

## Appendix A for SHEM210700102001

### 1. Duty Cycle

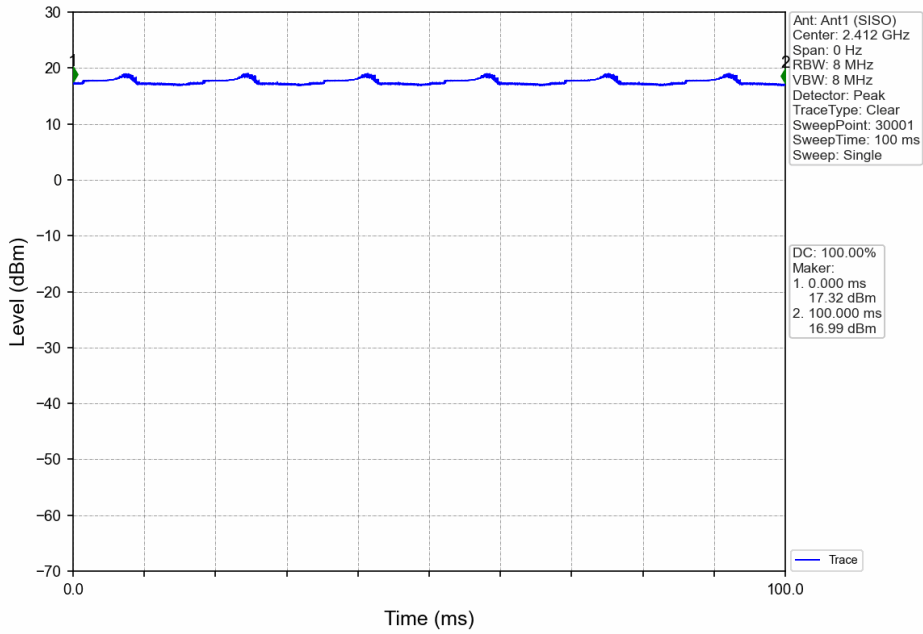
#### 1.1 Ant1

##### 1.1.1 Test Result

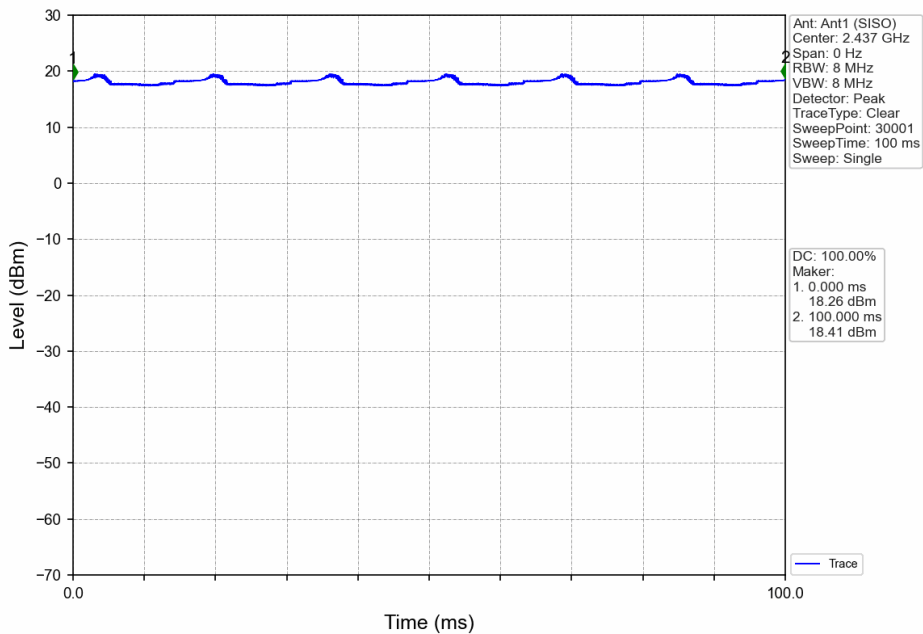
Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11b	SISO	2412	100.000	100.000	100.00	0.00	0.00
		2437	100.000	100.000	100.00	0.00	0.00
		2462	100.000	100.000	100.00	0.00	0.00
802.11g	SISO	2412	100.000	100.000	100.00	0.00	0.00
		2437	100.000	100.000	100.00	0.00	0.00
		2462	100.000	100.000	100.00	0.00	0.00
802.11n (HT20)	SISO	2412	100.000	100.000	100.00	0.00	0.00
		2437	100.000	100.000	100.00	0.00	0.00
		2462	100.000	100.000	100.00	0.00	0.00
802.11n (HT40)	SISO	2422	100.000	100.000	100.00	0.00	0.00
		2437	100.000	100.000	100.00	0.00	0.00
		2452	100.000	100.000	100.00	0.00	0.00

#### 1.1.2 Test Graph

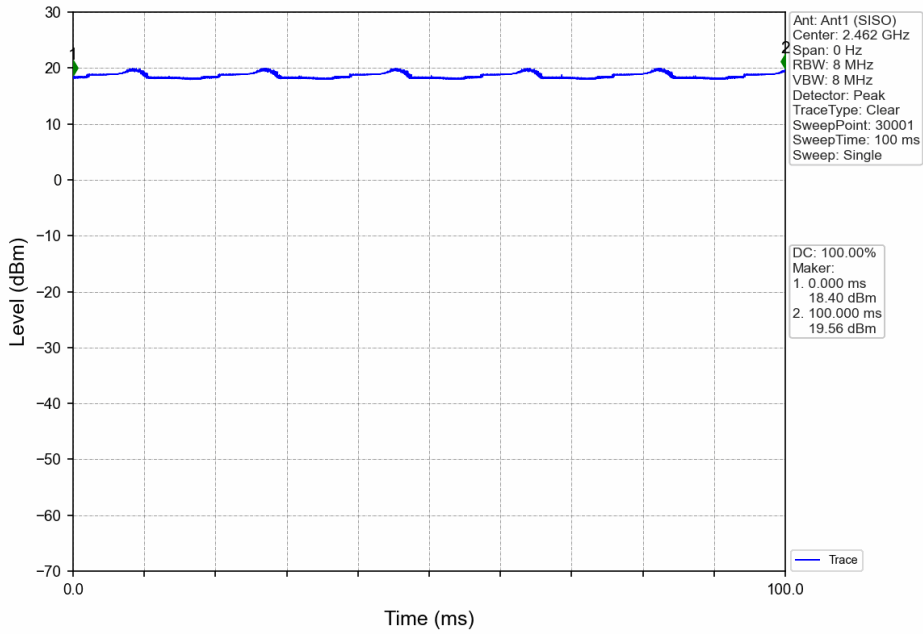
802.11b\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



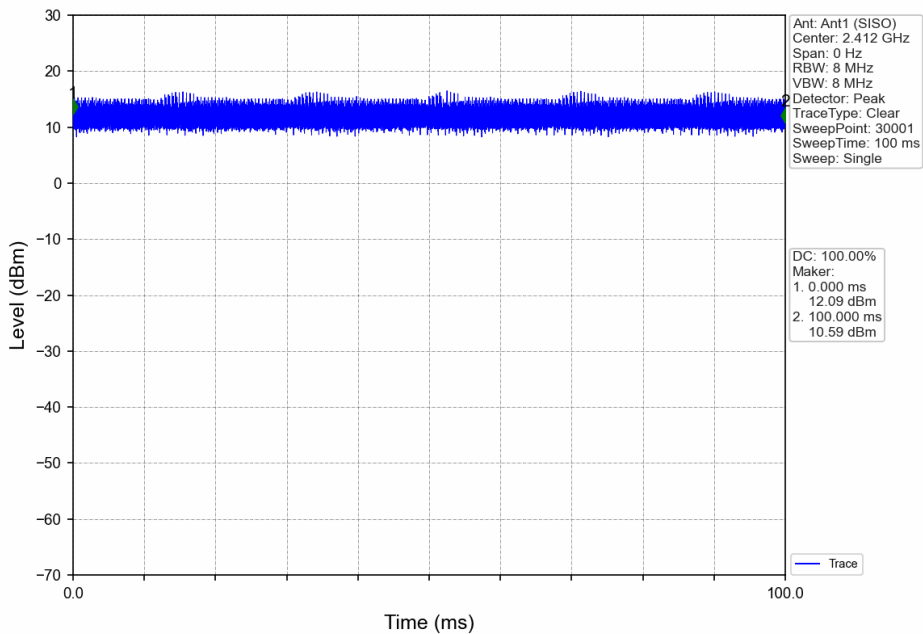
802.11b\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



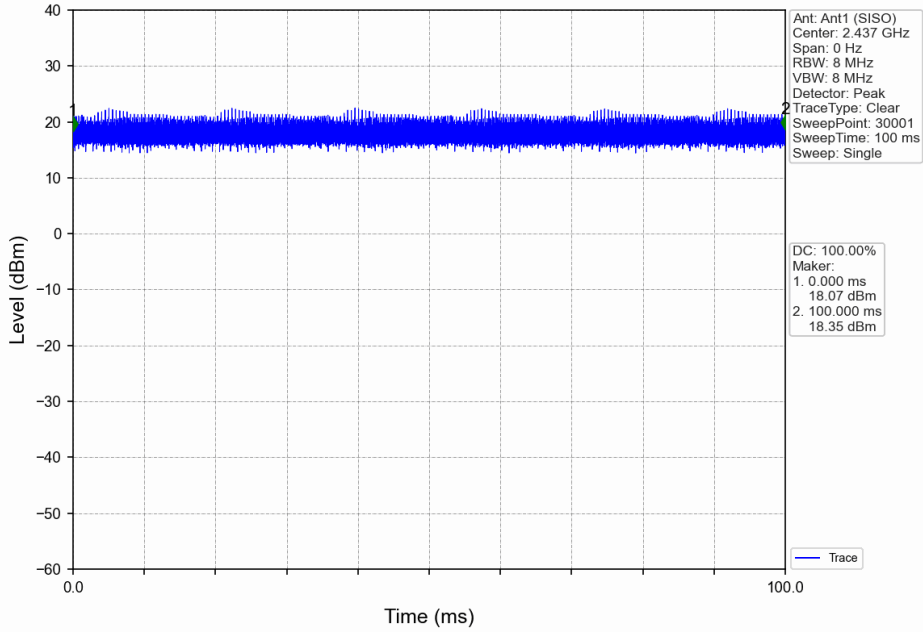
802.11b\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



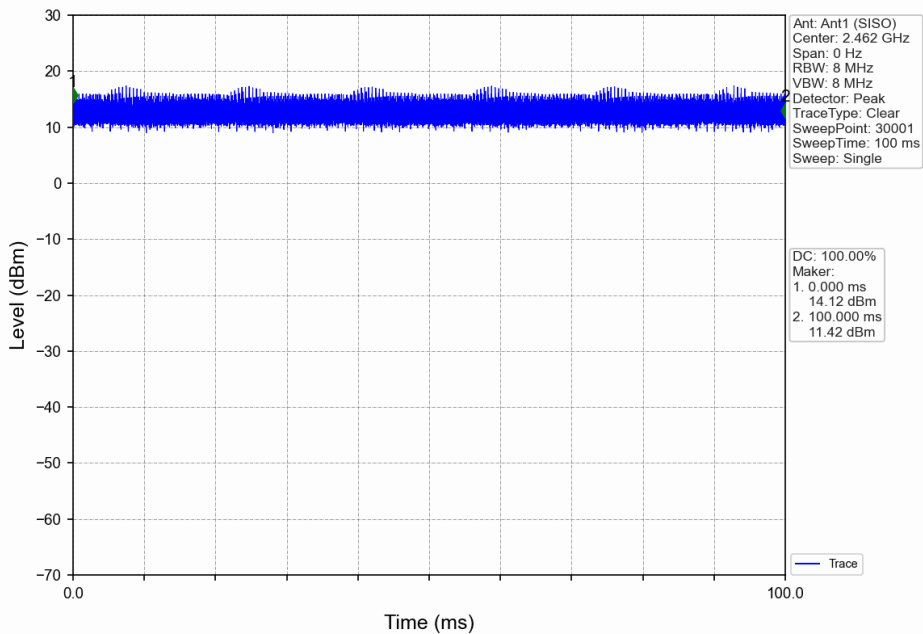
802.11g\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



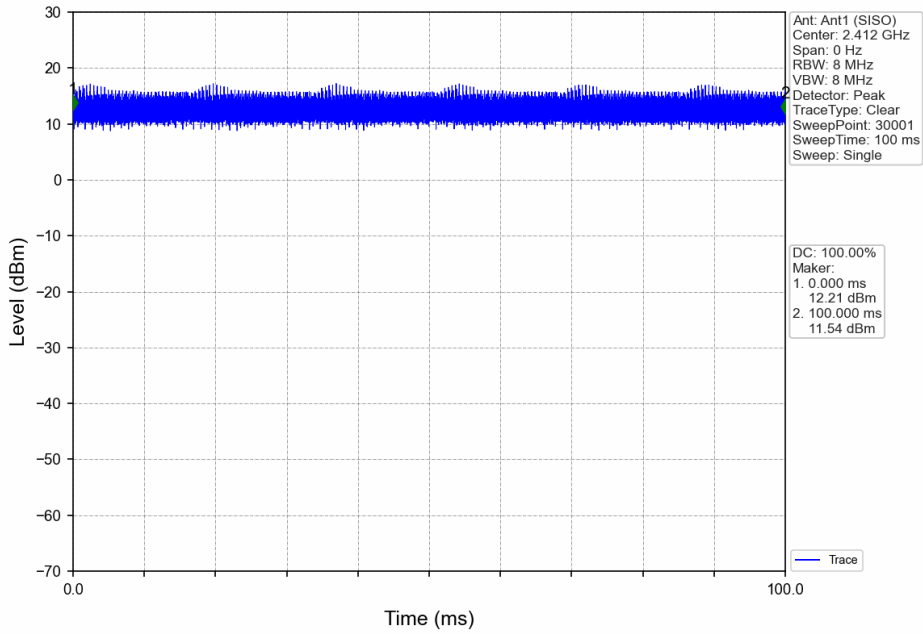
802.11g\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



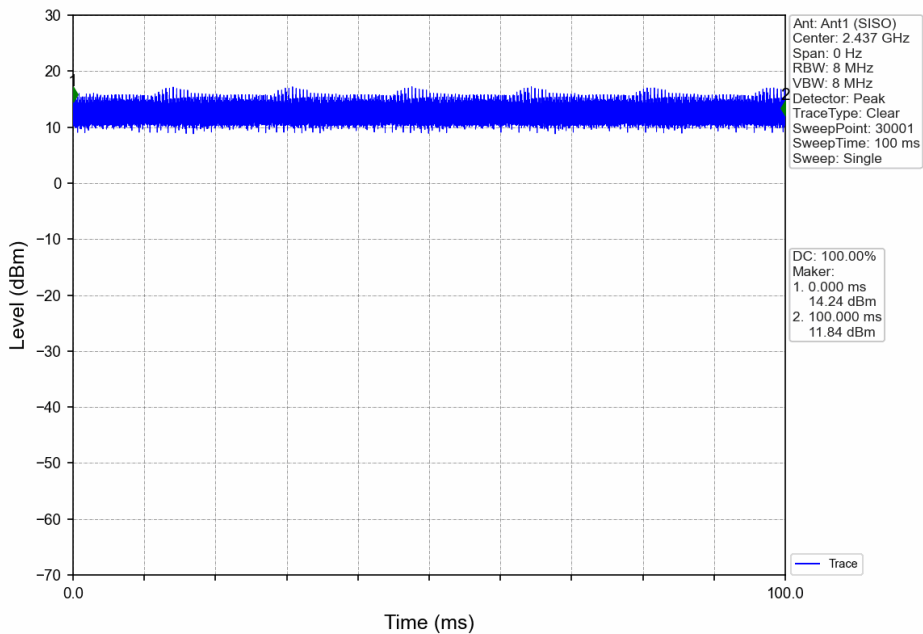
802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



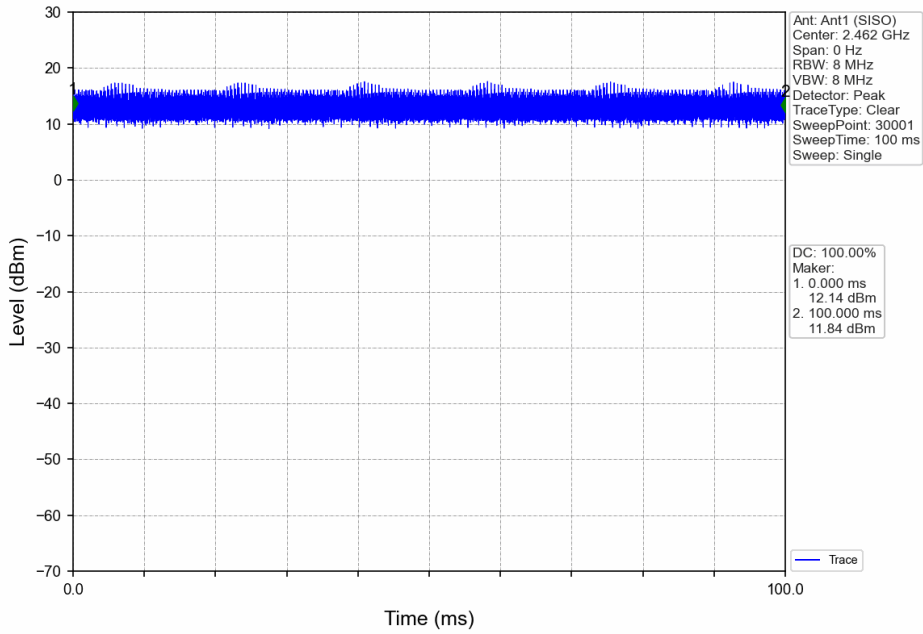
802.11n(HT20)\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



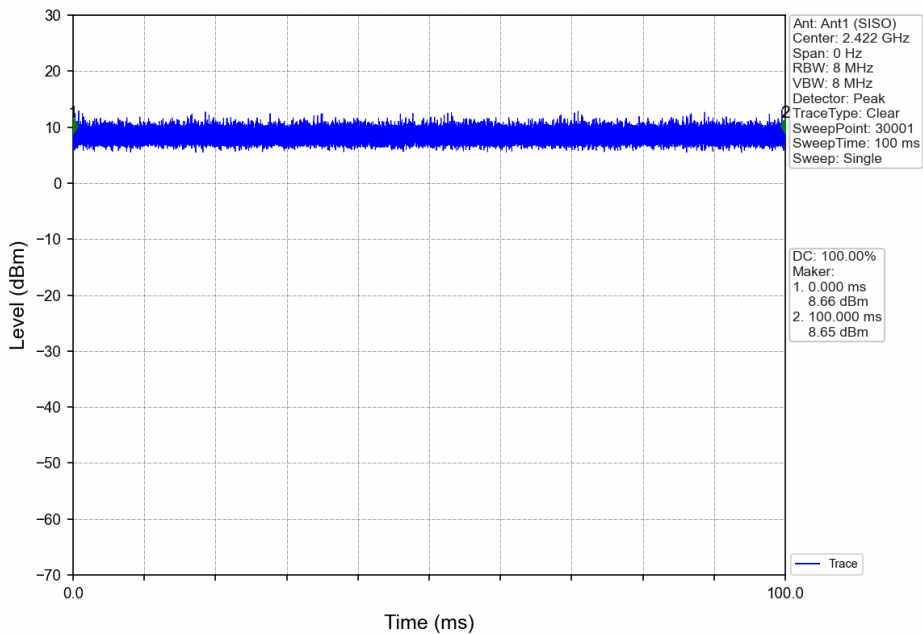
802.11n(HT20)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



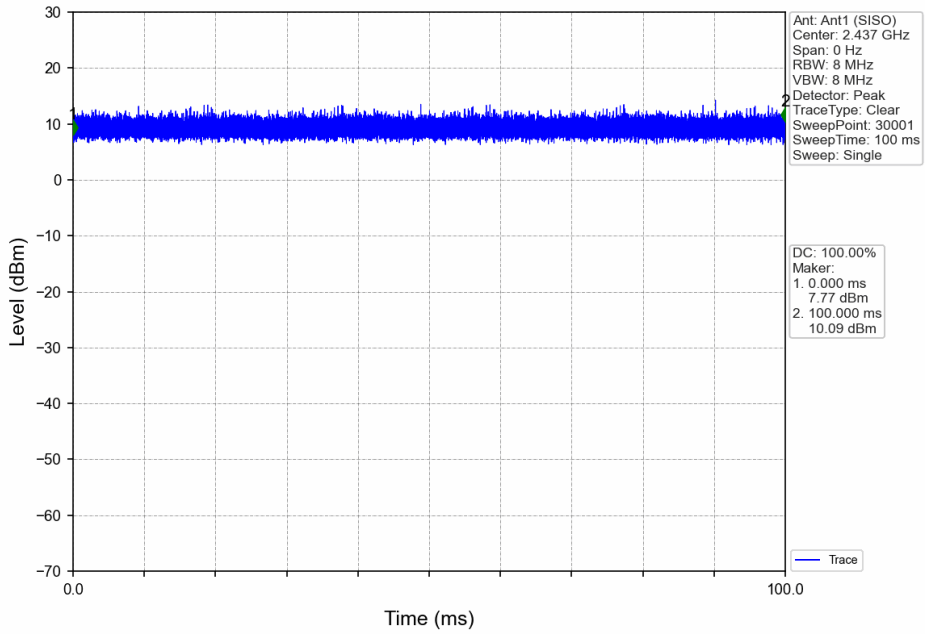
802.11n(HT20)\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



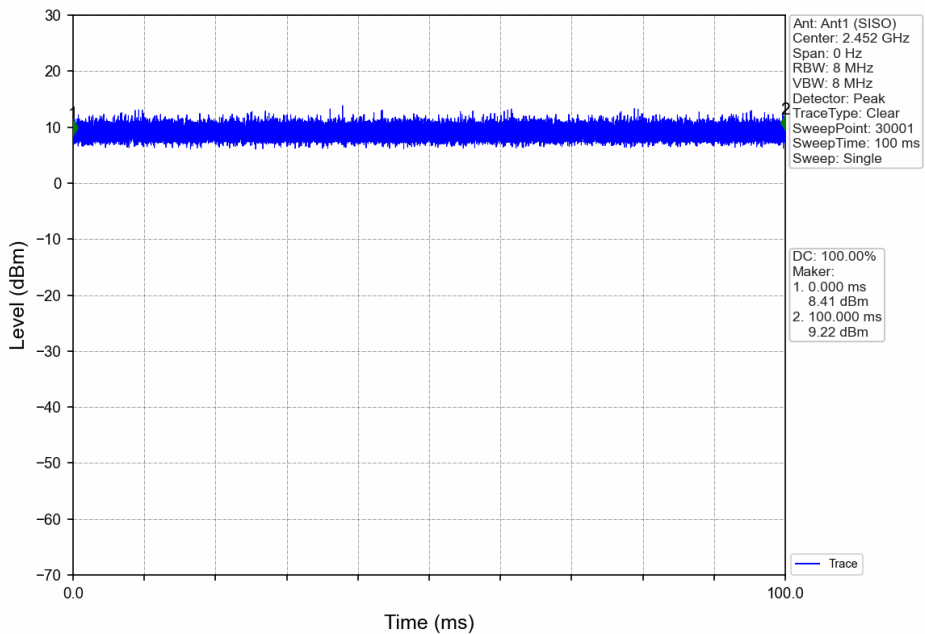
802.11n(HT40)\_LCH\_2422MHz\_Ant1 (SISO)\_NTNV



