



Shenzhen CTL Testing Technology Co., Ltd.

Floor 1-A, Baisha Technology Park, No.3011,

Shahexi Road, Nanshan District, Shenzhen, China 518055

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

Annex for 5G Wi-Fi Band 1

Test Report No.: CTL2508045011-WF03

TABLE OF CONTENTS

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.....	8
2.1 Test Result	8
2.1.1 OBW	8
2.1.2 26dB BW	8
2.2 Test Graph.....	9
2.2.1 OBW	9
2.2.2 26dB BW	13
3. Maximum Conducted Output Power	17
3.1 Test Result	17
3.1.1 Power	17
4. Maximum Power Spectral Density	18
4.1 Test Result	18
4.1.1 PSD	18
4.2 Test Graph.....	19



Shenzhen CTL Testing Technology Co., Ltd.

Floor 1-A, Baisha Technology Park, No.3011,
Shahexi Road, Nanshan District, Shenzhen, China 518055

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

4.2.1 PSD 19

5. Frequency Stability 23

5.1 Test Result 23

5.1.1 Ant1 23

FCCID: 2A8QK-V01

1. Duty Cycle

1.1 Test Result

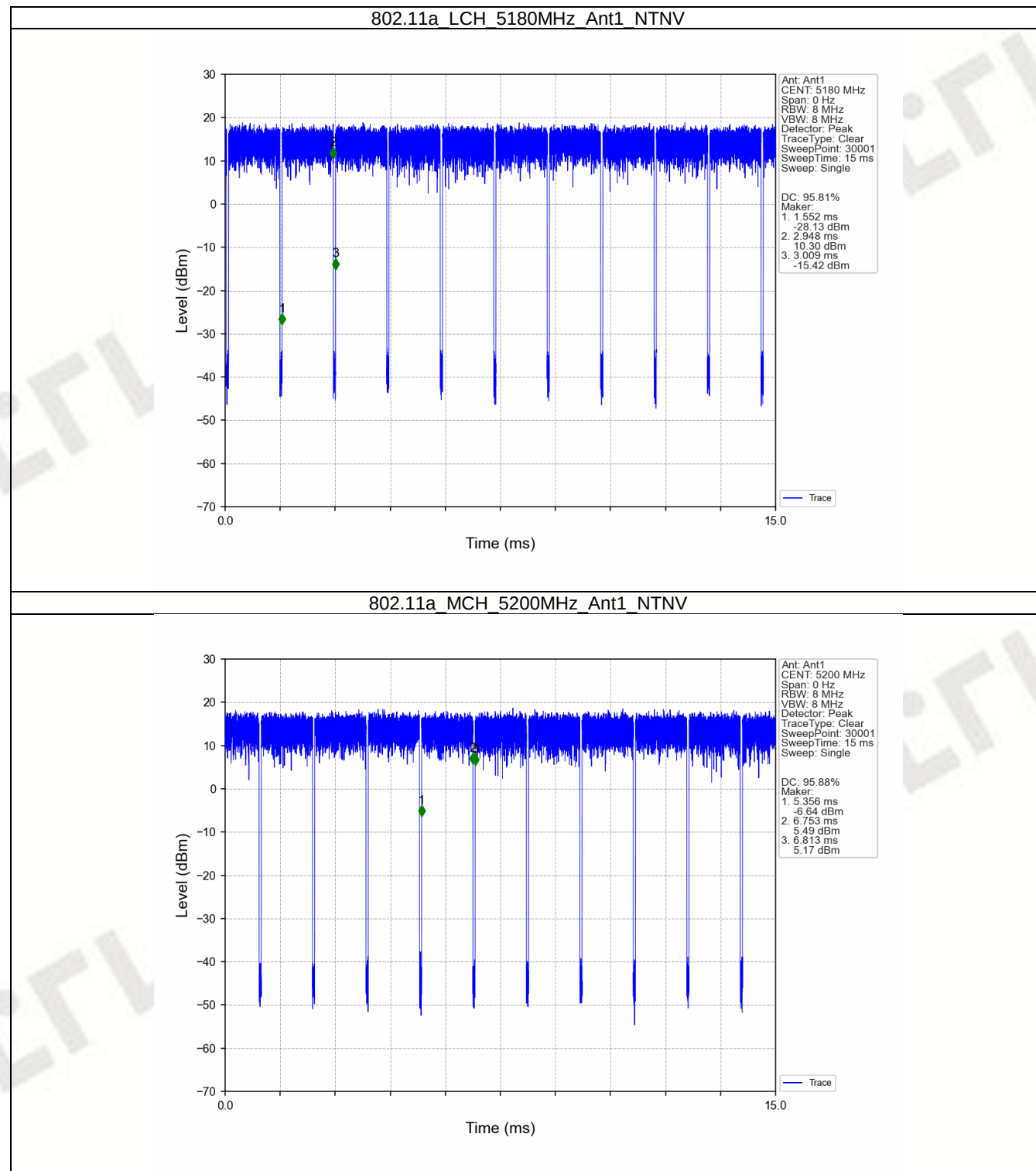
1.1.1 Ant1

Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11a	SISO	5180	1.396	1.457	95.81	0.19	0.03
		5200	1.397	1.457	95.88	0.18	0.03
		5240	1.396	1.457	95.81	0.19	0.03
802.11n (HT20)	SISO	5180	1.309	1.369	95.62	0.19	0.00
		5200	1.308	1.368	95.61	0.19	0.04
		5240	1.309	1.369	95.62	0.19	0.04
802.11n (HT40)	SISO	5190	0.648	0.708	91.53	0.38	0.06
		5230	0.649	0.709	91.54	0.38	0.06

