

Appendix for 2.4G Wi-Fi

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5.2.2 CSE..... 39

1. Duty Cycle

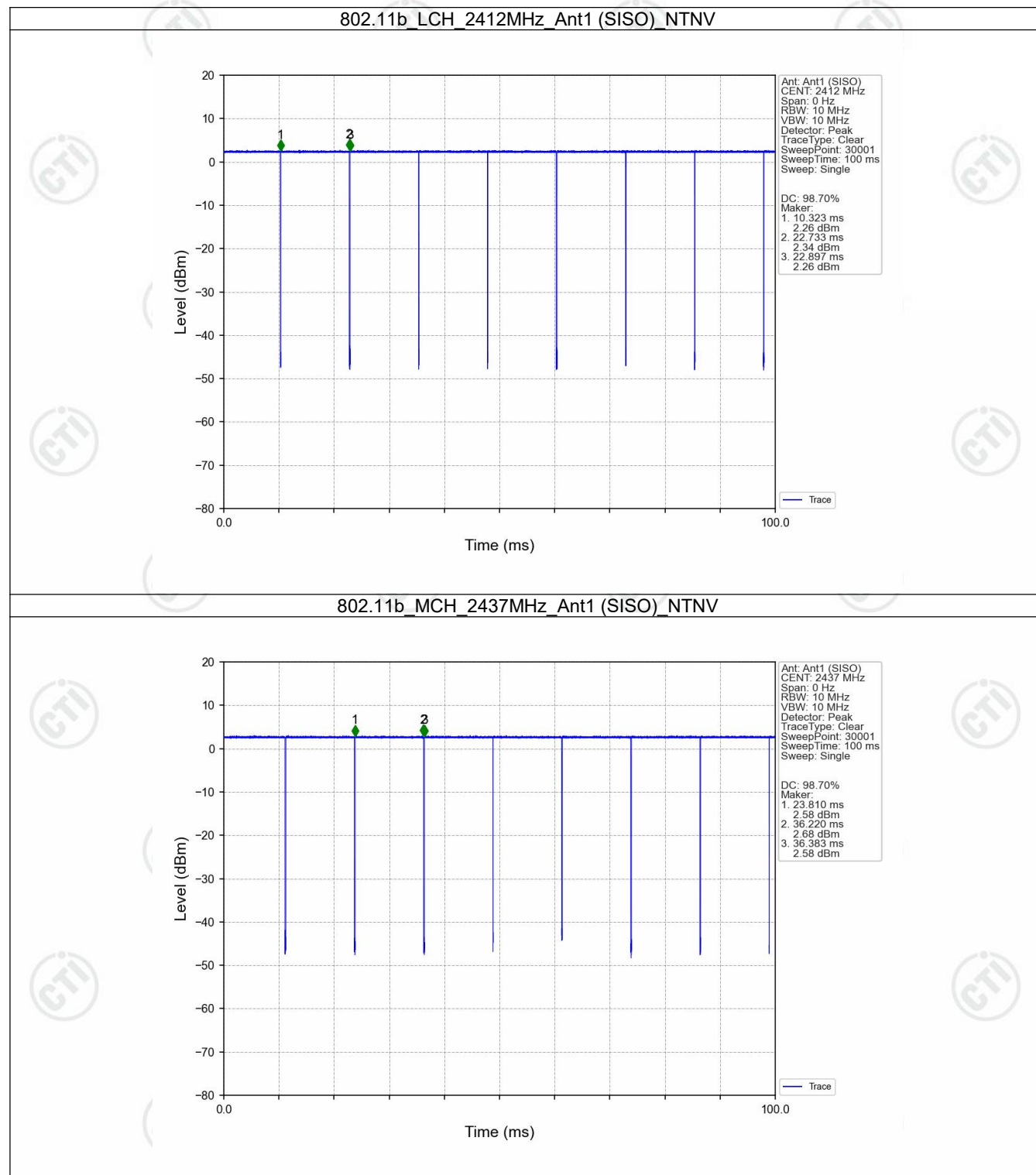
1.1 Test Result

1.1.1 Ant1

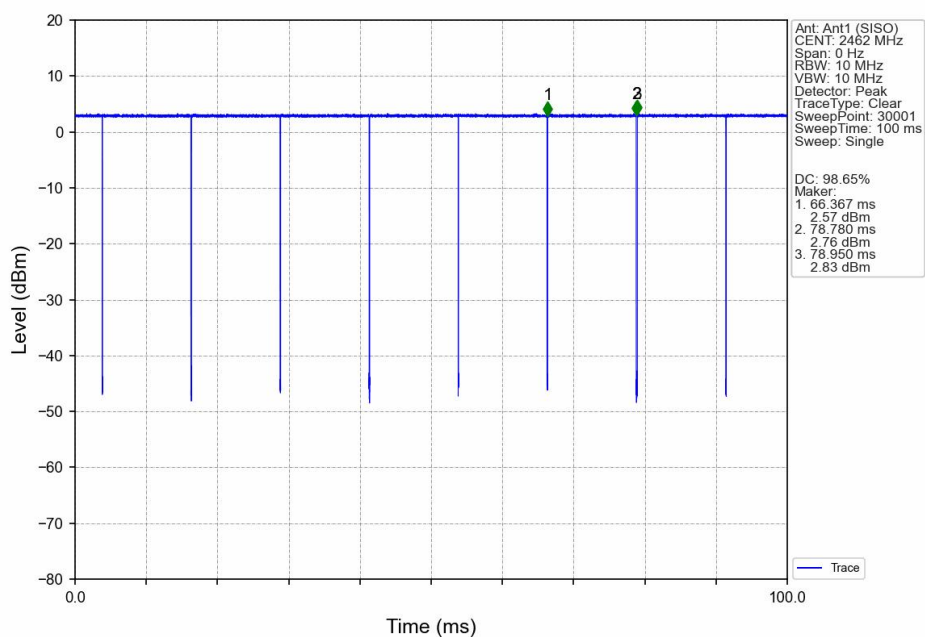
Ant1							
Mode	TX Type	Frequency (MHz)	T _{on} (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11b	SISO	2412	12.410	12.574	98.70	0.06	0.87
		2437	12.410	12.573	98.70	0.06	0.95
		2462	12.413	12.583	98.65	0.06	0.87
802.11g	SISO	2412	2.060	2.203	93.51	0.29	4.40
		2437	2.070	2.241	92.37	0.34	2.30
		2462	2.070	2.221	93.20	0.31	3.91
802.11n (HT20)	SISO	2412	1.920	2.091	91.82	0.37	5.47
		2437	1.930	2.073	93.10	0.31	4.89
		2462	1.921	2.083	92.22	0.35	5.98
802.11n (HT40)	SISO	2422	0.944	1.115	84.66	0.72	10.81
		2437	0.950	1.106	85.90	0.66	11.02
		2452	0.950	1.097	86.60	0.62	10.37

1.2 Test Graph

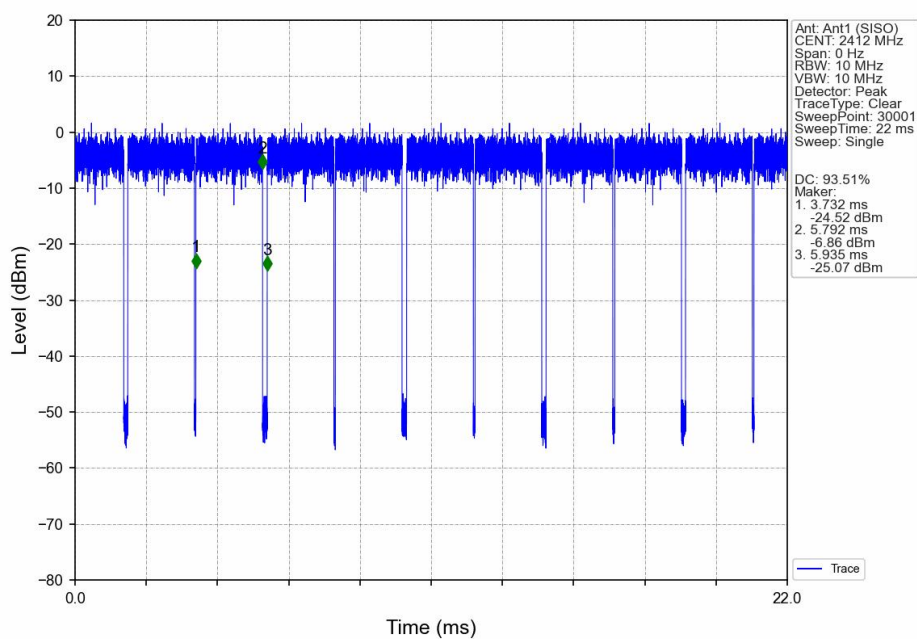
1.2.1 Ant1



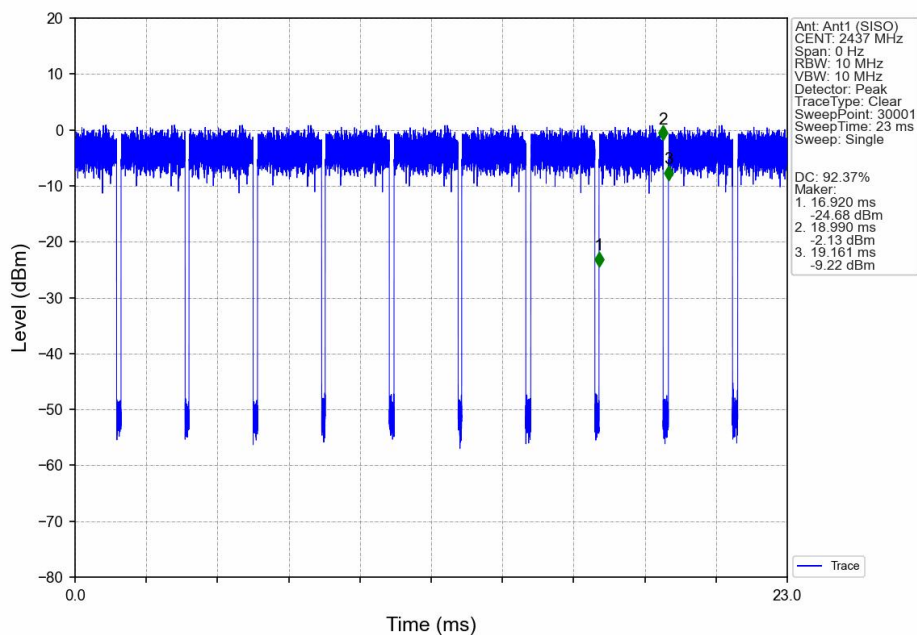
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



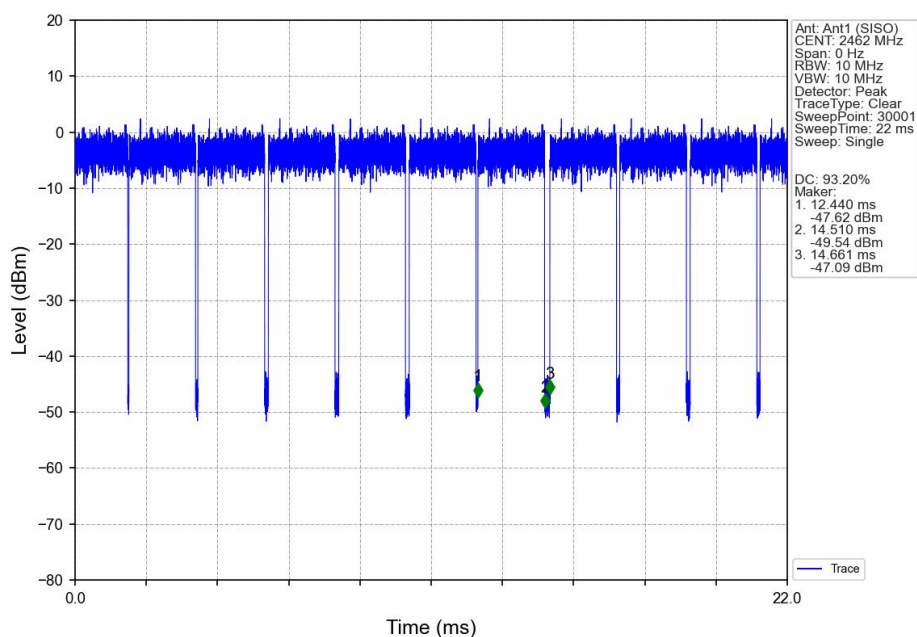
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



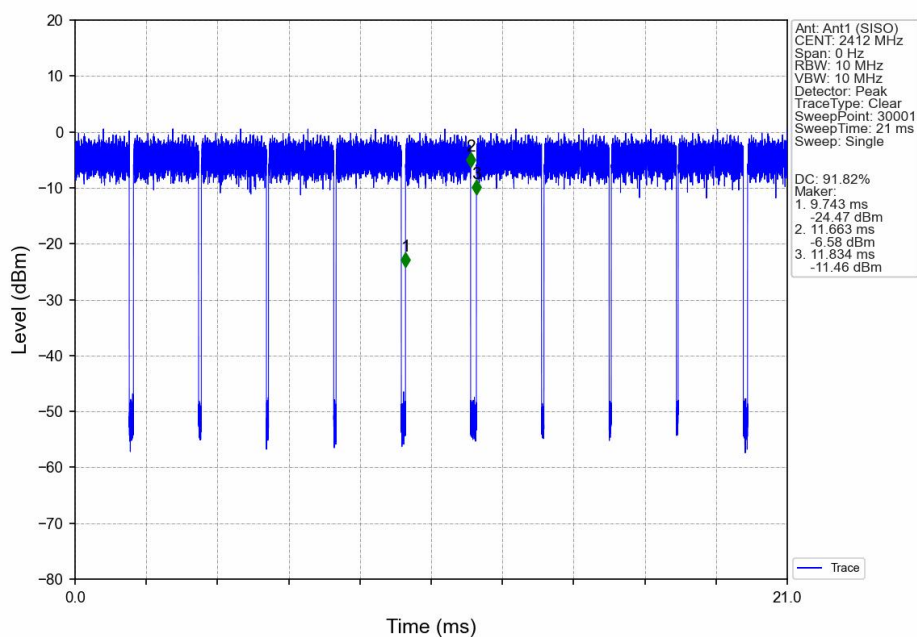
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