802.11n(HT40)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



802.11n(HT40)\_HCH\_2452MHz\_Ant1 (SISO)\_NTNV



## 2. Bandwidth

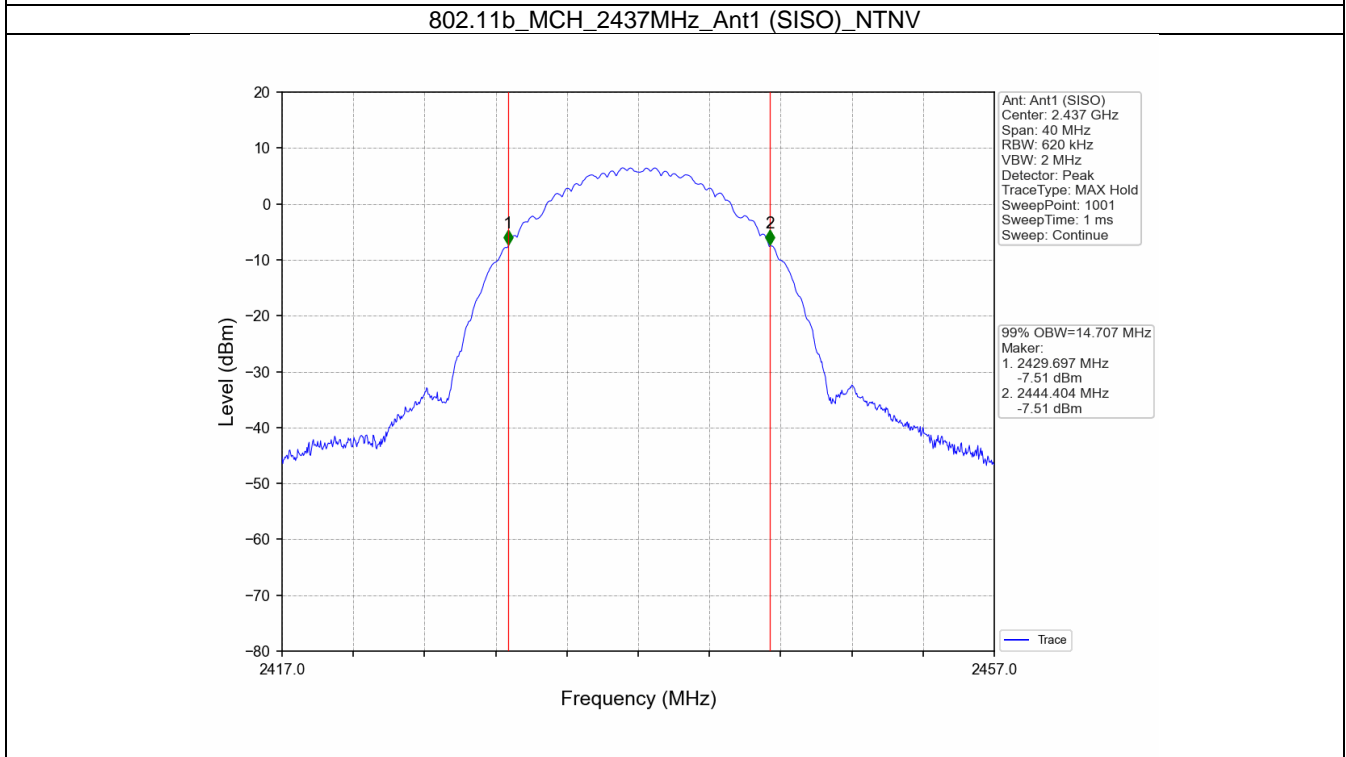
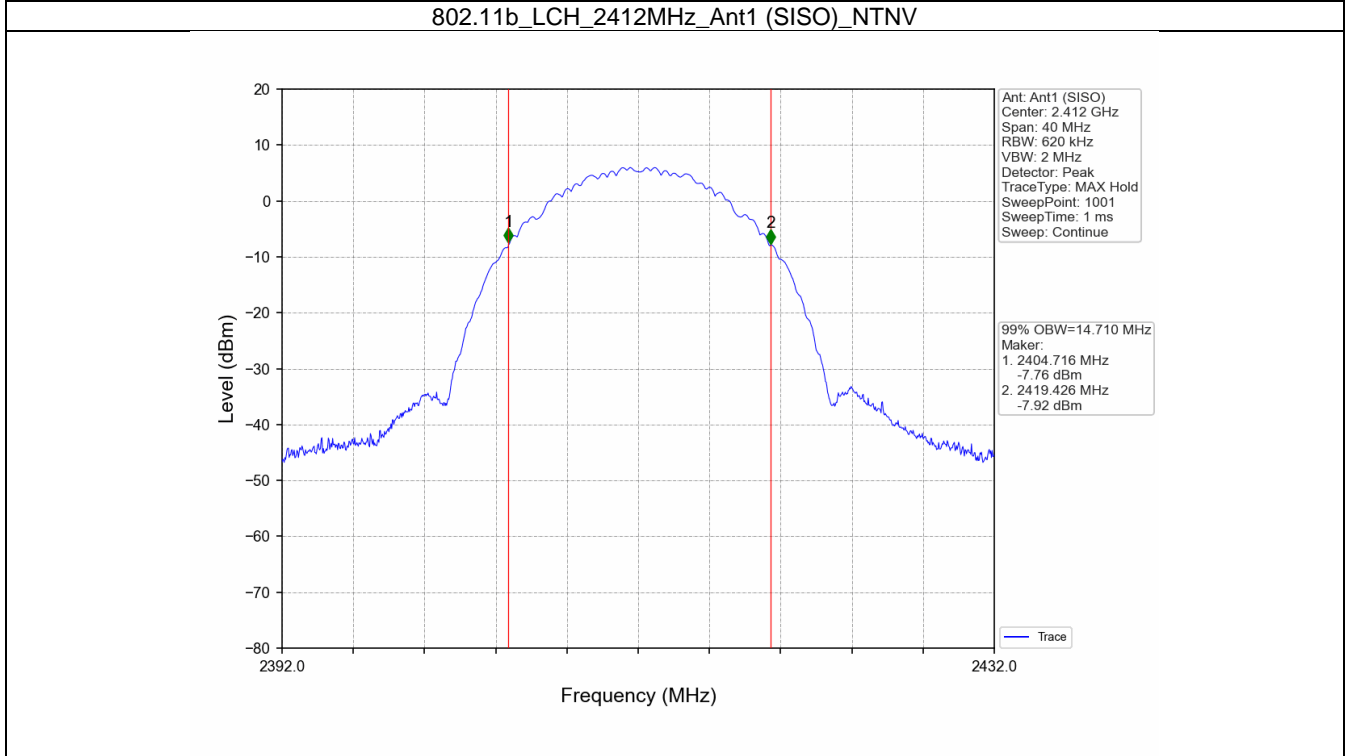
### 2.1 OBW

#### 2.1.1 Test Result

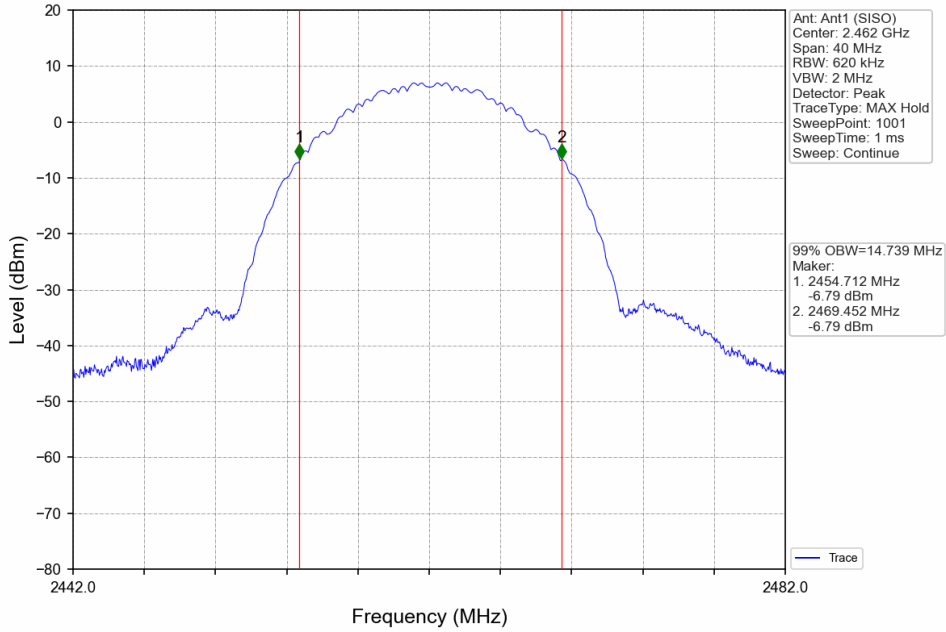
Mode	TX Type	Frequency (MHz)	Ant	99% Occupied Bandwidth (MHz)	Limit (MHz)	Verdict
802.11b	SISO	2412	1	14.710	/	Pass
		2437	1	14.707	/	Pass
		2462	1	14.739	/	Pass
802.11g	SISO	2412	1	17.612	/	Pass
		2437	1	18.368	/	Pass
		2462	1	17.606	/	Pass
802.11n (HT20)	SISO	2412	1	17.587	/	Pass
		2437	1	17.614	/	Pass
		2462	1	17.614	/	Pass
802.11n (HT40)	SISO	2422	1	35.911	/	Pass
		2437	1	35.947	/	Pass
		2452	1	35.950	/	Pass



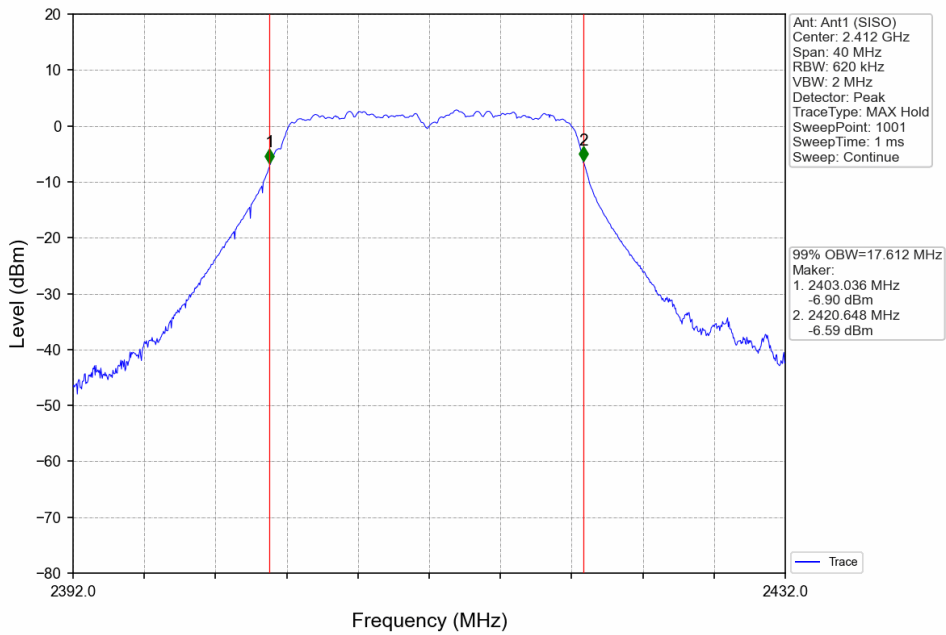
## 2.1.2 Test Graph



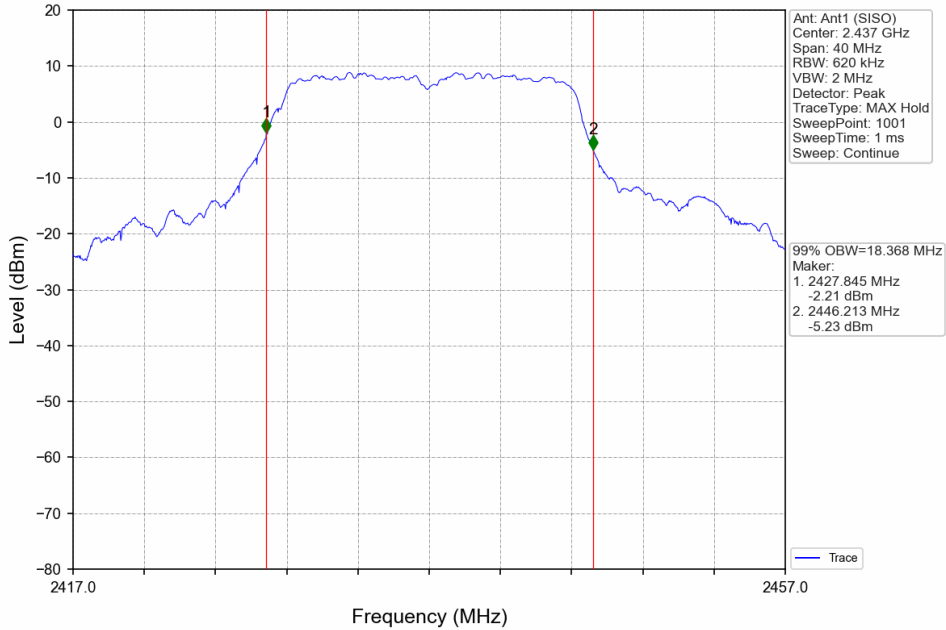
802.11b\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



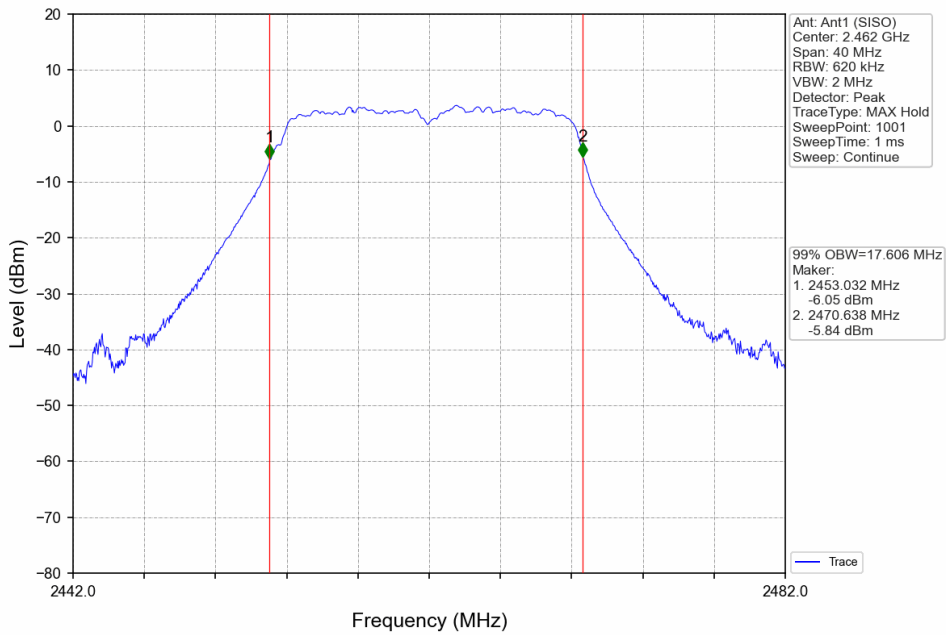
802.11g\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



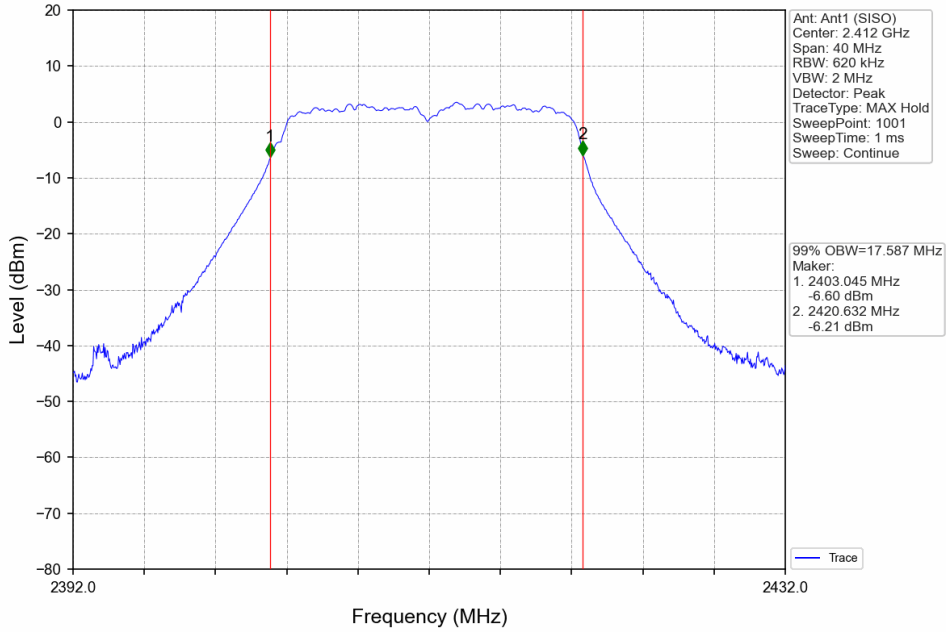
802.11g\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



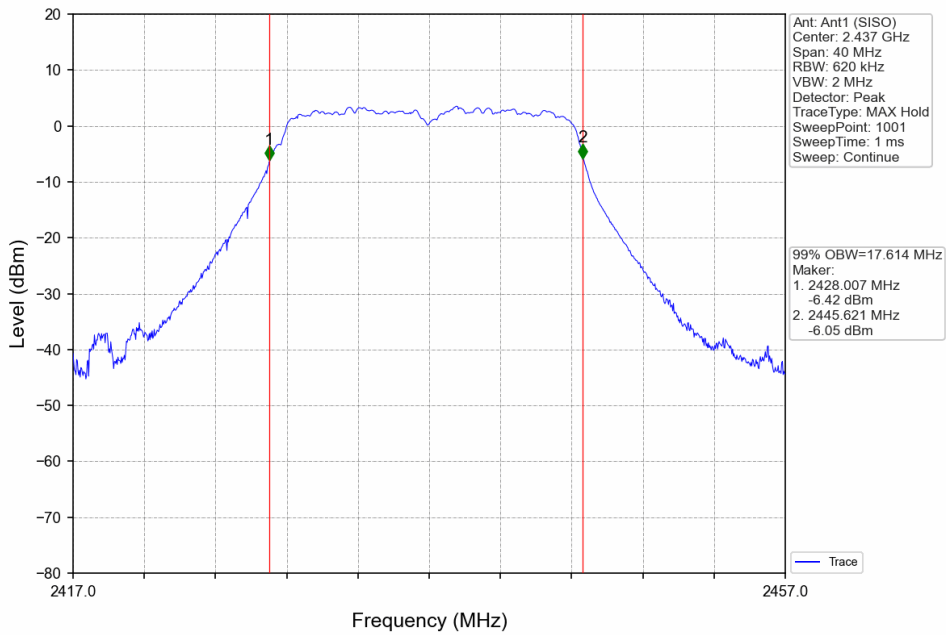
802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



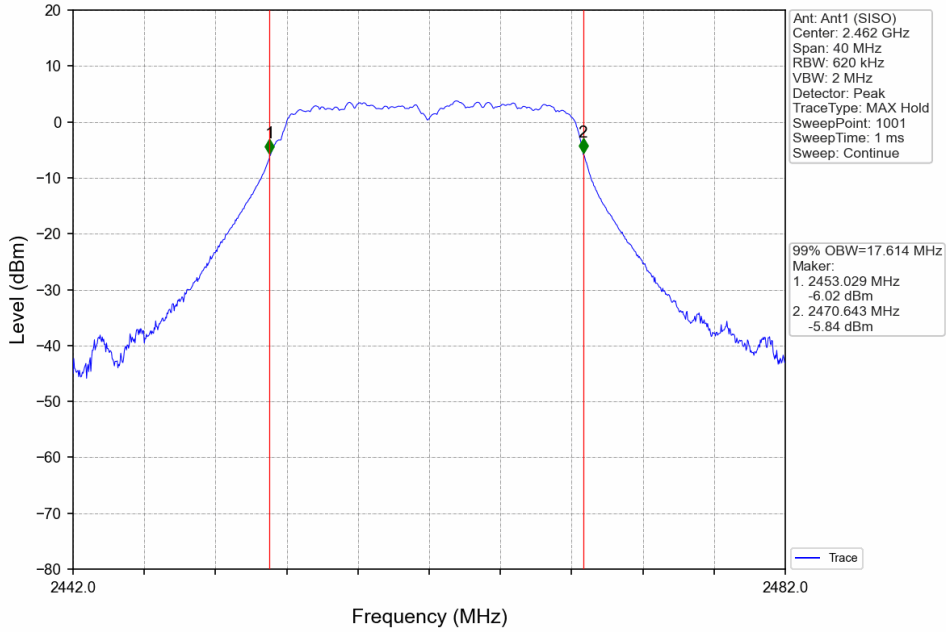
802.11n(HT20)\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



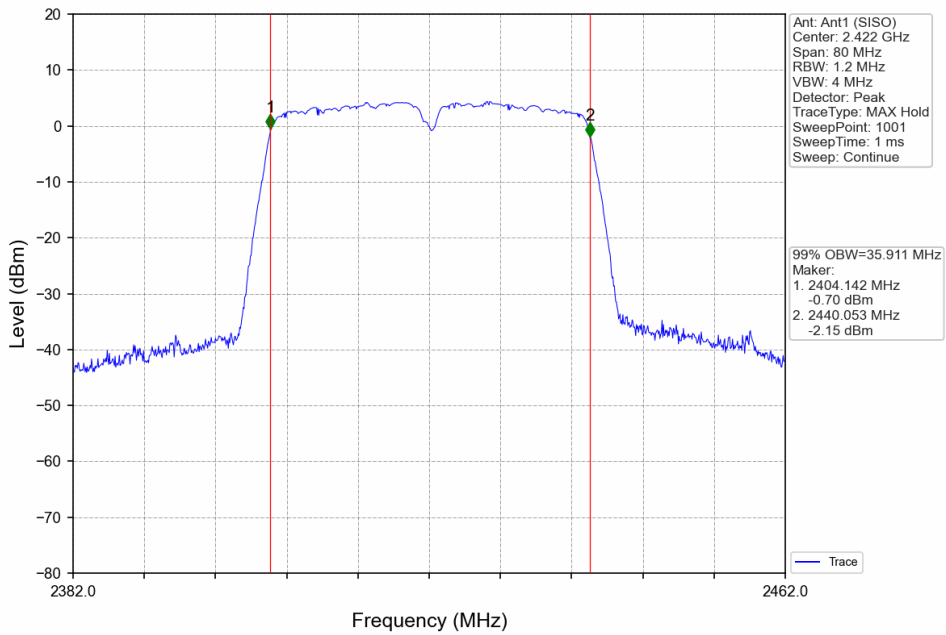
802.11n(HT20)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



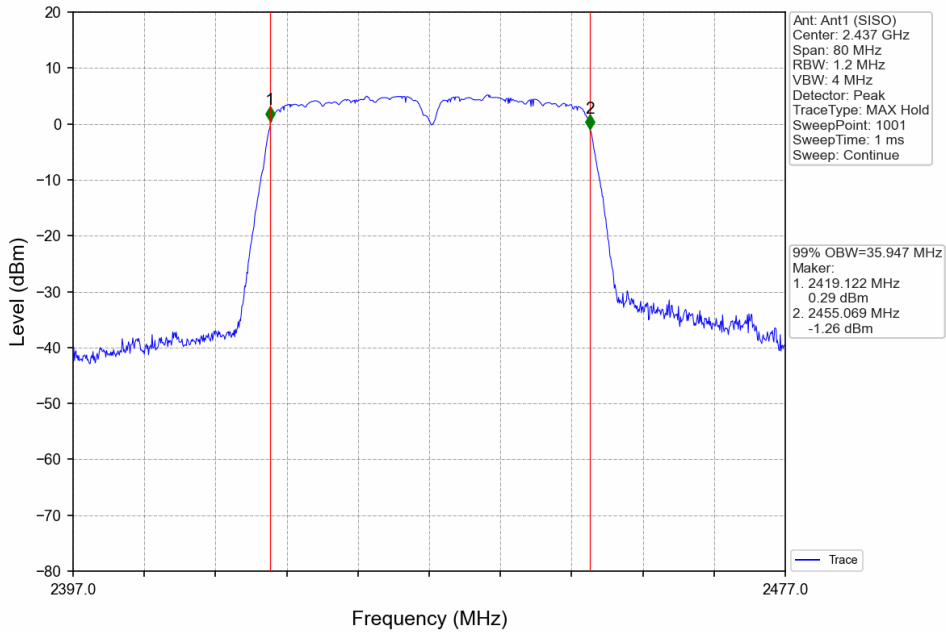
802.11n(HT20)\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



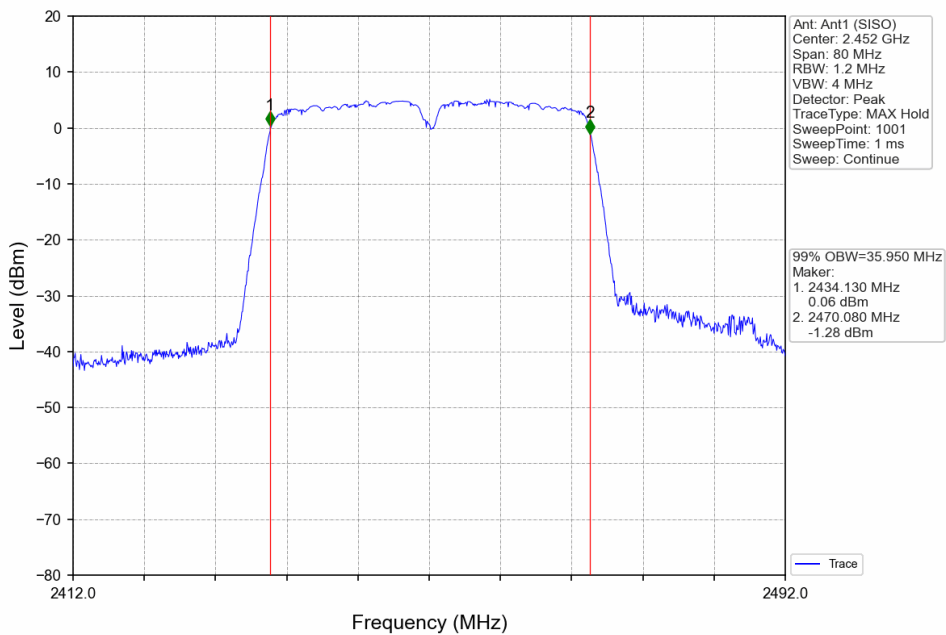
802.11n(HT40)\_LCH\_2422MHz\_Ant1 (SISO)\_NTNV