FCCID: 2A8QK-V01

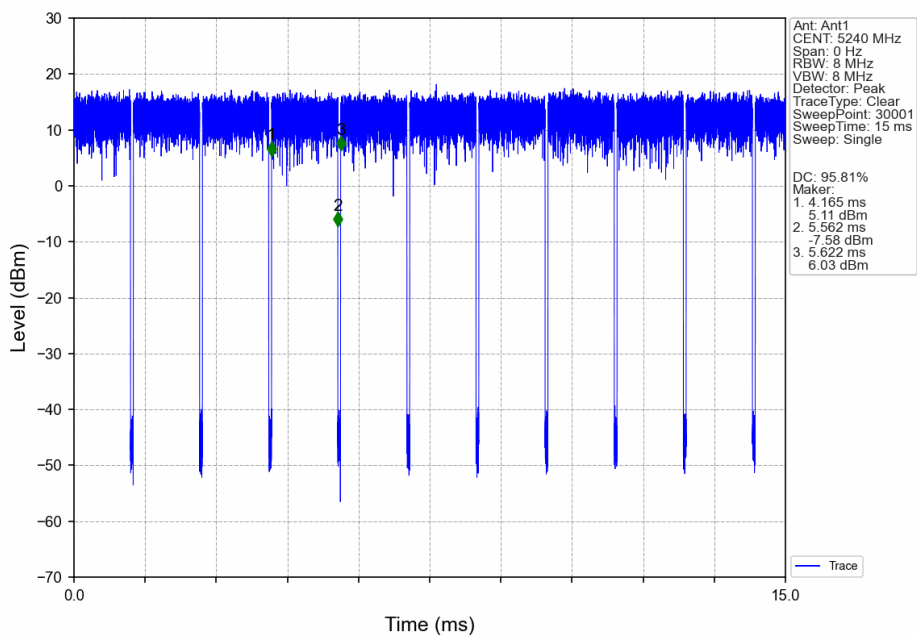
1.2 Test Graph

1.2.1 Ant1

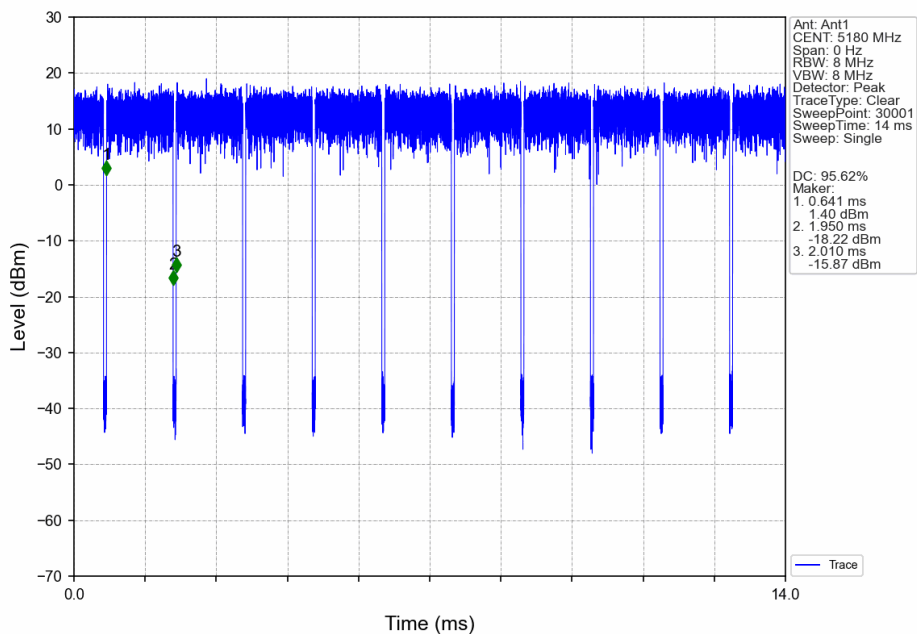


FCCID: 2A8QK-V01

802.11a_HCH_5240MHz_Ant1_NTNV

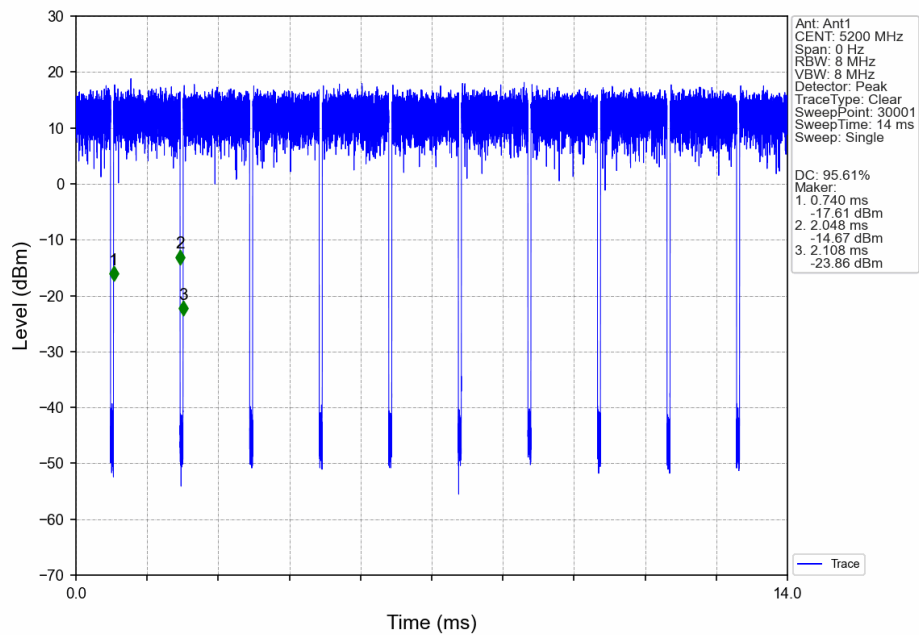


802.11n(HT20)_LCH_5180MHz_Ant1_NTNV

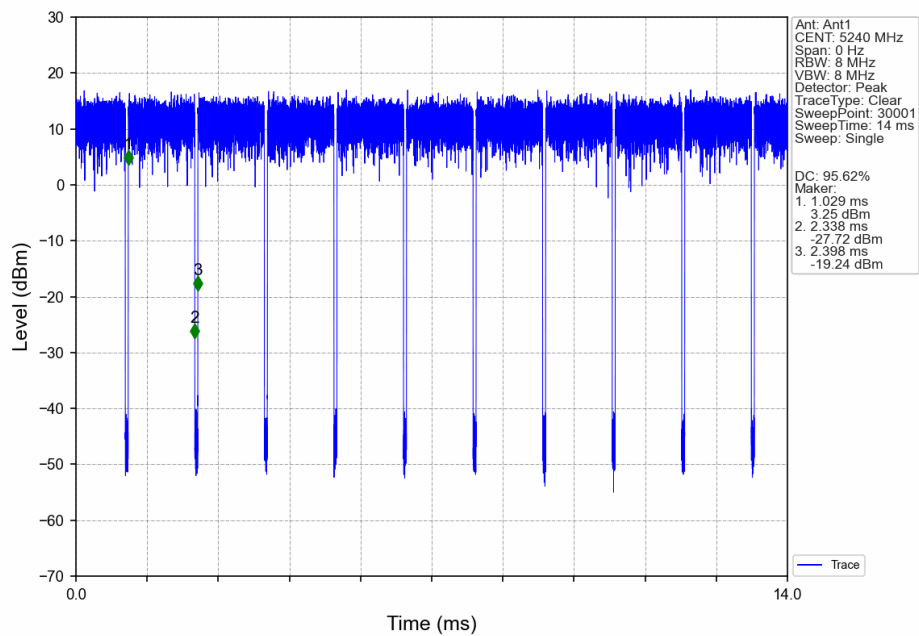


FCCID: 2A8QK-V01

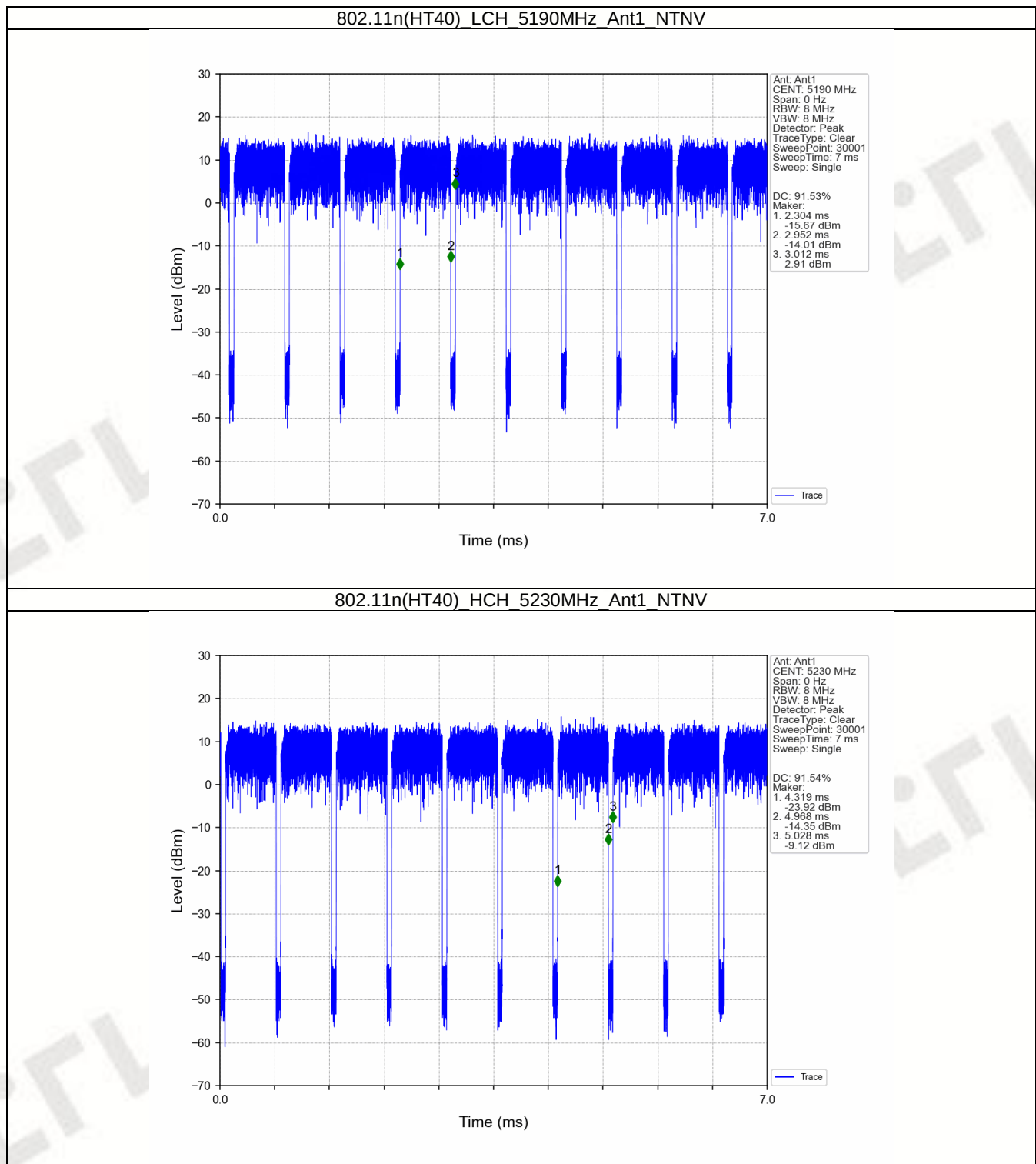
802.11n(HT20) MCH 5200MHz_Ant1_NTNV



802.11n(HT20) HCH 5240MHz_Ant1_NTNV



FCCID: 2A8QK-V01



FCCID: 2A8QK-V01

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	5180	1	17.417	/	Pass
		5200	1	17.534	/	Pass
		5240	1	17.713	/	Pass
802.11n (HT20)	SISO	5180	1	18.134	/	Pass
		5200	1	18.104	/	Pass
		5240	1	18.176	/	Pass
802.11n (HT40)	SISO	5190	1	36.554	/	Pass
		5230	1	36.521	/	Pass

