

ANNEX E TEST DATA

For

Project No.:	8132EU111103W
Client:	Cheerlux (Shenzhen) Electronic Technology Co., Ltd.
Product Description:	Projector
Model No.:	C12
FCC ID:	2AYQQ-C12
Technology:	WiFi 5G
Test Engineer:	<i>Mikoy zhu</i>
Test Date:	2023-10-07

Test Summary

Item	Result
Duty Cycle	Pass
Bandwidth	Pass
Maximum Conducted Output Power	Pass
Maximum Power Spectral Density	Pass
Unwanted Emissions In Restricted Frequency Bands	Pass
Frequency Stability	Pass

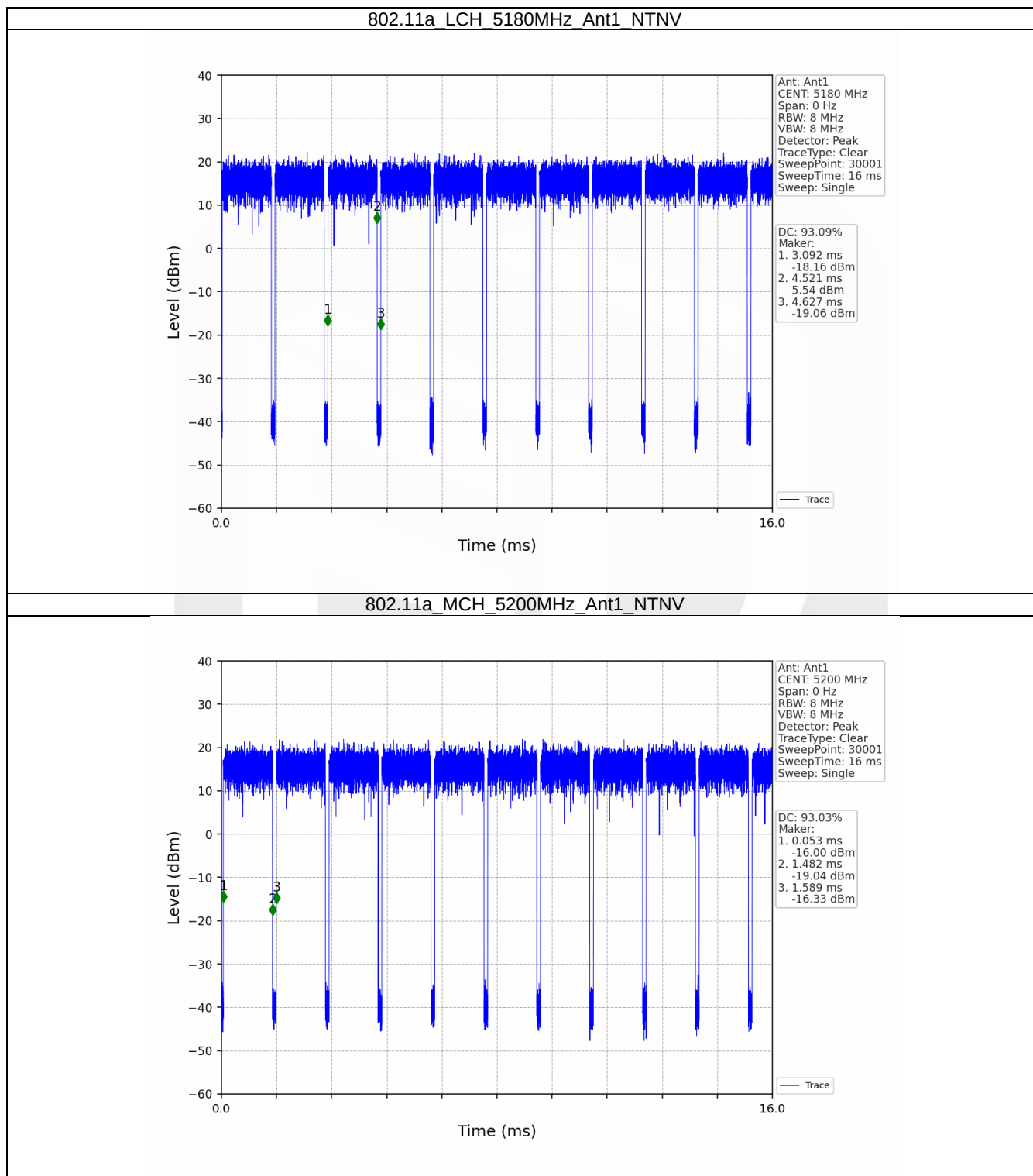
1. Duty Cycle

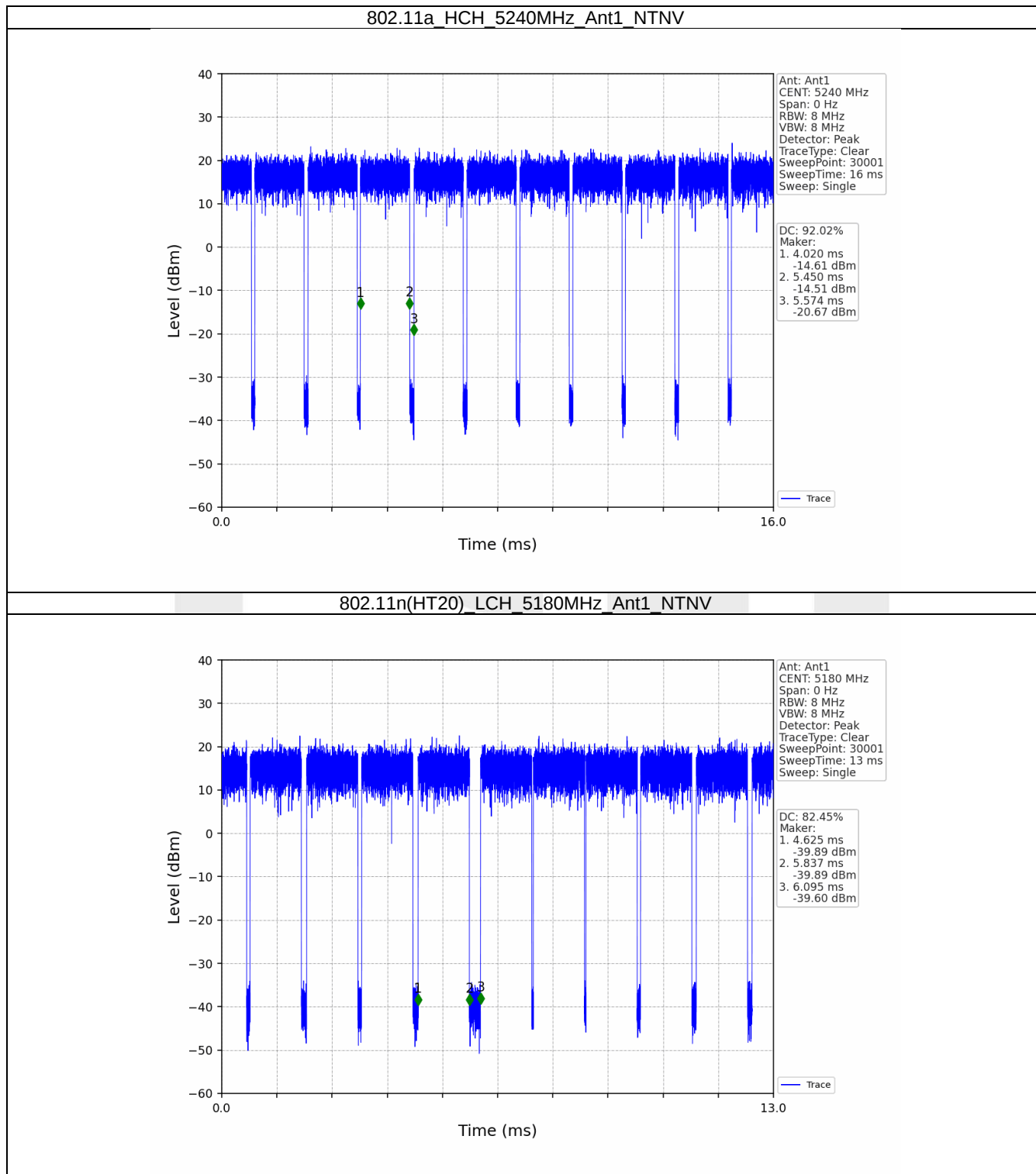
1.1 Ant1

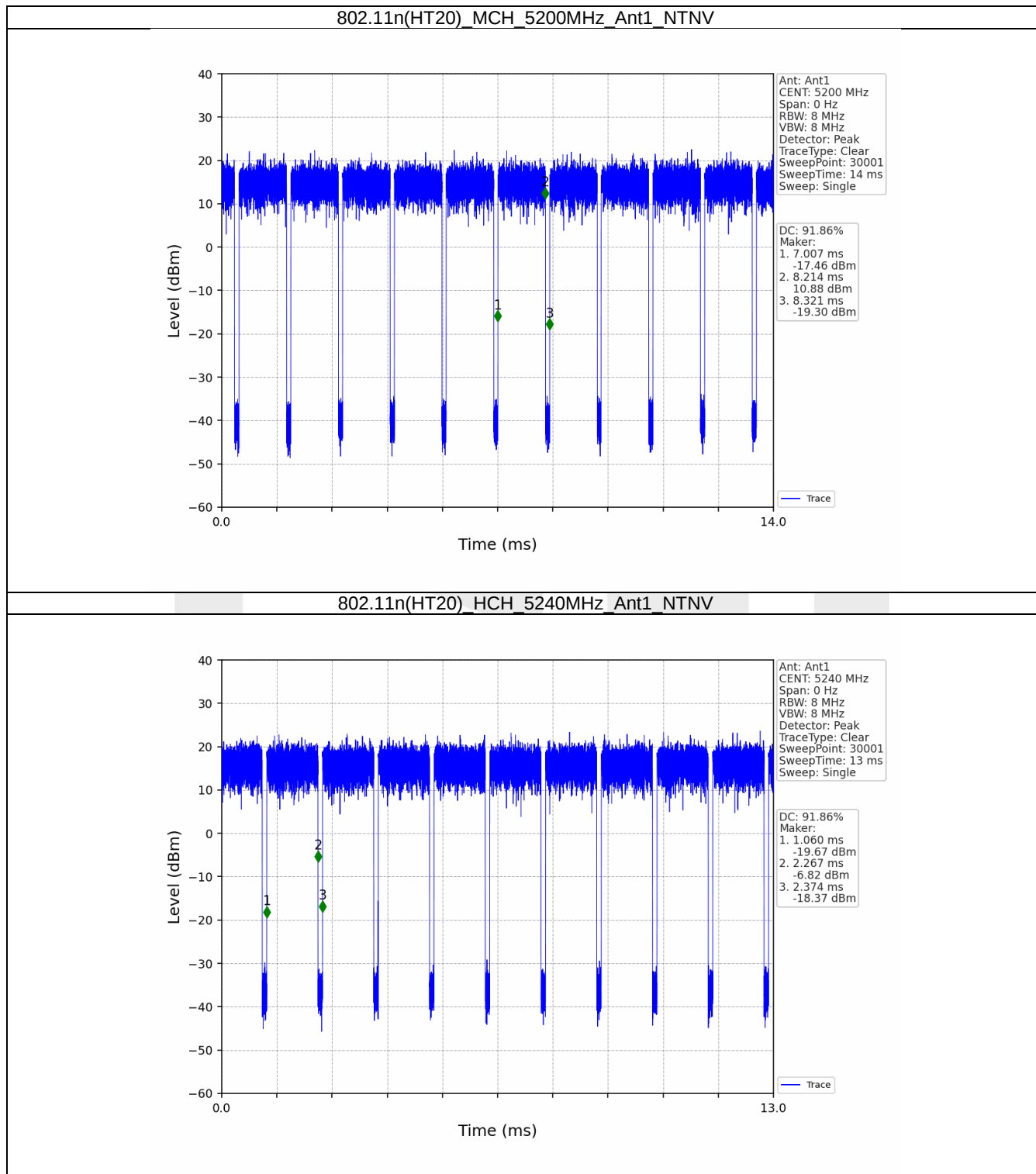
1.1.1 Test Result

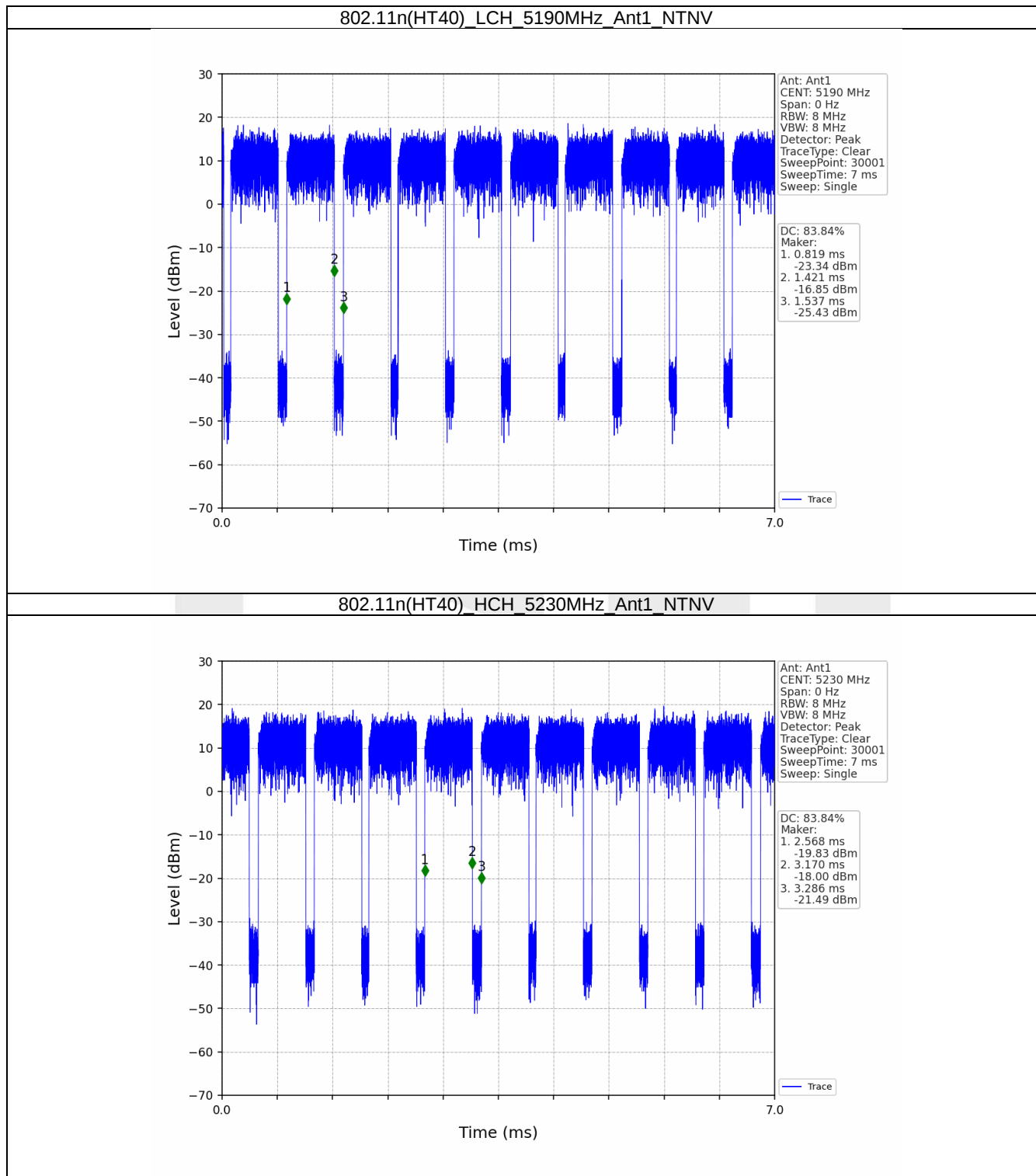
Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11a	SISO	5180	1.429	1.535	93.09	0.31	0.03
		5200	1.429	1.536	93.03	0.31	0.16
		5240	1.430	1.554	92.02	0.36	2.17
802.11n (HT20)	SISO	5180	1.212	1.470	82.45	0.84	15.23
		5200	1.207	1.314	91.86	0.37	0.66
		5240	1.207	1.314	91.86	0.37	0.03
802.11n (HT40)	SISO	5190	0.602	0.718	83.84	0.77	3.29
		5230	0.602	0.718	83.84	0.77	3.26