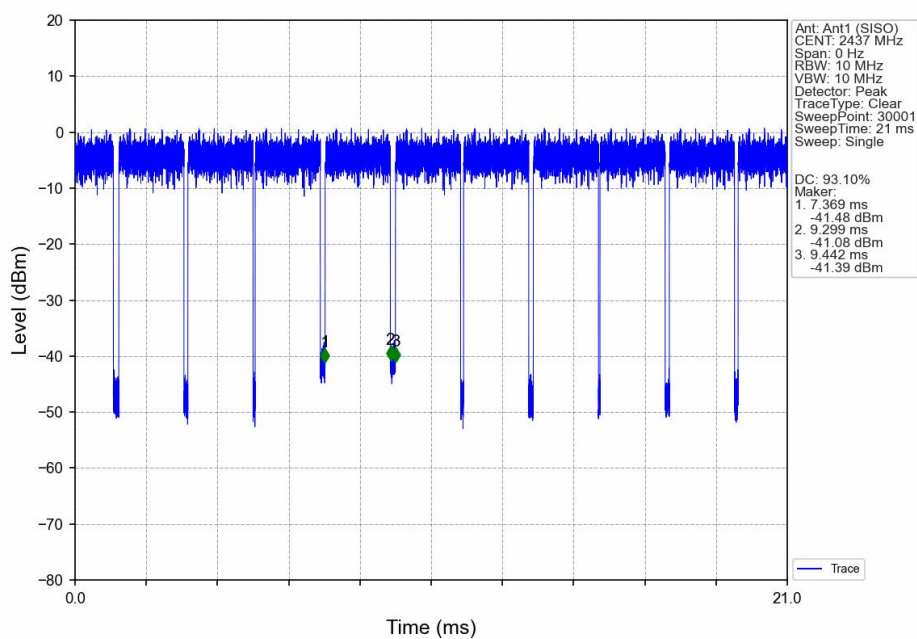
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



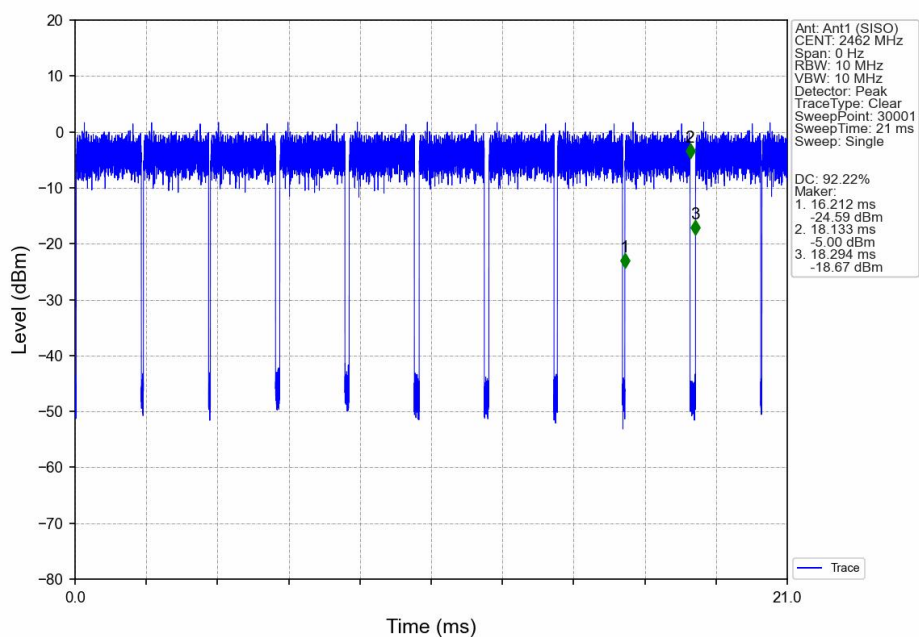
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



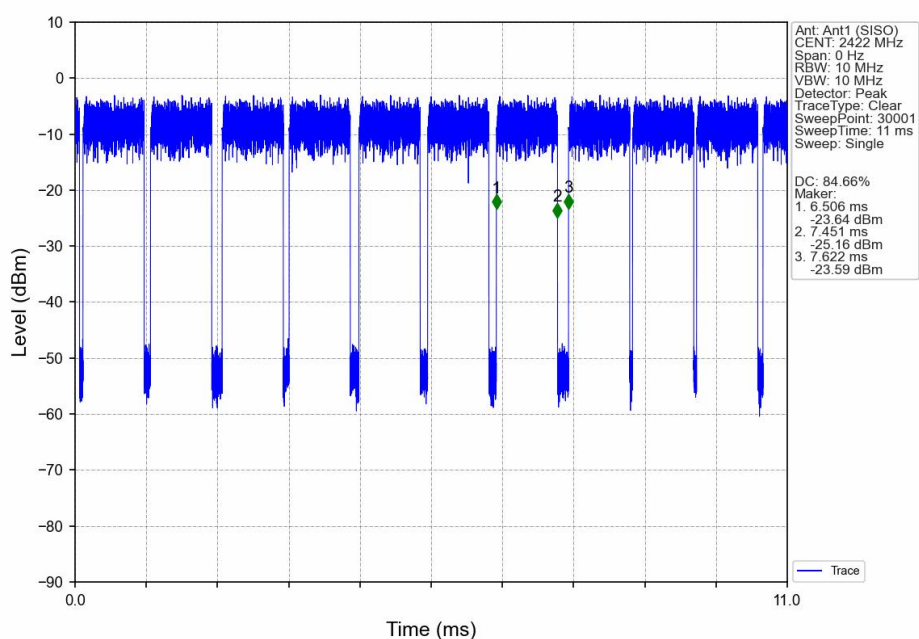
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



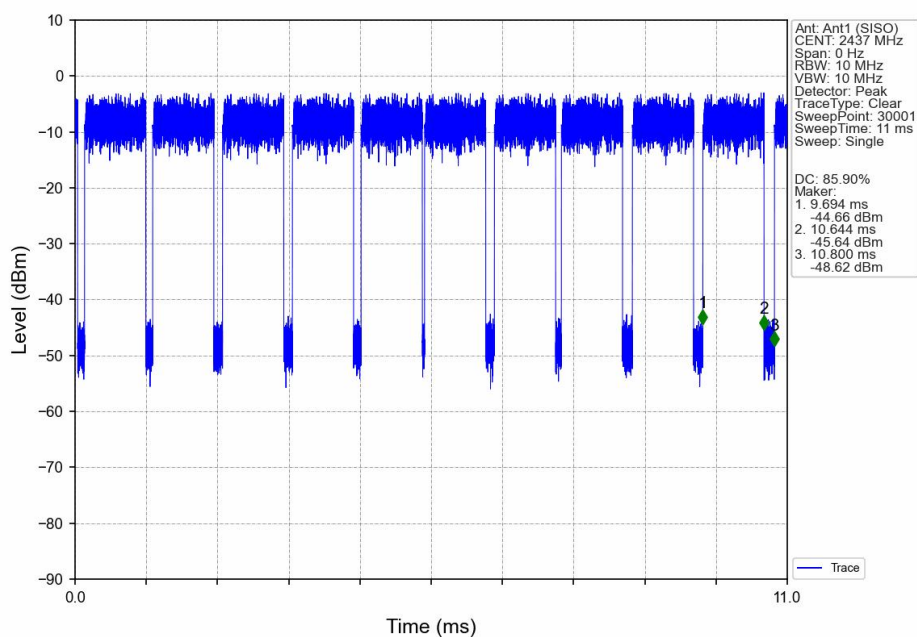
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



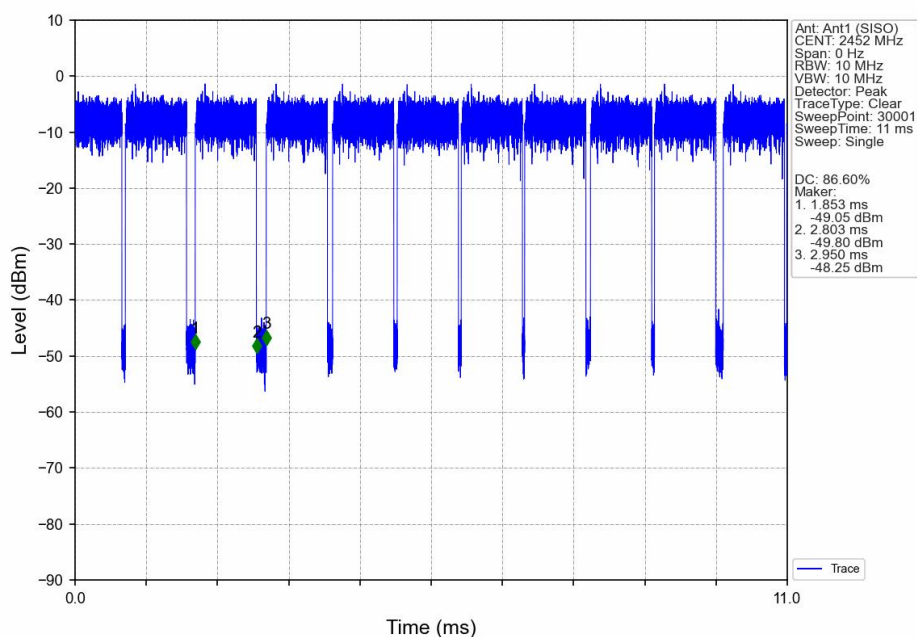
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



2. Bandwidth

2.1 Test Result

2.1.1 OBW

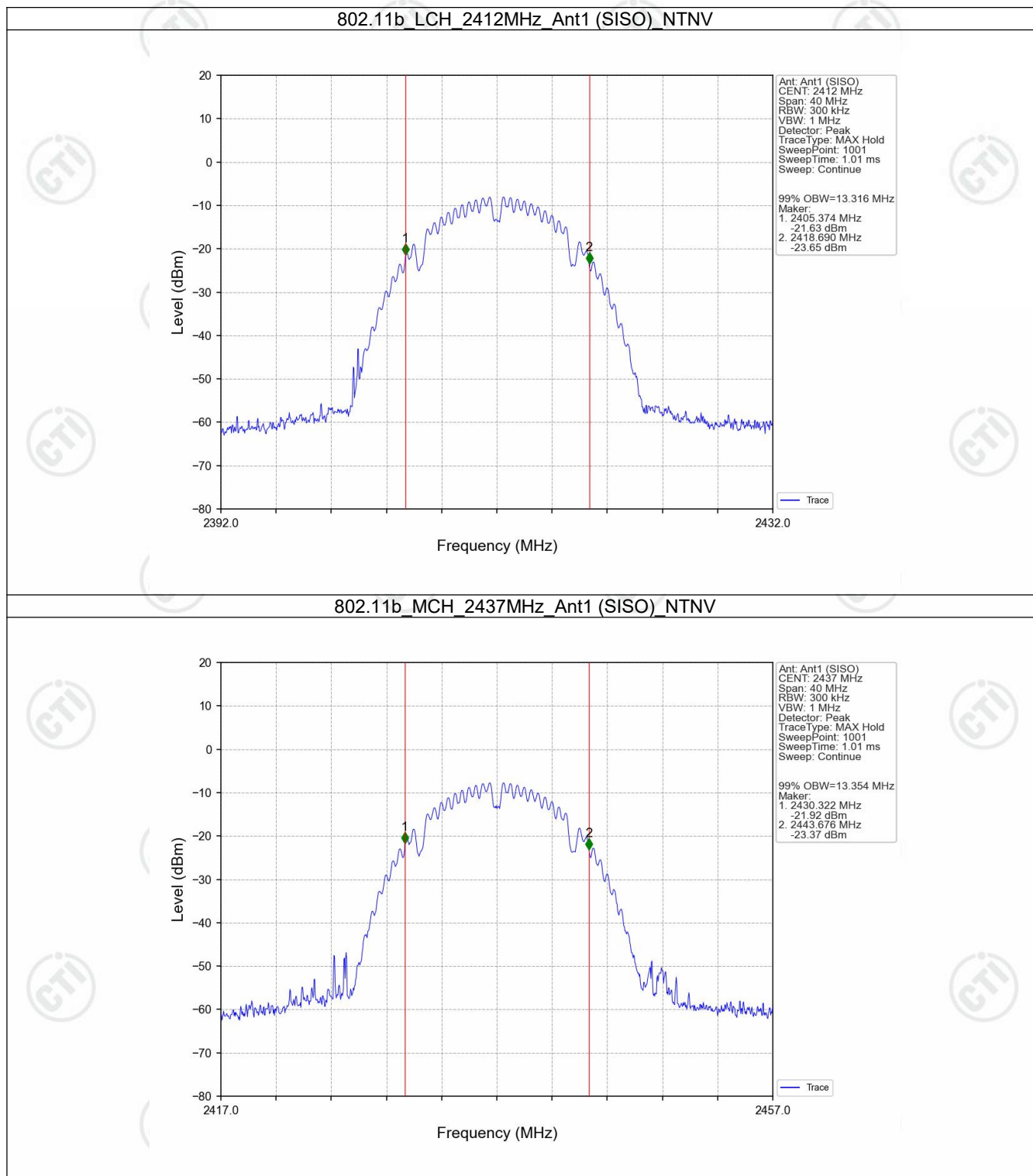
Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	13.316	/	Pass
		2437	1	13.354	/	Pass
		2462	1	13.312	/	Pass
802.11g	SISO	2412	1	16.756	/	Pass
		2437	1	16.840	/	Pass
		2462	1	16.842	/	Pass
802.11n (HT20)	SISO	2412	1	17.816	/	Pass
		2437	1	17.821	/	Pass
		2462	1	17.842	/	Pass
802.11n (HT40)	SISO	2422	1	36.452	/	Pass
		2437	1	36.661	/	Pass
		2452	1	36.618	/	Pass