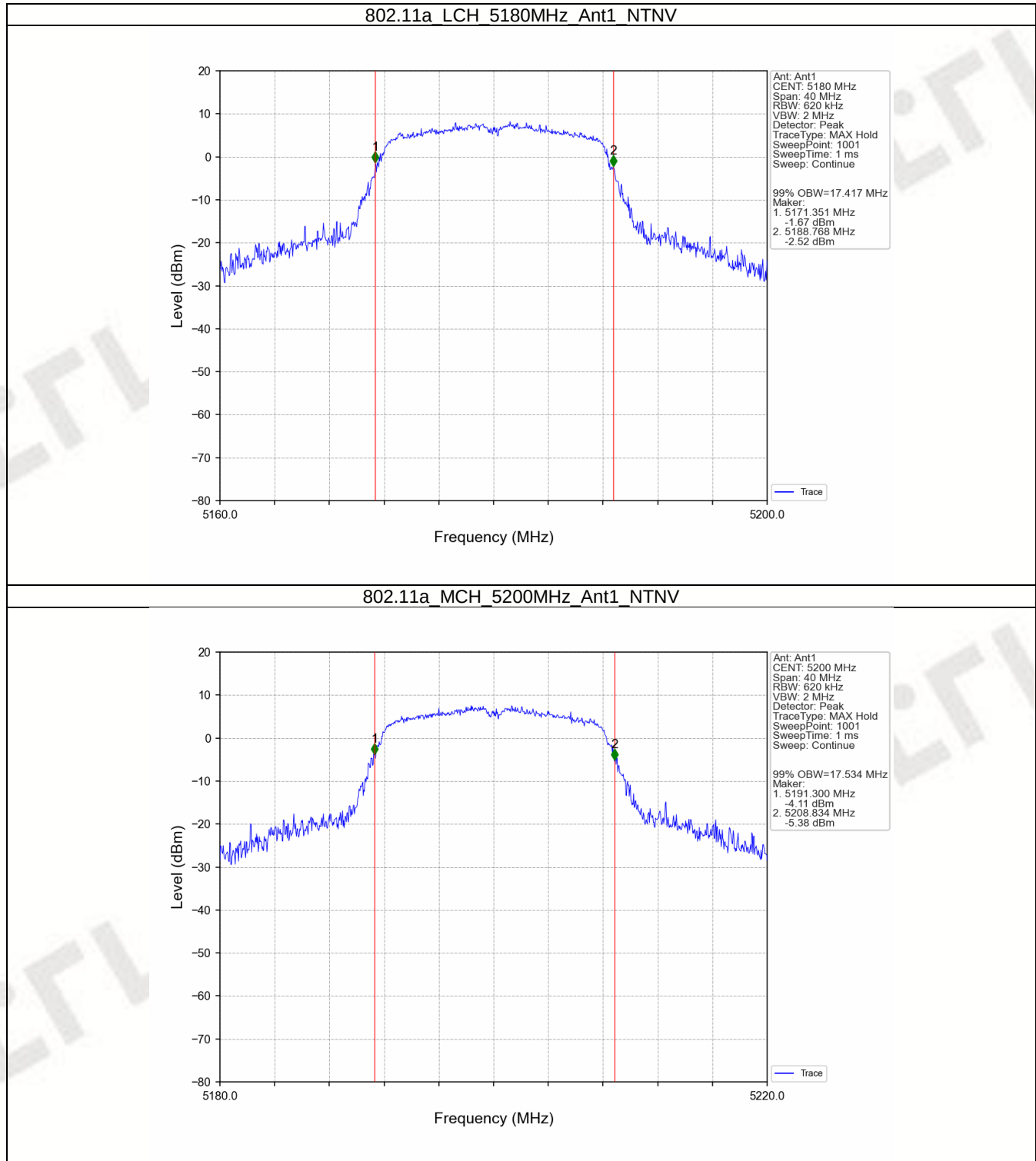
2.1.2 26dB BW

Mode	TX Type	Frequency (MHz)	ANT	26dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	22.459	/	Pass
		5200	1	28.431	/	Pass
		5240	1	29.708	/	Pass
802.11n (HT20)	SISO	5180	1	20.618	/	Pass
		5200	1	20.513	/	Pass
		5240	1	25.715	/	Pass
802.11n (HT40)	SISO	5190	1	41.848	/	Pass
		5230	1	41.830	/	Pass