1.1.2 Test Graph









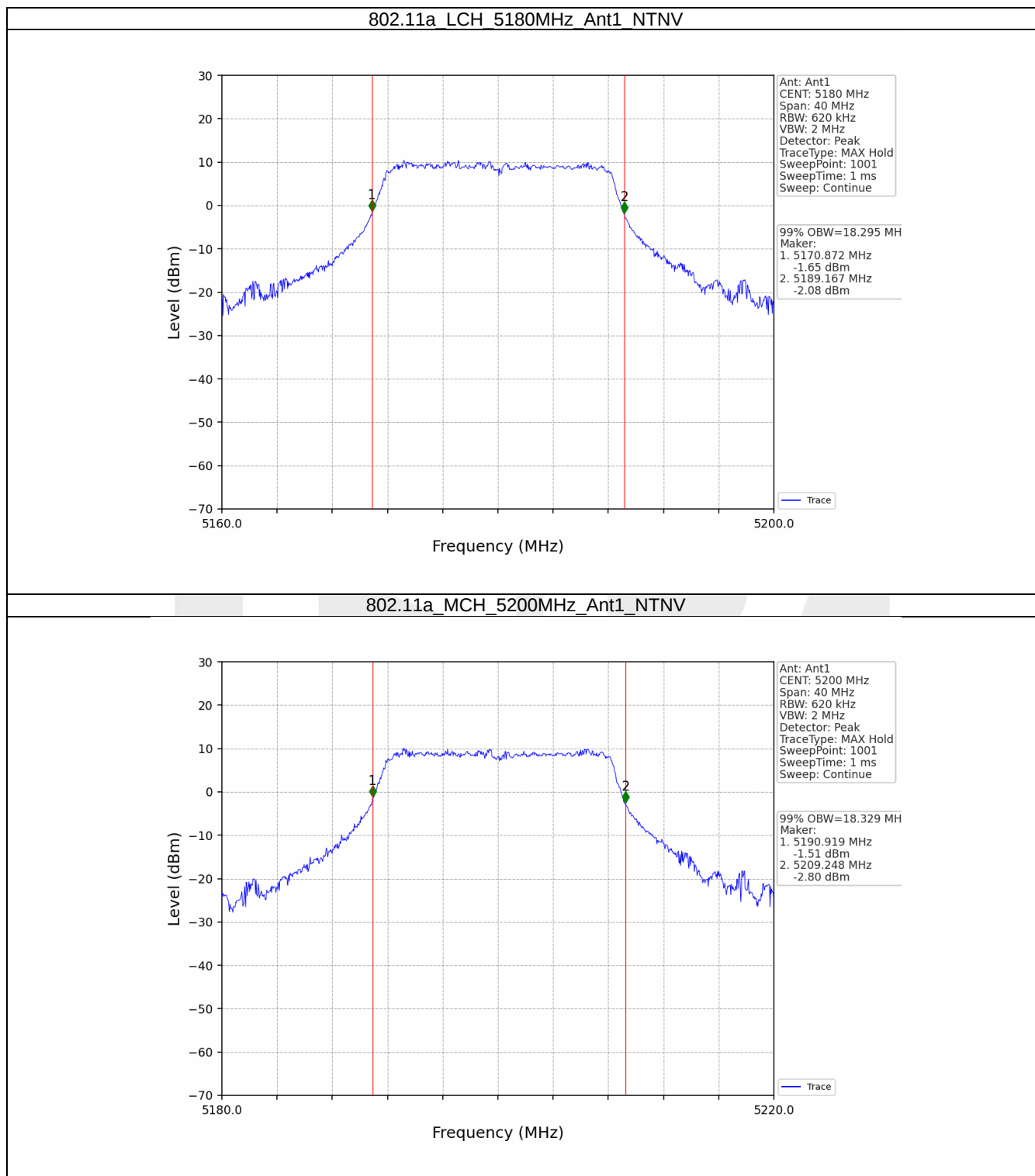
2. Bandwidth

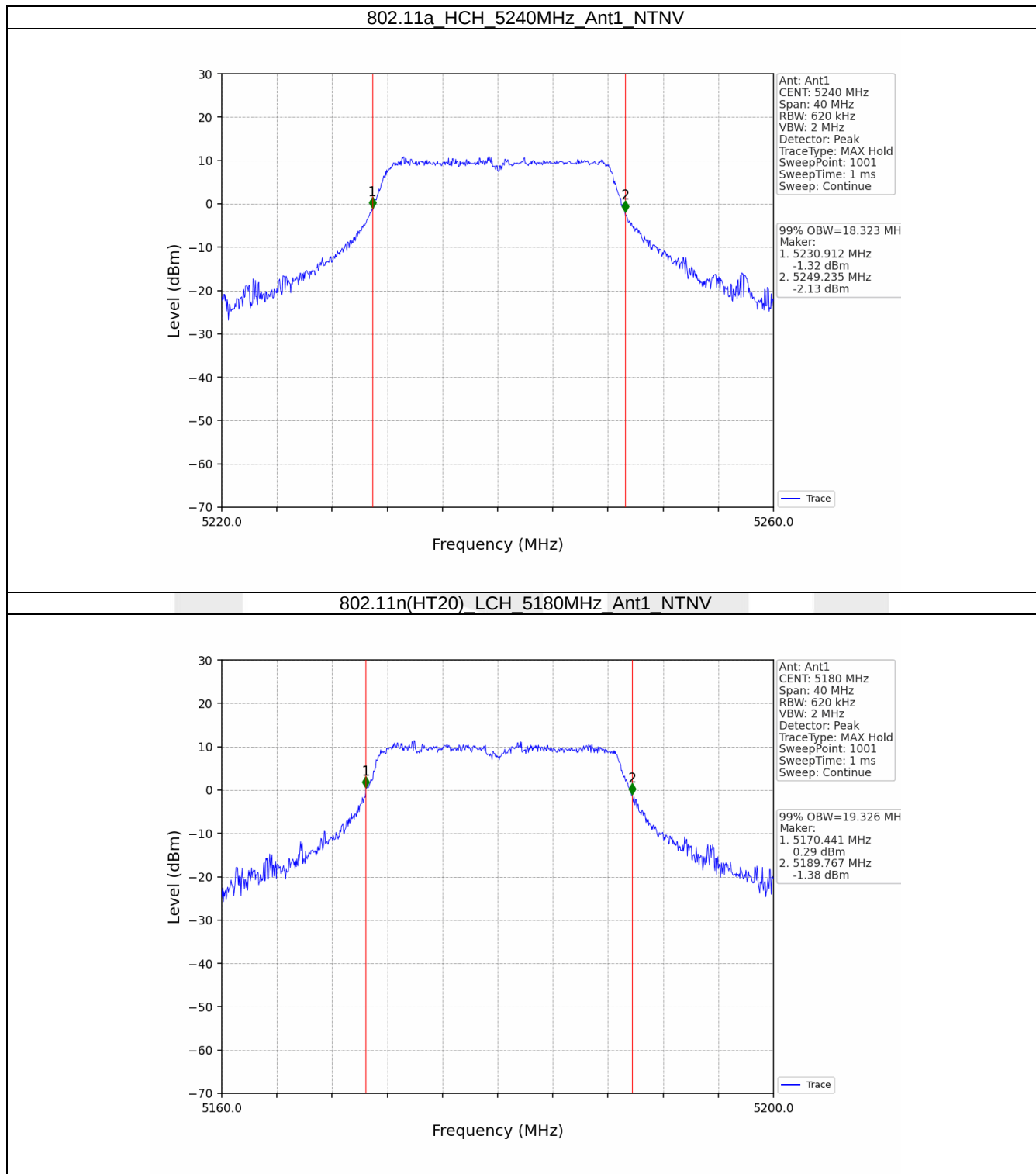
2.1 OBW

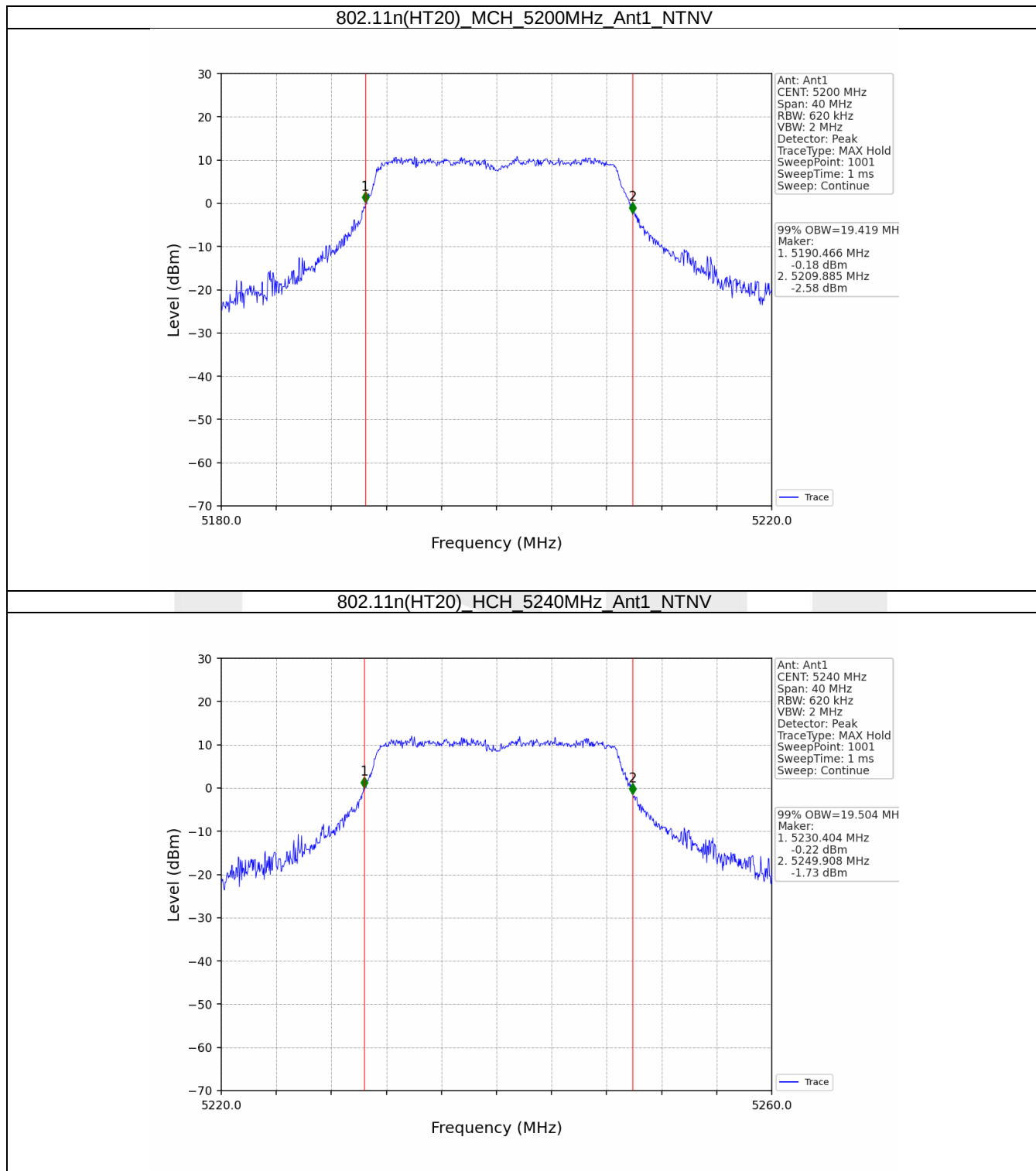
2.1.1 Test Result

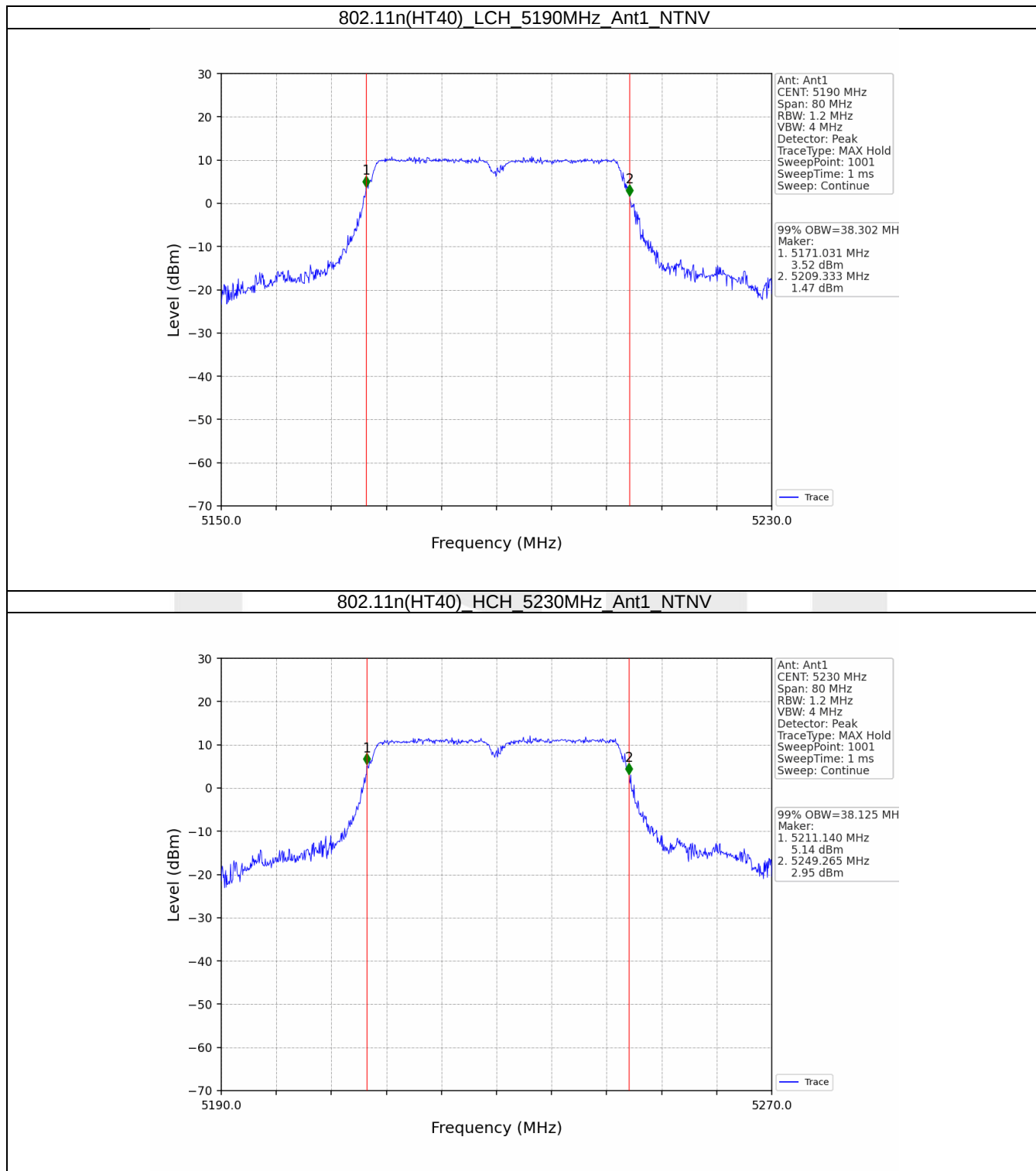
Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)	Verdict
				Result	
802.11a	SISO	5180	1	18.295	Pass
		5200	1	18.329	Pass
		5240	1	18.323	Pass
802.11n (HT20)	SISO	5180	1	19.326	Pass
		5200	1	19.419	Pass
		5240	1	19.504	Pass
802.11n (HT40)	SISO	5190	1	38.302	Pass
		5230	1	38.125	Pass