802.11n(HT40)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



802.11n(HT40)\_HCH\_2452MHz\_Ant1 (SISO)\_NTNV

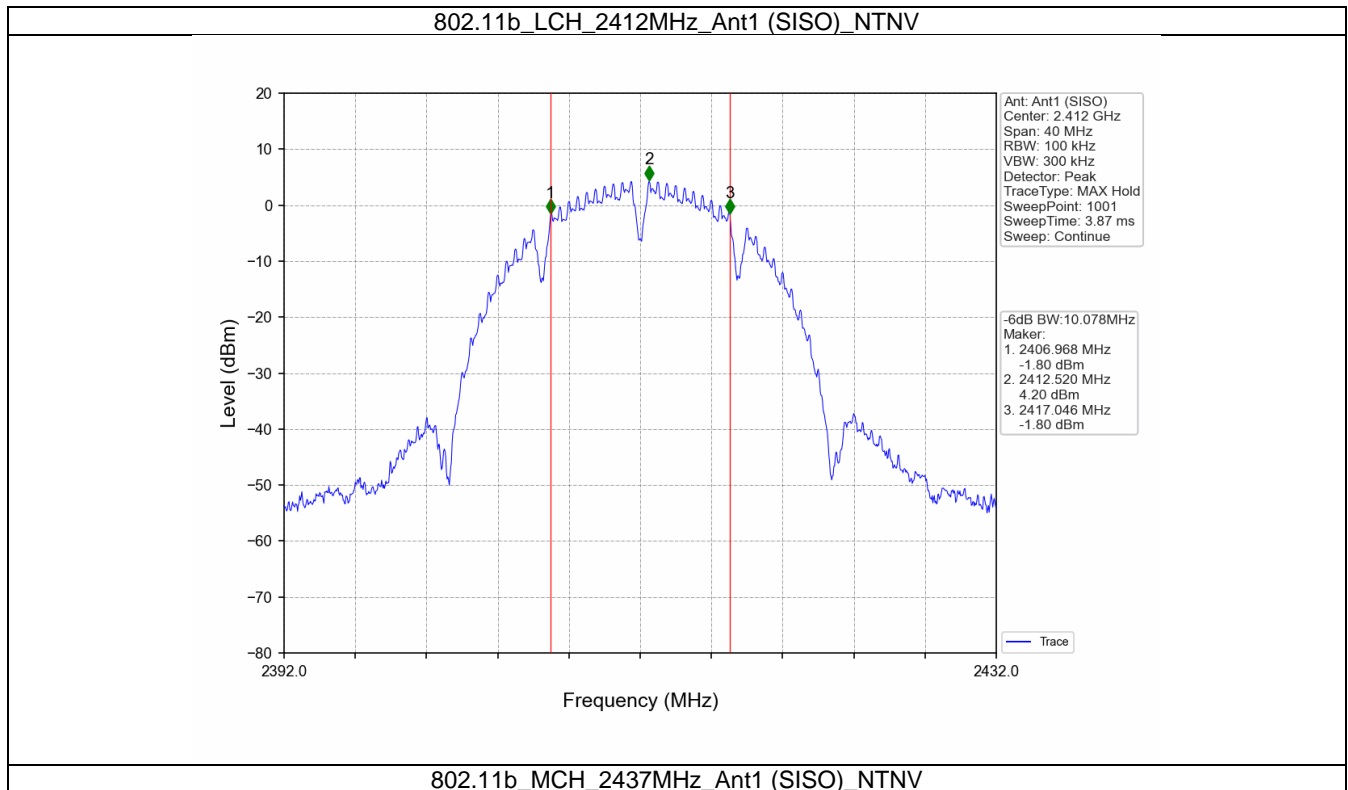


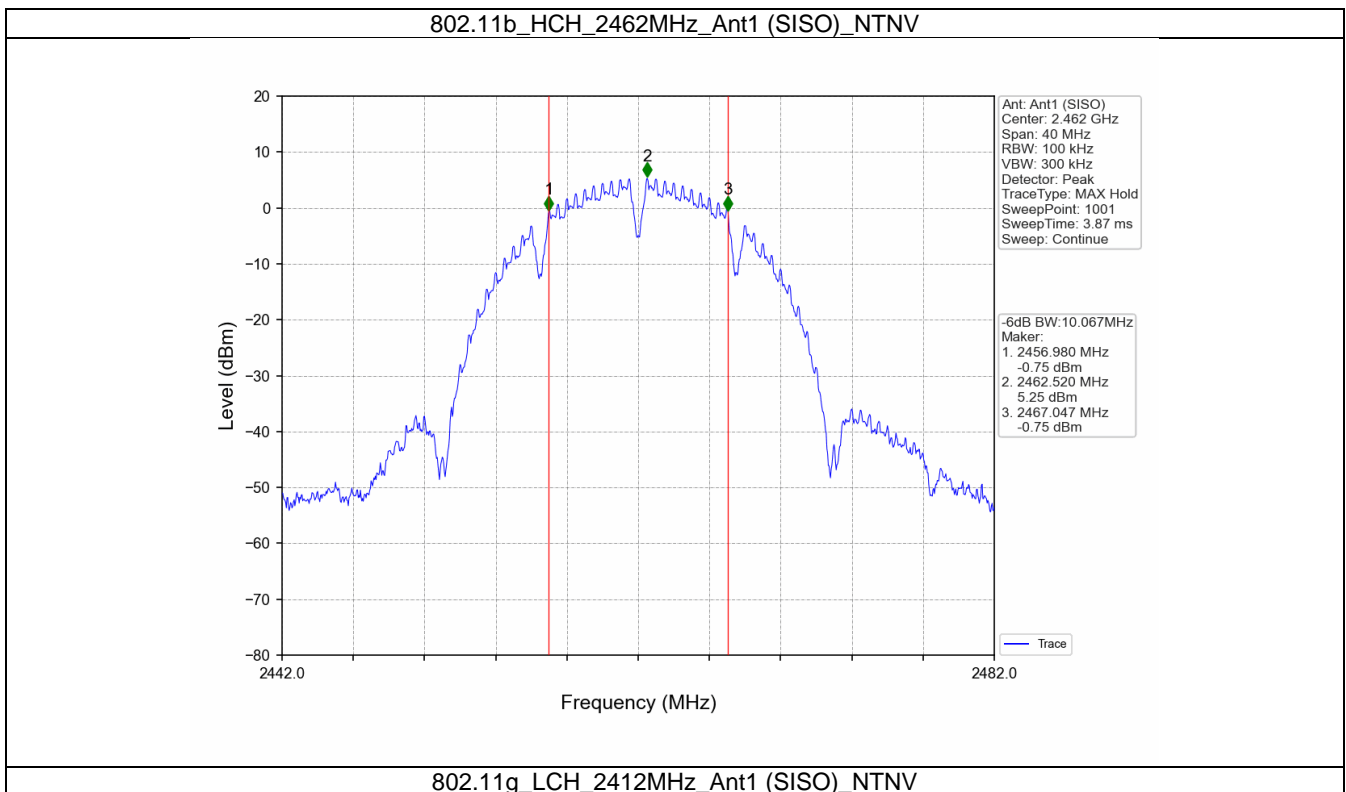
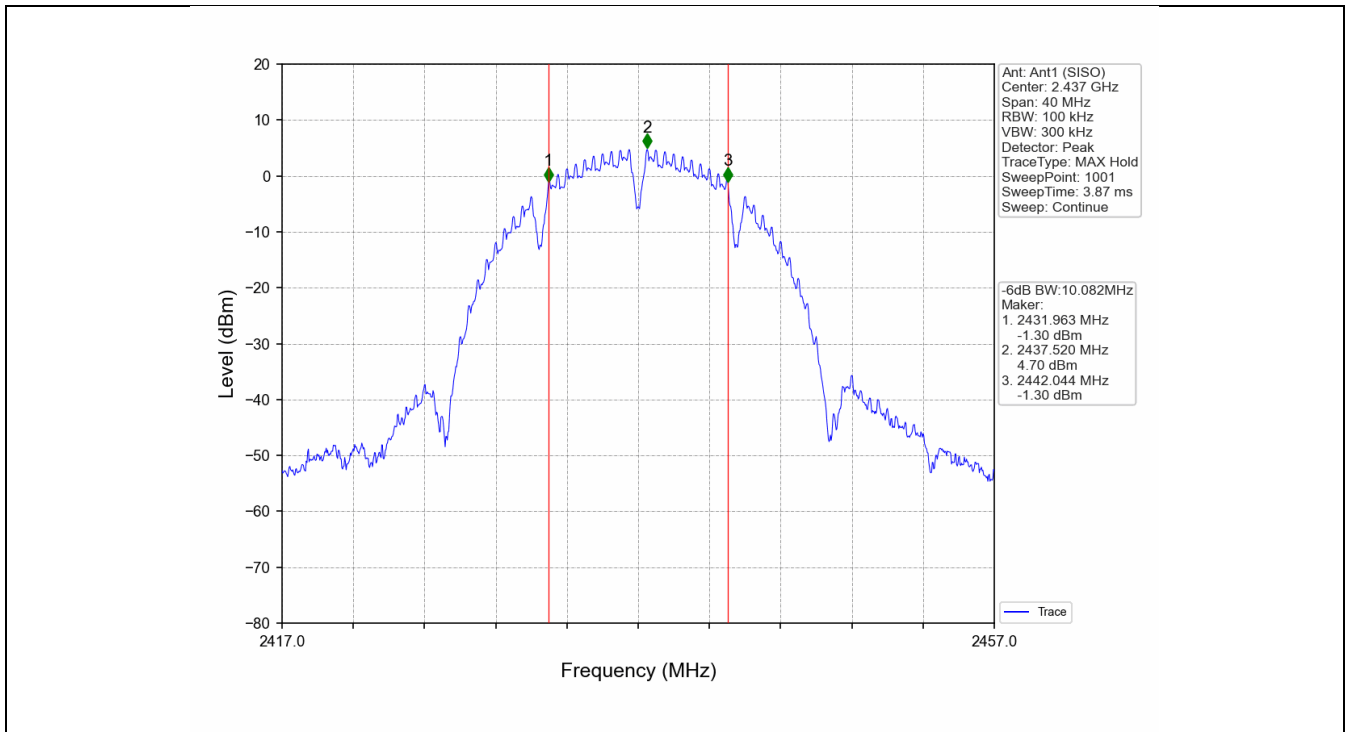
## 2.2 6dB BW

### 2.2.1 Test Result

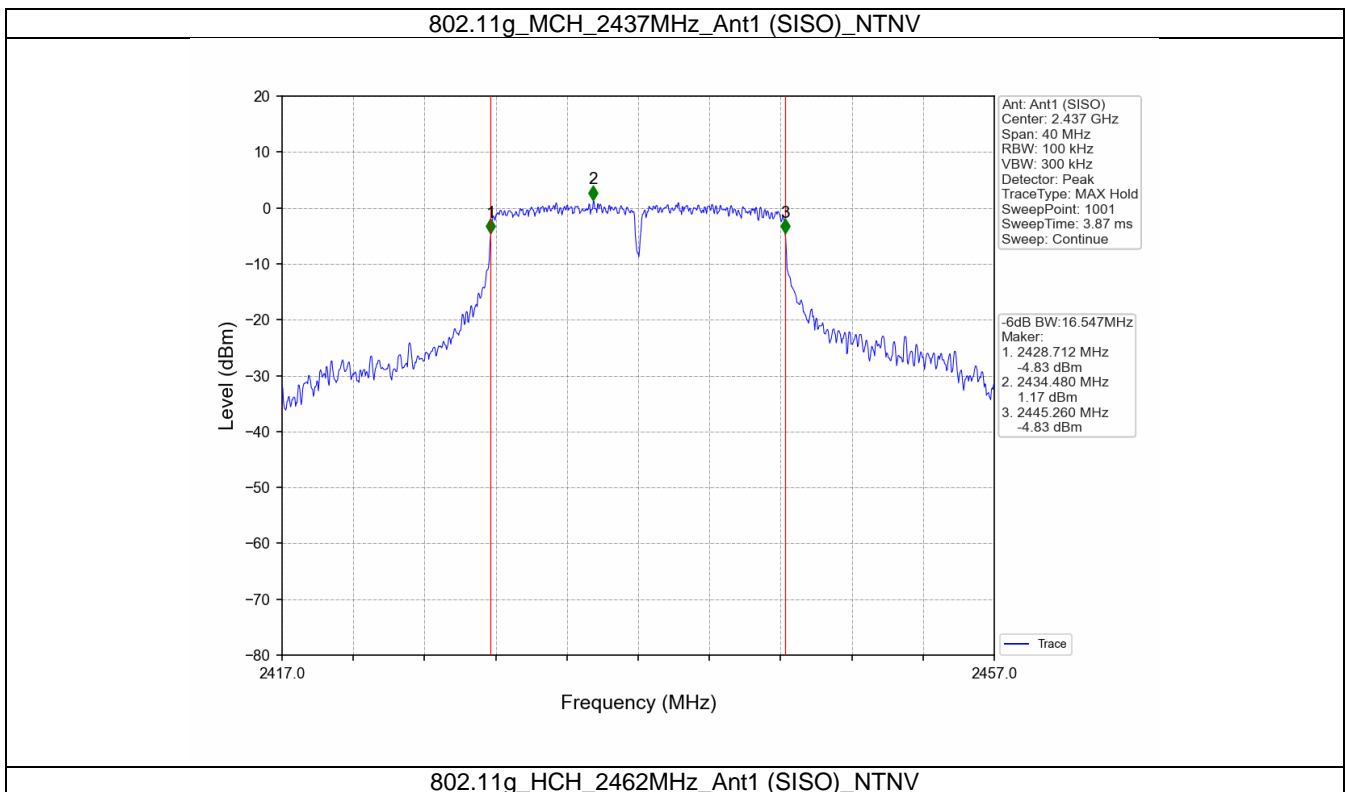
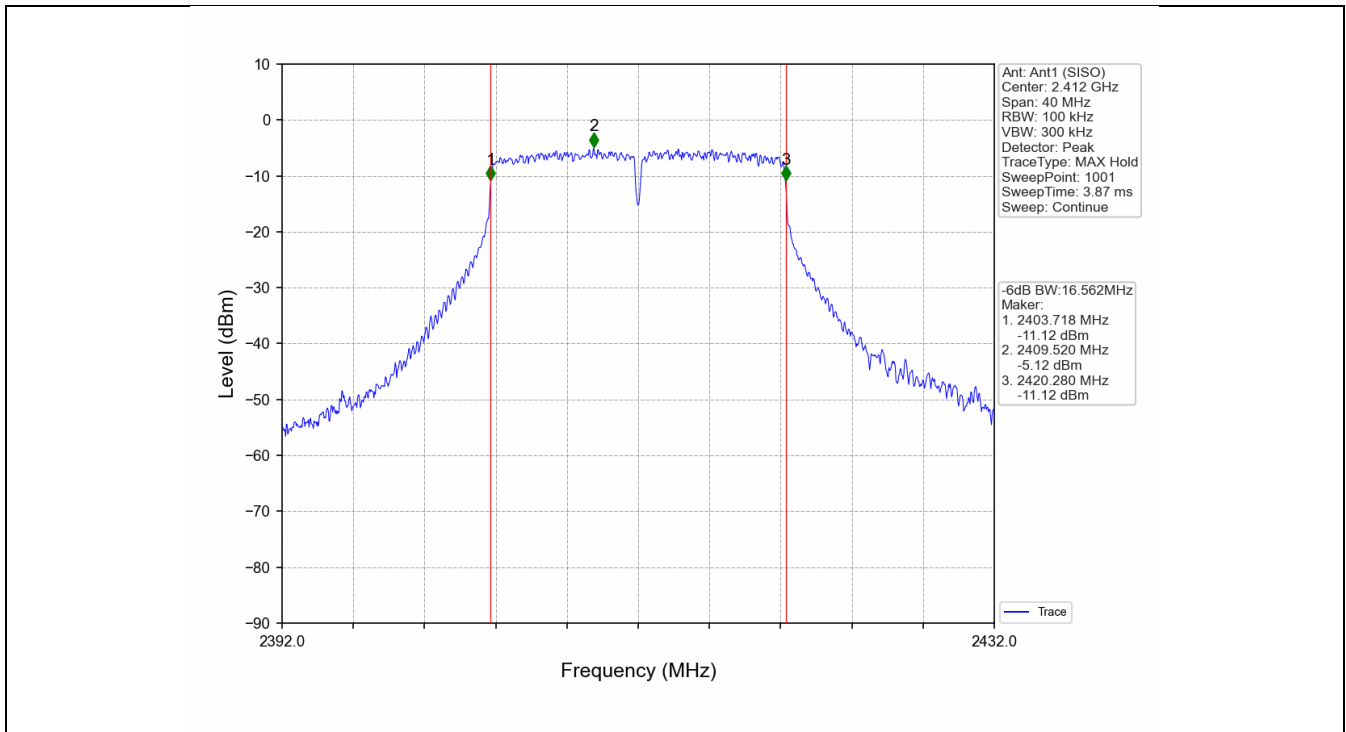
Mode	TX Type	Frequency (MHz)	Ant	6dB Bandwidth (MHz)	Limit (MHz)	Verdict
802.11b	SISO	2412	1	10.078	>=0.5	Pass
		2437	1	10.082	>=0.5	Pass
		2462	1	10.067	>=0.5	Pass
802.11g	SISO	2412	1	16.562	>=0.5	Pass
		2437	1	16.547	>=0.5	Pass
		2462	1	16.563	>=0.5	Pass
802.11n (HT20)	SISO	2412	1	16.557	>=0.5	Pass
		2437	1	16.563	>=0.5	Pass
		2462	1	16.565	>=0.5	Pass
802.11n (HT40)	SISO	2422	1	36.384	>=0.5	Pass
		2437	1	36.405	>=0.5	Pass
		2452	1	36.390	>=0.5	Pass

### 2.2.2 Test Graph

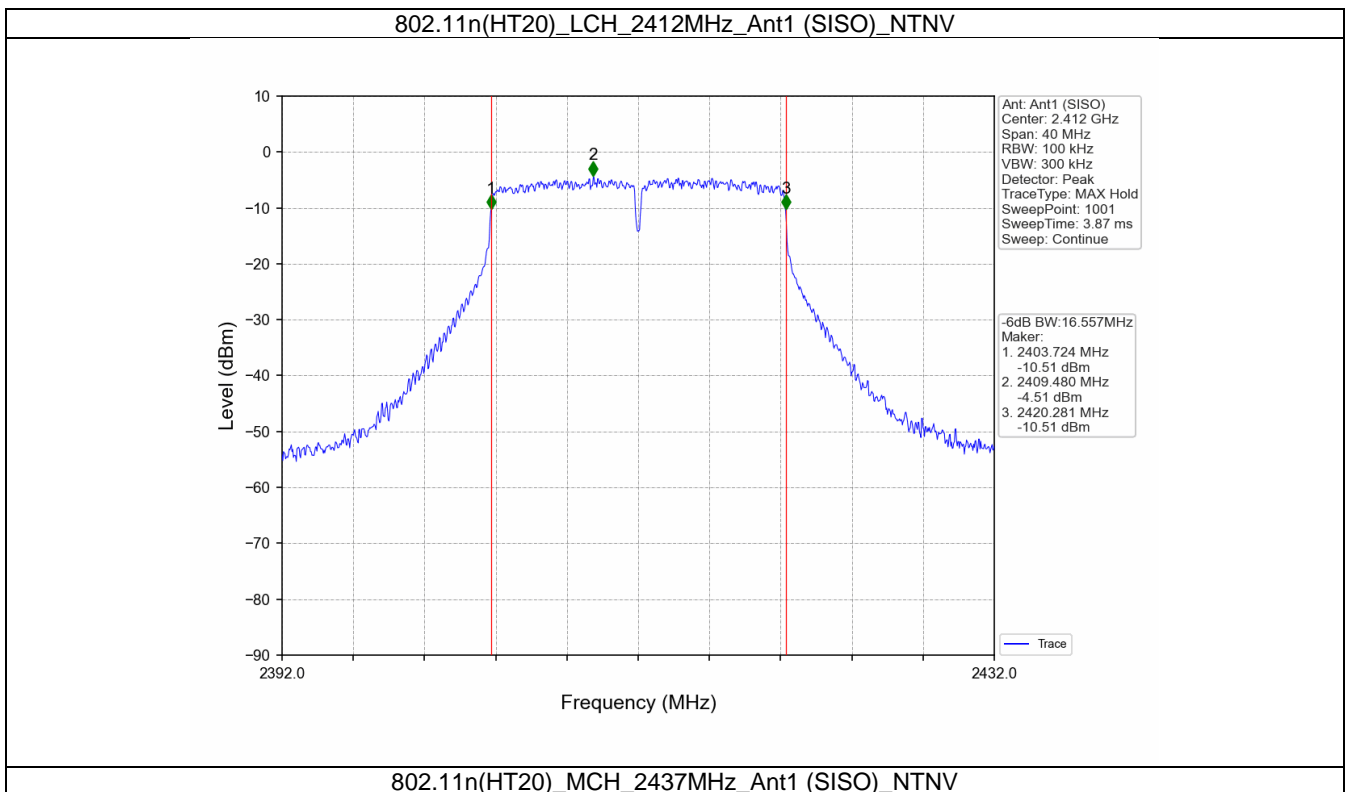
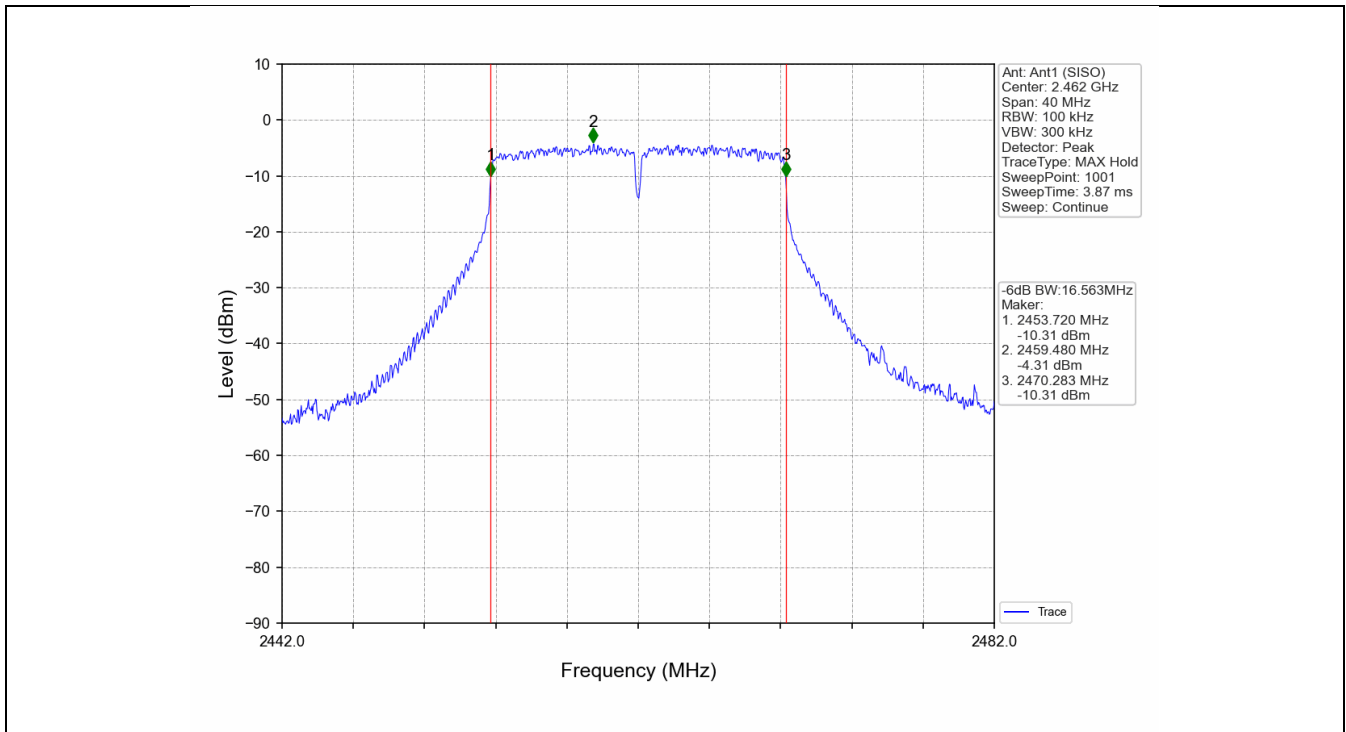


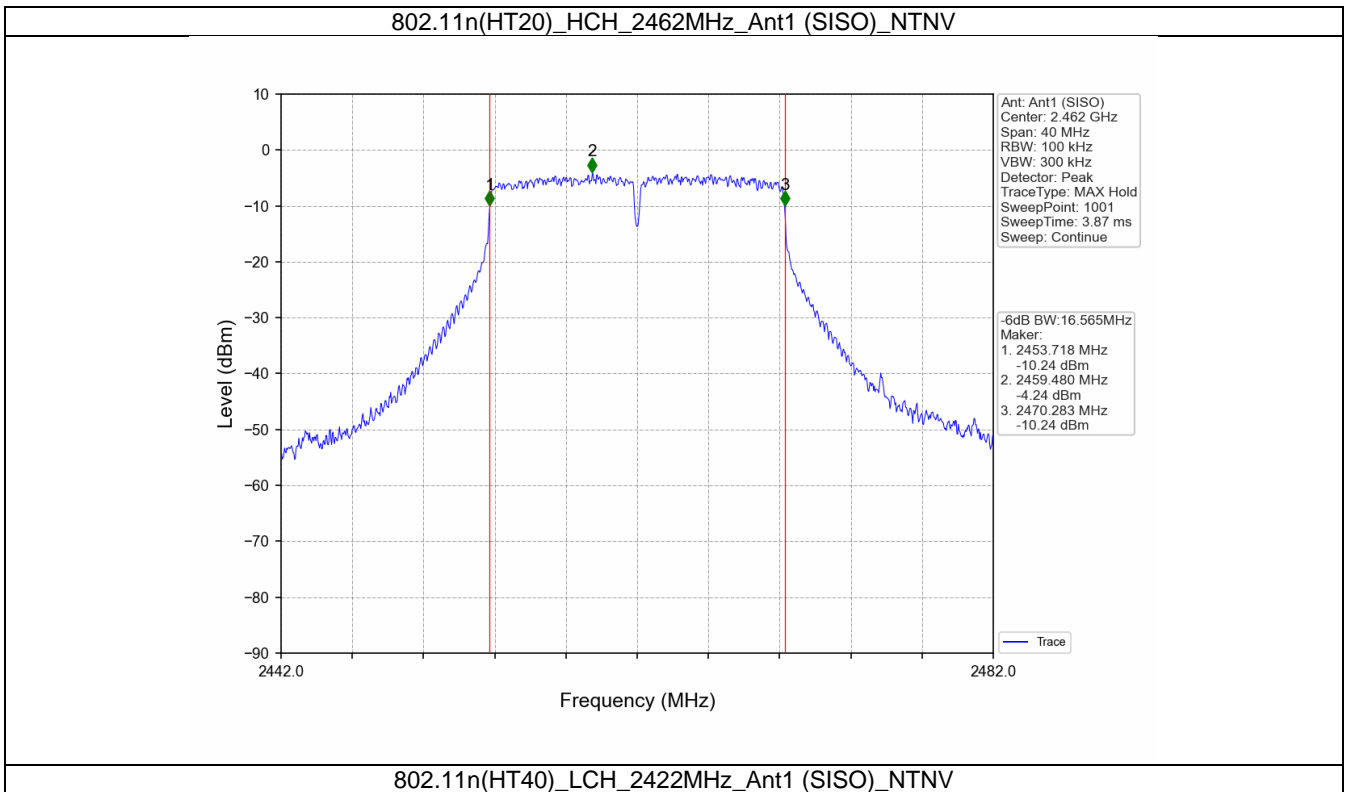
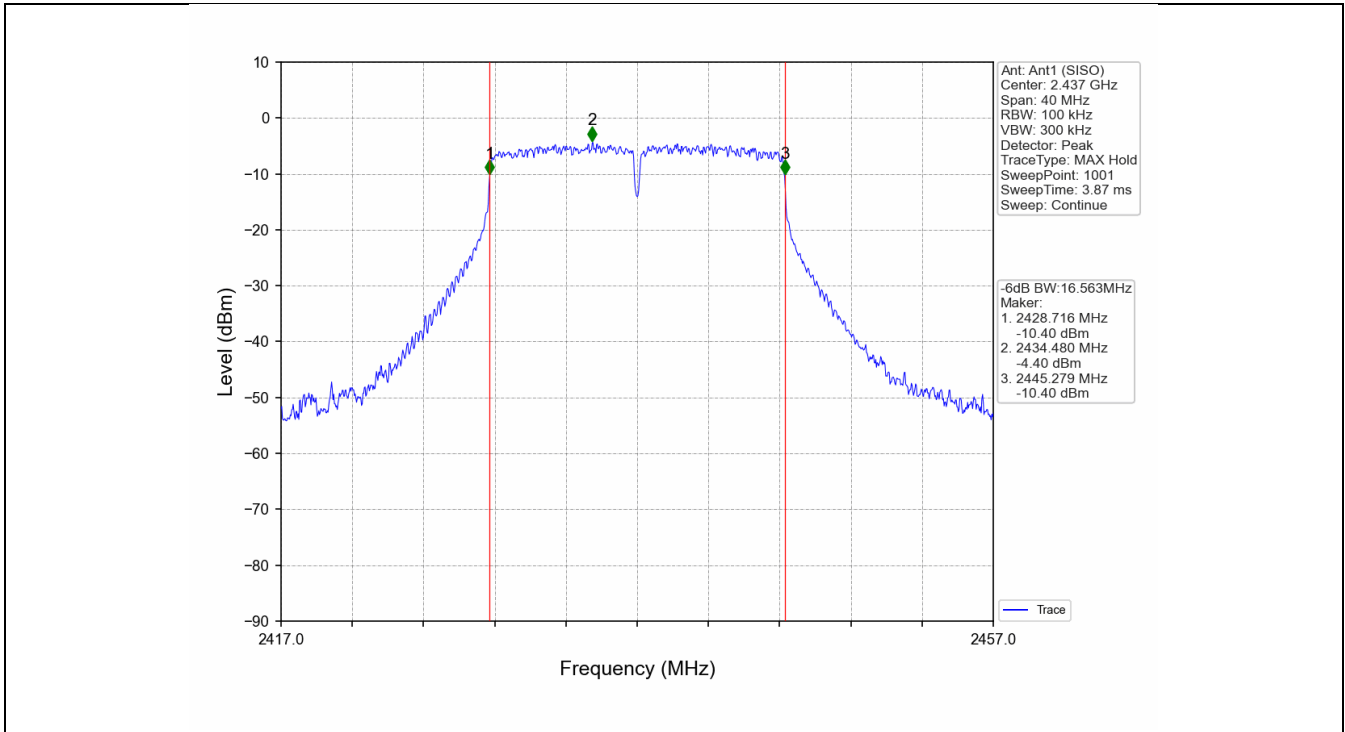