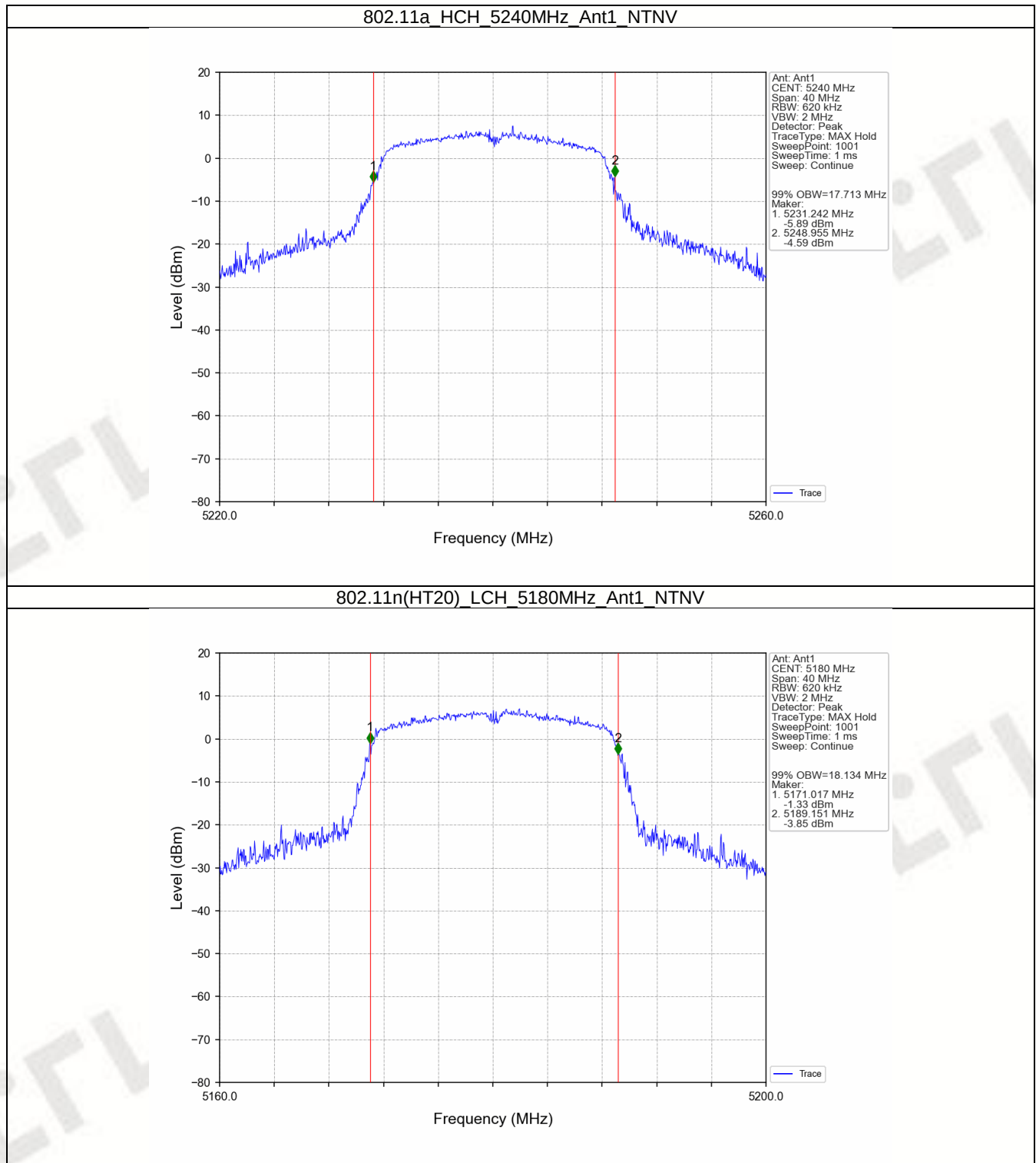
FCCID: 2A8QK-V01

2.2 Test Graph

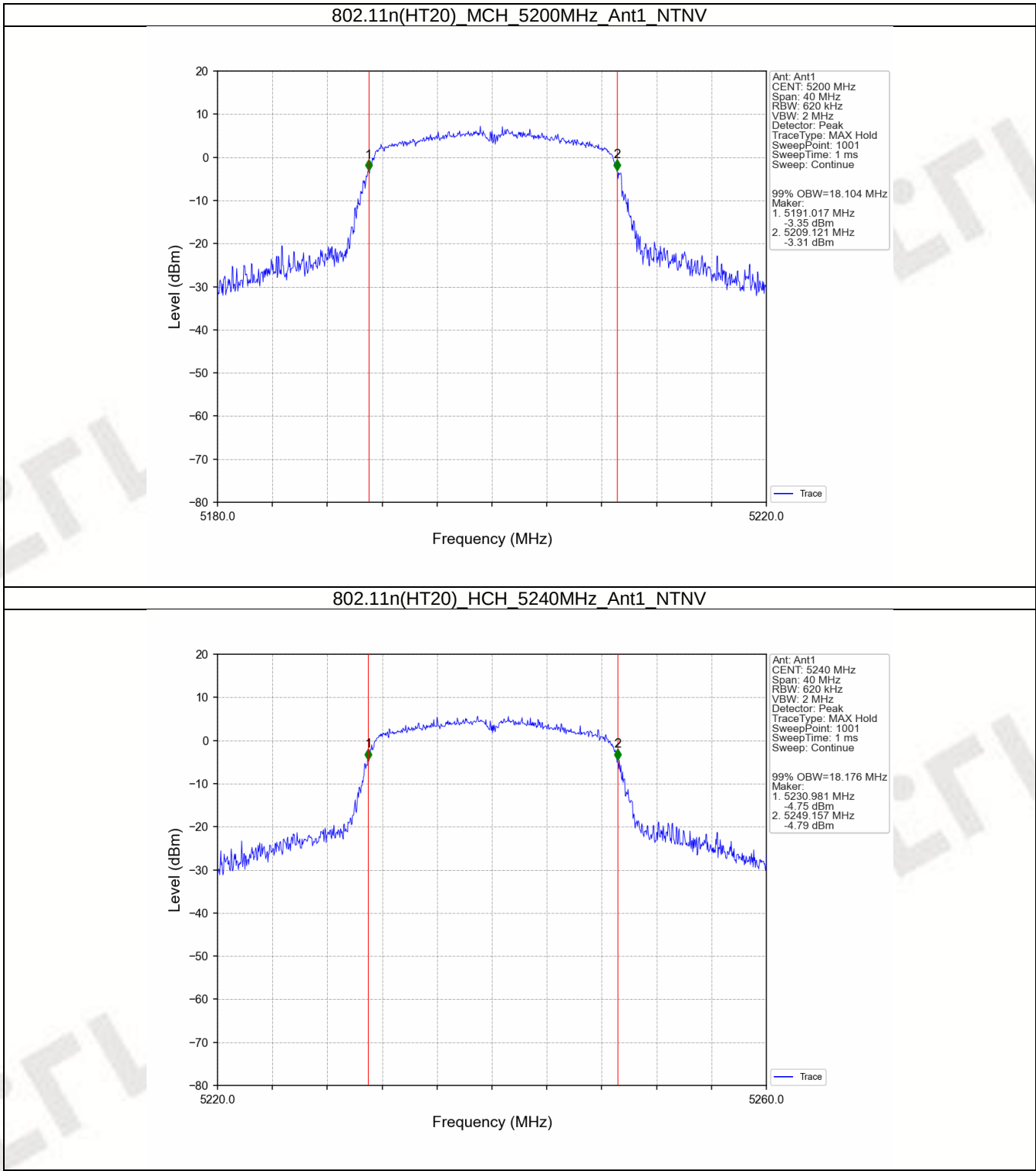
2.2.1 OBW



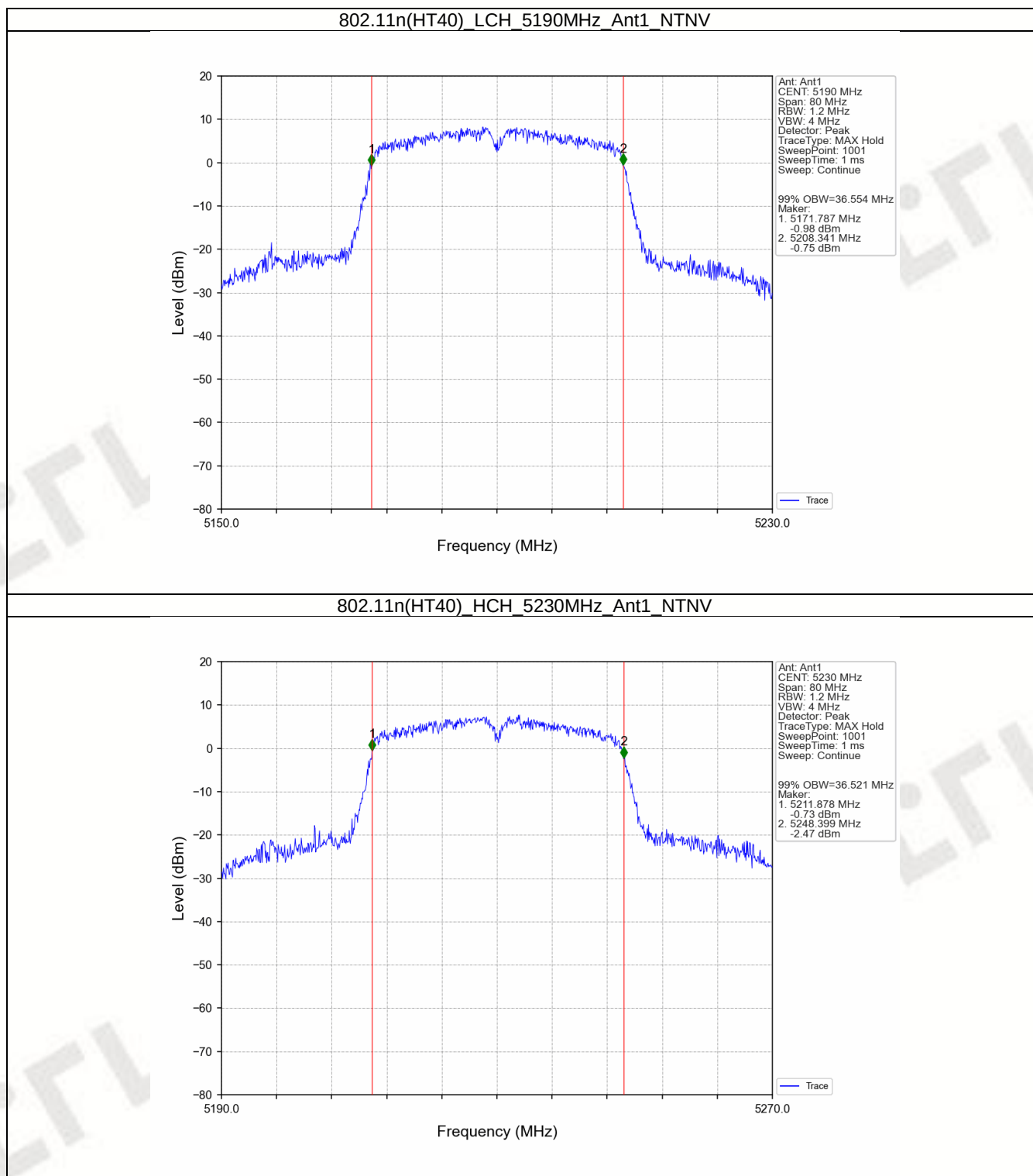
FCCID: 2A8QK-V01



FCCID: 2A8QK-V01

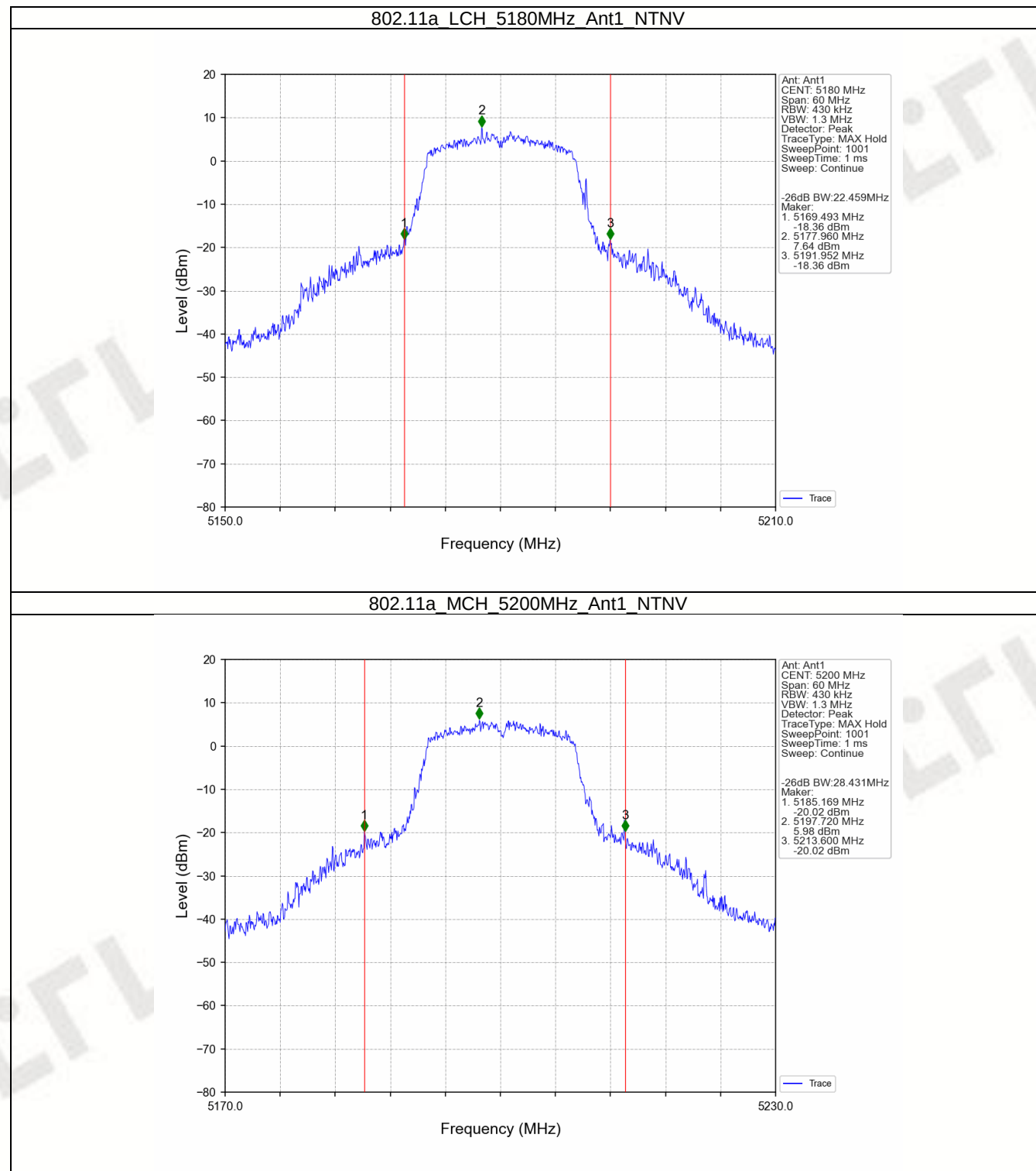


FCCID: 2A8QK-V01



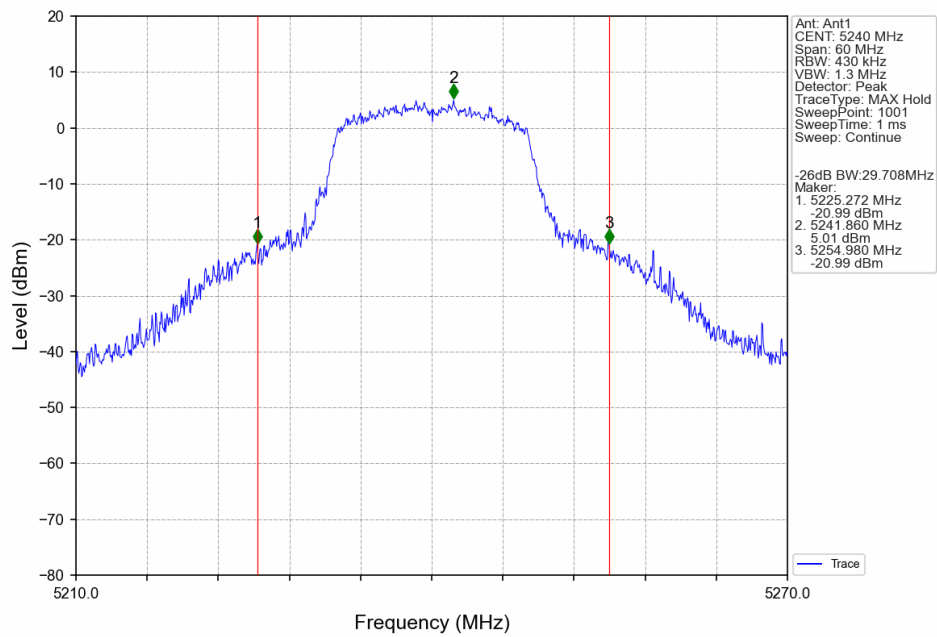
FCCID: 2A8QK-V01

2.2.2 26dB BW

