



Shenzhen CTL Testing Technology Co., Ltd.

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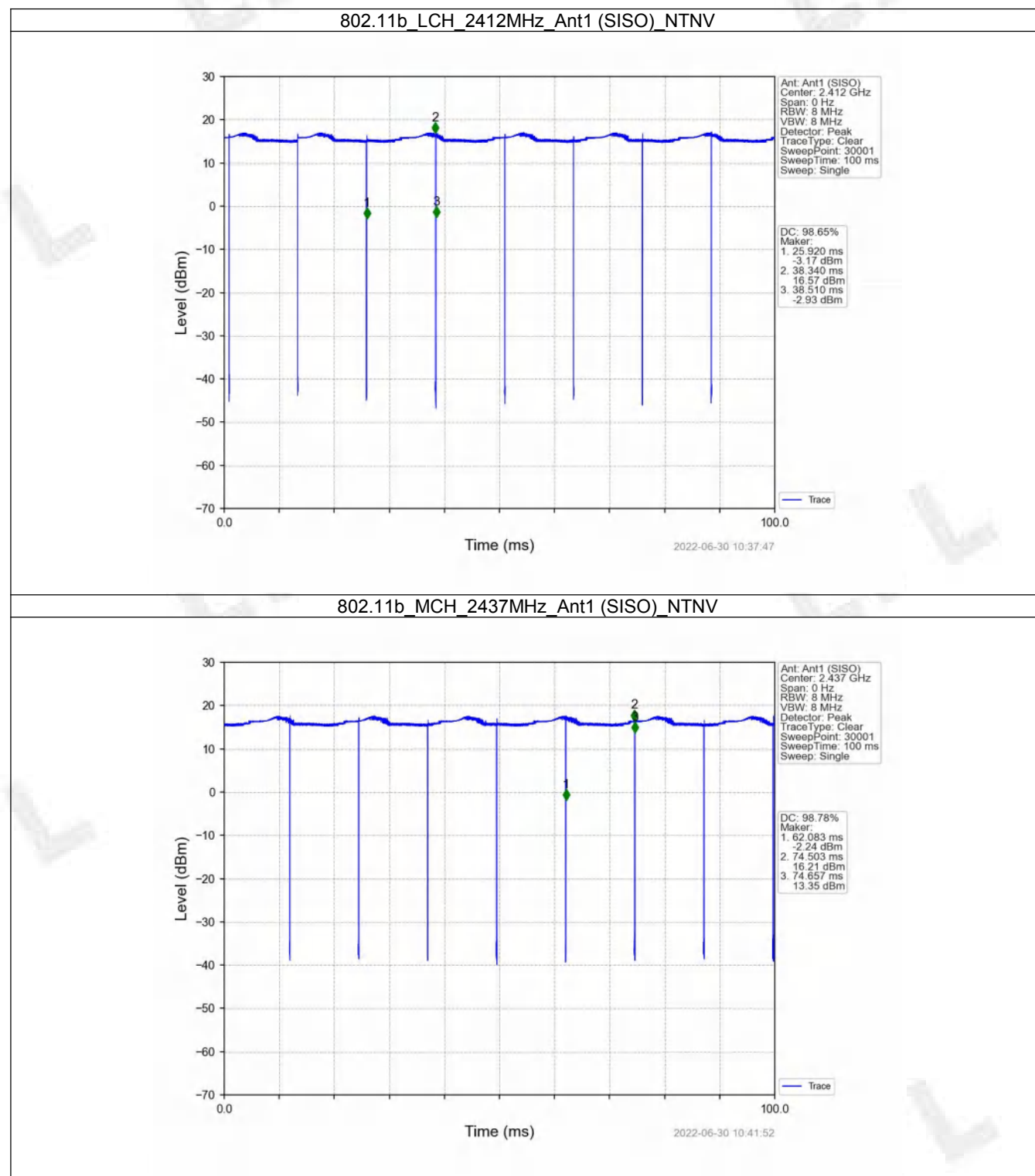
1. Duty Cycle

1.1 Ant1

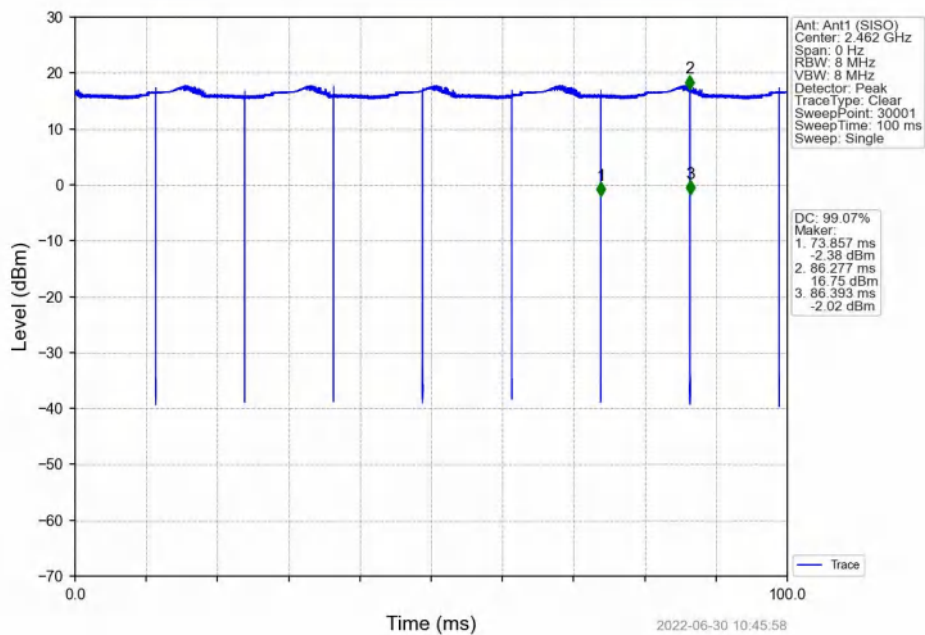
1.1.1 Test Result

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	12.420	12.590	98.65	0.06	1.06
		2437	12.420	12.574	98.78	0.05	0.45
		2462	12.420	12.536	99.07	0.04	0.53
802.11g	SISO	2412	2.071	2.209	93.75	0.28	4.81
		2437	2.065	2.236	92.35	0.35	5.12
		2462	2.065	2.227	92.73	0.33	4.75
802.11n (HT20)	SISO	2412	1.927	2.092	92.11	0.36	6.39
		2437	1.927	2.092	92.11	0.36	5.95
		2462	1.927	2.056	93.73	0.28	4.72
802.11n (HT40)	SISO	2422	0.946	1.098	86.16	0.65	8.54
		2437	0.951	1.098	86.61	0.62	10.32
		2452	0.945	1.116	84.68	0.72	10.76

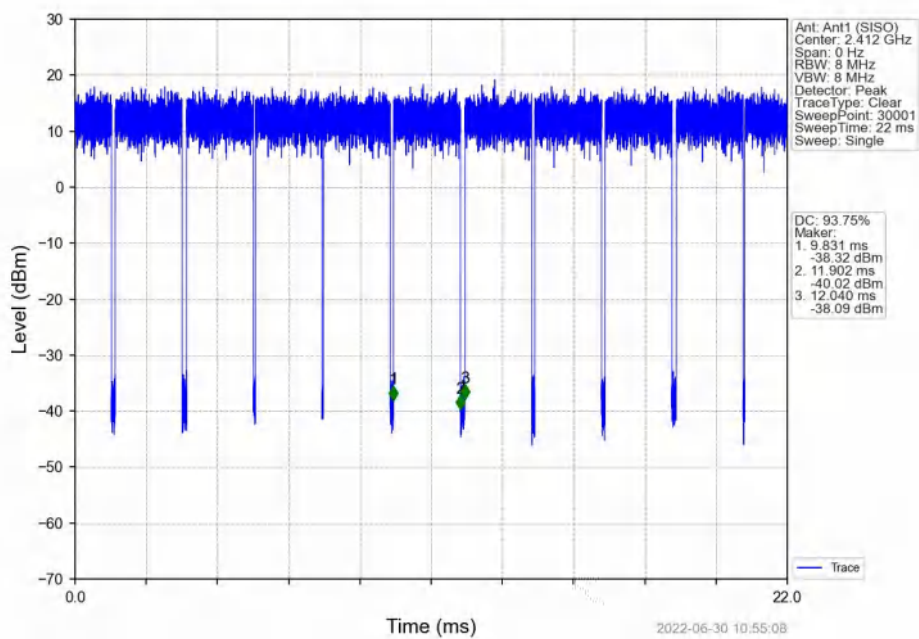
1.1.2 Test Graph



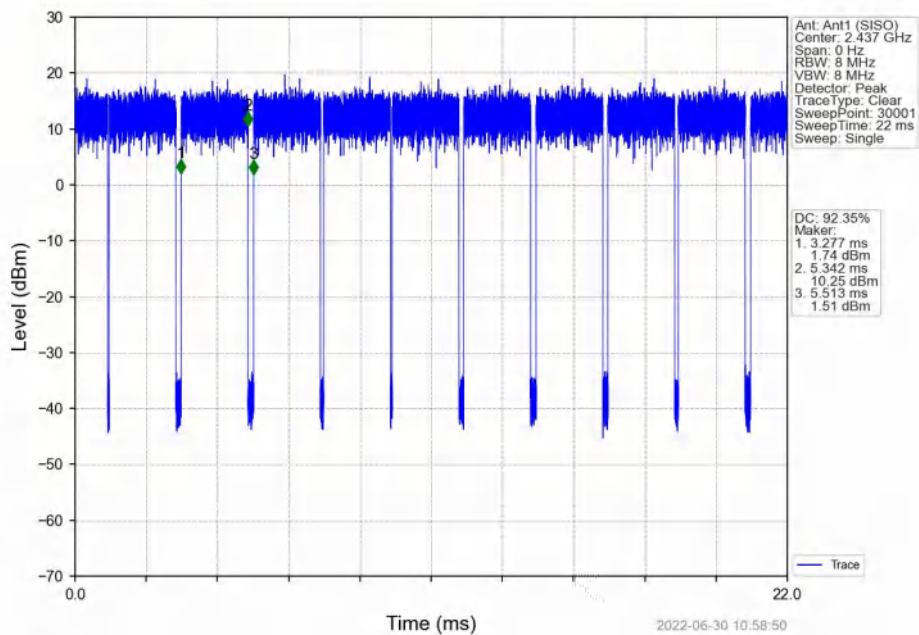
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



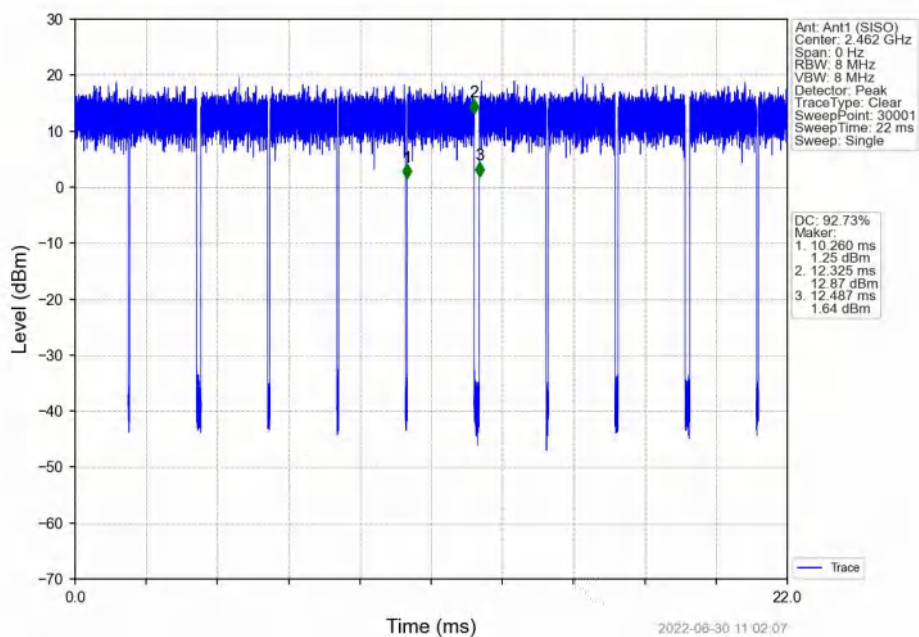
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



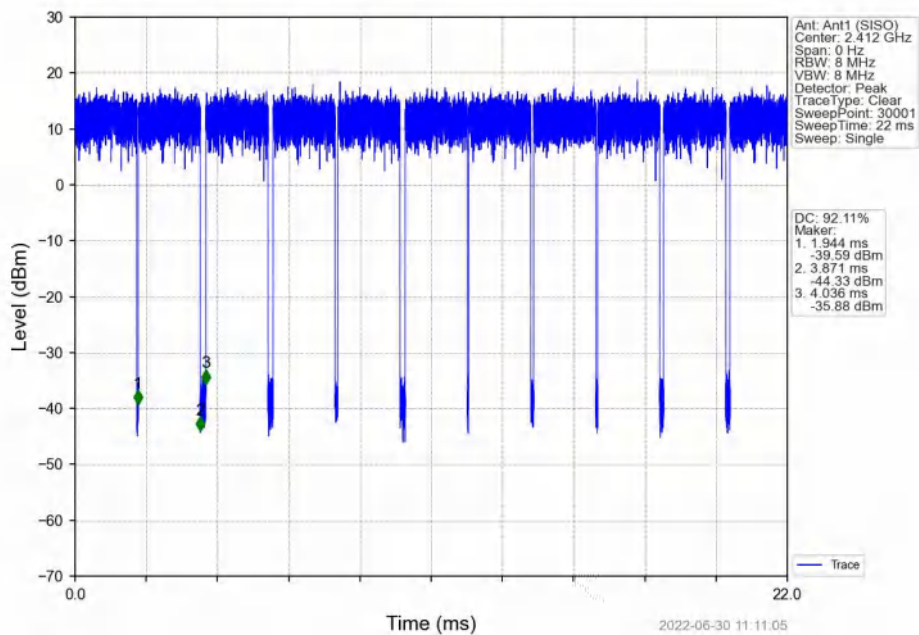
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



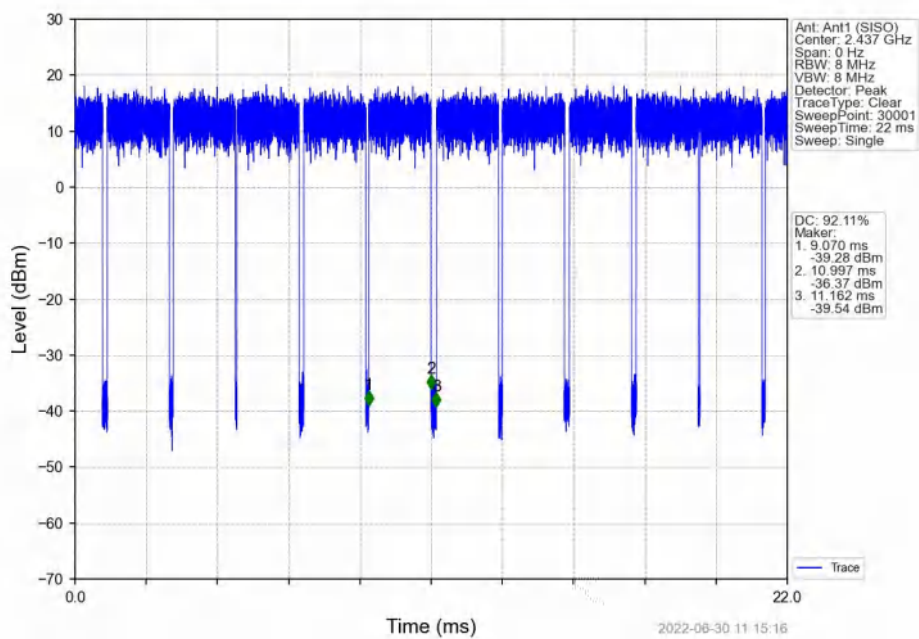
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



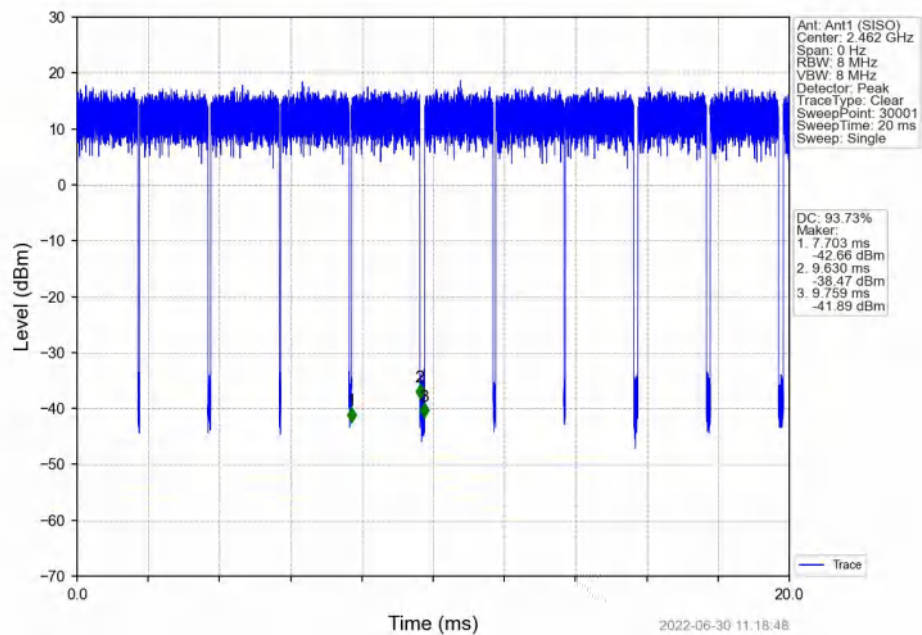
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



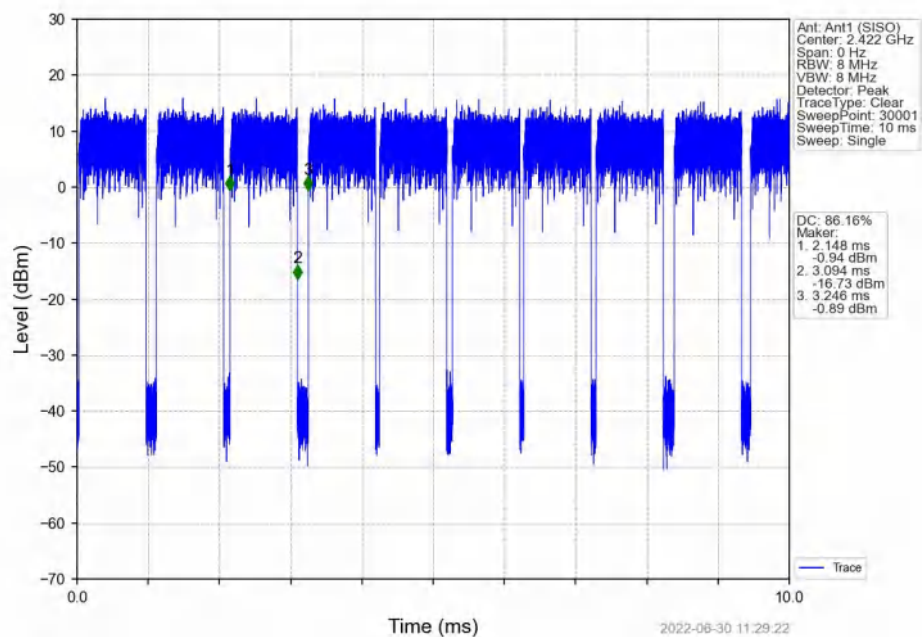
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



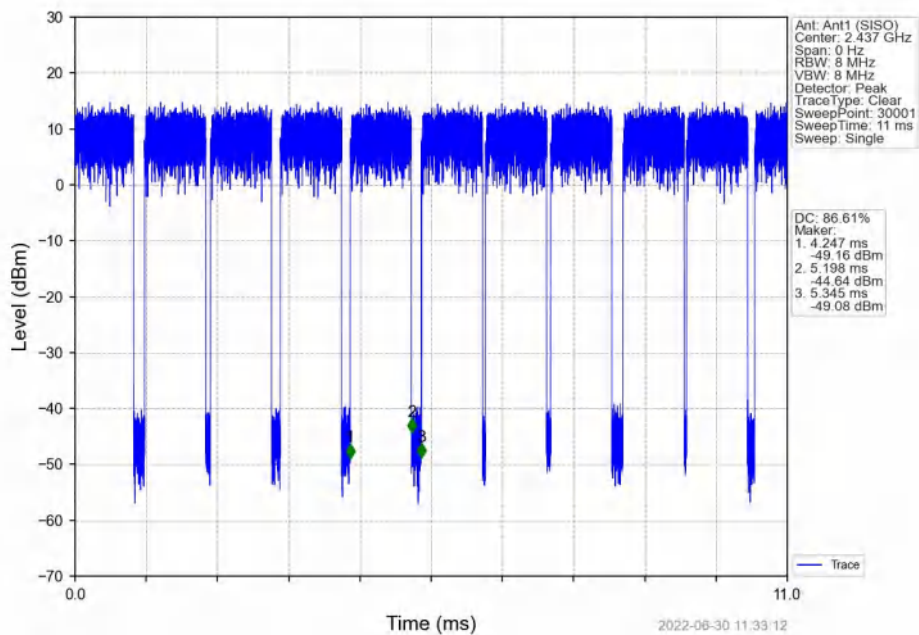
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



