



Shenzhen CTL Testing Technology Co., Ltd.

Fl. A1, Bldg. A3, No. 2533 GuanGuang Road, Fenghuang Community

Fenghuang Street, Guangming District Shenzhen, Guangdong, People's Republic of China

Tel: +86-755-89486194 E-mail: ctl@ctl-lab.com

Annex for 2.4G Wi-Fi

Test Report No.: CTL2604274011-WF03

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FCC ID: 2BSEJ-A2C

1. Duty Cycle

1.1 Test Result

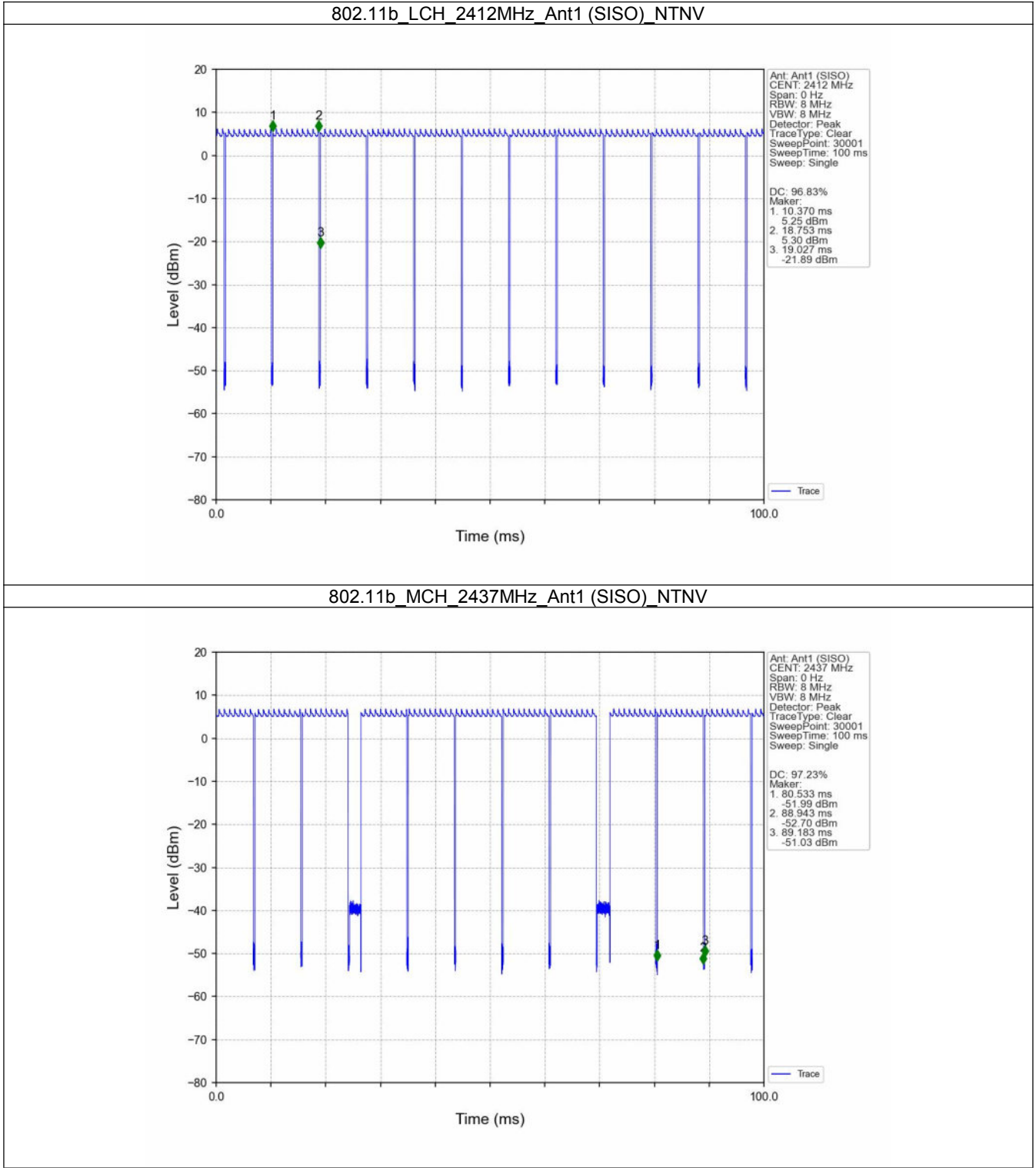
1.1.1 Ant1

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	8.383	8.657	96.83	0.14	0.11
		2437	8.410	8.650	97.23	0.12	0.04
		2462	8.383	8.650	96.91	0.14	0.04
802.11g	SISO	2412	1.361	1.736	78.40	1.06	5.05
		2437	1.360	1.632	83.33	0.79	0.00
		2462	1.362	1.632	83.46	0.79	0.03
802.11n (HT20)	SISO	2412	5.082	5.548	91.60	0.38	3.36
		2437	5.082	7.209	70.50	1.52	24.49
		2462	5.079	5.352	94.90	0.23	0.03

