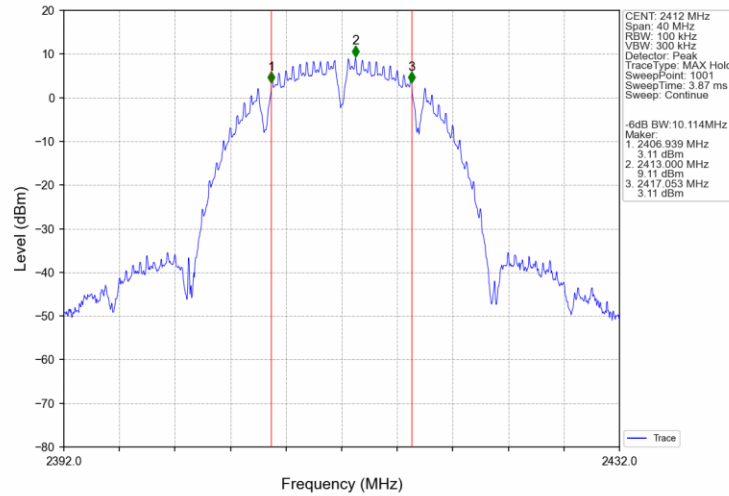


802.11n(HT40) HCH_2452MHz_Ant1 (SISO) NTNv

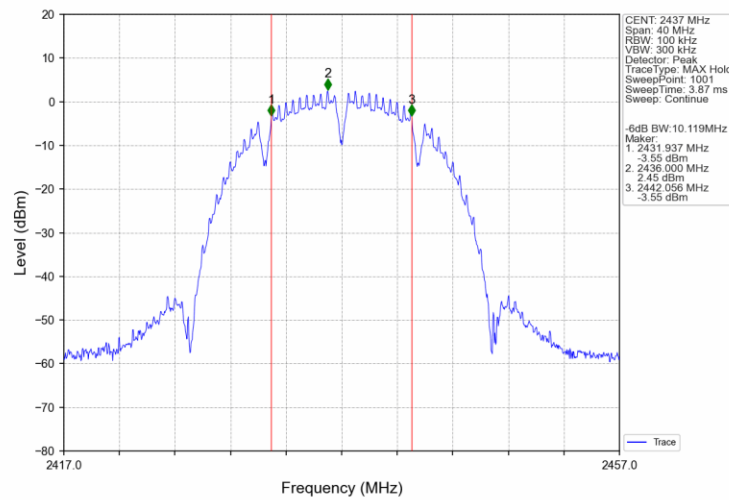


2.2.2 6dB BW

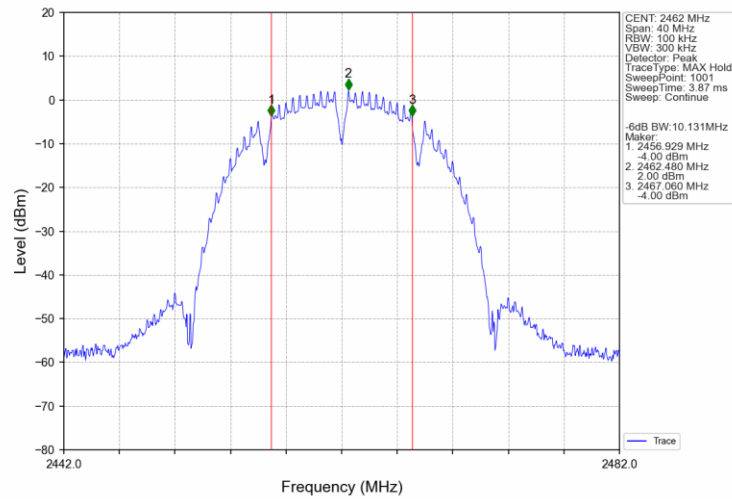
802.11b LCH 2412MHz_Ant1 (SISO)_NTNV



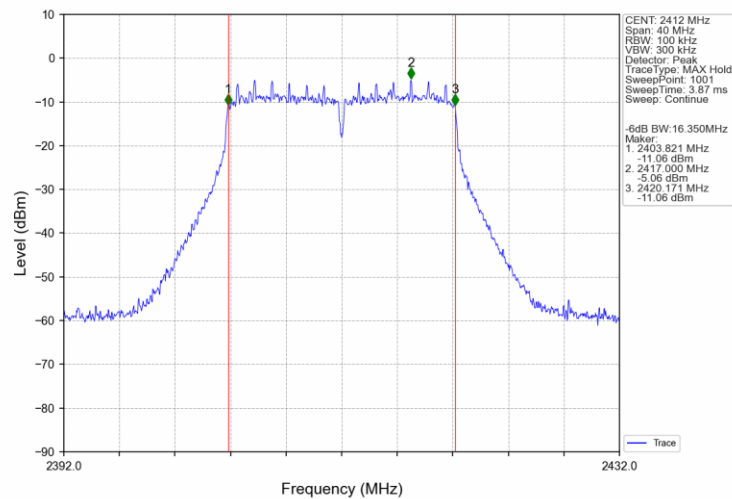
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