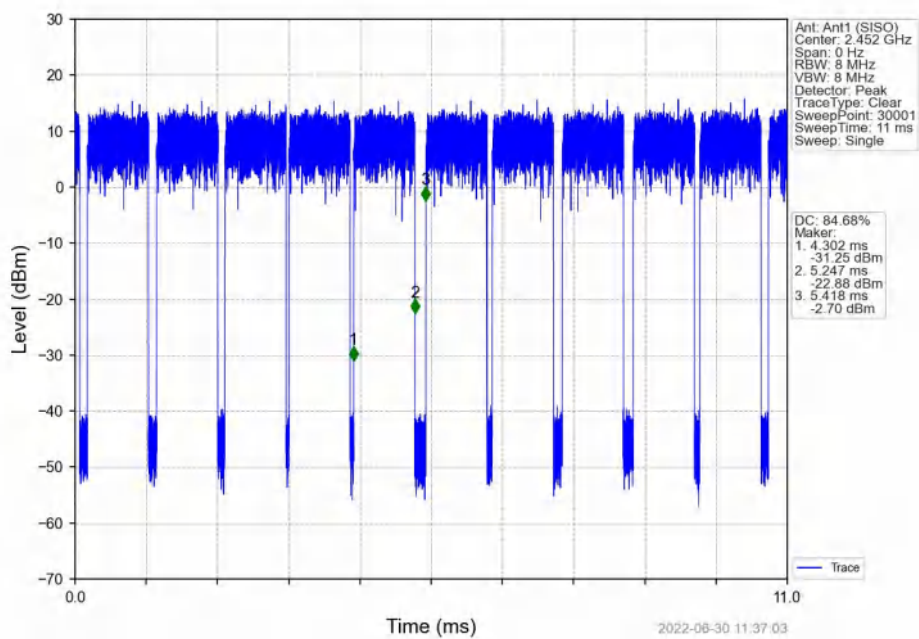
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



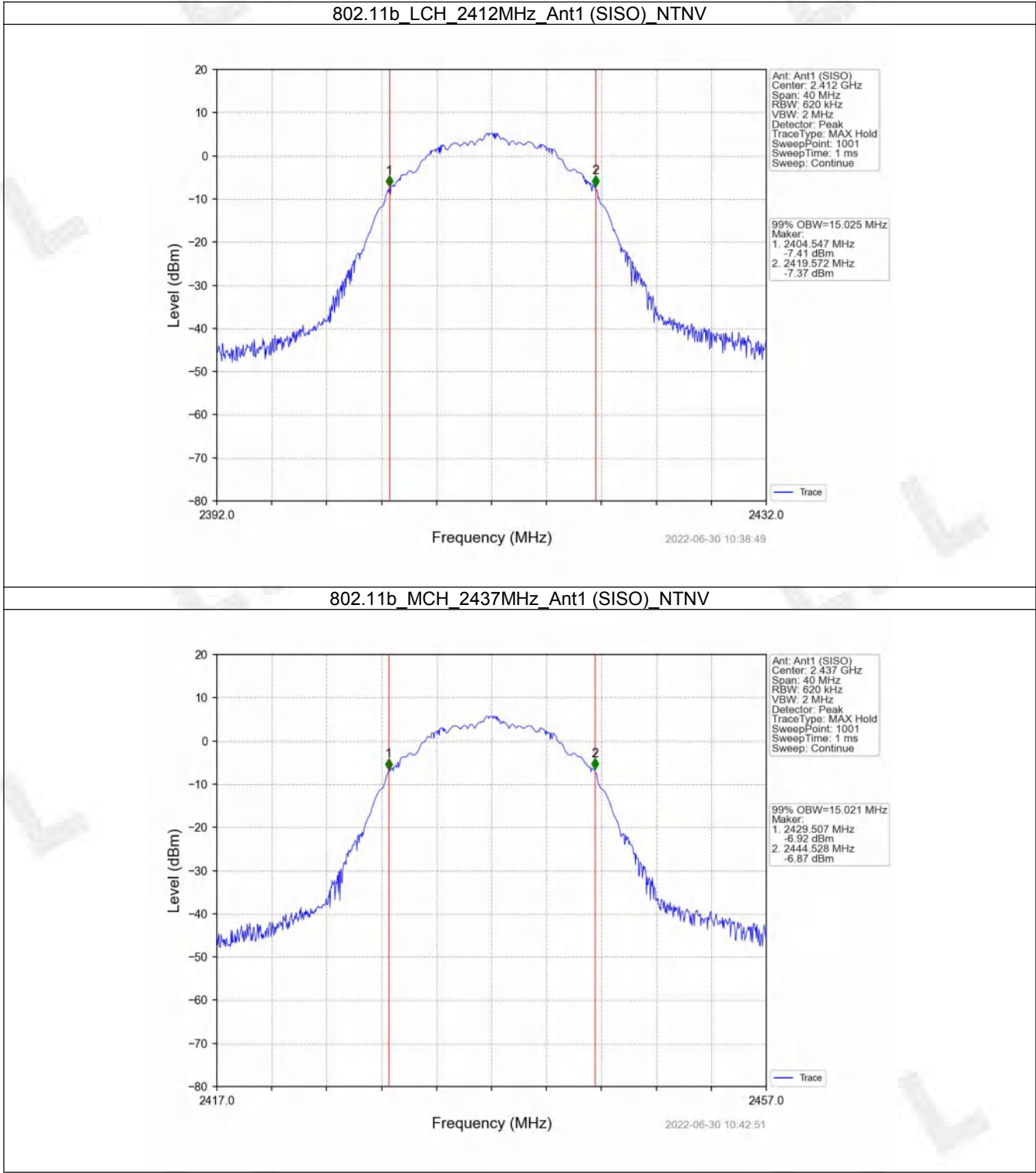
2. Bandwidth

2.1 OBW

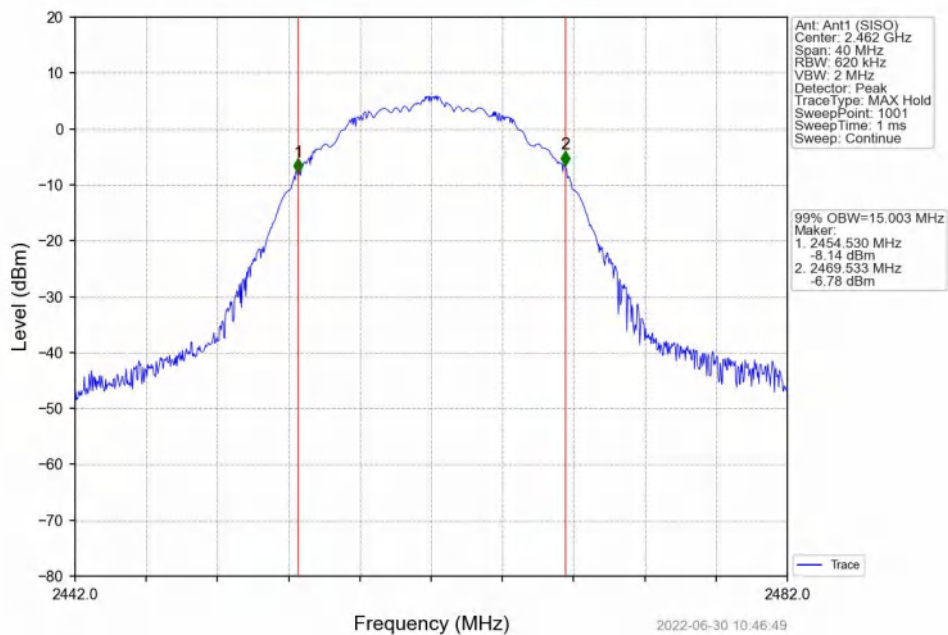
2.1.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)	Verdict
				Result	
802.11b	SISO	2412	1	15.025	Pass
		2437	1	15.021	Pass
		2462	1	15.003	Pass
802.11g	SISO	2412	1	17.548	Pass
		2437	1	17.609	Pass
		2462	1	17.580	Pass
802.11n (HT20)	SISO	2412	1	18.442	Pass
		2437	1	18.535	Pass
		2462	1	18.364	Pass
802.11n (HT40)	SISO	2422	1	36.491	Pass
		2437	1	37.073	Pass
		2452	1	36.752	Pass

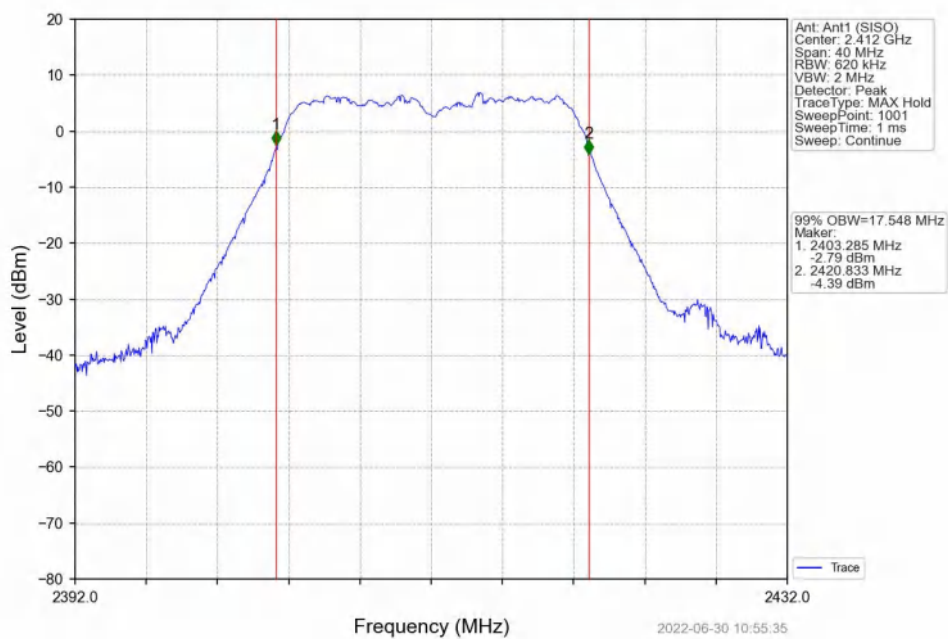
2.1.2 Test Graph



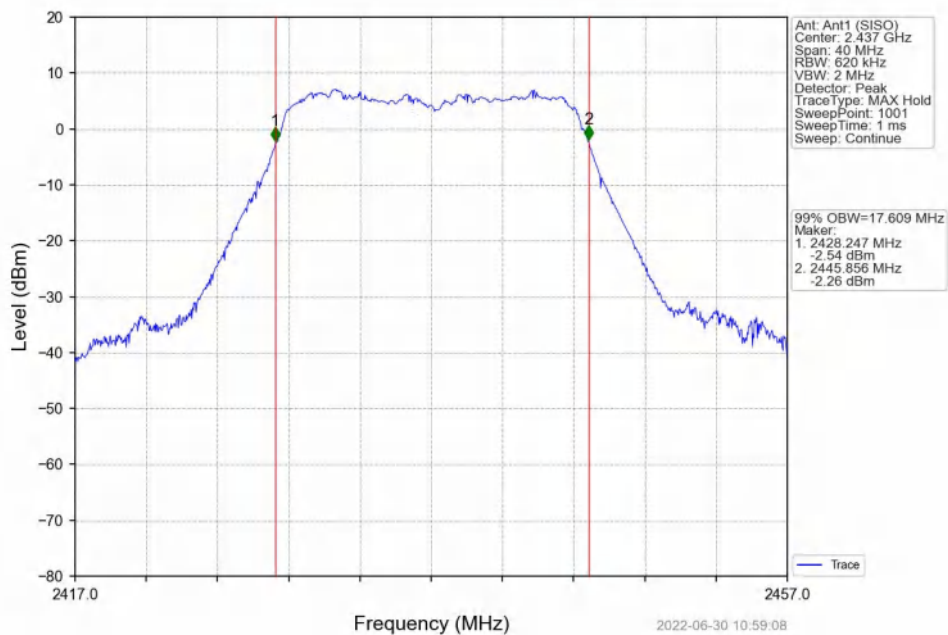
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



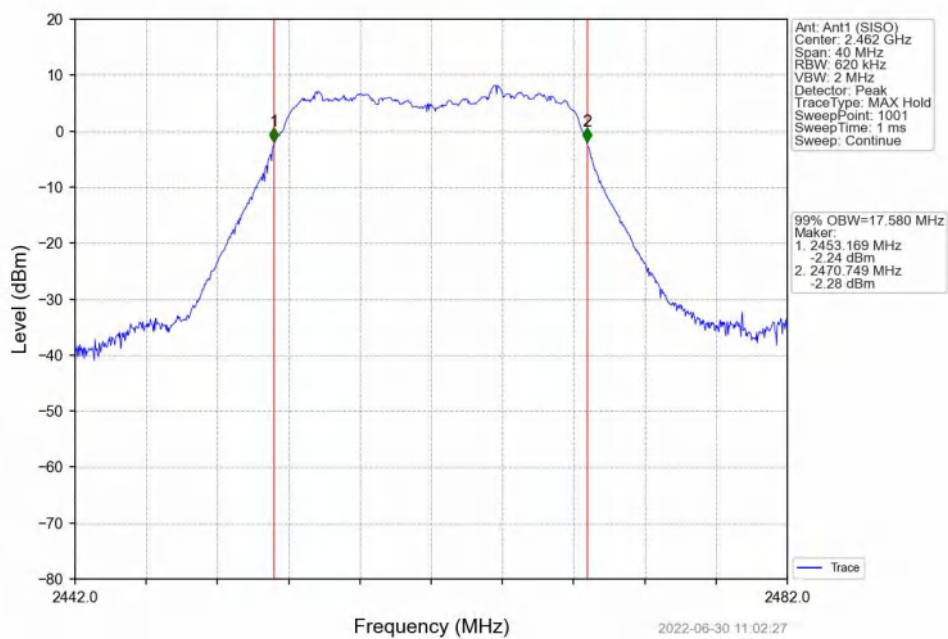
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



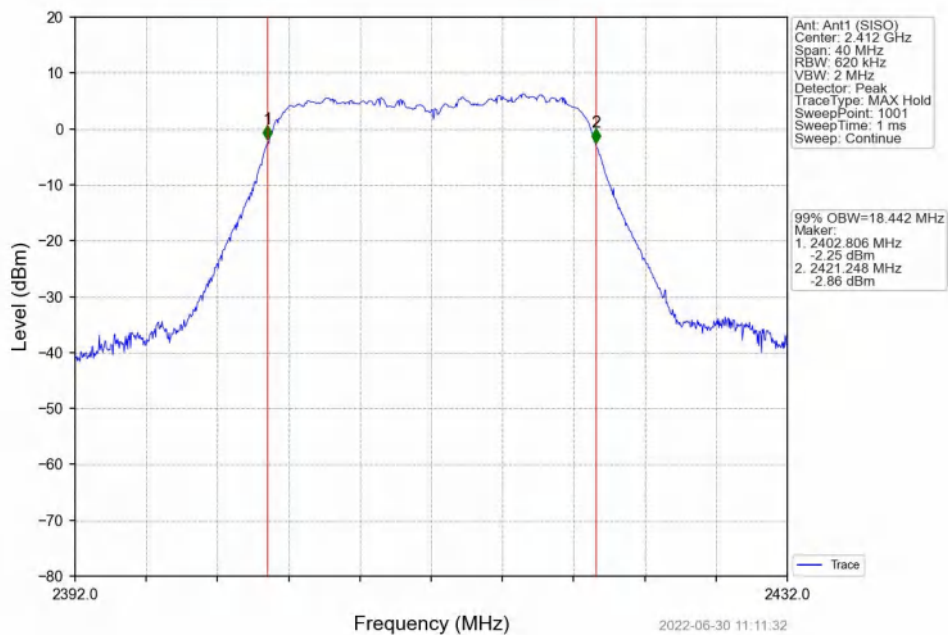
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



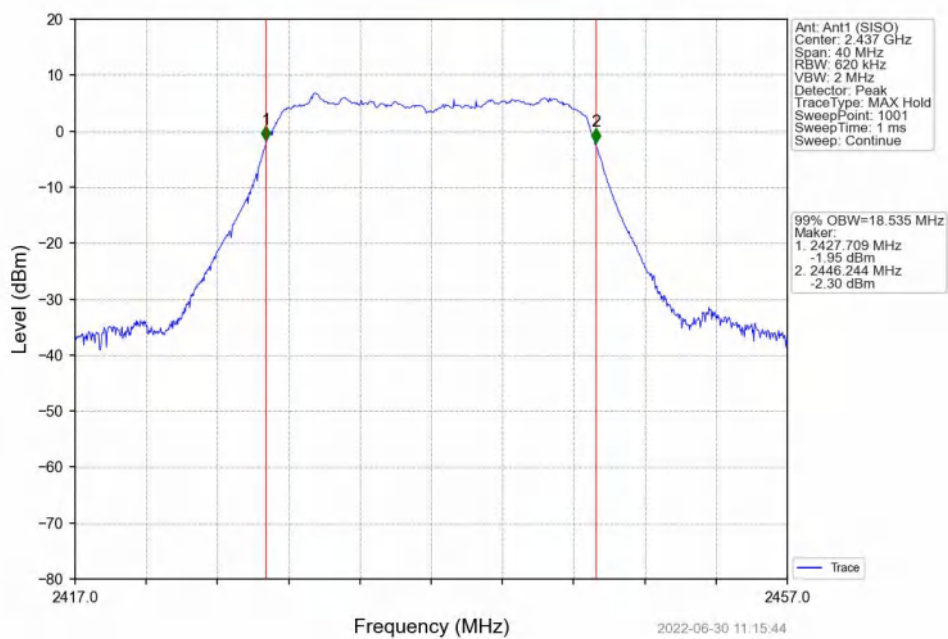
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



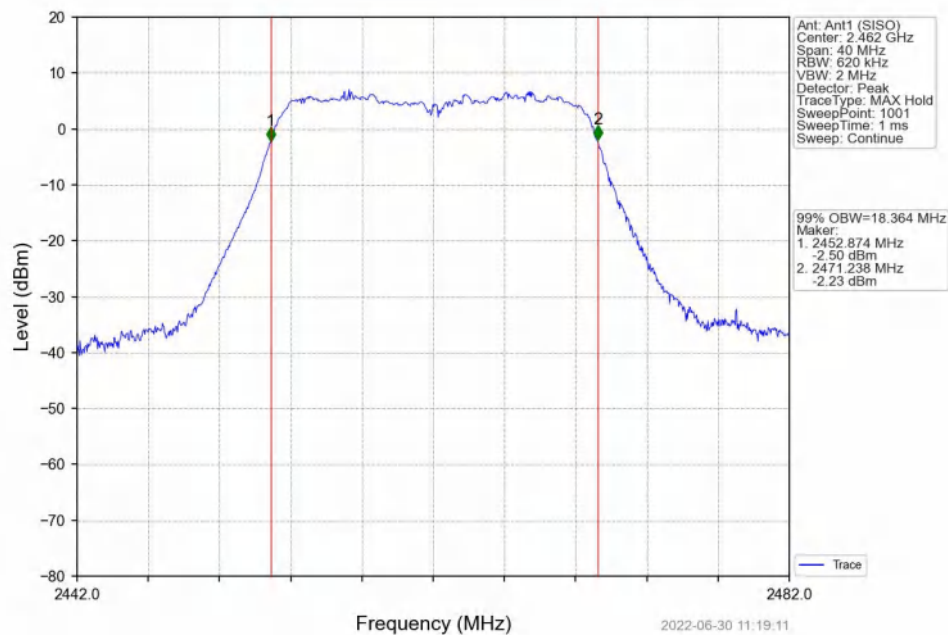
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



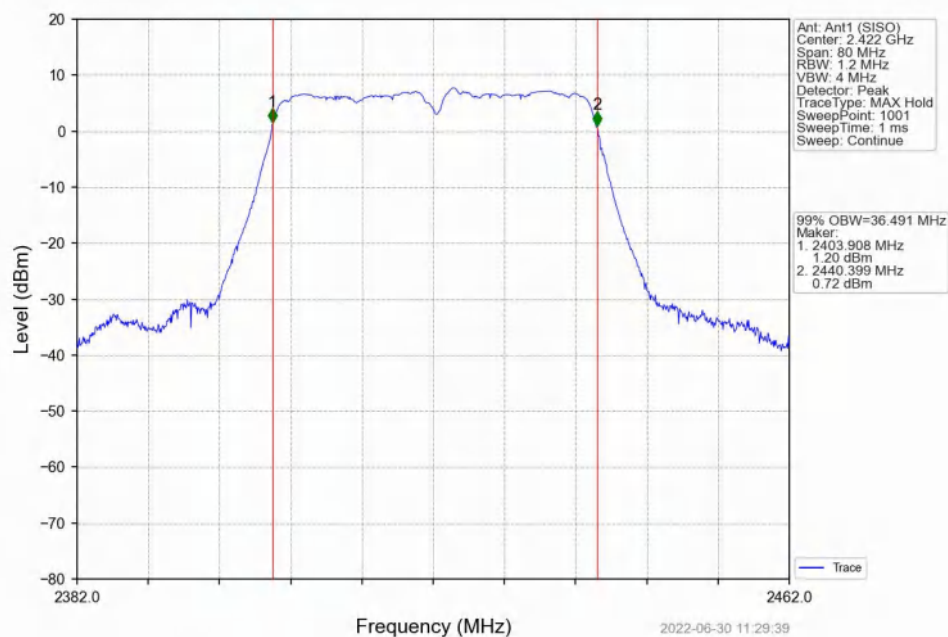
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



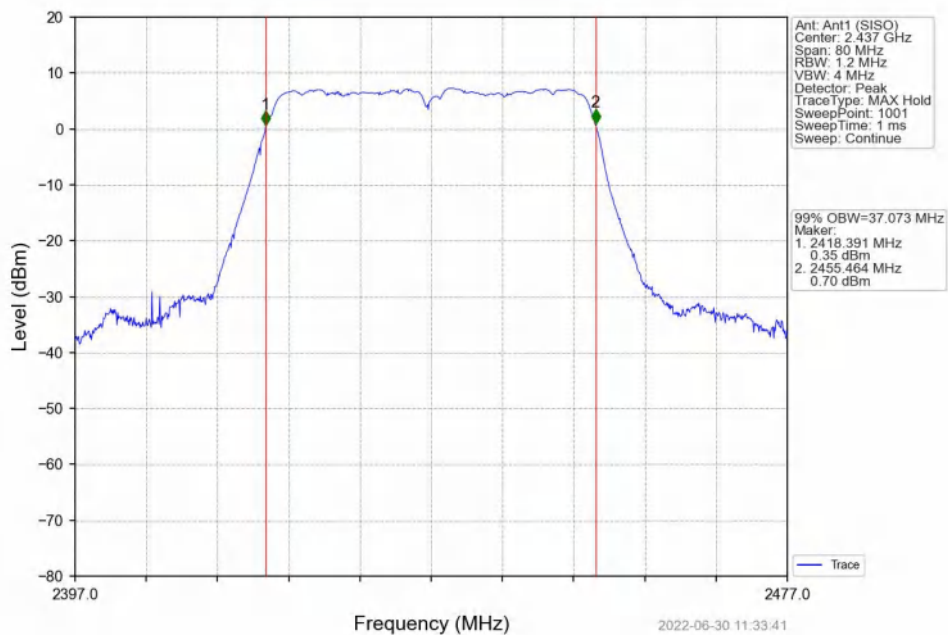
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



