



Shenzhen CTL Testing Technology Co., Ltd.

Unit 01A&B&C&D-1, Building A3, Guangming Sci-Tech Park, Guan Guang Road,
Fenghuang Subdistrict, Guangming District, Shenzhen, Guangdong, China
Tel: +86-755-89486194 E-mail: ctl@ctl-lab.com

Annex for 2.4GHz Wi-Fi

Test Report No.: CTL2604012071-WF02

Content

Annex for 2.4GHz Wi-Fi.....	1
Test Report No.: CTL2604012071-WF02	1
1. Bandwidth.....	3
1.1 Test Result	3
1.1.1 OBW	3
1.1.2 6dB BW	3
1.2 Test Graph.....	4
1.2.1 OBW	4
1.2.2 6dB BW	11
2. Maximum Conducted Output Power	17
2.1 Test Result	17
2.1.1 Power	17
3. Maximum Power Spectral Density	18
3.1 Test Result	18
3.1.1 PSD	18
3.2 Test Graph.....	19
3.2.1 PSD	19
4. Unwanted Emissions In Non-restricted Frequency Bands.....	26
4.1 Test Result	26
4.1.1 Ref.....	26
4.1.2 CSE	26
4.2 Test Graph.....	27
4.2.1 Ref.....	27
4.2.2 CSE	34

FCCID: 2APQC-TIDE16

1. Bandwidth

1.1 Test Result

1.1.1 OBW

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	13.393	/	Pass
		2437	1	13.341	/	Pass
		2462	1	13.401	/	Pass
802.11g	SISO	2412	1	16.598	/	Pass
		2437	1	16.555	/	Pass
		2462	1	16.601	/	Pass
802.11n (HT20)	SISO	2412	1	17.713	/	Pass
		2437	1	17.697	/	Pass
		2462	1	17.694	/	Pass
802.11n (HT40)	SISO	2422	1	36.687	/	Pass
		2437	1	36.544	/	Pass
		2452	1	36.593	/	Pass

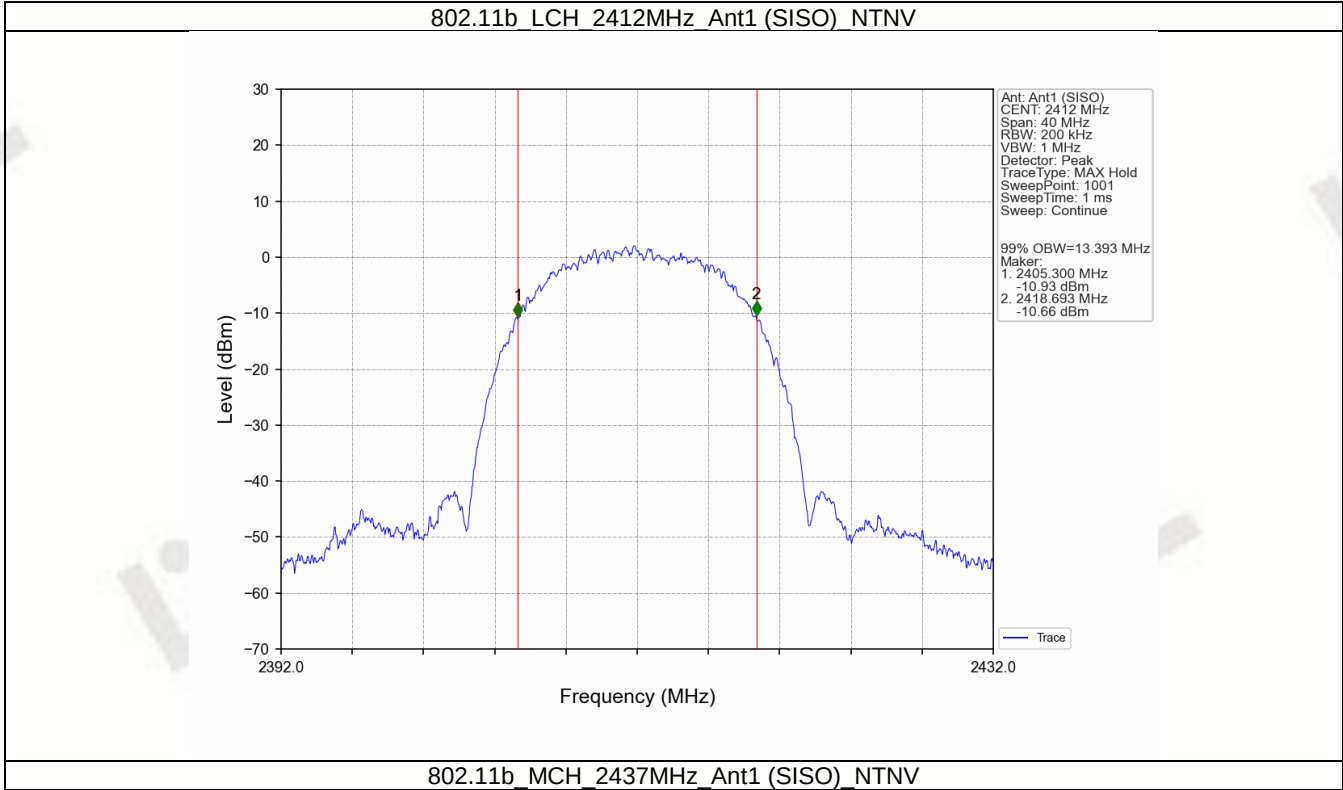
1.1.2 6dB BW

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	9.974	≥ 0.5	Pass
		2437	1	9.881	≥ 0.5	Pass
		2462	1	9.996	≥ 0.5	Pass
802.11g	SISO	2412	1	16.628	≥ 0.5	Pass
		2437	1	16.584	≥ 0.5	Pass
		2462	1	16.629	≥ 0.5	Pass
802.11n (HT20)	SISO	2412	1	17.809	≥ 0.5	Pass
		2437	1	17.818	≥ 0.5	Pass
		2462	1	17.841	≥ 0.5	Pass
802.11n (HT40)	SISO	2422	1	36.446	≥ 0.5	Pass
		2437	1	36.415	≥ 0.5	Pass
		2452	1	36.466	≥ 0.5	Pass