2.1.2 6dB BW

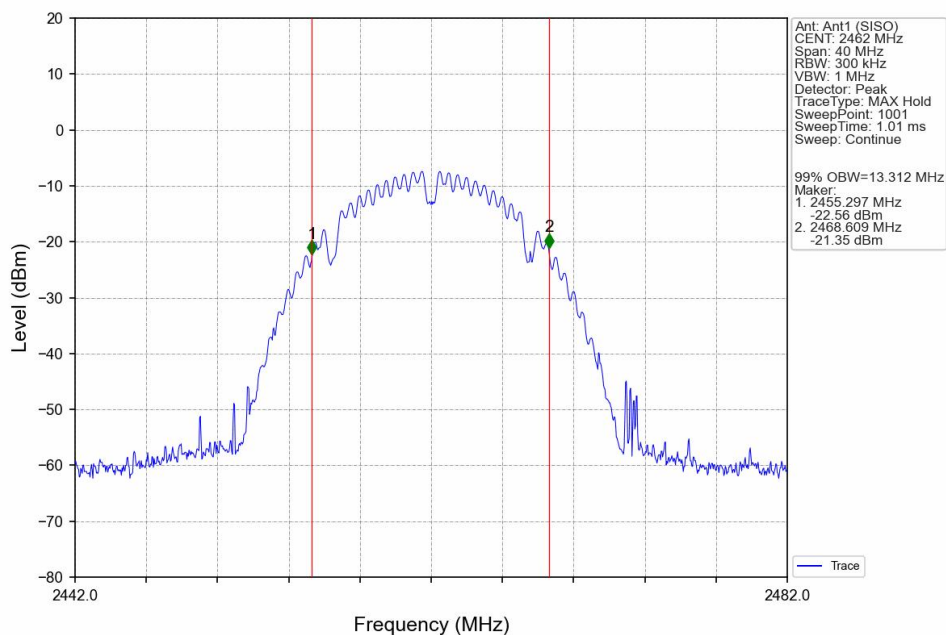
Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	9.134	≥ 0.5	Pass
		2437	1	9.150	≥ 0.5	Pass
		2462	1	9.139	≥ 0.5	Pass
802.11g	SISO	2412	1	16.401	≥ 0.5	Pass
		2437	1	16.456	≥ 0.5	Pass
		2462	1	16.549	≥ 0.5	Pass
802.11n (HT20)	SISO	2412	1	17.604	≥ 0.5	Pass
		2437	1	17.595	≥ 0.5	Pass
		2462	1	17.624	≥ 0.5	Pass
802.11n (HT40)	SISO	2422	1	36.342	≥ 0.5	Pass
		2437	1	36.447	≥ 0.5	Pass
		2452	1	35.856	≥ 0.5	Pass

2.2 Test Graph

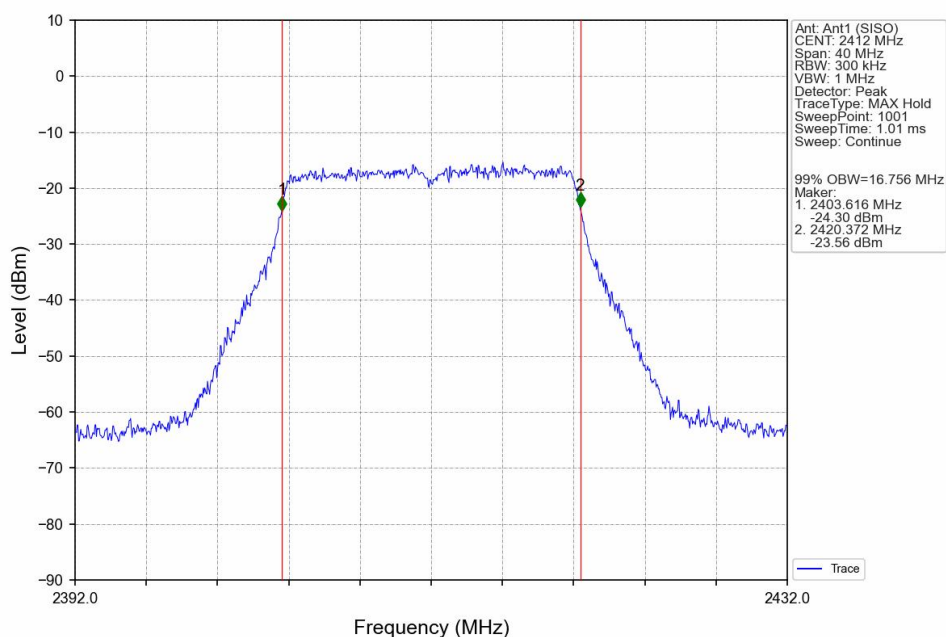
2.2.1 OBW



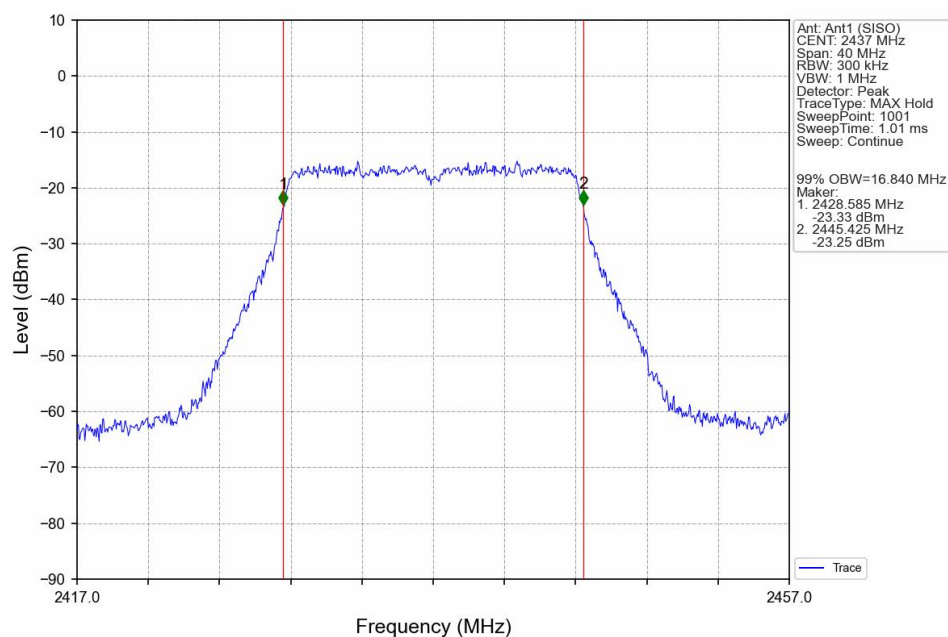
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



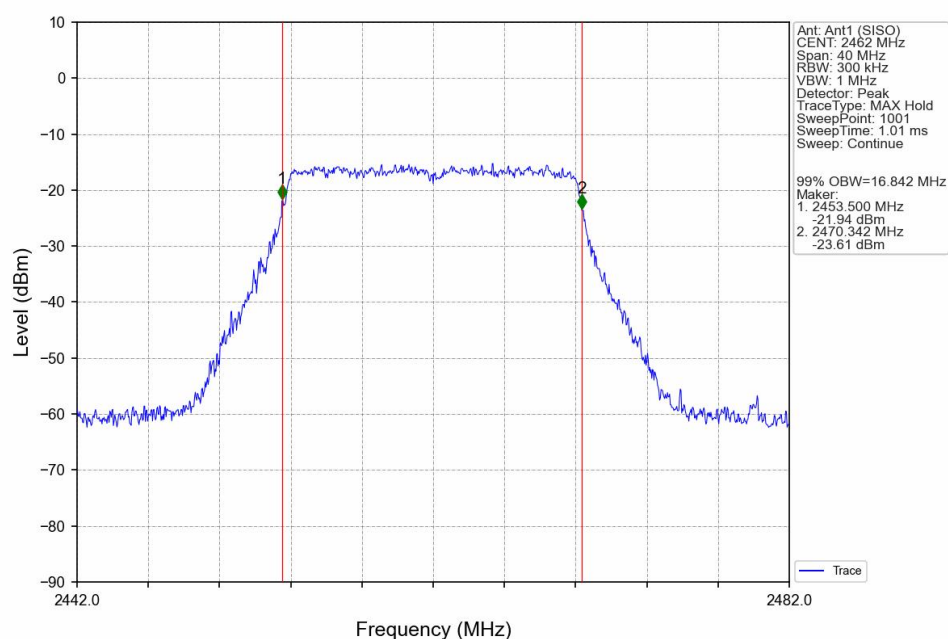
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



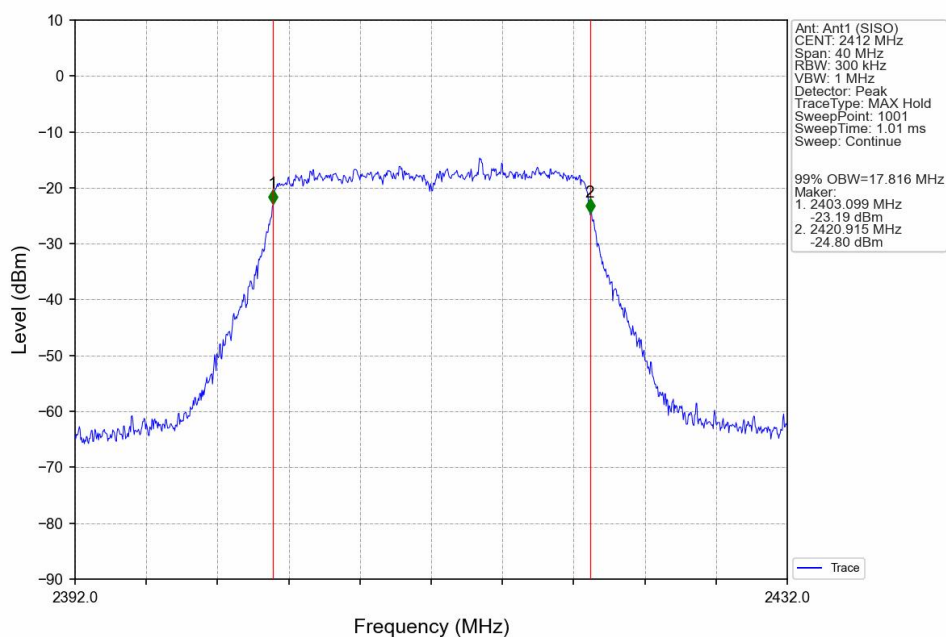
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



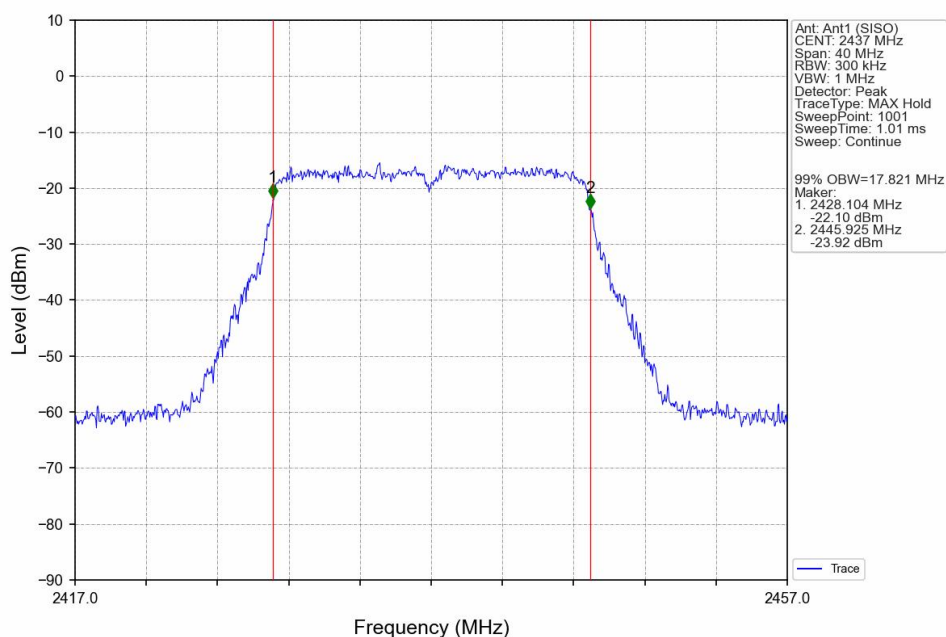
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