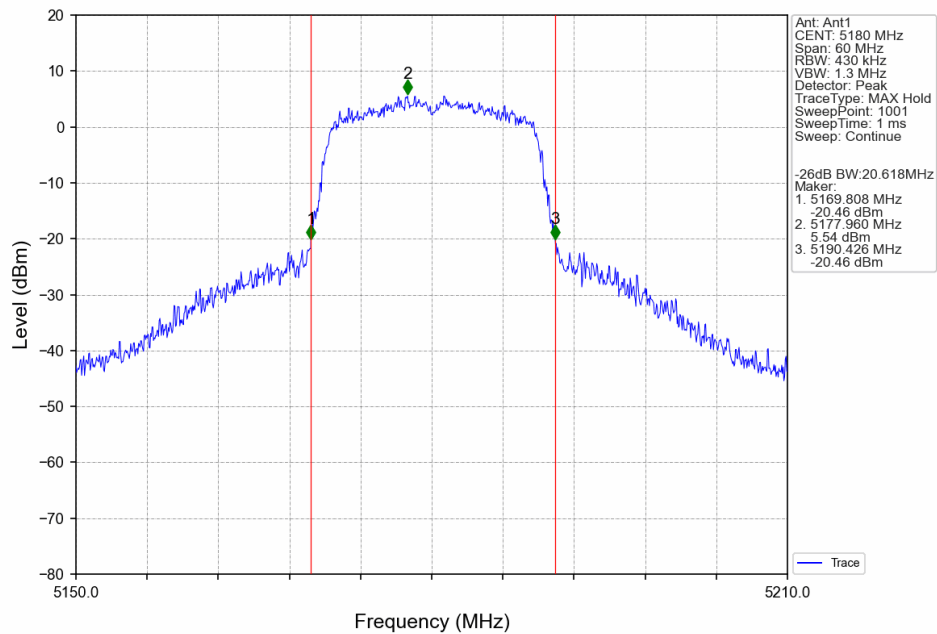


FCCID: 2A8QK-V01

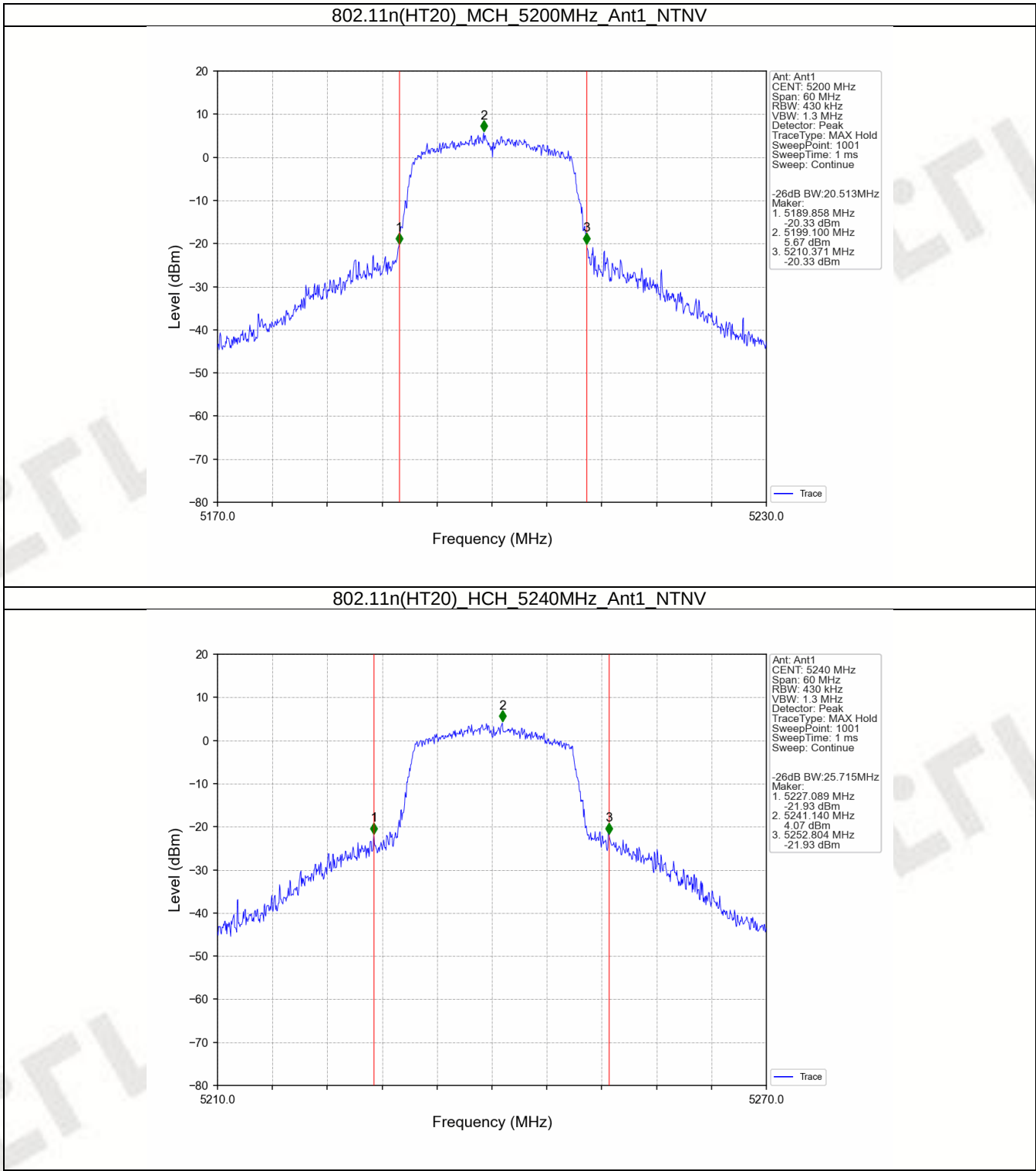
802.11a_HCH_5240MHz_Ant1_NTNV



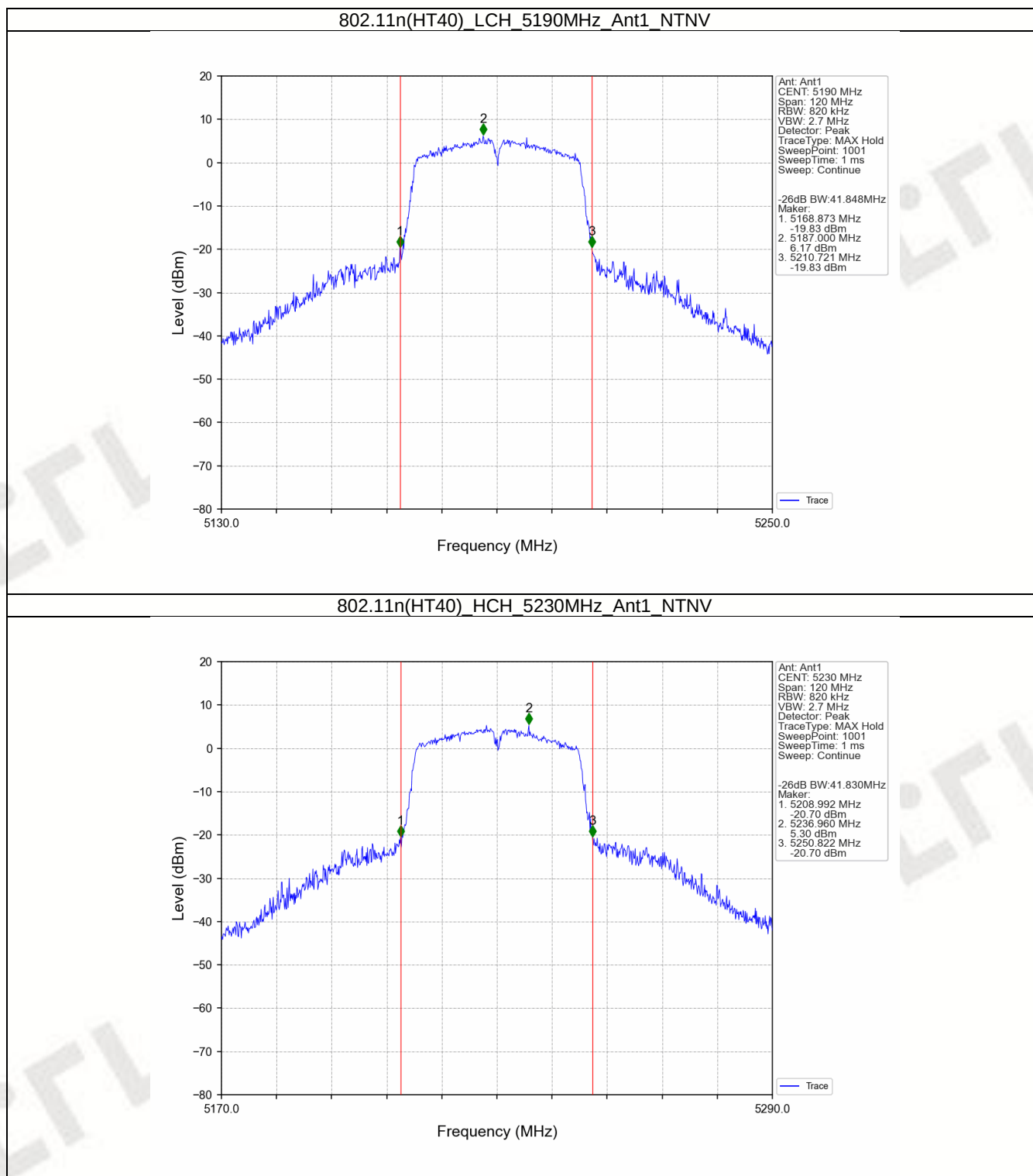
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



FCCID: 2A8QK-V01



FCCID: 2A8QK-V01



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	5180	13.24	<=23.98	Pass
		5200	12.90	<=23.98	Pass
		5240	11.71	<=23.98	Pass
802.11n (HT20)	SISO	5180	12.38	<=23.98	Pass
		5200	12.04	<=23.98	Pass
		5240	10.87	<=23.98	Pass
802.11n (HT40)	SISO	5190	12.45	<=23.98	Pass
		5230	11.57	<=23.98	Pass
Note1: Antenna Gain: Ant1: 2.56dBi; Note2: The power test results have added the Duty factor					