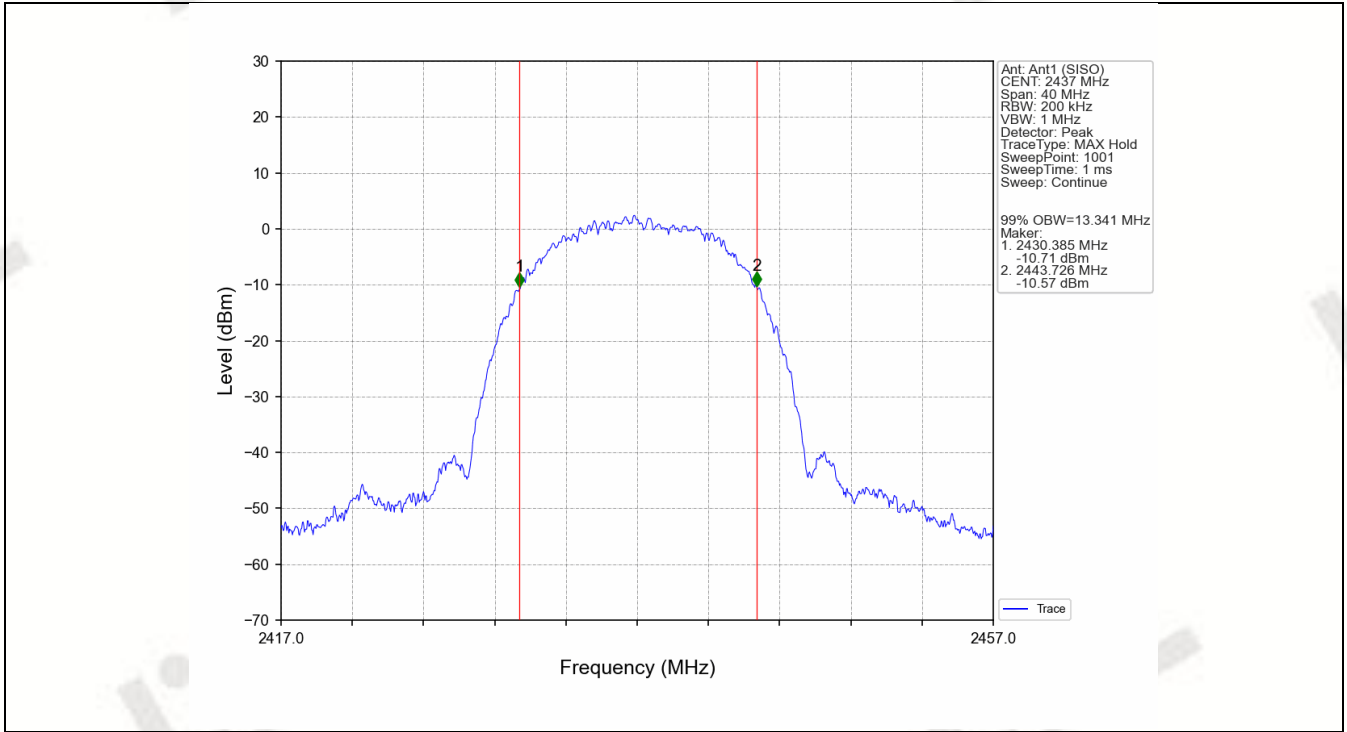
FCCID: 2APQC-TIDE16

1.2 Test Graph

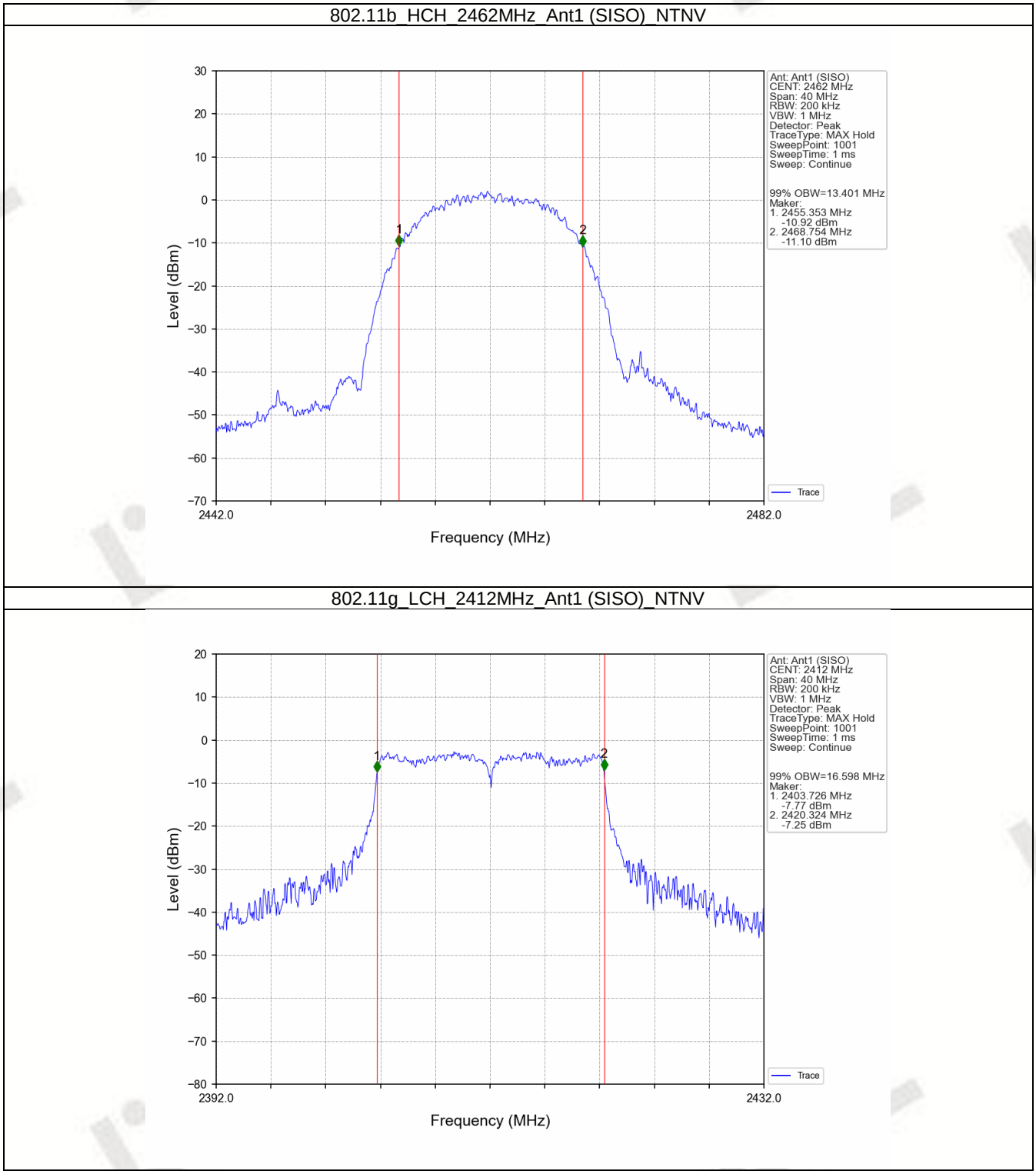
1.2.1 OBW



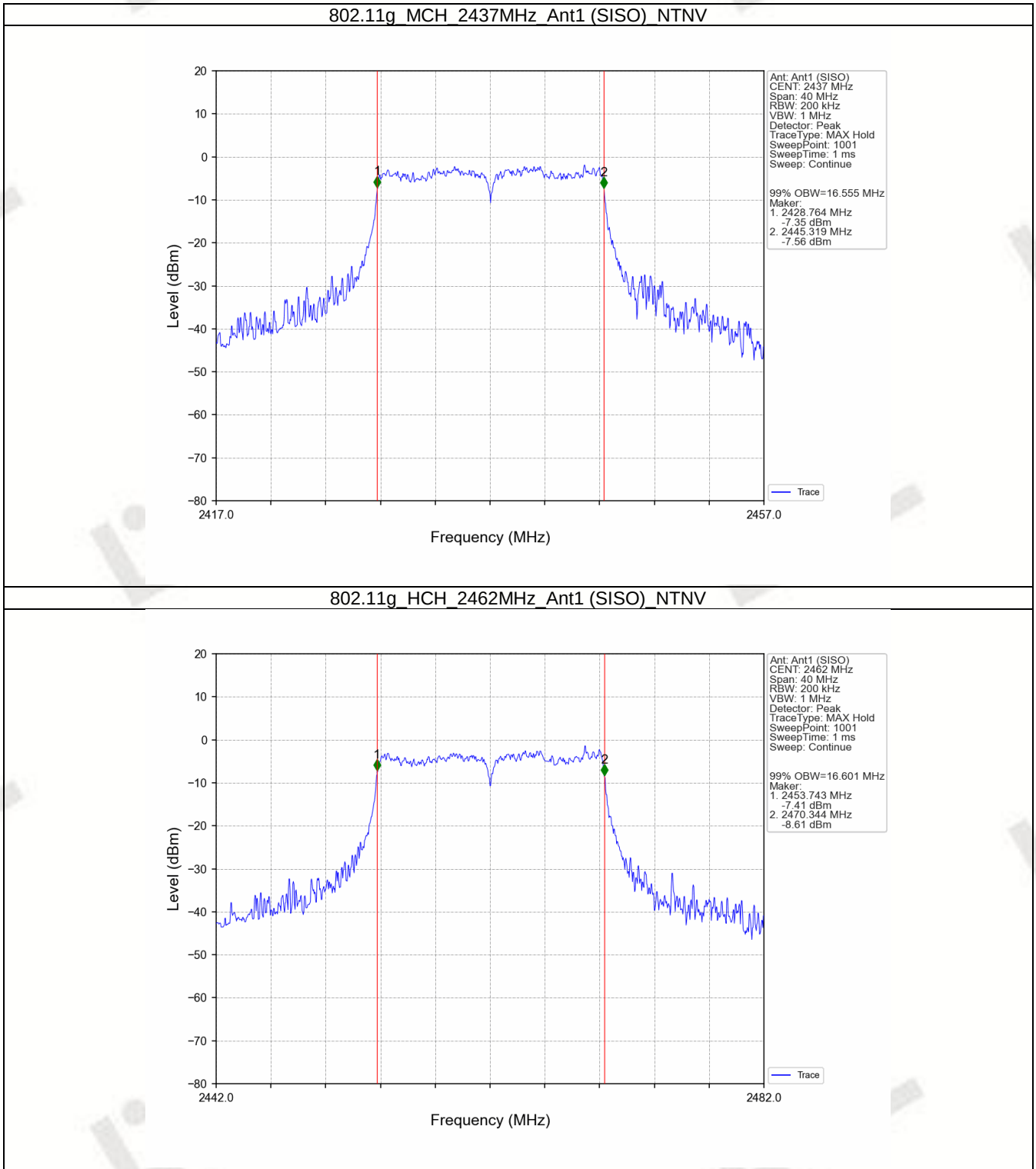
FCCID: 2APQC-TIDE16



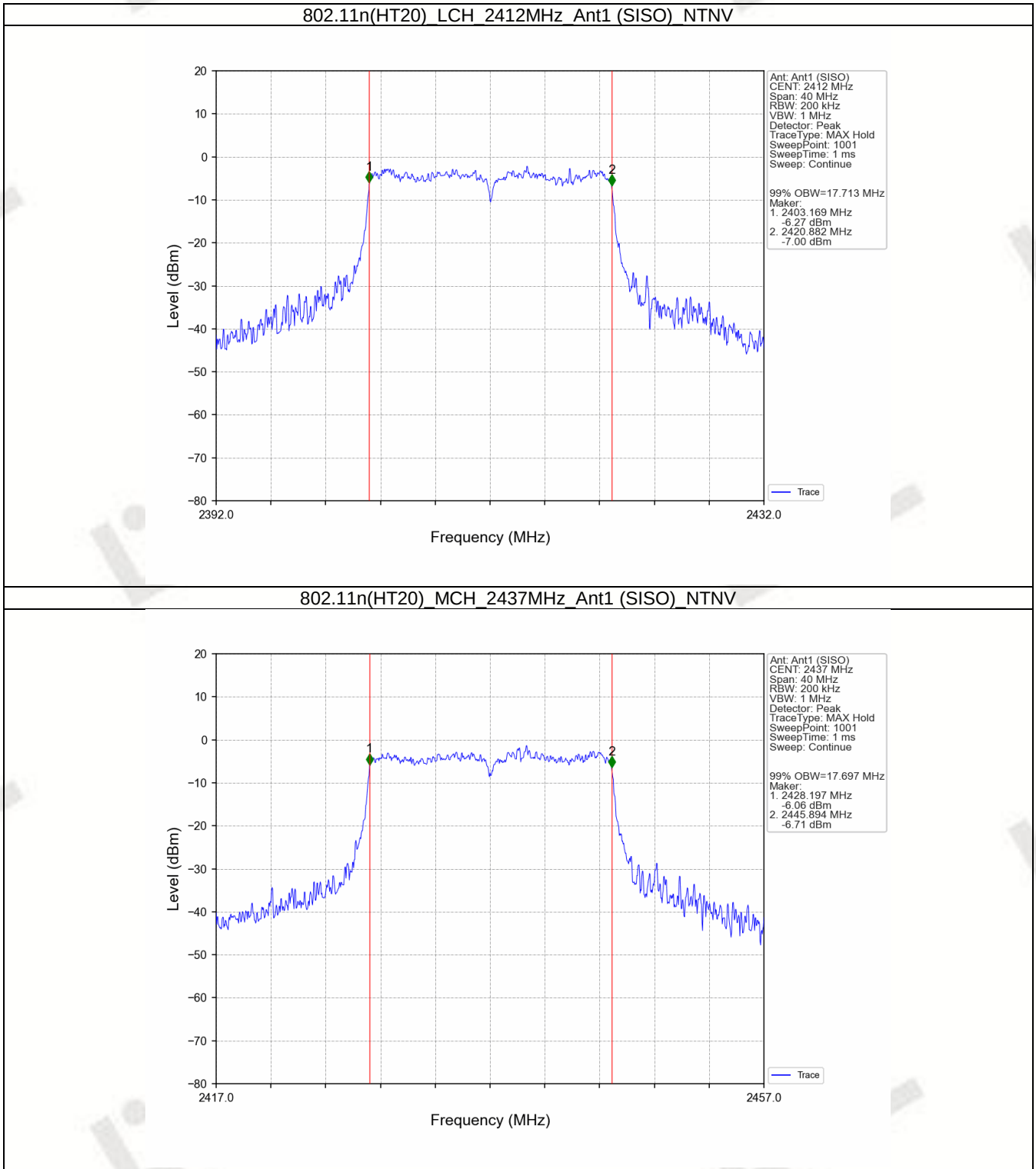
FCCID: 2APQC-TIDE16



FCCID: 2APQC-TIDE16

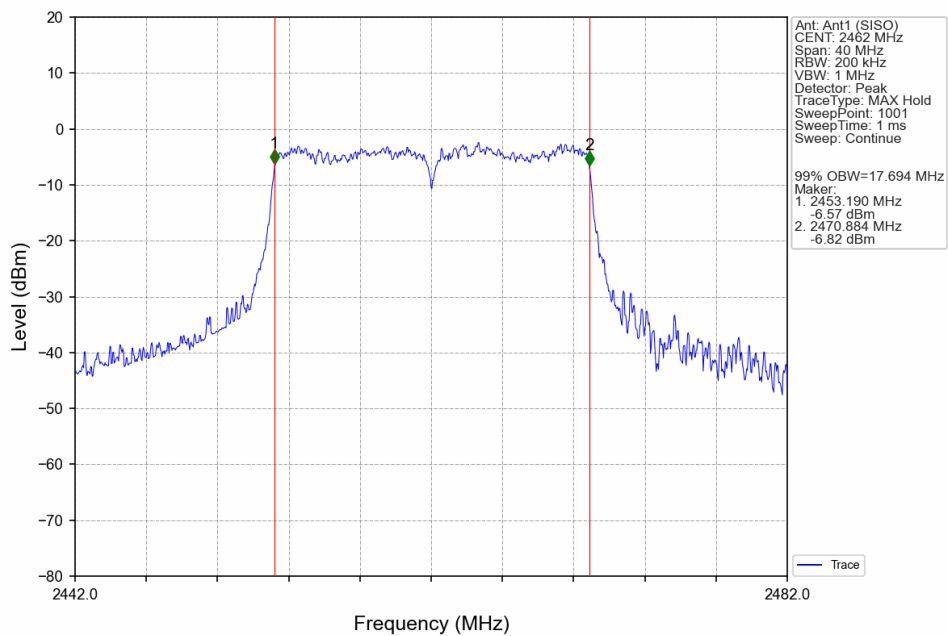


FCCID: 2APQC-TIDE16

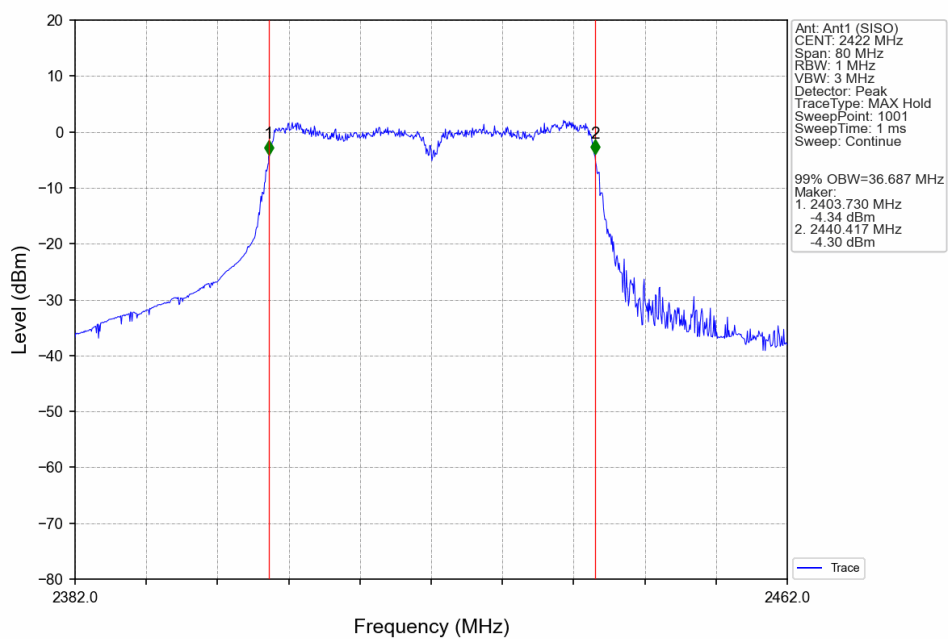


FCCID: 2APQC-TIDE16

802.11n(HT20) HCH_2462MHz_Ant1 (SISO) NTNV

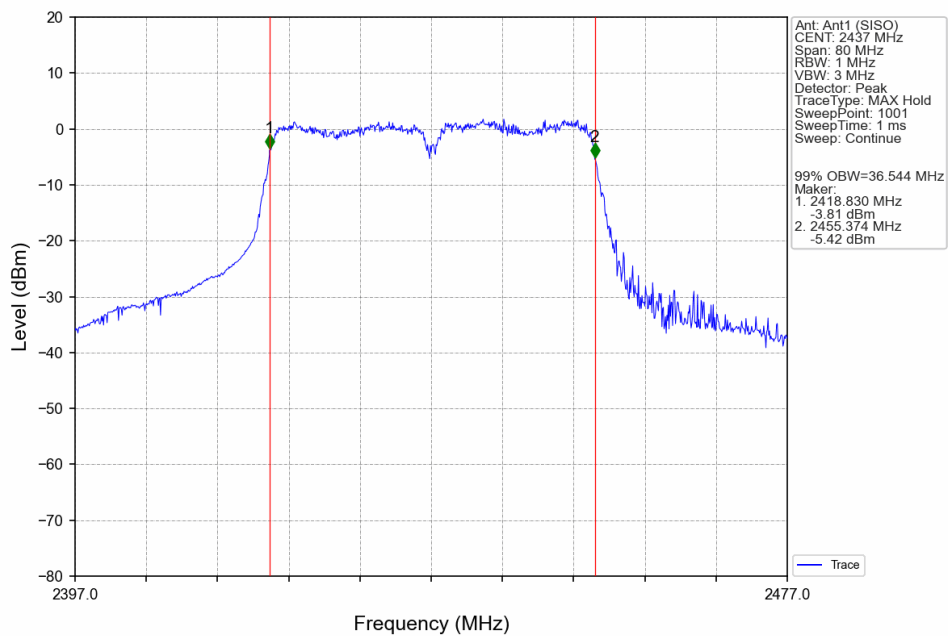


802.11n(HT40) LCH_2422MHz_Ant1 (SISO) NTNV

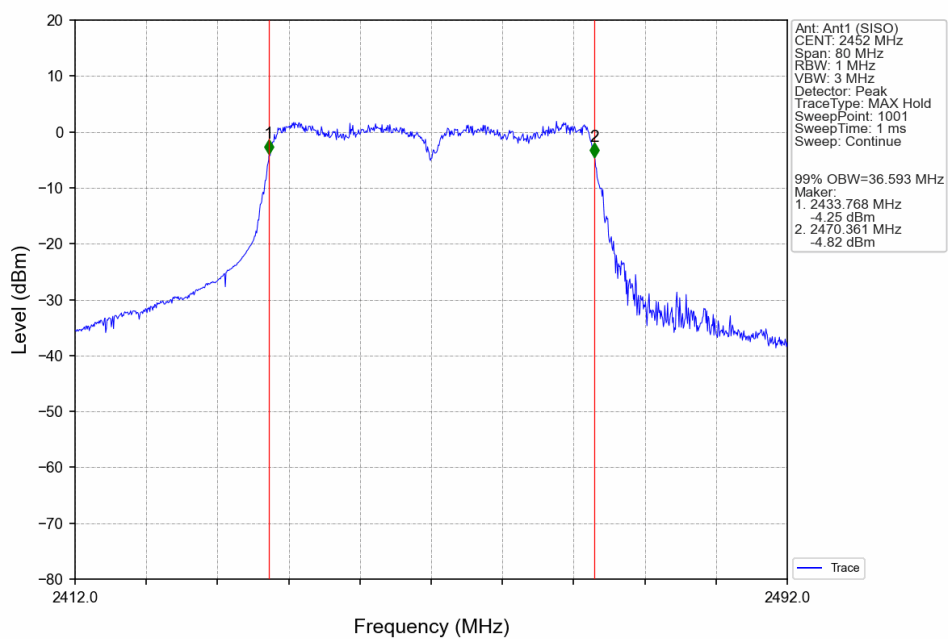


FCCID: 2APQC-TIDE16

802.11n(HT40) MCH_2437MHz_Ant1 (SISO) NTN

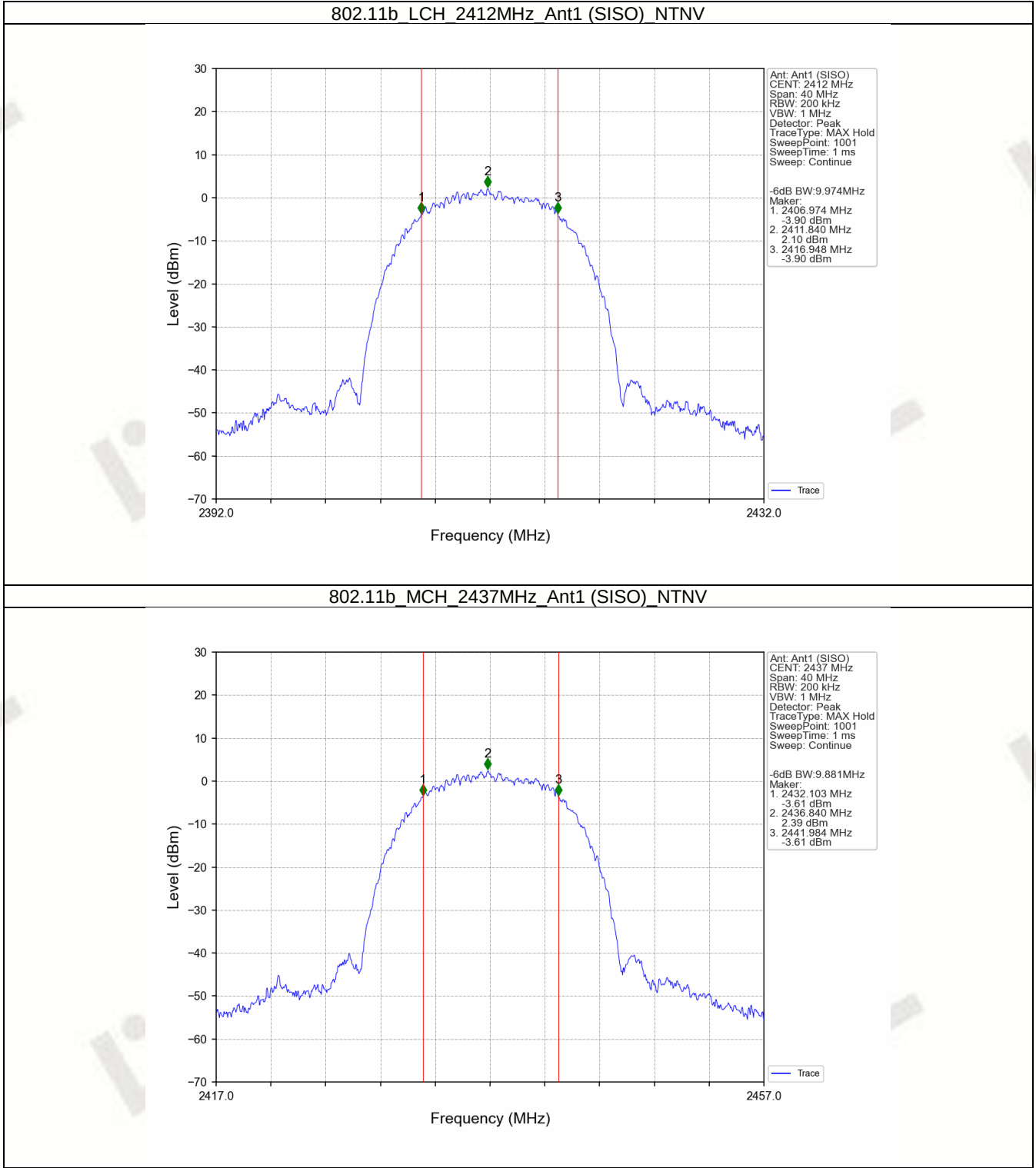


802.11n(HT40) HCH_2452MHz_Ant1 (SISO) NTN

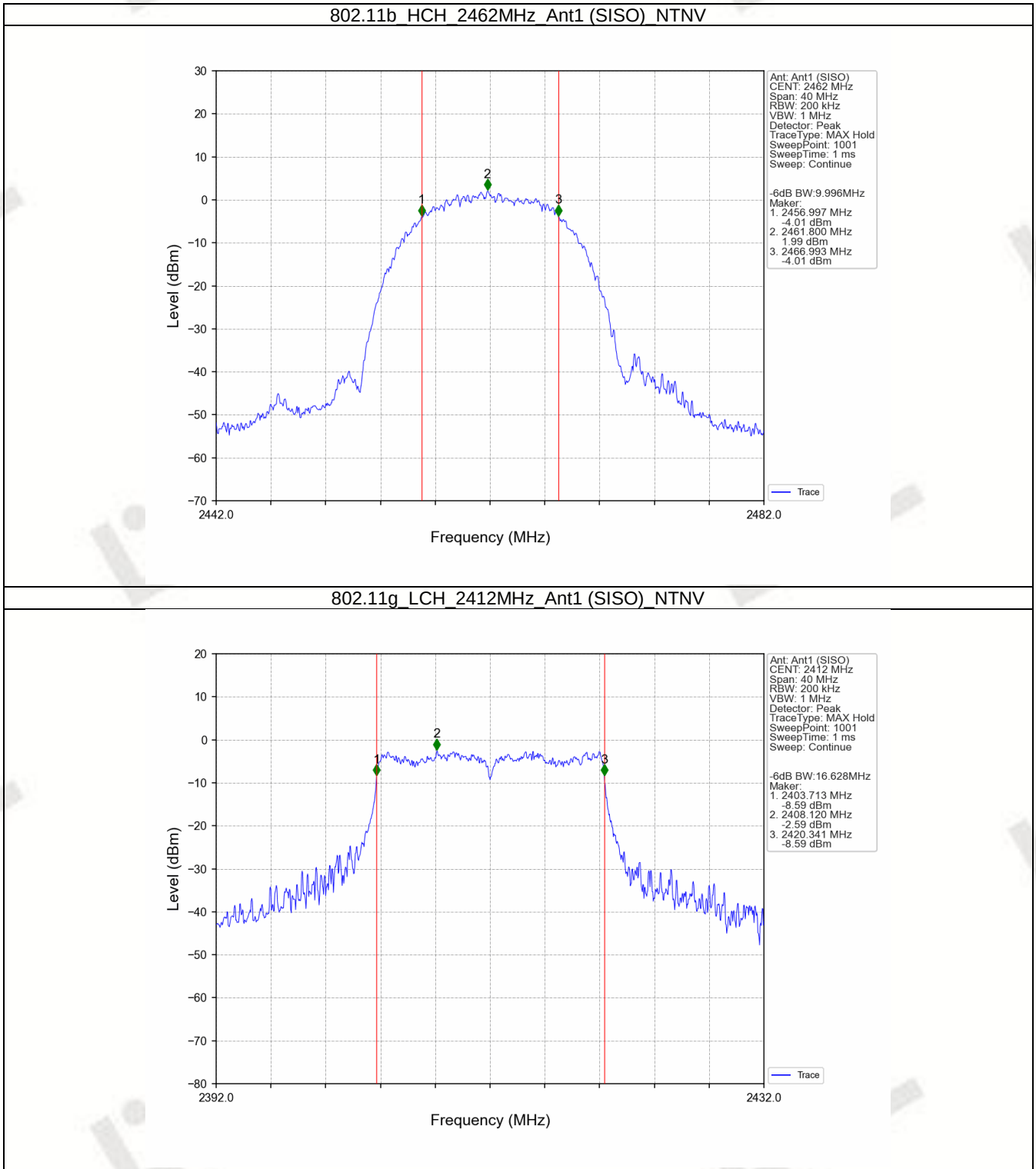


