

ANNEX F TEST DATA

For

Project No.:	8333EU011306W
Client:	Shenzhen Qianhai Runway Technology Co., Ltd.
Product Description:	Automatic Pet Feeder
Model No.:	F28-C
FCC ID:	2BR3W-F28-C
Technology:	WiFi 5G
Test Engineer:	<i>Mikoy zhu</i>
Test Date:	2025-08-27

Test Summary

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

1. Duty Cycle

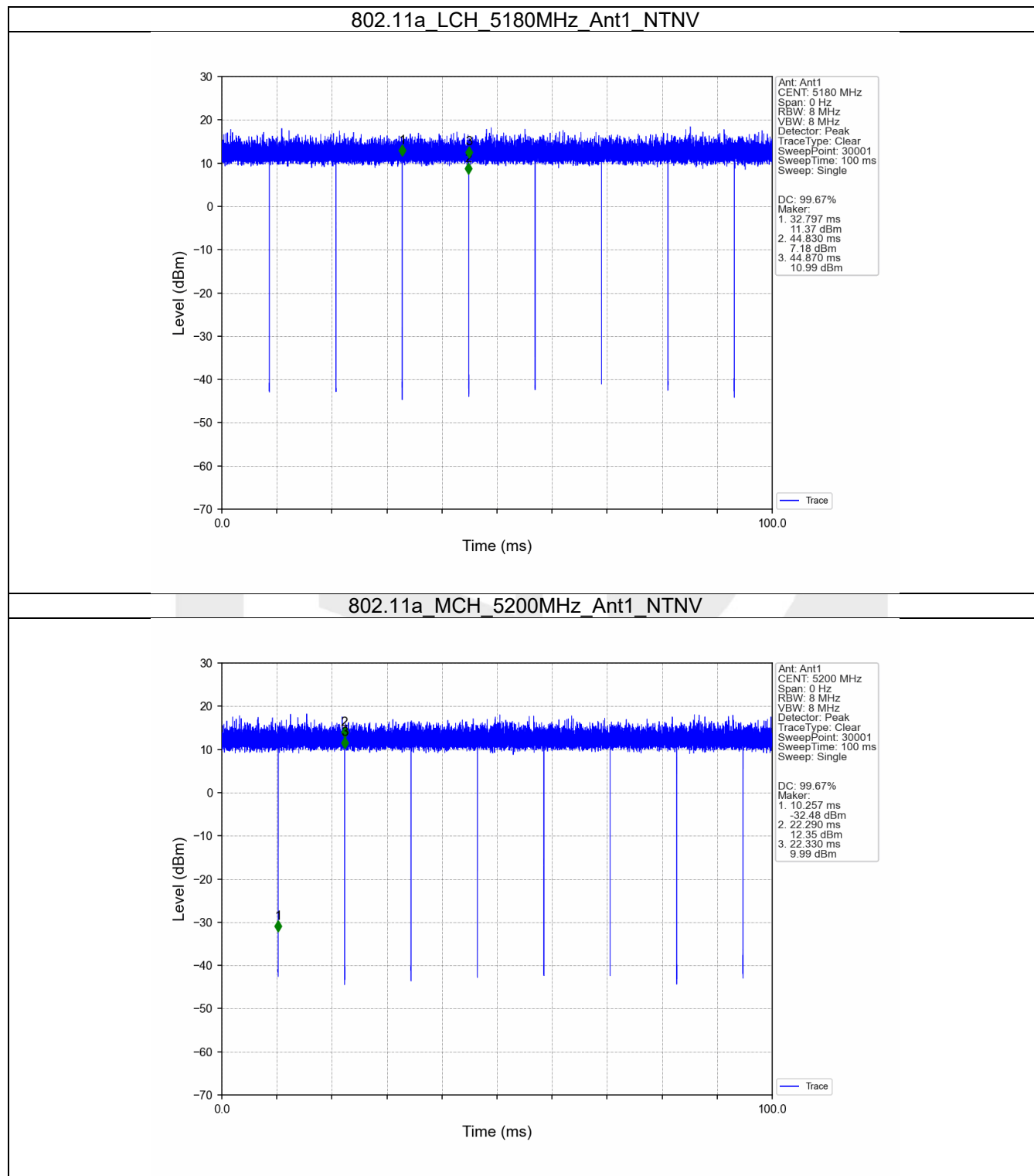
1.1 Test Result

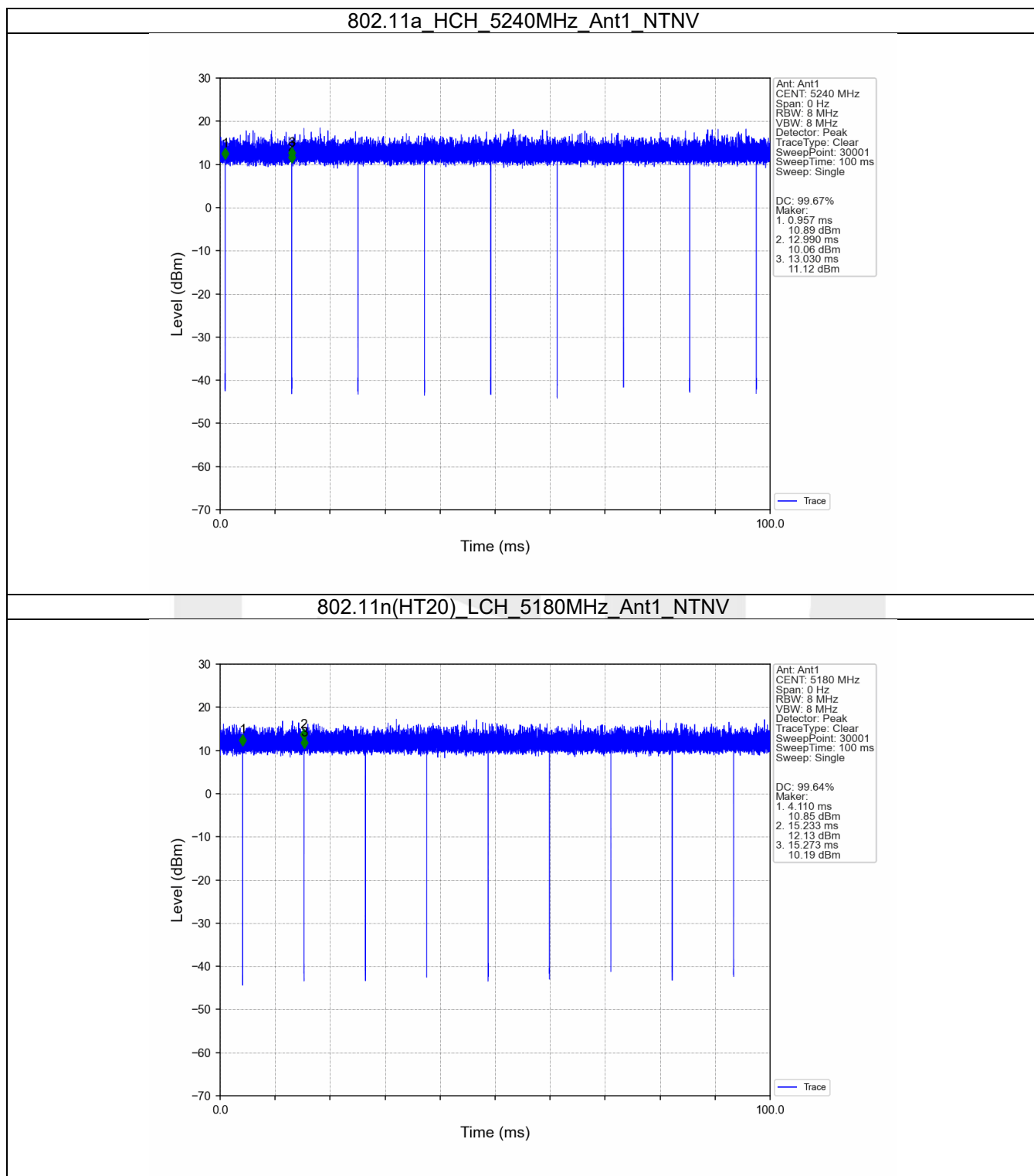
1.1.1 Ant1

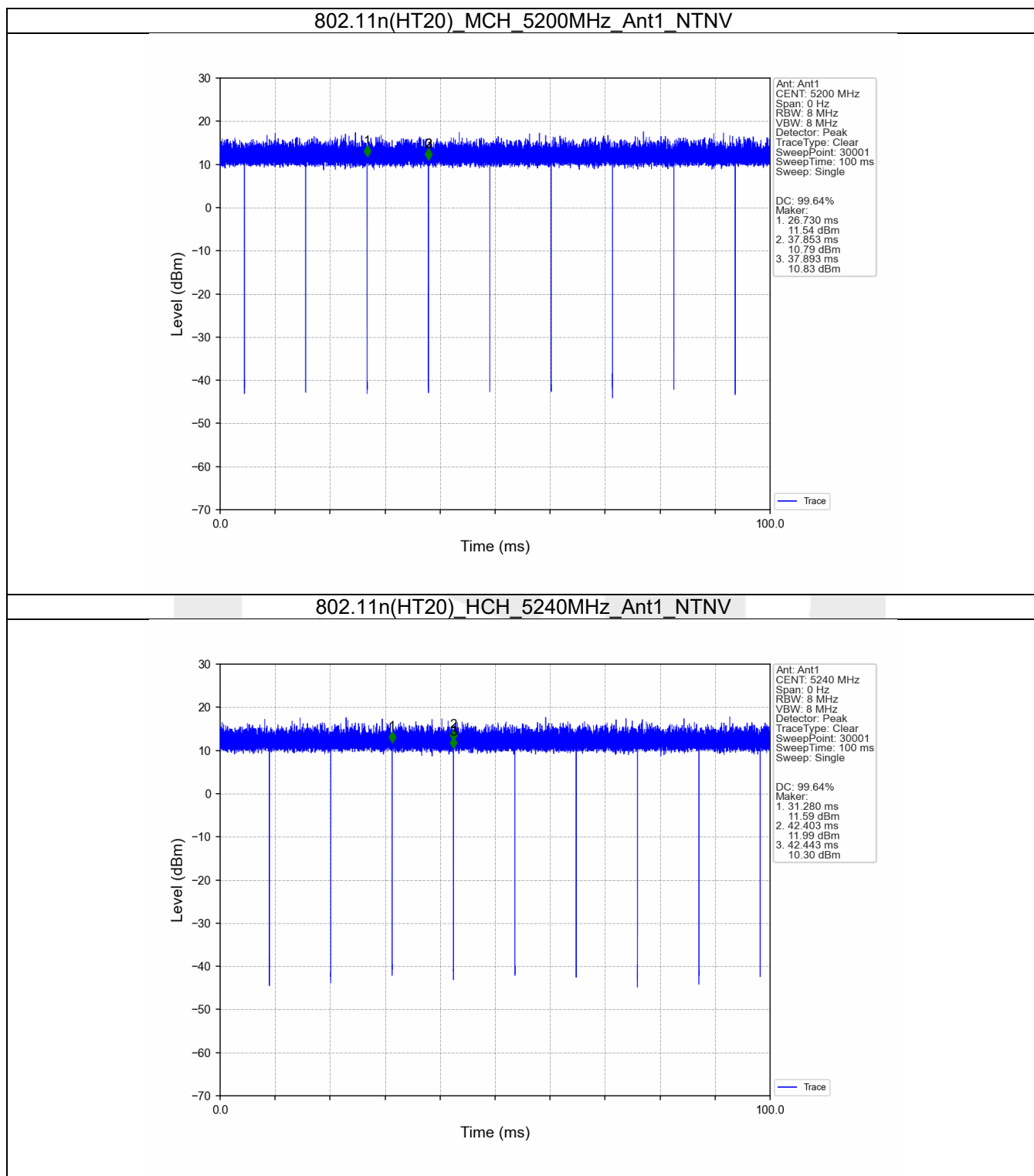
Ant1							
Mode	TX Type	Frequency (MHz)	T _{on} (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11a	SISO	5180	12.033	12.073	99.67	0.01	0.25
		5200	12.033	12.073	99.67	0.01	0.25