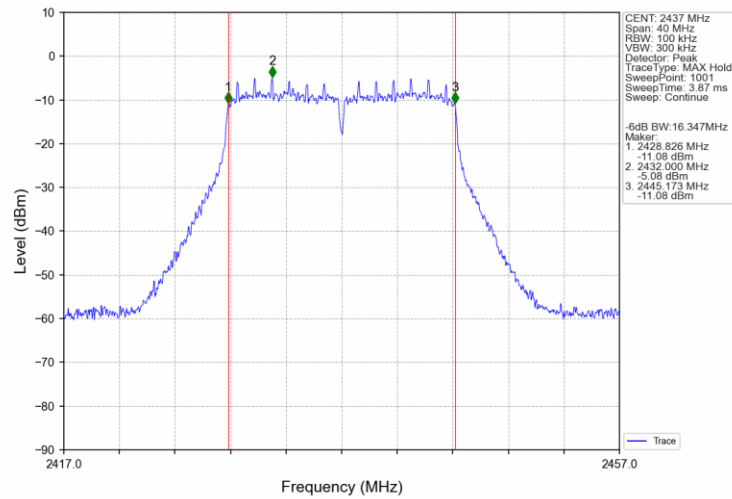
802.11b HCH 2462MHz_Ant1 (SISO) NTNv



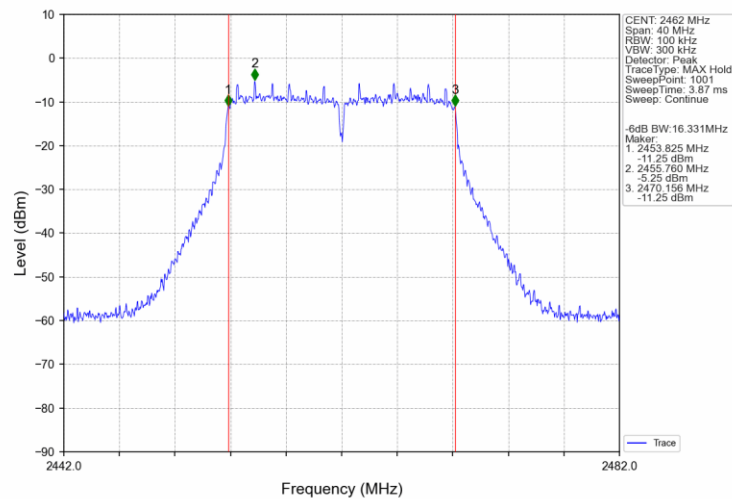
802.11g LCH 2412MHz_Ant1 (SISO) NTNv



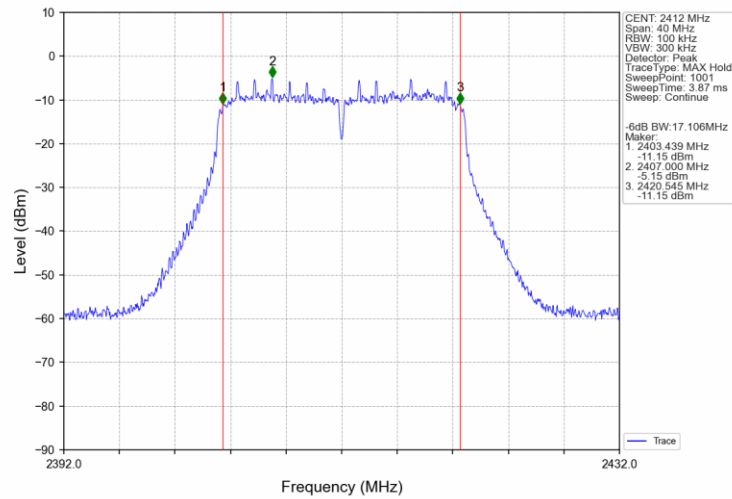
802.11g_MCH_2437MHz_Ant1 (SISO) NTN



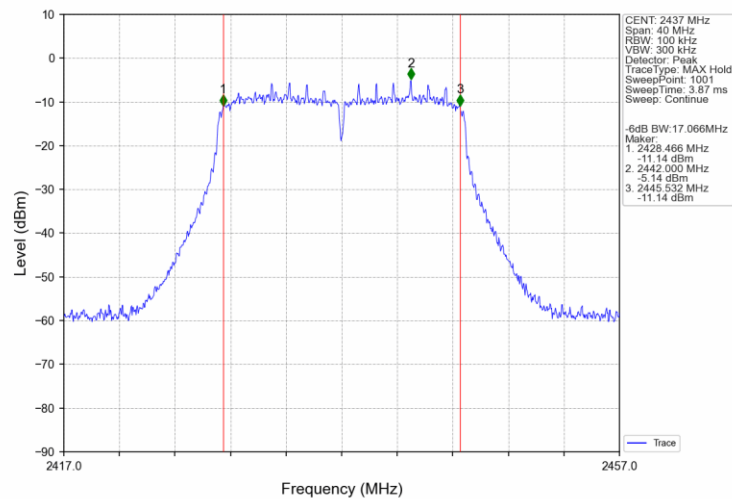
802.11g_HCH_2462MHz_Ant1 (SISO) NTN



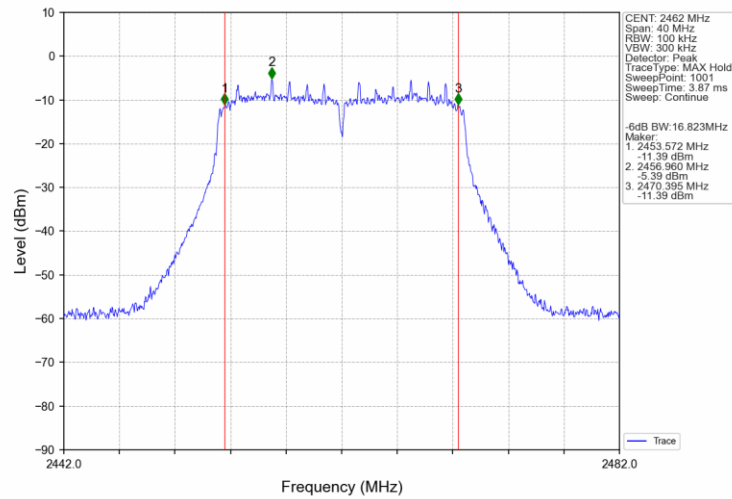
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



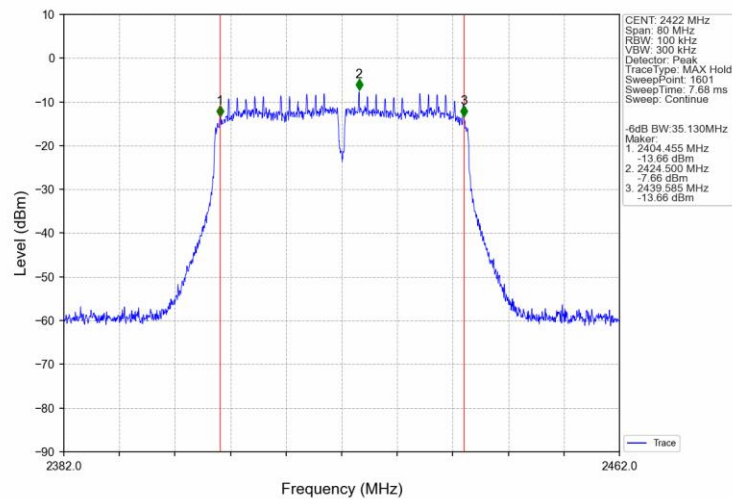
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



