

Appendix A for SHEM210500456501

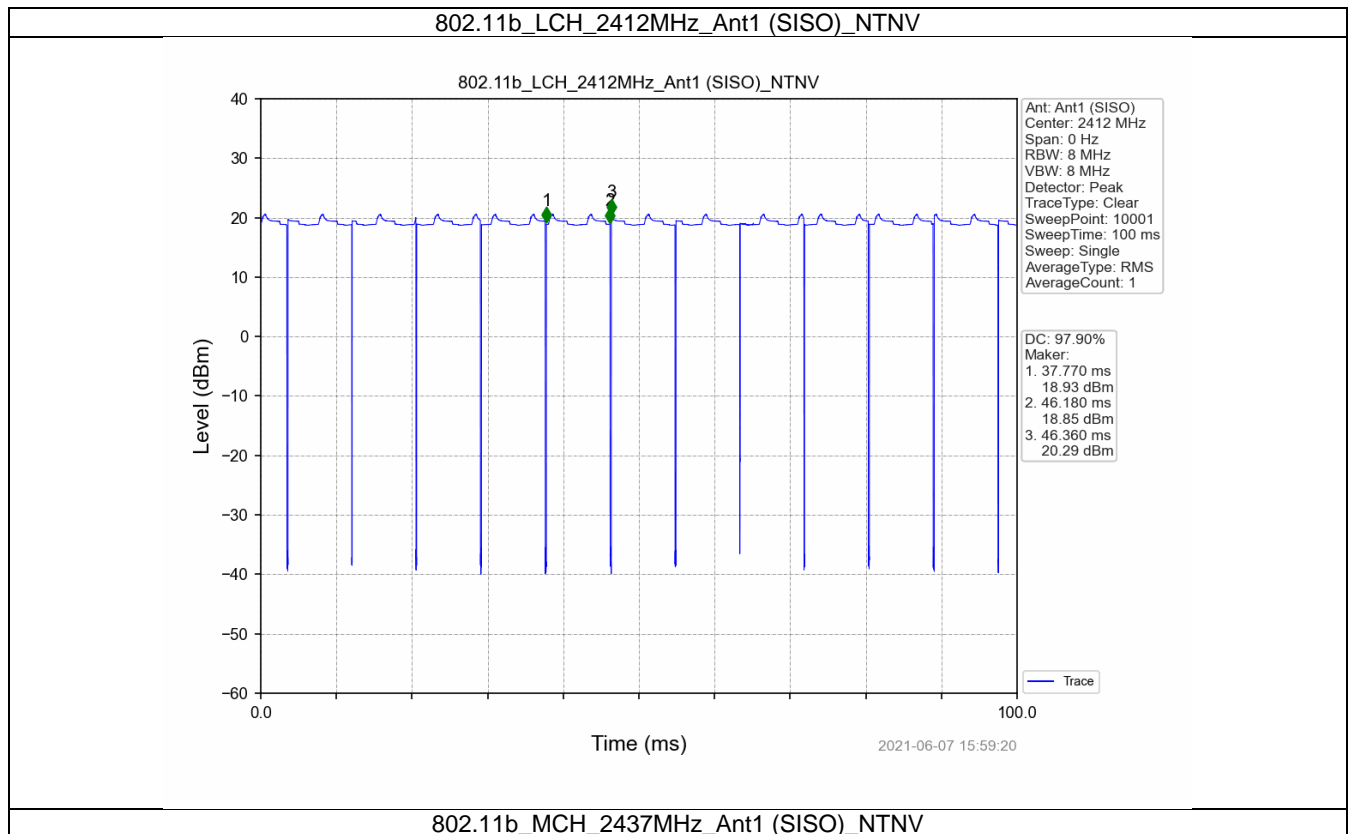
1. Duty Cycle

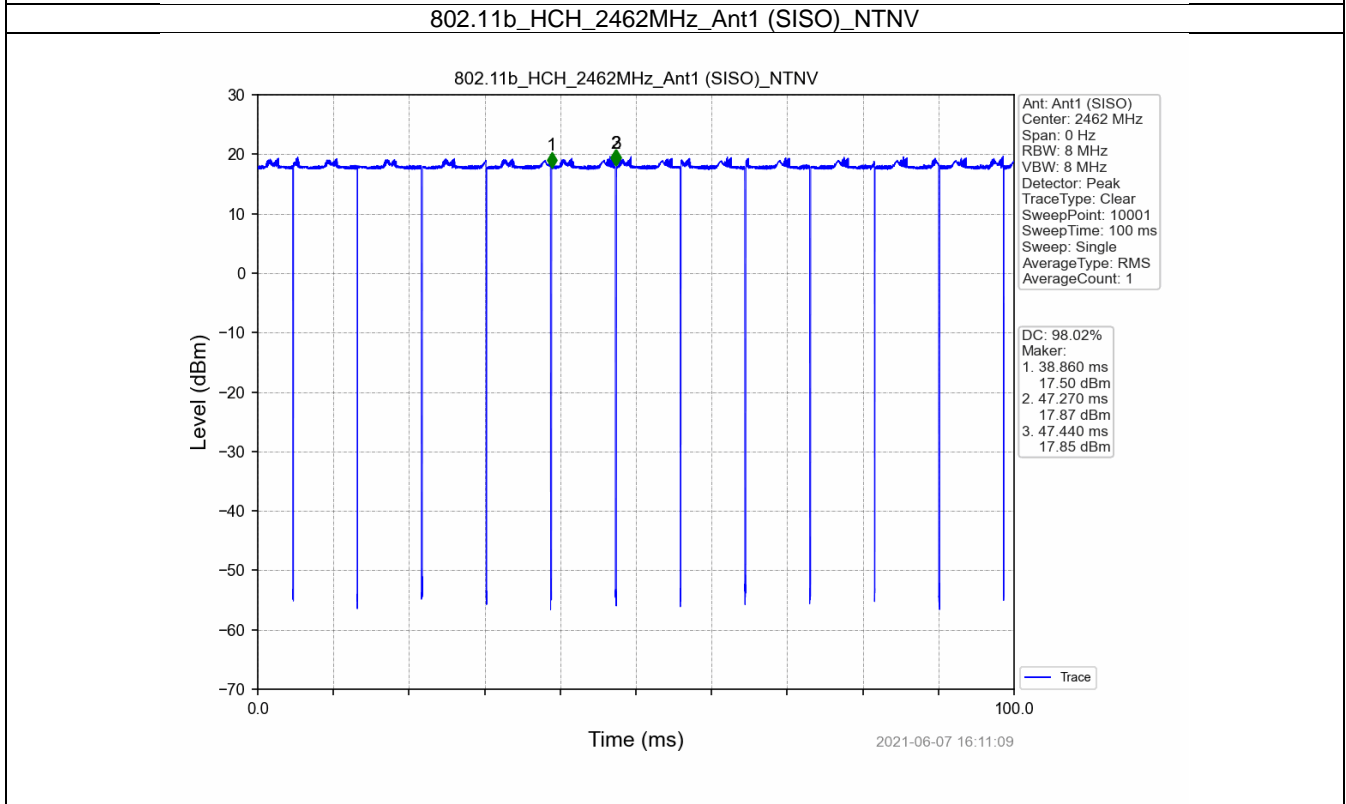
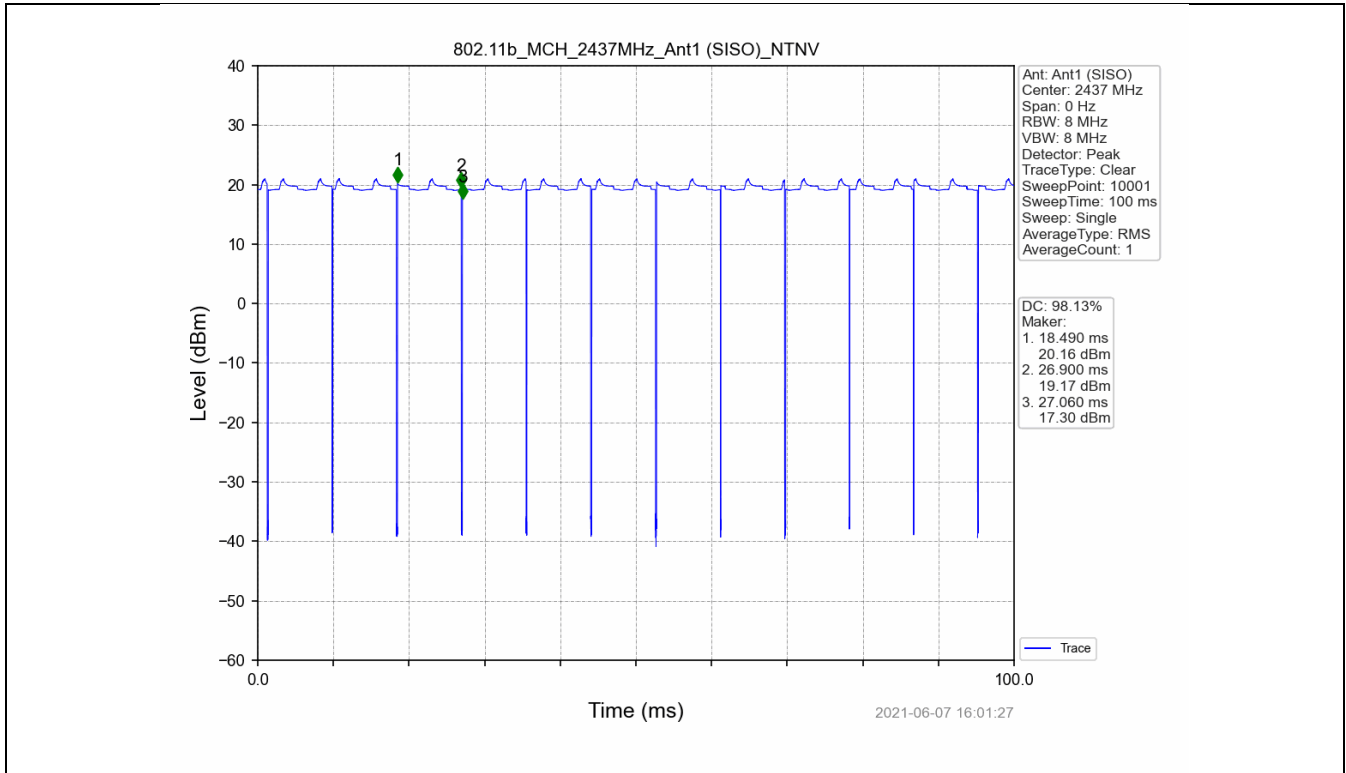
1.1 Ant1

1.1.1 Test Result

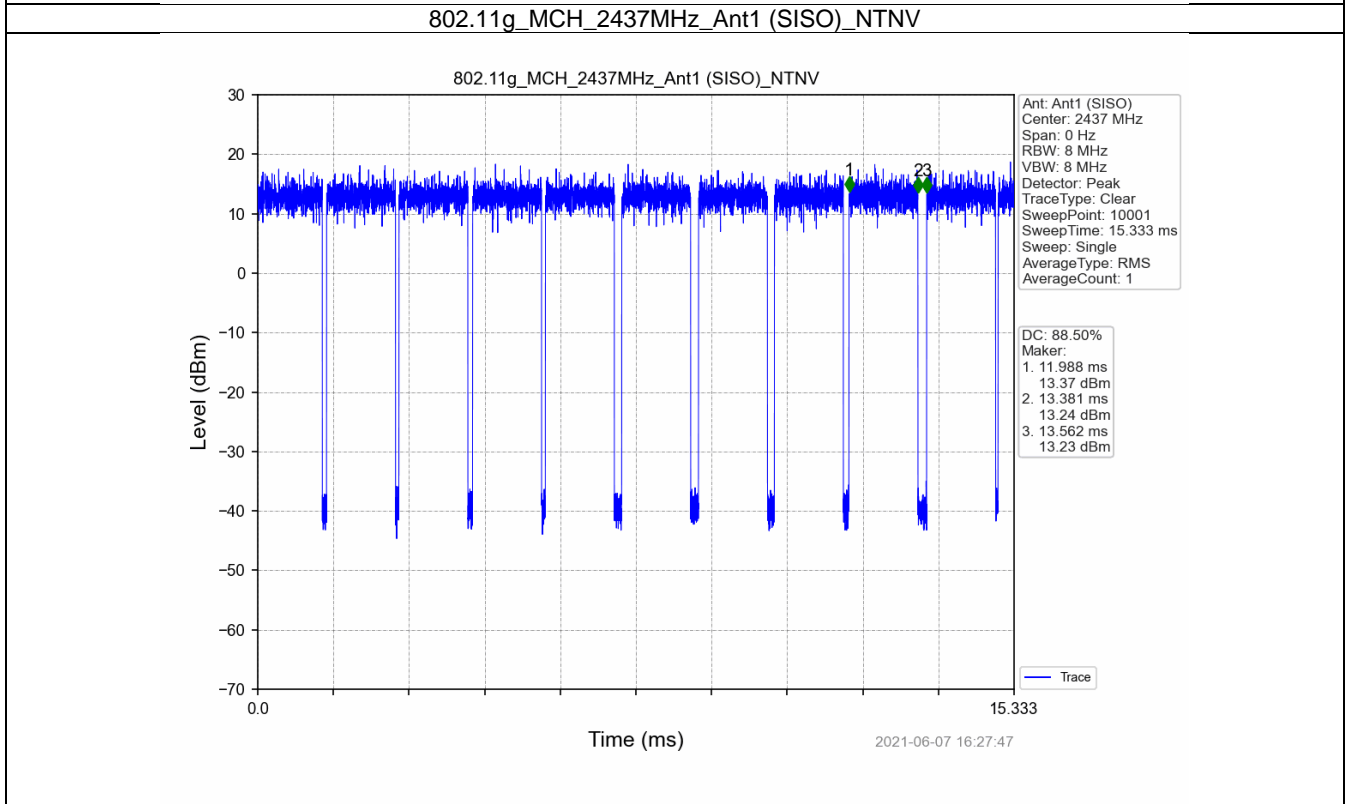
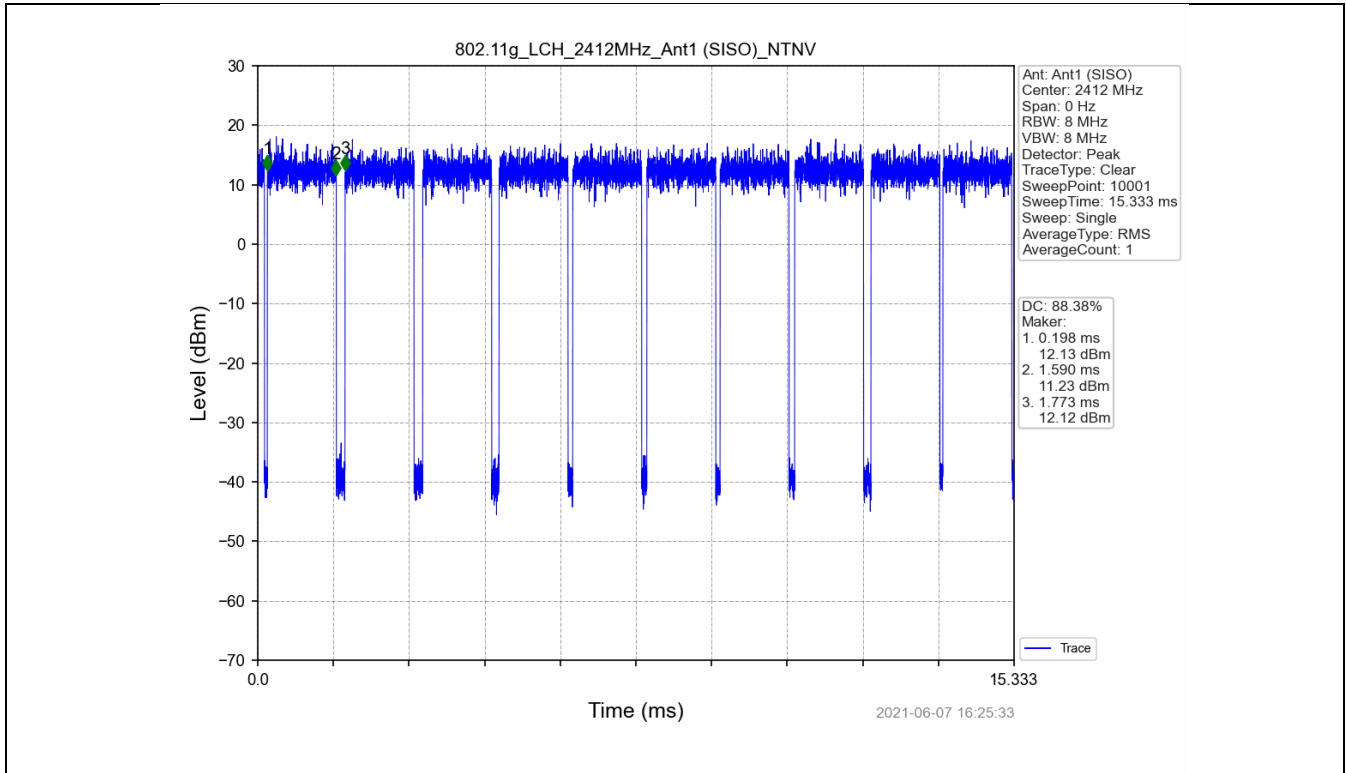
Ant1									
Mode	TX Type	Frequency (MHz)	RU	RU Pos	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11b	SISO	2412	/	/	8.41	8.59	97.90	0.09	1.39
		2437	/	/	8.41	8.57	98.13	0.08	1.40
		2462	/	/	8.41	8.58	98.02	0.09	1.27
802.11g	SISO	2412	/	/	1.39	1.57	88.38	0.54	7.17
		2437	/	/	1.39	1.57	88.50	0.53	7.69
		2462	/	/	1.39	1.56	89.46	0.48	6.74
802.11n (HT20)	MIMO	2412	/	/	1.30	1.45	89.93	0.46	5.35
		2437	/	/	1.30	1.47	88.84	0.51	7.74
		2462	/	/	1.30	1.48	88.35	0.54	8.25

1.1.2 Test Graph

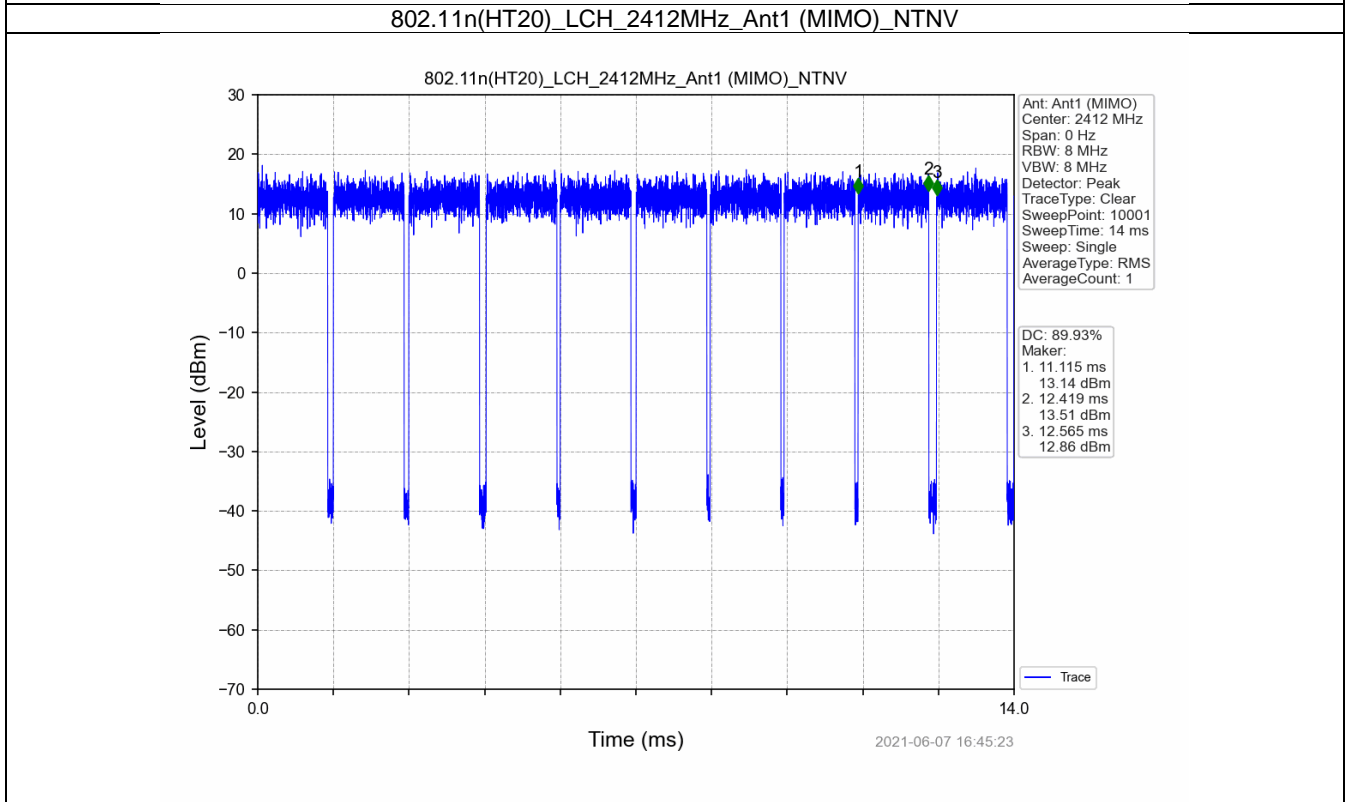
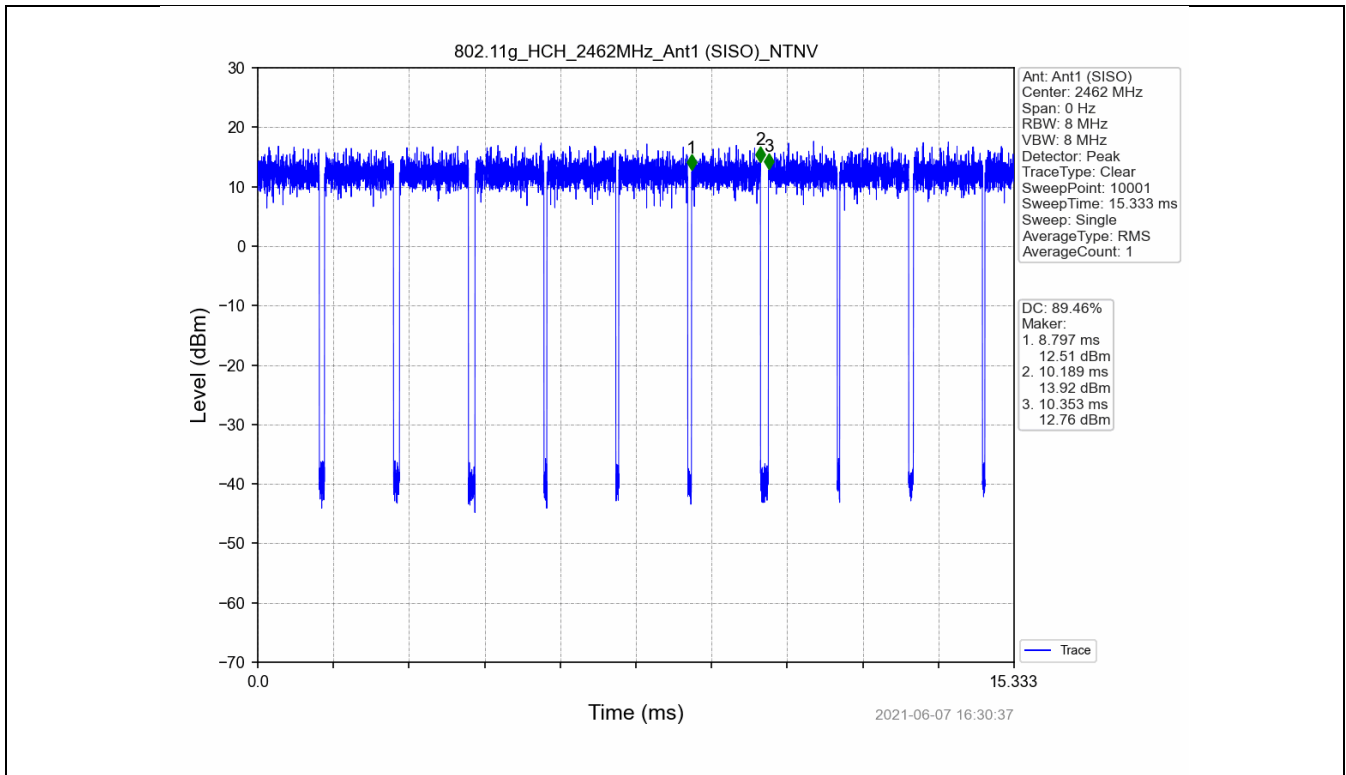




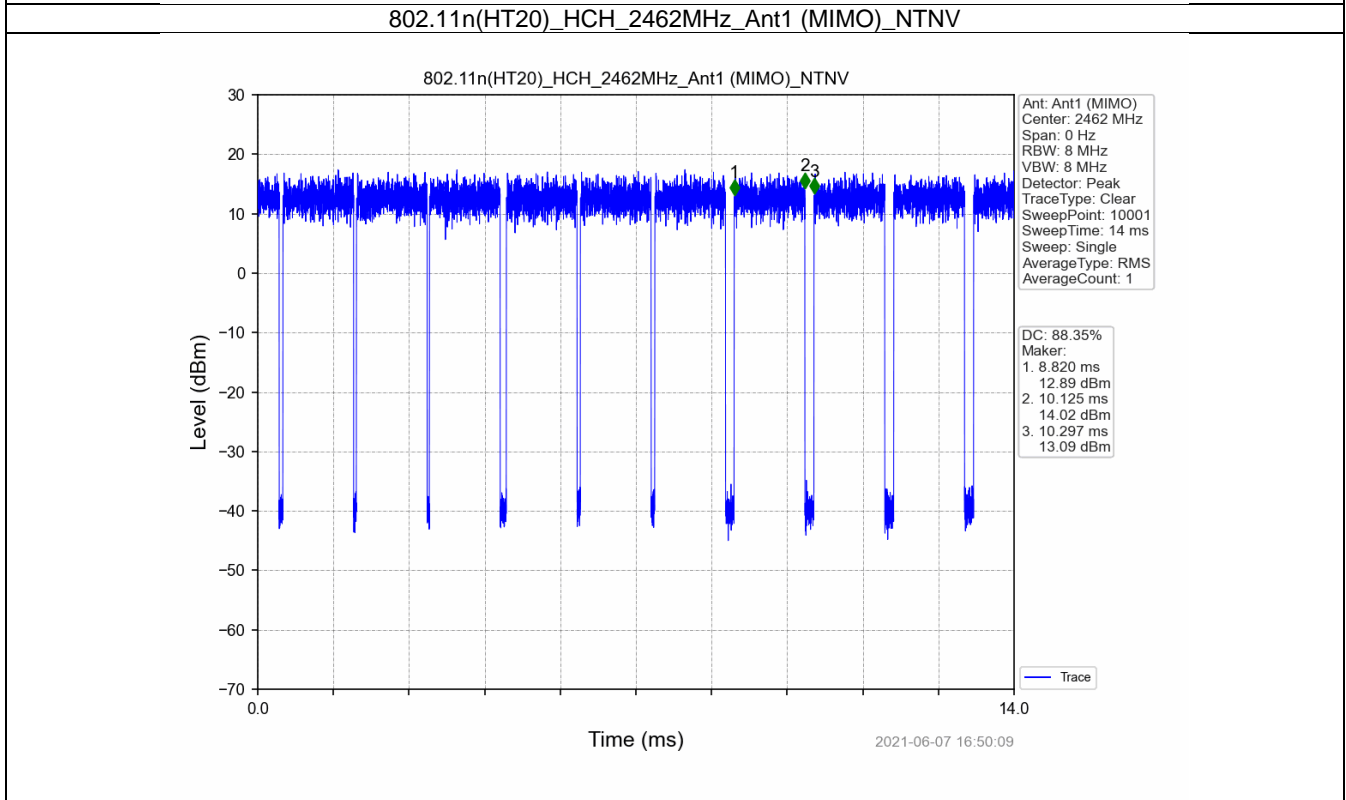
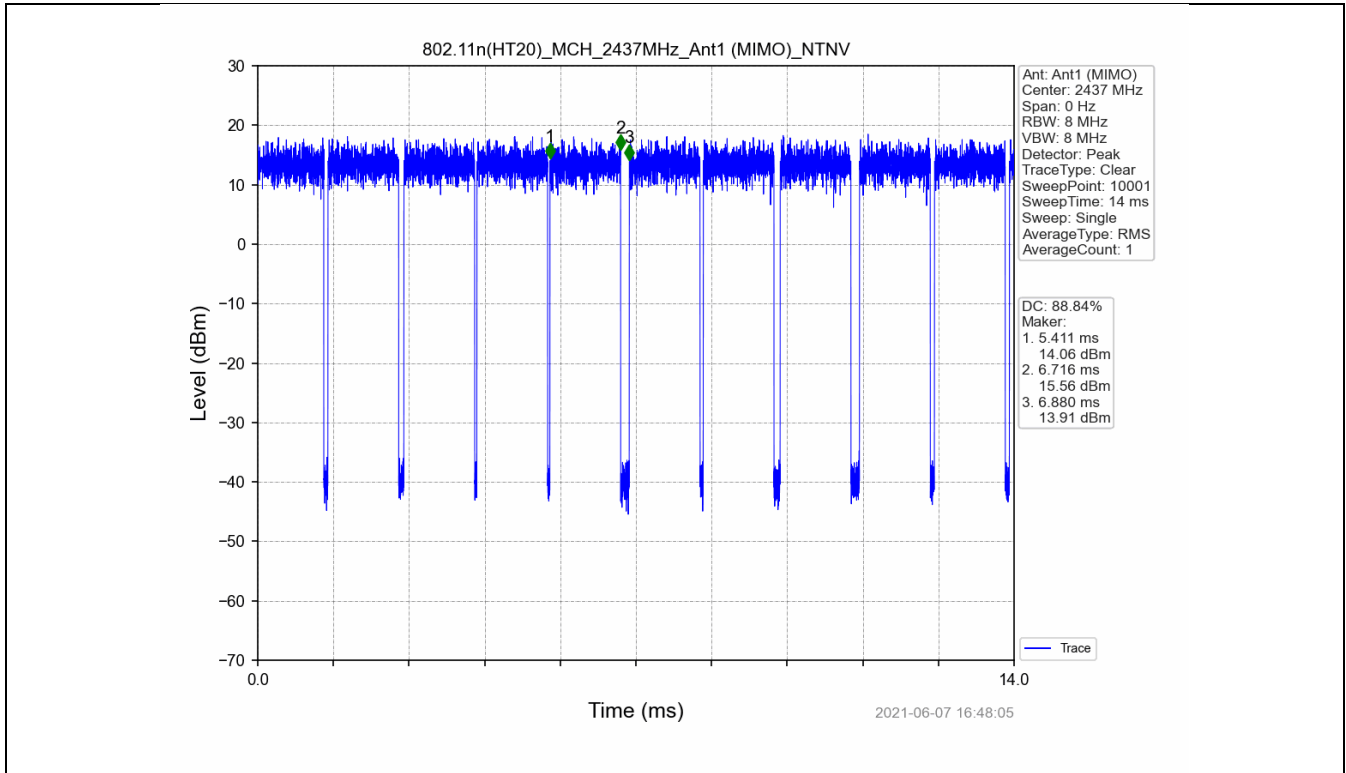
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (MIMO)_NTNV



2. Bandwidth

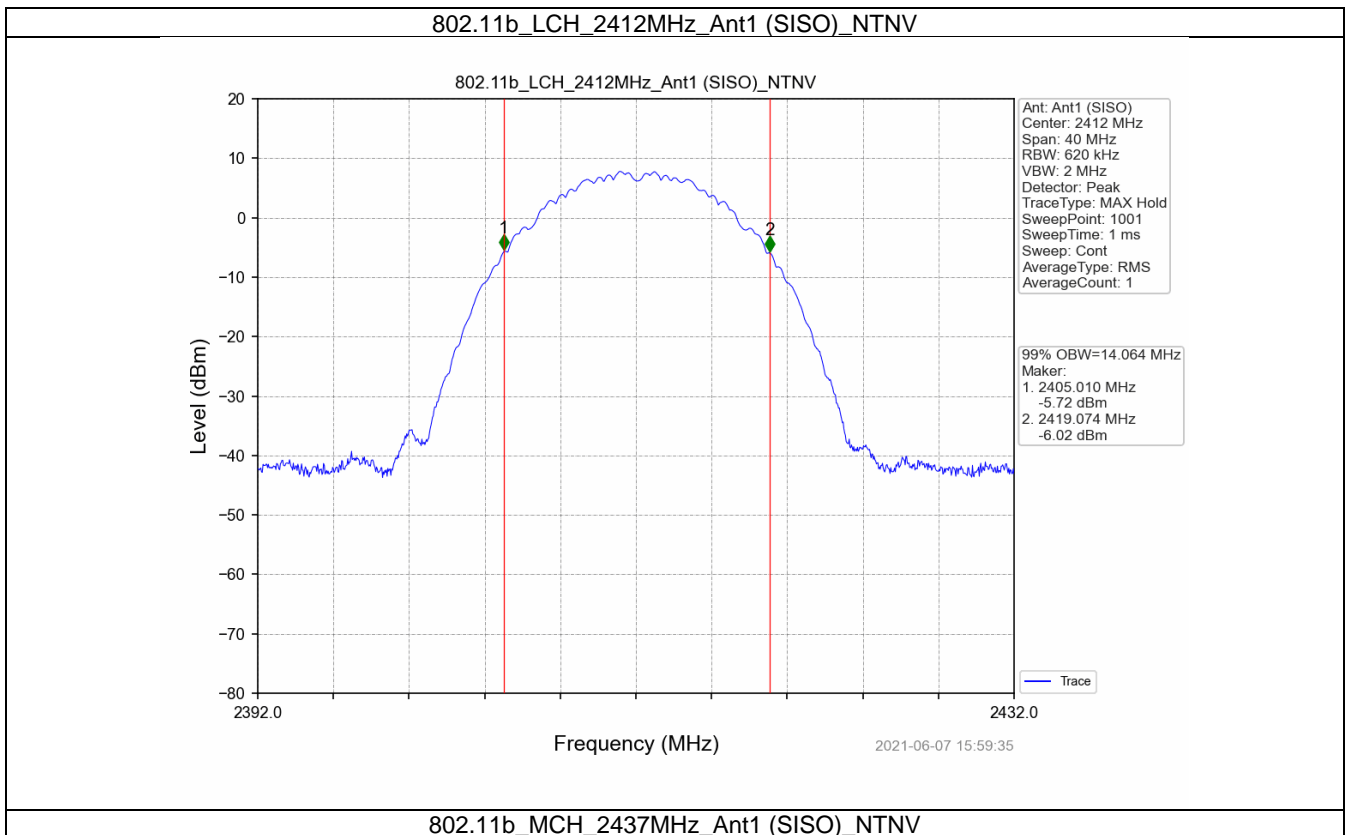
2.1 OBW

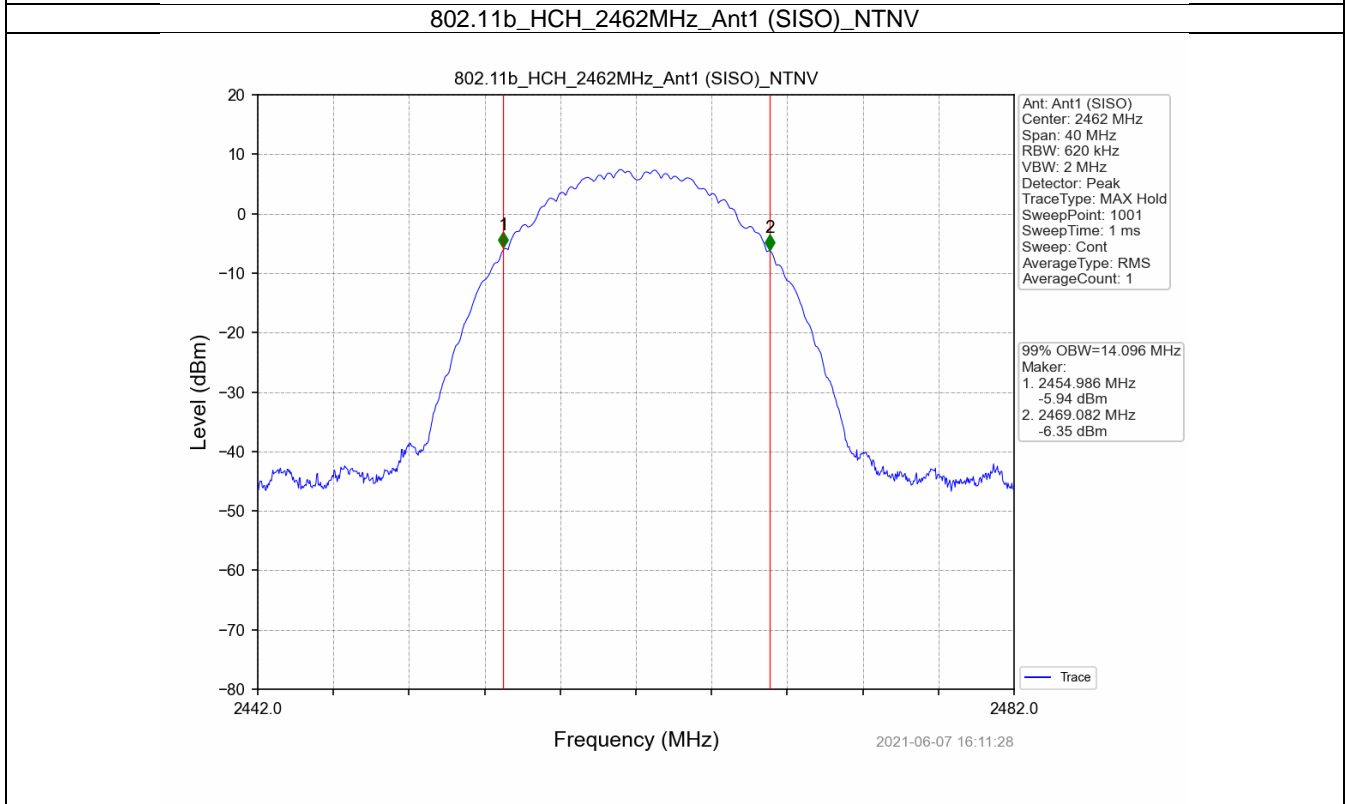
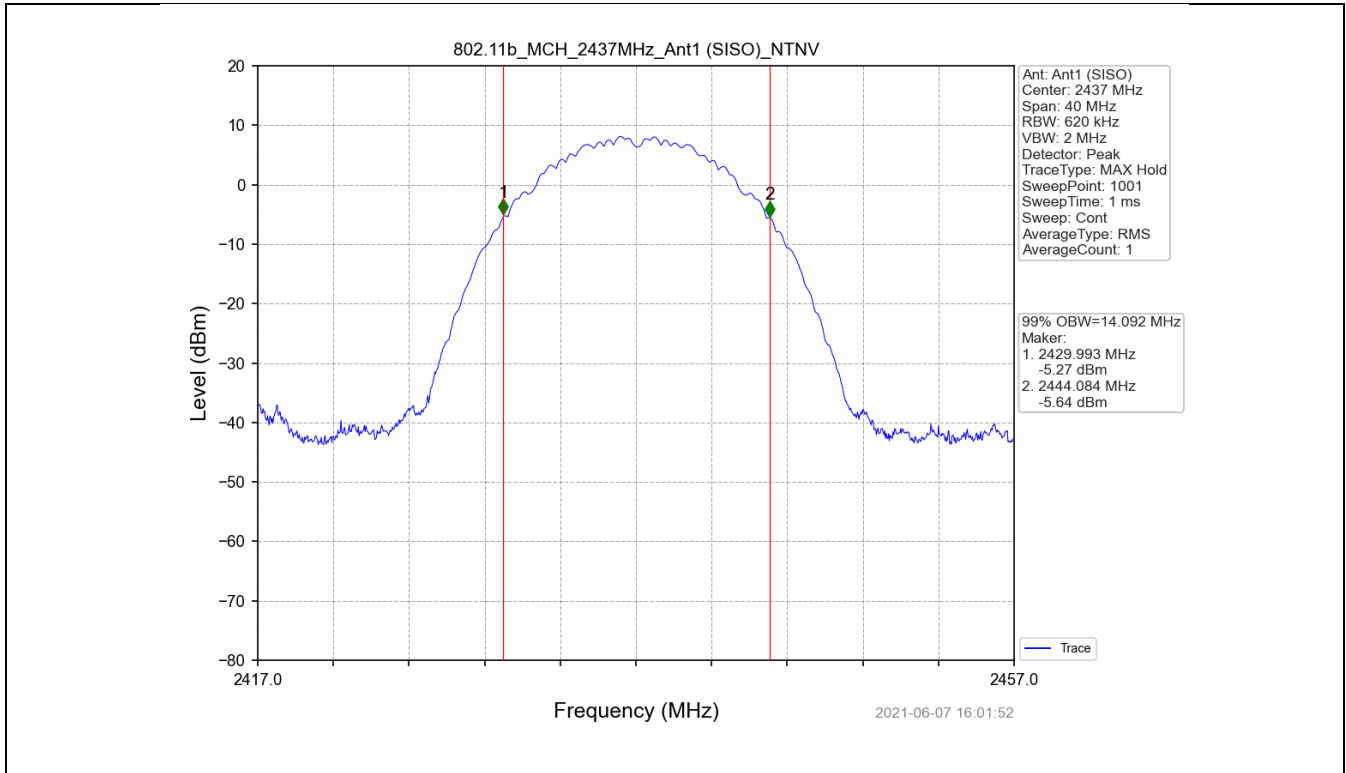
2.1.1 Test Result