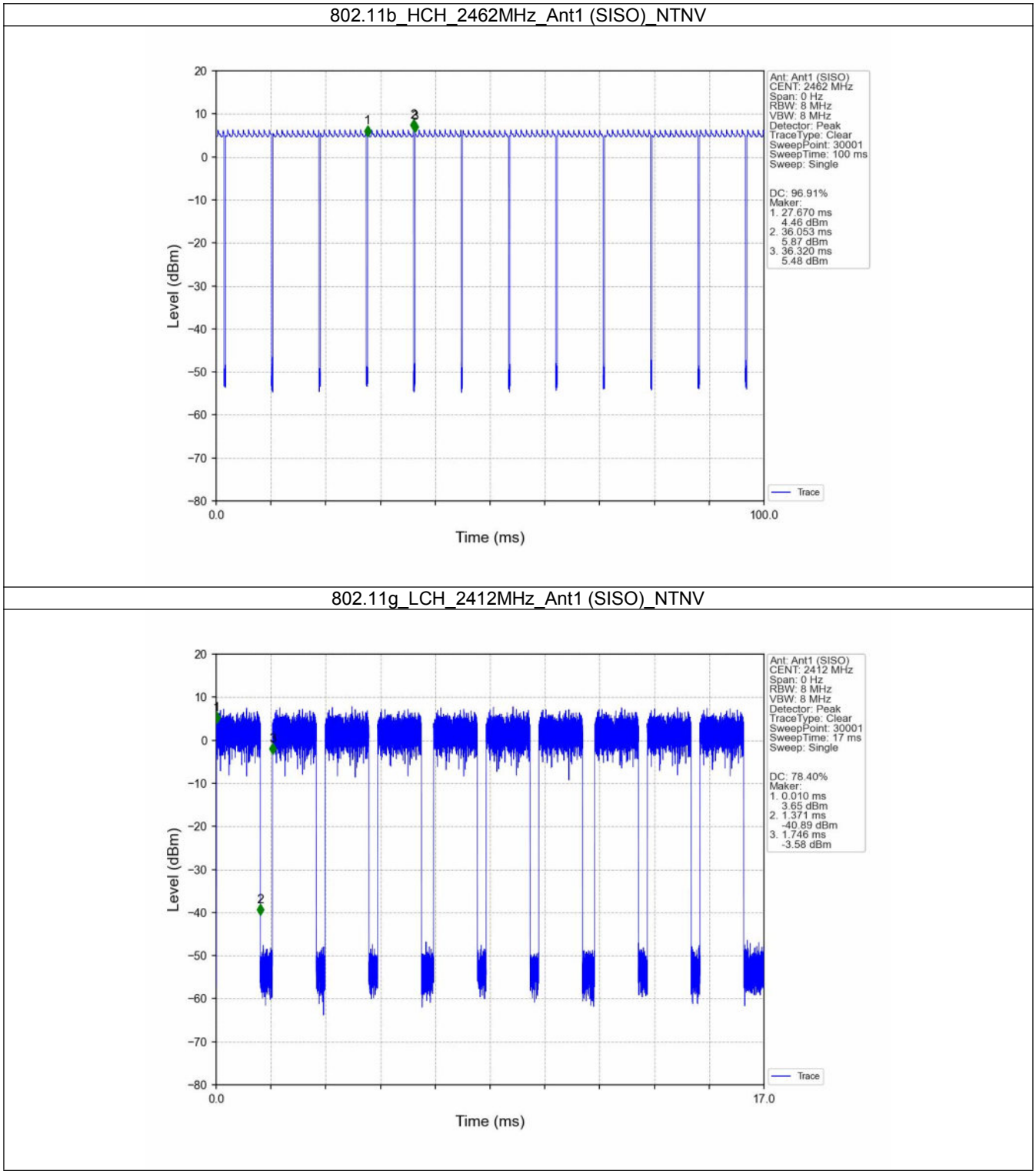
FCC ID: 2BSEJ-A2C

1.2 Test Graph

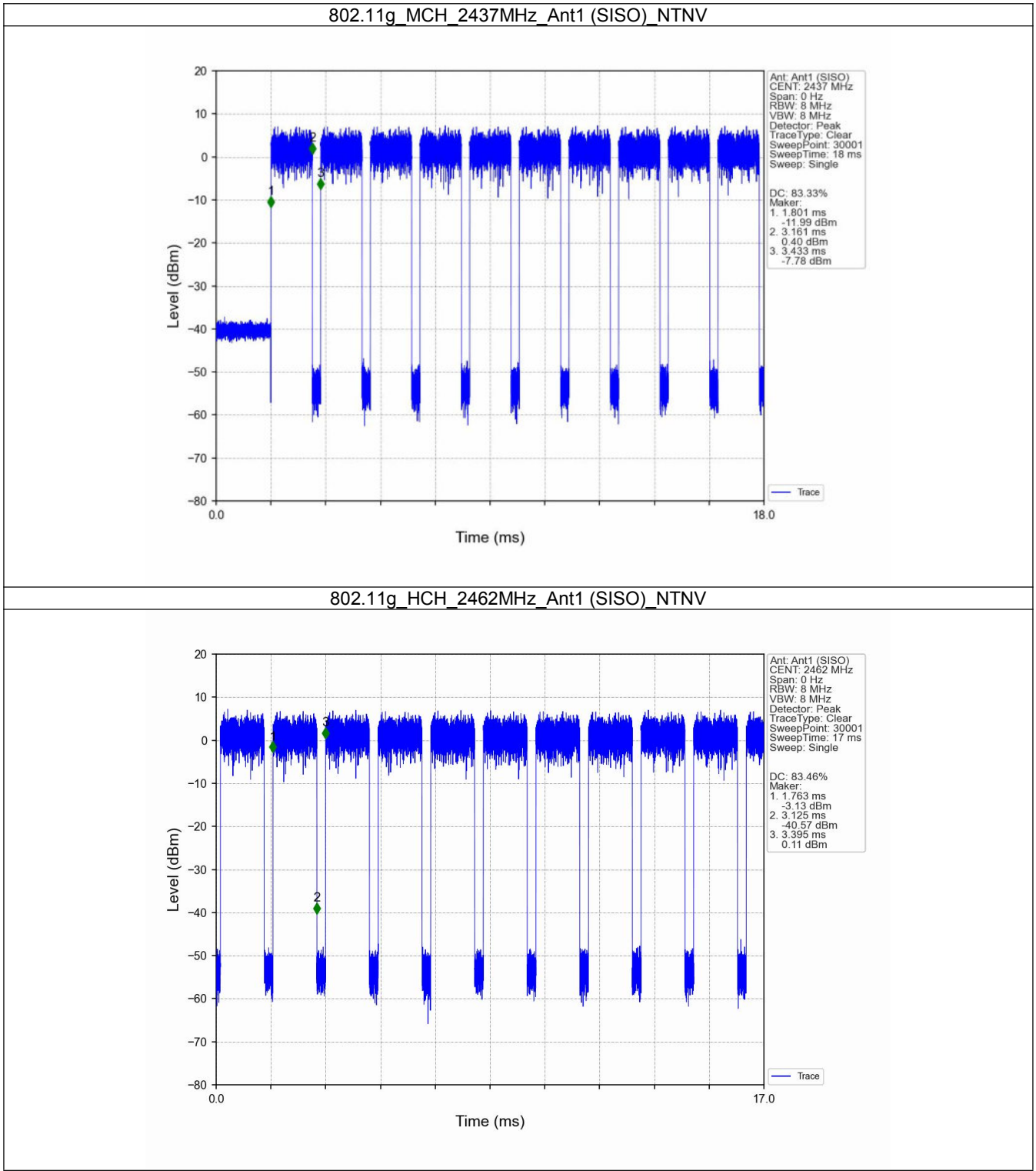
1.2.1 Ant1



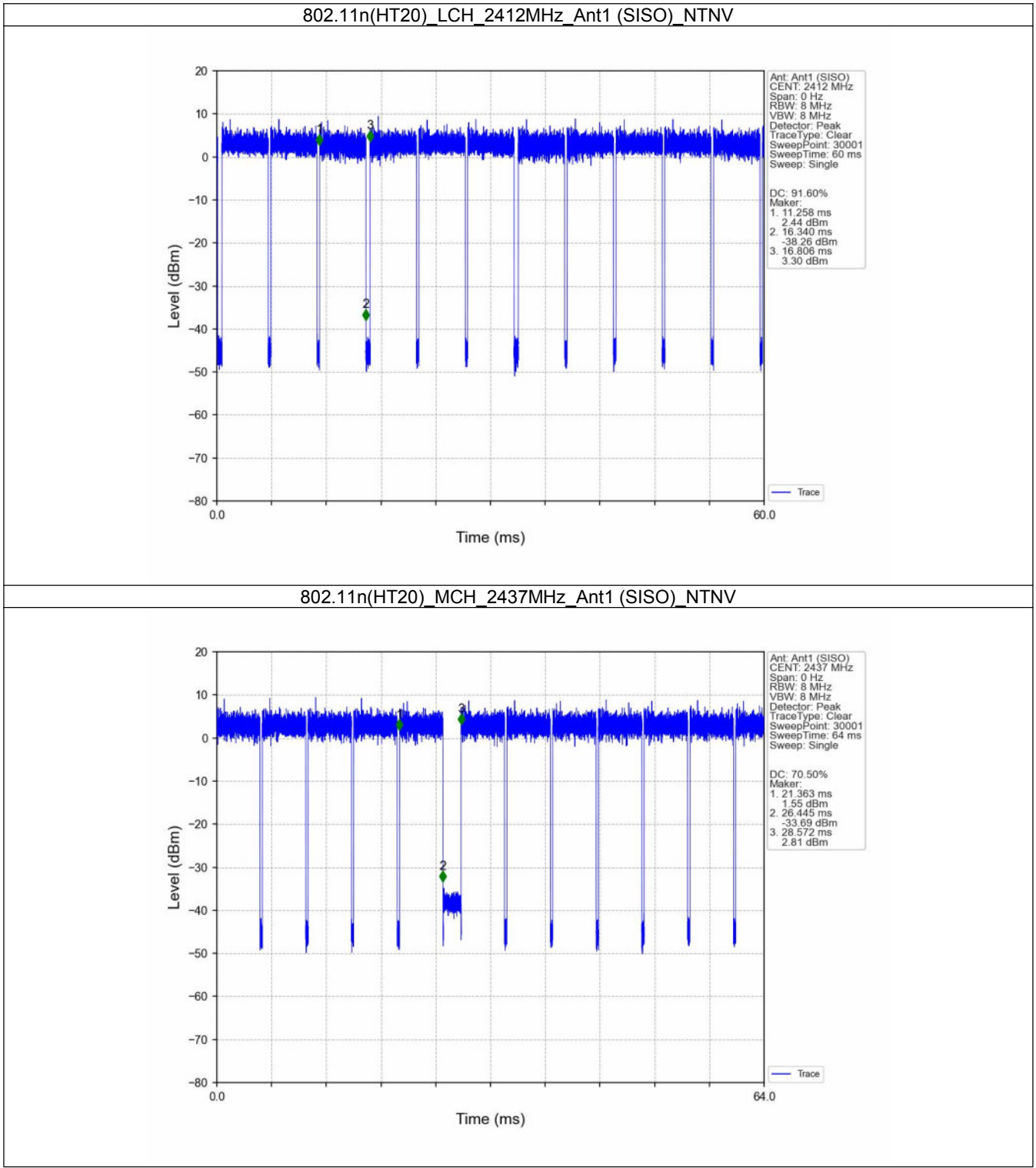
FCC ID: 2BSEJ-A2C



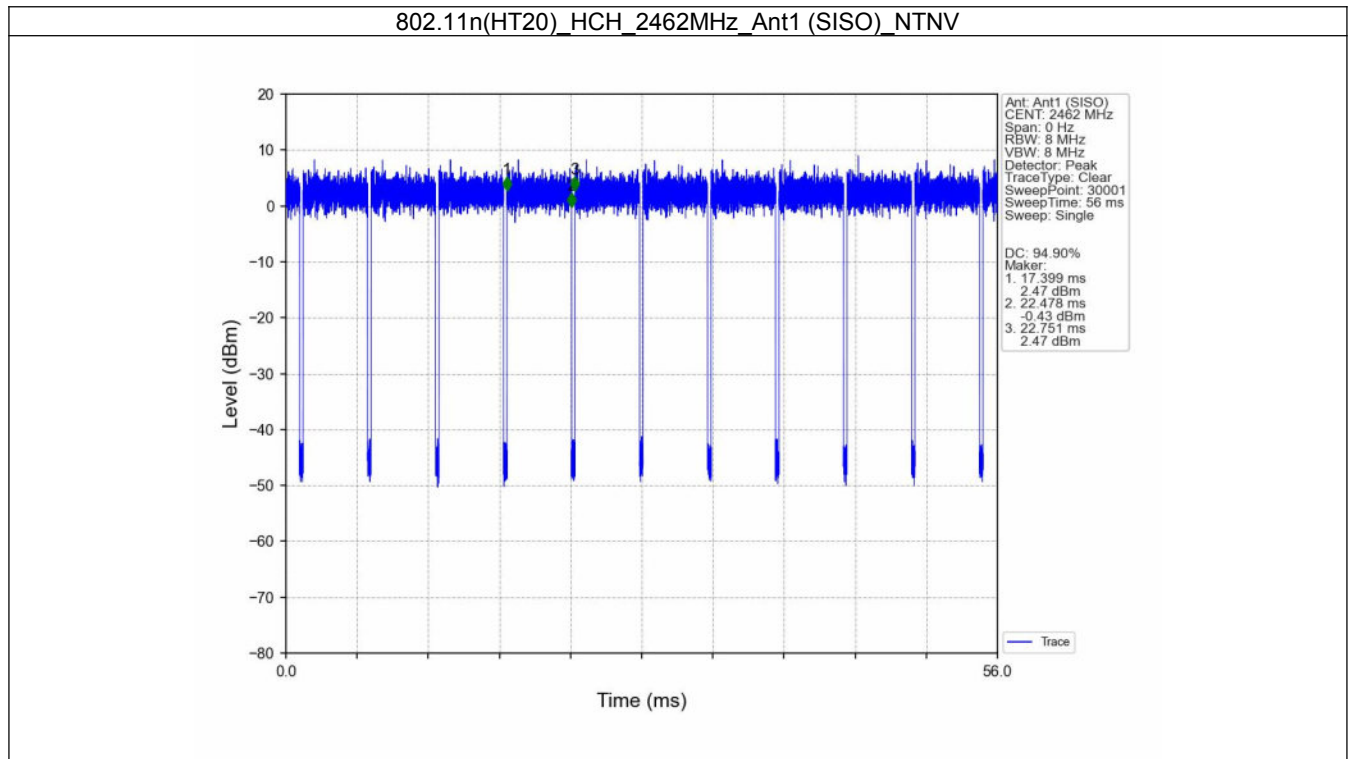
FCC ID: 2BSEJ-A2C



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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	12.922	/	Pass
		2437	1	12.931	/	Pass
		2462	1	12.925	/	Pass
802.11g	SISO	2412	1	15.523	/	Pass
		2437	1	15.587	/	Pass
		2462	1	15.545	/	Pass
802.11n (HT20)	SISO	2412	1	16.634	/	Pass
		2437	1	16.628	/	Pass
		2462	1	16.572	/	Pass

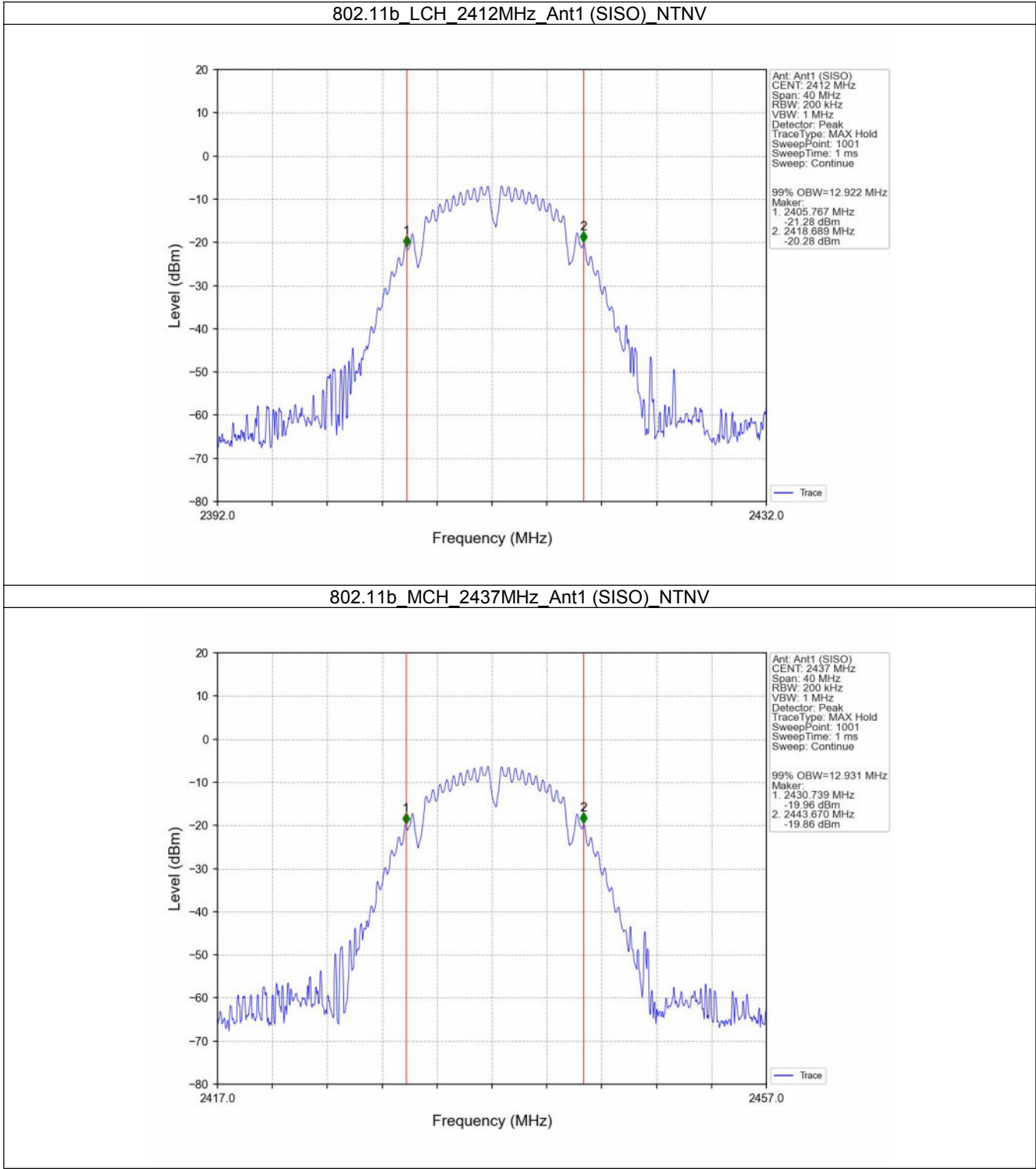
2.1.2 6dB BW

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	9.152	>=0.5	Pass
		2437	1	9.146	>=0.5	Pass
		2462	1	9.143	>=0.5	Pass
802.11g	SISO	2412	1	12.929	>=0.5	Pass
		2437	1	12.951	>=0.5	Pass
		2462	1	12.894	>=0.5	Pass
802.11n (HT20)	SISO	2412	1	12.980	>=0.5	Pass
		2437	1	12.999	>=0.5	Pass
		2462	1	13.197	>=0.5	Pass

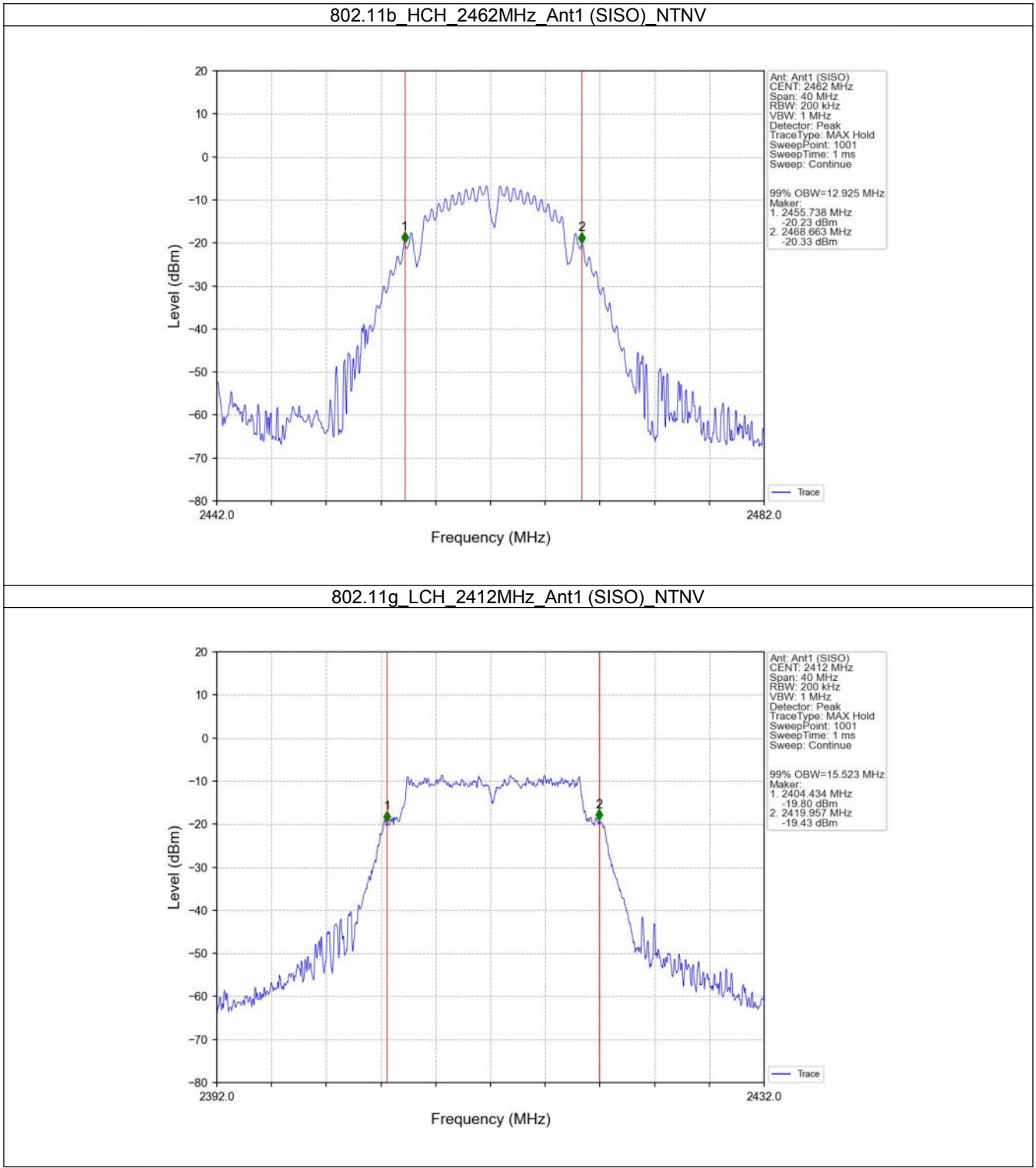
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2.2 Test Graph

2.2.1 OBW

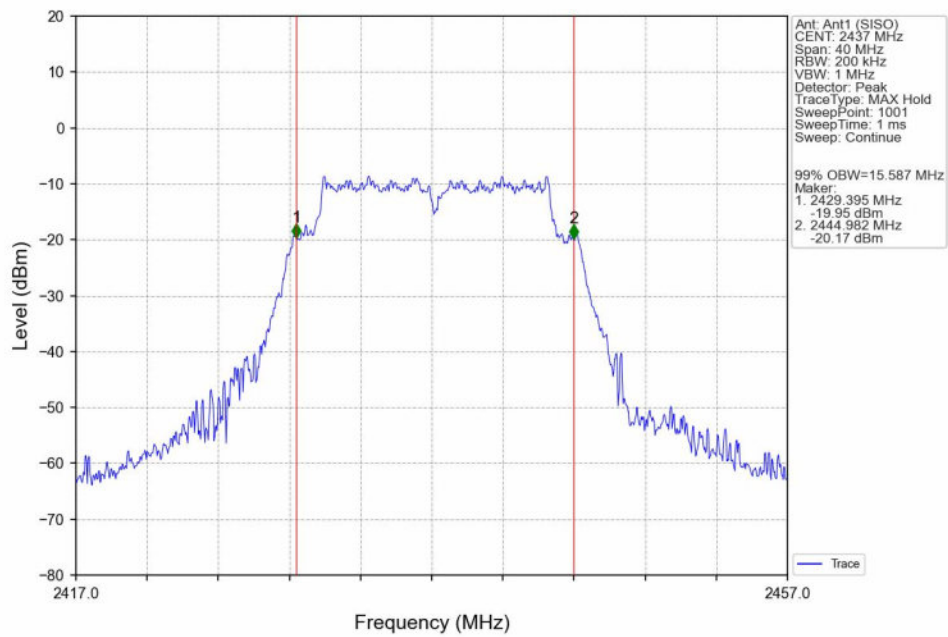


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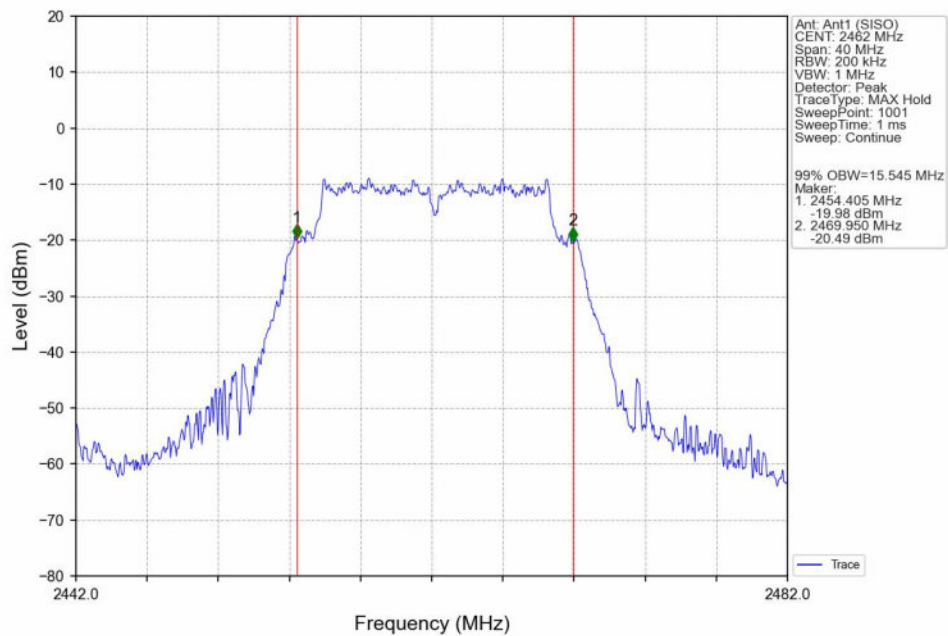