		5240	12.033	12.073	99.67	0.01	0.28
802.11n (HT20)	SISO	5180	11.123	11.163	99.64	0.02	0.21
		5200	11.123	11.163	99.64	0.02	0.24
		5240	11.123	11.163	99.64	0.02	0.24
802.11n (HT40)	SISO	5190	5.376	5.419	99.21	0.03	0.35
		5230	5.383	5.417	99.37	0.03	0.31

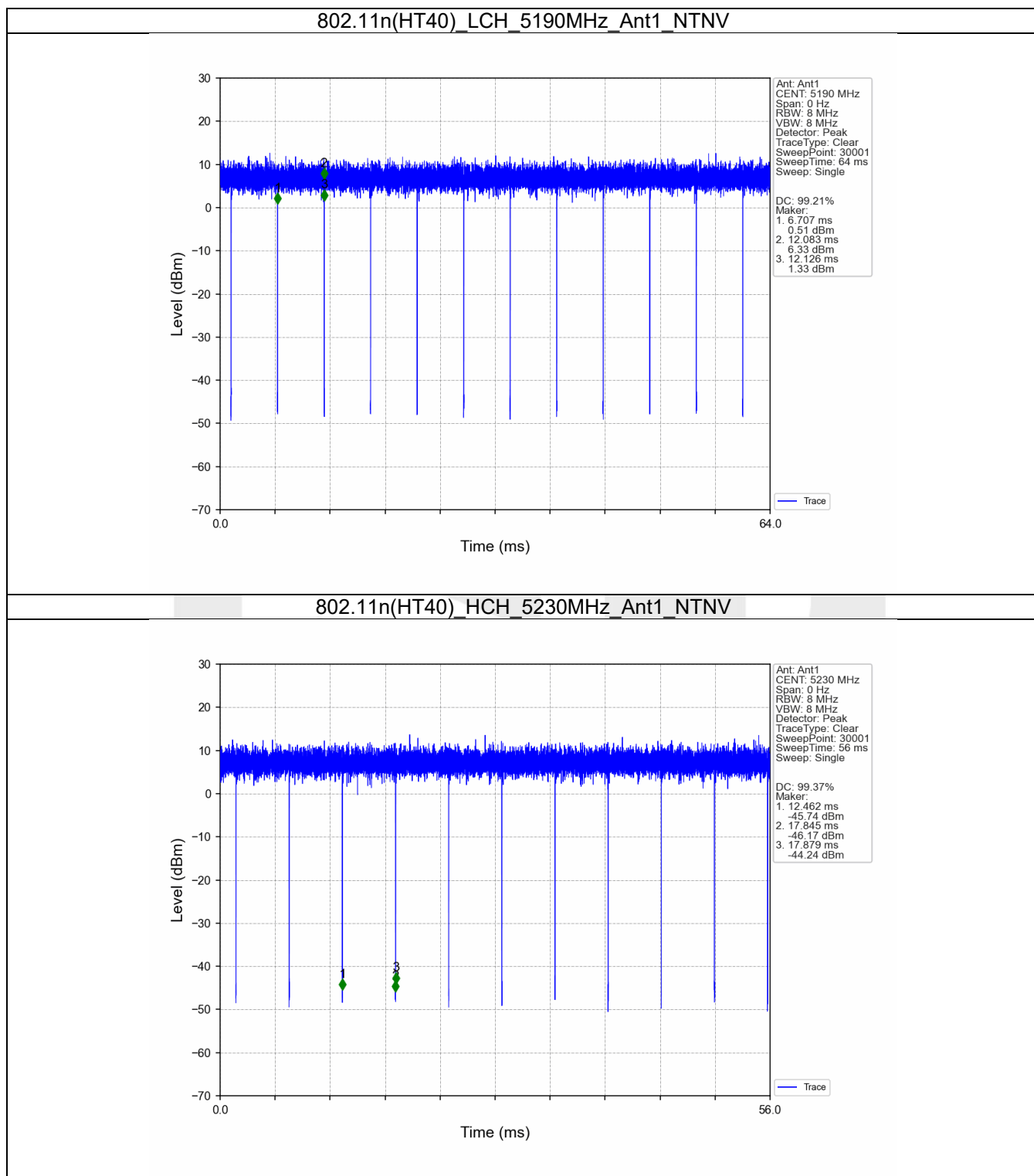
1.2 Test Graph

1.2.1 Ant1









2. Bandwidth

2.1 Test Result

2.1.1 OBW

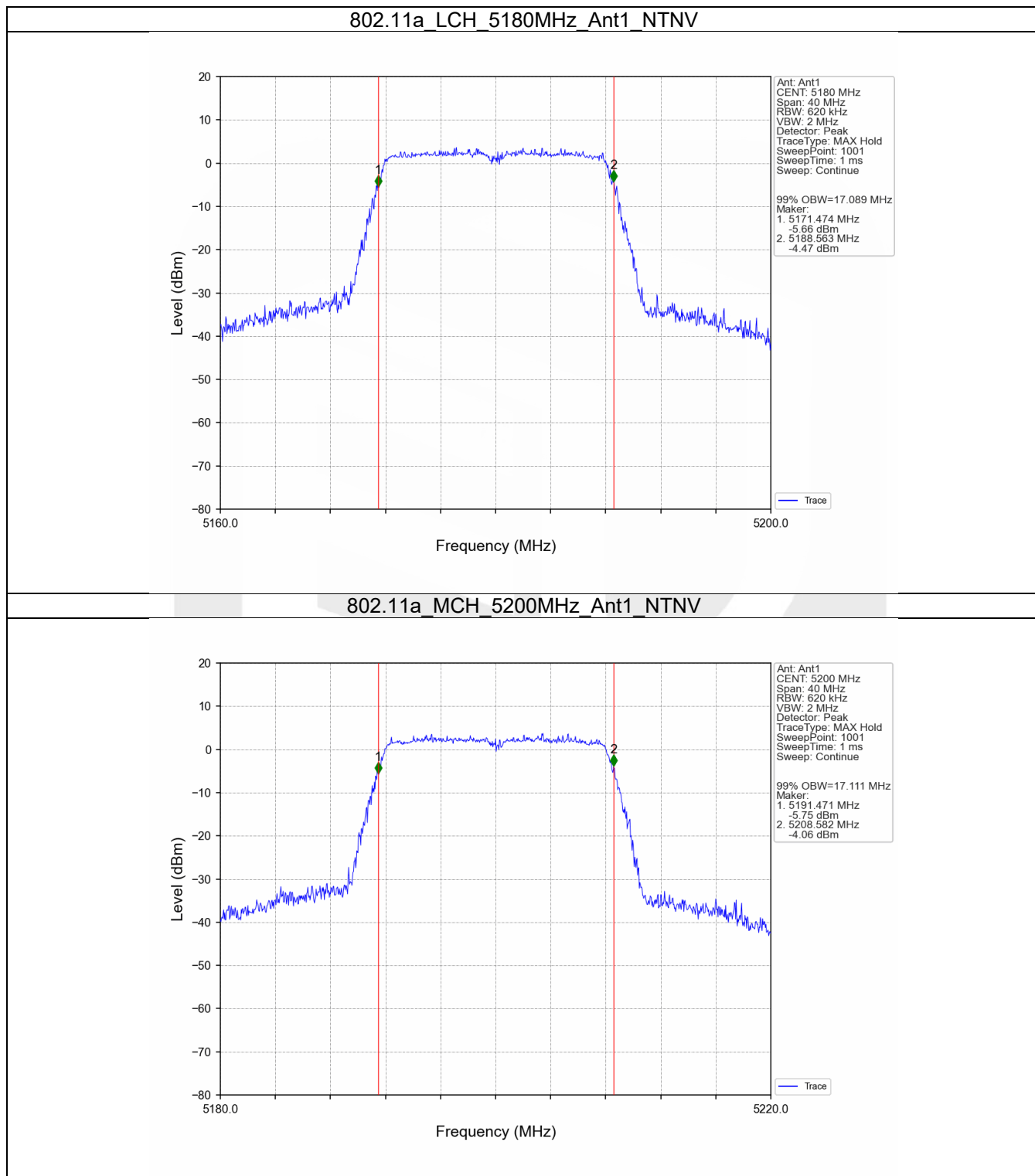
Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	17.089	/	Pass
		5200	1	17.111	/	Pass
		5240	1	16.810	/	Pass
802.11n (HT20)	SISO	5180	1	17.579	/	Pass
		5200	1	17.543	/	Pass
		5240	1	17.835	/	Pass
802.11n (HT40)	SISO	5190	1	35.175	/	Pass
		5230	1	35.155	/	Pass