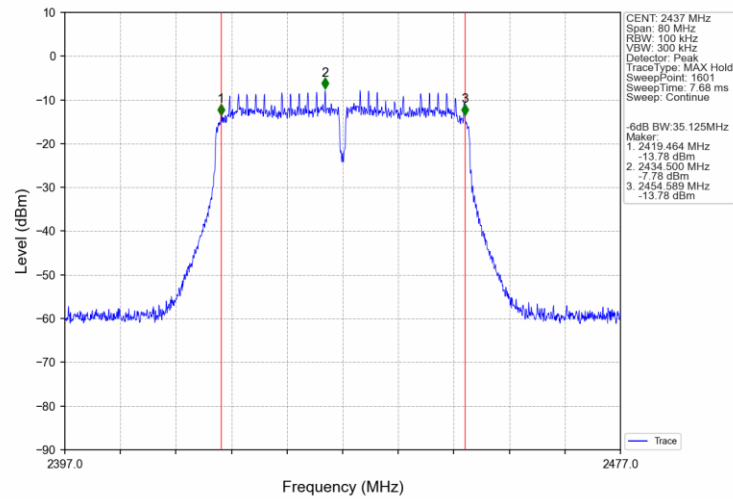
802.11n(HT20) HCH_2462MHz_Ant1 (SISO) _NTNV



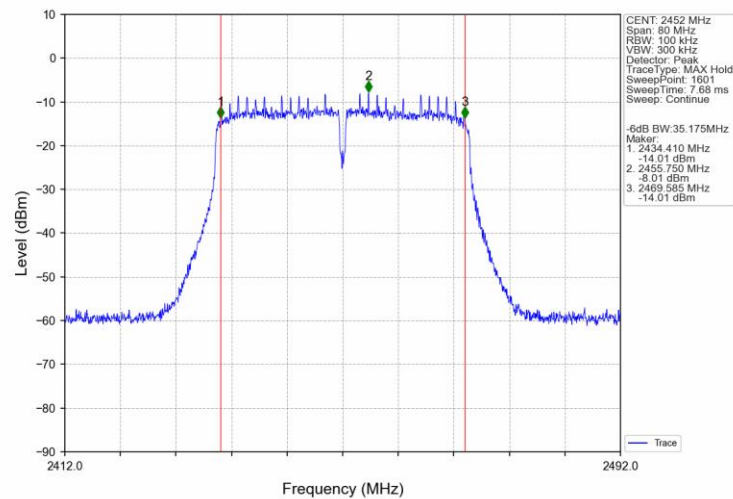
802.11n(HT40) _LCH_2422MHz_Ant1 (SISO) _NTNV



802.11n(HT40) MCH_2437MHz_Ant1 (SISO) NTNv



802.11n(HT40) HCH_2452MHz_Ant1 (SISO) NTNv



3. Maximum Conducted Output Power

3.1 Test Result

3.1.1 Power

Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	14.30	<=30	Pass
		2437	14.26	<=30	Pass
		2462	14.05	<=30	Pass
802.11g	SISO	2412	13.78	<=30	Pass
		2437	13.79	<=30	Pass
		2462	13.54	<=30	Pass
802.11n (HT20)	SISO	2412	13.70	<=30	Pass
		2437	13.66	<=30	Pass
		2462	13.46	<=30	Pass
802.11n (HT40)	SISO	2422	13.92	<=30	Pass
		2437	13.81	<=30	Pass
		2452	13.76	<=30	Pass