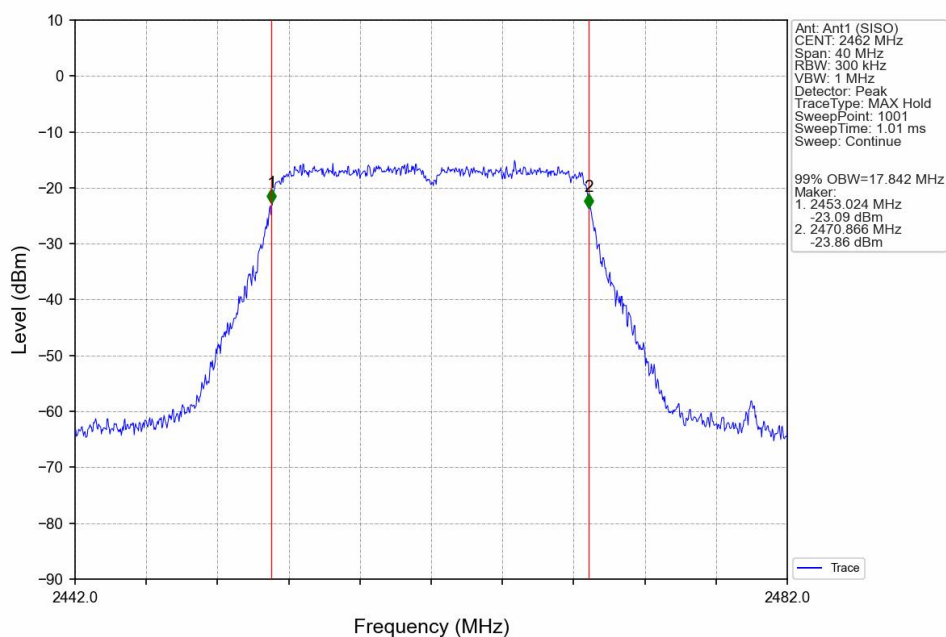
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



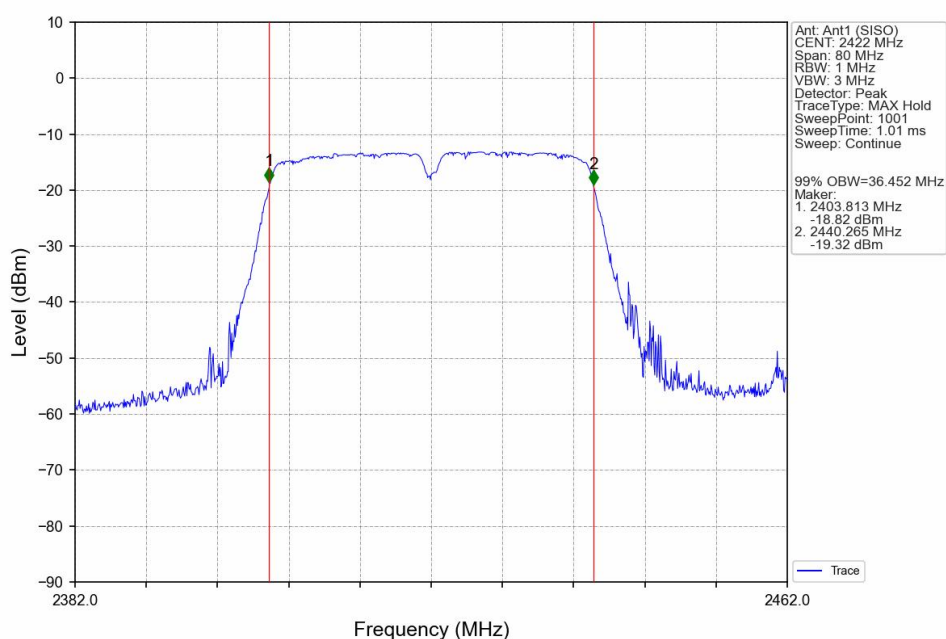
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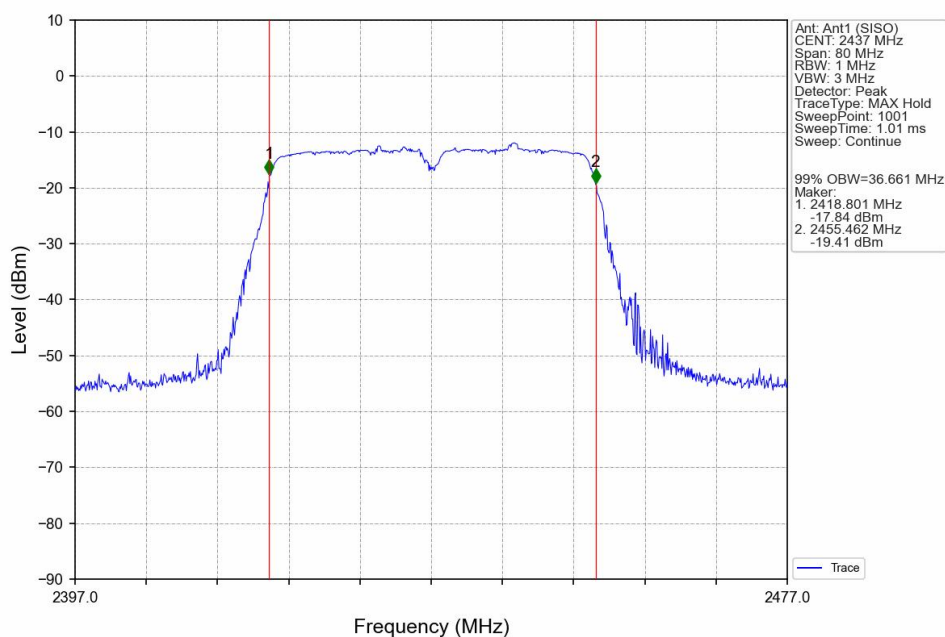
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



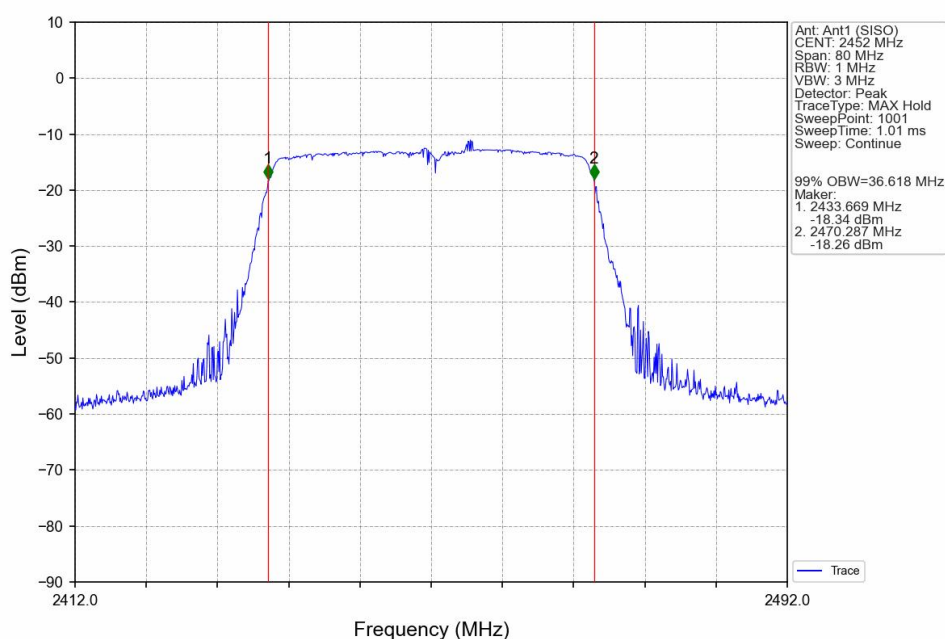
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



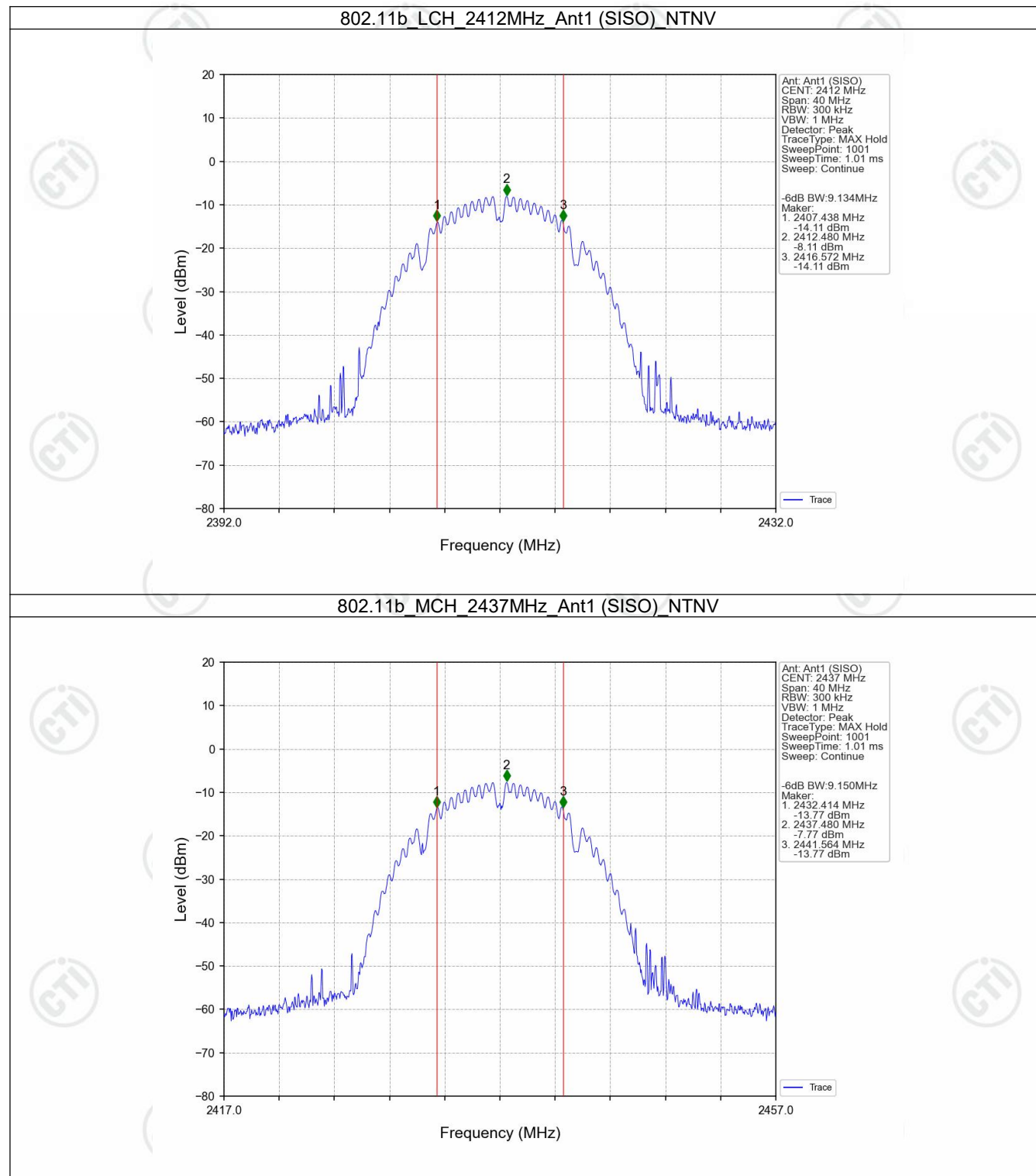
802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



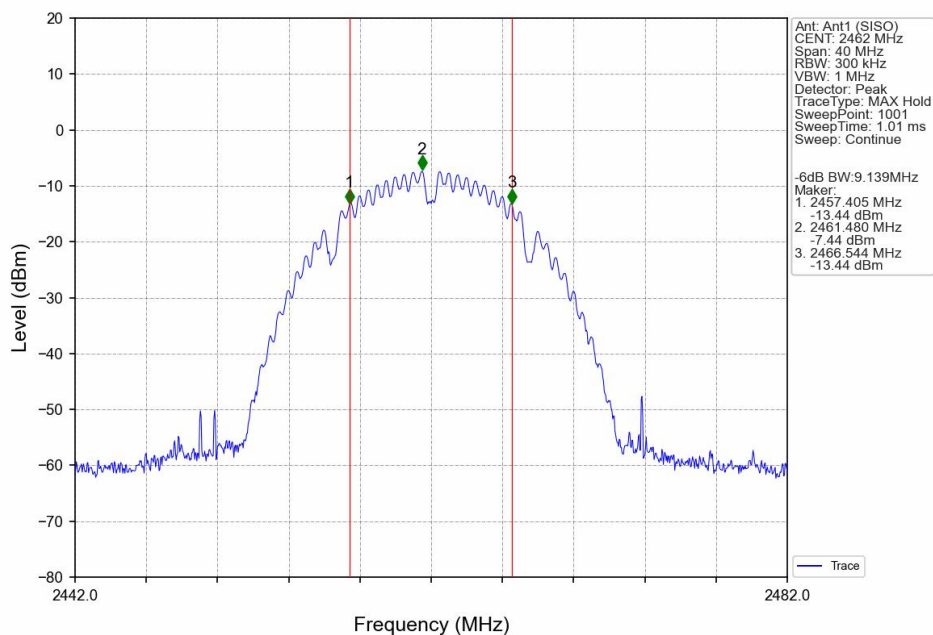
802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