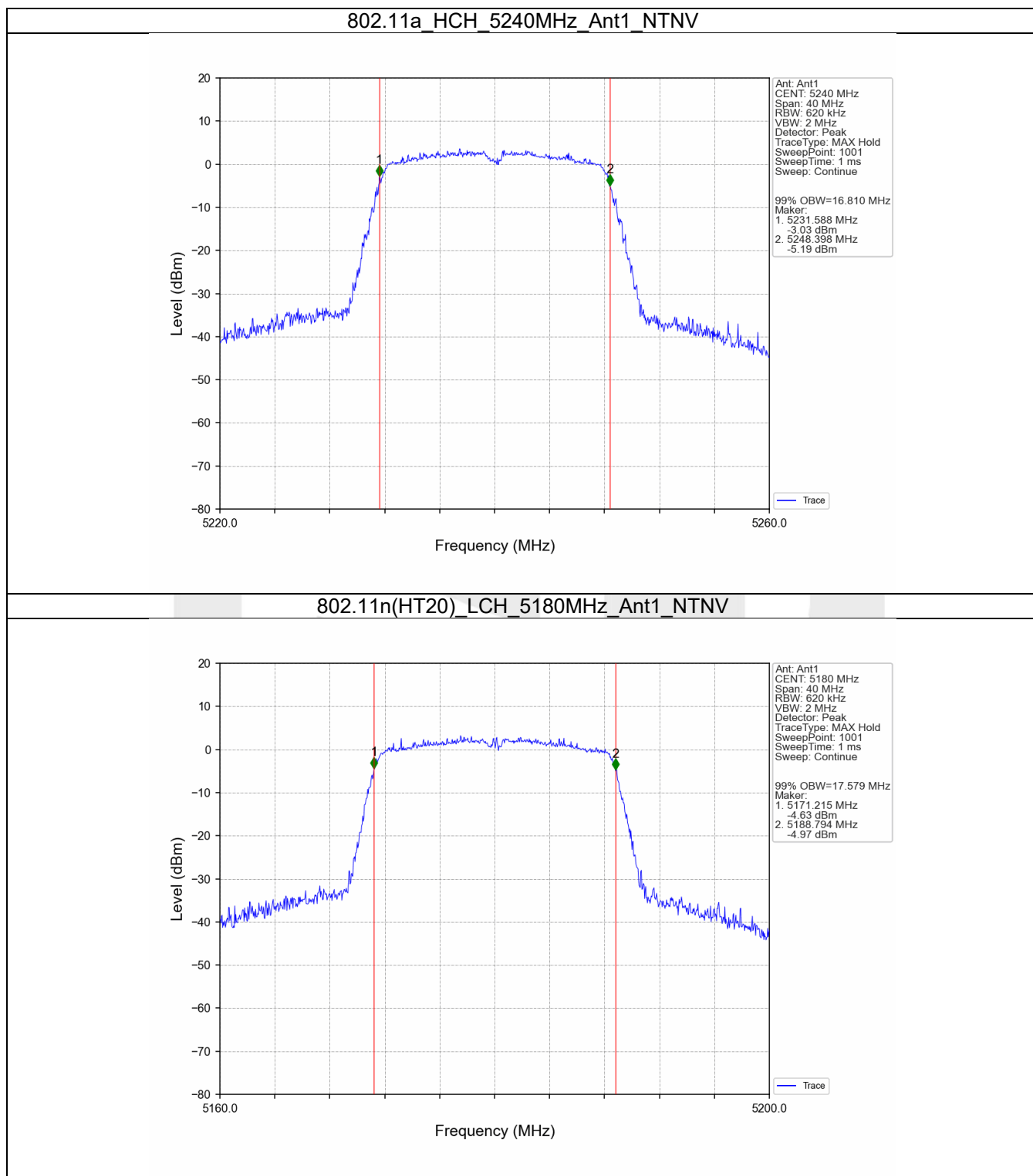
2.1.2 26dB BW

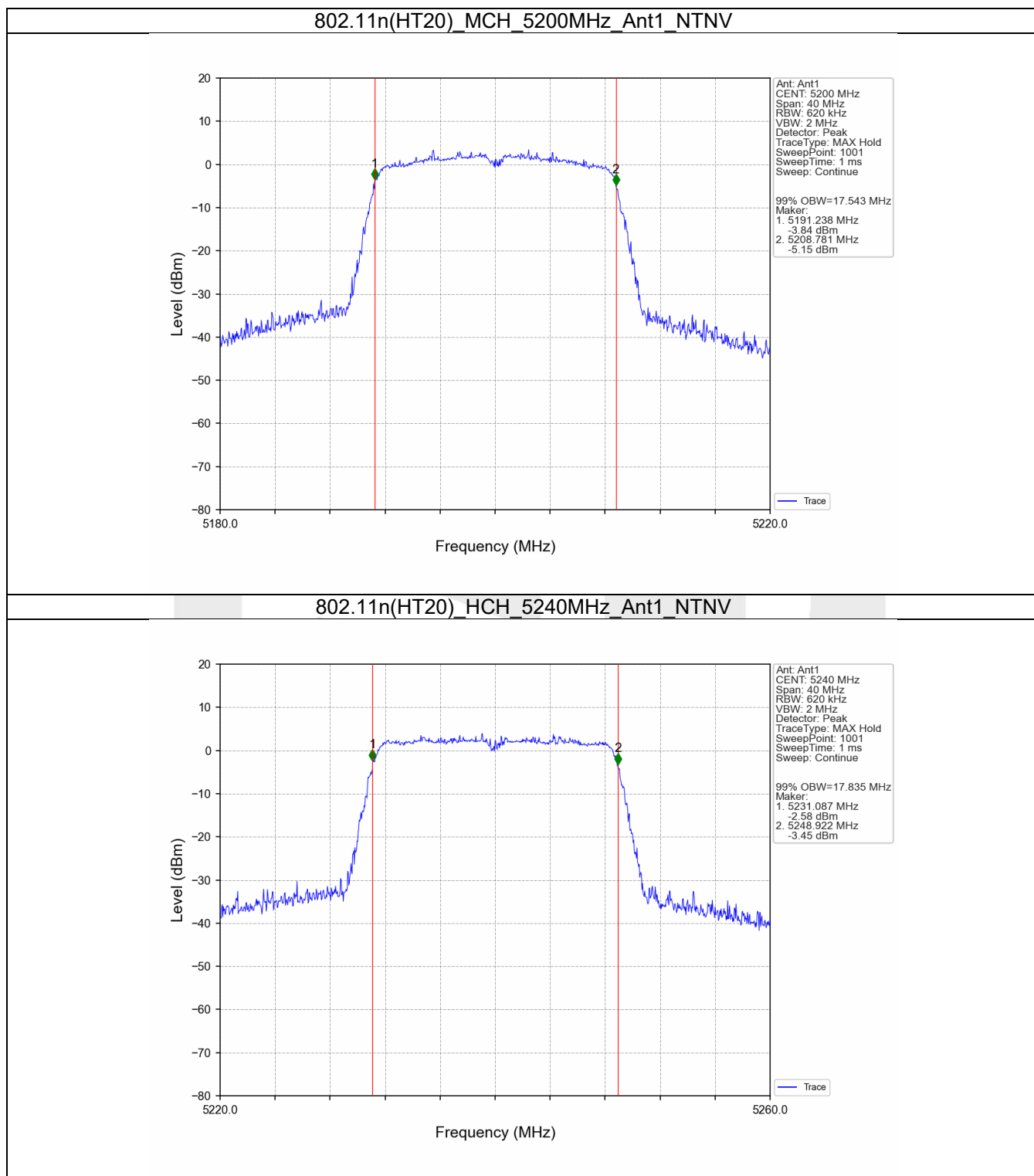
Mode	TX Type	Frequency (MHz)	ANT	26dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	19.731	/	Pass
		5200	1	19.583	/	Pass
		5240	1	19.287	/	Pass
802.11n (HT20)	SISO	5180	1	19.831	/	Pass
		5200	1	19.695	/	Pass
		5240	1	19.874	/	Pass
802.11n (HT40)	SISO	5190	1	38.693	/	Pass
		5230	1	38.720	/	Pass