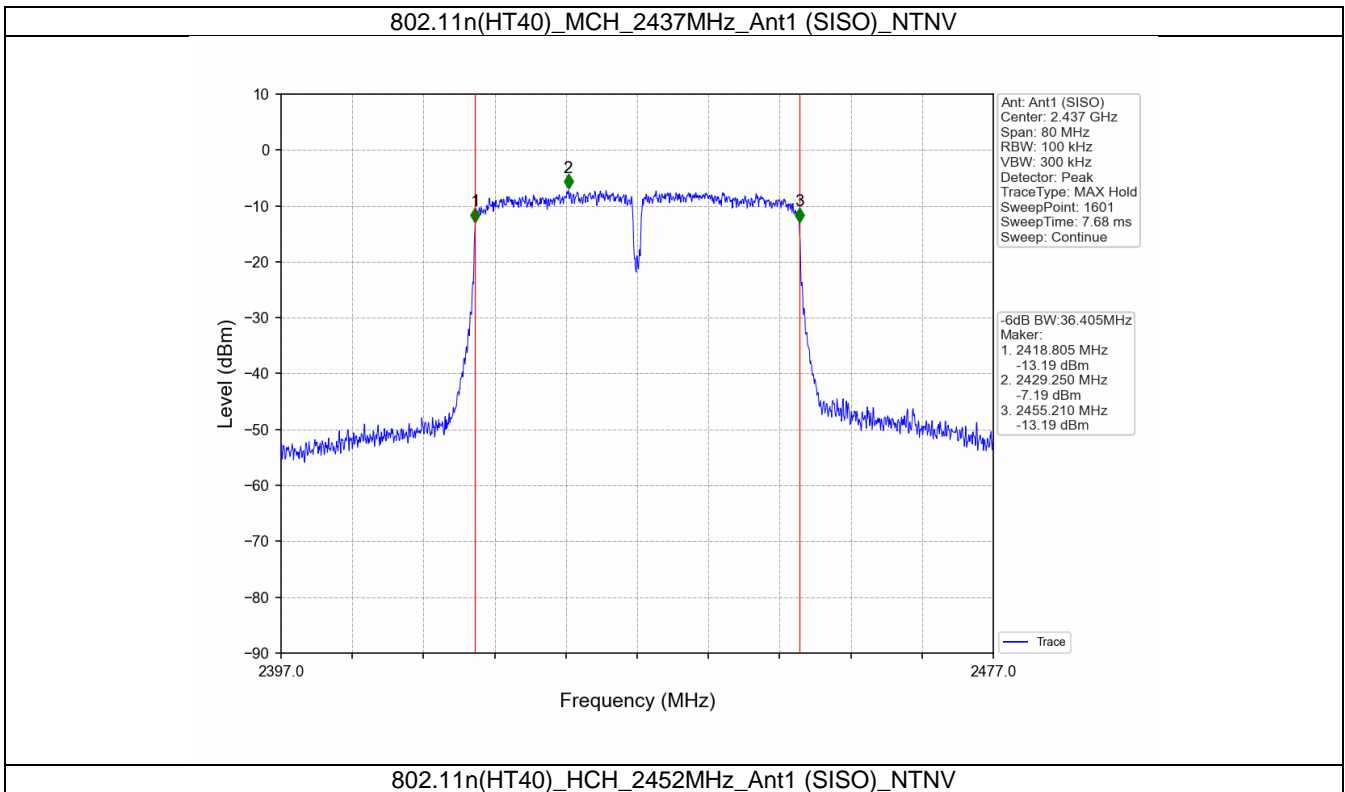
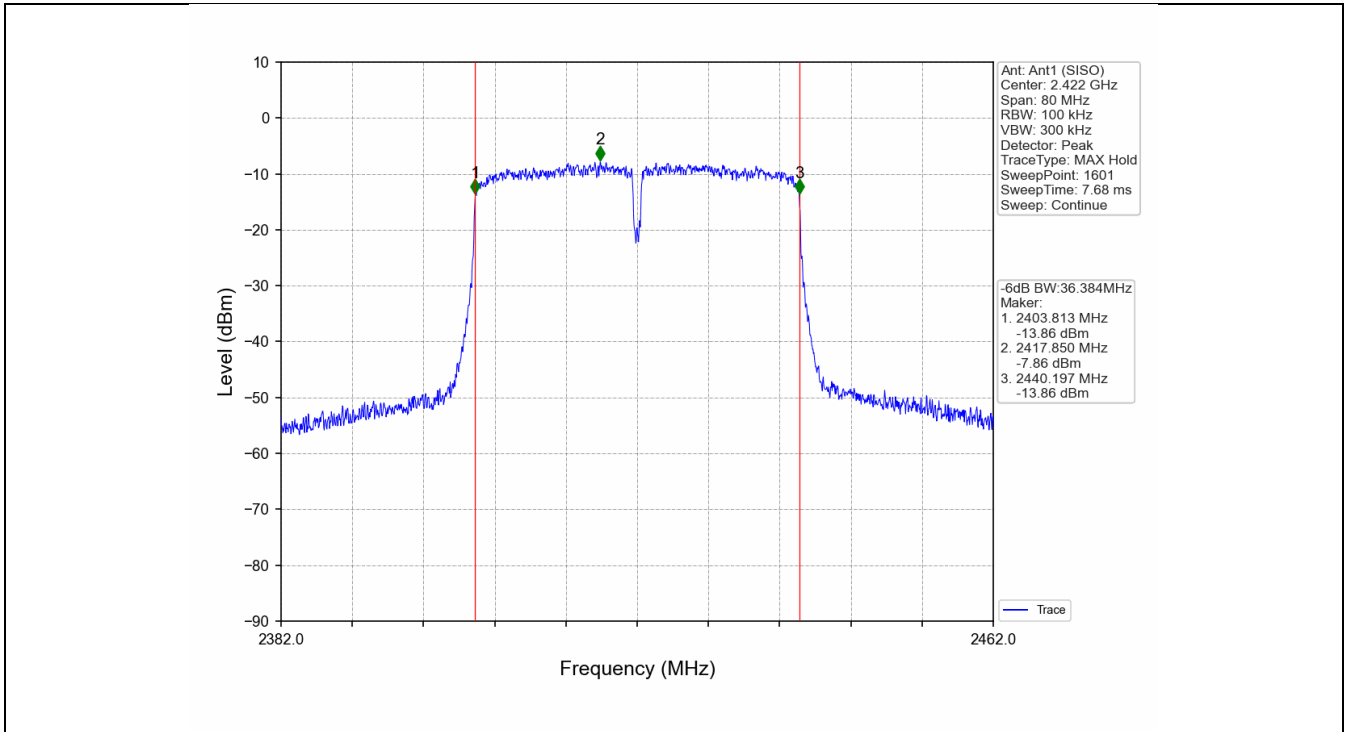


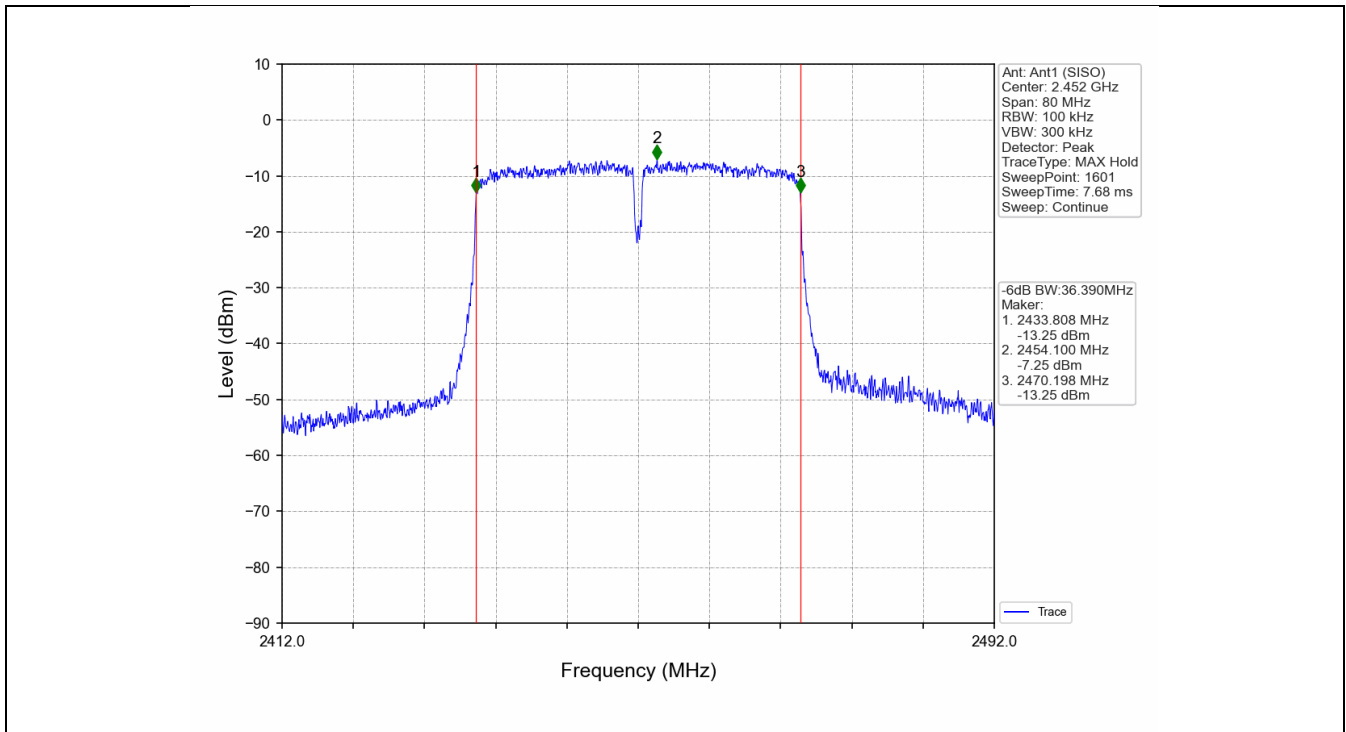


802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV









### 3. Maximum Conducted Output Power

#### 3.1 Power

##### 3.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Measured Peak Output Power (dBm)		Verdict
			Ant1	Limit	
802.11b	SISO	2412	17.02	<=30	Pass
		2437	17.11	<=30	Pass
		2462	17.57	<=30	Pass
802.11g	SISO	2412	17.32	<=30	Pass
		2437	17.25	<=30	Pass
		2462	17.44	<=30	Pass
802.11n (HT20)	SISO	2412	17.26	<=30	Pass
		2437	17.34	<=30	Pass
		2462	17.56	<=30	Pass
802.11n (HT40)	SISO	2422	16.91	<=30	Pass
		2437	17.70	<=30	Pass
		2452	17.68	<=30	Pass

Note1: Antenna Gain: Ant1: 0.50dBi;

### 4. Maximum Power Spectral Density

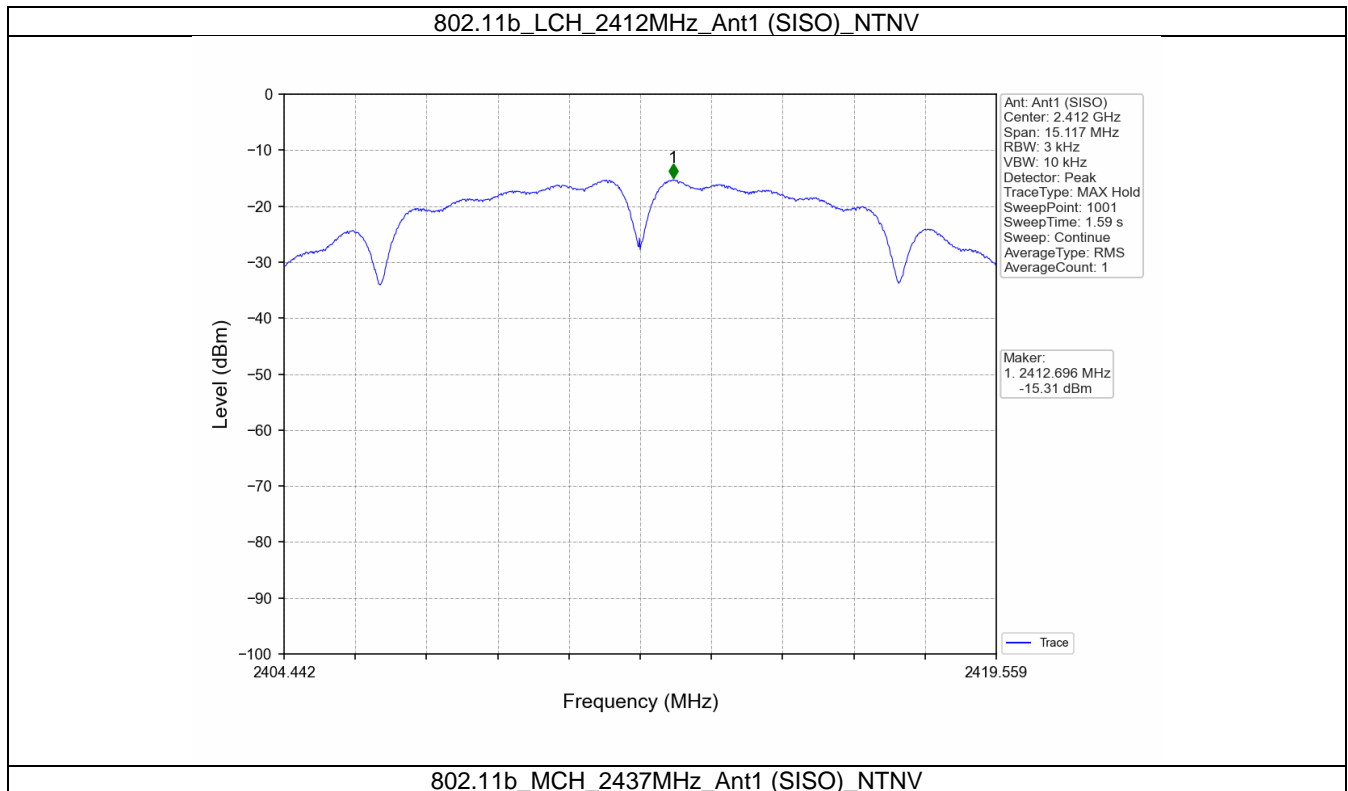
## 4.1 PSD

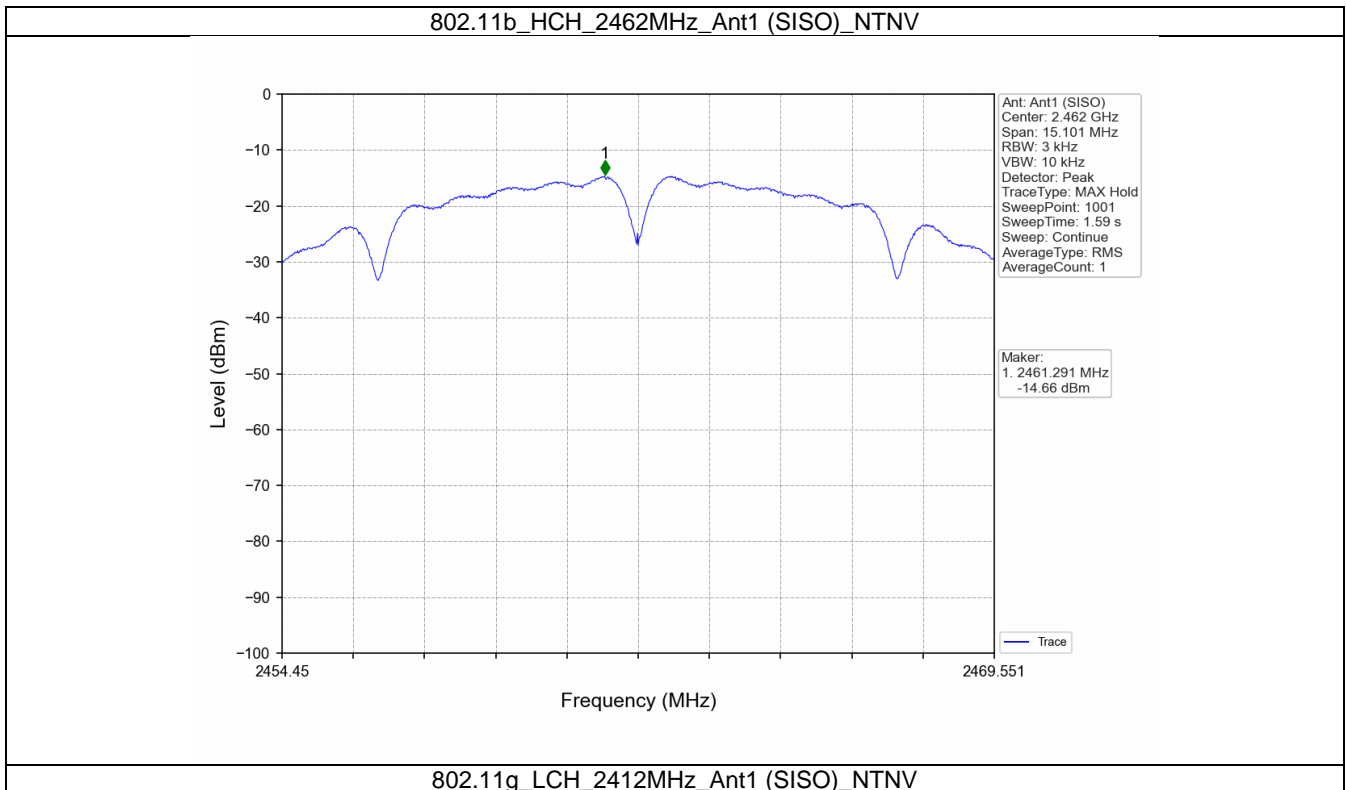
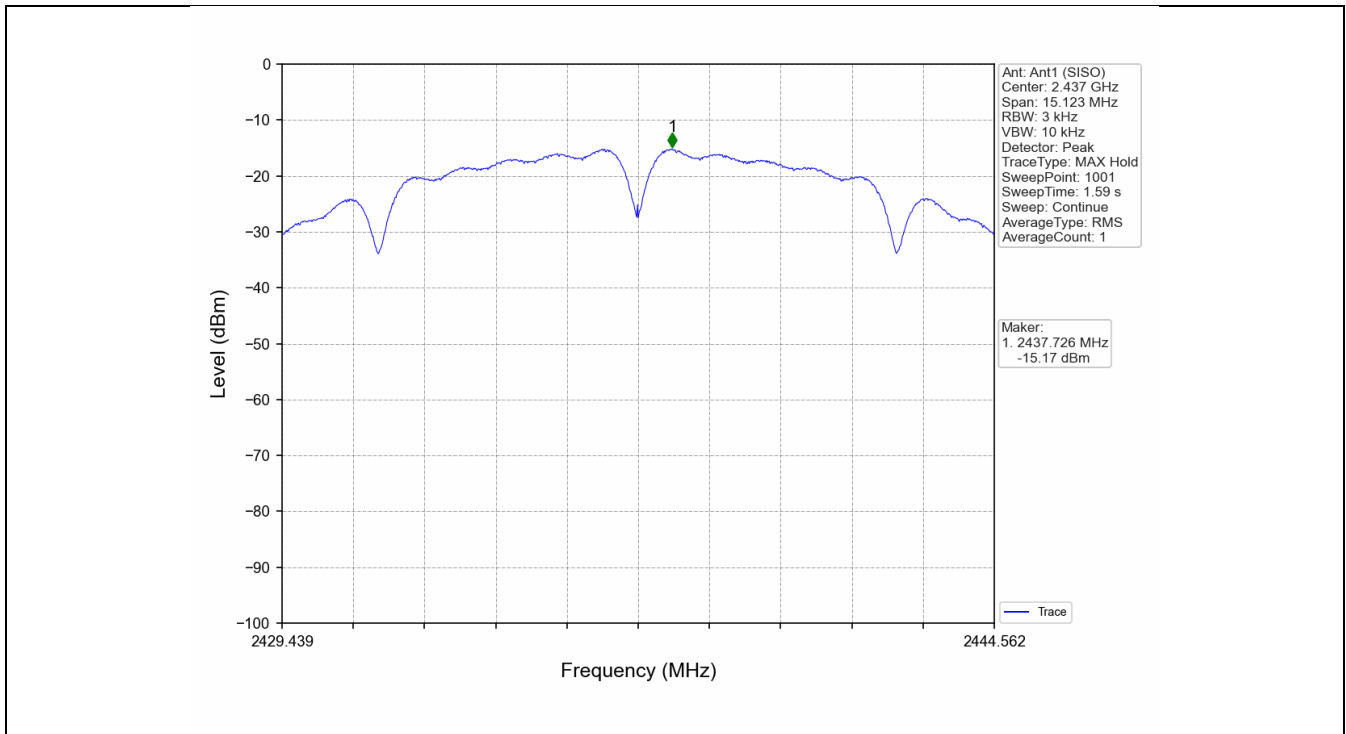
### 4.1.1 Test Result