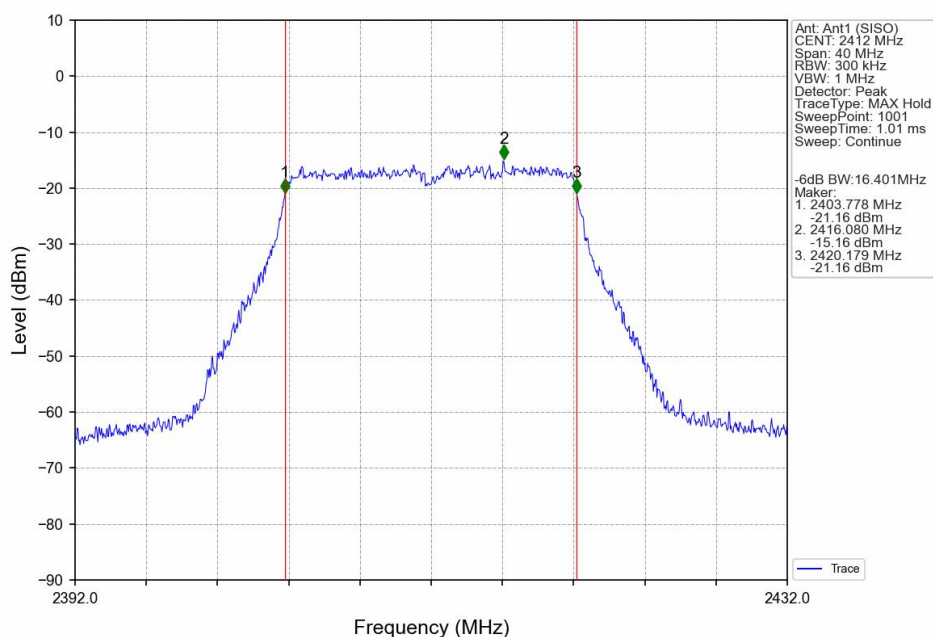
2.2.2 6dB BW



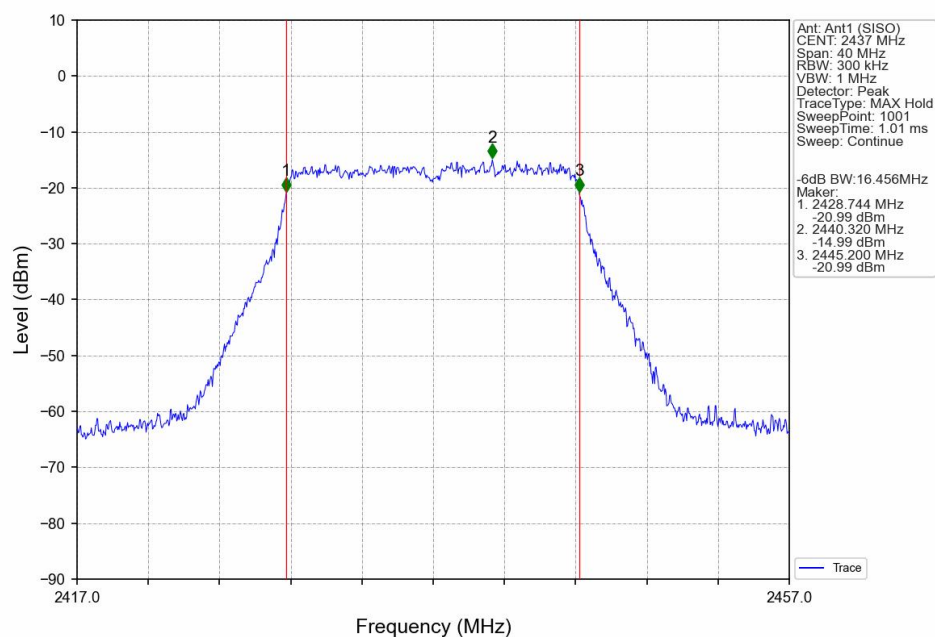
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



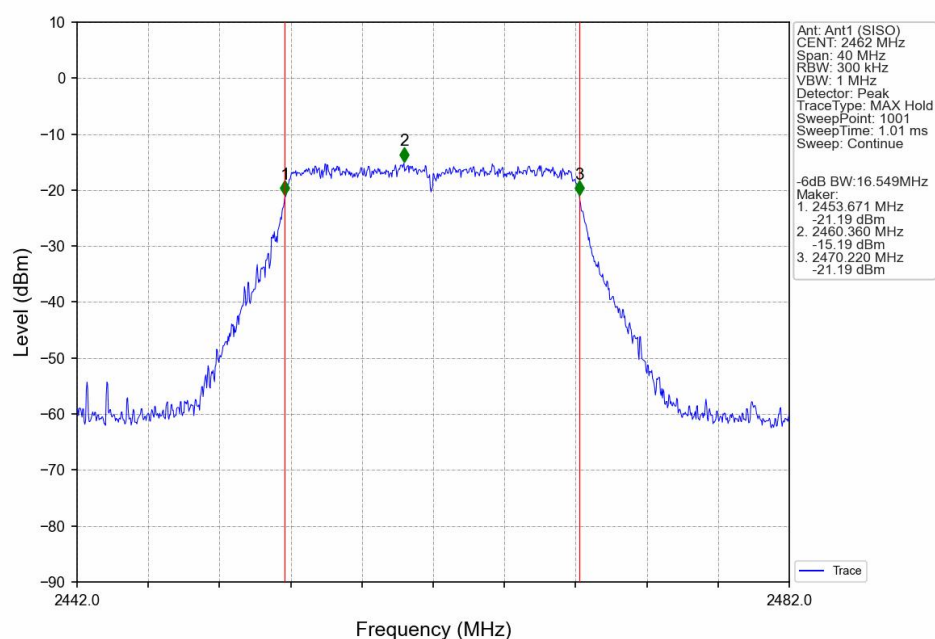
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



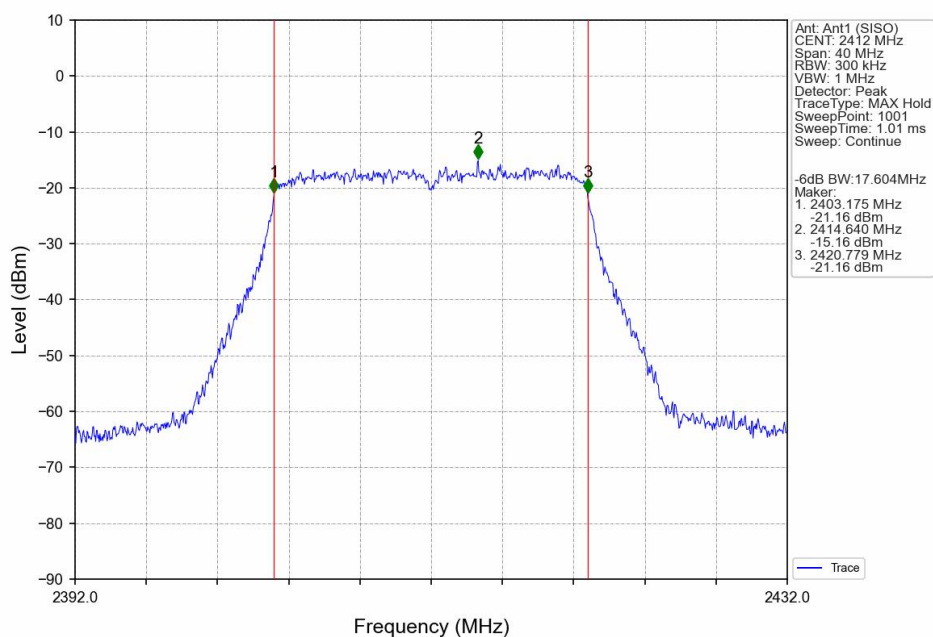
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



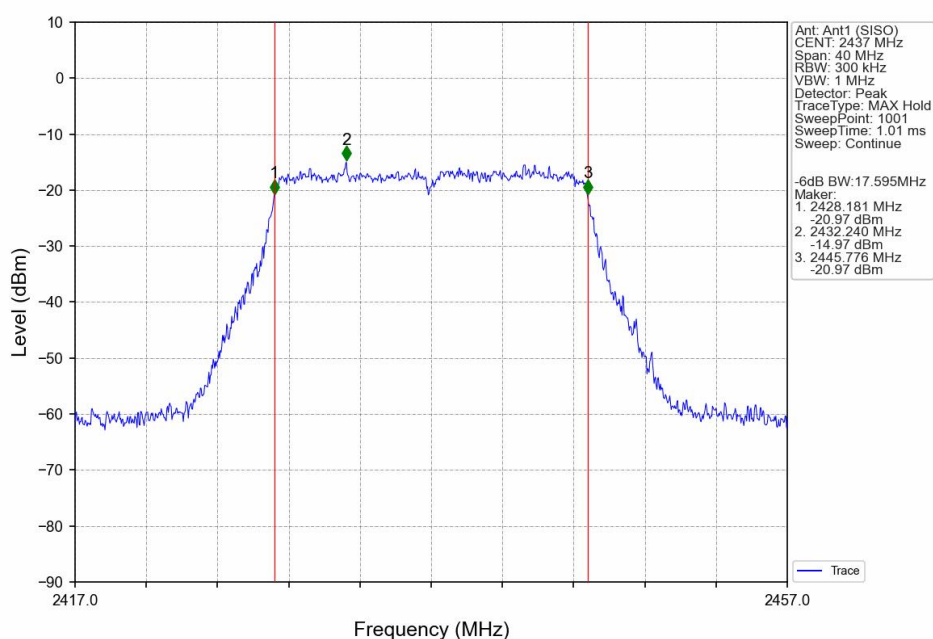
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



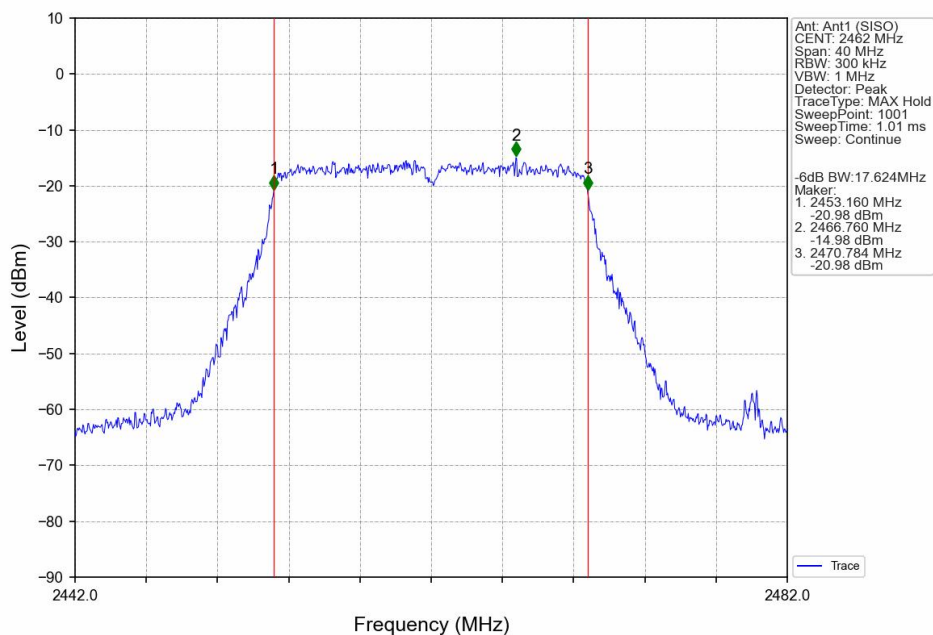
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



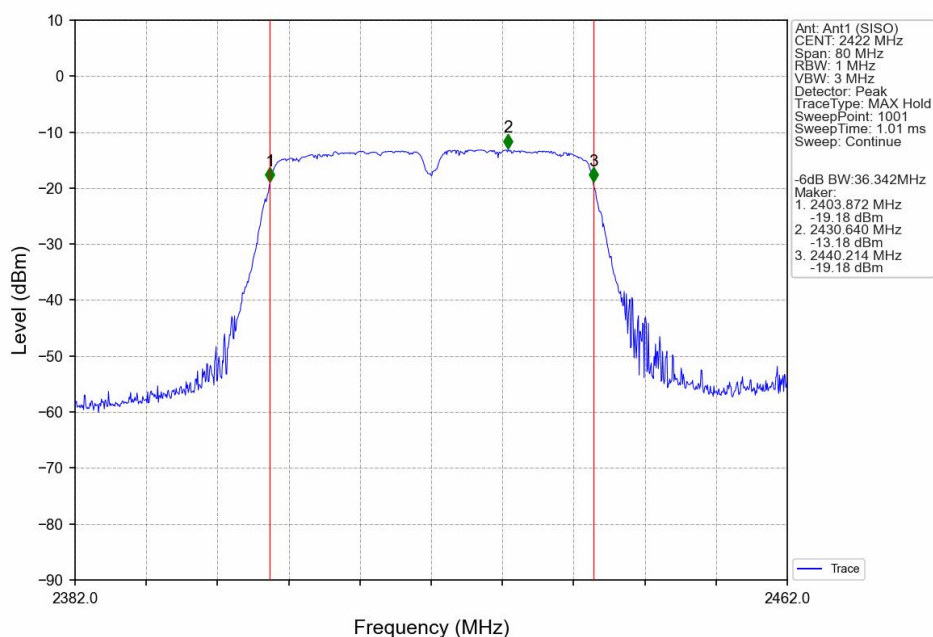
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