2.1.2 Test Graph







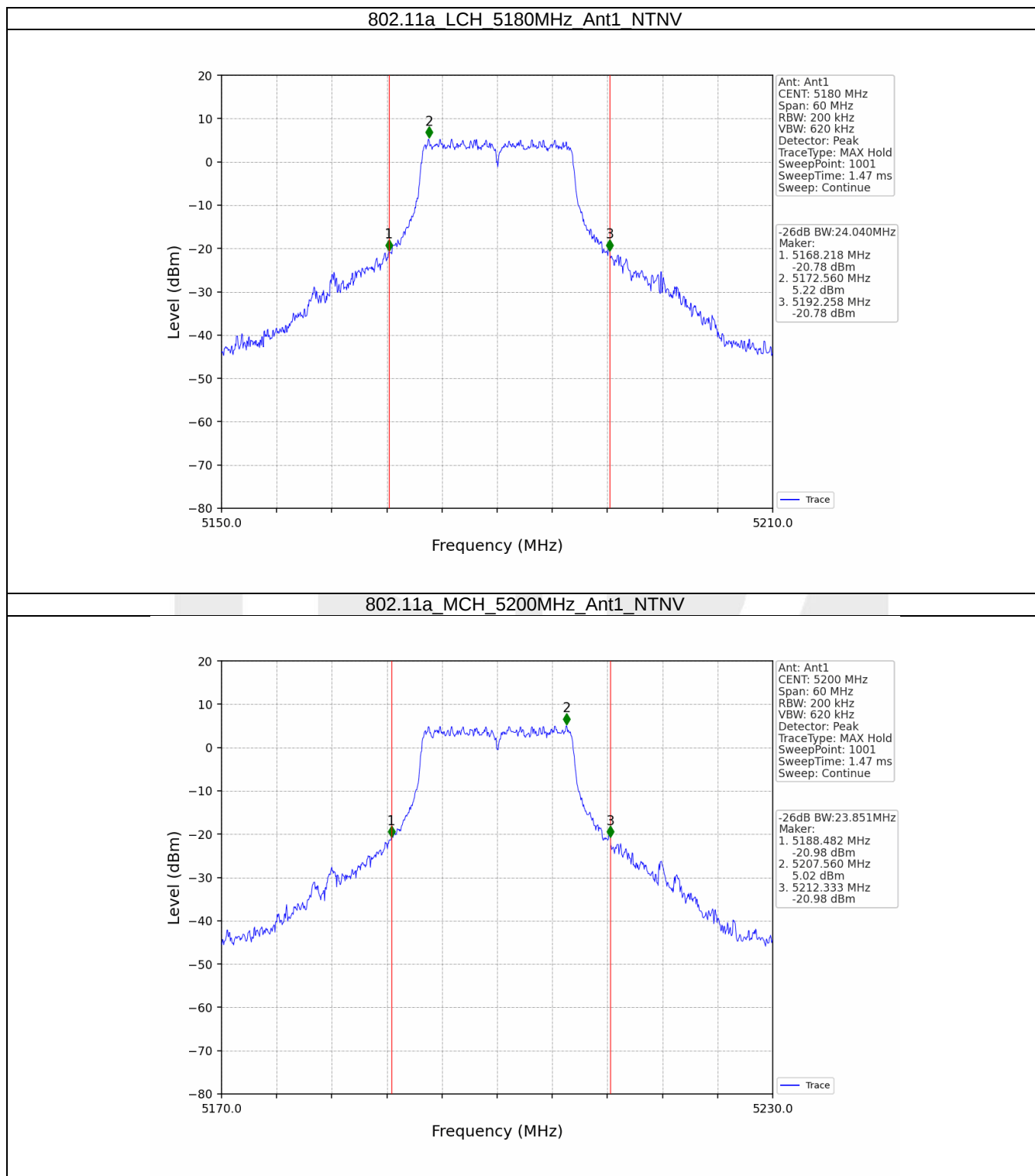


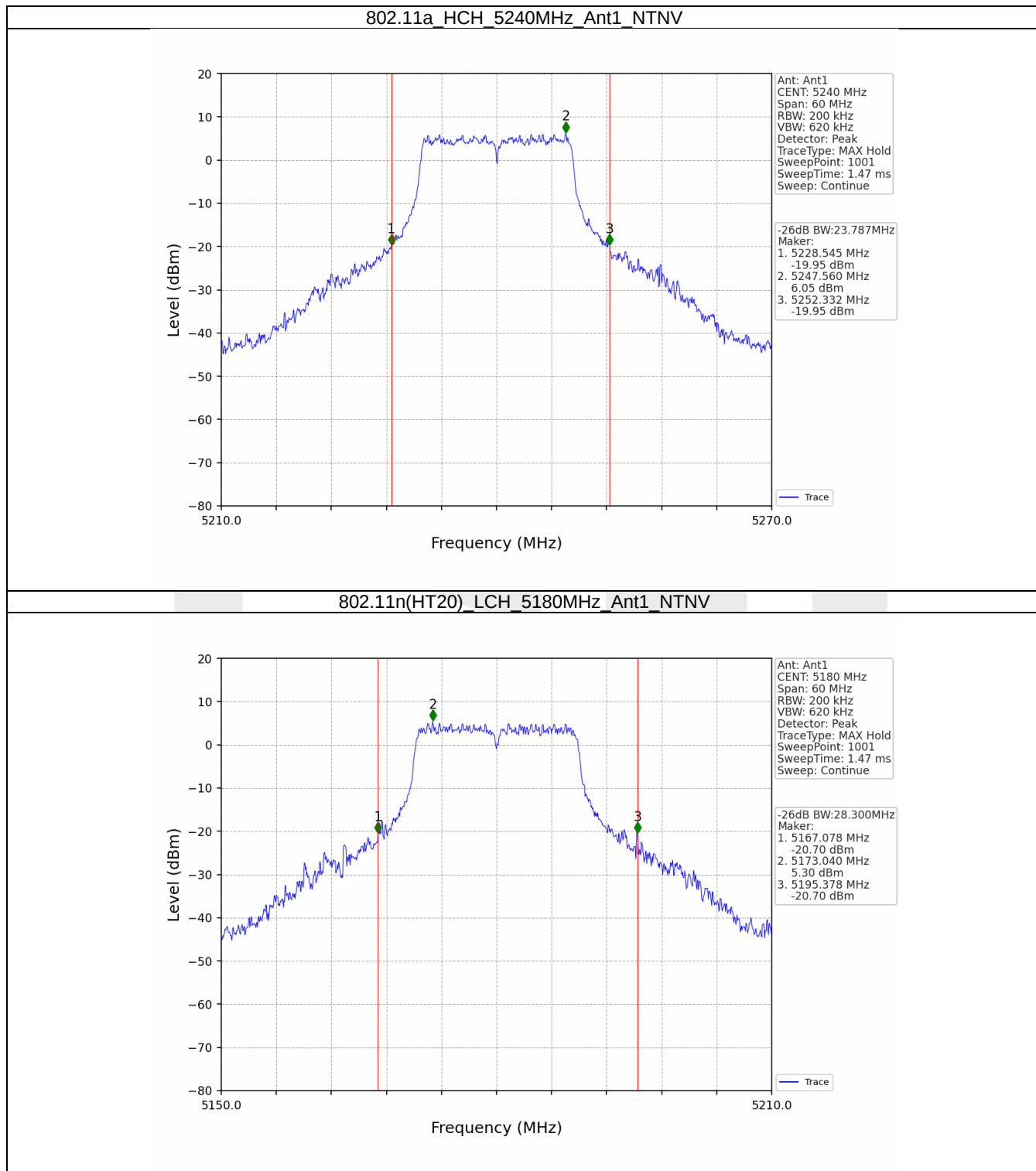
2.2 26dB BW

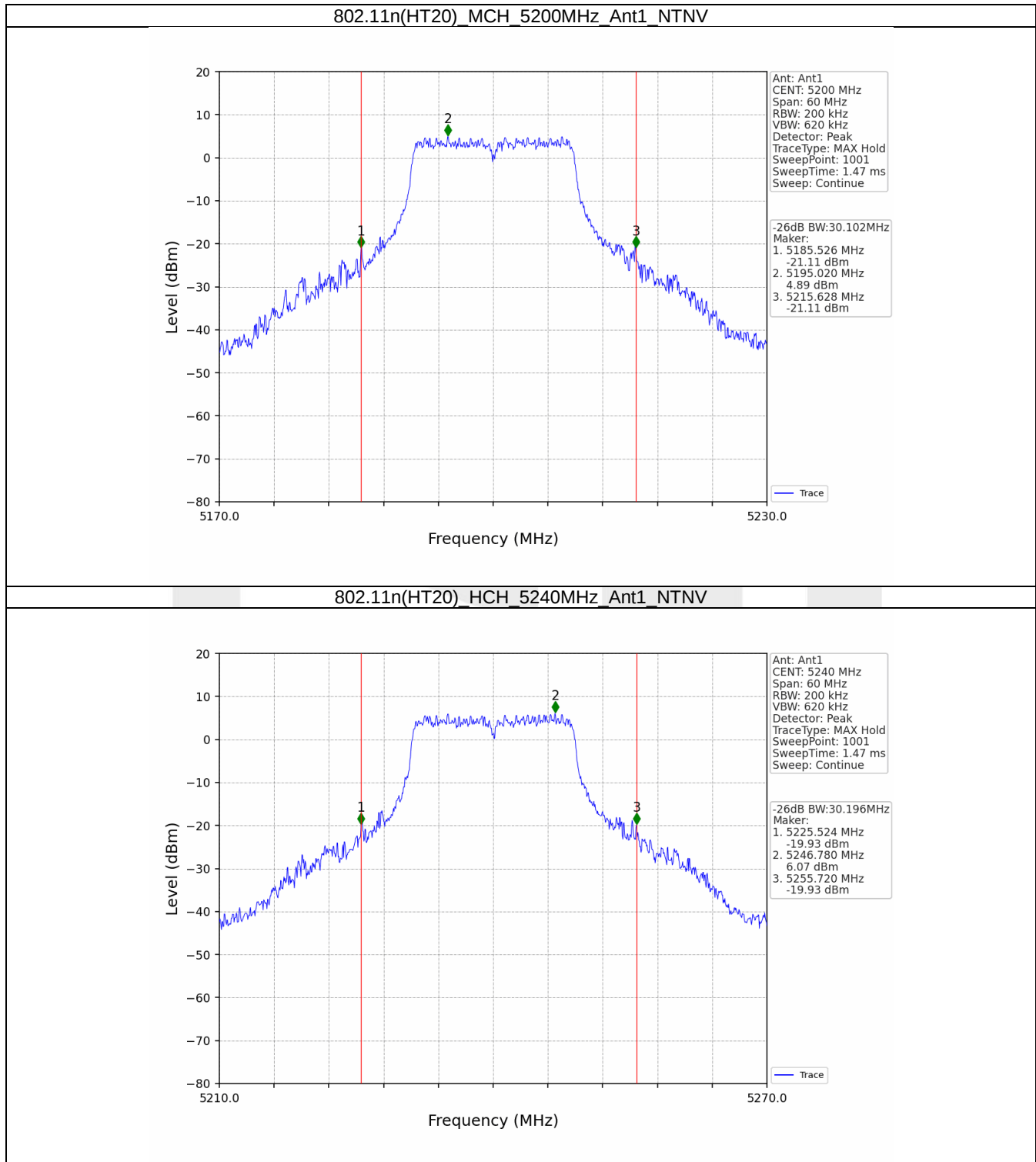
2.2.1 Test Result

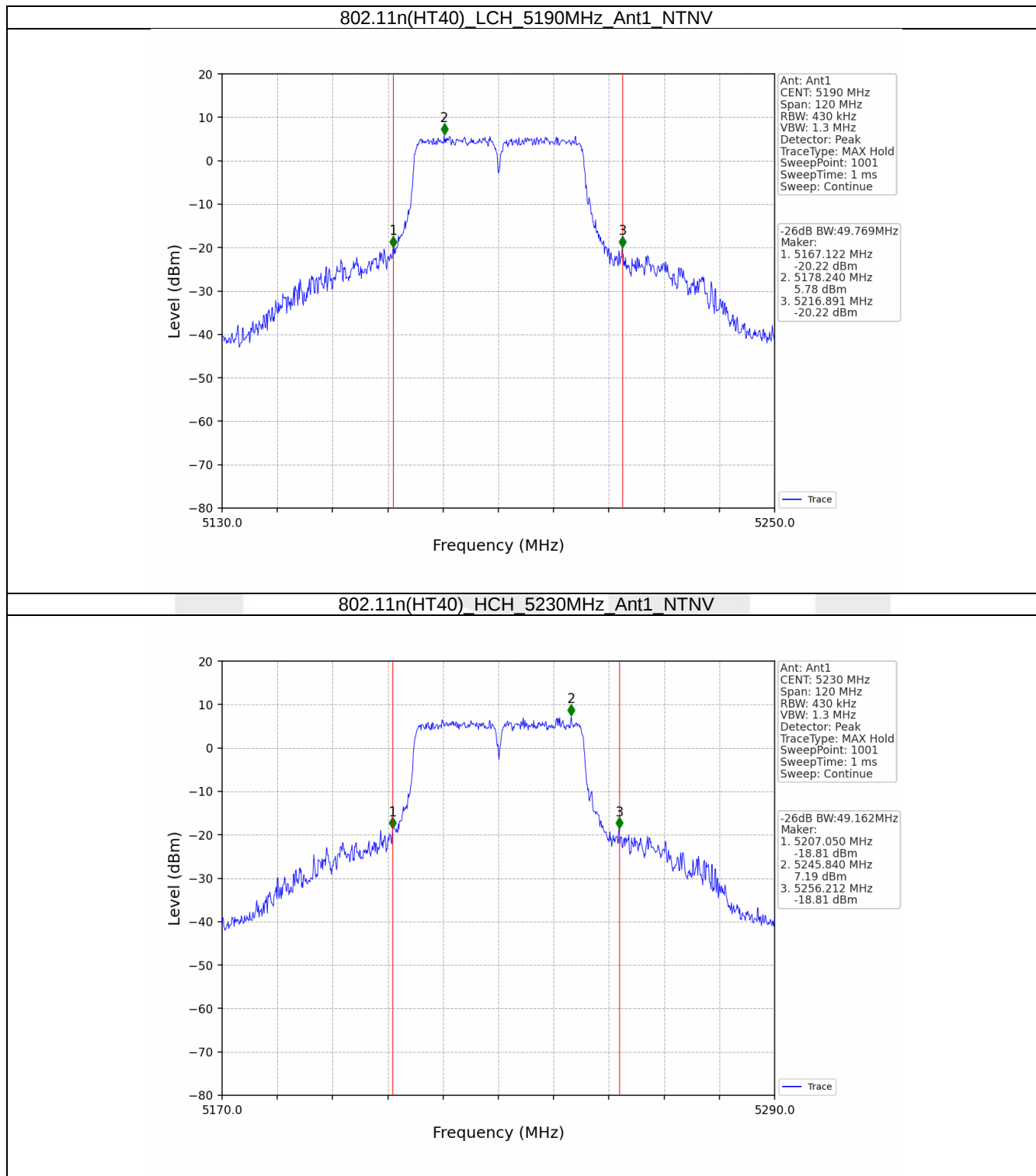
Mode	TX Type	Frequency (MHz)	ANT	26dB Bandwidth (MHz)	Verdict
				Result	
802.11a	SISO	5180	1	24.040	Pass
		5200	1	23.851	Pass
		5240	1	23.787	Pass
802.11n (HT20)	SISO	5180	1	28.300	Pass
		5200	1	30.102	Pass
		5240	1	30.196	Pass
802.11n (HT40)	SISO	5190	1	49.769	Pass
		5230	1	49.162	Pass