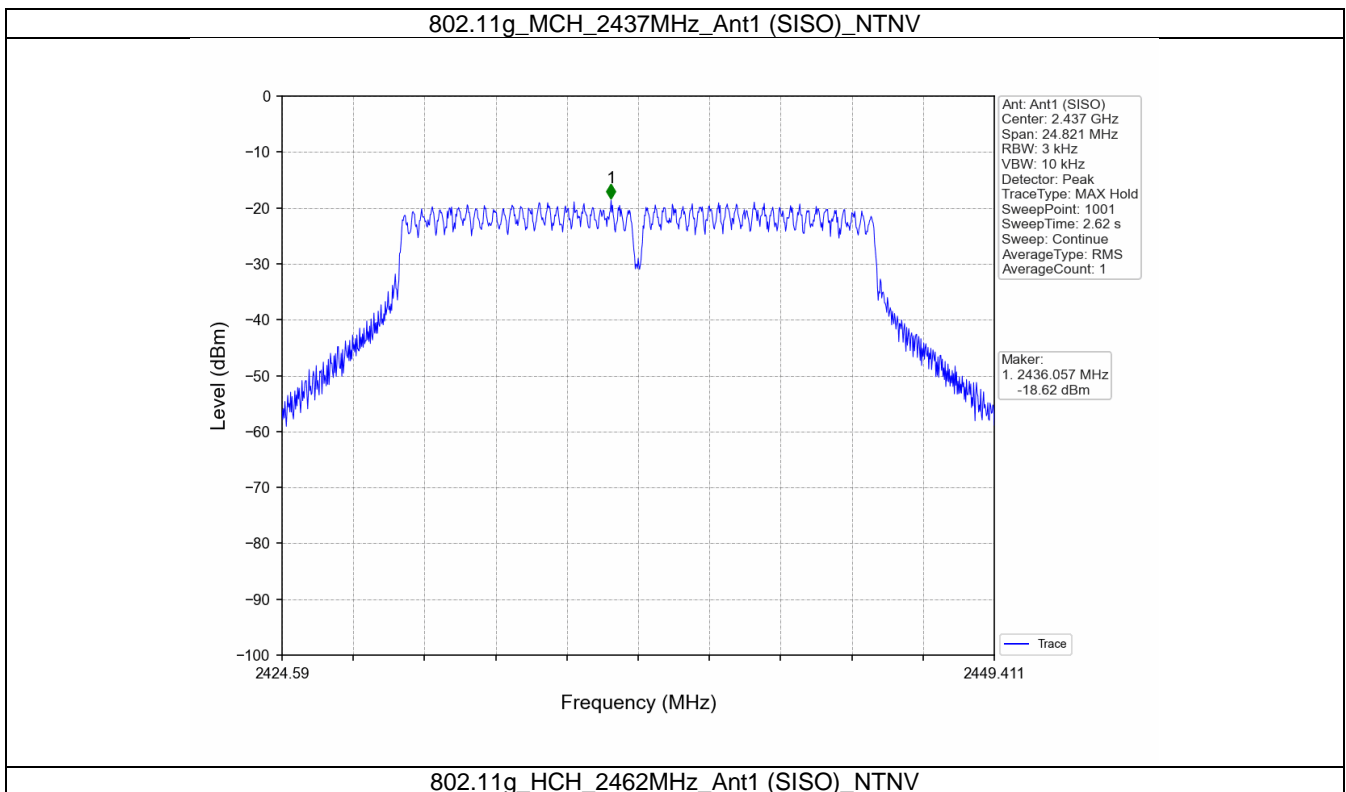
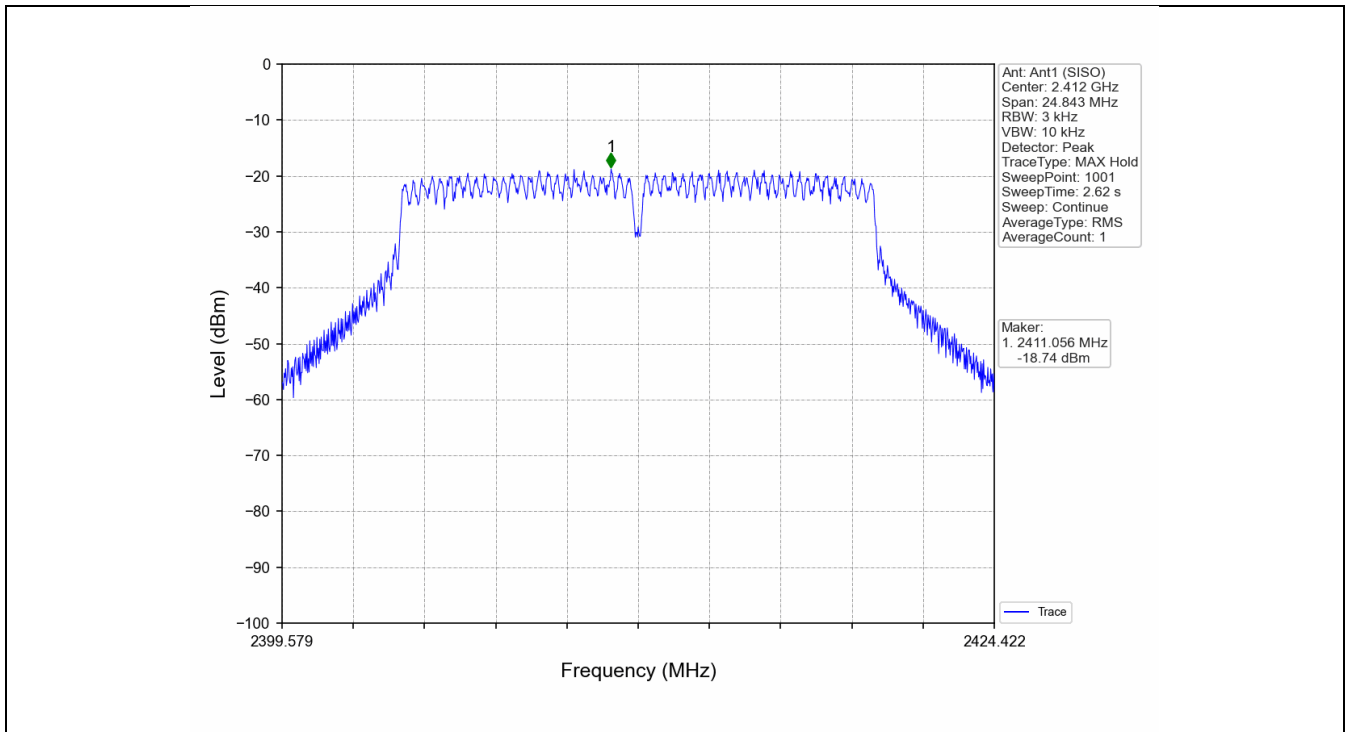
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			Ant1	Limit	
802.11b	SISO	2412	-15.31	<=8	Pass
		2437	-15.17	<=8	Pass
		2462	-14.66	<=8	Pass
802.11g	SISO	2412	-18.74	<=8	Pass
		2437	-18.62	<=8	Pass
		2462	-18.62	<=8	Pass
802.11n (HT20)	SISO	2412	-18.65	<=8	Pass
		2437	-18.52	<=8	Pass
		2462	-18.37	<=8	Pass
802.11n (HT40)	SISO	2422	-18.43	<=8	Pass
		2437	-19.78	<=8	Pass
		2452	-18.04	<=8	Pass

Note1: Antenna Gain: Ant1: 0.50dBi;

### 4.1.2 Test Graph

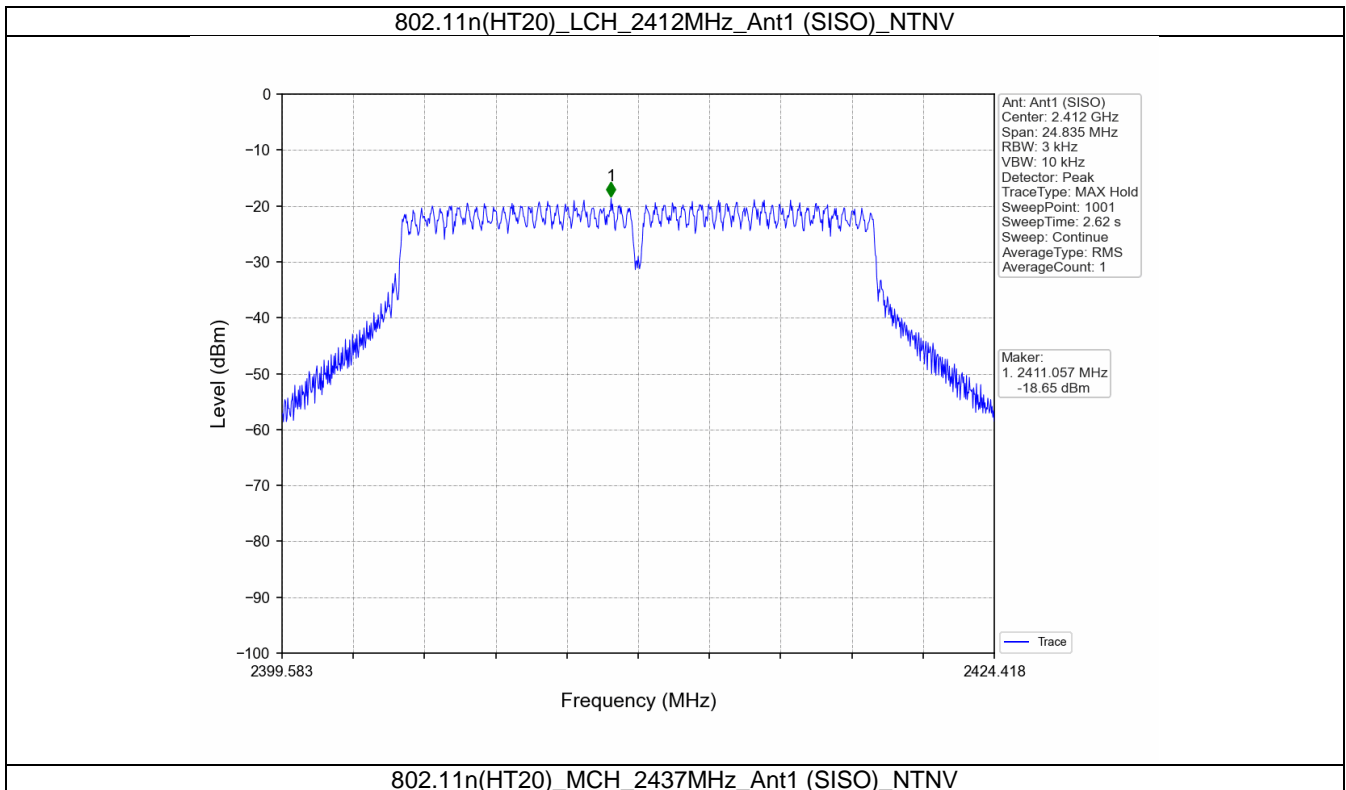
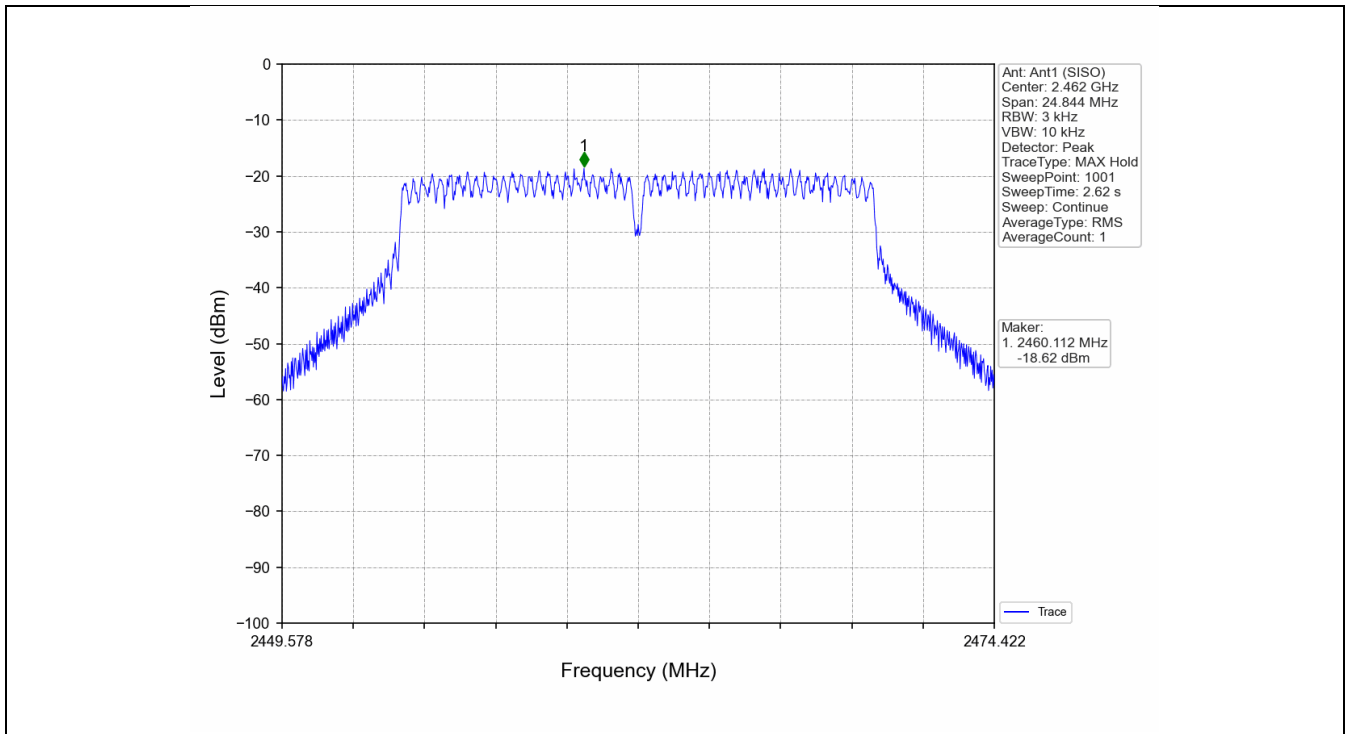




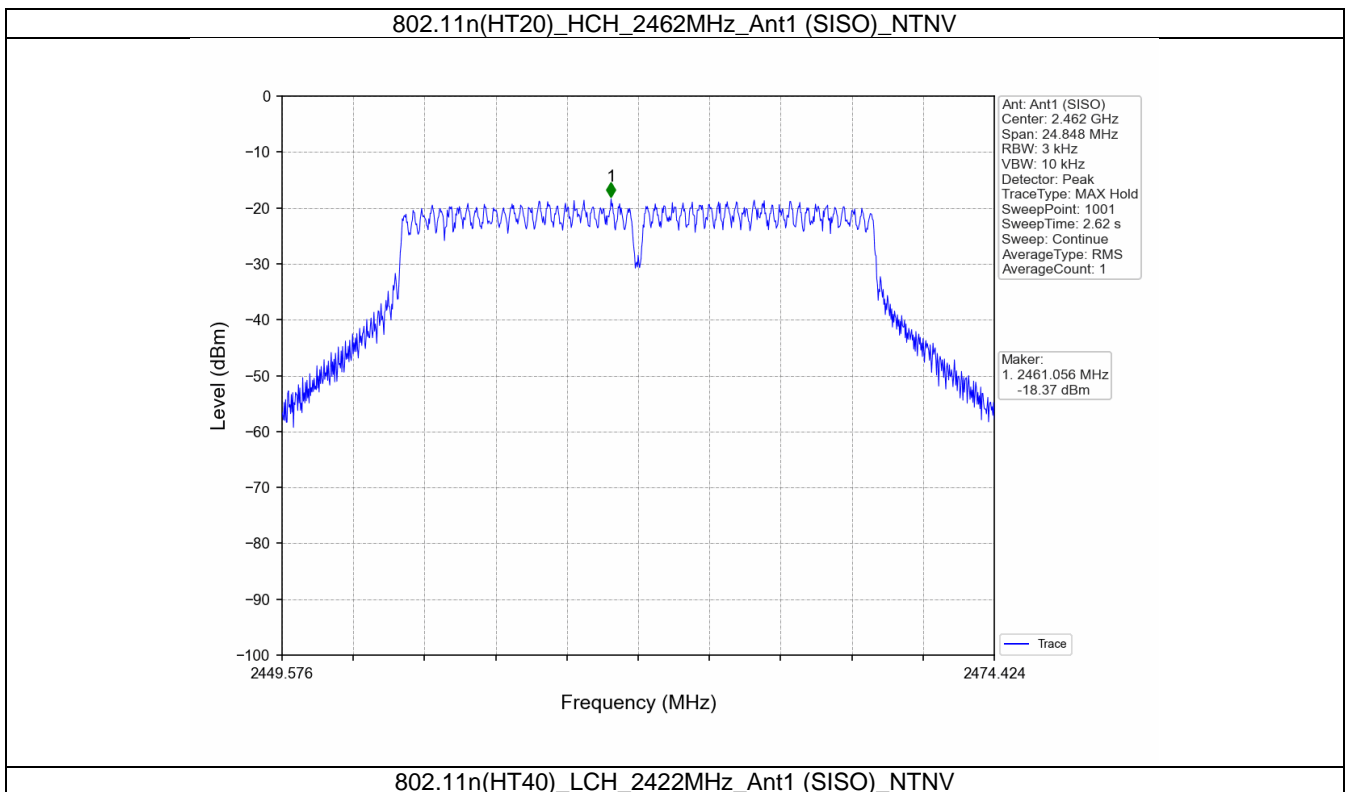
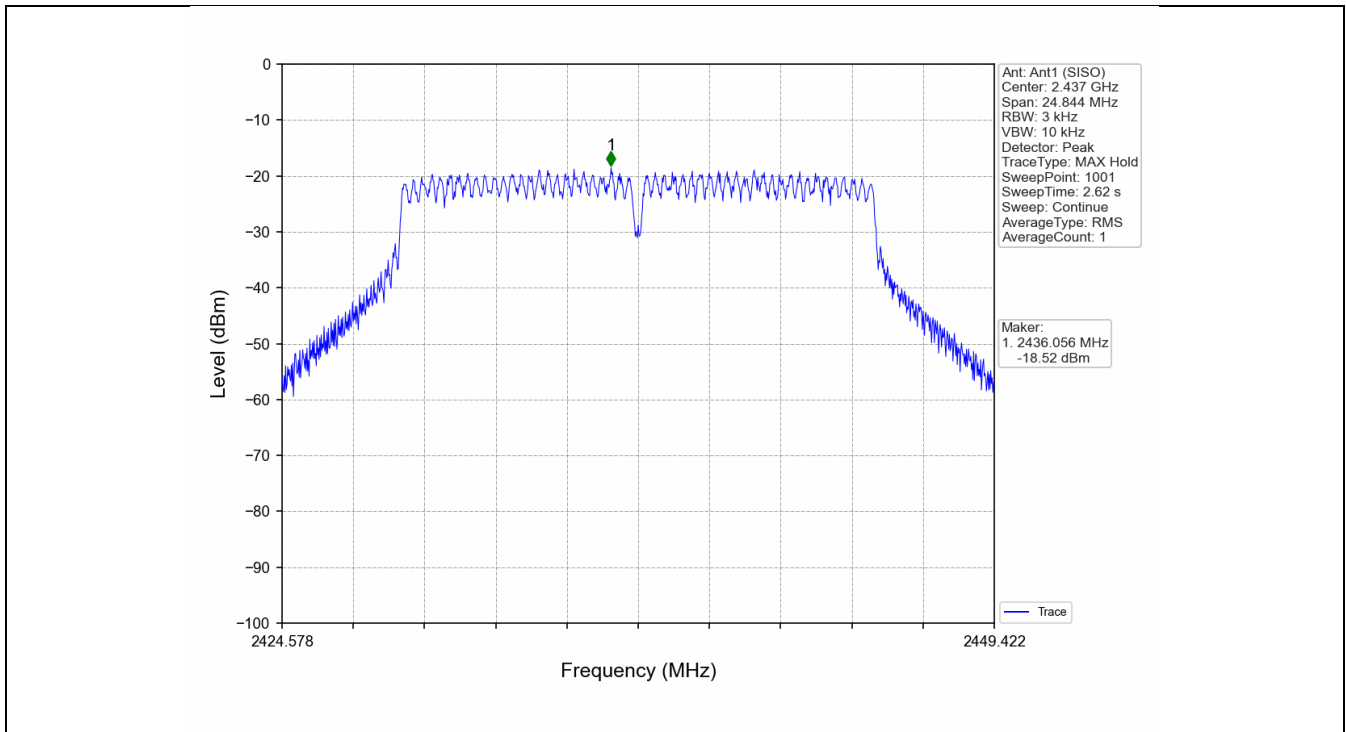


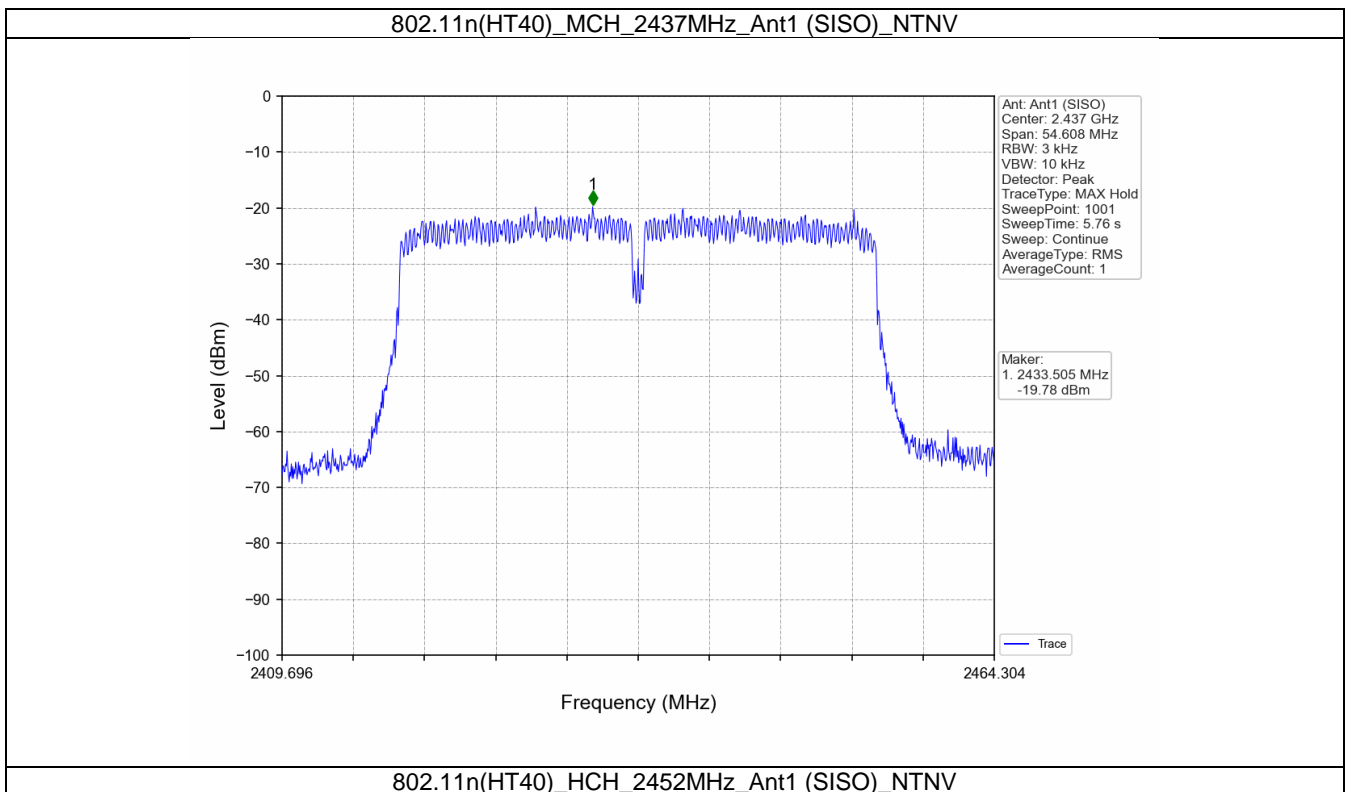
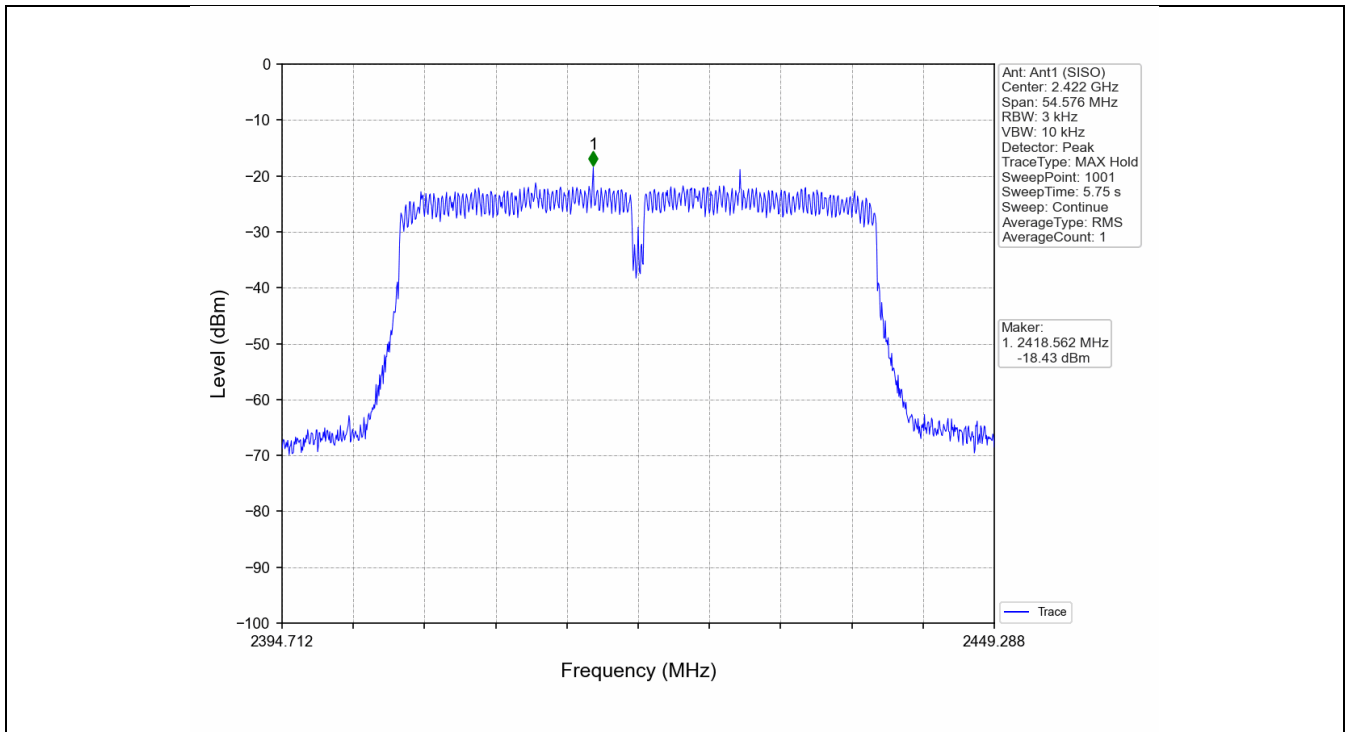
802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