Mode	TX Type	Frequency (MHz)	RU	RU Pos	99% Occupied Bandwidth (MHz)		Limit (MHz)	Verdict
					Ant1	Ant2		
802.11b	SISO	2412	/	/	14.064	/	/	Note1
		2437	/	/	14.092	/	/	Note1
		2462	/	/	14.096	/	/	Note1
802.11g	SISO	2412	/	/	17.533	/	/	Note1
		2437	/	/	17.512	/	/	Note1
		2462	/	/	17.527	/	/	Note1
802.11n (HT20)	MIMO	2412	/	/	18.007	/	/	Note1
		2437	/	/	17.957	/	/	Note1
		2462	/	/	17.961	/	/	Note1

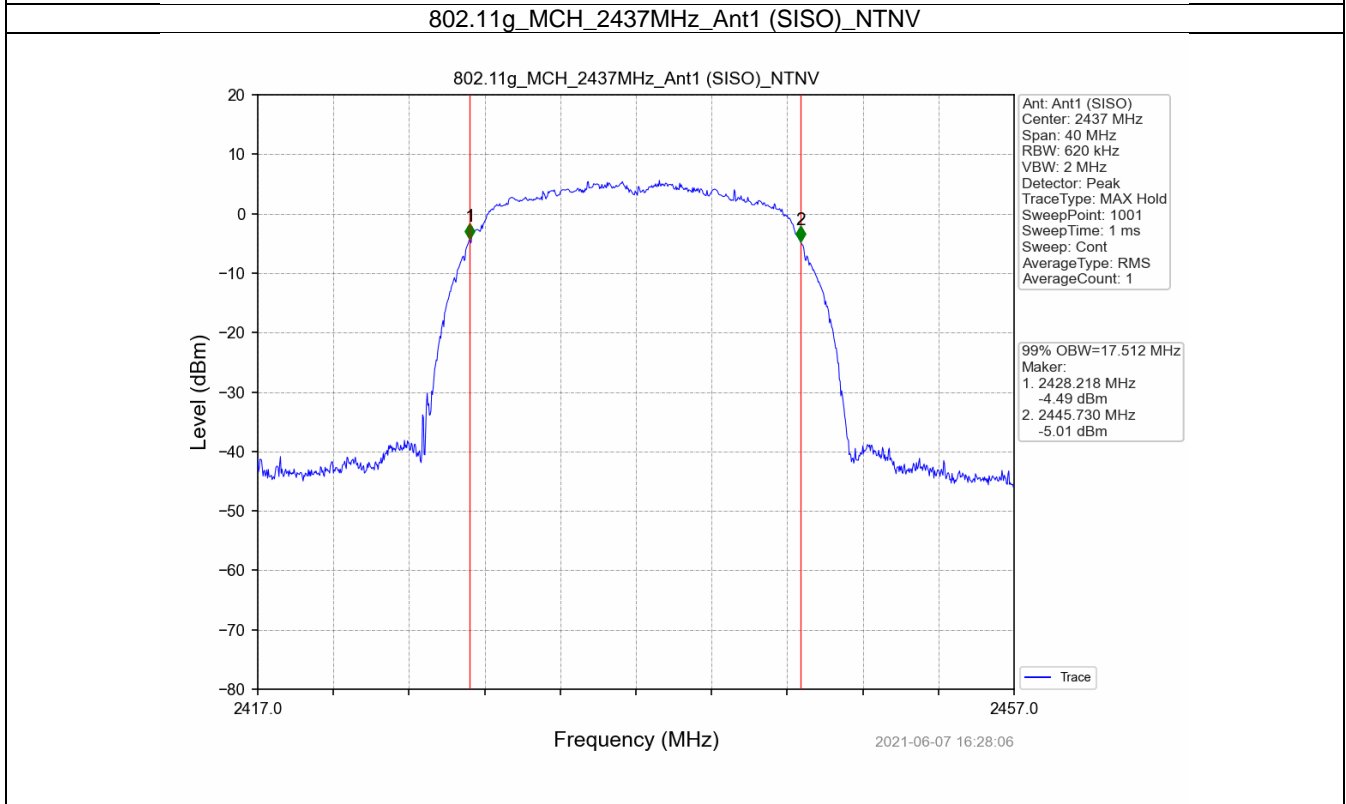
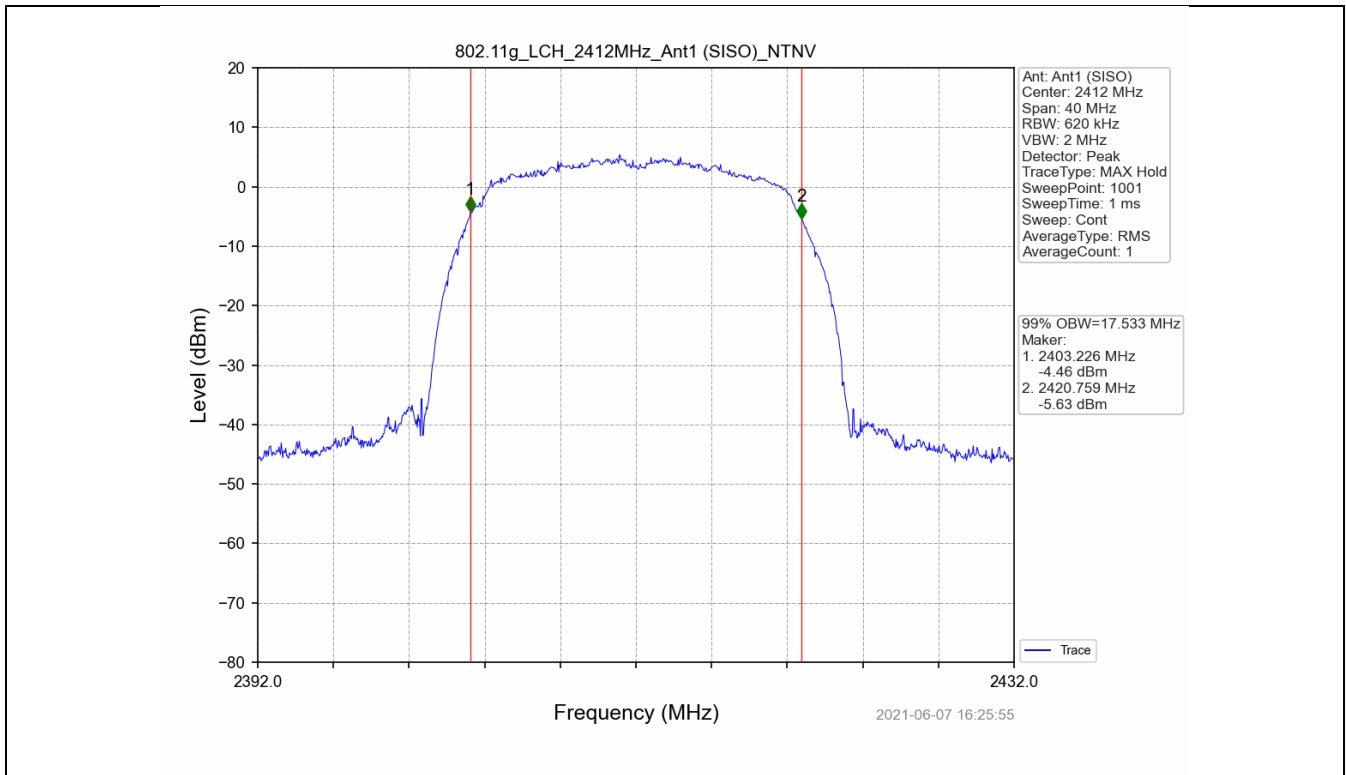
Note1: Only for Report Use

2.1.2 Test Graph

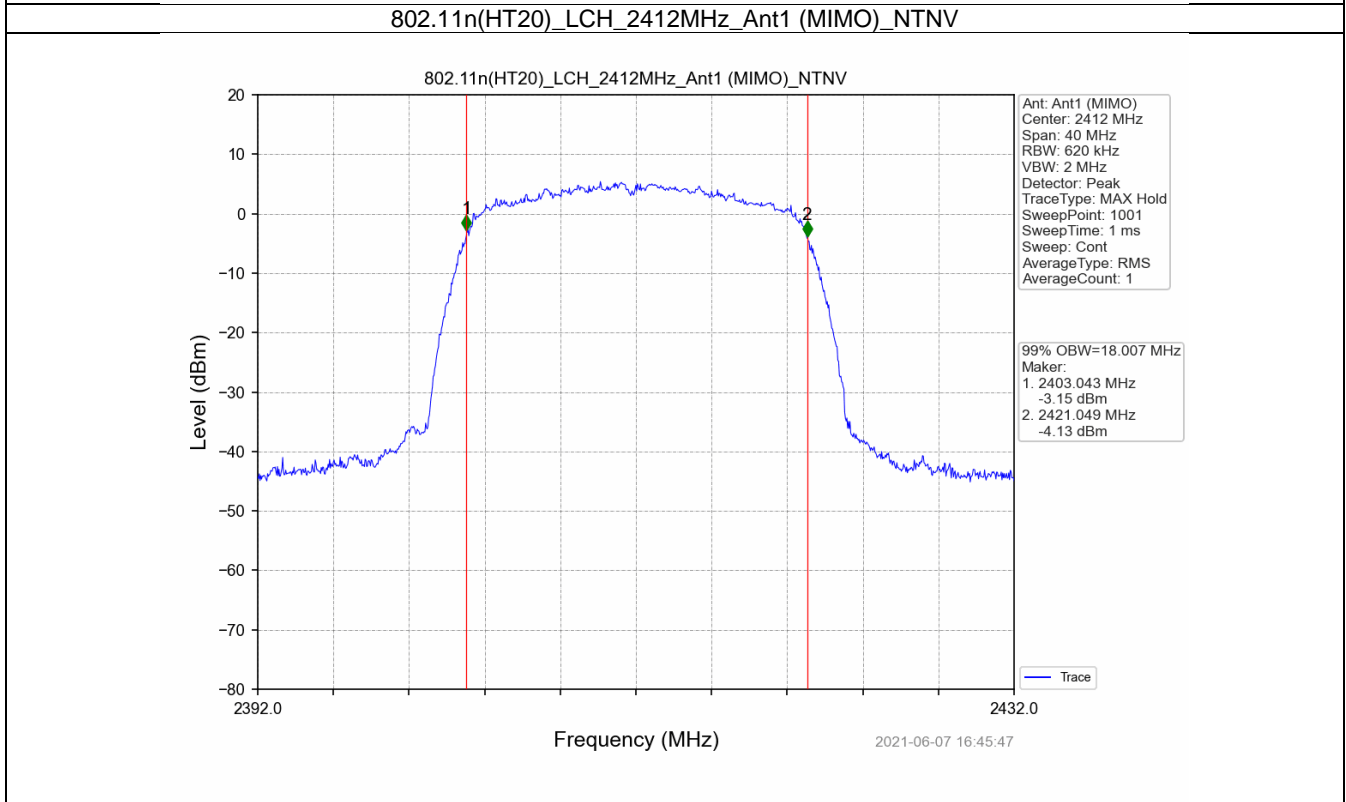
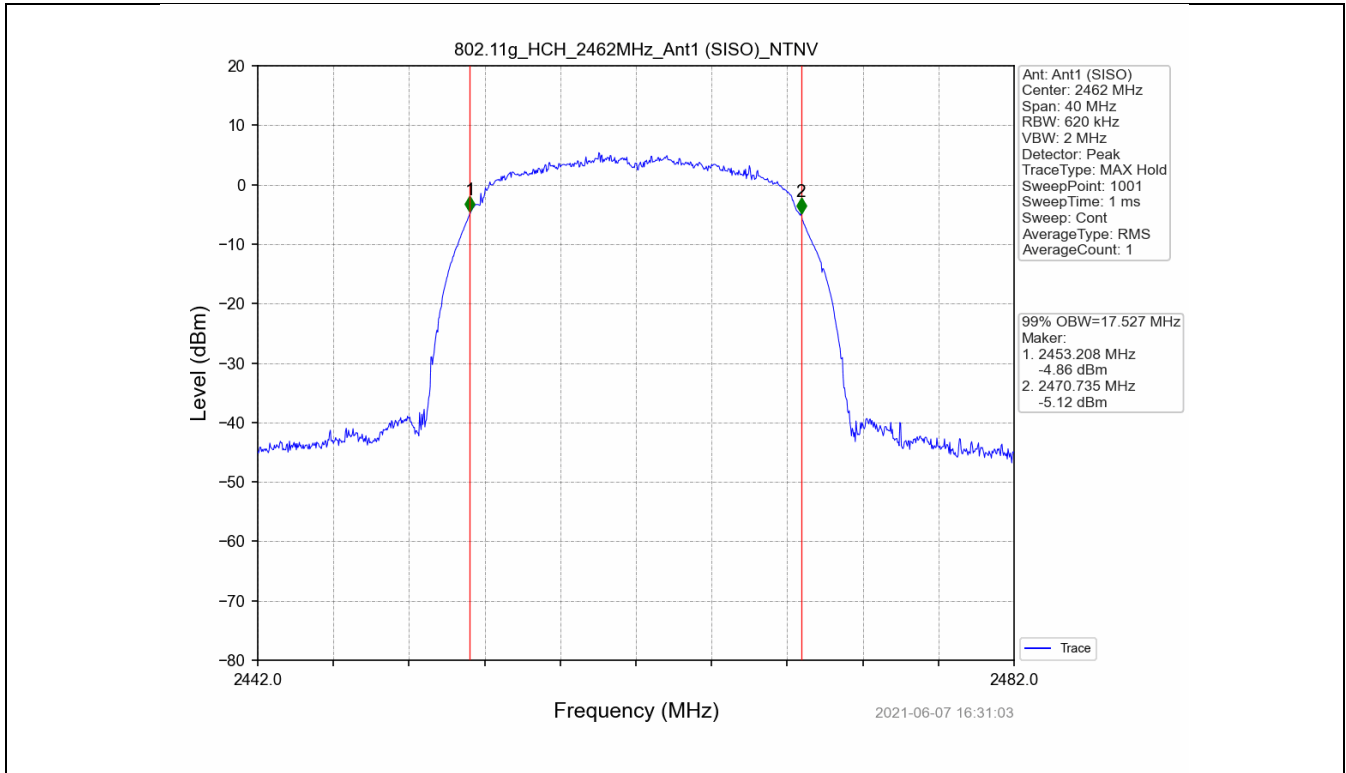




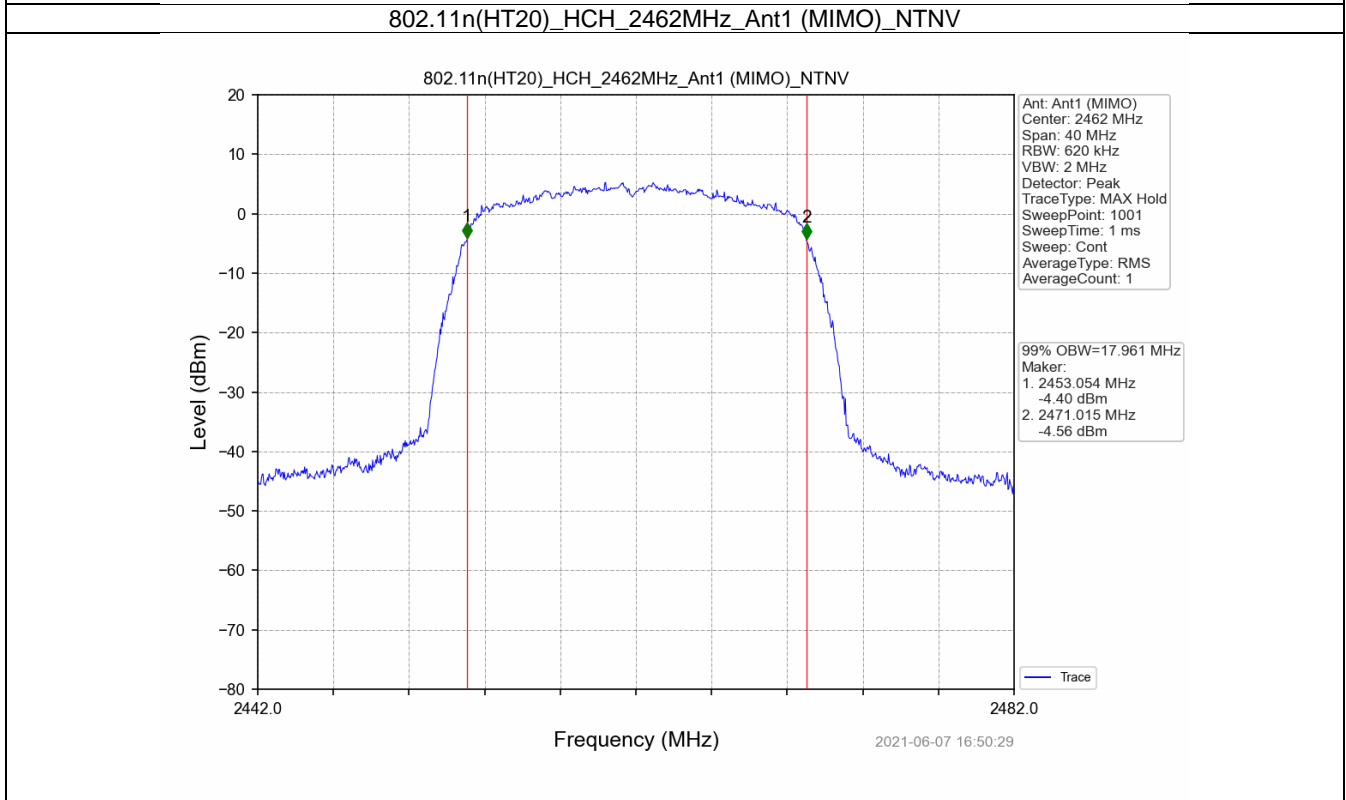
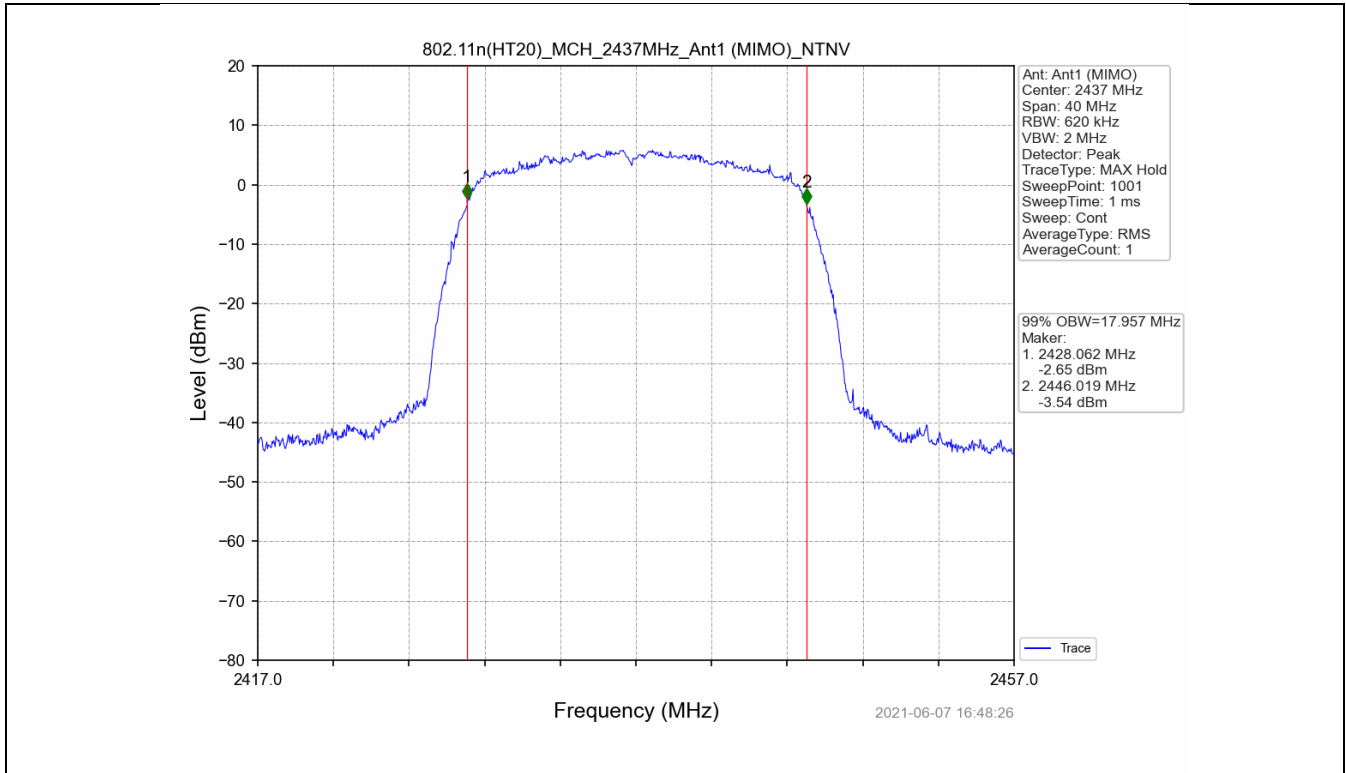
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (MIMO)_NTNV

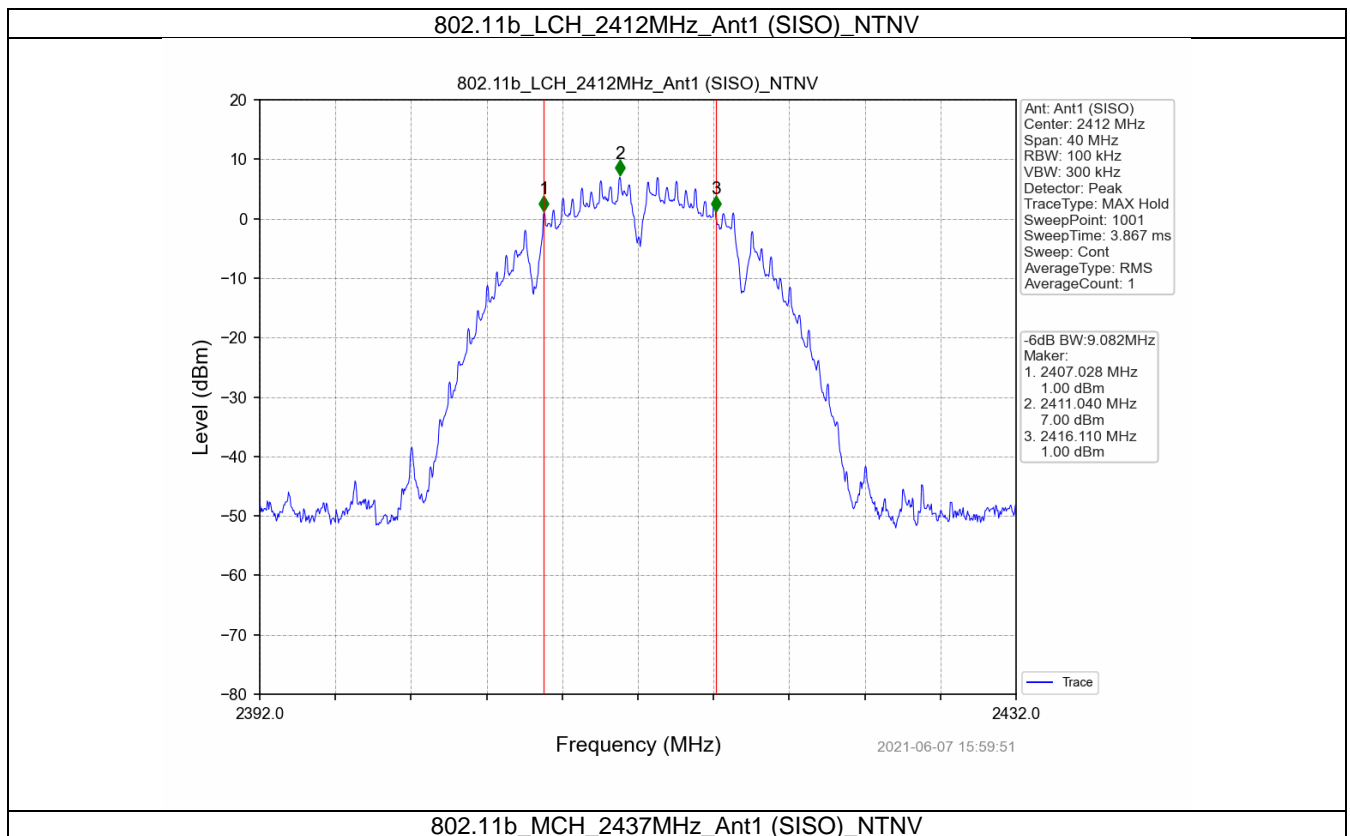


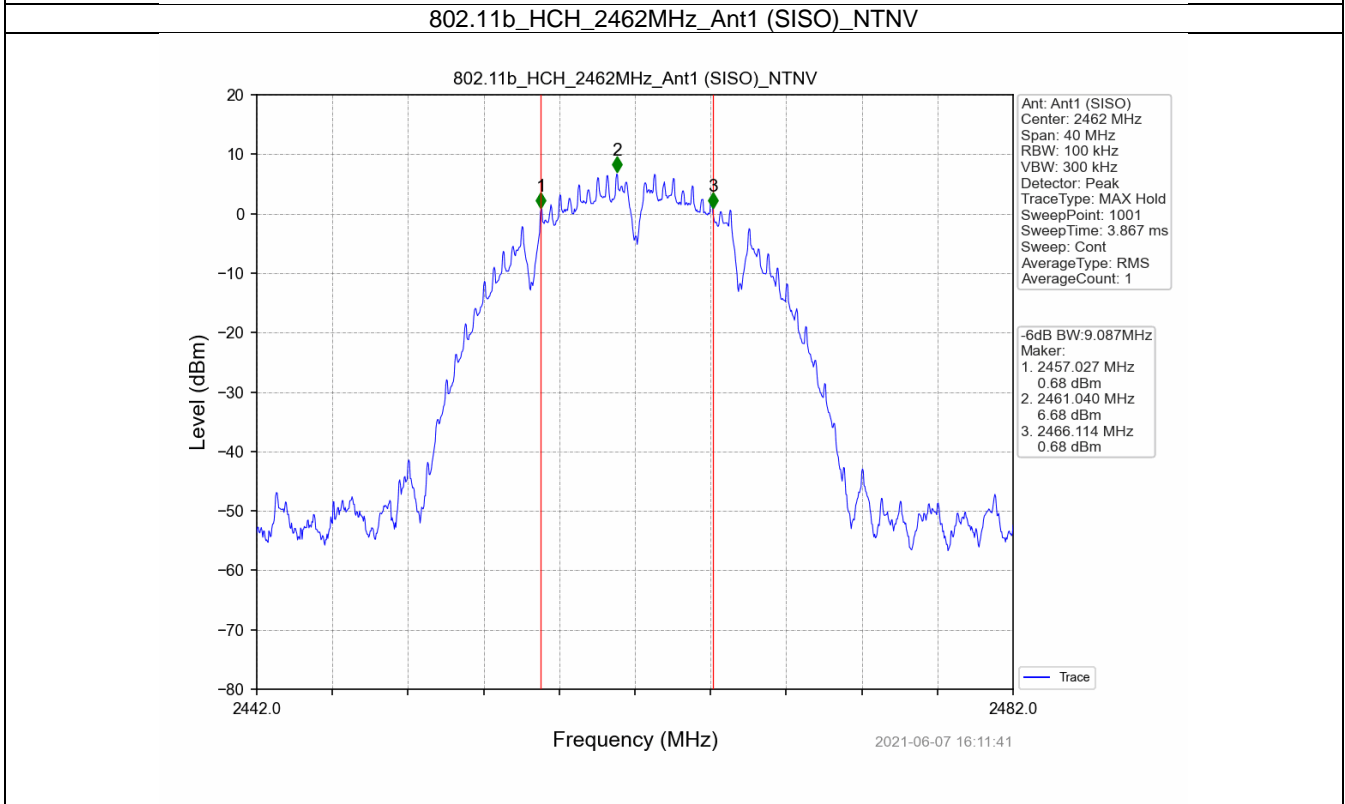
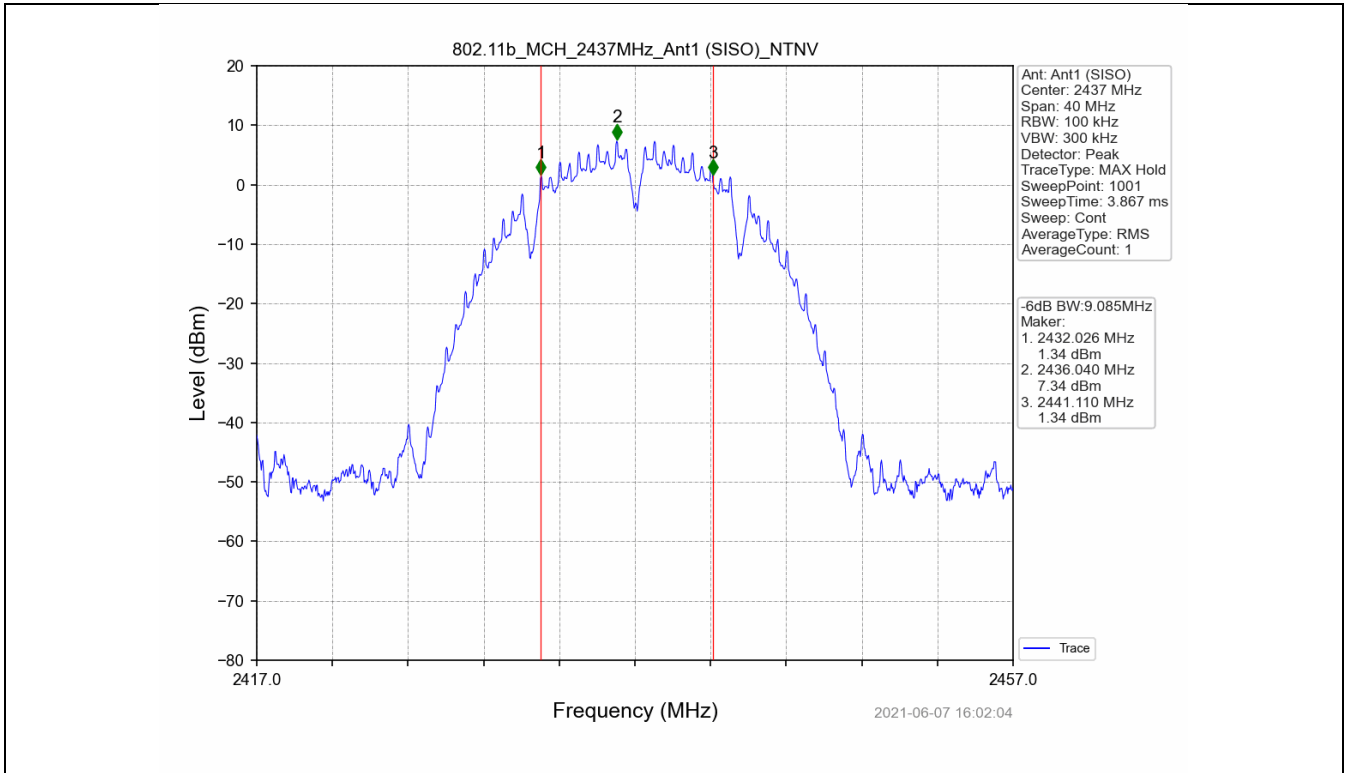
2.2 XDB

2.2.1 Test Result

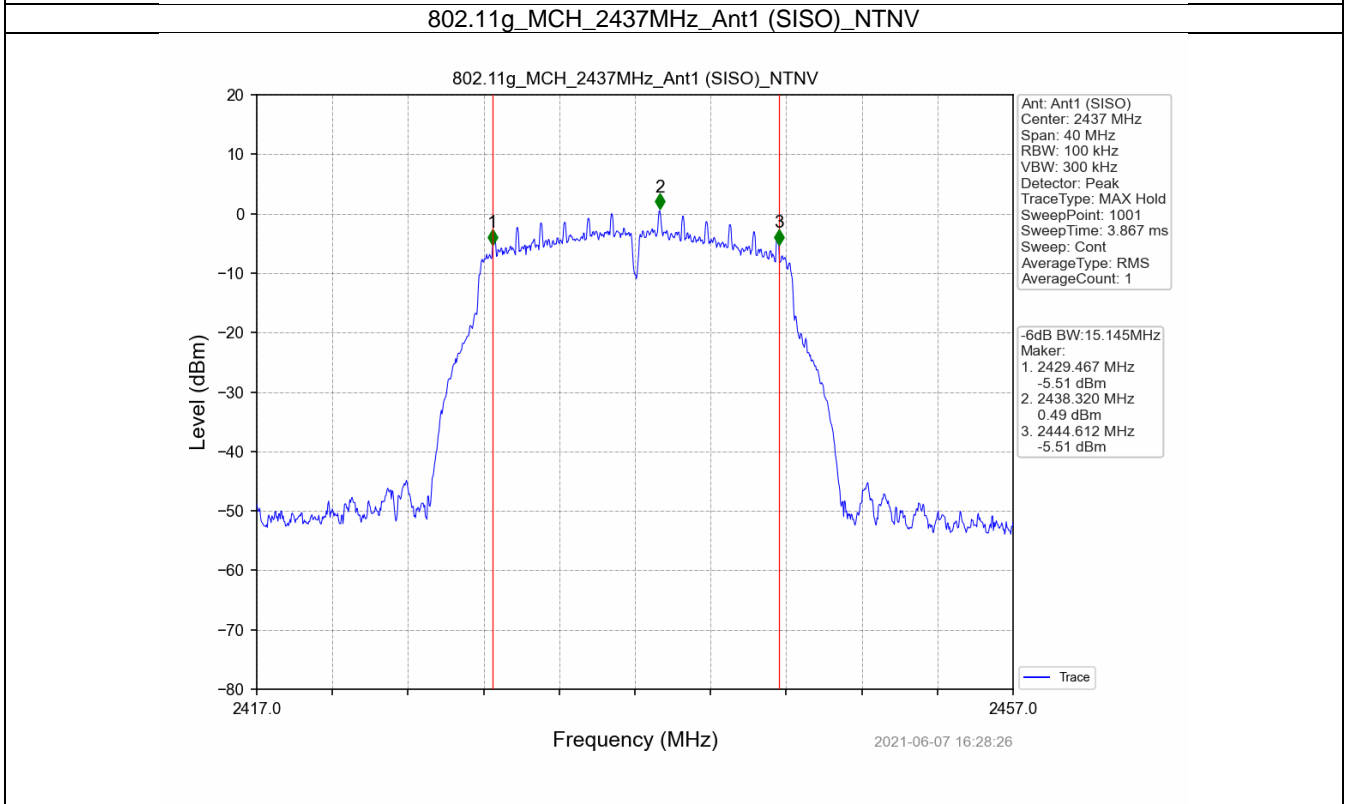
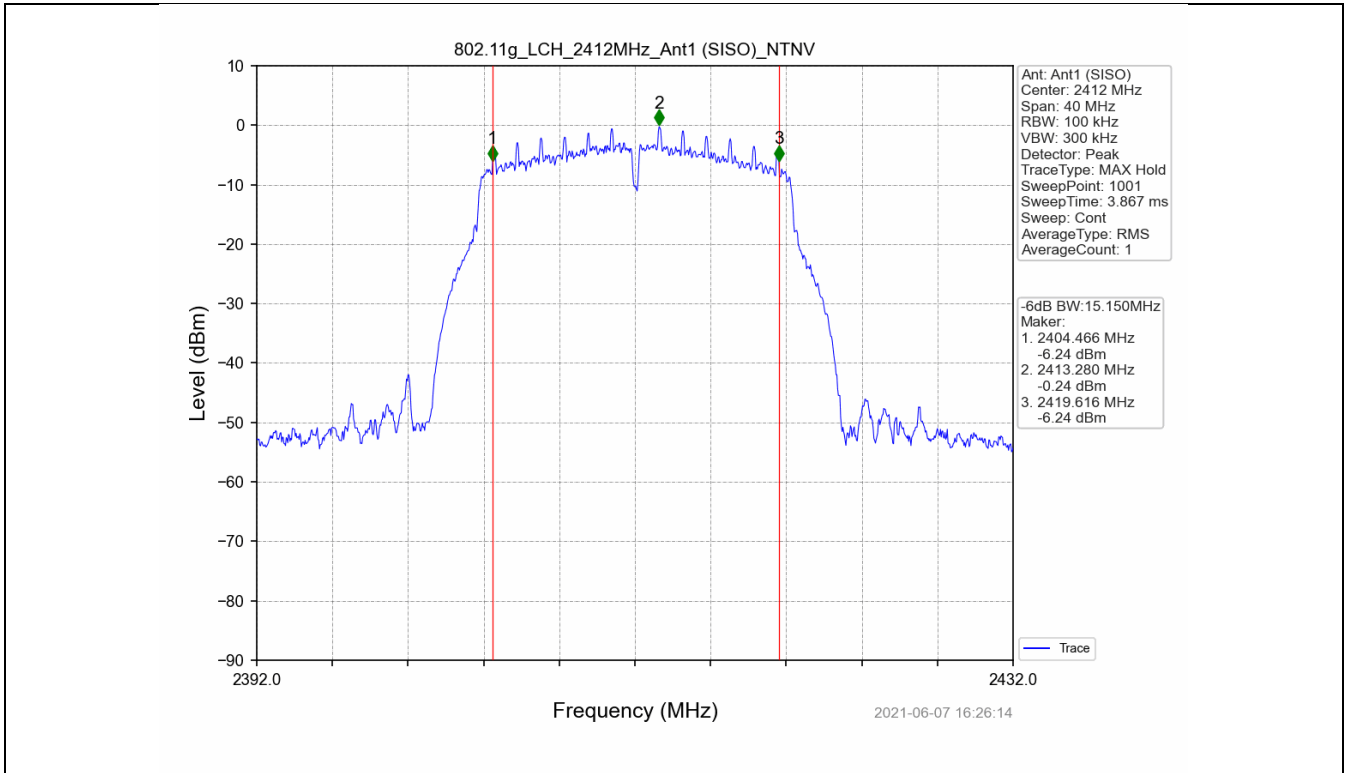
Mode	TX Type	Frequency (MHz)	RU	RU Pos	6dB Bandwidth (MHz)		Limit (MHz)	Verdict
					Ant1	Ant2		
802.11b	SISO	2412	/	/	9.082	/	>=0.5	Pass
		2437	/	/	9.085	/	>=0.5	Pass
		2462	/	/	9.087	/	>=0.5	Pass
802.11g	SISO	2412	/	/	15.150	/	>=0.5	Pass
		2437	/	/	15.145	/	>=0.5	Pass
		2462	/	/	15.144	/	>=0.5	Pass
802.11n (HT20)	MIMO	2412	/	/	15.144	/	>=0.5	Pass
		2437	/	/	15.140	/	>=0.5	Pass
		2462	/	/	15.145	/	>=0.5	Pass