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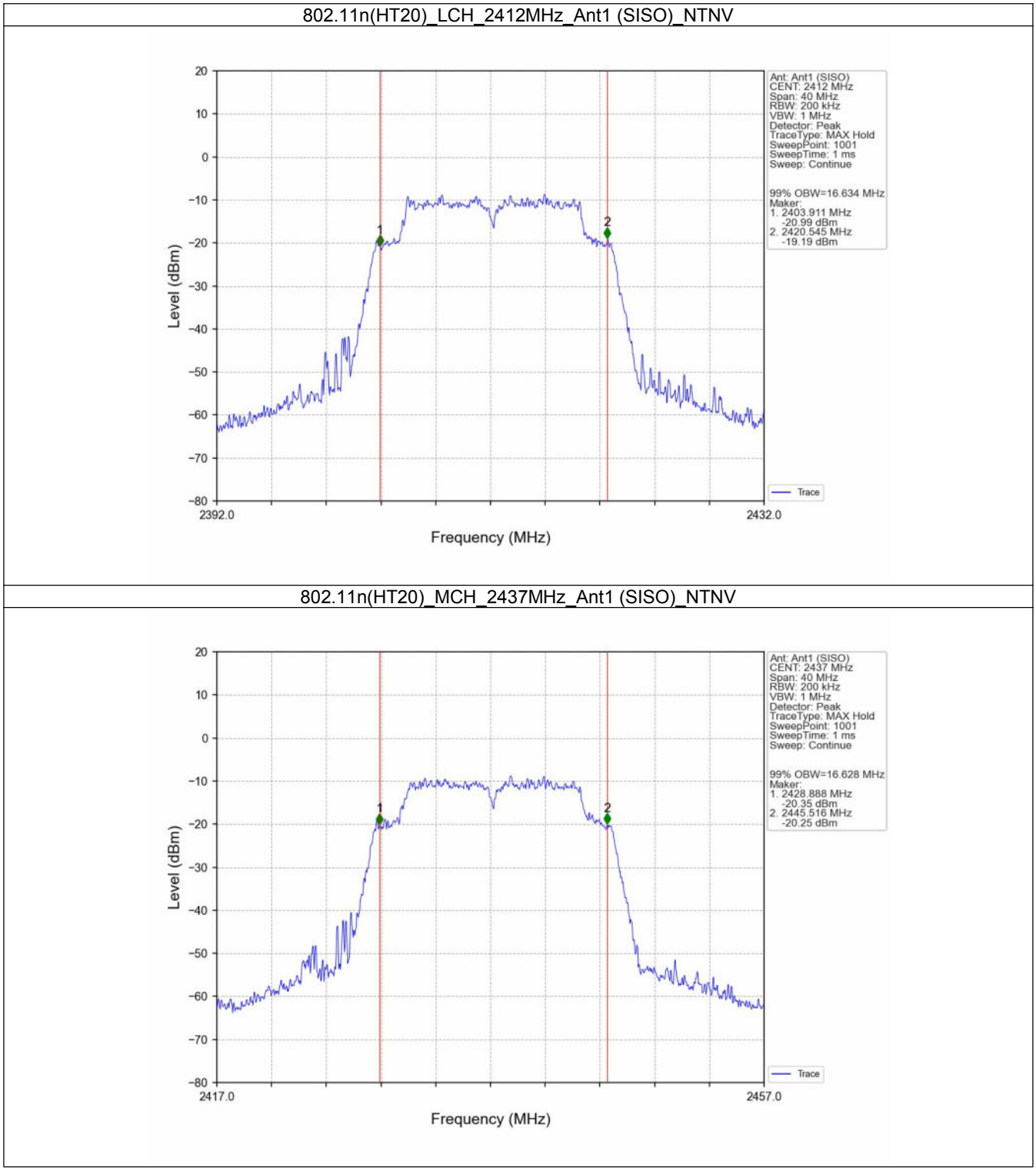
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



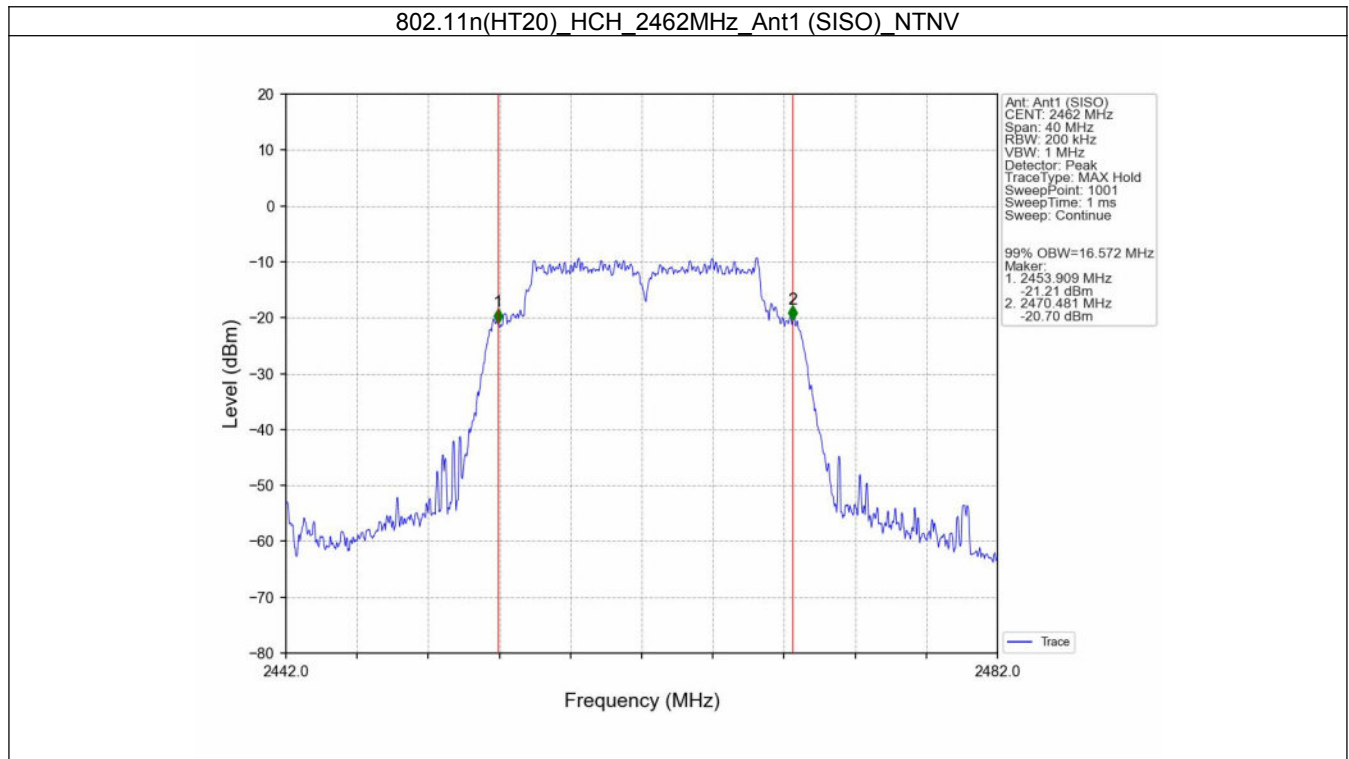
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



FCC ID: 2BSEJ-A2C

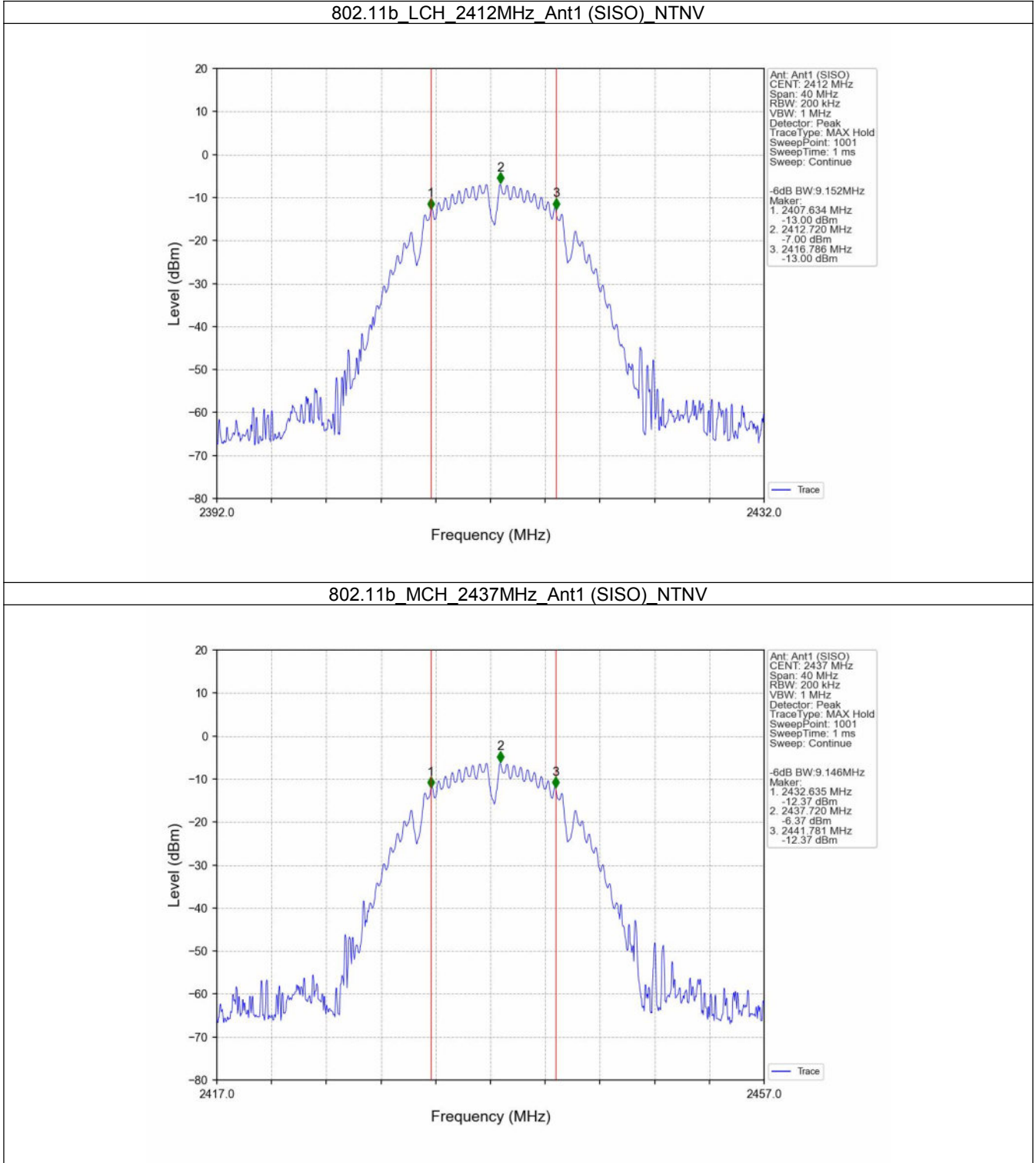


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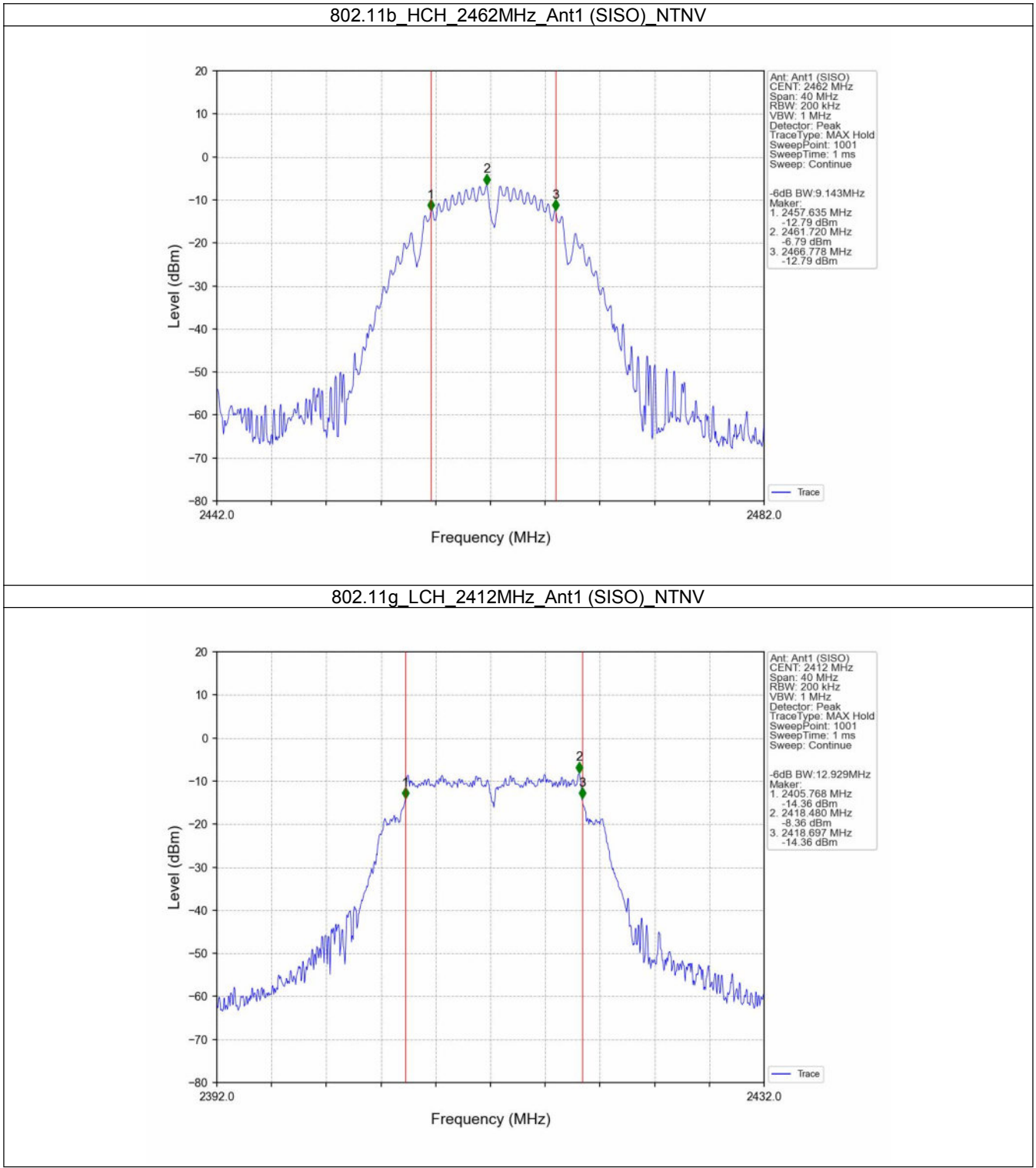