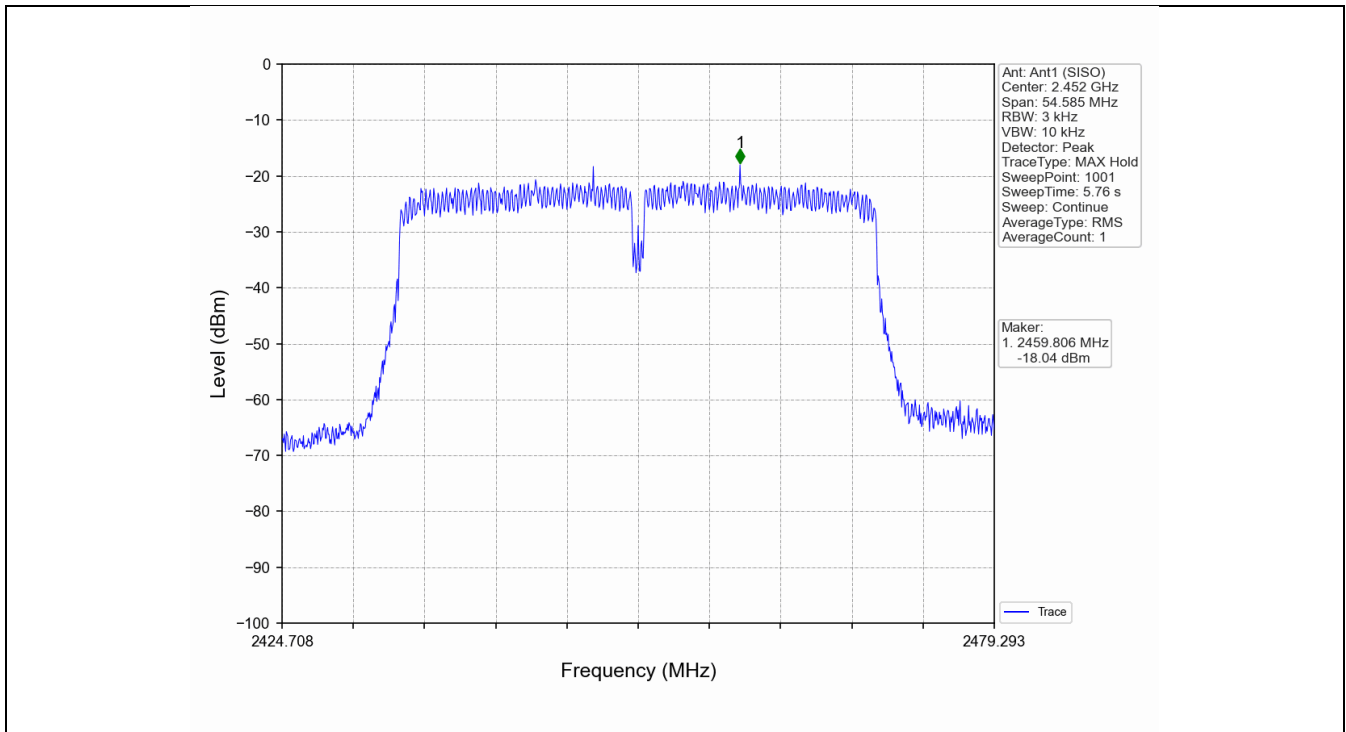


802.11n(HT20)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV





802.11n(HT40)\_HCH\_2452MHz\_Ant1 (SISO)\_NTNV



## 5. Unwanted Emissions In Non-restricted Frequency Bands

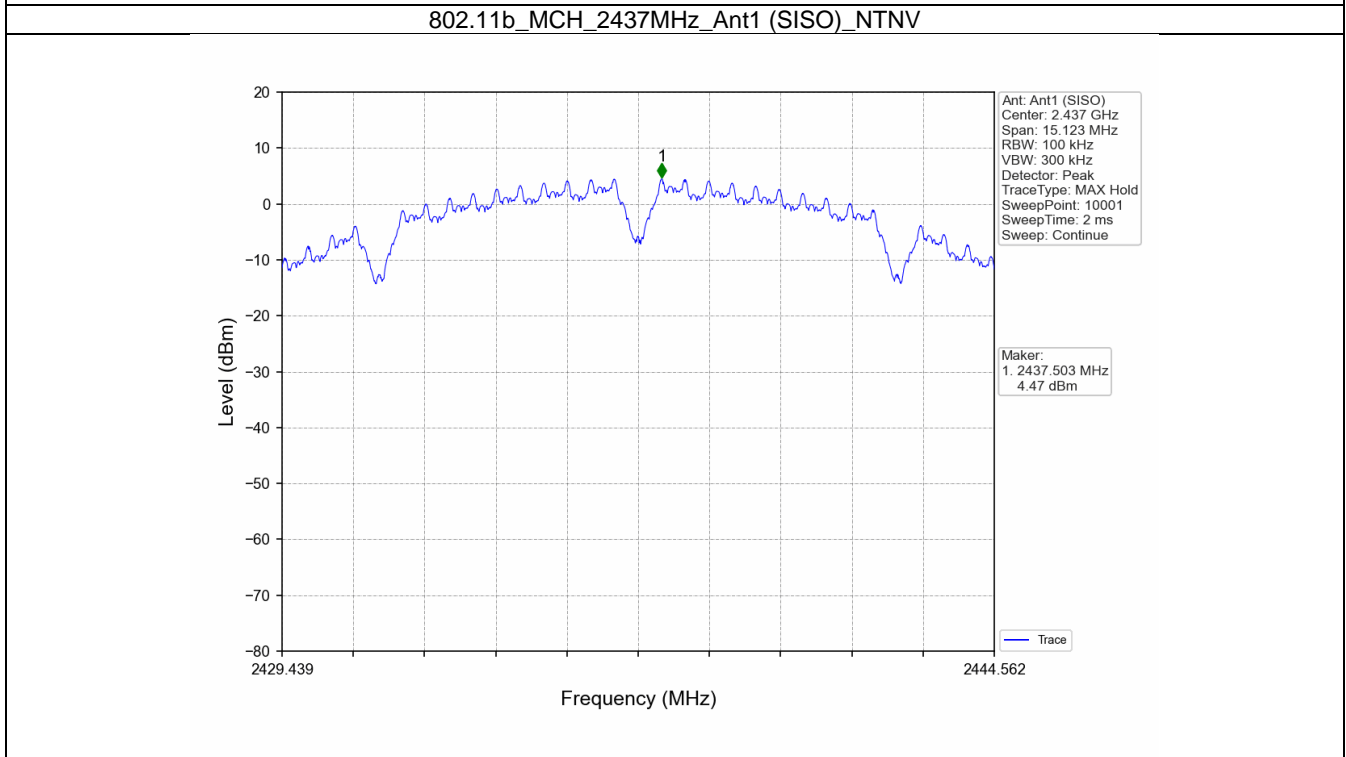
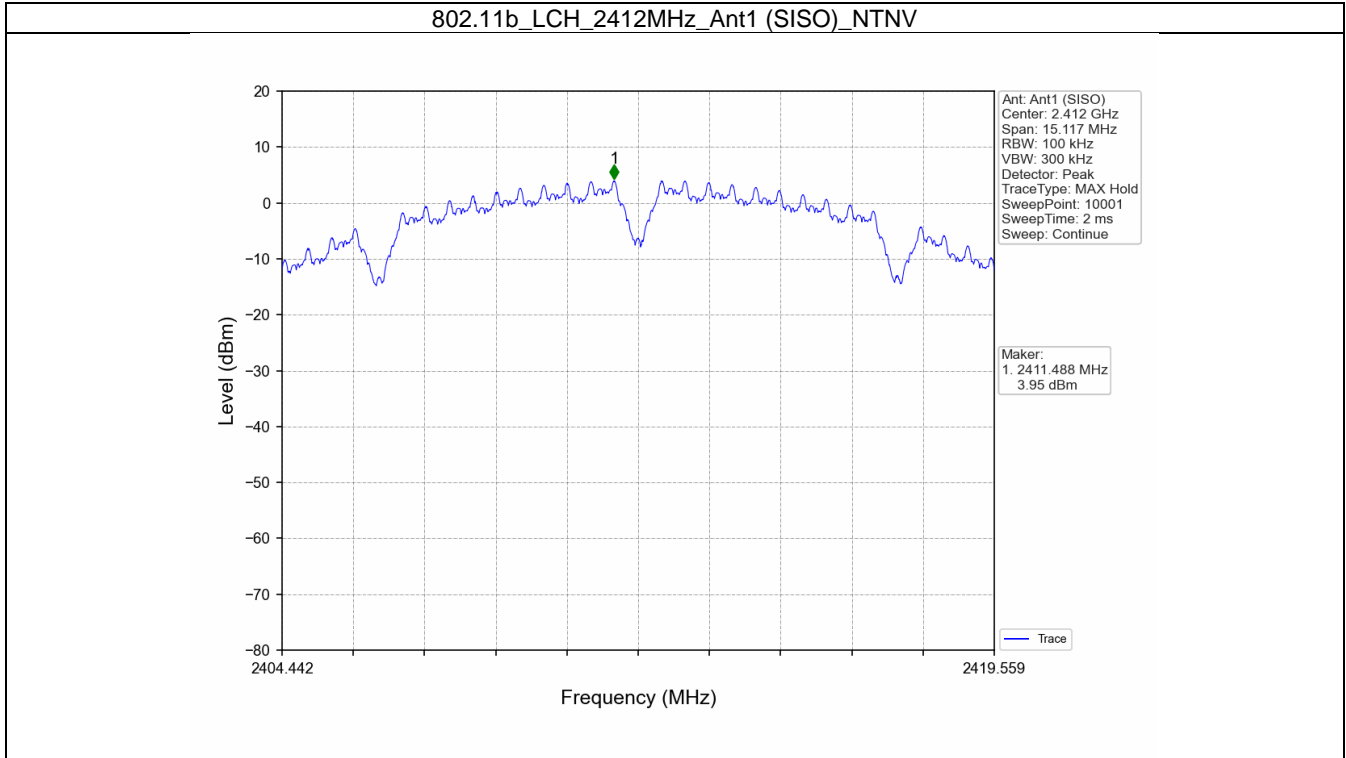
### 5.1 Ref

#### 5.1.1 Test Result

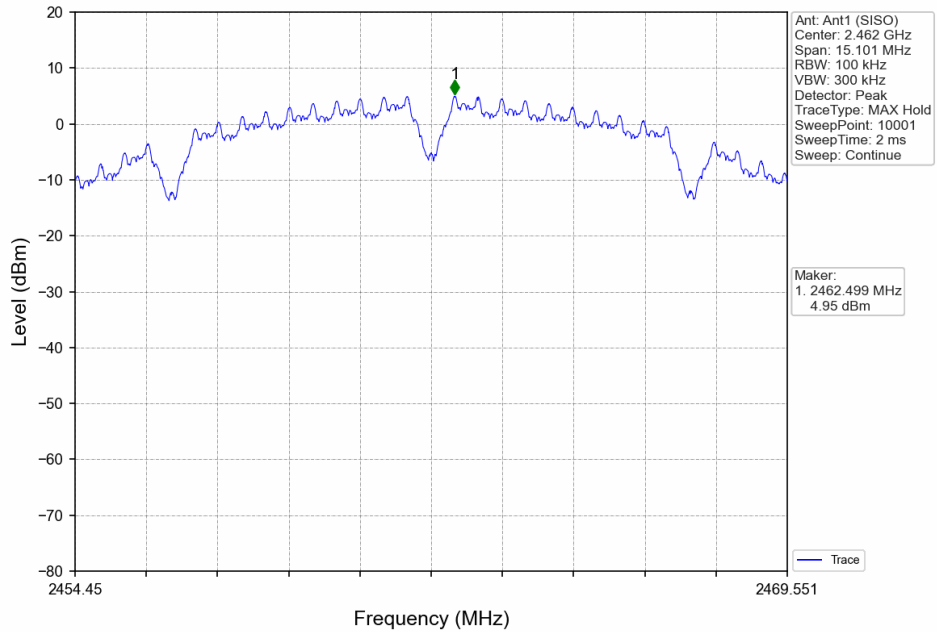
Mode	TX Type	Frequency (MHz)	Ant	Level of Reference (dBm)
802.11b	SISO	2412	1	3.95
		2437	1	4.47
		2462	1	4.95
802.11g	SISO	2412	1	-5.21
		2437	1	1.04
		2462	1	-4.45
802.11n (HT20)	SISO	2412	1	-4.62
		2437	1	-4.48
		2462	1	-4.32
802.11n (HT40)	SISO	2422	1	-7.92
		2437	1	-7.28
		2452	1	-7.29

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.

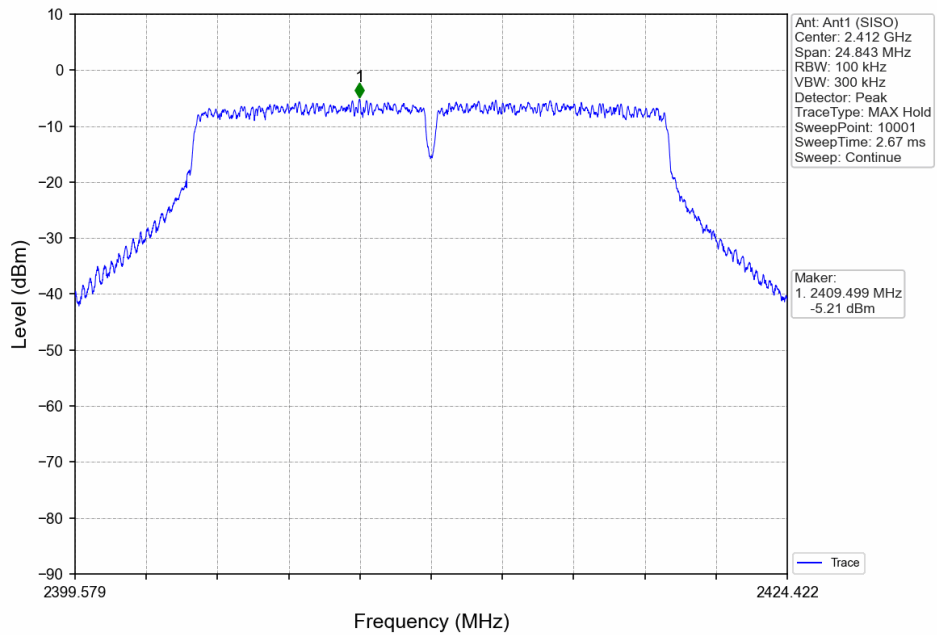
## 5.1.2 Test Graph



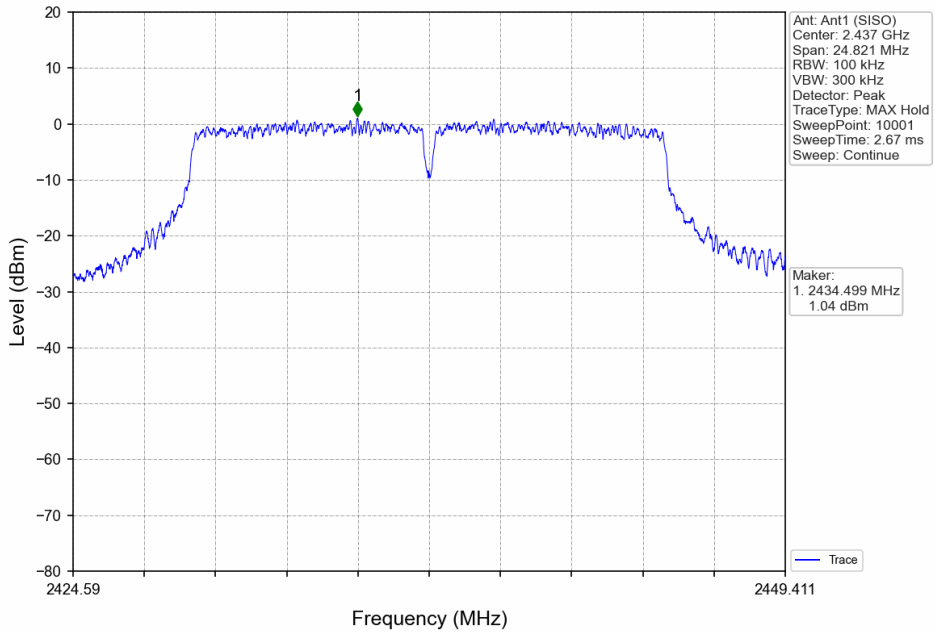
\802.11b\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



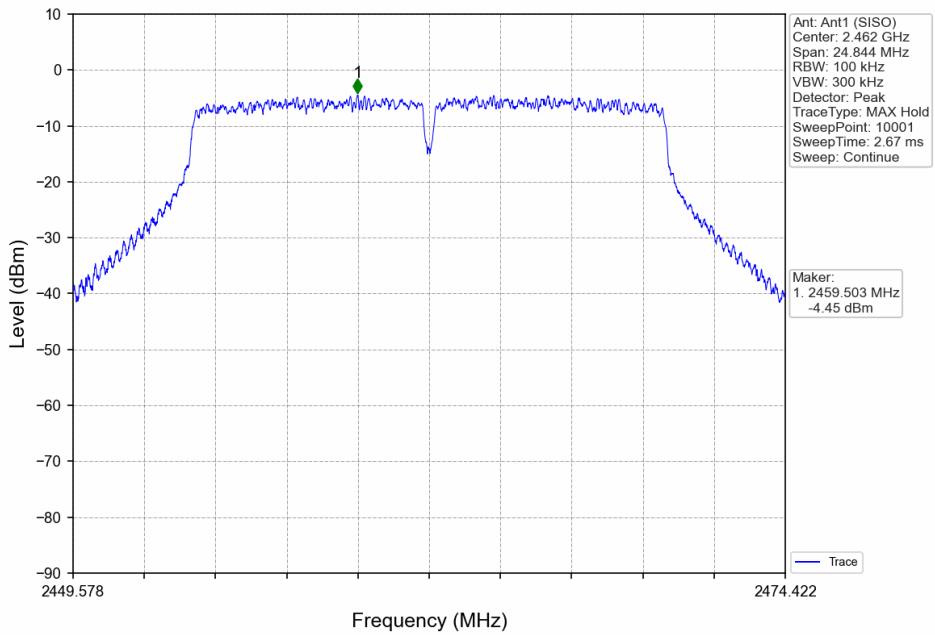
802.11g\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



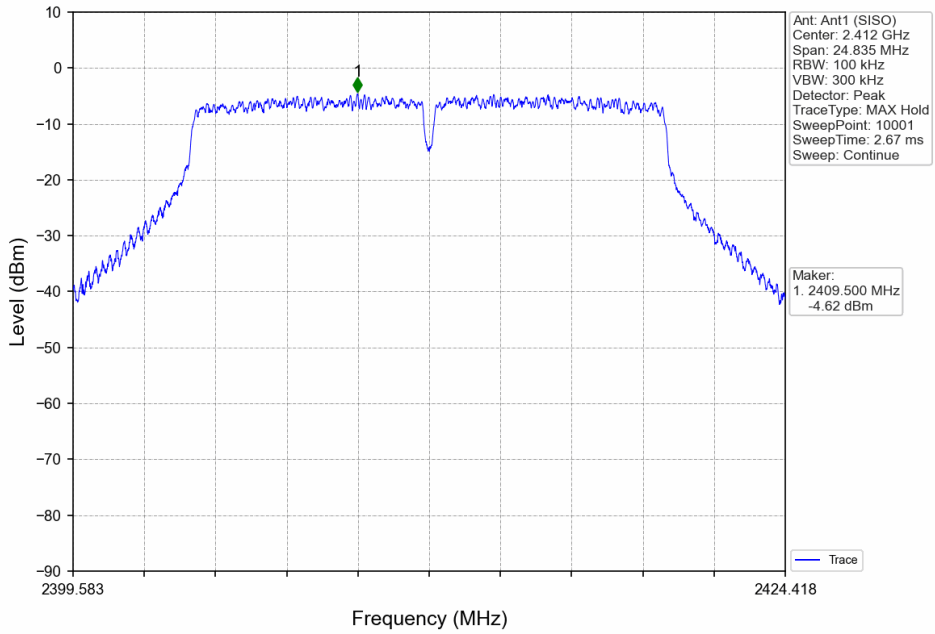
802.11g\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



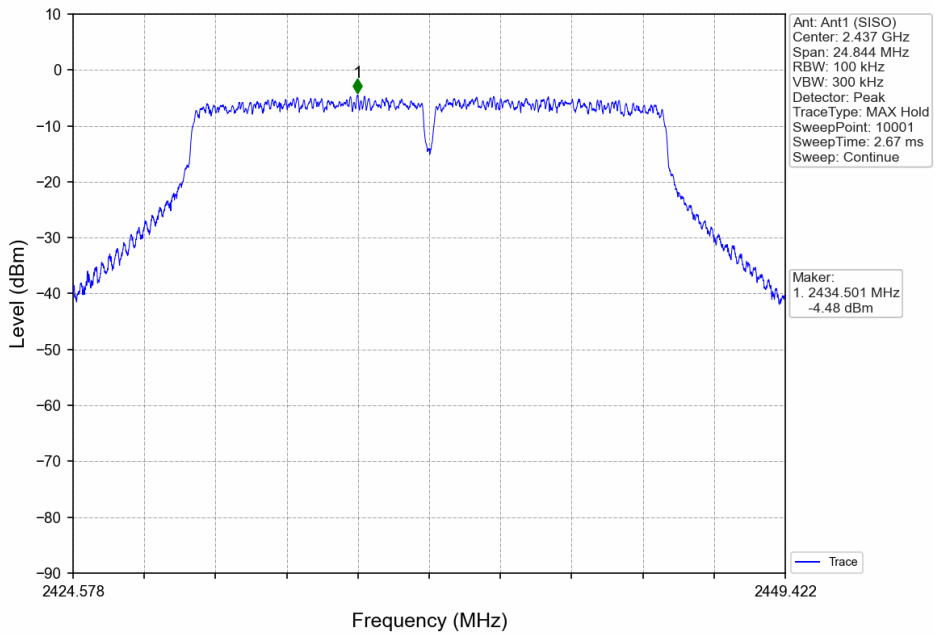
802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



802.11n(HT20)\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV

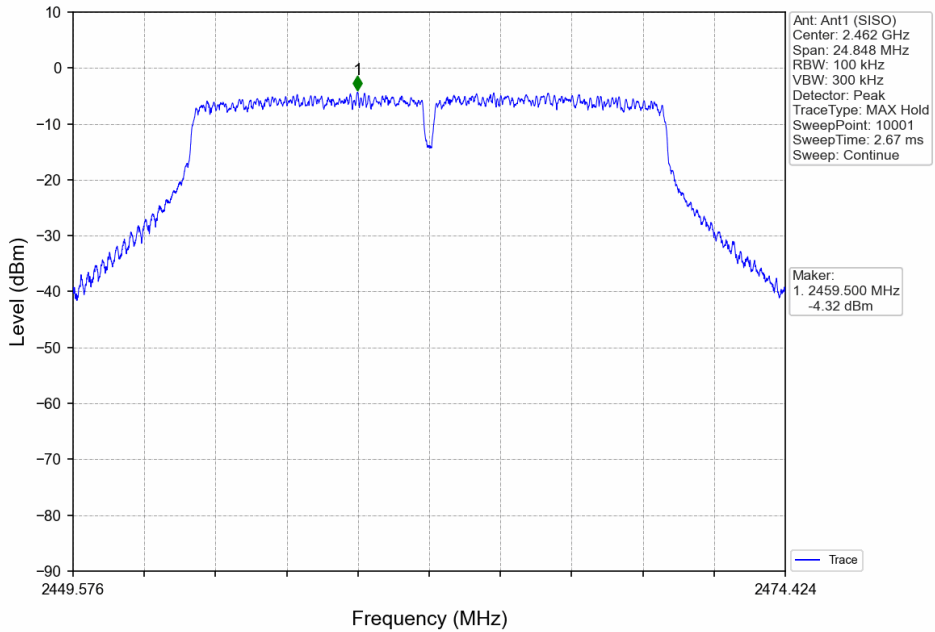


802.11n(HT20)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV

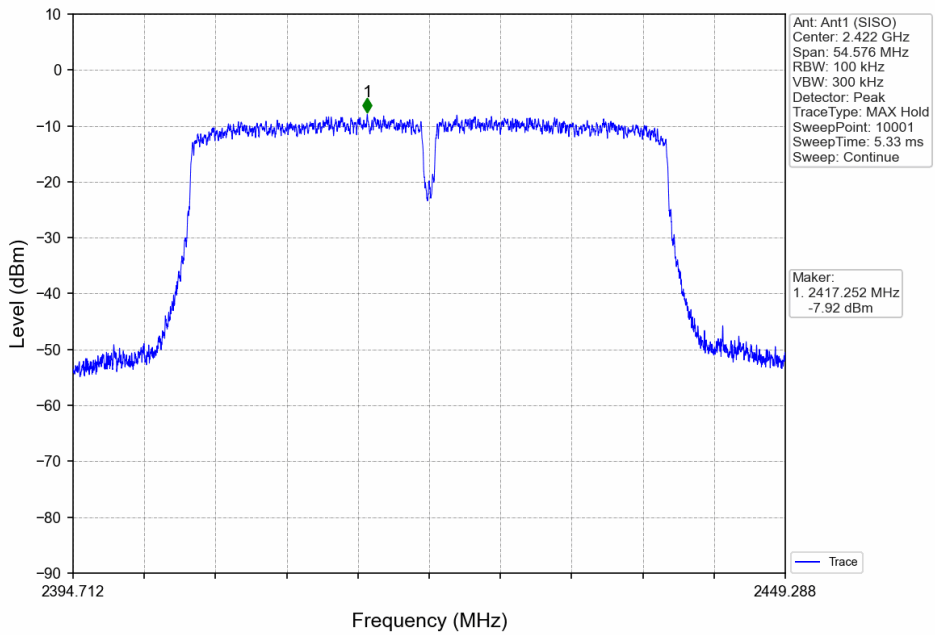




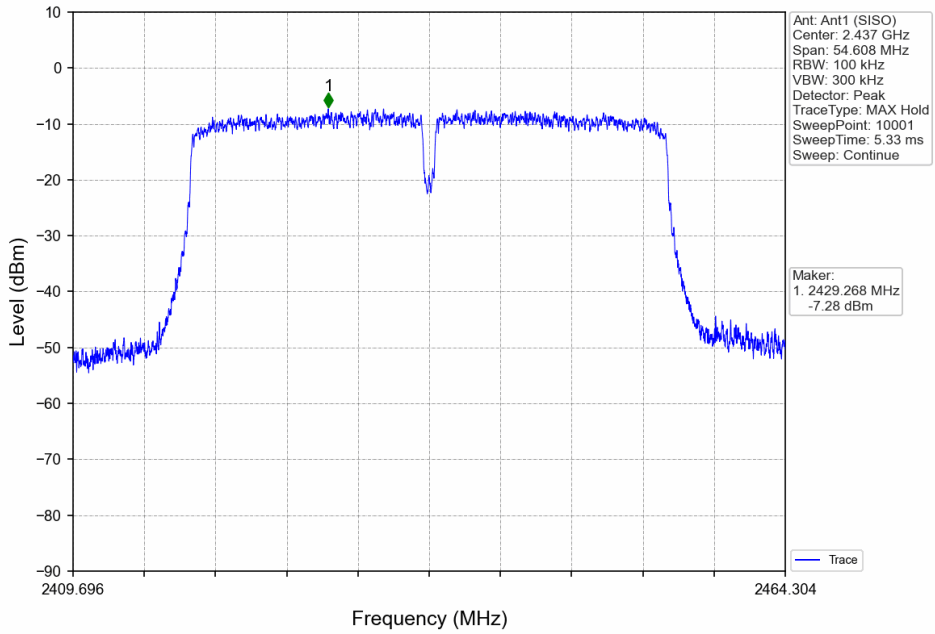
802.11n(HT20)\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



