

Appendix A for KSCR220200019401

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	8.336	8.483	98.27	0.08	0.00
		2437	8.334	8.484	98.23	0.08	0.04
		2462	8.334	8.484	98.23	0.08	0.04
802.11g	SISO	2412	1.377	1.417	97.18	0.12	0.07
		2437	1.376	1.417	97.11	0.13	0.03
		2462	1.375	1.416	97.10	0.13	0.00
802.11n (HT20)	SISO	2412	1.288	1.329	96.91	0.14	0.03
		2437	1.288	1.329	96.91	0.14	0.04
		2462	1.288	1.329	96.91	0.14	0.03
802.11n (HT40)	SISO	2422	0.641	0.681	94.13	0.26	0.03
		2437	0.641	0.681	94.13	0.26	0.00
		2452	0.641	0.682	93.99	0.27	0.03

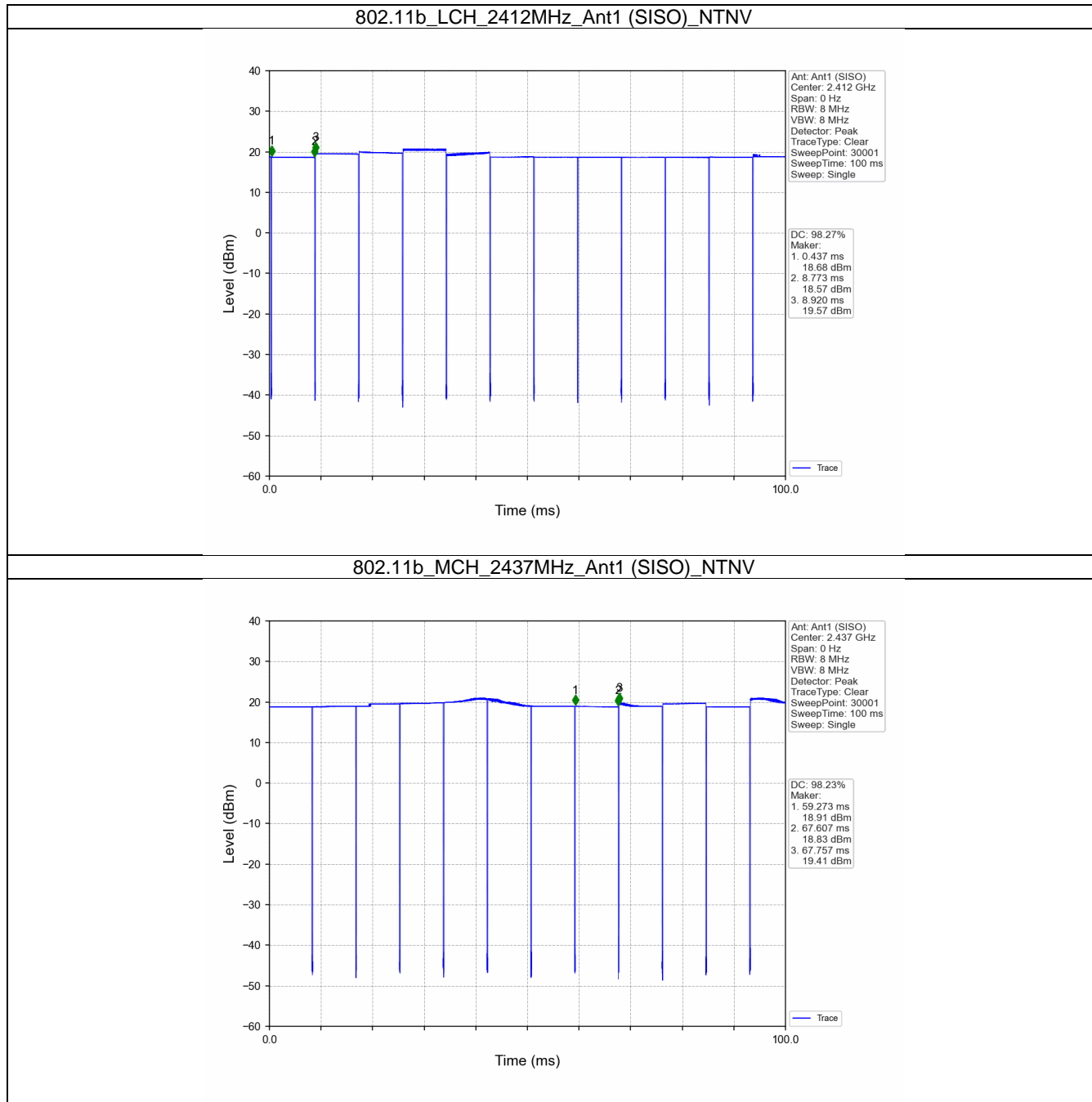


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1.1.2 Test Graph



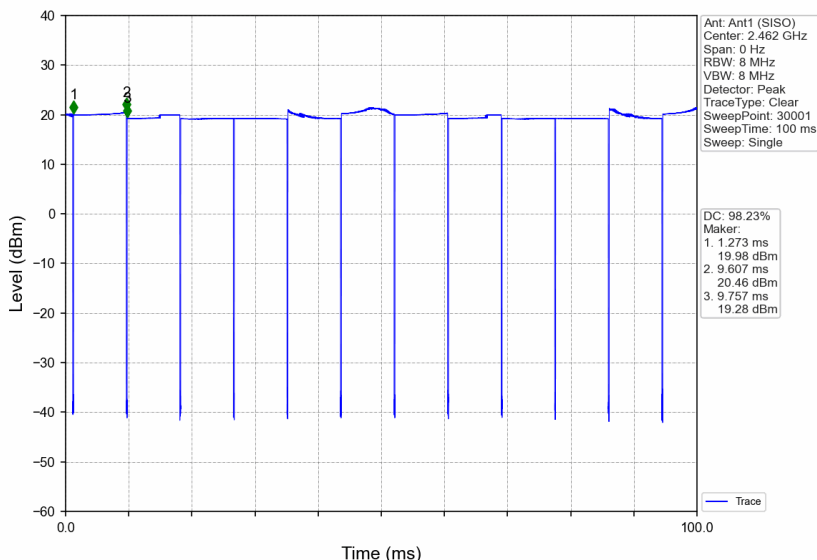
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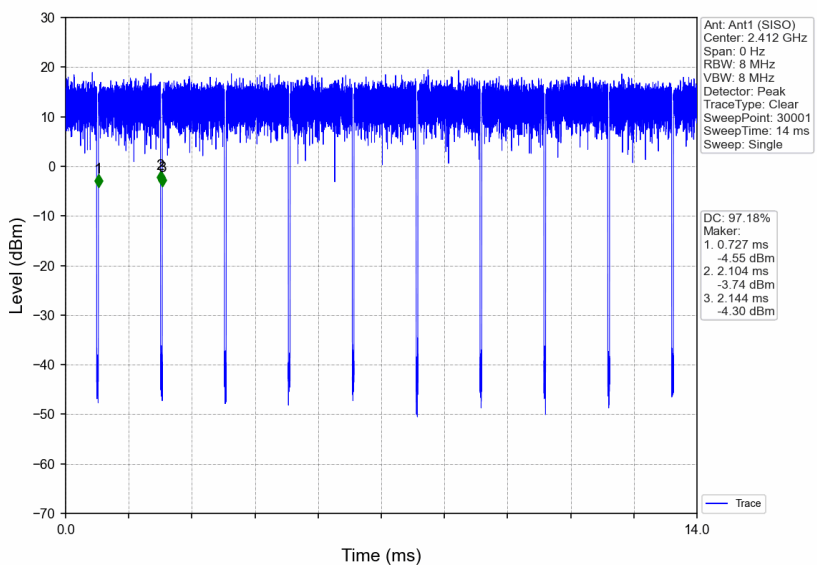
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802.11b\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



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



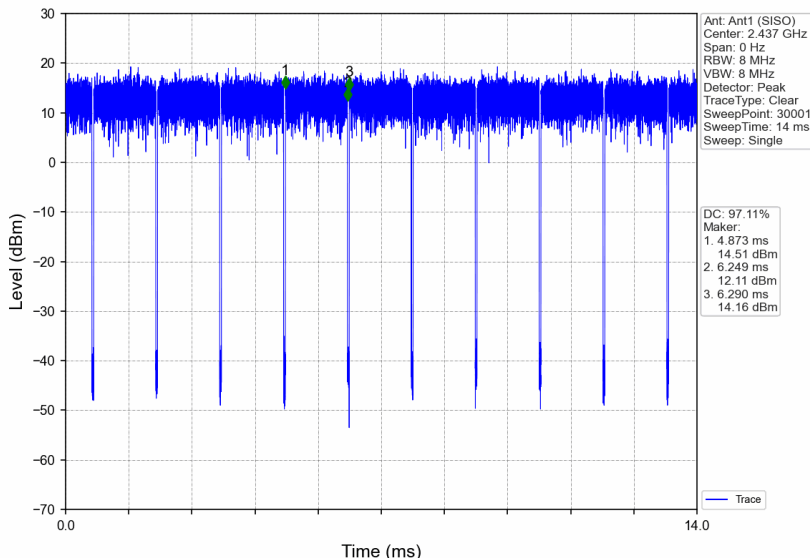
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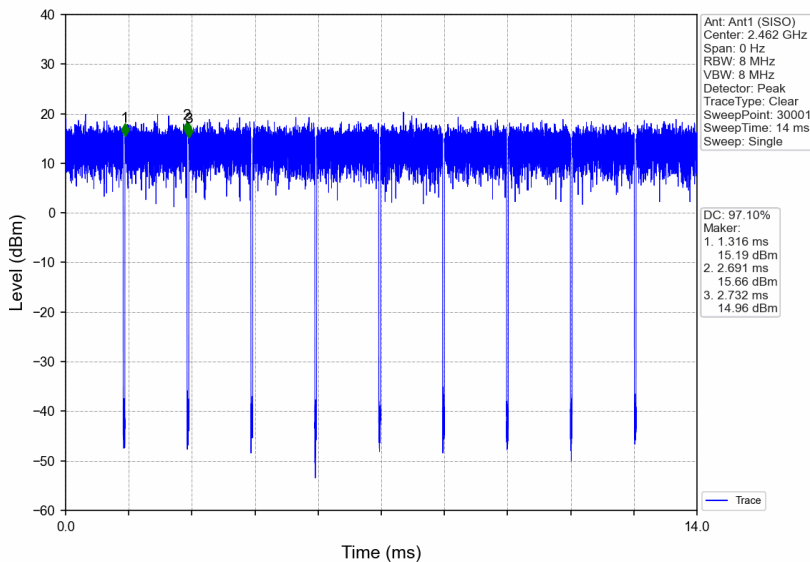
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802.11g\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



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



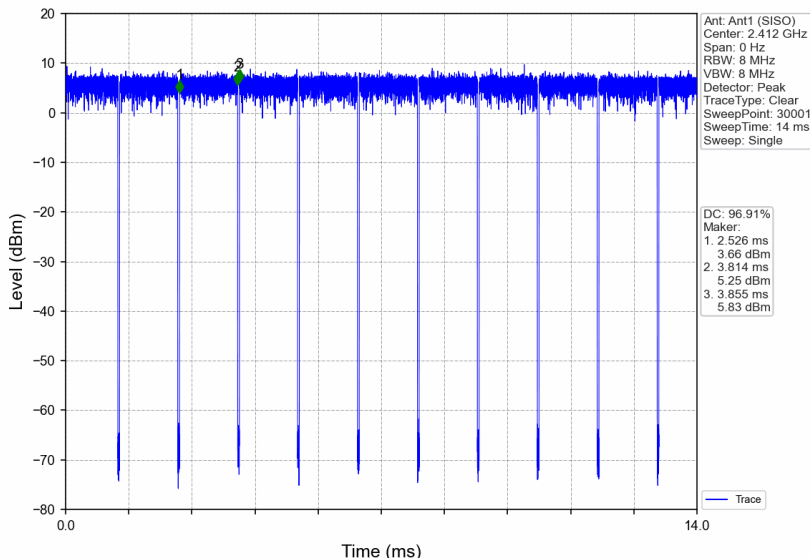
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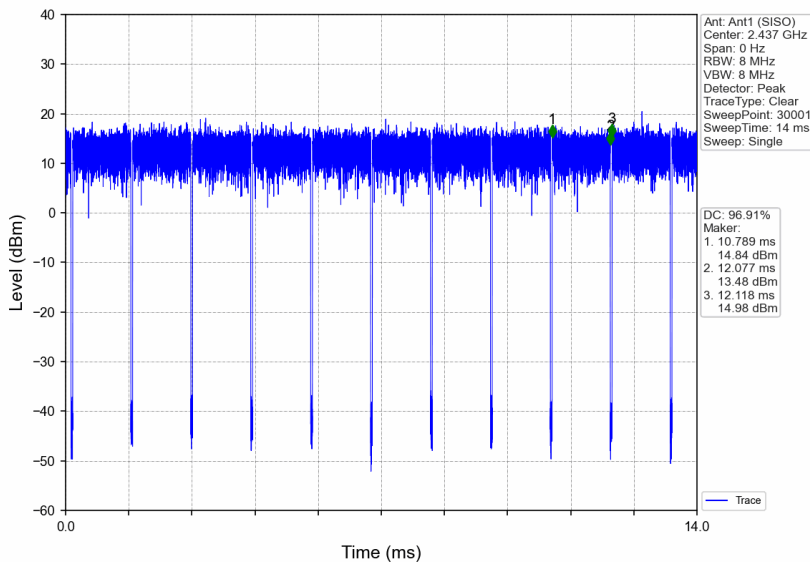
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802.11n(HT20)\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



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



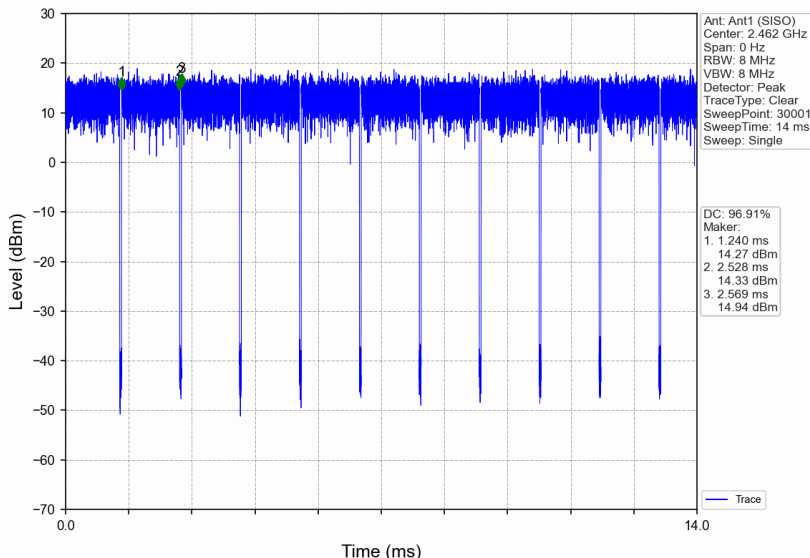
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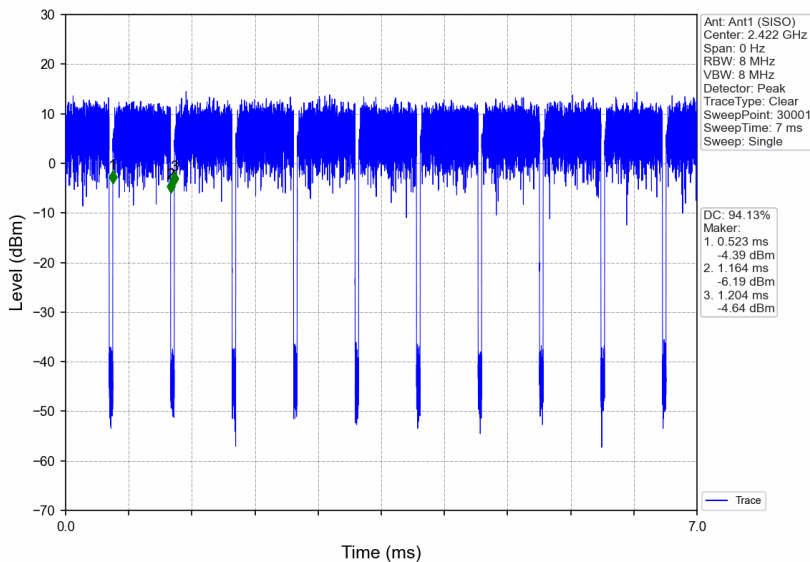
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802.11n(HT20)\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



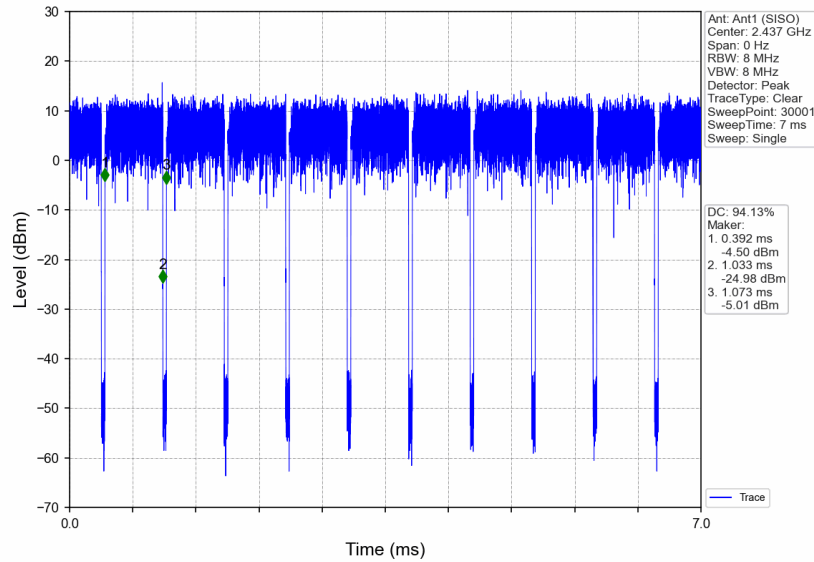
802.11n(HT40)\_LCH\_2422MHz\_Ant1 (SISO)\_NTNV