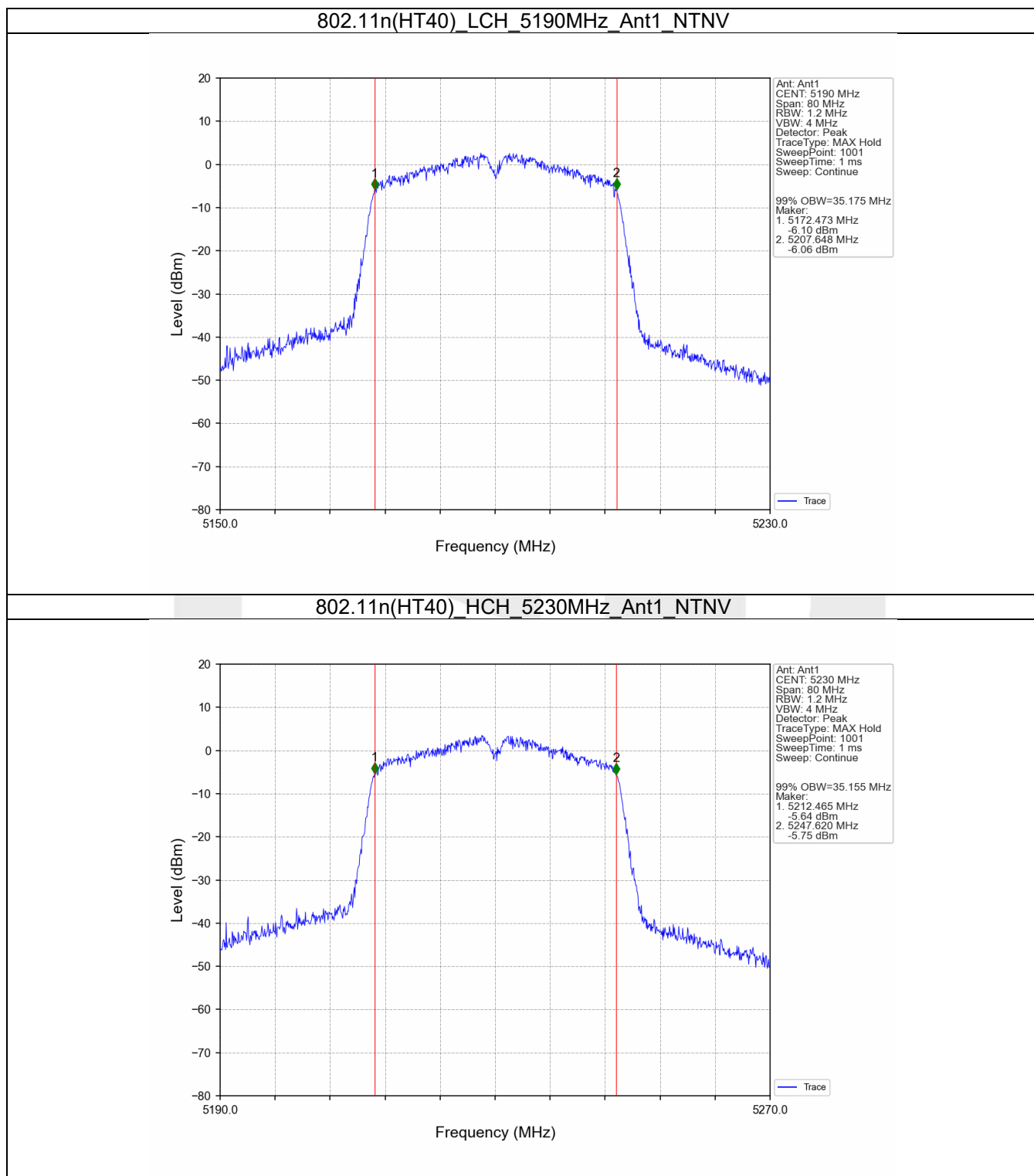
2.2 Test Graph

2.2.1 OBW

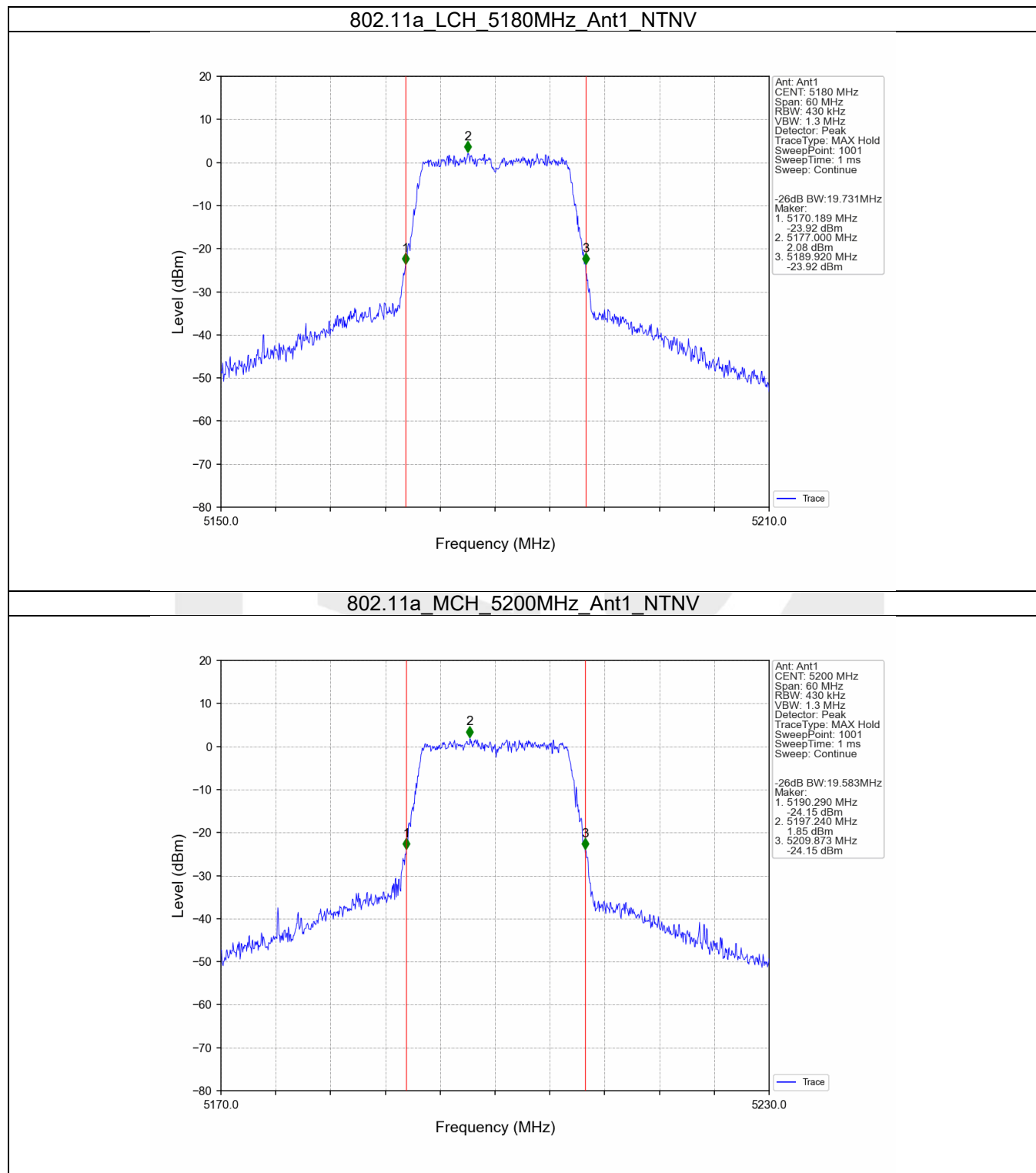


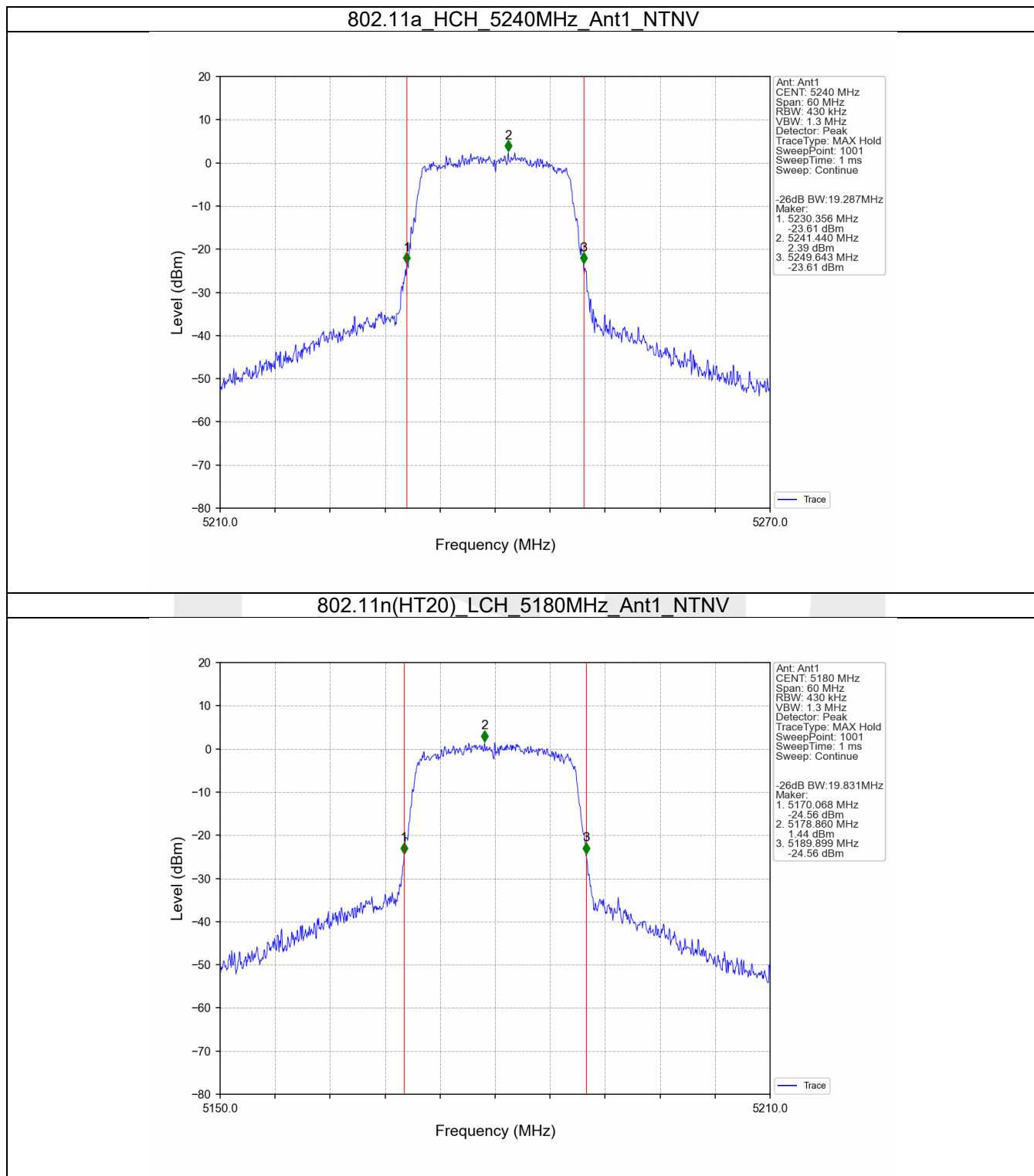




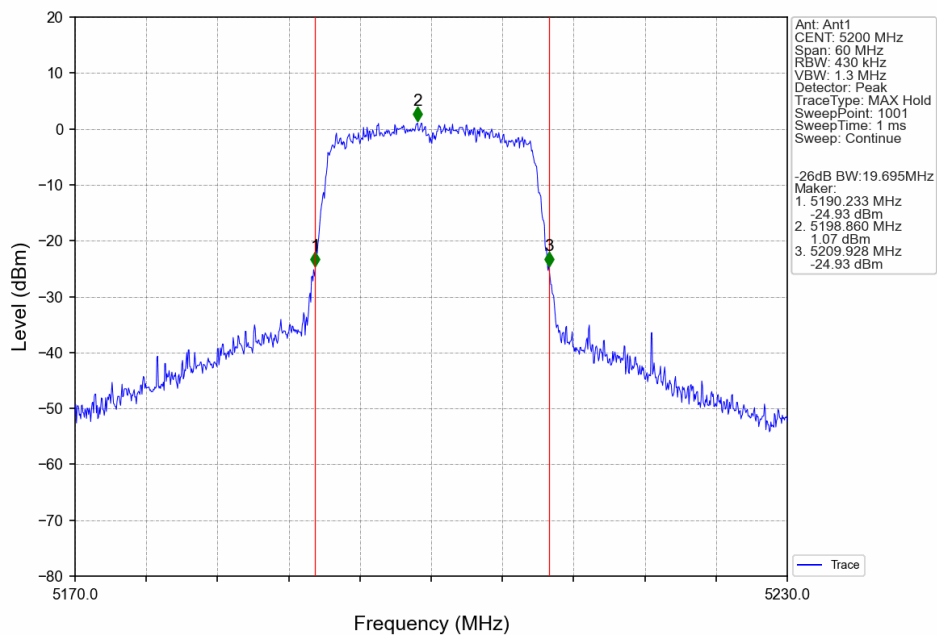


2.2.2 26dB BW