2.2.2 Test Graph









3. Maximum Conducted Output Power

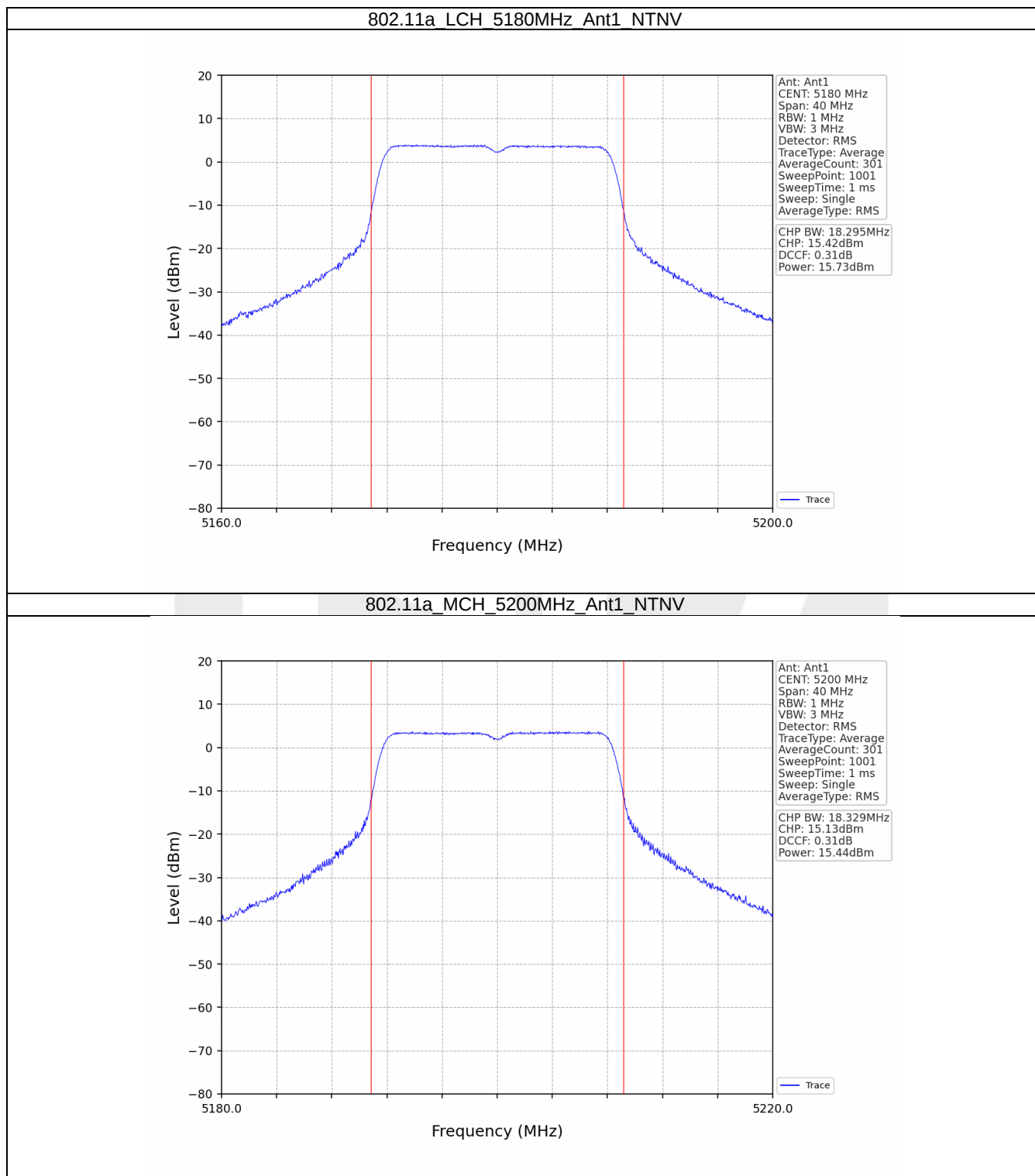
3.1 Power

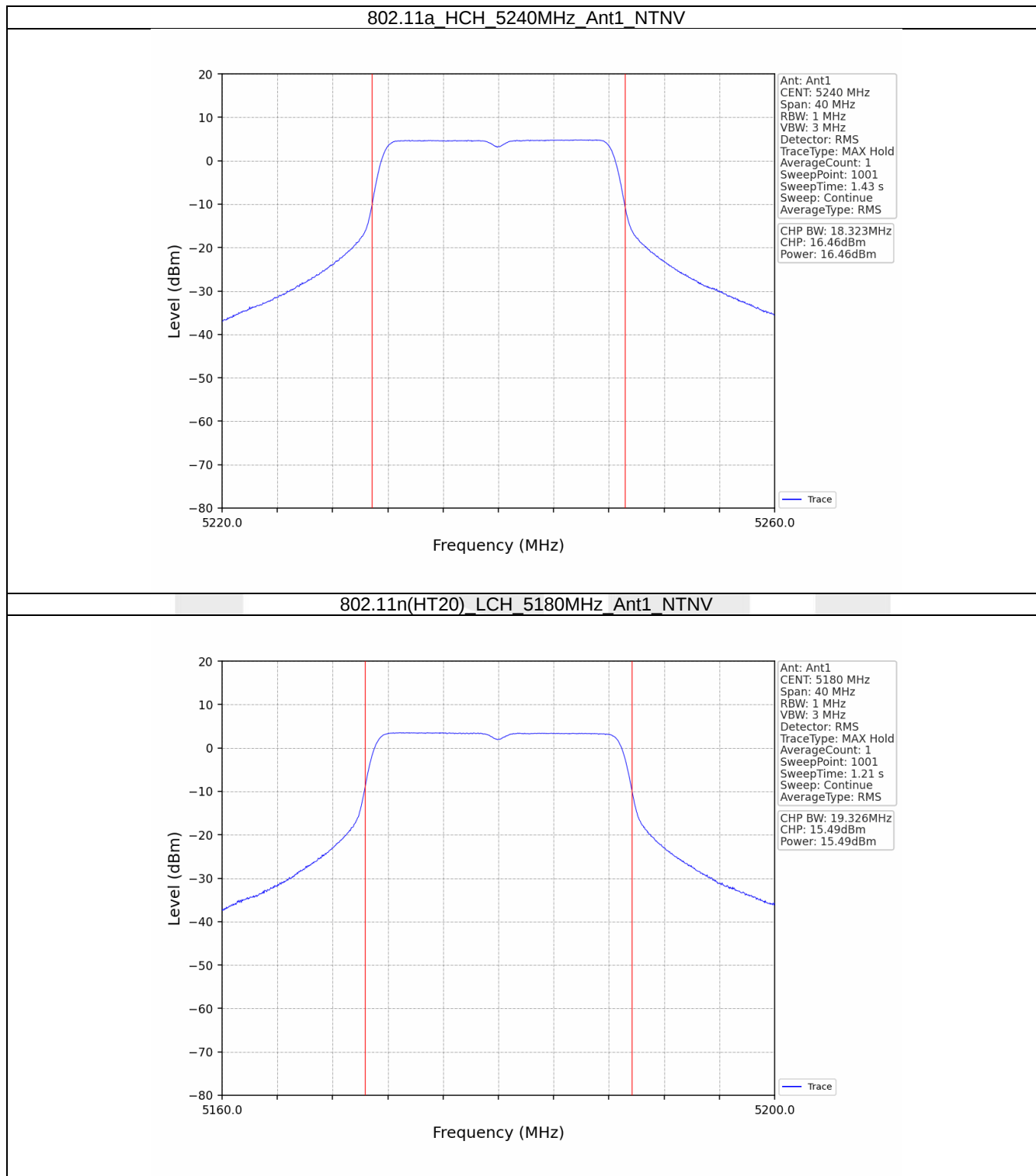
3.1.1 Test Result

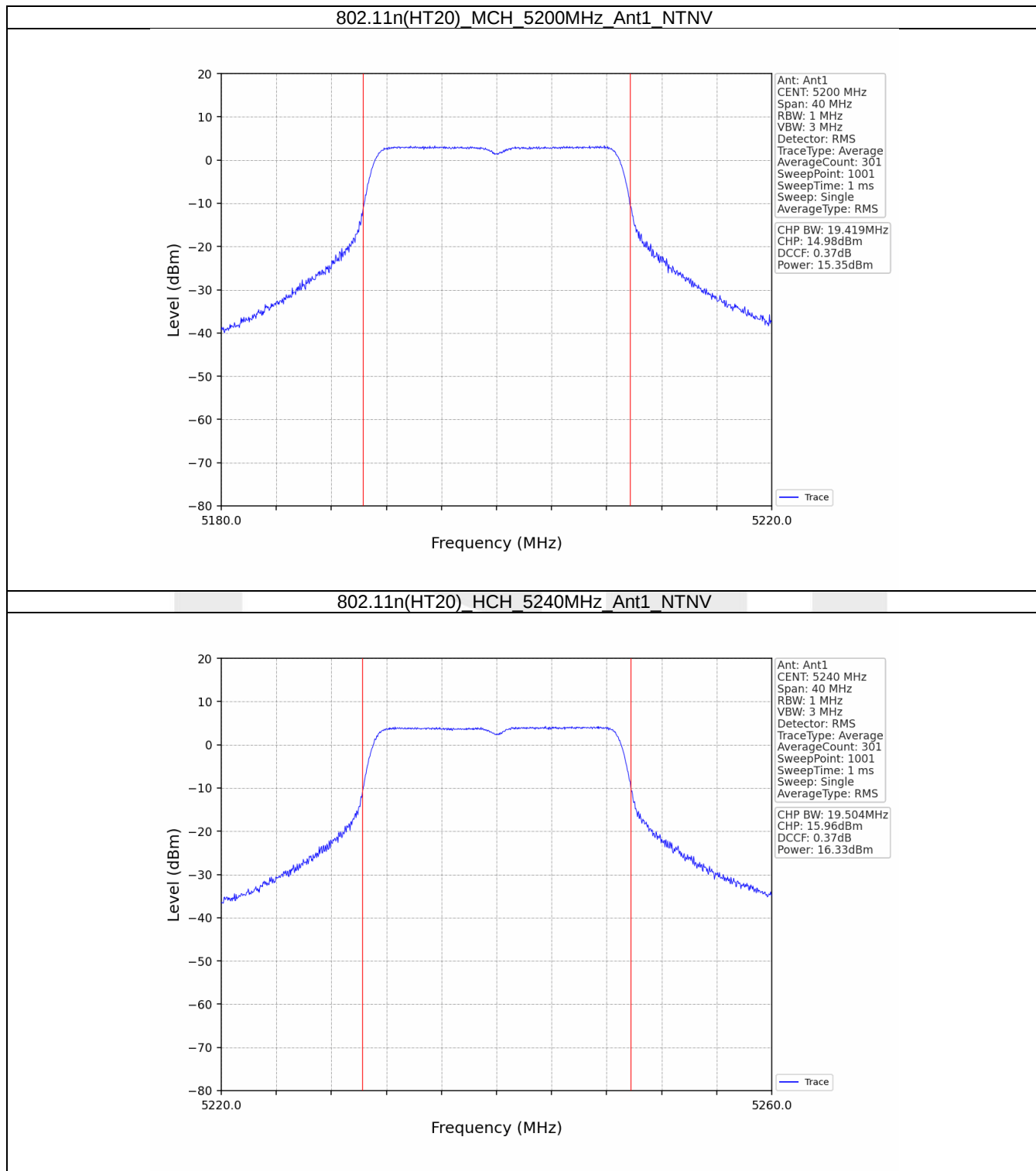
Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11a	SISO	5180	15.73	≤ 23.98	Pass
		5200	15.44	≤ 23.98	Pass
		5240	16.46	≤ 23.98	Pass
802.11n (HT20)	SISO	5180	15.49	≤ 23.98	Pass
		5200	15.35	≤ 23.98	Pass
		5240	16.33	≤ 23.98	Pass
802.11n (HT40)	SISO	5190	15.55	≤ 23.98	Pass
		5230	16.41	≤ 23.98	Pass