FCCID: 2APQC-TIDE16

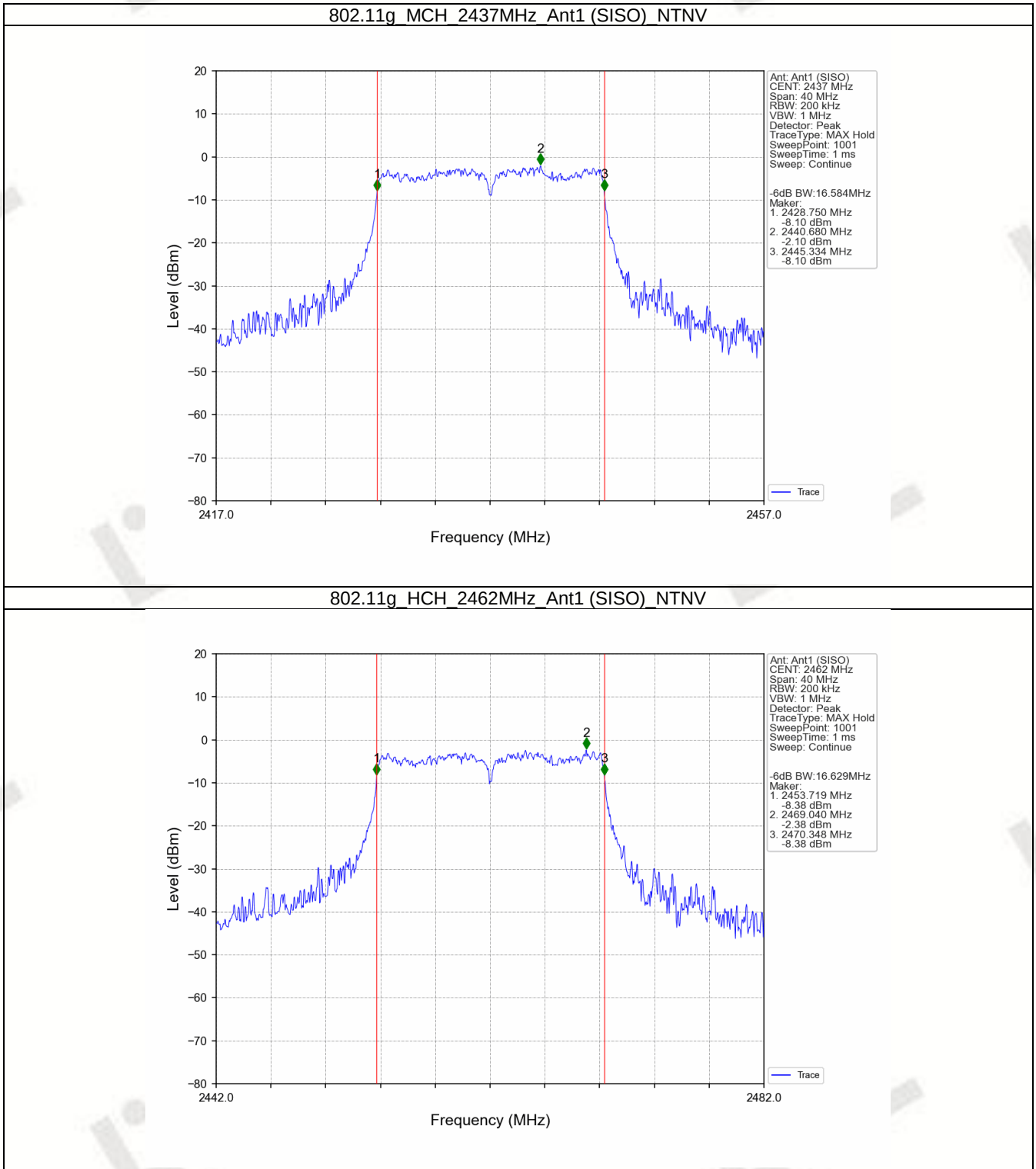
1.2.2 6dB BW



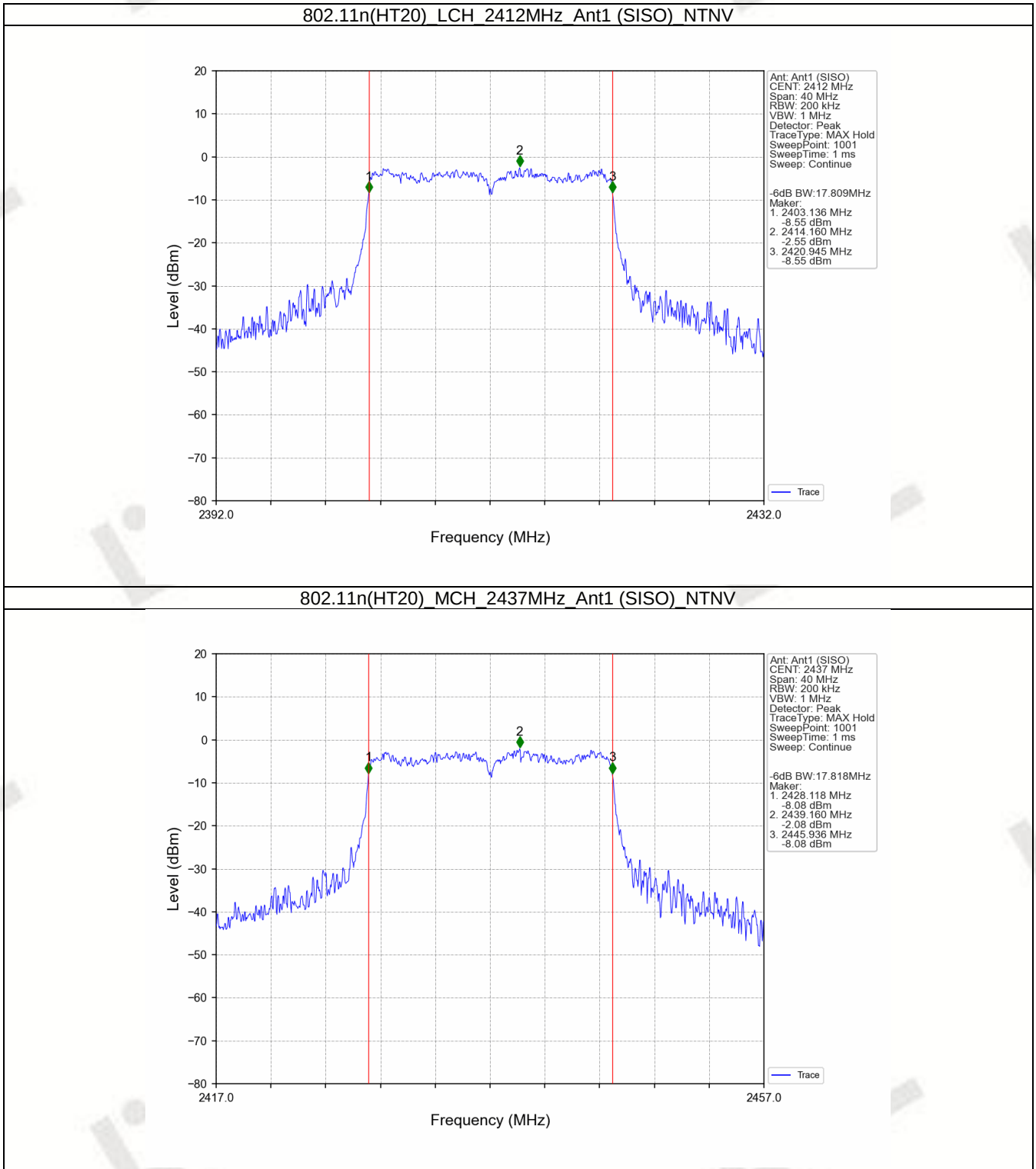
FCCID: 2APQC-TIDE16



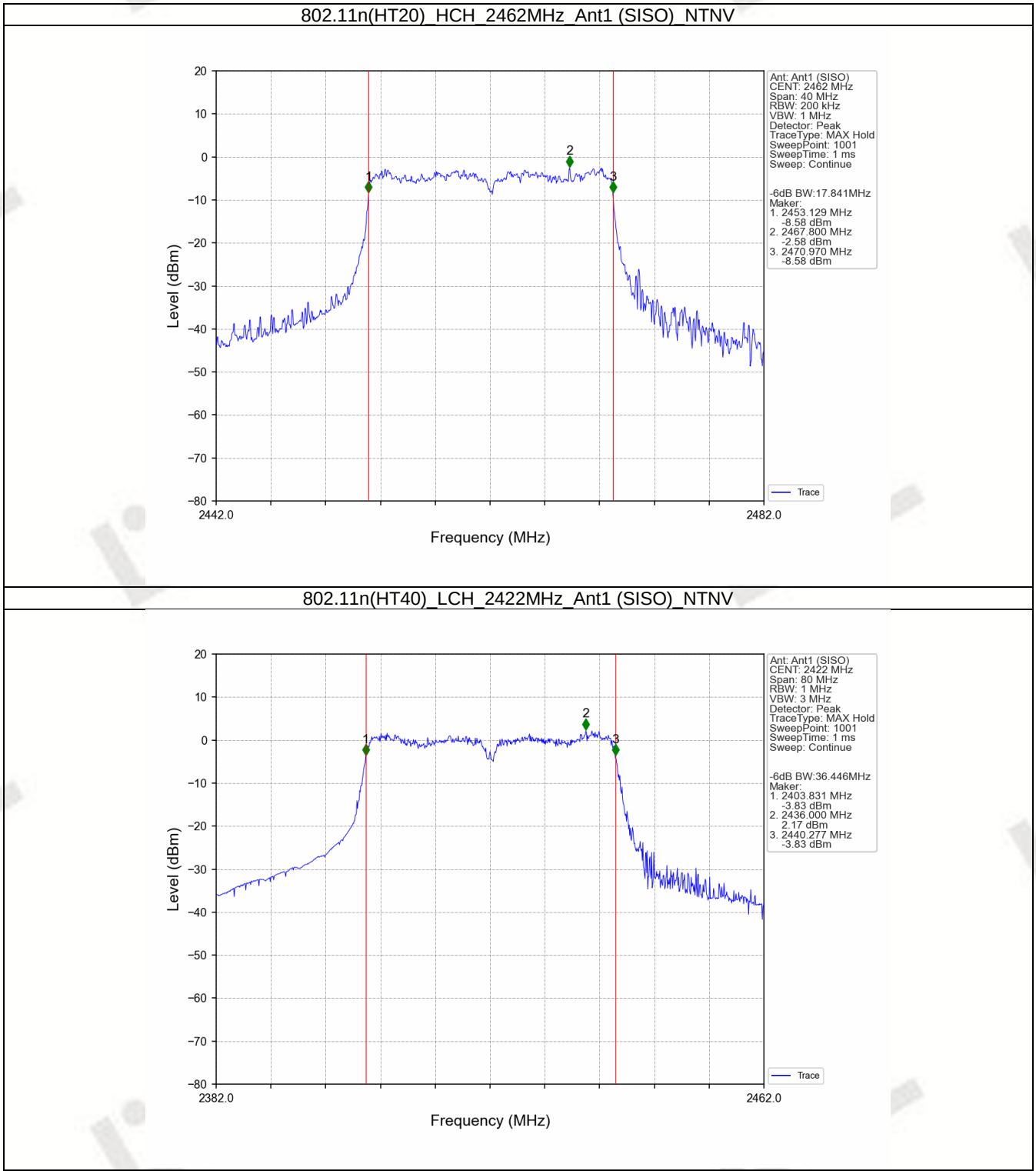
FCCID: 2APQC-TIDE16



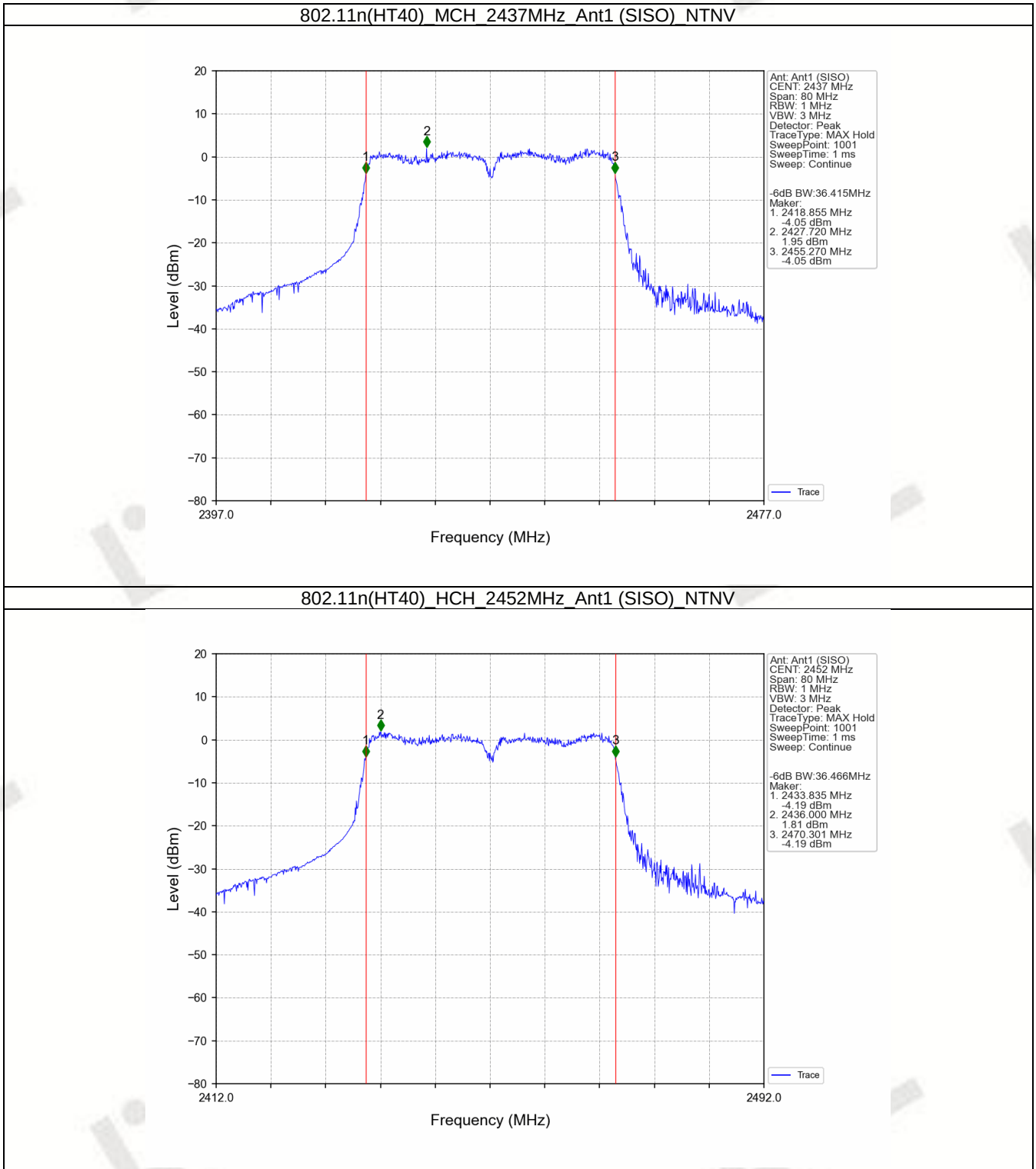
FCCID: 2APQC-TIDE16



FCCID: 2APQC-TIDE16



FCCID: 2APQC-TIDE16



FCCID: 2APQC-TIDE16

2. Maximum Conducted Output Power

2.1 Test Result

2.1.1 Power

Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	14.49	<=30	Pass
		2437	14.82	<=30	Pass
		2462	14.47	<=30	Pass
802.11g	SISO	2412	14.97	<=30	Pass
		2437	15.24	<=30	Pass
		2462	14.98	<=30	Pass
802.11n (HT20)	SISO	2412	14.97	<=30	Pass
		2437	15.38	<=30	Pass
		2462	15.13	<=30	Pass
802.11n (HT40)	SISO	2422	15.22	<=30	Pass
		2437	15.20	<=30	Pass
		2452	15.25	<=30	Pass