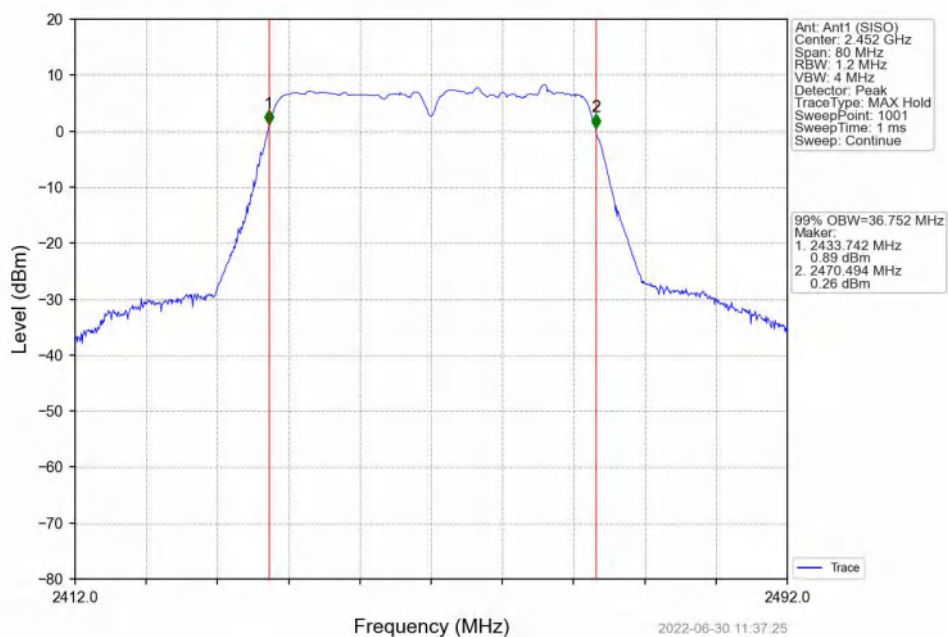
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV

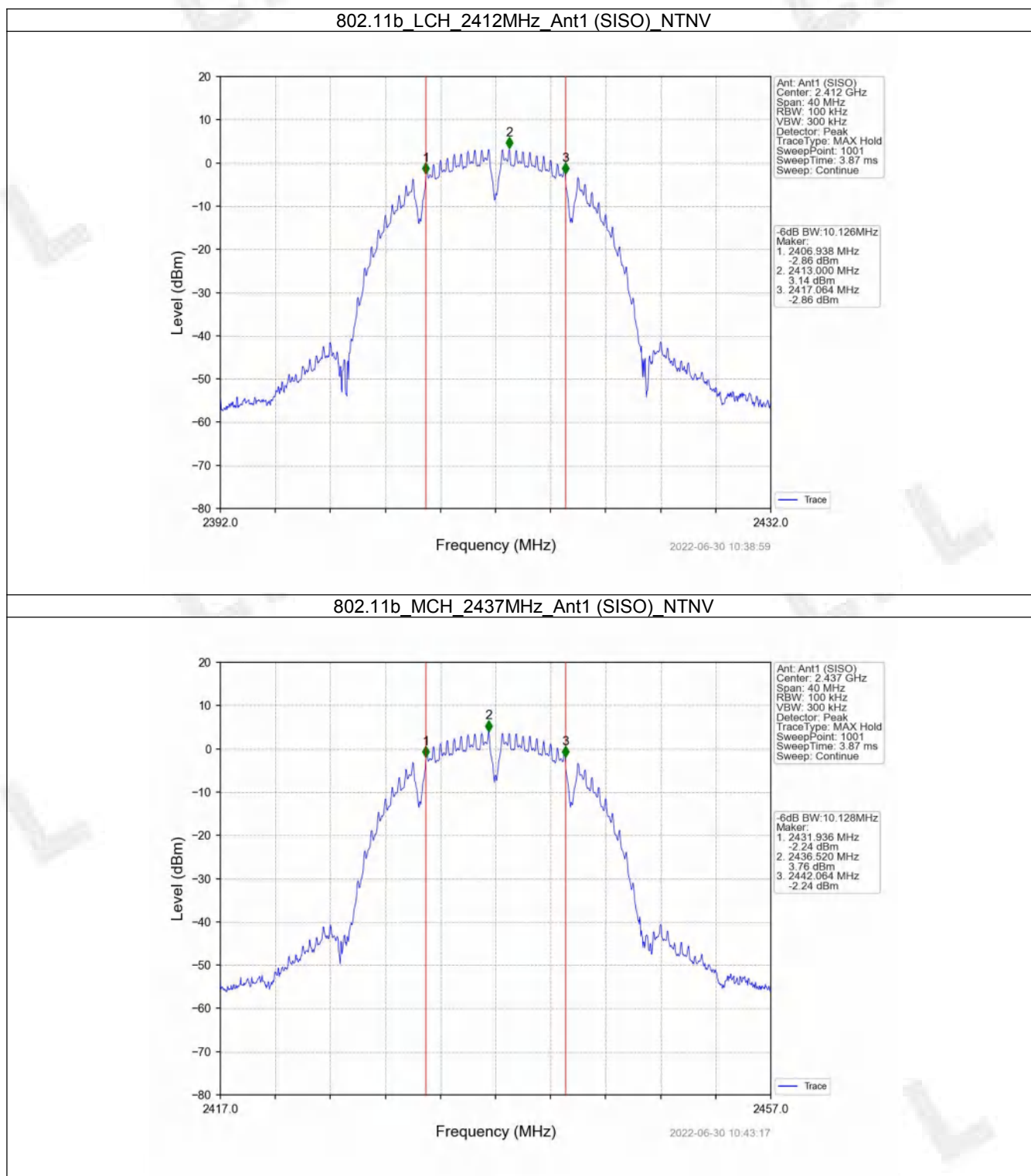


2.2 6dB BW

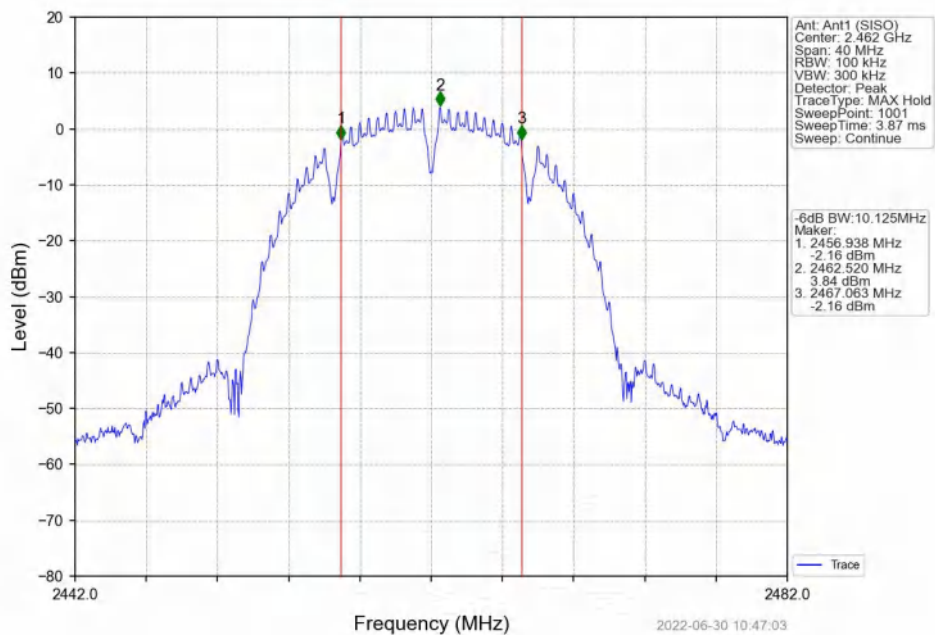
2.2.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	10.126	>=0.5	Pass
		2437	1	10.128	>=0.5	Pass
		2462	1	10.125	>=0.5	Pass
802.11g	SISO	2412	1	16.356	>=0.5	Pass
		2437	1	16.359	>=0.5	Pass
		2462	1	16.366	>=0.5	Pass
802.11n (HT20)	SISO	2412	1	17.314	>=0.5	Pass
		2437	1	17.079	>=0.5	Pass
		2462	1	17.315	>=0.5	Pass
802.11n (HT40)	SISO	2422	1	35.389	>=0.5	Pass
		2437	1	35.440	>=0.5	Pass
		2452	1	35.683	>=0.5	Pass

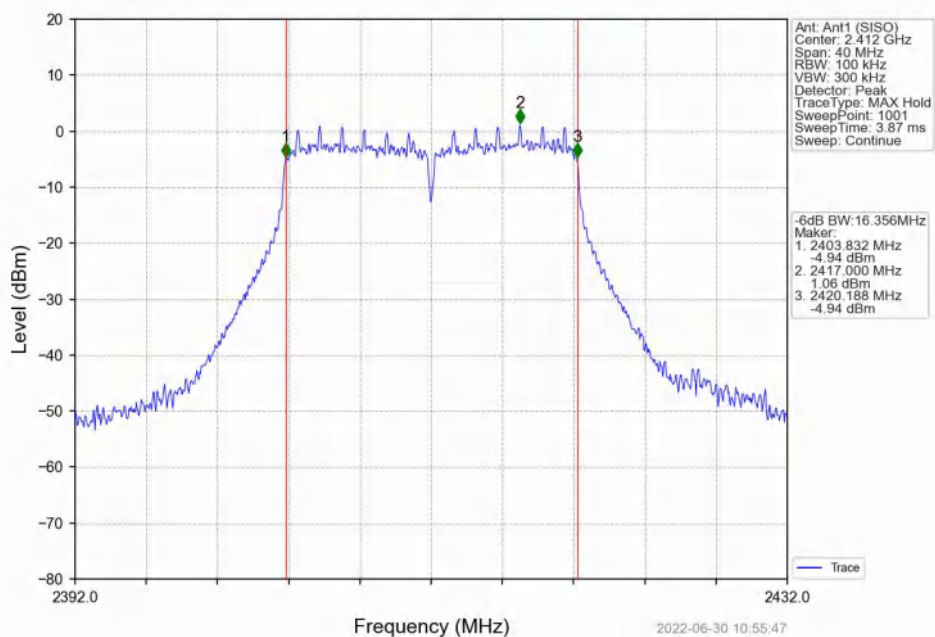
2.2.2 Test Graph



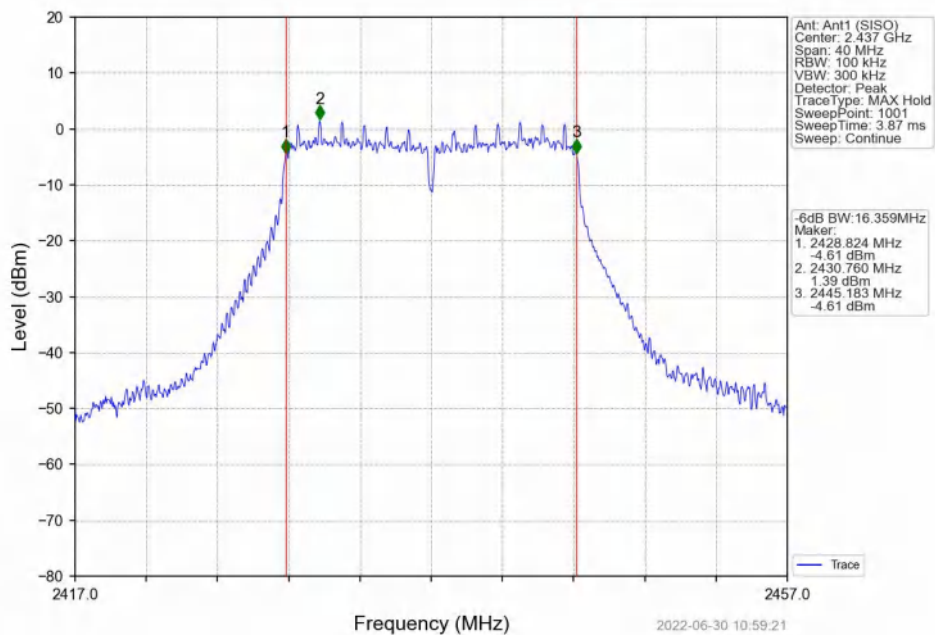
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



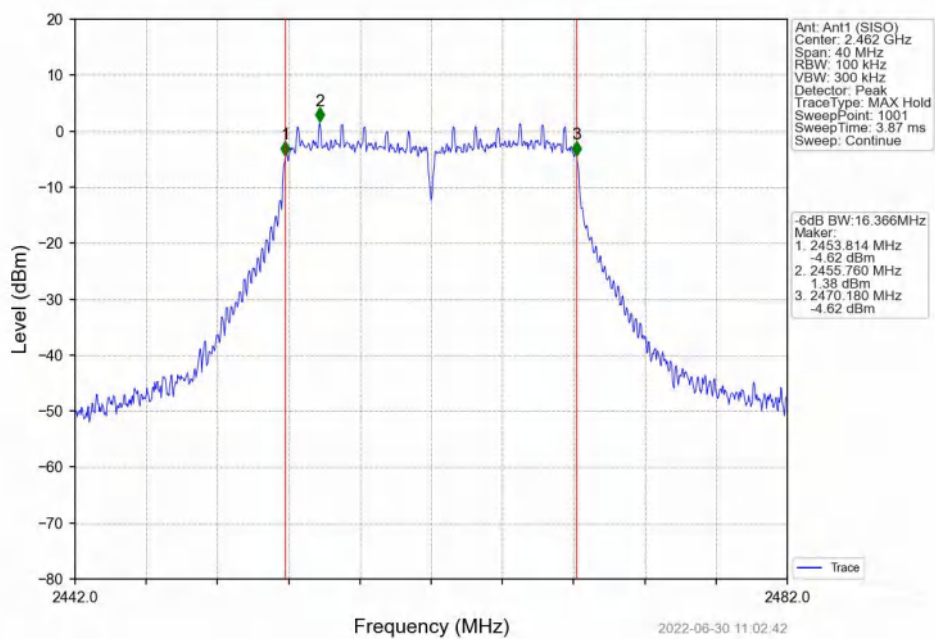
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



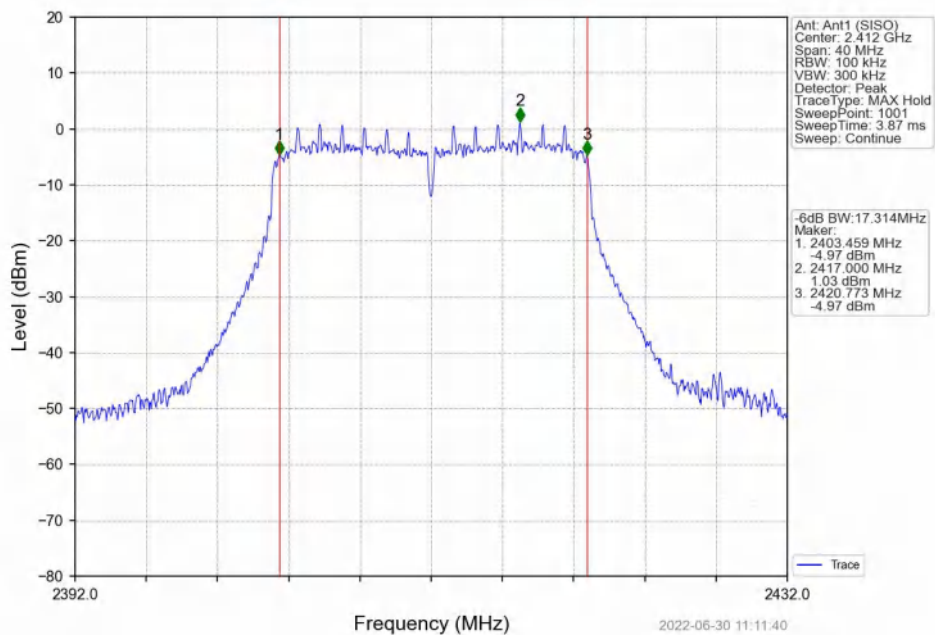
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



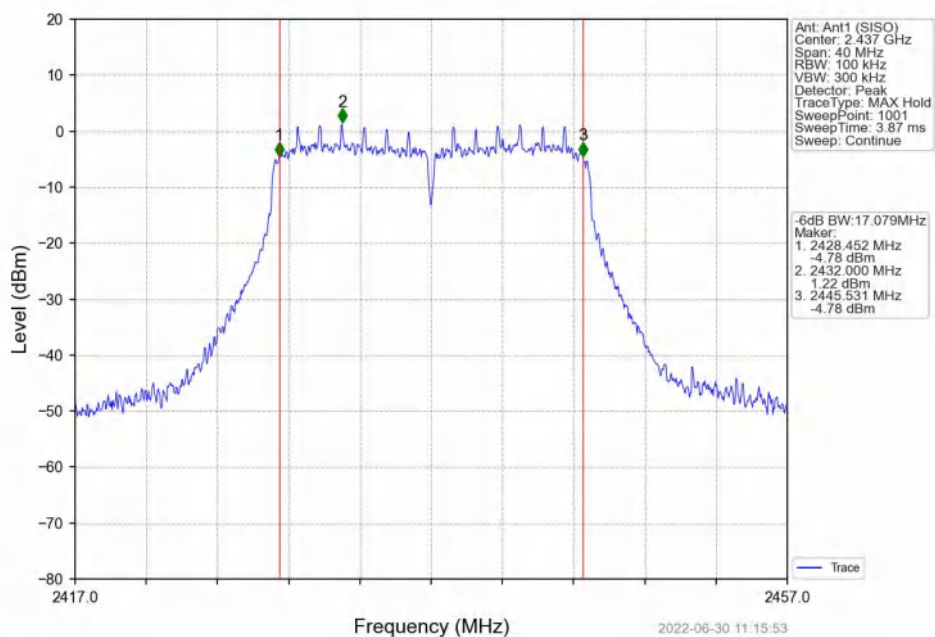
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



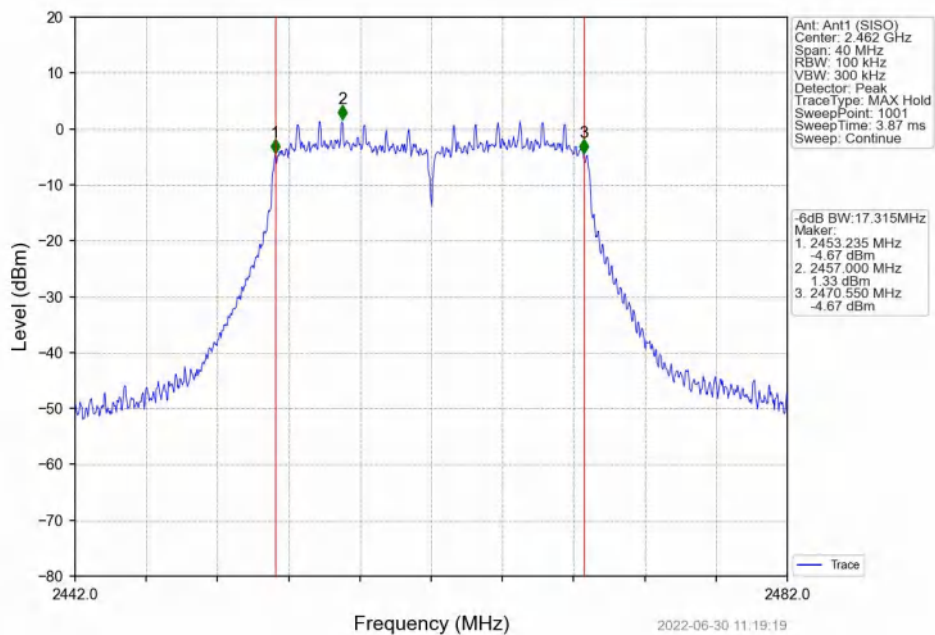
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



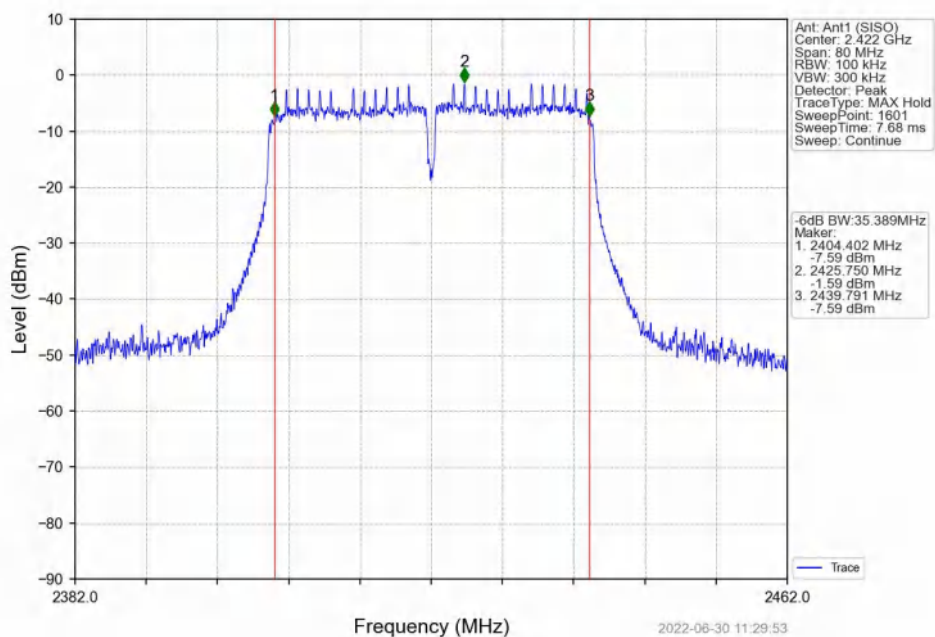
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



