



Shenzhen CTL Testing Technology Co., Ltd.

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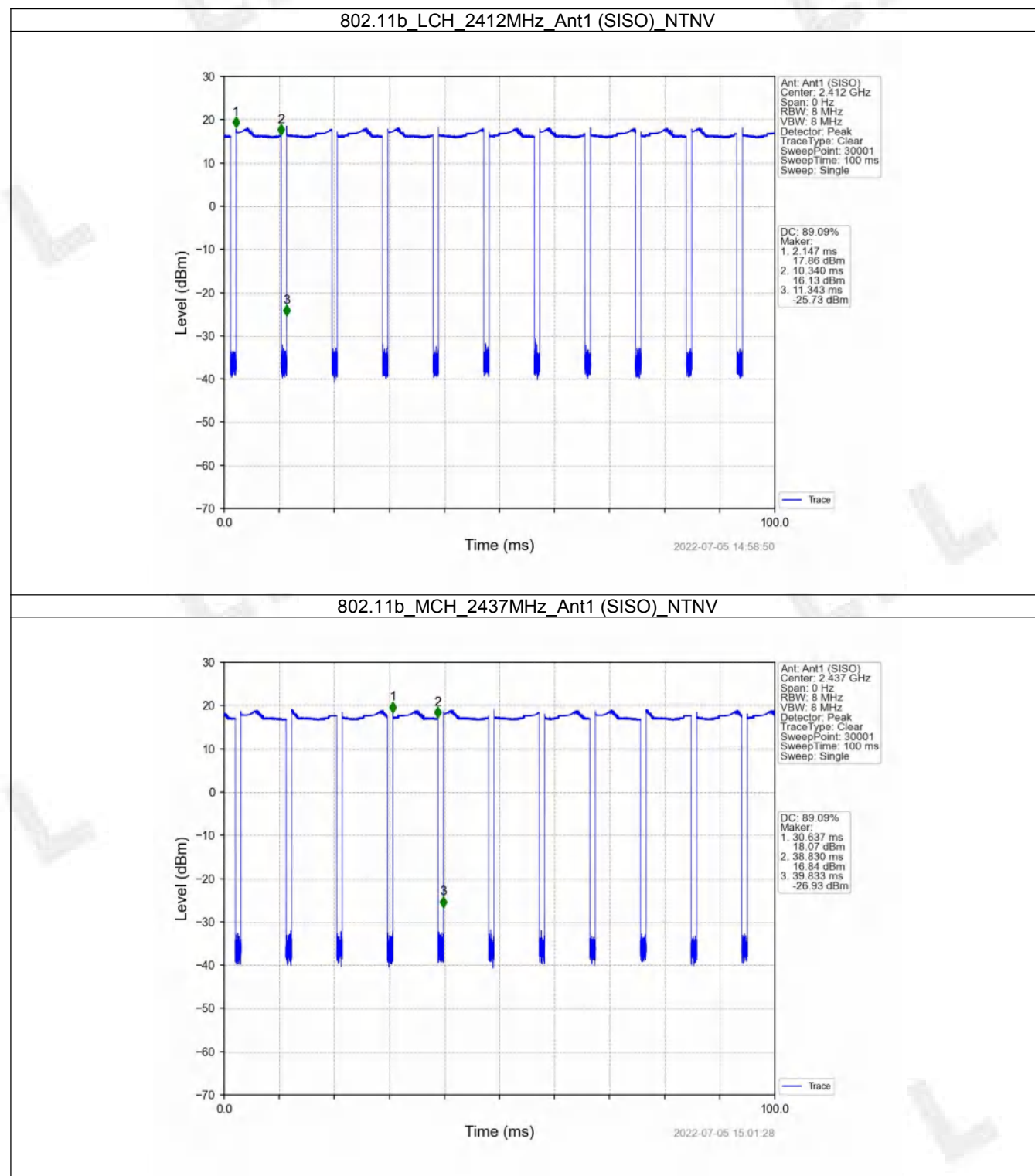
1. Duty Cycle

1.1 Ant1

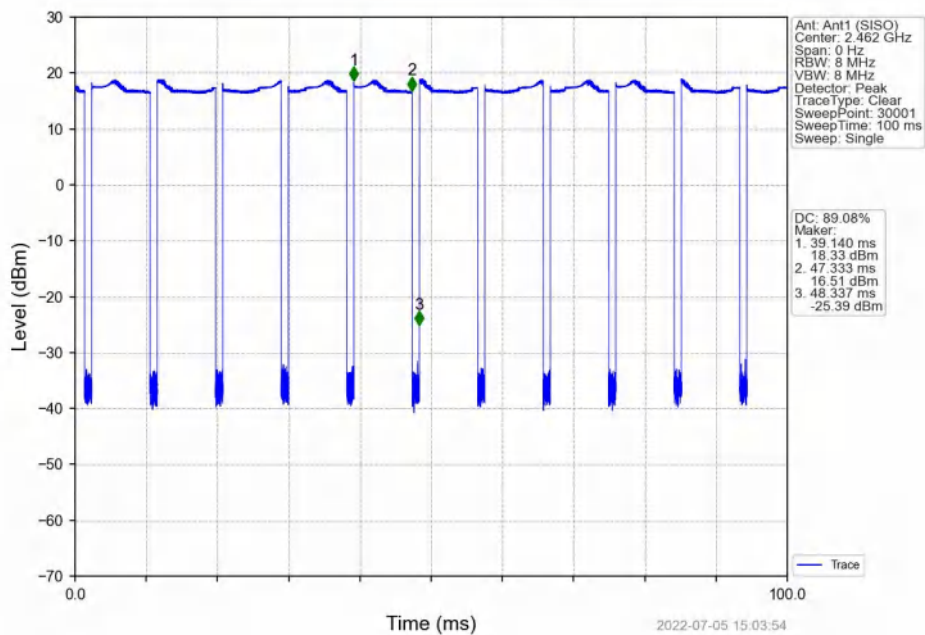
1.1.1 Test Result

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	8.193	9.196	89.09	0.50	0.00
		2437	8.193	9.196	89.09	0.50	0.04
		2462	8.193	9.197	89.08	0.50	0.04
802.11g	SISO	2412	1.360	2.364	57.53	2.40	0.03
		2437	1.360	2.363	57.55	2.40	0.03
		2462	1.360	2.363	57.55	2.40	0.03
802.11n (HT20)	SISO	2412	1.272	2.276	55.89	2.53	0.04
		2437	1.272	2.276	55.89	2.53	0.04
		2462	1.272	2.275	55.91	2.52	0.04

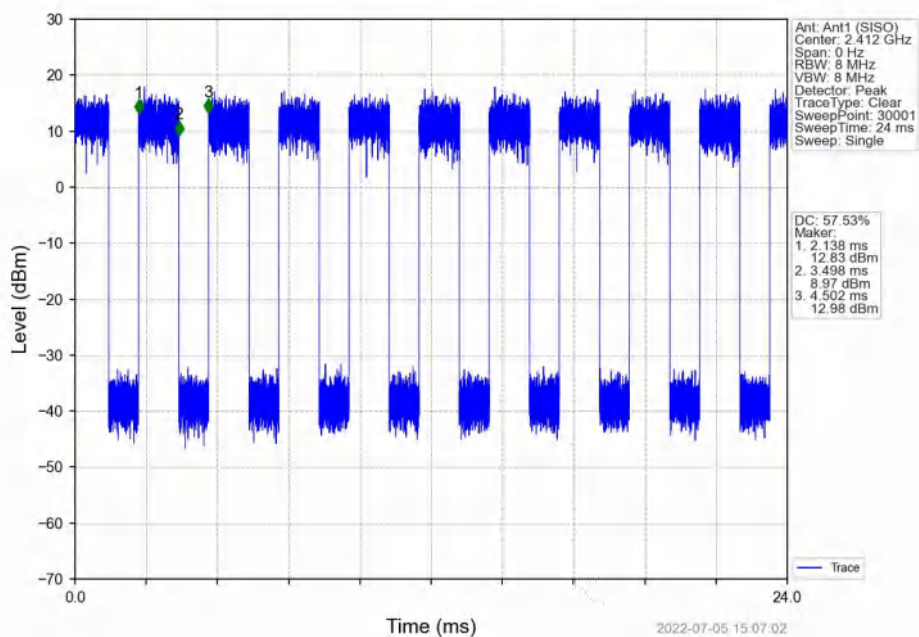
1.1.2 Test Graph



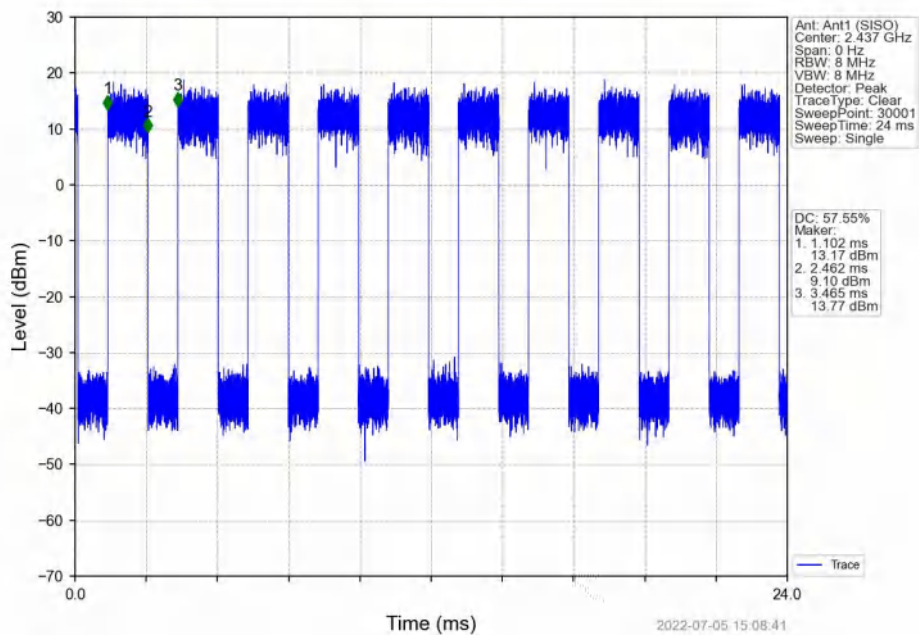
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



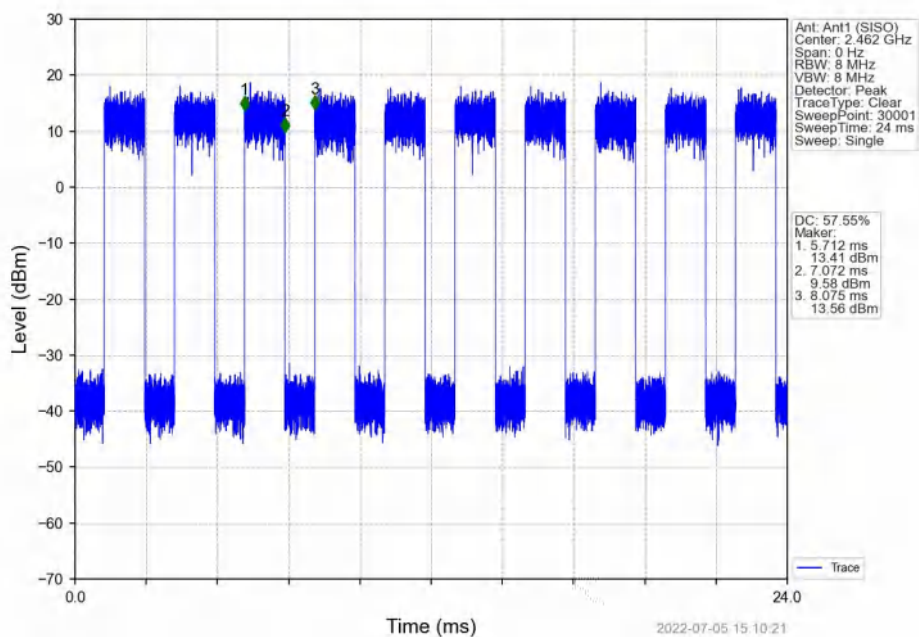
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



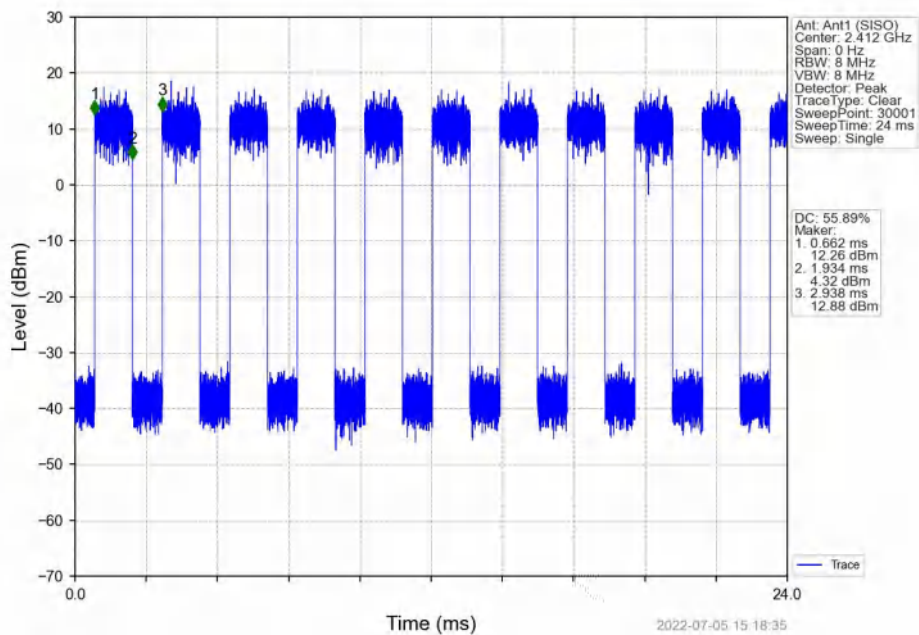
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



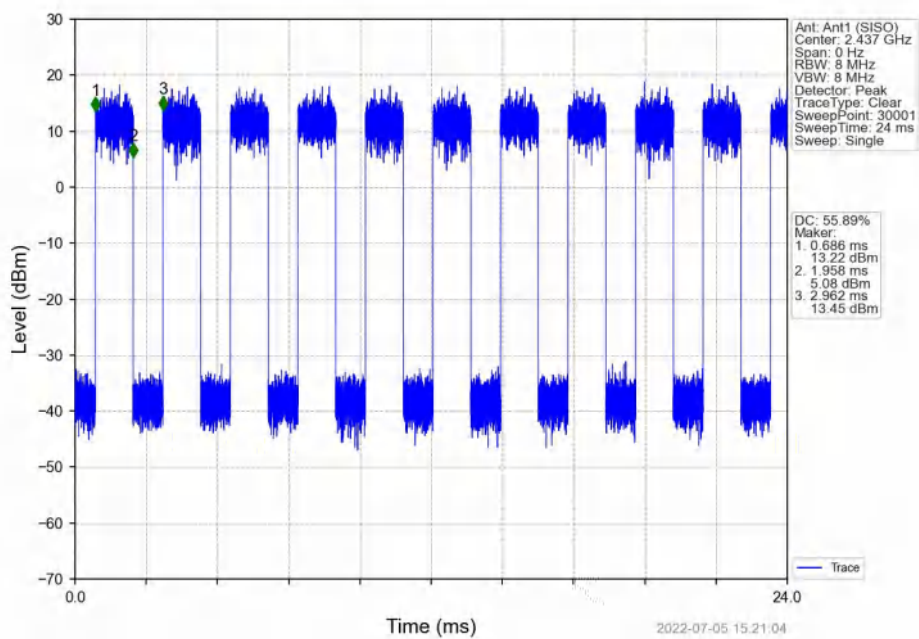
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV