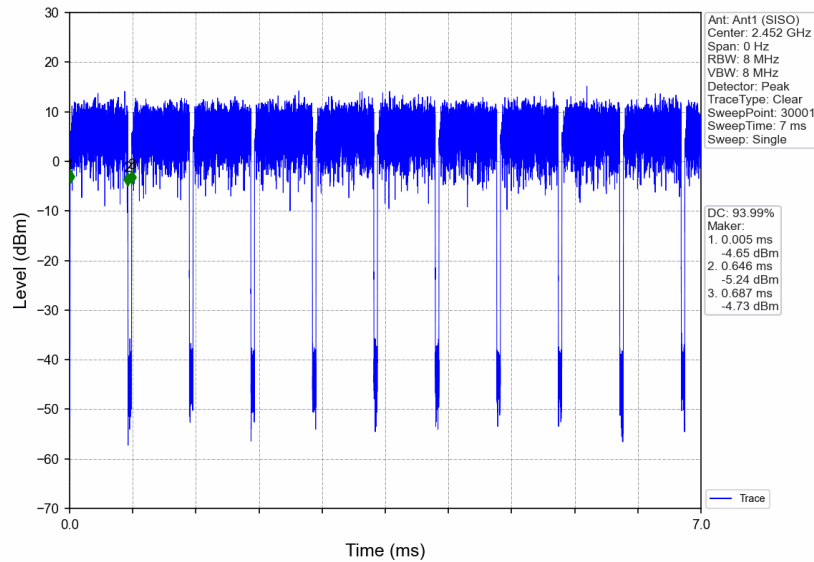
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802.11n(HT40)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



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



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## 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	13.485	Pass
		2437	1	13.425	Pass
		2462	1	13.534	Pass
802.11g	SISO	2412	1	17.526	Pass
		2437	1	17.520	Pass
		2462	1	17.505	Pass
802.11n (HT20)	SISO	2412	1	18.175	Pass
		2437	1	18.165	Pass
		2462	1	18.148	Pass
802.11n (HT40)	SISO	2422	1	36.407	Pass
		2437	1	36.350	Pass
		2452	1	36.290	Pass



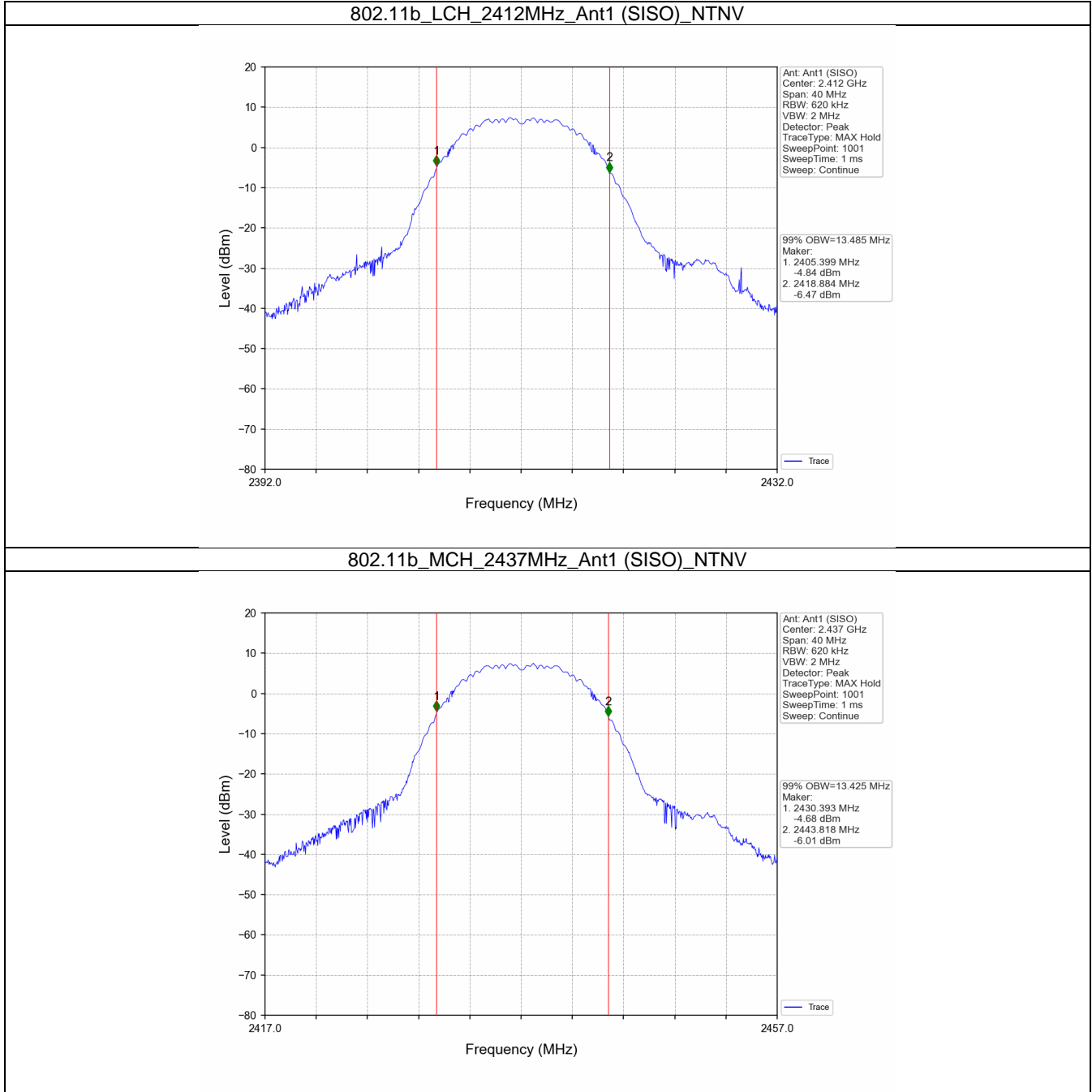
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2.1.2 Test Graph



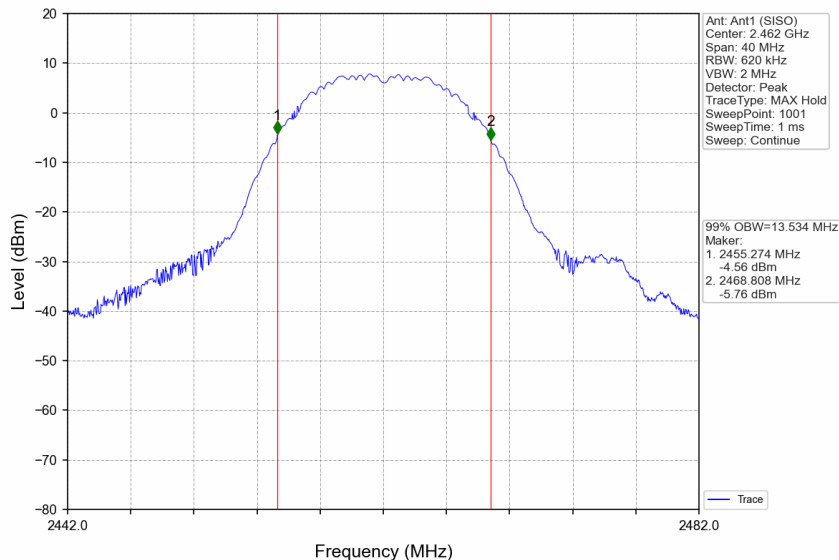
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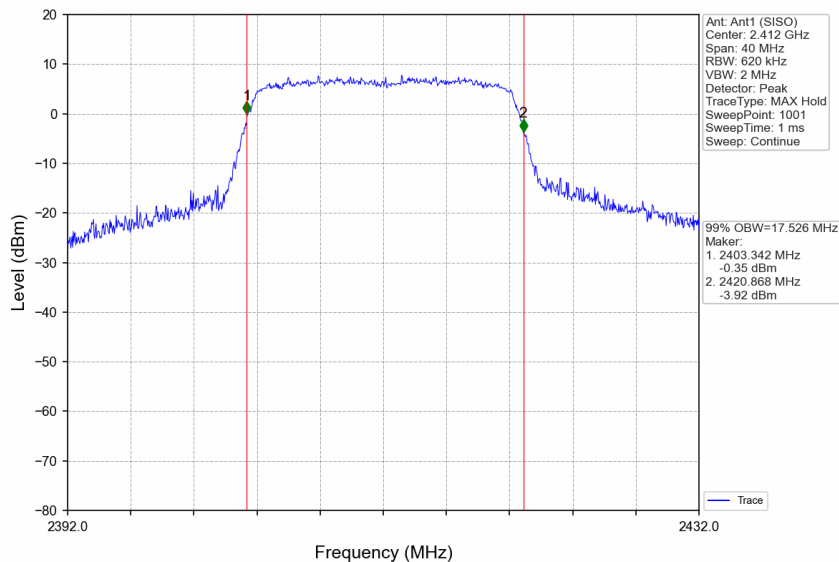
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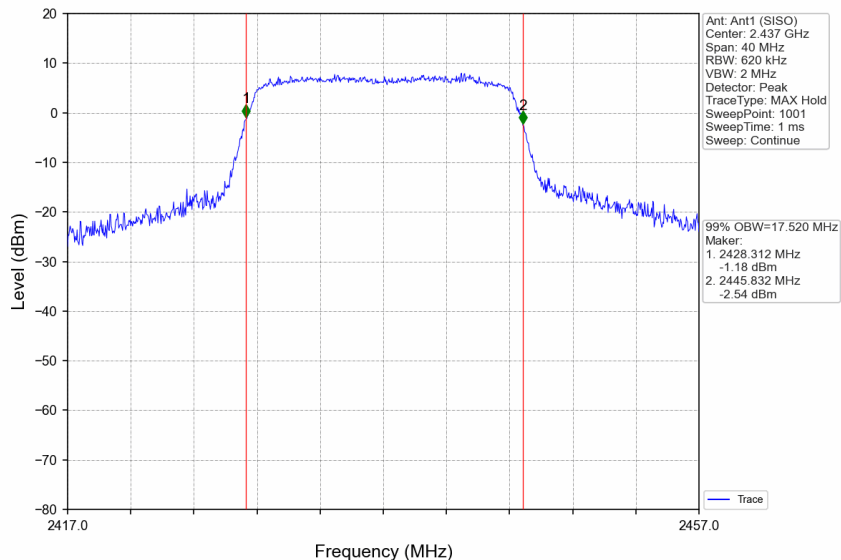
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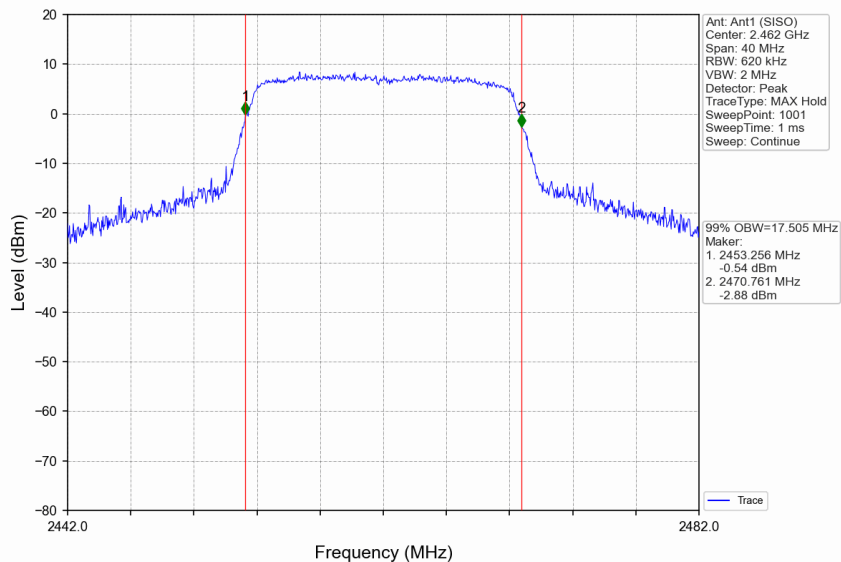
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802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV

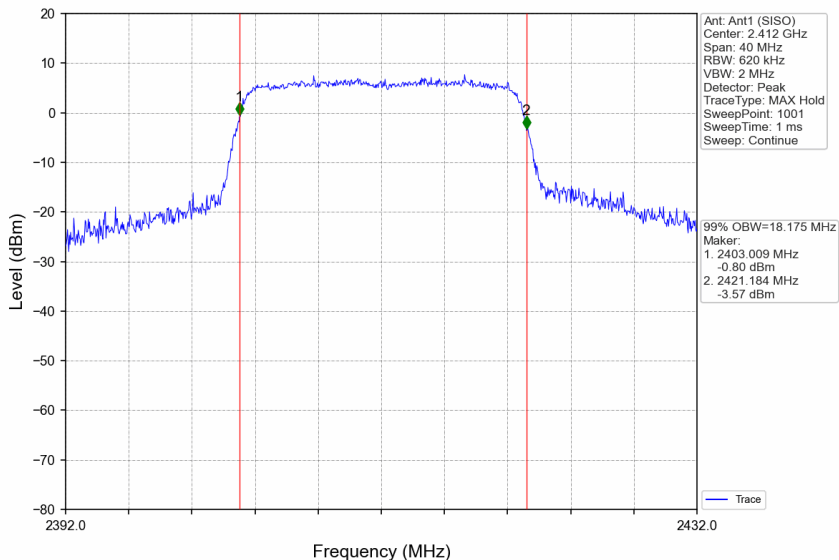


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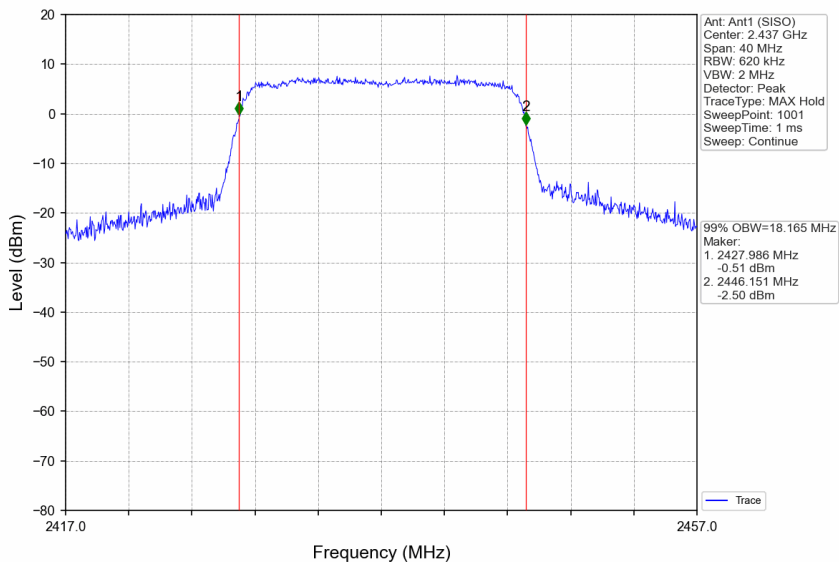
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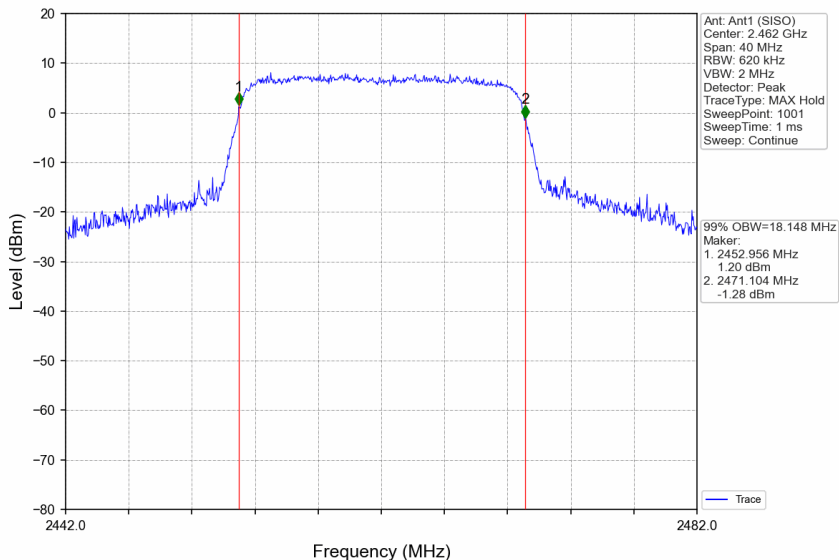
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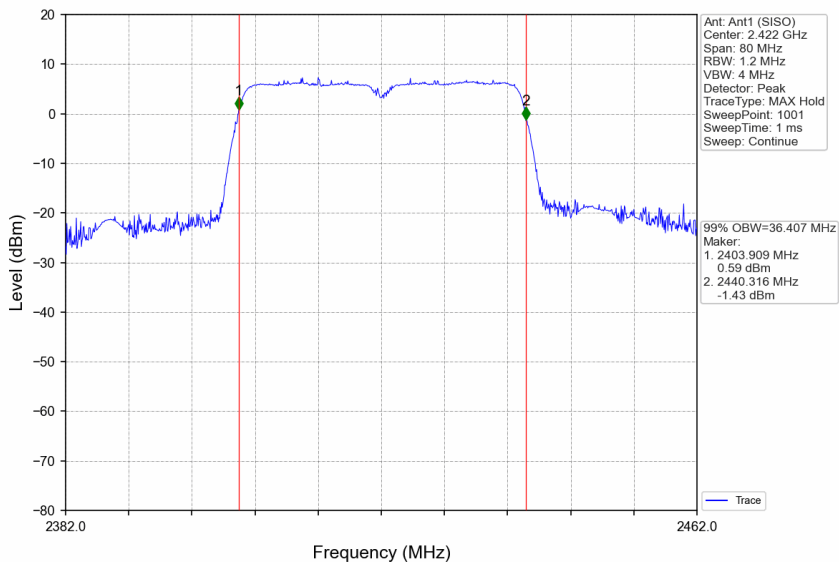
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802.11n(HT20)\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