FCC ID: 2BSEJ-A2C

2.2.2 6dB BW

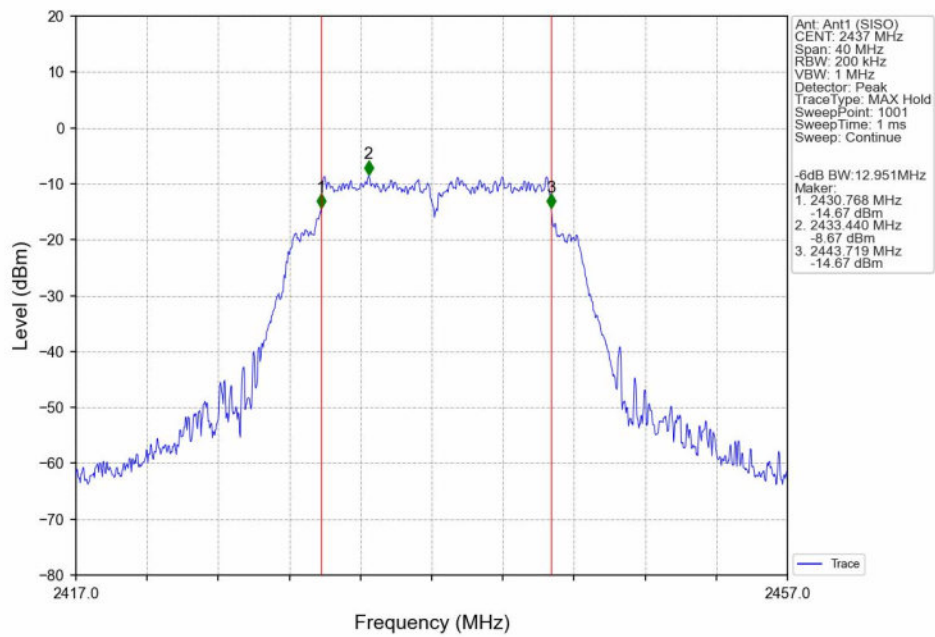


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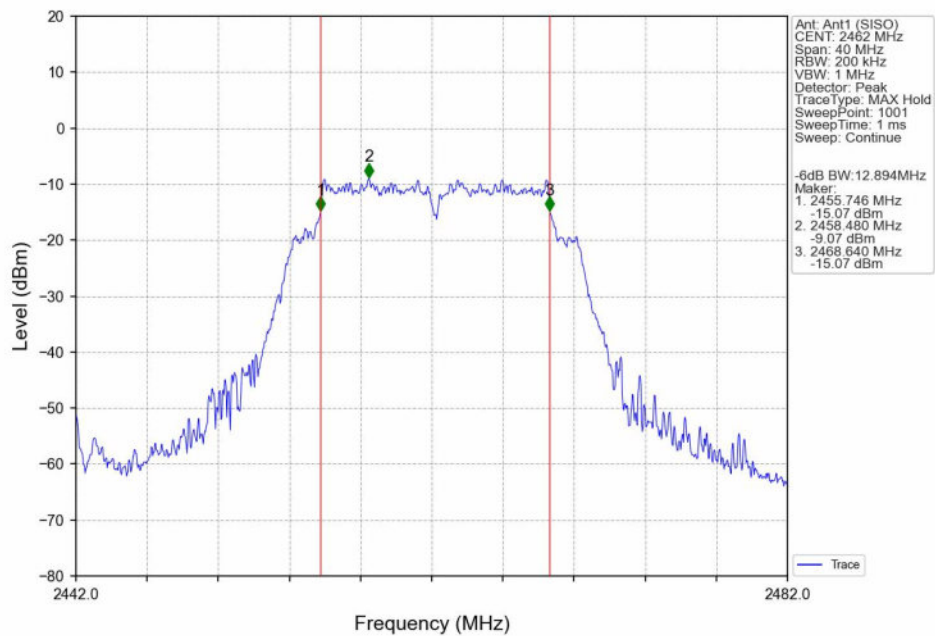


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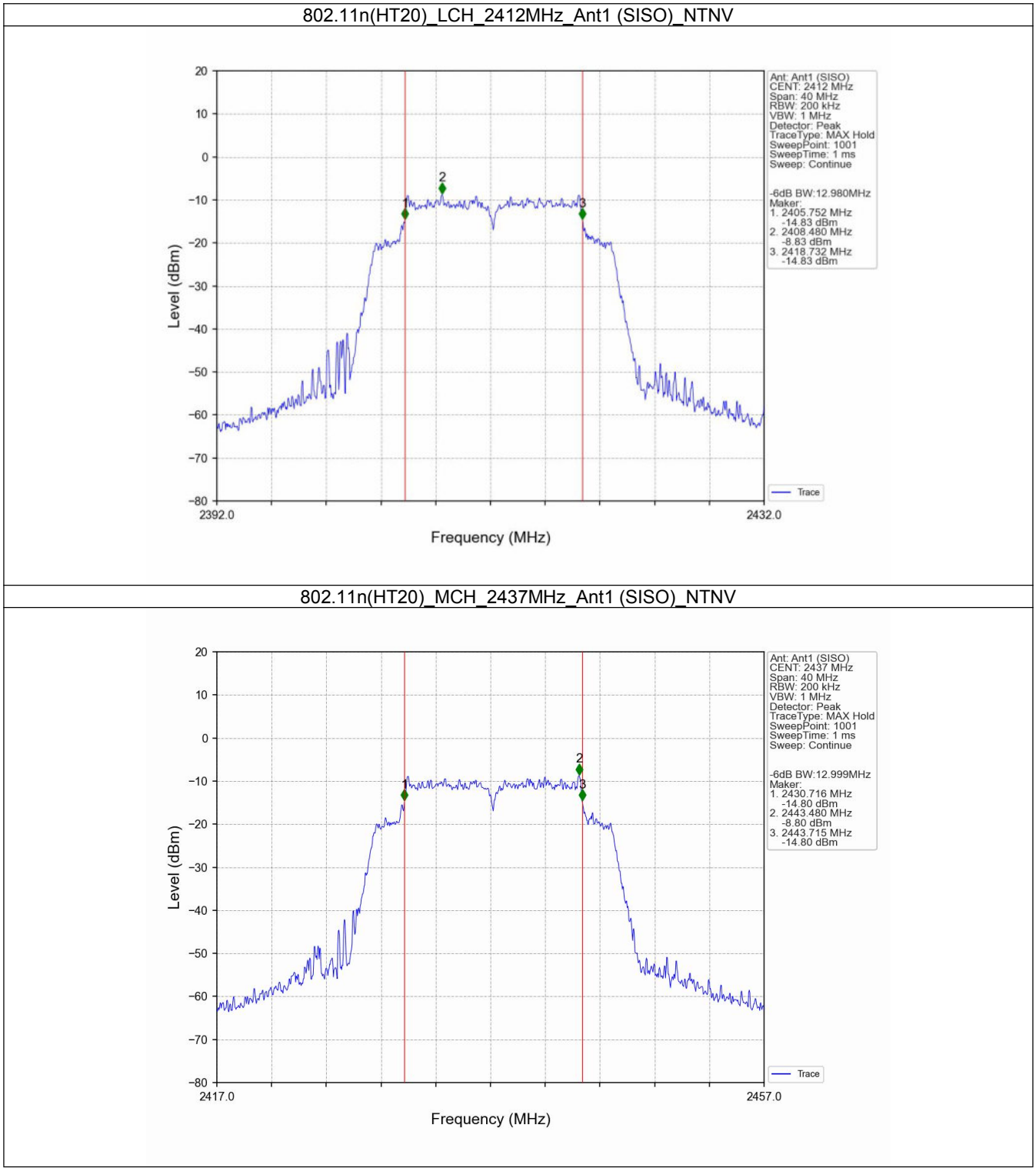
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



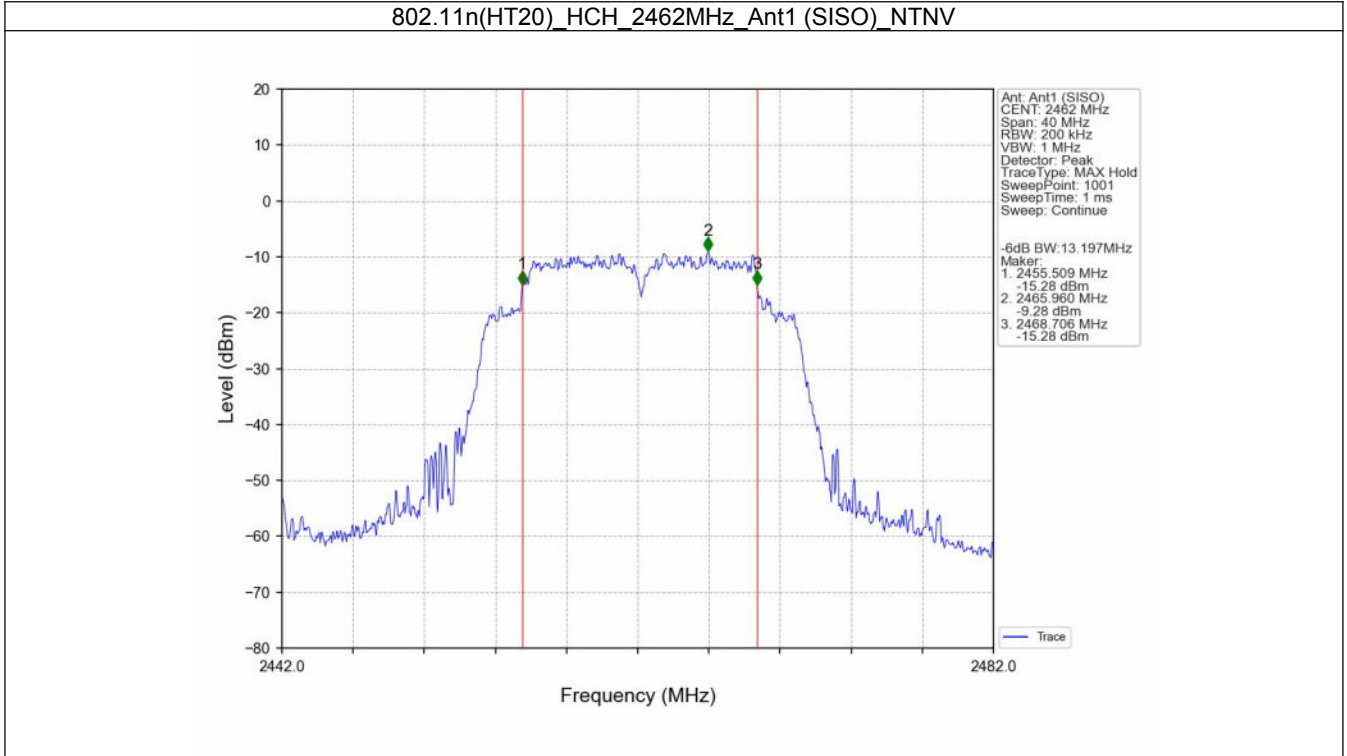
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



FCC ID: 2BSEJ-A2C



FCC ID: 2BSEJ-A2C



FCC ID: 2BSEJ-A2C

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	3.62	<=30	Pass
		2437	4.21	<=30	Pass
		2462	3.79	<=30	Pass
802.11g	SISO	2412	7.94	<=30	Pass
		2437	7.81	<=30	Pass
		2462	7.35	<=30	Pass
802.11n (HT20)	SISO	2412	7.41	<=30	Pass
		2437	7.47	<=30	Pass
		2462	7.12	<=30	Pass

Note1: Antenna Gain: Ant1: 2.13dBi;

Note2: RF Cable loss=0.5dB

Note3: The test results include RF Cable loss.

FCC ID: 2BSEJ-A2C

4. Maximum Power Spectral Density

4.1 Test Result

4.1.1 PSD

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm)		Verdict
			ANT1	Limit(dBm/3kHz)	
802.11b	SISO	2412	-7.25dBm/100kHz	<=8	Pass
		2437	-6.50dBm/100kHz	<=8	Pass
		2462	-6.92dBm/100kHz	<=8	Pass
802.11g	SISO	2412	-9.84dBm/100kHz	<=8	Pass
		2437	-10.01dBm/100kHz	<=8	Pass
		2462	-10.04dBm/100kHz	<=8	Pass
802.11n (HT20)	SISO	2412	-9.76dBm/100kHz	<=8	Pass
		2437	-9.78dBm/100kHz	<=8	Pass
		2462	-10.83dBm/100kHz	<=8	Pass

Note1: Antenna Gain: Ant1: 2.13dBi;

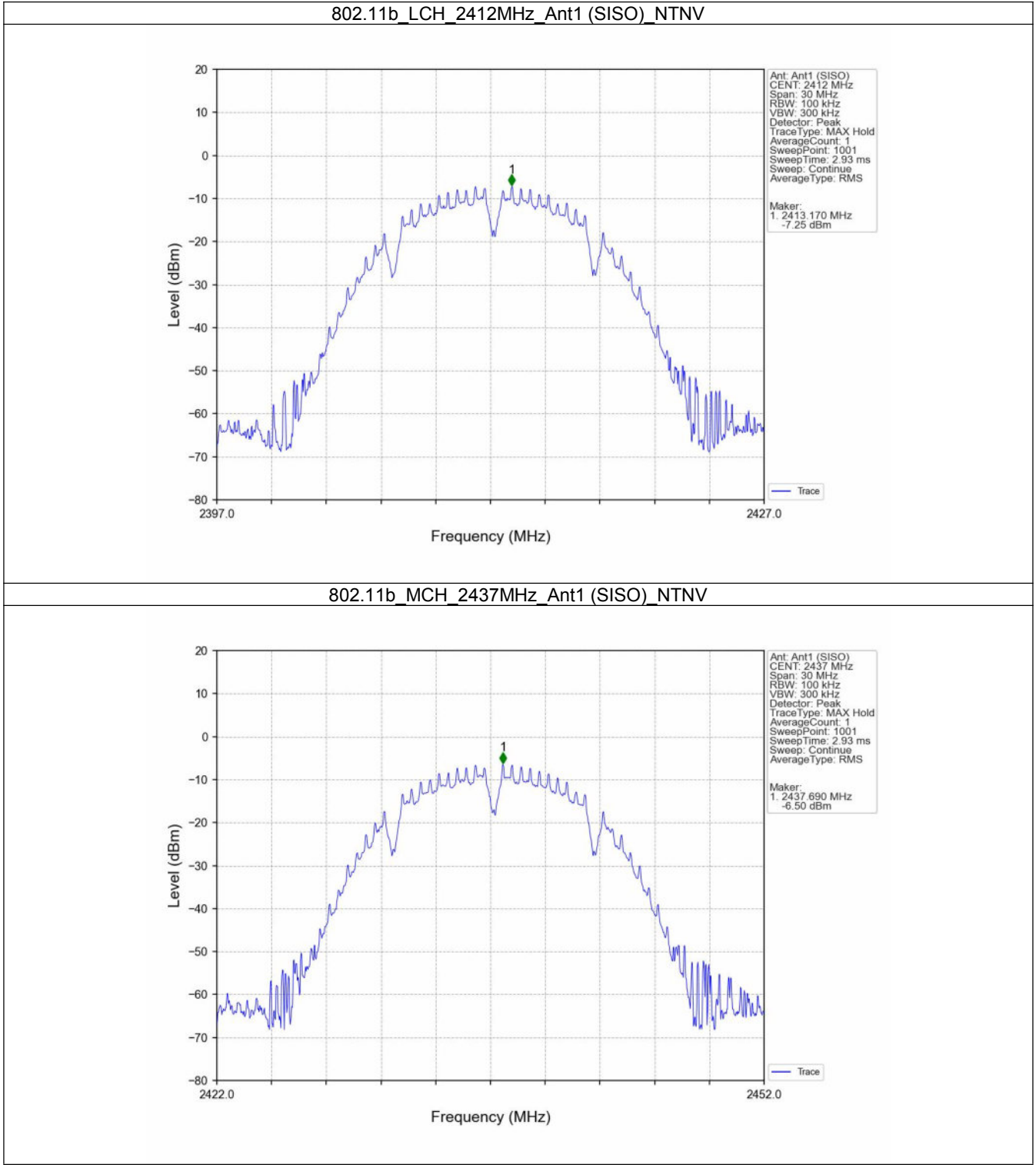
Note2: RF Cable loss=0.5dB

Note3: The test results include RF Cable loss.