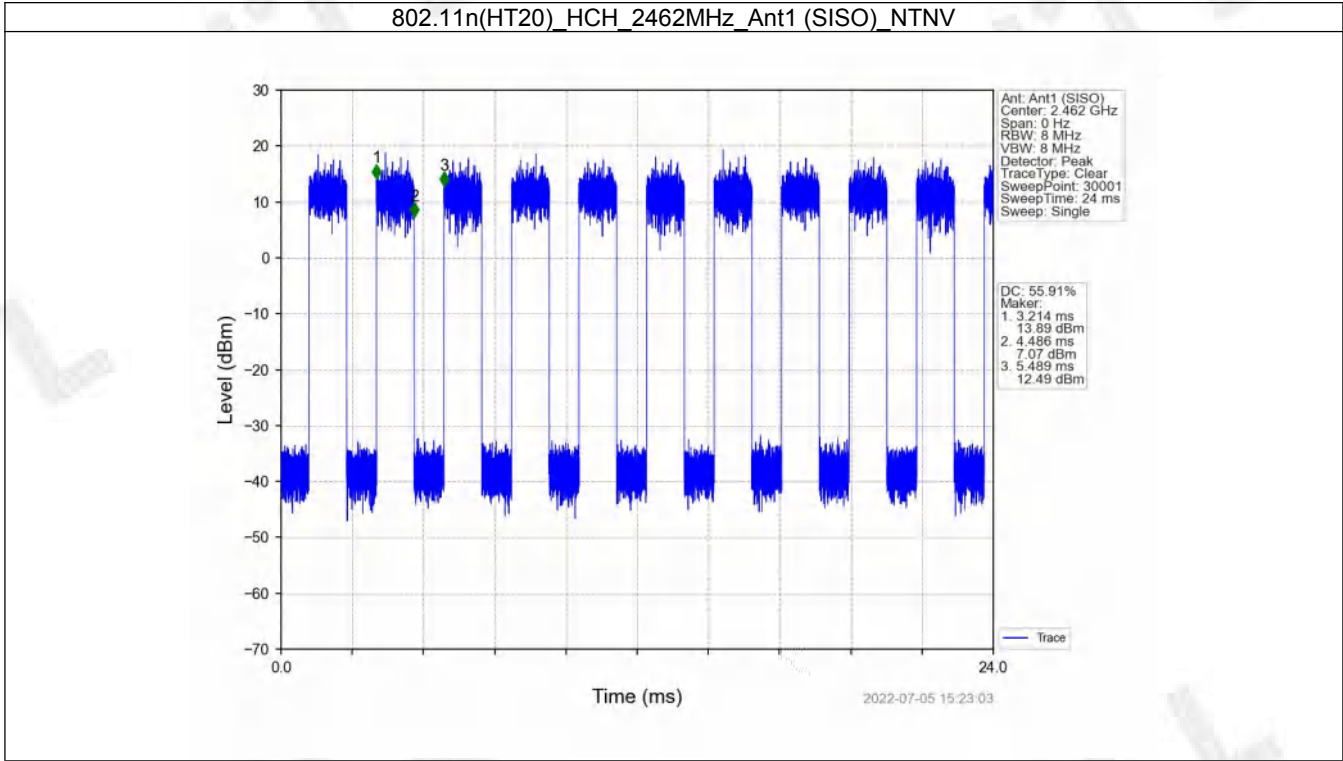


802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV





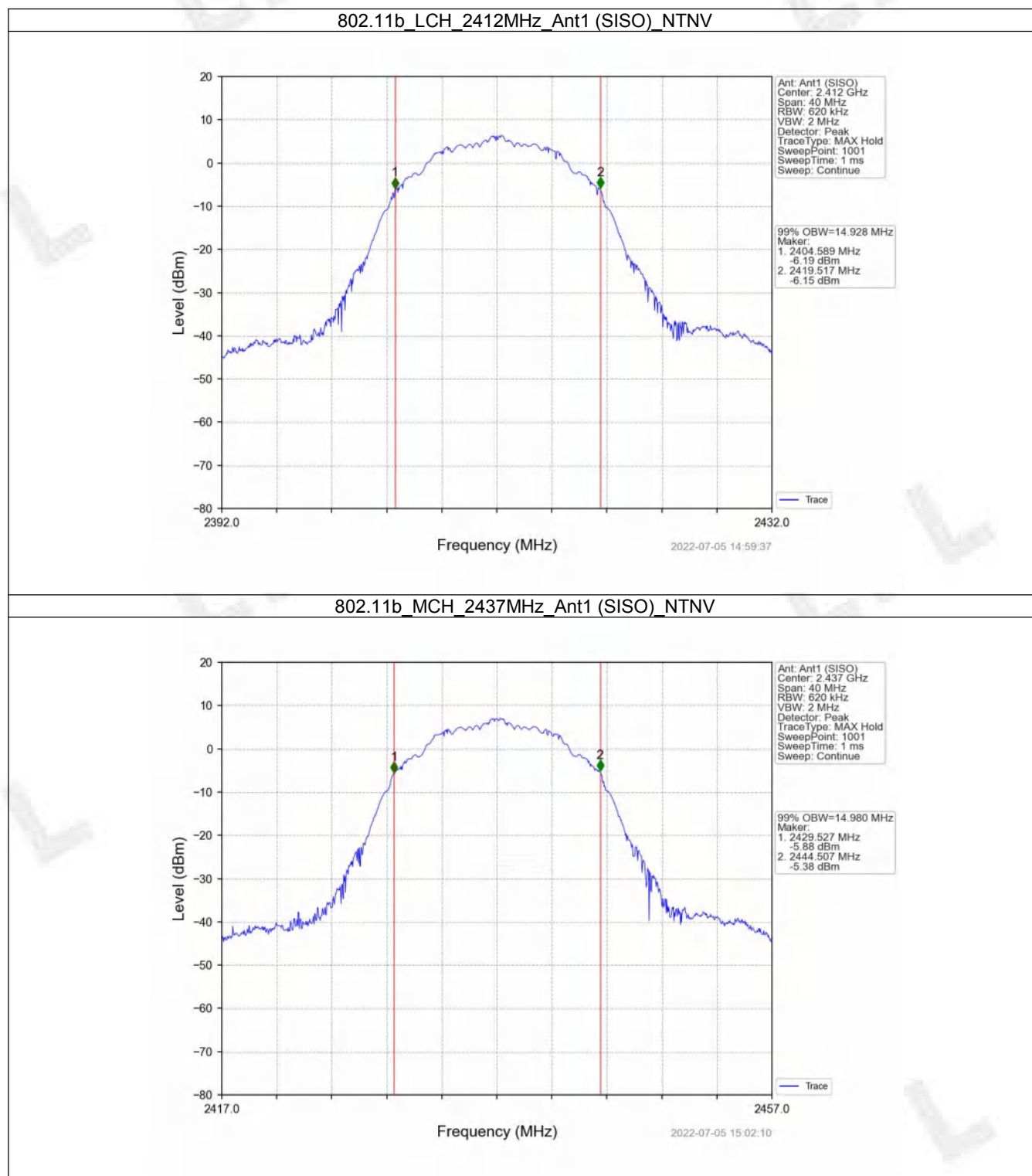
2. Bandwidth

2.1 OBW

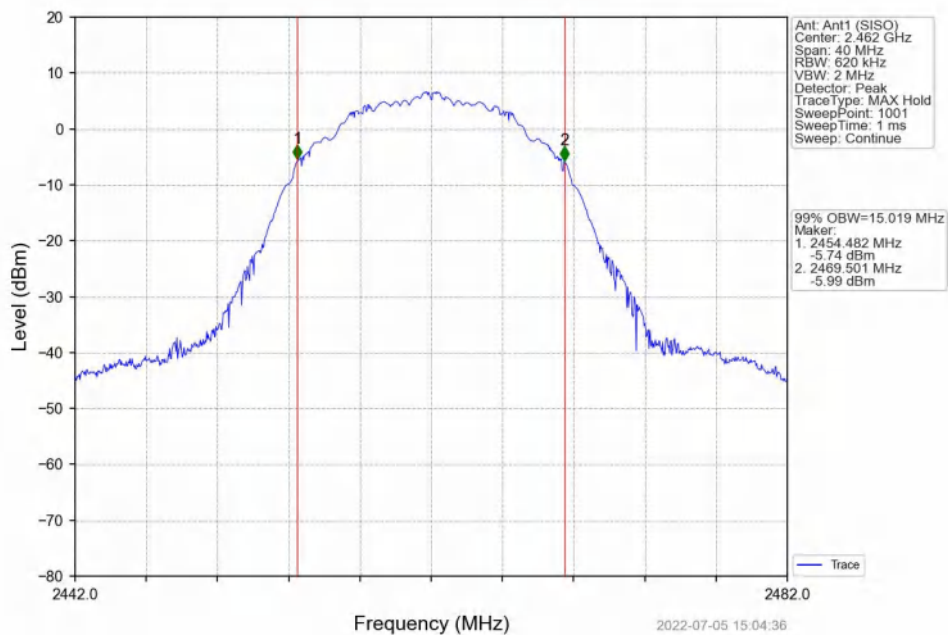
2.1.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)	Verdict
				Result	
802.11b	SISO	2412	1	14.928	Pass
		2437	1	14.980	Pass
		2462	1	15.019	Pass
802.11g	SISO	2412	1	17.382	Pass
		2437	1	17.399	Pass
		2462	1	17.372	Pass
802.11n (HT20)	SISO	2412	1	18.228	Pass
		2437	1	18.251	Pass
		2462	1	18.243	Pass

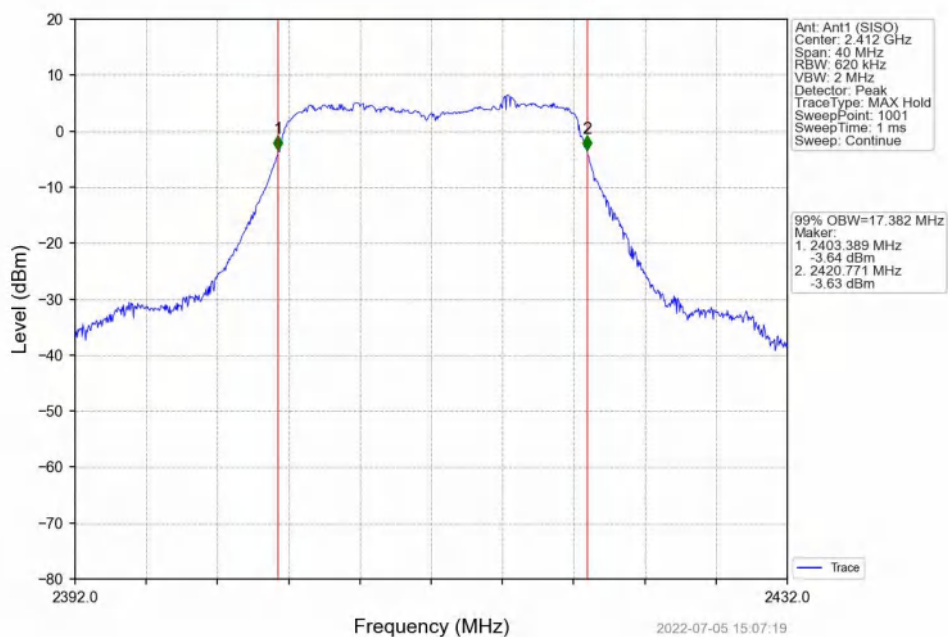
2.1.2 Test Graph



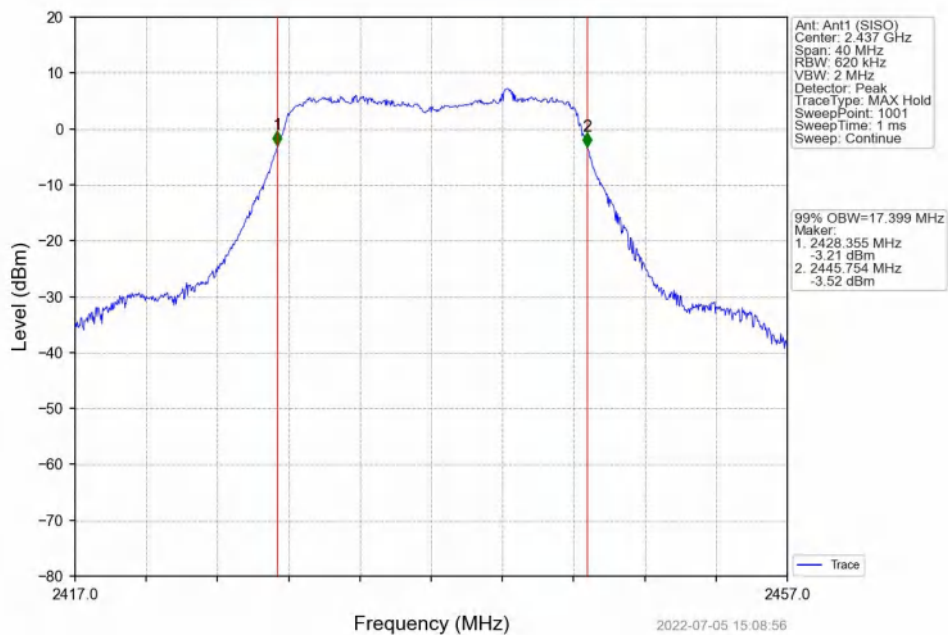
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



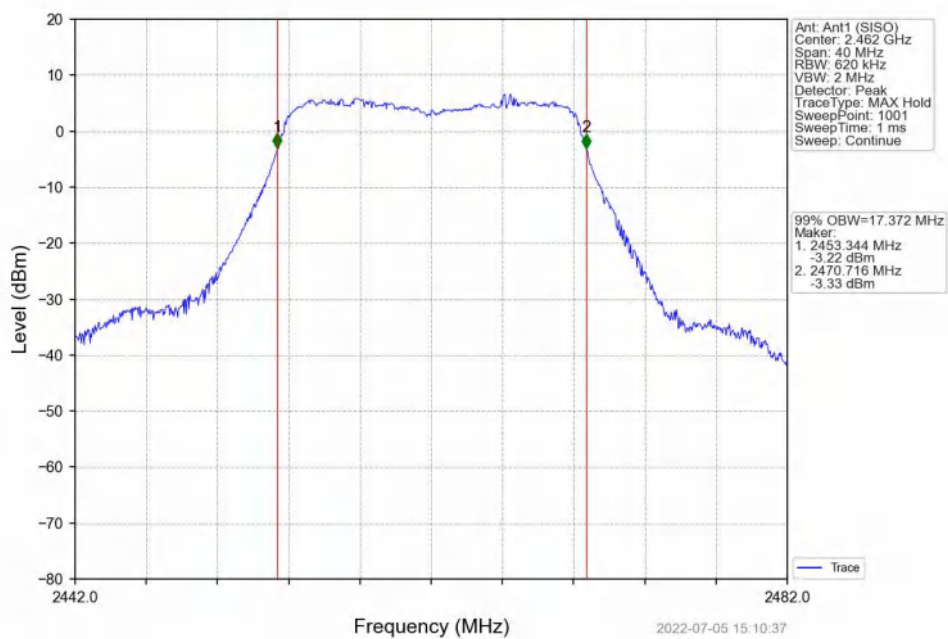
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



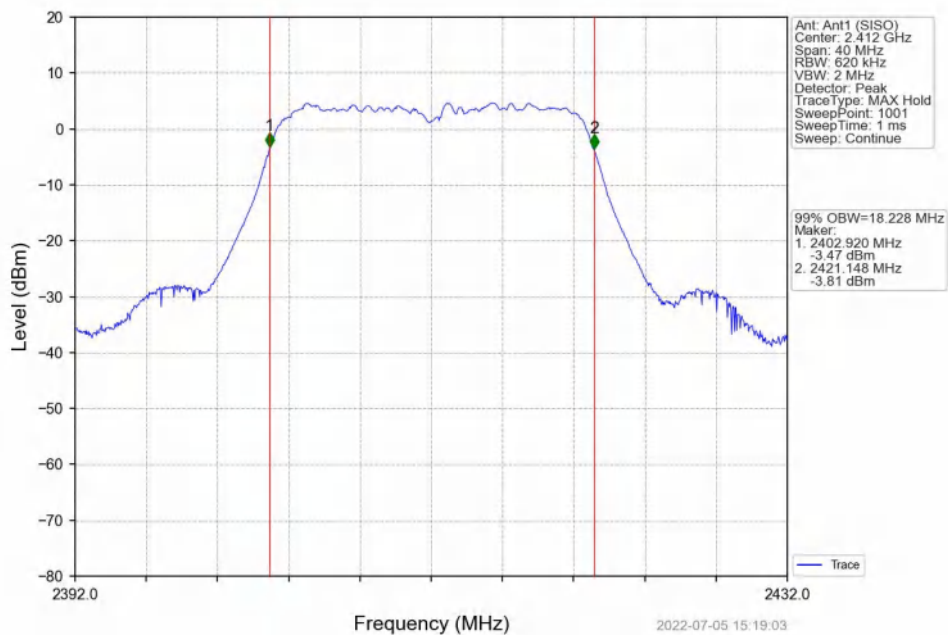
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



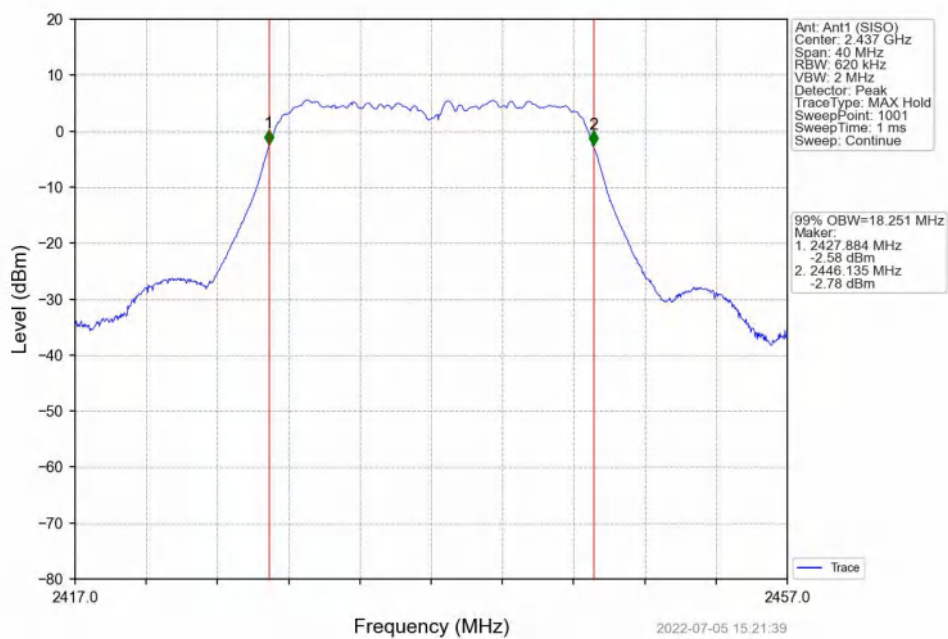
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV

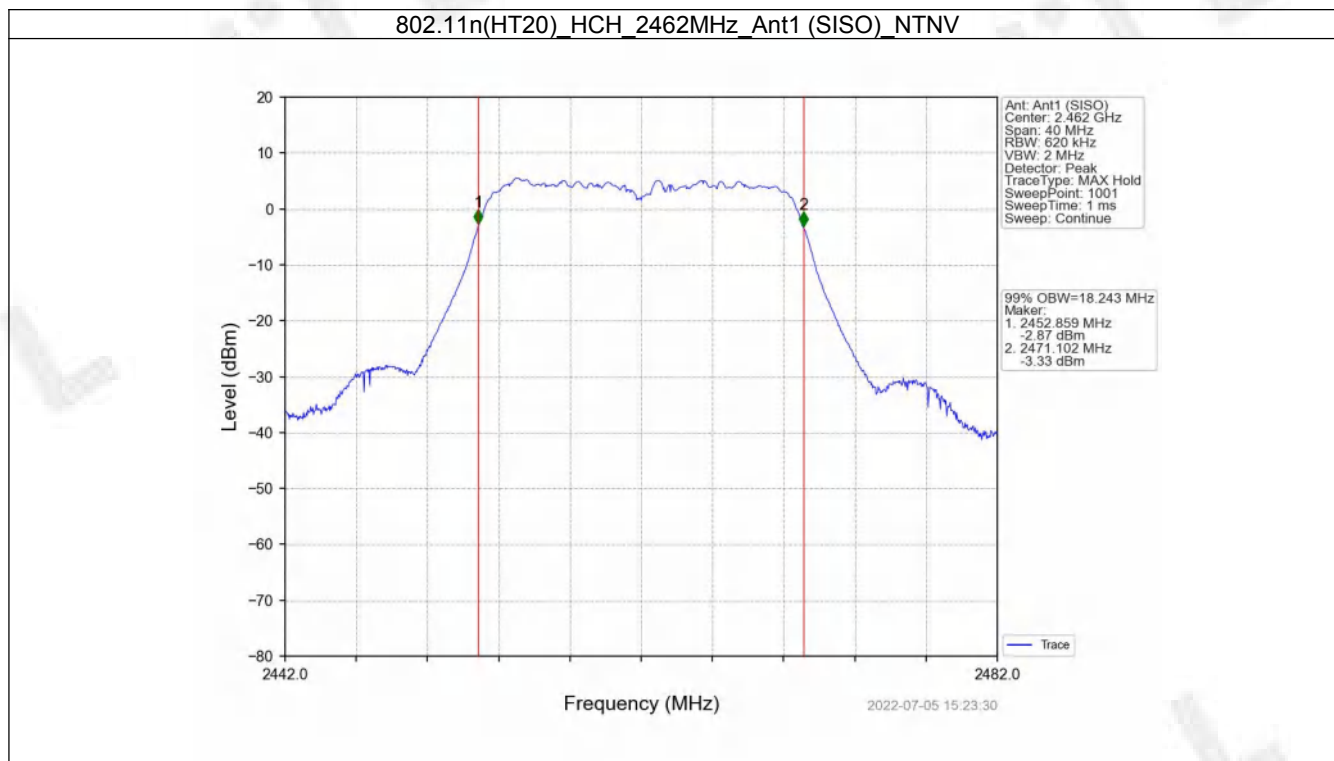


802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



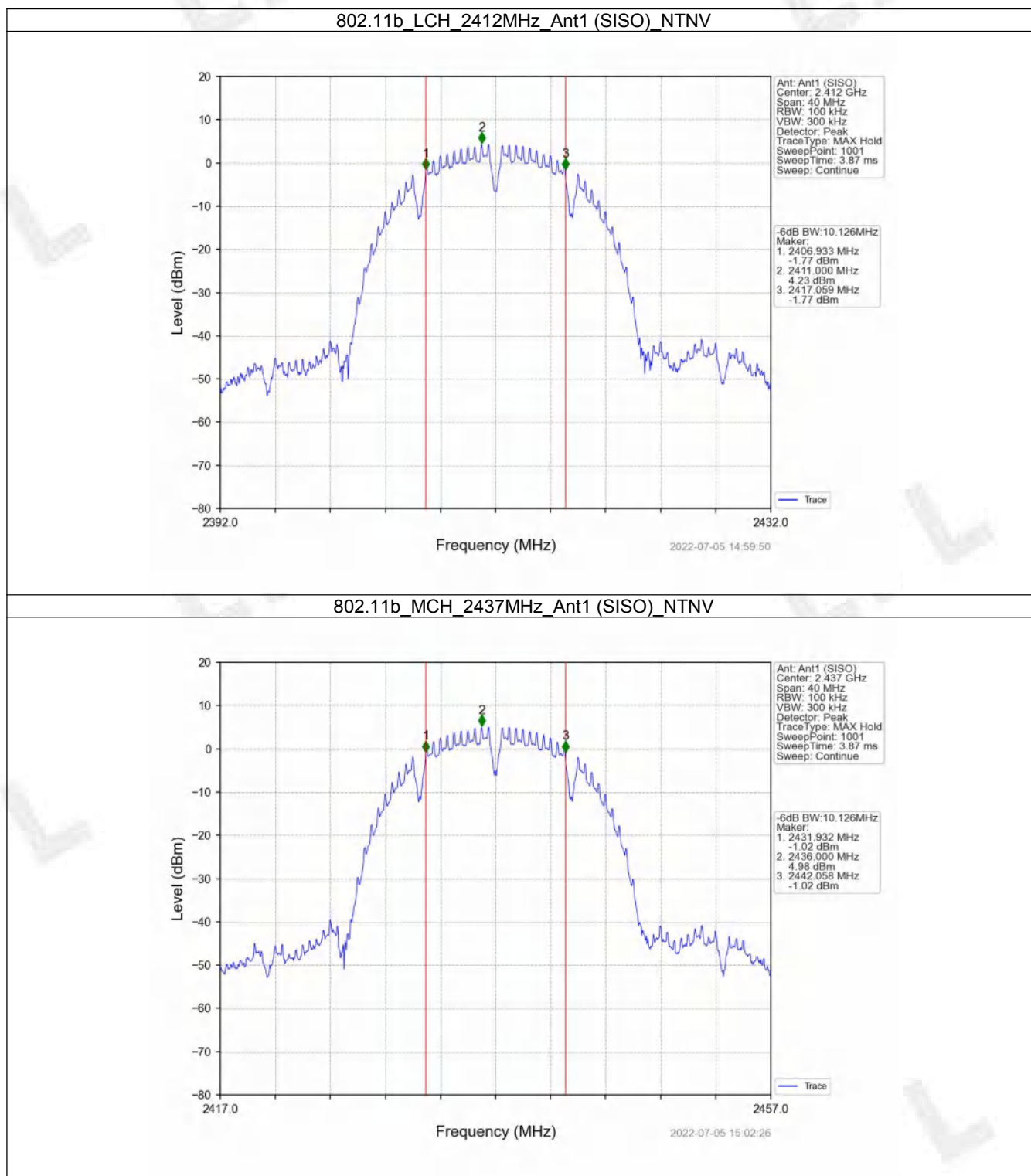


2.2 6dB BW

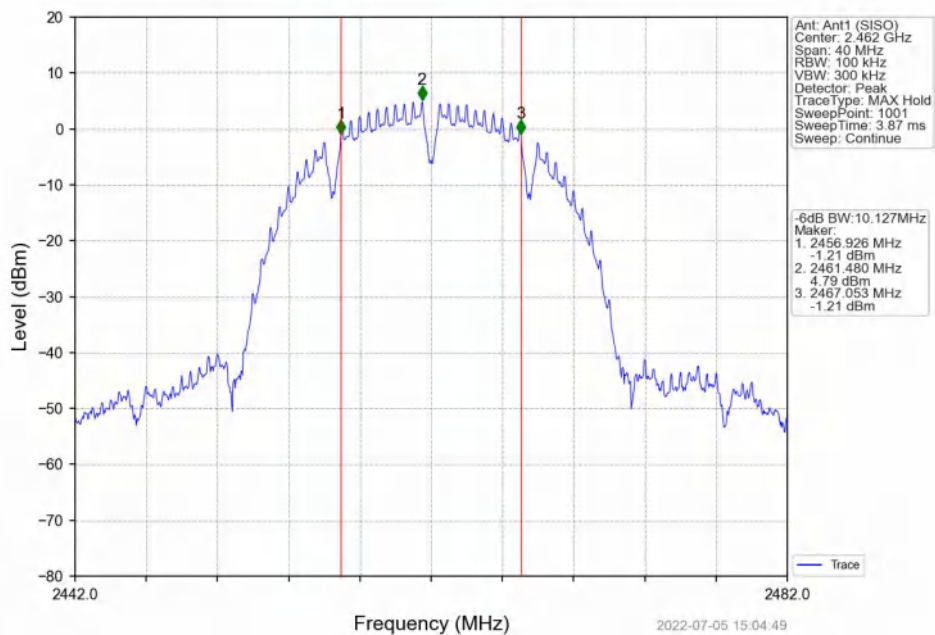
2.2.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	10.126	≥ 0.5	Pass
		2437	1	10.126	≥ 0.5	Pass
		2462	1	10.127	≥ 0.5	Pass
802.11g	SISO	2412	1	16.339	≥ 0.5	Pass
		2437	1	16.344	≥ 0.5	Pass
		2462	1	16.328	≥ 0.5	Pass
802.11n (HT20)	SISO	2412	1	16.916	≥ 0.5	Pass
		2437	1	16.919	≥ 0.5	Pass
		2462	1	16.842	≥ 0.5	Pass

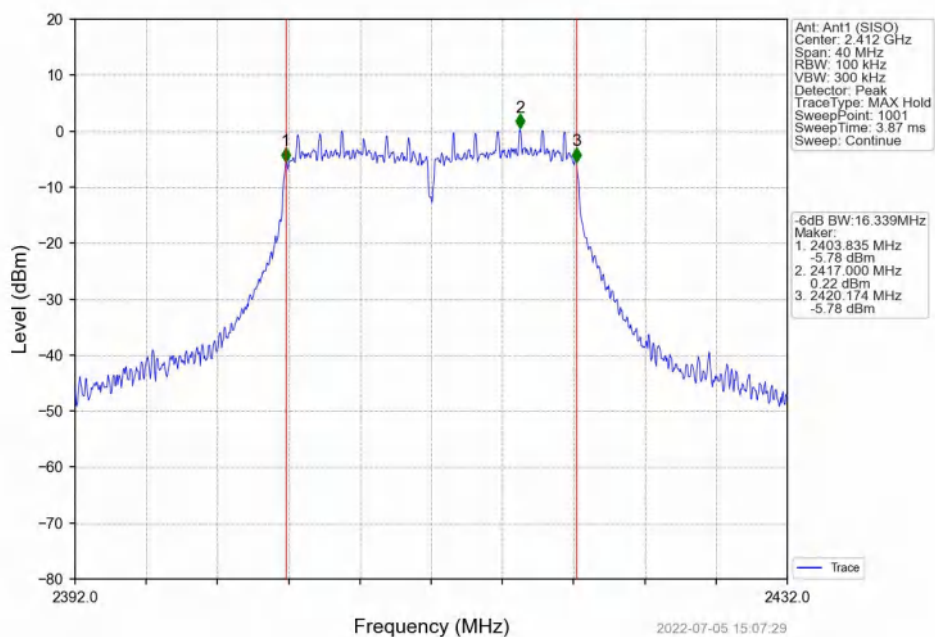
2.2.2 Test Graph



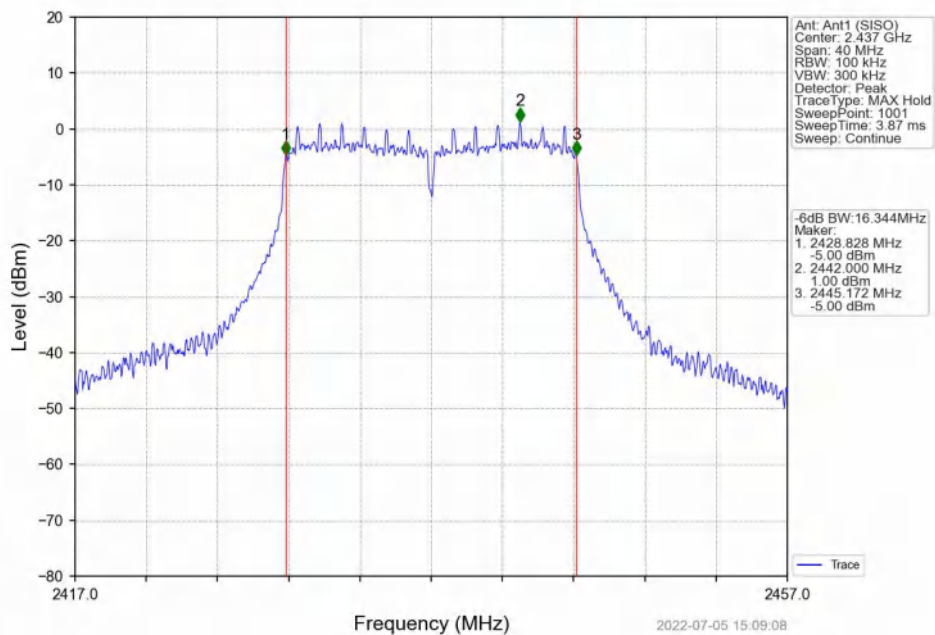
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



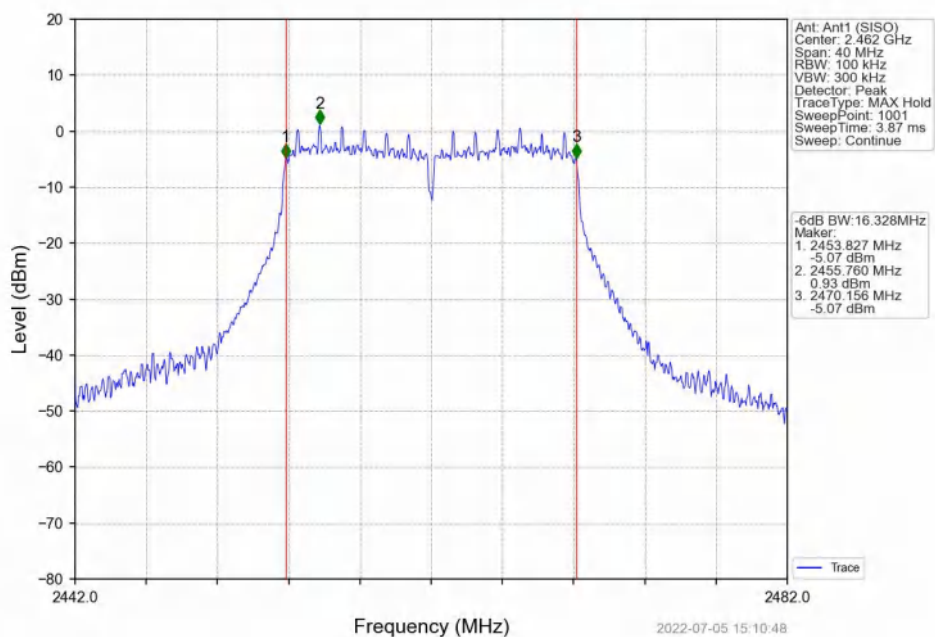
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



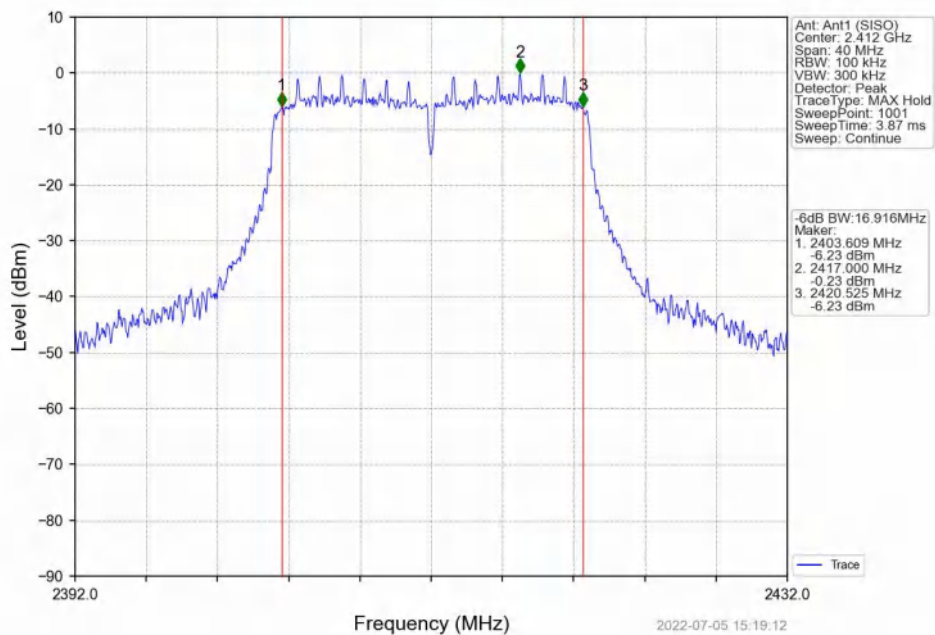
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



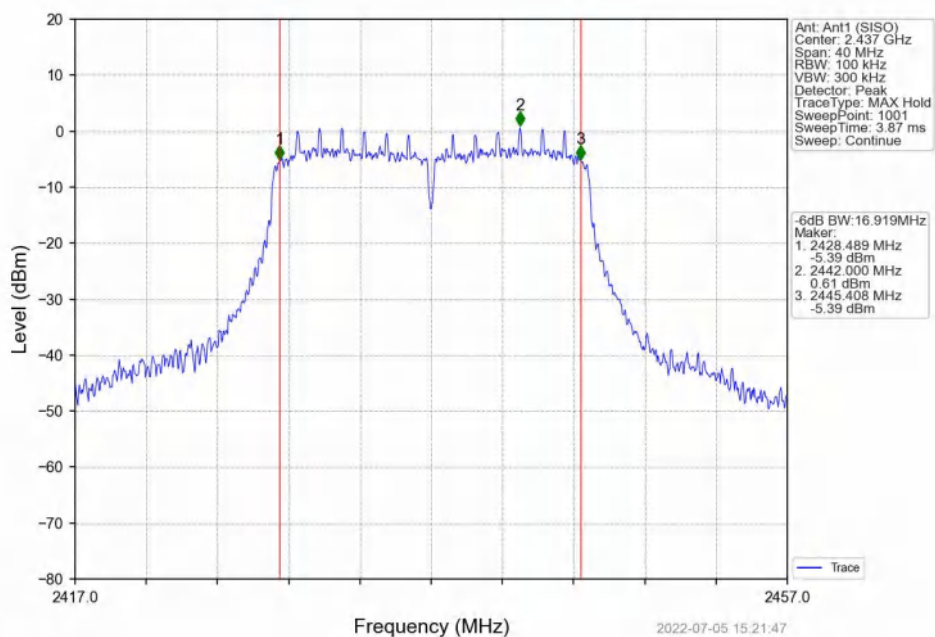
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV

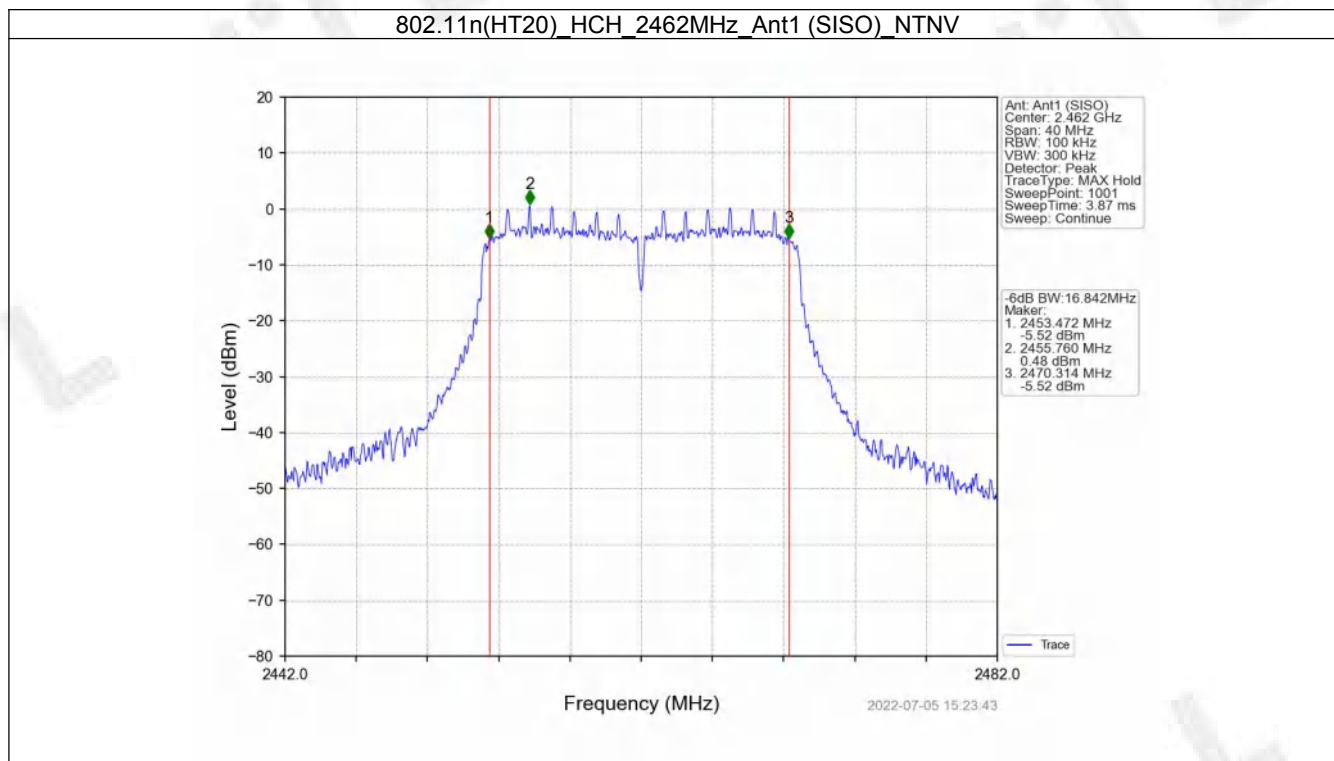


802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV





3. Maximum Conducted Output Power

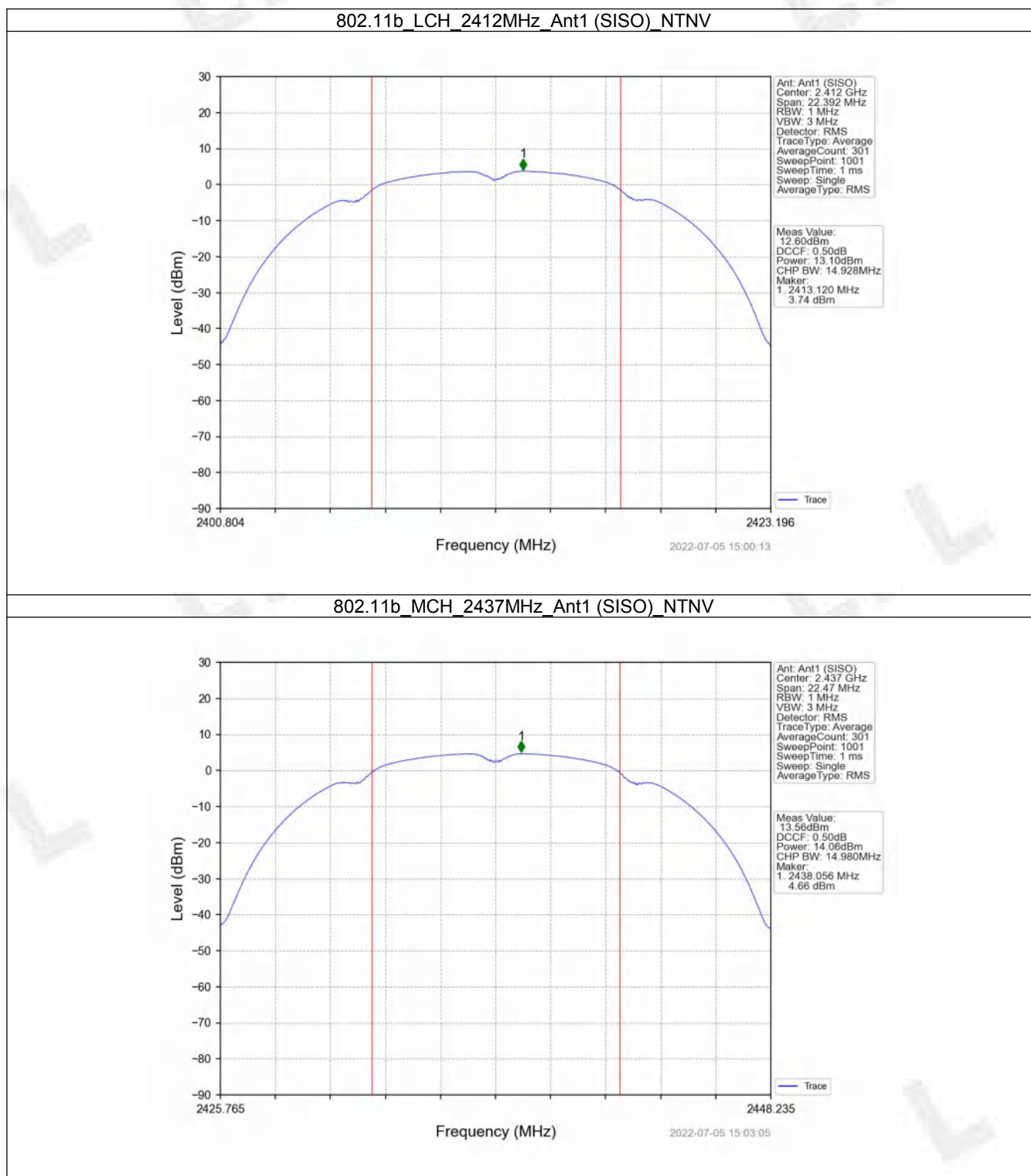
3.1 Power

3.1.1 Test Result

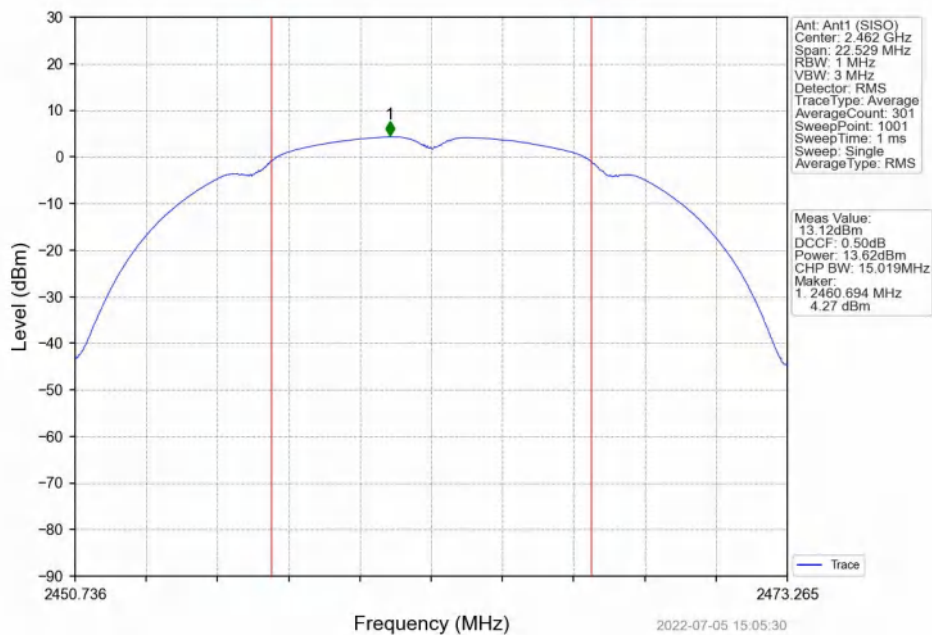
Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	13.10	<=30	Pass
		2437	14.06	<=30	Pass
		2462	13.62	<=30	Pass
802.11g	SISO	2412	11.09	<=30	Pass
		2437	11.78	<=30	Pass
		2462	11.62	<=30	Pass
802.11n (HT20)	SISO	2412	10.60	<=30	Pass
		2437	11.37	<=30	Pass
		2462	11.08	<=30	Pass

Note1: Antenna Gain: Ant1: 0.00dBi;

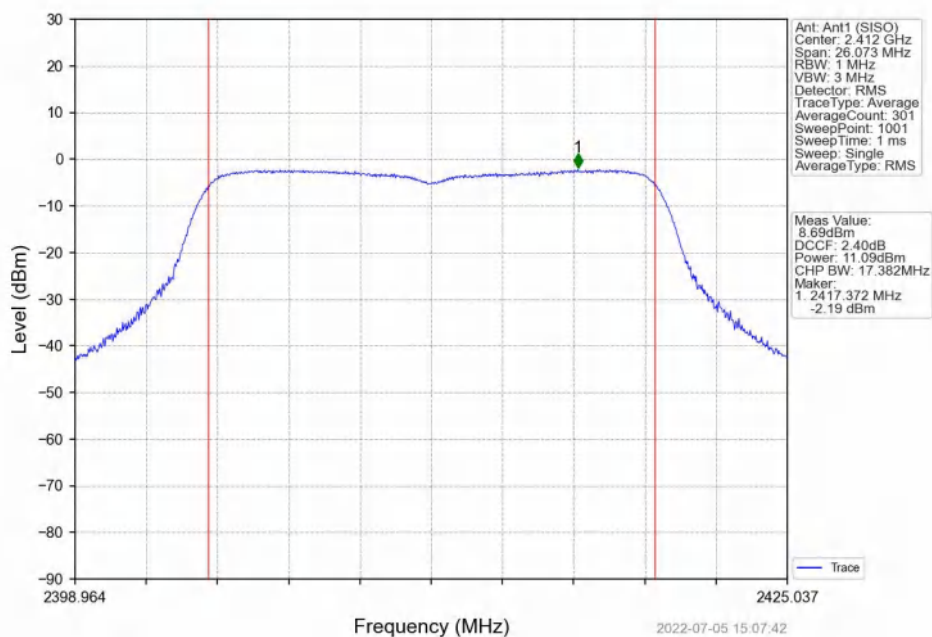
3.1.2 Test Graph



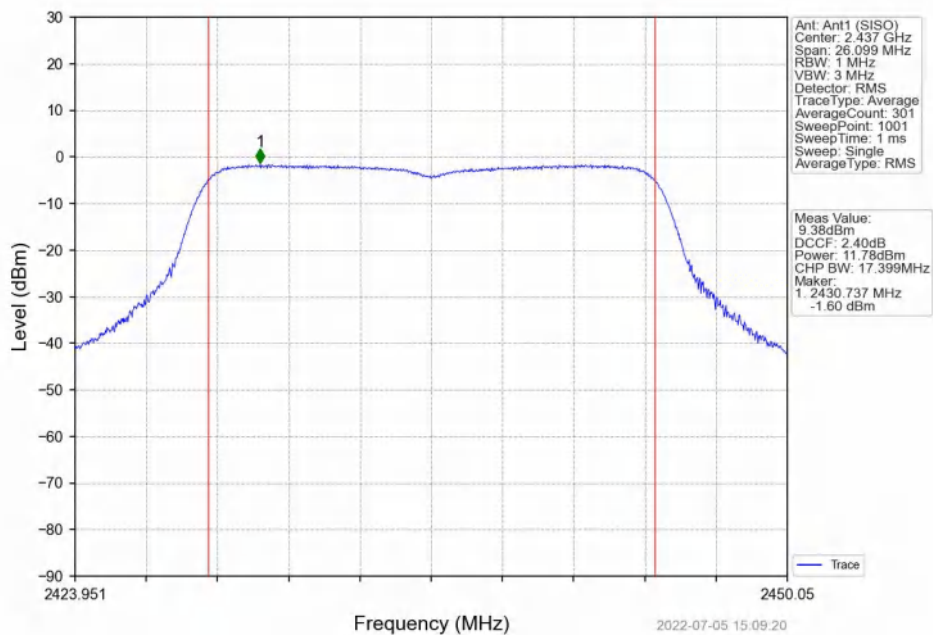
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



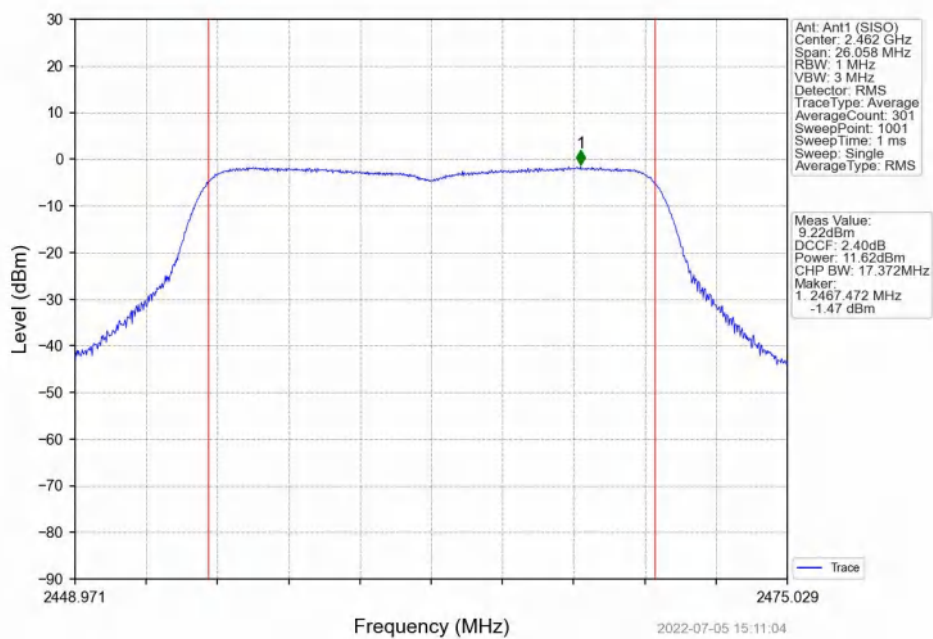
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



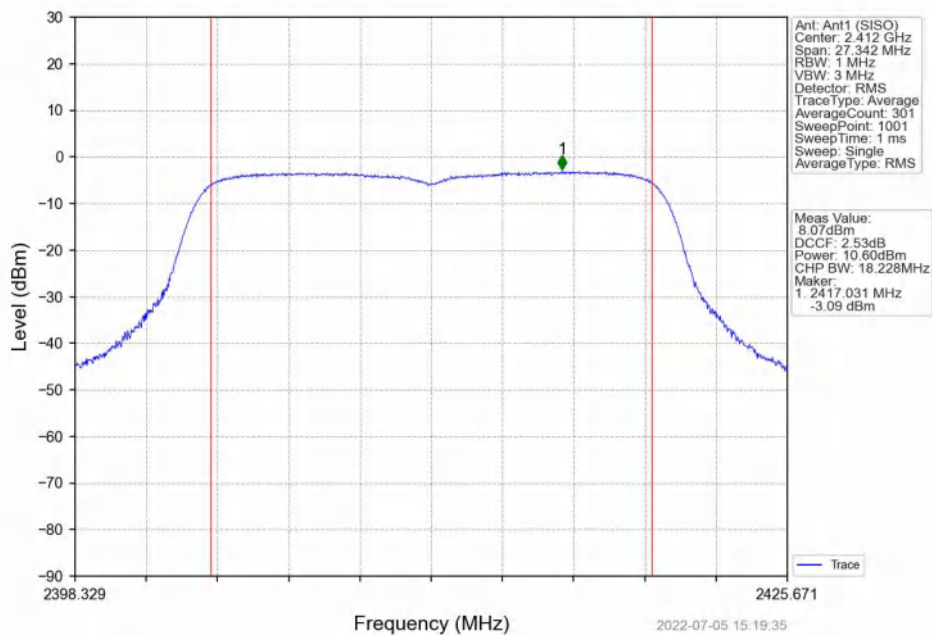
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