Note1: Antenna Gain: Ant1: 3.00dBi;

FCCID: 2APQC-TIDE16

3. Maximum Power Spectral Density

3.1 Test Result

3.1.1 PSD

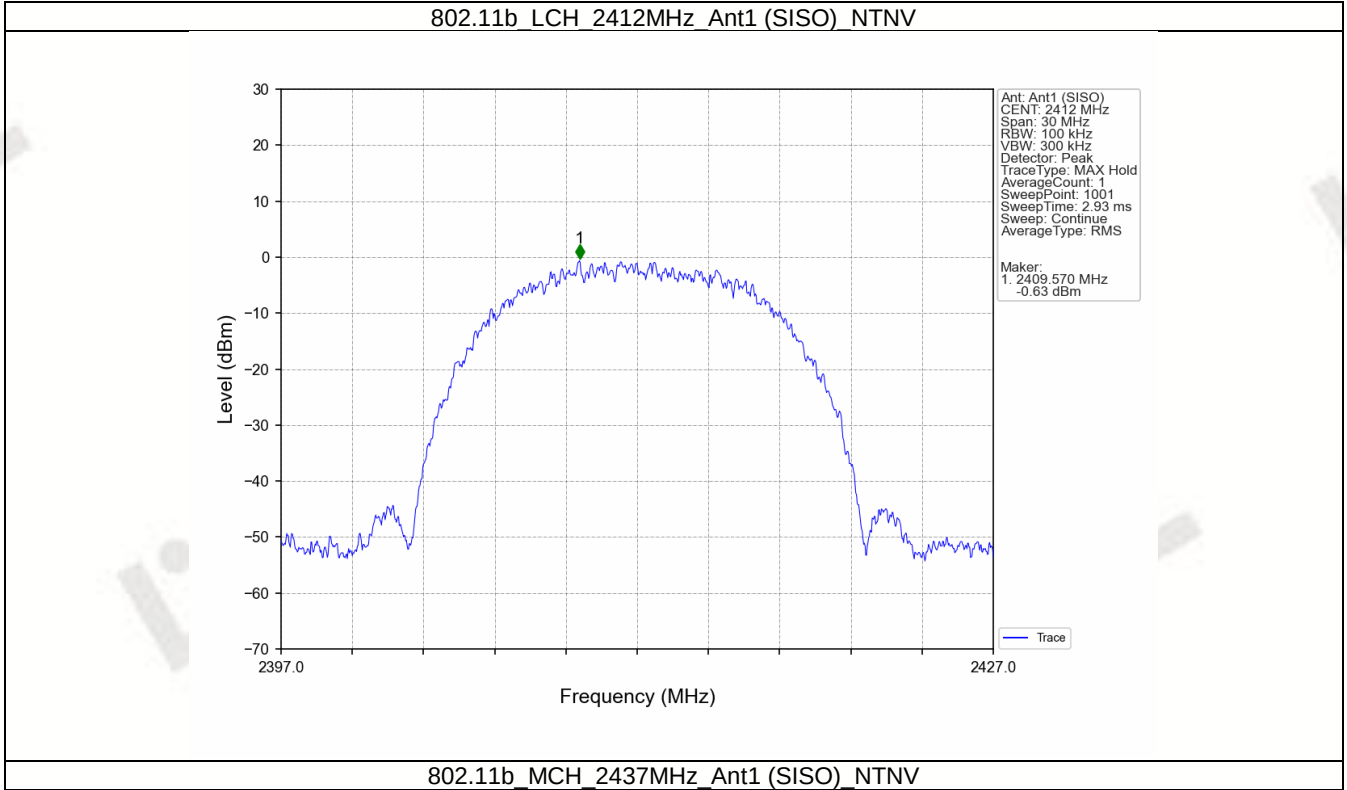
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm)		Verdict
			ANT1	Limit(dBm/3kHz)	
802.11b	SISO	2412	-0.63dBm/100kHz	<=8	Pass
		2437	-0.44dBm/100kHz	<=8	Pass
		2462	-0.78dBm/100kHz	<=8	Pass
802.11g	SISO	2412	-3.92dBm/100kHz	<=8	Pass
		2437	-3.71dBm/100kHz	<=8	Pass
		2462	-3.93dBm/100kHz	<=8	Pass
802.11n (HT20)	SISO	2412	-3.95dBm/100kHz	<=8	Pass
		2437	-3.70dBm/100kHz	<=8	Pass
		2462	-3.93dBm/100kHz	<=8	Pass
802.11n (HT40)	SISO	2422	-6.42dBm/100kHz	<=8	Pass
		2437	-6.68dBm/100kHz	<=8	Pass
		2452	-6.57dBm/100kHz	<=8	Pass

Note1: Antenna Gain: Ant1: 3.00dBi;