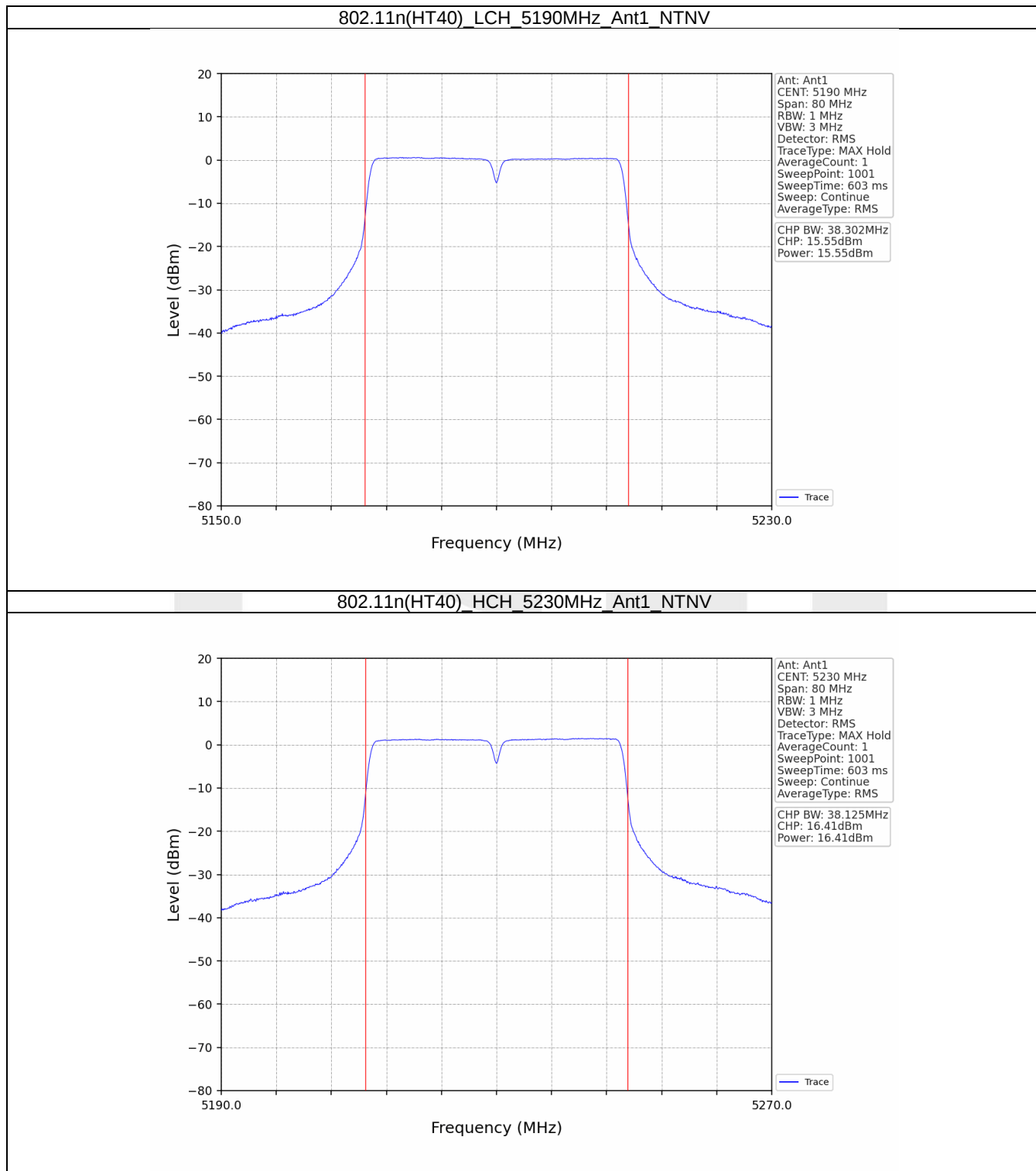
Note1: Antenna Gain: Ant1: 2.54dBi;