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

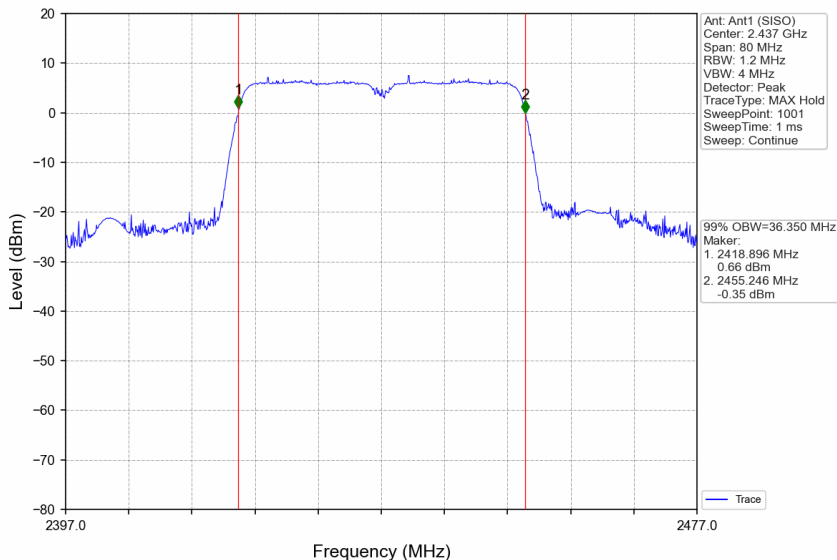


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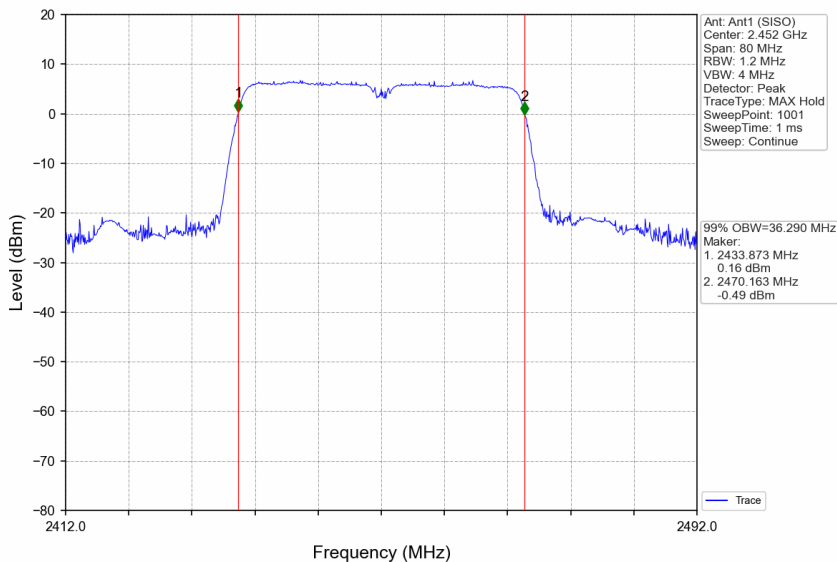
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802.11n(HT40)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



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



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## 2.2 6dB BW

### 2.2.1 Test Result

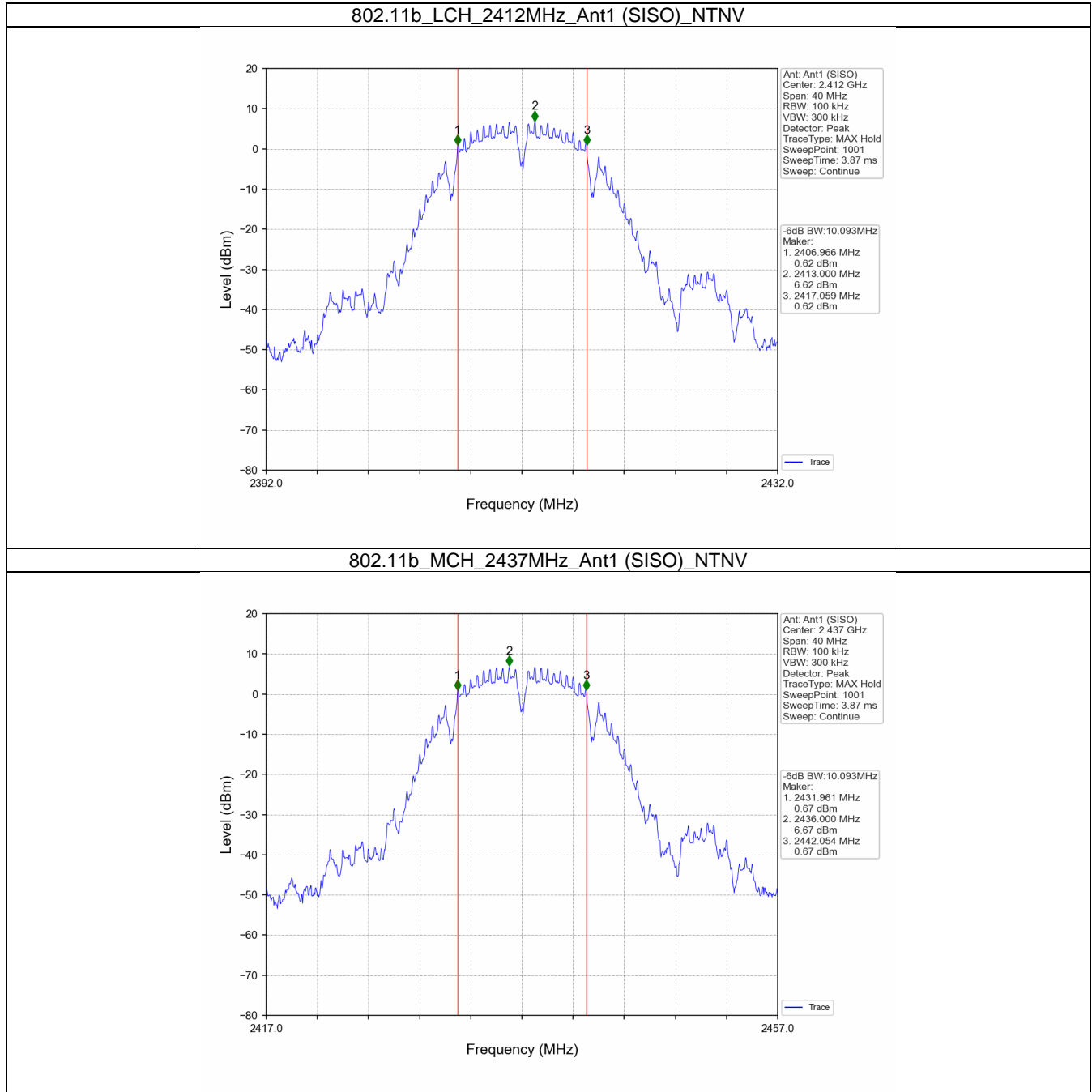
Mode	TX Type	Frequency (MHz)	Ant	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	10.093	>=0.5	Pass
		2437	1	10.093	>=0.5	Pass
		2462	1	10.091	>=0.5	Pass
802.11g	SISO	2412	1	16.392	>=0.5	Pass
		2437	1	16.374	>=0.5	Pass
		2462	1	16.371	>=0.5	Pass
802.11n (HT20)	SISO	2412	1	17.120	>=0.5	Pass
		2437	1	17.169	>=0.5	Pass
		2462	1	17.131	>=0.5	Pass
802.11n (HT40)	SISO	2422	1	35.577	>=0.5	Pass
		2437	1	35.377	>=0.5	Pass
		2452	1	35.677	>=0.5	Pass



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2.2.2 Test Graph



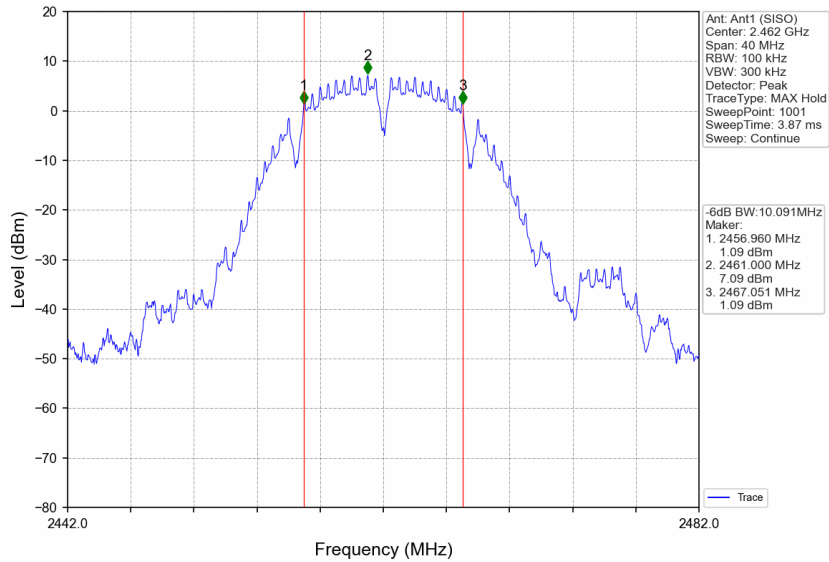
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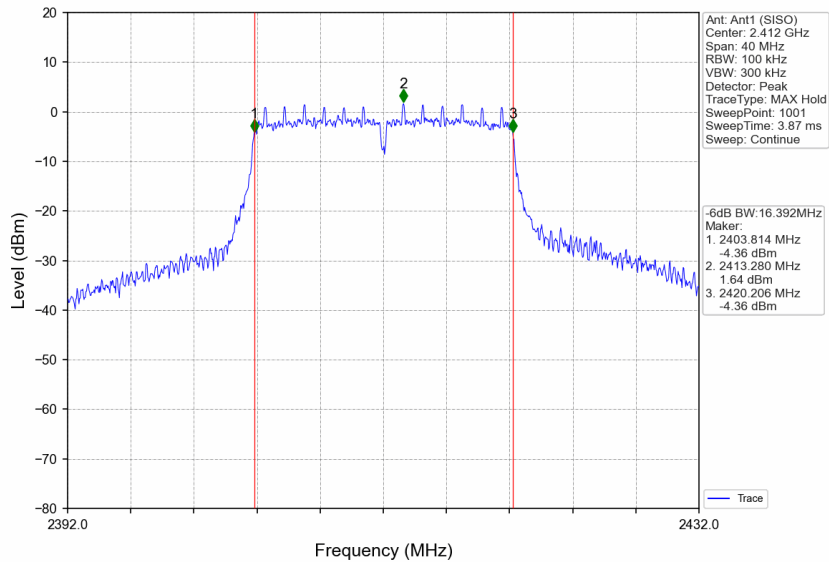
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802.11b\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



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

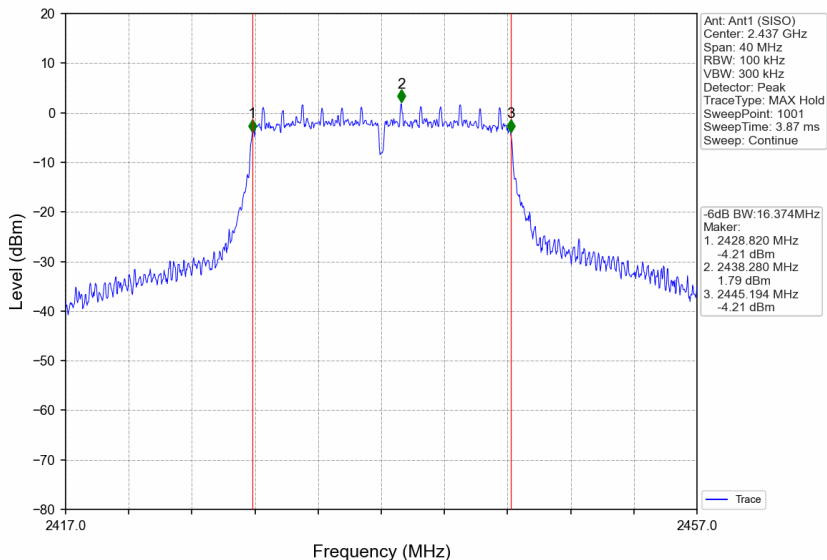


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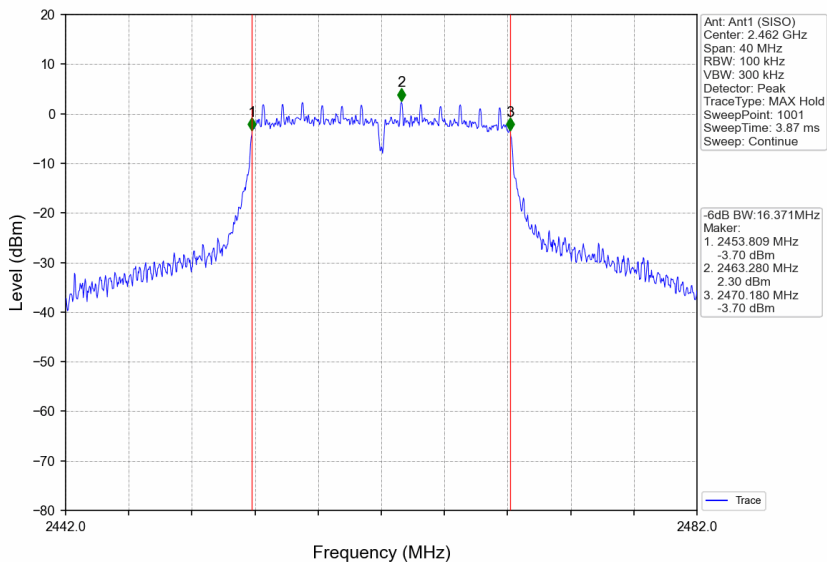
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802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



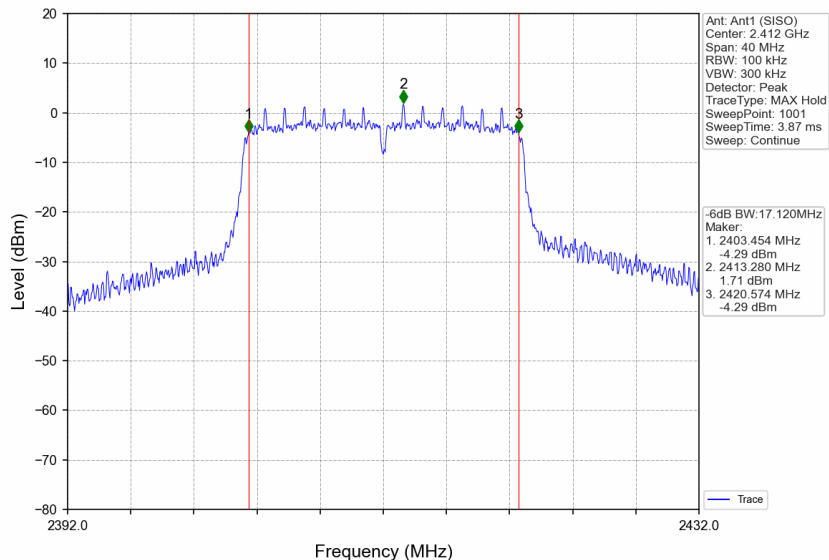
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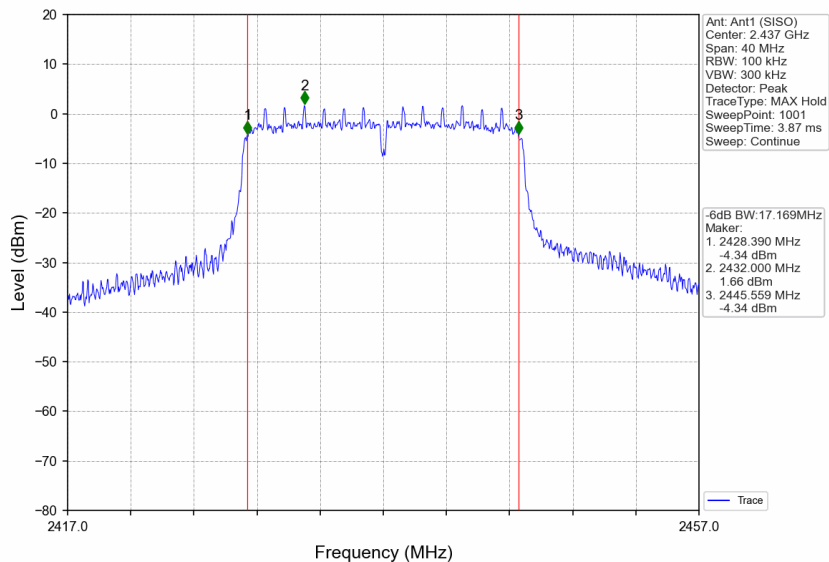
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802.11n(HT20)\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



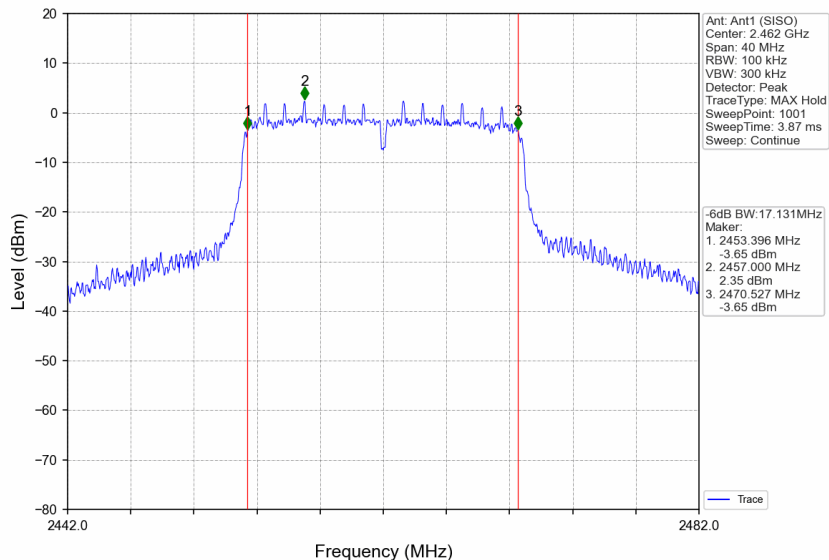
802.11n(HT20)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



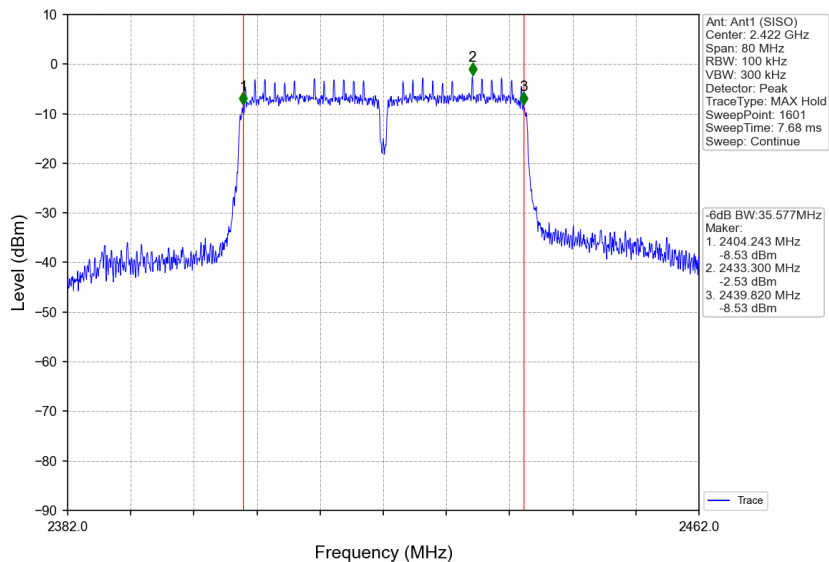
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802.11n(HT40)\_LCH\_2422MHz\_Ant1 (SISO)\_NTNV