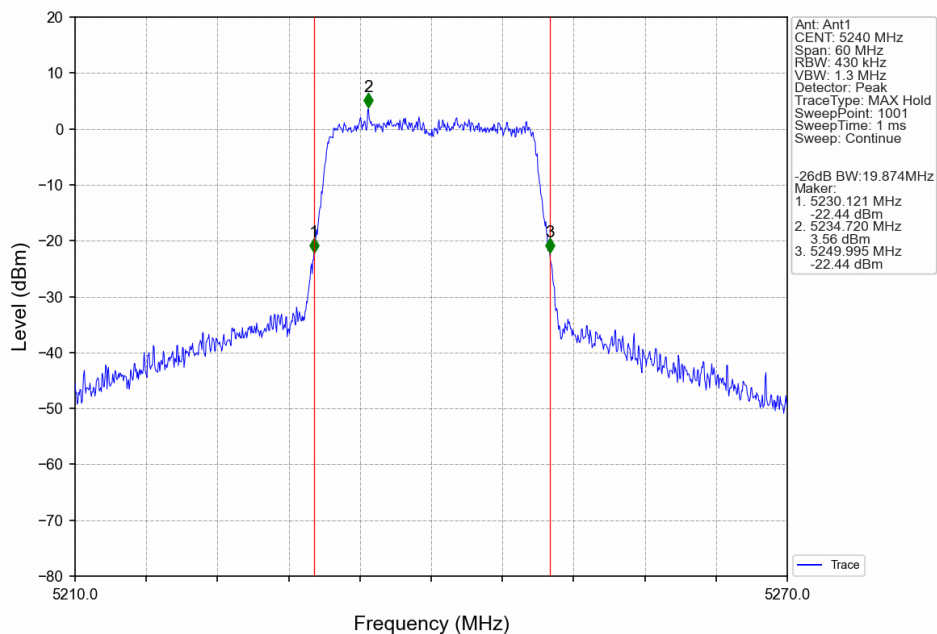




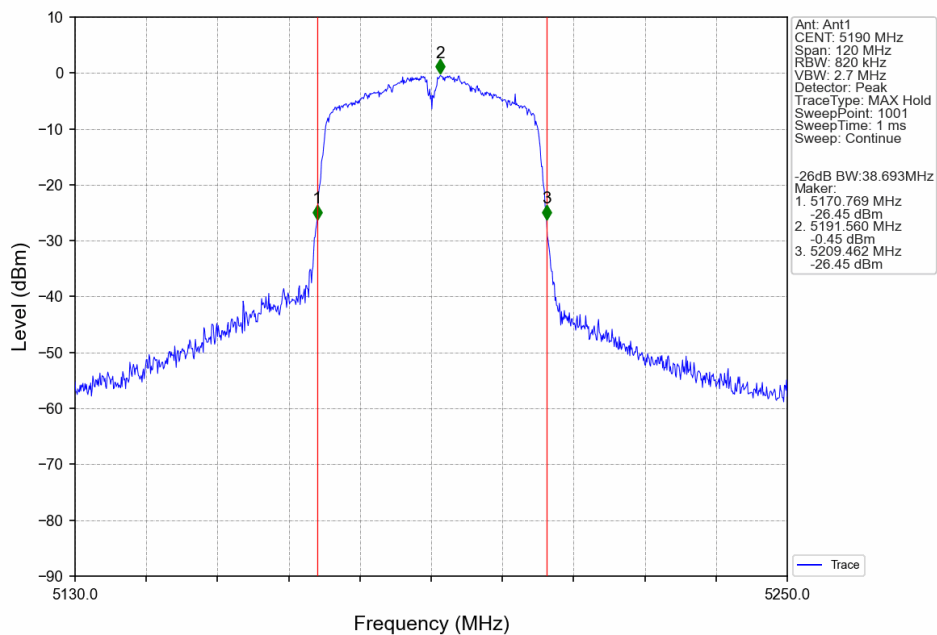
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



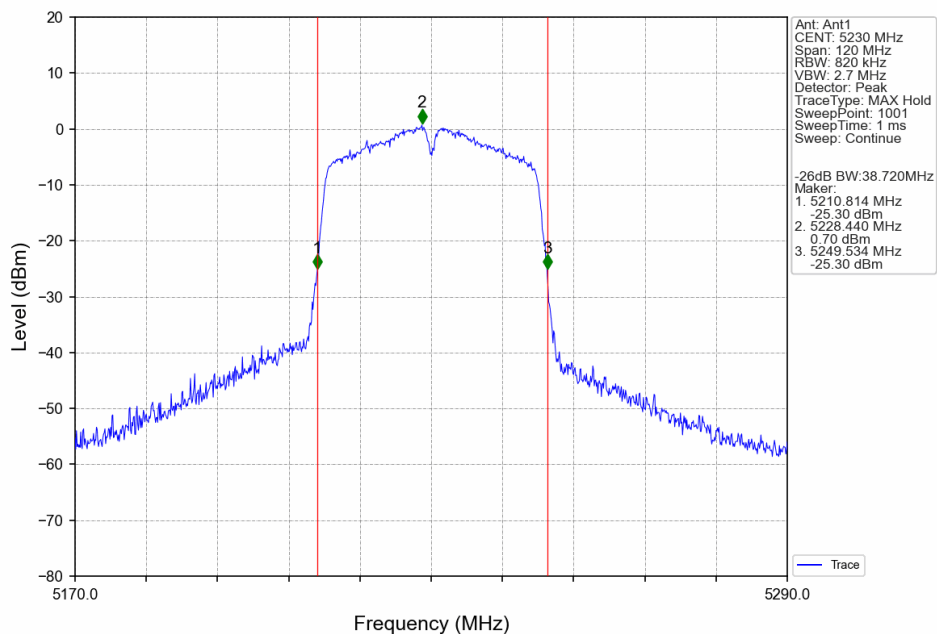
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