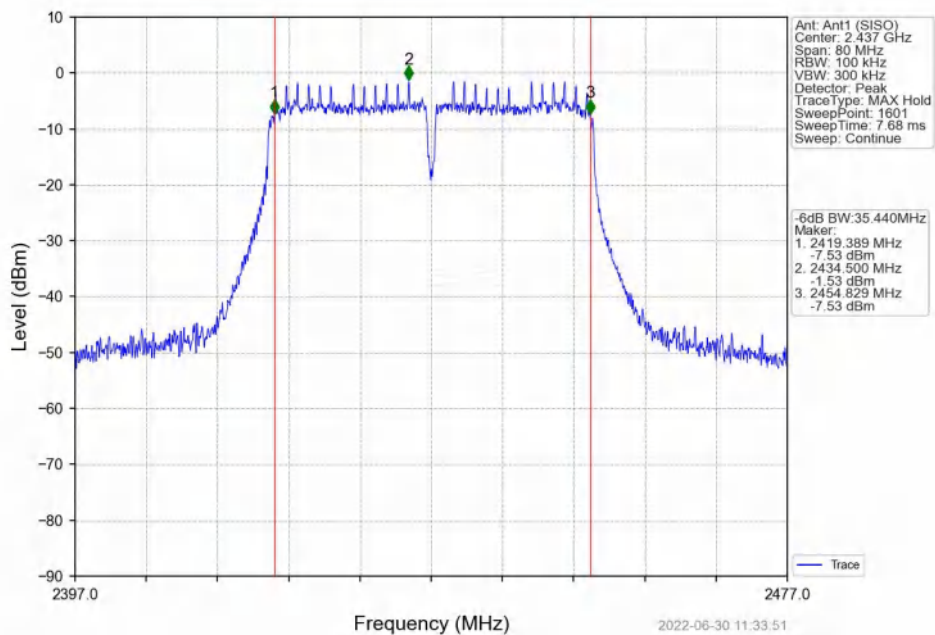
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



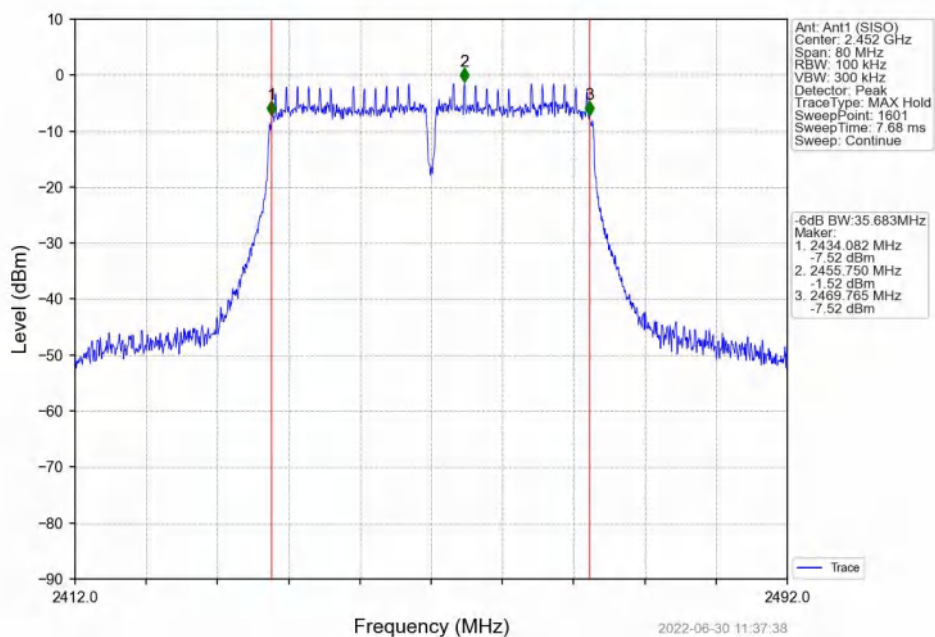
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



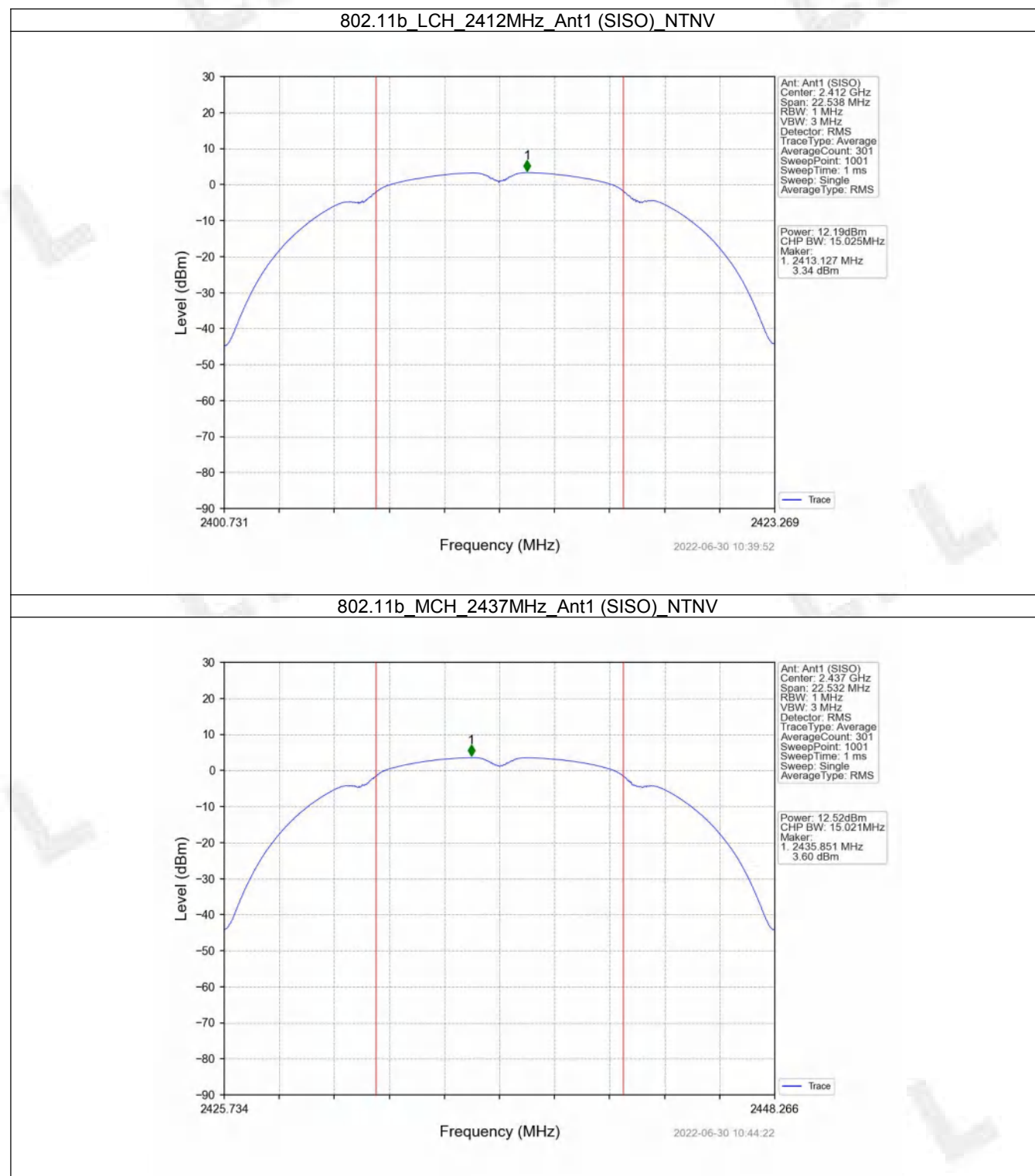
3. Maximum Conducted Output Power

3.1 Power

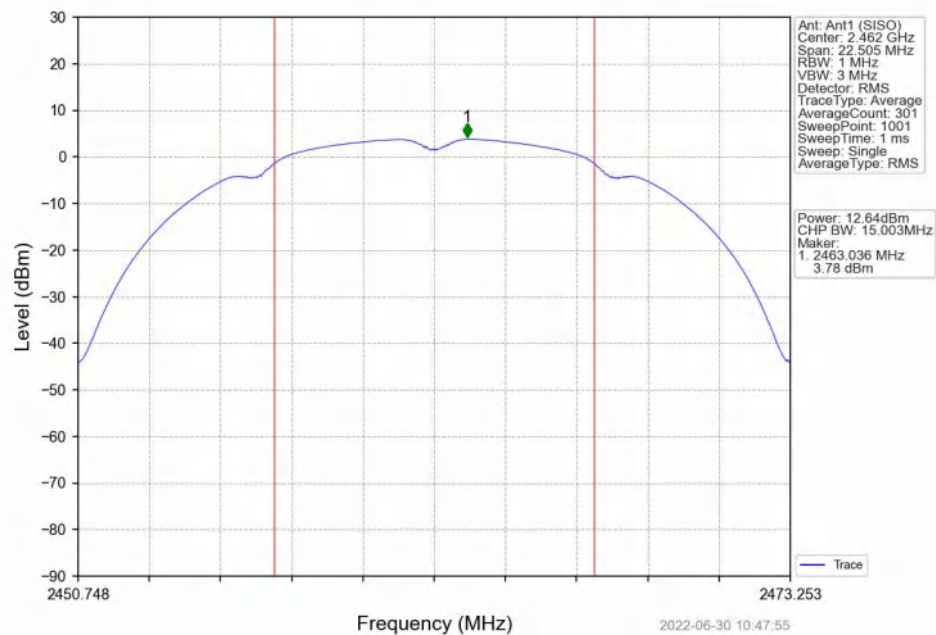
3.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	12.19	<=30	Pass
		2437	12.52	<=30	Pass
		2462	12.64	<=30	Pass
802.11g	SISO	2412	11.87	<=30	Pass
		2437	12.15	<=30	Pass
		2462	12.24	<=30	Pass
802.11n (HT20)	SISO	2412	11.75	<=30	Pass
		2437	12.05	<=30	Pass
		2462	12.18	<=30	Pass
802.11n (HT40)	SISO	2422	12.22	<=30	Pass
		2437	12.40	<=30	Pass
		2452	12.44	<=30	Pass
Note1: Antenna Gain: Ant1: 5.00dBi;					

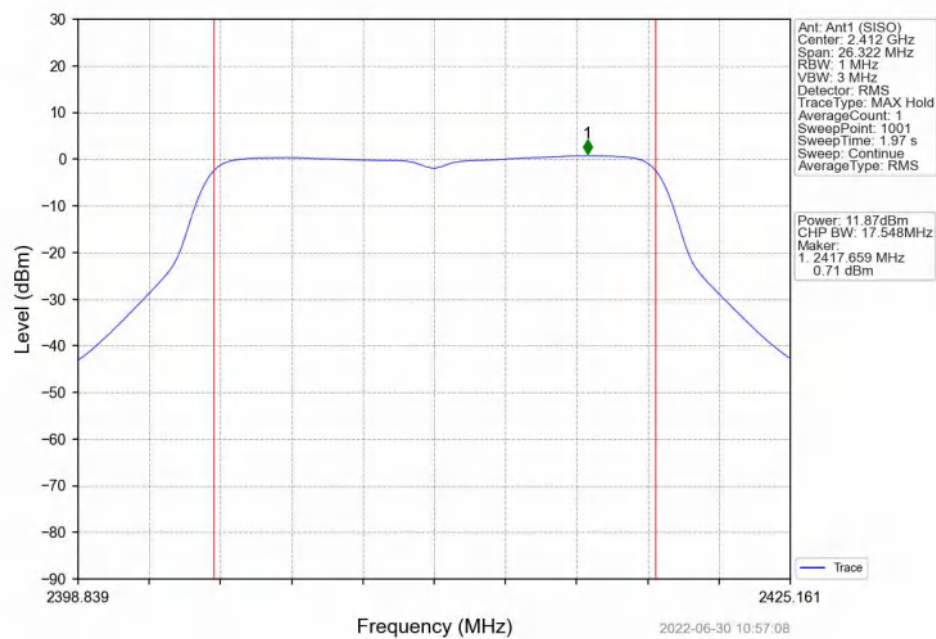
3.1.2 Test Graph



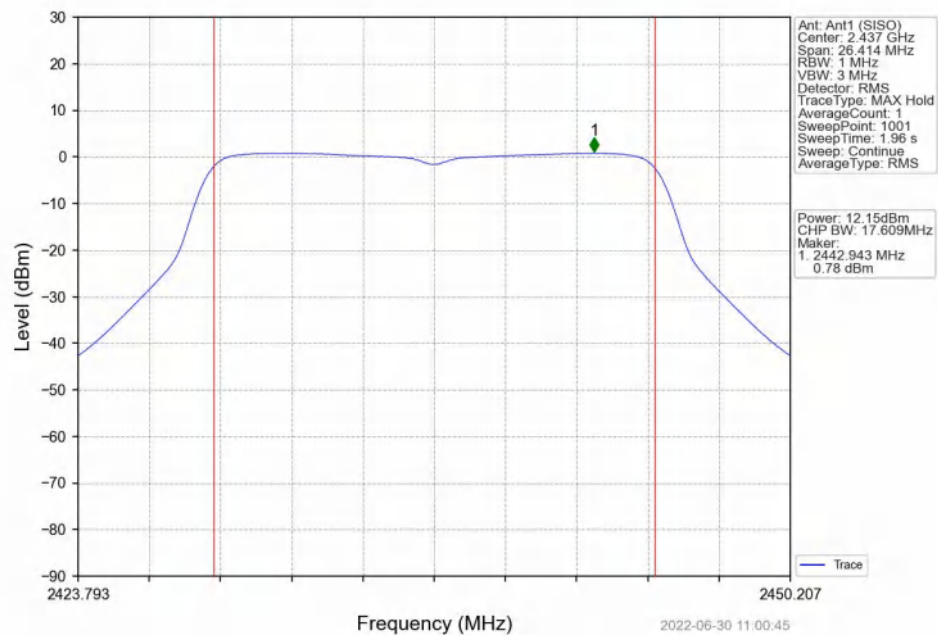
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



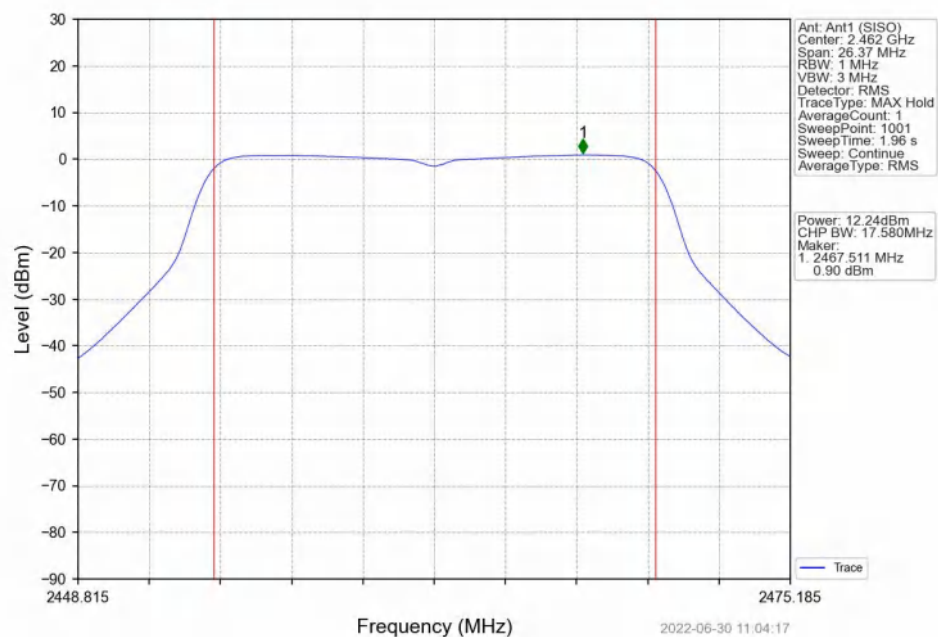
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



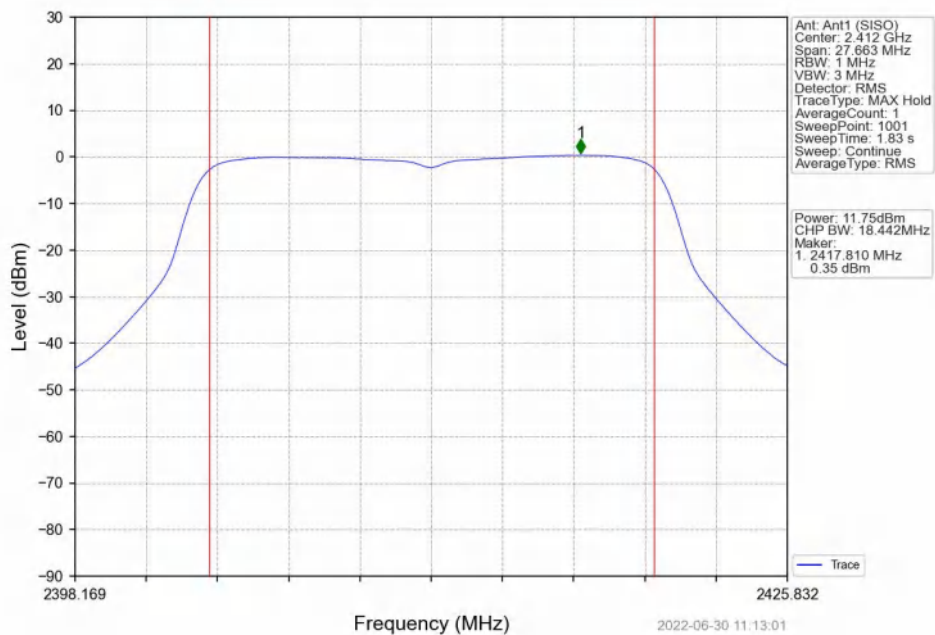
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



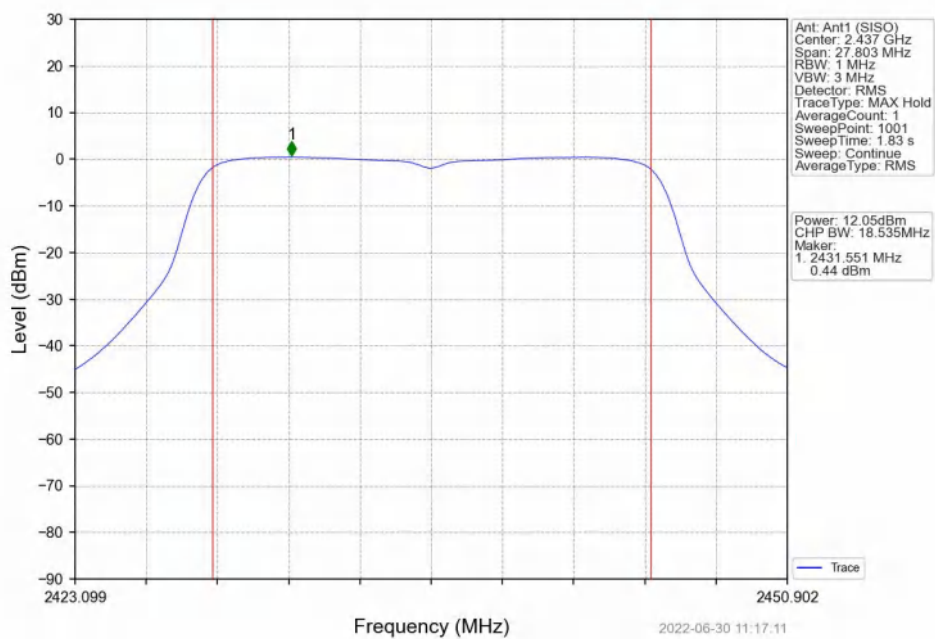
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



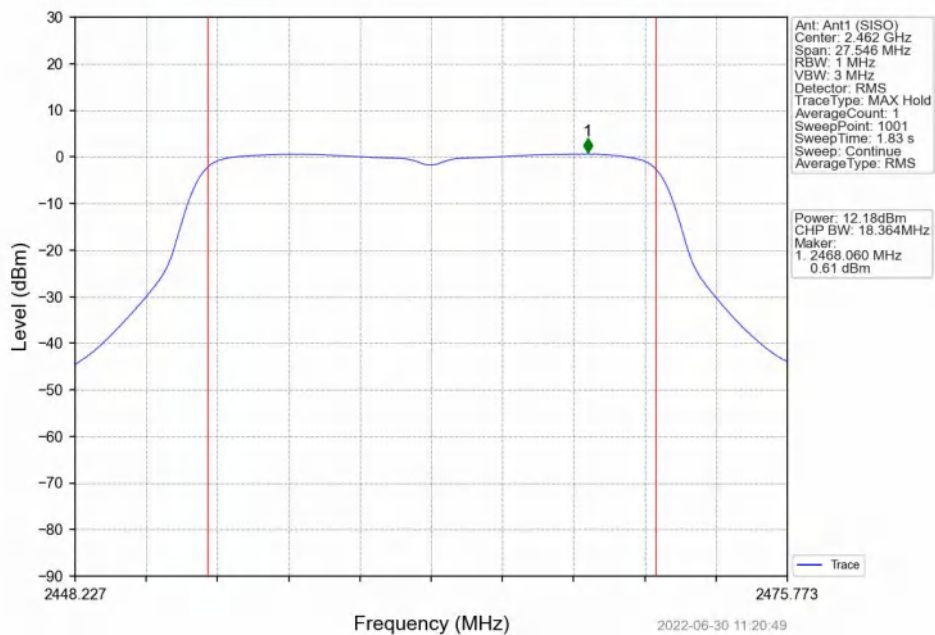
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