2.2.2 Test Graph

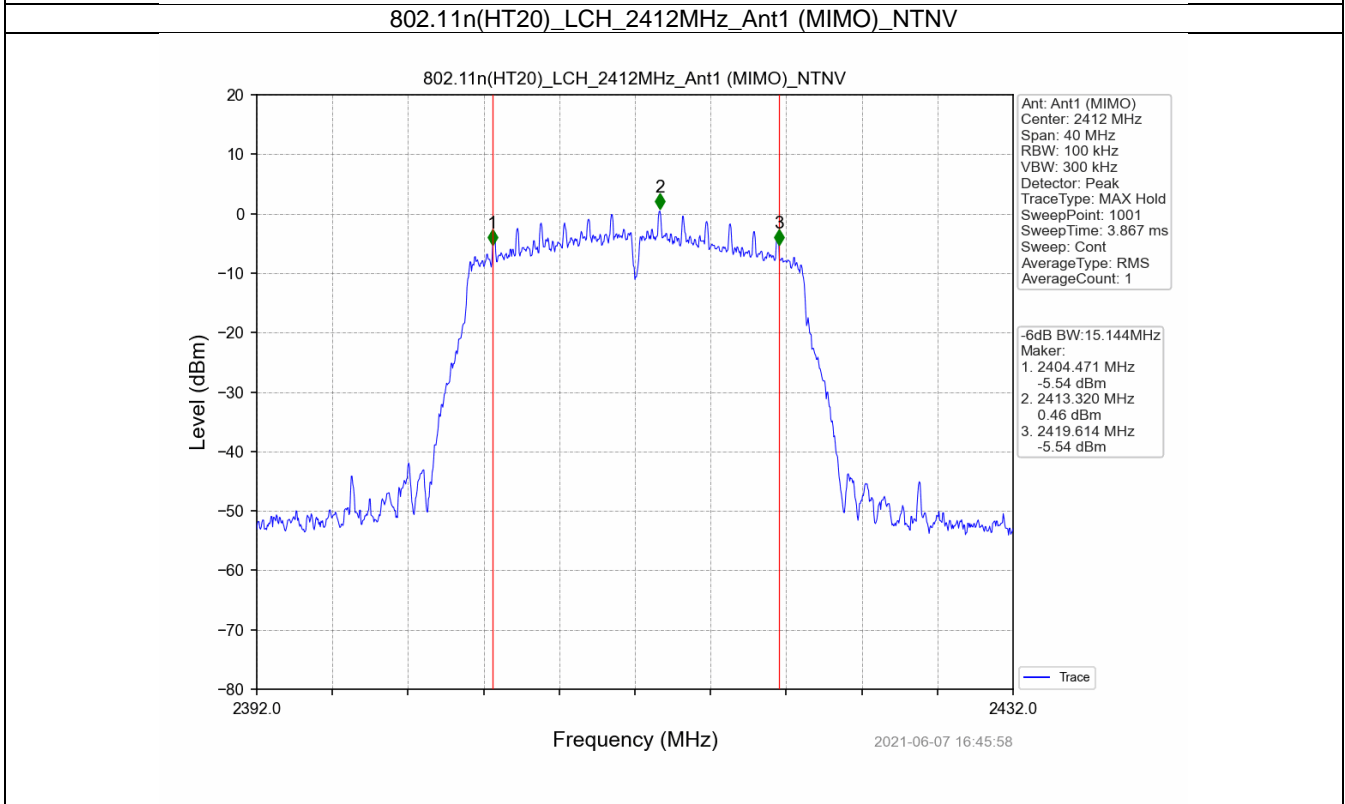
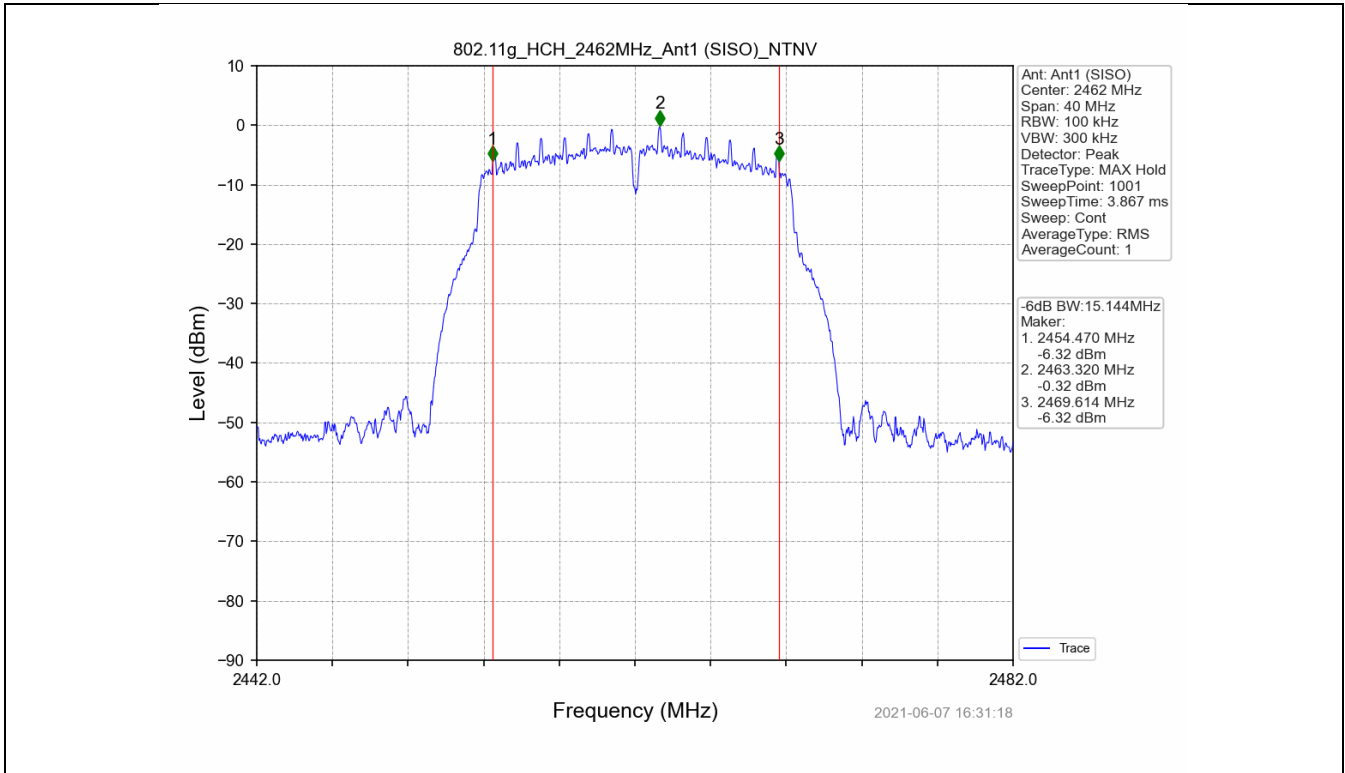




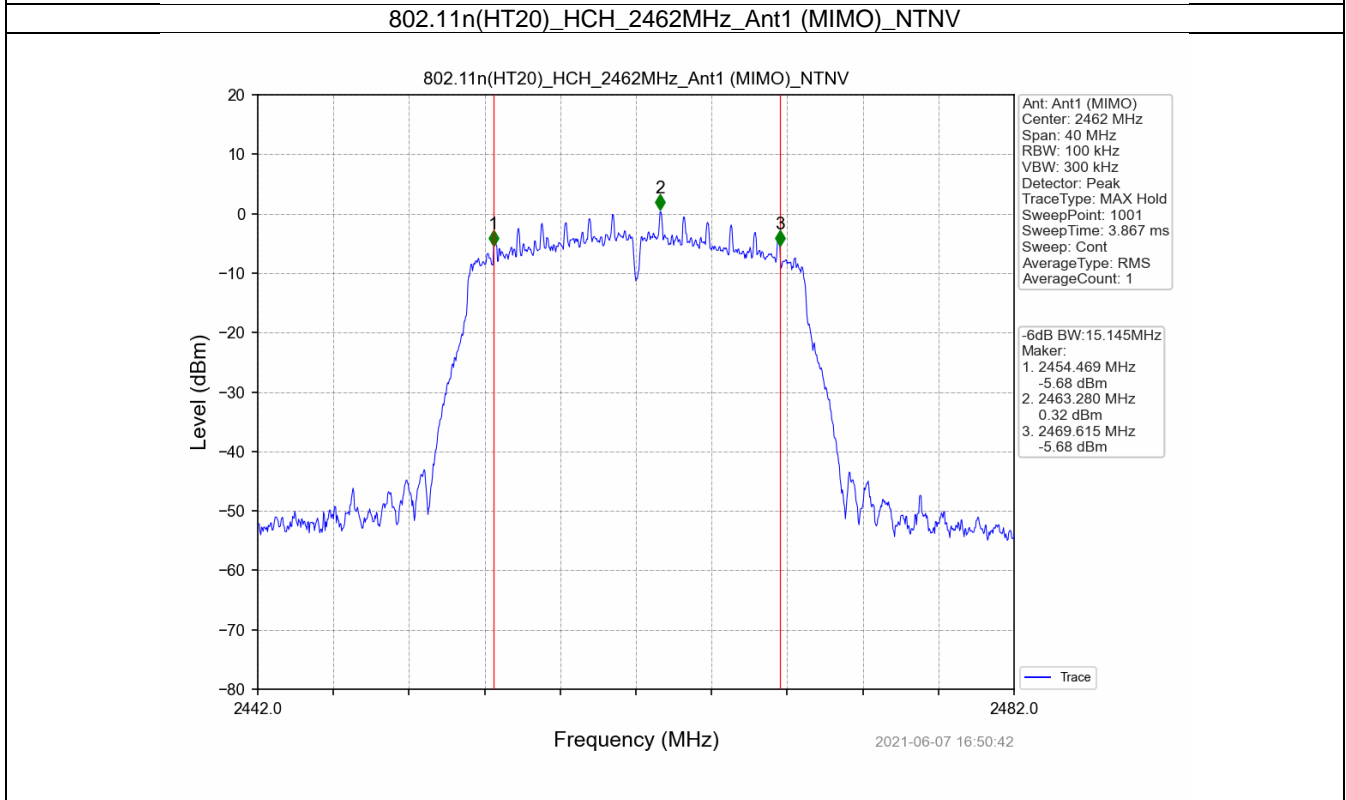
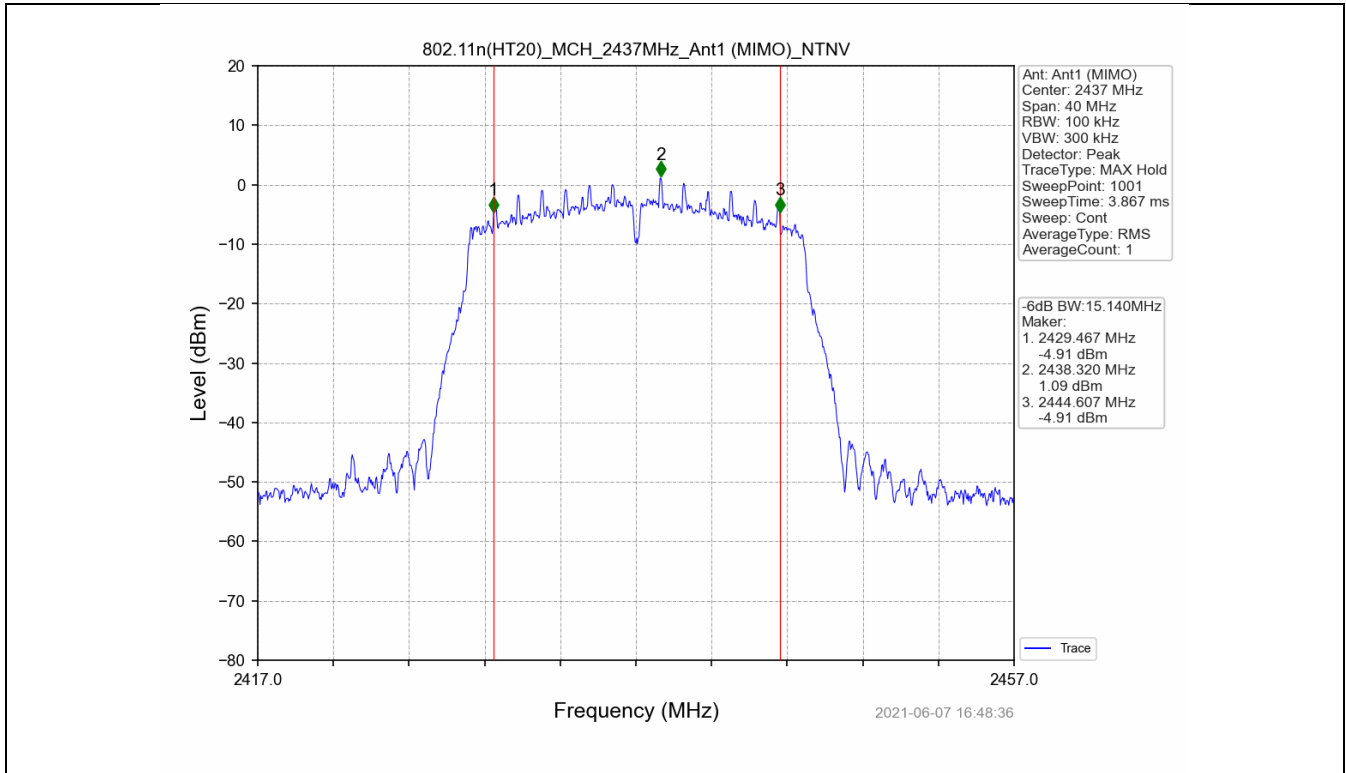
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (MIMO)_NTNV



3. Maximum Conducted Output Power

3.1 Power

3.1.1 Test Result

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Measured Peak Output Power (dBm)			Limit (dBm)	Verdict
					Ant1	Ant2	Sum		
802.11b	SISO	2412	/	/	18.05	15.10	/	<=30	Pass
		2437	/	/	18.37	15.62	/	<=30	Pass
		2462	/	/	17.71	15.52	/	<=30	Pass
802.11g	SISO	2412	/	/	17.48	14.58	/	<=30	Pass
		2437	/	/	18.03	15.09	/	<=30	Pass
		2462	/	/	17.35	14.99	/	<=30	Pass
802.11n (HT20)	MIMO	2412	/	/	17.84	14.84	19.60	<=30	Pass
		2437	/	/	18.44	15.36	20.18	<=30	Pass
		2462	/	/	17.72	15.31	19.69	<=30	Pass

Note1: Antenna Gain: 1:2.4dBi; 2:2.4dBi;

4. Maximum Power Spectral Density

4.1 PSD

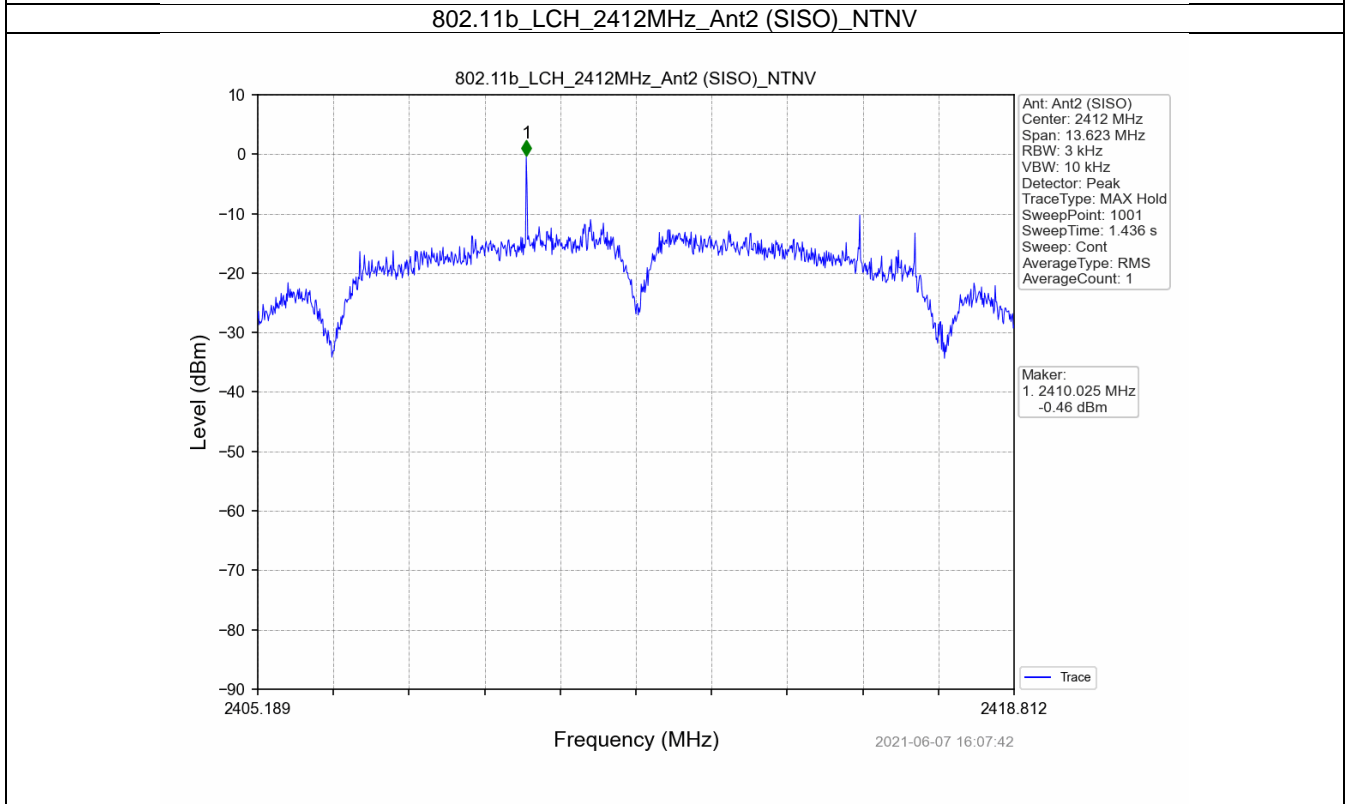
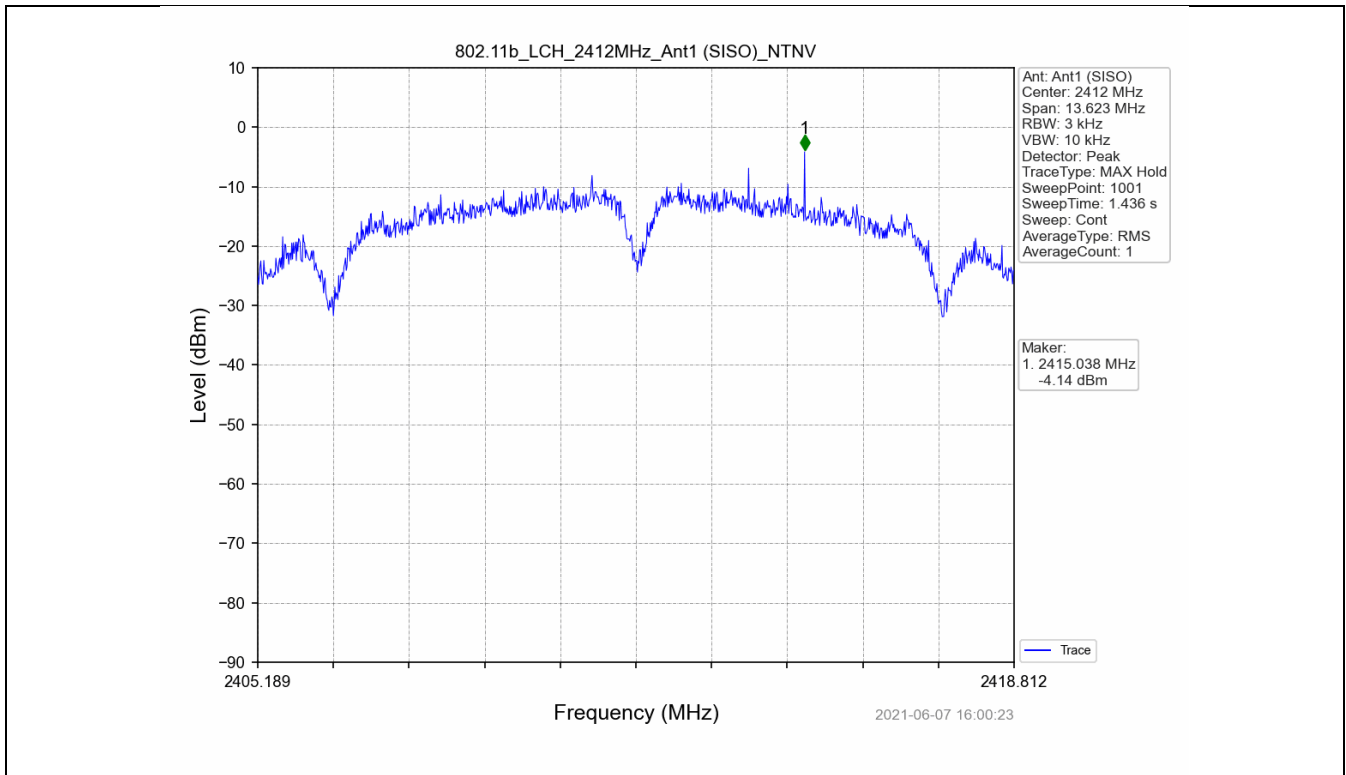
4.1.1 Test Result

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Maximum PSD (dBm/3kHz)			Limit (dBm/3kHz)	Verdict
					Ant1	Ant2	Sum		
802.11b	SISO	2412	/	/	-4.14	-0.46	/	<=8	Pass
		2437	/	/	-1.30	-2.99	/	<=8	Pass
		2462	/	/	6.24	1.36	/	<=8	Pass
802.11g	SISO	2412	/	/	-16.20	-18.98	/	<=8	Pass
		2437	/	/	-15.23	-18.62	/	<=8	Pass
		2462	/	/	-14.63	-18.77	/	<=8	Pass
802.11n (HT20)	MIMO	2412	/	/	-15.66	-18.23	-26.21	<=8	Pass
		2437	/	/	-14.55	-17.91	-25.28	<=8	Pass
		2462	/	/	-15.71	-16.96	-26.22	<=8	Pass

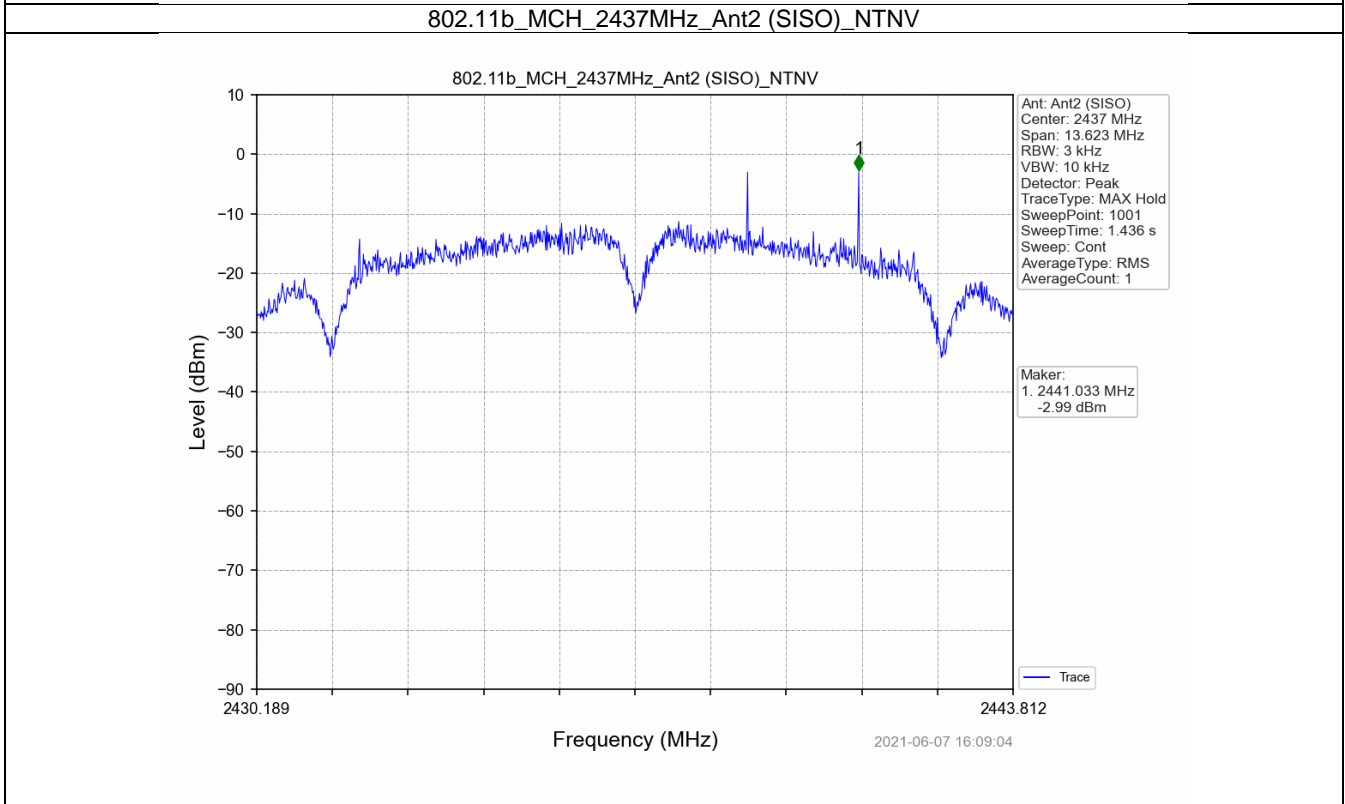
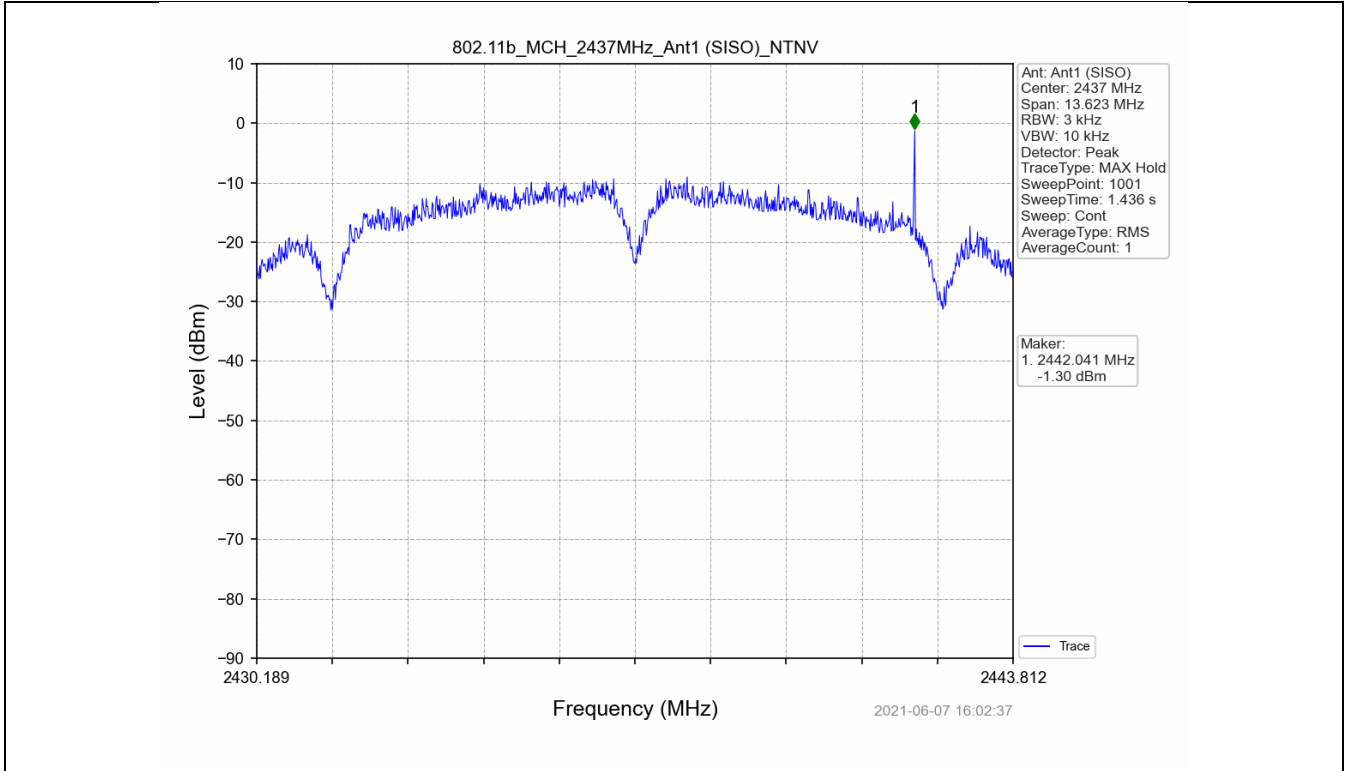
Note1: Antenna Gain: 1:2.4dBi; 2:2.4dBi;

4.1.2 Test Graph

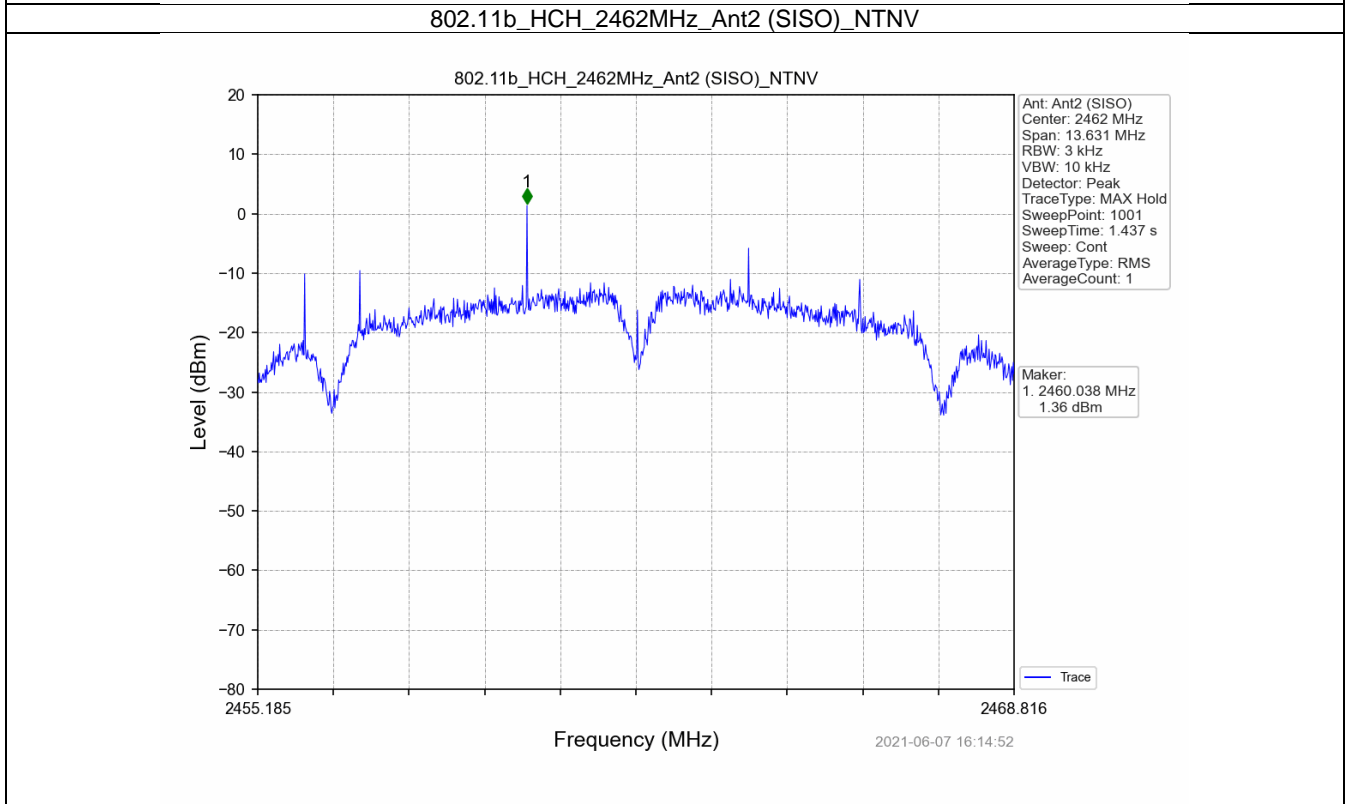
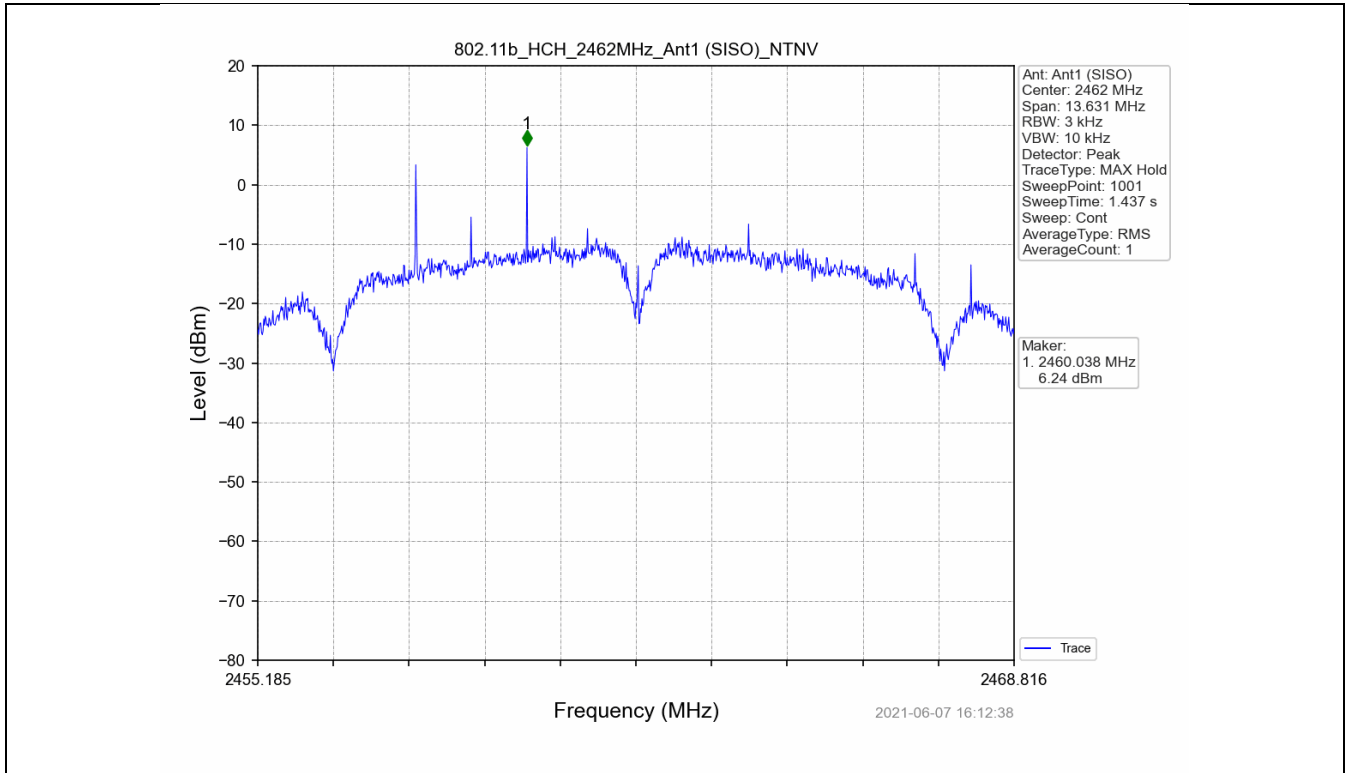
802.11b_LCH_2412MHz_Ant1 (SISO)_NTNV



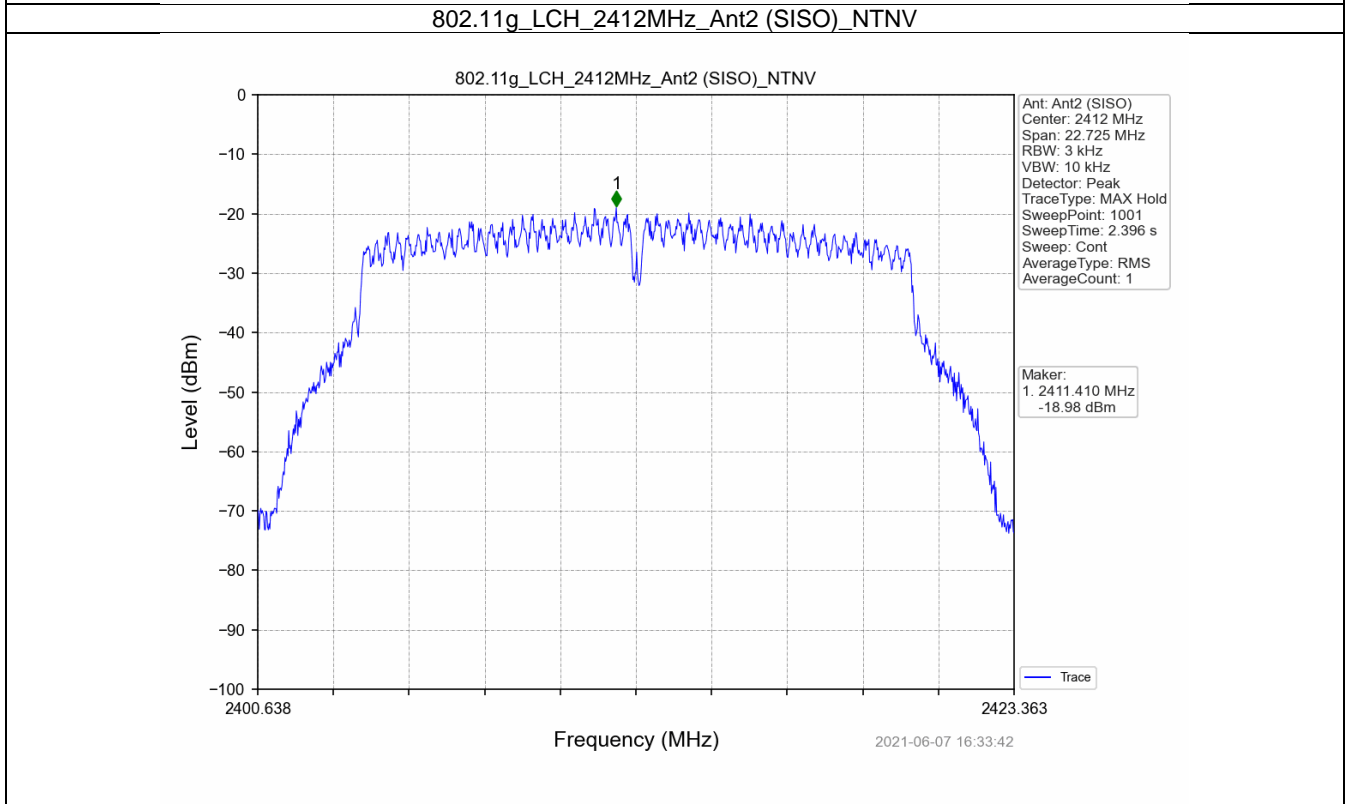
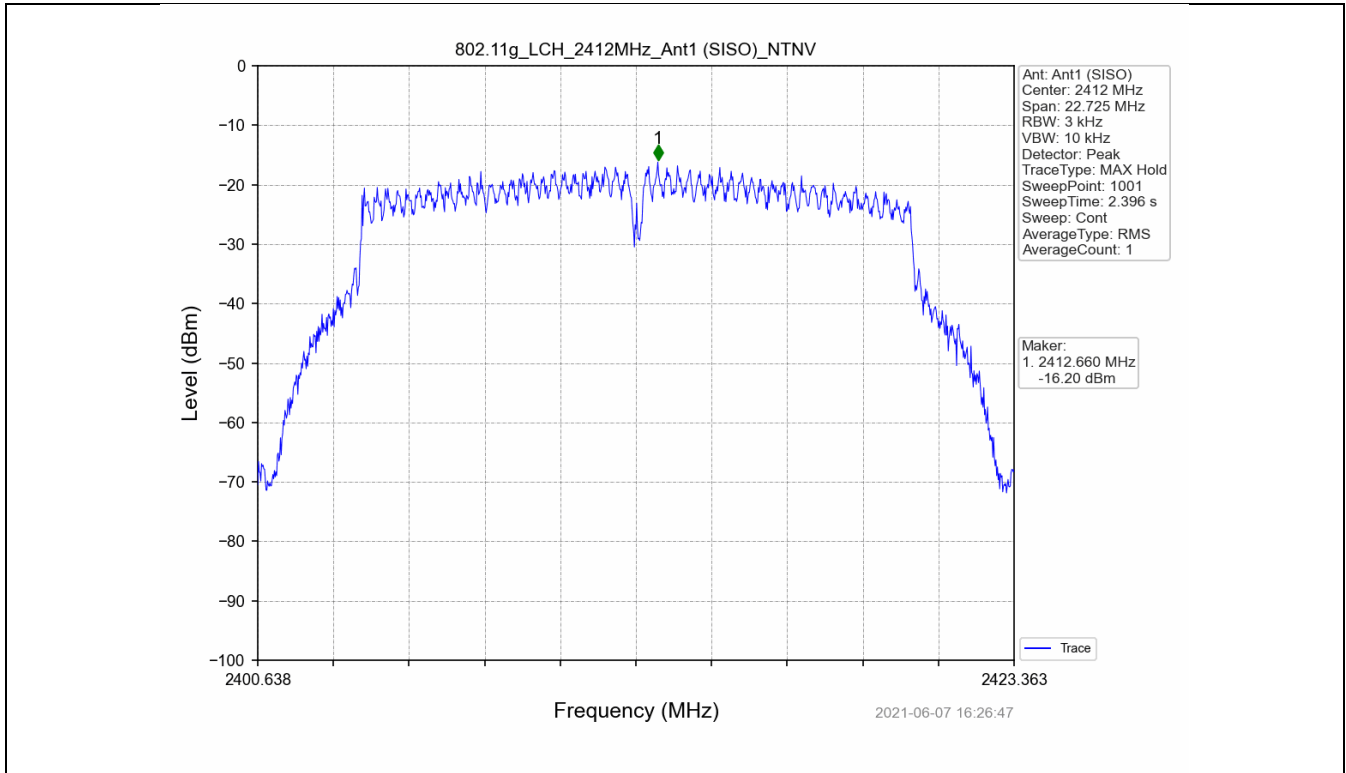
802.11b_MCH_2437MHz_Ant1 (SISO)_NTNV