3. Maximum Conducted Output Power

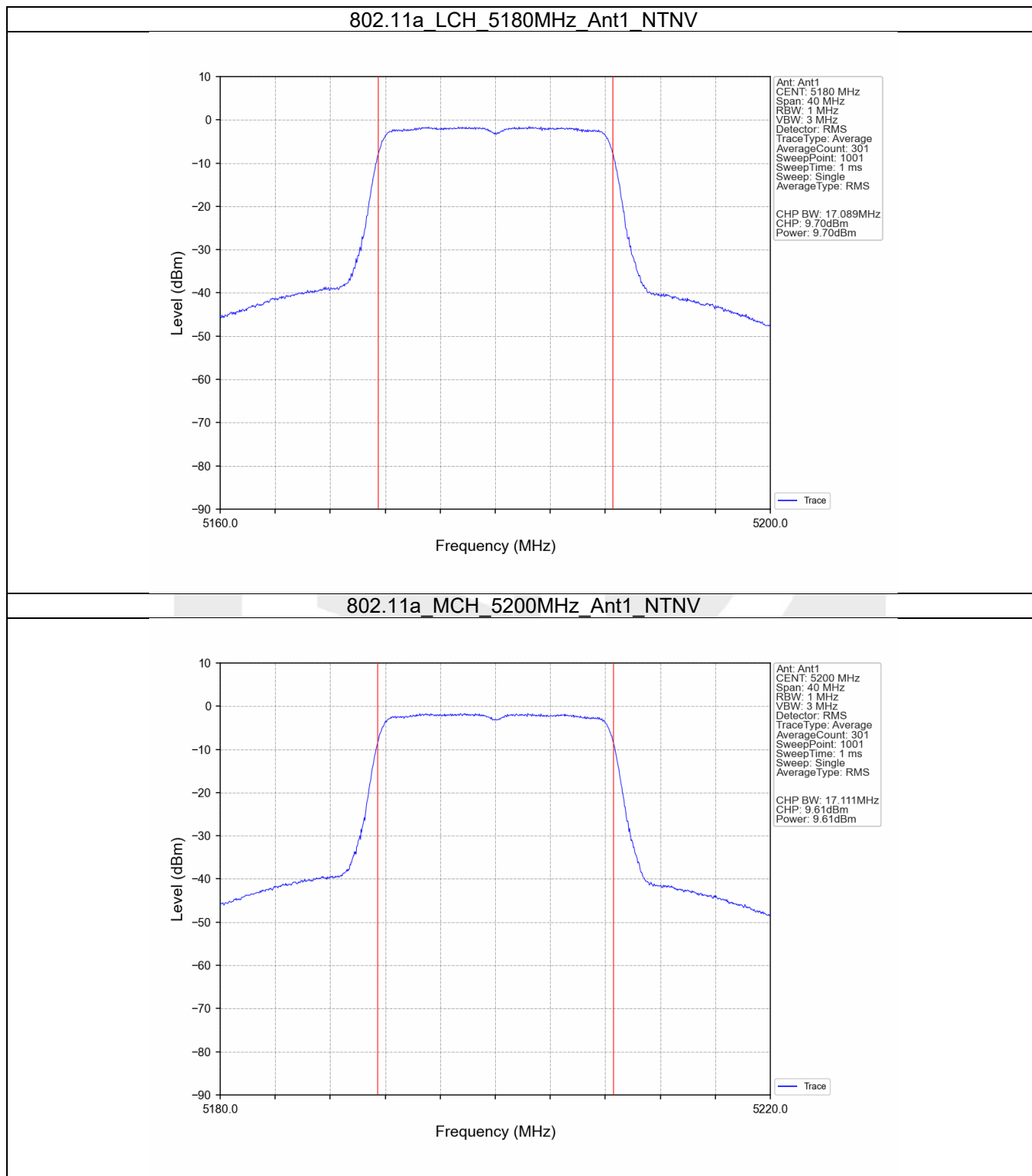
3.1 Test Result

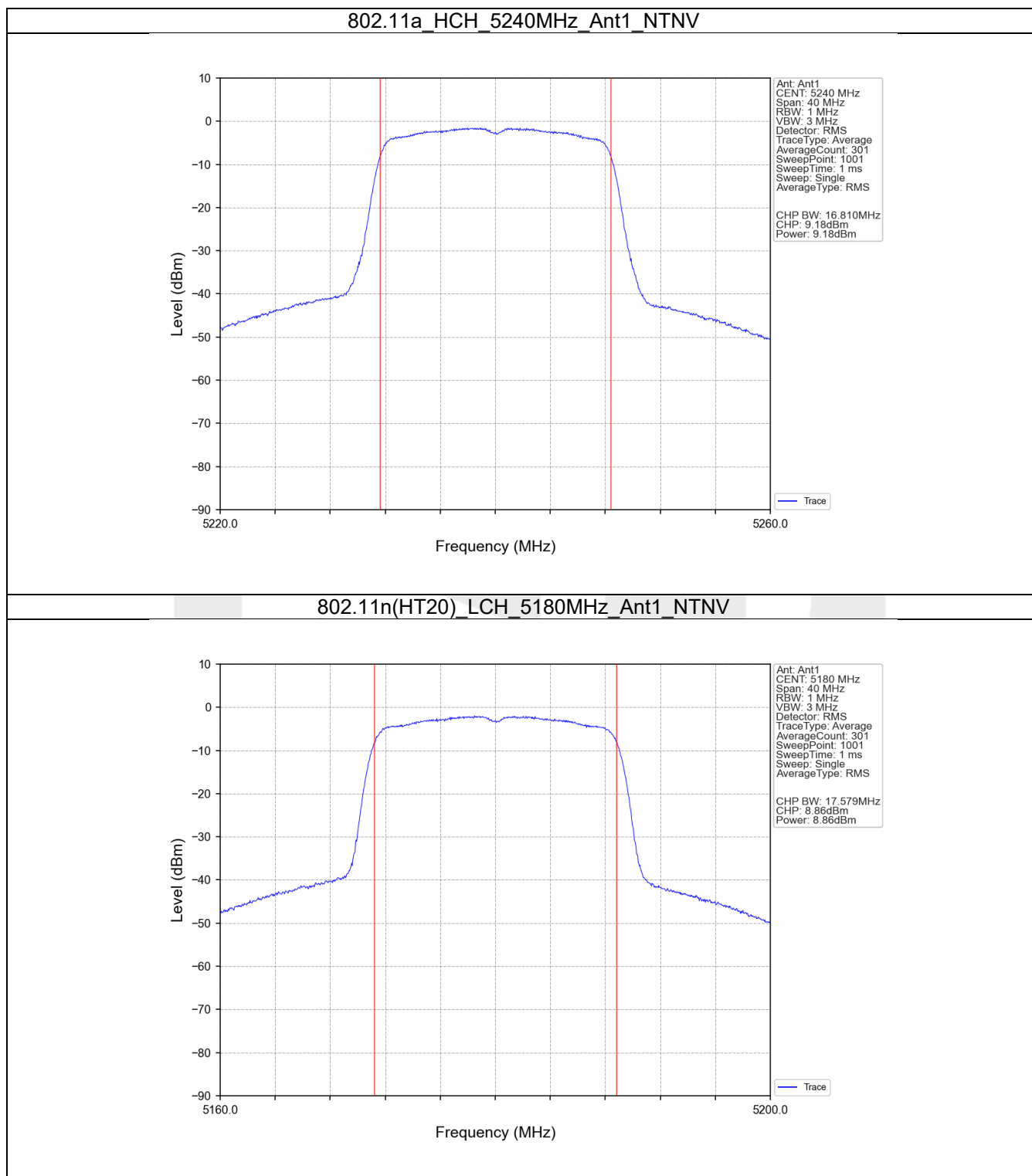
3.1.1 Power

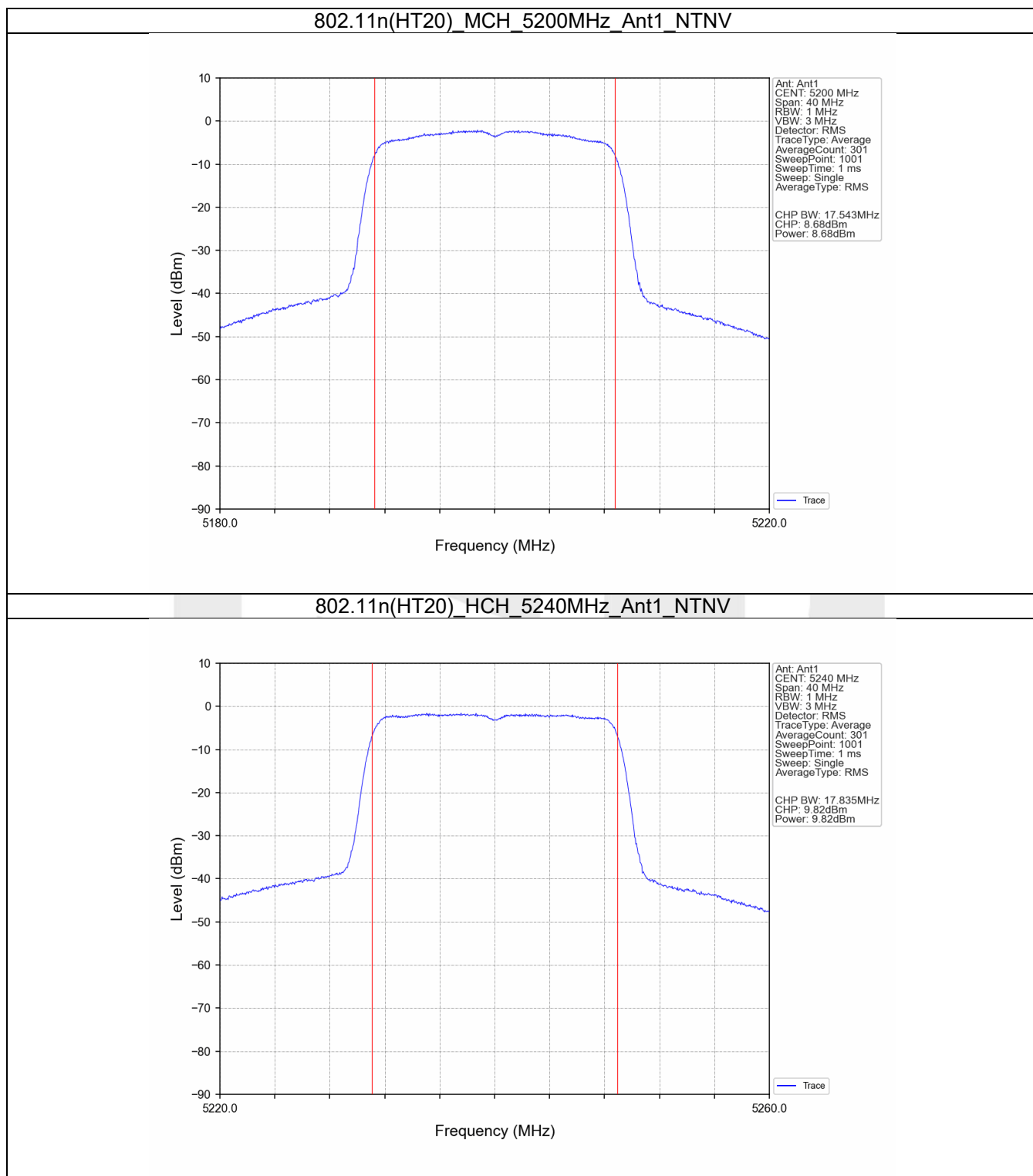
Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11a	SISO	5180	9.70	≤ 23.98	Pass
		5200	9.61	≤ 23.98	Pass
		5240	9.18	≤ 23.98	Pass
802.11n (HT20)	SISO	5180	8.86	≤ 23.98	Pass
		5200	8.68	≤ 23.98	Pass
		5240	9.82	≤ 23.98	Pass
802.11n (HT40)	SISO	5190	5.80	≤ 23.98	Pass
		5230	6.50	≤ 23.98	Pass