FCC ID: 2BSEJ-A2C

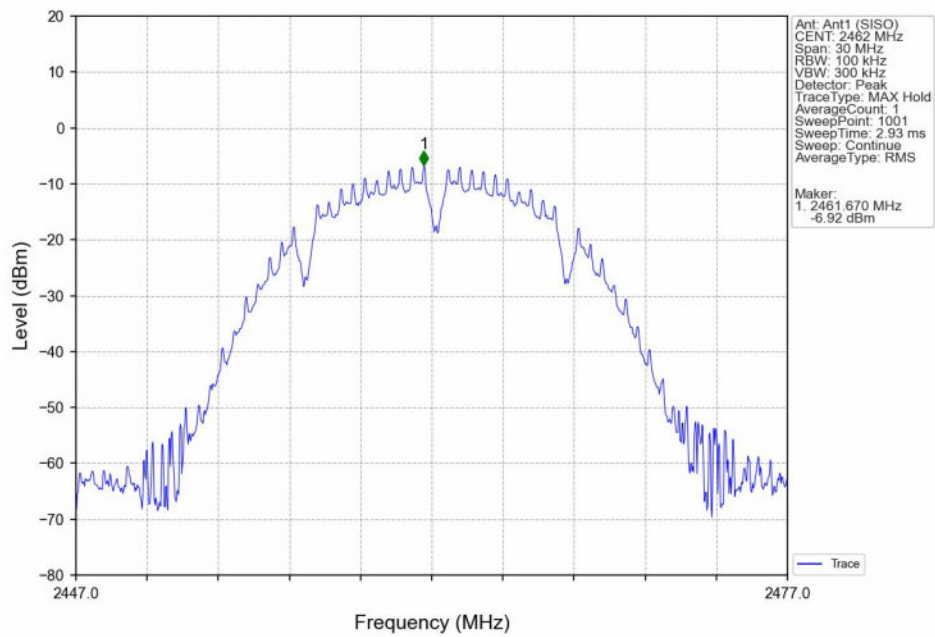
4.2 Test Graph

4.2.1 PSD

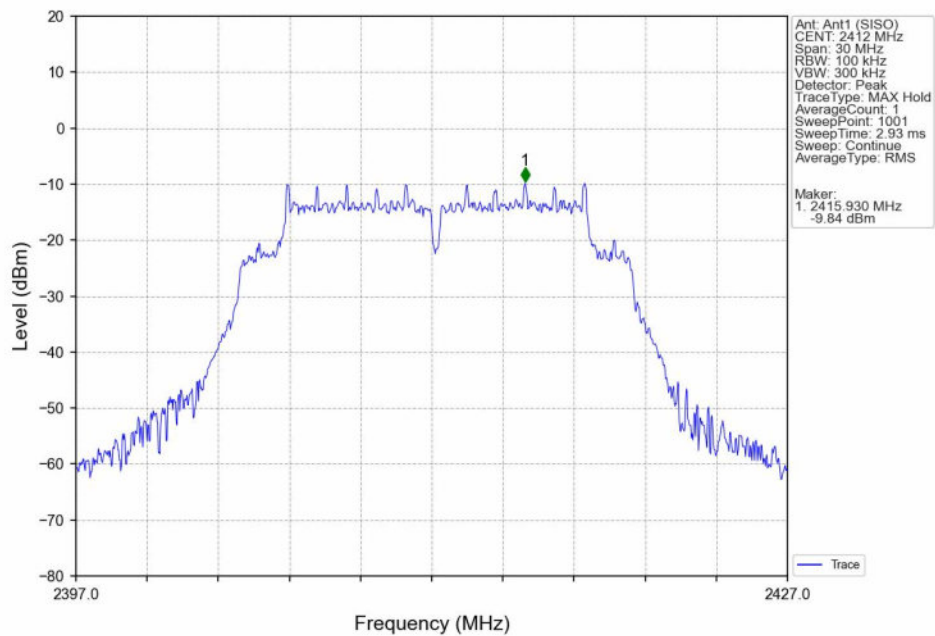


FCC ID: 2BSEJ-A2C

802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV

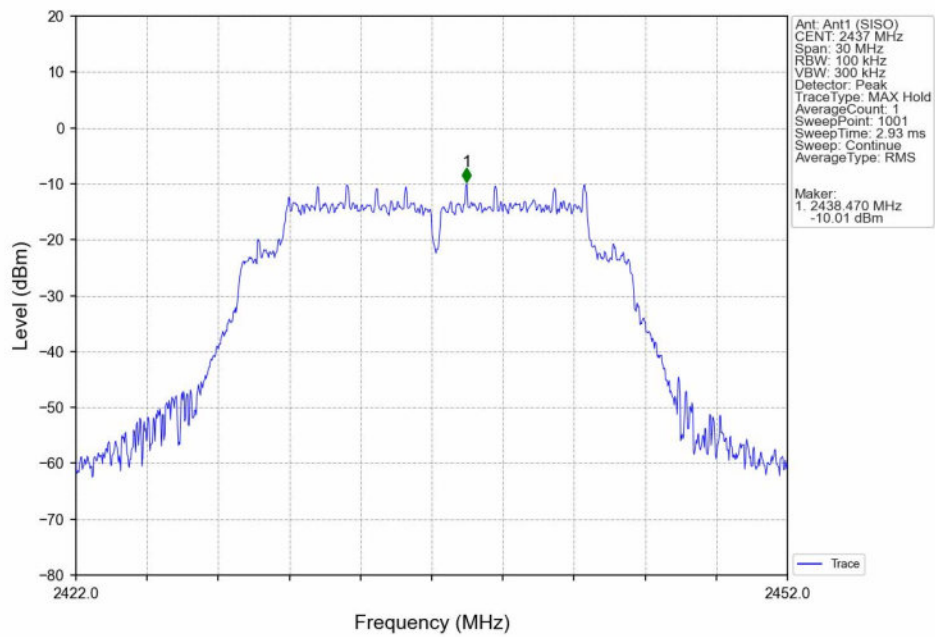


802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV

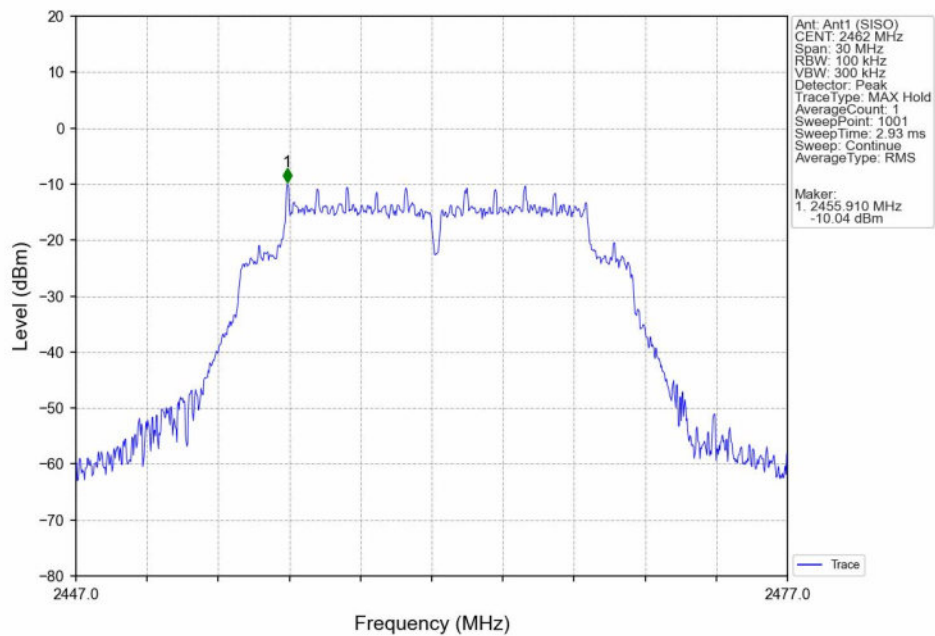


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802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV

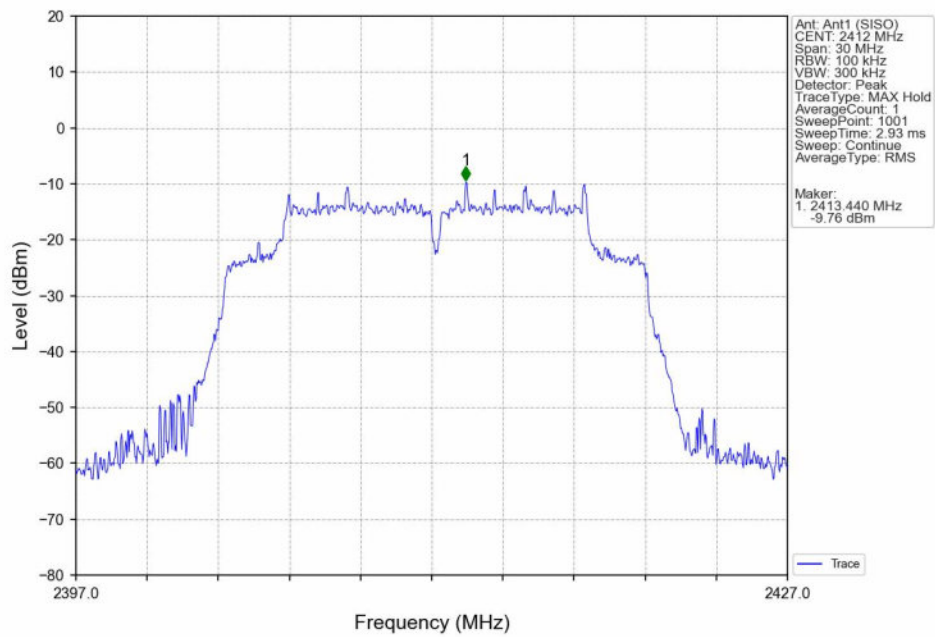


802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV

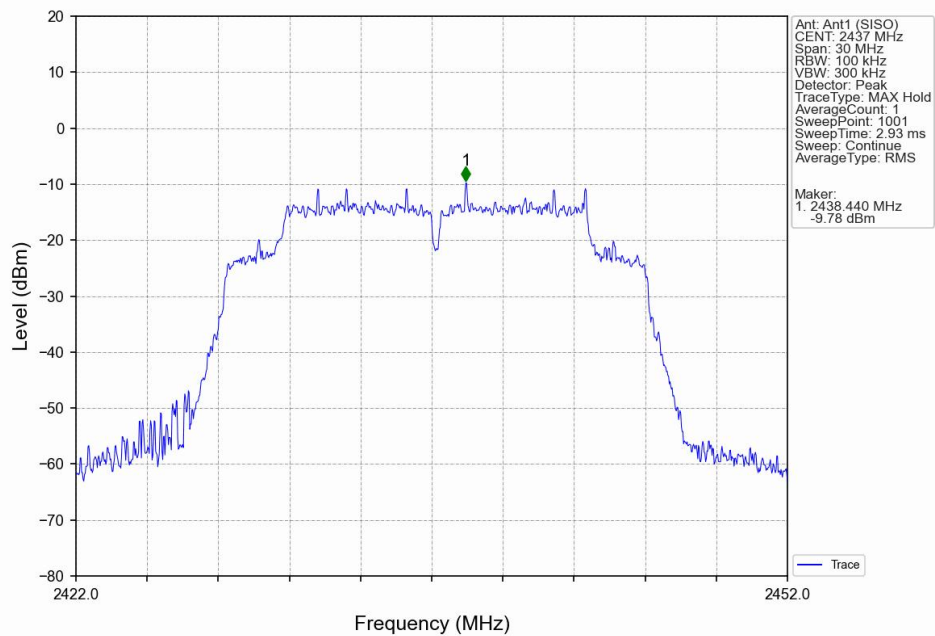


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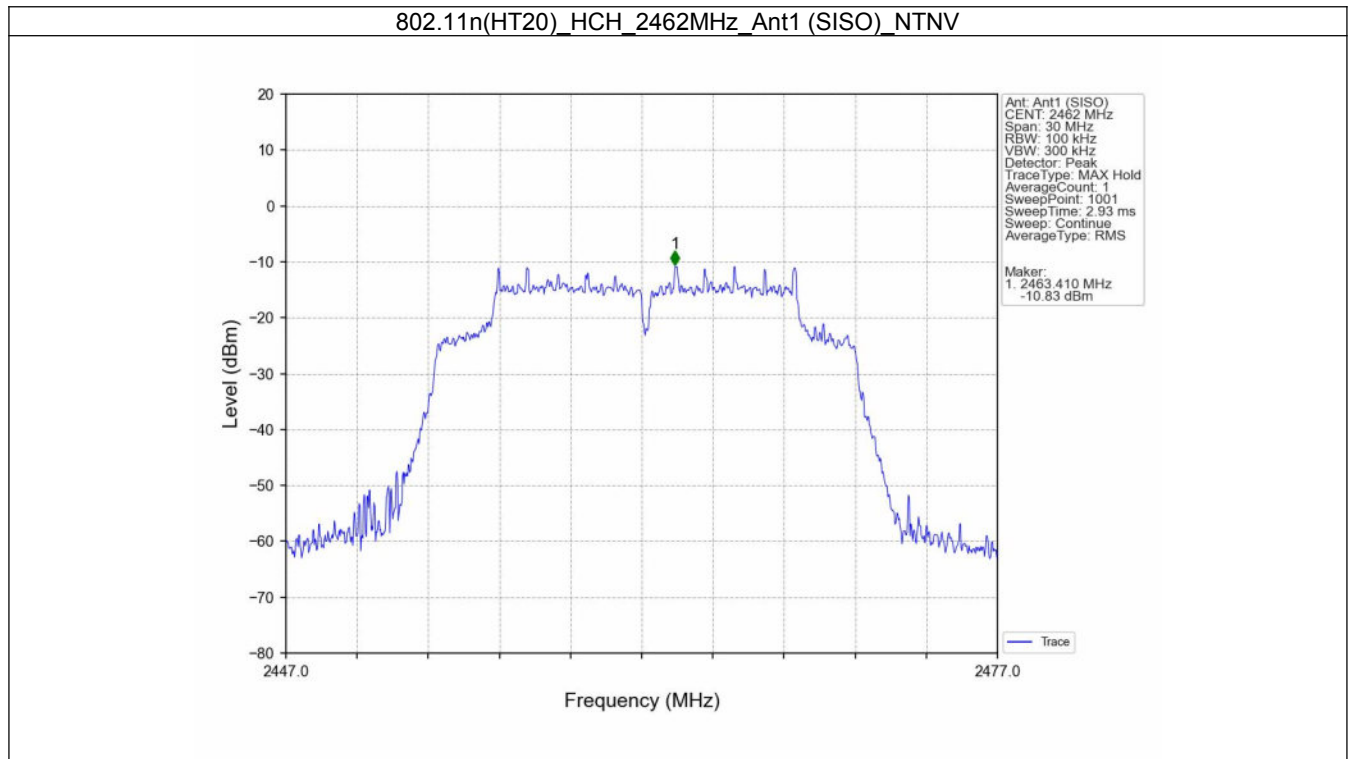
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_MCH_2437MHz_Ant1 (SISO)_NTNV