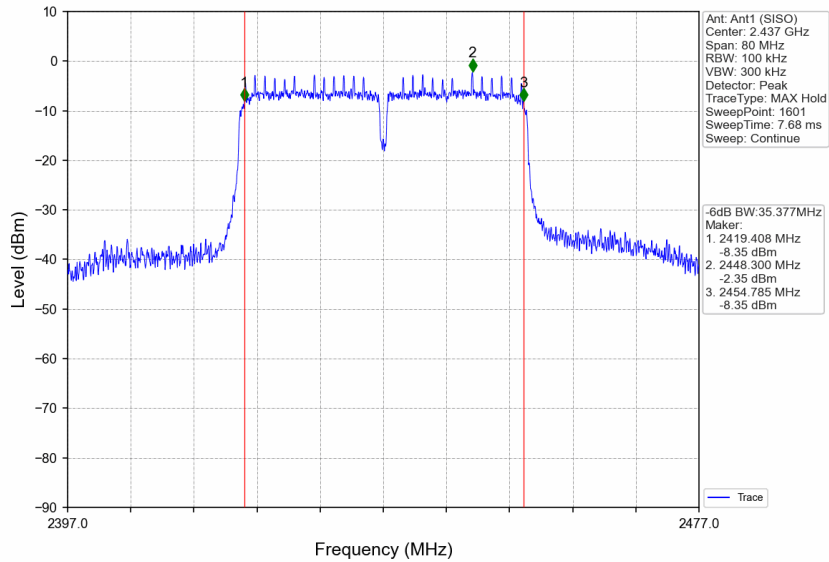
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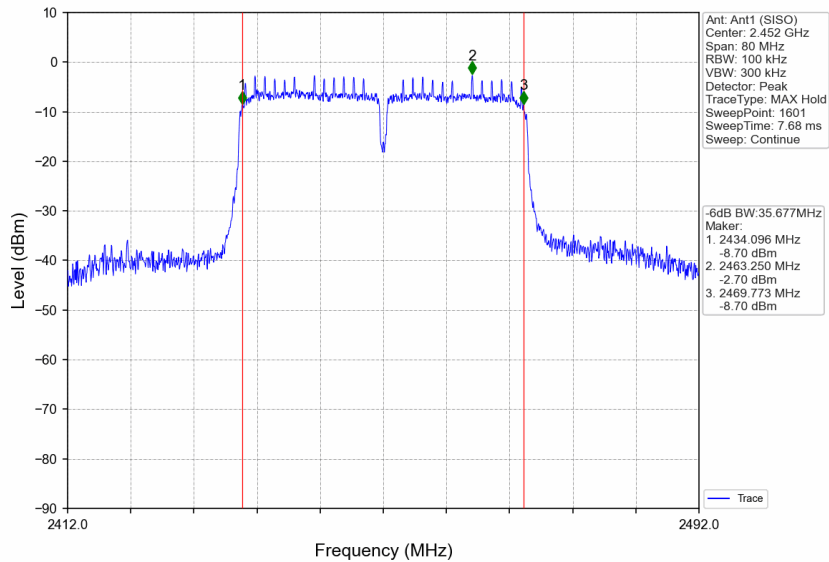
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802.11n(HT40)\_HCH\_2452MHz\_Ant1 (SISO)\_NTNV



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### 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	15.51	<=30	Pass
		2437	15.56	<=30	Pass
		2462	16.06	<=30	Pass
802.11g	SISO	2412	12.68	<=30	Pass
		2437	12.77	<=30	Pass
		2462	13.20	<=30	Pass
802.11n (HT20)	SISO	2412	12.50	<=30	Pass
		2437	12.76	<=30	Pass
		2462	13.17	<=30	Pass
802.11n (HT40)	SISO	2422	11.25	<=30	Pass
		2437	11.47	<=30	Pass
		2452	11.30	<=30	Pass

Note1: Antenna Gain: Ant1: 1.10dBi;

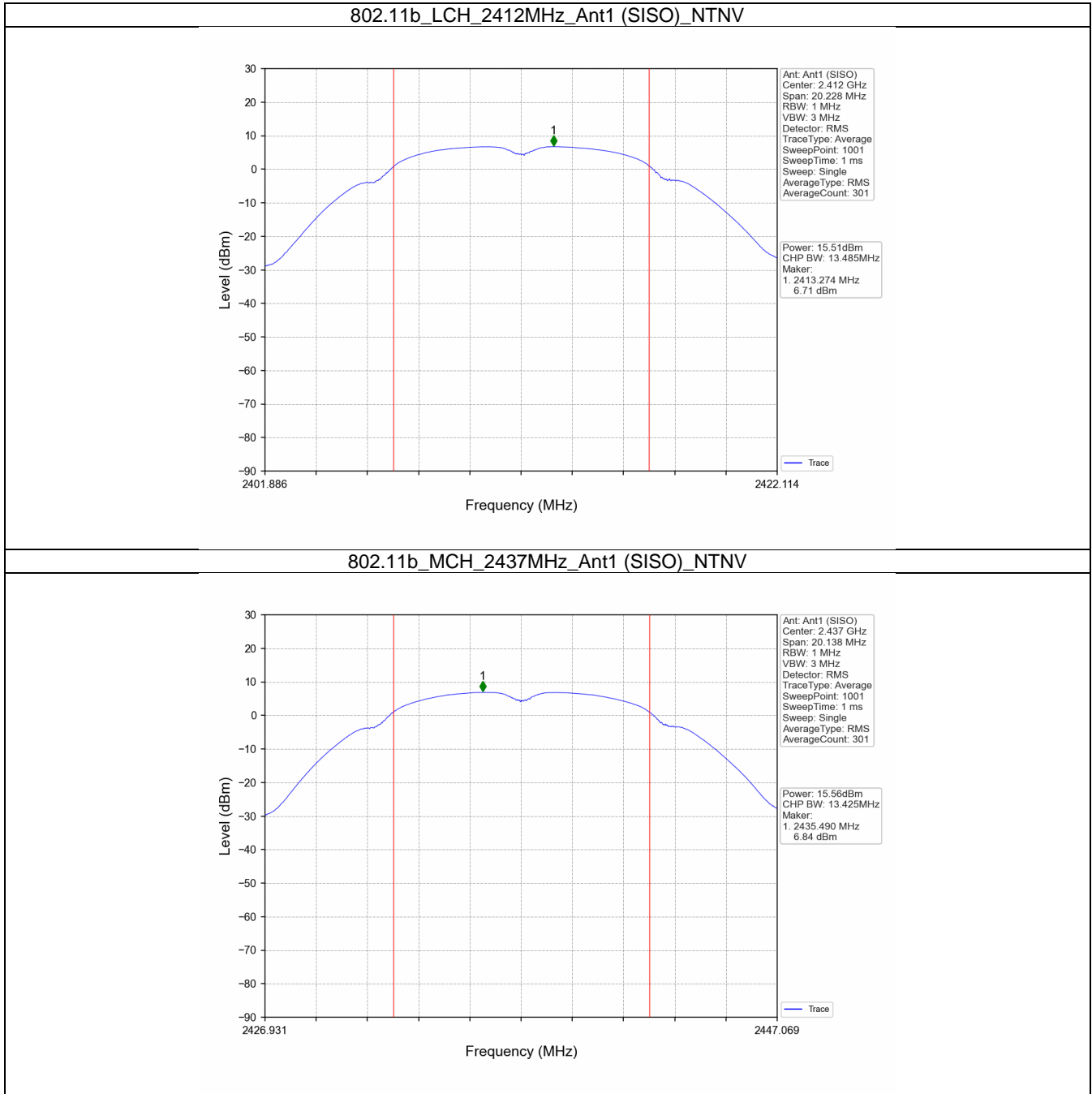


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3.1.2 Test Graph



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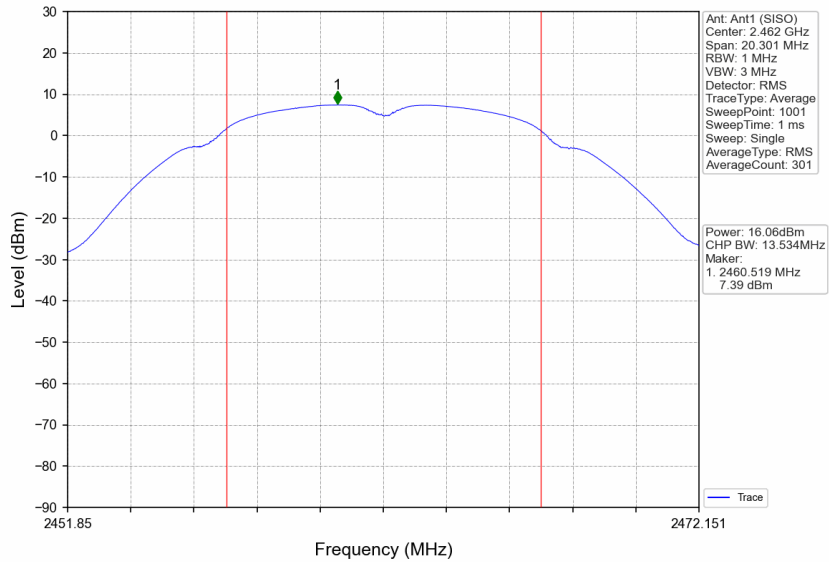
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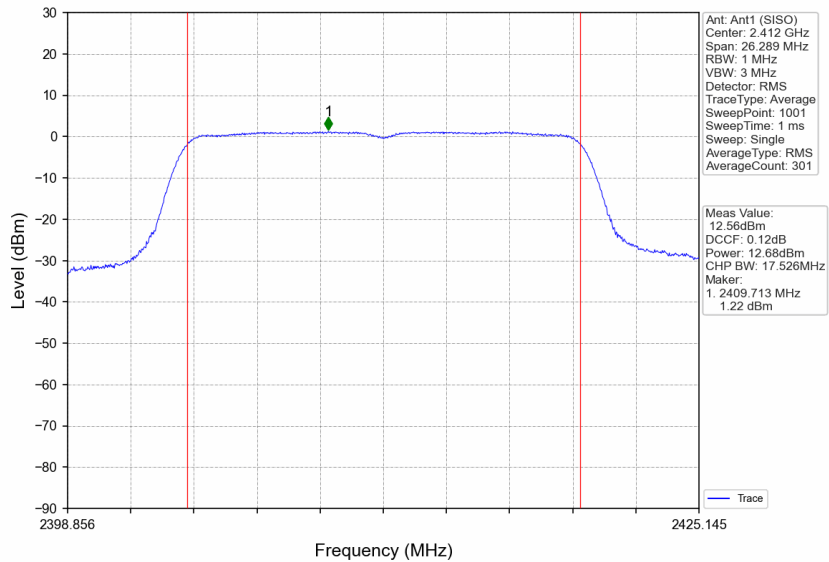
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802.11g\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV

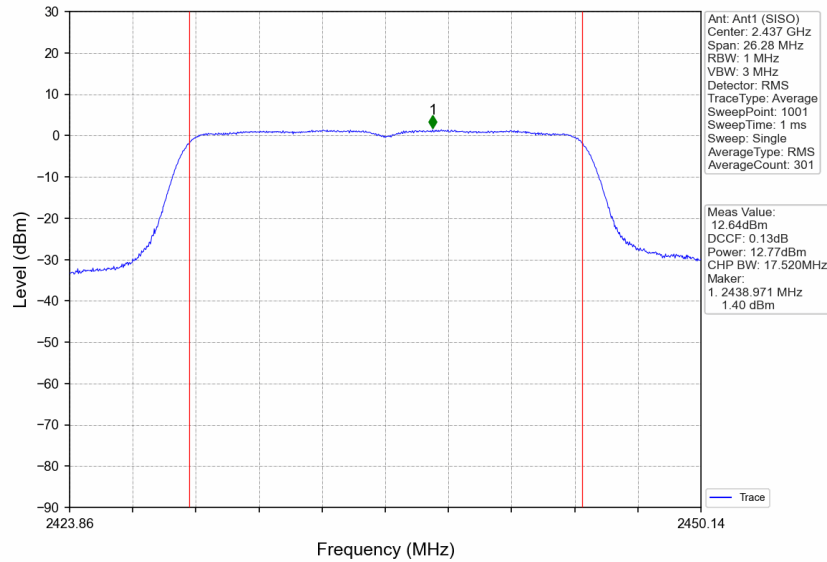


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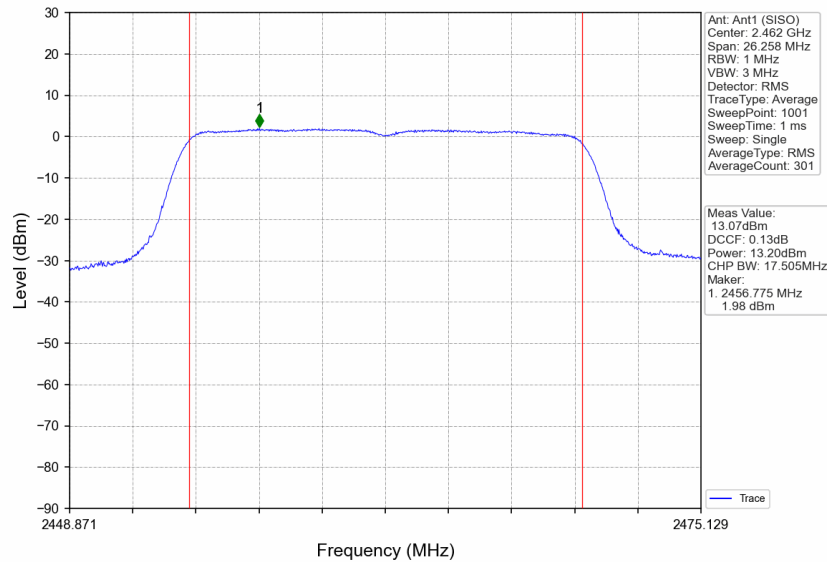
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802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



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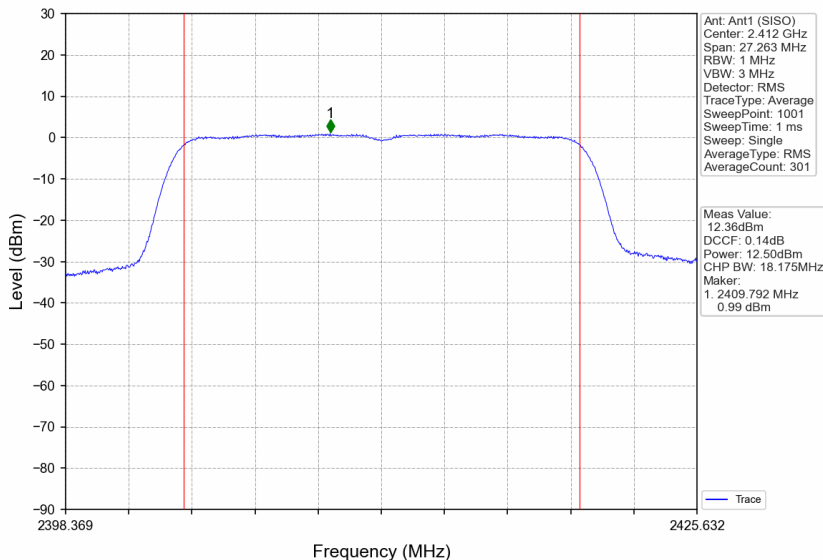
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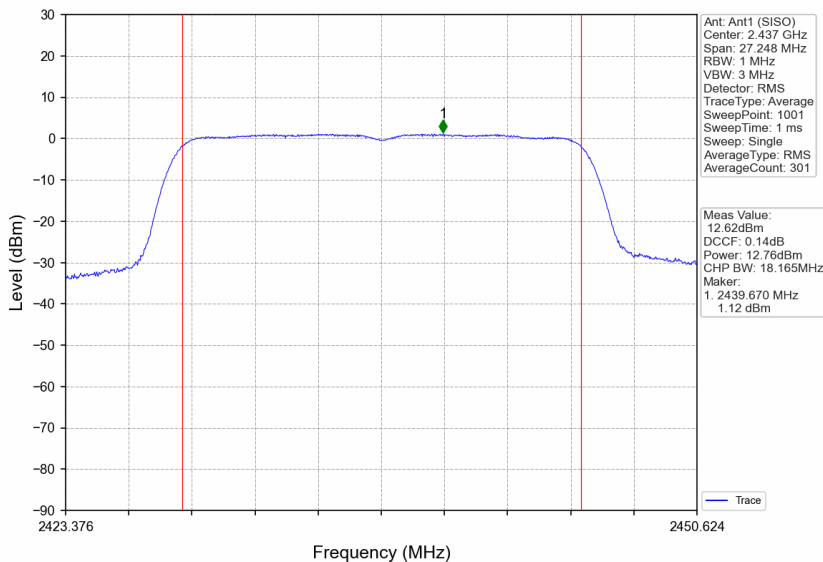
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802.11n(HT20)\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV



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

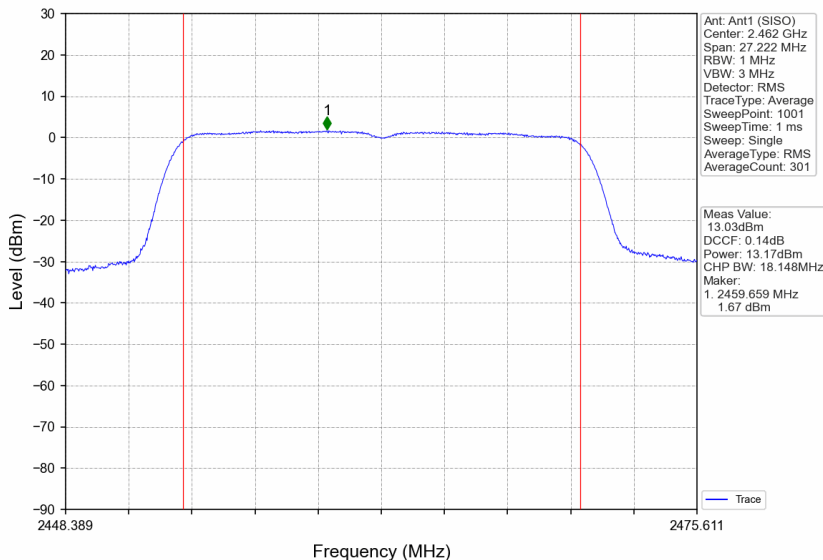


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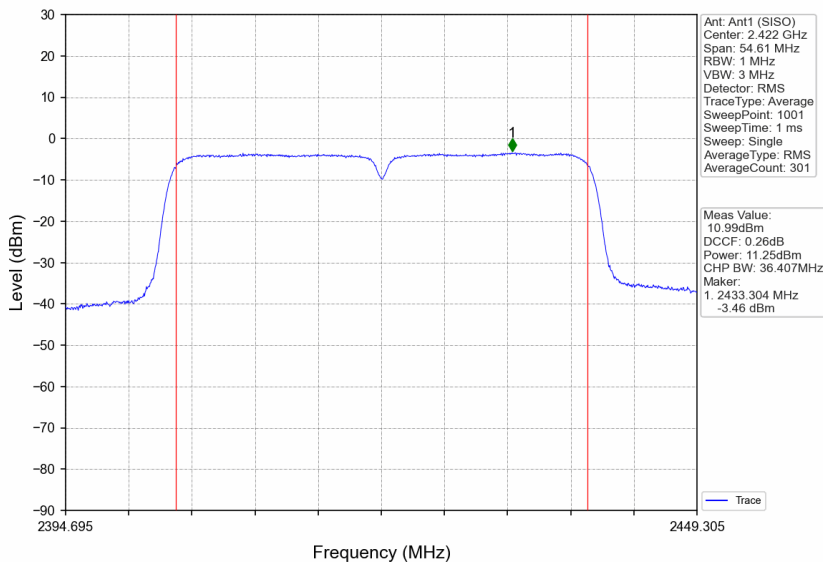
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802.11n(HT20)\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