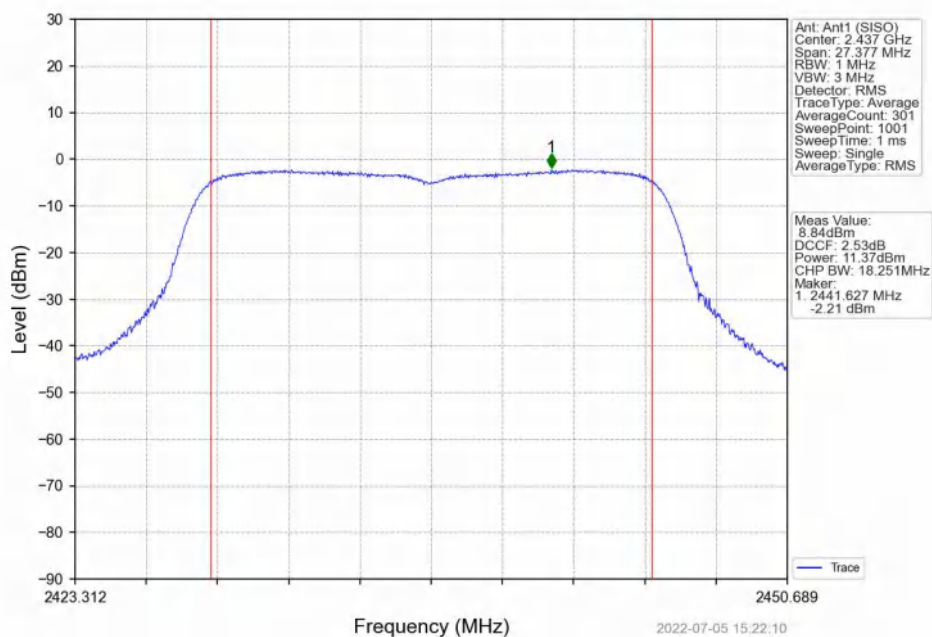
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV

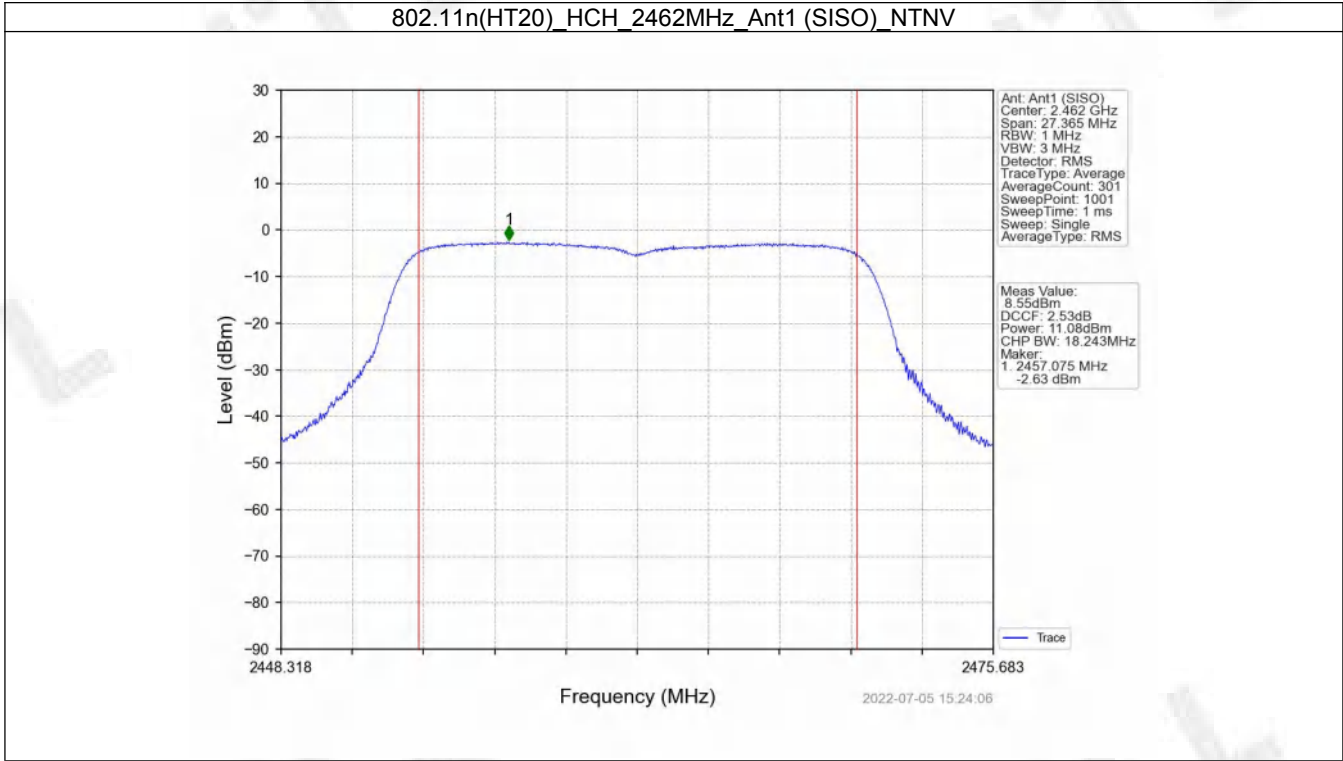


802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV





4. Maximum Power Spectral Density

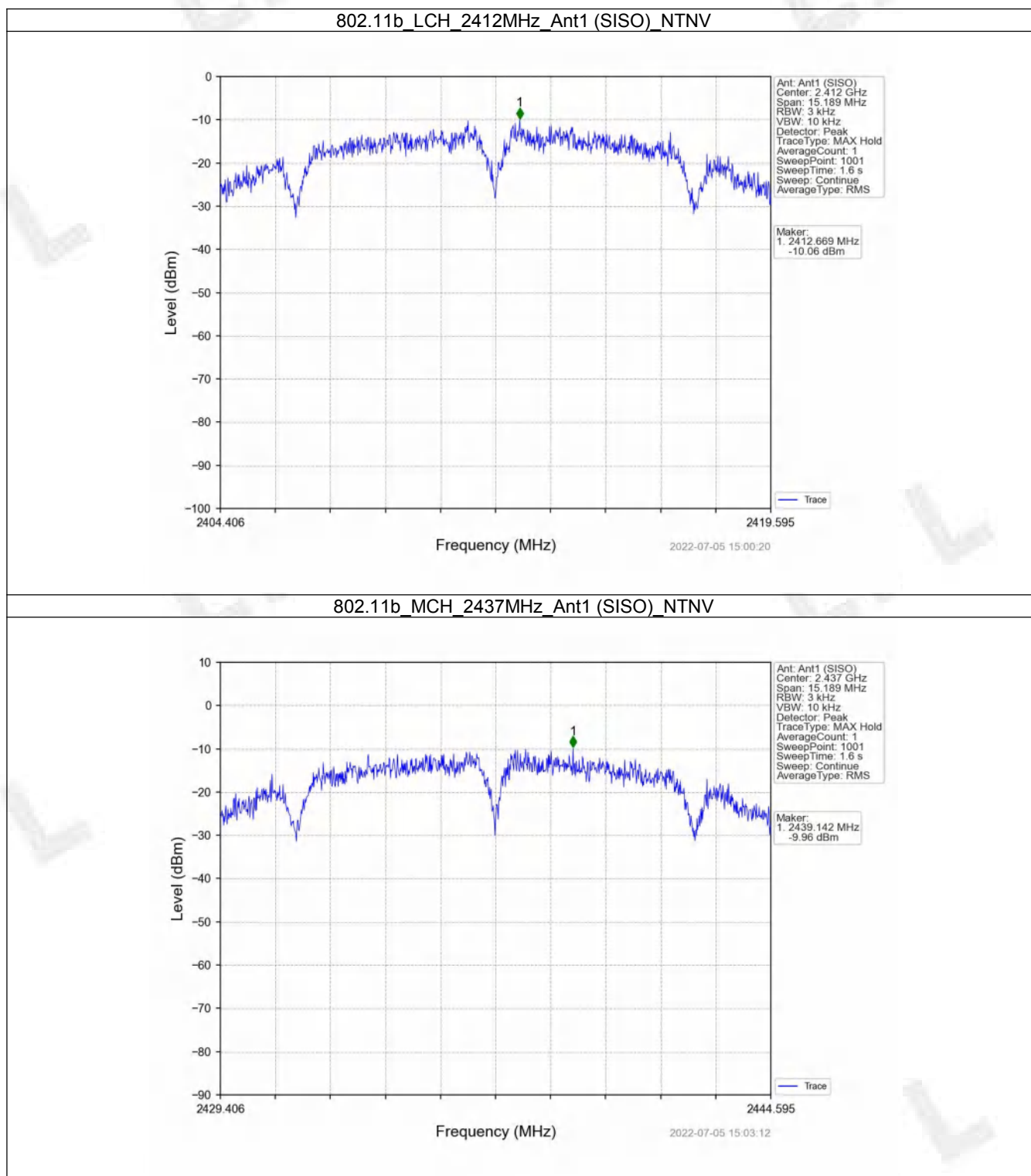
4.1 PSD

4.1.1 Test Result

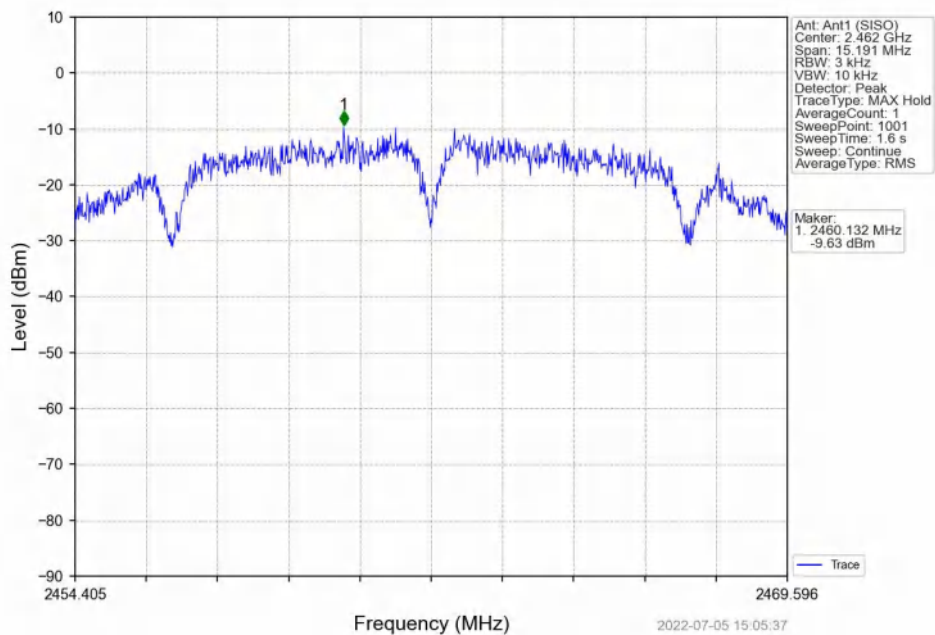
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	-10.06	<=8	Pass
		2437	-9.96	<=8	Pass
		2462	-9.63	<=8	Pass
802.11g	SISO	2412	-14.42	<=8	Pass
		2437	-13.45	<=8	Pass
		2462	-13.65	<=8	Pass
802.11n (HT20)	SISO	2412	-15.26	<=8	Pass
		2437	-14.54	<=8	Pass
		2462	-14.39	<=8	Pass

Note1: Antenna Gain: Ant1: 0.00dBi;

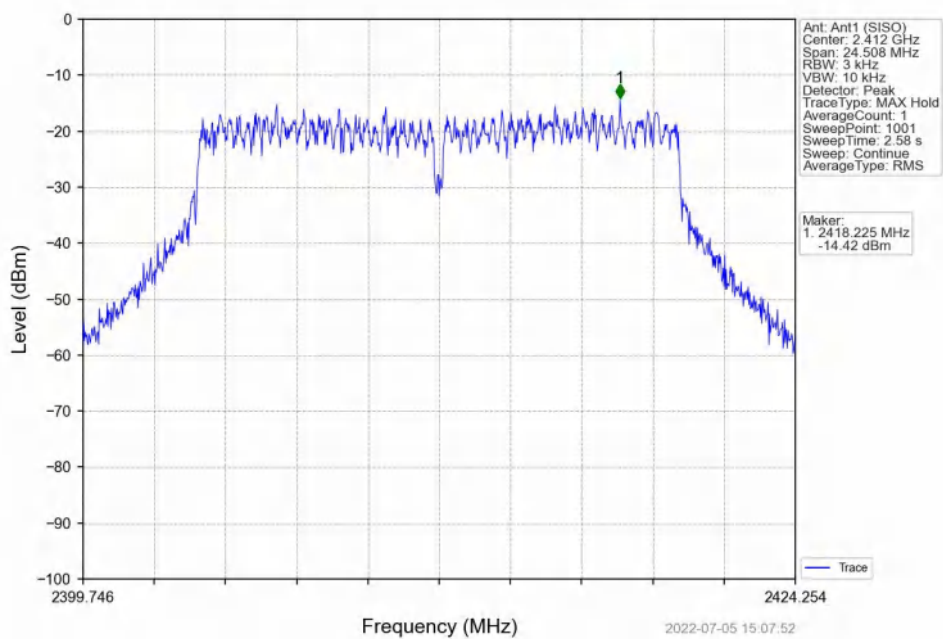
4.1.2 Test Graph



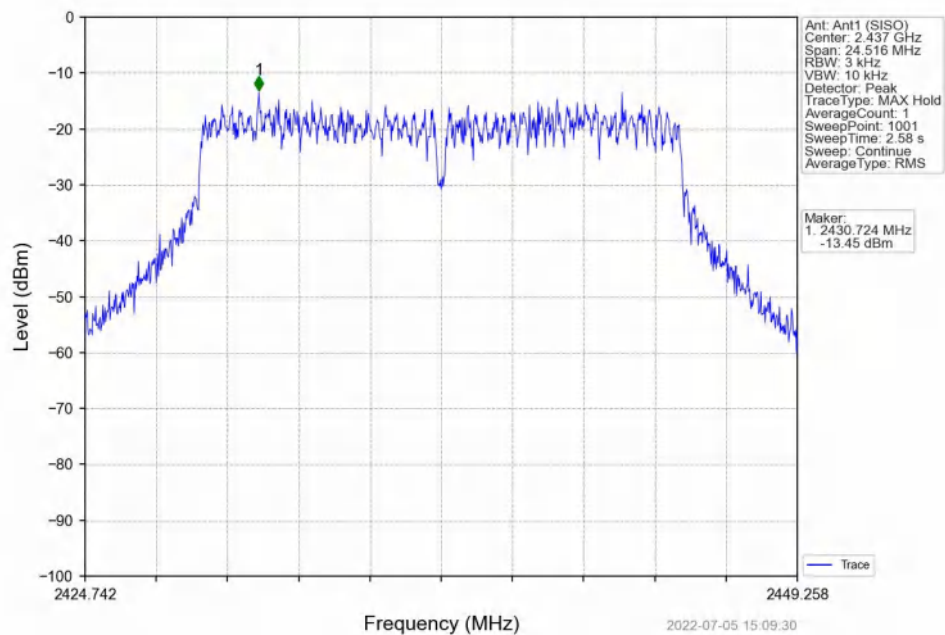
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



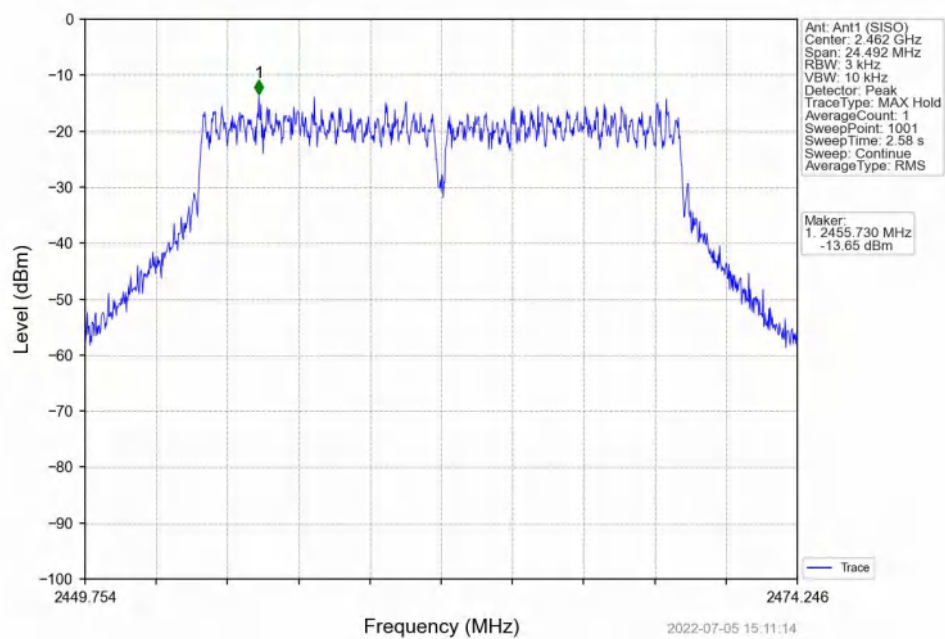
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