FCC ID: 2BSEJ-A2C



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	-7.13
		2437	1	-6.52
		2462	1	-6.96
802.11g	SISO	2412	1	-9.57
		2437	1	-9.78
		2462	1	-9.92
802.11n (HT20)	SISO	2412	1	-9.86
		2437	1	-10.46
		2462	1	-10.23

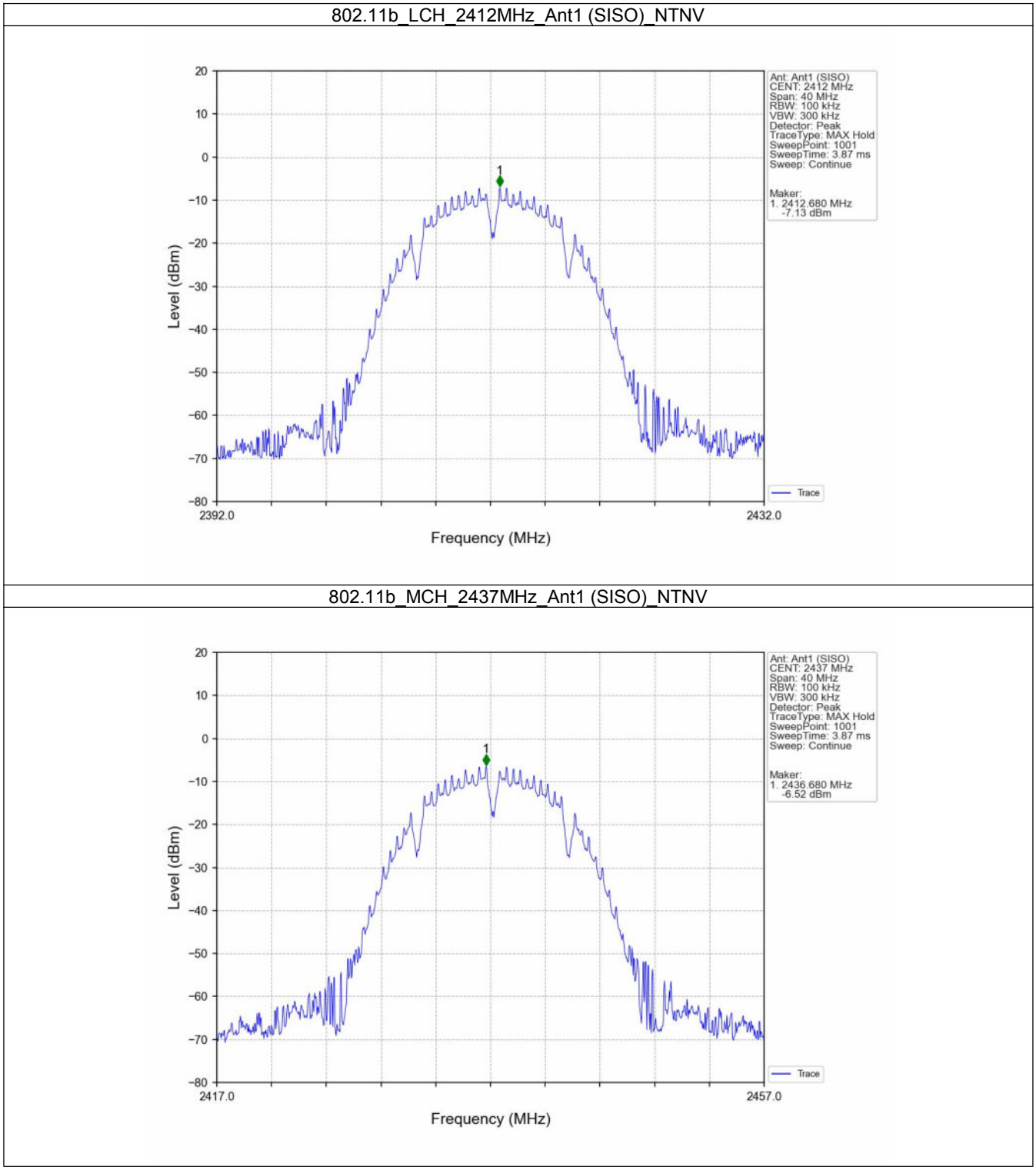
5.1.2 CSE

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	1	-7.13	-27.13	Pass
		2437	1	-6.52	-26.52	Pass
		2462	1	-6.96	-26.96	Pass
802.11g	SISO	2412	1	-9.57	-29.57	Pass
		2437	1	-9.78	-29.78	Pass
		2462	1	-9.92	-29.92	Pass
802.11n (HT20)	SISO	2412	1	-9.86	-29.86	Pass
		2437	1	-10.46	-30.46	Pass
		2462	1	-10.23	-30.23	Pass

FCC ID: 2BSEJ-A2C

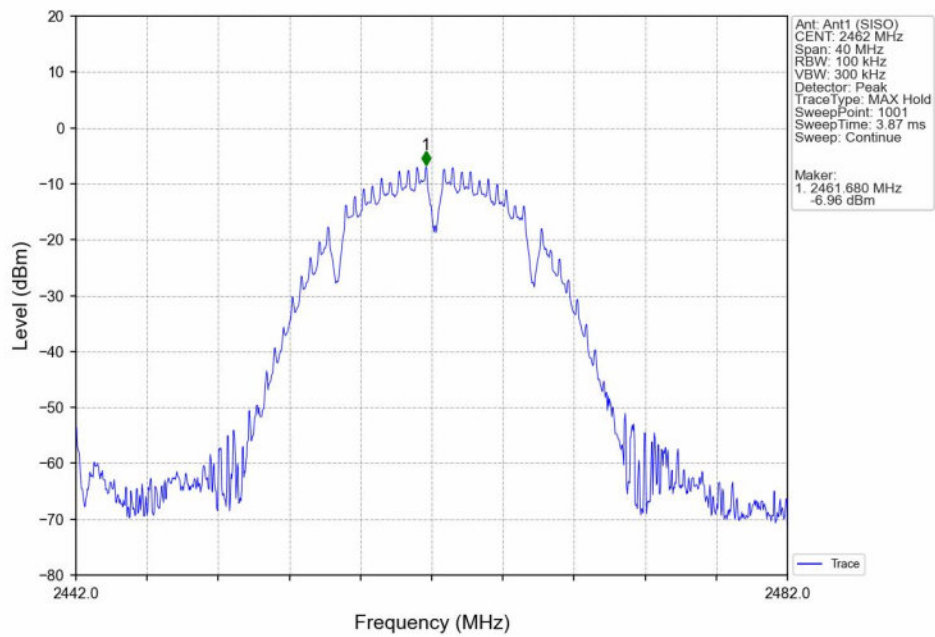
5.2 Test Graph

5.2.1 Ref

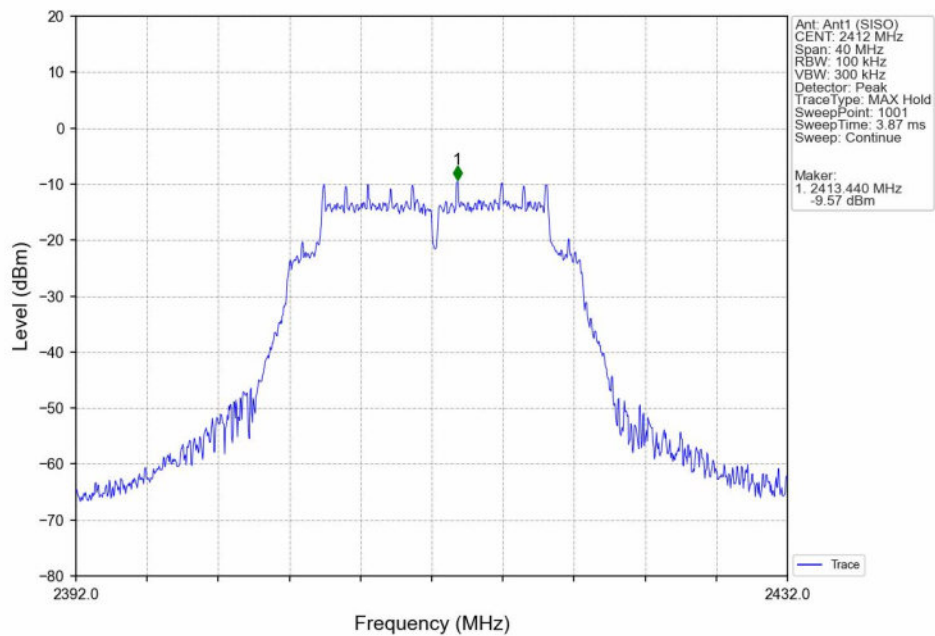


FCC ID: 2BSEJ-A2C

802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV

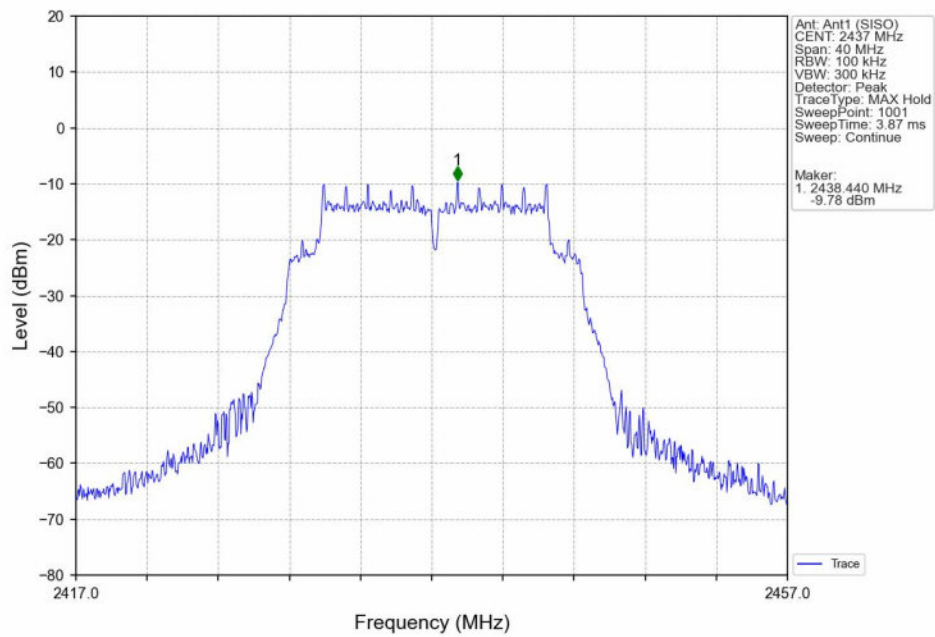


802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV

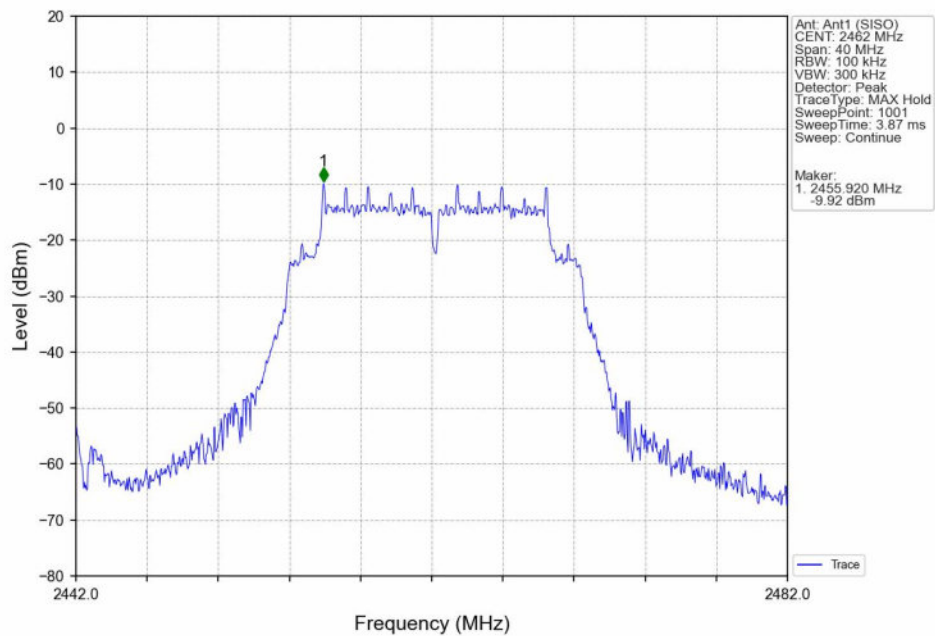


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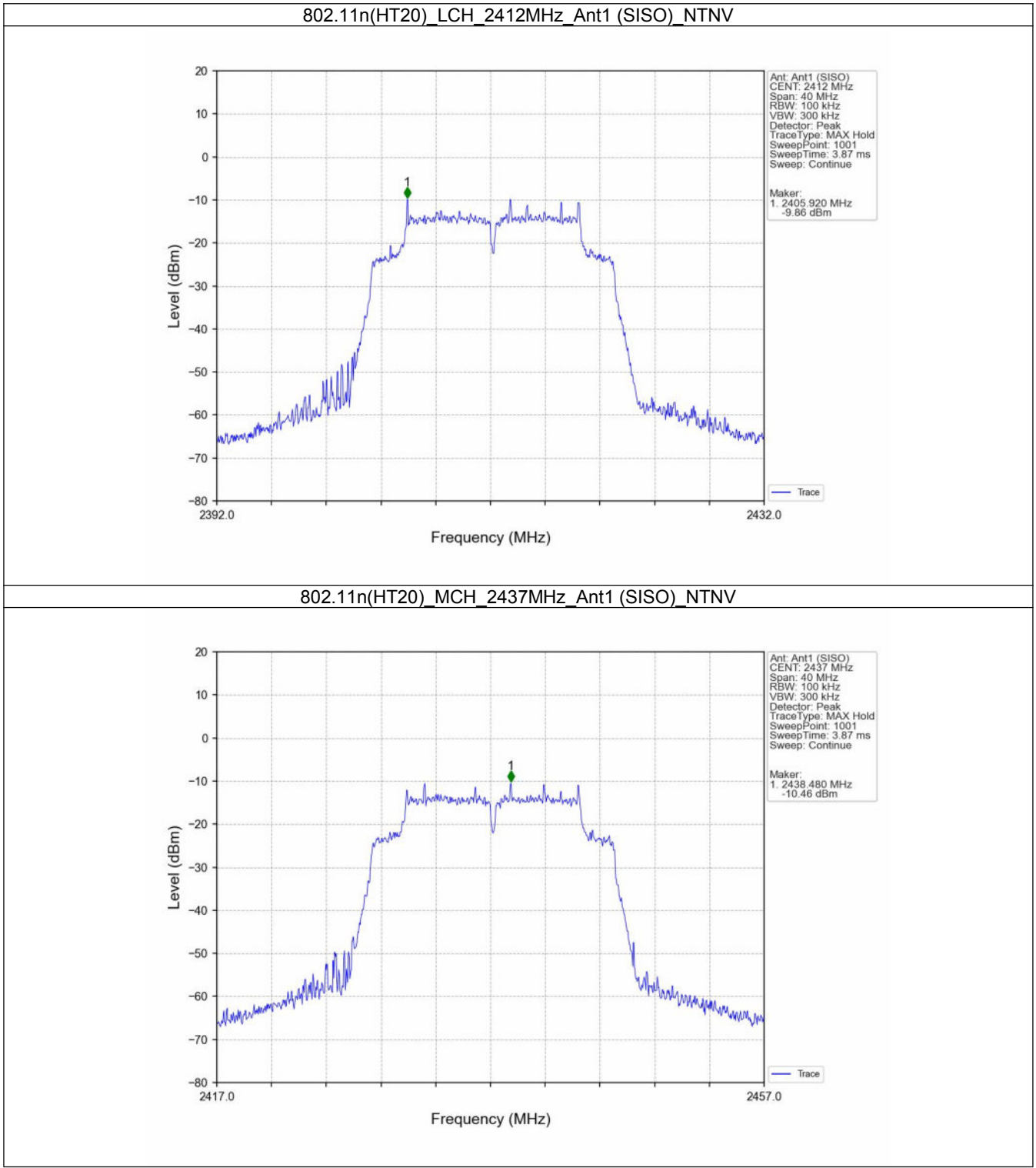
802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV



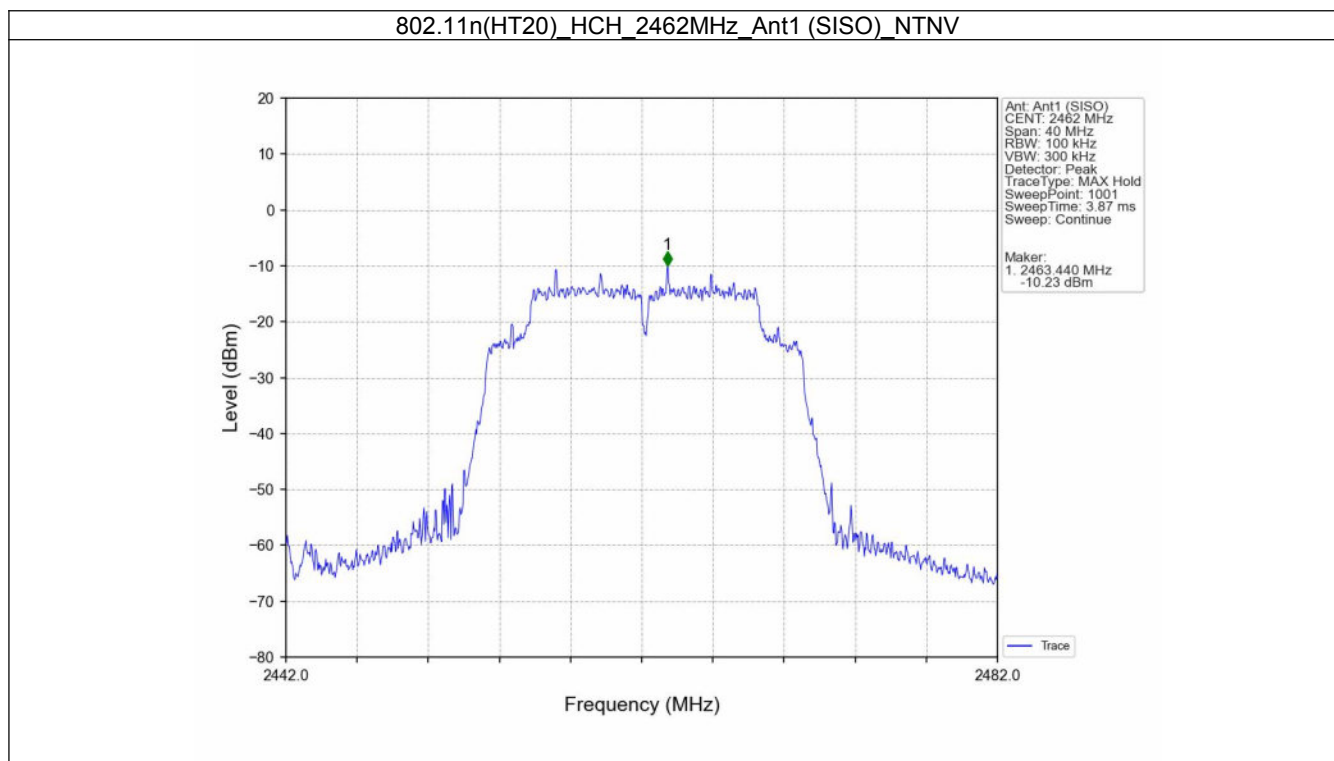
802.11g_HCH_2462MHz_Ant1 (SISO)_NTNV



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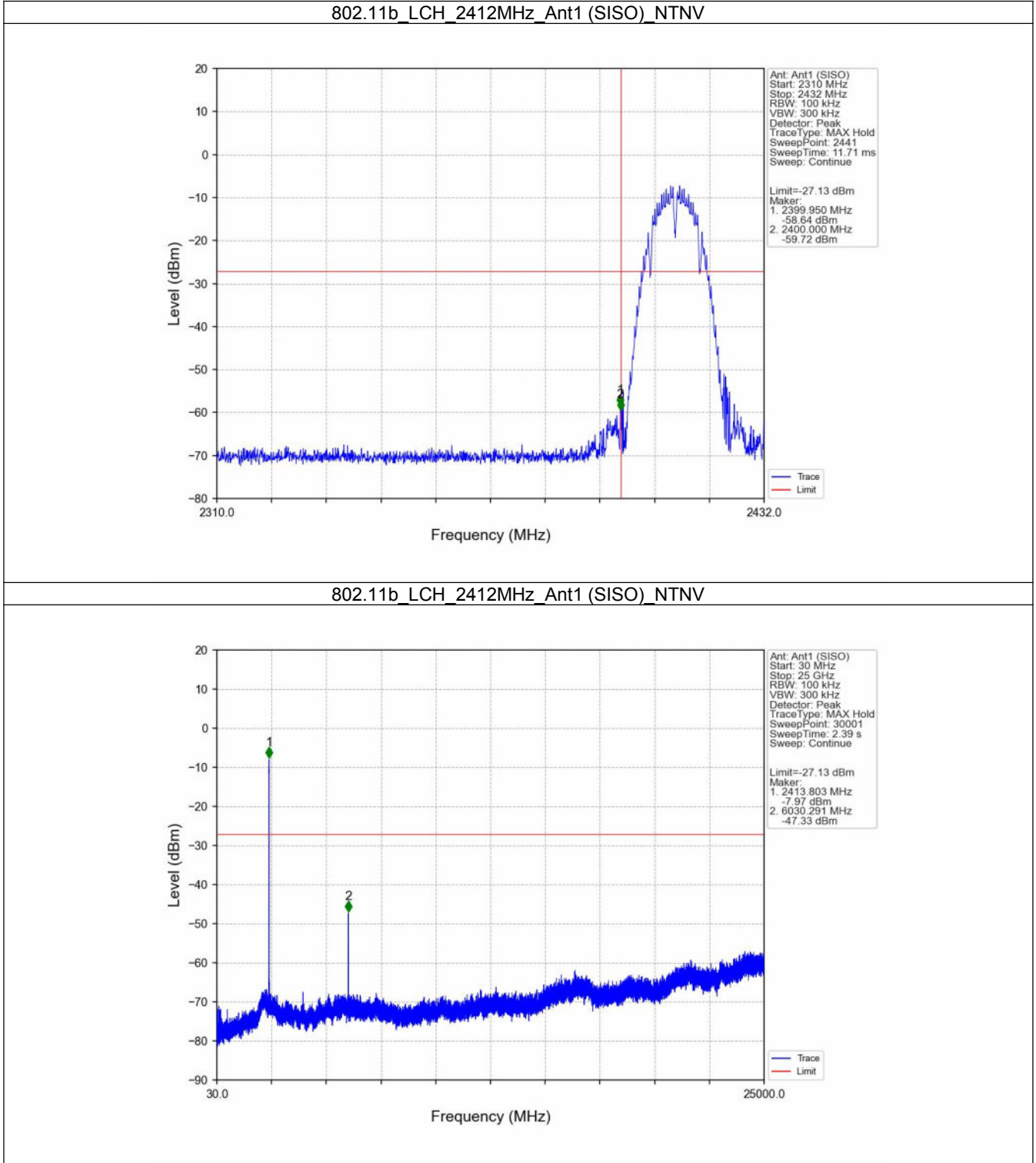


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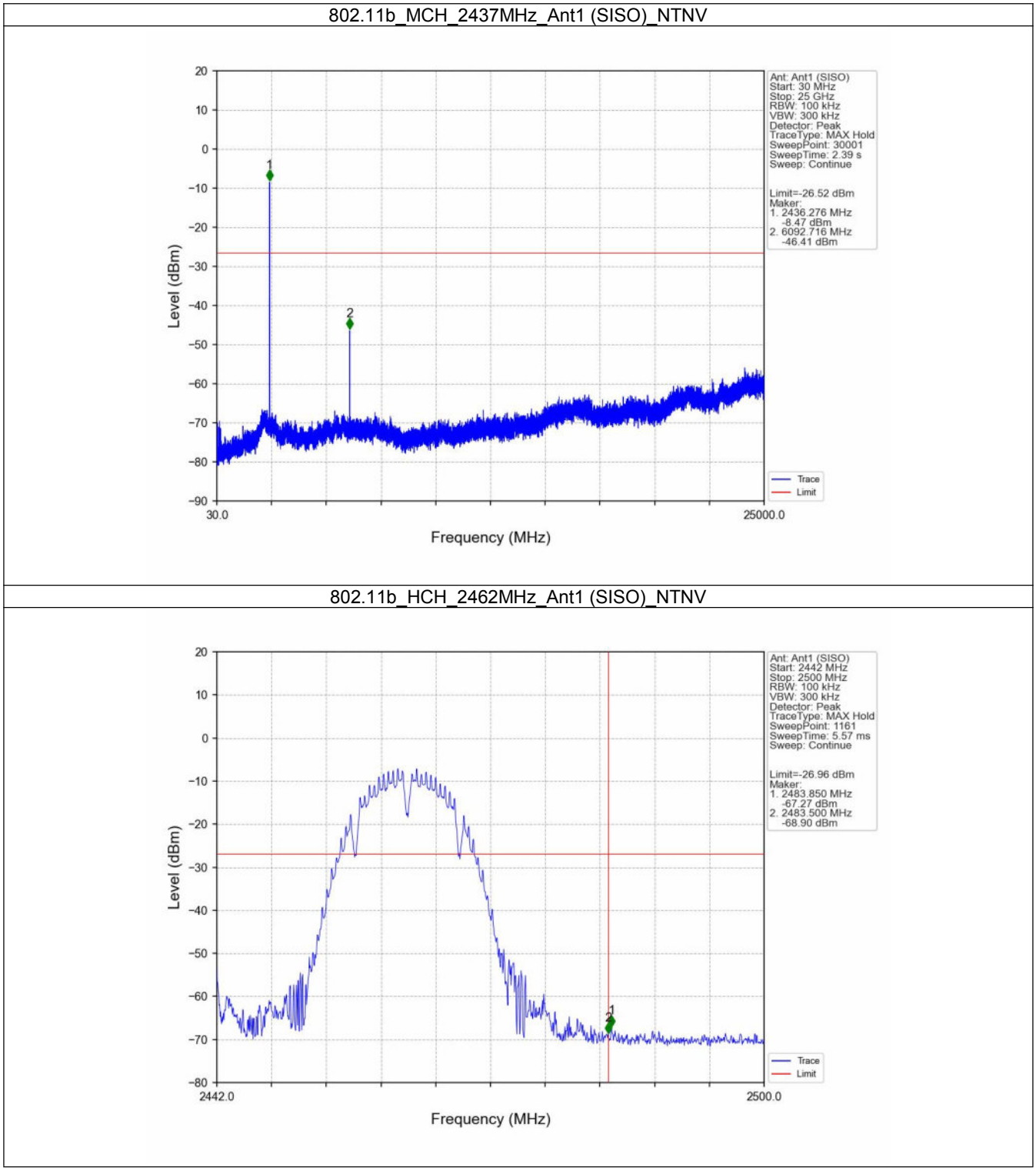


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5.2.2 CSE

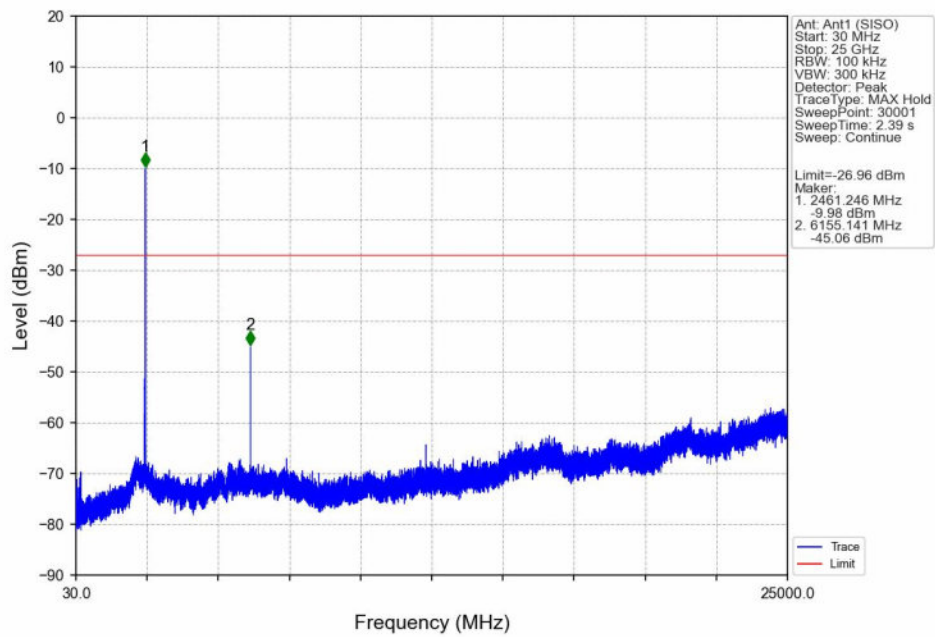


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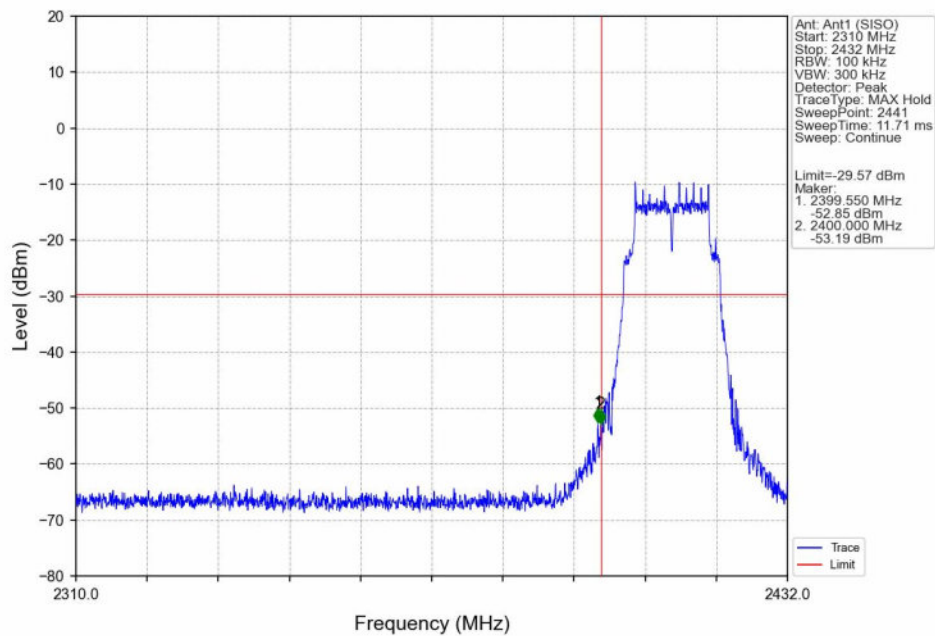