3.1.2 Test Graph









4. Maximum Power Spectral Density

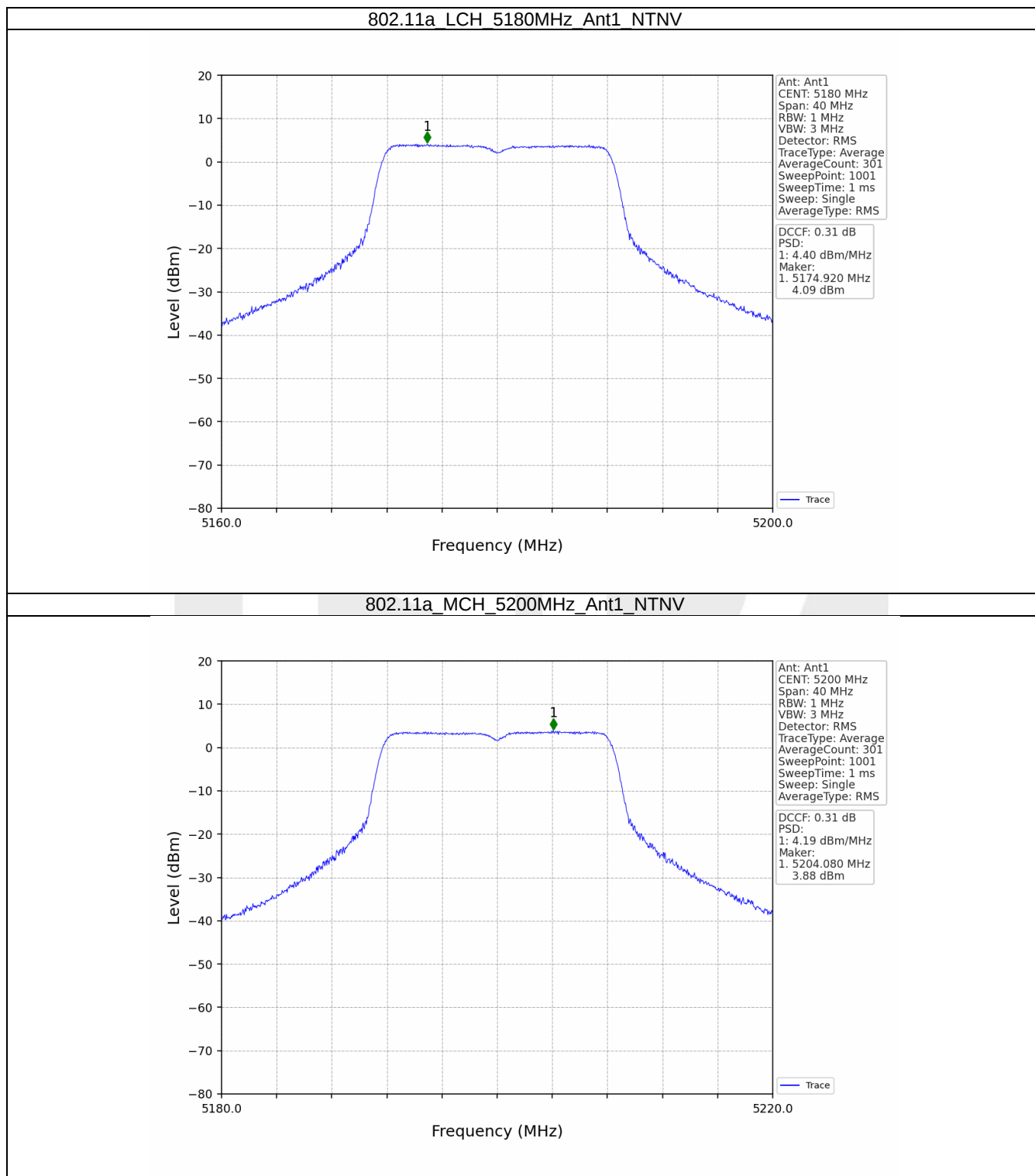
4.1 PSD

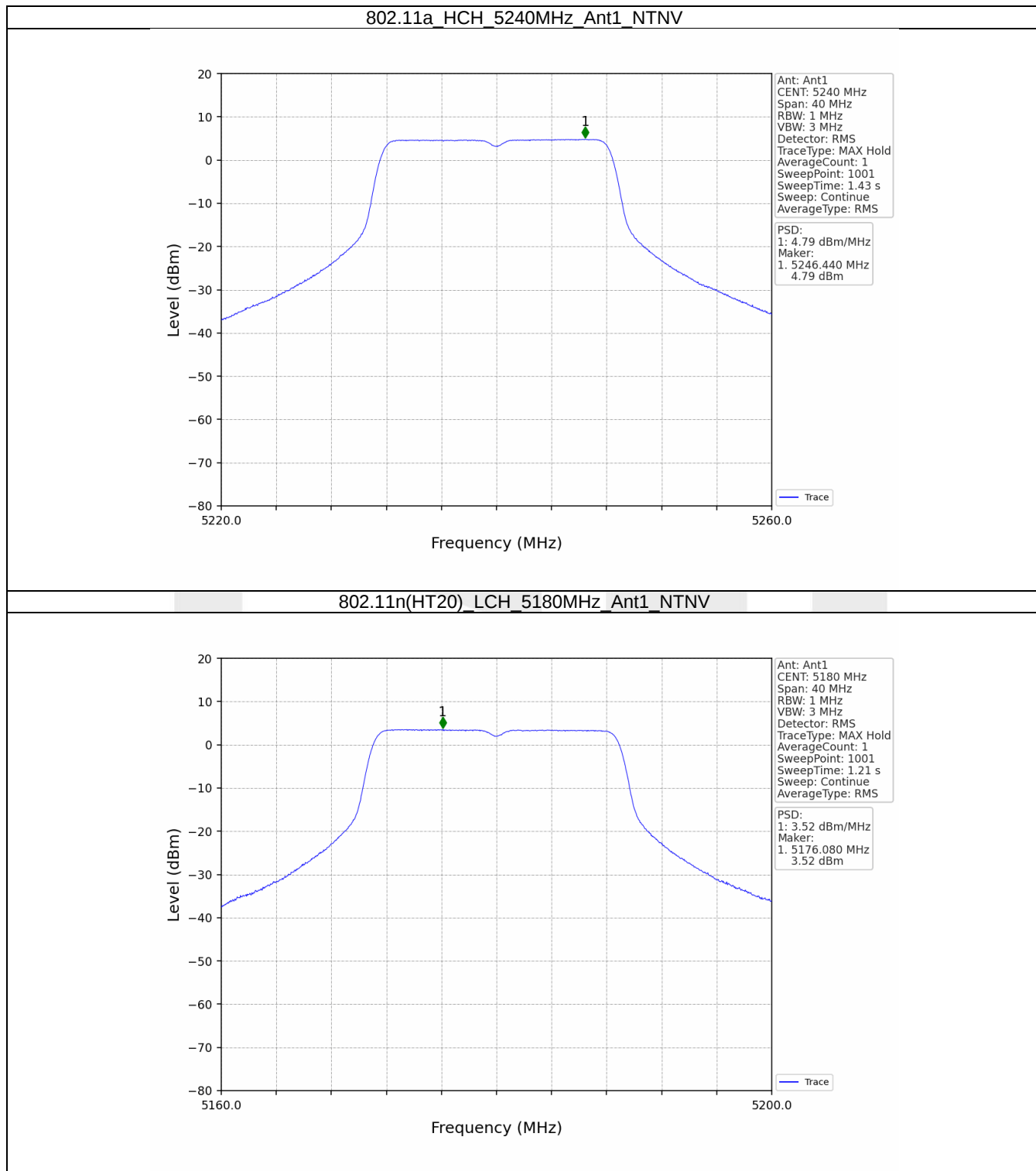
4.1.1 Test Result

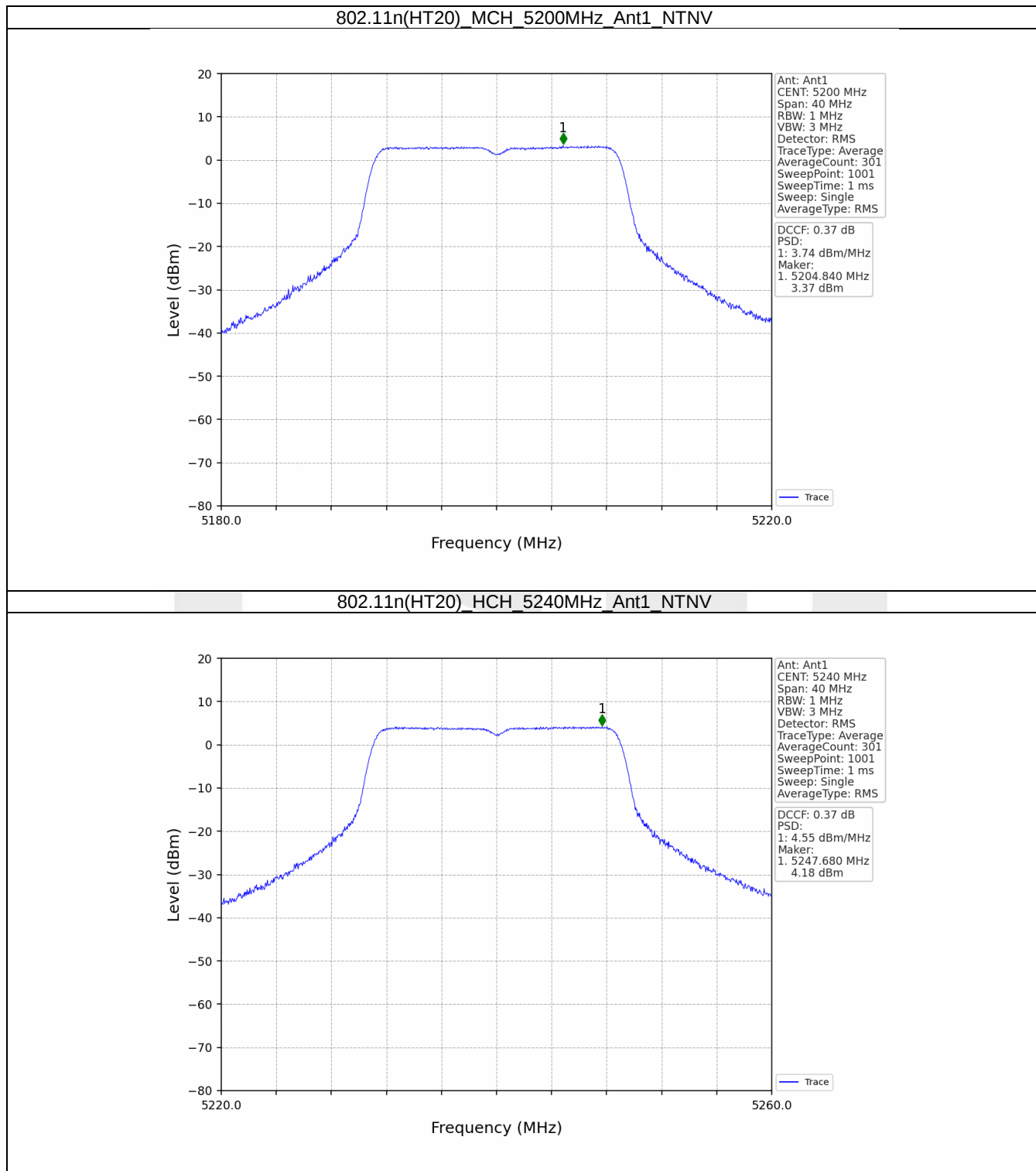
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/MHz)		Verdict
			ANT1	Limit	
802.11a	SISO	5180	4.40	<=11	Pass
		5200	4.19	<=11	Pass