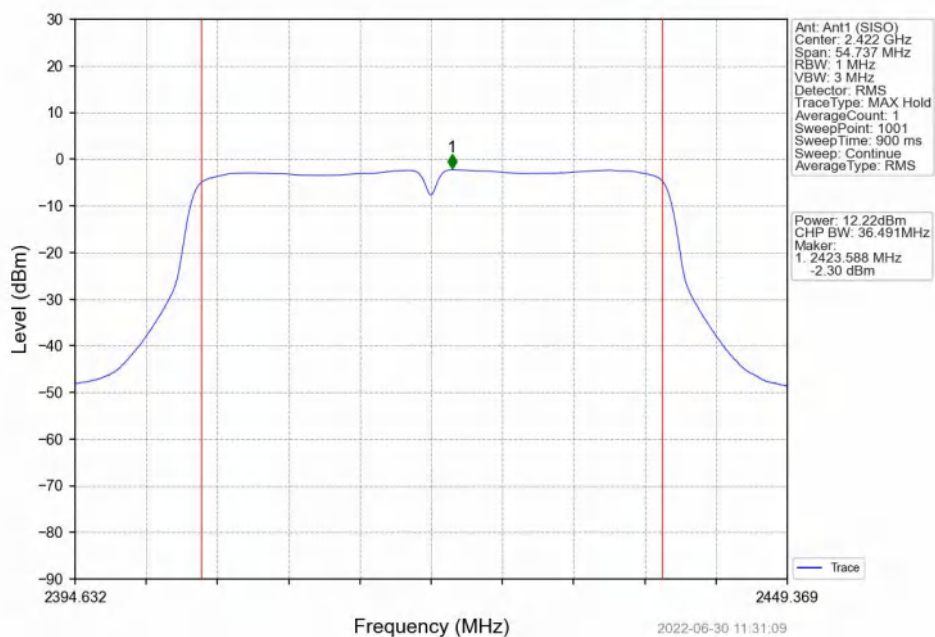
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



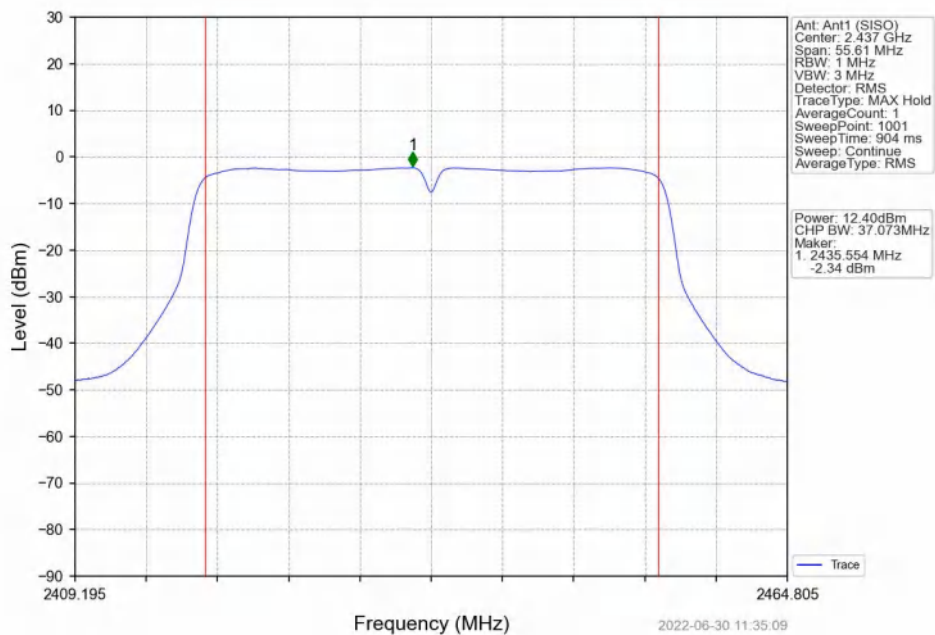
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



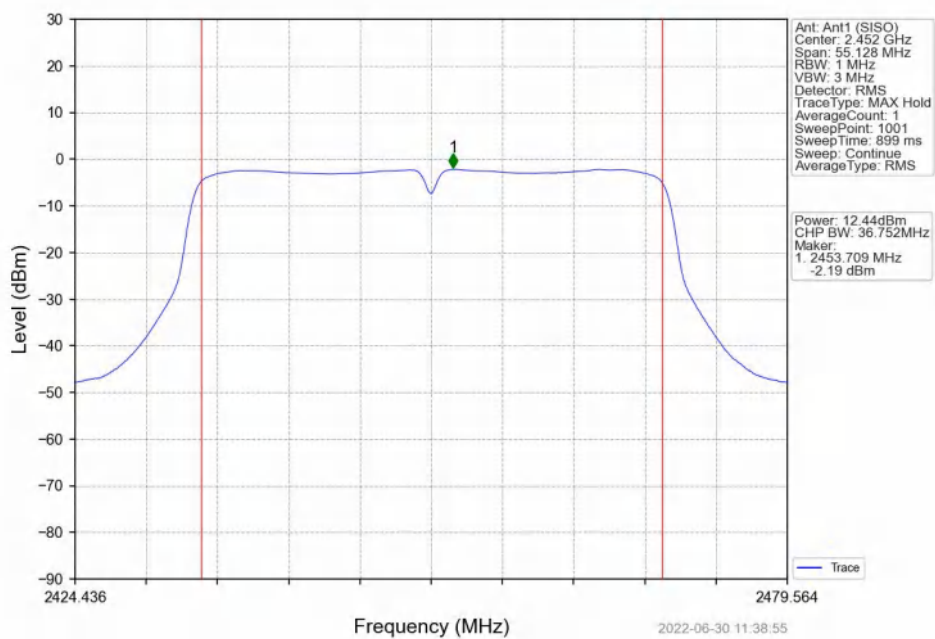
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



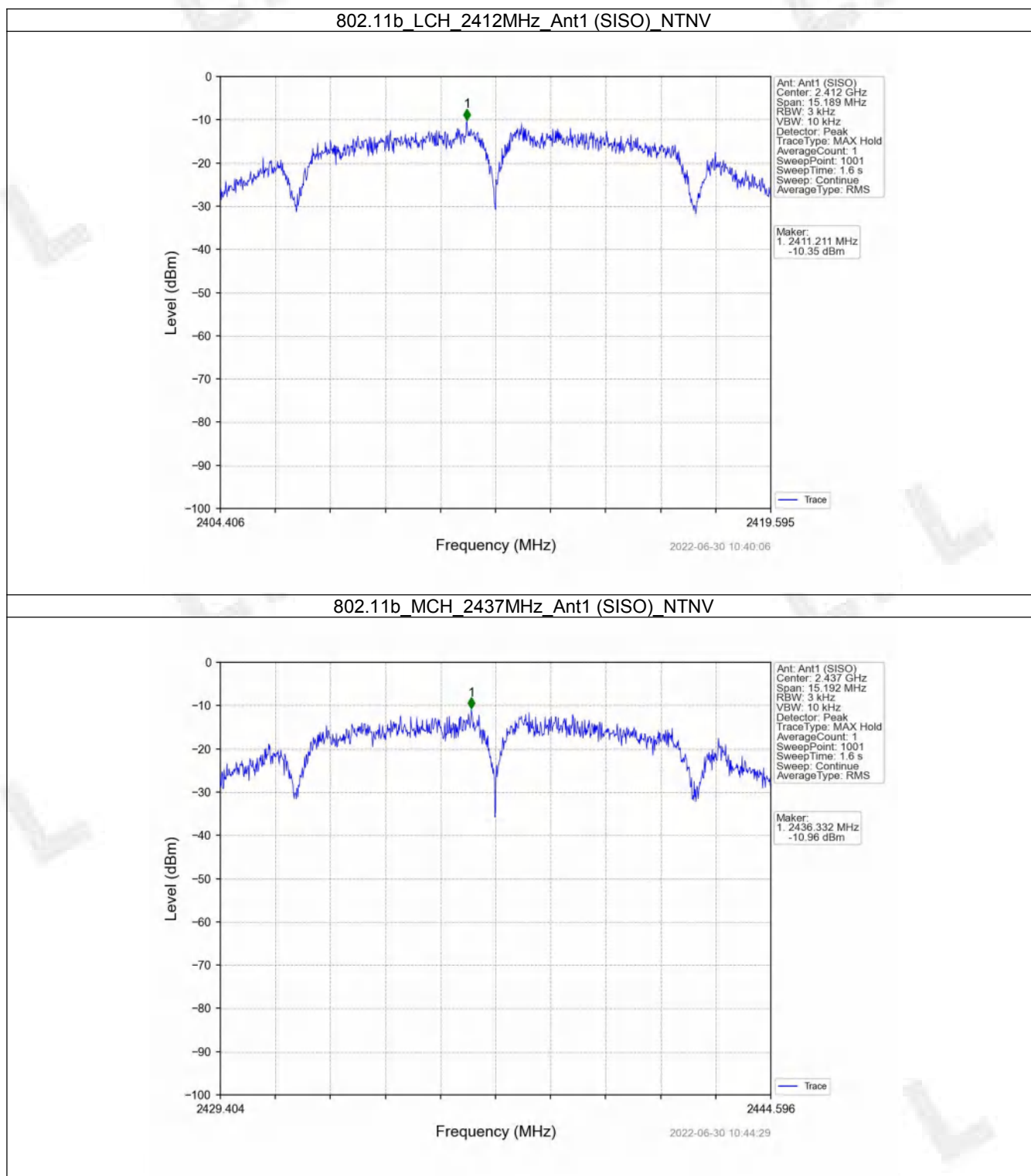
4. Maximum Power Spectral Density

4.1 PSD

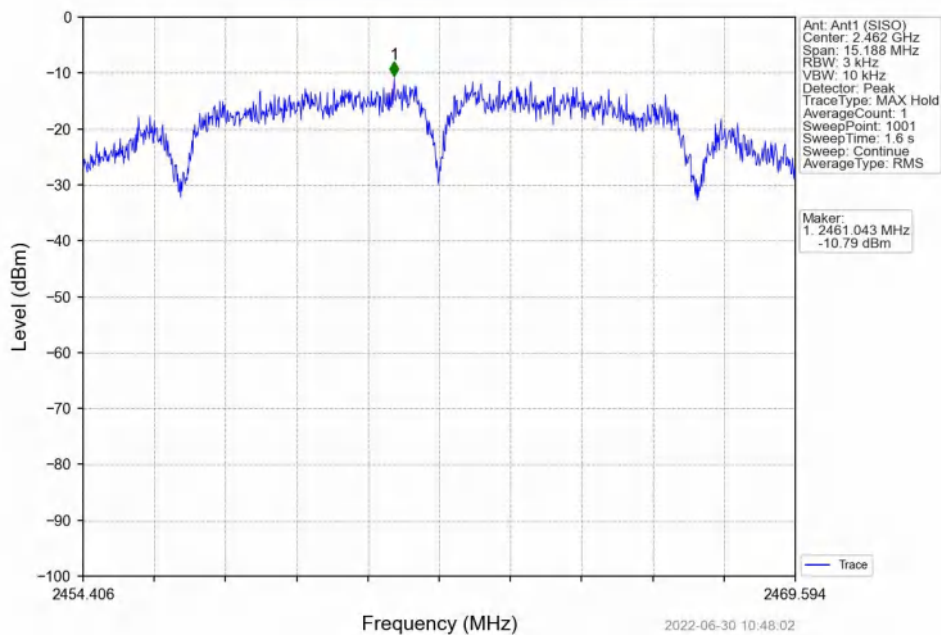
4.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	-10.35	<=8	Pass
		2437	-10.96	<=8	Pass
		2462	-10.79	<=8	Pass
802.11g	SISO	2412	-13.96	<=8	Pass
		2437	-12.88	<=8	Pass
		2462	-13.17	<=8	Pass
802.11n (HT20)	SISO	2412	-12.91	<=8	Pass
		2437	-13.45	<=8	Pass
		2462	-12.45	<=8	Pass
802.11n (HT40)	SISO	2422	-16.49	<=8	Pass
		2437	-15.65	<=8	Pass
		2452	-16.39	<=8	Pass
Note1: Antenna Gain: Ant1: 5.00dBi;					

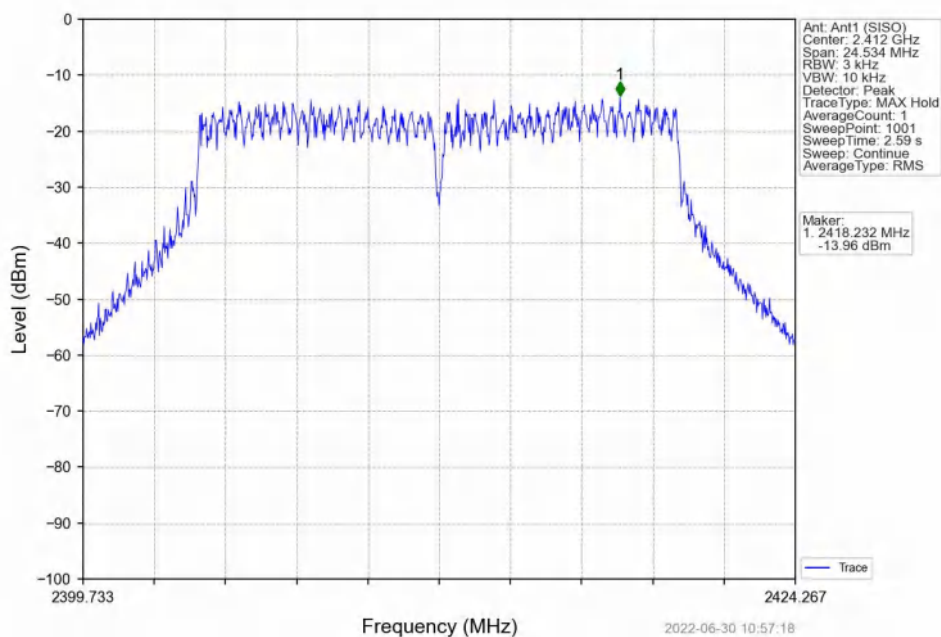
4.1.2 Test Graph



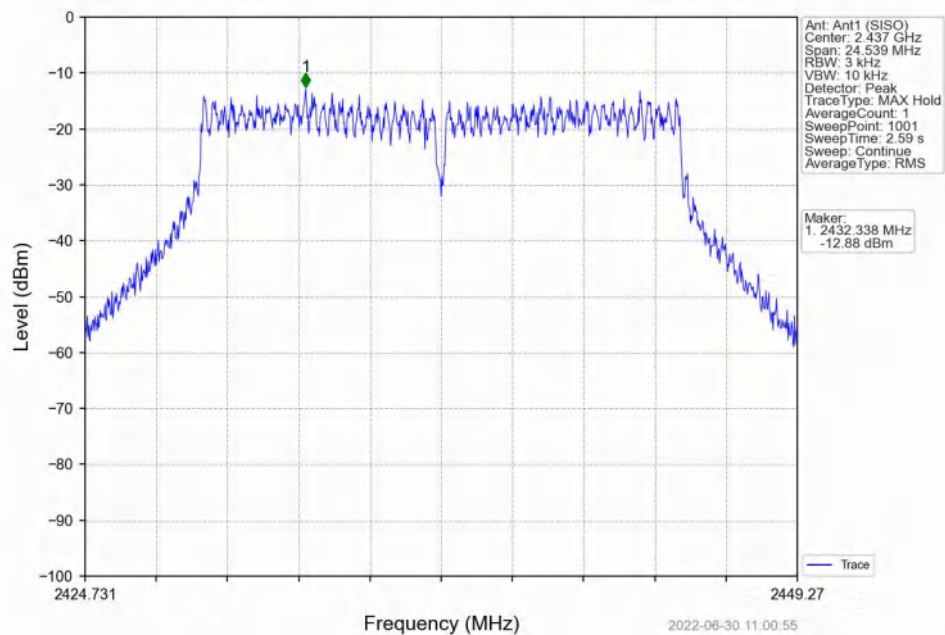
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



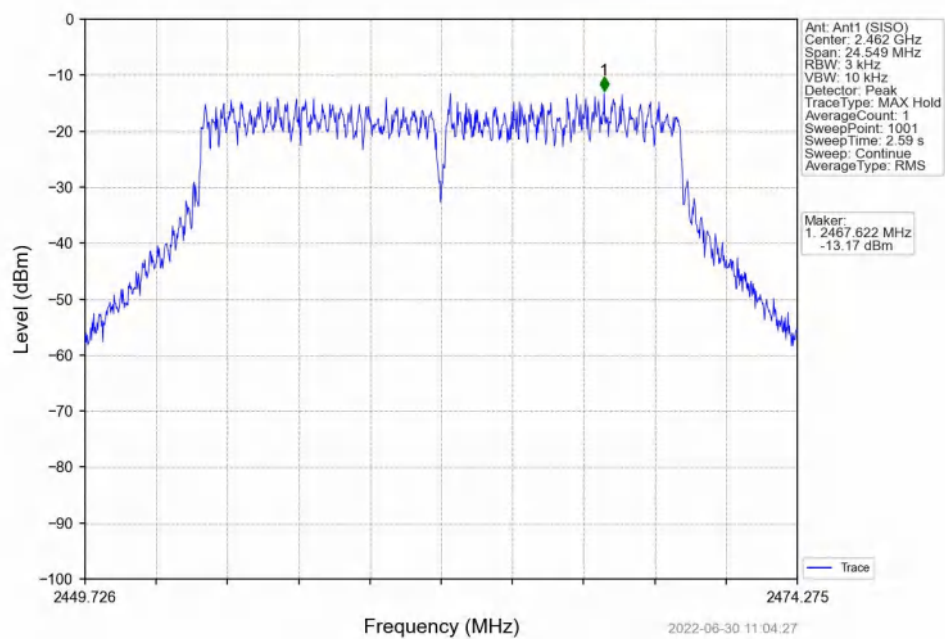
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



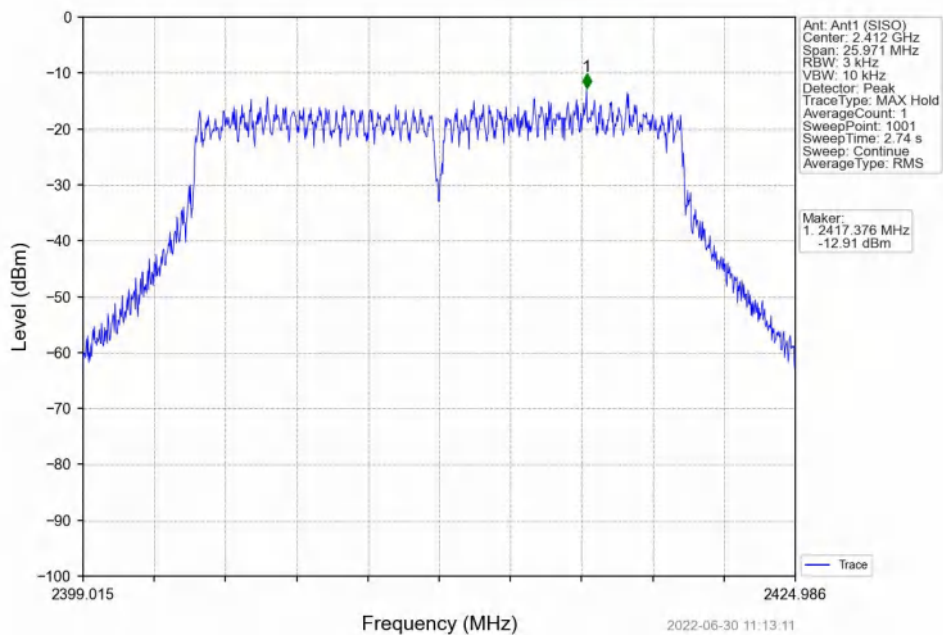
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



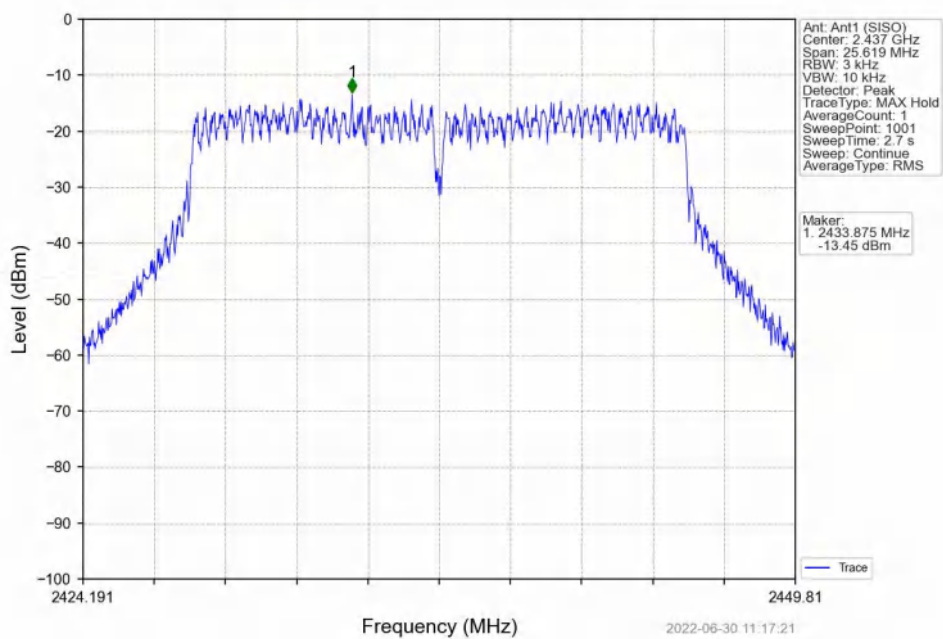
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



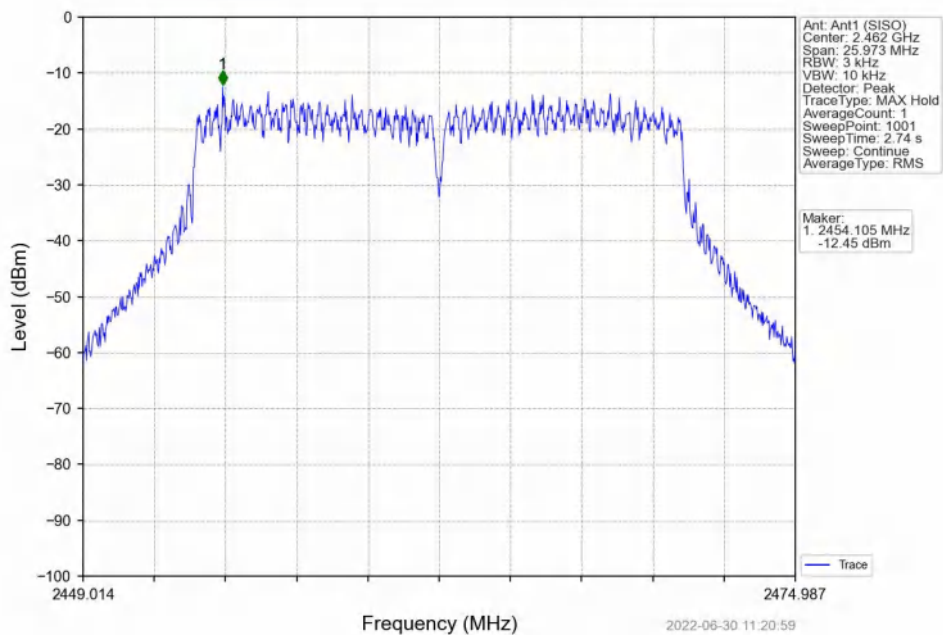
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