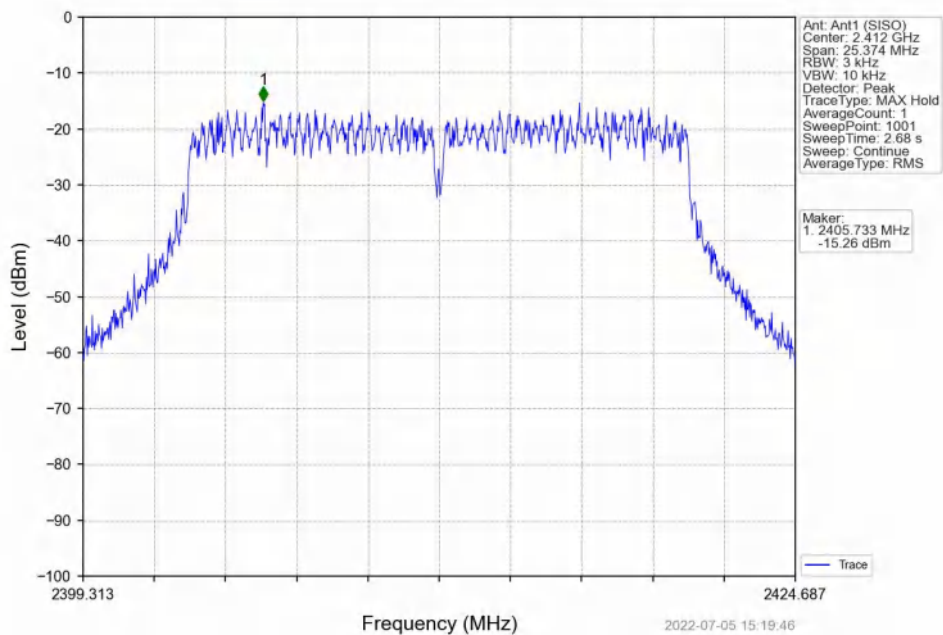
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



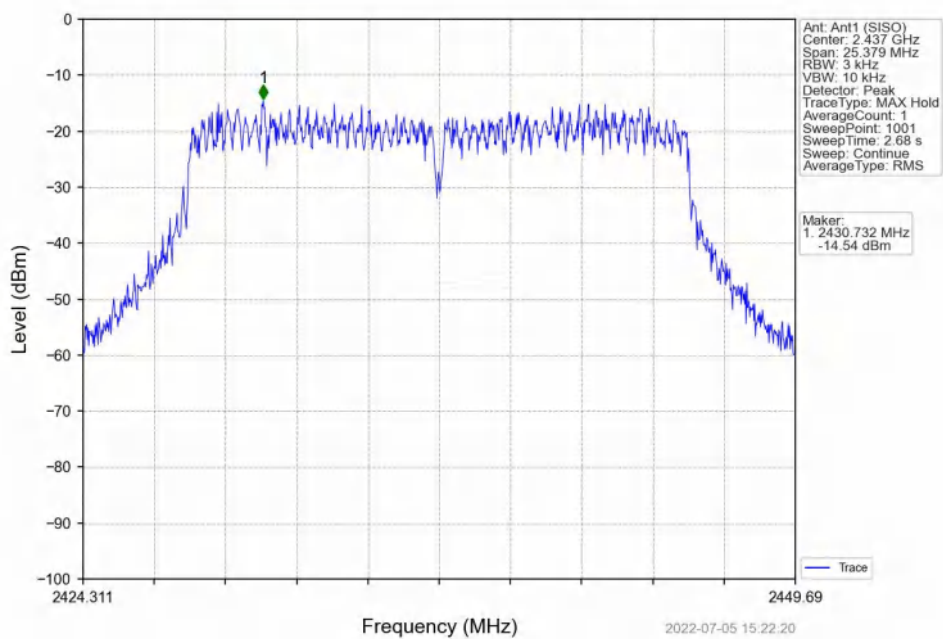
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV

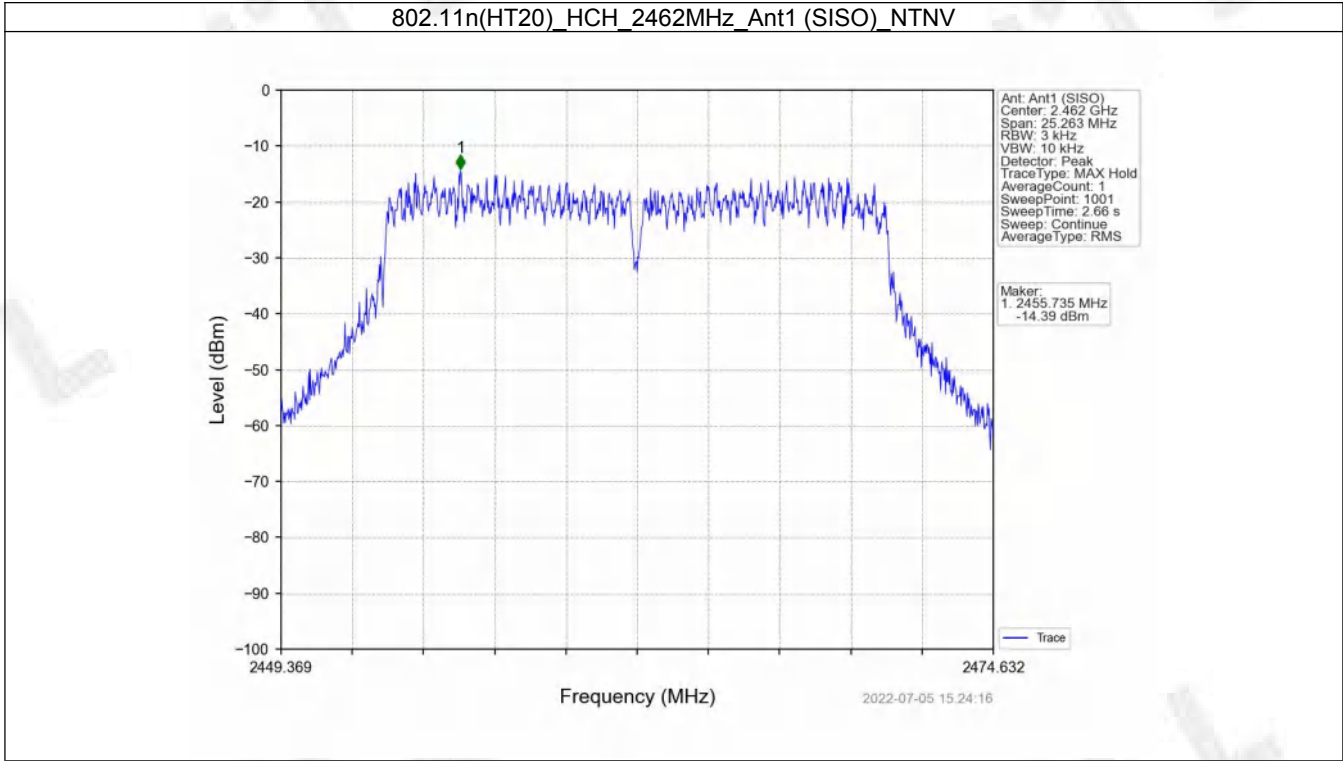


802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV





5. Unwanted Emissions InStandard Non-restricted Frequency Bands

5.1 Ref

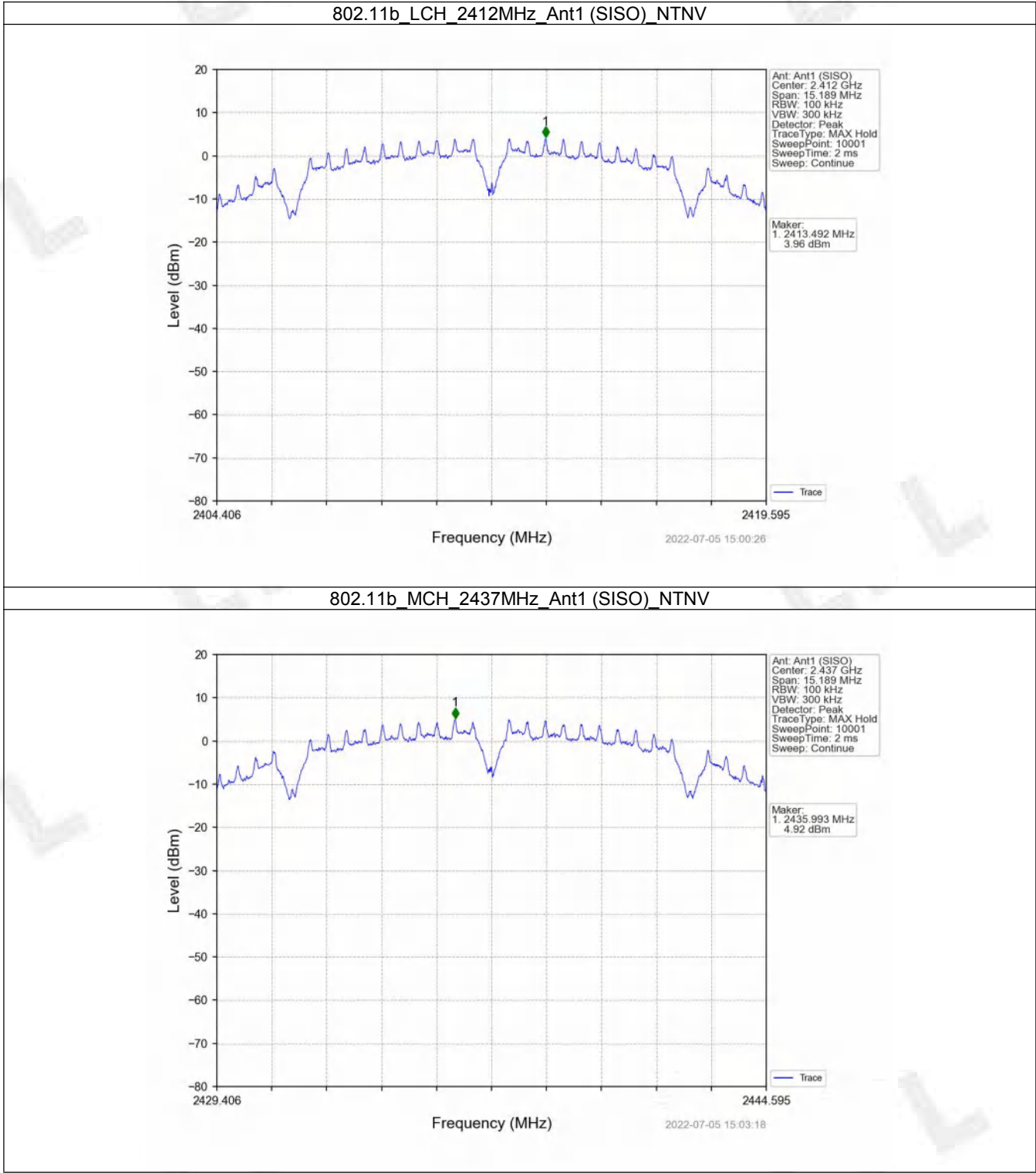
5.1.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
802.11b	SISO	2412	1	3.96
		2437	1	4.92
		2462	1	4.74
802.11g	SISO	2412	1	0.21
		2437	1	0.95
		2462	1	0.84
802.11n (HT20)	SISO	2412	1	-0.52
		2437	1	0.57
		2462	1	0.41

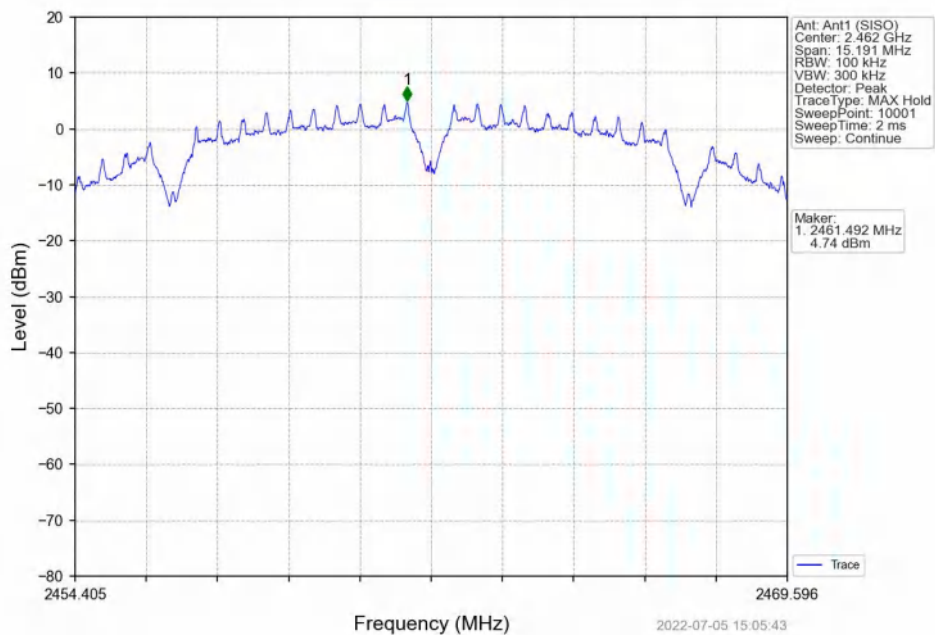
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

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.

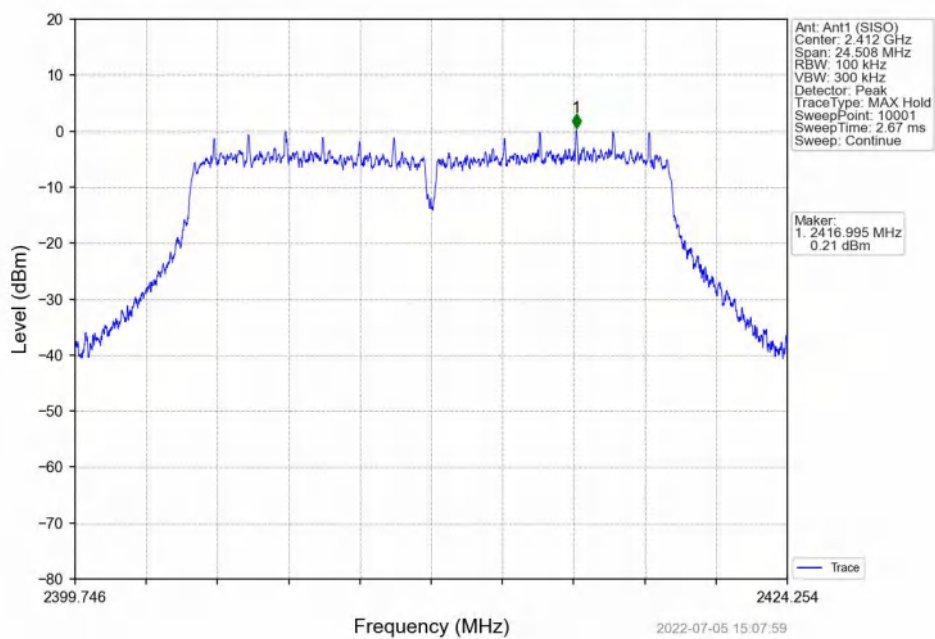
5.1.2 Test Graph



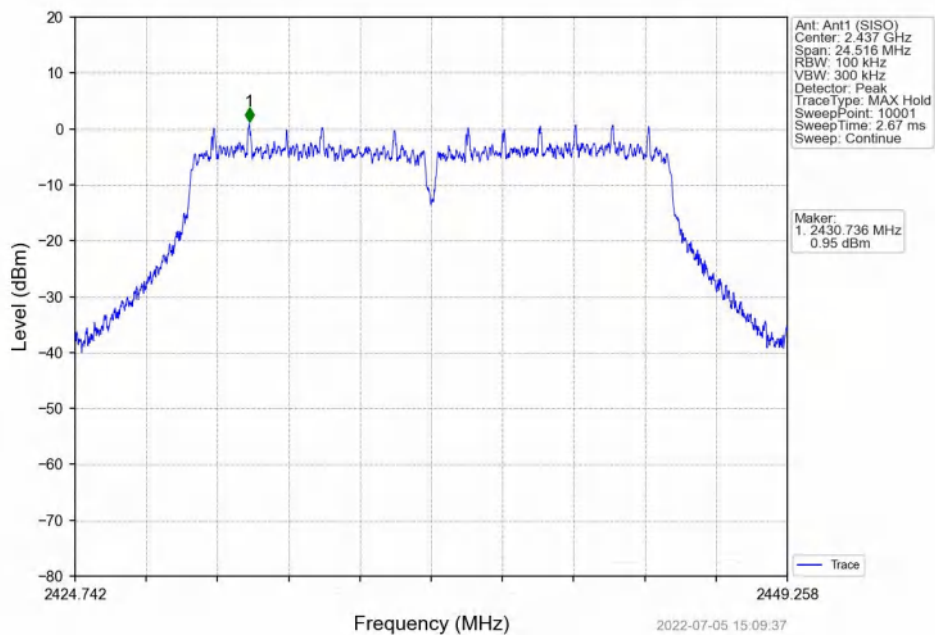
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