4. Maximum Power Spectral Density

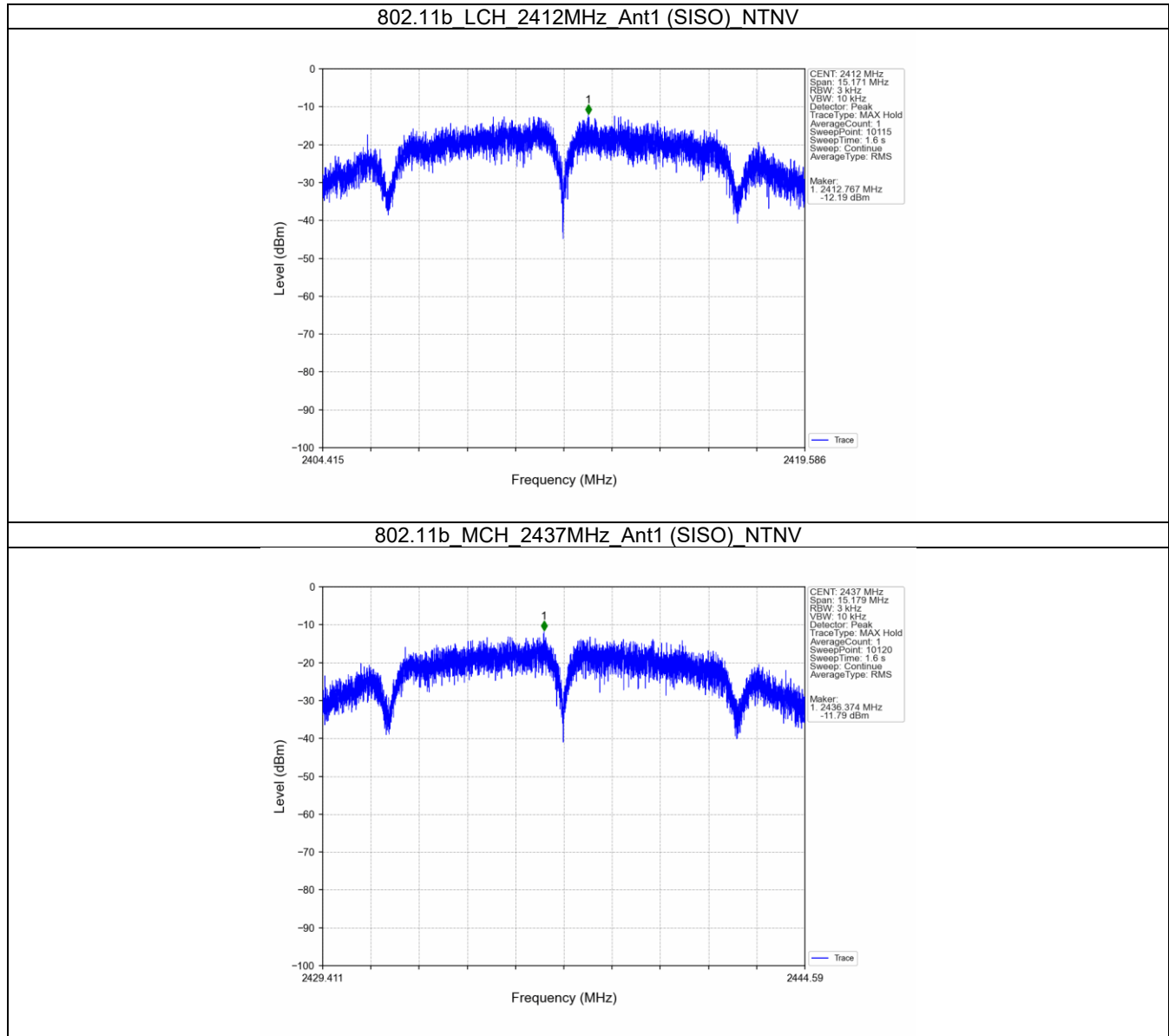
4.1 Test Result

4.1.1 PSD

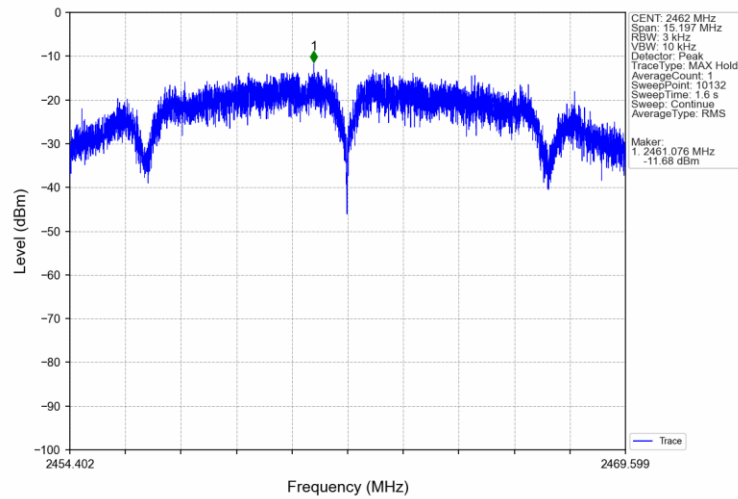
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	-12.19	<=8	Pass
		2437	-11.79	<=8	Pass
		2462	-11.68	<=8	Pass
802.11g	SISO	2412	-19.05	<=8	Pass
		2437	-19.22	<=8	Pass
		2462	-20.18	<=8	Pass
802.11n (HT20)	SISO	2412	-19.03	<=8	Pass
		2437	-20.01	<=8	Pass
		2462	-18.53	<=8	Pass
802.11n (HT40)	SISO	2422	-22.34	<=8	Pass
		2437	-22.17	<=8	Pass
		2452	-22.91	<=8	Pass

4.2 Test Graph

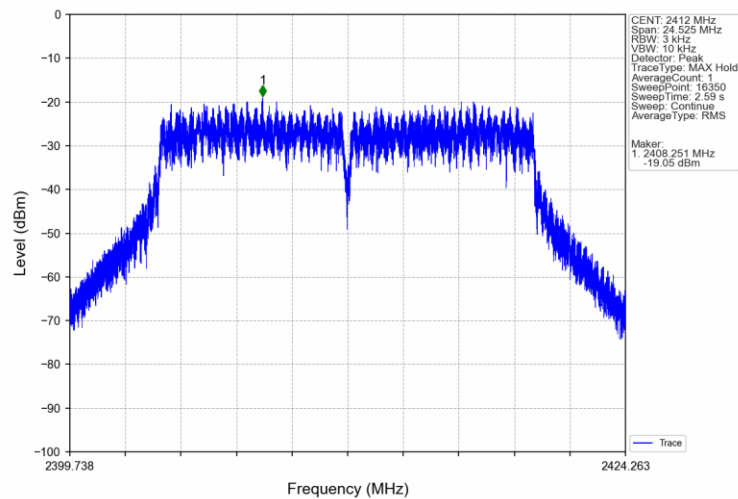
4.2.1 PSD



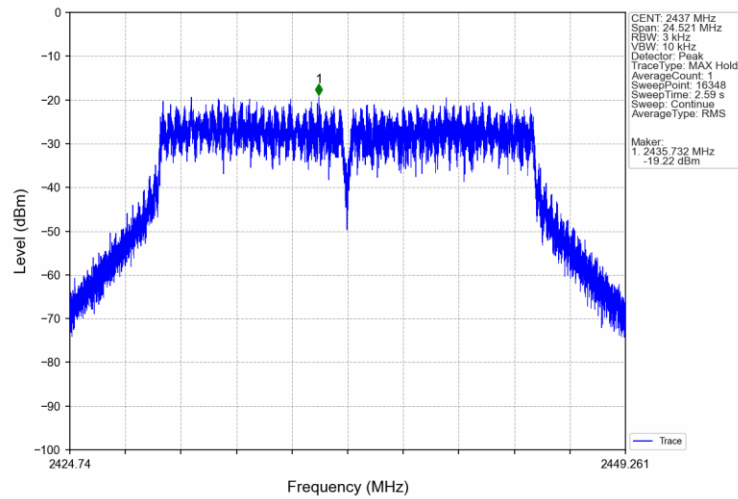
802.11b HCH 2462MHz_Ant1 (SISO) NTN



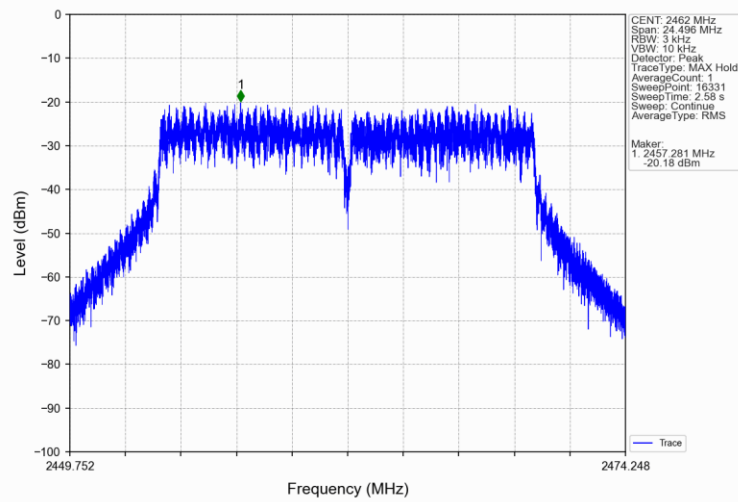
802.11g LCH 2412MHz_Ant1 (SISO) NTN



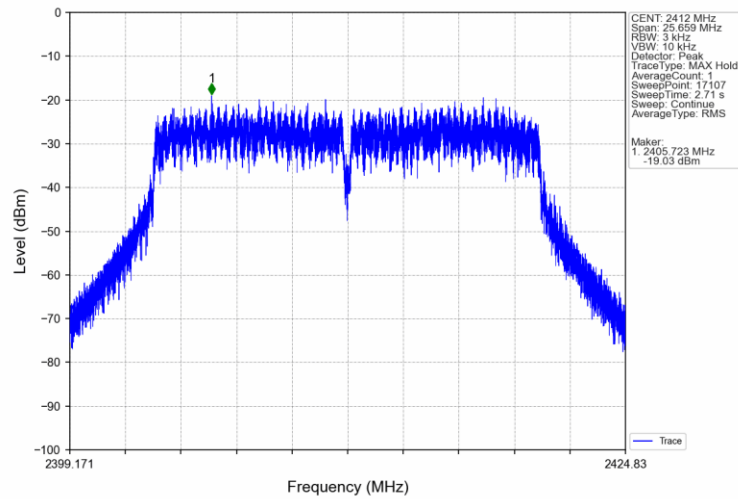
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