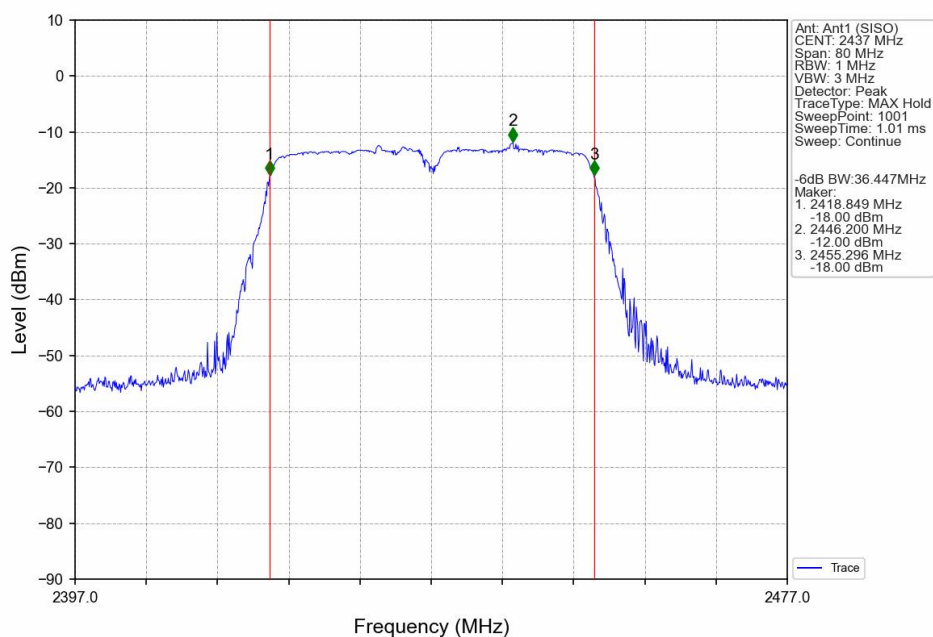
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



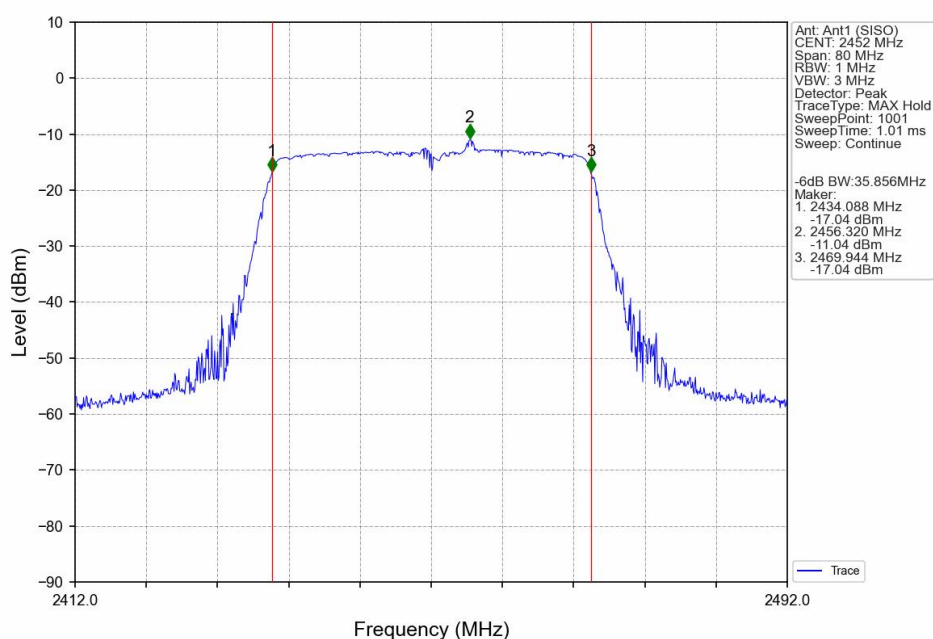
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



3. Maximum Conducted Output Power

3.1 Test Result

3.1.1 Power

Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	2.34	<=30	Pass
		2437	2.69	<=30	Pass
		2462	2.98	<=30	Pass
802.11g	SISO	2412	0.77	<=30	Pass
		2437	1.10	<=30	Pass
		2462	1.54	<=30	Pass
802.11n (HT20)	SISO	2412	0.63	<=30	Pass
		2437	1.05	<=30	Pass
		2462	1.27	<=30	Pass
802.11n (HT40)	SISO	2422	0.84	<=30	Pass
		2437	1.20	<=30	Pass
		2452	1.33	<=30	Pass

Note1: Antenna Gain: Ant1: 0.62dBi;

4. Maximum Power Spectral Density

4.1 Test Result

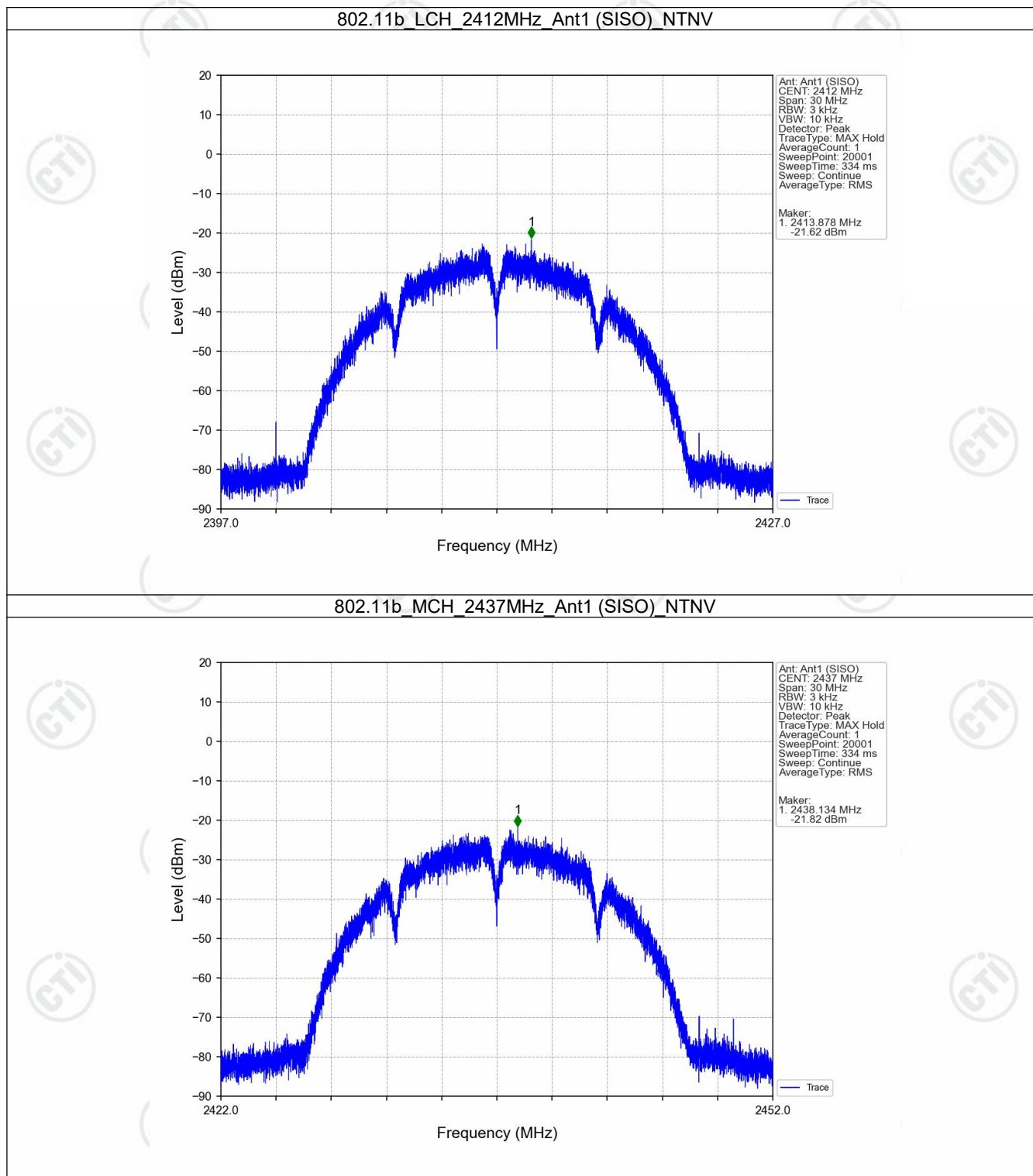
4.1.1 PSD

Mode	TX Type	Frequency (MHz)	Maximum PSD		Verdict
			ANT1	Limit(dBm/3kHz)	
802.11b	SISO	2412	-21.62dBm/3kHz	<=8	Pass
		2437	-21.82dBm/3kHz	<=8	Pass
		2462	-21.92dBm/3kHz	<=8	Pass
802.11g	SISO	2412	-31.75dBm/3kHz	<=8	Pass
		2437	-31.46dBm/3kHz	<=8	Pass
		2462	-30.91dBm/3kHz	<=8	Pass
802.11n (HT20)	SISO	2412	-33.36dBm/3kHz	<=8	Pass
		2437	-31.91dBm/3kHz	<=8	Pass
		2462	-31.06dBm/3kHz	<=8	Pass
802.11n (HT40)	SISO	2422	-33.50dBm/3kHz	<=8	Pass
		2437	-34.47dBm/3kHz	<=8	Pass
		2452	-34.26dBm/3kHz	<=8	Pass

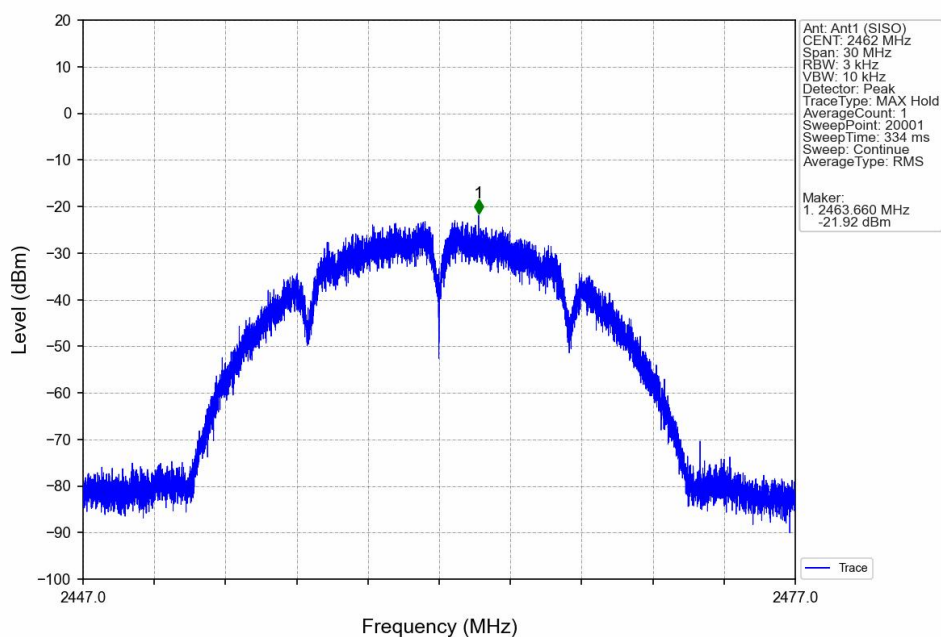
Note1: Antenna Gain: Ant1: 0.62dBi;