		5240	4.79	<=11	Pass
802.11n (HT20)	SISO	5180	3.52	<=11	Pass
		5200	3.74	<=11	Pass
		5240	4.55	<=11	Pass
802.11n (HT40)	SISO	5190	0.61	<=11	Pass
		5230	1.47	<=11	Pass

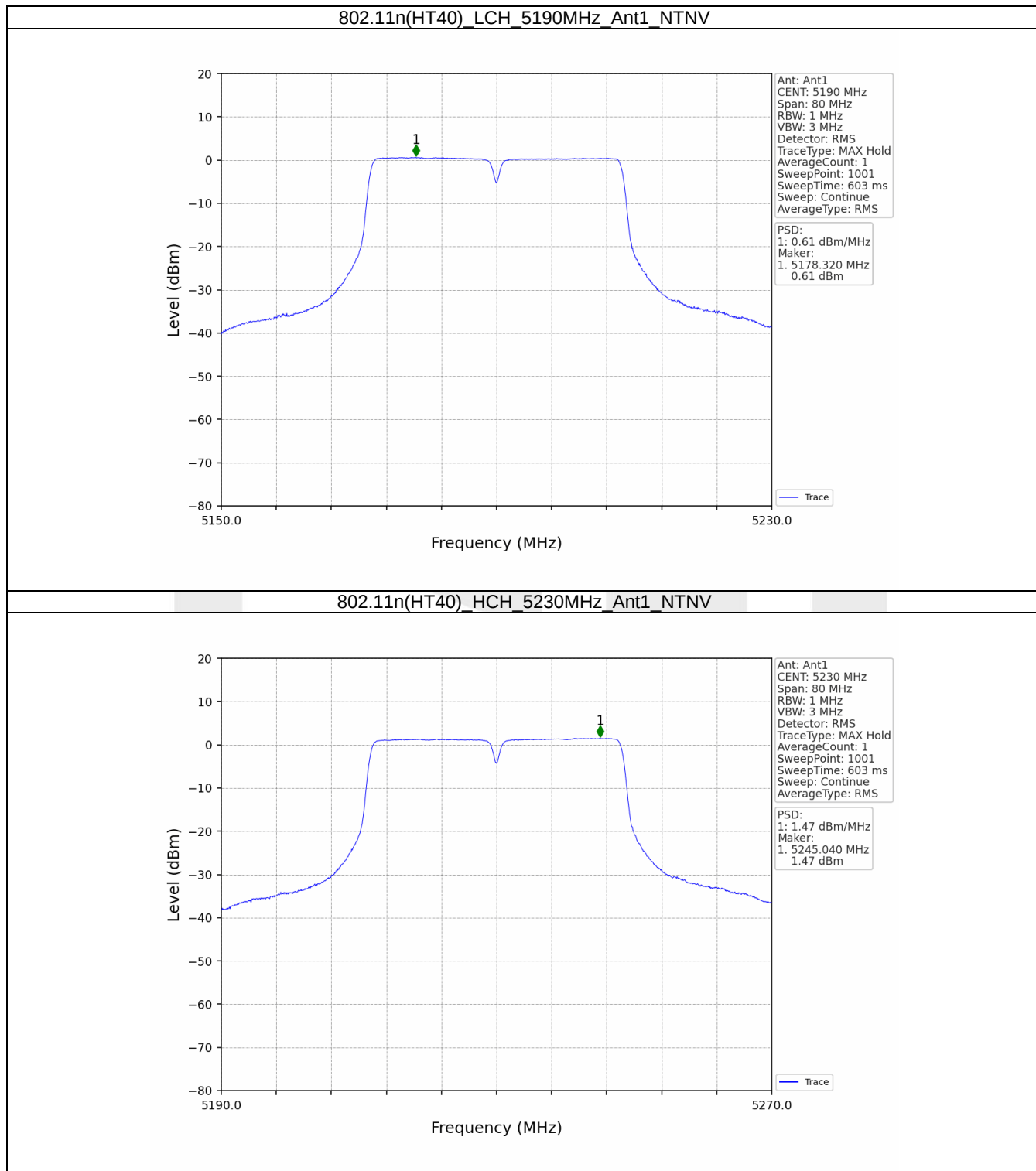
Note1: Antenna Gain: Ant1: 2.54dBi;

4.1.2 Test Graph









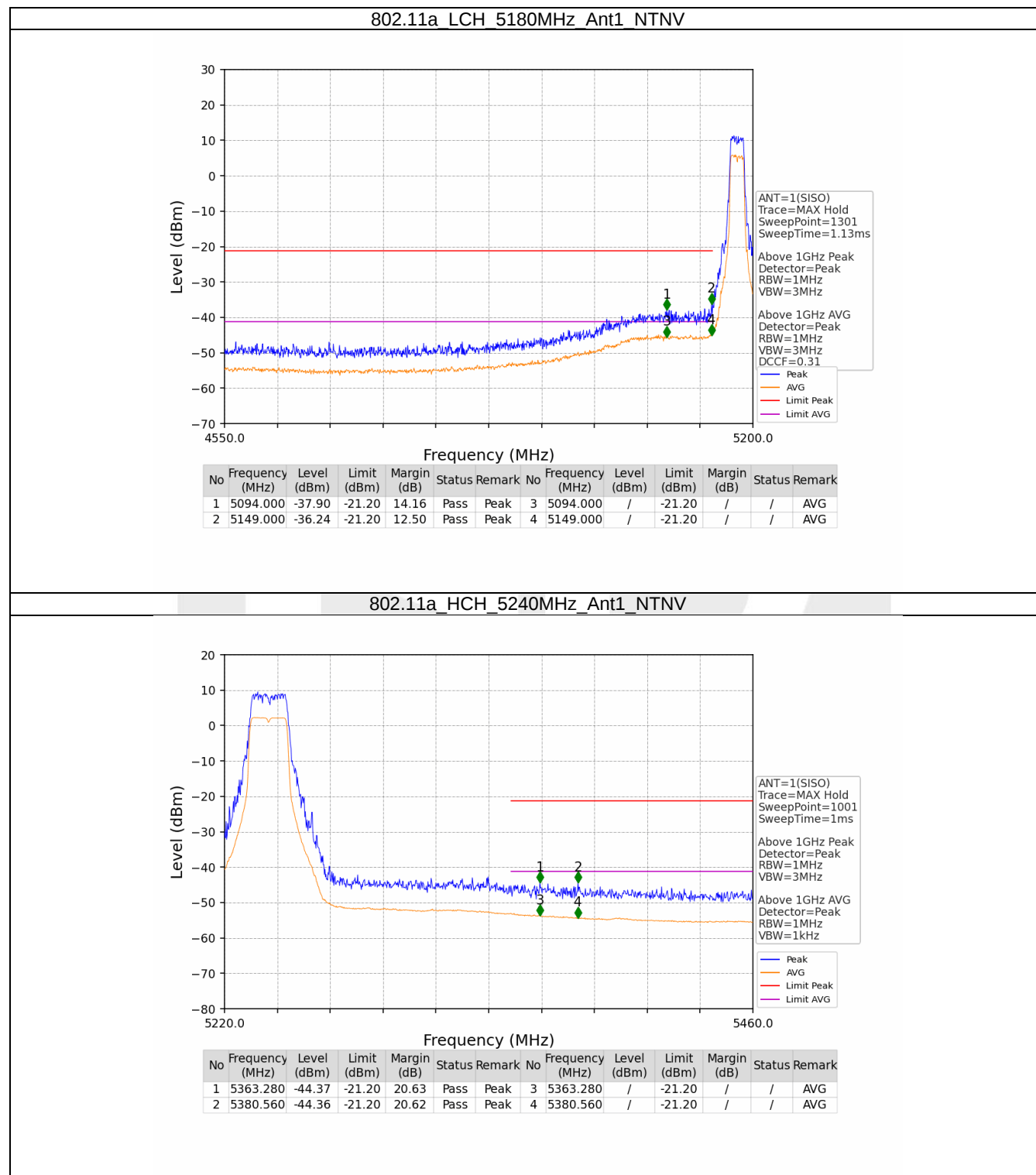
5. Unwanted Emissions In Restricted Frequency Bands