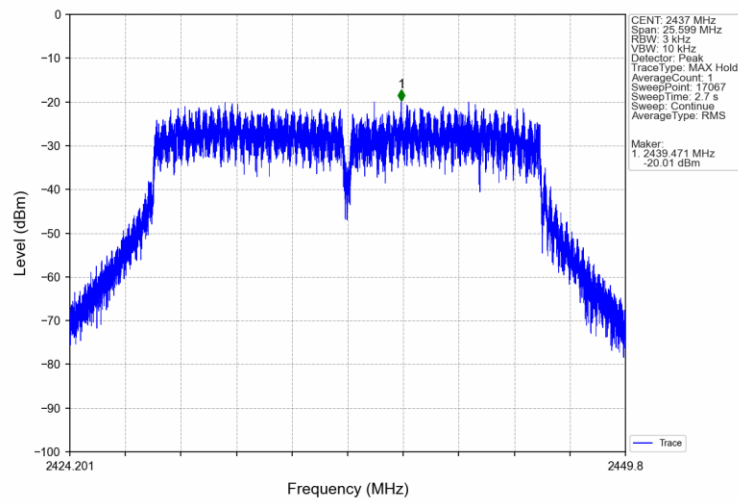
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



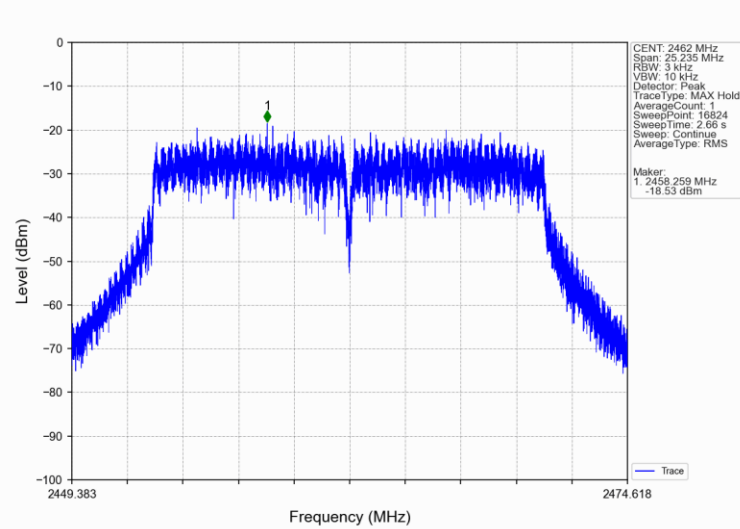
802.11n(HT20) LCH 2412MHz Ant1 (SISO) NTNV



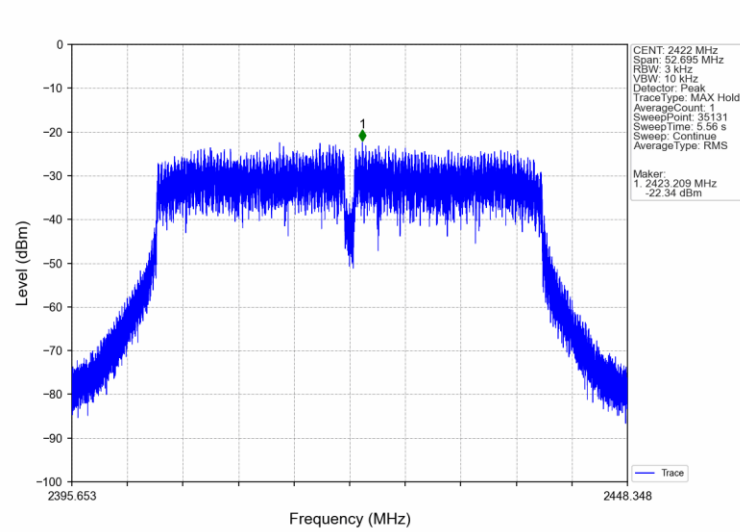
802.11n(HT20) MCH 2437MHz Ant1 (SISO) NTNV



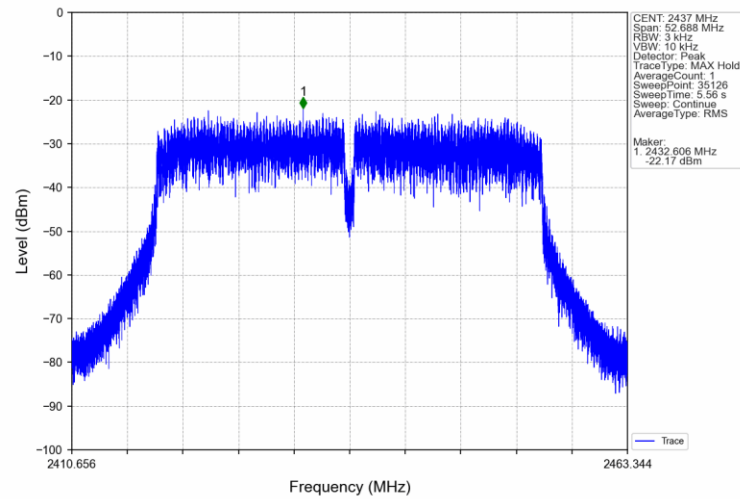
802.11n(HT20) HCH 2462MHz Ant1 (SISO) NTNV



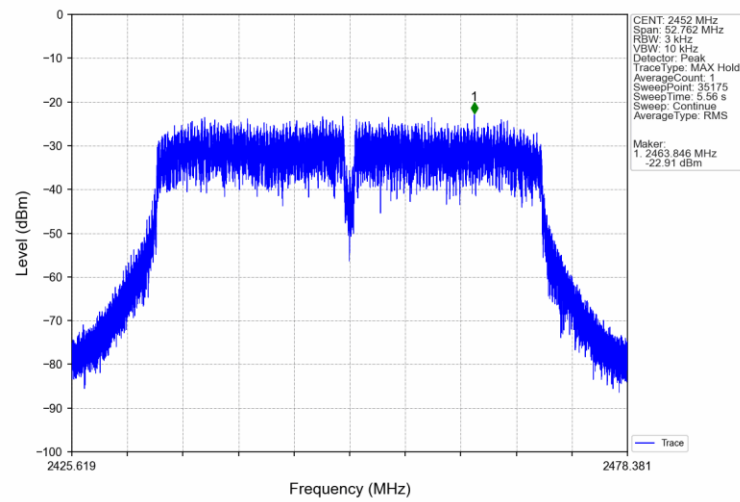
802.11n(HT40) LCH 2422MHz Ant1 (SISO) NTNV