4.2 Test Graph

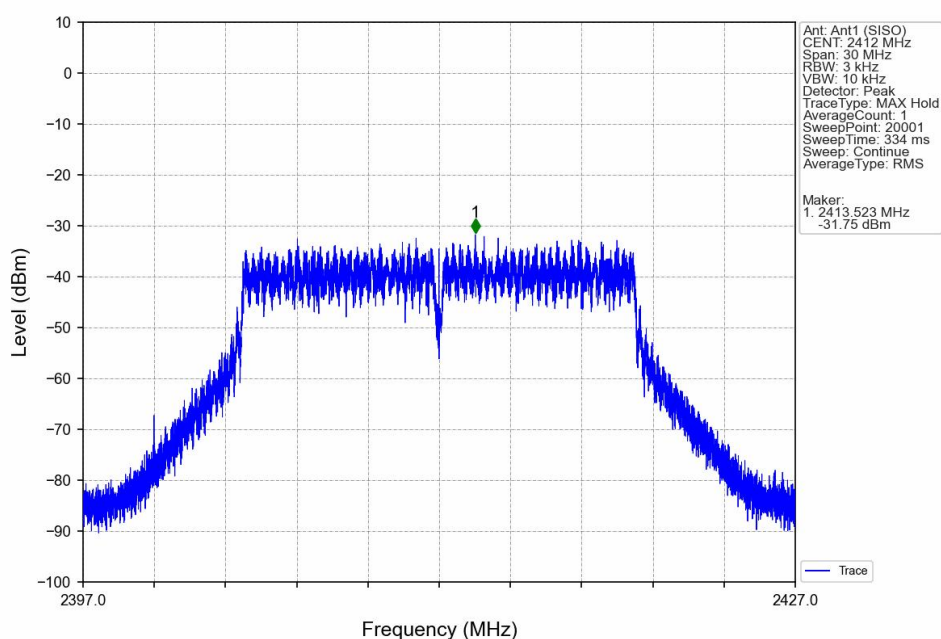
4.2.1 PSD



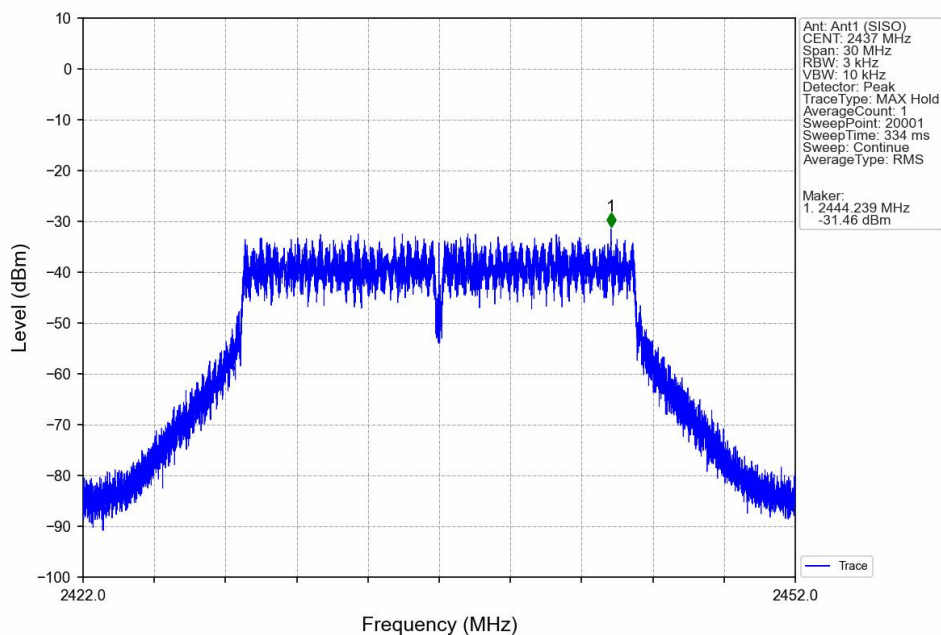
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



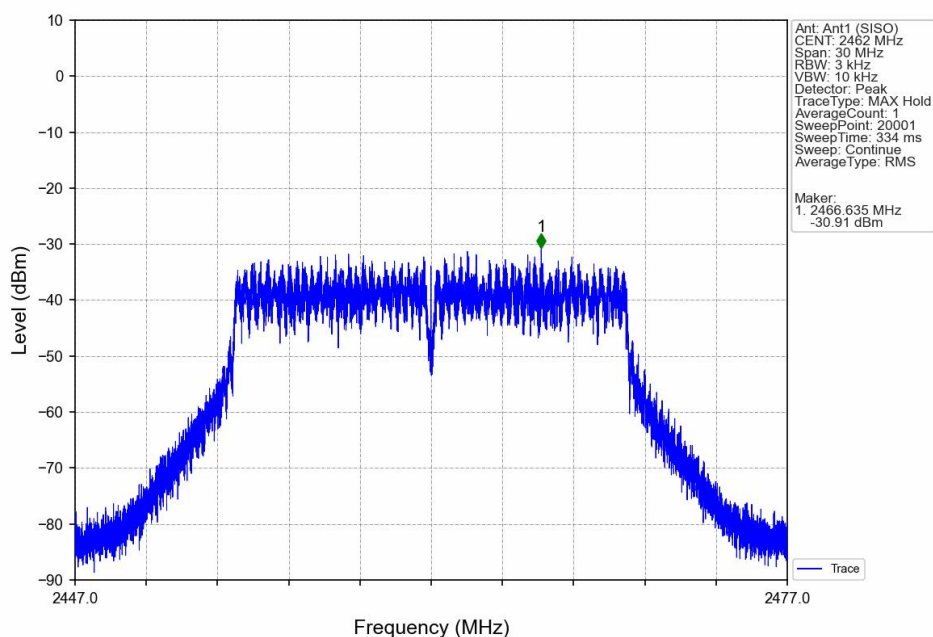
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



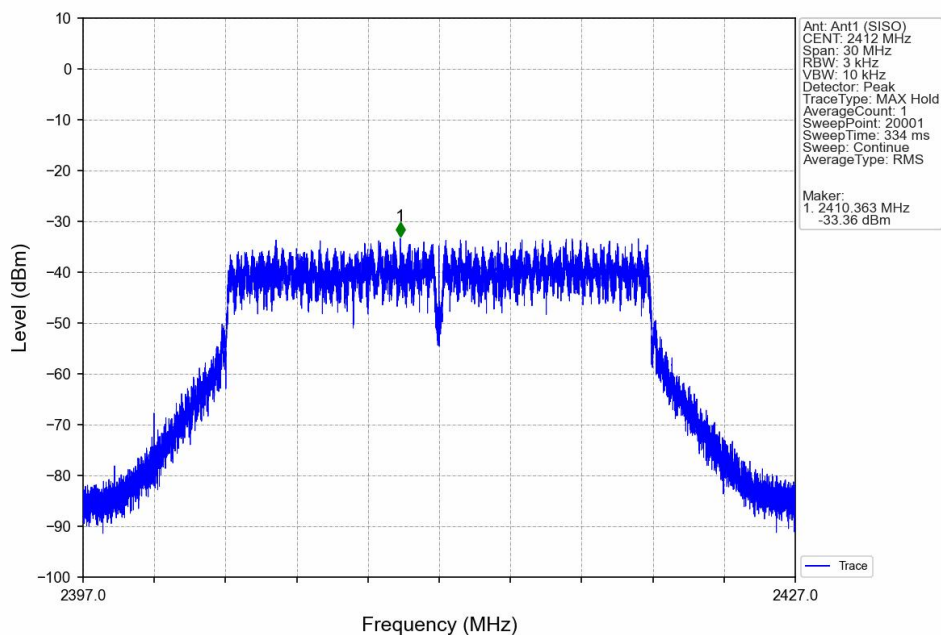
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



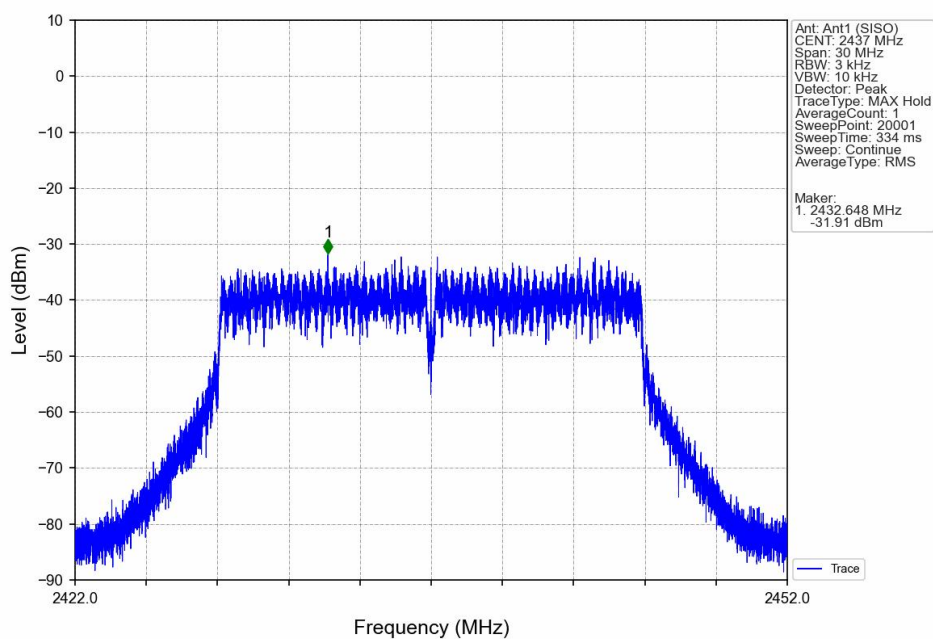
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



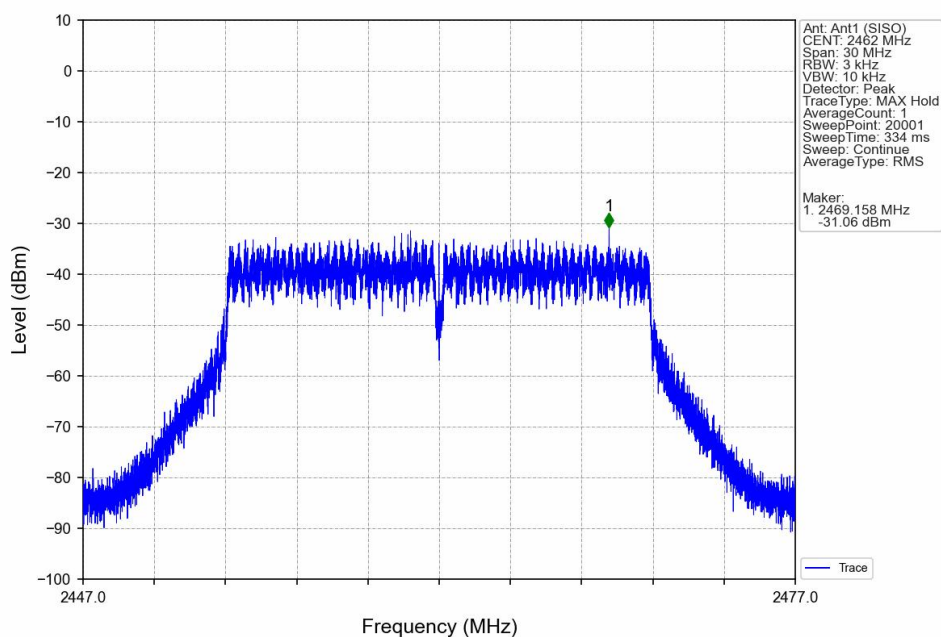
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



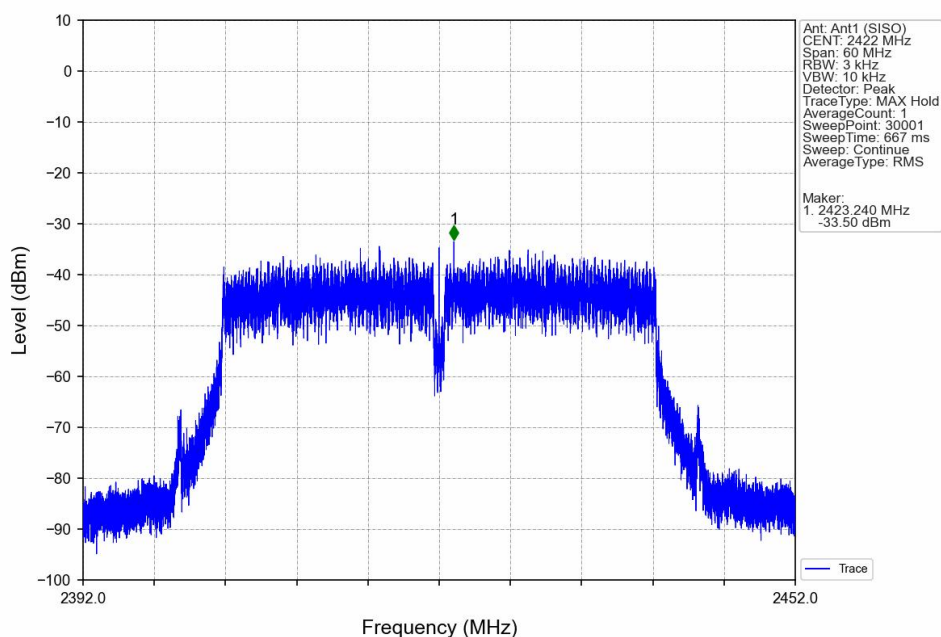
802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



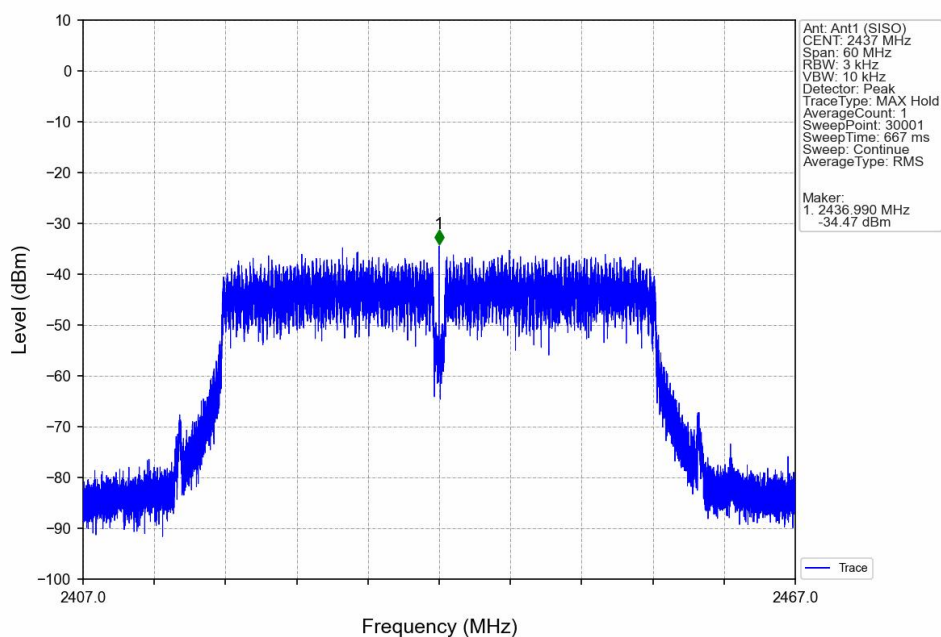
802.11n(HT20)_HCH_2462MHz_Ant1 (SISO)_NTNV