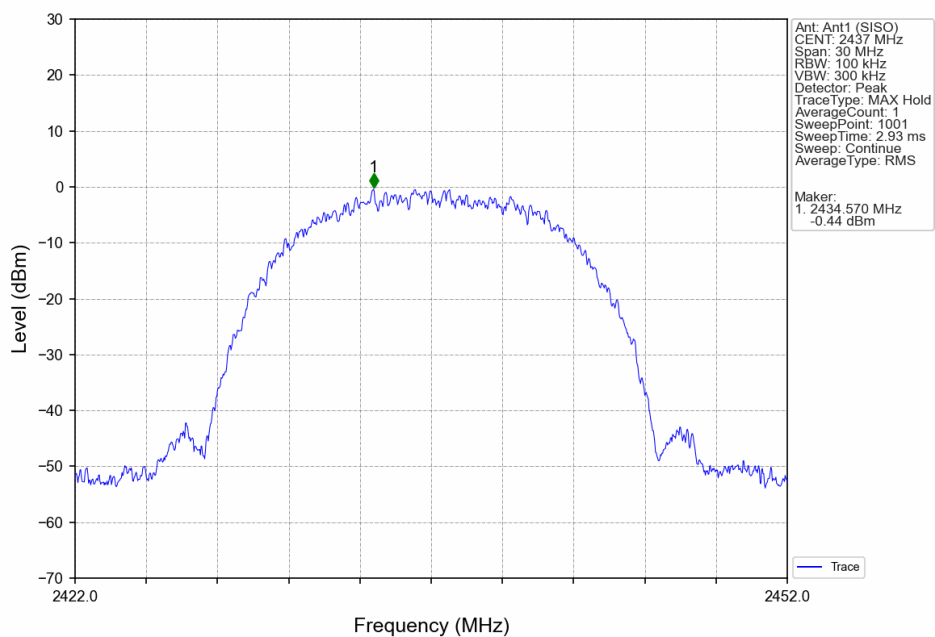
FCCID: 2APQC-TIDE16

3.2 Test Graph

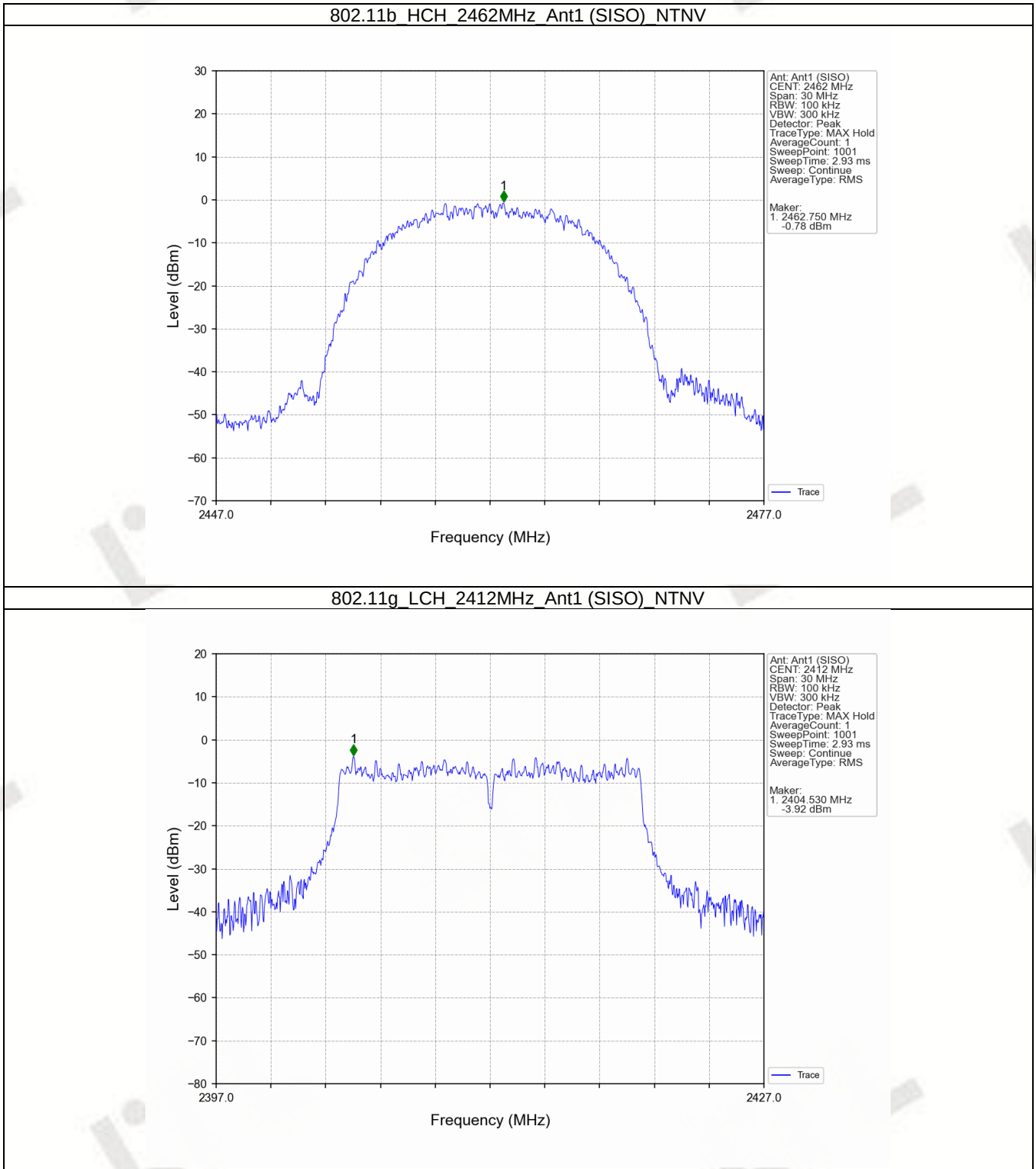
3.2.1 PSD



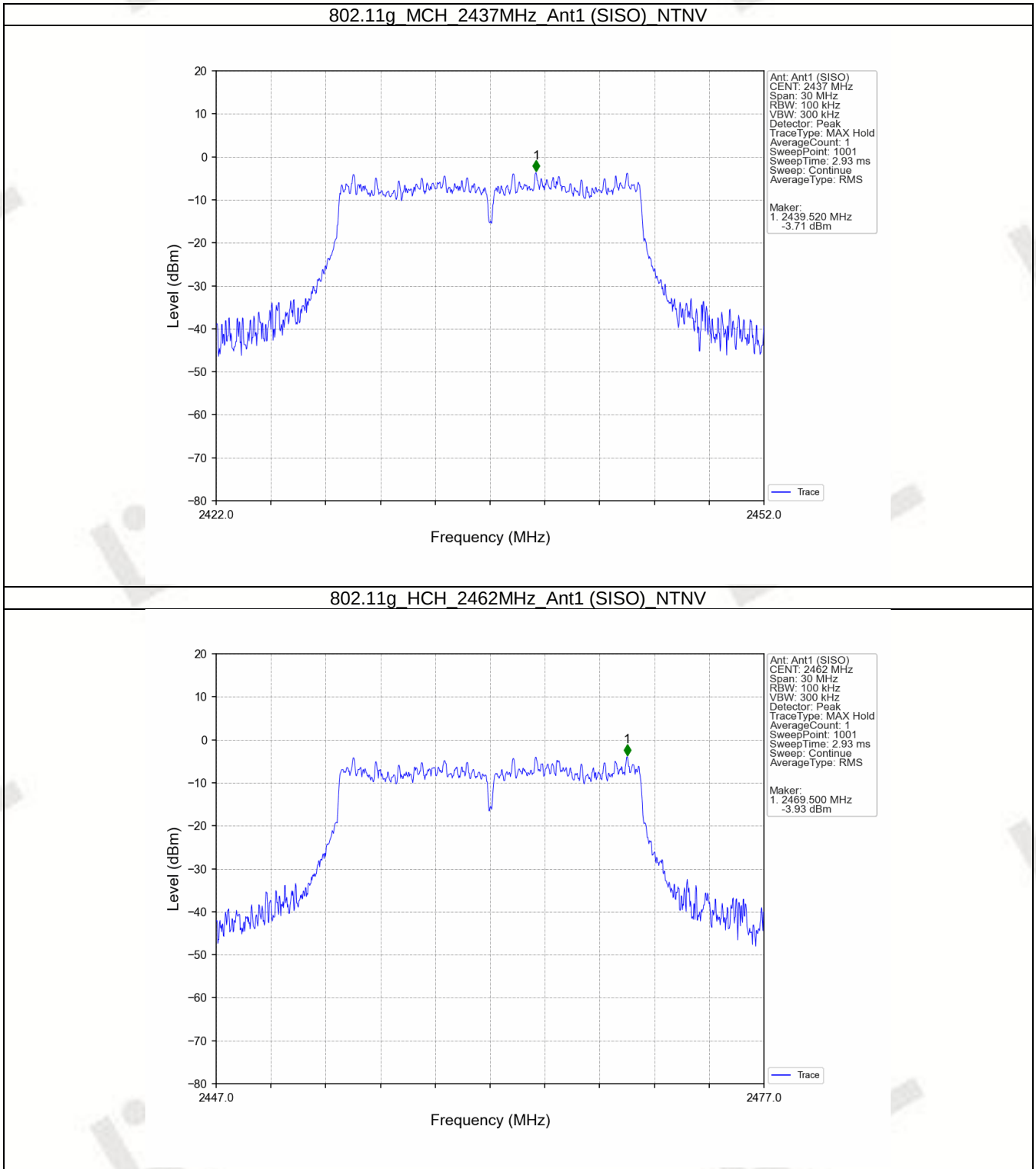
FCCID: 2APQC-TIDE16



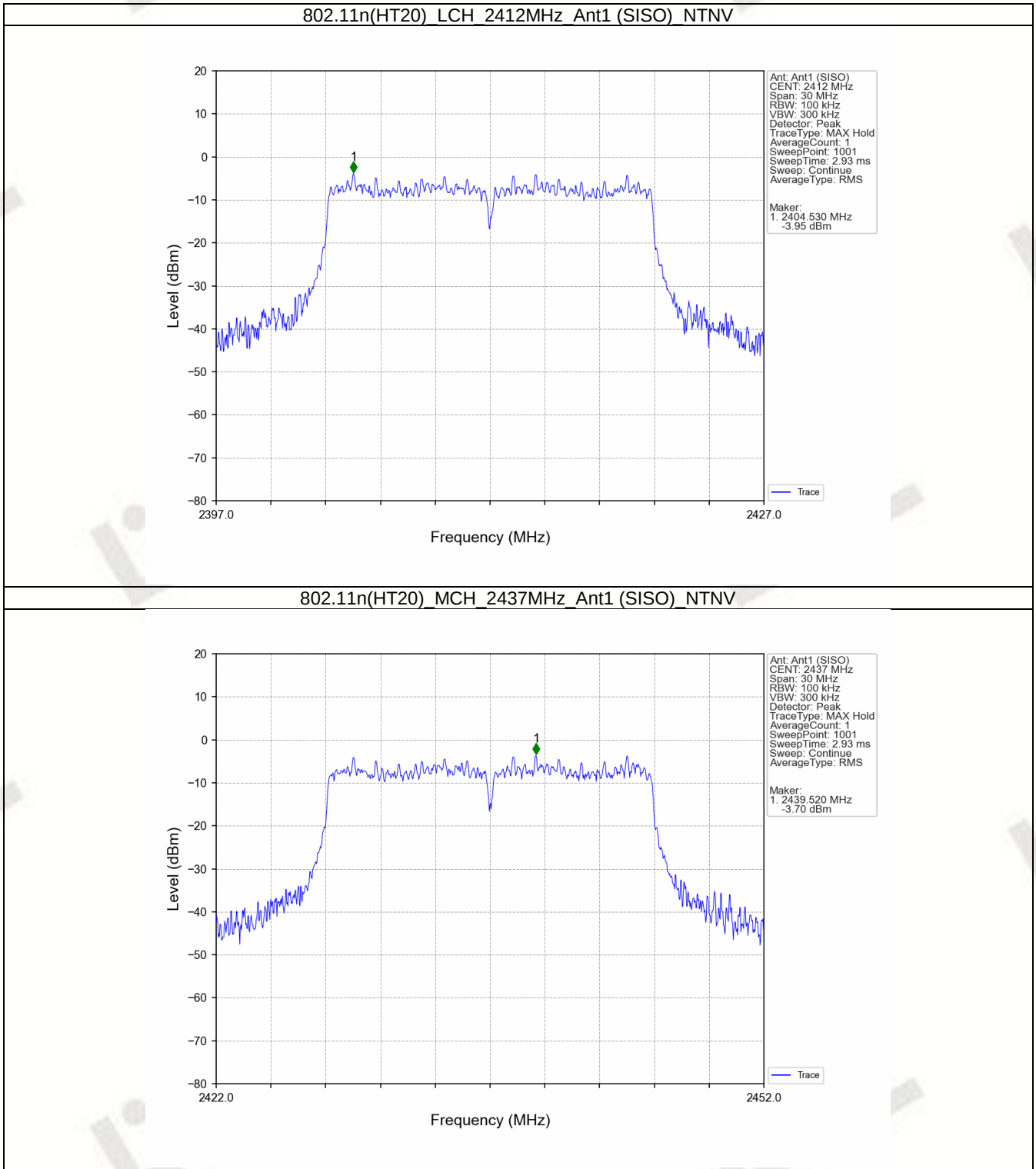
FCCID: 2APQC-TIDE16



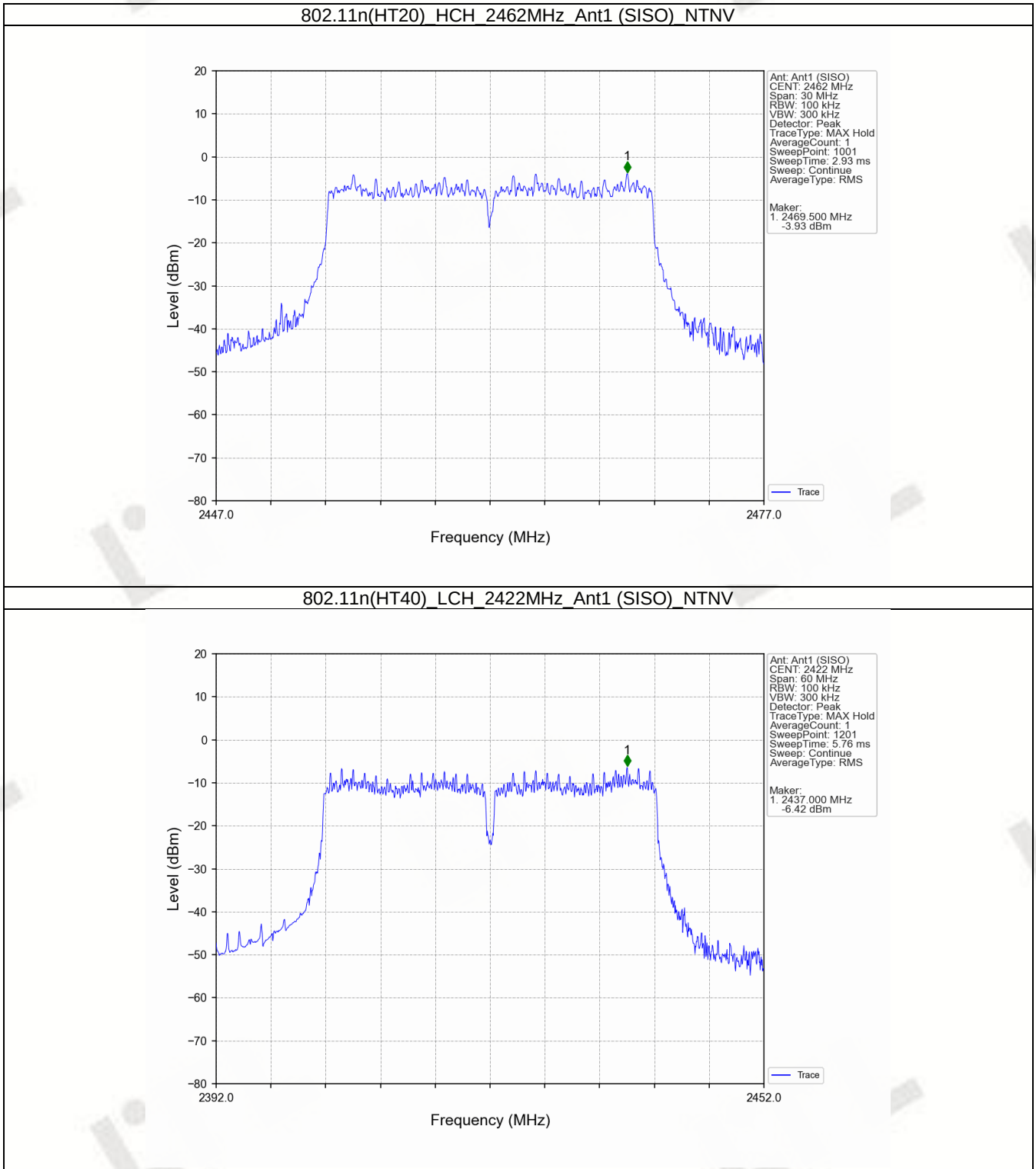
FCCID: 2APQC-TIDE16



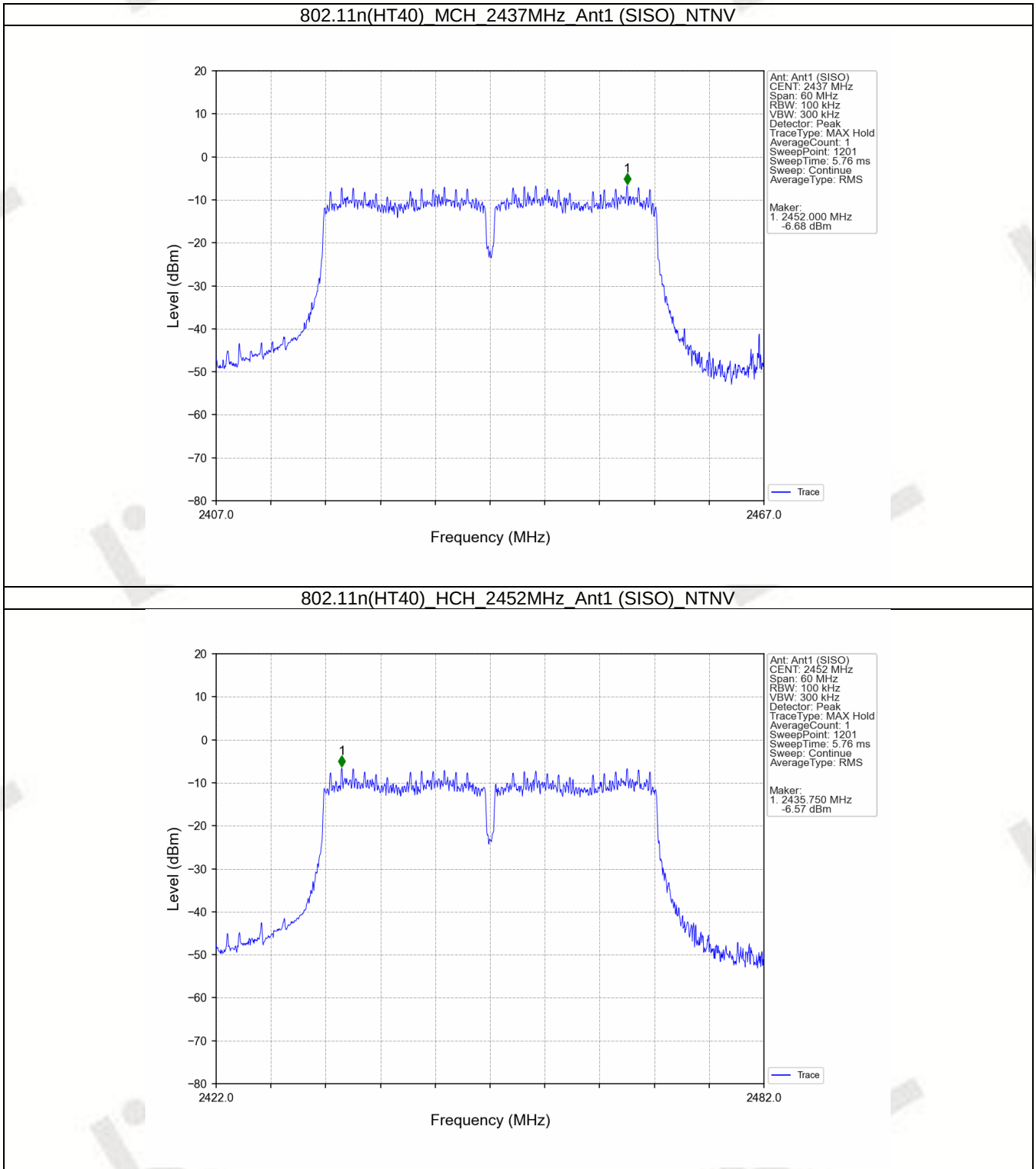
FCCID: 2APQC-TIDE16



FCCID: 2APQC-TIDE16



FCCID: 2APQC-TIDE16



FCCID: 2APQC-TIDE16

4. Unwanted Emissions In Non-restricted Frequency Bands

4.1 Test Result

4.1.1 Ref

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
802.11b	SISO	2412	1	-0.22
		2437	1	-0.23
		2462	1	-0.39
802.11g	SISO	2412	1	-3.89
		2437	1	-3.76
		2462	1	-3.99
802.11n (HT20)	SISO	2412	1	-3.87
		2437	1	-3.70
		2462	1	-3.94
802.11n (HT40)	SISO	2422	1	-6.47
		2437	1	-6.70
		2452	1	-6.48

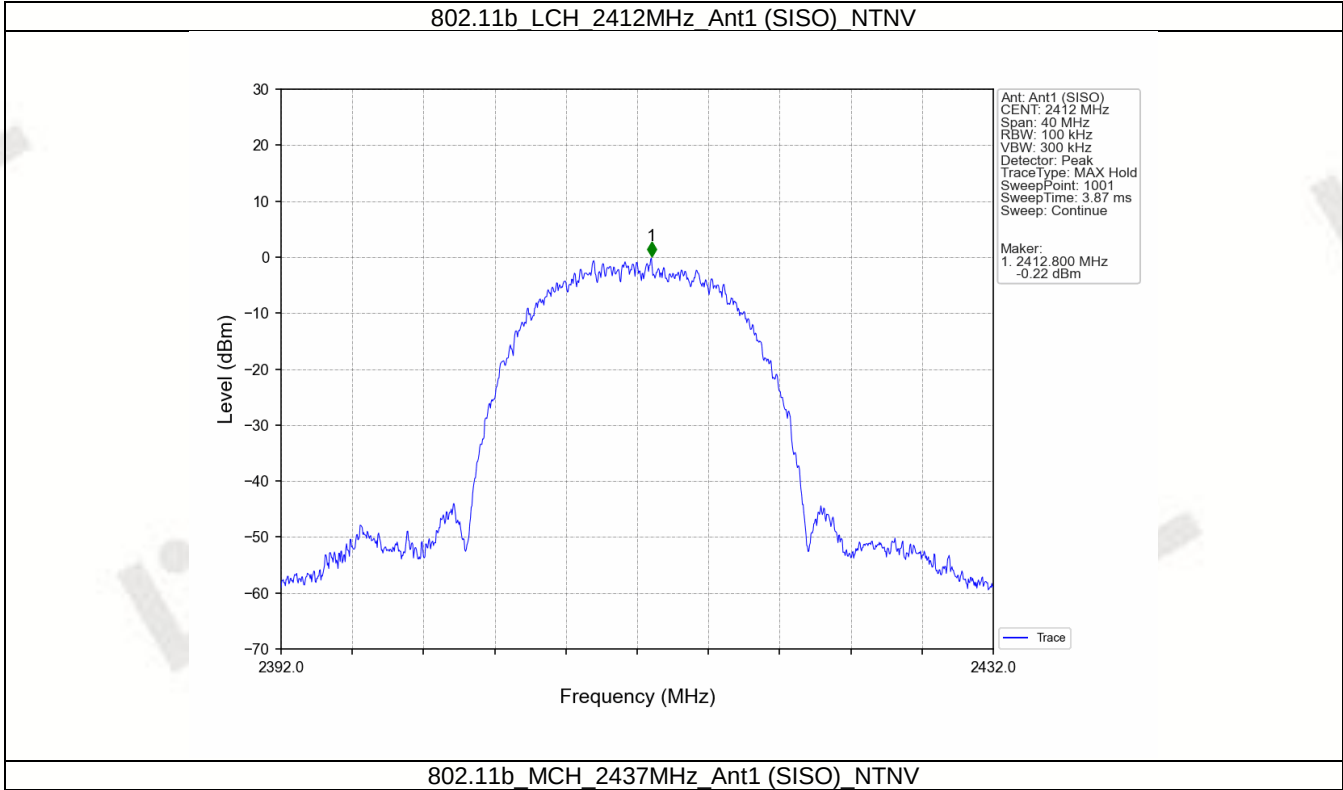
4.1.2 CSE

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	1	-0.22	-20.22	Pass
		2437	1	-0.22	-20.22	Pass
		2462	1	-0.22	-20.22	Pass
802.11g	SISO	2412	1	-3.76	-23.76	Pass
		2437	1	-3.76	-23.76	Pass
		2462	1	-3.76	-23.76	Pass
802.11n (HT20)	SISO	2412	1	-3.70	-23.70	Pass
		2437	1	-3.70	-23.70	Pass
		2462	1	-3.70	-23.70	Pass
802.11n (HT40)	SISO	2422	1	-6.47	-26.47	Pass
		2437	1	-6.47	-26.47	Pass
		2452	1	-6.47	-26.47	Pass