802.11n(HT40) MCH_2437MHz_Ant1 (SISO) NTNV



802.11n(HT40) HCH_2452MHz_Ant1 (SISO) NTNV



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	5.37
		2437	1	2.44
		2462	1	2.25
802.11g	SISO	2412	1	-5.21
		2437	1	-5.18
		2462	1	-5.37
802.11n (HT20)	SISO	2412	1	-5.11
		2437	1	-4.97
		2462	1	-5.44
802.11n (HT40)	SISO	2422	1	-7.70
		2437	1	-7.85
		2452	1	-7.88

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.

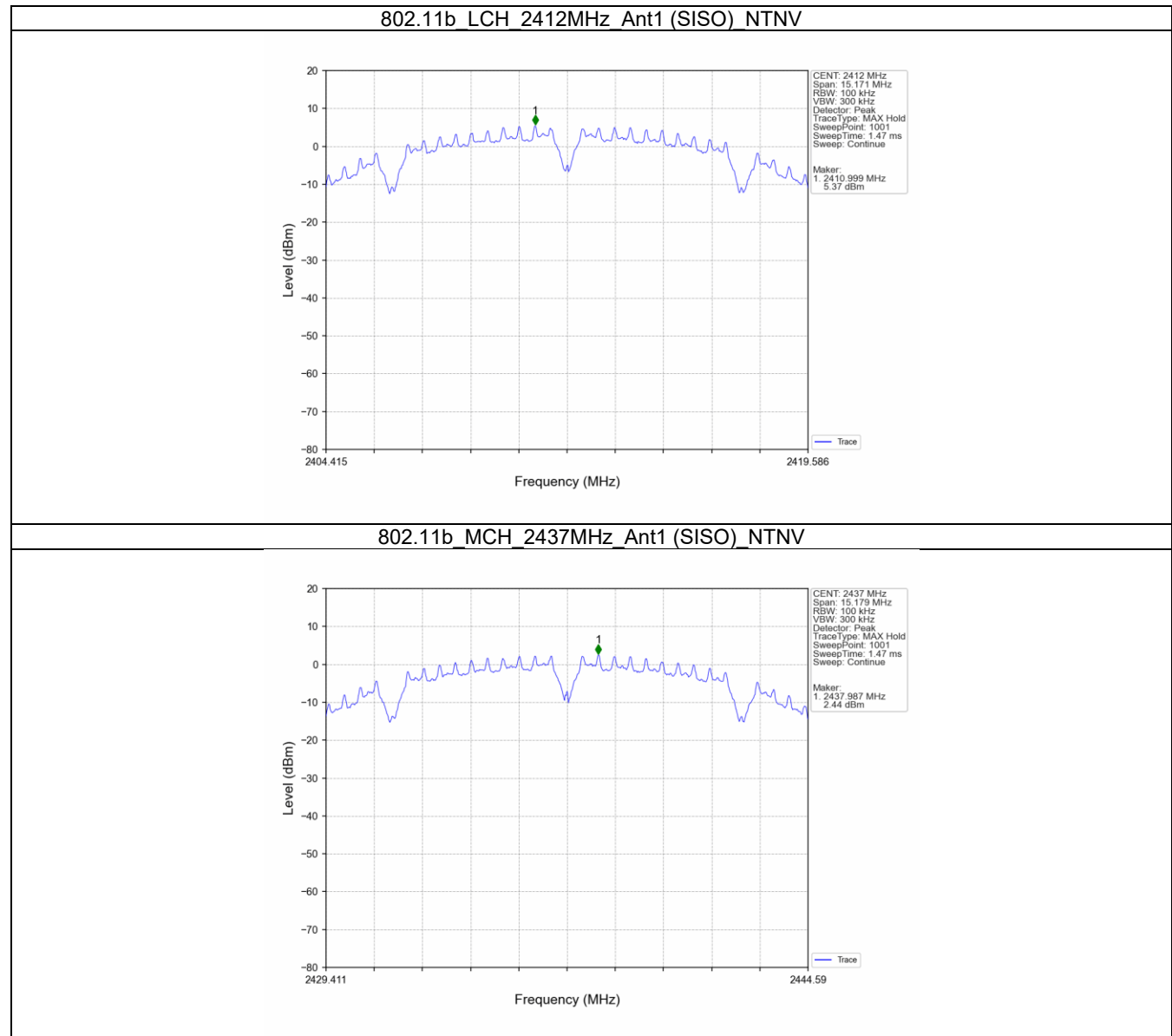
5.1.2 CSE

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	1	5.37	-14.63	Pass
		2437	1	2.44	-17.56	Pass
		2462	1	2.25	-17.75	Pass
802.11g	SISO	2412	1	-5.21	-25.21	Pass
		2437	1	-5.18	-25.18	Pass
		2462	1	-5.37	-25.37	Pass
802.11n (HT20)	SISO	2412	1	-5.11	-25.11	Pass
		2437	1	-4.97	-24.97	Pass
		2462	1	-5.44	-25.44	Pass
802.11n (HT40)	SISO	2422	1	-7.70	-27.70	Pass
		2437	1	-7.85	-27.85	Pass
		2452	1	-7.88	-27.88	Pass

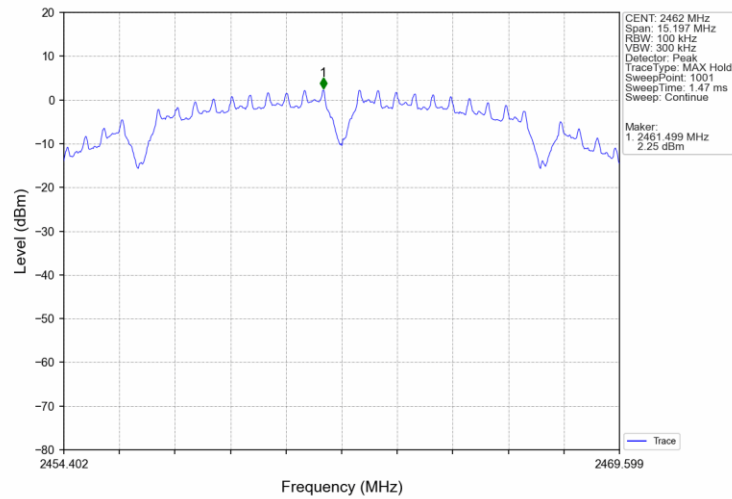
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

5.2 Test Graph

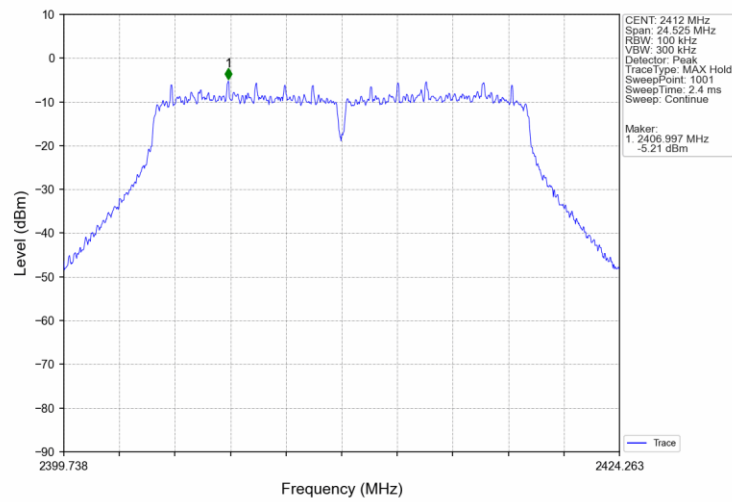
5.2.1 Ref



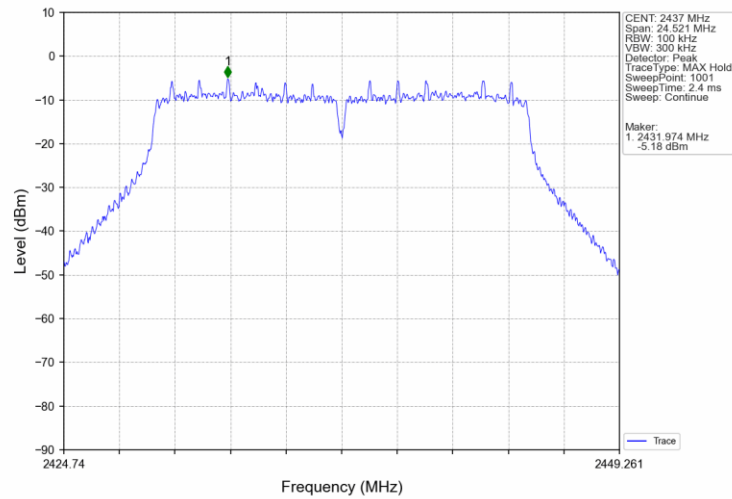
802.11b HCH 2462MHz_Ant1 (SISO) NTN



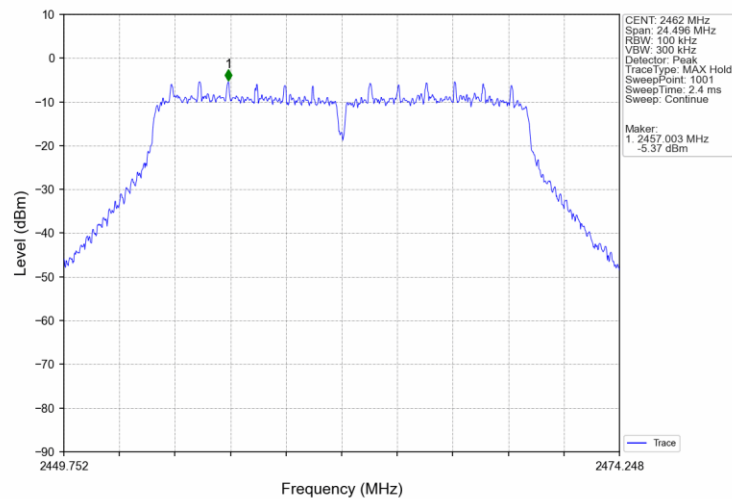
802.11g LCH 2412MHz_Ant1 (SISO) NTN



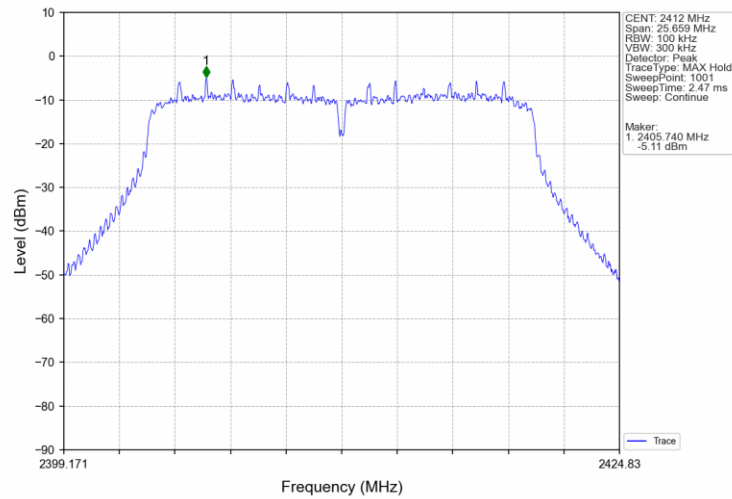
802.11g_MCH_2437MHz_Ant1 (SISO) NTN



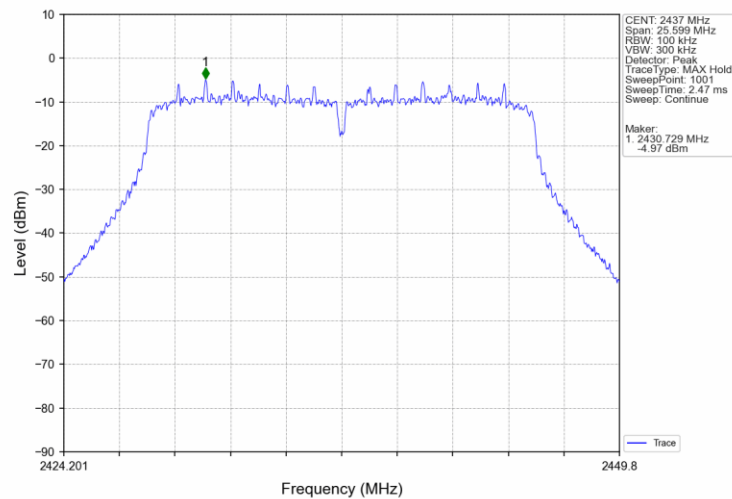
802.11g_HCH_2462MHz_Ant1 (SISO) NTN



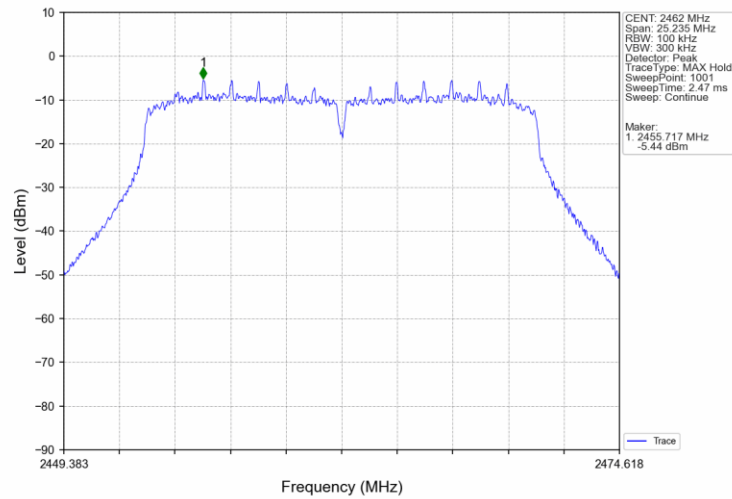
802.11n(HT20) LCH 2412MHz Ant1 (SISO) NTNV