FCCID: 2A8QK-V01

4. Maximum Power Spectral Density

4.1 Test Result

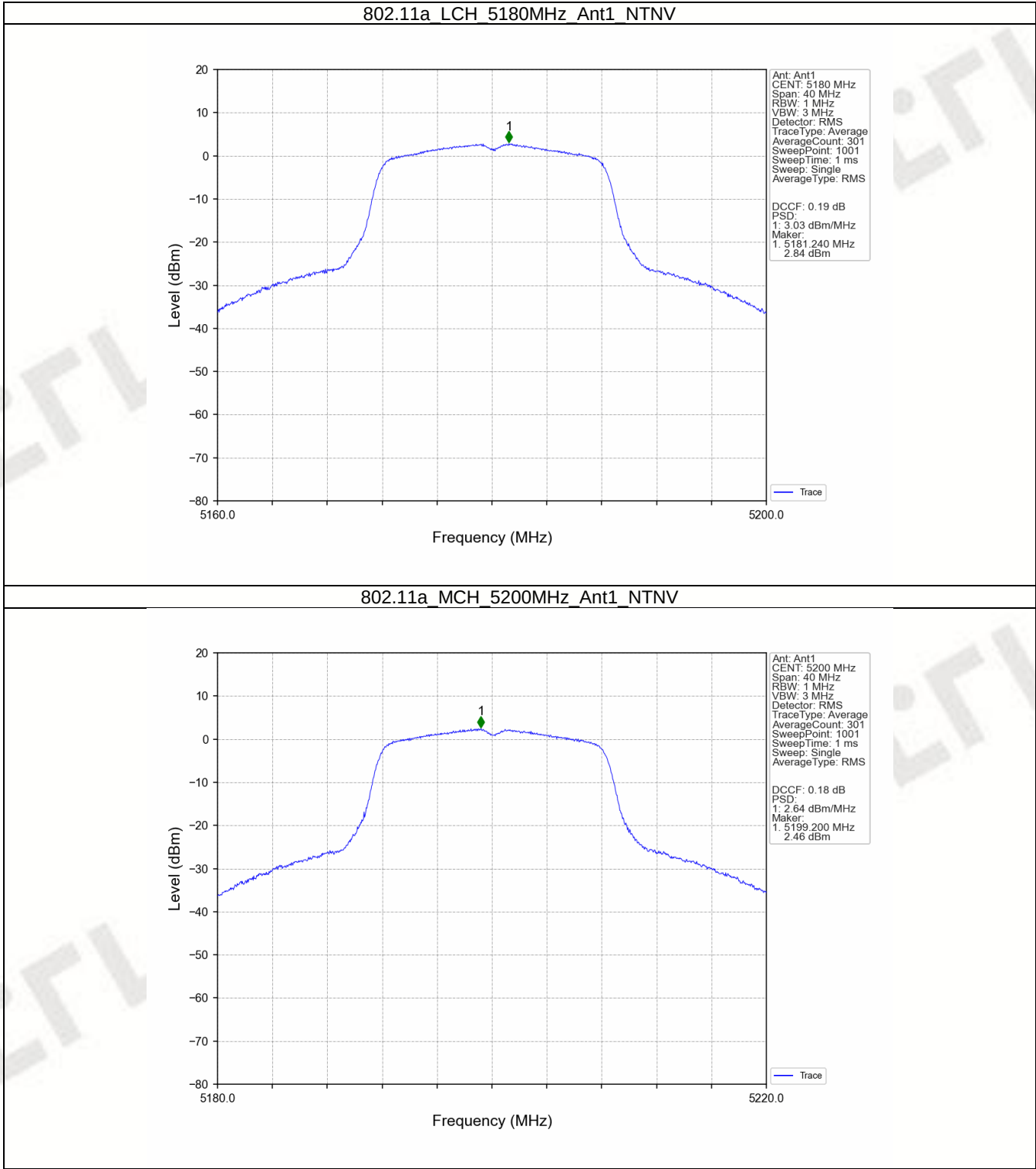
4.1.1 PSD

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/MHz)		Verdict
			ANT1	Limit	
802.11a	SISO	5180	3.03	<=11	Pass
		5200	2.64	<=11	Pass
		5240	1.42	<=11	Pass
802.11n (HT20)	SISO	5180	1.87	<=11	Pass
		5200	1.64	<=11	Pass
		5240	0.47	<=11	Pass
802.11n (HT40)	SISO	5190	-0.96	<=11	Pass
		5230	-1.77	<=11	Pass
Note1: Antenna Gain: Ant1: 2.56dBi; Note2: The Maximum Power Spectral Density test results have added the Duty factor					