5.1 RSE

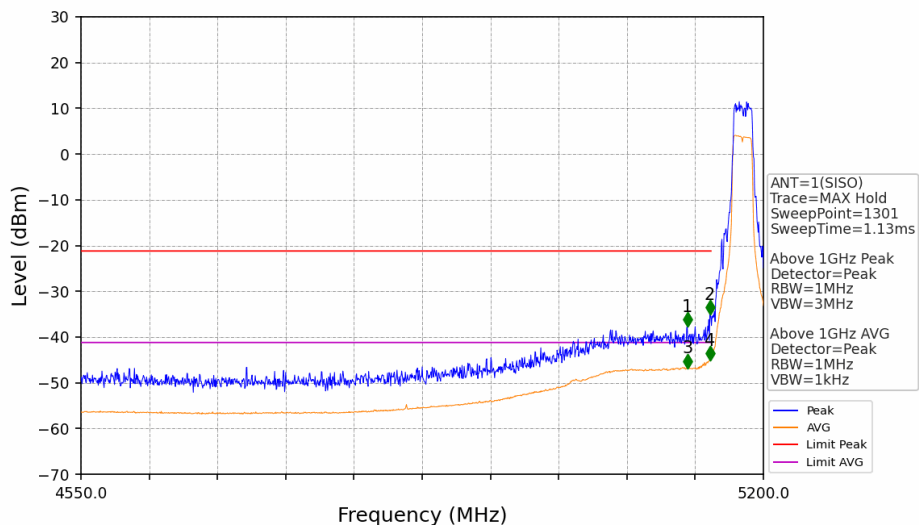
5.1.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	Level of Unwanted Emissions (dBm)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	Refer To Test Graph		Pass
		5200	1	Refer To Test Graph		Pass
		5240	1	Refer To Test Graph		Pass
802.11n (HT20)	SISO	5180	1	Refer To Test Graph		Pass
		5200	1	Refer To Test Graph		Pass
		5240	1	Refer To Test Graph		Pass
802.11n (HT40)	SISO	5190	1	Refer To Test Graph		Pass
		5230	1	Refer To Test Graph		Pass

5.1.2 Test Graph

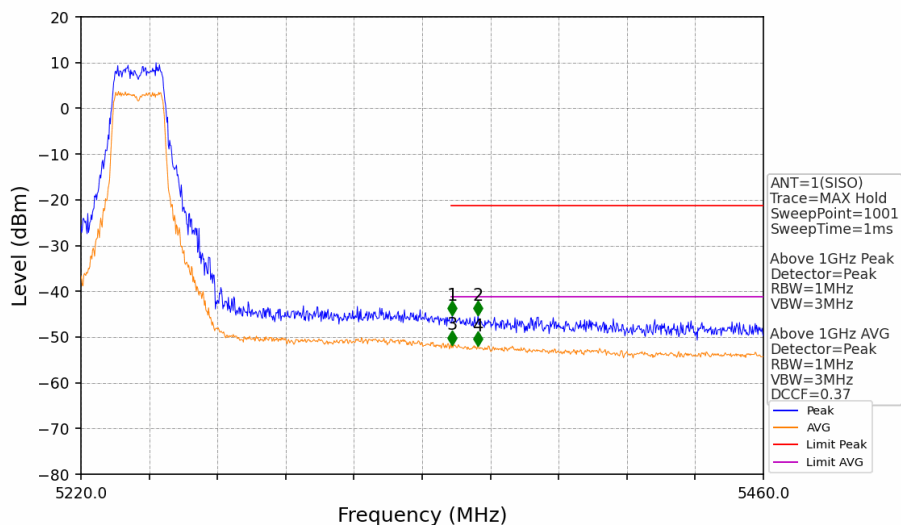


802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



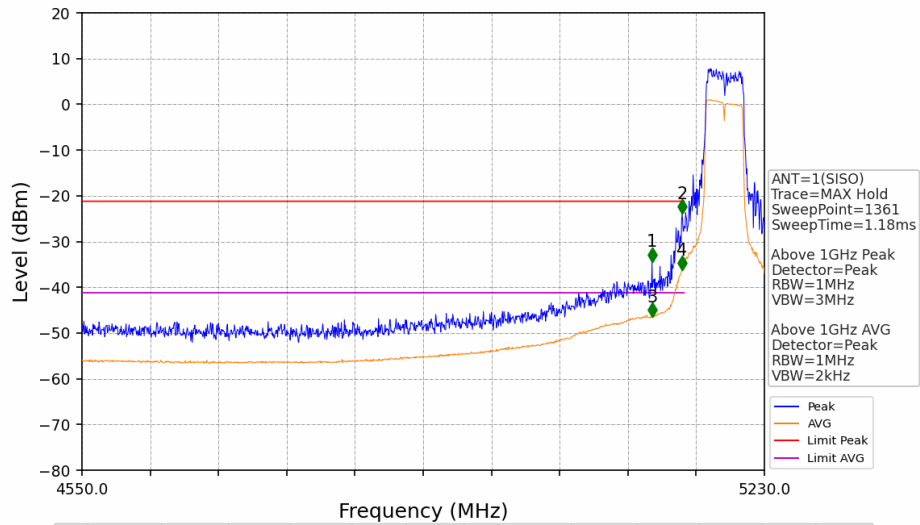
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	5127.500	-37.74	-21.20	14.00	Pass	Peak	3	5127.500	/	-21.20	/	/	AVG
2	5149.000	-35.15	-21.20	11.41	Pass	Peak	4	5149.000	/	-21.20	/	/	AVG

802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



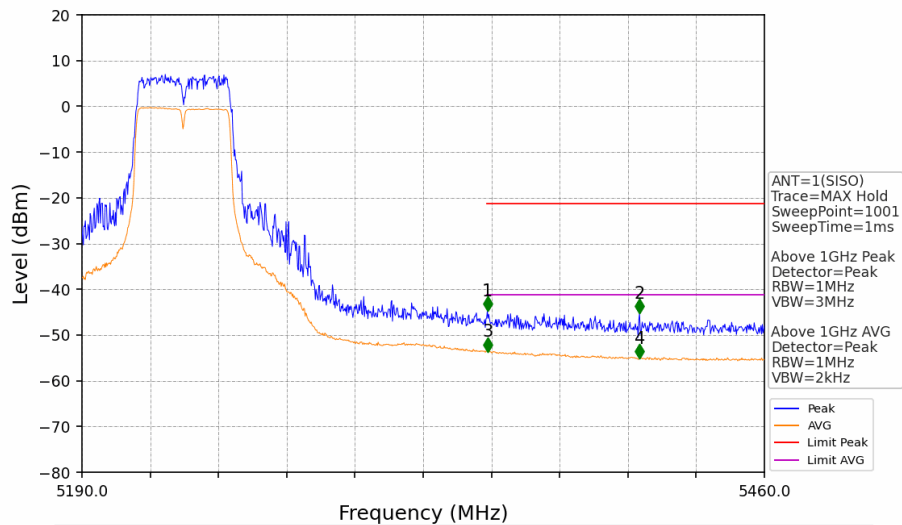
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	5350.560	-45.33	-21.20	21.59	Pass	Peak	3	5350.560	/	-21.20	/	/	AVG
2	5359.680	-45.22	-21.20	21.48	Pass	Peak	4	5359.680	/	-21.20	/	/	AVG

802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	5118.000	-34.41	-21.20	10.67	Pass	Peak	3	5118.000	/	-21.20	/	/	AVG
2	5148.000	-23.98	-21.20	0.24	Pass	Peak	4	5148.000	/	-21.20	/	/	AVG

802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	5350.380	-44.74	-21.20	21.00	Pass	Peak	3	5350.380	/	-21.20	/	/	AVG
2	5410.590	-45.25	-21.20	21.51	Pass	Peak	4	5410.590	/	-21.20	/	/	AVG

6. Frequency Stability

6.1 Ant1

6.1.1 Test Result

Ant1							
Mode	TX Type	Frequency (MHz)	Temperature (°C)	Voltage (VAC)	Measured Frequency (MHz)	Limit (MHz)	Verdict
802.11a	SISO	5180	20	102	5180.000	5150 to 5250	Pass
				120	5180.060	5150 to 5250	Pass
				138	5180.020	5150 to 5250	Pass
			-30	120	5180.000	5150 to 5250	Pass
			-20	120	5180.020	5150 to 5250	Pass
			-10	120	5180.040	5150 to 5250	Pass
			0	120	5180.040	5150 to 5250	Pass
			10	120	5180.040	5150 to 5250	Pass
			30	120	5180.020	5150 to 5250	Pass
			40	120	5180.000	5150 to 5250	Pass
			50	120	5180.040	5150 to 5250	Pass
		5200	20	102	5200.040	5150 to 5250	Pass
				120	5200.040	5150 to 5250	Pass
				138	5200.020	5150 to 5250	Pass
			-30	120	5200.060	5150 to 5250	Pass
			-20	120	5200.040	5150 to 5250	Pass
			-10	120	5200.000	5150 to 5250	Pass
			0	120	5200.020	5150 to 5250	Pass
			10	120	5200.040	5150 to 5250	Pass
			30	120	5200.060	5150 to 5250	Pass
			40	120	5200.020	5150 to 5250	Pass
			50	120	5200.020	5150 to 5250	Pass
		5240	20	102	5240.000	5150 to 5250	Pass
				120	5240.040	5150 to 5250	Pass
				138	5240.020	5150 to 5250	Pass
			-30	120	5240.040	5150 to 5250	Pass
			-20	120	5240.040	5150 to 5250	Pass
			-10	120	5240.000	5150 to 5250	Pass
			0	120	5240.020	5150 to 5250	Pass
			10	120	5240.040	5150 to 5250	Pass
			30	120	5240.060	5150 to 5250	Pass
			40	120	5240.060	5150 to 5250	Pass
			50	120	5240.020	5150 to 5250	Pass
802.11n (HT20)	SISO	5180	20	102	5180.000	5150 to 5250	Pass
				120	5180.100	5150 to 5250	Pass
				138	5180.060	5150 to 5250	Pass
			-30	120	5180.060	5150 to 5250	Pass
			-20	120	5180.000	5150 to 5250	Pass
			-10	120	5180.020	5150 to 5250	Pass
			0	120	5180.020	5150 to 5250	Pass
			10	120	5180.080	5150 to 5250	Pass
			30	120	5180.000	5150 to 5250	Pass
			40	120	5180.080	5150 to 5250	Pass
			50	120	5180.080	5150 to 5250	Pass
		5200	20	102	5200.080	5150 to 5250	Pass
				120	5200.060	5150 to 5250	Pass
				138	5200.080	5150 to 5250	Pass

			-30	120	5200.040	5150 to 5250	Pass
			-20	120	5200.040	5150 to 5250	Pass
			-10	120	5200.060	5150 to 5250	Pass
			0	120	5200.040	5150 to 5250	Pass
			10	120	5200.040	5150 to 5250	Pass
			30	120	5200.040	5150 to 5250	Pass
			40	120	5200.020	5150 to 5250	Pass
			50	120	5200.040	5150 to 5250	Pass
		5240	20	102	5240.000	5150 to 5250	Pass
				120	5240.080	5150 to 5250	Pass
				138	5240.040	5150 to 5250	Pass
			-30	120	5240.060	5150 to 5250	Pass
			-20	120	5240.040	5150 to 5250	Pass
			-10	120	5240.000	5150 to 5250	Pass
			0	120	5240.020	5150 to 5250	Pass
			10	120	5240.100	5150 to 5250	Pass
			30	120	5240.040	5150 to 5250	Pass
			40	120	5240.020	5150 to 5250	Pass
			50	120	5240.020	5150 to 5250	Pass
		5190	20	102	5190.080	5150 to 5250	Pass
				120	5190.040	5150 to 5250	Pass
				138	5190.160	5150 to 5250	Pass
			-30	120	5190.120	5150 to 5250	Pass
			-20	120	5190.080	5150 to 5250	Pass
			-10	120	5190.080	5150 to 5250	Pass
			0	120	5190.040	5150 to 5250	Pass
			10	120	5190.120	5150 to 5250	Pass
			30	120	5190.080	5150 to 5250	Pass
			40	120	5190.120	5150 to 5250	Pass
			50	120	5190.080	5150 to 5250	Pass
		5230	20	102	5230.120	5150 to 5250	Pass
				120	5230.080	5150 to 5250	Pass
				138	5230.120	5150 to 5250	Pass
			-30	120	5230.080	5150 to 5250	Pass
			-20	120	5230.120	5150 to 5250	Pass
			-10	120	5230.080	5150 to 5250	Pass
			0	120	5230.120	5150 to 5250	Pass
			10	120	5230.080	5150 to 5250	Pass
			30	120	5230.120	5150 to 5250	Pass
			40	120	5230.080	5150 to 5250	Pass
			50	120	5230.120	5150 to 5250	Pass

----- End of Report -----