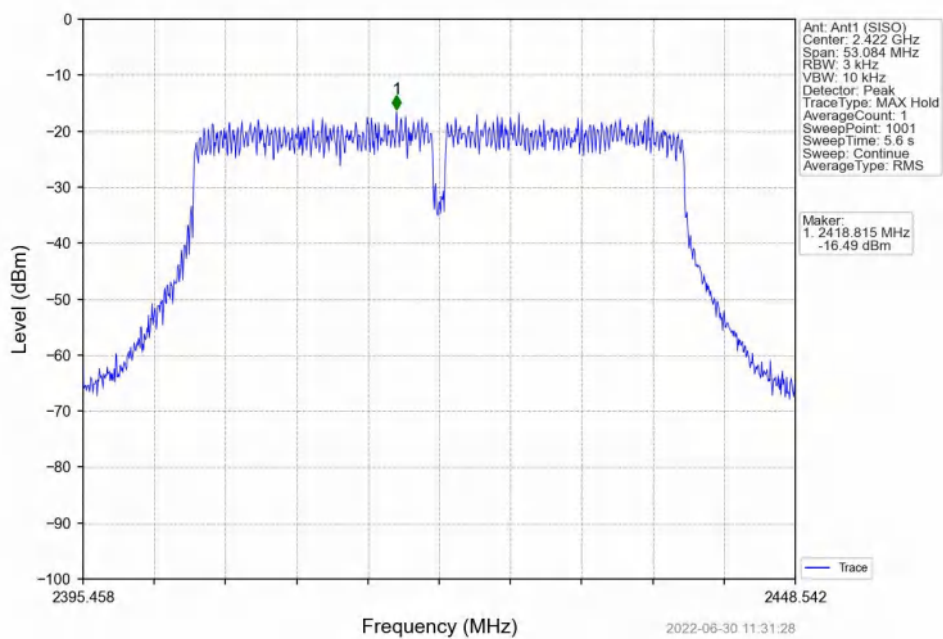
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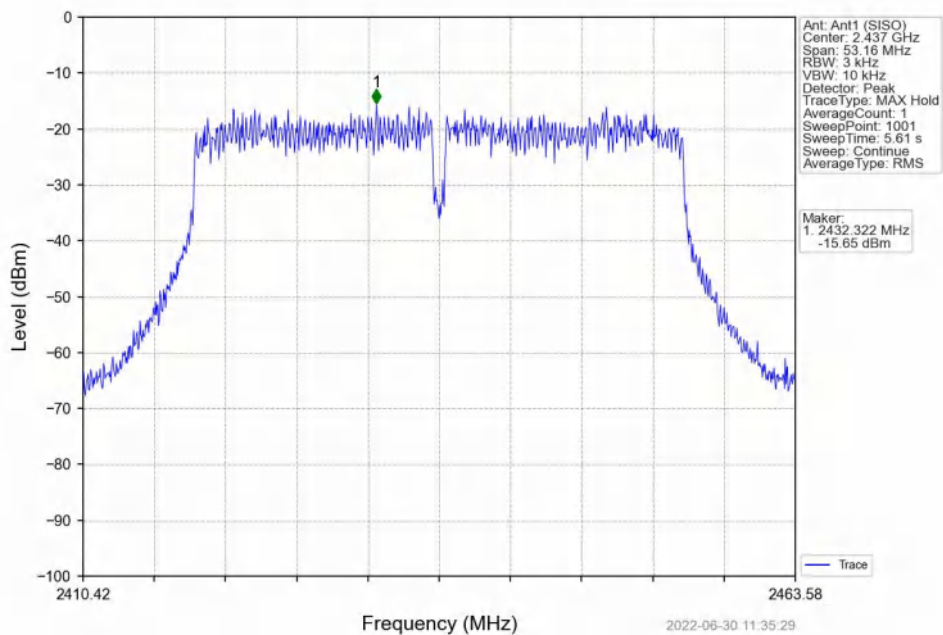
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



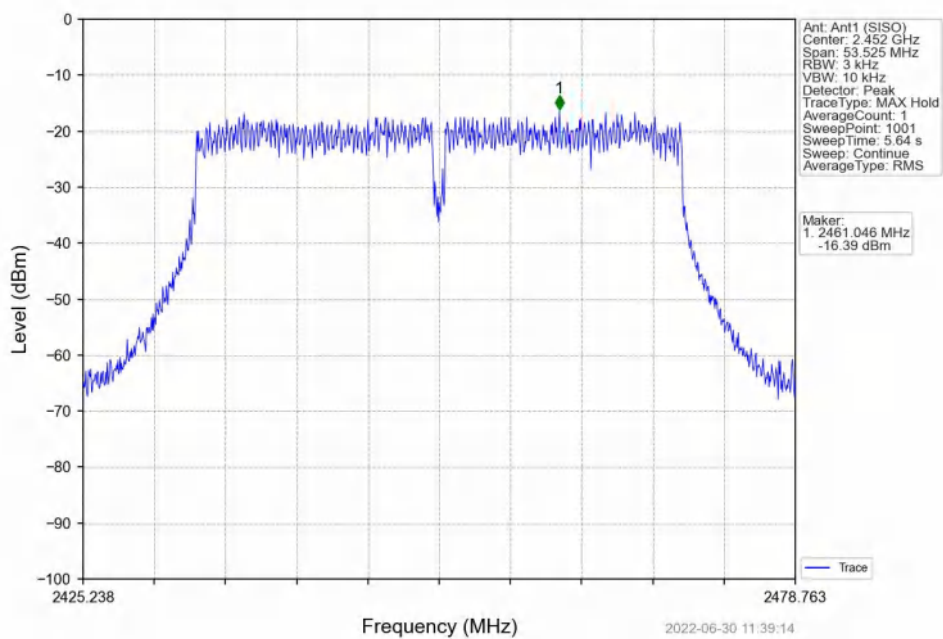
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



5. Unwanted Emissions InStandard Non-restricted Frequency Bands

5.1 Ref

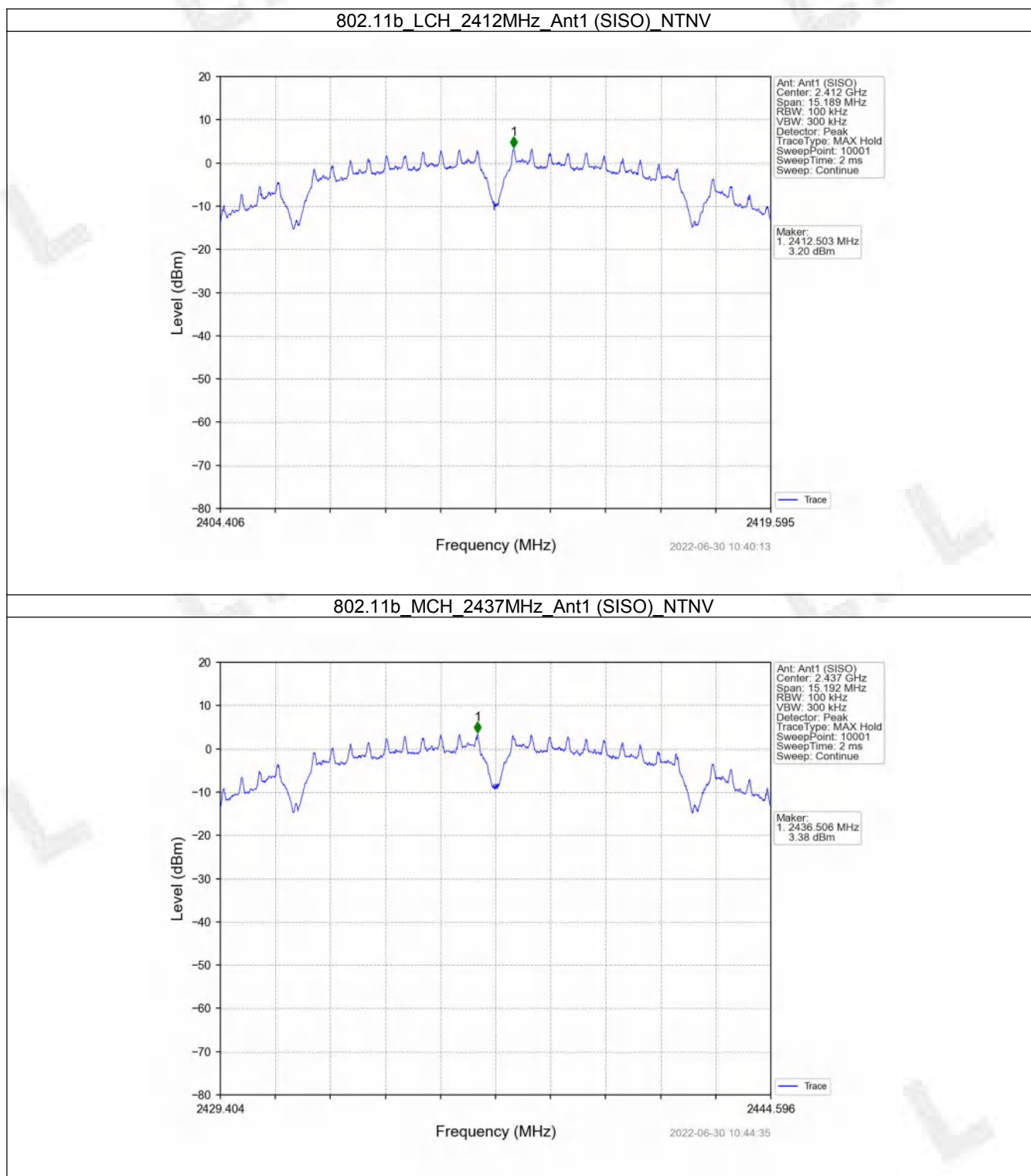
5.1.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
802.11b	SISO	2412	1	3.20
		2437	1	3.38
		2462	1	3.68
802.11g	SISO	2412	1	0.94
		2437	1	1.09
		2462	1	1.22
802.11n (HT20)	SISO	2412	1	0.88
		2437	1	1.16
		2462	1	1.34
802.11n (HT40)	SISO	2422	1	-1.65
		2437	1	-1.67
		2452	1	-1.60

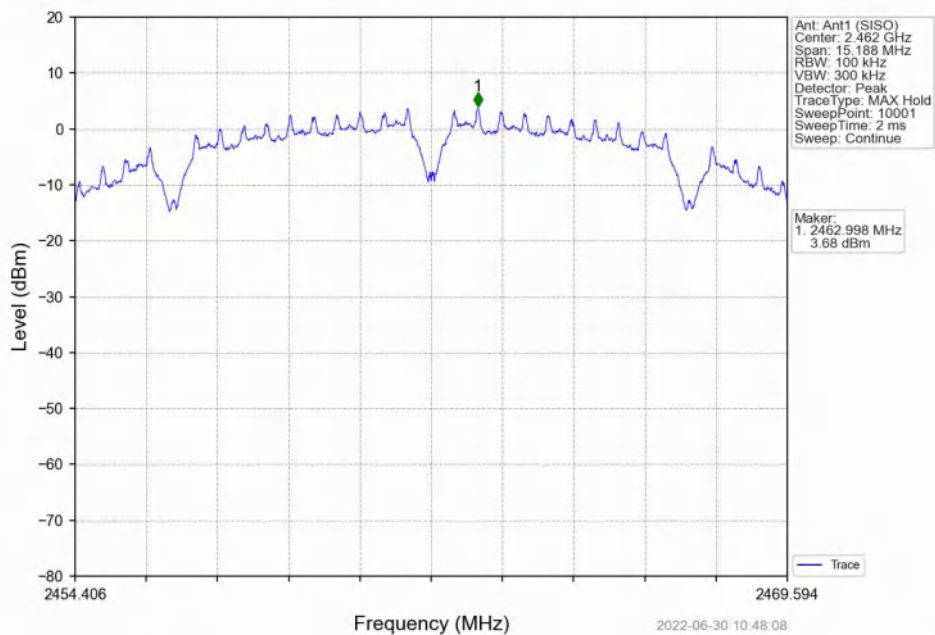
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

Note2: RBW = 1MHz was used during the pre-test. The final test will be performed at RBW=100kHz while the margin is less than 3dB.

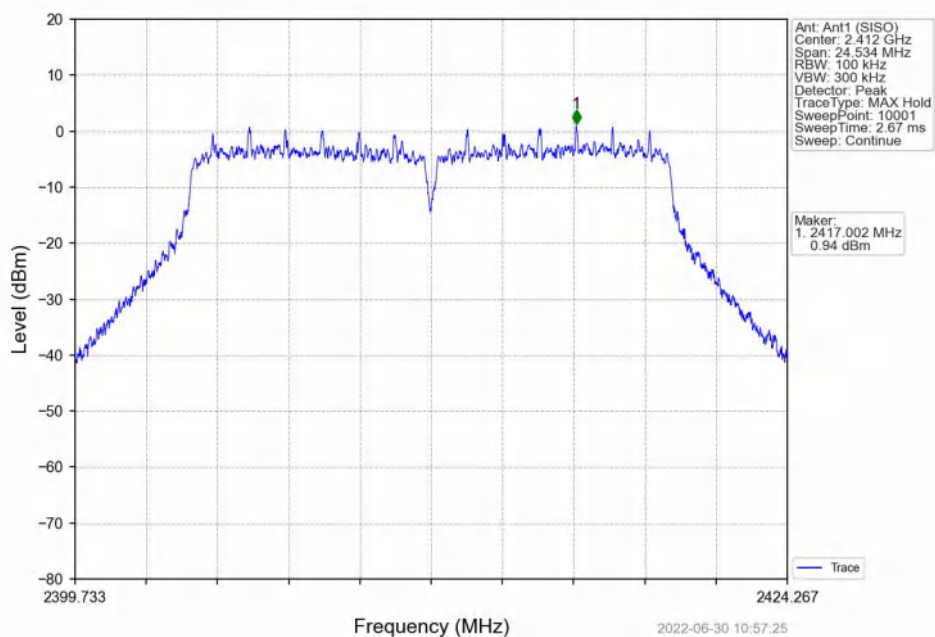
5.1.2 Test Graph



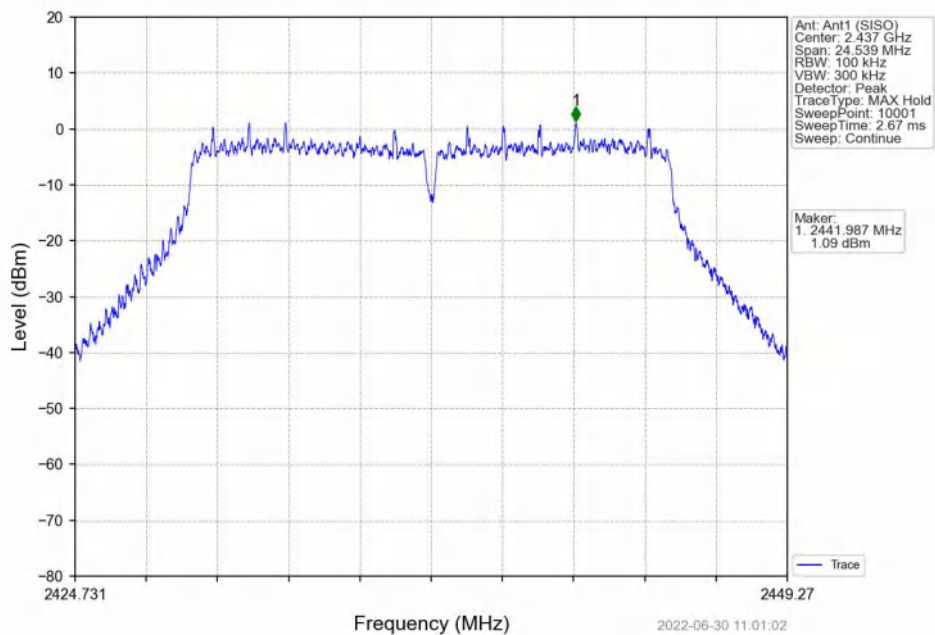
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



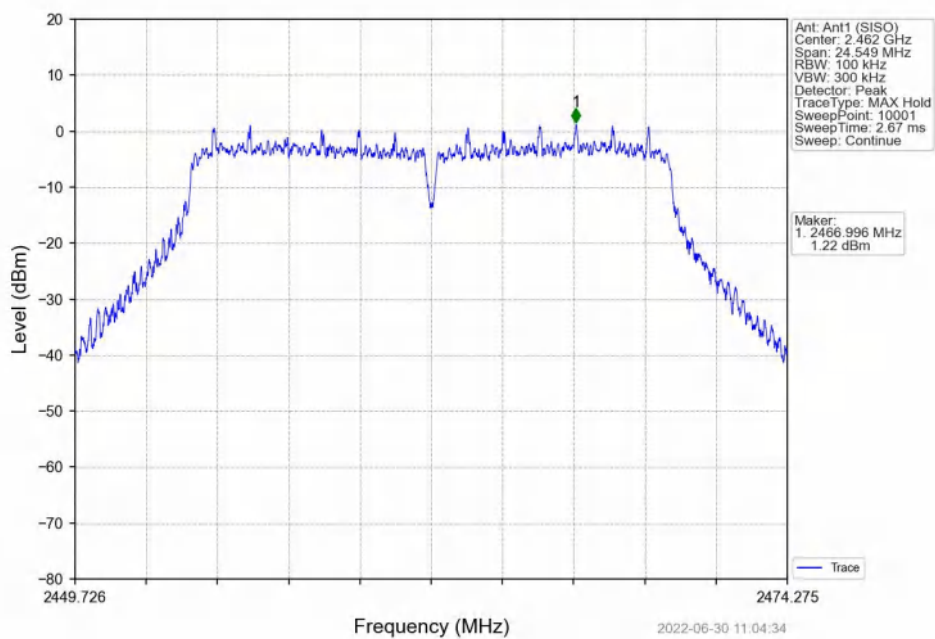
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



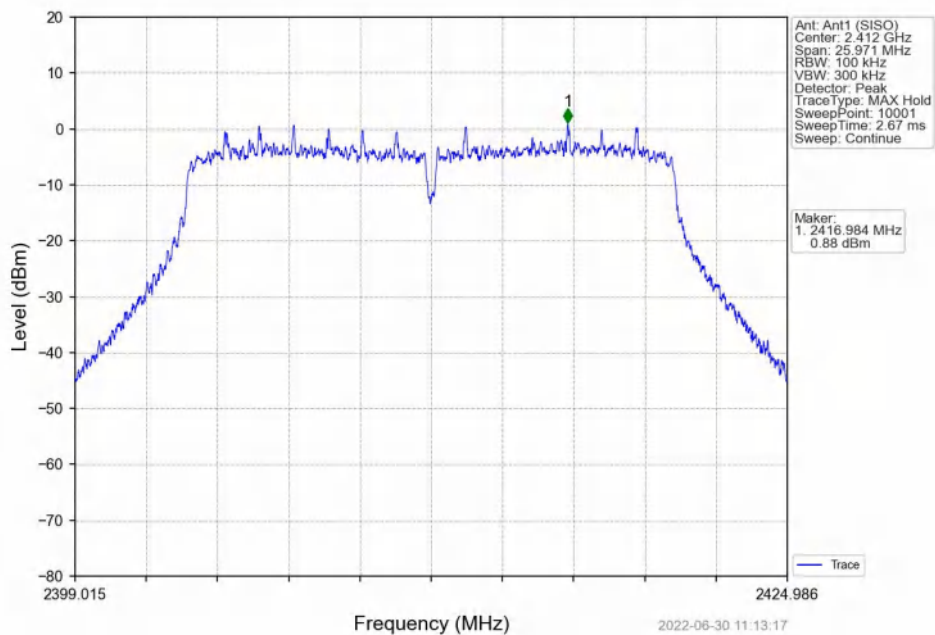
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



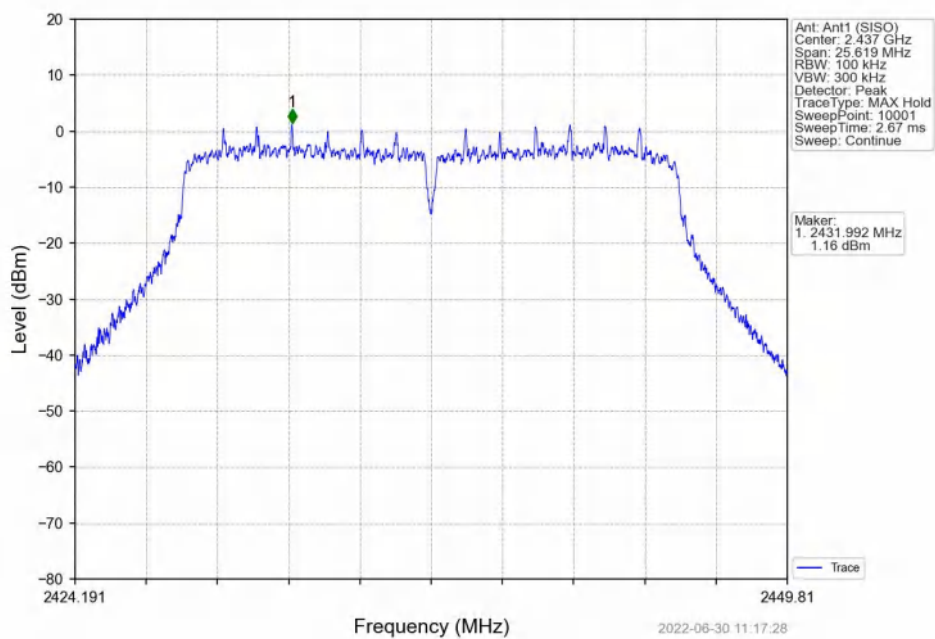
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