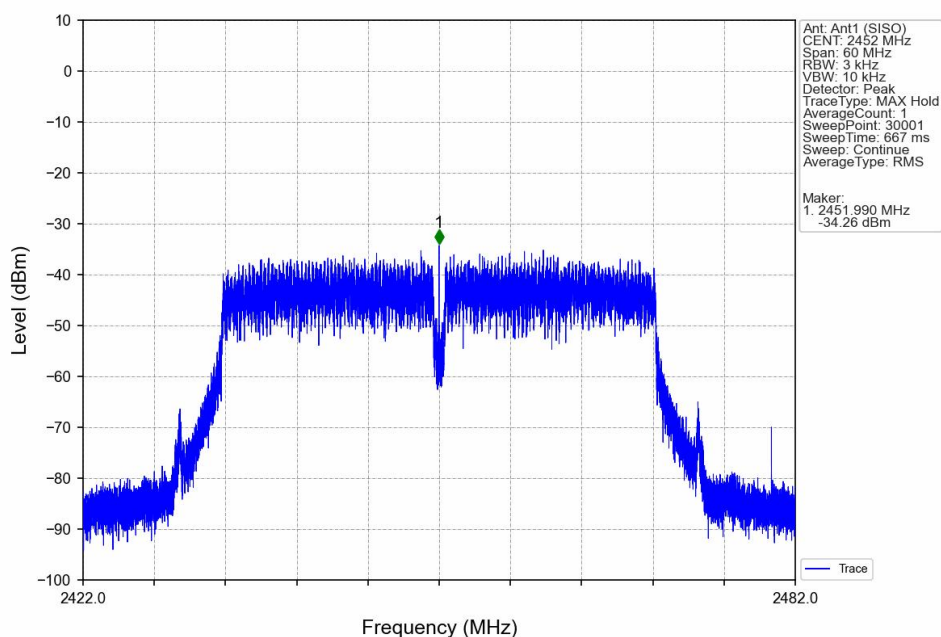
802.11n(HT40)_LCH_2422MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11n(HT40)_HCH_2452MHz_Ant1 (SISO)_NTNV



5. Unwanted Emissions In Non-restricted Frequency Bands

5.1 Test Result

5.1.1 Ref

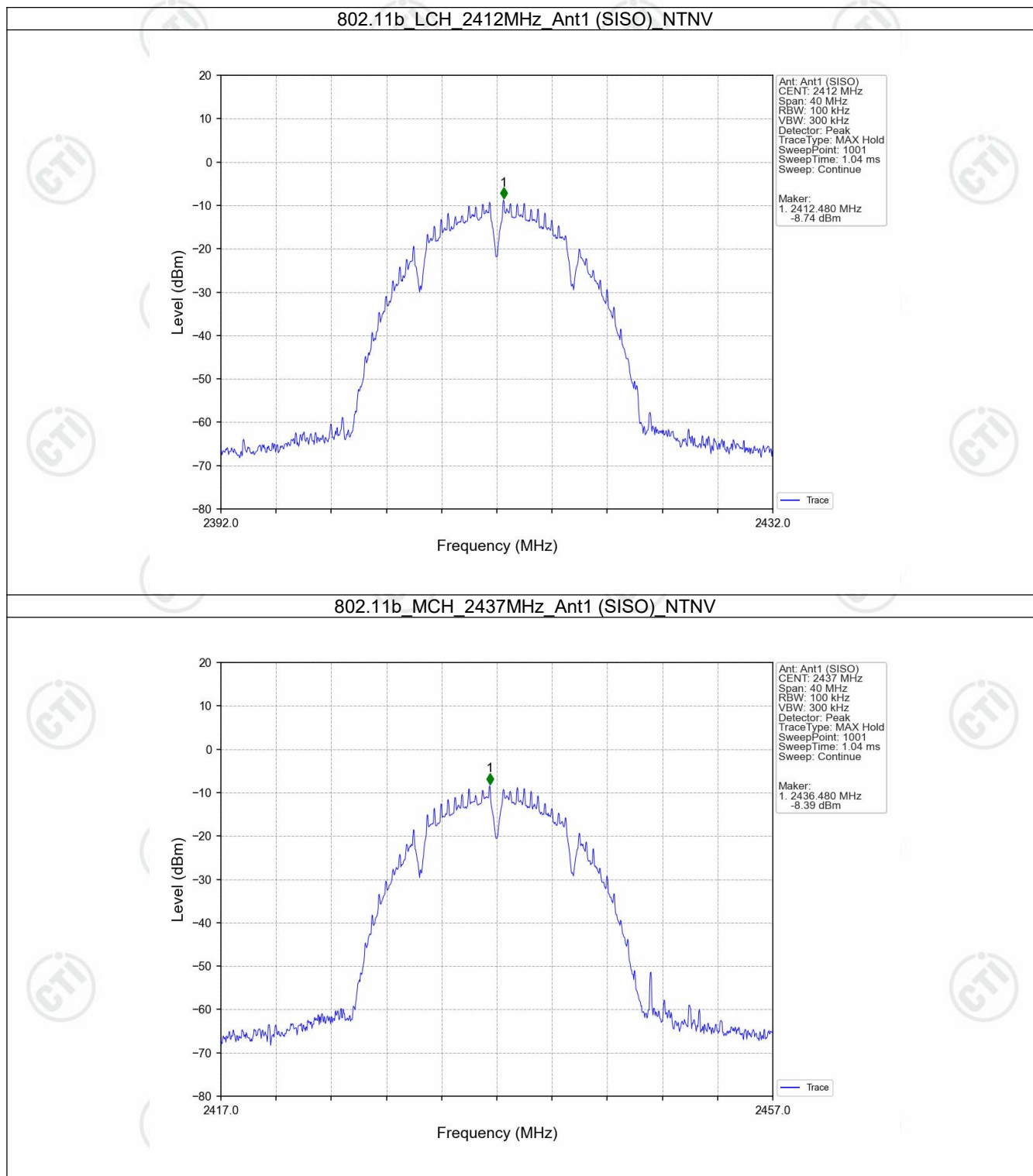
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
802.11b	SISO	2412	1	-8.74
		2437	1	-8.39
		2462	1	-7.88
802.11g	SISO	2412	1	-18.31
		2437	1	-17.94
		2462	1	-17.46
802.11n (HT20)	SISO	2412	1	-18.88
		2437	1	-18.06
		2462	1	-17.59
802.11n (HT40)	SISO	2422	1	-20.93
		2437	1	-21.04
		2452	1	-20.62

5.1.2 CSE

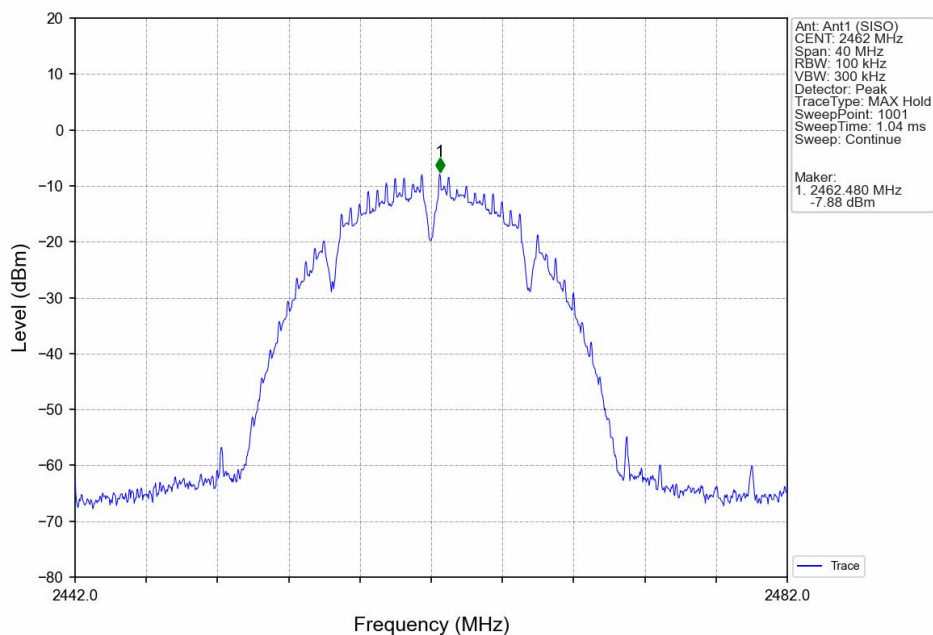
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	1	-8.74	-28.74	Pass
		2437	1	-8.39	-28.39	Pass
		2462	1	-7.88	-27.88	Pass
802.11g	SISO	2412	1	-18.31	-38.31	Pass
		2437	1	-17.94	-37.94	Pass
		2462	1	-17.46	-37.46	Pass
802.11n (HT20)	SISO	2412	1	-18.88	-38.88	Pass
		2437	1	-18.06	-38.06	Pass
		2462	1	-17.59	-37.59	Pass
802.11n (HT40)	SISO	2422	1	-20.93	-40.93	Pass
		2437	1	-21.04	-41.04	Pass
		2452	1	-20.62	-40.62	Pass

5.2 Test Graph

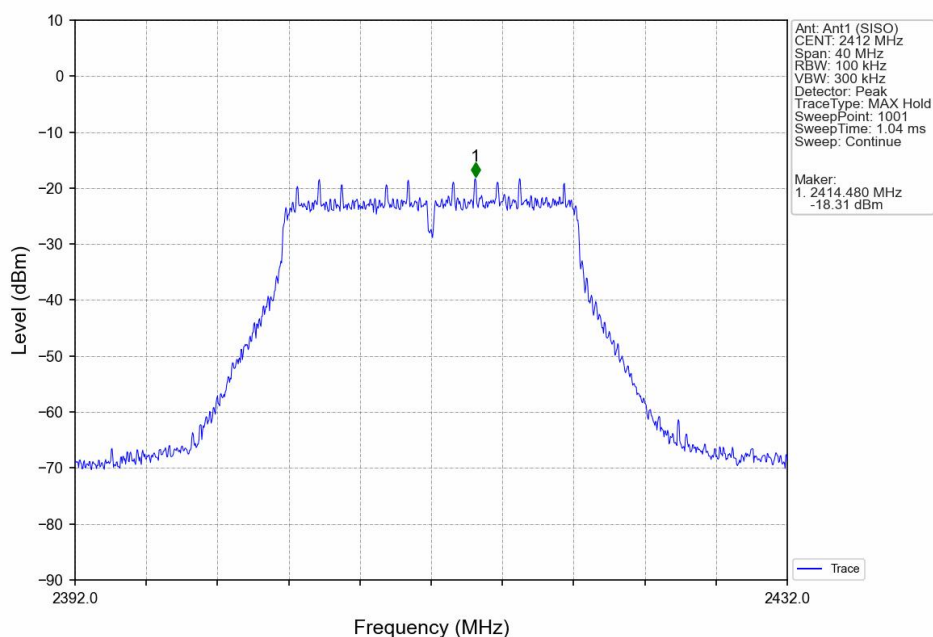
5.2.1 Ref



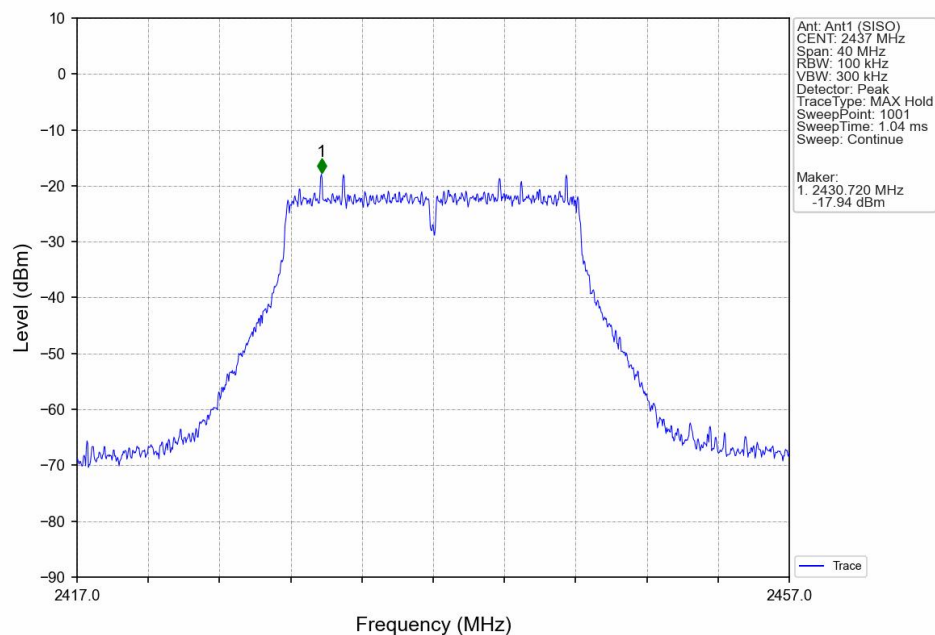
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV