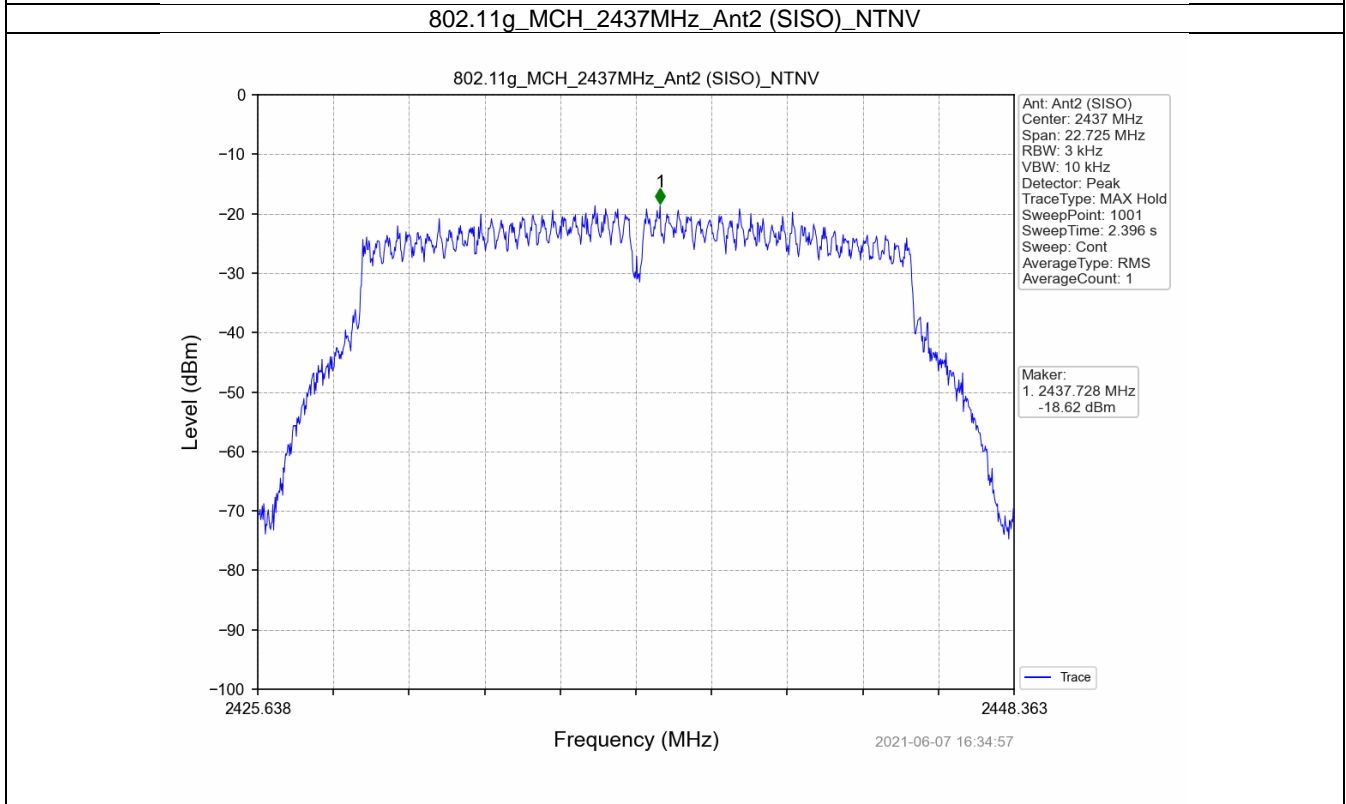
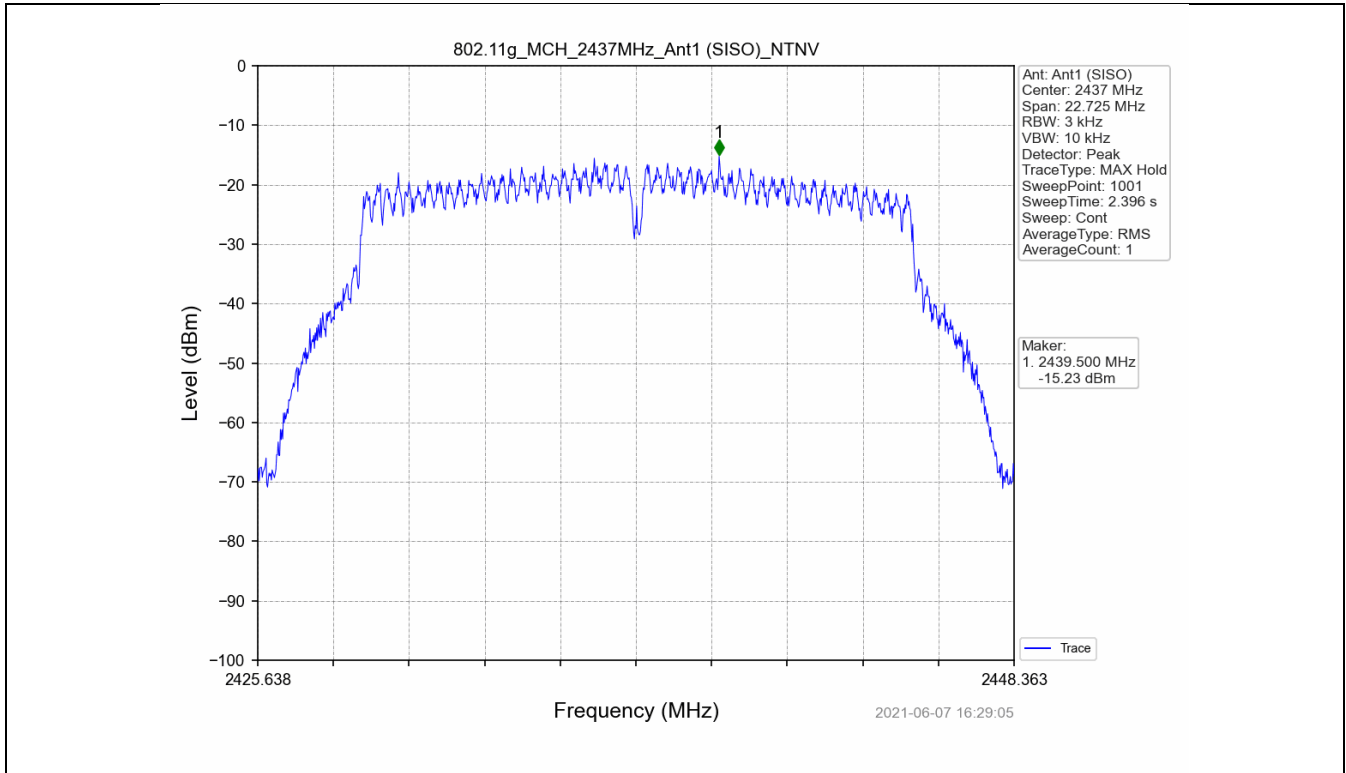
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



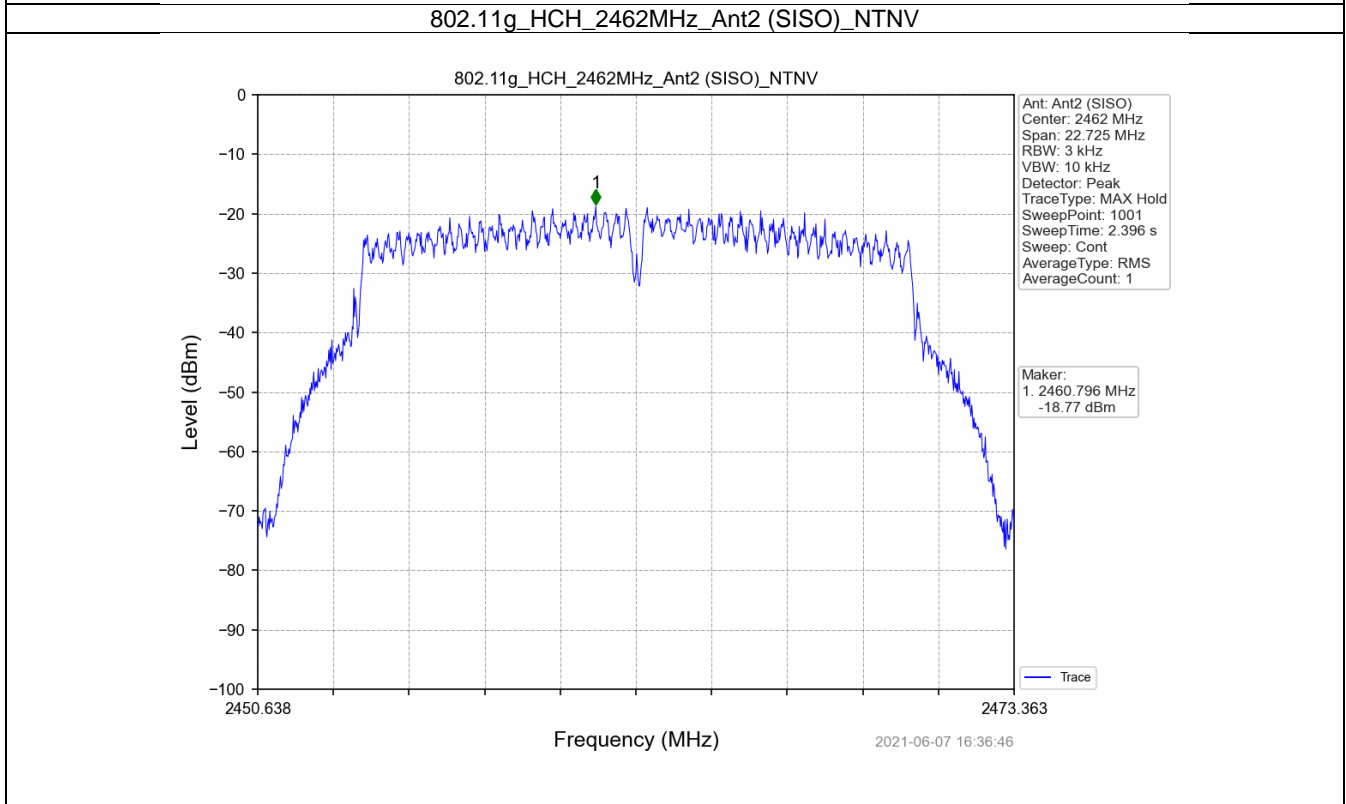
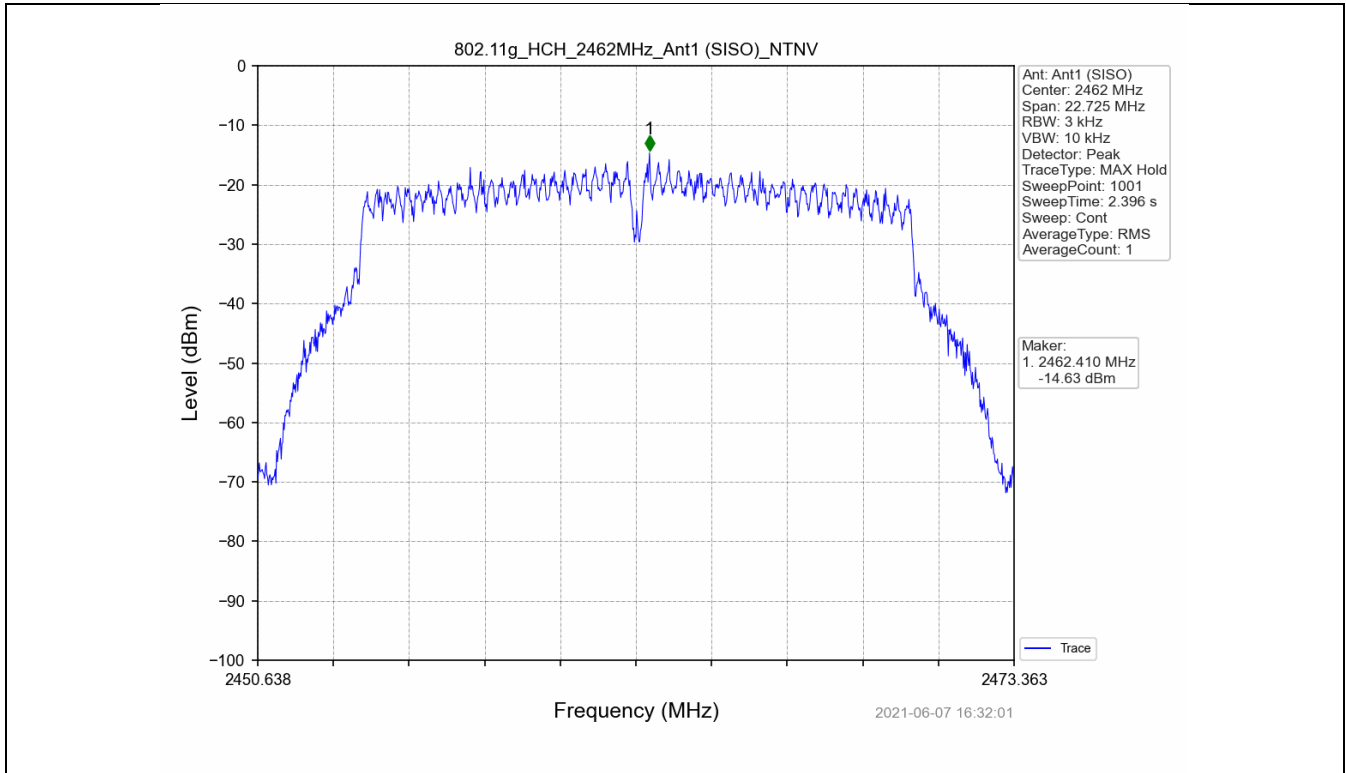
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



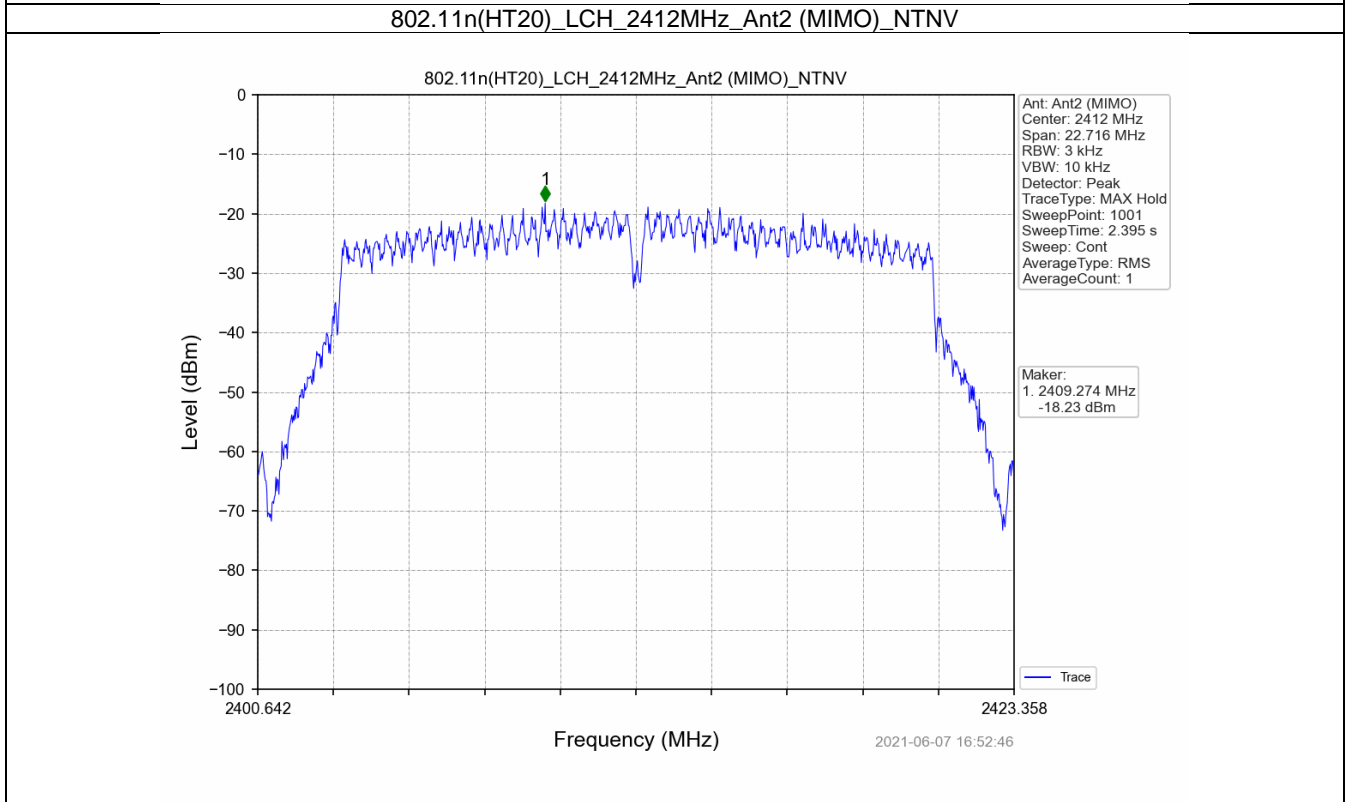
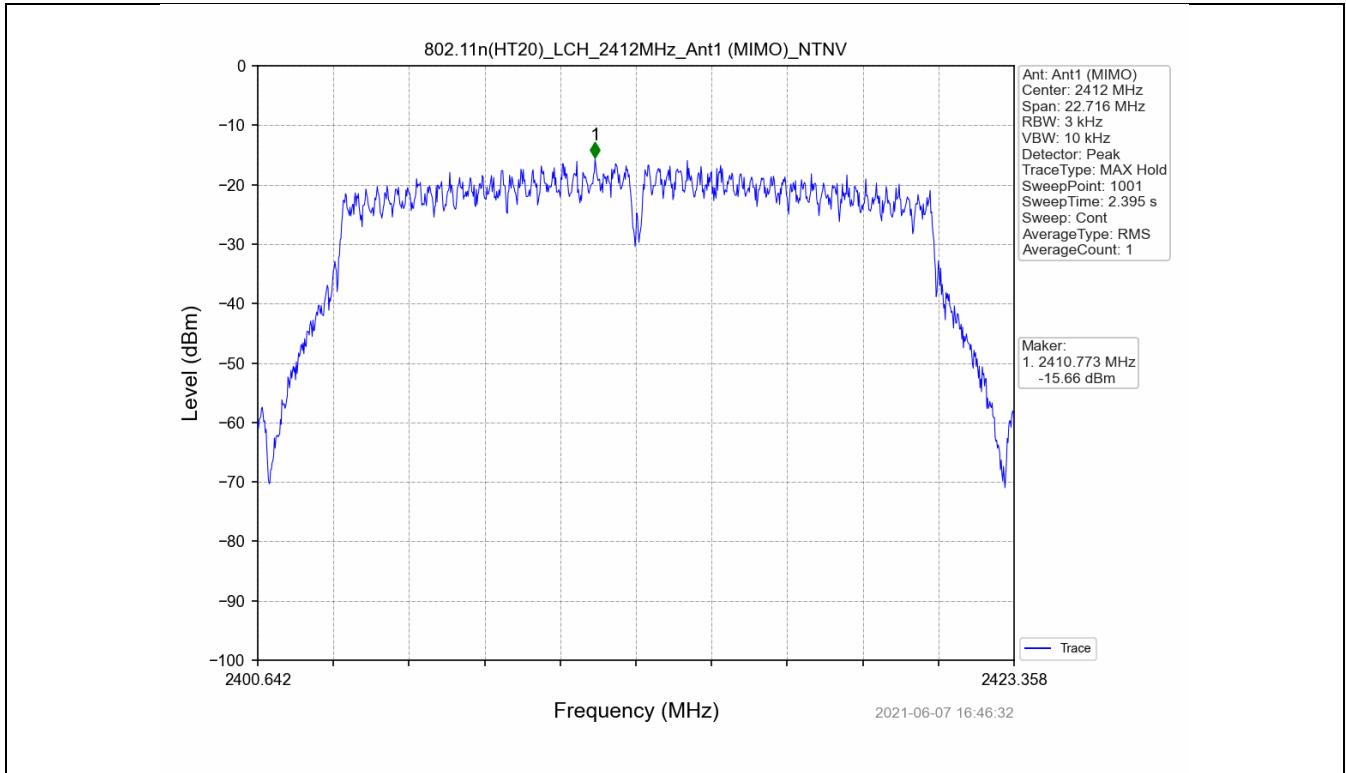
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



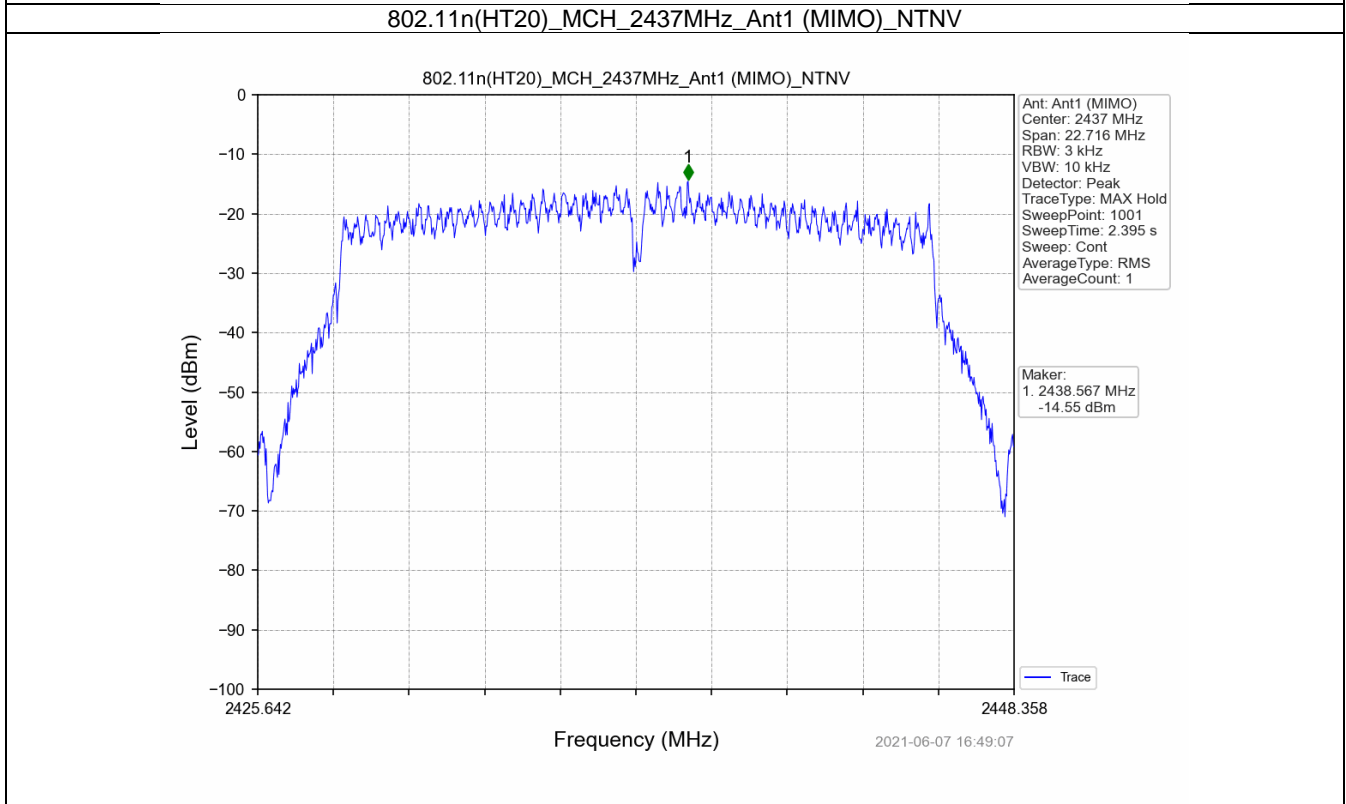
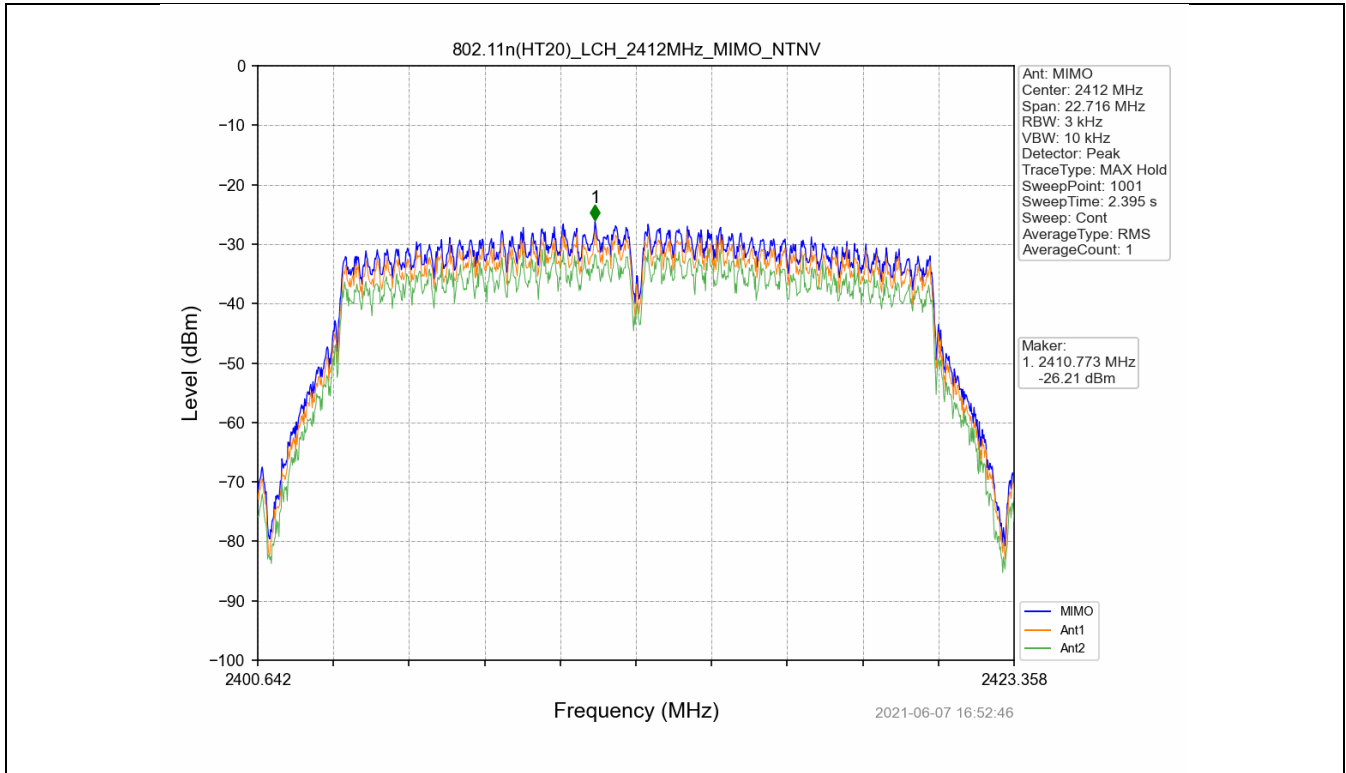
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



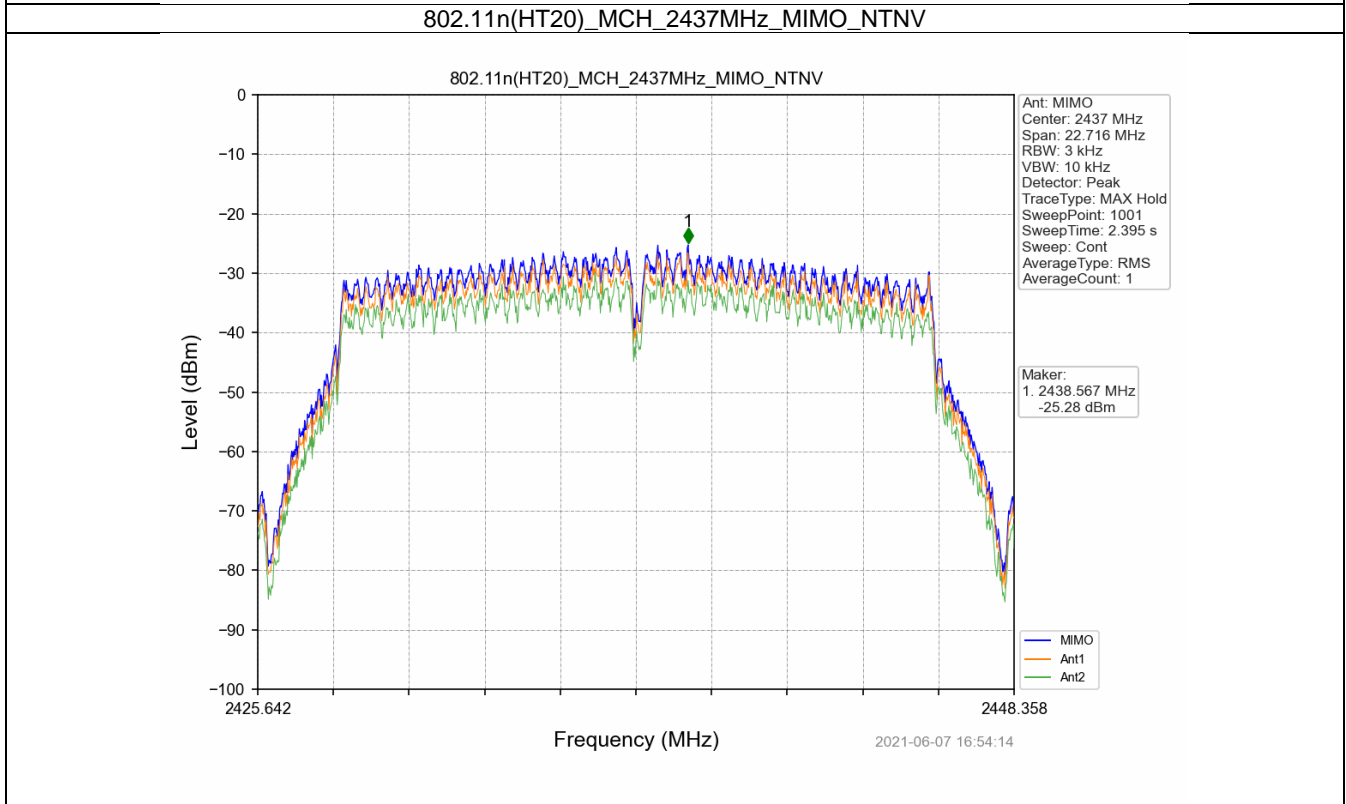
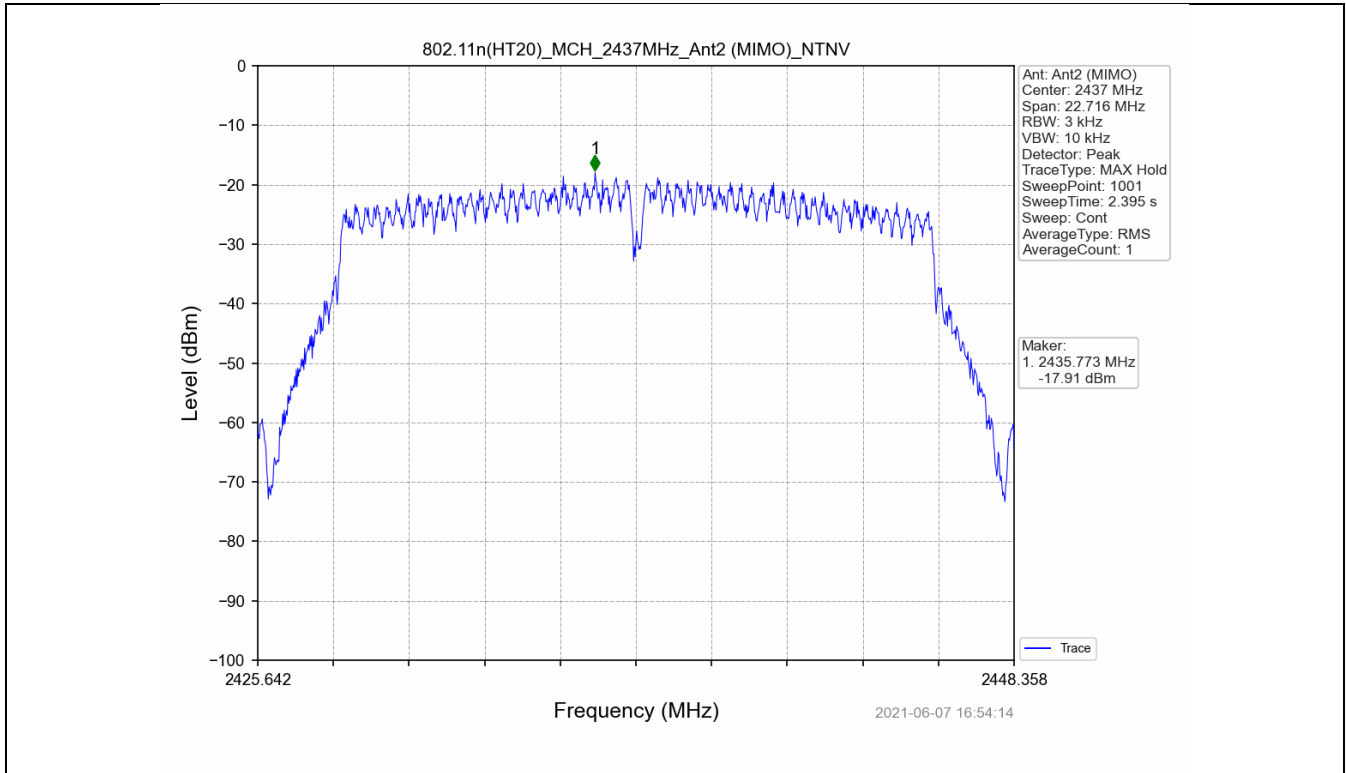
802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO)_NTNV



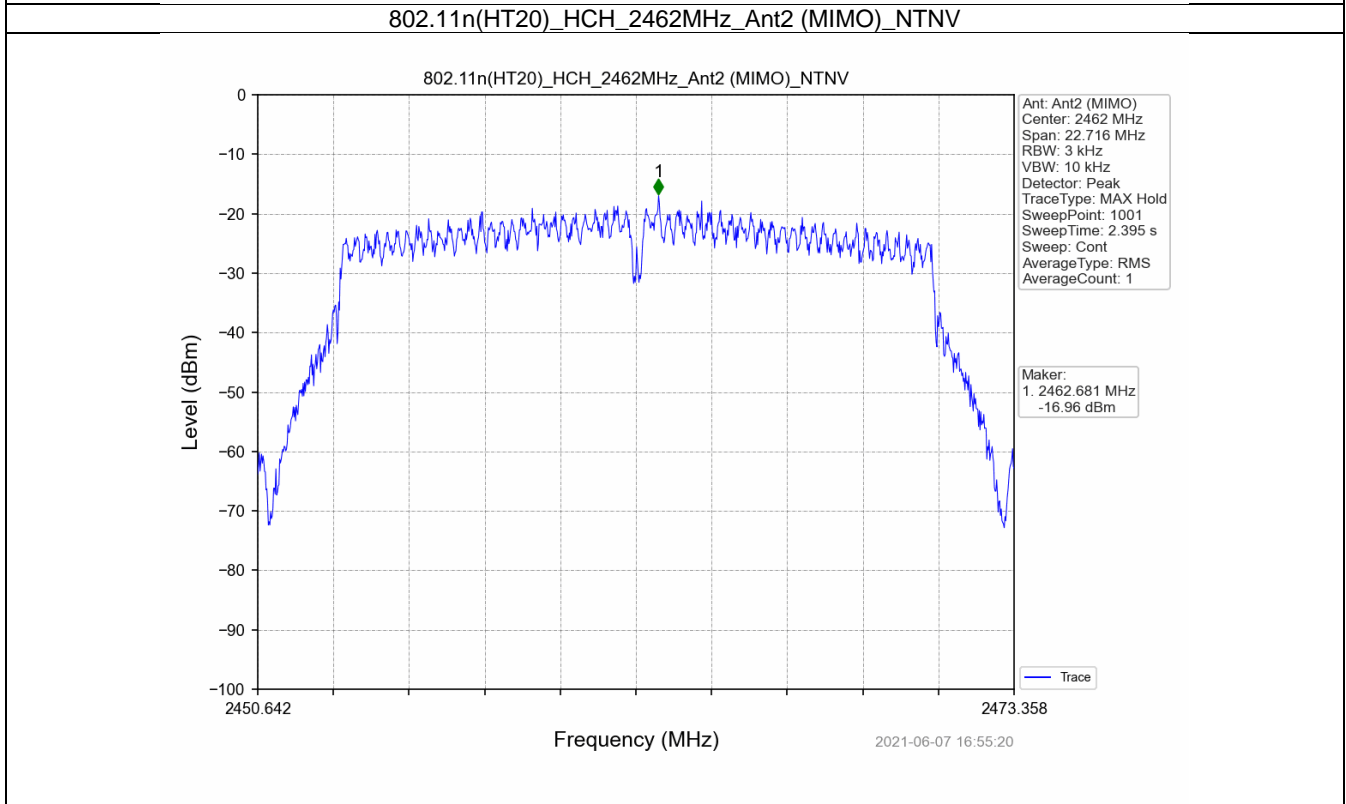
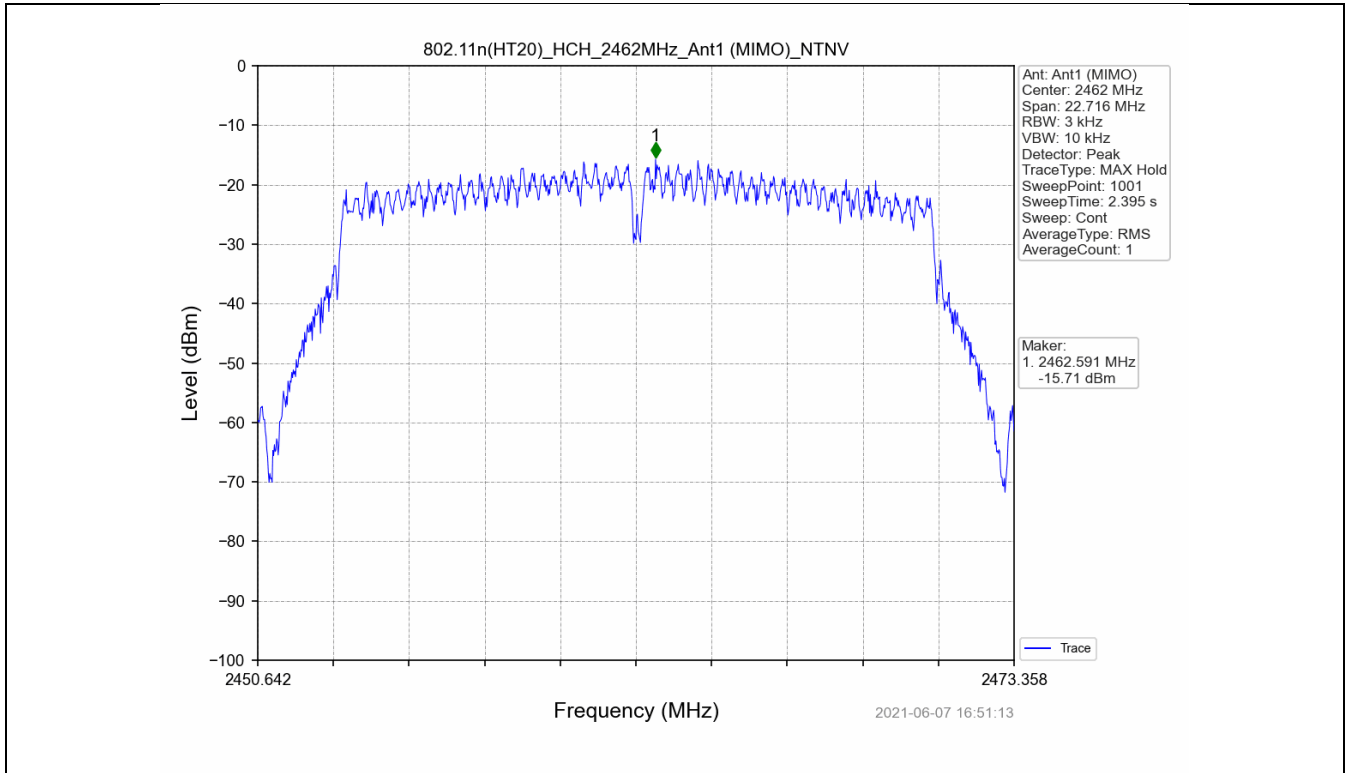
802.11n(HT20)_LCH_2412MHz_MIMO_NTNV