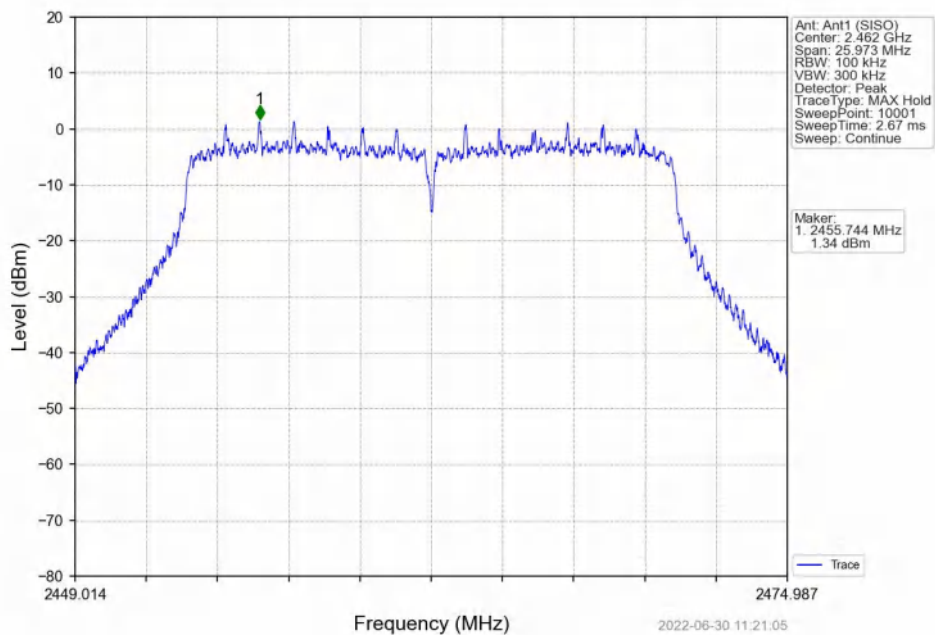
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



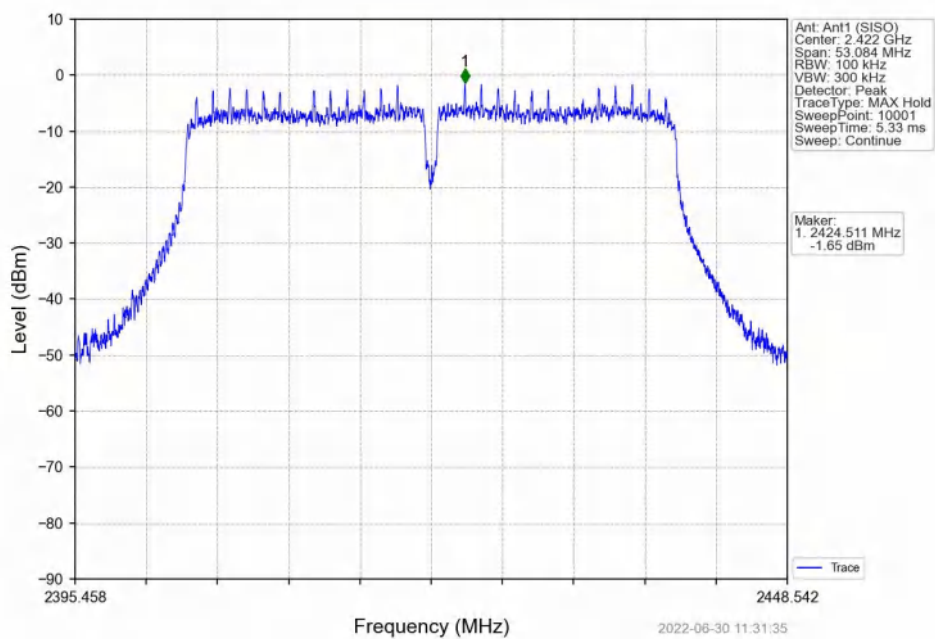
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



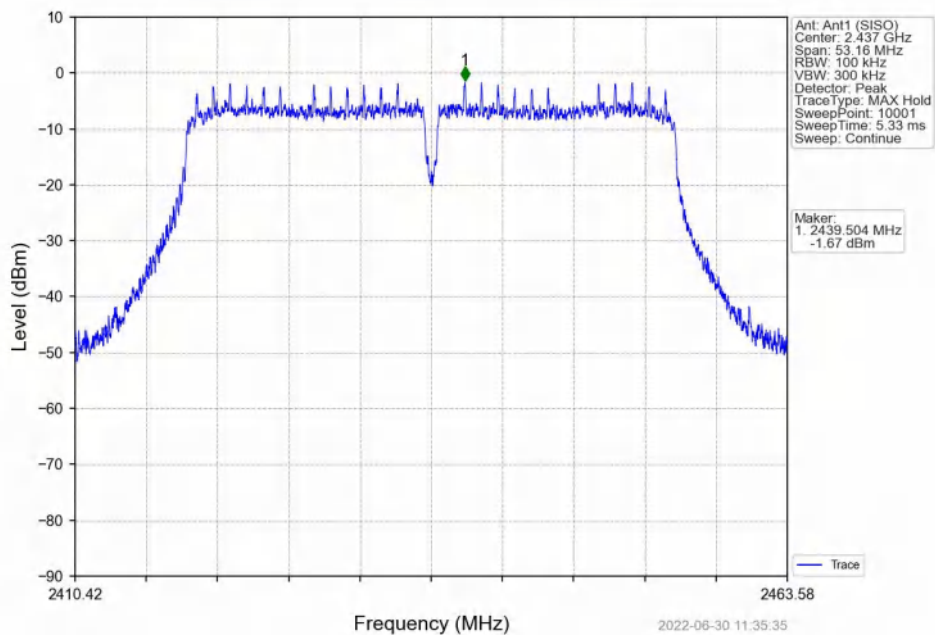
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



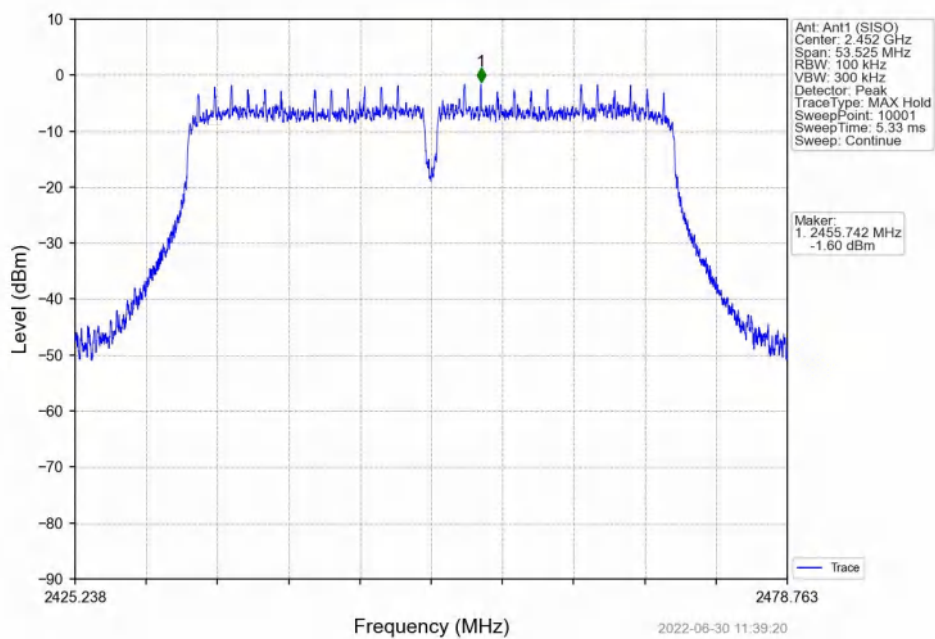
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



5.2 CSE

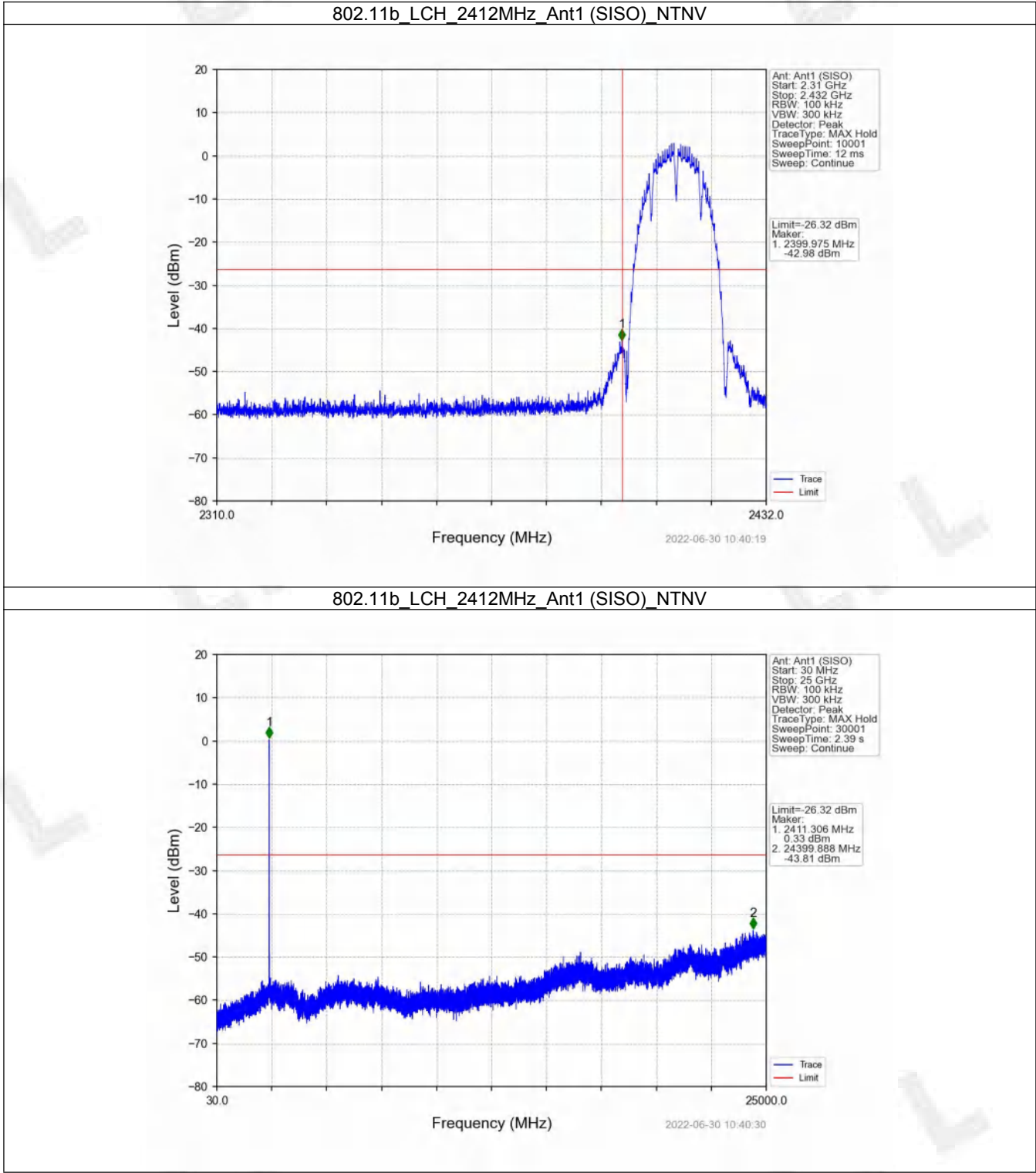
5.2.1 Test Result

Mode	Tx Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	1	3.68	-26.32	Pass
		2437	1	3.68	-26.32	Pass
		2462	1	3.68	-26.32	Pass
802.11g	SISO	2412	1	1.22	-28.78	Pass
		2437	1	1.22	-28.78	Pass
		2462	1	1.22	-28.78	Pass
802.11n (HT20)	SISO	2412	1	1.34	-28.66	Pass
		2437	1	1.34	-28.66	Pass
		2462	1	1.34	-28.66	Pass
802.11n (HT40)	SISO	2422	1	-1.60	-31.60	Pass
		2437	1	-1.60	-31.60	Pass
		2452	1	-1.60	-31.60	Pass

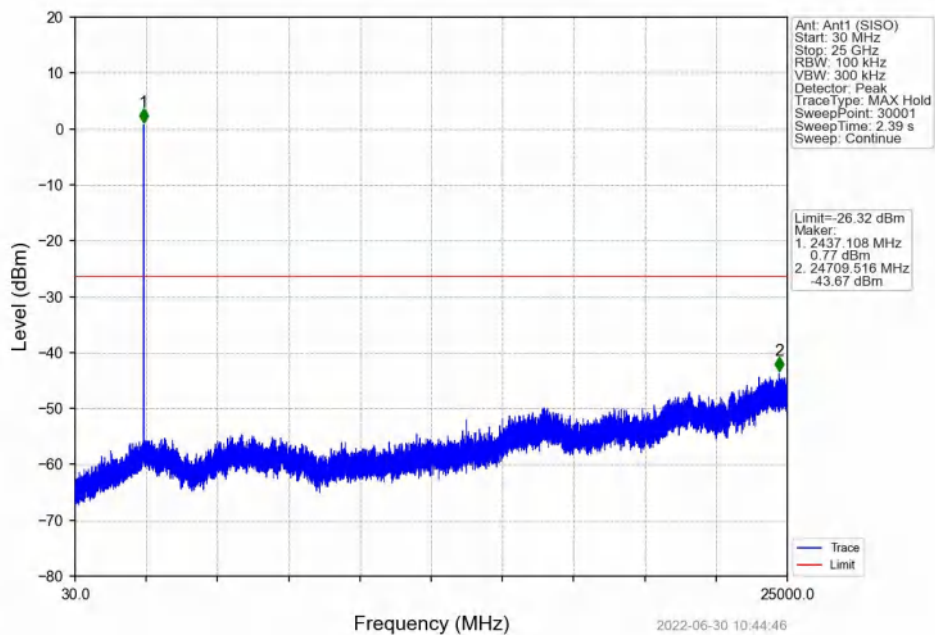
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

Note2: RBW = 1MHz was used during the pre-test. The final test will be performed at RBW=100kHz while the margin is less than 3dB.

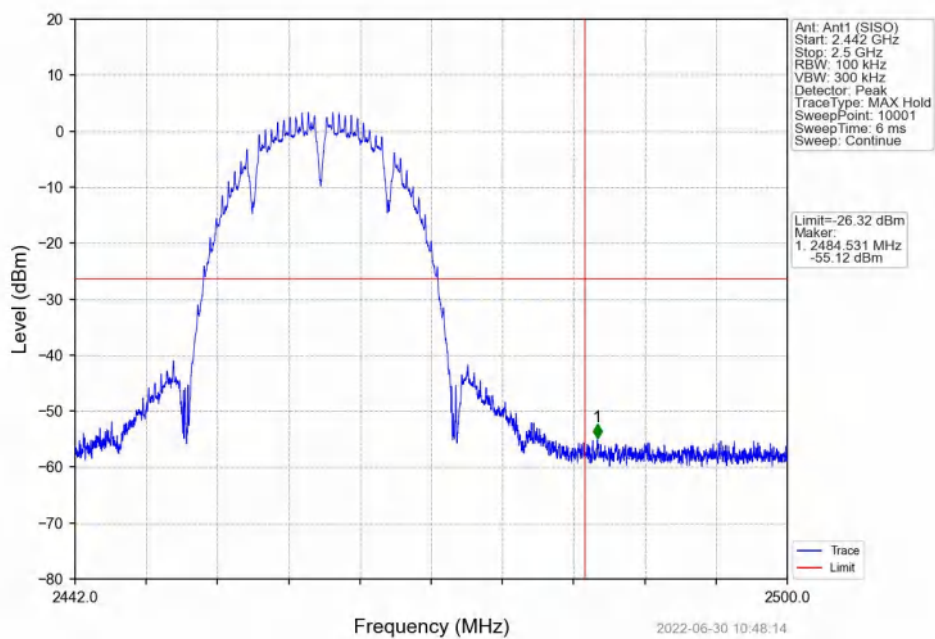
5.2.2 Test Graph



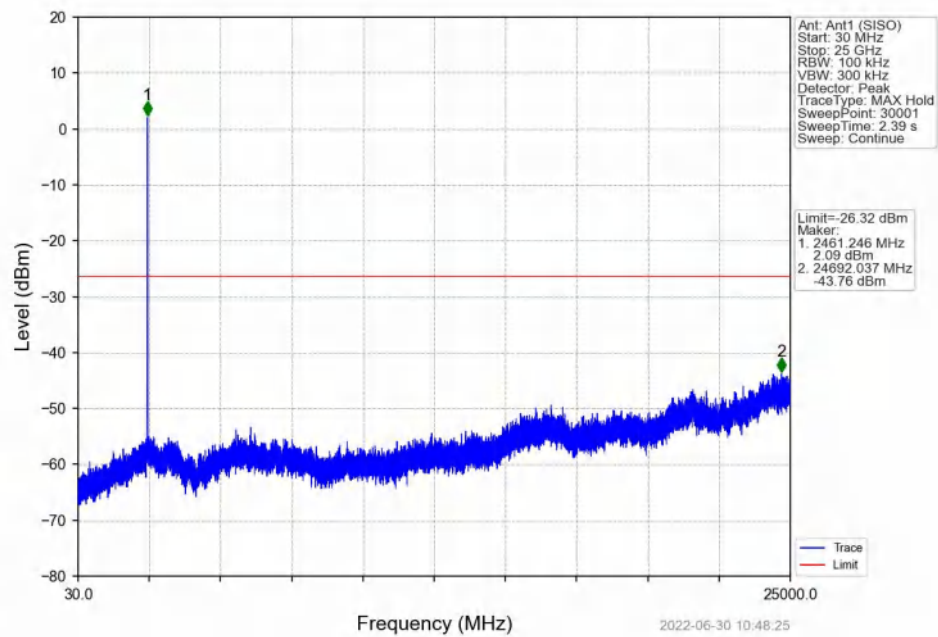
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



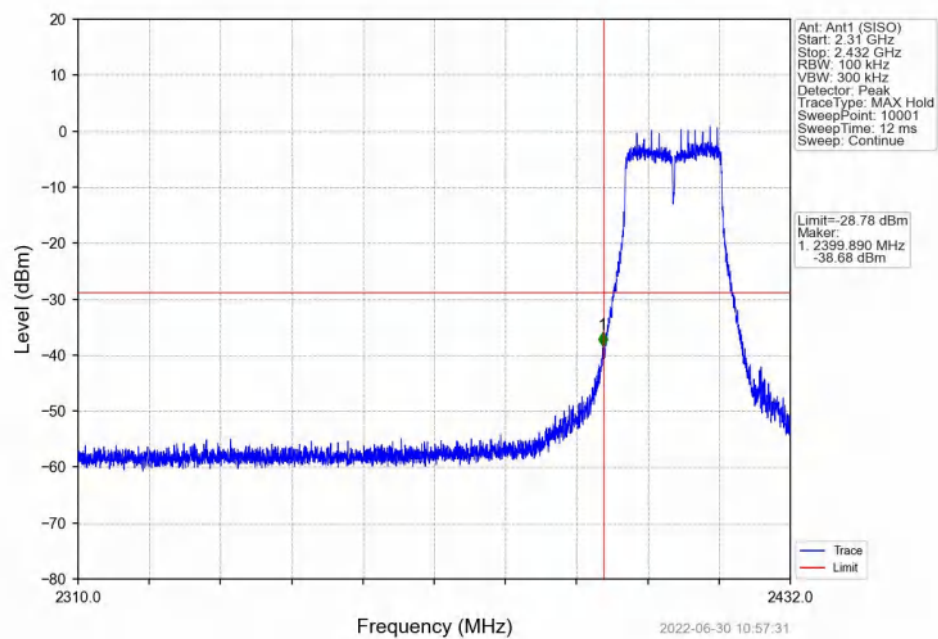
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



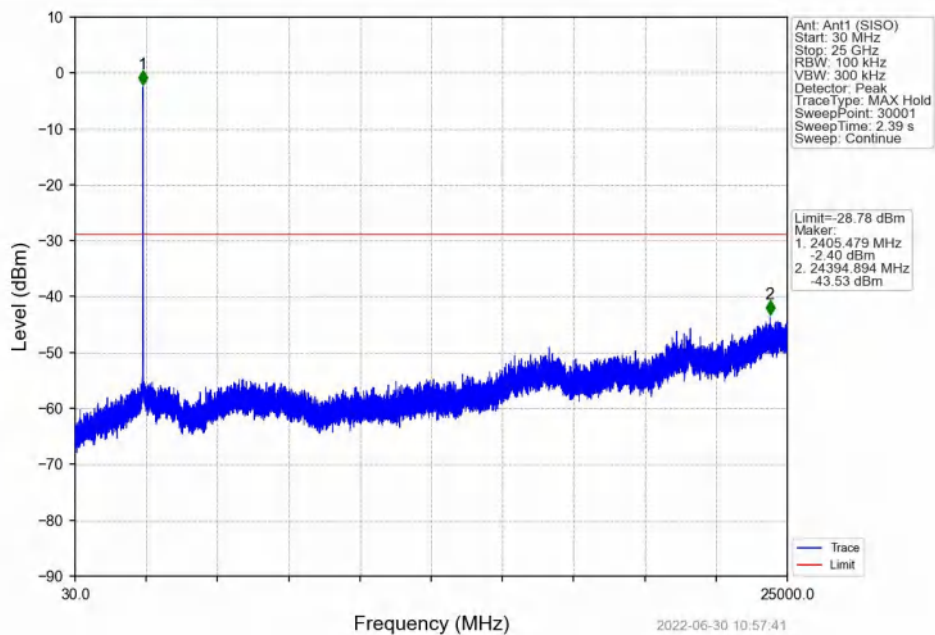
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