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

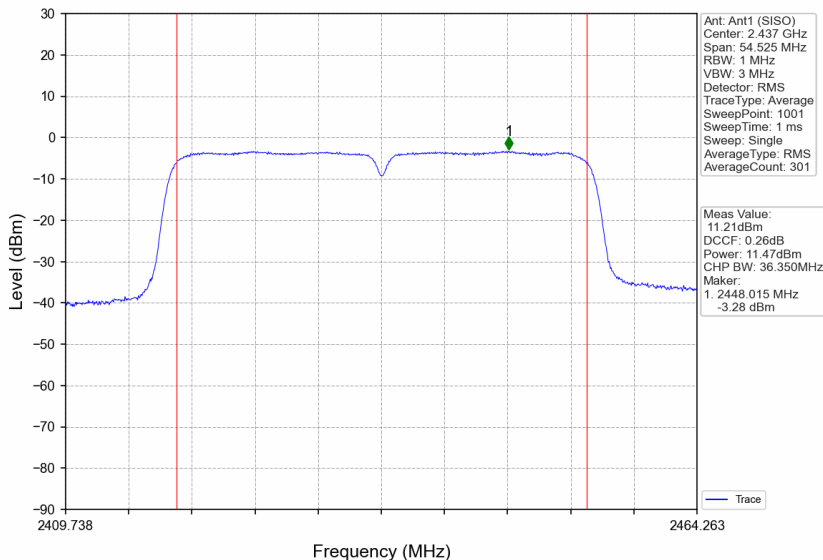


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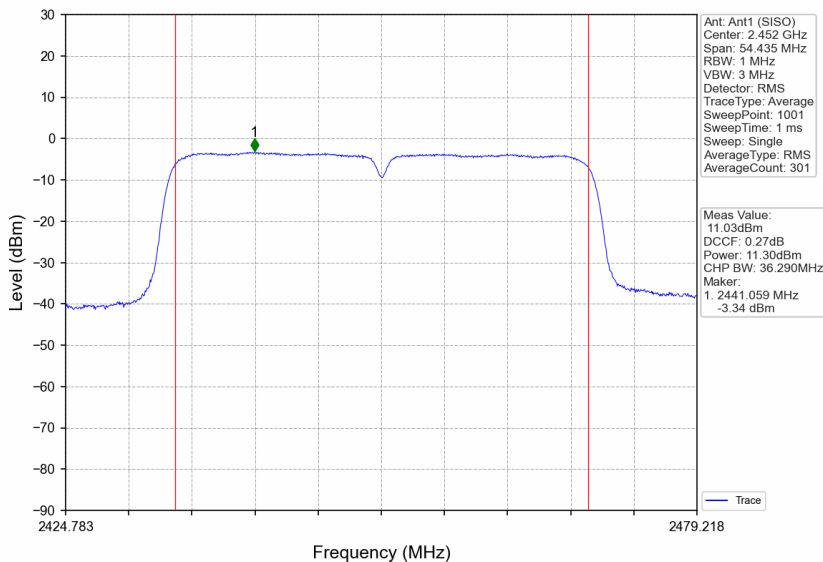
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802.11n(HT40)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



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



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## 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	-4.88	<=8	Pass
		2437	-6.80	<=8	Pass
		2462	-6.68	<=8	Pass
802.11g	SISO	2412	-12.90	<=8	Pass
		2437	-11.49	<=8	Pass
		2462	-11.32	<=8	Pass
802.11n (HT20)	SISO	2412	-12.15	<=8	Pass
		2437	-10.81	<=8	Pass
		2462	-11.84	<=8	Pass
802.11n (HT40)	SISO	2422	-16.00	<=8	Pass
		2437	-15.12	<=8	Pass
		2452	-16.36	<=8	Pass

Note1: Antenna Gain: Ant1: 1.10dBi;



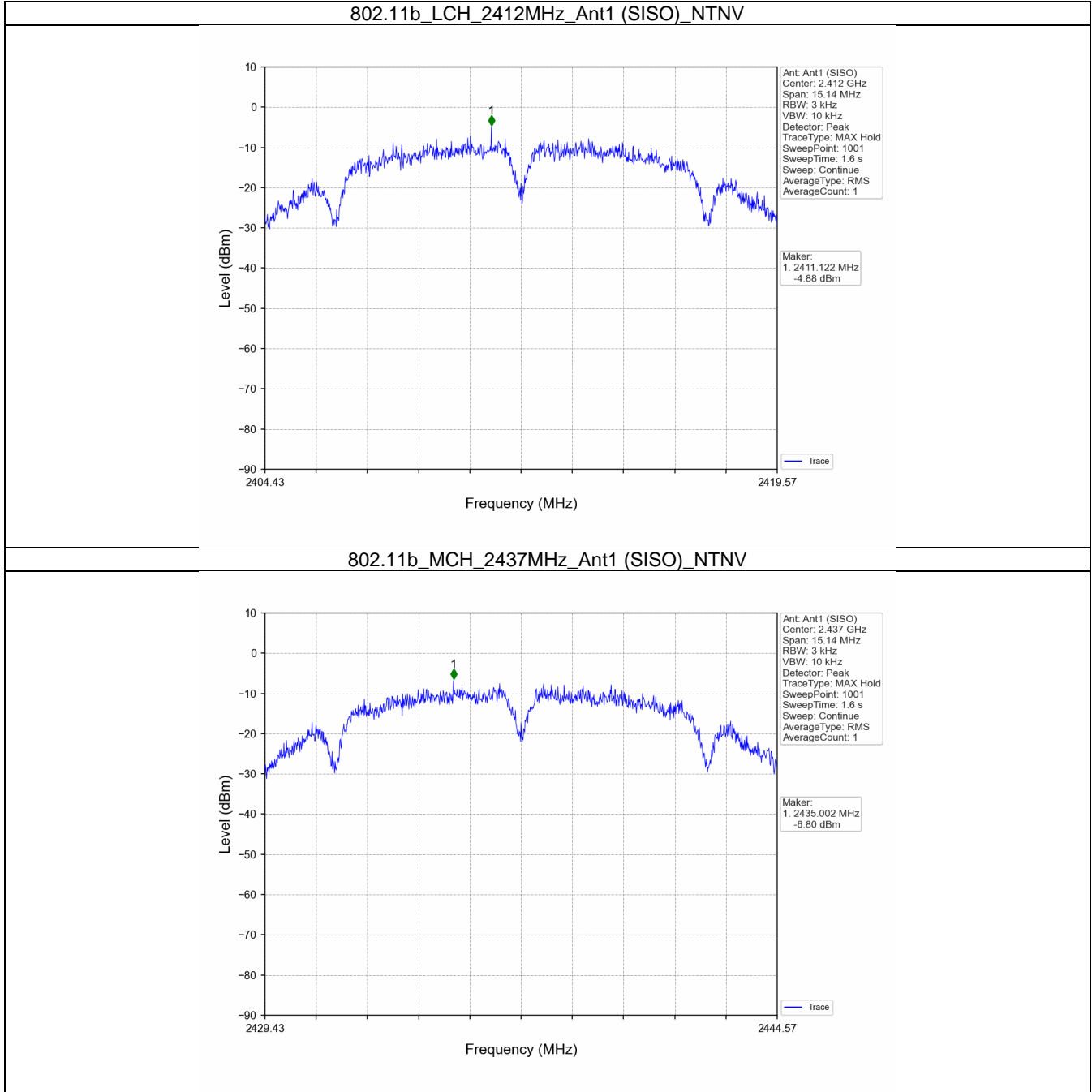
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4.1.2 Test Graph



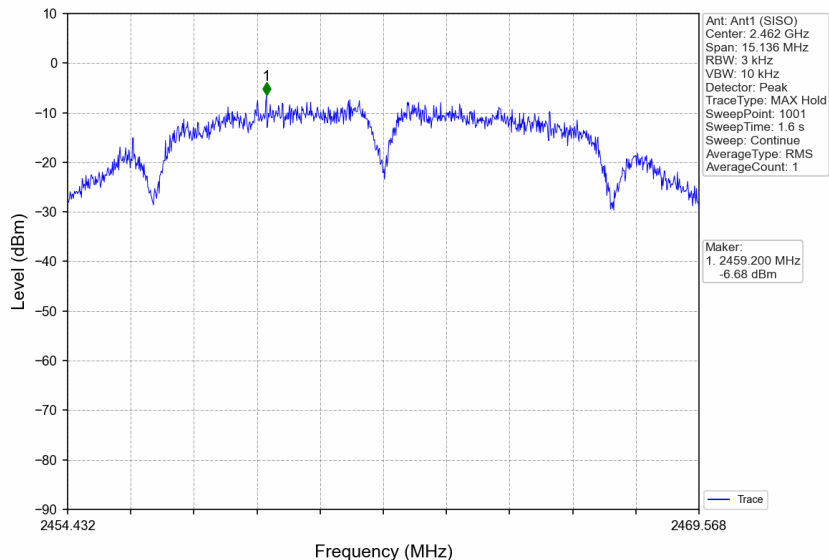
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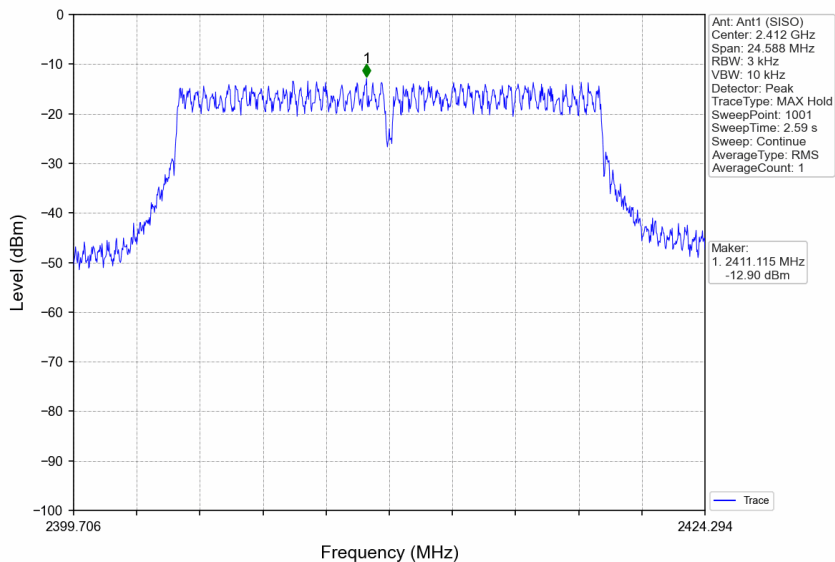
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802.11b\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV

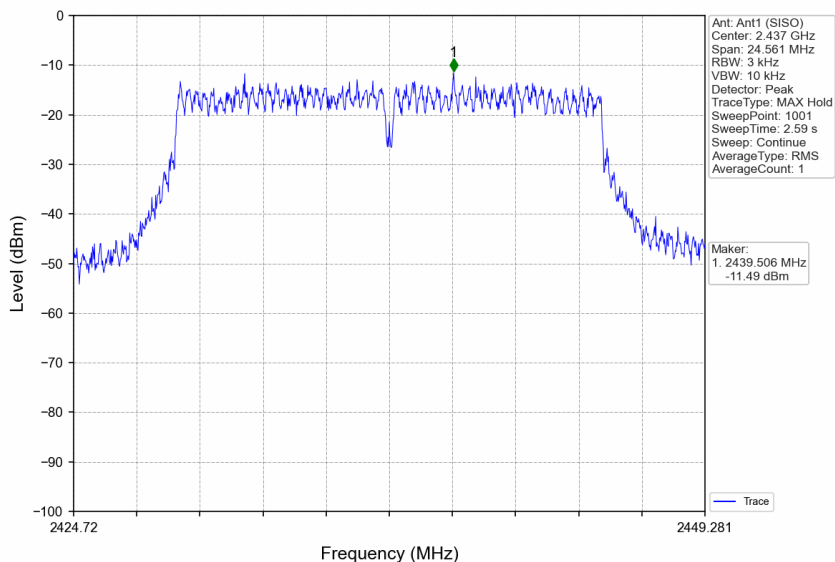


802.11g\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV

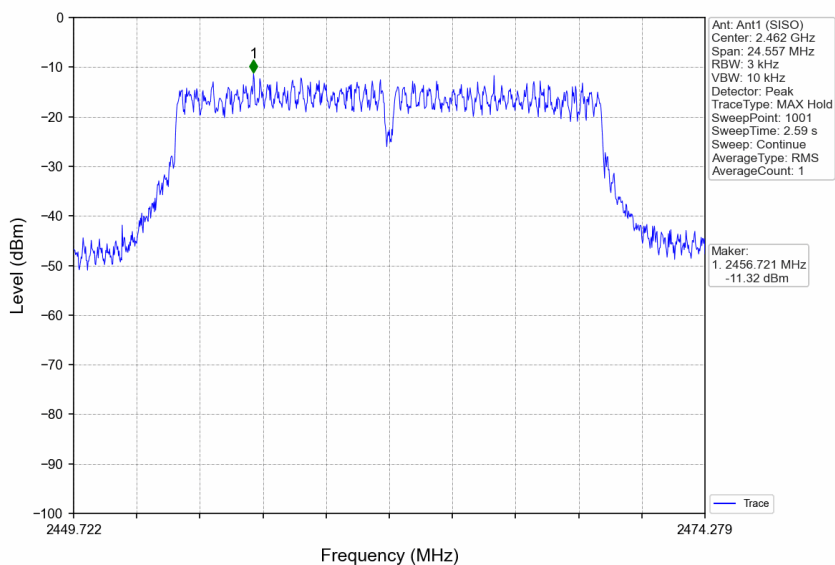


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802.11g\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV

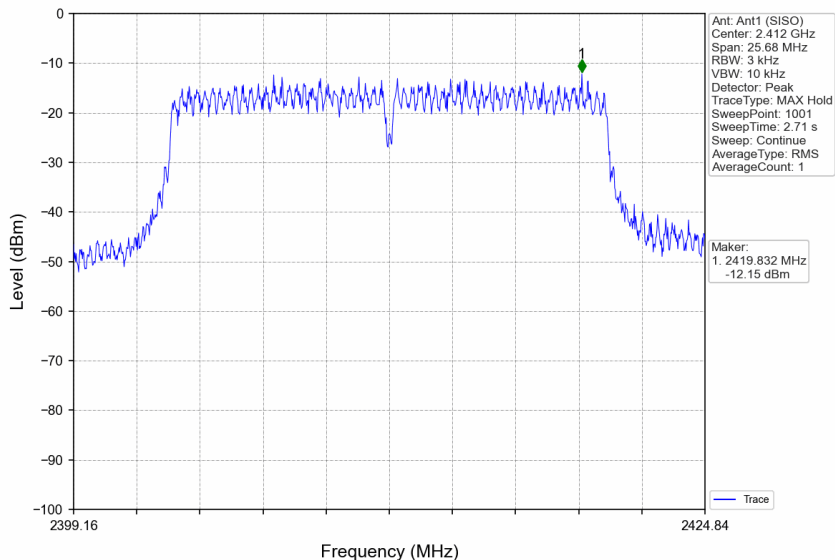


802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV

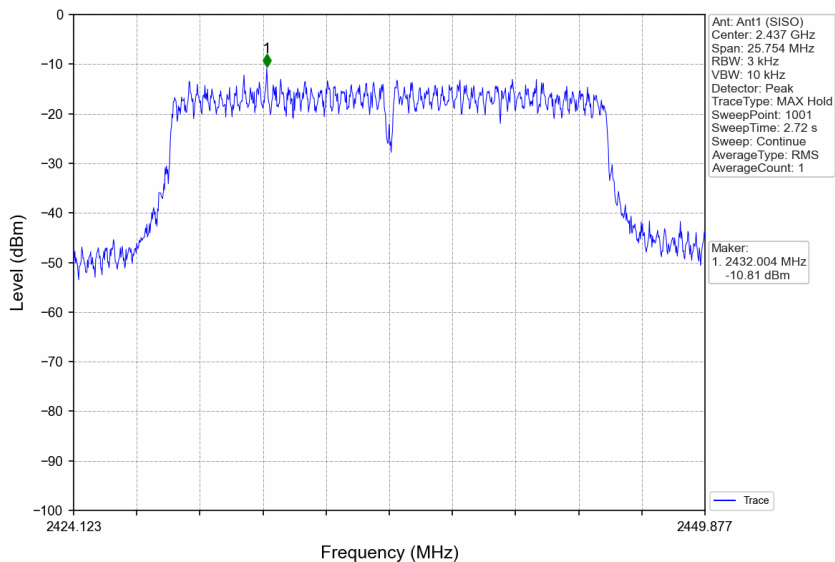


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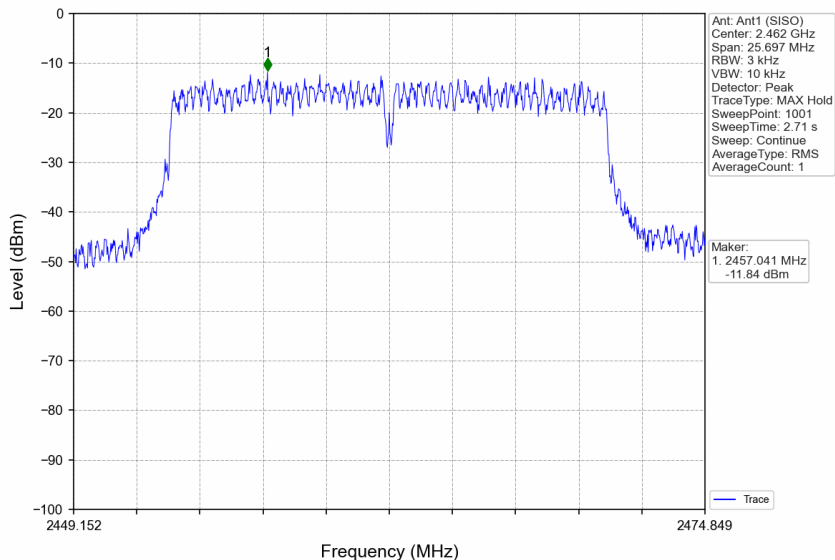
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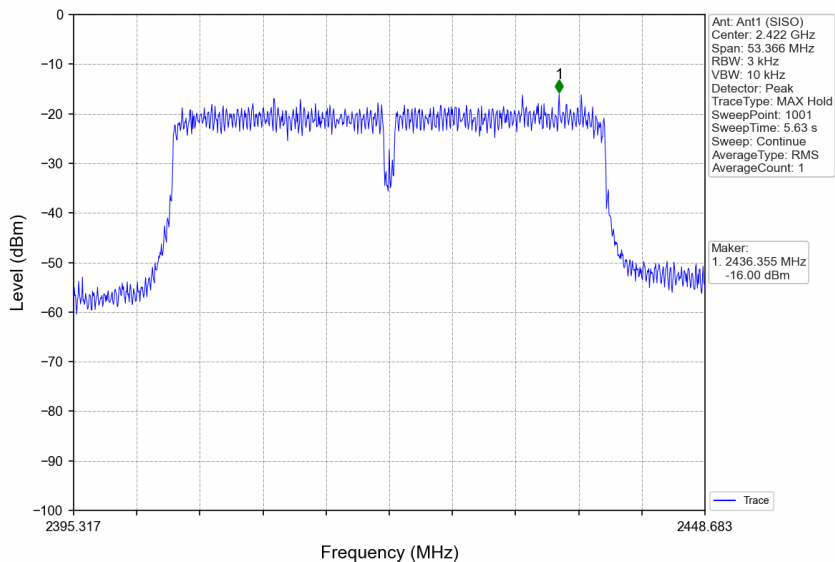
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802.11n(HT20)\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