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802.11b_HCH_2462MHz_Ant1 (SISO)_NTNV

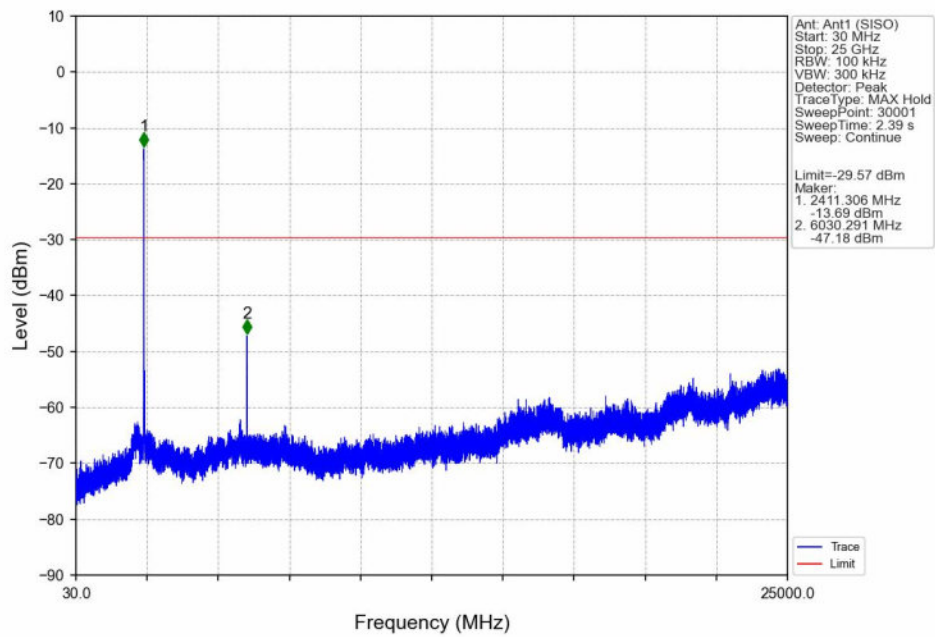


802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV

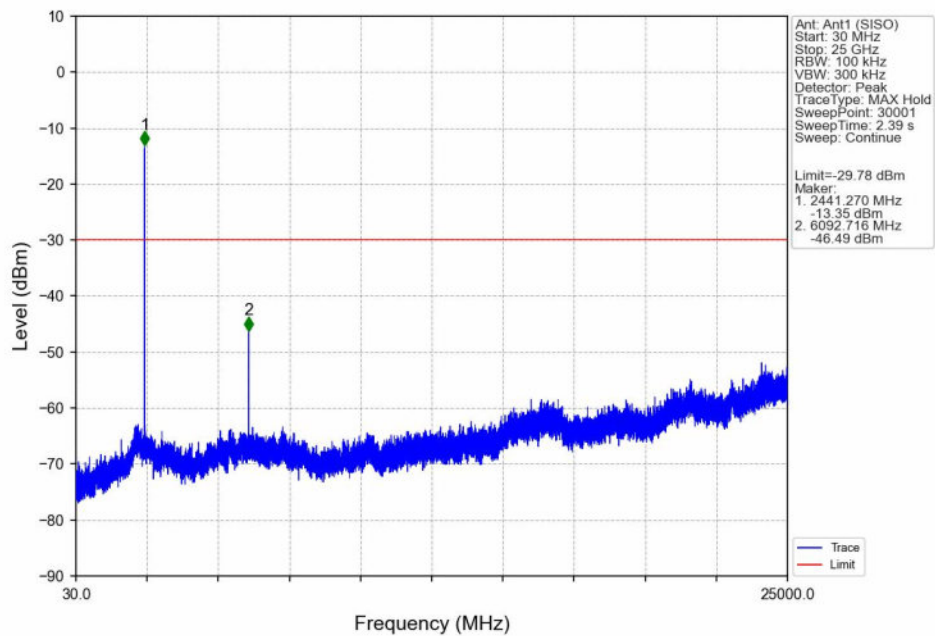


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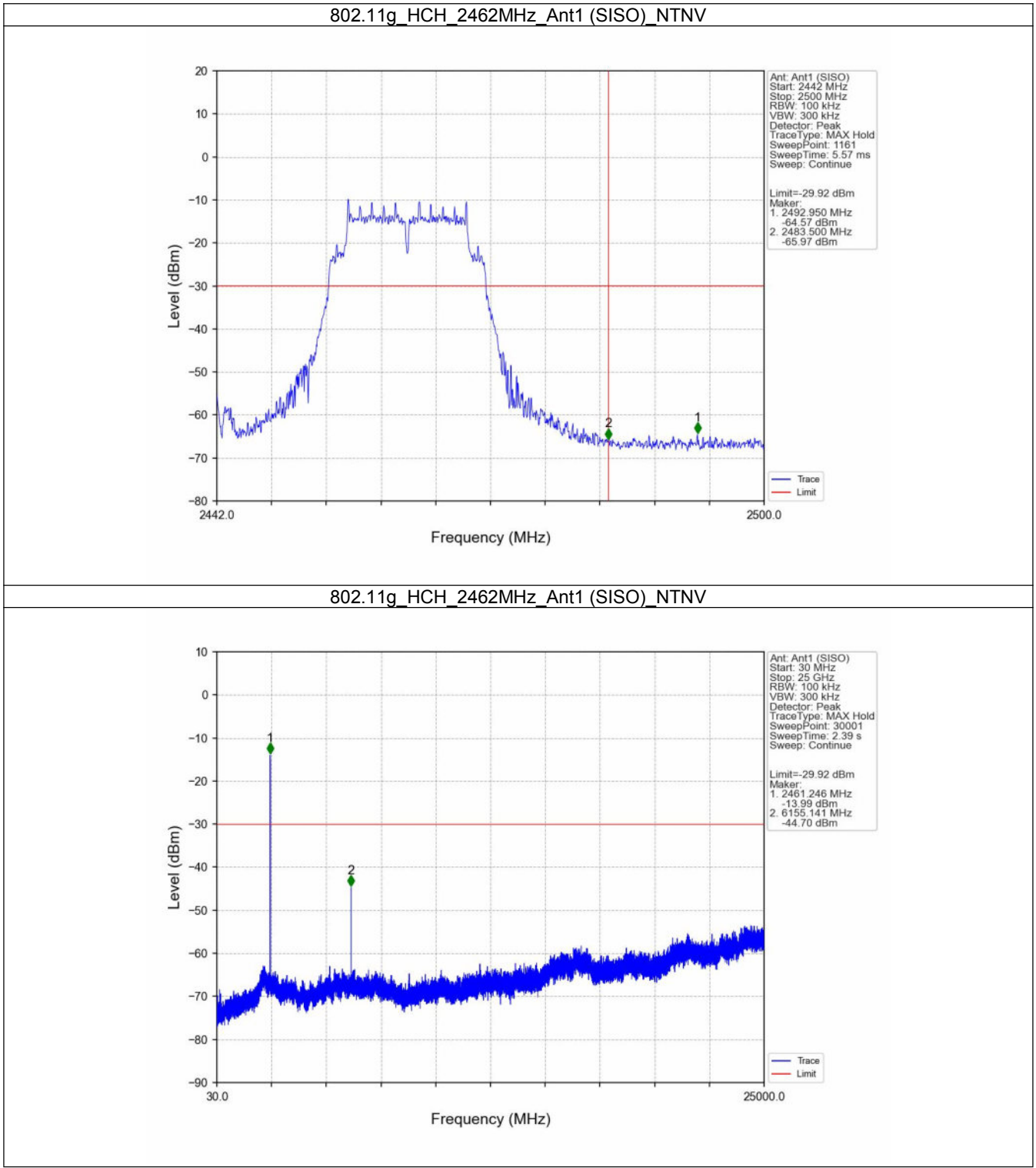
802.11g_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11g_MCH_2437MHz_Ant1 (SISO)_NTNV

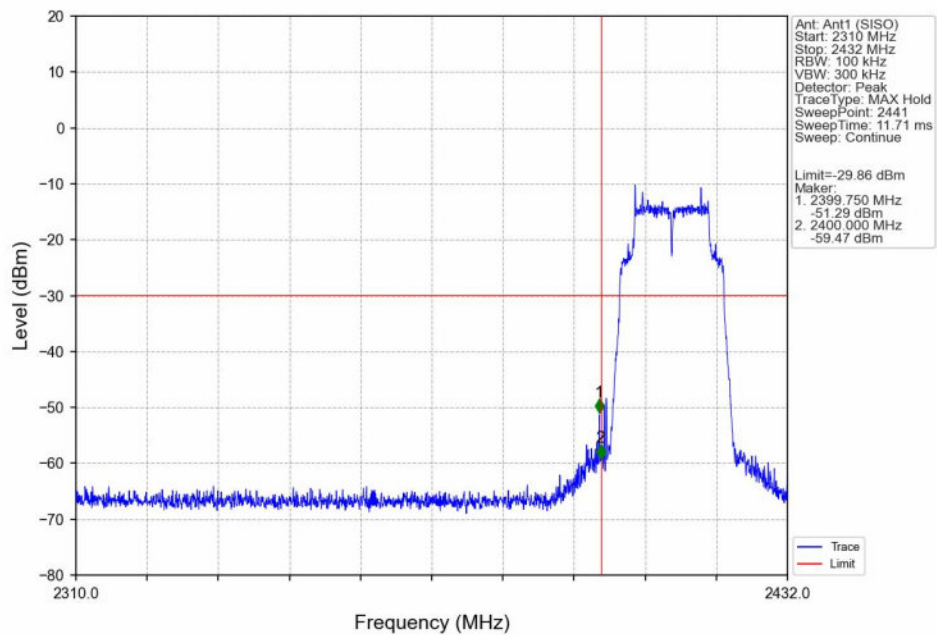


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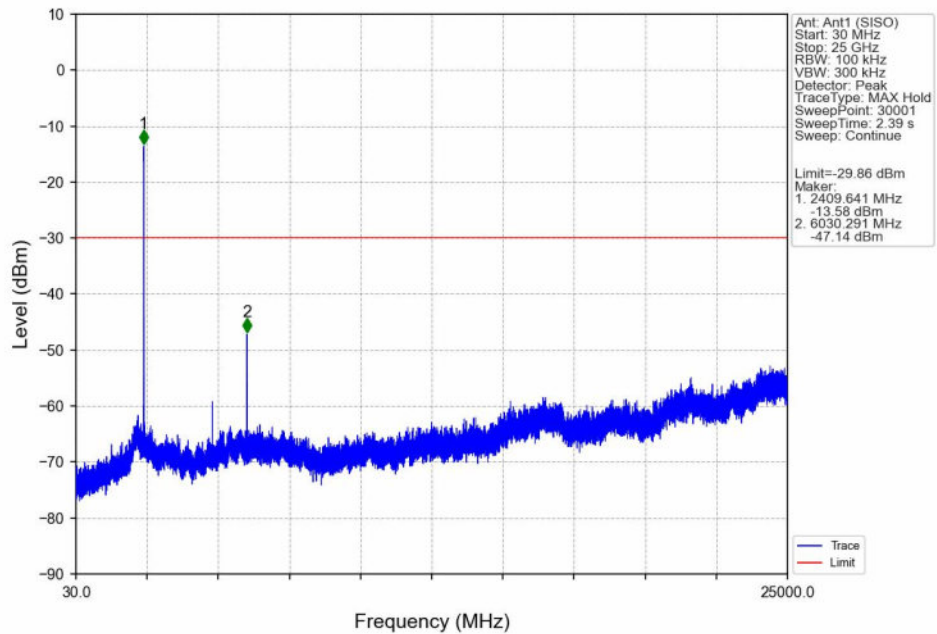


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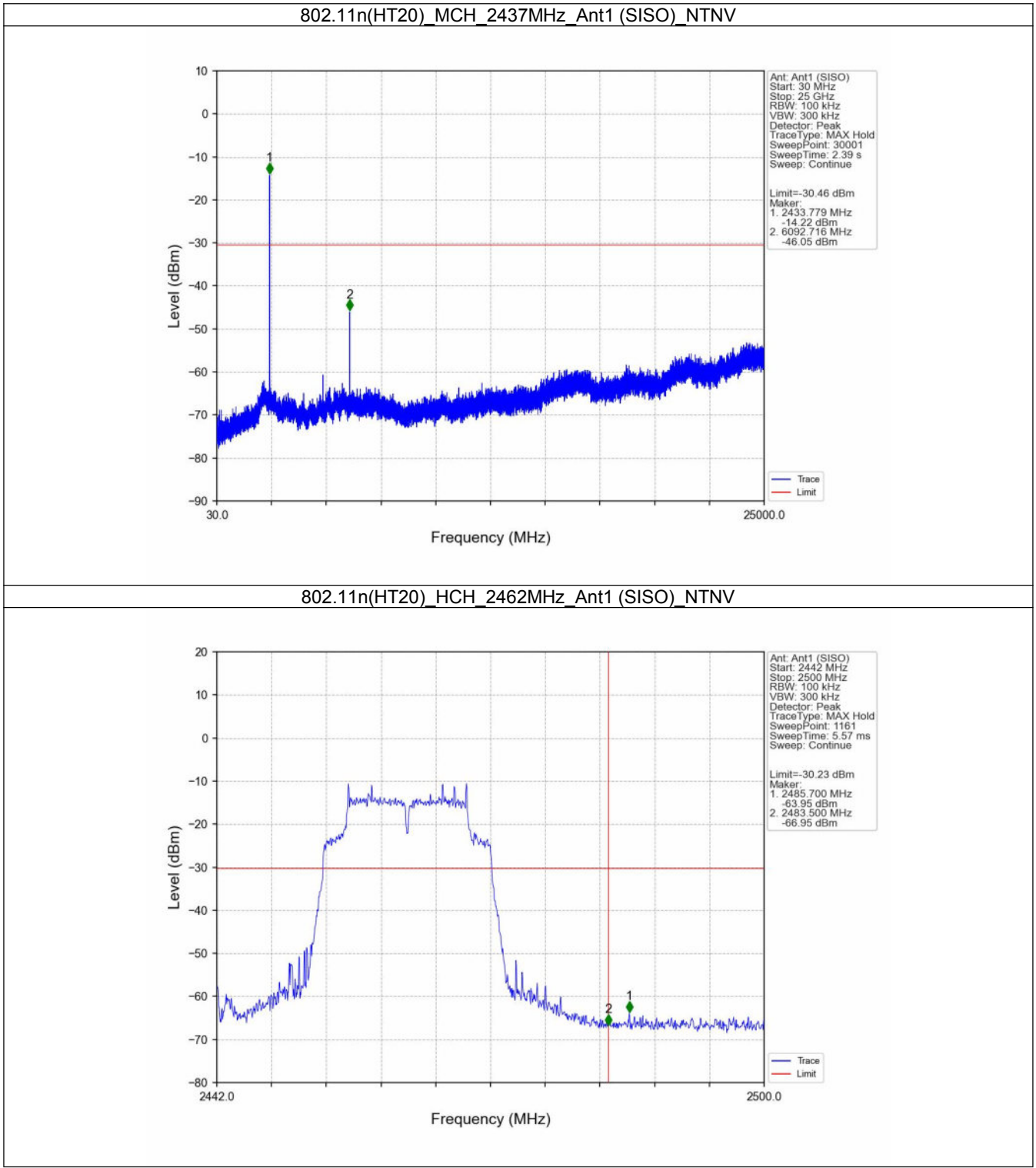
802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



802.11n(HT20)_LCH_2412MHz_Ant1 (SISO)_NTNV



FCC ID: 2BSEJ-A2C



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