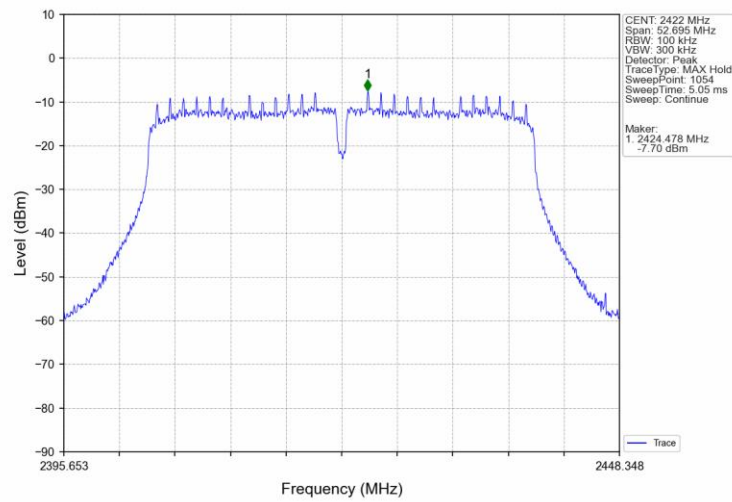
802.11n(HT20) MCH 2437MHz Ant1 (SISO) NTNV



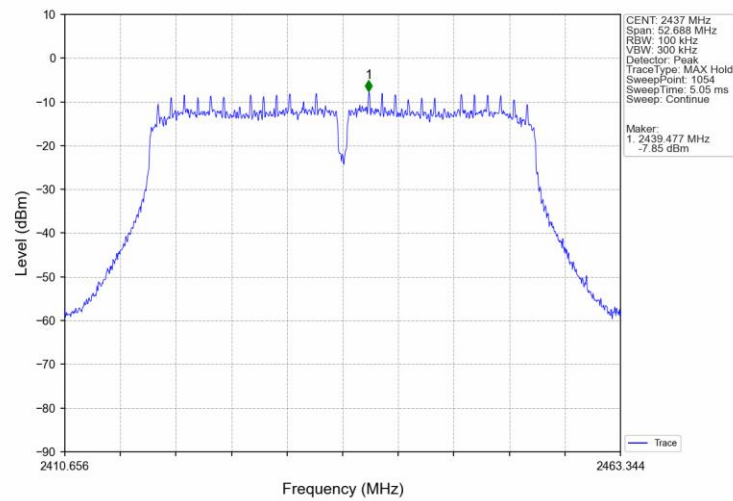
802.11n(HT20) HCH_2462MHz_Ant1 (SISO)_NTNV



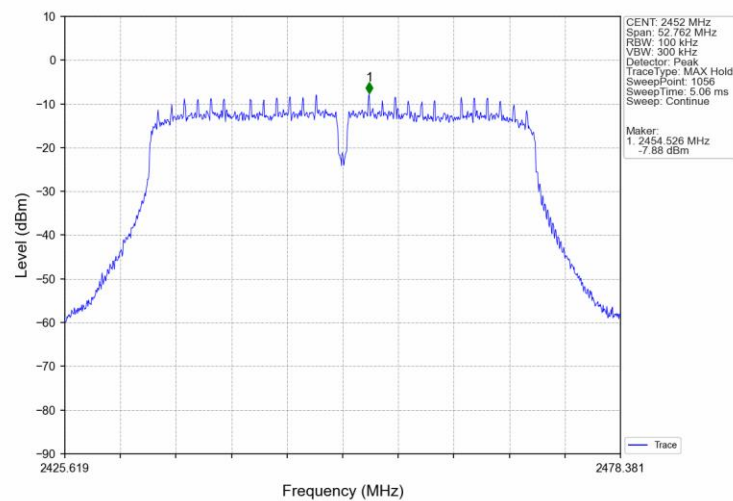
802.11n(HT40) LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40) MCH_2437MHz_Ant1 (SISO) NTNv

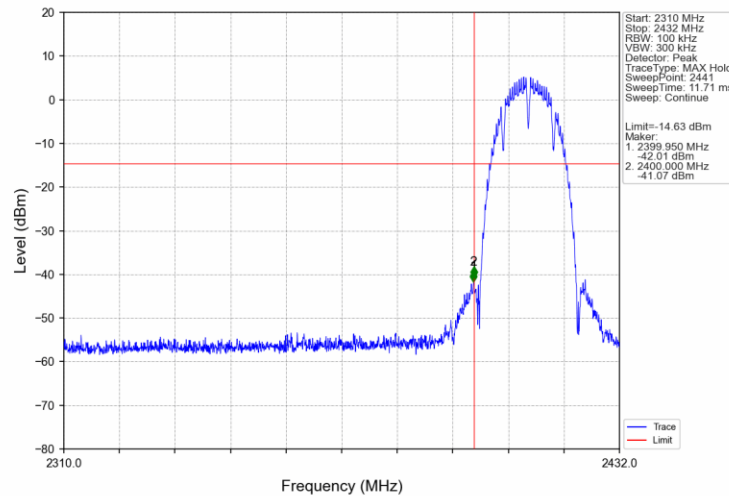


802.11n(HT40) HCH_2452MHz_Ant1 (SISO) NTNv



5.2.2 CSE

802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV

