



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 5G Wi-Fi BAND 2C

Test Report No.: CTL2603252101-WF04

TABLE OF CONTENTS

Annex for 5G Wi-Fi BAND 2C	1
Test Report No.: CTL2603252101-WF04	1
TABLE OF CONTENTS	1
1. Duty Cycle	3
1.1 Test Result	3
1.1.1 Ant1	3
1.2 Test Graph	4
1.2.1 Ant1	4
2. Bandwidth	13
2.1 Test Result	13
2.1.1 OBW	13
2.1.2 26dB BW	13
2.2 Test Graph	14
2.2.1 OBW	14
2.2.2 26dB BW	23
3. Maximum Conducted Output Power	32
3.1 Test Result	32
3.1.1 Power	32
3.2 Test Graph	33
3.2.1 Power	33

FCC ID: 2BWH8-17PROMAX

4. Maximum Power Spectral Density	42
4.1 Test Result	42
4.1.1 PSD	42
4.2 Test Graph	43
4.2.1 PSD	43
5. Frequency Stability	52
5.1 Test Result	52
5.1.1 Ant1	52
6. Form731	53
6.1 Test Result	53
6.1.1 Form731	53

FCC ID: 2BWH8-17PROMAX

1. Duty Cycle

1.1 Test Result

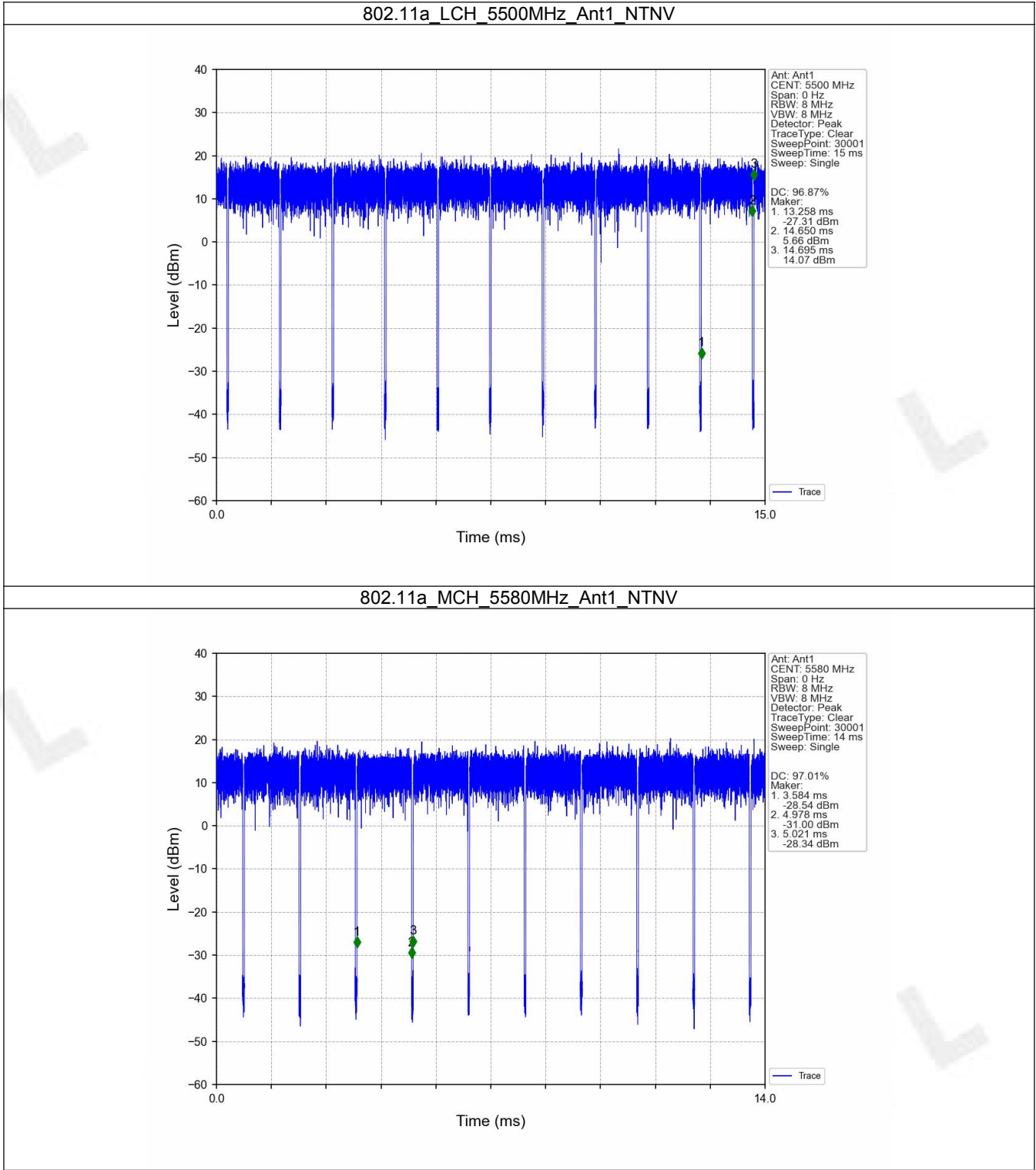
1.1.1 Ant1

Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11a	SISO	5500	1.392	1.437	96.87	0.14	0.07
		5580	1.394	1.437	97.01	0.13	0.03
		5700	1.393	1.437	96.94	0.14	0.07
802.11n (HT20)	SISO	5500	1.301	1.345	96.73	0.14	0.07
		5580	1.301	1.344	96.80	0.14	0.07
		5700	1.300	1.345	96.65	0.15	0.03
802.11n (HT40)	SISO	5510	0.649	0.693	93.65	0.28	0.07
		5550	0.649	0.692	93.79	0.28	0.04
		5670	0.649	0.692	93.79	0.28	0.04
802.11ac (VHT20)	SISO	5500	1.313	1.357	96.76	0.14	0.03
		5580	1.313	1.357	96.76	0.14	0.07
		5700	1.313	1.357	96.76	0.14	0.03
802.11ac (VHT40)	SISO	5510	0.652	0.696	93.68	0.28	0.03
		5550	0.653	0.697	93.69	0.28	0.03
		5670	0.652	0.696	93.68	0.28	0.07
802.11ac (VHT80)	SISO	5530	0.324	0.368	88.04	0.55	0.10
		5610	0.324	0.368	88.04	0.55	0.04

FCC ID: 2BWH8-17PROMAX

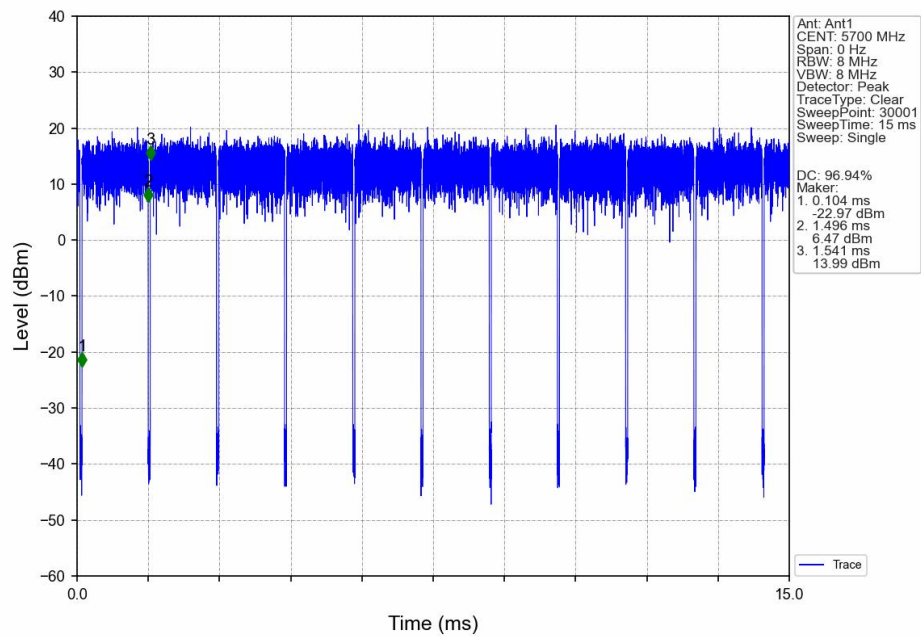
1.2 Test Graph

1.2.1 Ant1

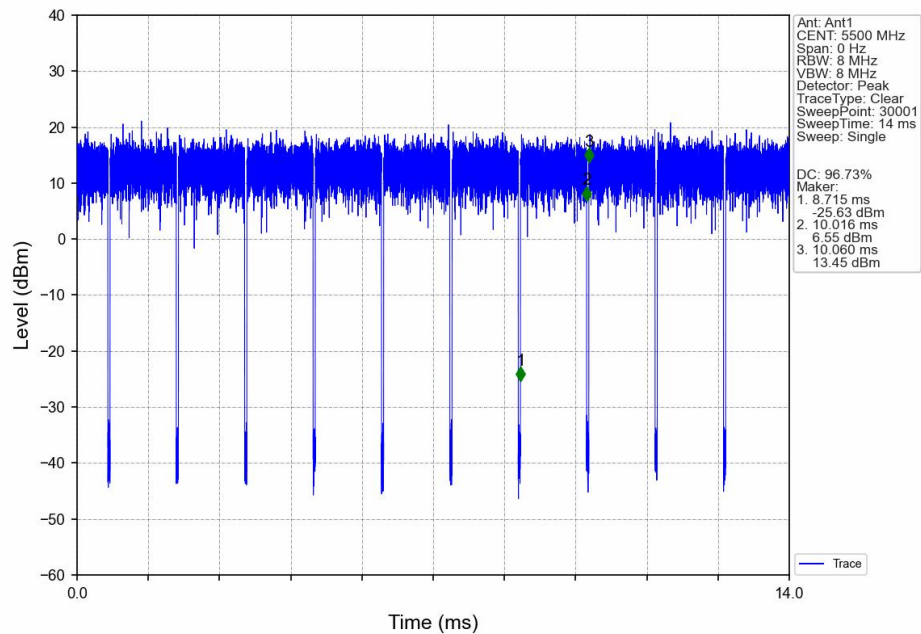


FCC ID: 2BWH8-17PROMAX

802.11a_HCH_5700MHz_Ant1_NTNV

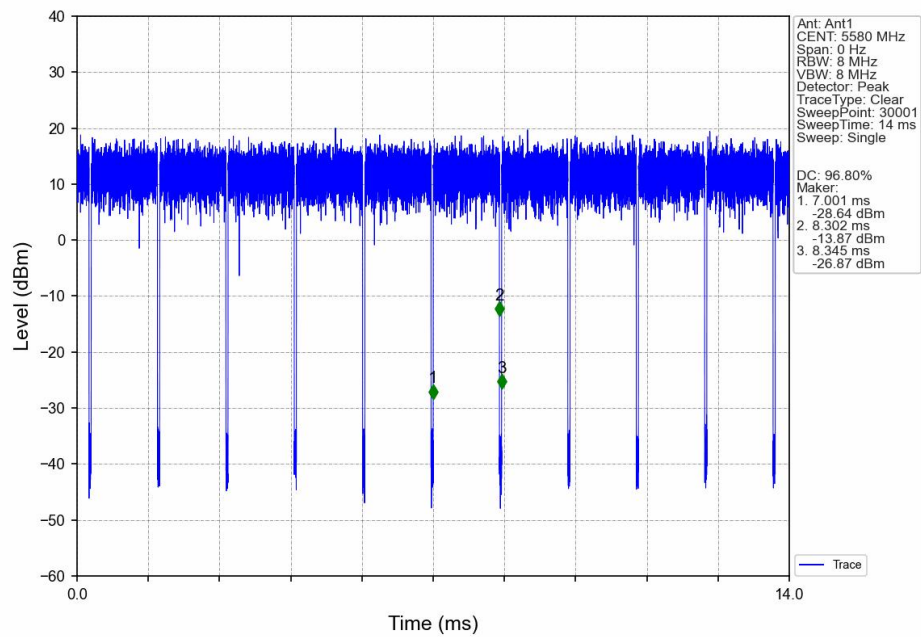


802.11n(HT20)_LCH_5500MHz_Ant1_NTNV

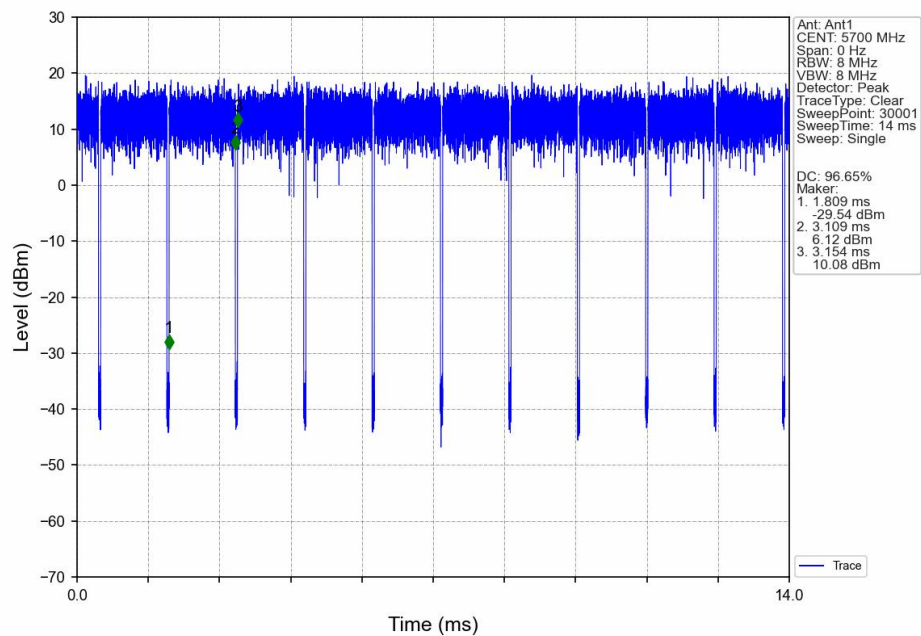


FCC ID: 2BWH8-17PROMAX

802.11n(HT20)_MCH_5580MHz_Ant1_NTNV

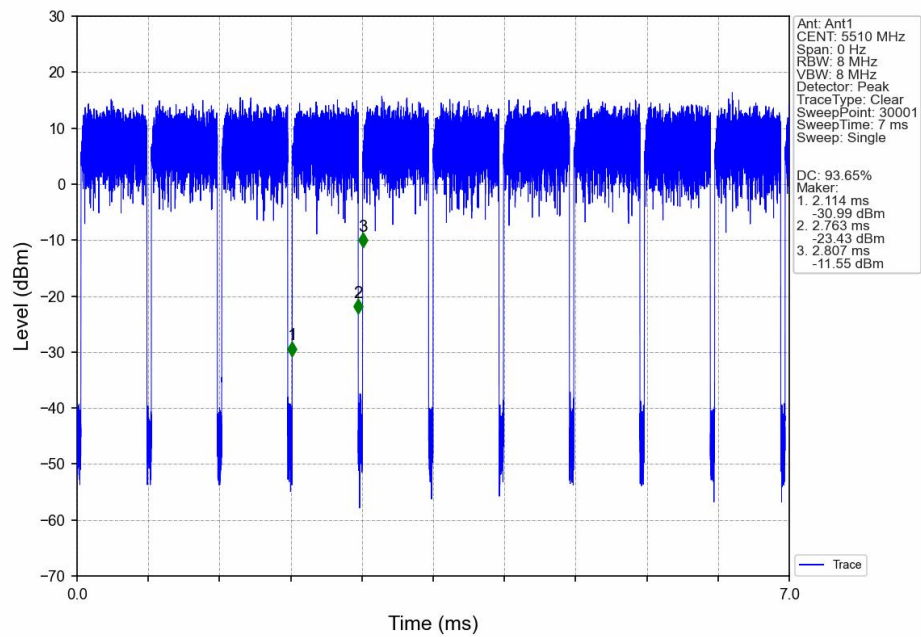


802.11n(HT20)_HCH_5700MHz_Ant1_NTNV

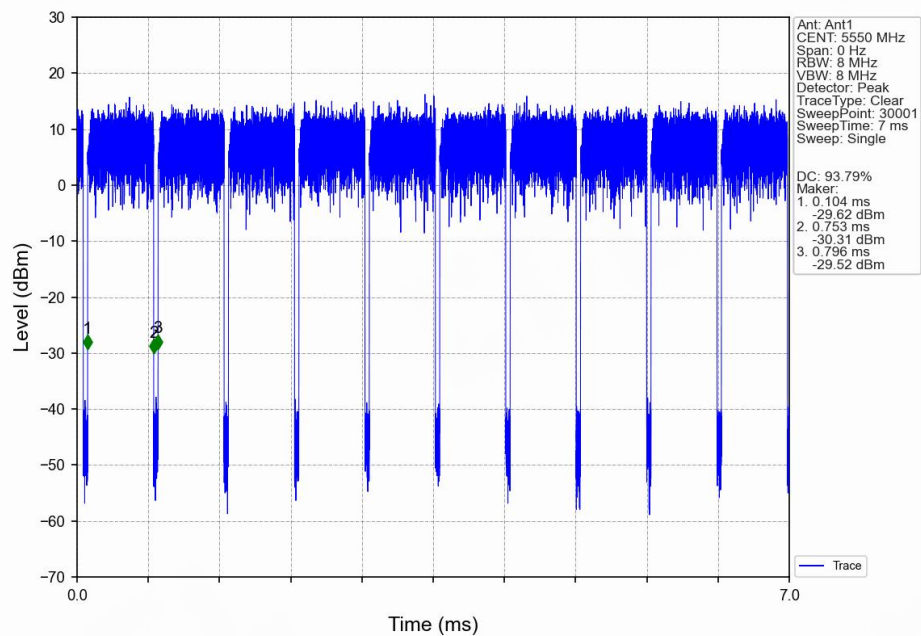


FCC ID: 2BWH8-17PROMAX

802.11n(HT40)_LCH_5510MHz_Ant1_NTNV

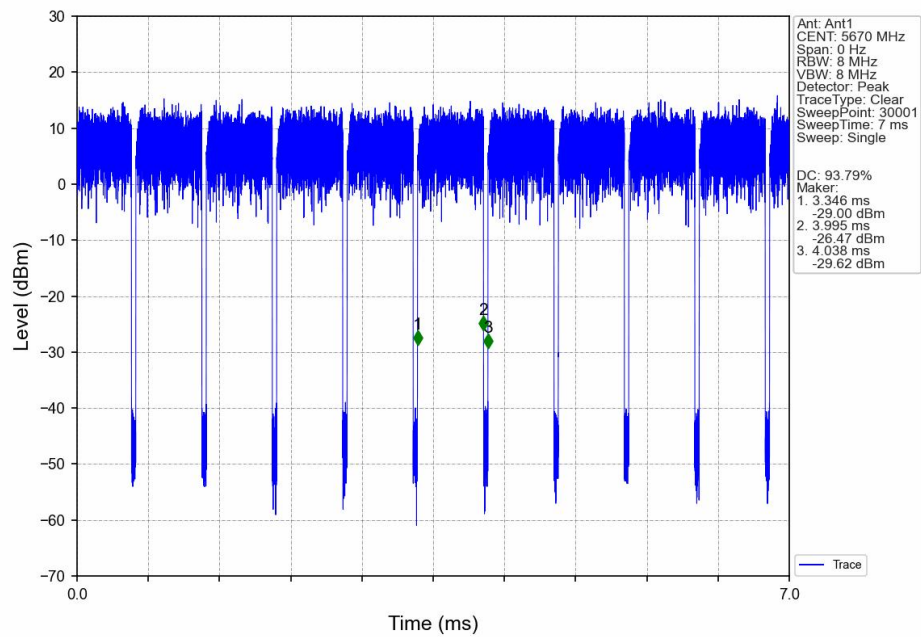


802.11n(HT40)_MCH_5550MHz_Ant1_NTNV

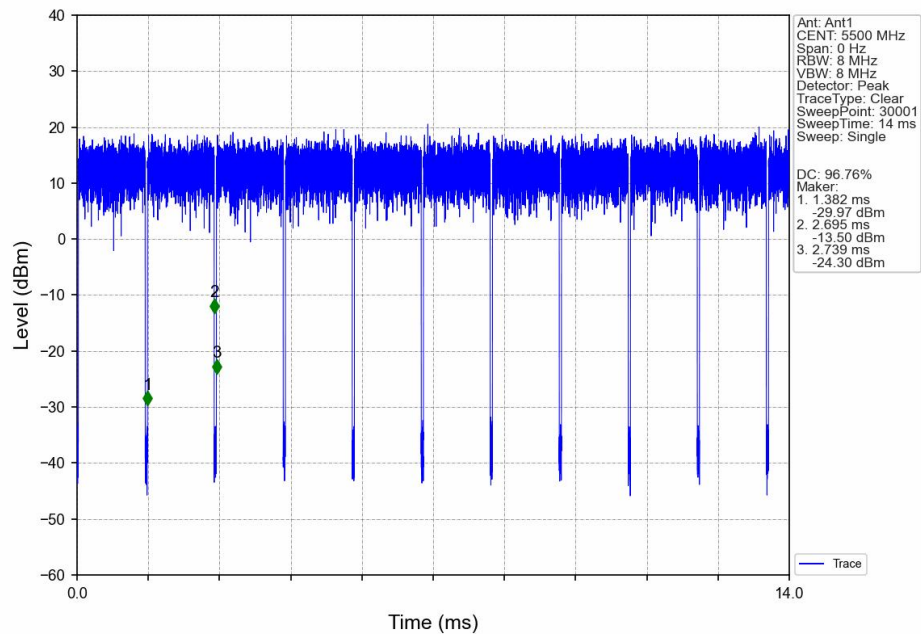


FCC ID: 2BWH8-17PROMAX

802.11n(HT40)_HCH_5670MHz_Ant1_NTNV

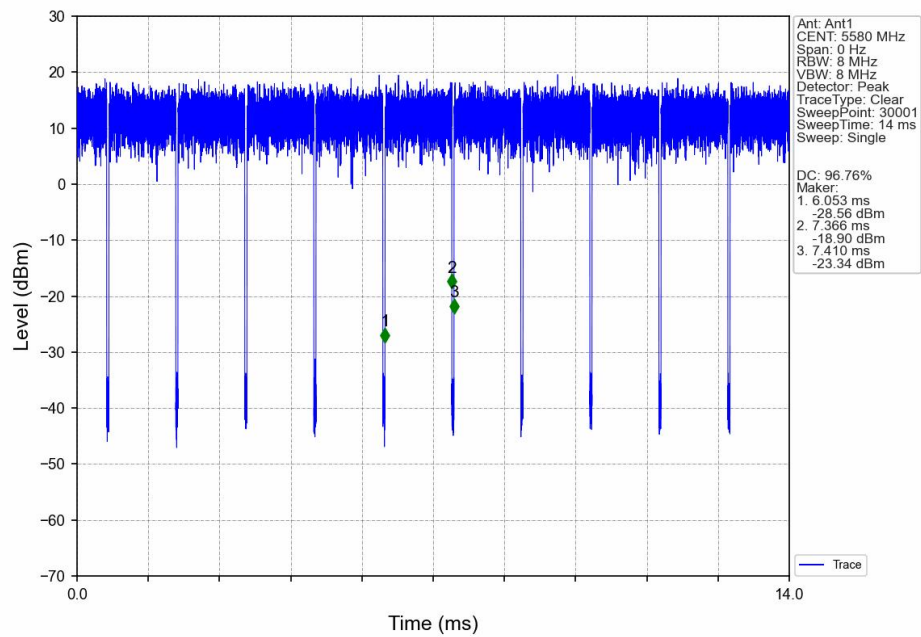


802.11ac(VHT20)_LCH_5500MHz_Ant1_NTNV

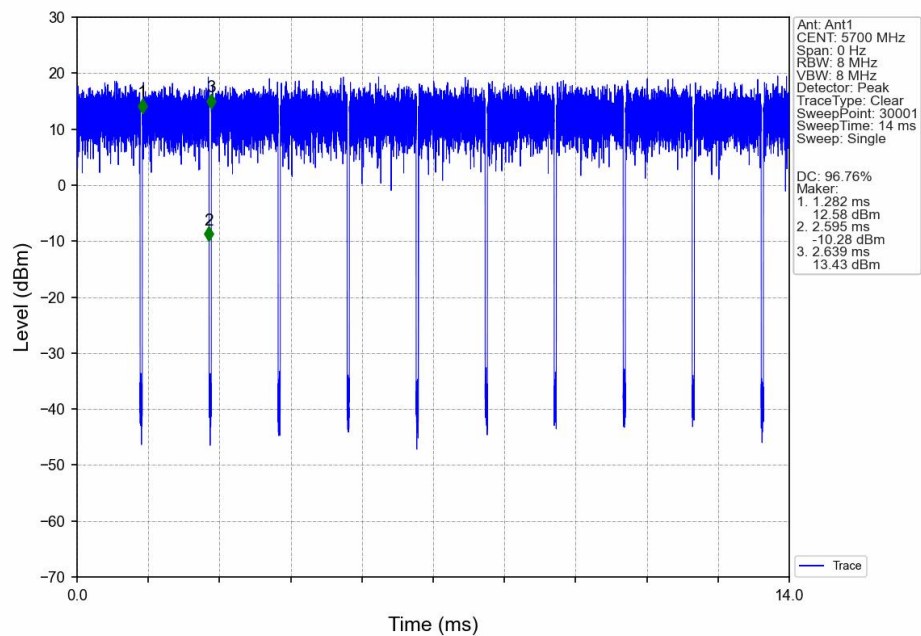


FCC ID: 2BWH8-17PROMAX

802.11ac(VHT20)_MCH_5580MHz_Ant1_NTNV

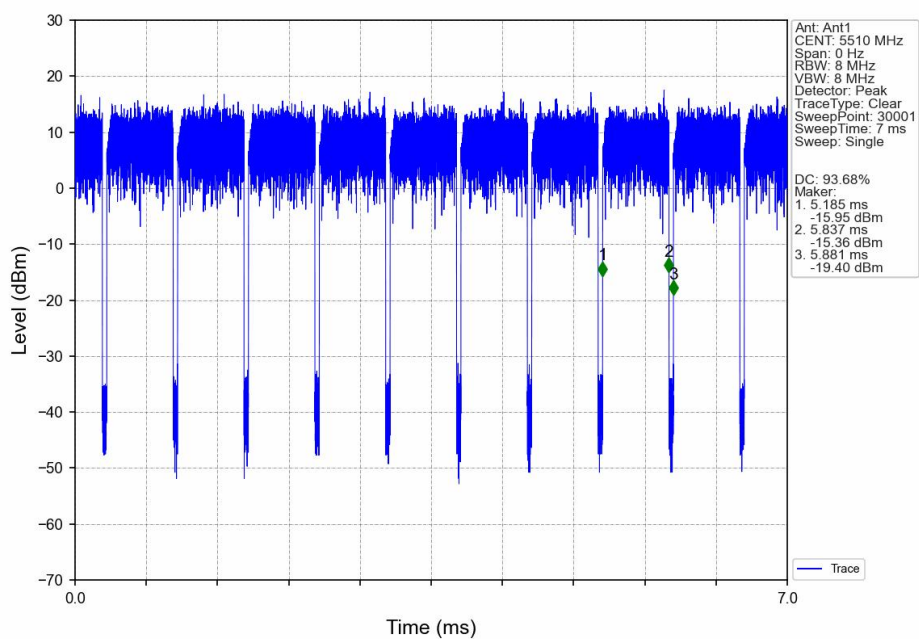


802.11ac(VHT20)_HCH_5700MHz_Ant1_NTNV

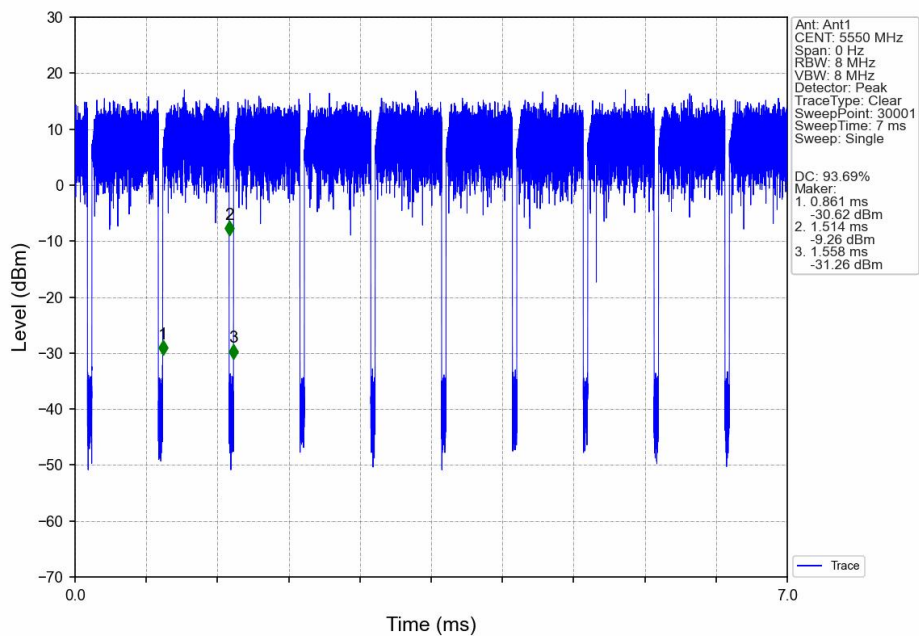


FCC ID: 2BWH8-17PROMAX

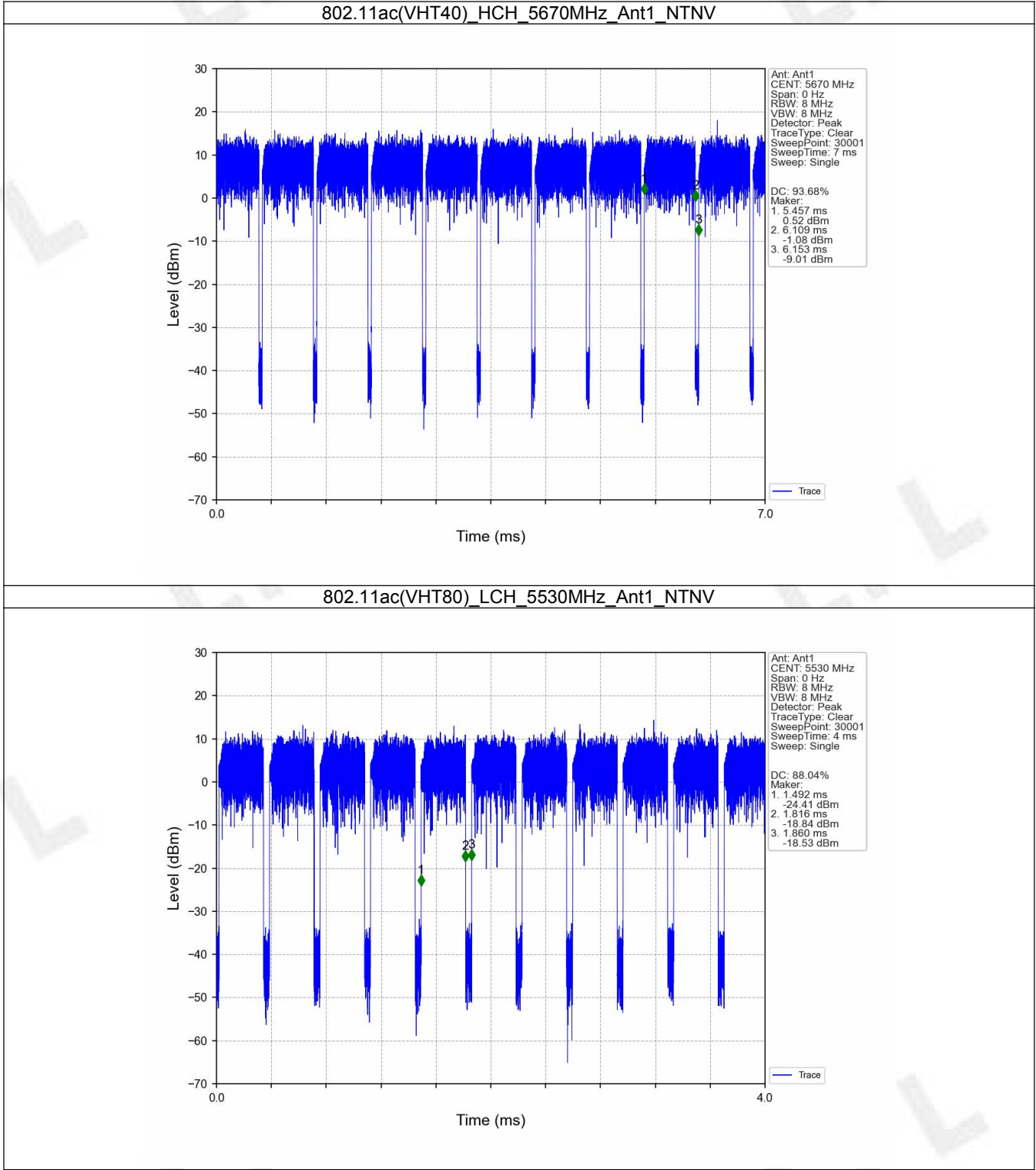
802.11ac(VHT40)_LCH_5510MHz_Ant1_NTNV



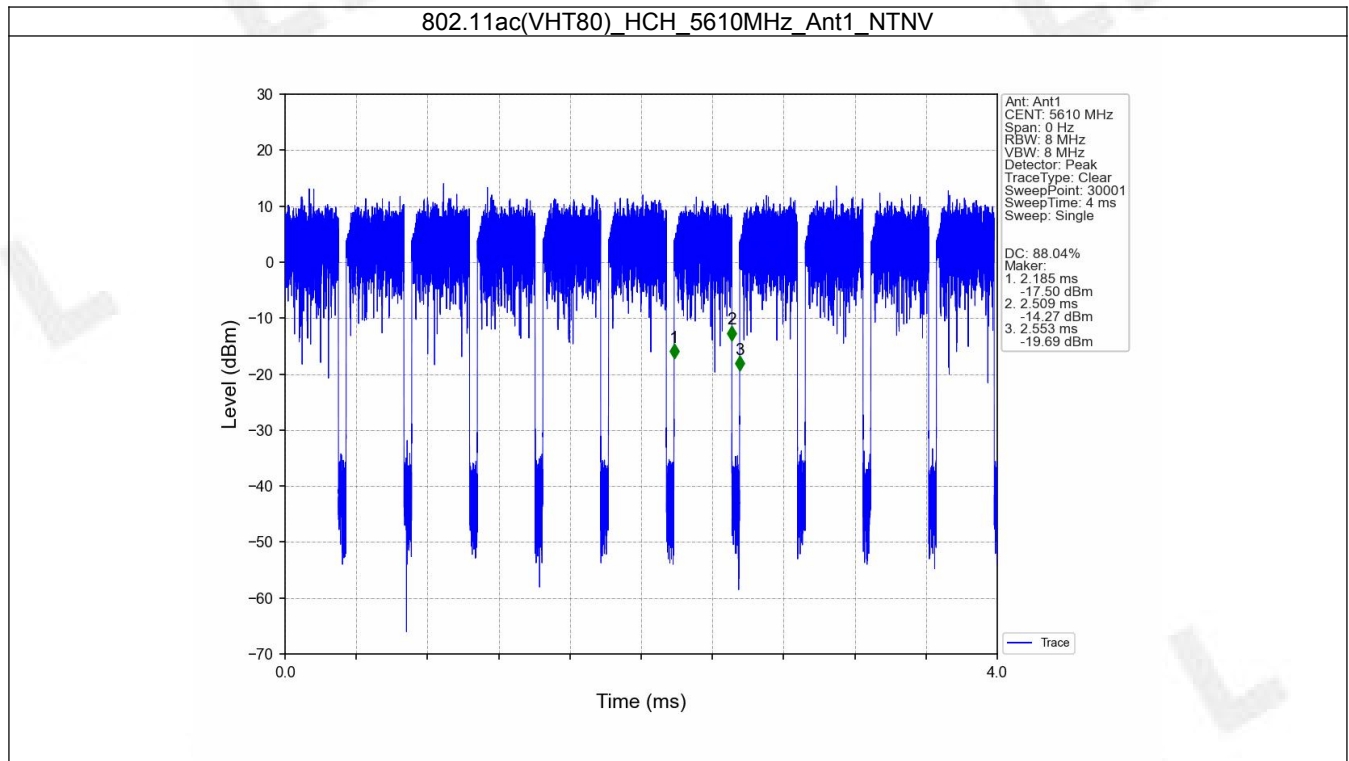
802.11ac(VHT40)_MCH_5550MHz_Ant1_NTNV



FCC ID: 2BWH8-17PROMAX



FCC ID: 2BWH8-17PROMAX



2. Bandwidth

2.1 Test Result

2.1.1 OBW

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5500	1	16.439	/	Pass
		5580	1	16.417	/	Pass
		5700	1	16.433	/	Pass
802.11n (HT20)	SISO	5500	1	17.596	/	Pass
		5580	1	17.584	/	Pass
		5700	1	17.550	/	Pass
802.11n (HT40)	SISO	5510	1	36.295	/	Pass
		5550	1	36.207	/	Pass
		5670	1	36.196	/	Pass
802.11ac (VHT20)	SISO	5500	1	17.543	/	Pass
		5580	1	17.574	/	Pass
		5700	1	17.569	/	Pass
802.11ac (VHT40)	SISO	5510	1	36.202	/	Pass
		5550	1	36.124	/	Pass
		5670	1	36.176	/	Pass
802.11ac (VHT80)	SISO	5530	1	75.246	/	Pass
		5610	1	75.207	/	Pass

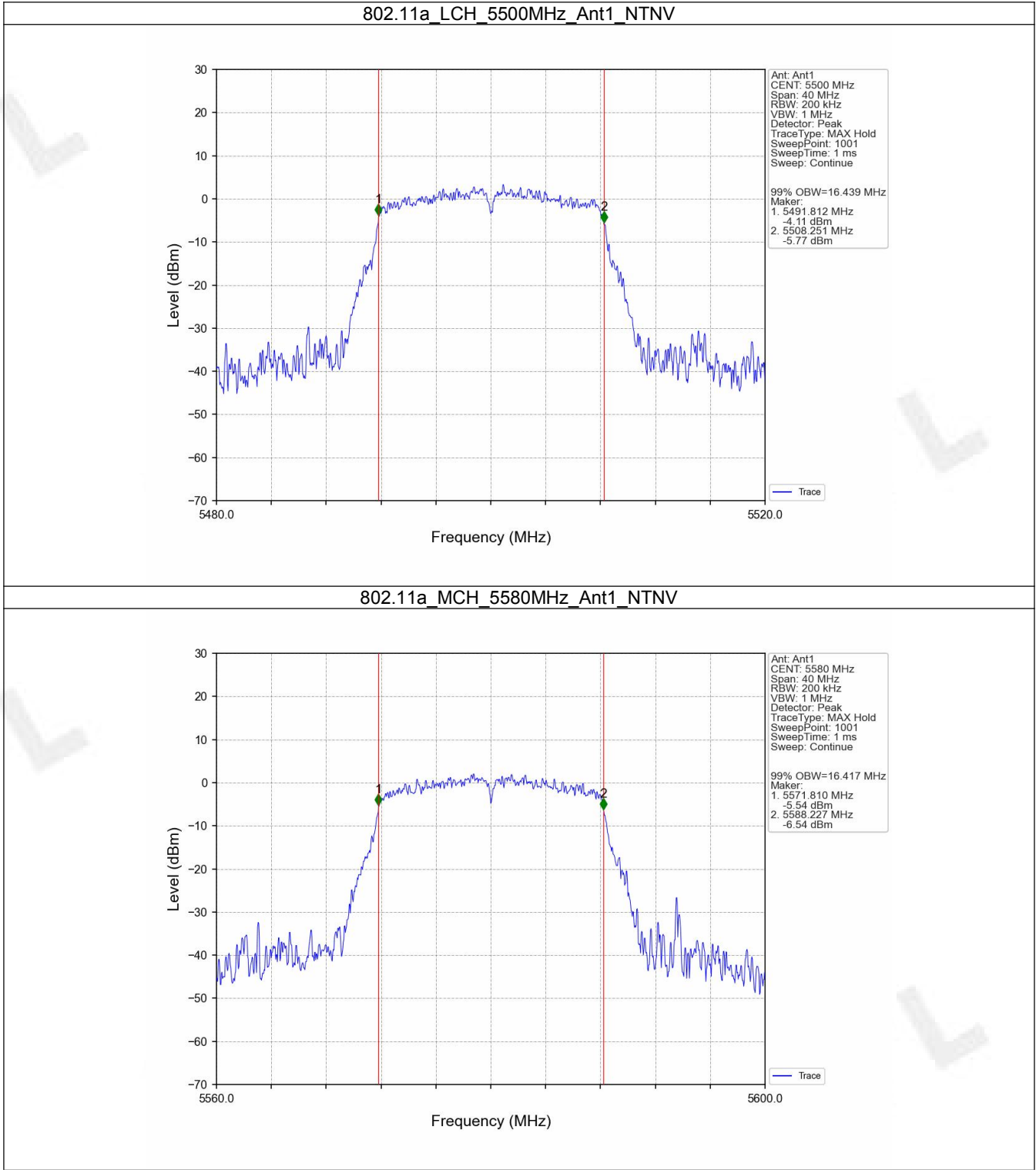
2.1.2 26dB BW

Mode	TX Type	Frequency (MHz)	ANT	26dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5500	1	19.964	/	Pass
		5580	1	19.900	/	Pass
		5700	1	19.898	/	Pass
802.11n (HT20)	SISO	5500	1	20.295	/	Pass
		5580	1	20.431	/	Pass
		5700	1	19.902	/	Pass
802.11n (HT40)	SISO	5510	1	41.287	/	Pass
		5550	1	41.564	/	Pass
		5670	1	41.237	/	Pass
802.11ac (VHT20)	SISO	5500	1	19.948	/	Pass
		5580	1	20.144	/	Pass
		5700	1	20.387	/	Pass
802.11ac (VHT40)	SISO	5510	1	41.402	/	Pass
		5550	1	41.150	/	Pass
		5670	1	41.152	/	Pass
802.11ac (VHT80)	SISO	5530	1	81.002	/	Pass
		5610	1	81.401	/	Pass

FCC ID: 2BWH8-17PROMAX

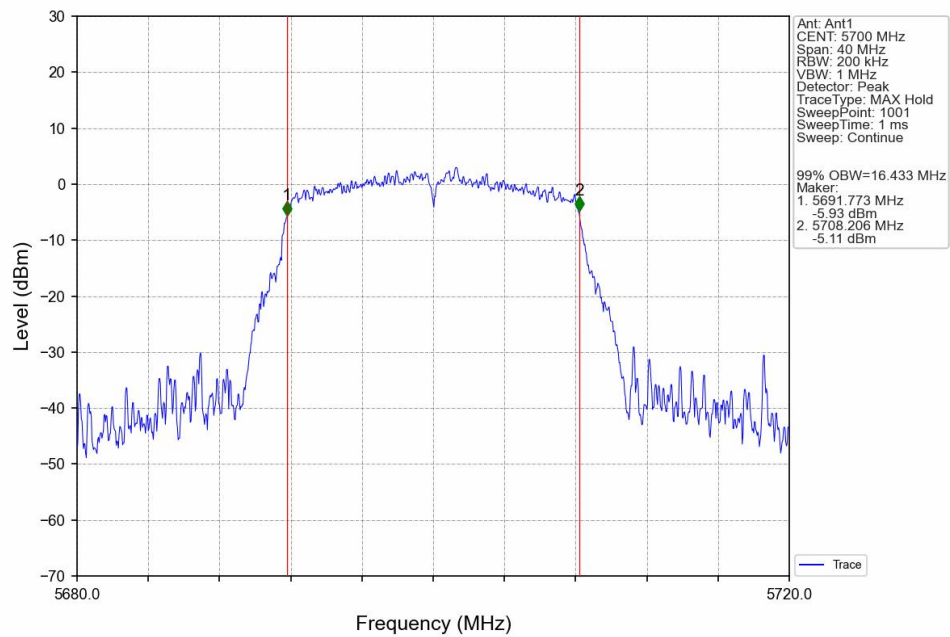
2.2 Test Graph

2.2.1 OBW

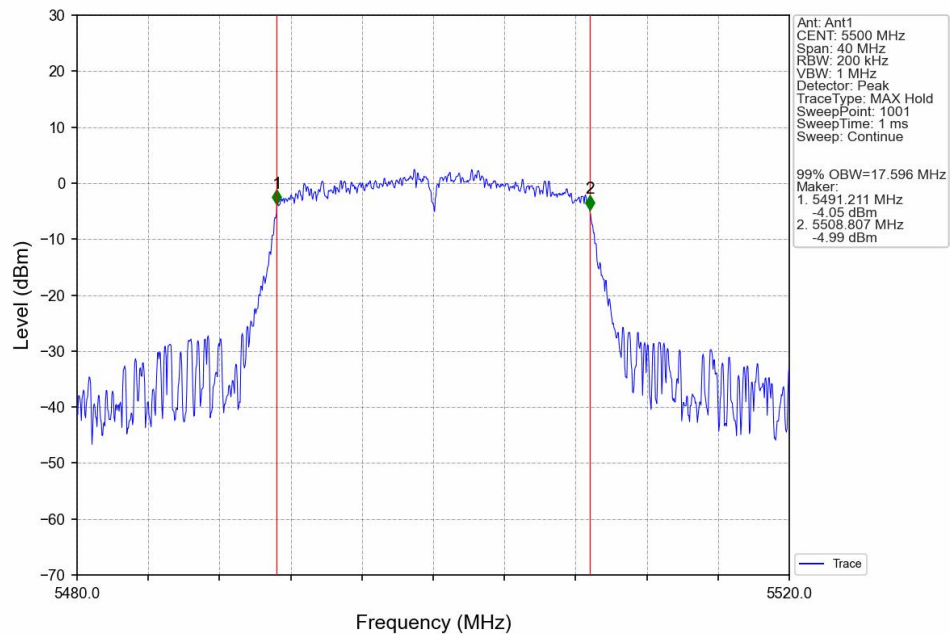


FCC ID: 2BWH8-17PROMAX

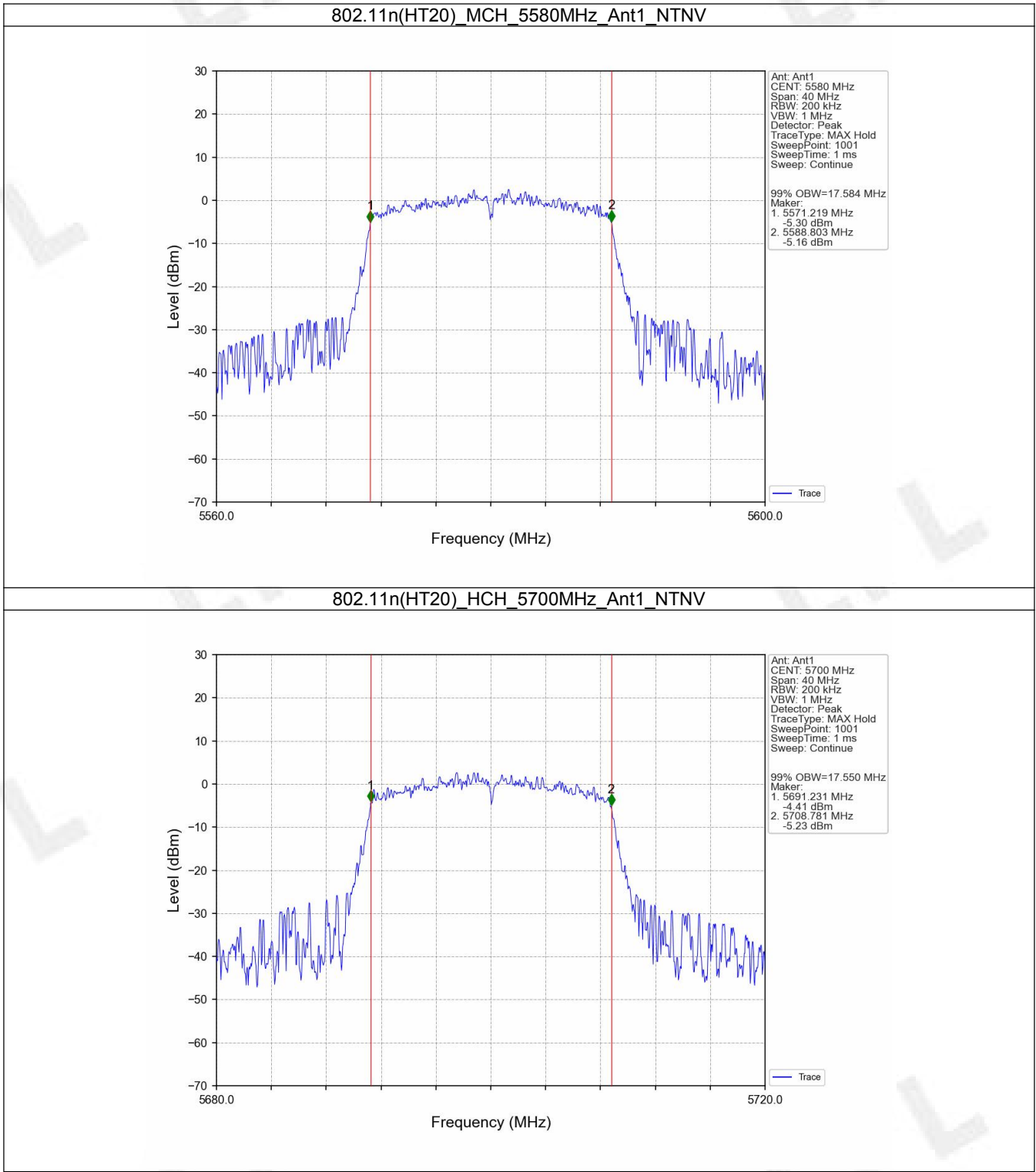
802.11a_HCH_5700MHz_Ant1_NTNV



802.11n(HT20)_LCH_5500MHz_Ant1_NTNV

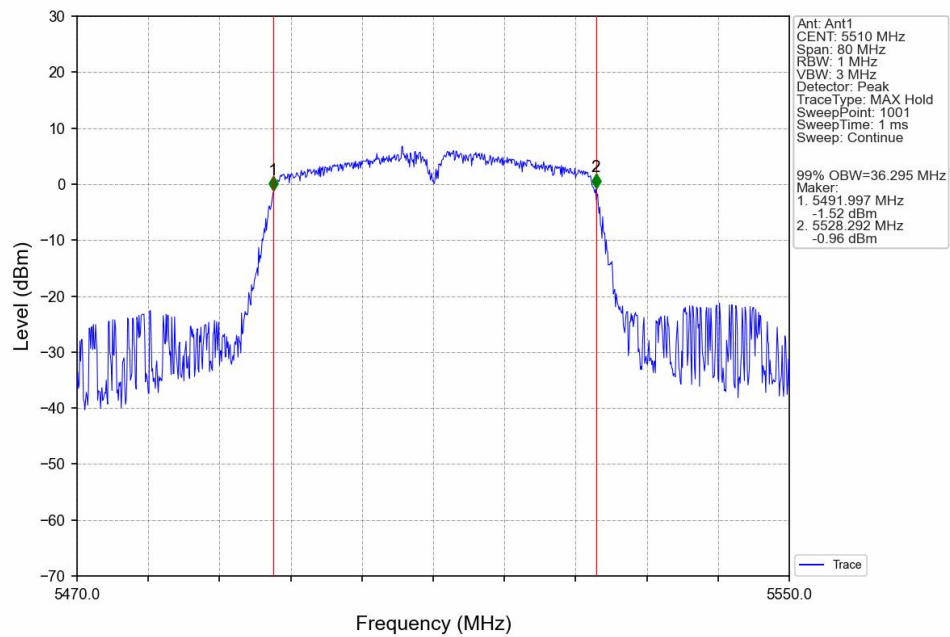


FCC ID: 2BWH8-17PROMAX

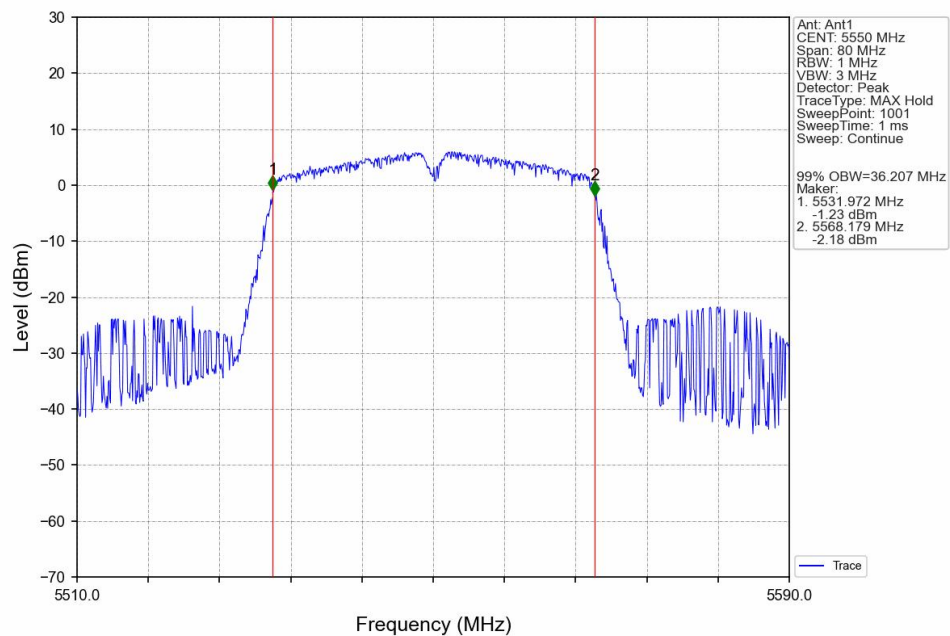


FCC ID: 2BWH8-17PROMAX

802.11n(HT40)_LCH_5510MHz_Ant1_NTNV

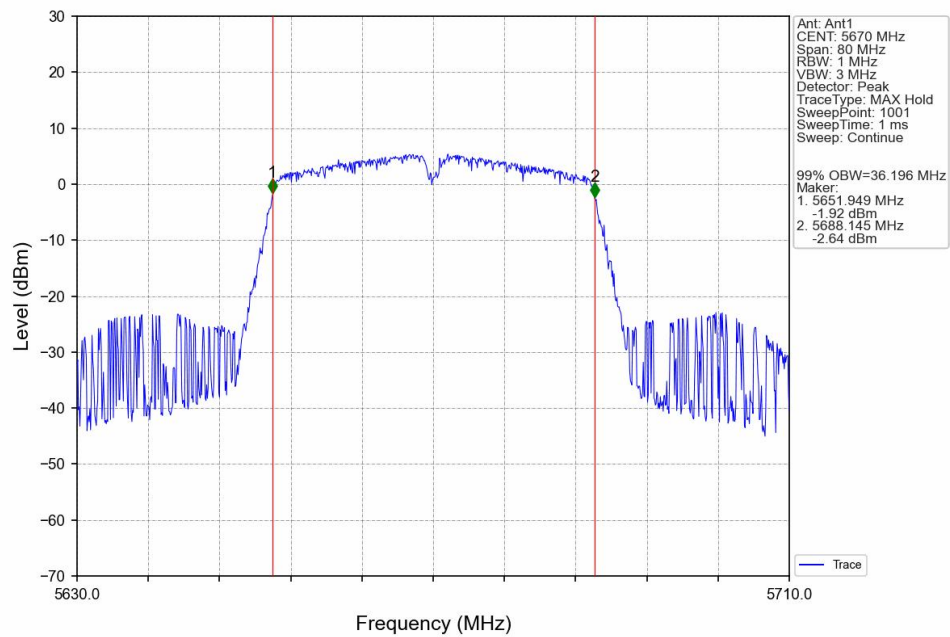


802.11n(HT40)_MCH_5550MHz_Ant1_NTNV

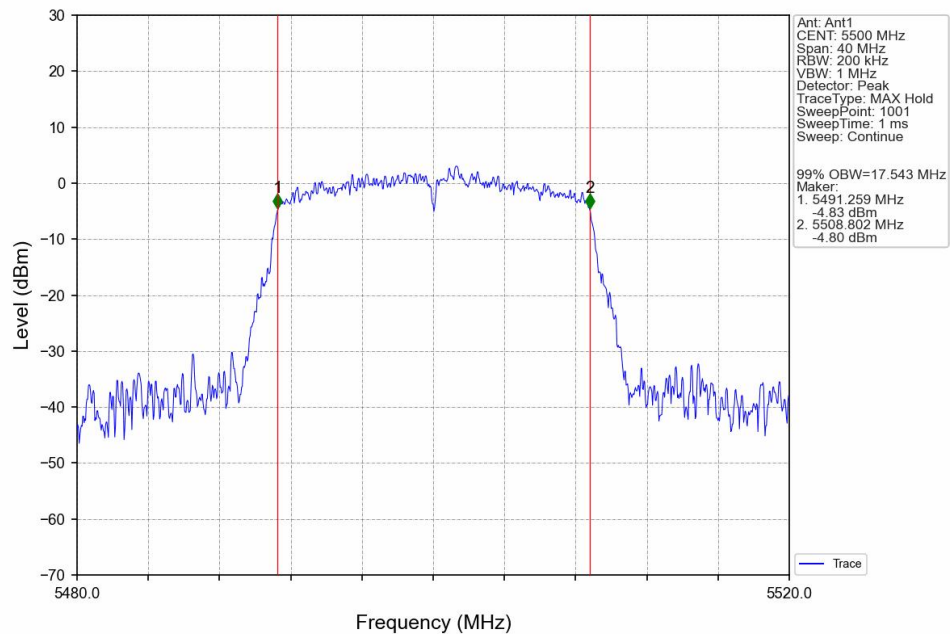


FCC ID: 2BWH8-17PROMAX

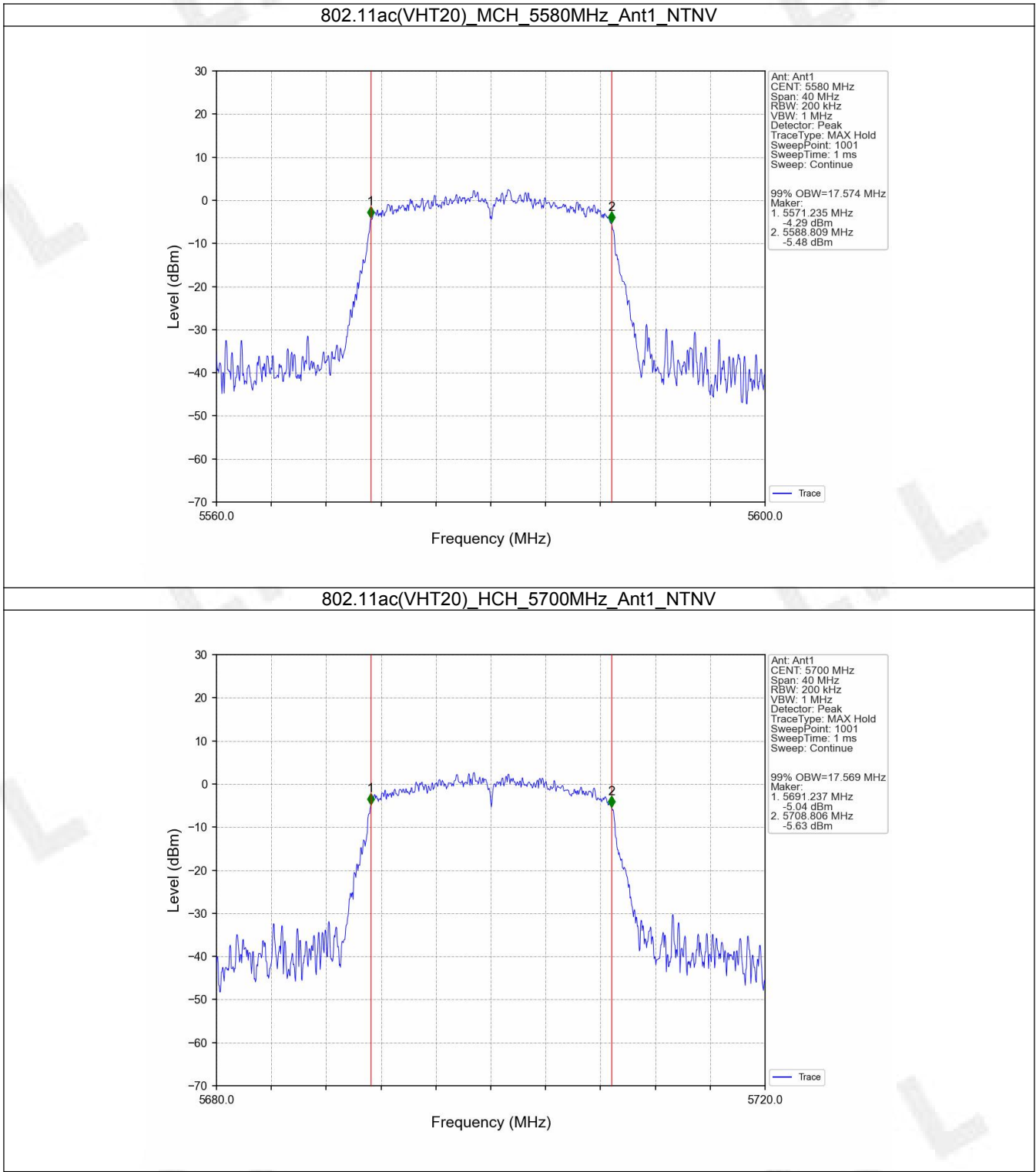
802.11n(HT40)_HCH_5670MHz_Ant1_NTNV



802.11ac(VHT20)_LCH_5500MHz_Ant1_NTNV

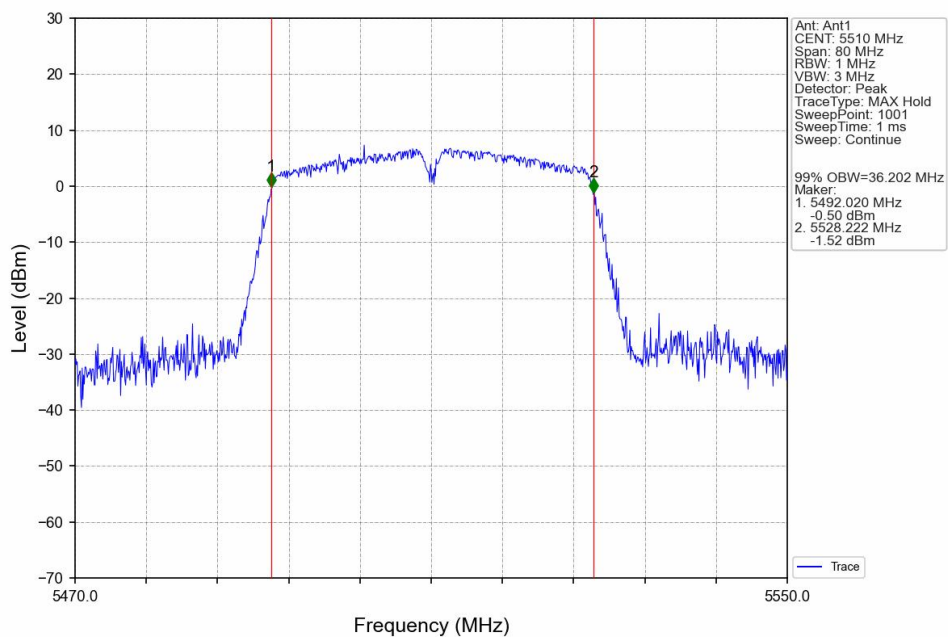


FCC ID: 2BWH8-17PROMAX

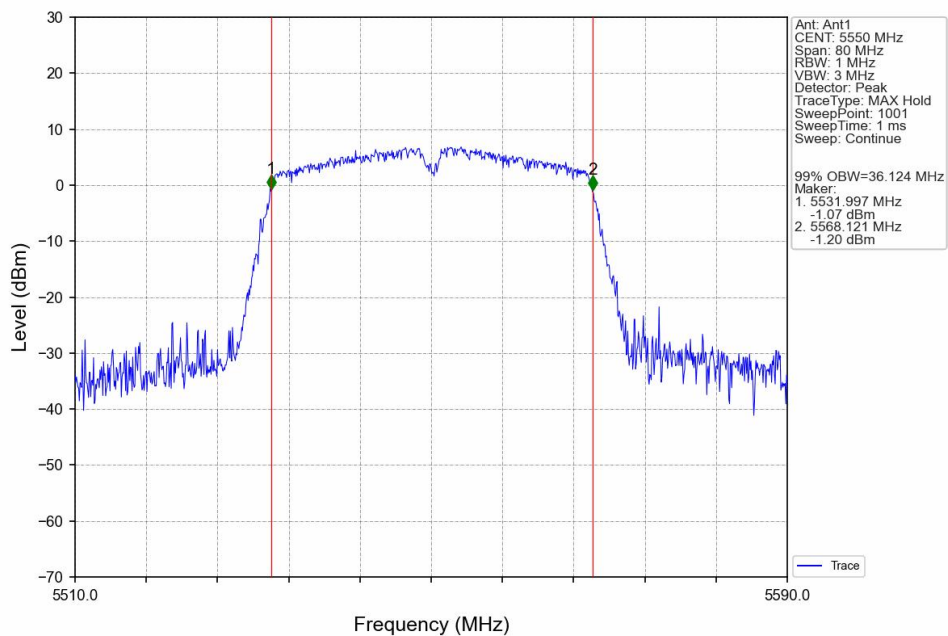


FCC ID: 2BWH8-17PROMAX

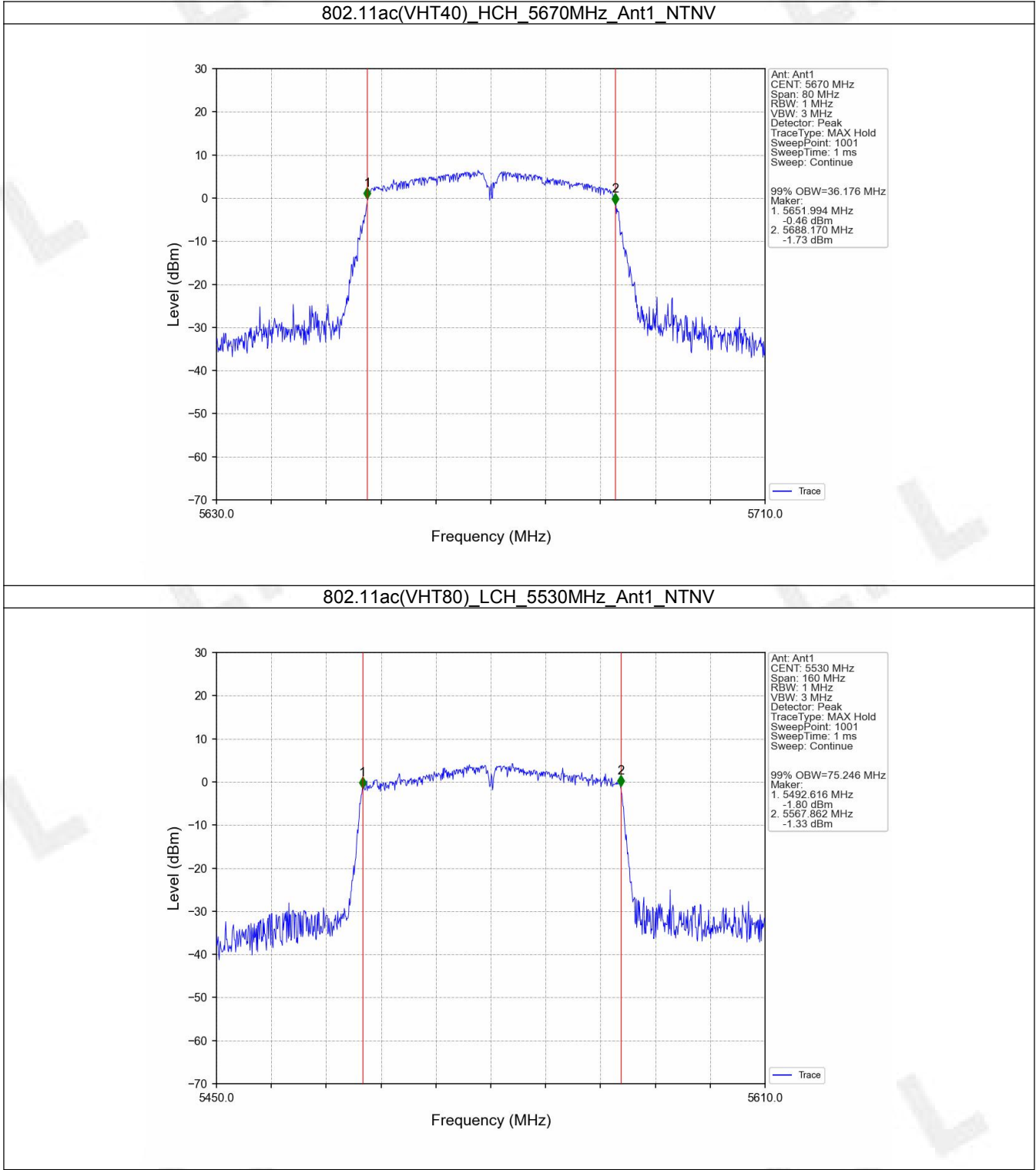
802.11ac(VHT40)_LCH_5510MHz_Ant1_NTNV



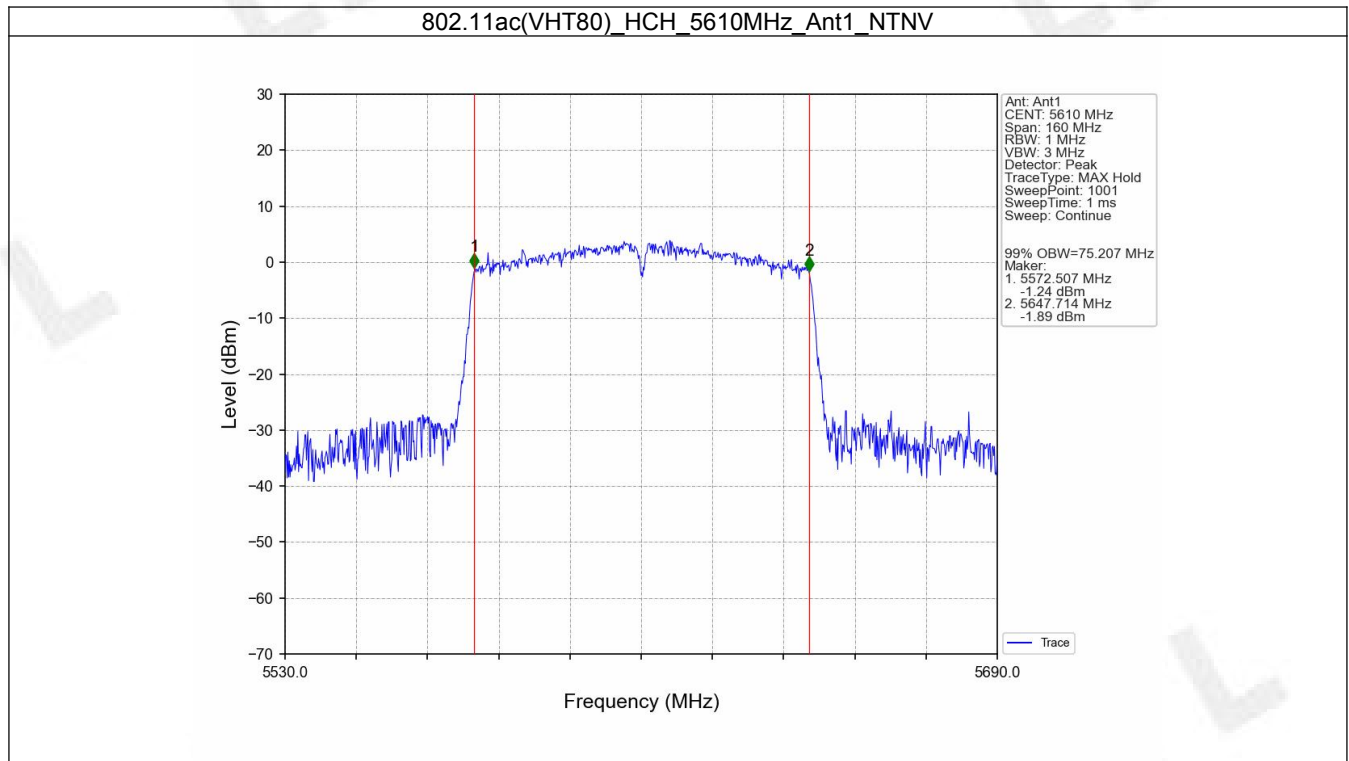
802.11ac(VHT40)_MCH_5550MHz_Ant1_NTNV



FCC ID: 2BWH8-17PROMAX

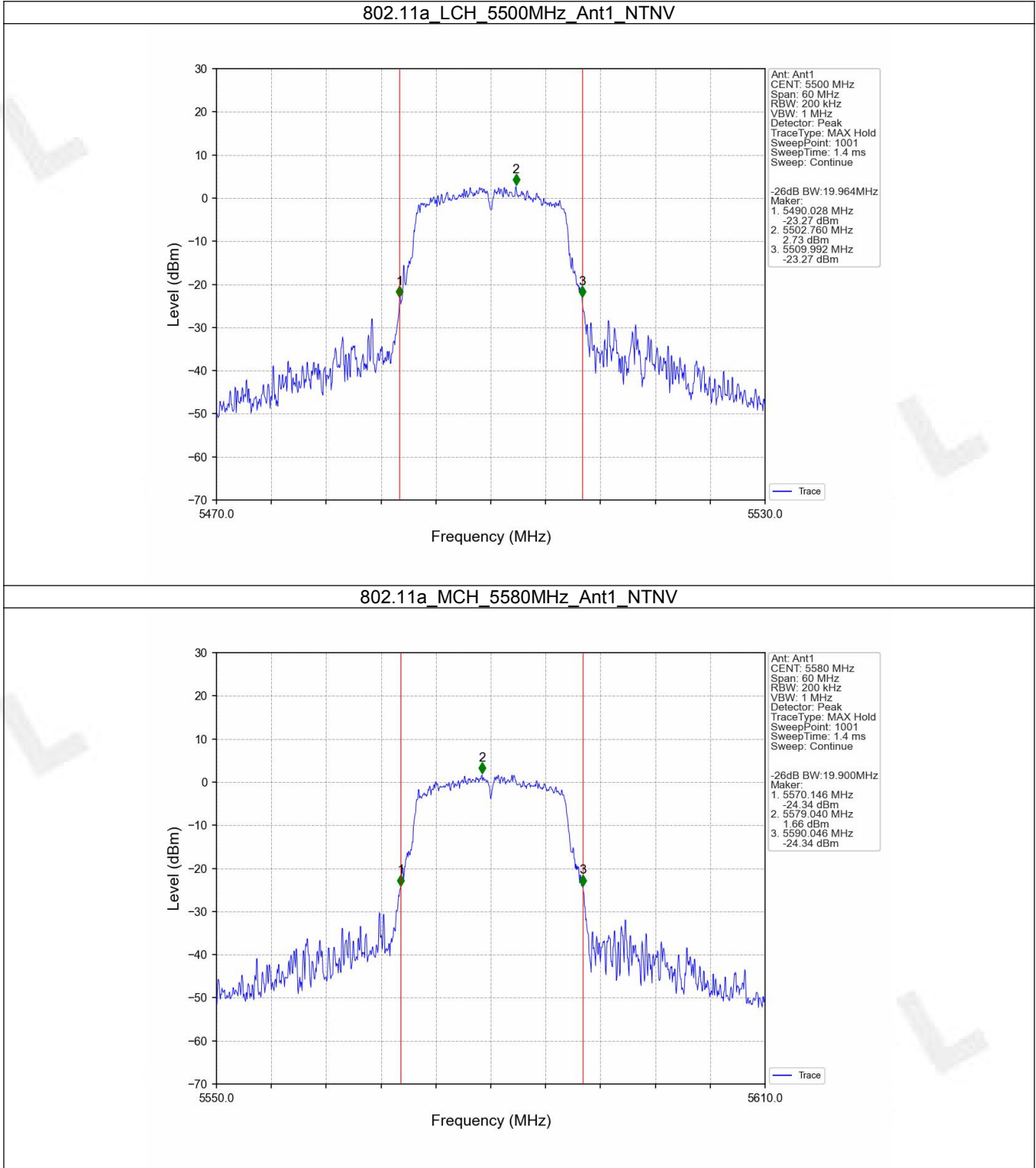


FCC ID: 2BWH8-17PROMAX



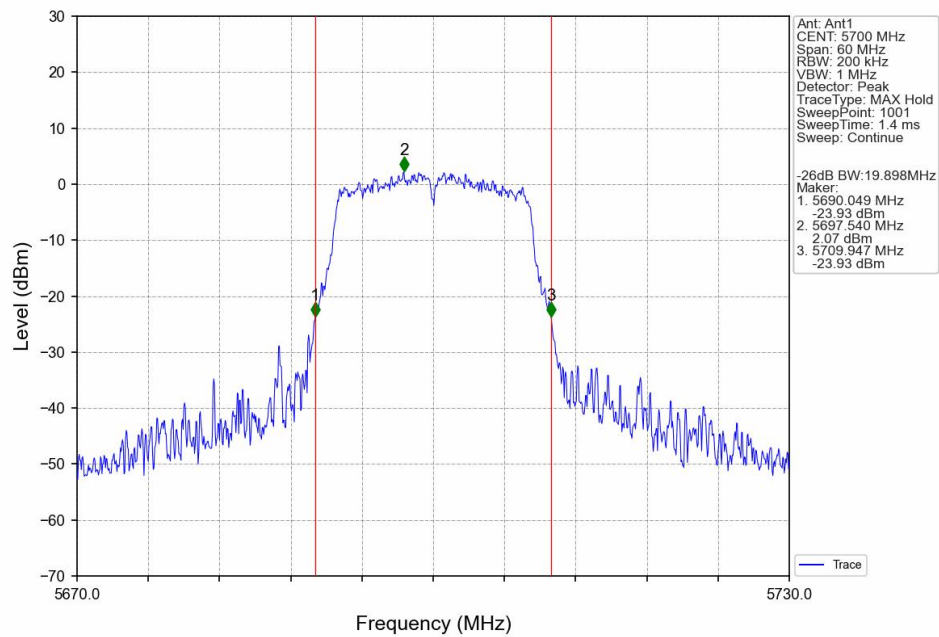
FCC ID: 2BWH8-17PROMAX

2.2.2 26dB BW

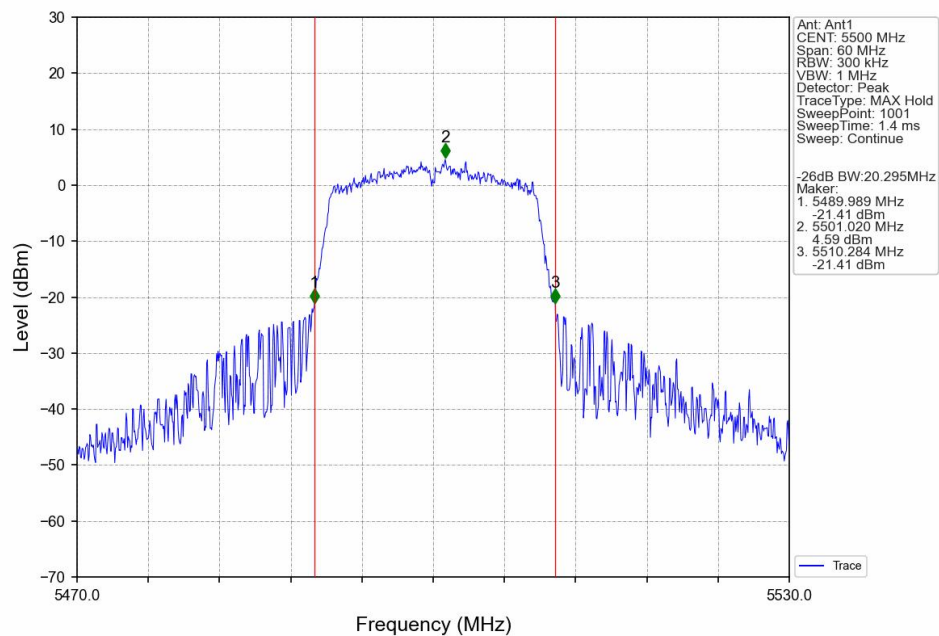


FCC ID: 2BWH8-17PROMAX

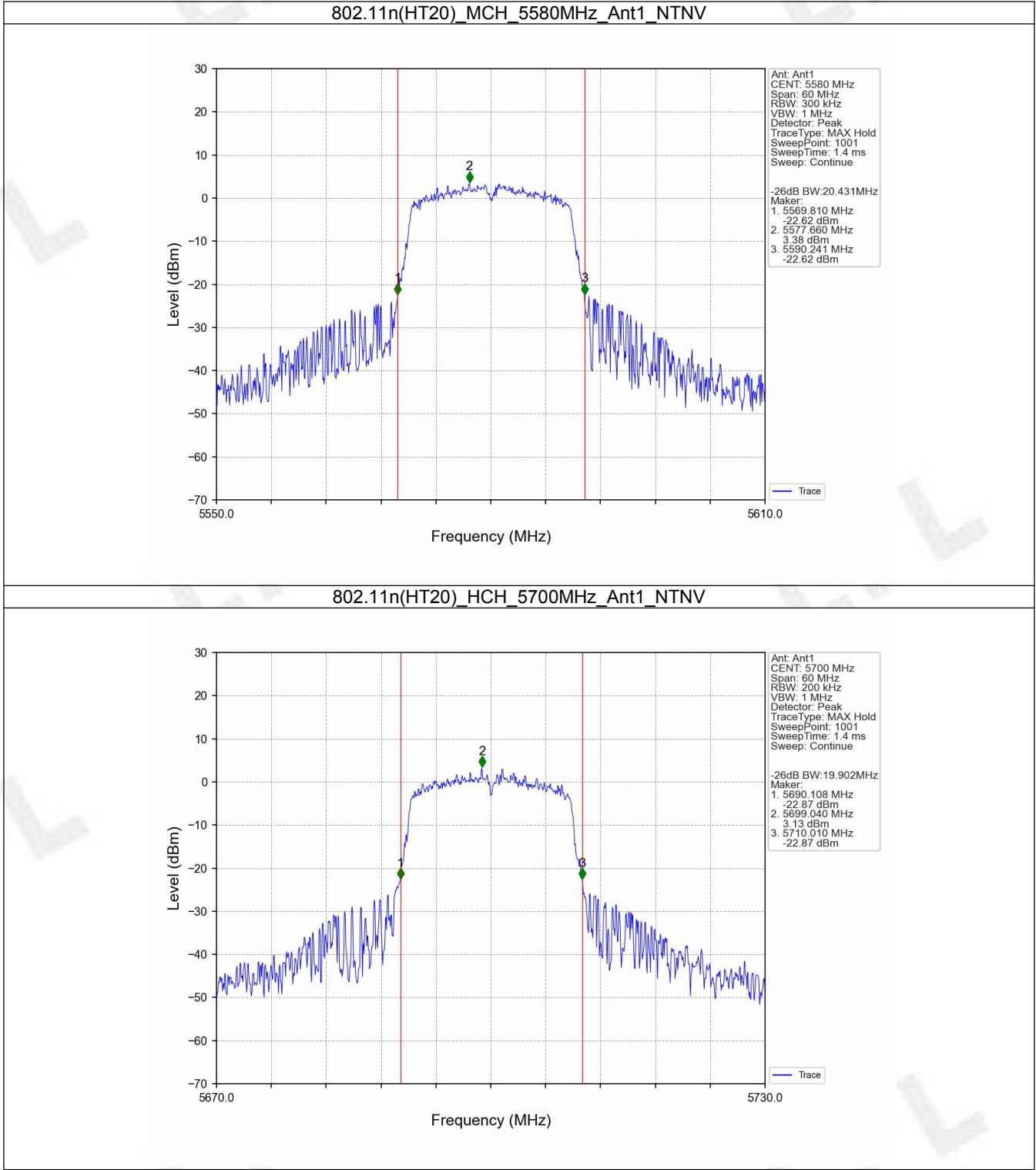
802.11a_HCH_5700MHz_Ant1_NTNV



802.11n(HT20)_LCH_5500MHz_Ant1_NTNV

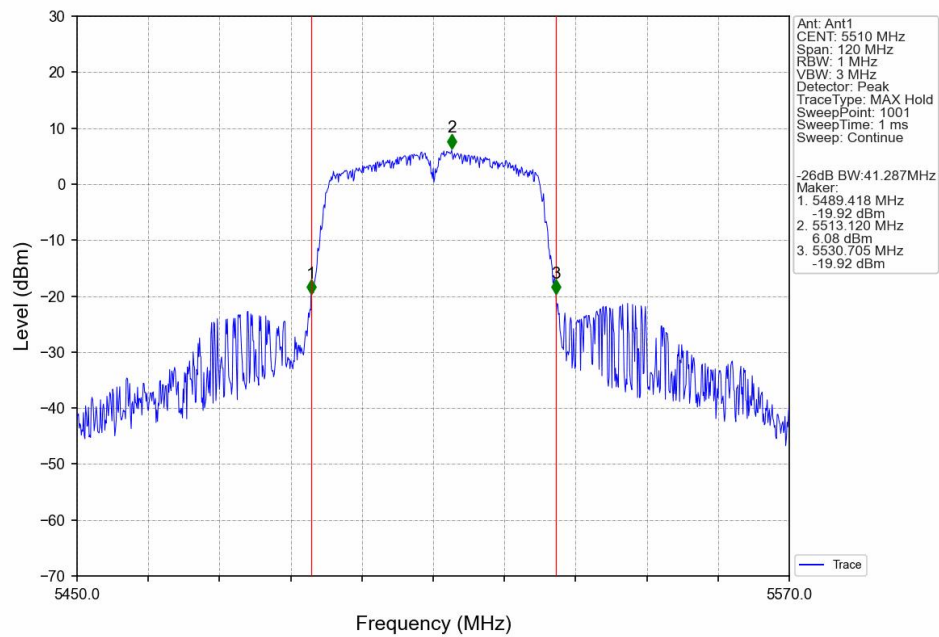


FCC ID: 2BWH8-17PROMAX

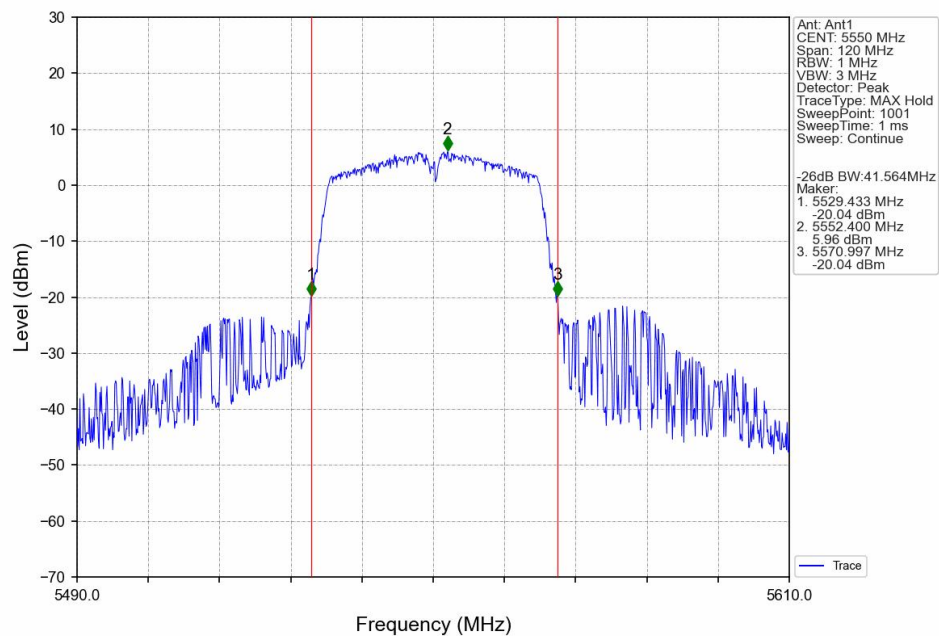


FCC ID: 2BWH8-17PROMAX

802.11n(HT40)_LCH_5510MHz_Ant1_NTNV

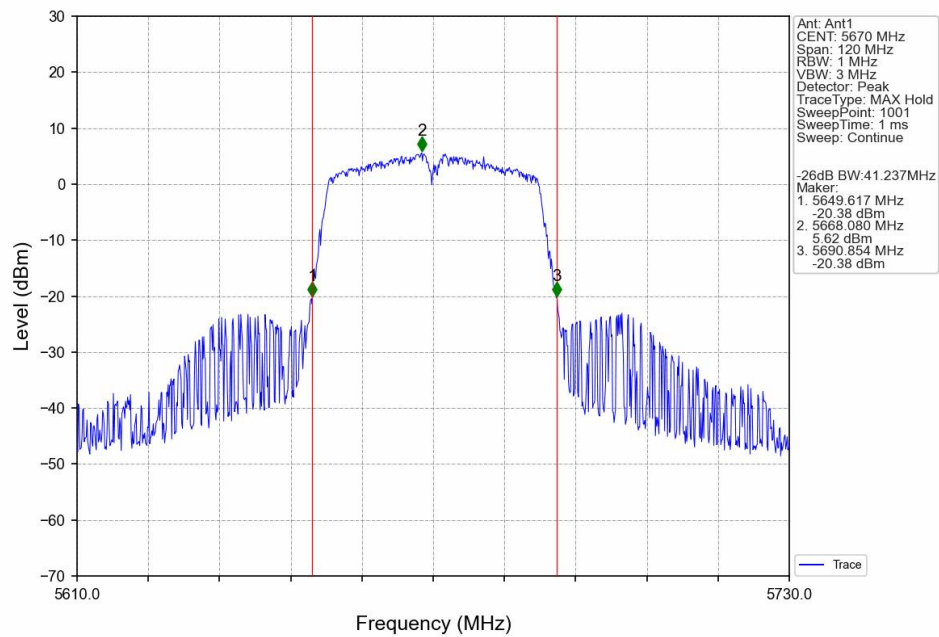


802.11n(HT40)_MCH_5550MHz_Ant1_NTNV

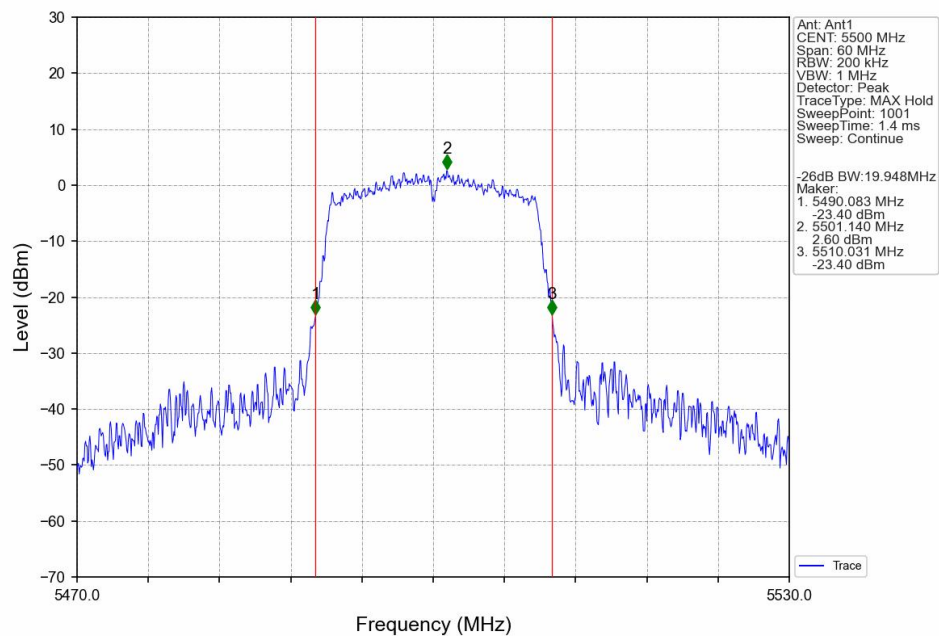


FCC ID: 2BWH8-17PROMAX

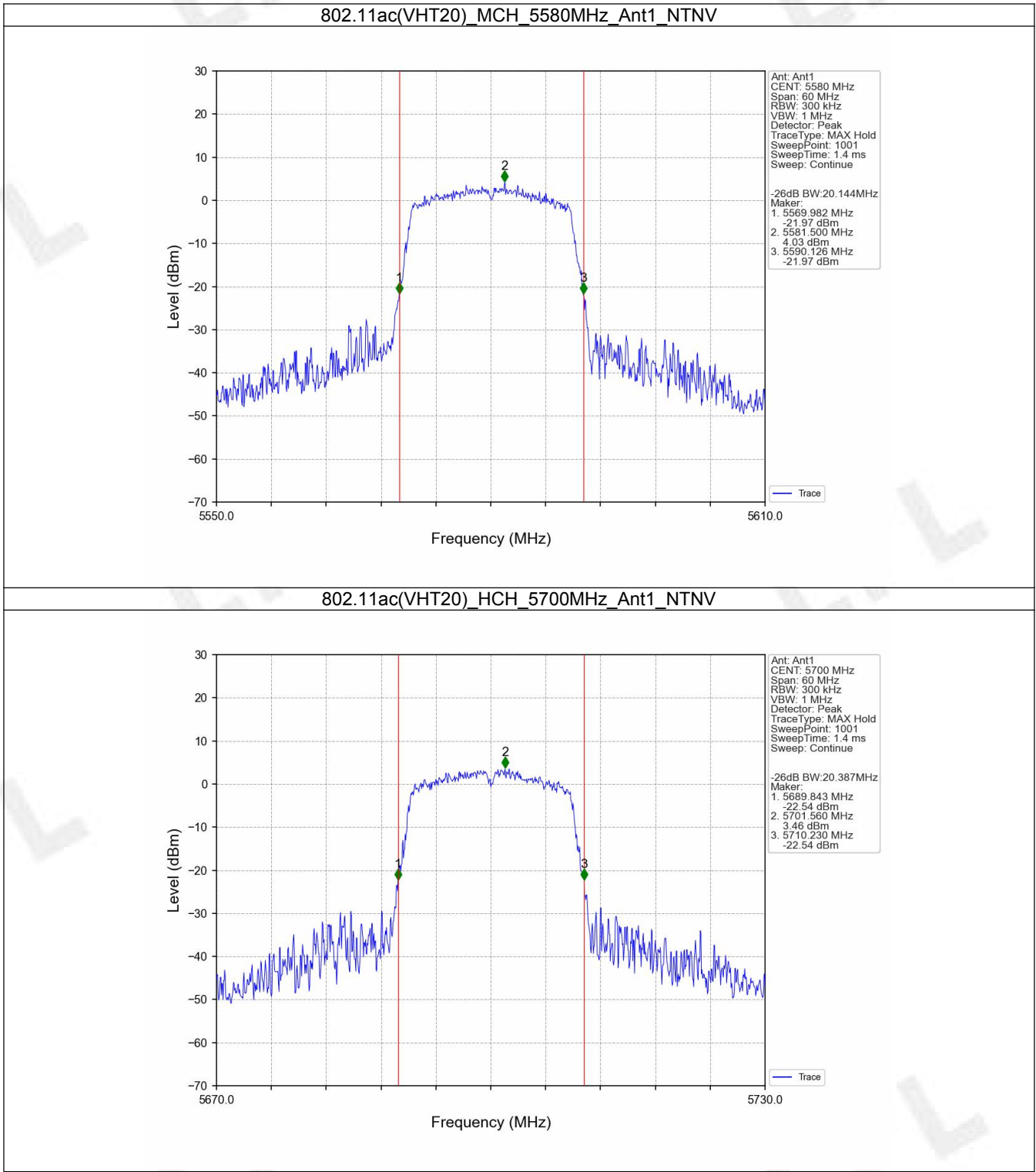
802.11n(HT40)_HCH_5670MHz_Ant1_NTNV



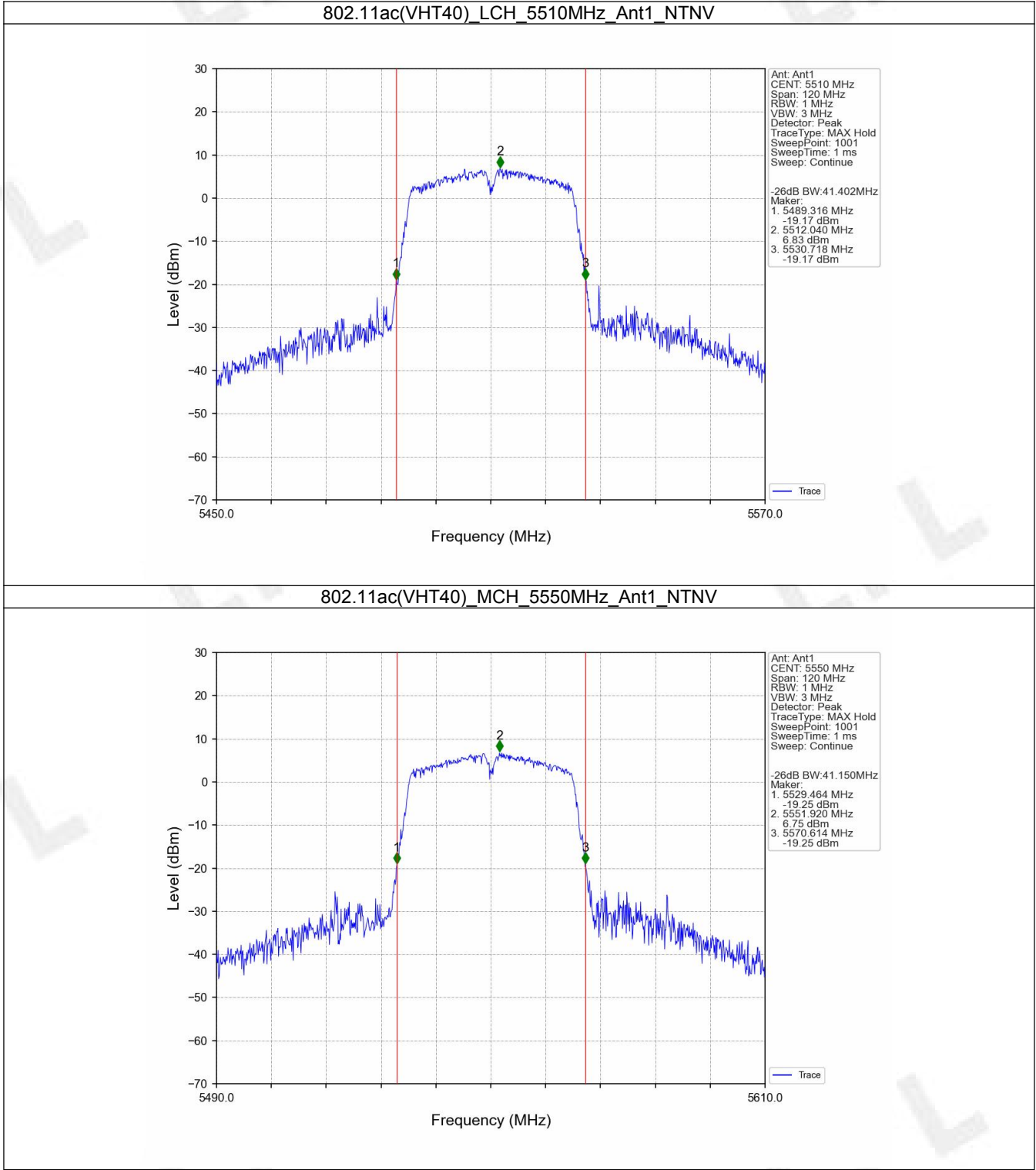
802.11ac(VHT20)_LCH_5500MHz_Ant1_NTNV



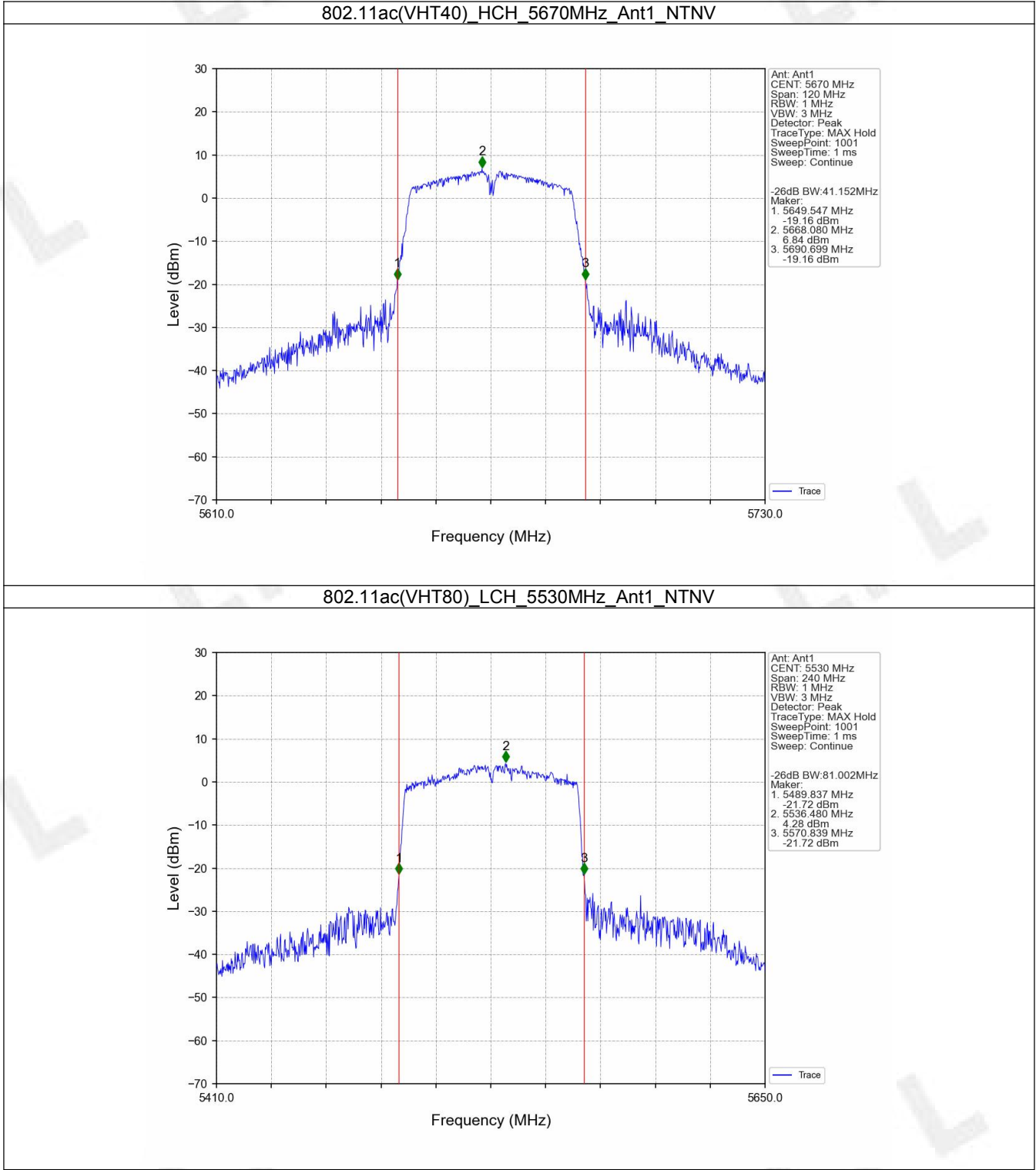
FCC ID: 2BWH8-17PROMAX



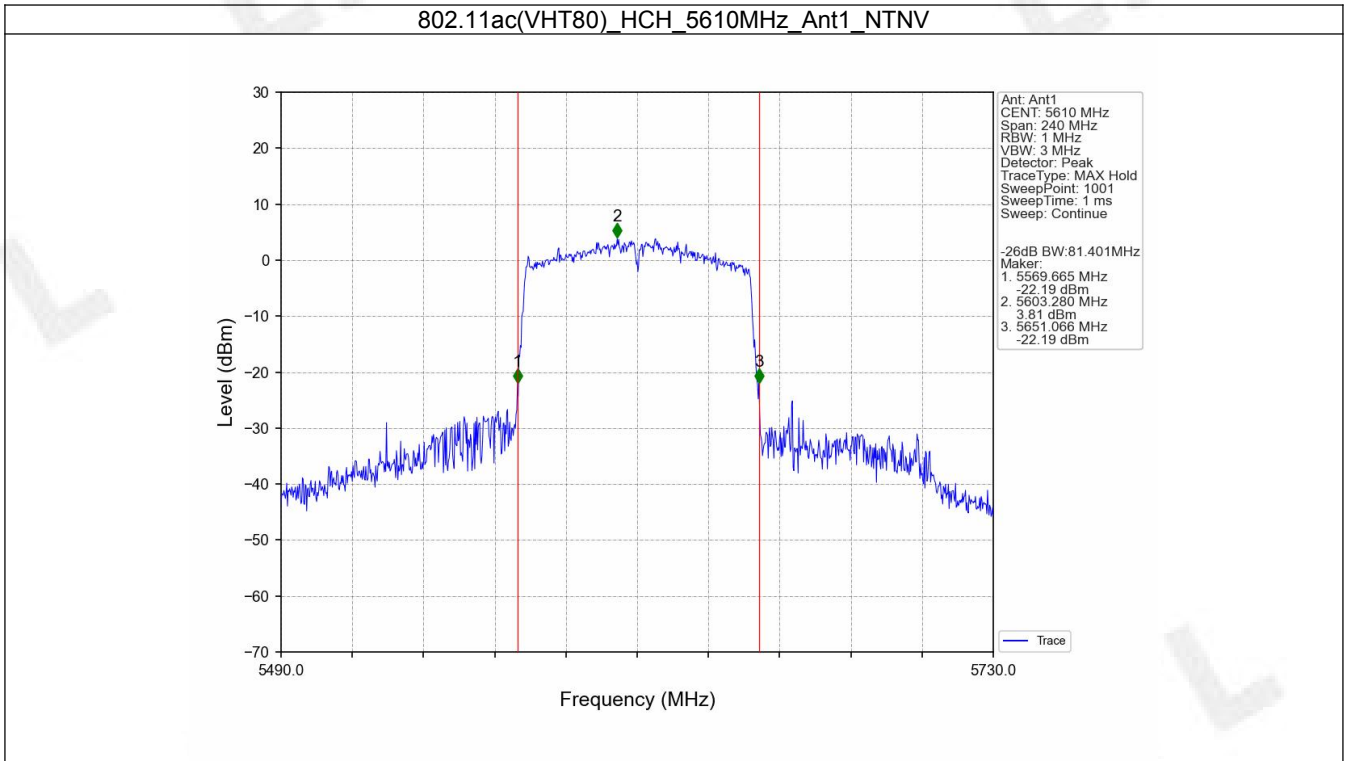
FCC ID: 2BWH8-17PROMAX



FCC ID: 2BWH8-17PROMAX



FCC ID: 2BWH8-17PROMAX



3. Maximum Conducted Output Power

3.1 Test Result

3.1.1 Power

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11a	SISO	5500	12.58	<=23.98	Pass
		5580	11.87	<=23.98	Pass
		5700	12.30	<=23.98	Pass
802.11n (HT20)	SISO	5500	12.36	<=23.98	Pass
		5580	11.98	<=23.98	Pass
		5700	12.18	<=23.98	Pass
802.11n (HT40)	SISO	5510	11.41	<=23.98	Pass
		5550	11.43	<=23.98	Pass
		5670	11.03	<=23.98	Pass
802.11ac (VHT20)	SISO	5500	12.27	<=23.98	Pass
		5580	11.93	<=23.98	Pass
		5700	12.20	<=23.98	Pass
802.11ac (VHT40)	SISO	5510	12.28	<=23.98	Pass
		5550	12.27	<=23.98	Pass
		5670	11.86	<=23.98	Pass
802.11ac (VHT80)	SISO	5530	12.39	<=23.98	Pass
		5610	12.06	<=23.98	Pass

Note1: Antenna Gain: Ant1: 0.88dBi;
Note2: RF Cable loss=0.5dB
Note3: The test results include RF Cable loss.

FCC ID: 2BWH8-17PROMAX

3.2 Test Graph

3.2.1 Power