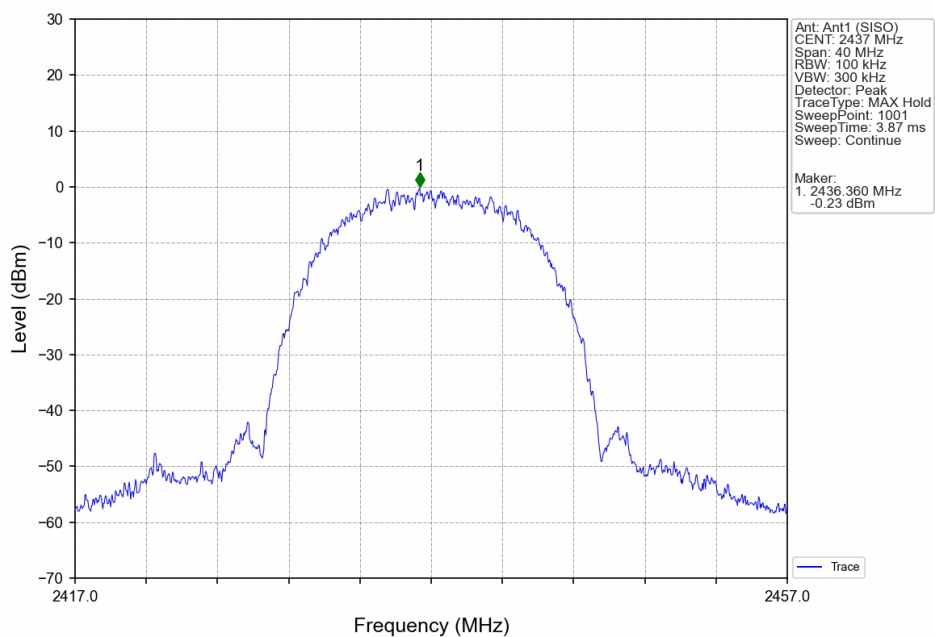
FCCID: 2APQC-TIDE16

4.2 Test Graph

4.2.1 Ref

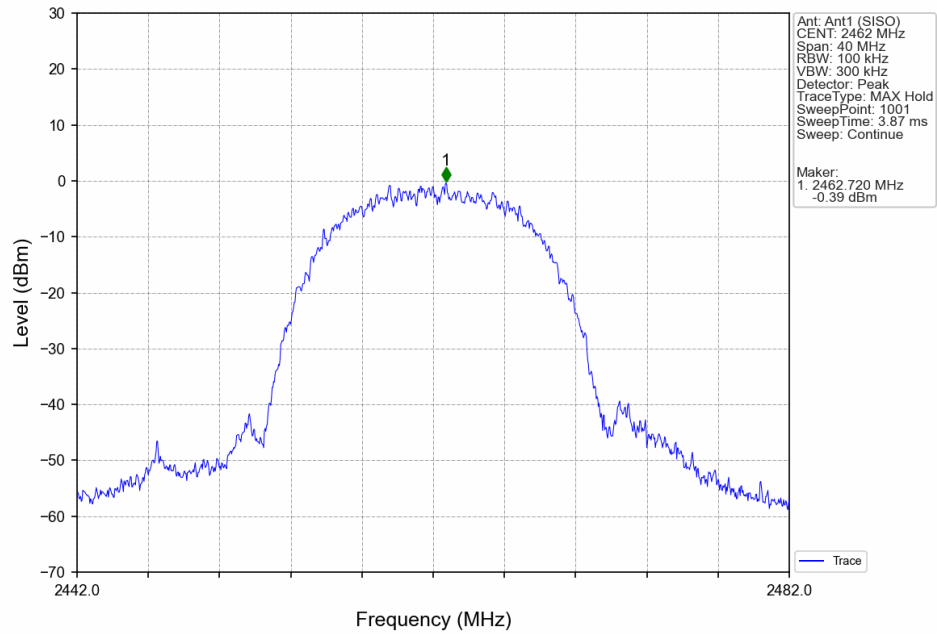


FCCID: 2APQC-TIDE16

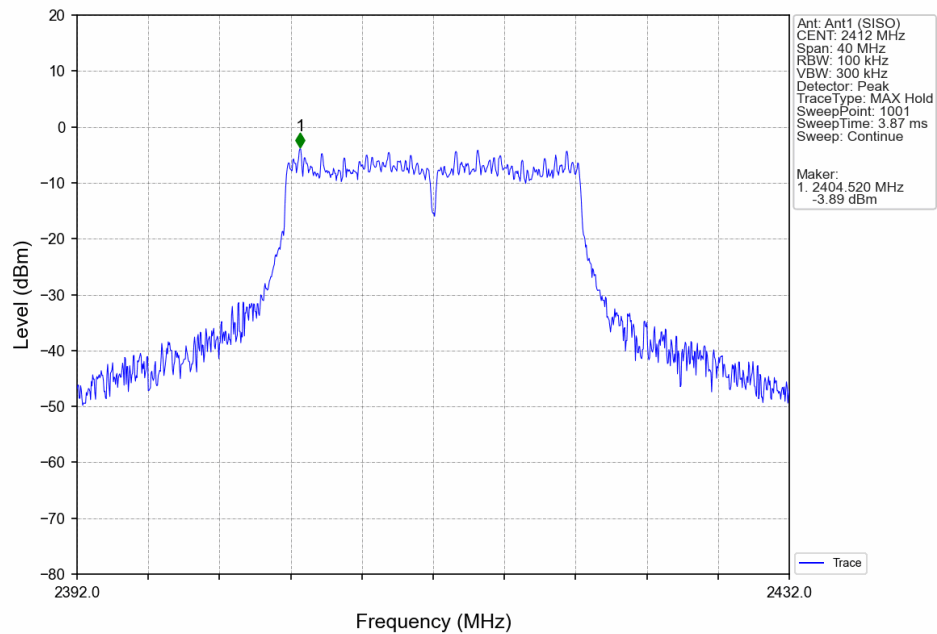


FCCID: 2APQC-TIDE16

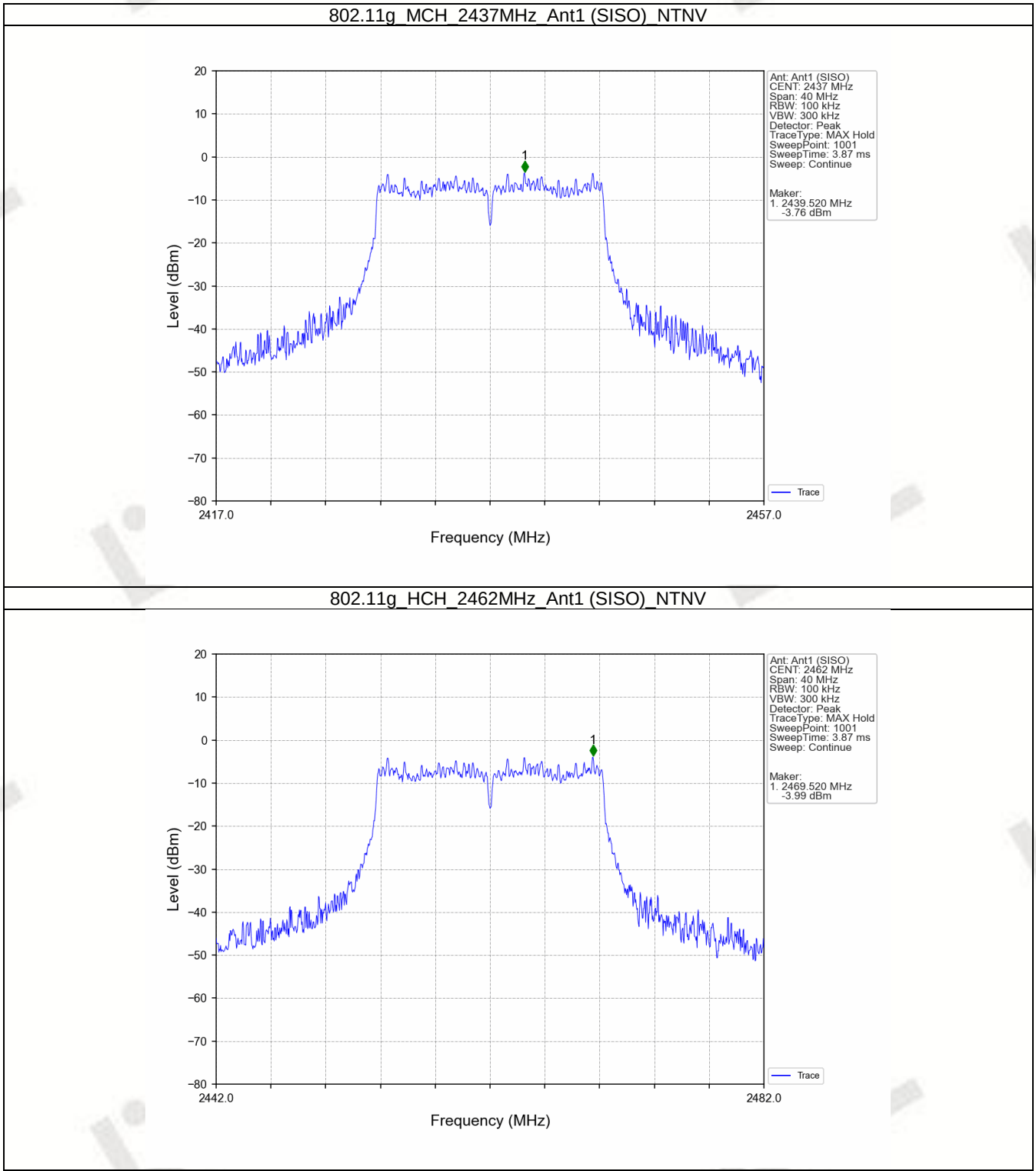
802.11b HCH 2462MHz Ant1 (SISO) NTN



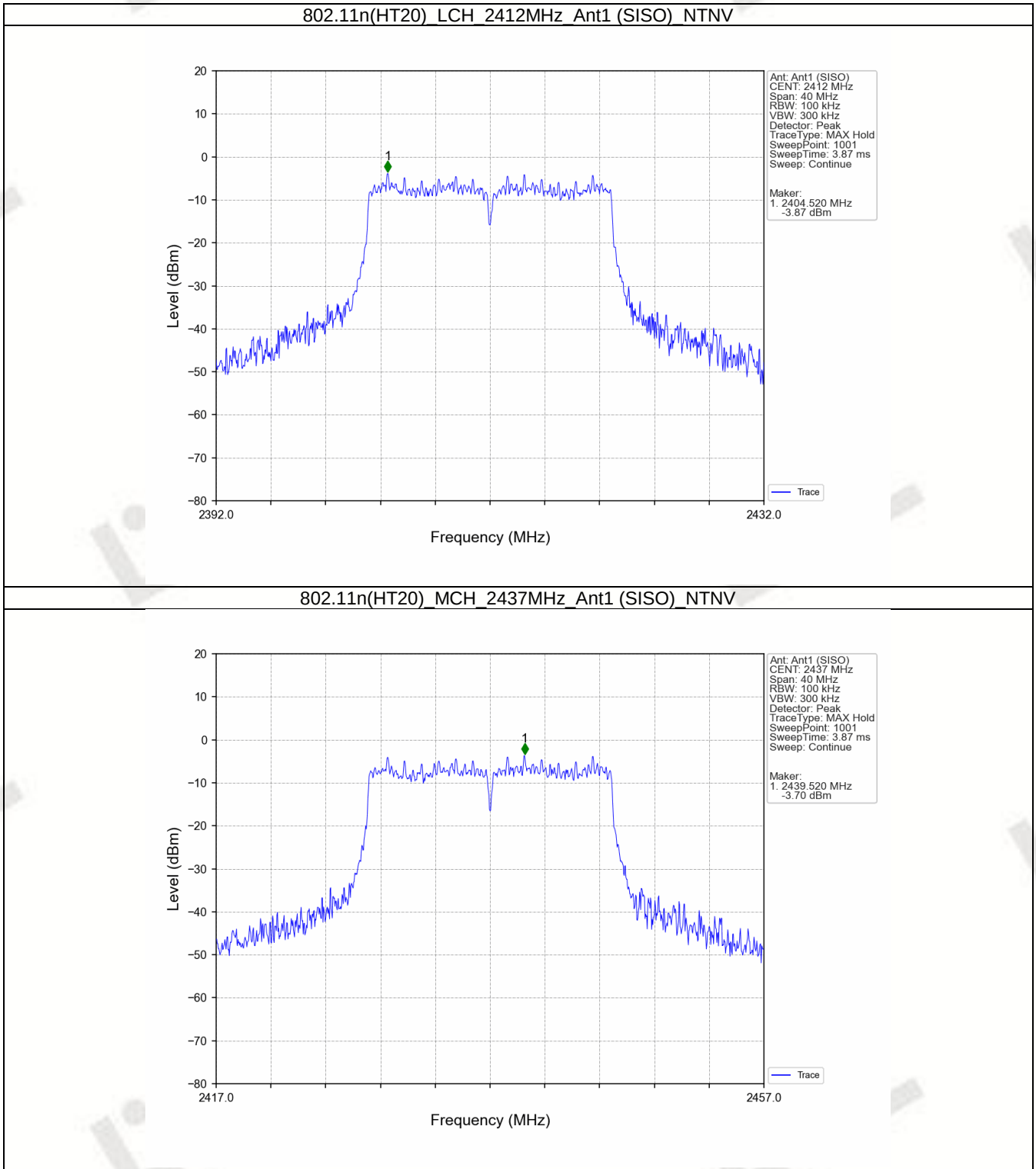
802.11g LCH 2412MHz Ant1 (SISO) NTN



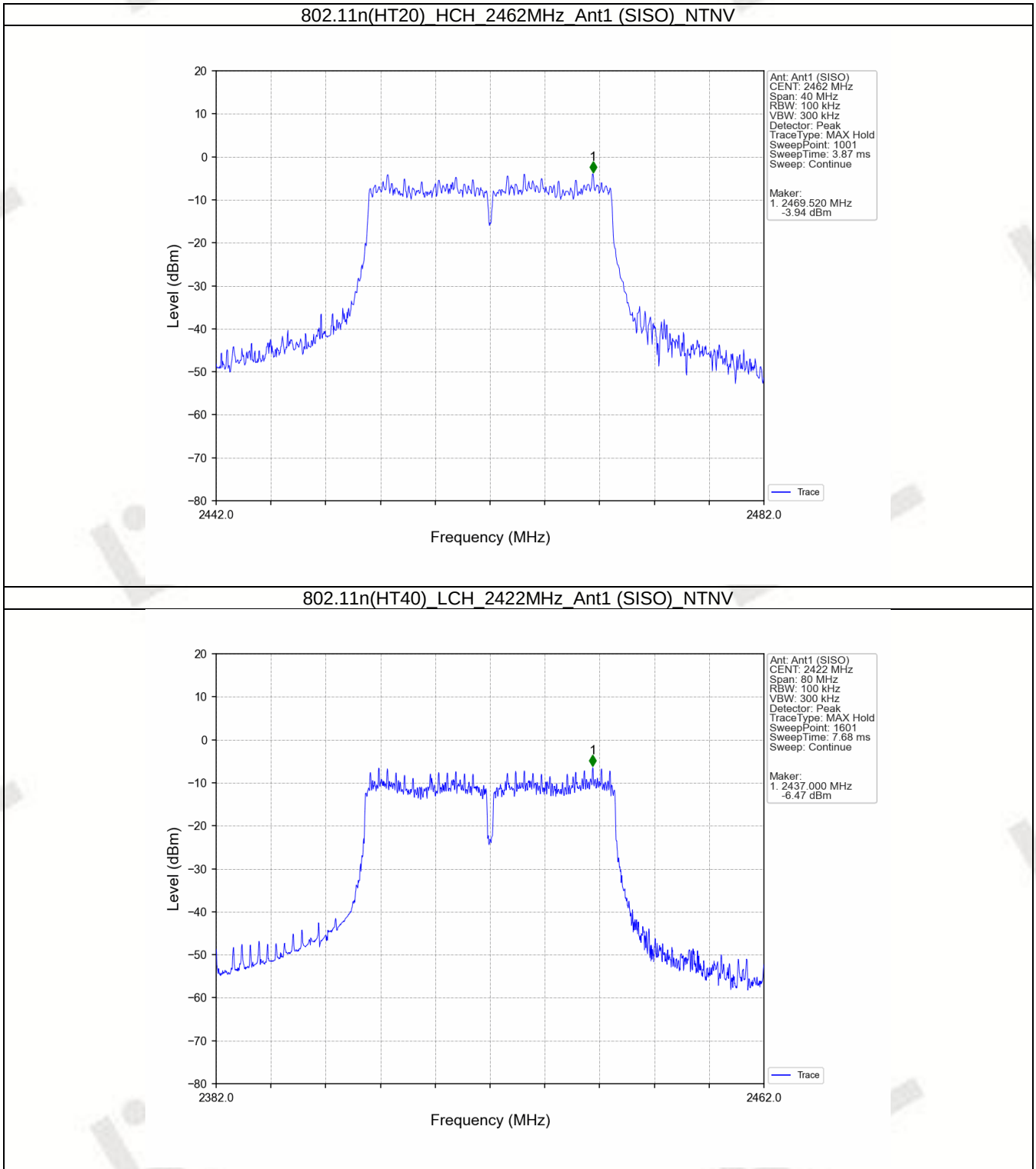
FCCID: 2APQC-TIDE16



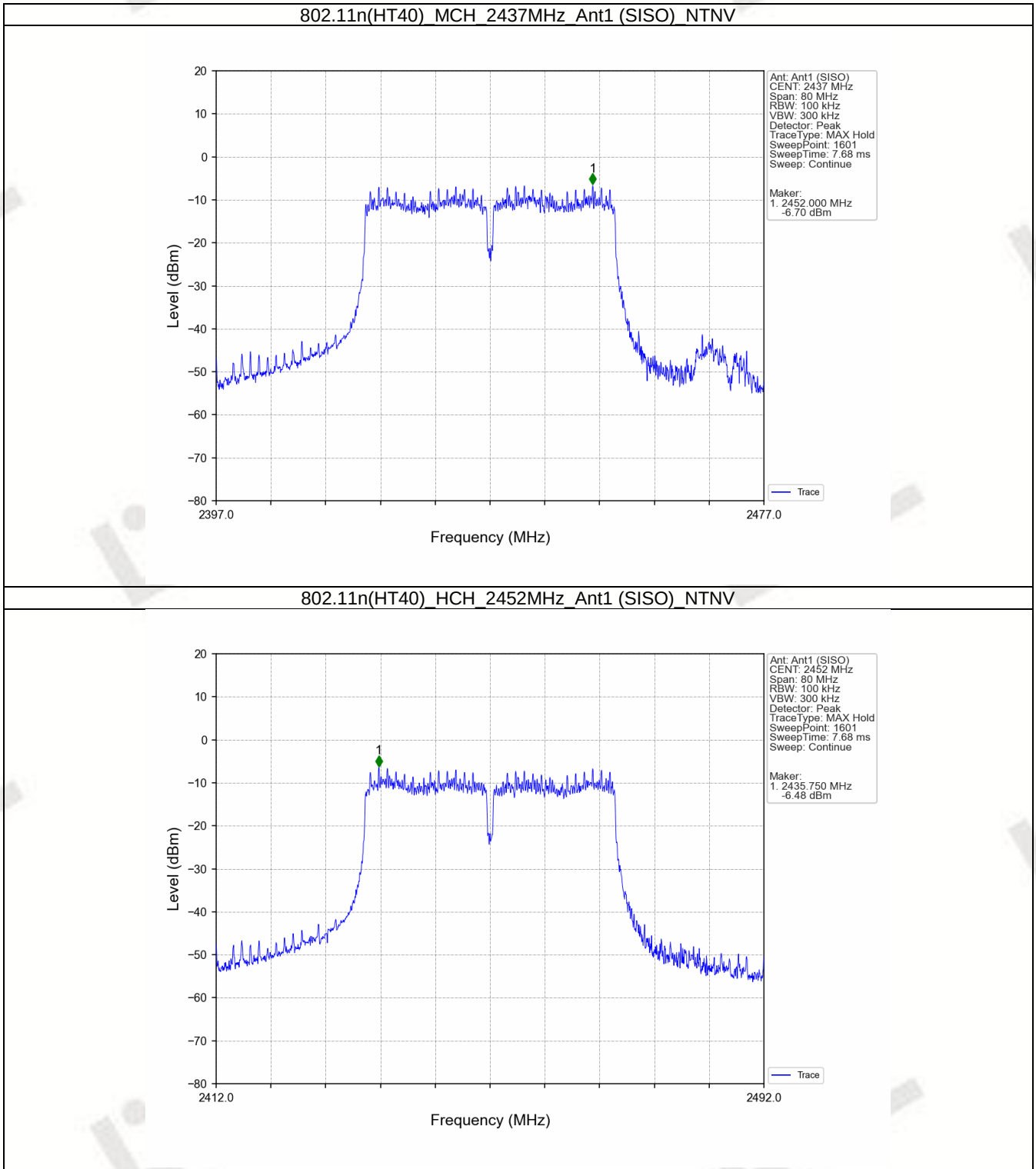
FCCID: 2APQC-TIDE16



FCCID: 2APQC-TIDE16

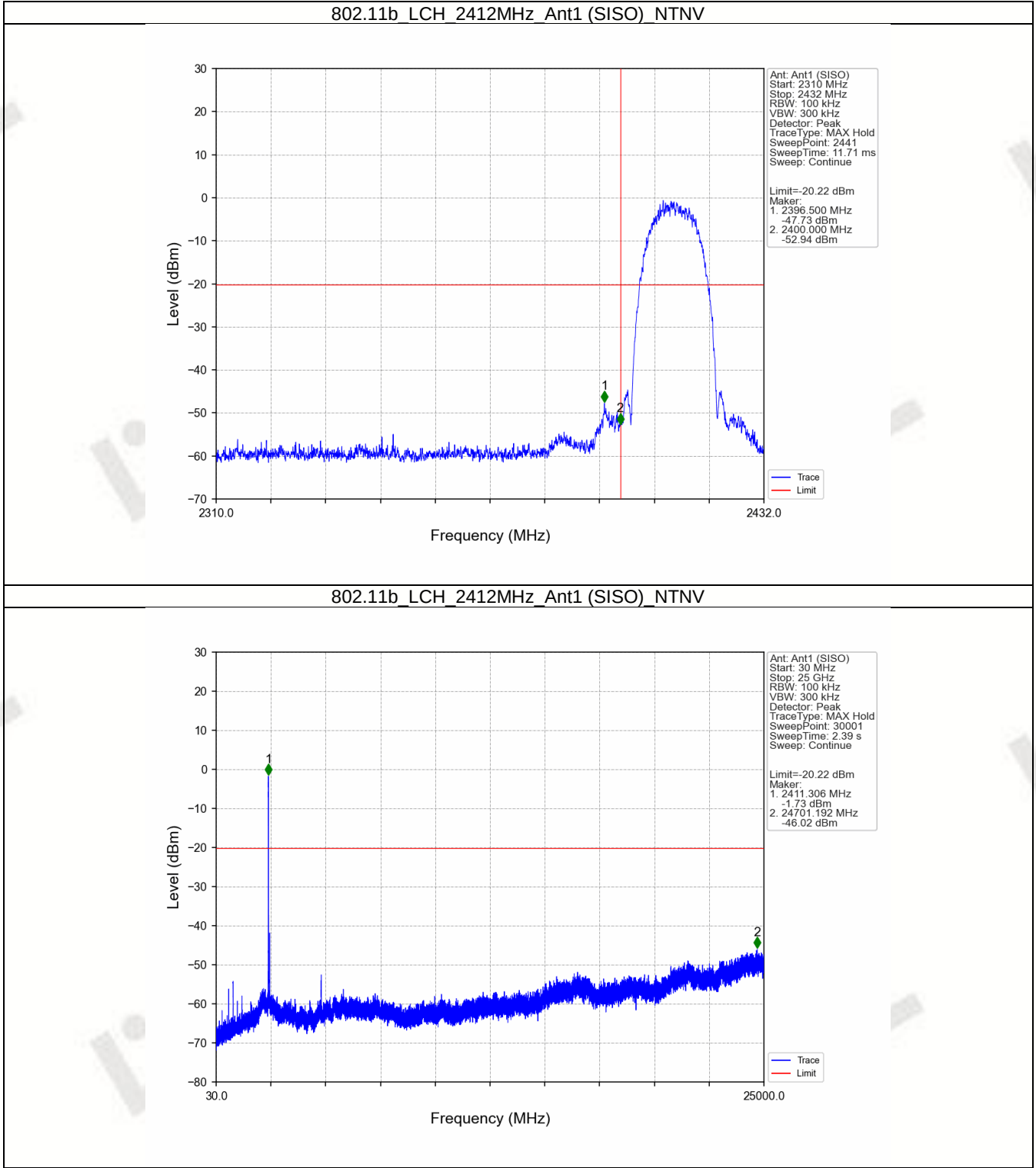


FCCID: 2APQC-TIDE16

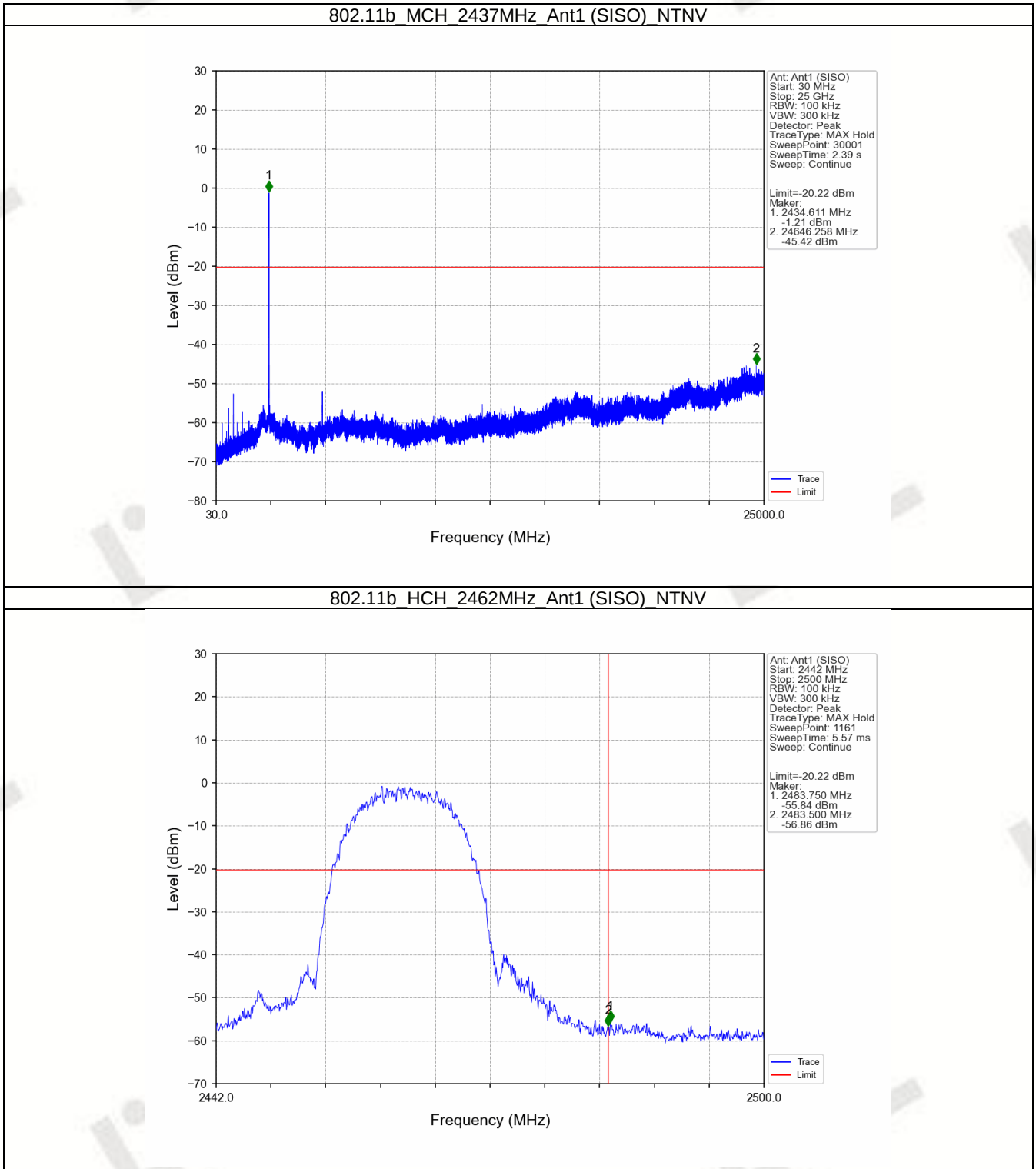


FCCID: 2APQC-TIDE16

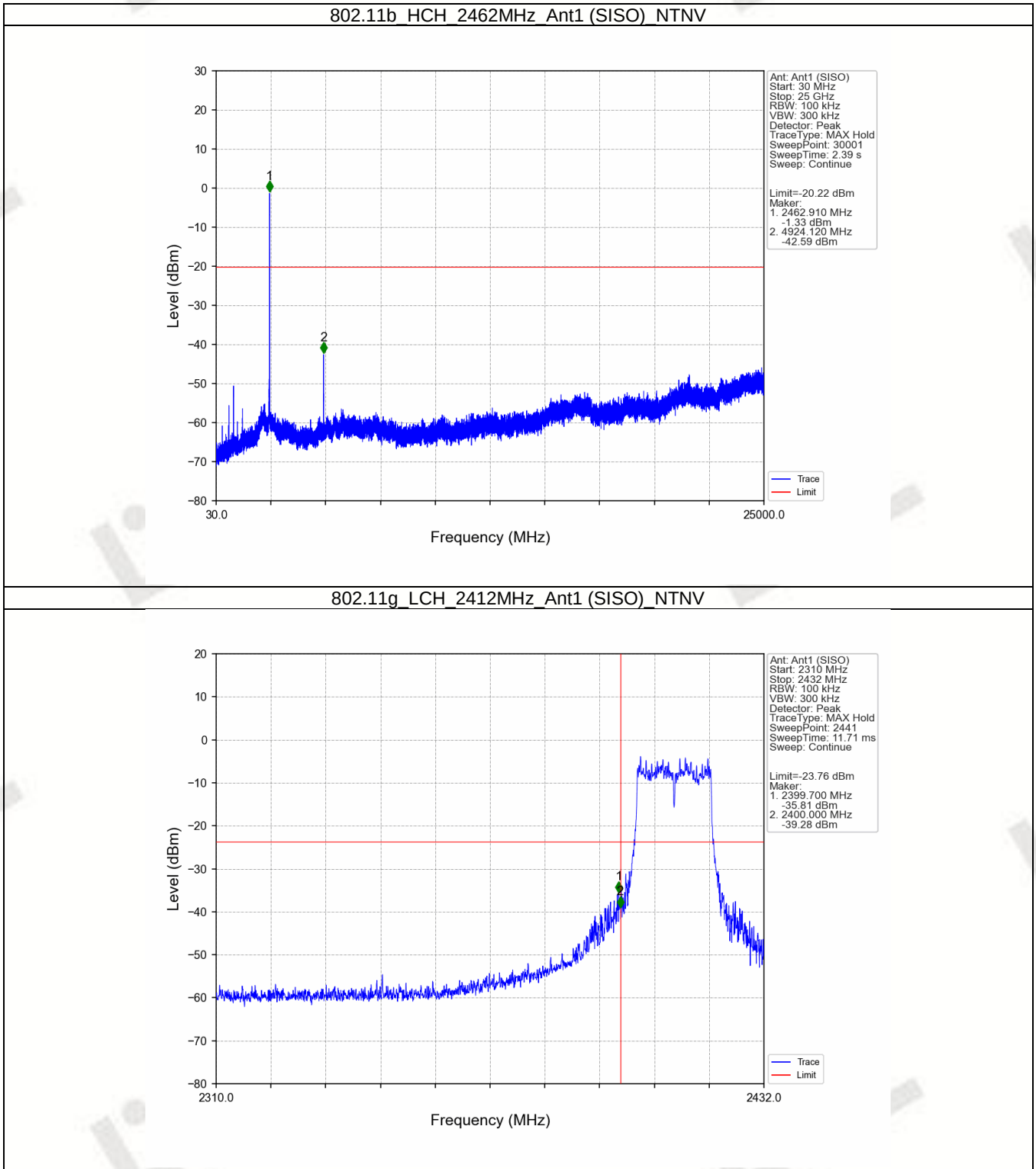
4.2.2 CSE



FCCID: 2APQC-TIDE16

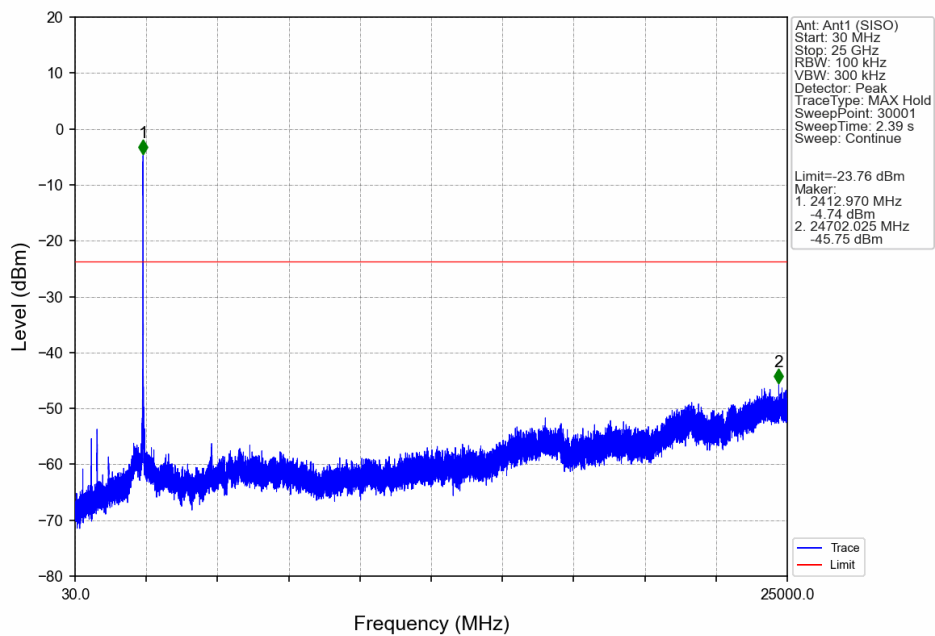


FCCID: 2APQC-TIDE16

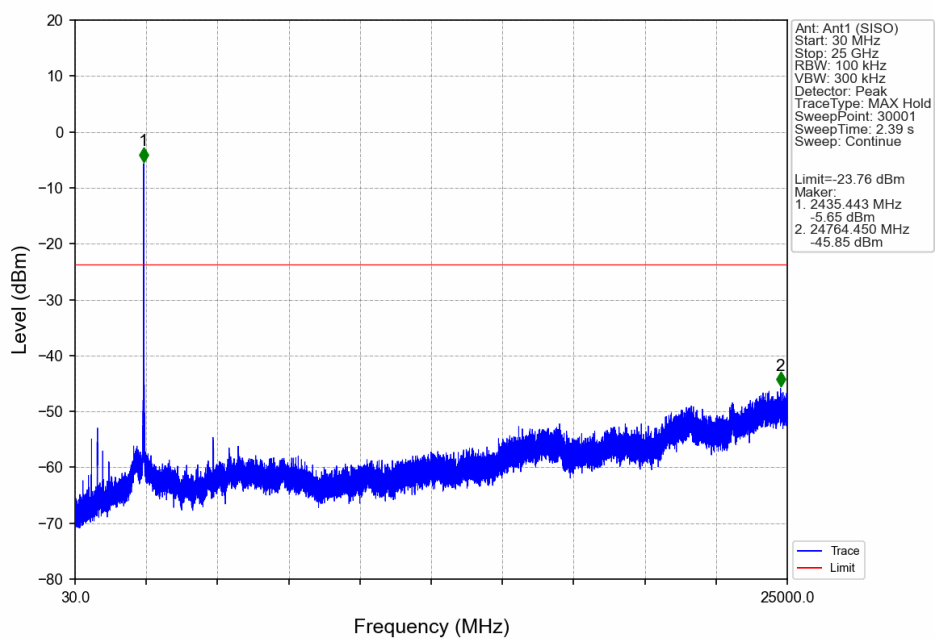


FCCID: 2APQC-TIDE16