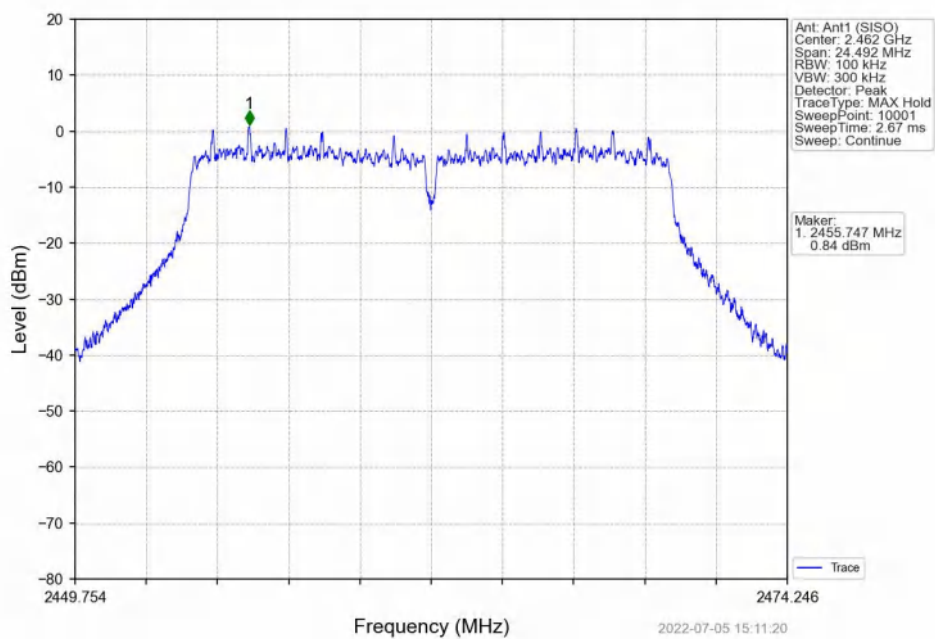
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



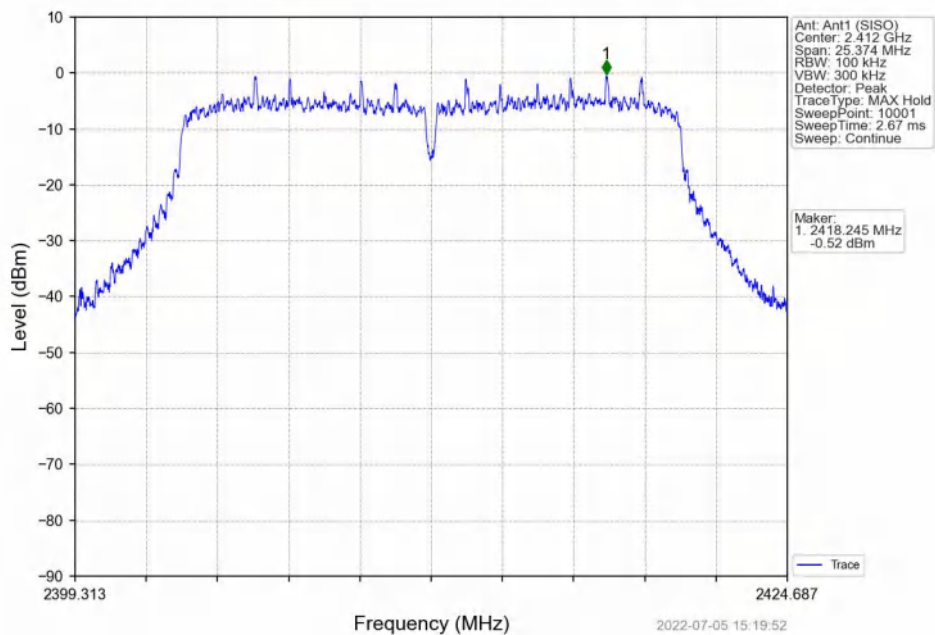
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



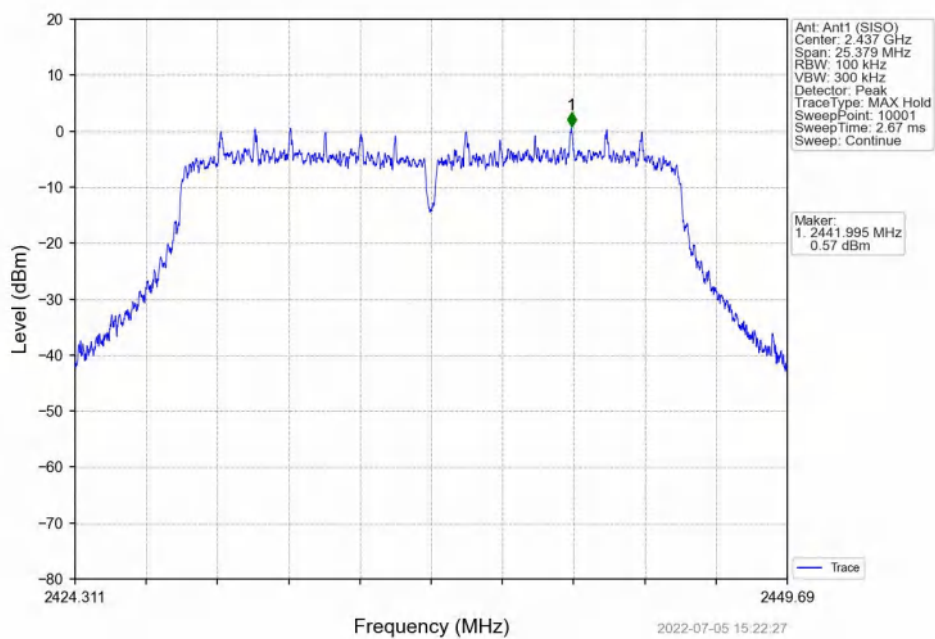
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV

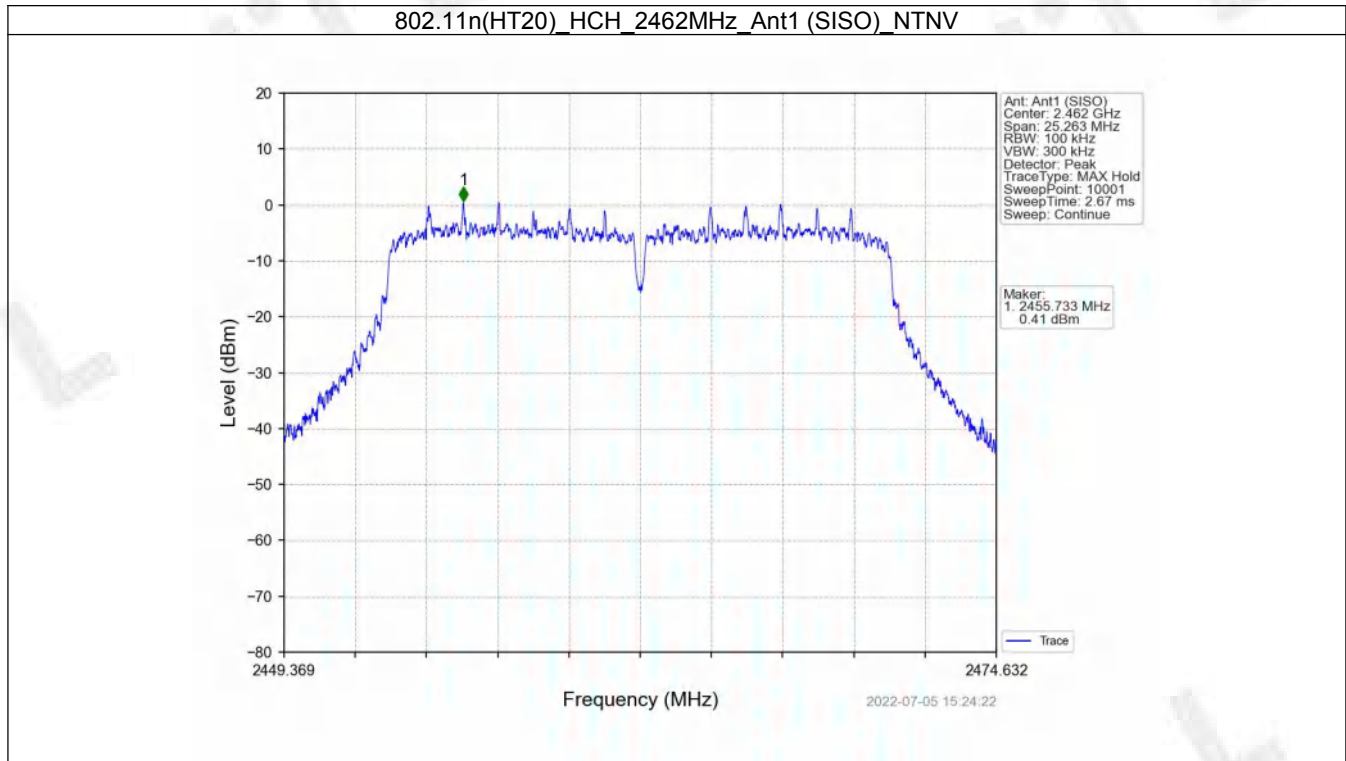


802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV





5.2 CSE

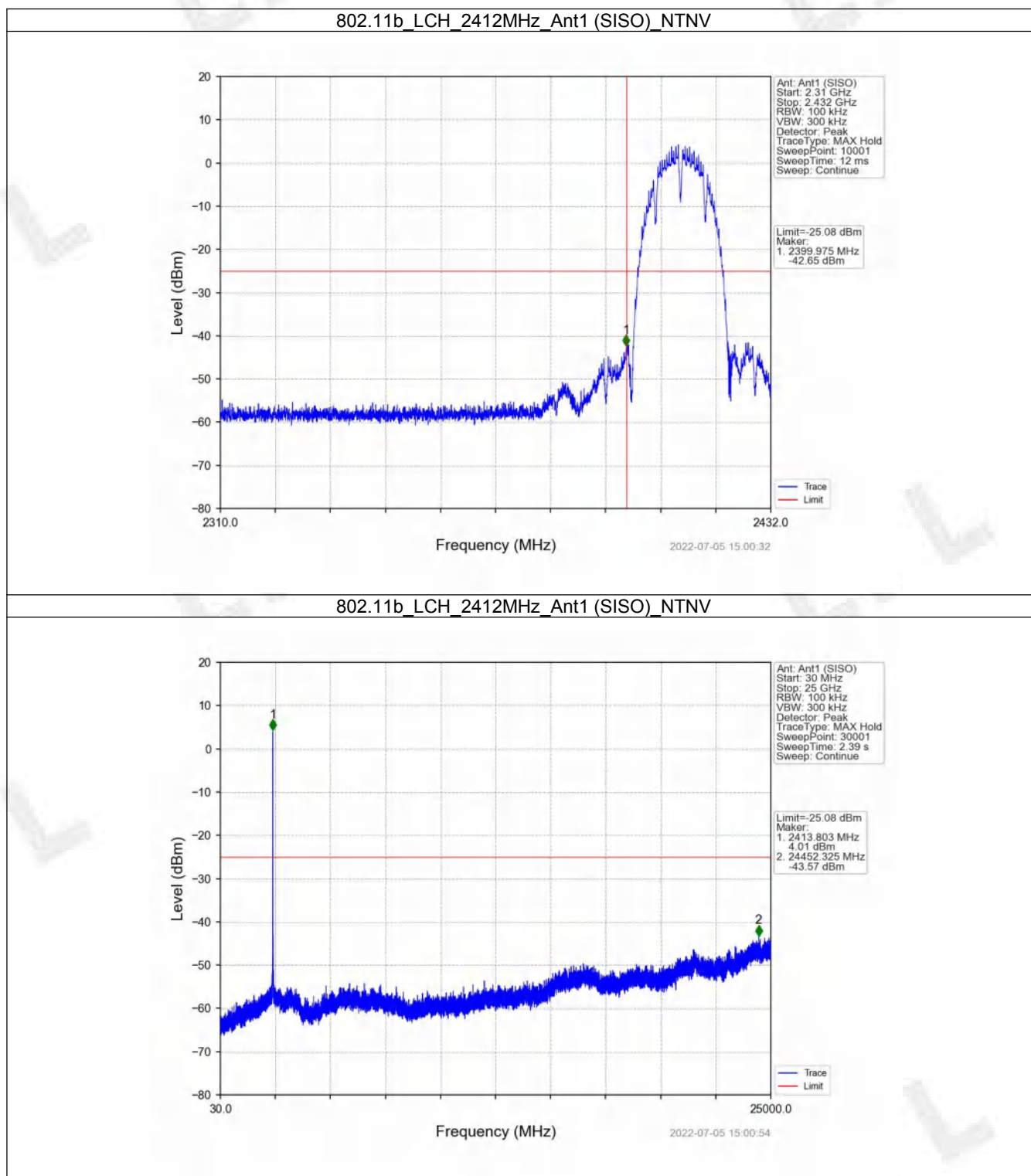
5.2.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	1	4.92	-25.08	Pass
		2437	1	4.92	-25.08	Pass
		2462	1	4.92	-25.08	Pass
802.11g	SISO	2412	1	0.95	-29.05	Pass
		2437	1	0.95	-29.05	Pass
		2462	1	0.95	-29.05	Pass
802.11n (HT20)	SISO	2412	1	0.57	-29.43	Pass
		2437	1	0.57	-29.43	Pass
		2462	1	0.57	-29.43	Pass

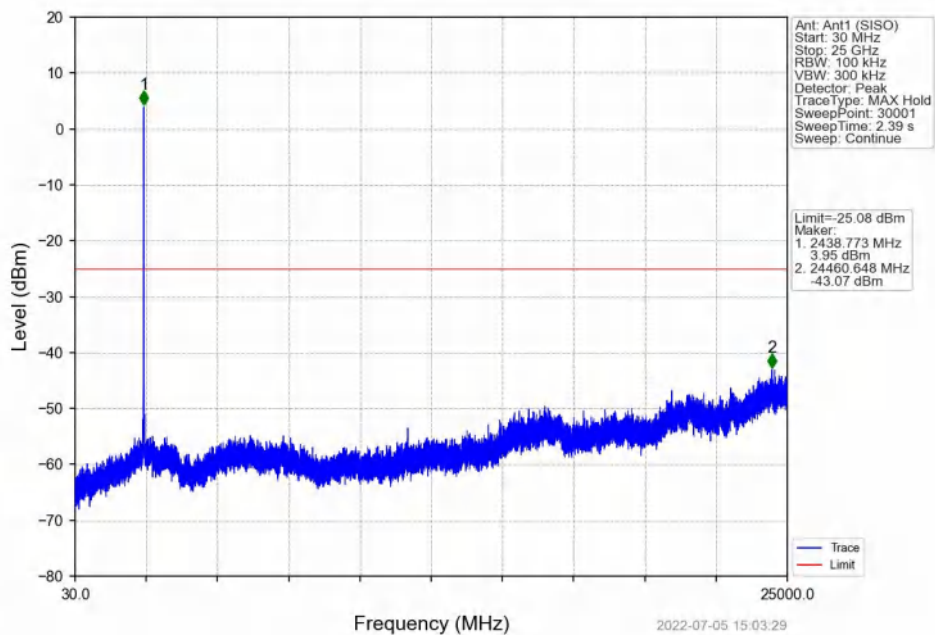
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

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.

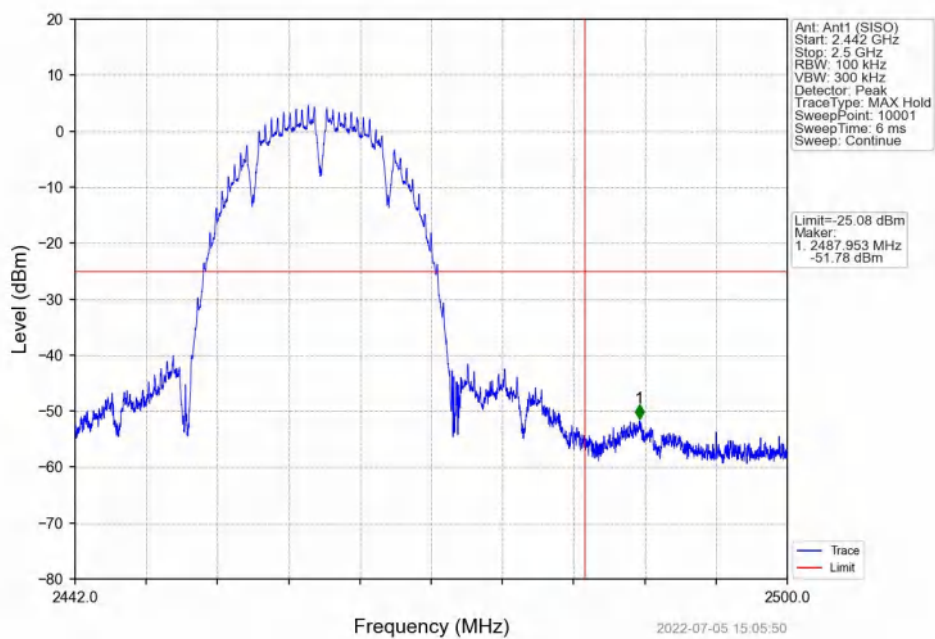
5.2.2 Test Graph



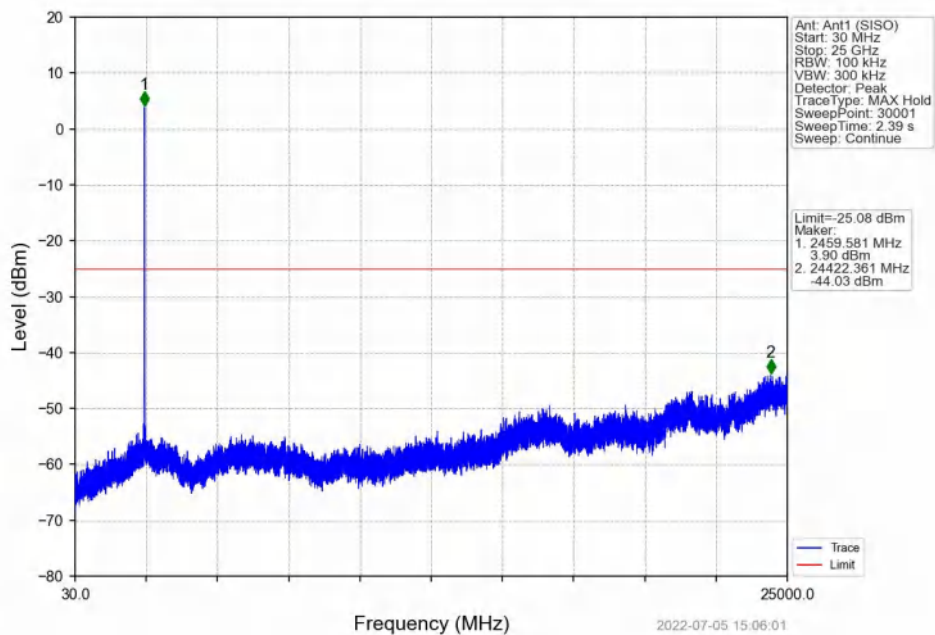
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