FCCID: 2A8QK-V01

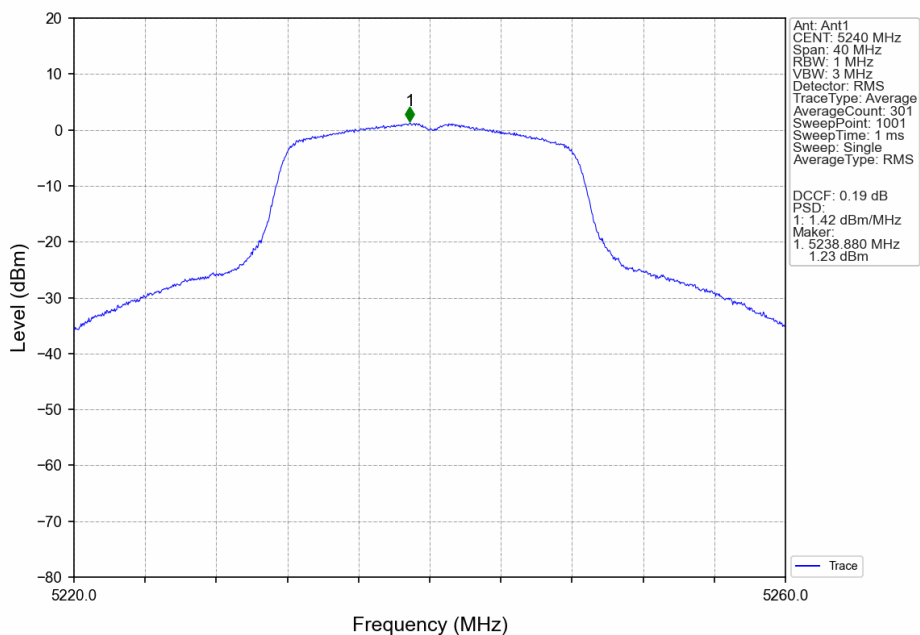
4.2 Test Graph

4.2.1 PSD

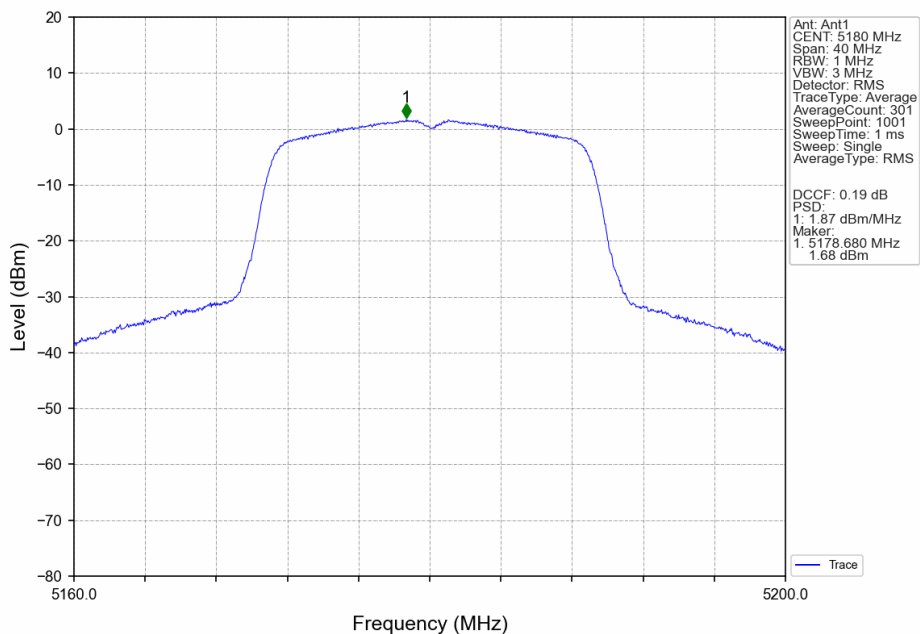


FCCID: 2A8QK-V01

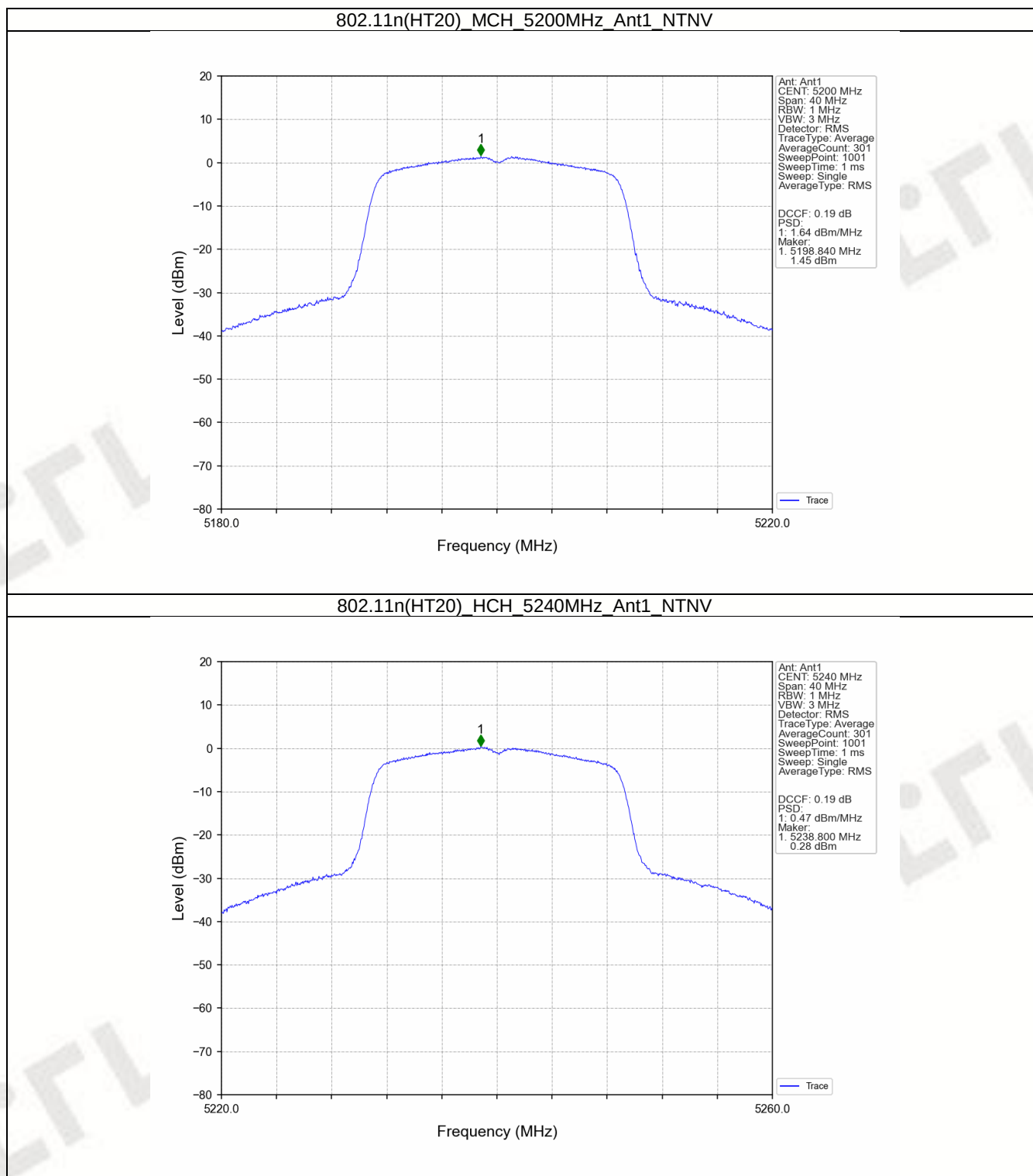
802.11a_HCH_5240MHz_Ant1_NTNV



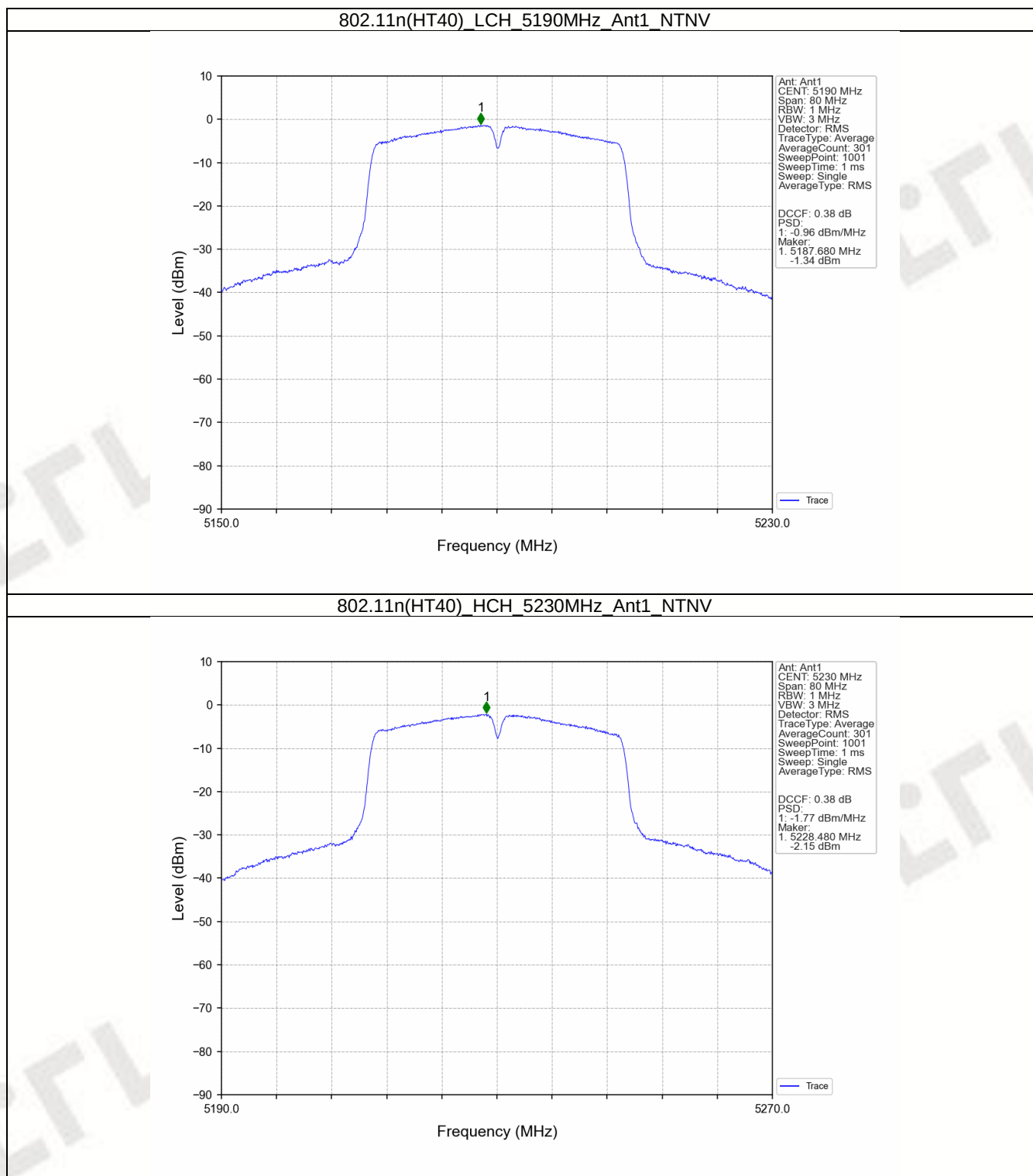
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



FCCID: 2A8QK-V01



FCCID: 2A8QK-V01



FCCID: 2A8QK-V01

5. Frequency Stability

5.1 Test Result

5.1.1 Ant1

Ant1							
Mode	TX Type	Frequency (MHz)	Temperature (°C)	Voltage (VAC)	Measured Frequency (MHz)	Limit (MHz)	Verdict
Carrier Wave	SISO	5180	20	102	5180.038	5150 to 5250	Pass
				120	5180.038	5150 to 5250	Pass
				138	5180.038	5150 to 5250	Pass
			-30	120	5180.037	5150 to 5250	Pass
			-20	120	5180.037	5150 to 5250	Pass
			-10	120	5180.037	5150 to 5250	Pass
			0	120	5180.037	5150 to 5250	Pass
			10	120	5180.037	5150 to 5250	Pass
			30	120	5180.037	5150 to 5250	Pass
			40	120	5180.037	5150 to 5250	Pass
			50	120	5180.037	5150 to 5250	Pass
		5200	20	102	5200.037	5150 to 5250	Pass
				120	5200.037	5150 to 5250	Pass
				138	5200.037	5150 to 5250	Pass
			-30	120	5200.037	5150 to 5250	Pass
			-20	120	5200.037	5150 to 5250	Pass
			-10	120	5200.037	5150 to 5250	Pass
			0	120	5200.037	5150 to 5250	Pass
			10	120	5200.037	5150 to 5250	Pass
			30	120	5200.037	5150 to 5250	Pass
			40	120	5200.037	5150 to 5250	Pass
			50	120	5200.037	5150 to 5250	Pass
		5240	20	102	5240.037	5150 to 5250	Pass
				120	5240.037	5150 to 5250	Pass
				138	5240.037	5150 to 5250	Pass
			-30	120	5240.037	5150 to 5250	Pass
			-20	120	5240.037	5150 to 5250	Pass
			-10	120	5240.037	5150 to 5250	Pass
			0	120	5240.037	5150 to 5250	Pass
			10	120	5240.037	5150 to 5250	Pass
			30	120	5240.037	5150 to 5250	Pass
			40	120	5240.037	5150 to 5250	Pass
			50	120	5240.037	5150 to 5250	Pass
		5190	20	102	5190.037	5150 to 5250	Pass
				120	5190.037	5150 to 5250	Pass
				138	5190.037	5150 to 5250	Pass
			-30	120	5190.037	5150 to 5250	Pass
			-20	120	5190.037	5150 to 5250	Pass
			-10	120	5190.037	5150 to 5250	Pass
			0	120	5190.037	5150 to 5250	Pass
			10	120	5190.037	5150 to 5250	Pass
			30	120	5190.037	5150 to 5250	Pass
			40	120	5190.037	5150 to 5250	Pass
			50	120	5190.037	5150 to 5250	Pass

FCCID: 2A8QK-V01

		5230	20	102	5230.038	5150 to 5250	Pass
				120	5230.038	5150 to 5250	Pass
				138	5230.038	5150 to 5250	Pass
			-30	120	5230.038	5150 to 5250	Pass
			-20	120	5230.038	5150 to 5250	Pass
			-10	120	5230.038	5150 to 5250	Pass
			0	120	5230.038	5150 to 5250	Pass
			10	120	5230.038	5150 to 5250	Pass
			30	120	5230.038	5150 to 5250	Pass
			40	120	5230.038	5150 to 5250	Pass
			50	120	5230.038	5150 to 5250	Pass