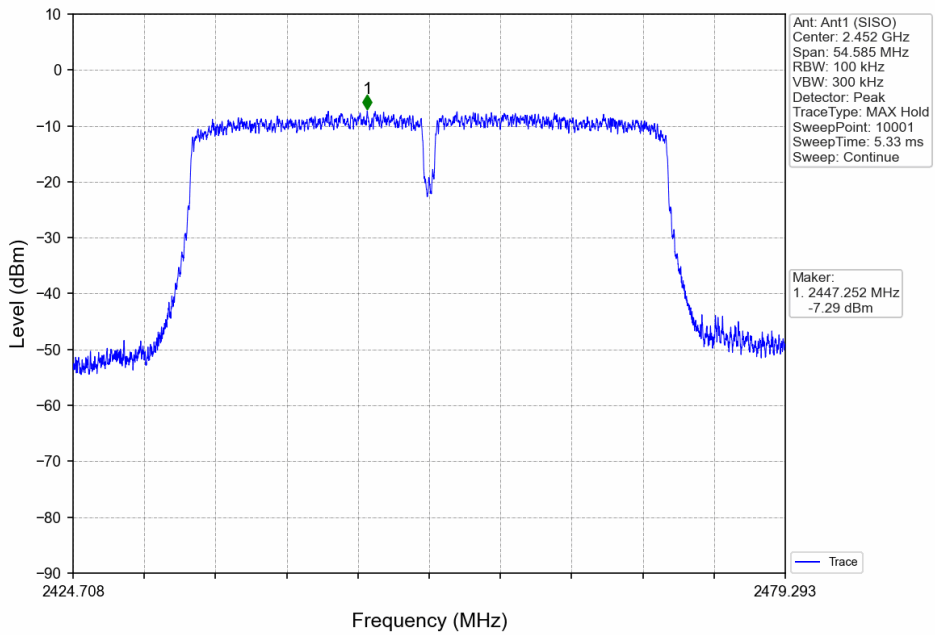
802.11n(HT40)\_LCH\_2422MHz\_Ant1 (SISO)\_NTNV



802.11n(HT40)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



802.11n(HT40)\_HCH\_2452MHz\_Ant1 (SISO)\_NTNV



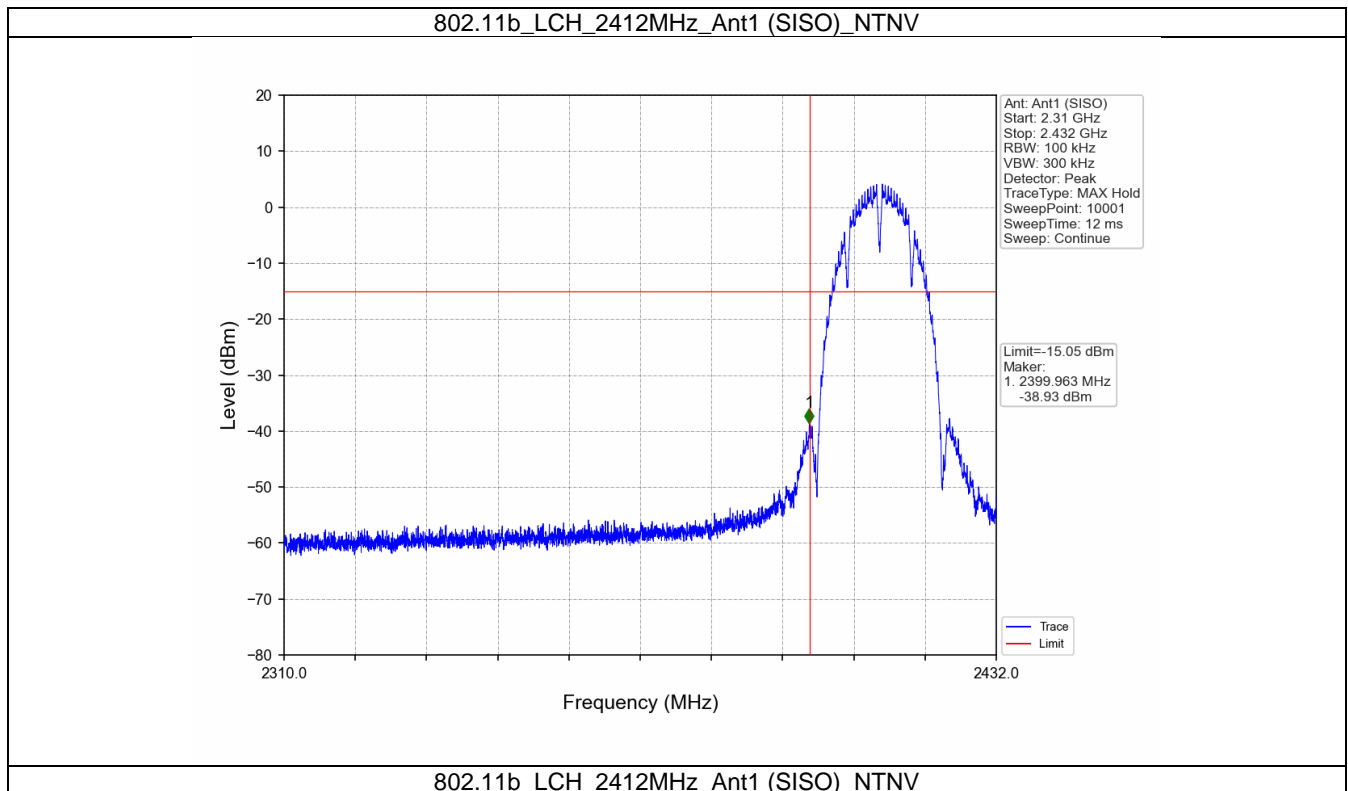
## 5.2 CSE

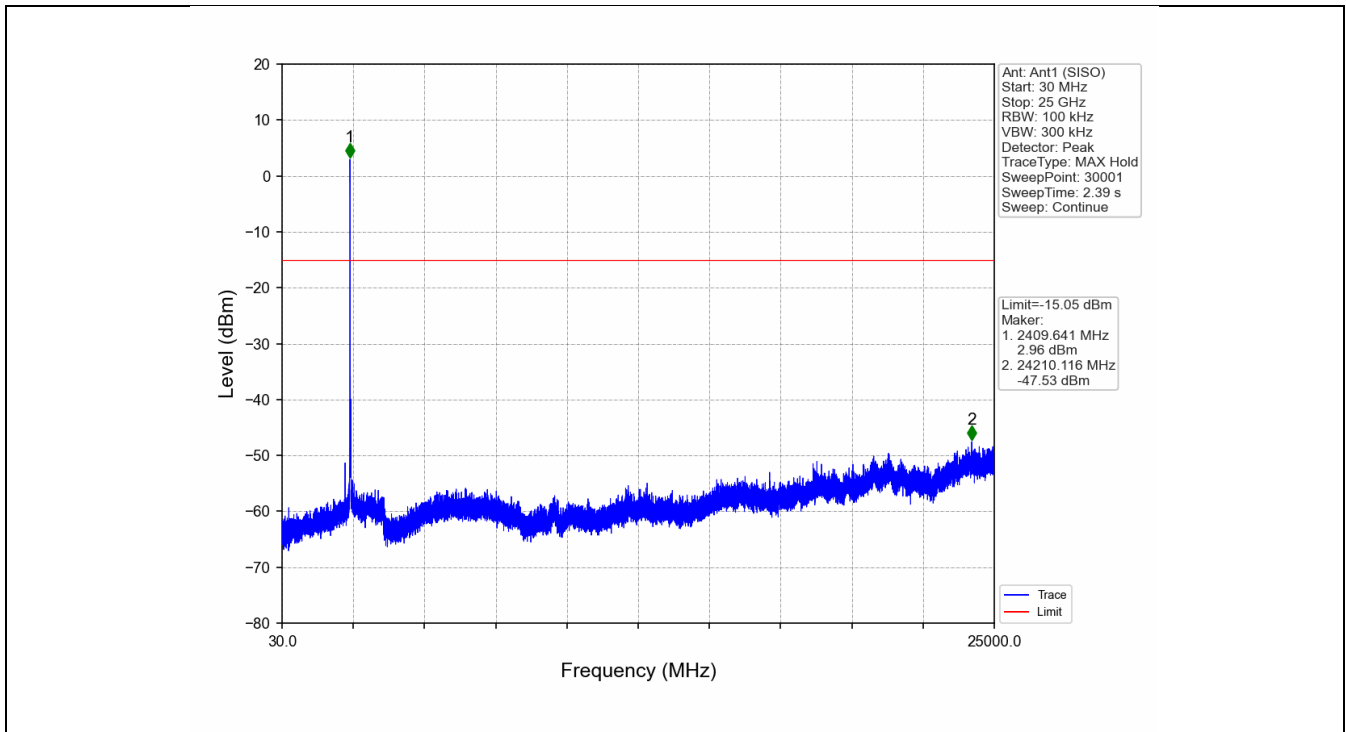
### 5.2.1 Test Result

Mode	TX Type	Frequency (MHz)	Ant	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	1	4.95	-15.05	Pass
		2437	1	4.95	-15.05	Pass
		2462	1	4.95	-15.05	Pass
802.11g	SISO	2412	1	1.04	-18.96	Pass
		2437	1	1.04	-18.96	Pass
		2462	1	1.04	-18.96	Pass
802.11n (HT20)	SISO	2412	1	-4.32	-24.32	Pass
		2437	1	-4.32	-24.32	Pass
		2462	1	-4.32	-24.32	Pass
802.11n (HT40)	SISO	2422	1	-7.28	-27.28	Pass
		2437	1	-7.28	-27.28	Pass
		2452	1	-7.28	-27.28	Pass

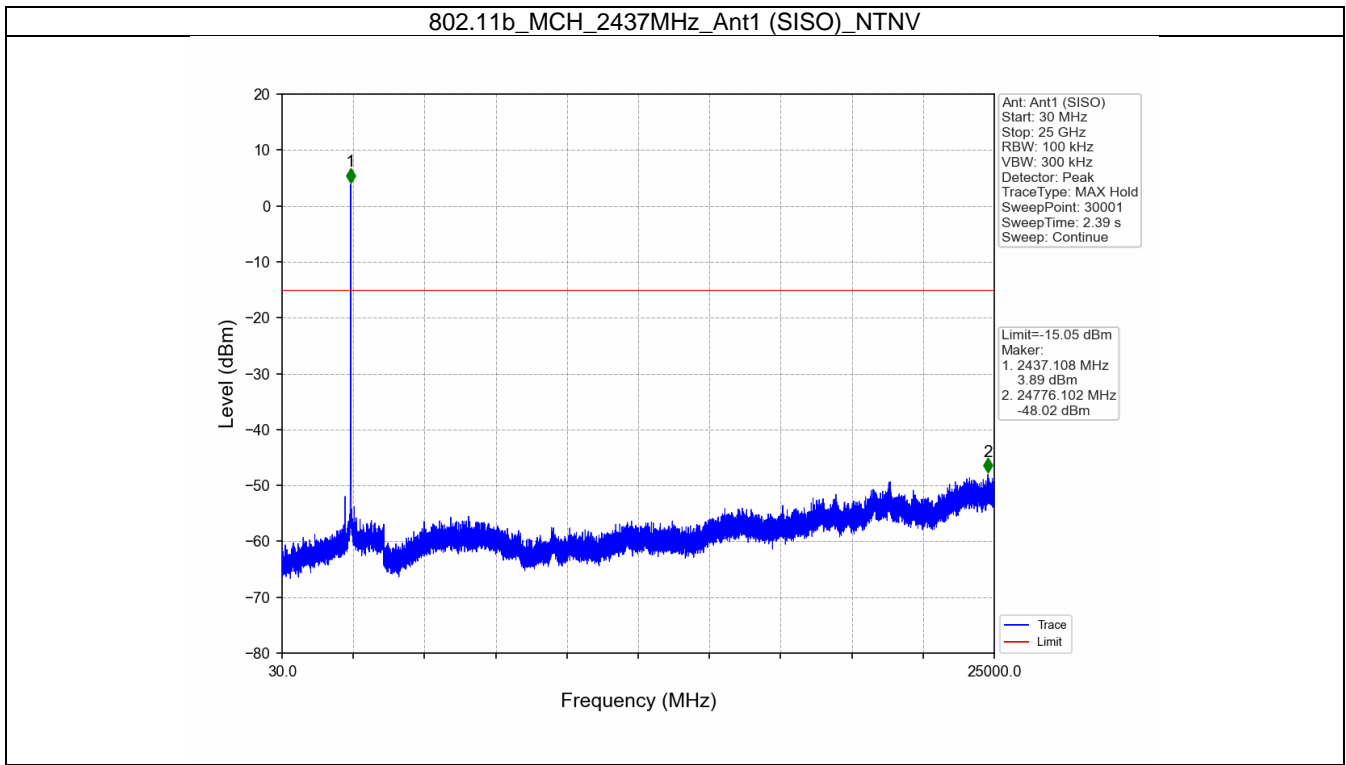
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.

### 5.2.2 Test Graph

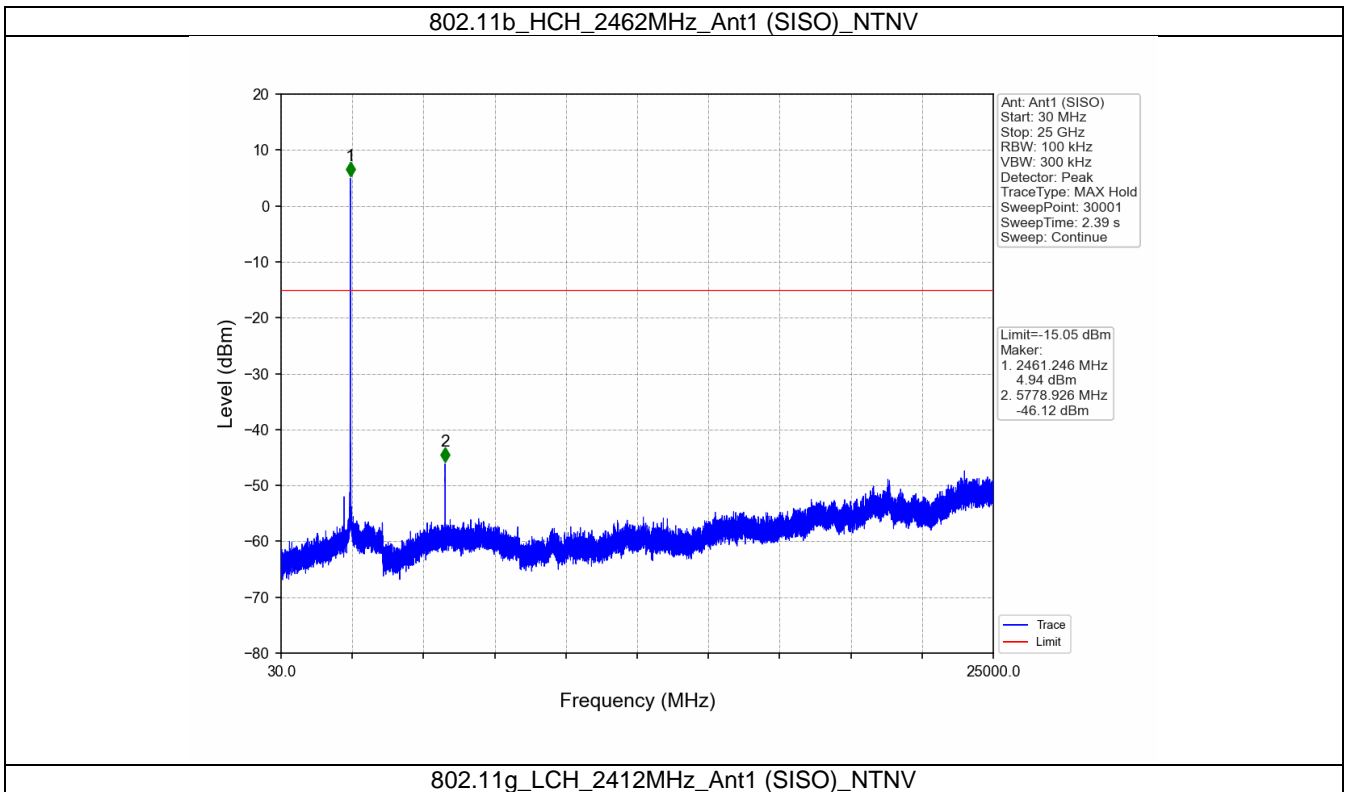
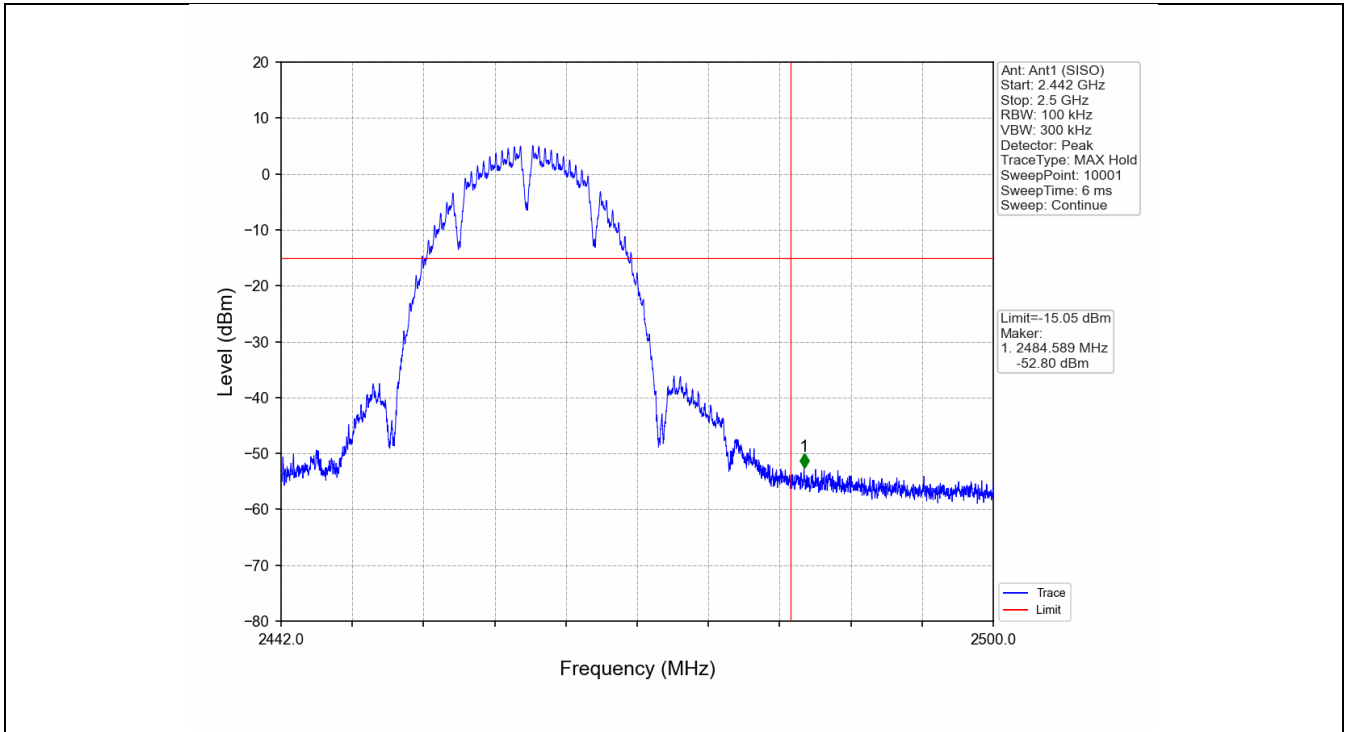


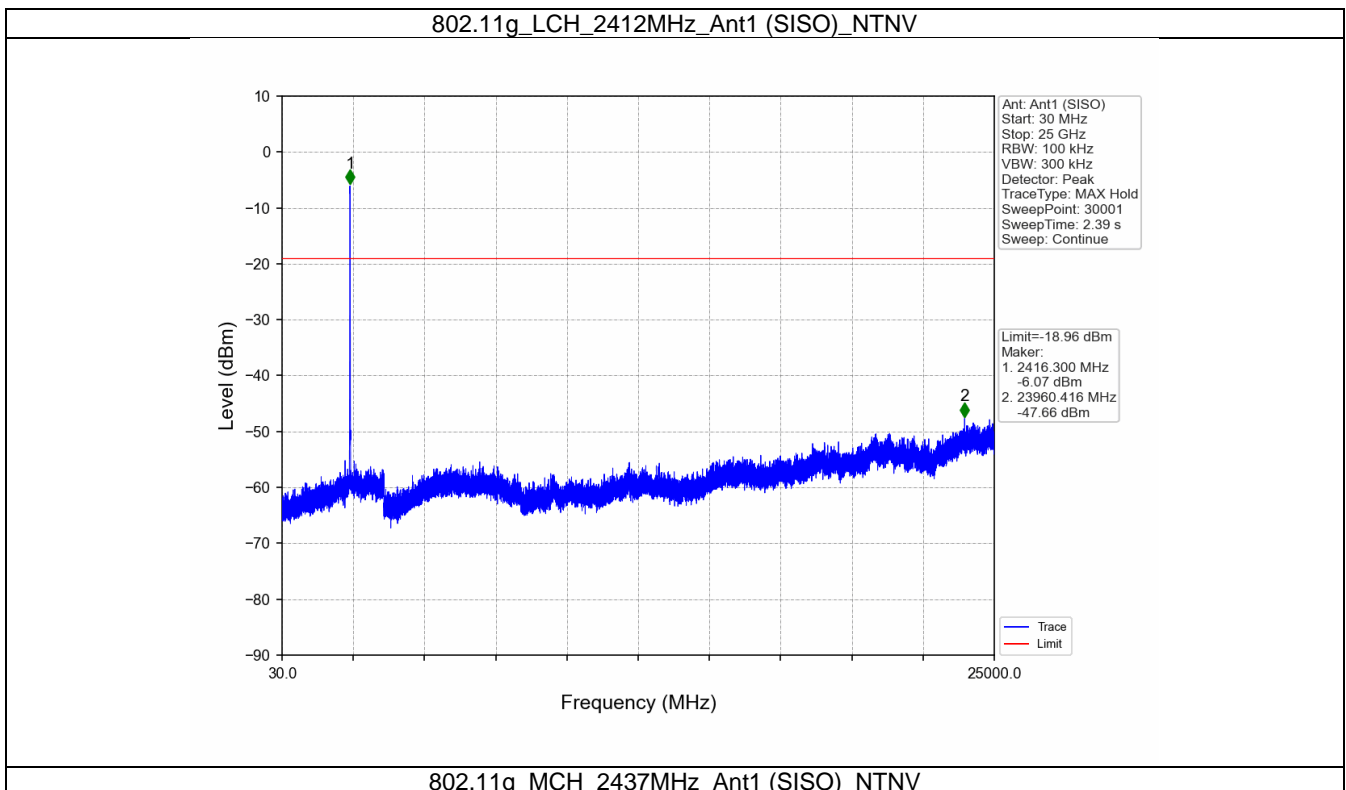
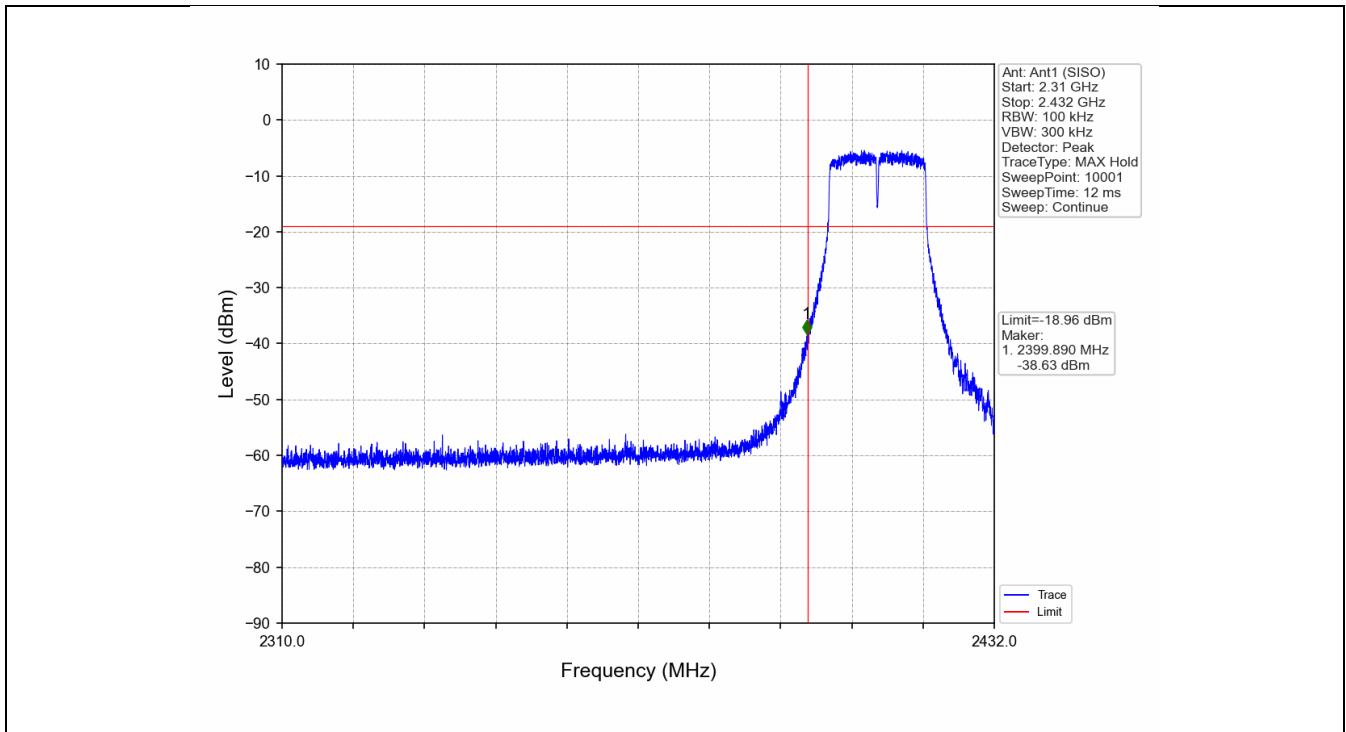


802.11b\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV

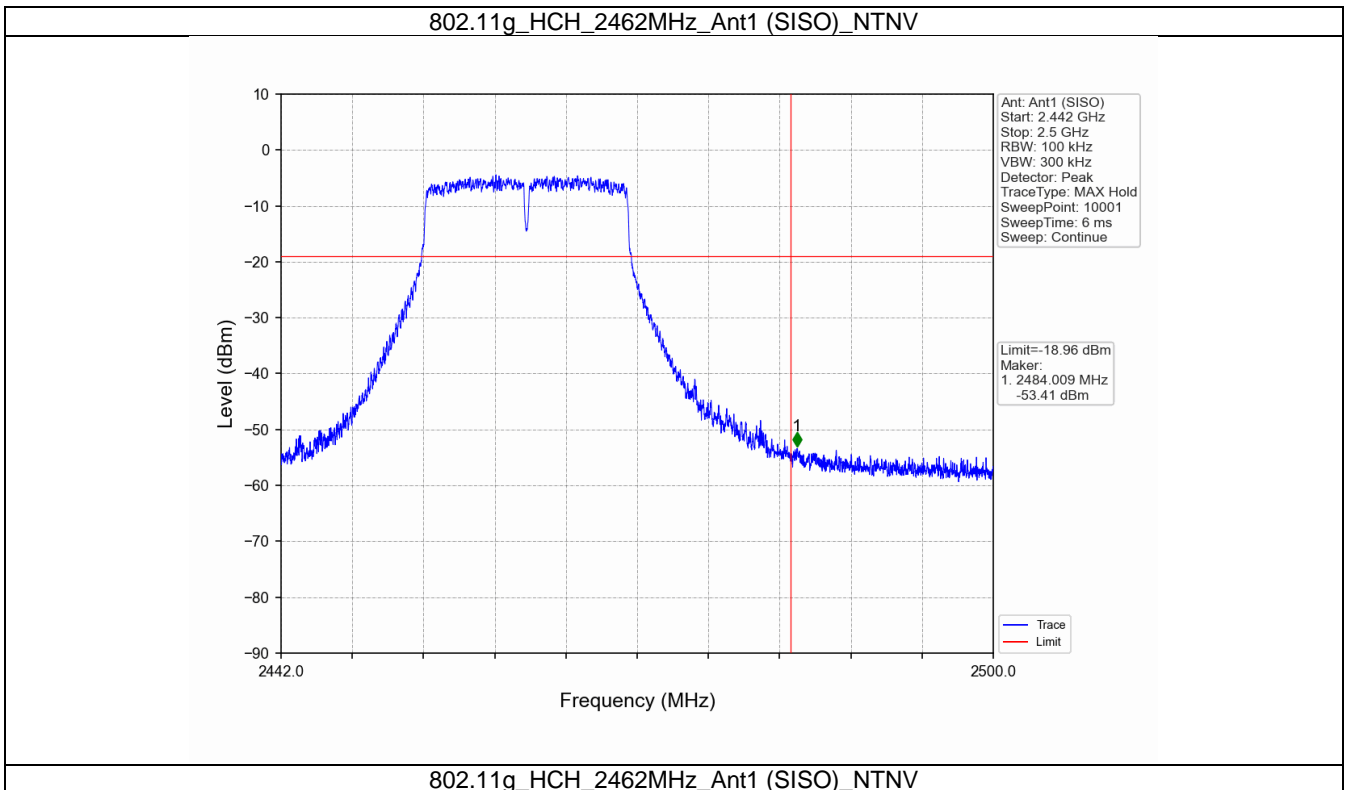
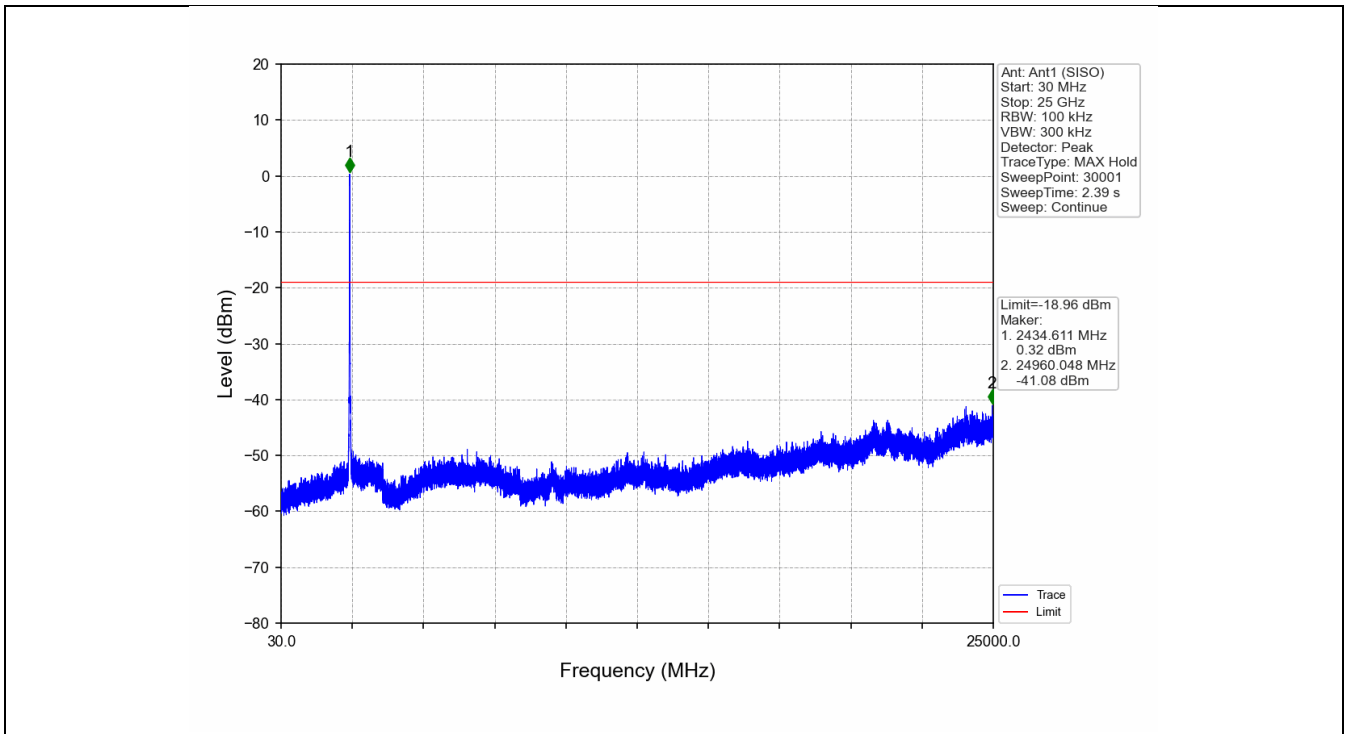


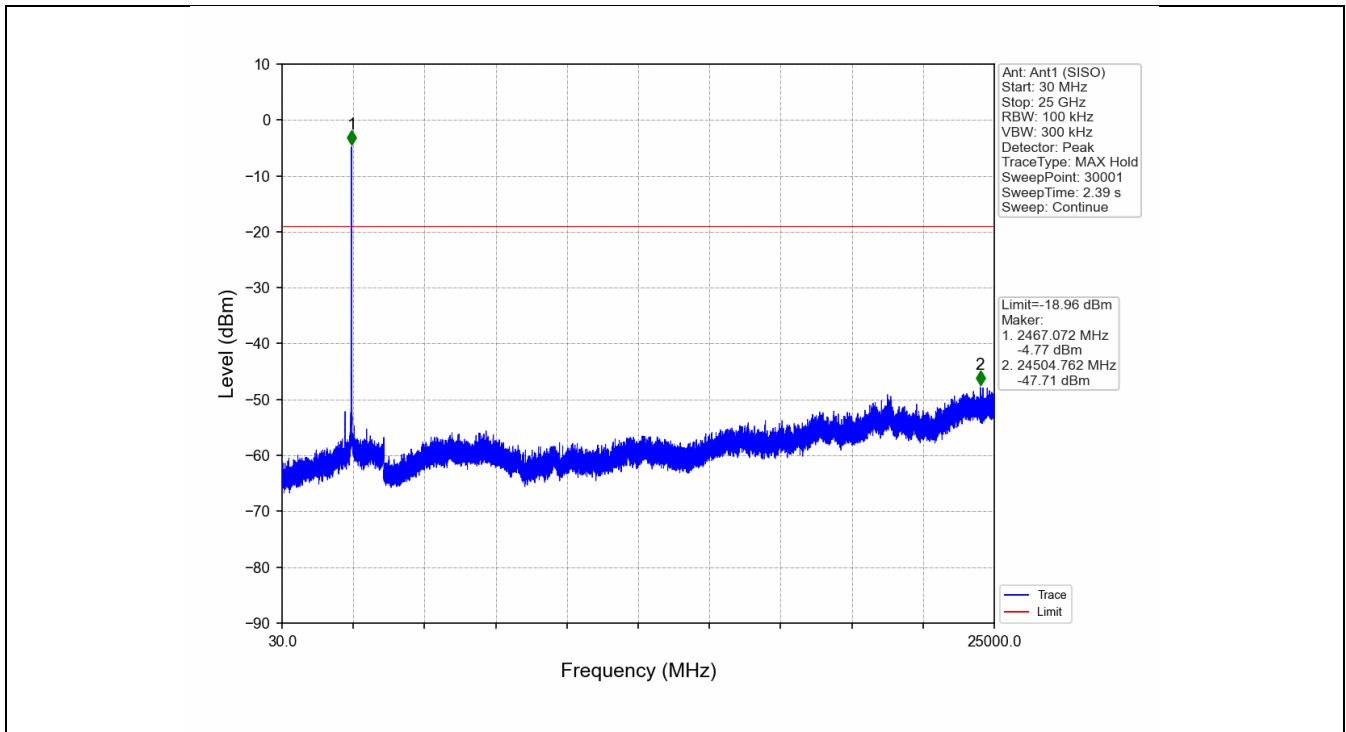
802.11b\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



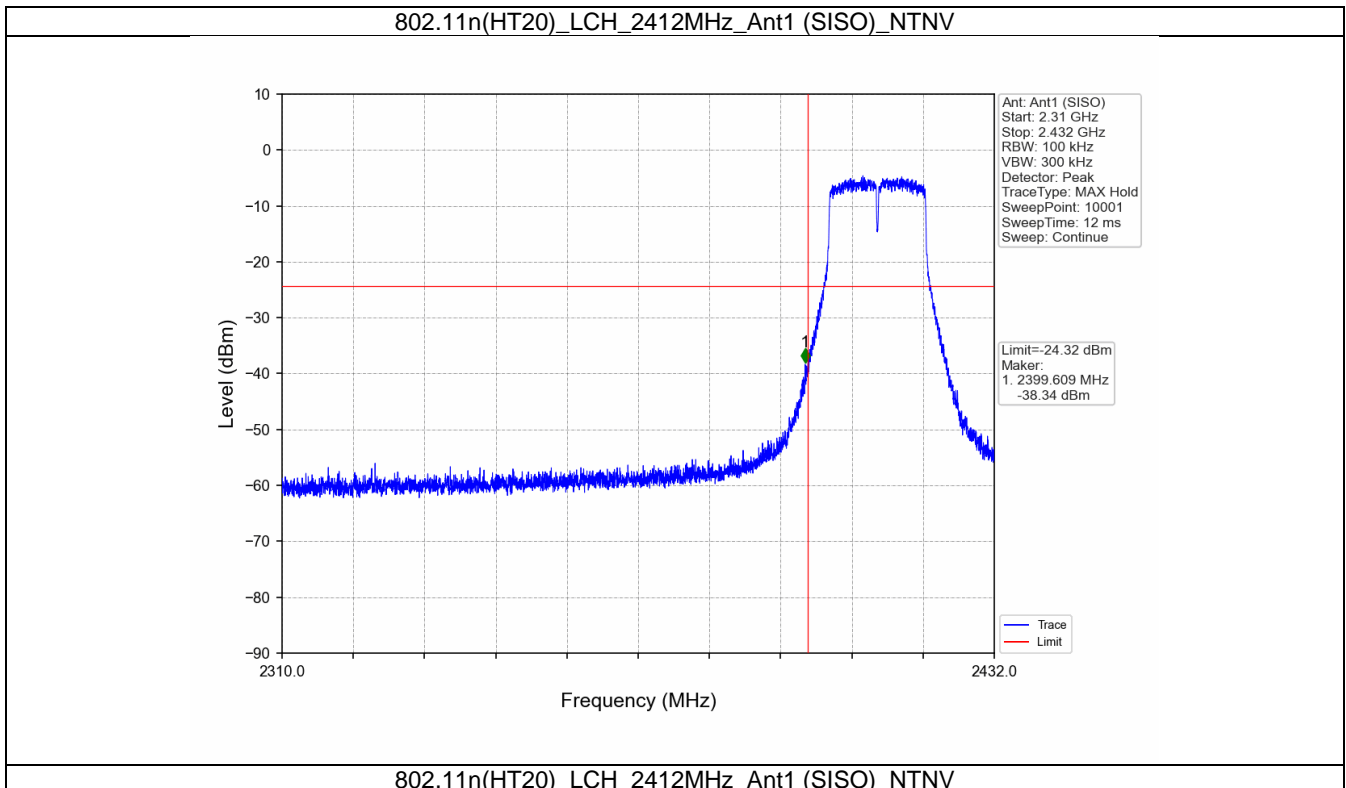


### 802.11g\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



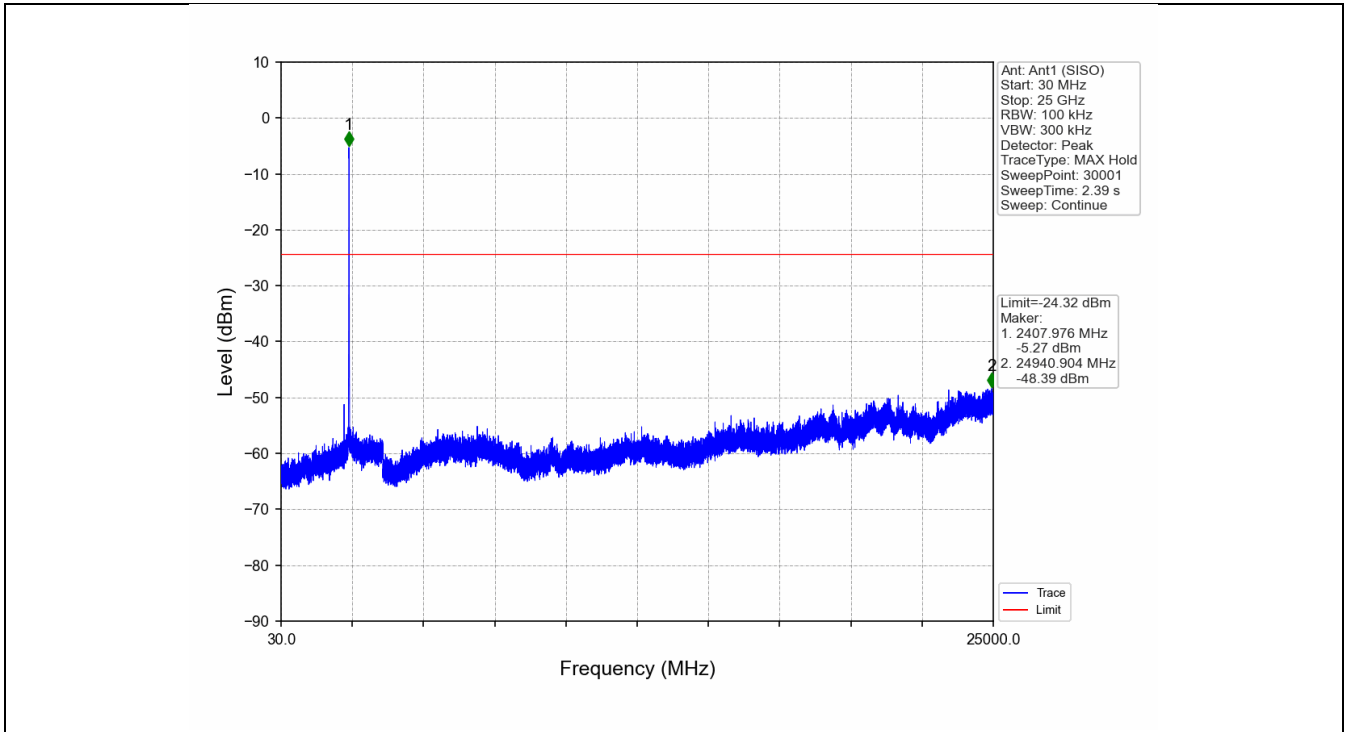


802.11n(HT20)\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV

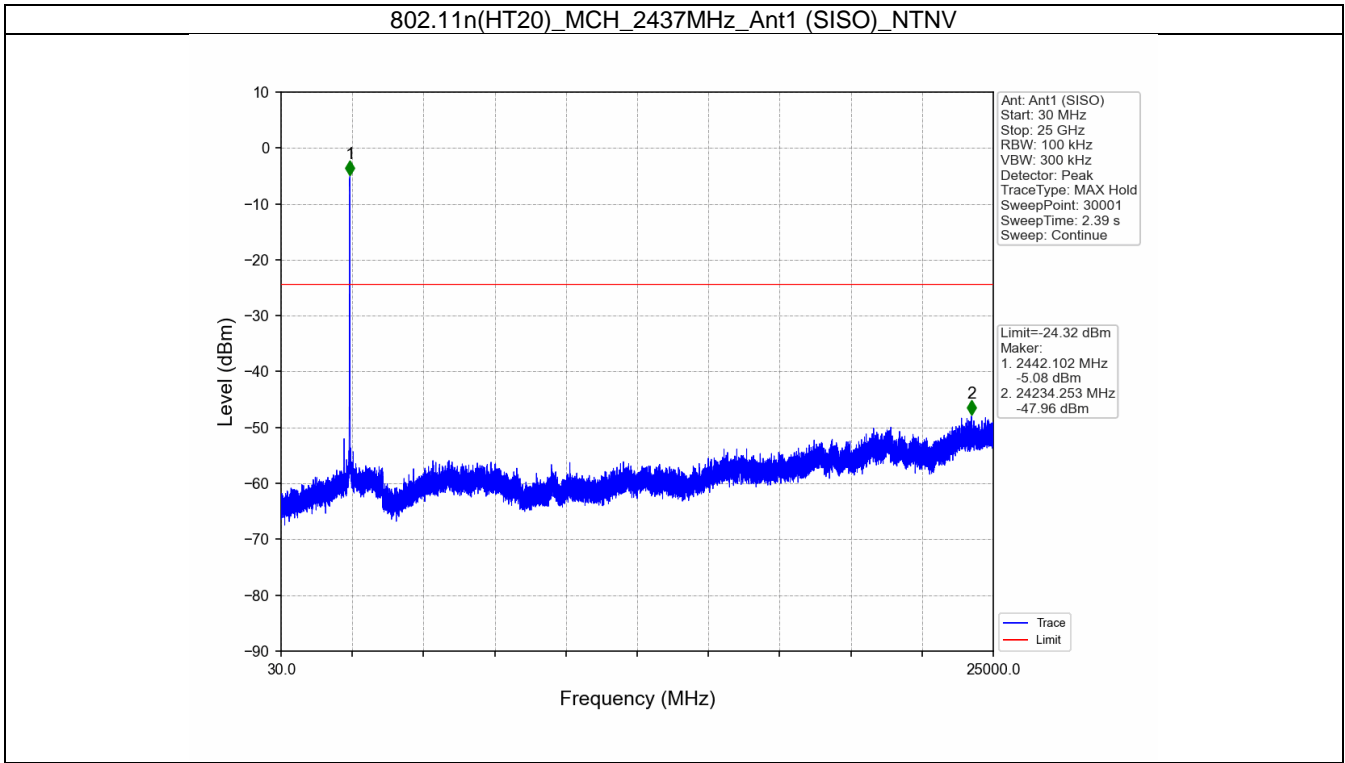


802.11n(HT20)\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV

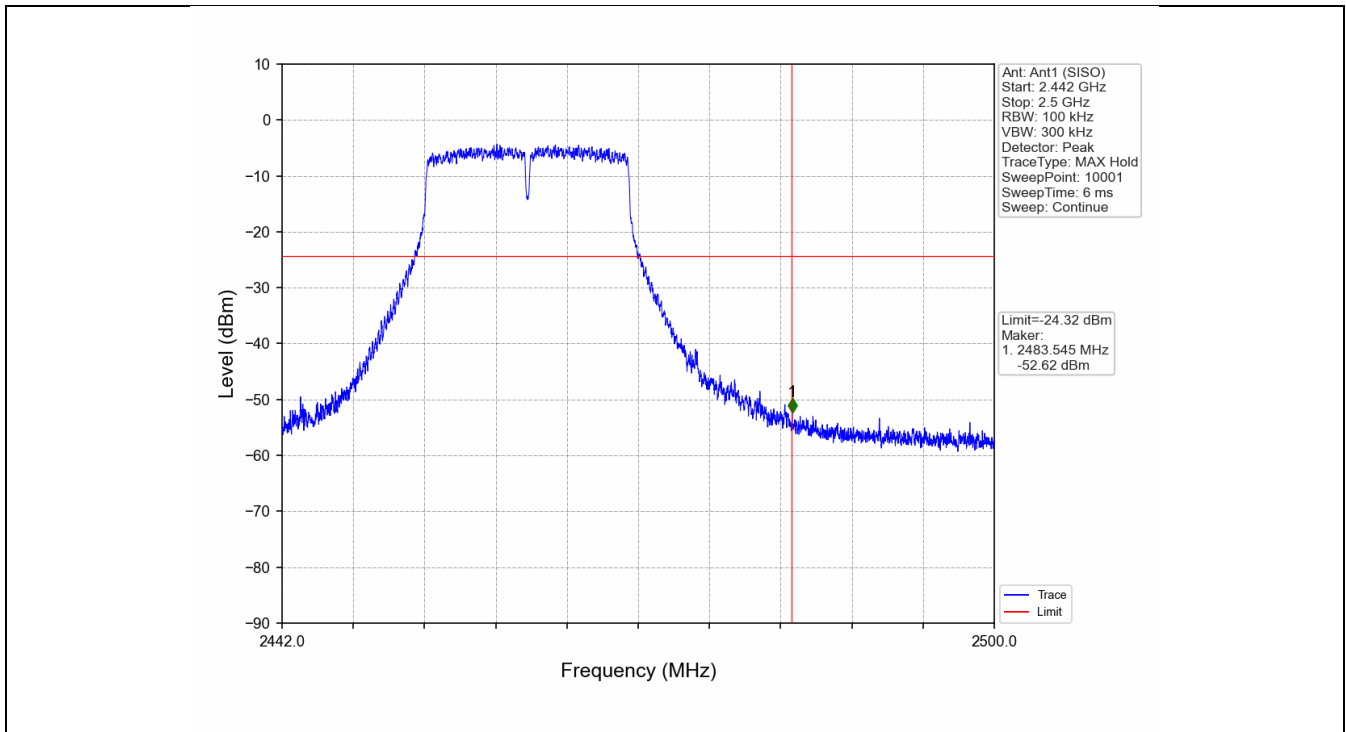




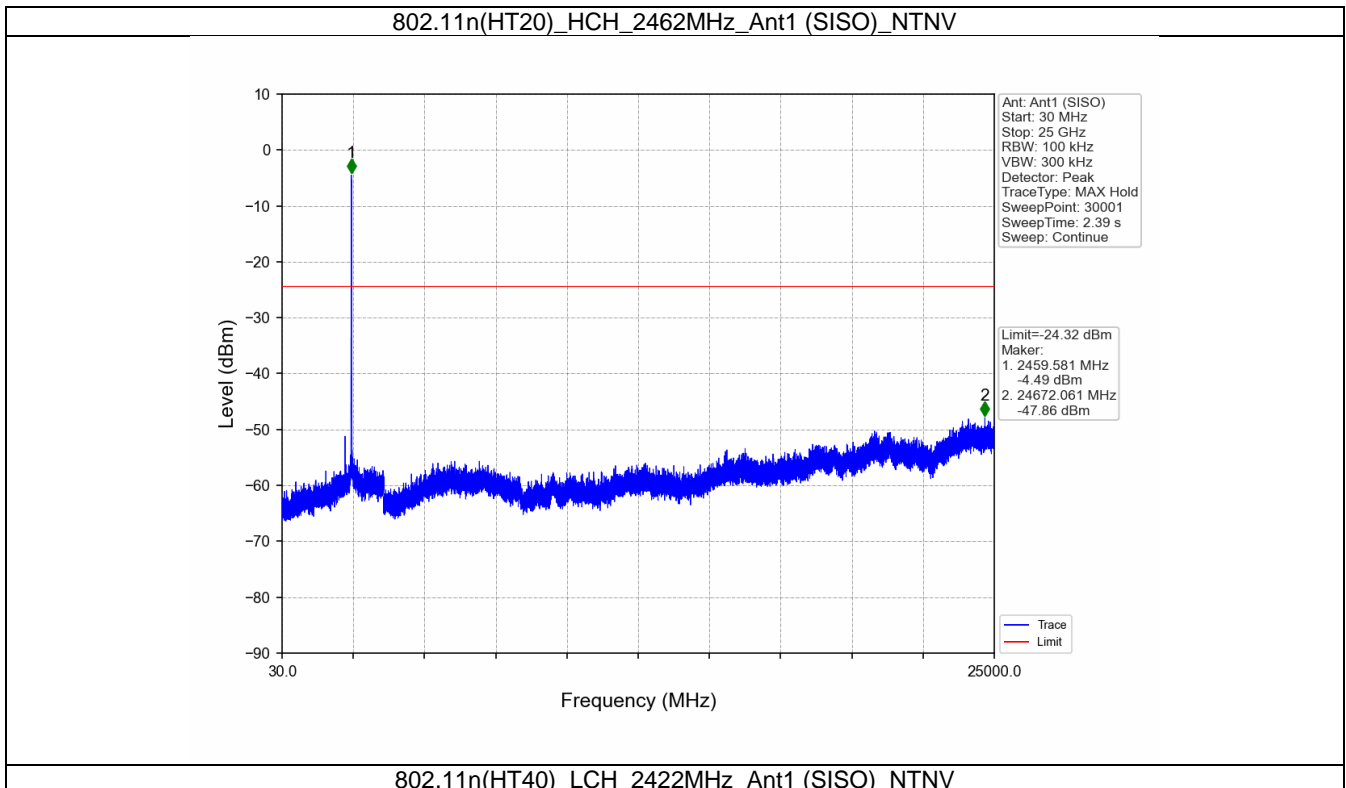
802.11n(HT20)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



802.11n(HT20)\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



802.11n(HT20)\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



802.11n(HT40)\_LCH\_2422MHz\_Ant1 (SISO)\_NTNV