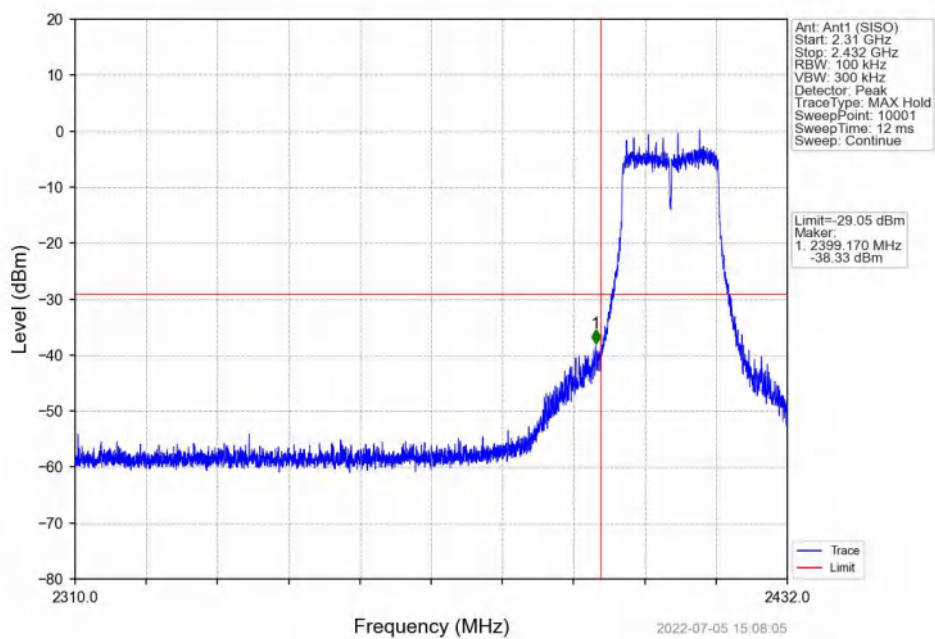
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



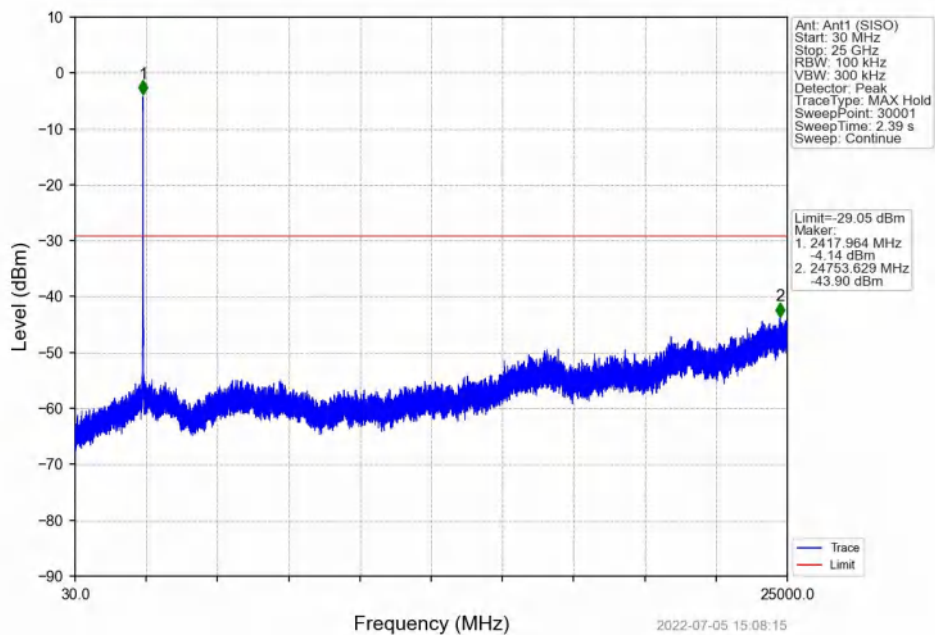
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



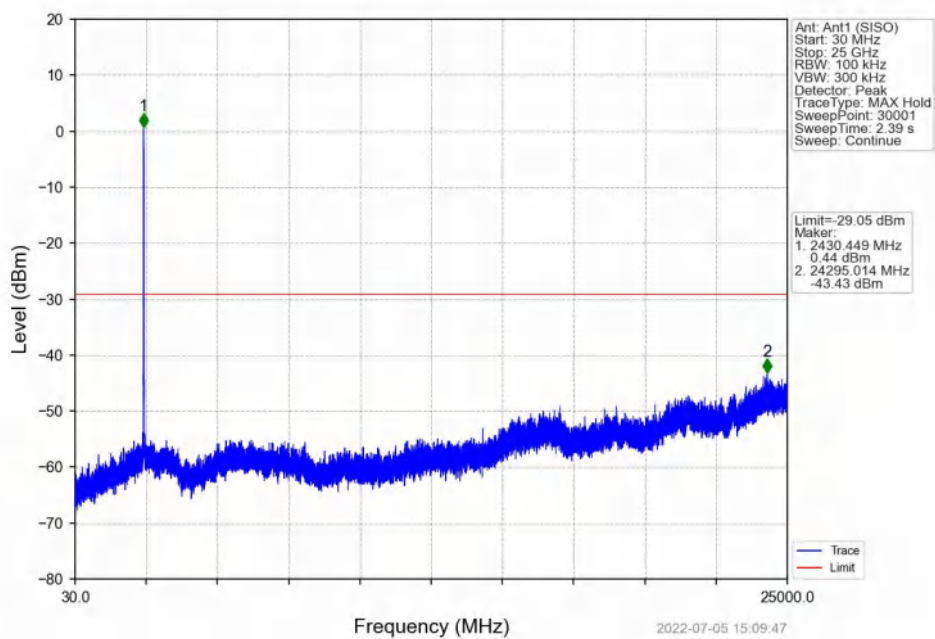
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



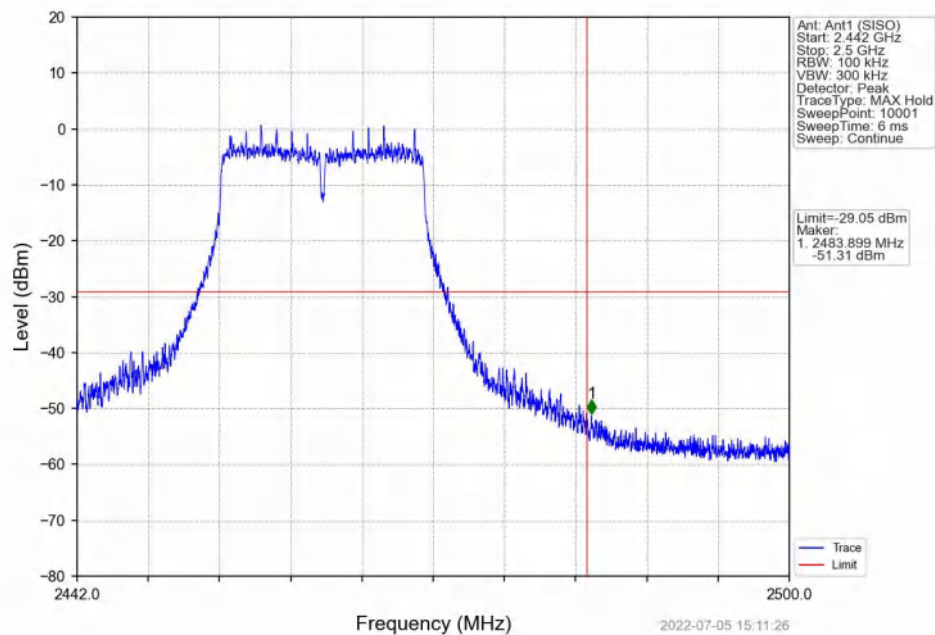
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



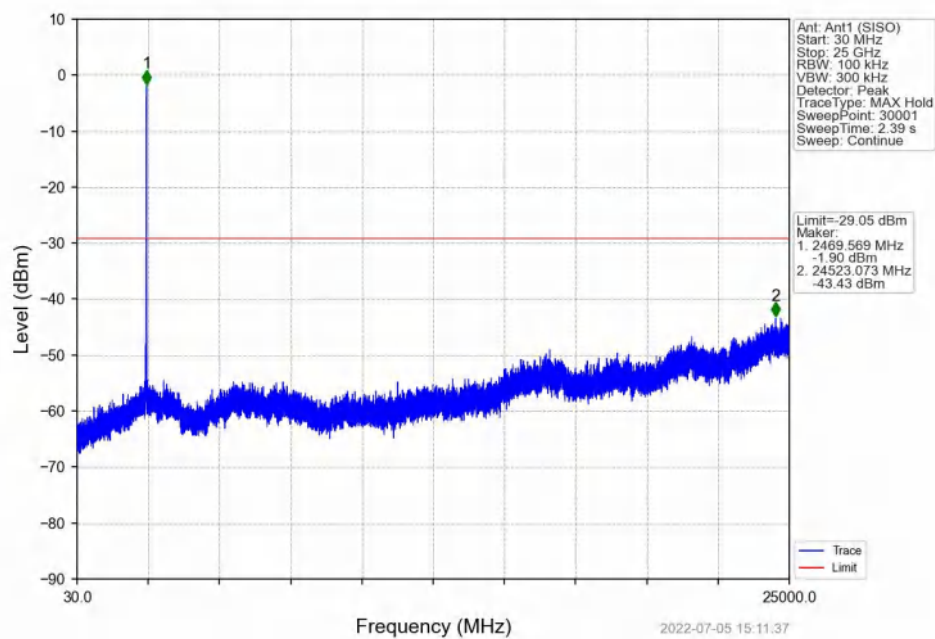
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



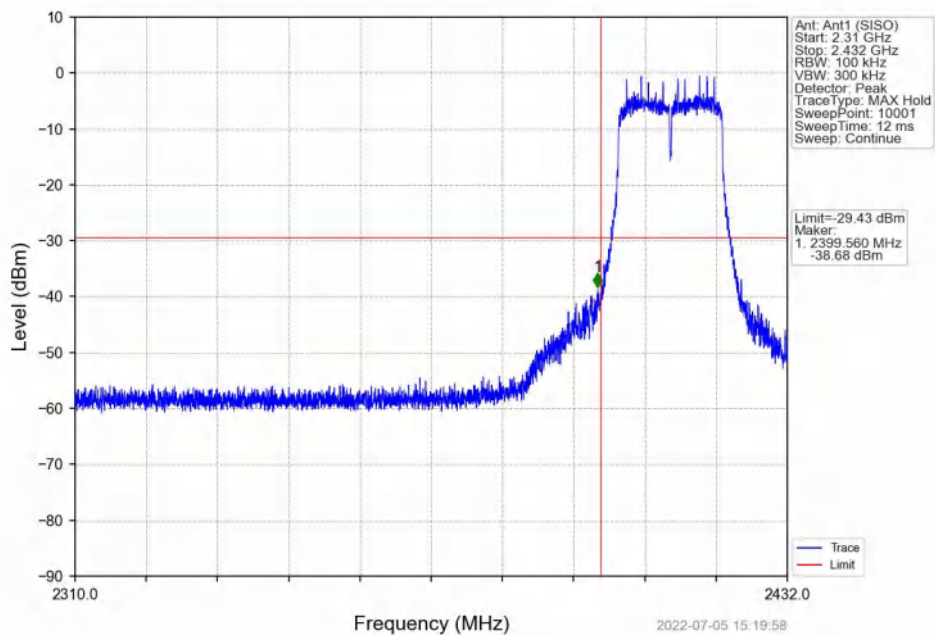
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



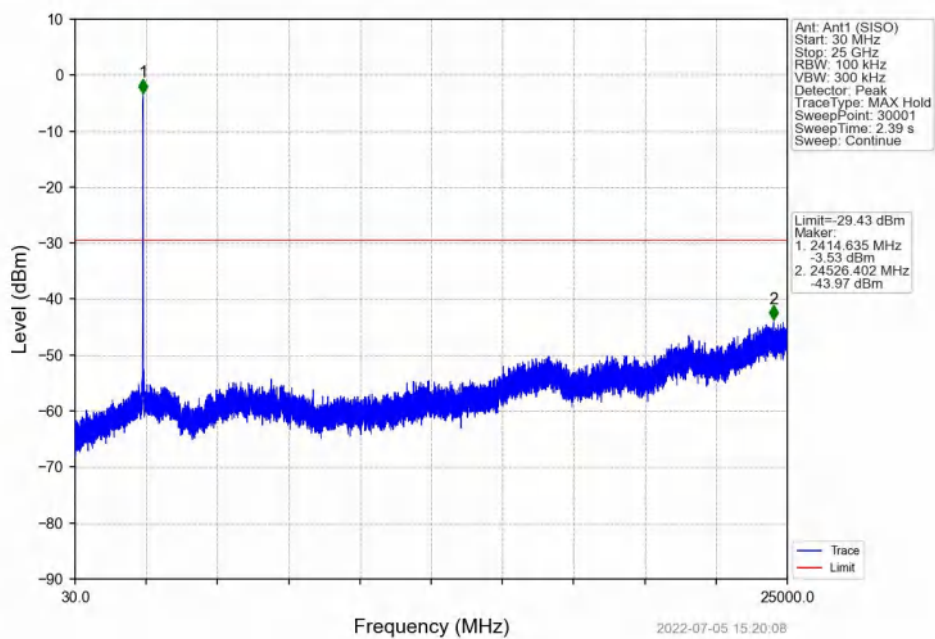
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



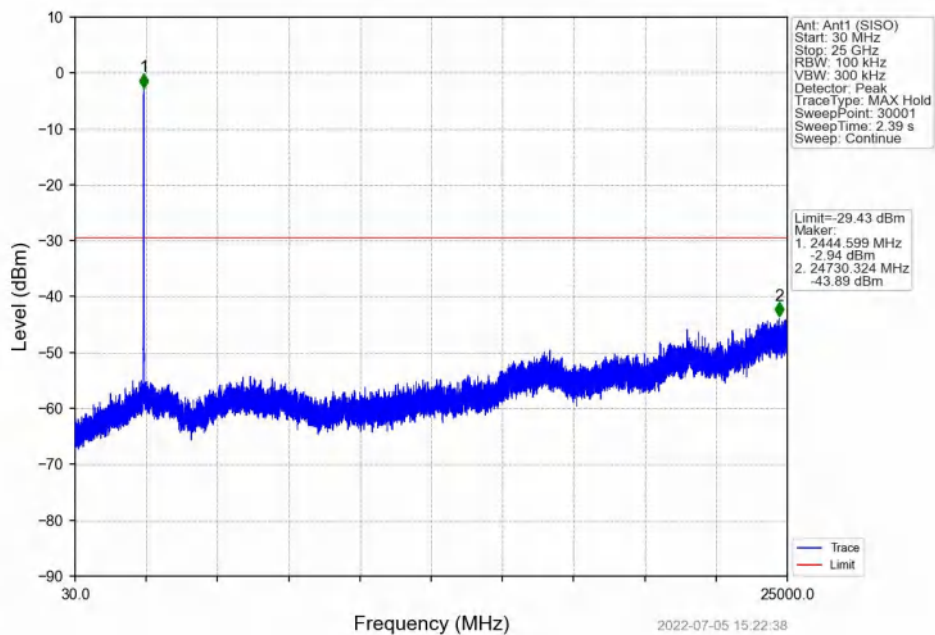
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



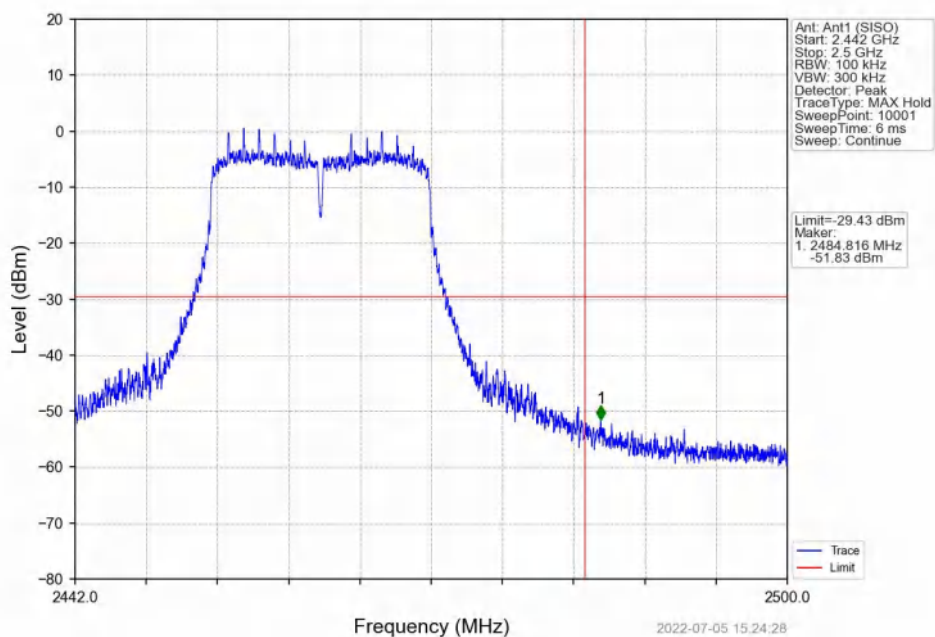
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV