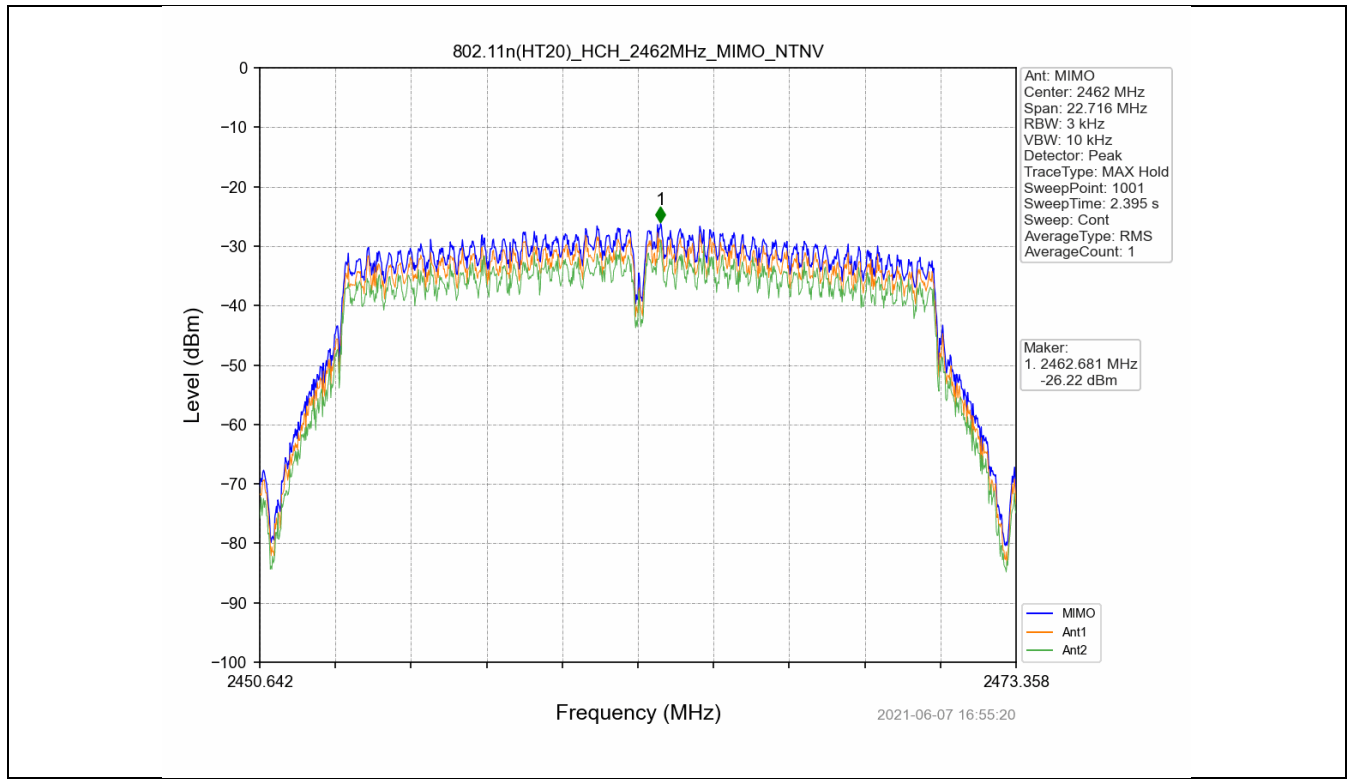
802.11n(HT20)_MCH_2437MHz_Ant2 (MIMO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant1 (MIMO)_NTNV



802.11n(HT20)_HCH_2462MHz_MIMO_NTNV



5. Unwanted Emissions In Non-restricted Frequency Bands

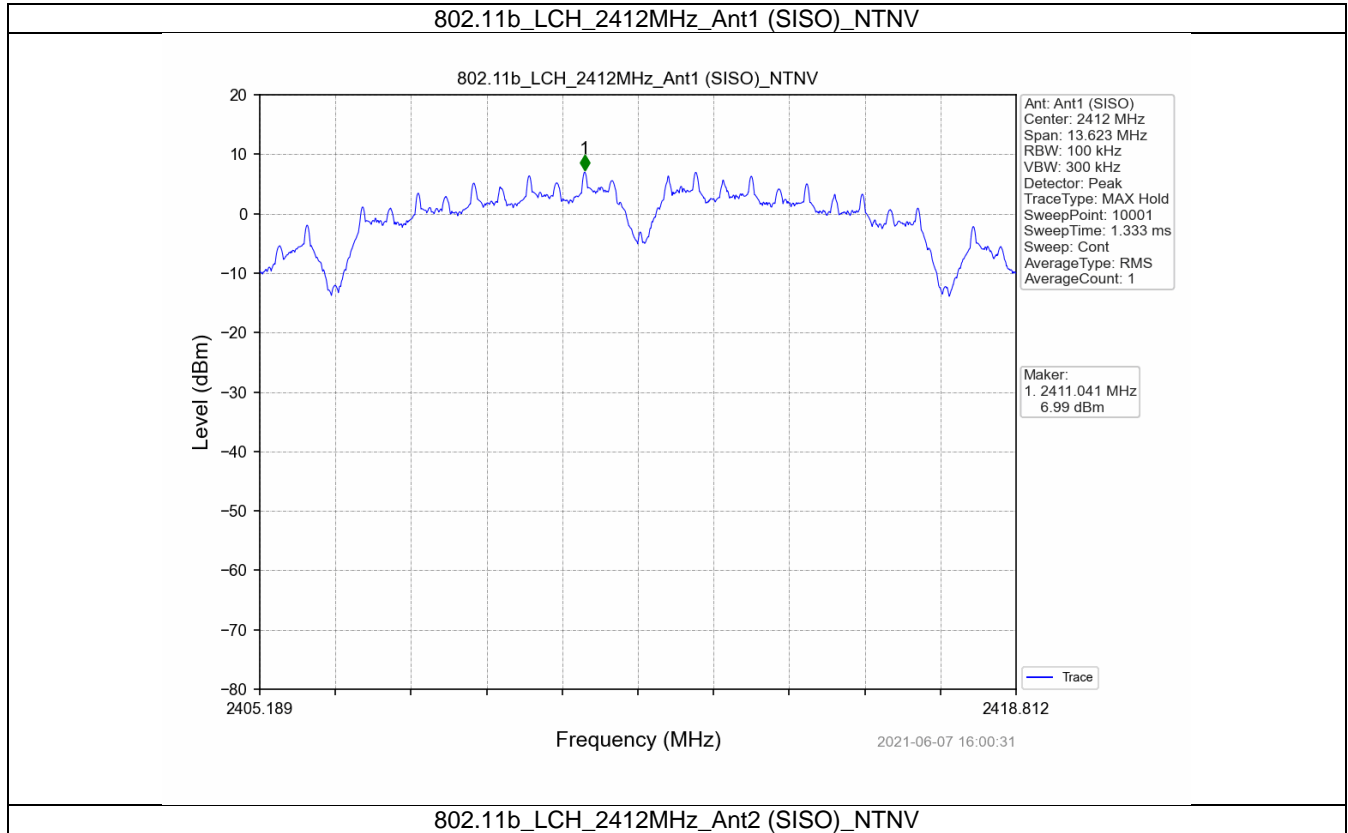
5.1 Ref

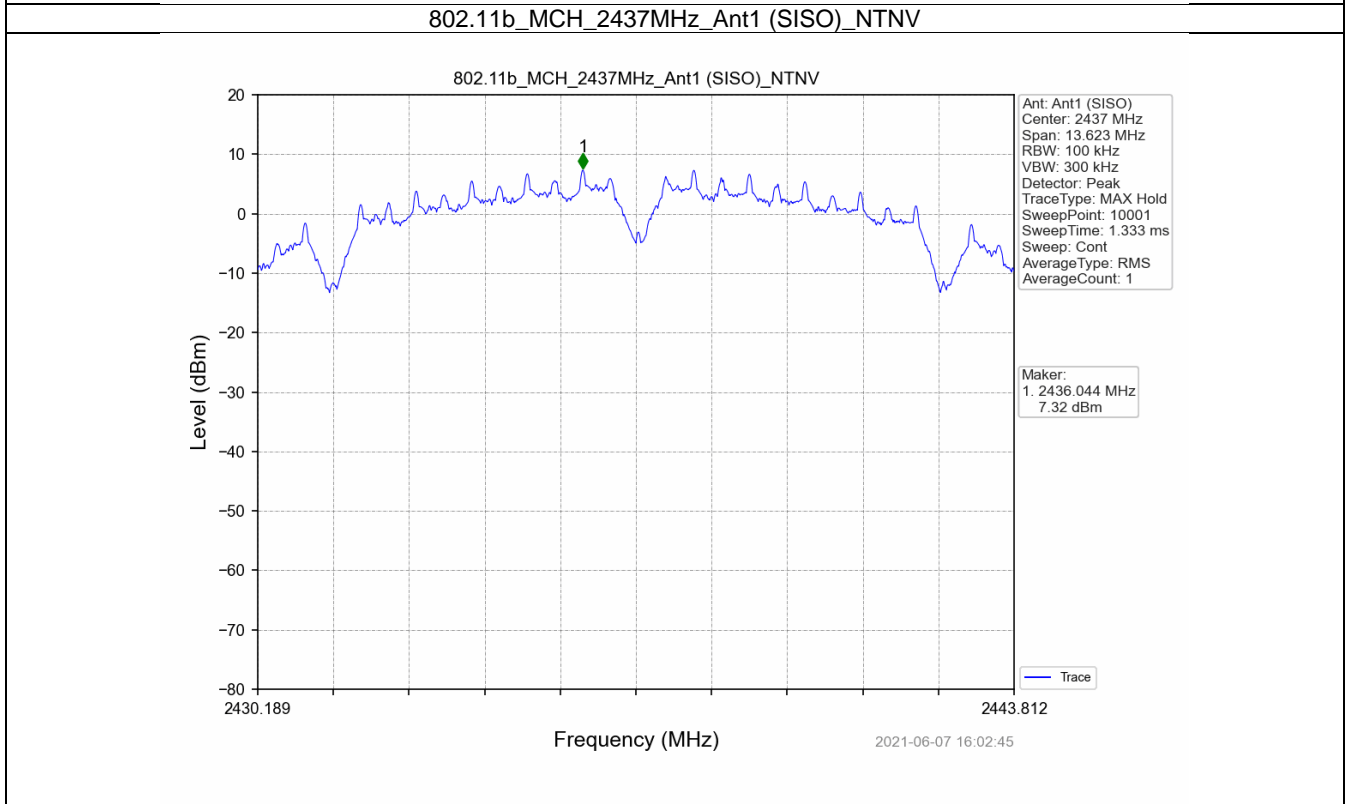
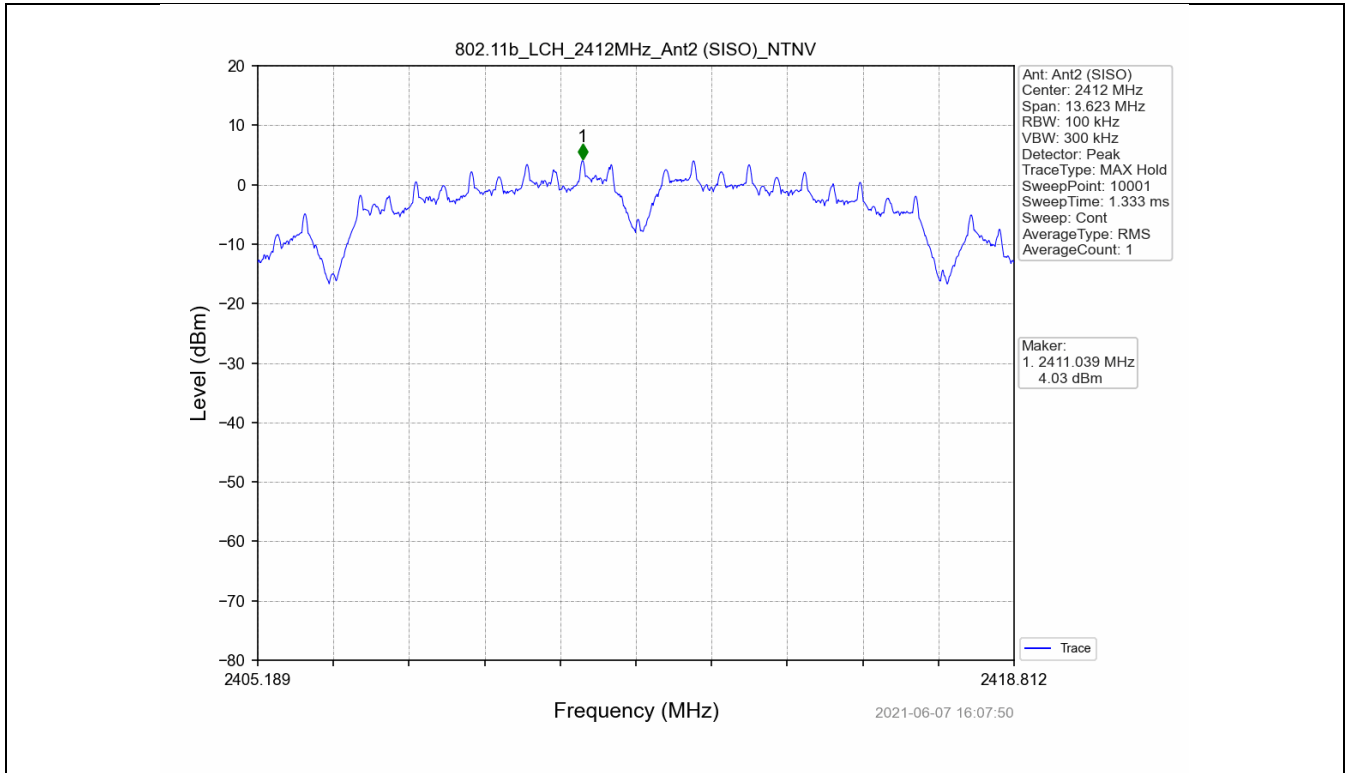
5.1.1 Test Result

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Ant	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	/	/	1	6.99	/	/
					2	4.03	/	/
		2437			1	7.32	/	/
					2	4.57	/	/
		2462			1	6.69	/	/
					2	4.47	/	/
802.11g	SISO	2412	/	/	1	-0.27	/	/
					2	-3.21	/	/
		2437			1	0.33	/	/
					2	-2.71	/	/
		2462			1	-0.52	/	/
					2	-2.82	/	/
802.11n (HT20)	MIMO	2412	/	/	1	0.21	/	/
					2	-2.68	/	/
		2437			1	0.86	/	/
					2	-2.50	/	/
		2462			1	-0.31	/	/
					2	-2.27	/	/

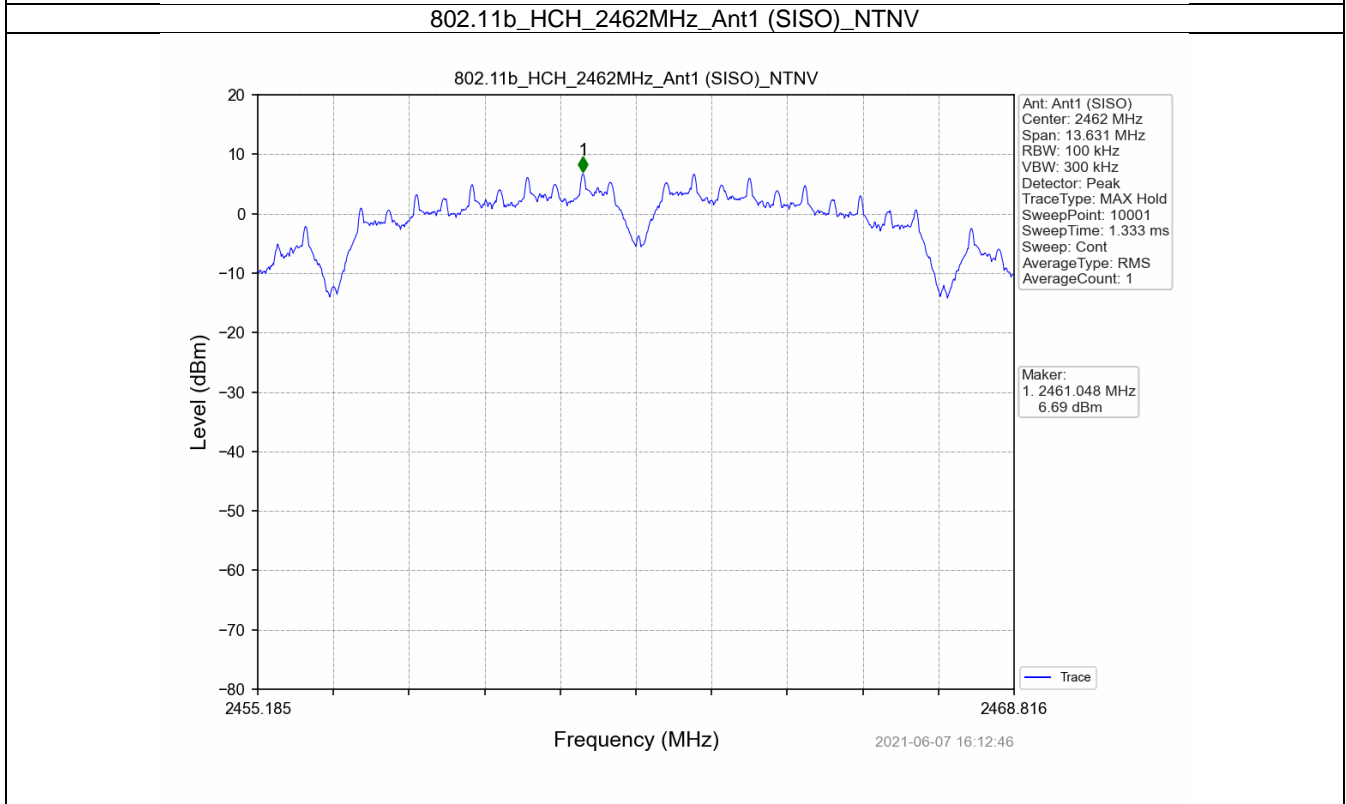
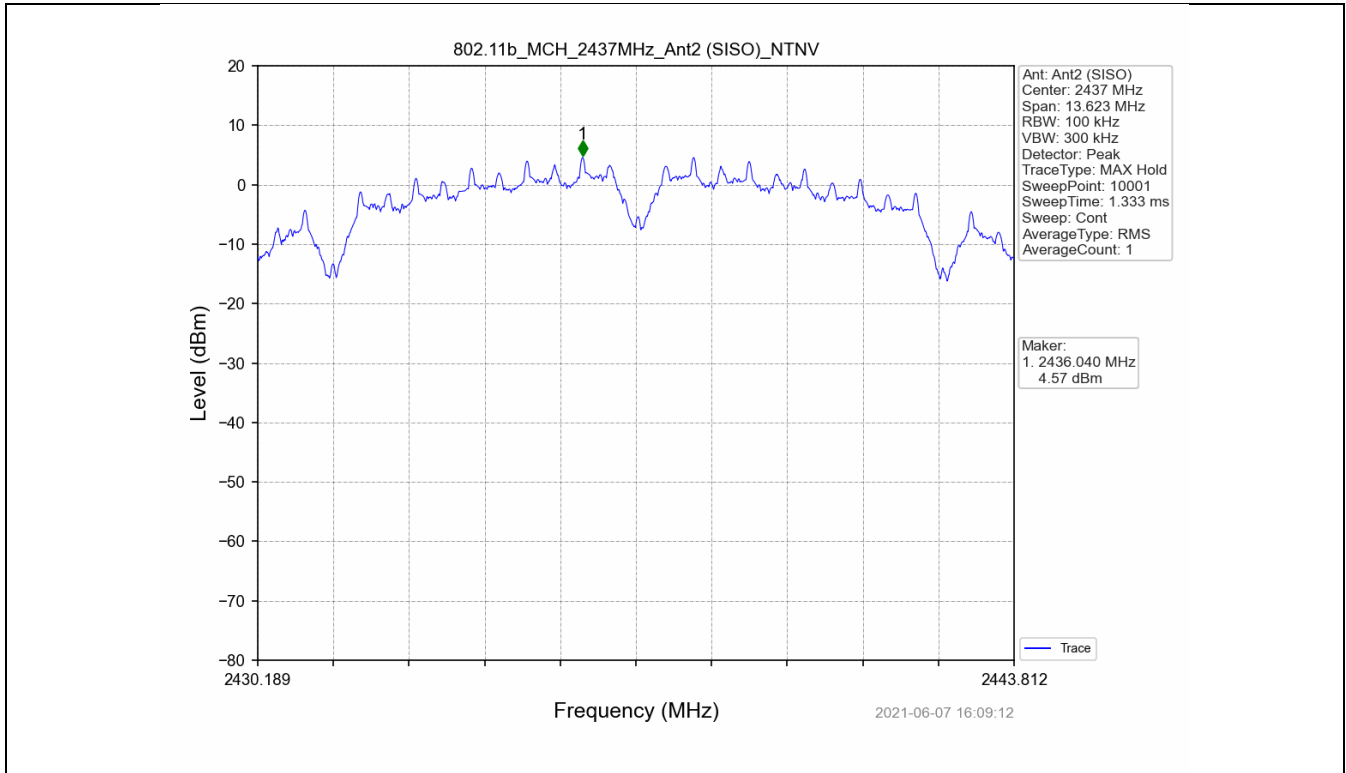
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

5.1.2 Test Graph

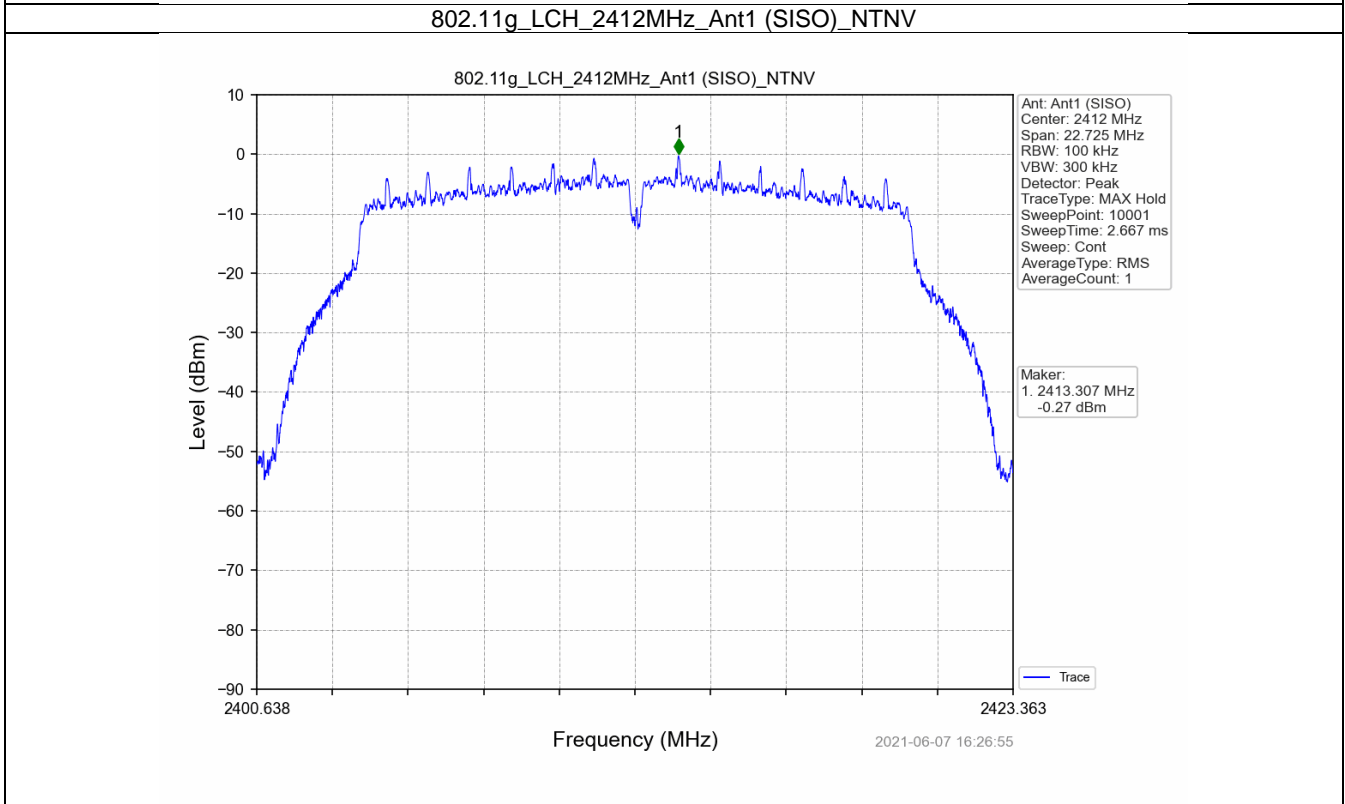
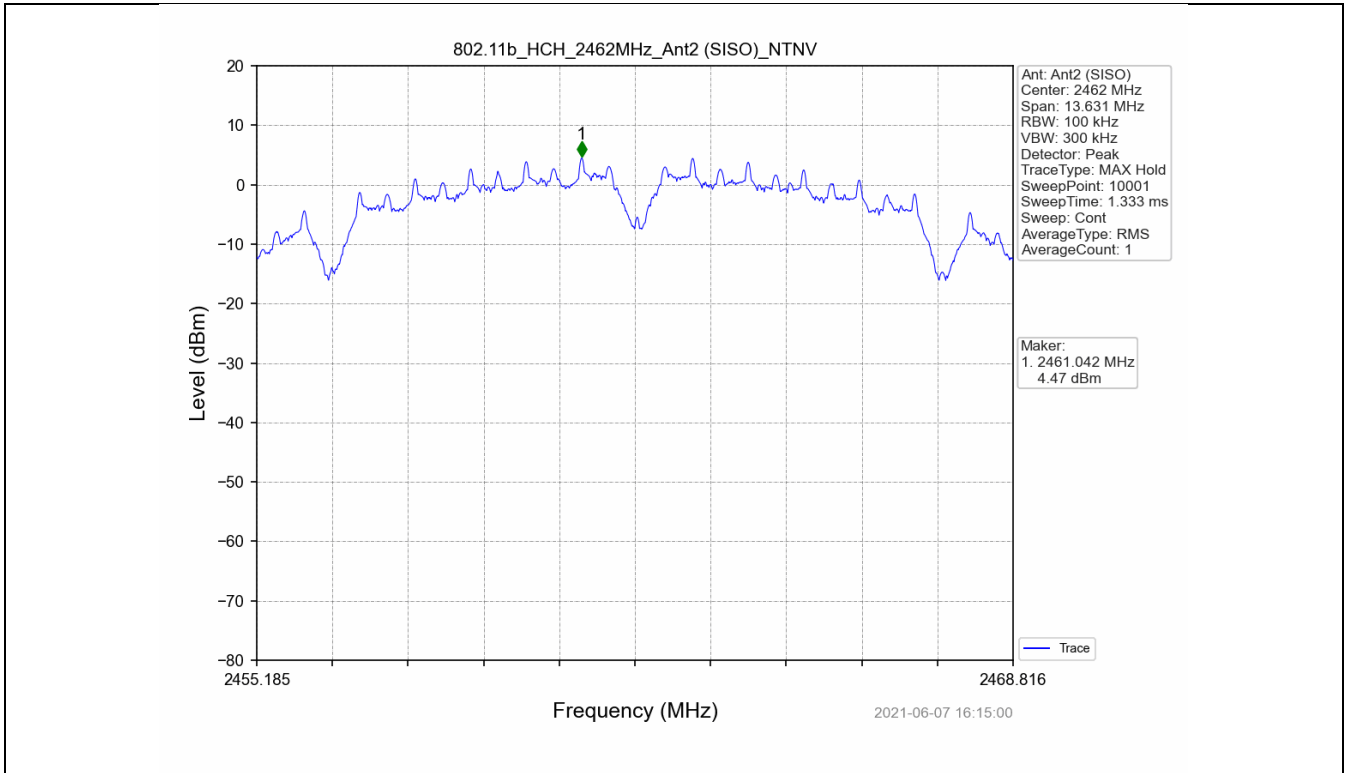




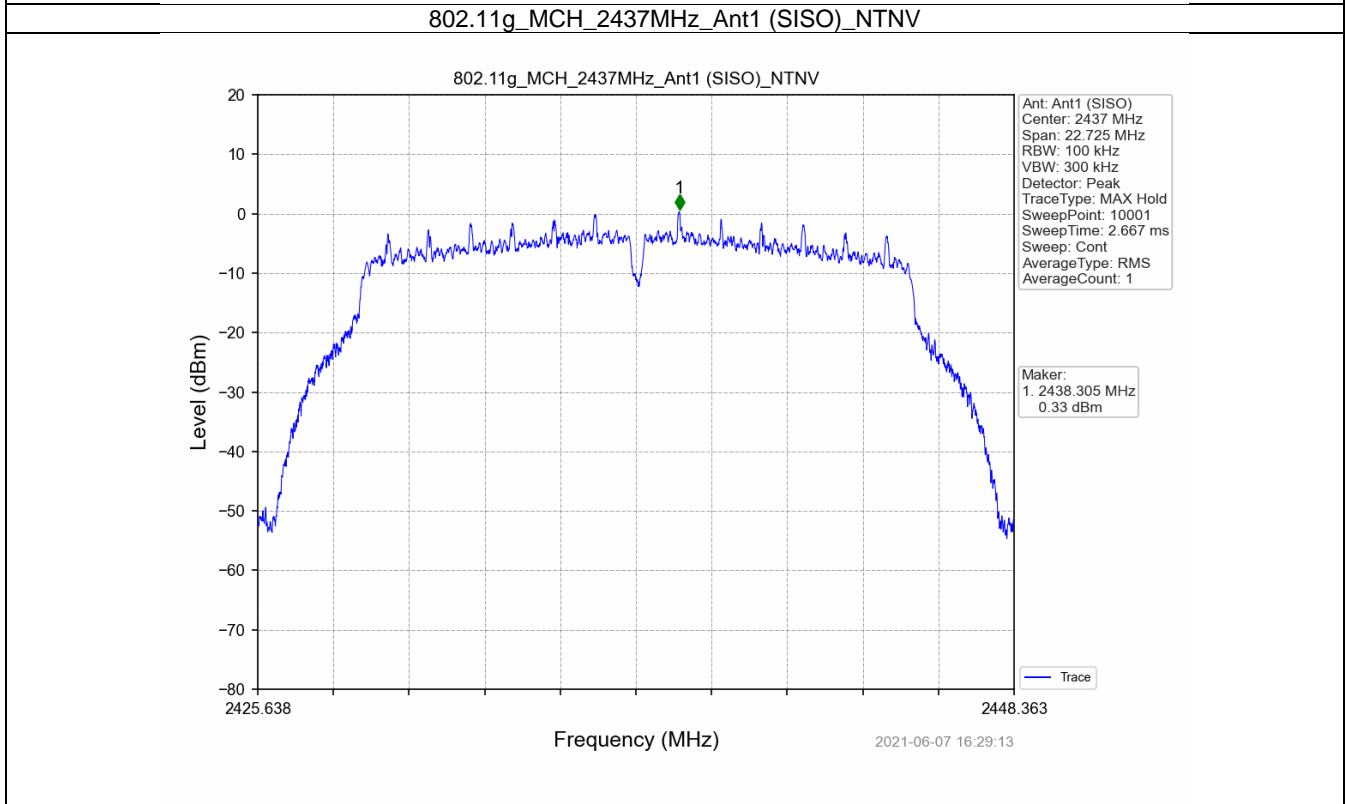
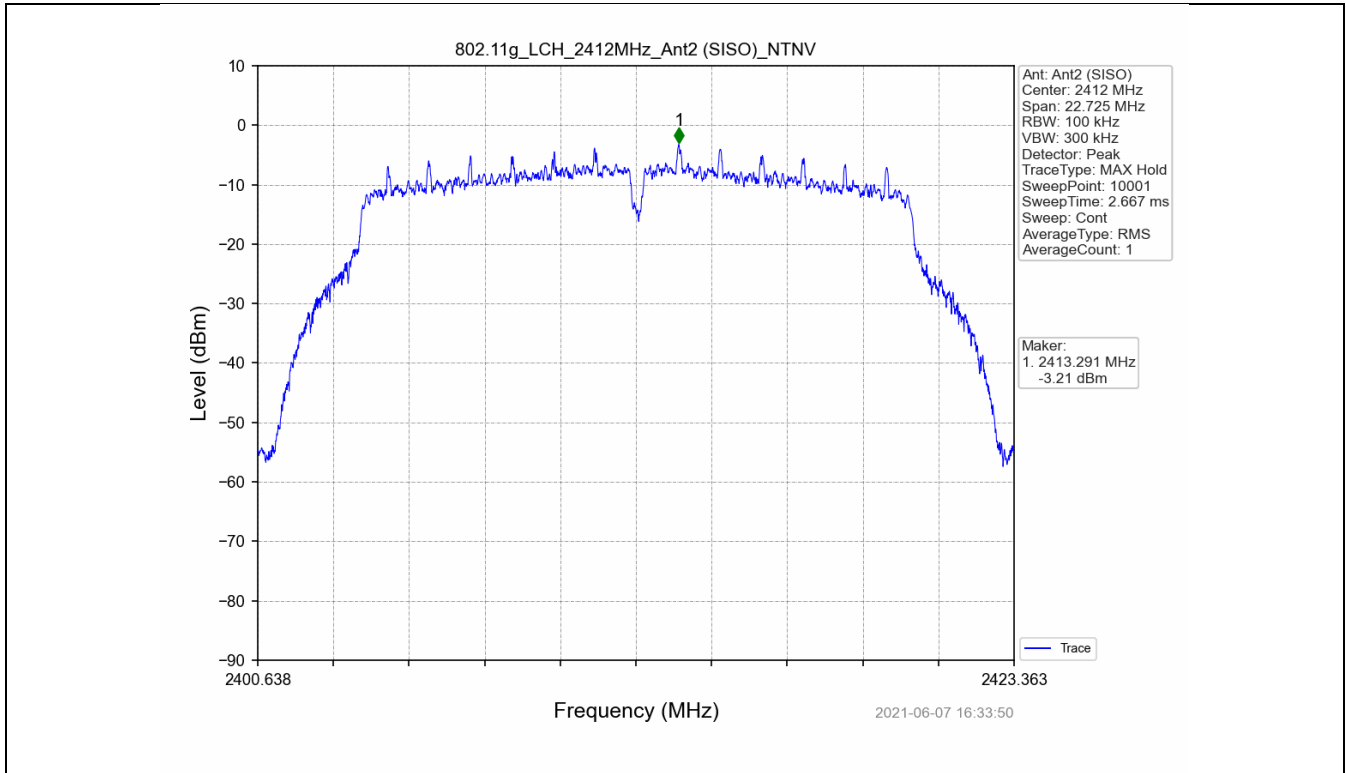
802.11b_MCH_2437MHz_Ant2 (SISO)_NTNV



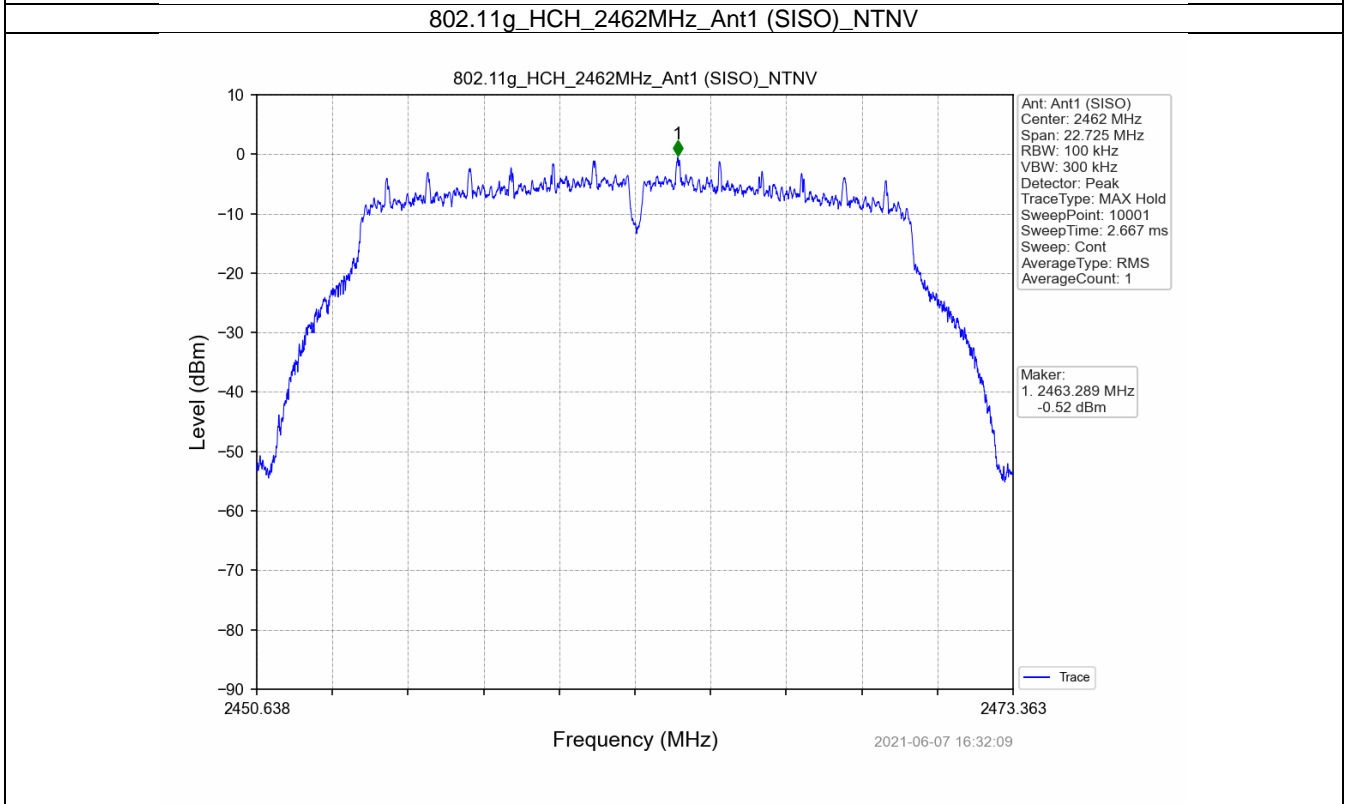
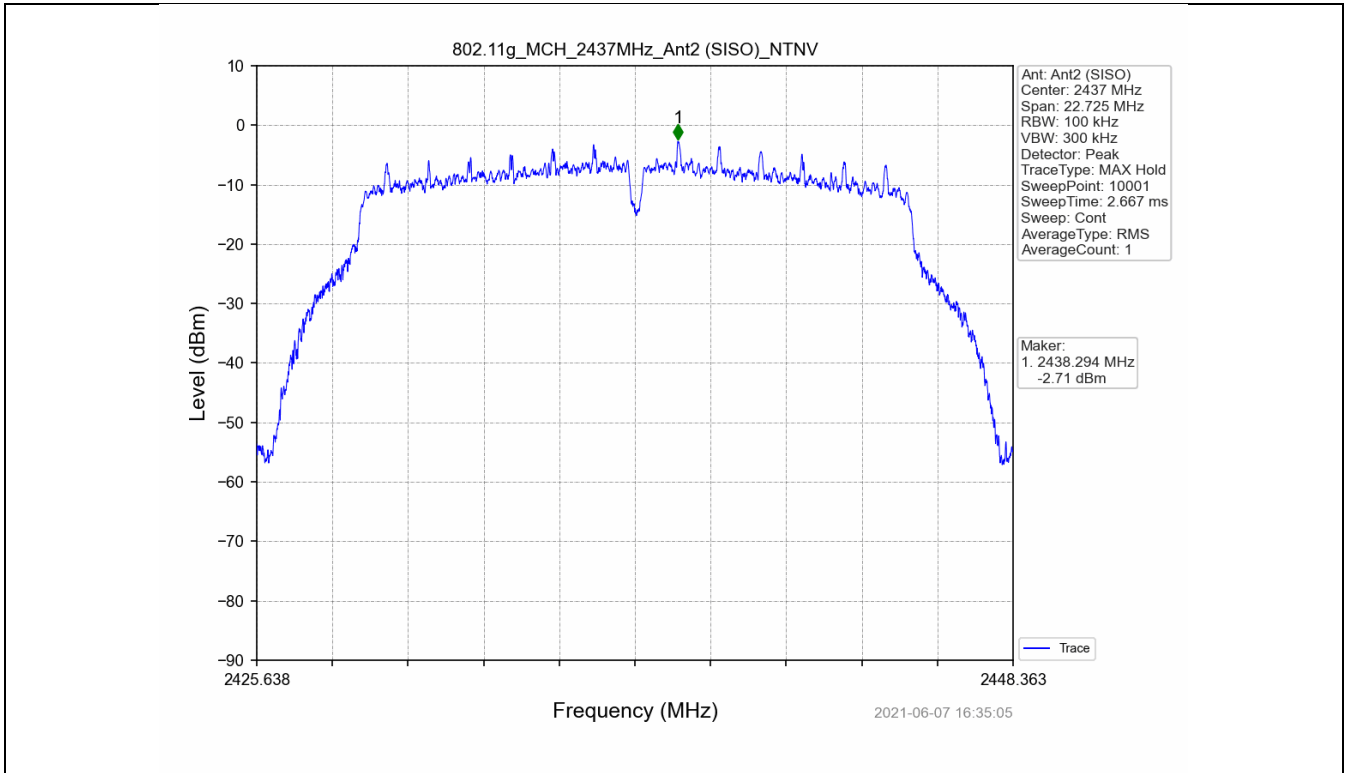
802.11b_HCH_2462MHz_Ant2 (SISO)_NTNV