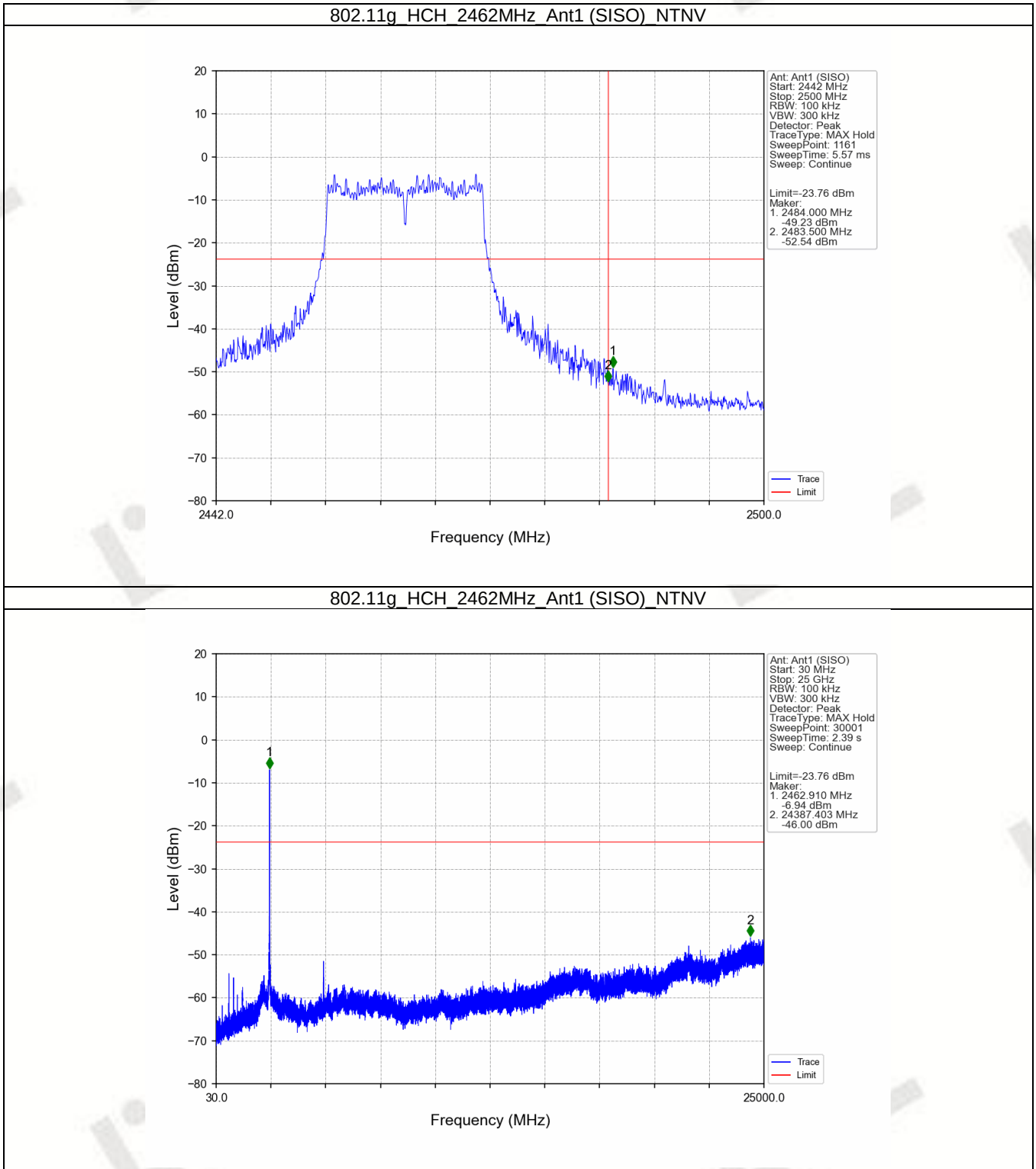
802.11g LCH 2412MHz Ant1 (SISO) NTNV



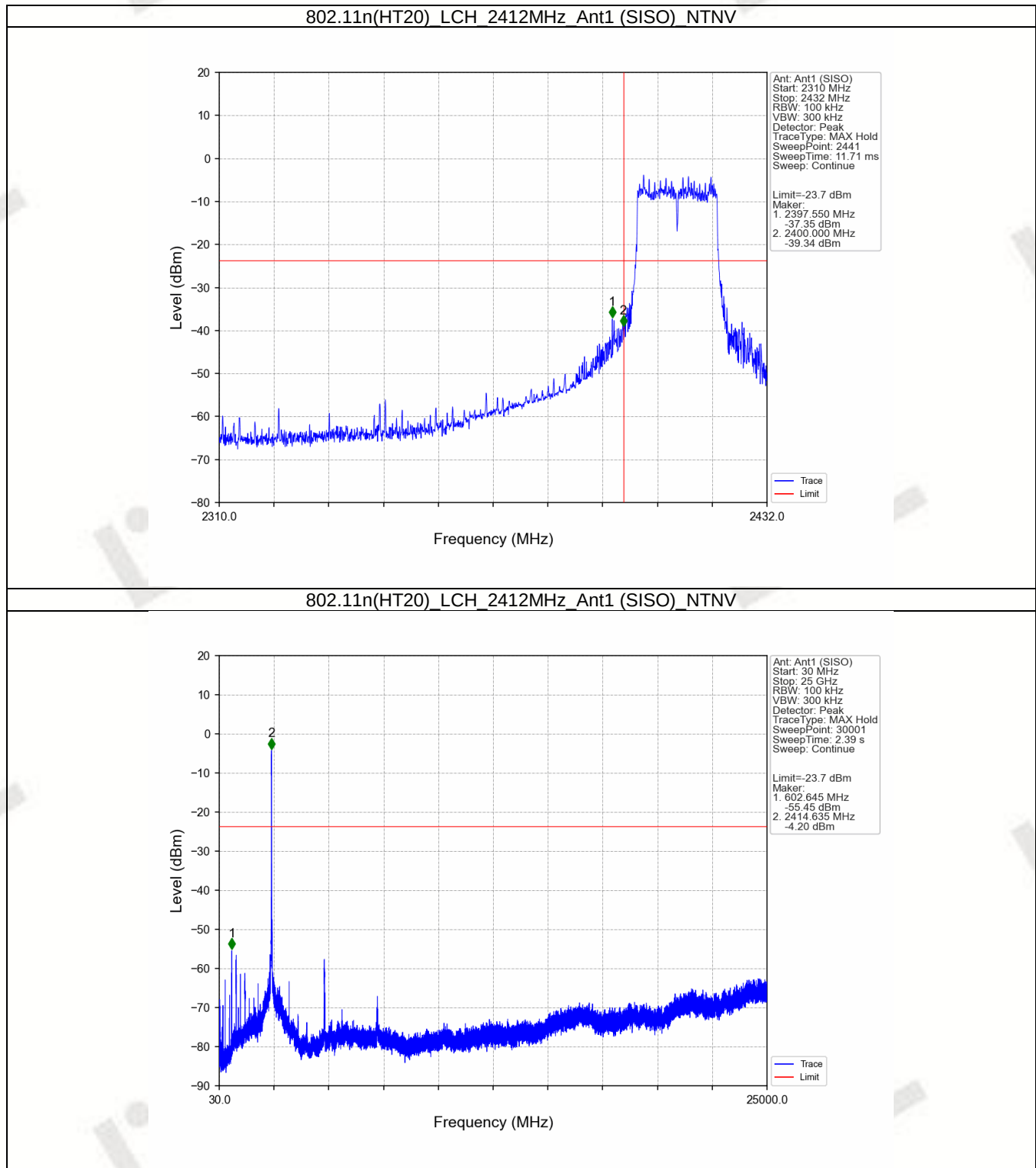
802.11g MCH 2437MHz Ant1 (SISO) NTNV



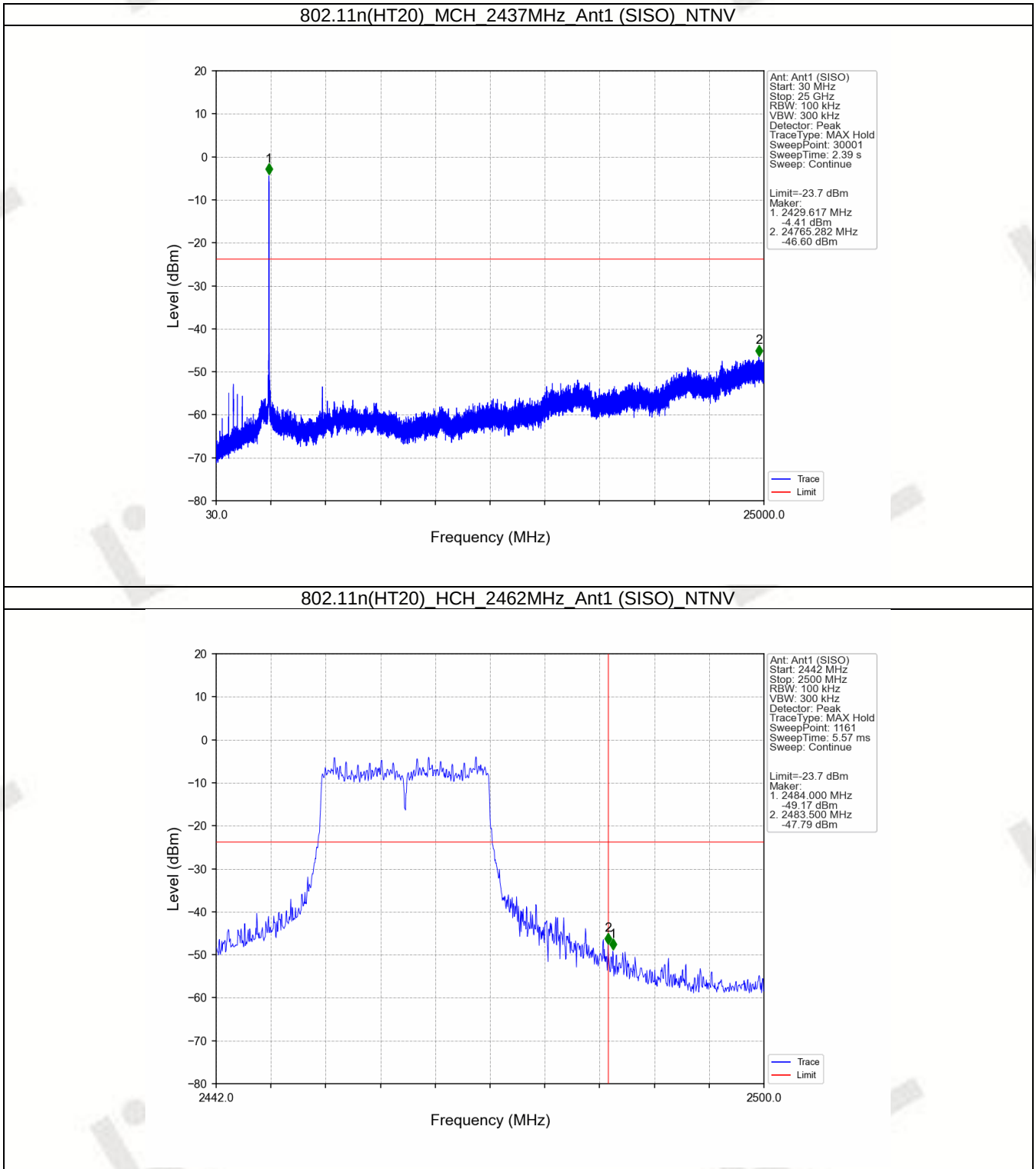
FCCID: 2APQC-TIDE16



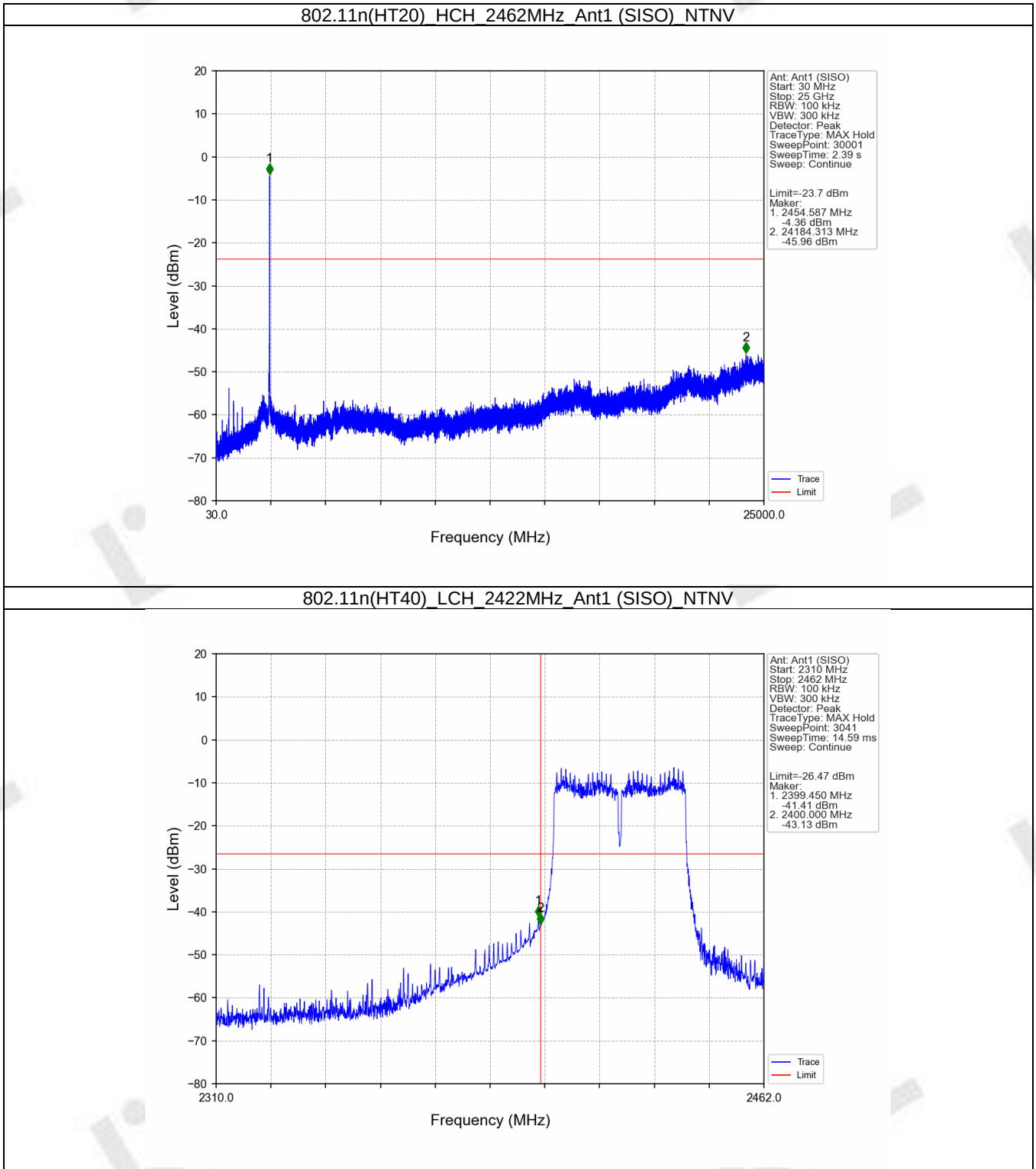
FCCID: 2APQC-TIDE16



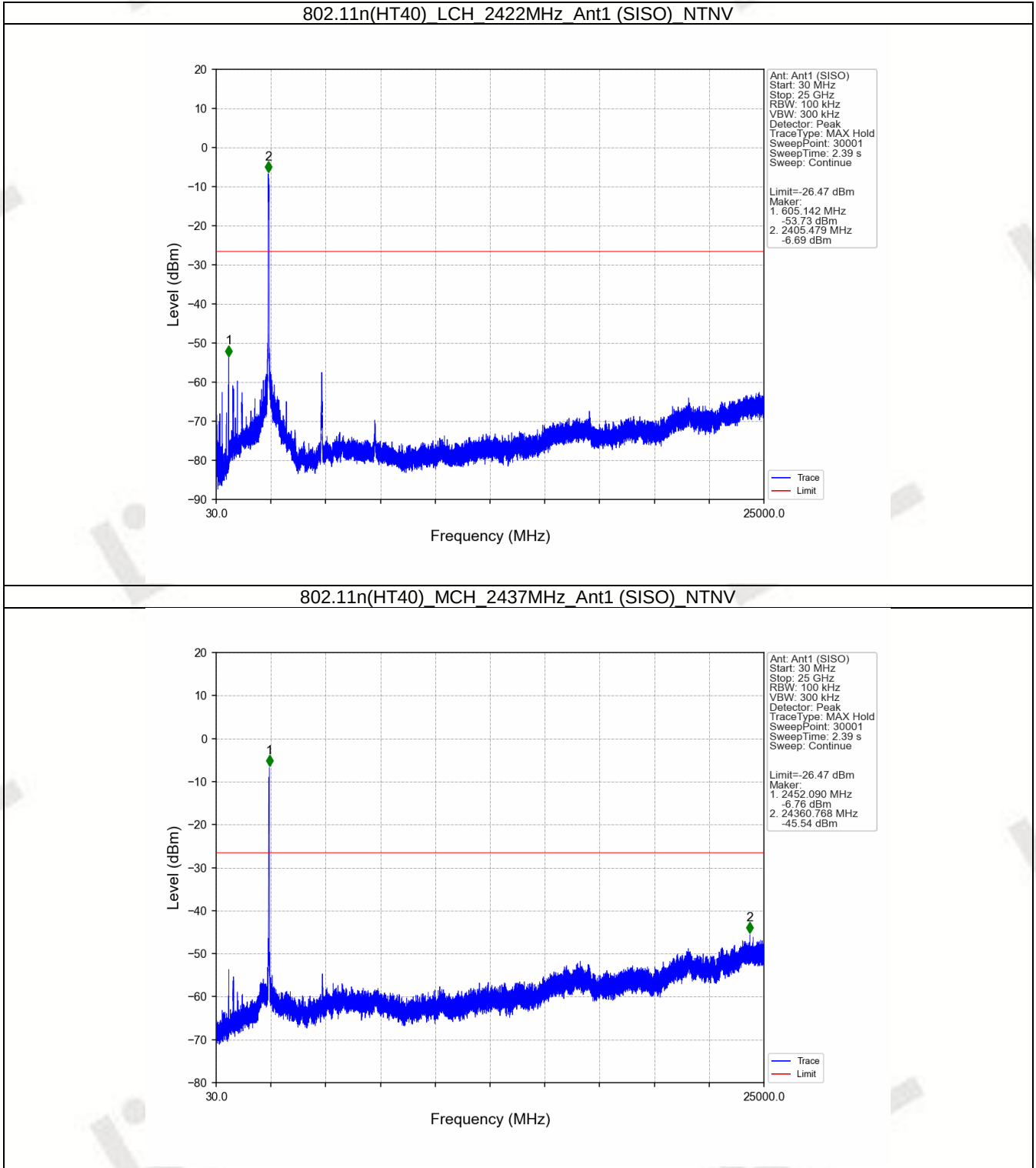
FCCID: 2APQC-TIDE16



FCCID: 2APQC-TIDE16



FCCID: 2APQC-TIDE16



FCCID: 2APQC-TIDE16