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



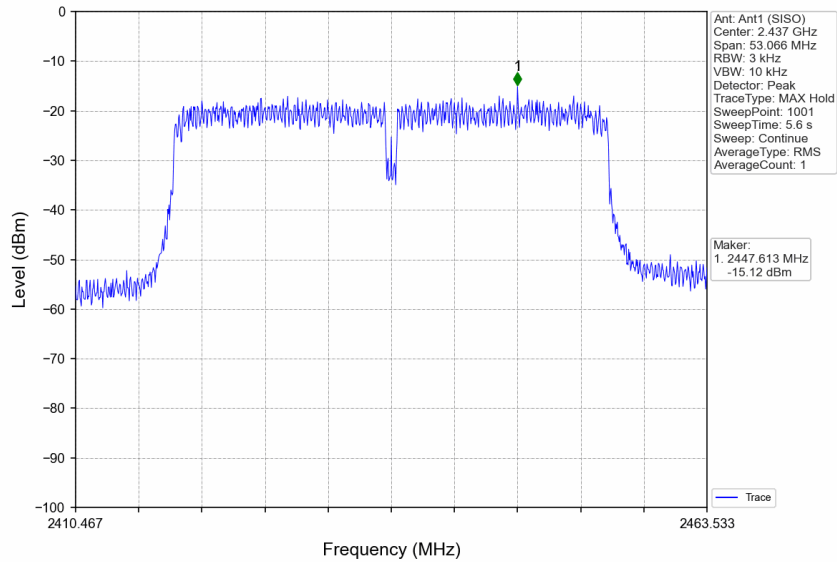
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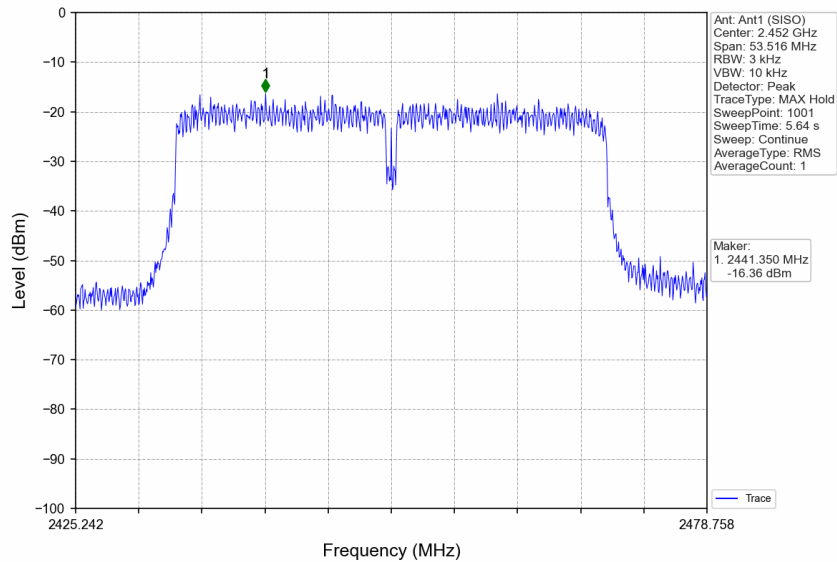
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802.11n(HT40)\_HCH\_2452MHz\_Ant1 (SISO)\_NTNV



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## 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	6.52
		2437	1	6.64
		2462	1	7.05
802.11g	SISO	2412	1	1.53
		2437	1	1.63
		2462	1	2.13
802.11n (HT20)	SISO	2412	1	1.65
		2437	1	1.63
		2462	1	2.14
802.11n (HT40)	SISO	2422	1	-2.78
		2437	1	-2.32
		2452	1	-2.77

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.

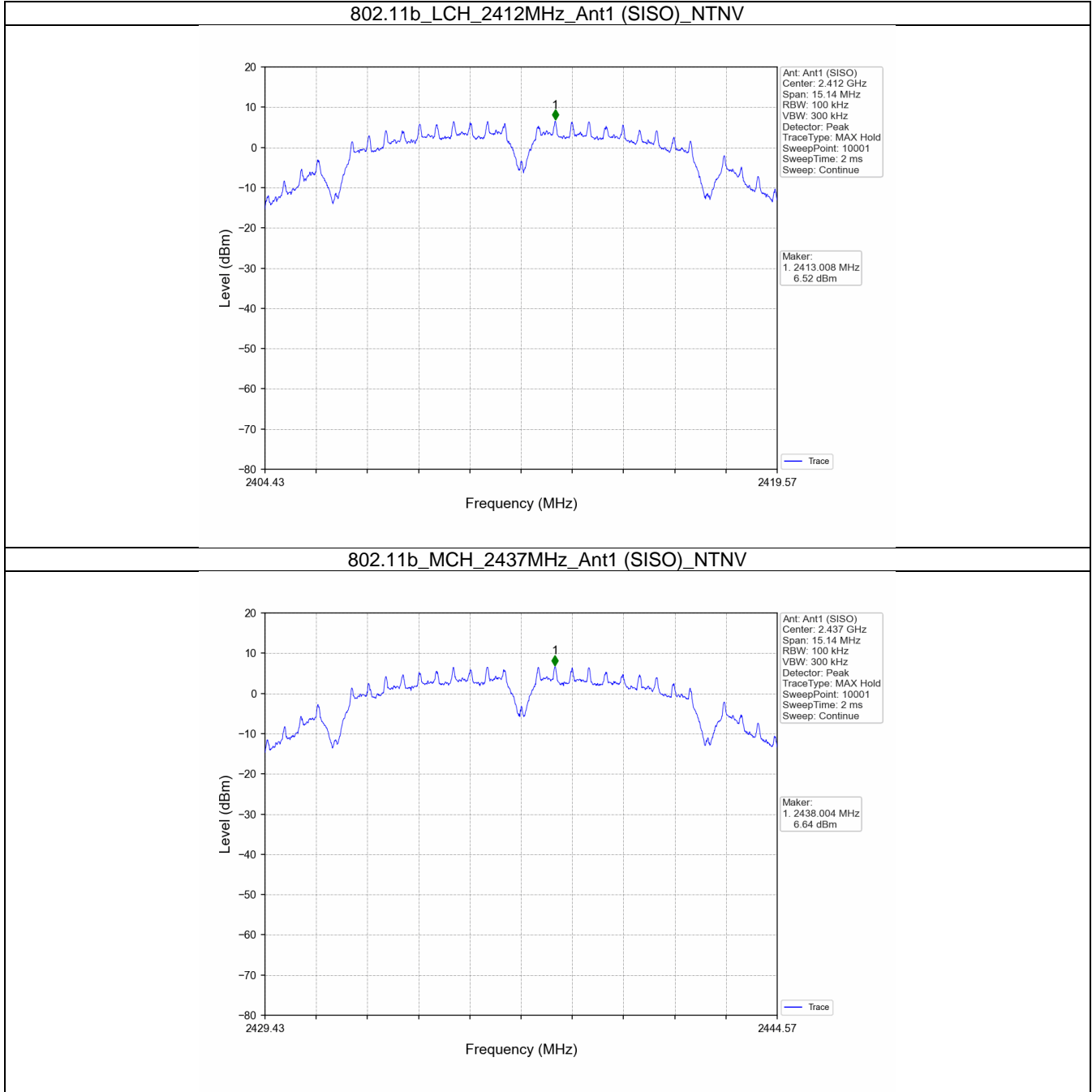
Note2: RBW = 1MHz was used during the pre-test. The final test will be performed at RBW=100kHz while the margin is less than 3dB.



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5.1.2 Test Graph



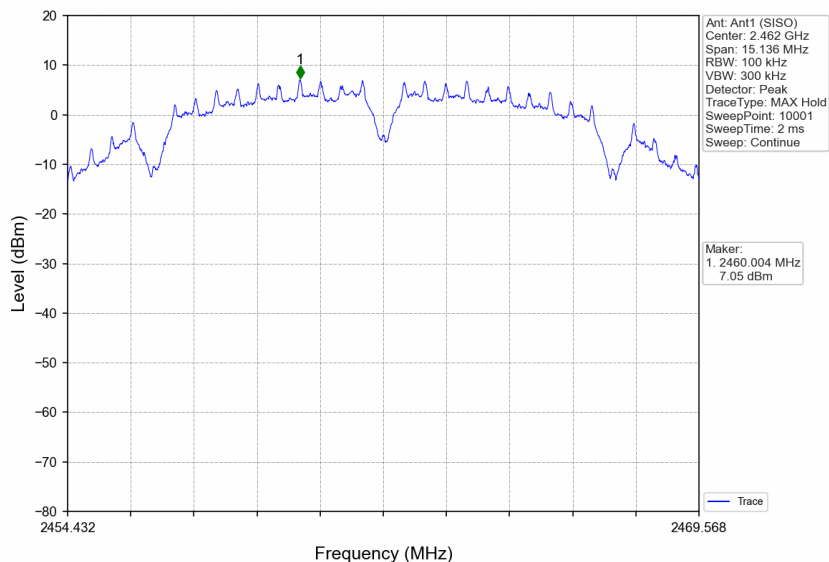
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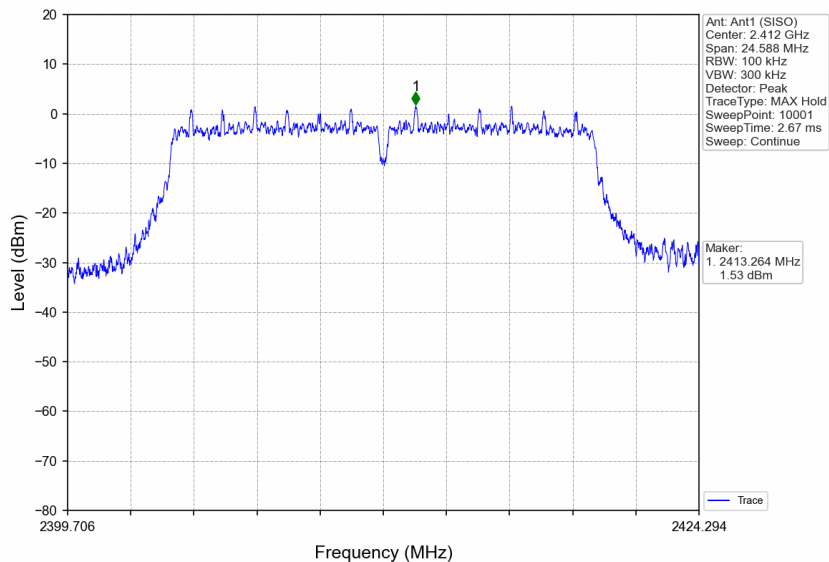
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802.11b\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



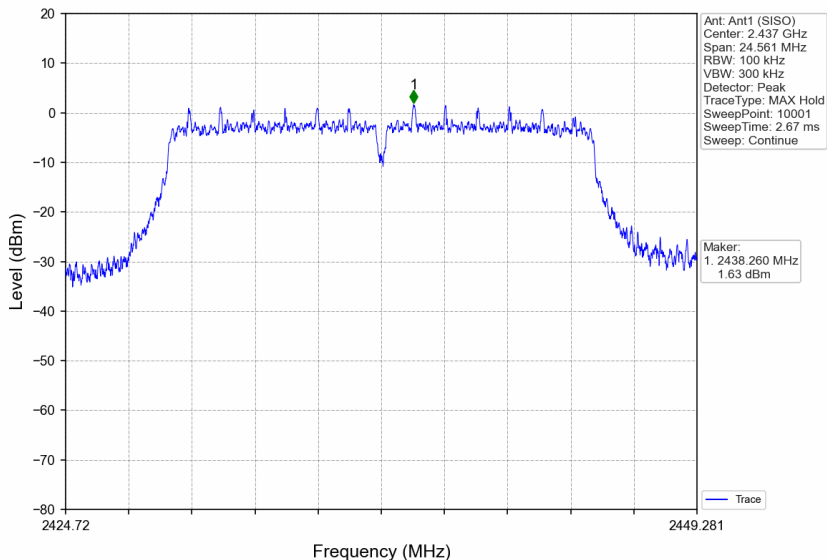
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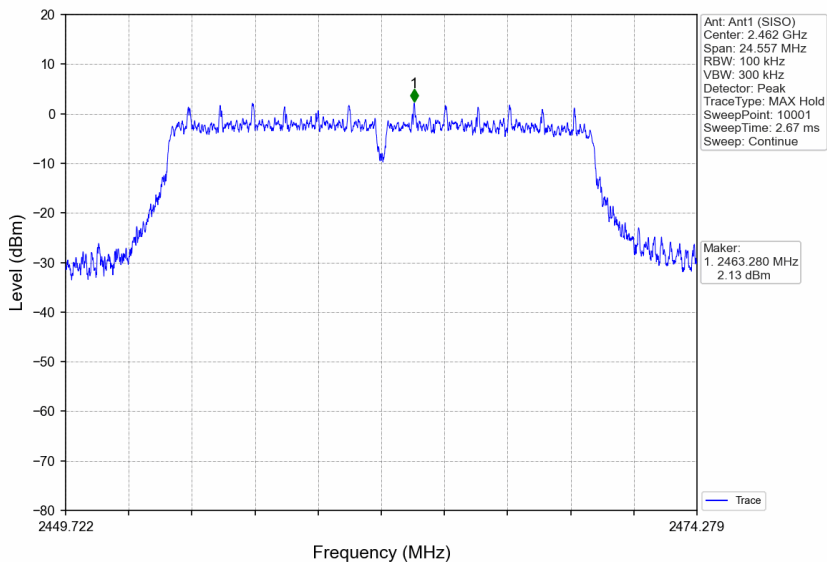
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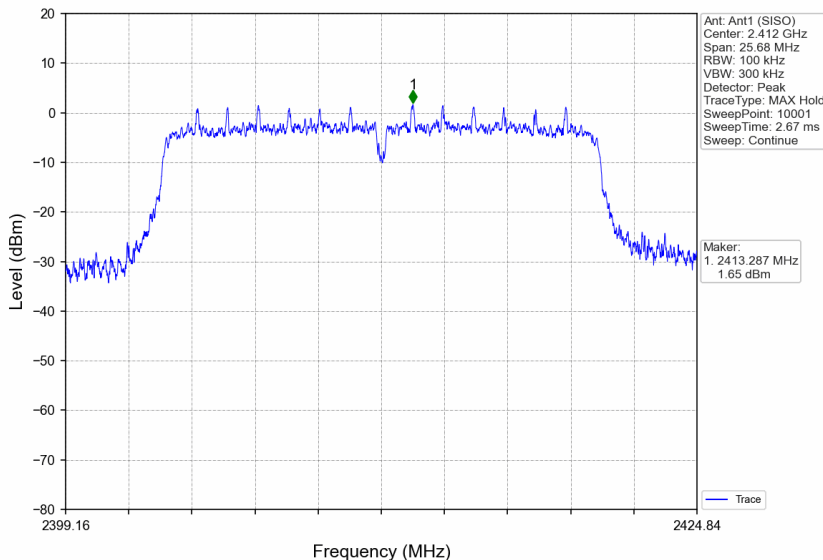
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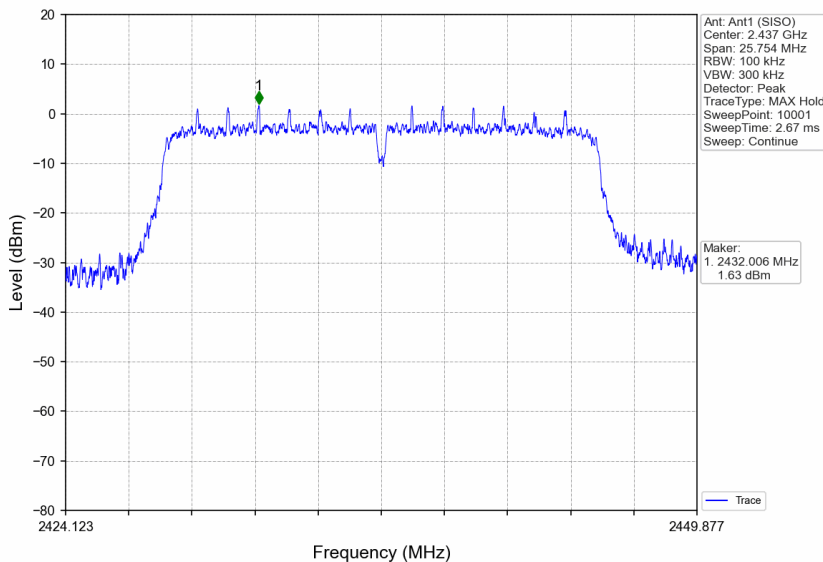
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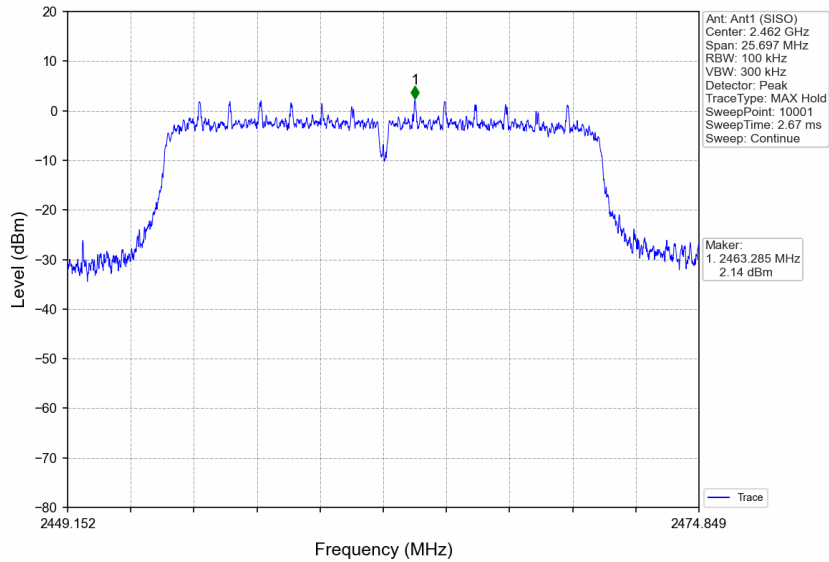
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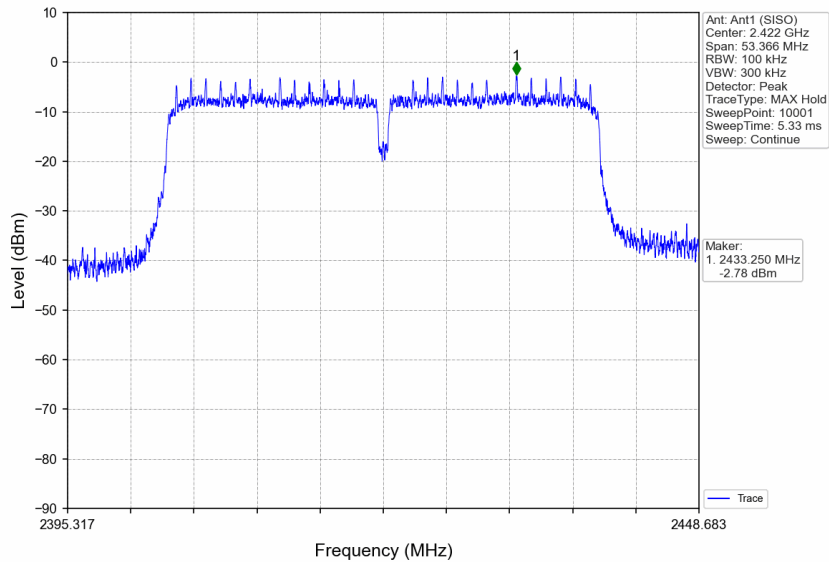
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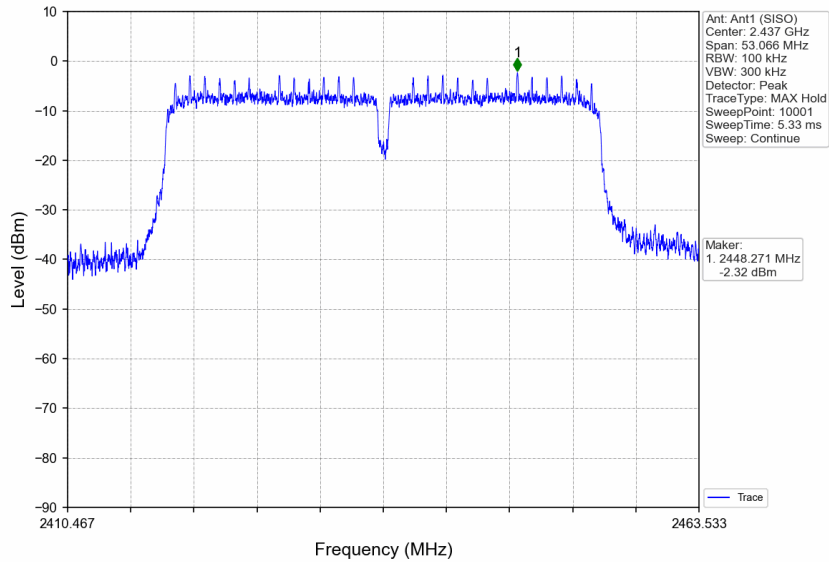
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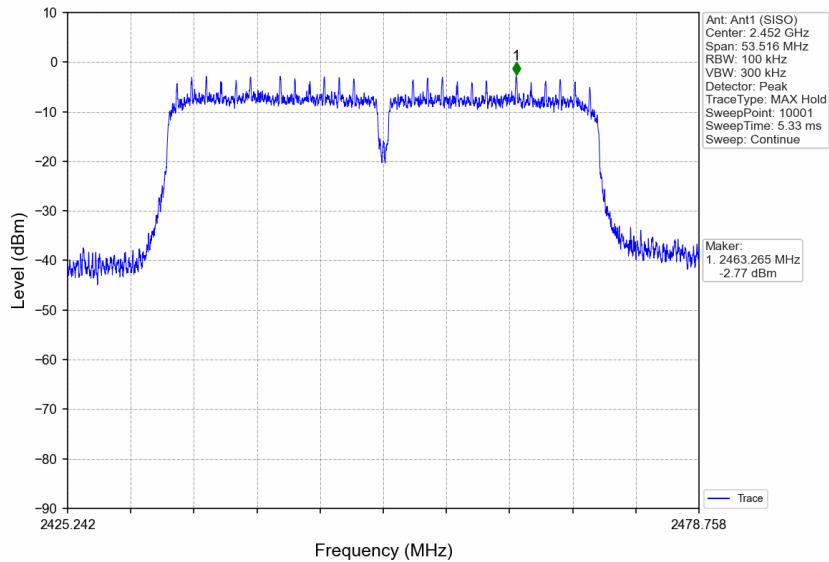
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802.11n(HT40)\_HCH\_2452MHz\_Ant1 (SISO)\_NTNV