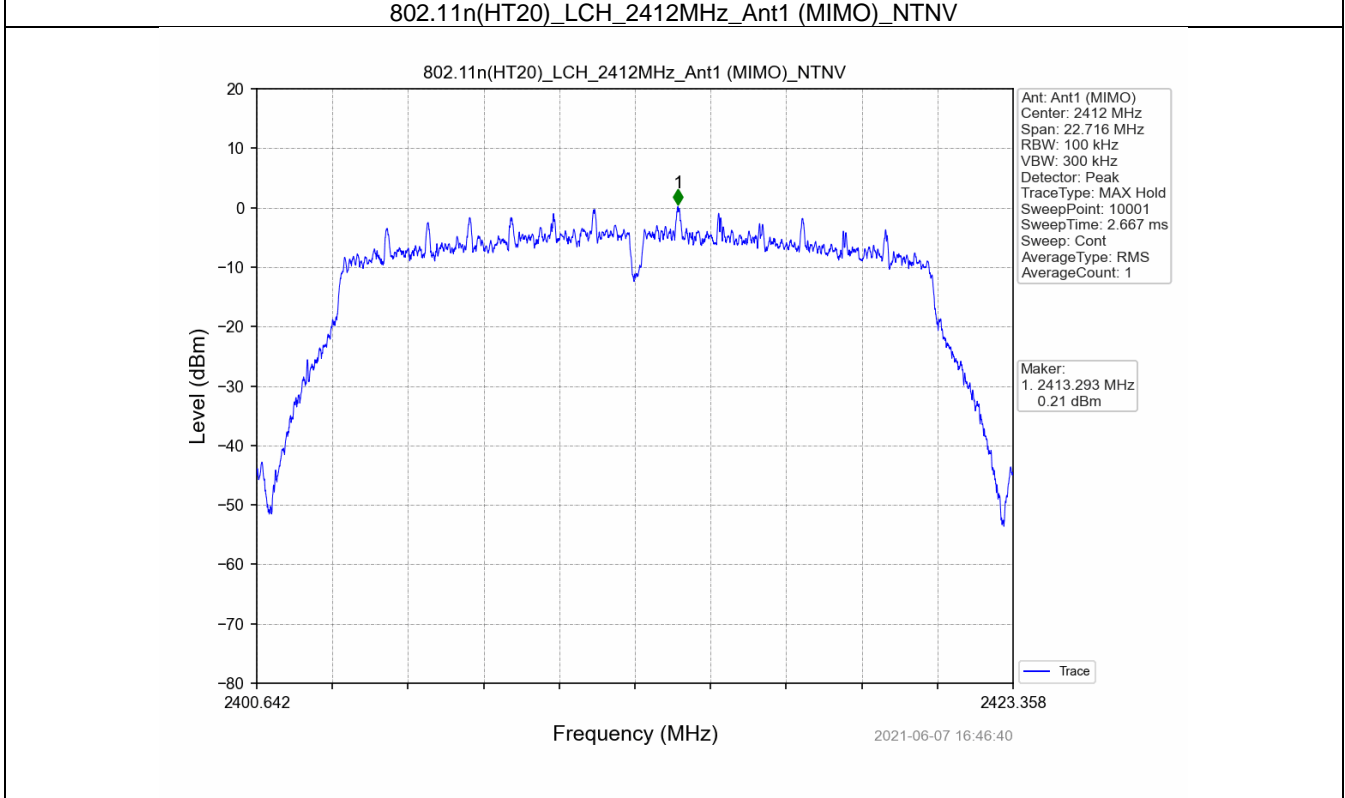
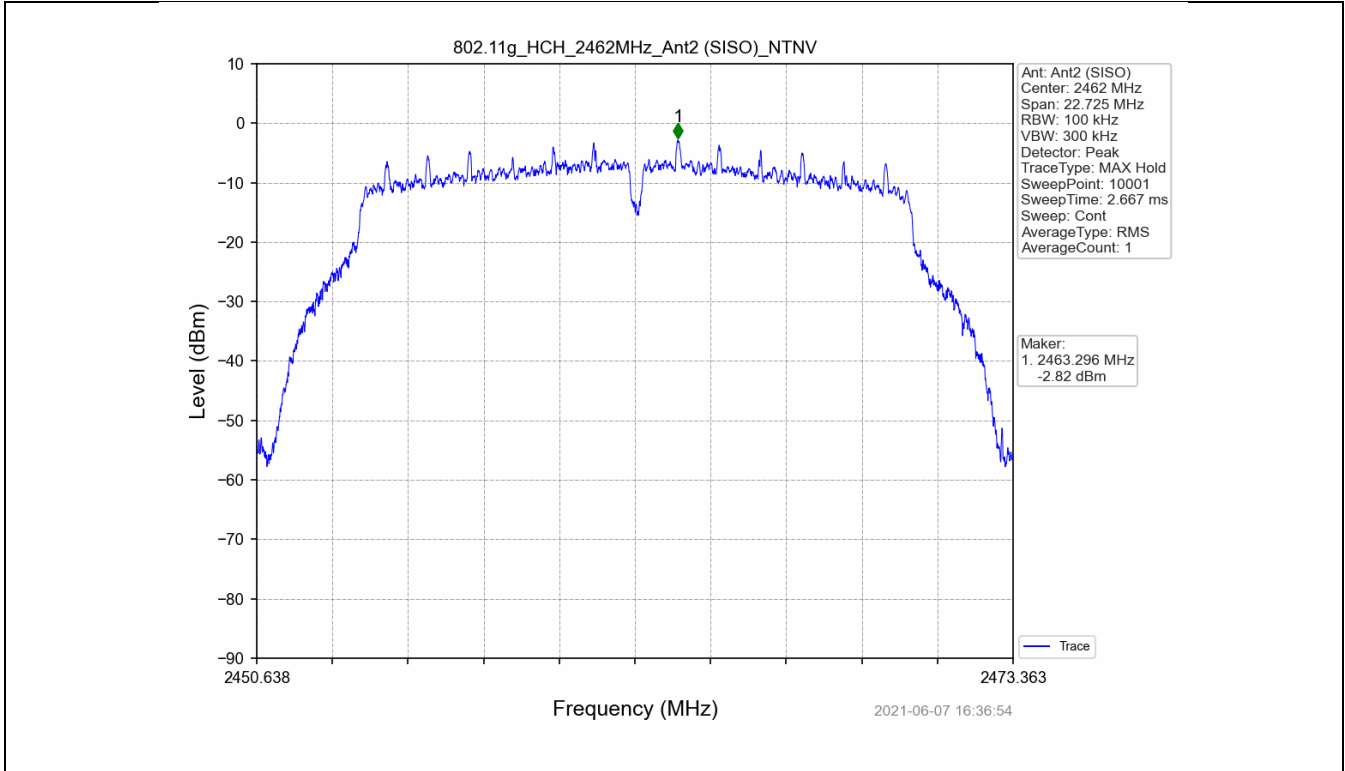
802.11g_LCH_2412MHz_Ant2 (SISO)_NTNV



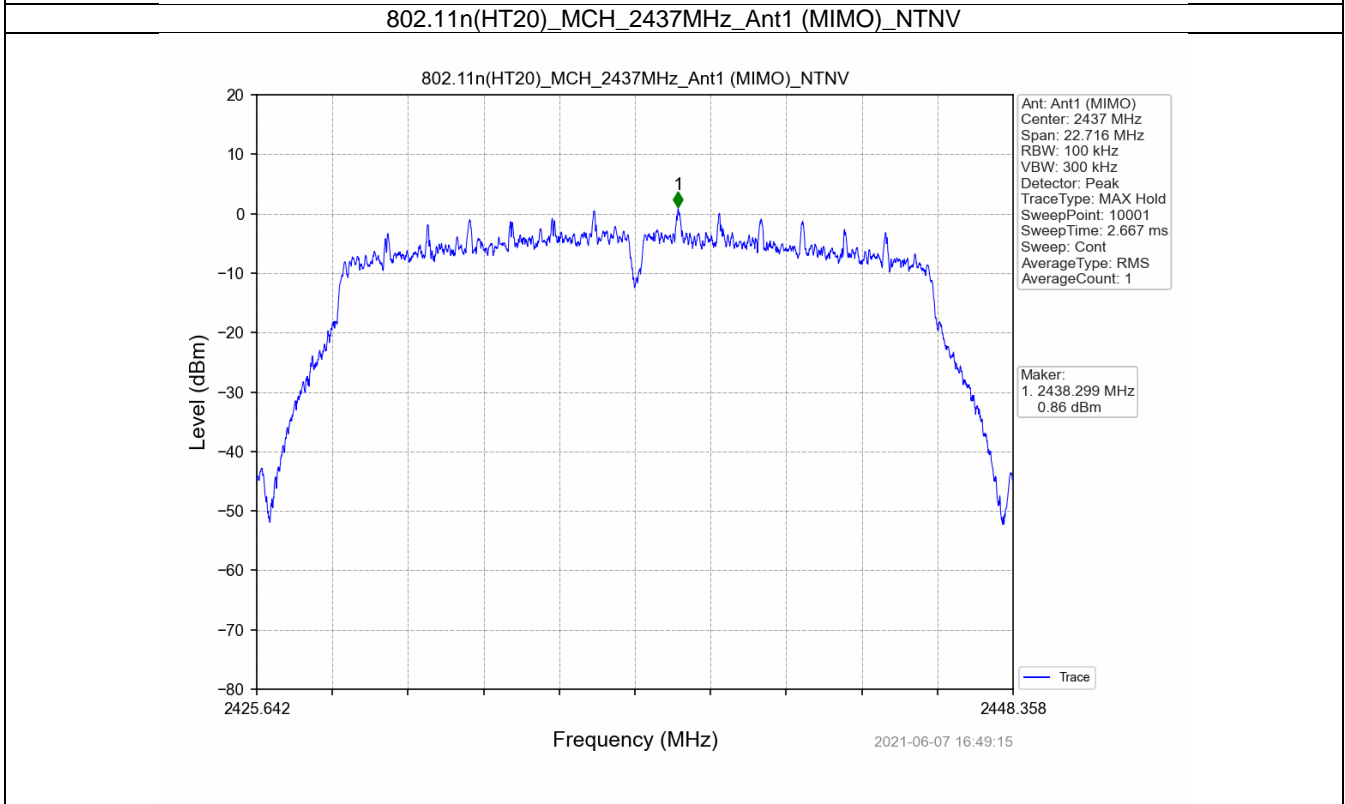
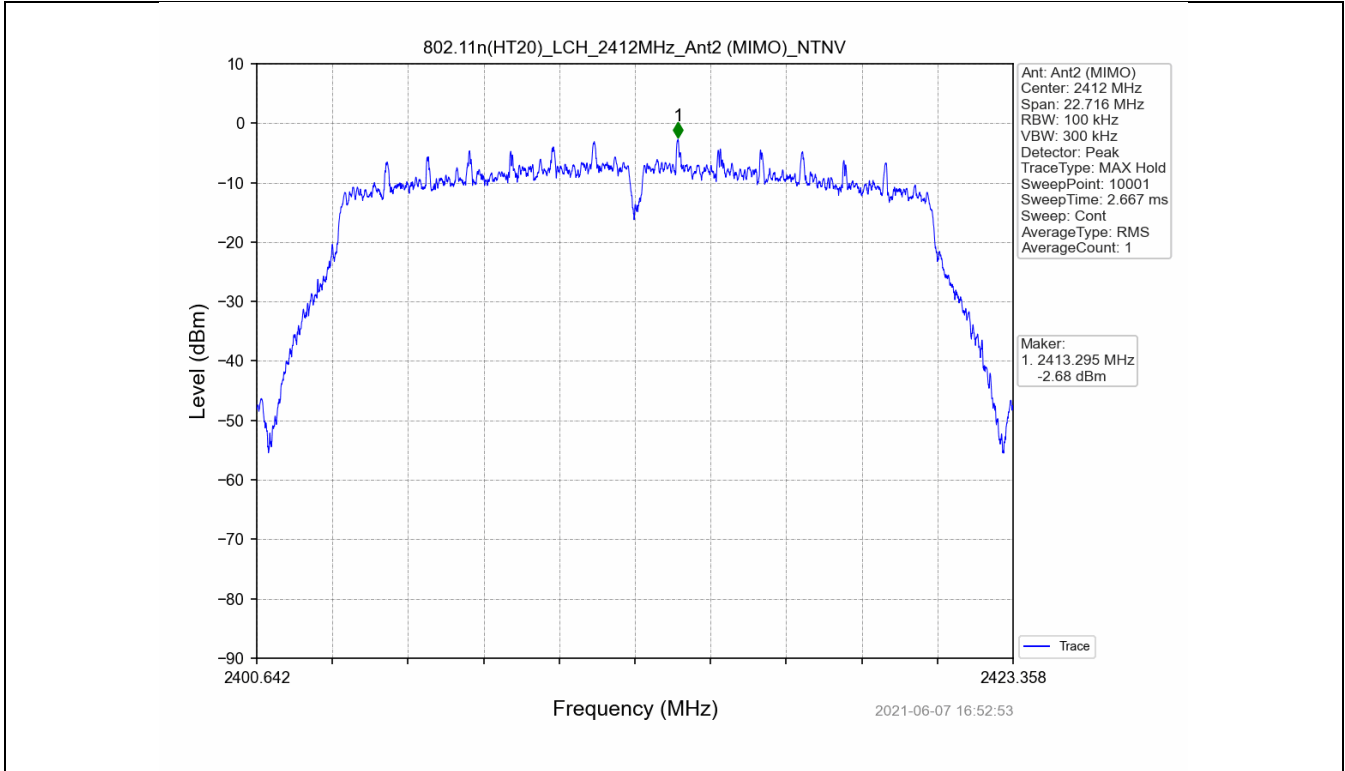
802.11g_MCH_2437MHz_Ant2 (SISO)_NTNV



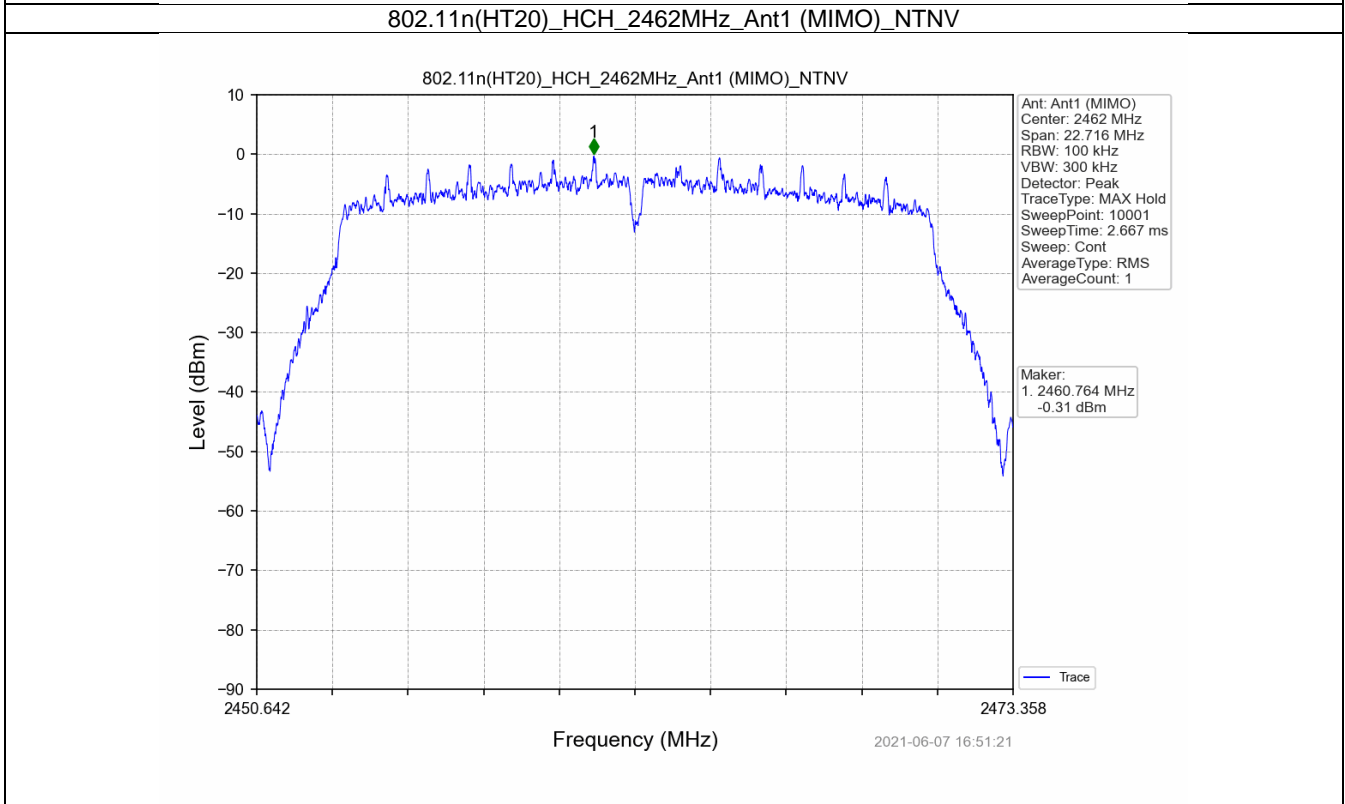
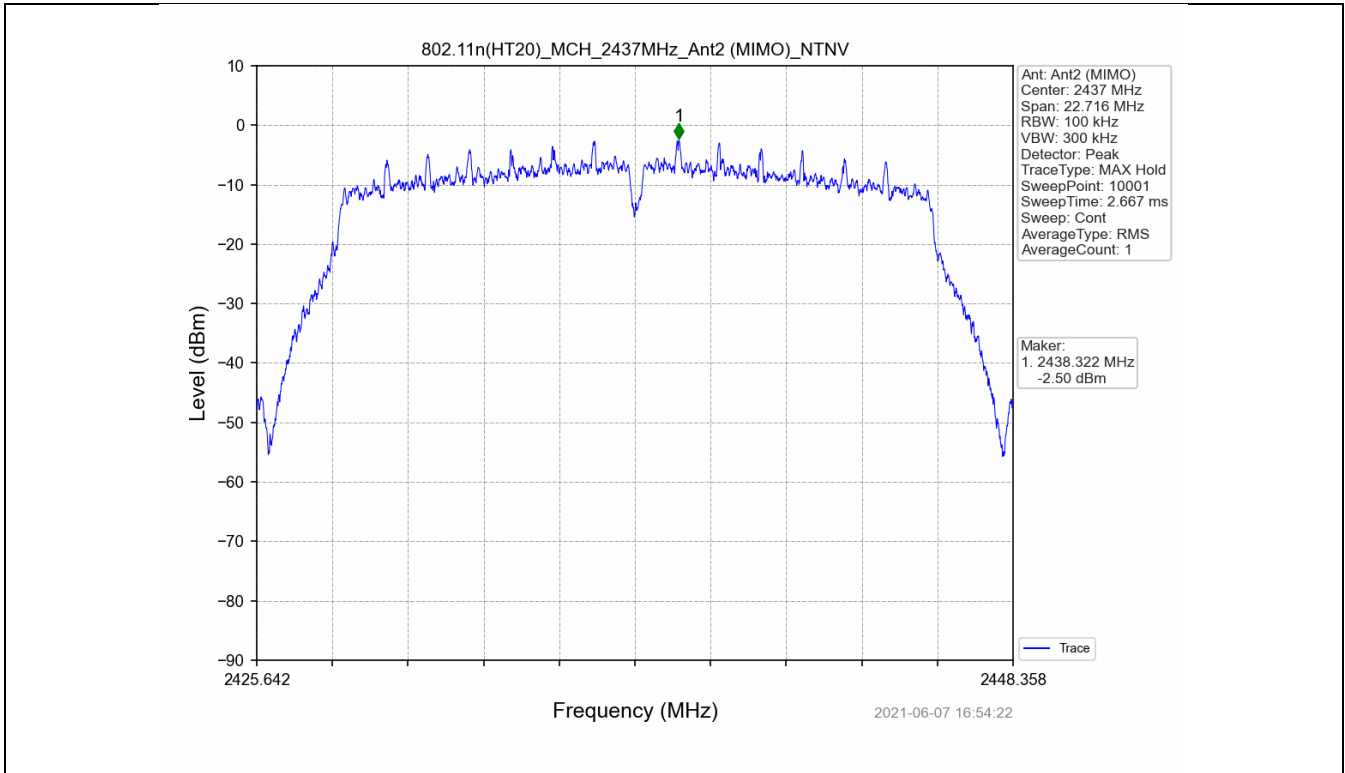
802.11g_HCH_2462MHz_Ant2 (SISO)_NTNV



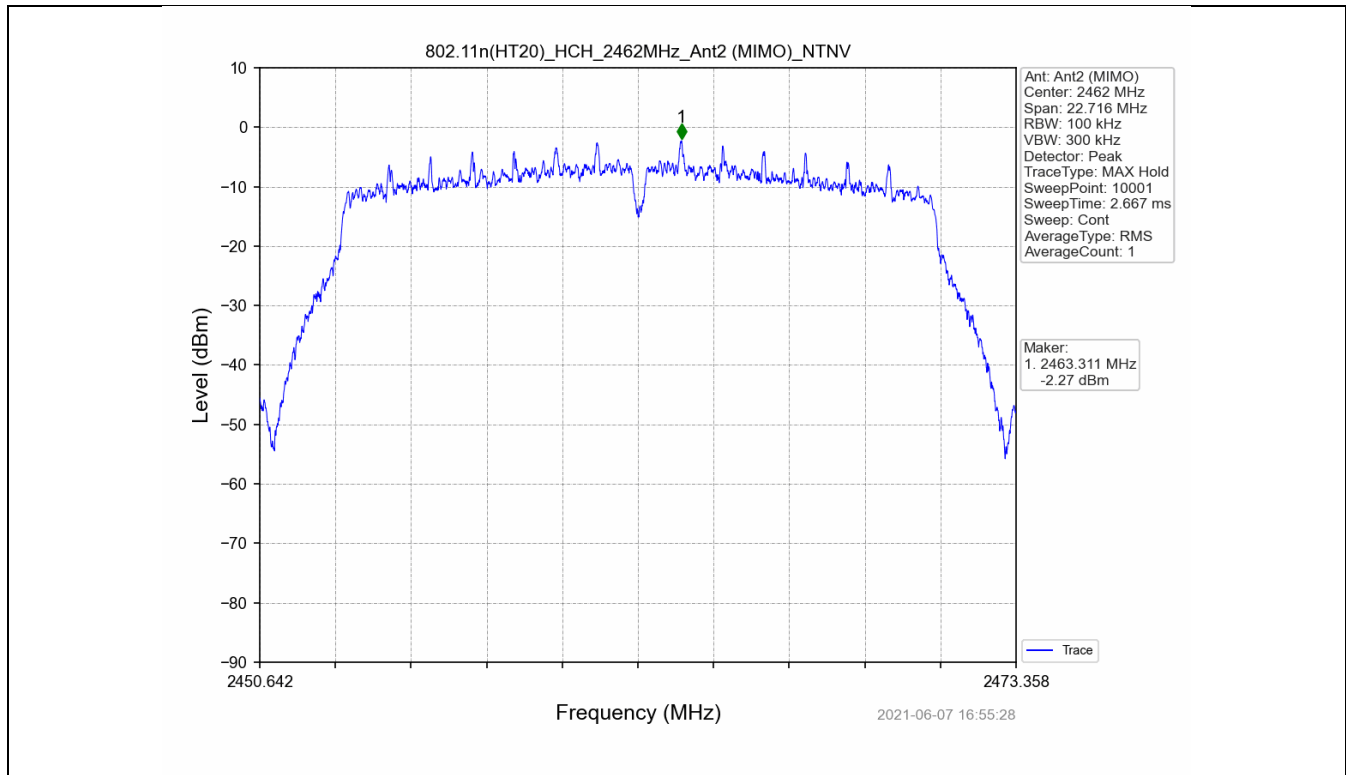
802.11n(HT20)_LCH_2412MHz_Ant2 (MIMO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant2 (MIMO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant2 (MIMO)_NTNV



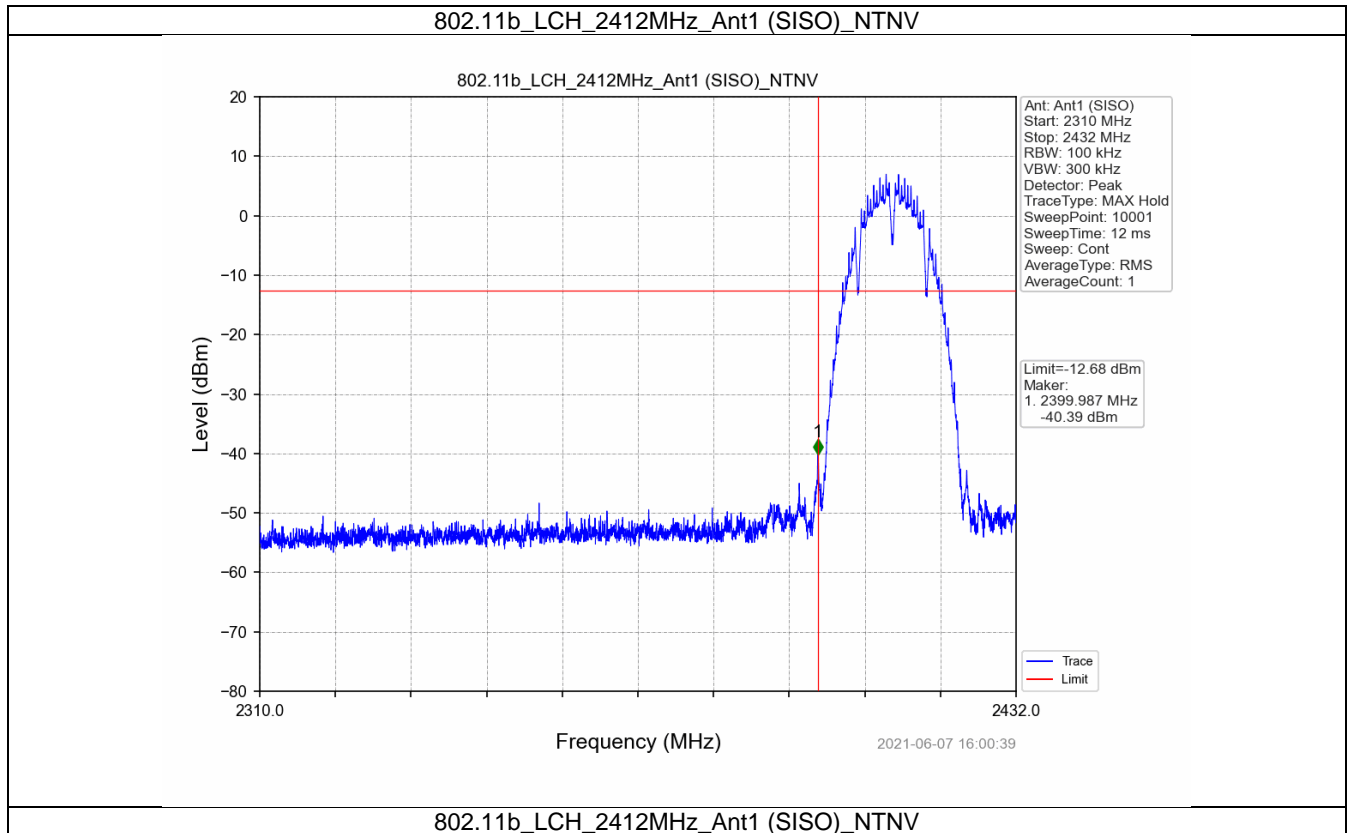
5.2 CSE

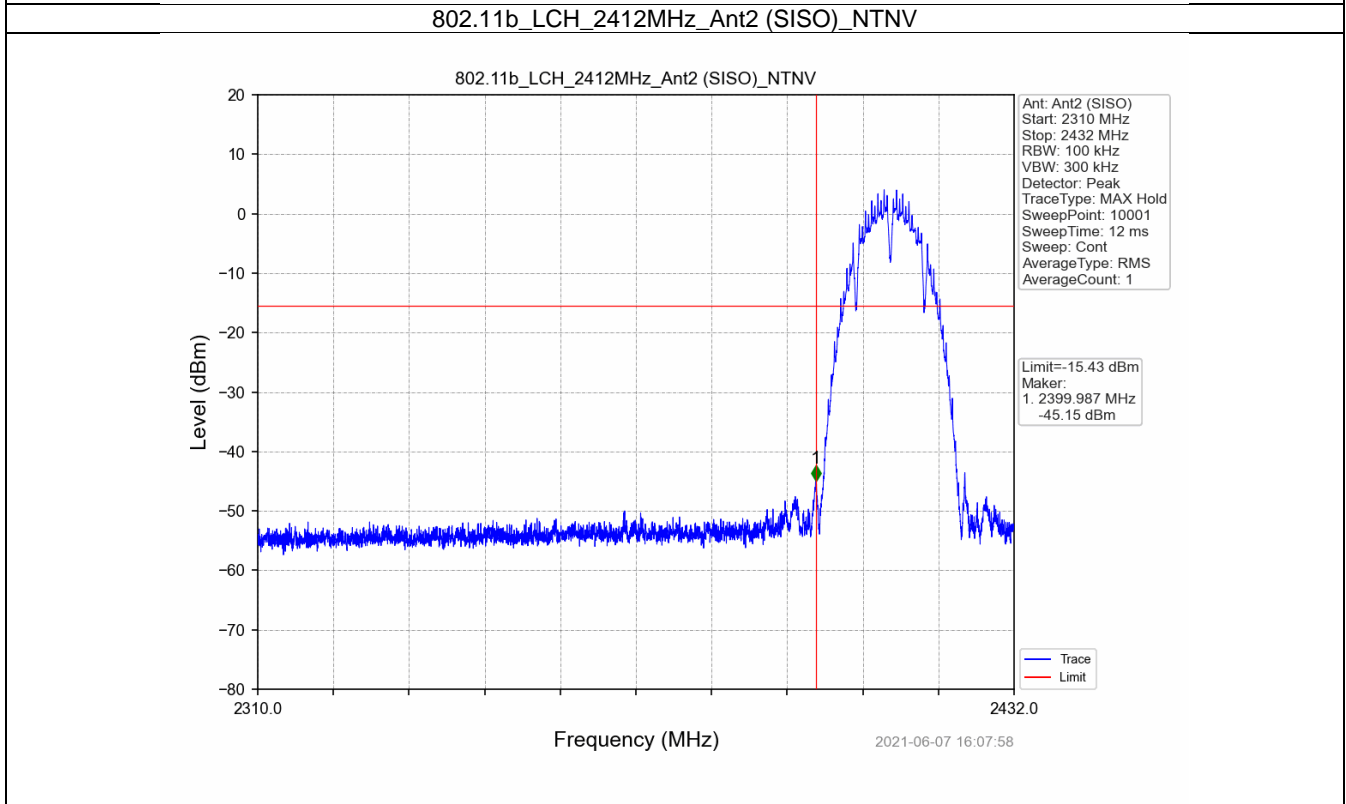
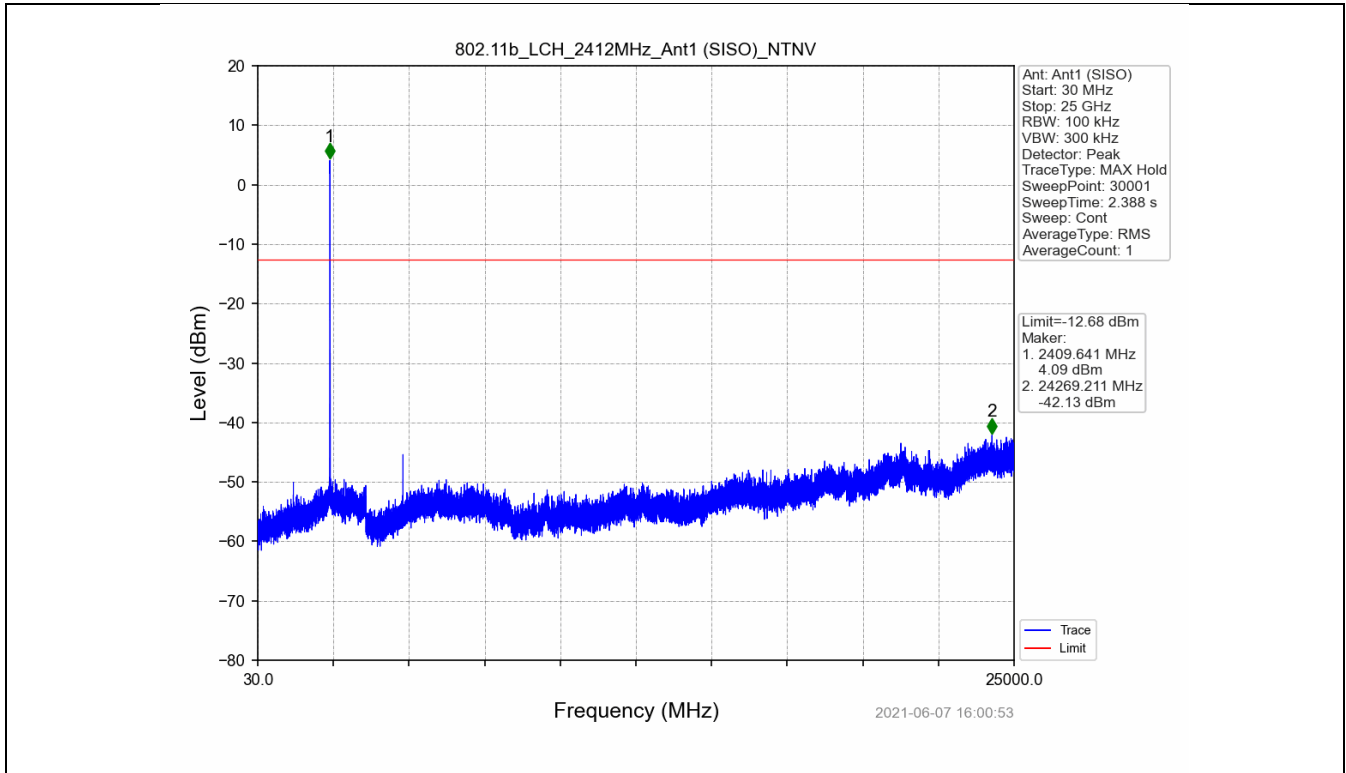
5.2.1 Test Result

Mode	TX Type	Frequency (MHz)	RU	RU Pos	Ant	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	/	/	1	Refer To Test Graph	<=-12.68	Pass
					2	Refer To Test Graph	<=-15.43	Pass
		2437	/	/	1	Refer To Test Graph	<=-12.68	Pass
					2	Refer To Test Graph	<=-15.43	Pass
		2462	/	/	1	Refer To Test Graph	<=-12.68	Pass
					2	Refer To Test Graph	<=-15.43	Pass
802.11g	SISO	2412	/	/	1	Refer To Test Graph	<=-19.67	Pass
					2	Refer To Test Graph	<=-22.71	Pass
		2437	/	/	1	Refer To Test Graph	<=-19.67	Pass
					2	Refer To Test Graph	<=-22.71	Pass
		2462	/	/	1	Refer To Test Graph	<=-19.67	Pass
					2	Refer To Test Graph	<=-22.71	Pass
802.11n (HT20)	MIMO	2412	/	/	1	Refer To Test Graph	<=-19.14	Pass
					2	Refer To Test Graph	<=-22.27	Pass
		2437	/	/	1	Refer To Test Graph	<=-19.14	Pass
					2	Refer To Test Graph	<=-22.27	Pass
		2462	/	/	1	Refer To Test Graph	<=-19.14	Pass
					2	Refer To Test Graph	<=-22.27	Pass

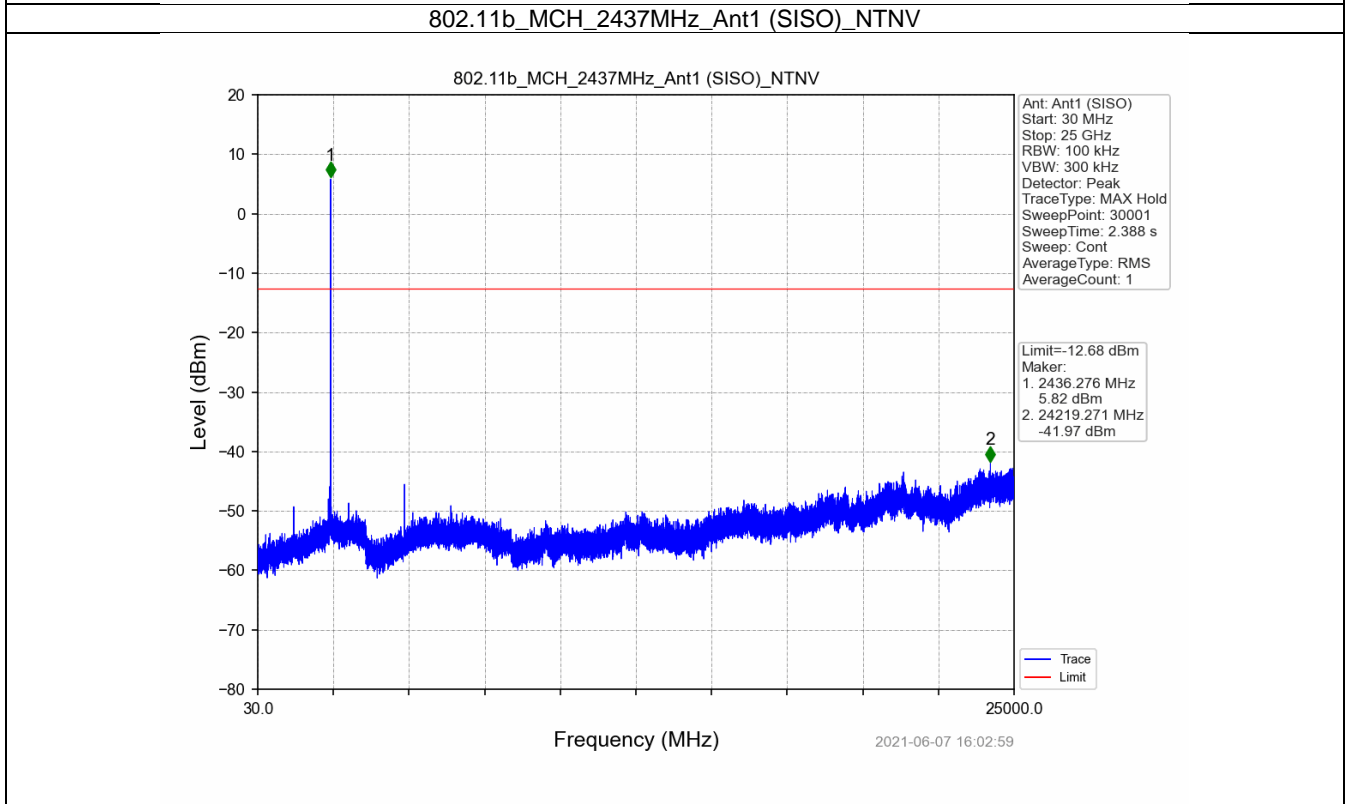
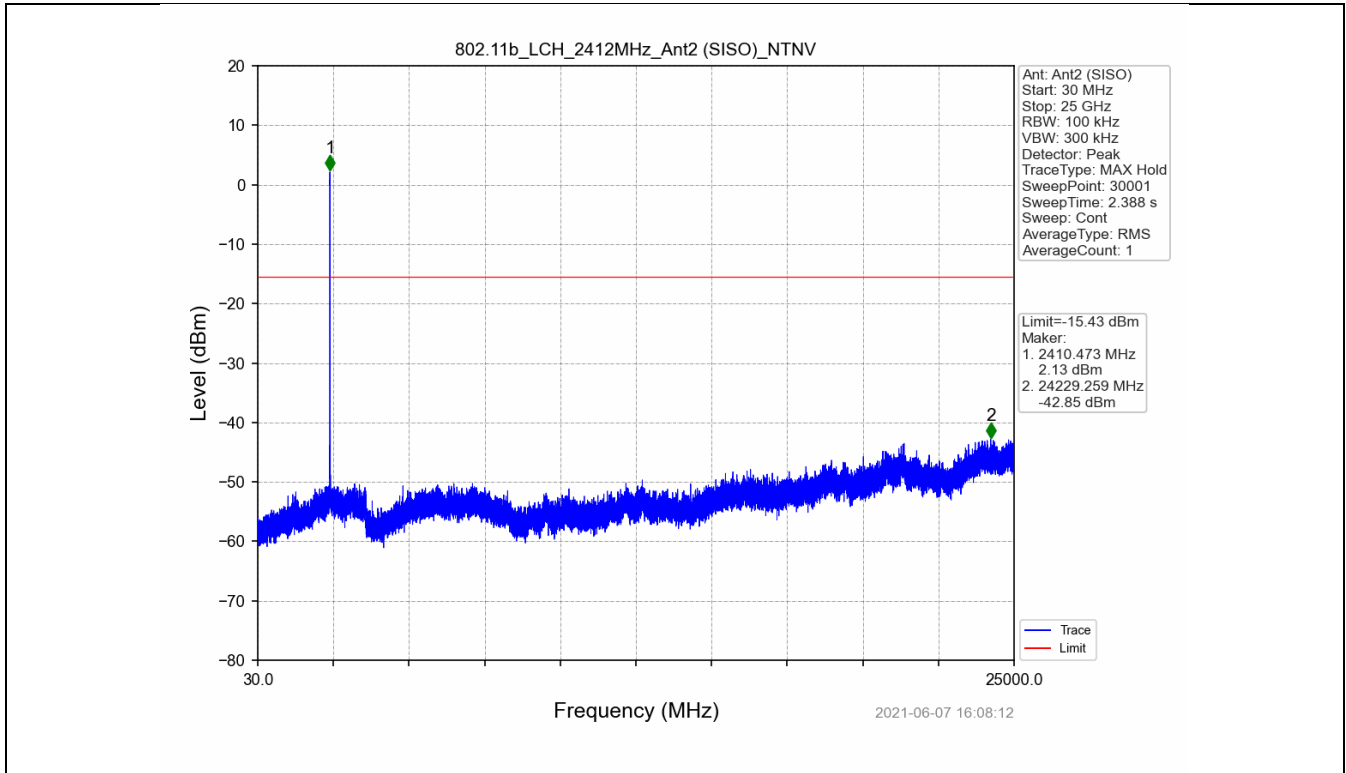
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

5.2.2 Test Graph

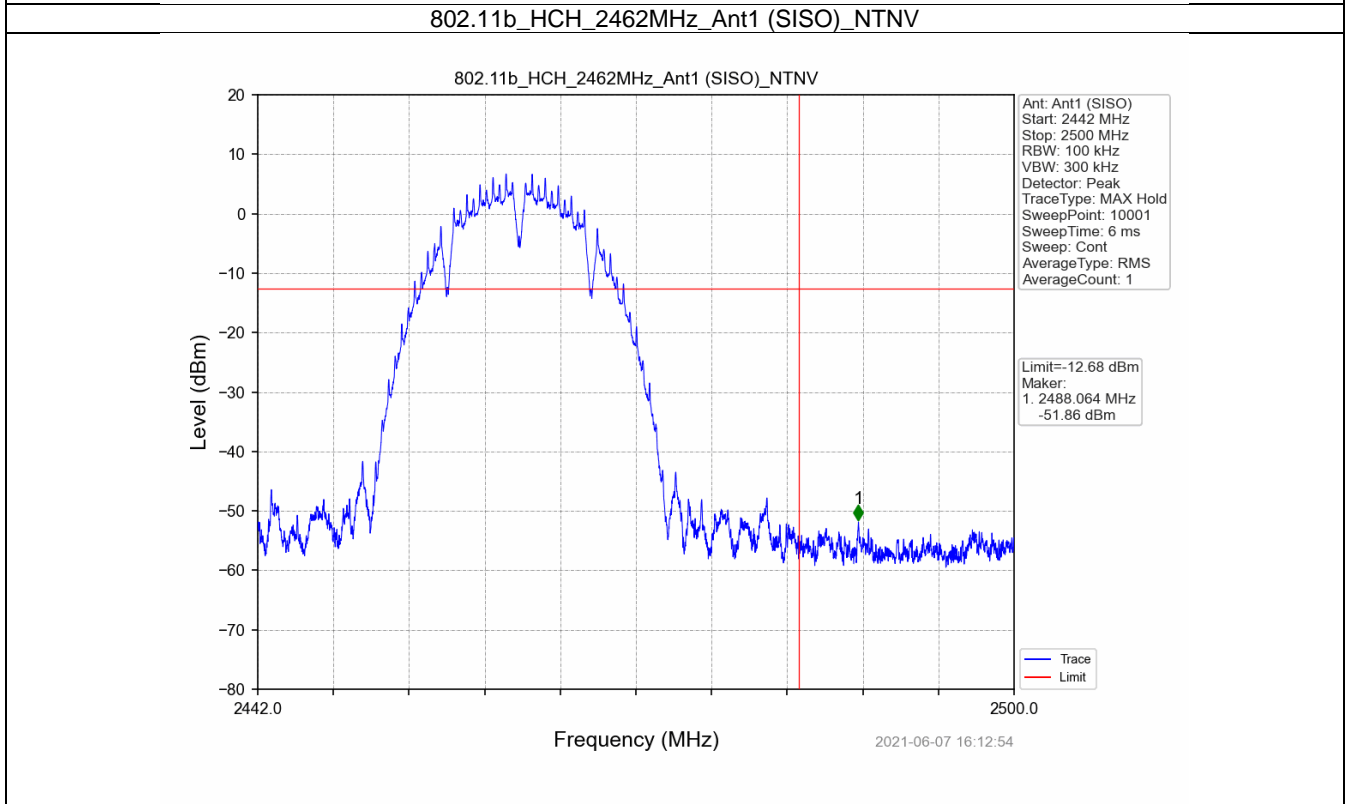
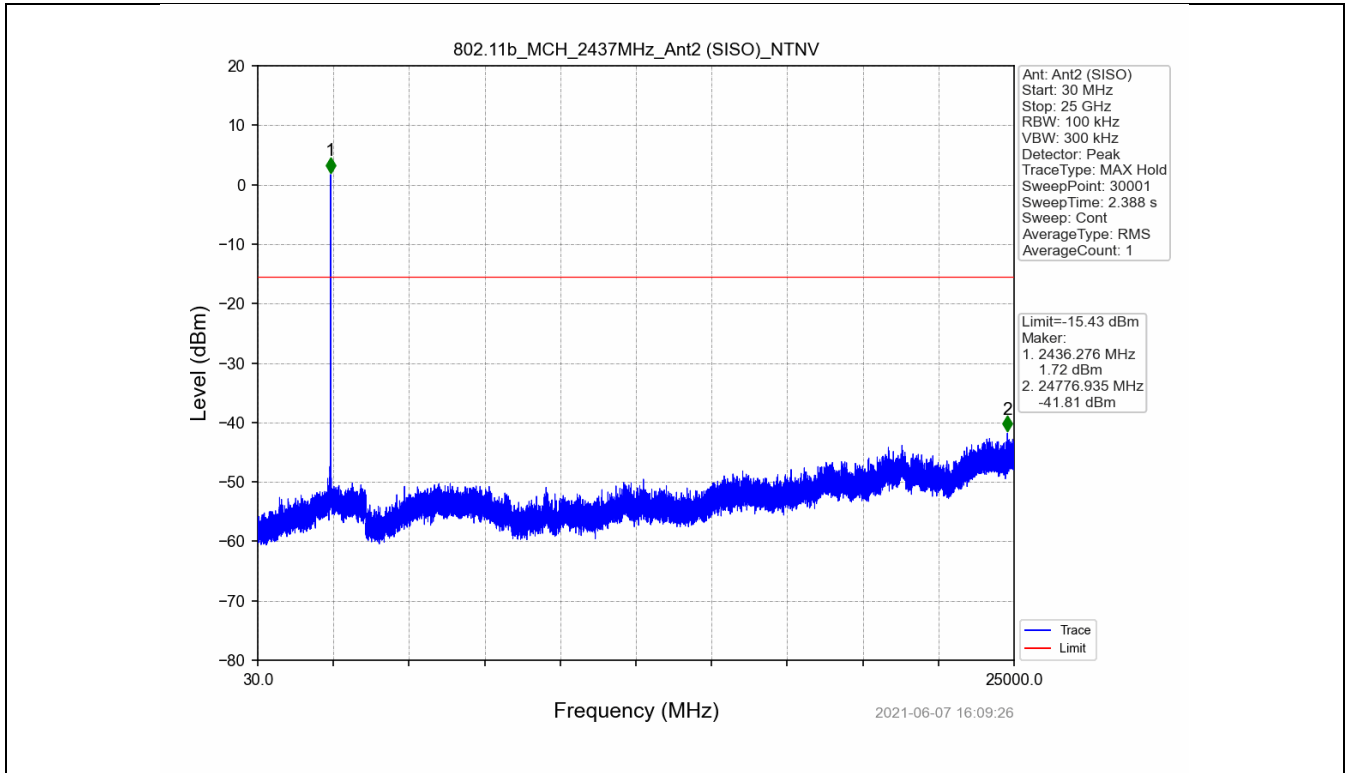




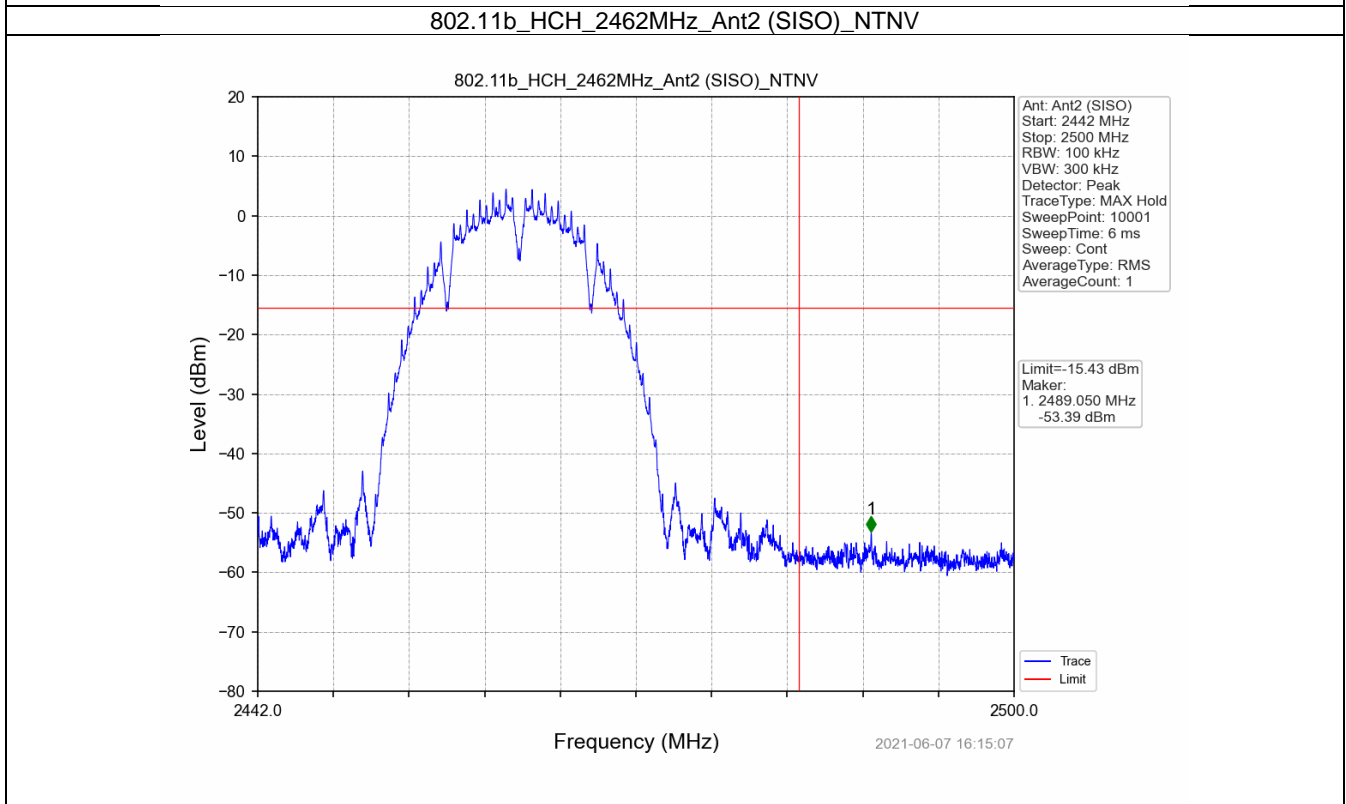
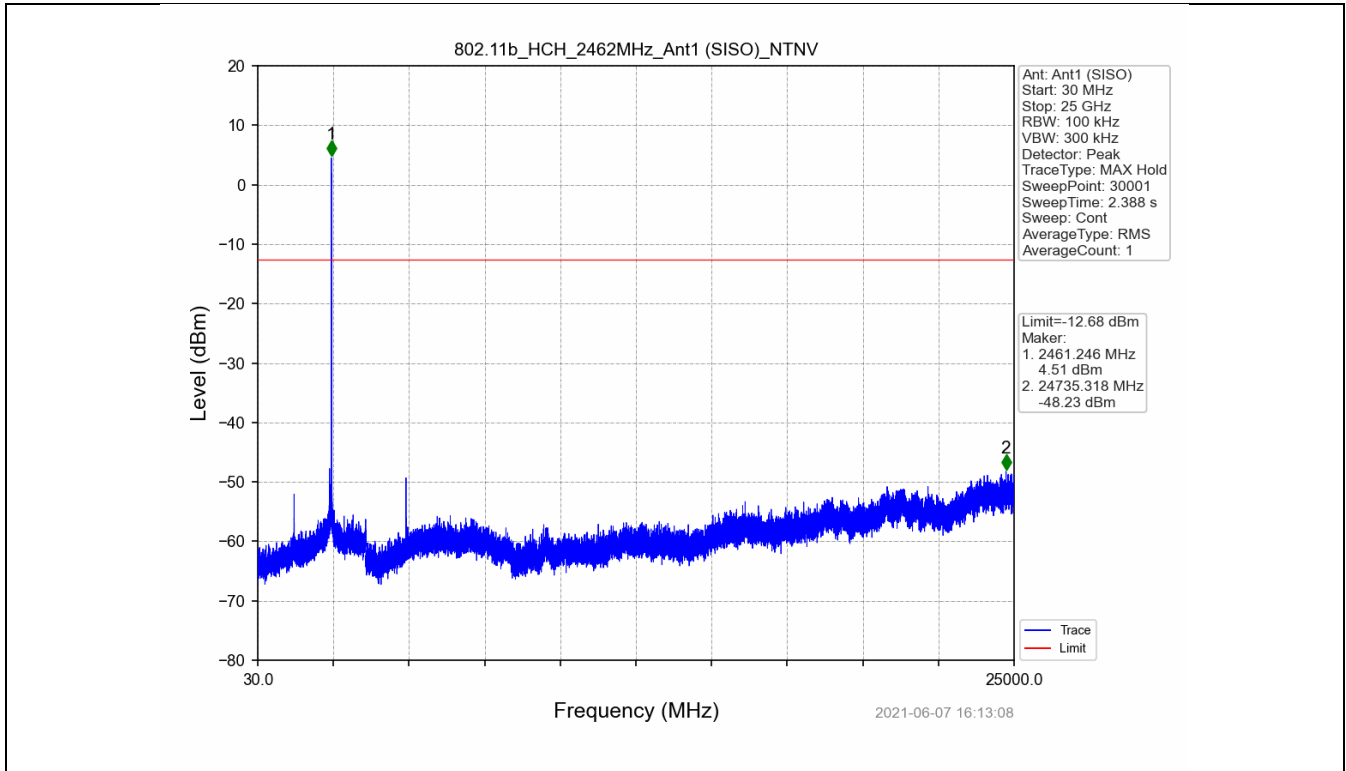
802.11b_LCH_2412MHz_Ant2 (SISO)_NTNV



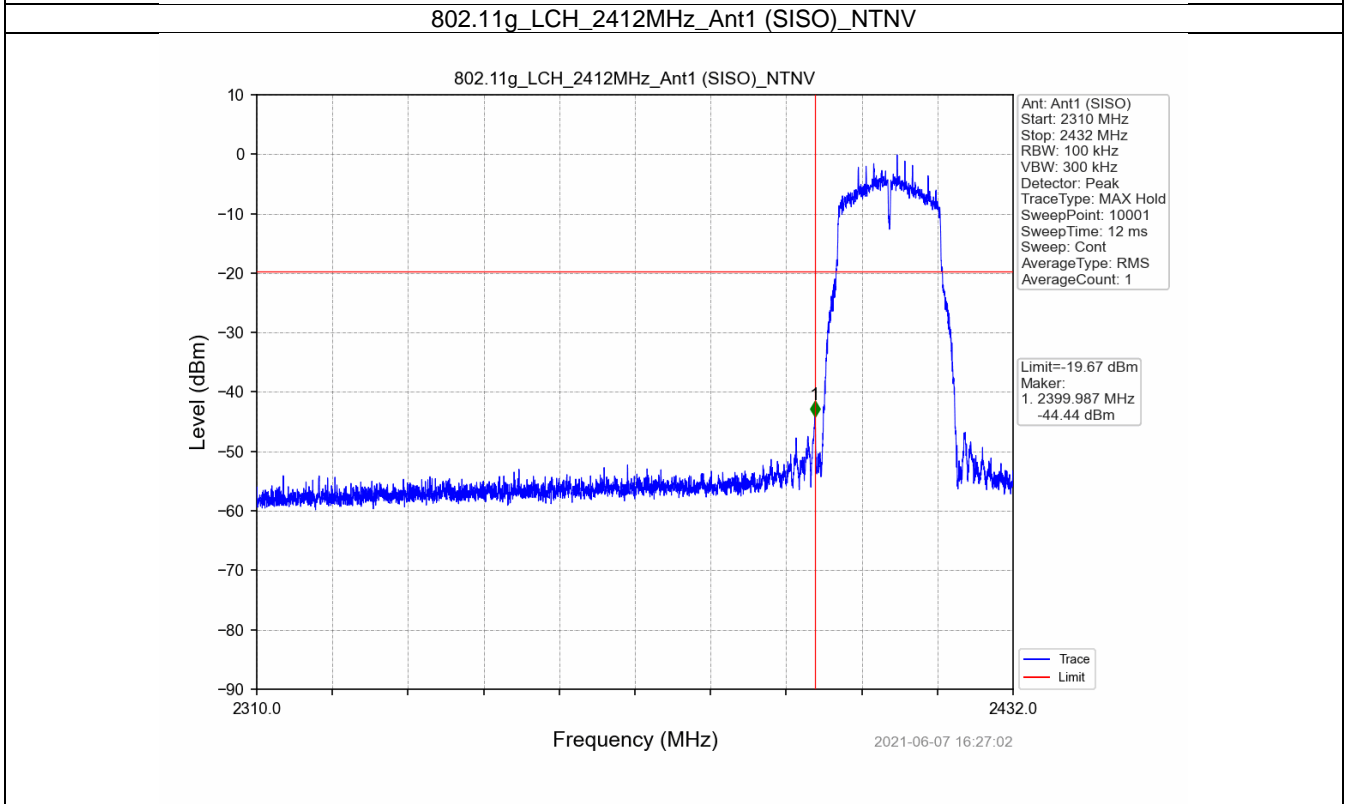
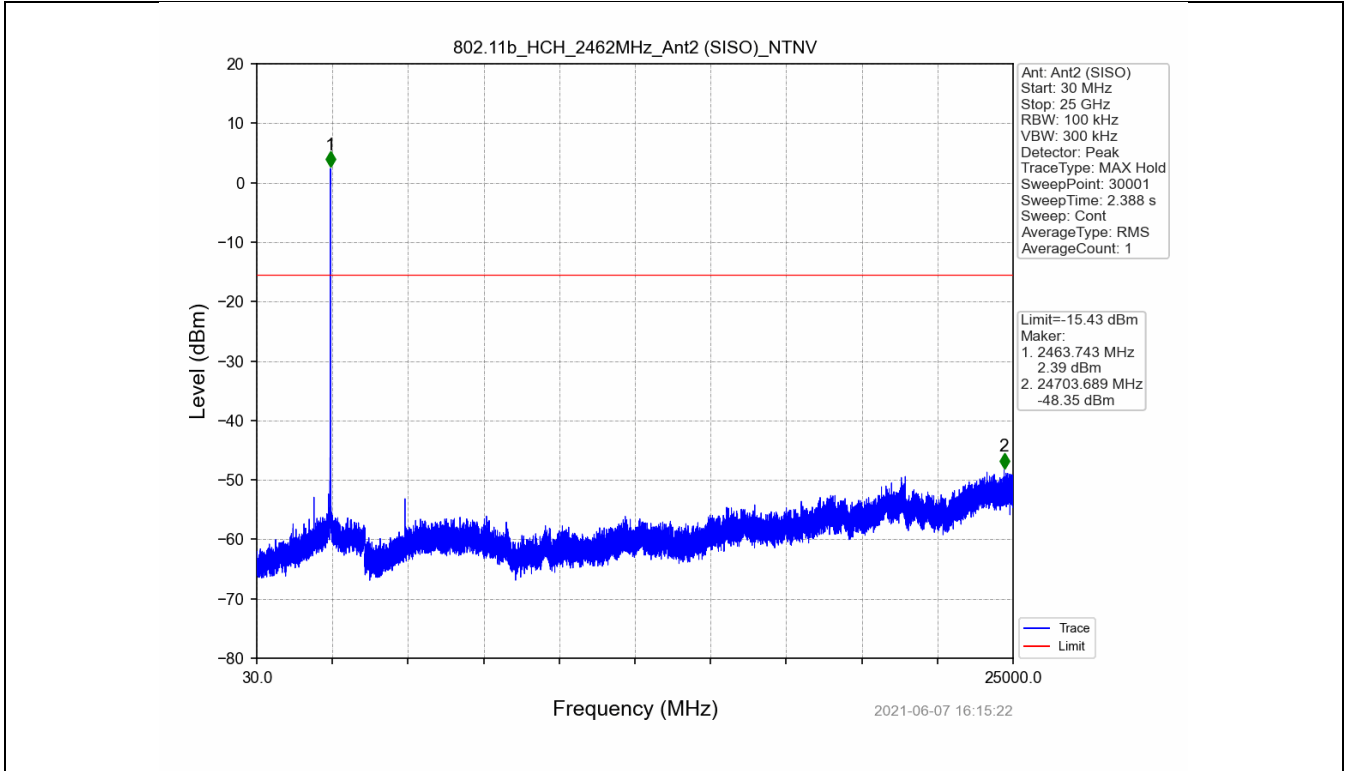
802.11b_MCH_2437MHz_Ant2 (SISO)_NTNV



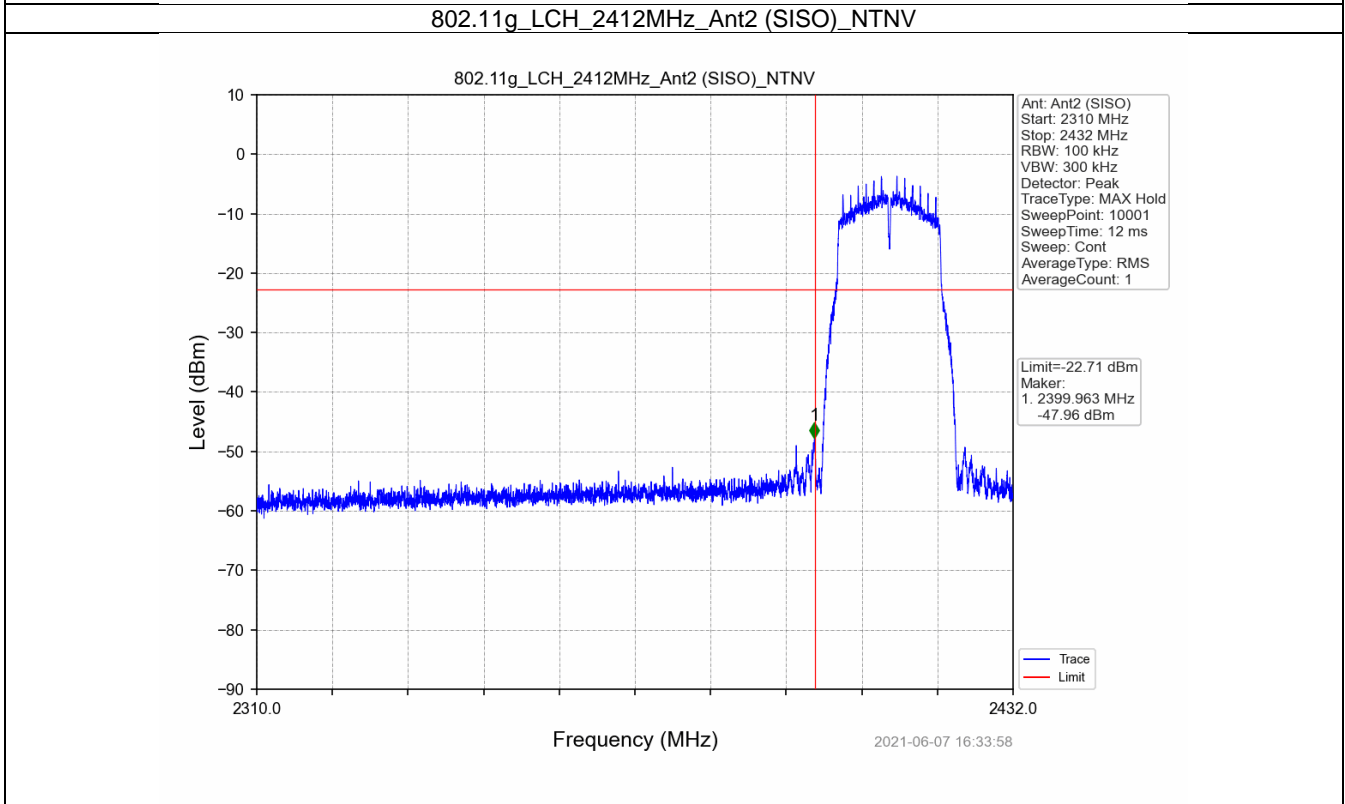
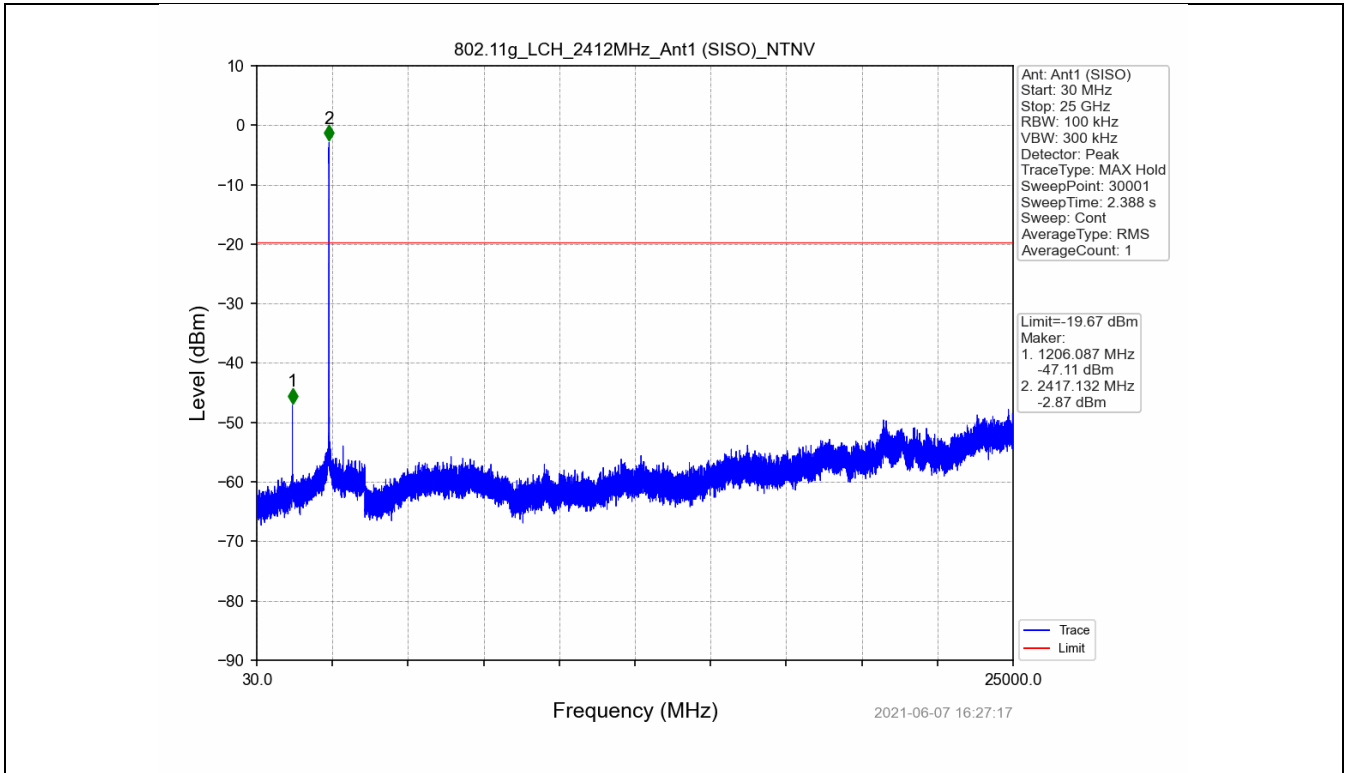
802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV



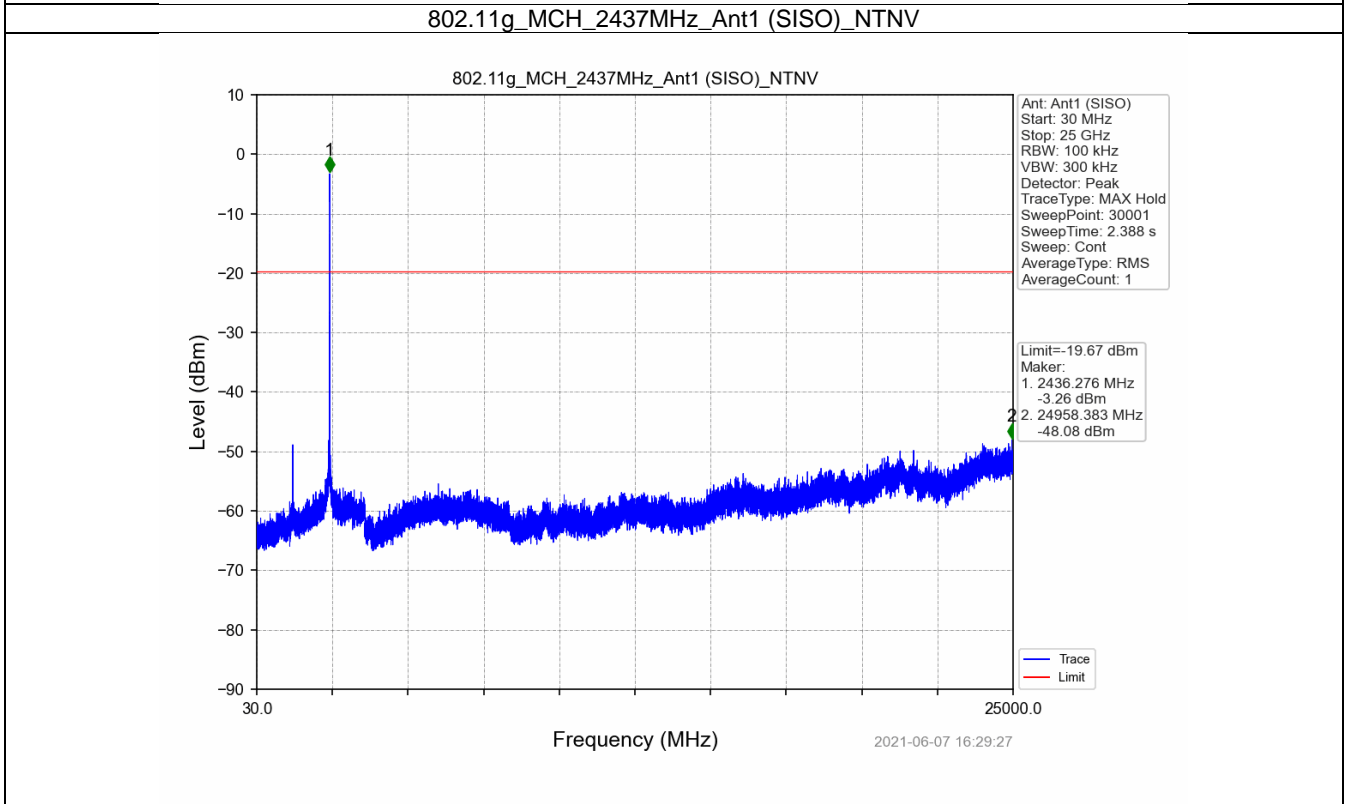
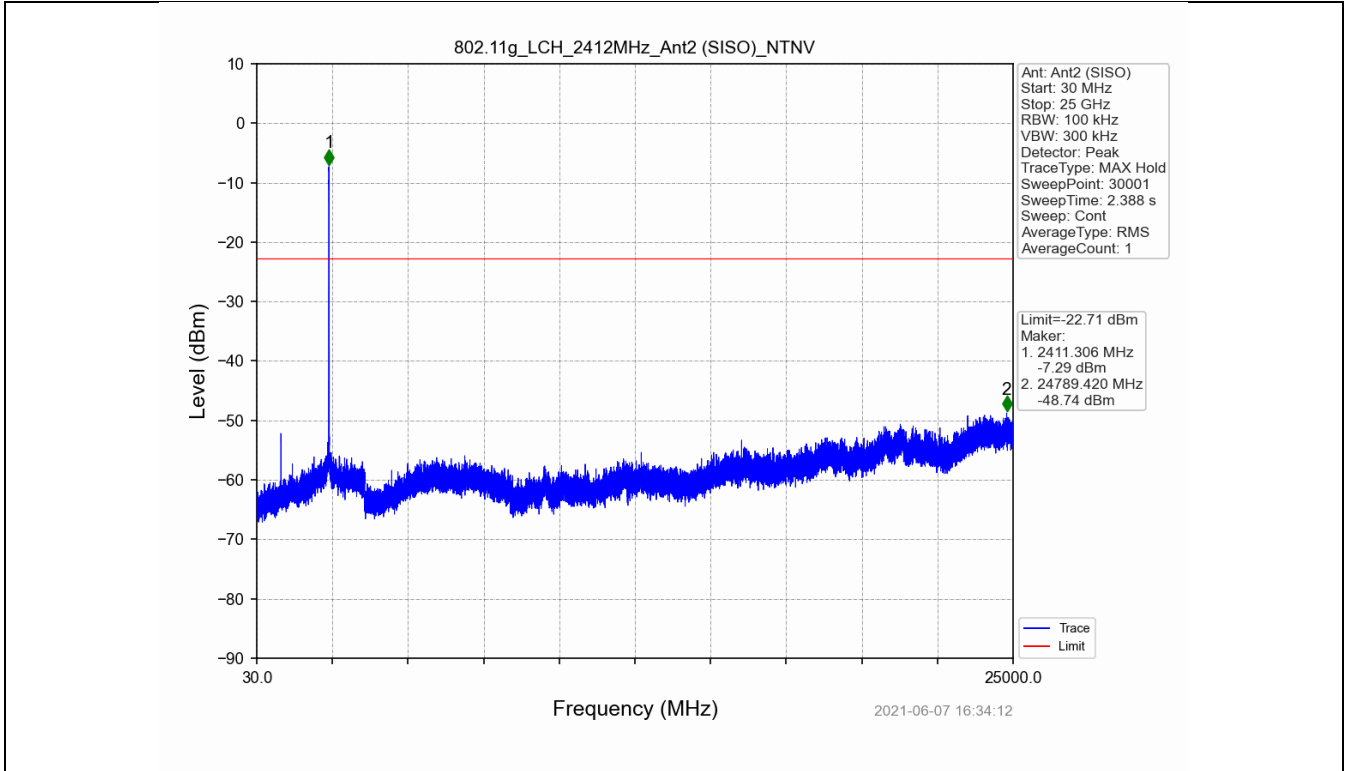
802.11b_HCH_2462MHz_Ant2 (SISO)_NTNV



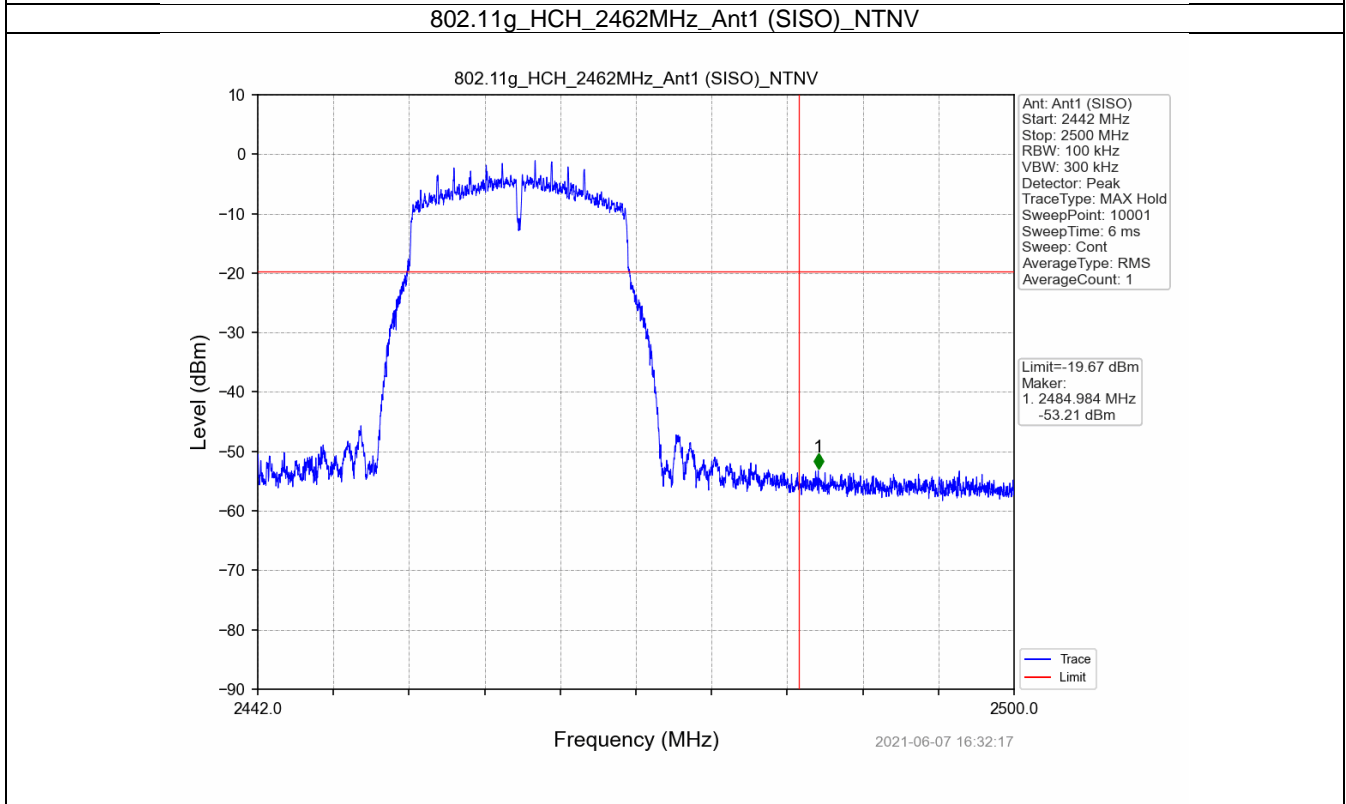
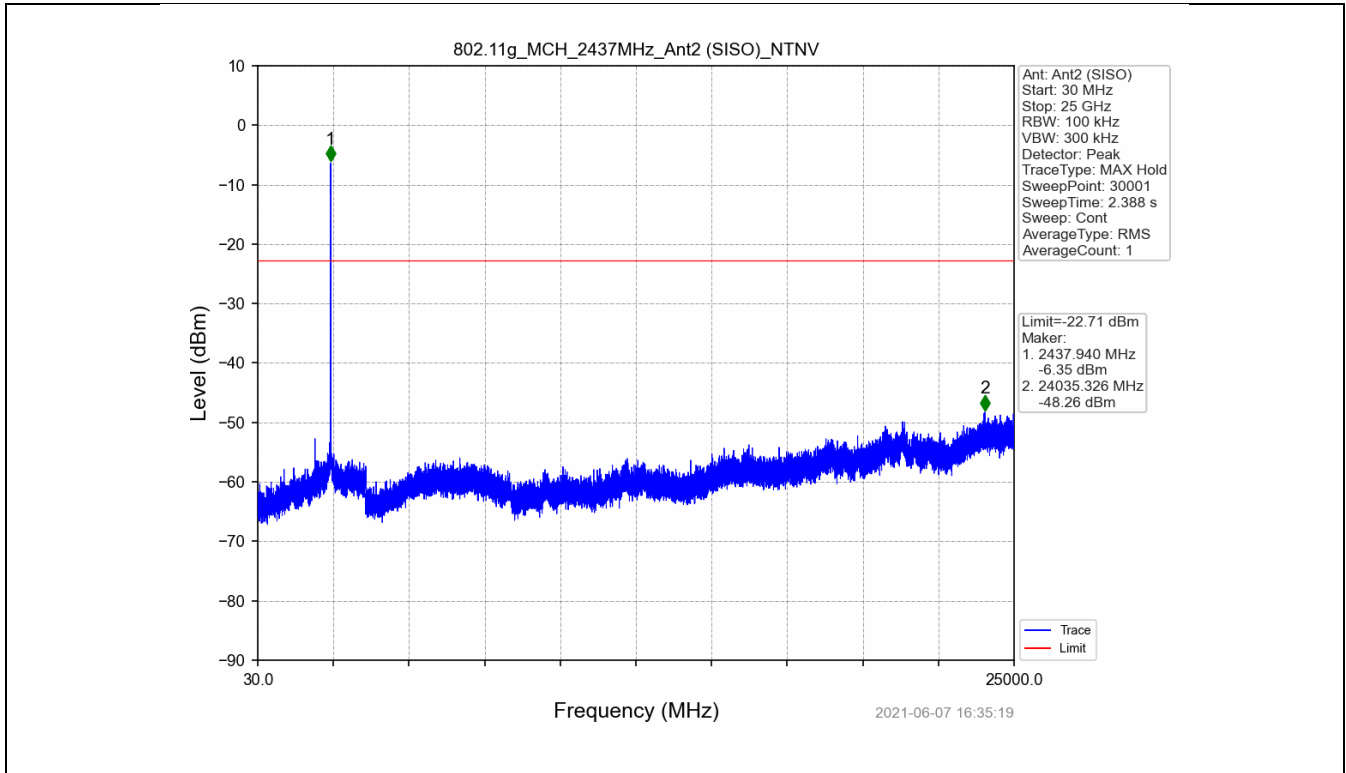
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