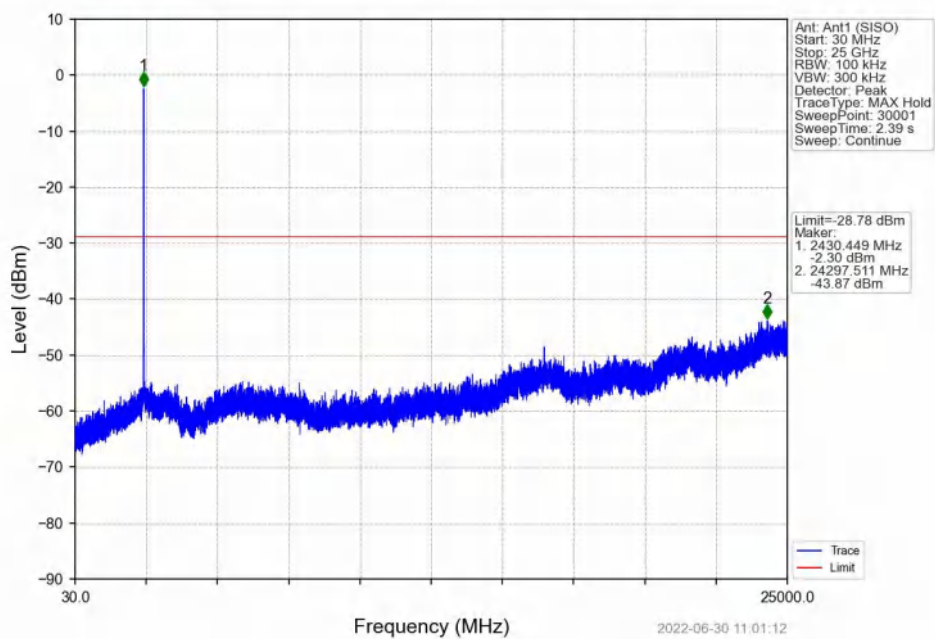
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



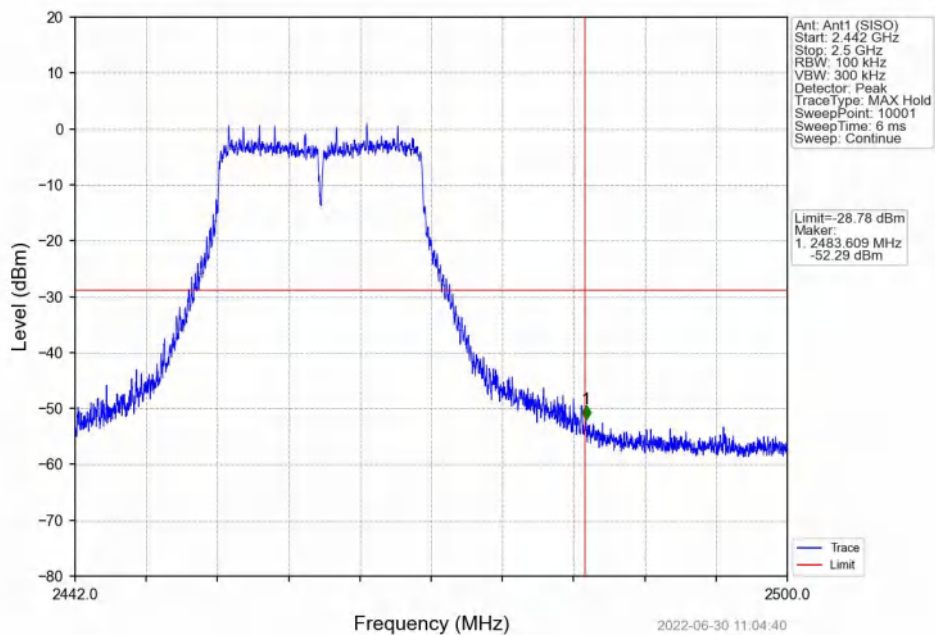
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



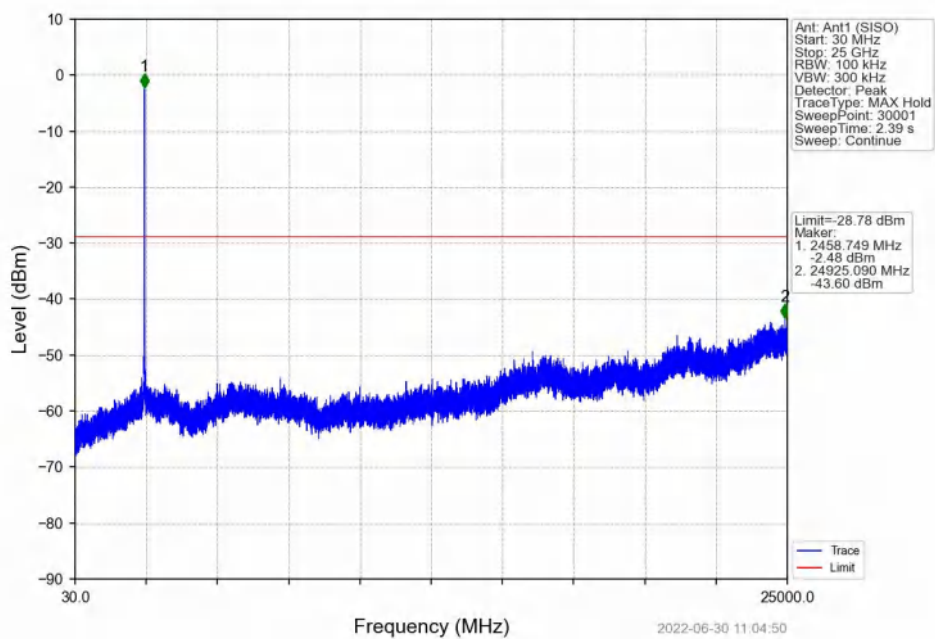
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



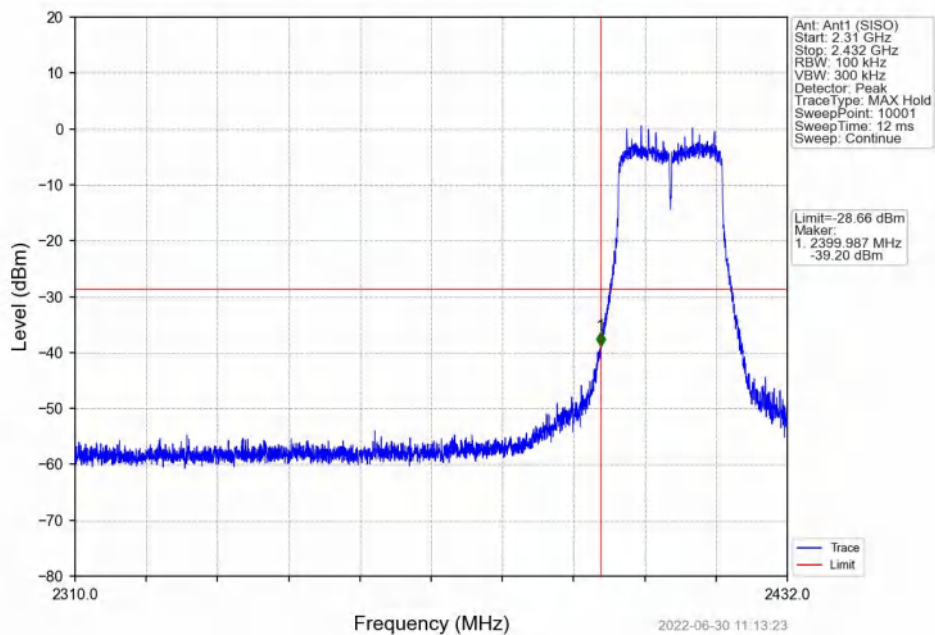
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



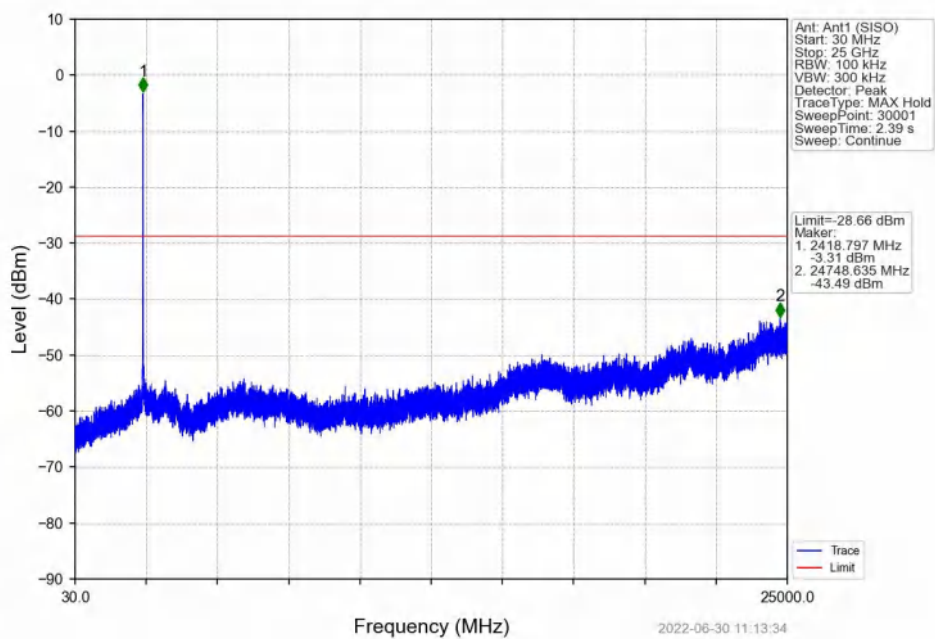
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



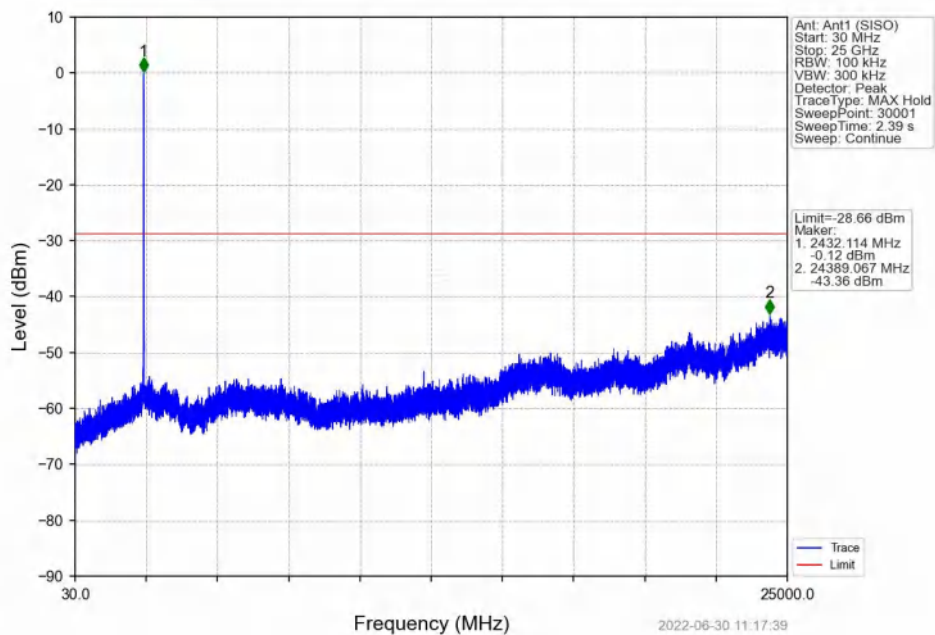
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



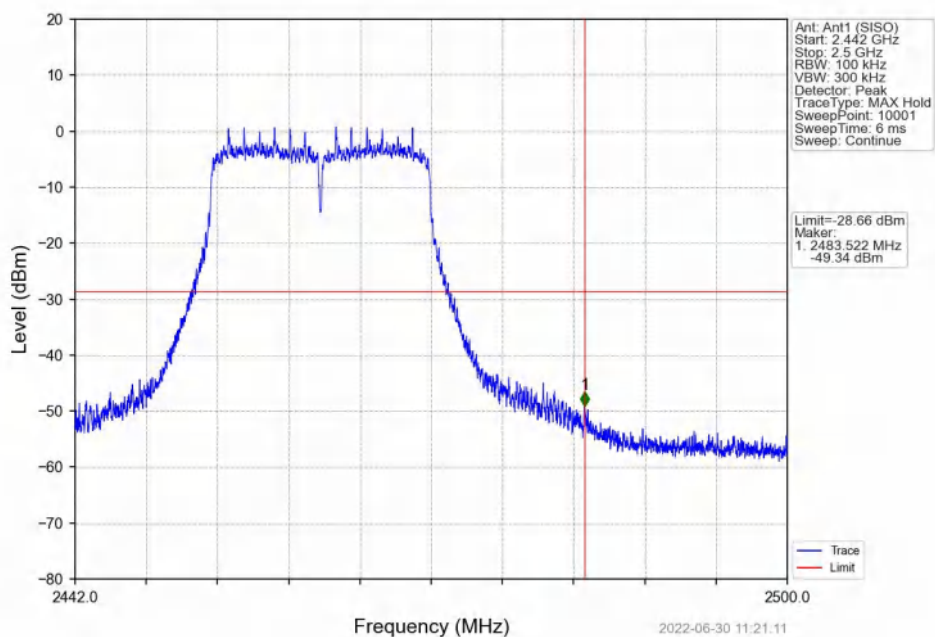
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



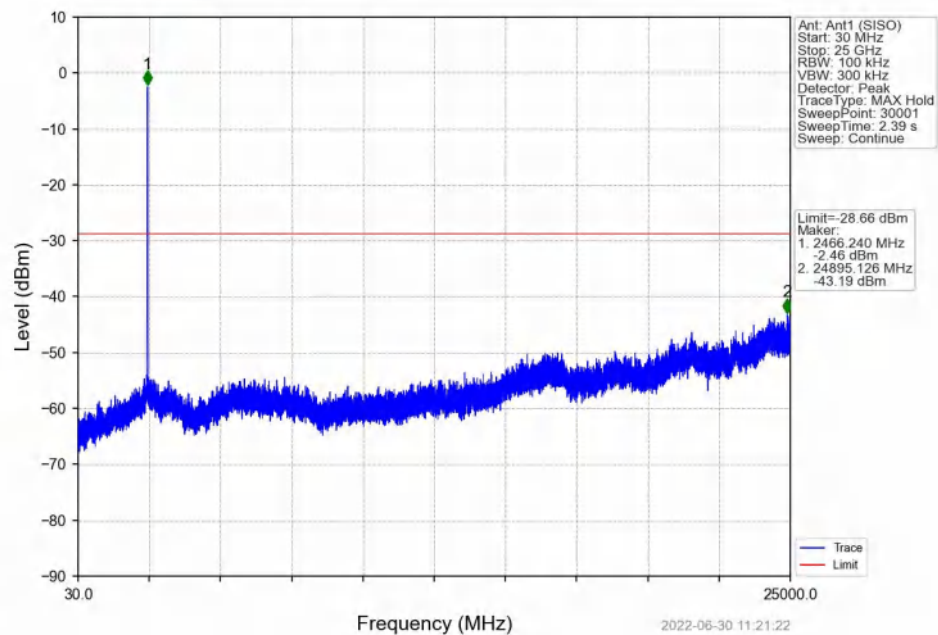
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



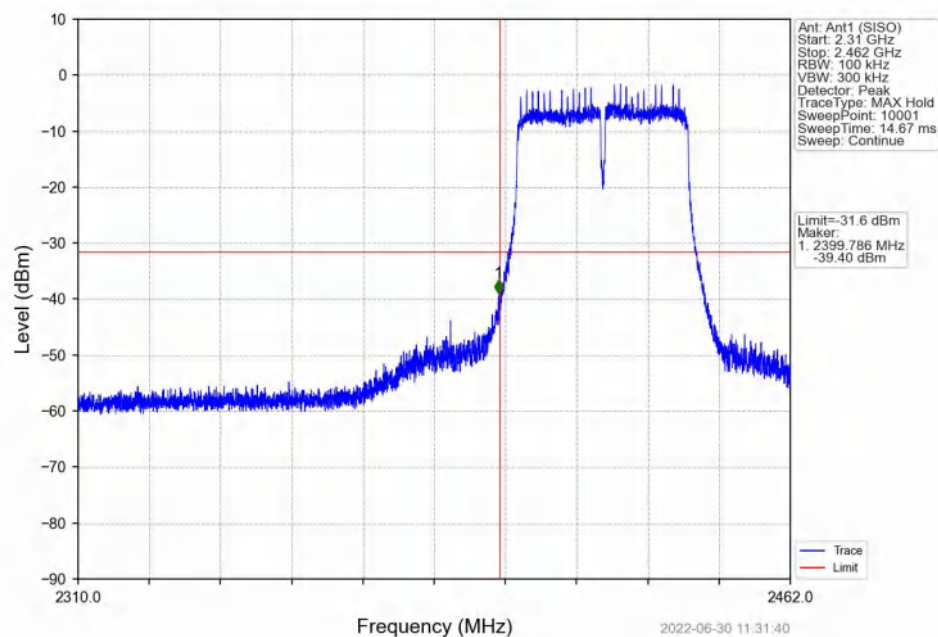
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



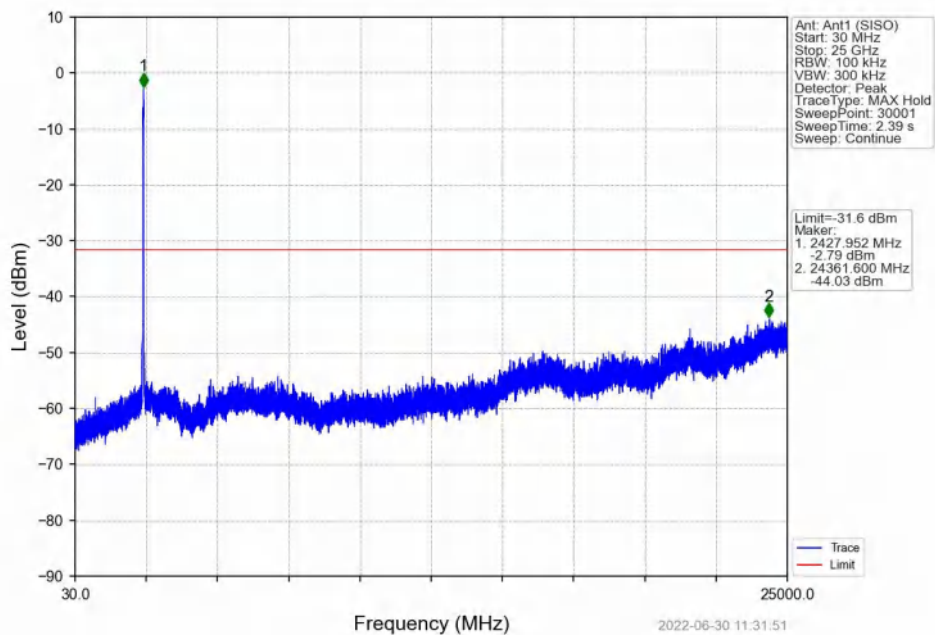
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



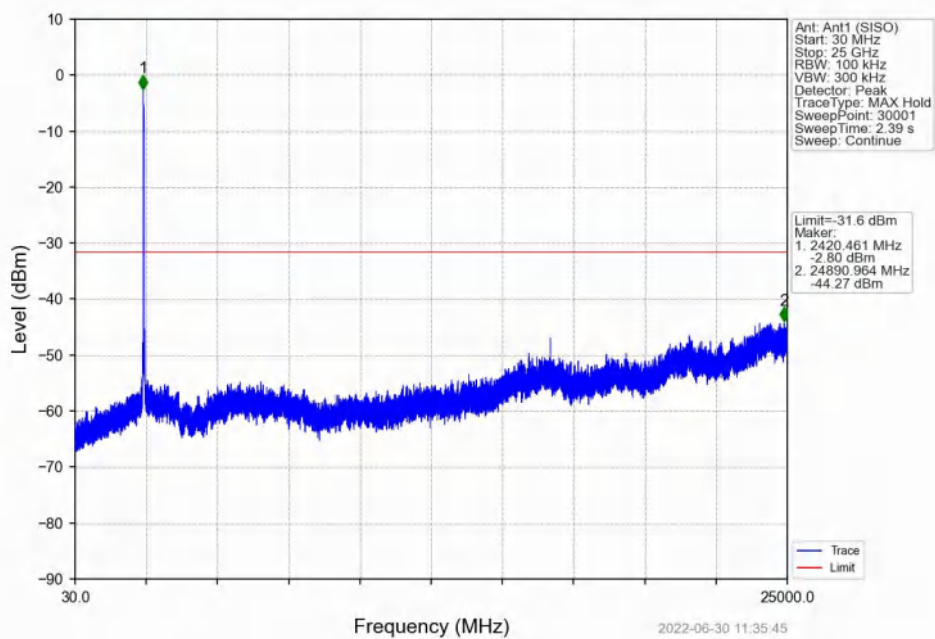
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



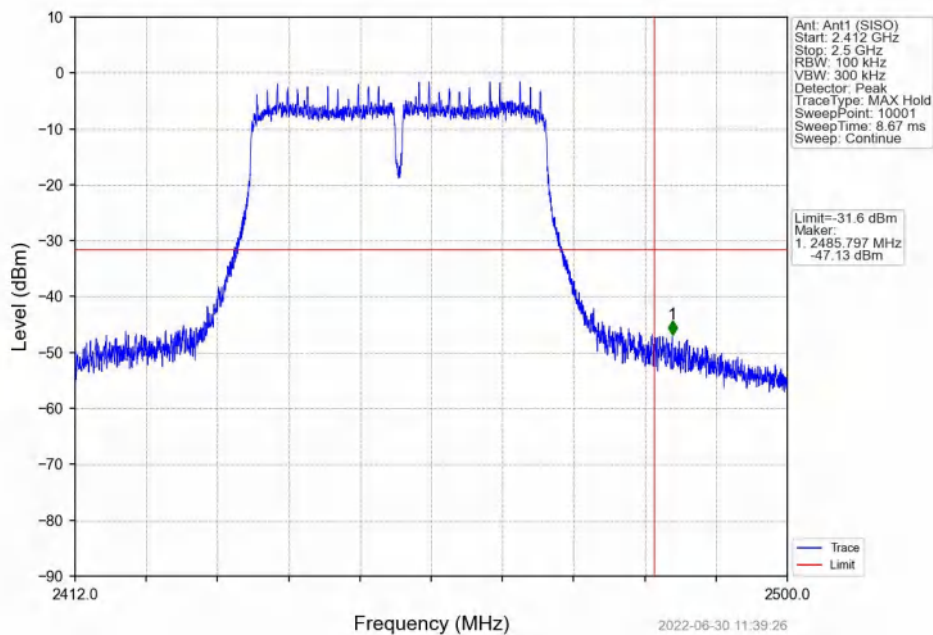
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV