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## 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	7.05	-22.95	Pass
		2437	1	7.05	-22.95	Pass
		2462	1	7.05	-22.95	Pass
802.11g	SISO	2412	1	2.13	-27.87	Pass
		2437	1	2.13	-27.87	Pass
		2462	1	2.13	-27.87	Pass
802.11n (HT20)	SISO	2412	1	2.14	-27.86	Pass
		2437	1	2.14	-27.86	Pass
		2462	1	2.14	-27.86	Pass
802.11n (HT40)	SISO	2422	1	-2.32	-32.32	Pass
		2437	1	-2.32	-32.32	Pass
		2452	1	-2.32	-32.32	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.

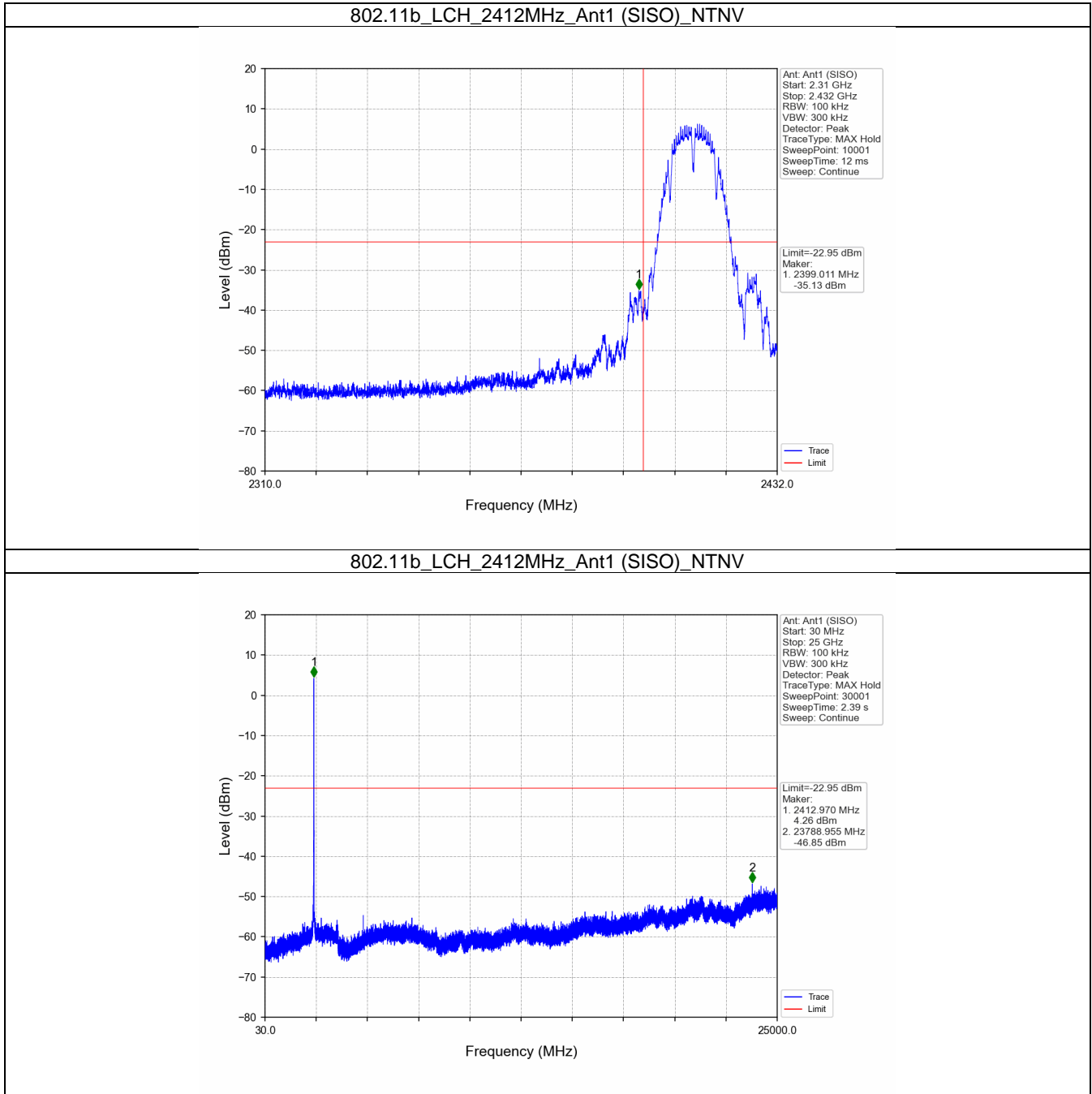


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5.2.2 Test Graph



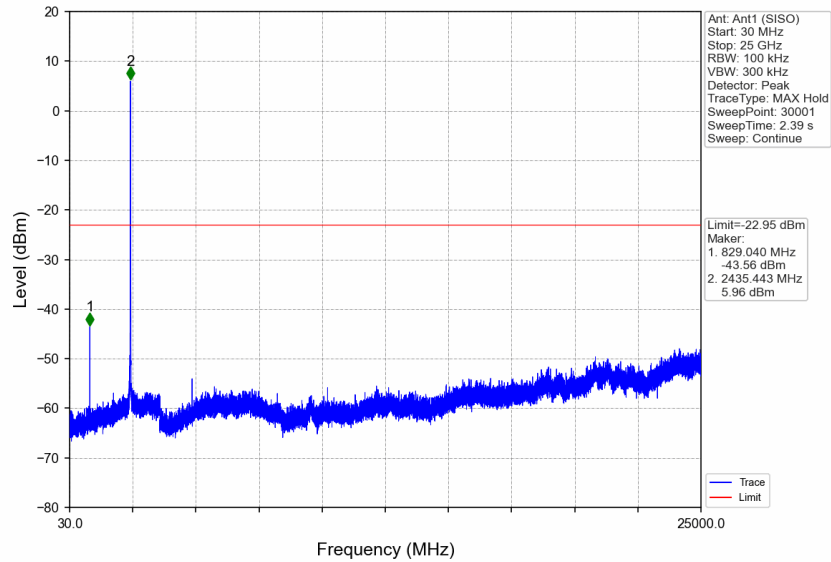
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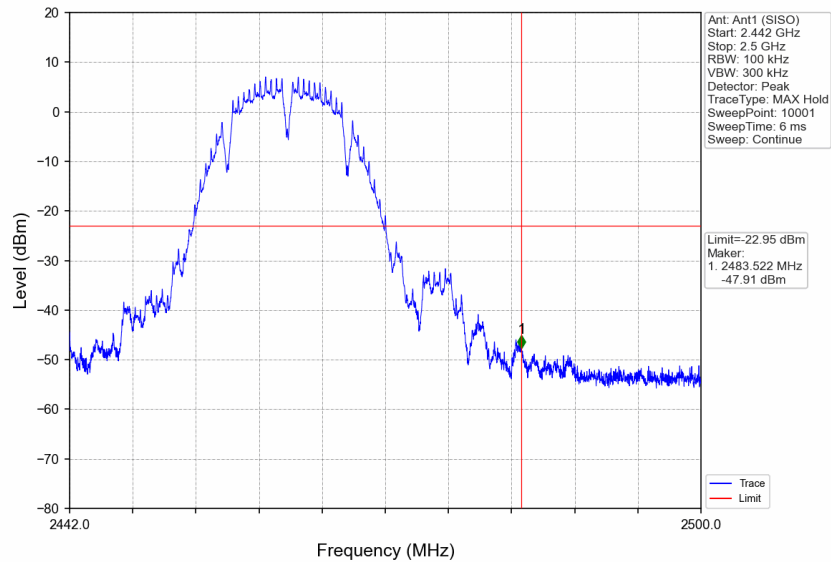
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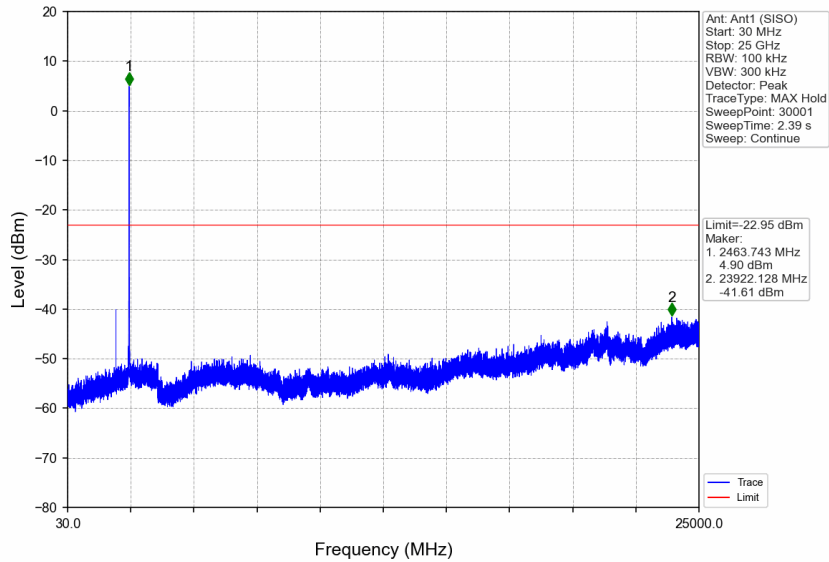