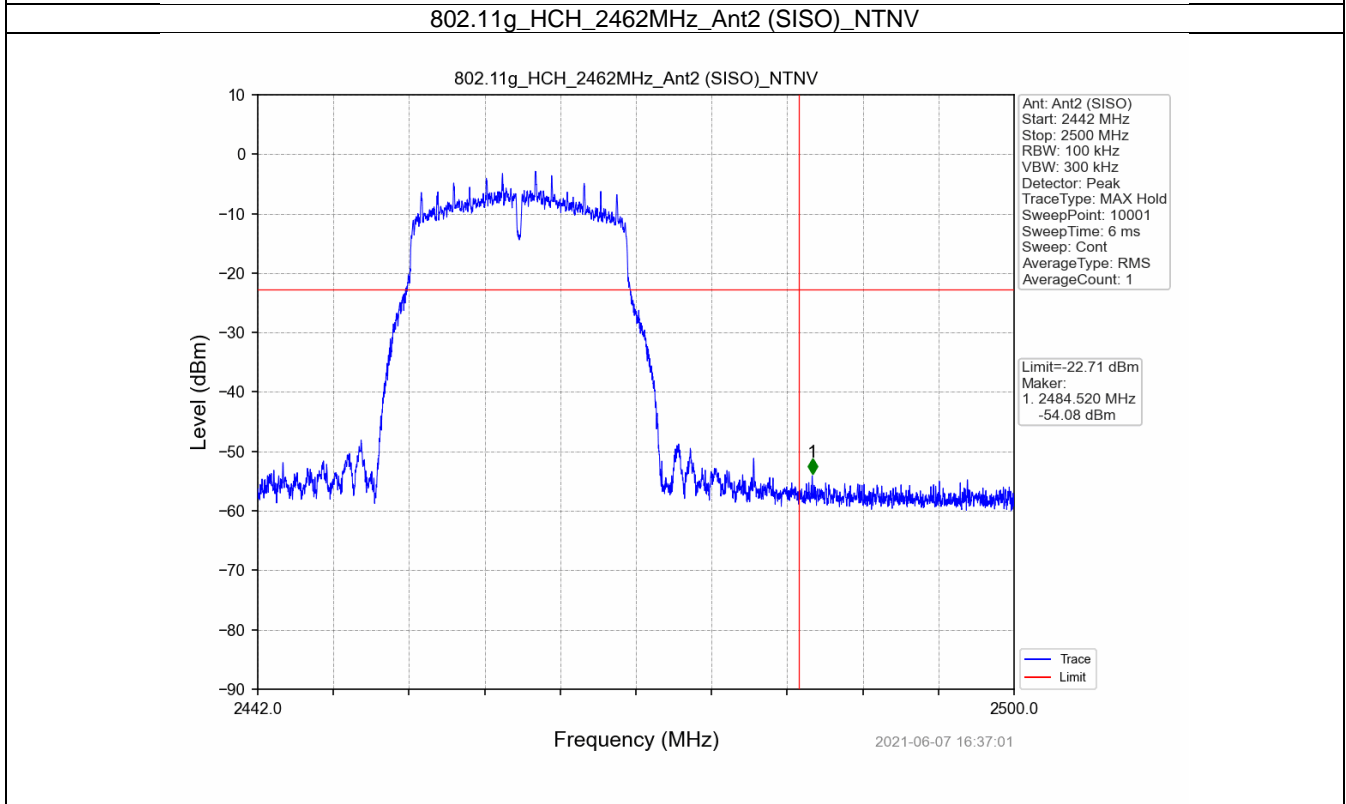
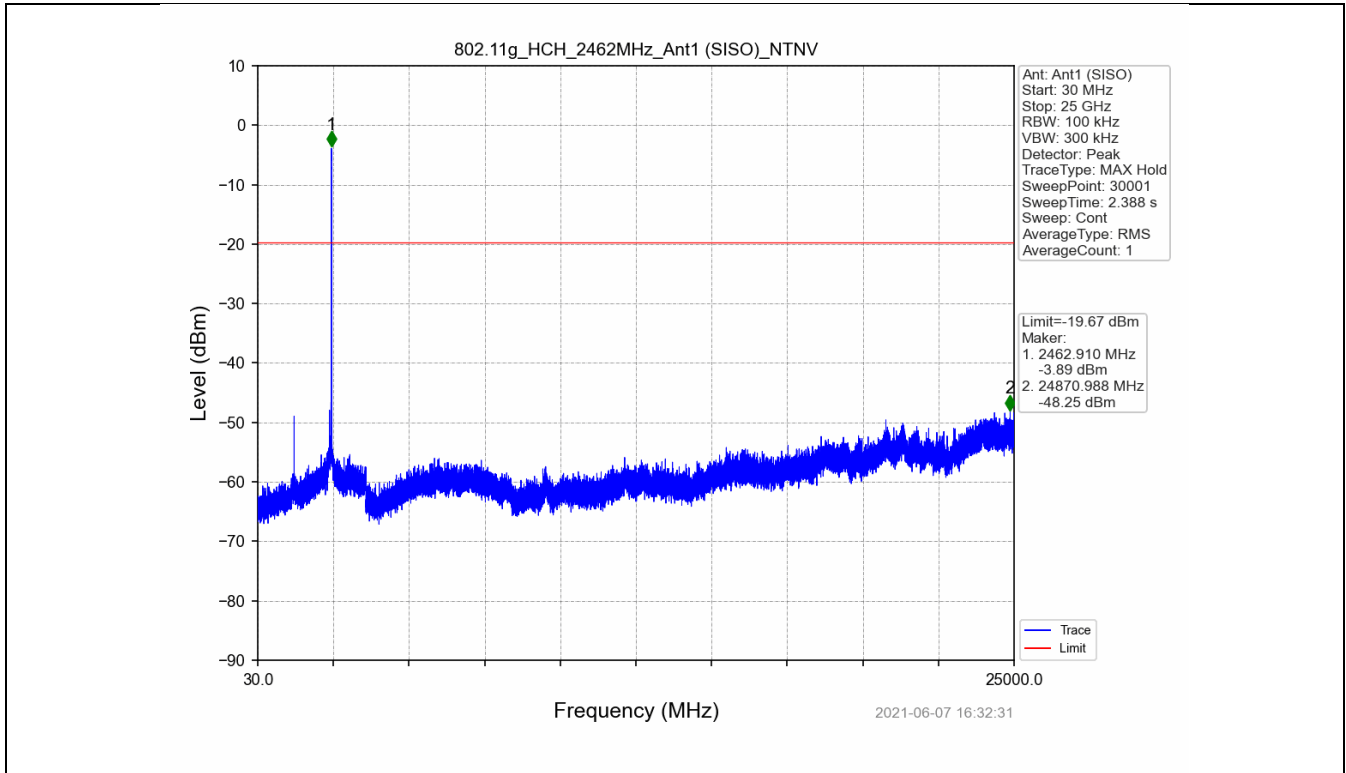
802.11g_LCH_2412MHz_Ant2 (SISO)_NTNV



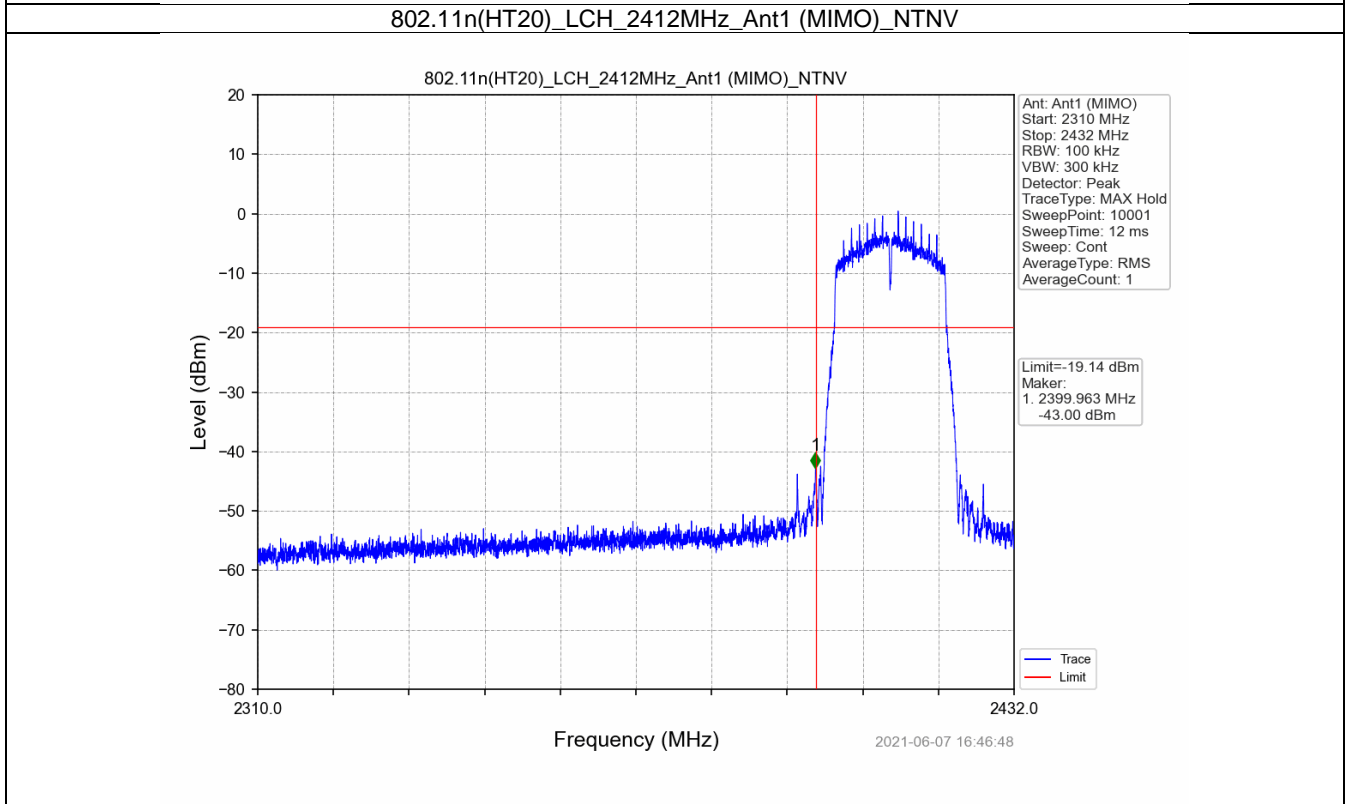
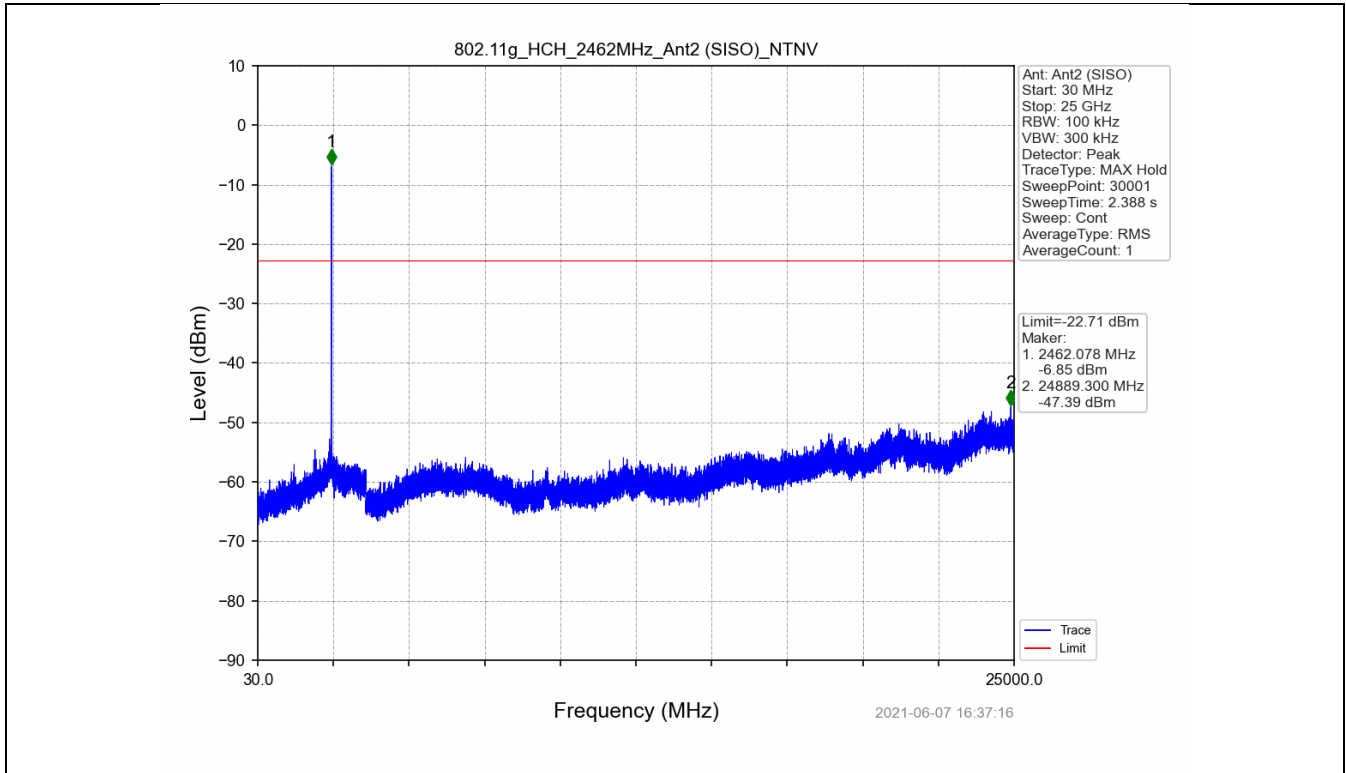
802.11g_MCH_2437MHz_Ant2 (SISO)_NTNV



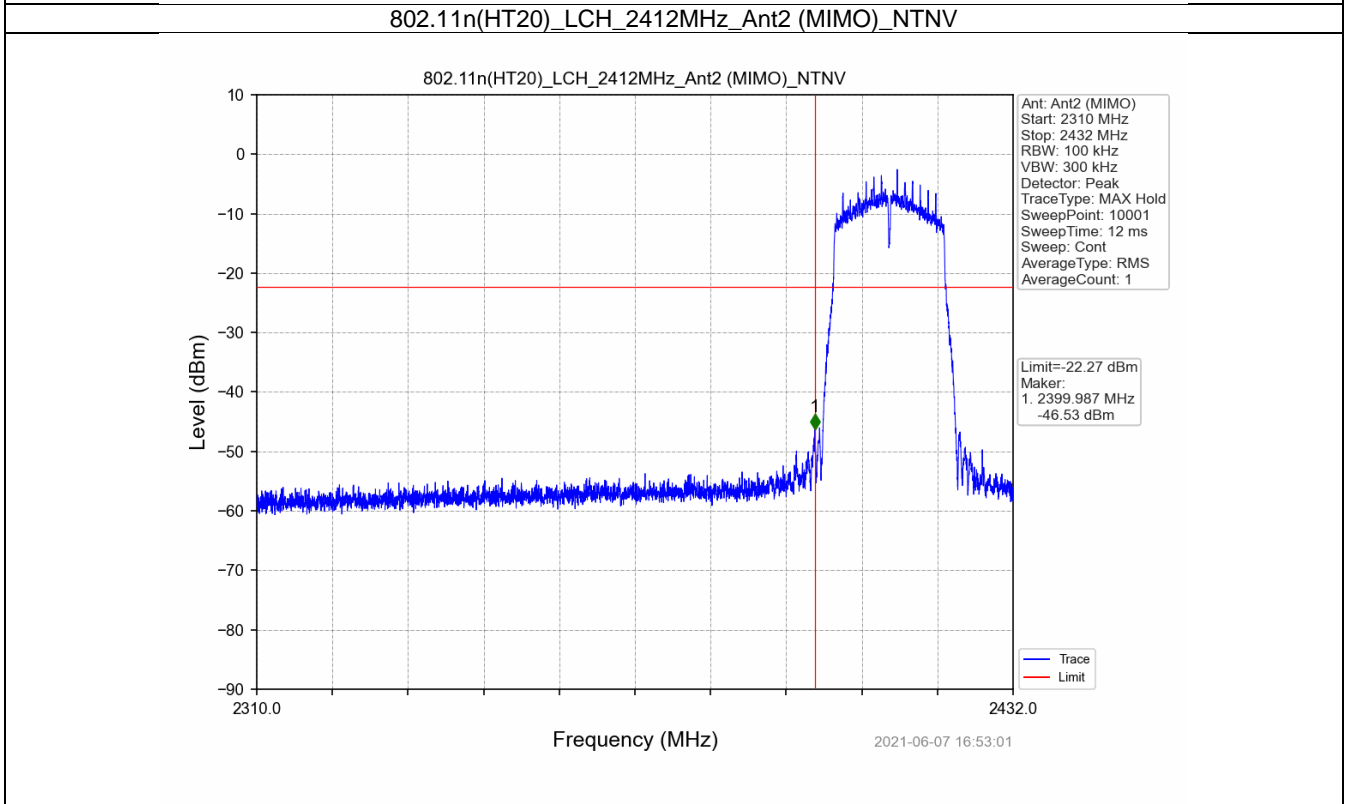
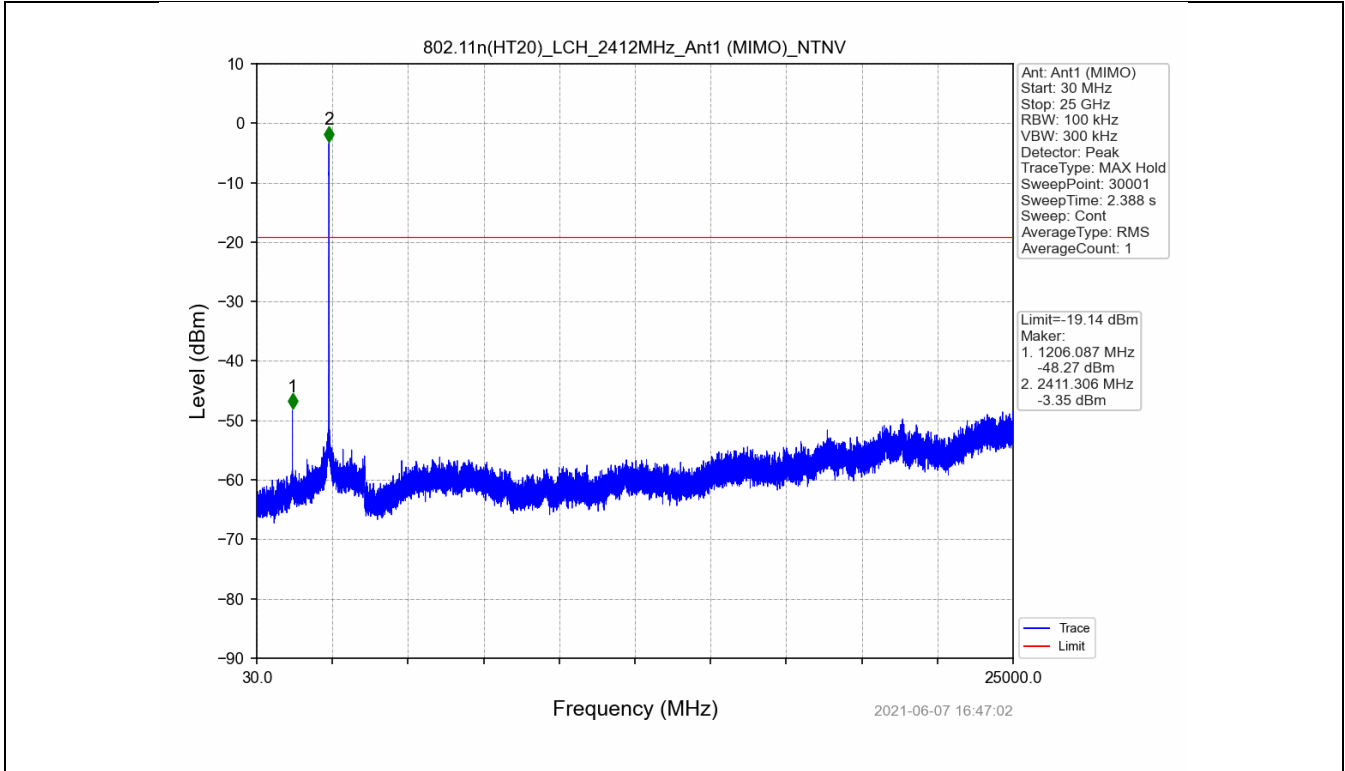
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



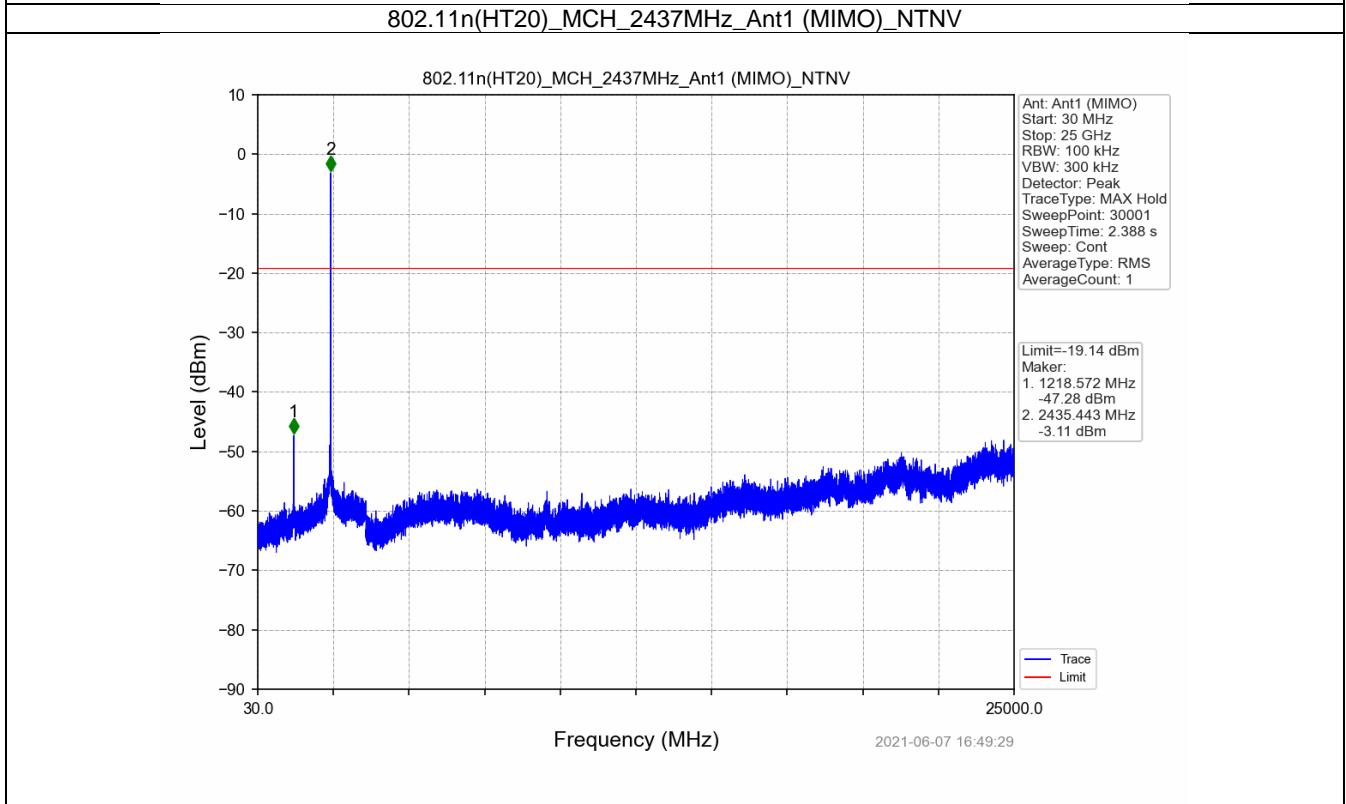
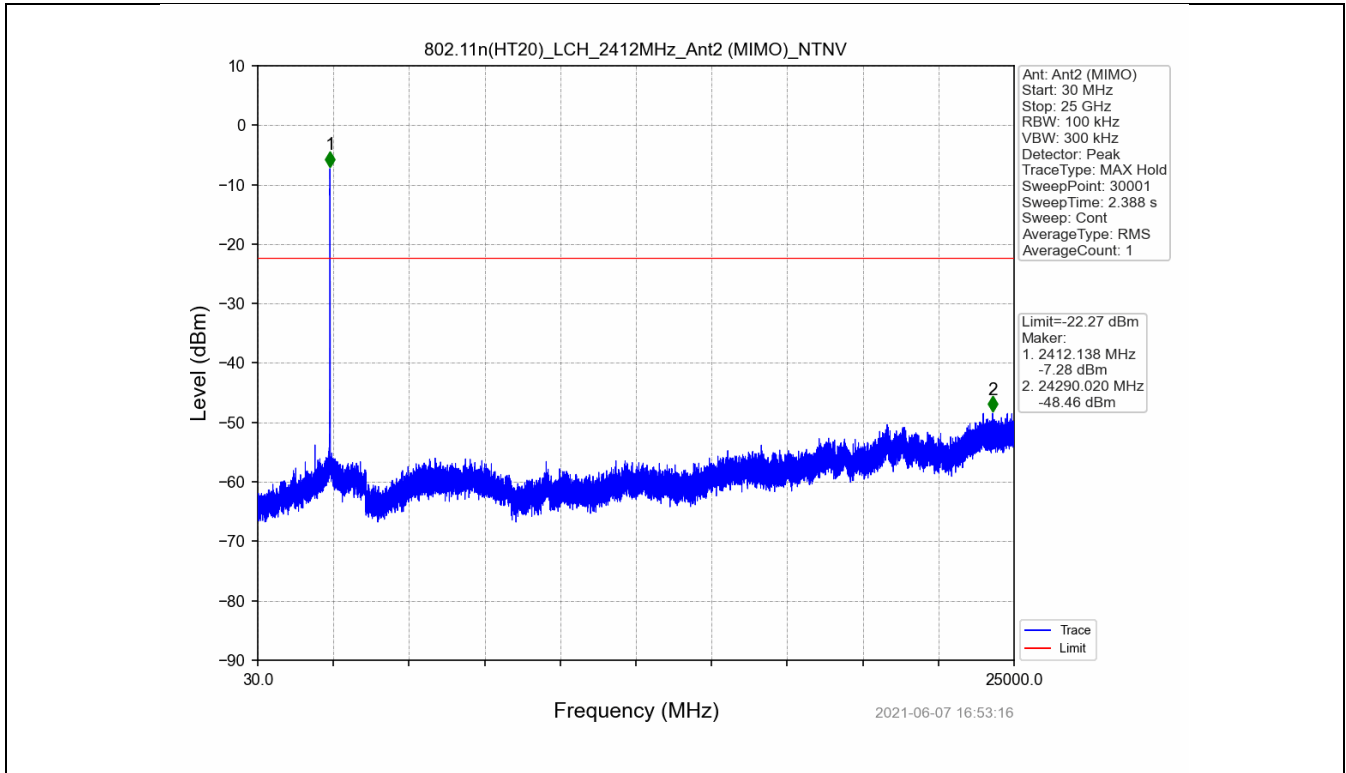
802.11g_HCH_2462MHz_Ant2 (SISO)_NTNV



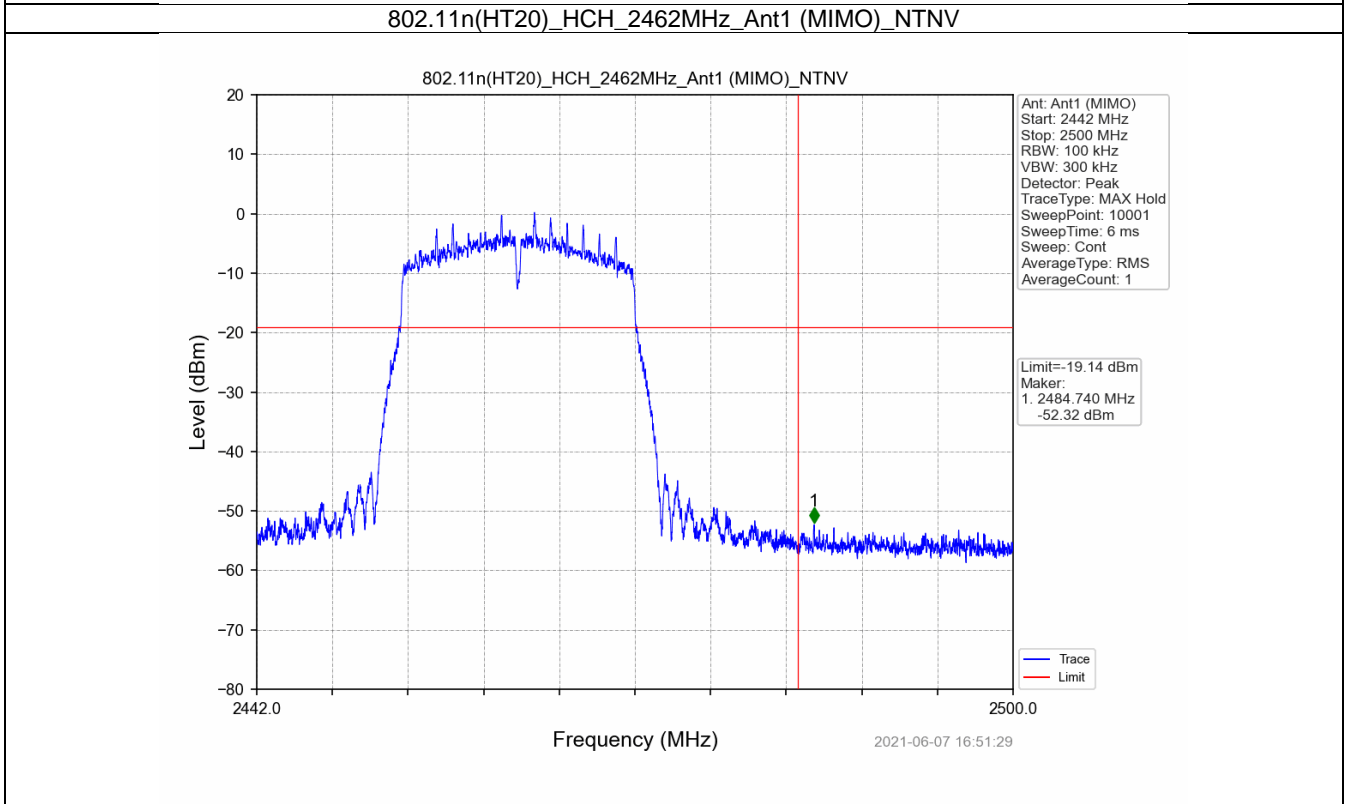
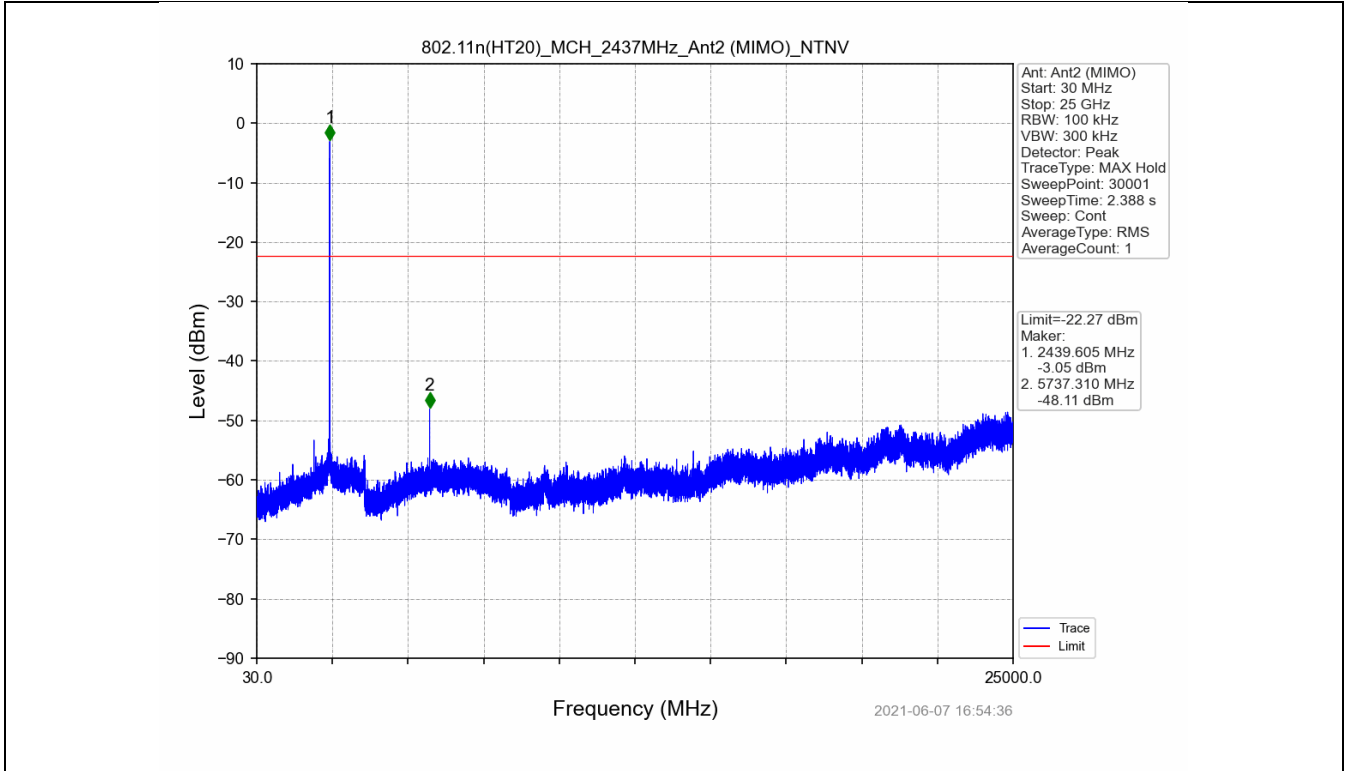
802.11n(HT20)_LCH_2412MHz_Ant1 (MIMO)_NTNV



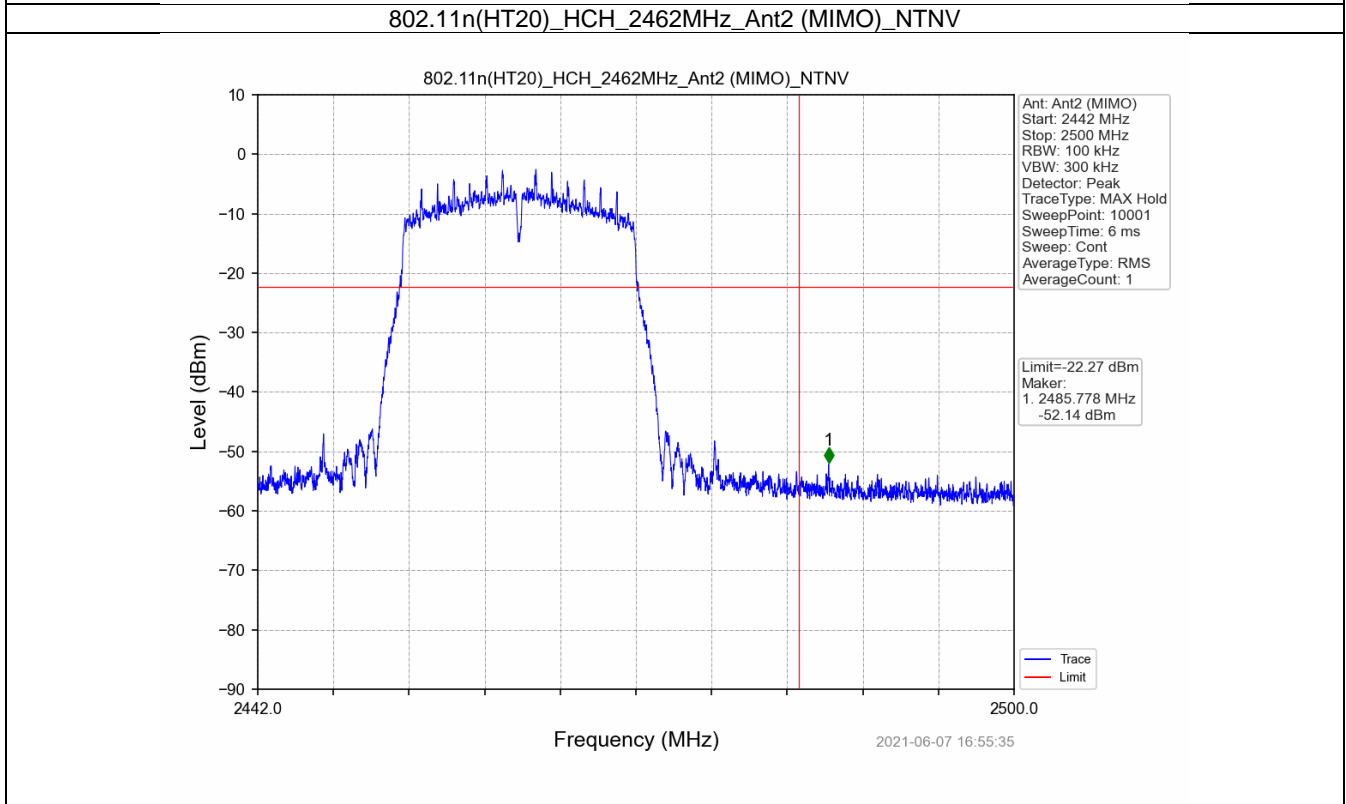
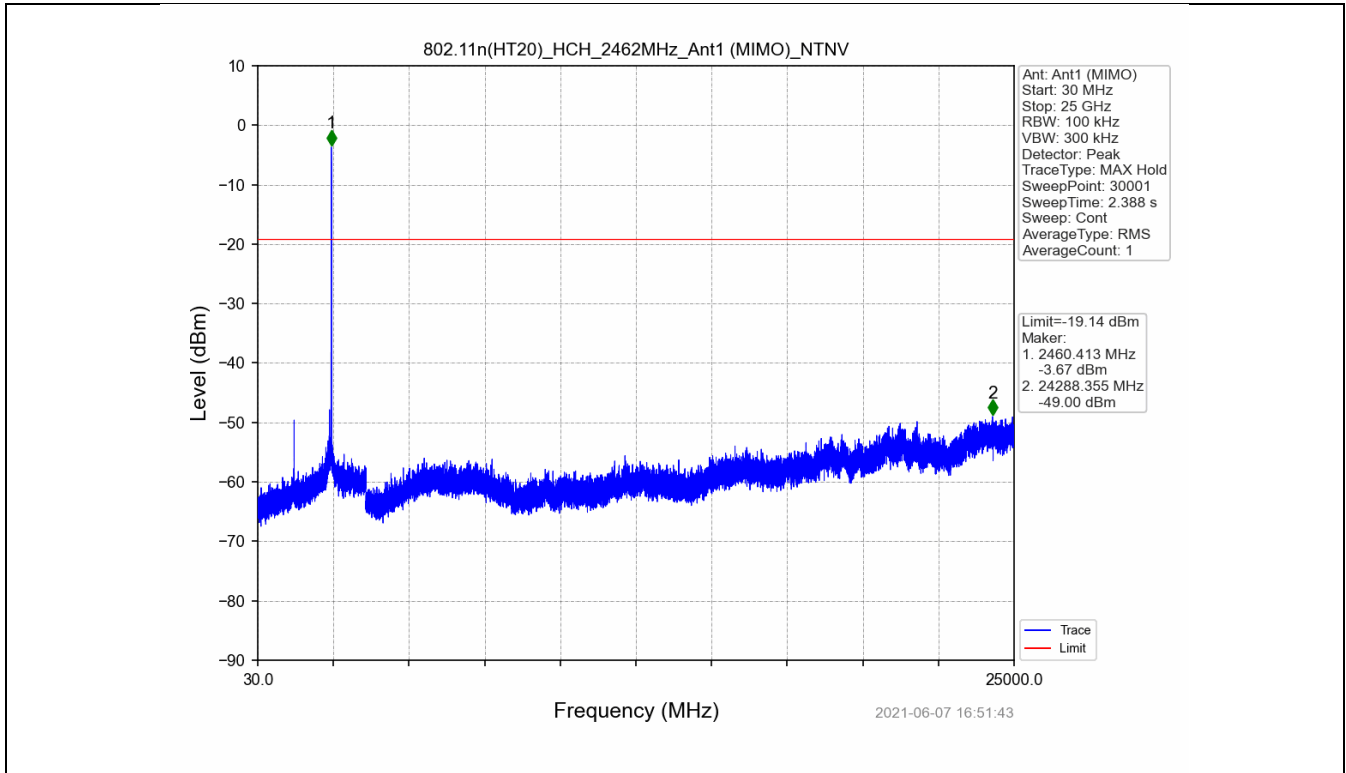
802.11n(HT20)_LCH_2412MHz_Ant2 (MIMO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant2 (MIMO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant1 (MIMO)_NTNV



802.11n(HT20)_HCH_2462MHz_Ant2 (MIMO)_NTNV