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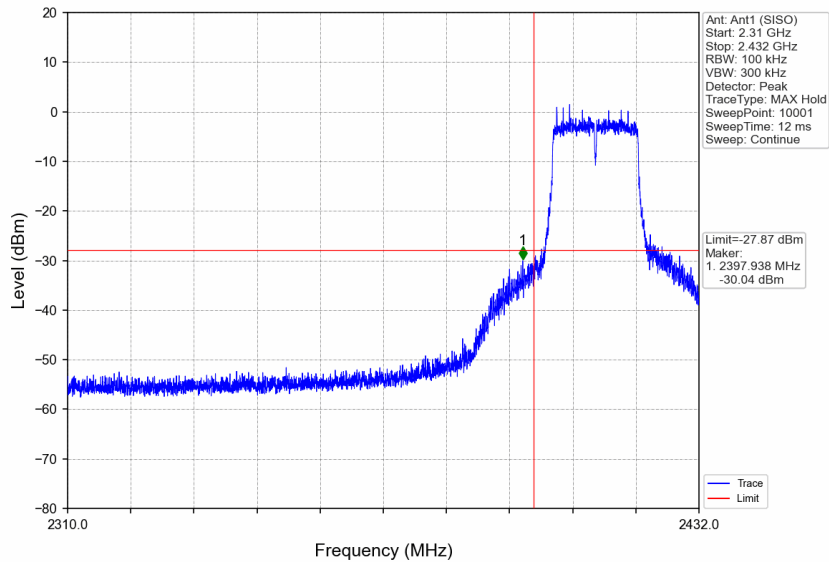
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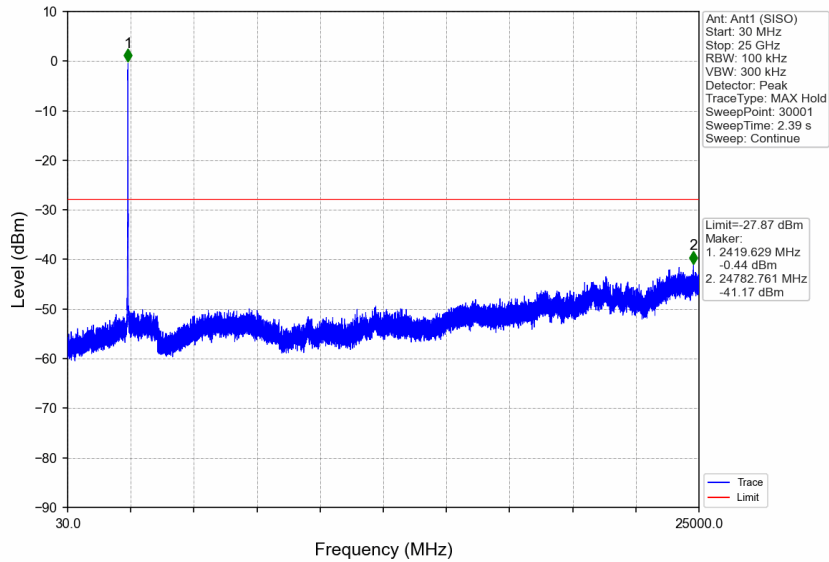
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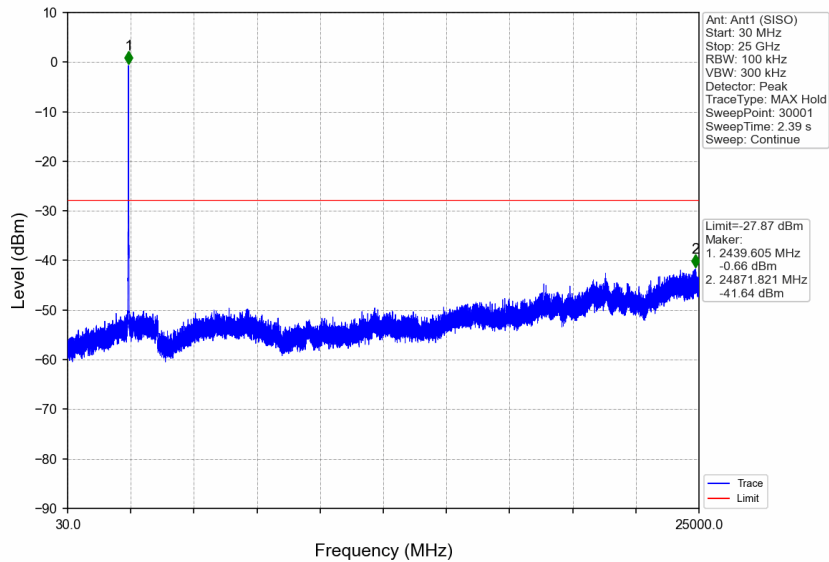
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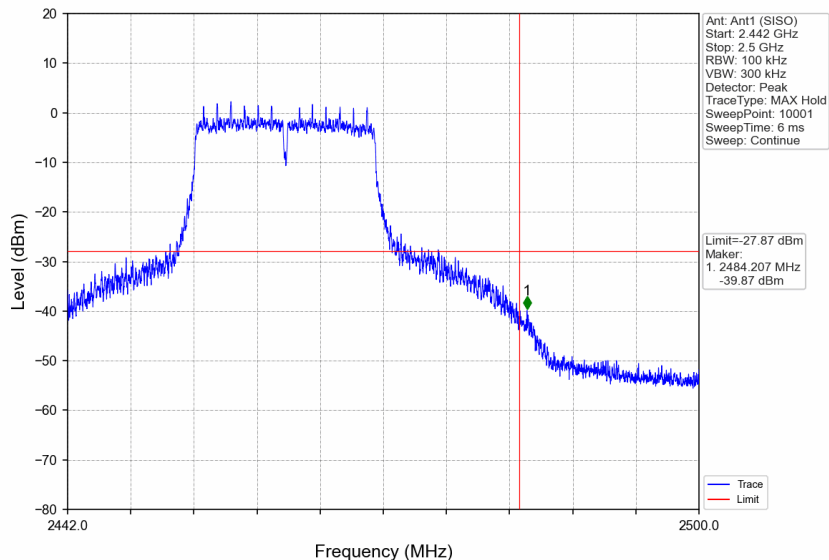
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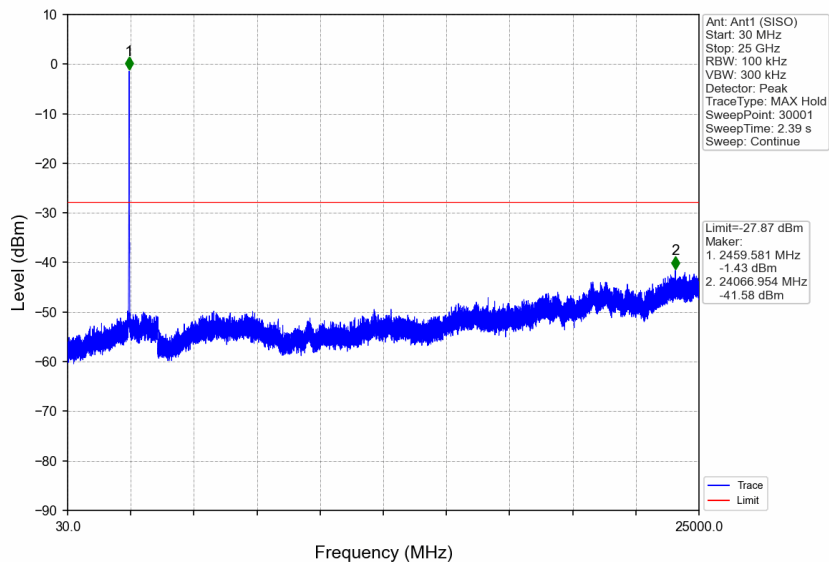
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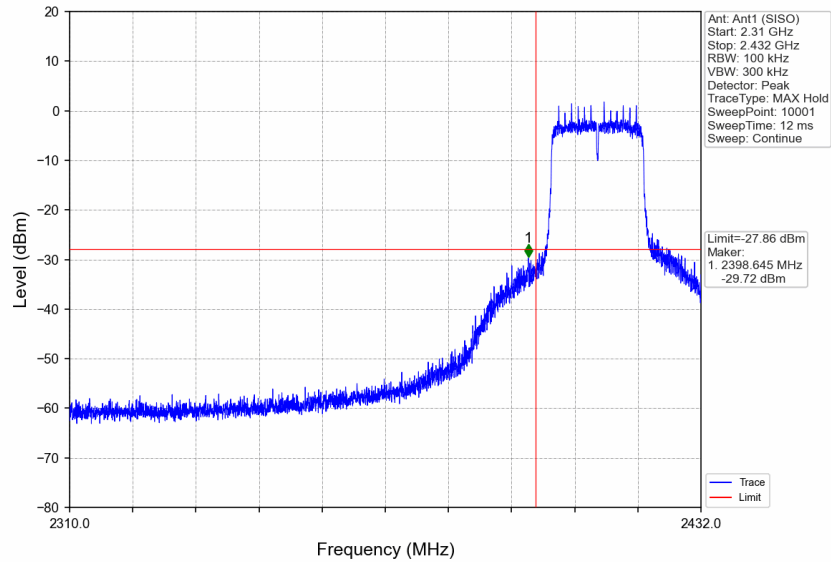
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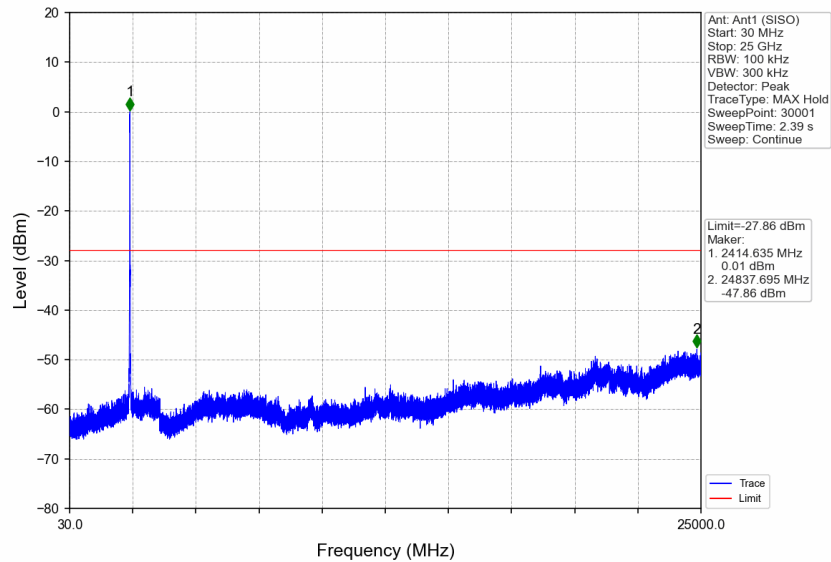
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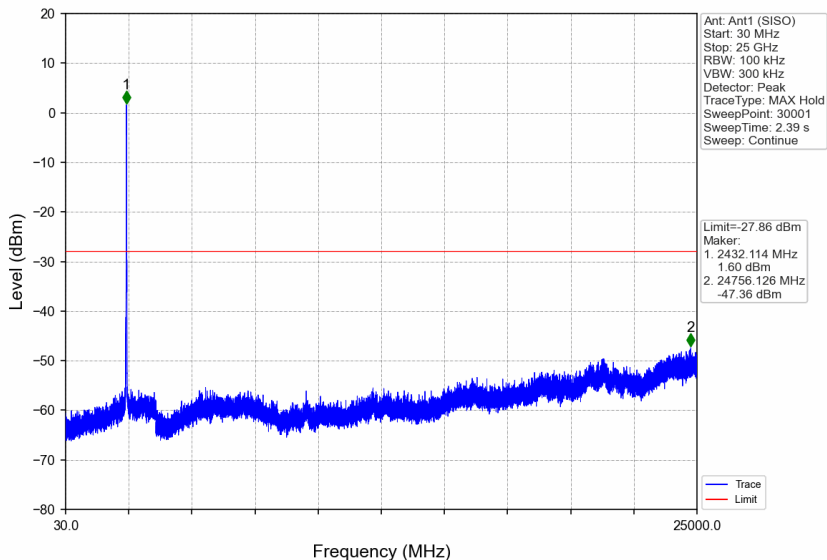


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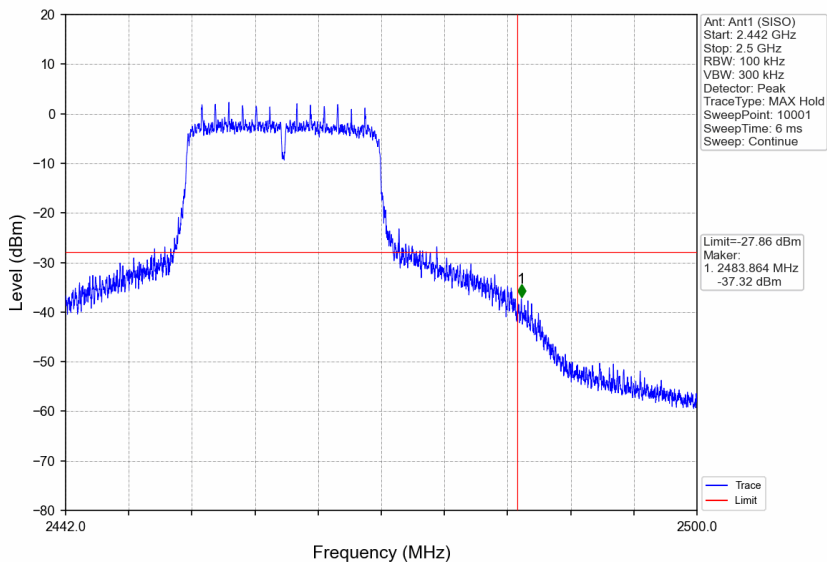


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802.11n(HT20)\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



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



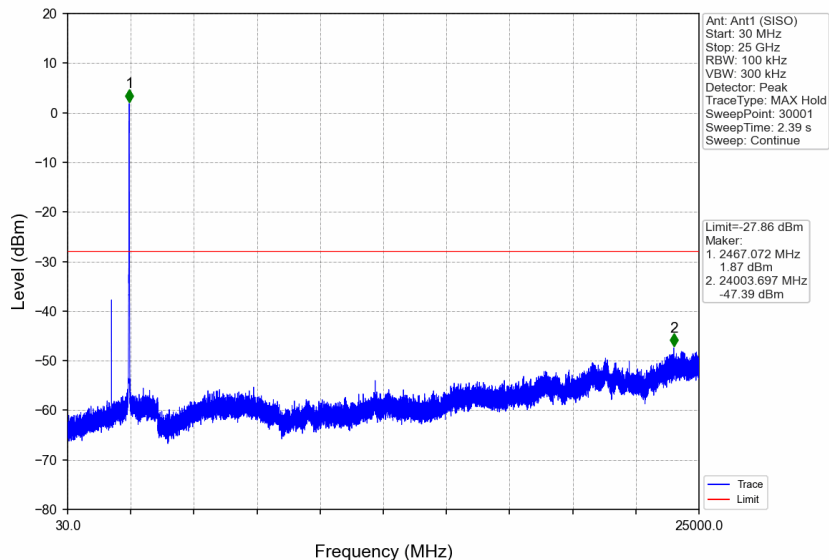
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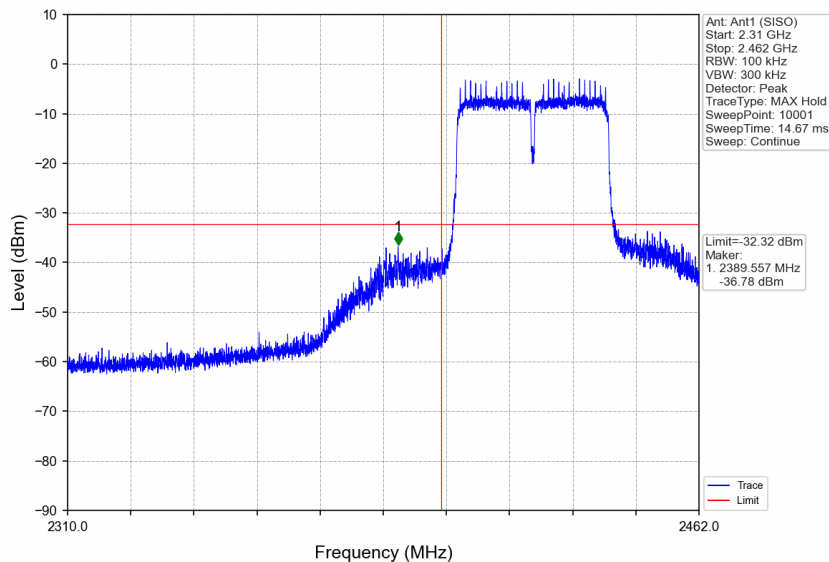
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802.11n(HT20)\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



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



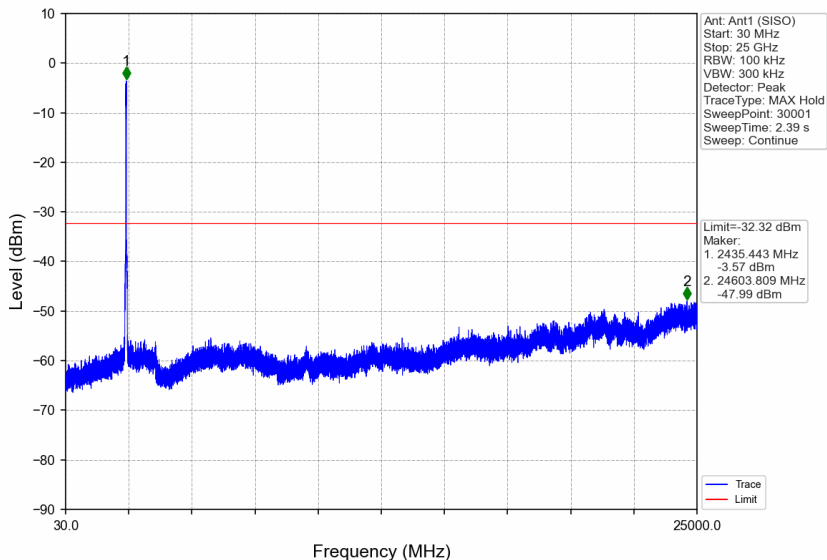
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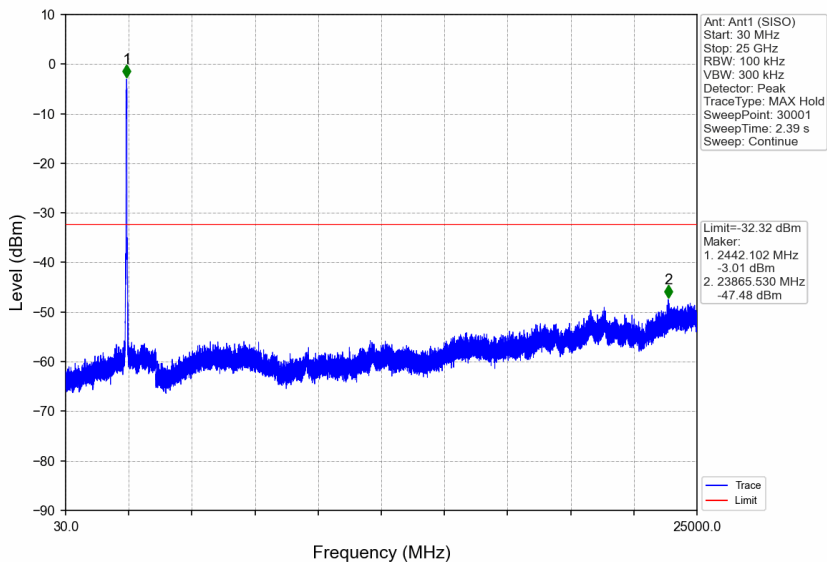
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802.11n(HT40)\_LCH\_2422MHz\_Ant1 (SISO)\_NTNV



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

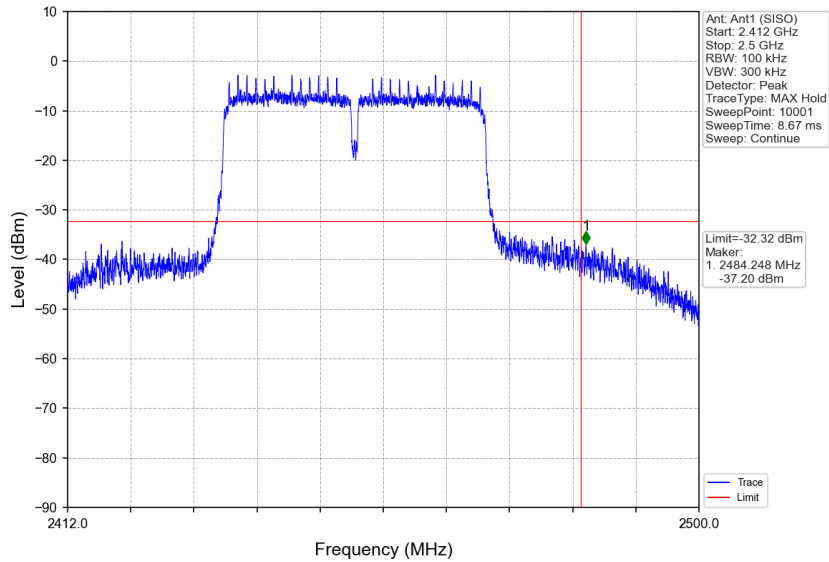


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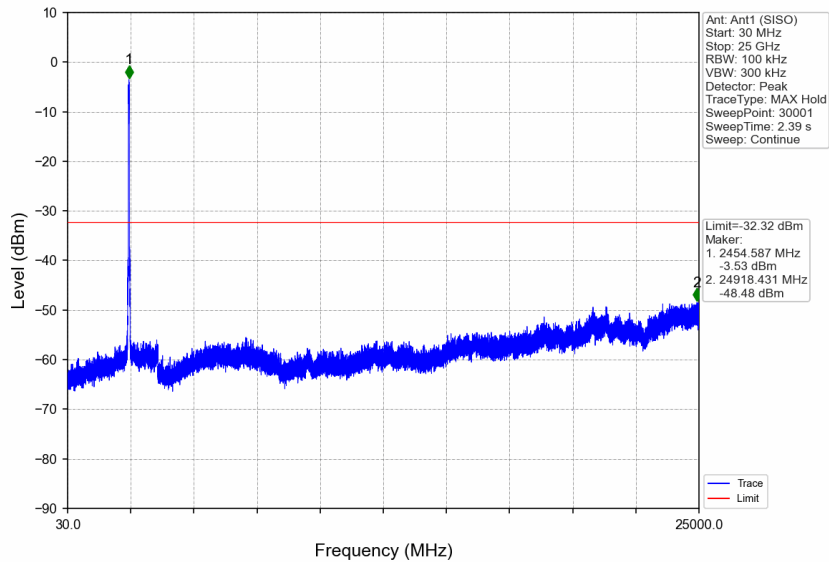
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802.11n(HT40)\_HCH\_2452MHz\_Ant1 (SISO)\_NTNV



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