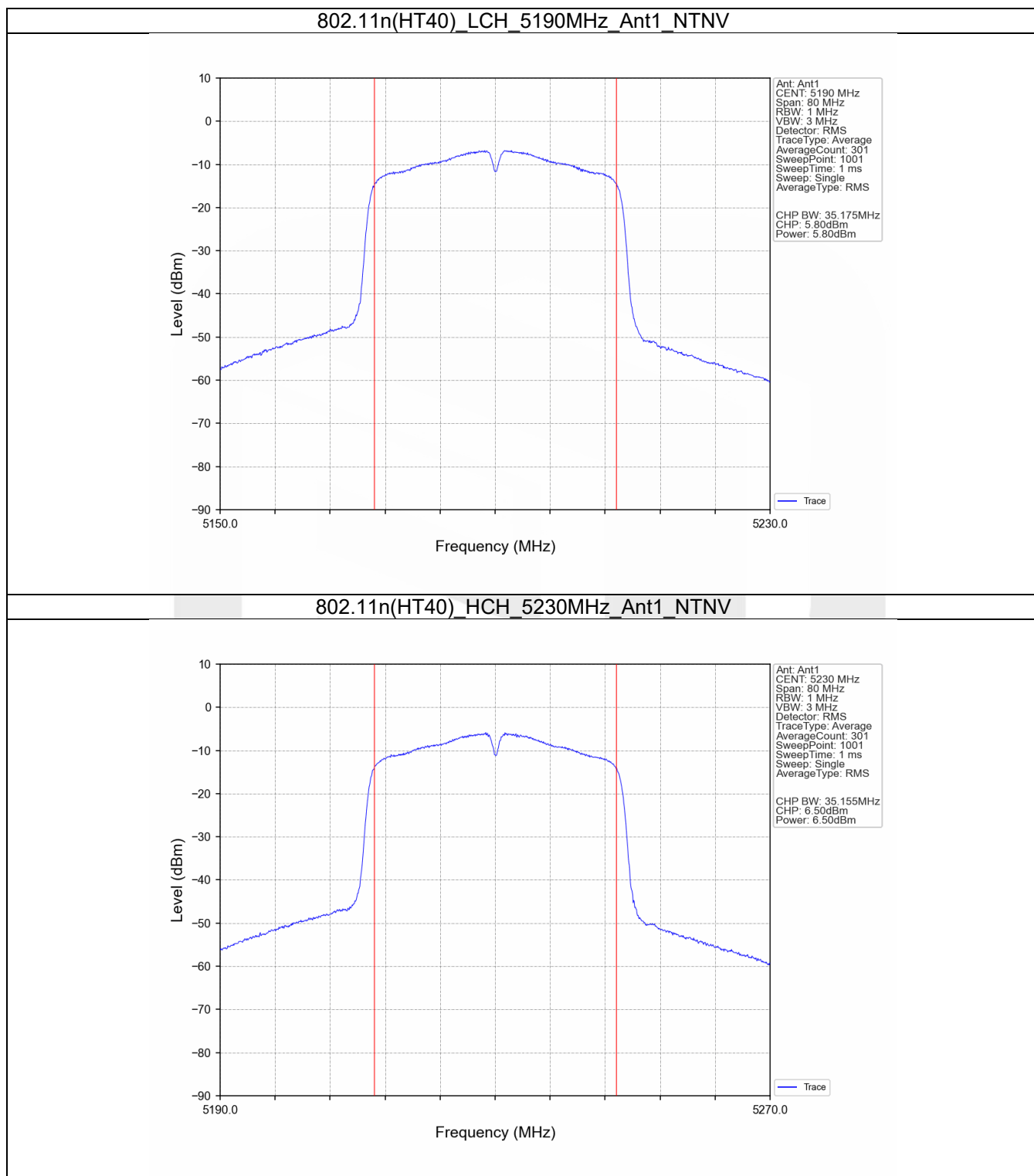
3.2 Test Graph

3.2.1 Power









4. Maximum Power Spectral Density

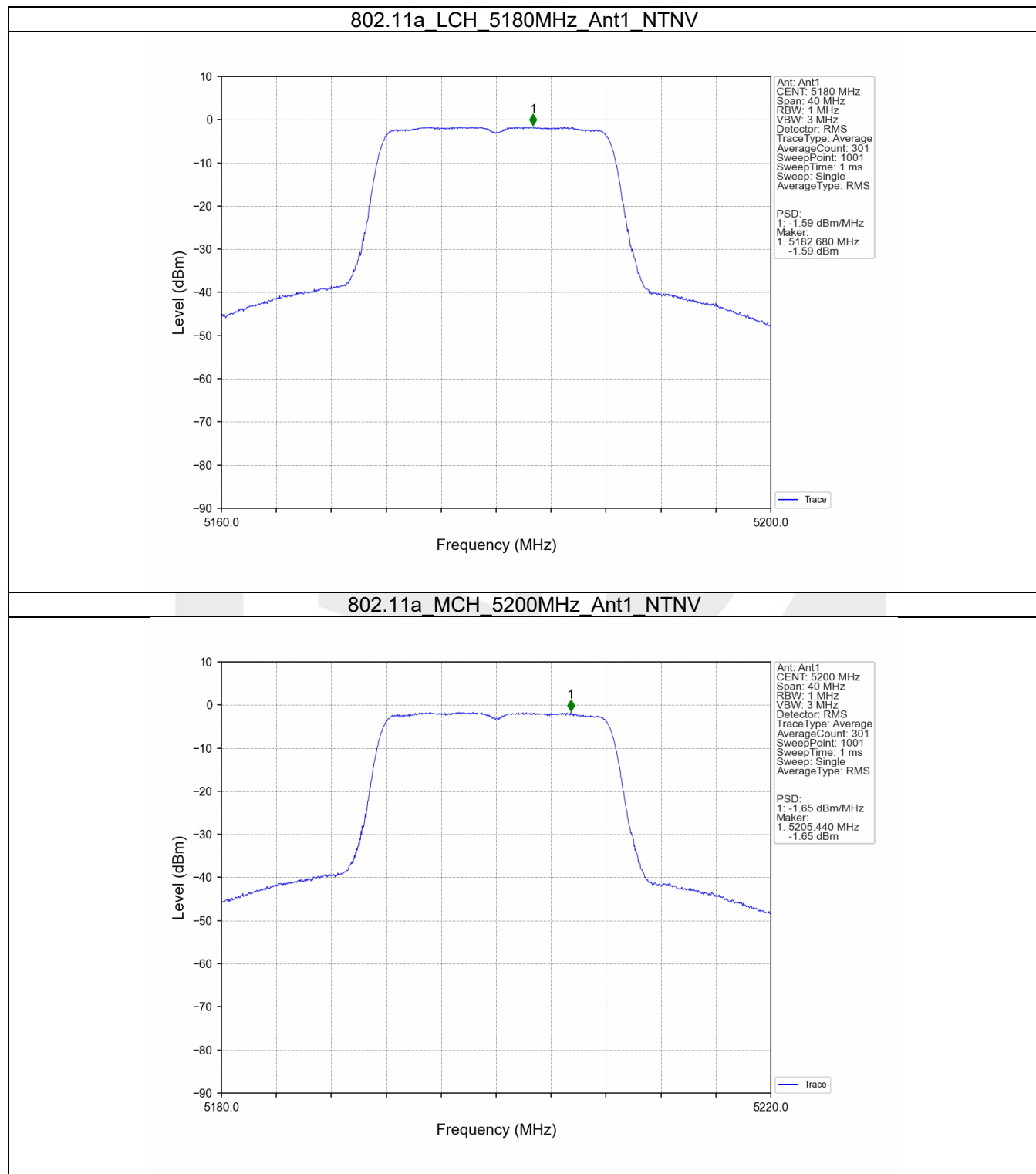
4.1 Test Result

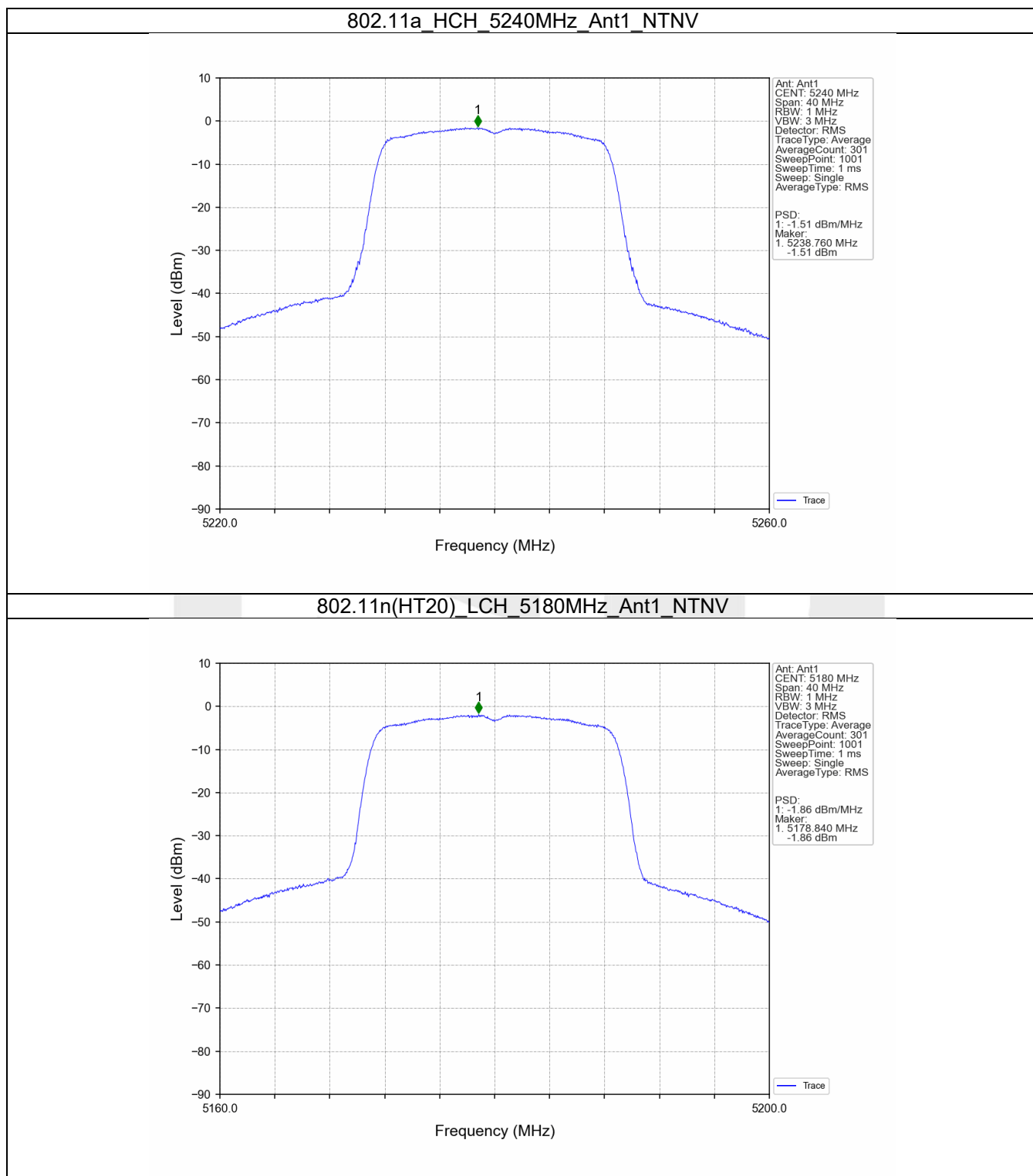
4.1.1 PSD

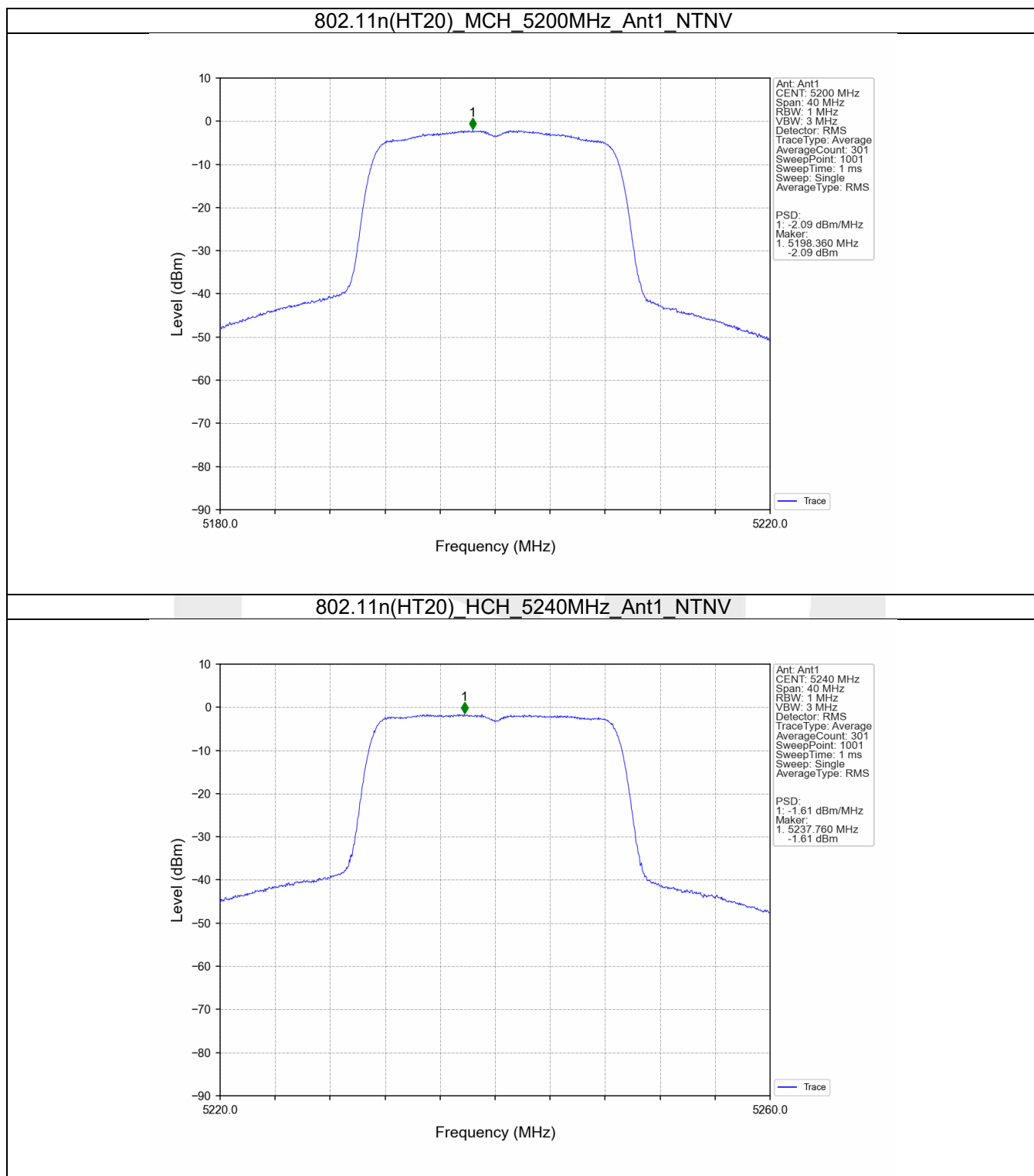
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/MHz)		Verdict
			ANT1	Limit	
802.11a	SISO	5180	-1.59	≤ 11	Pass
		5200	-1.65	≤ 11	Pass
		5240	-1.51	≤ 11	Pass
802.11n (HT20)	SISO	5180	-1.86	≤ 11	Pass
		5200	-2.09	≤ 11	Pass
		5240	-1.61	≤ 11	Pass
802.11n (HT40)	SISO	5190	-6.42	≤ 11	Pass
		5230	-6.01	≤ 11	Pass

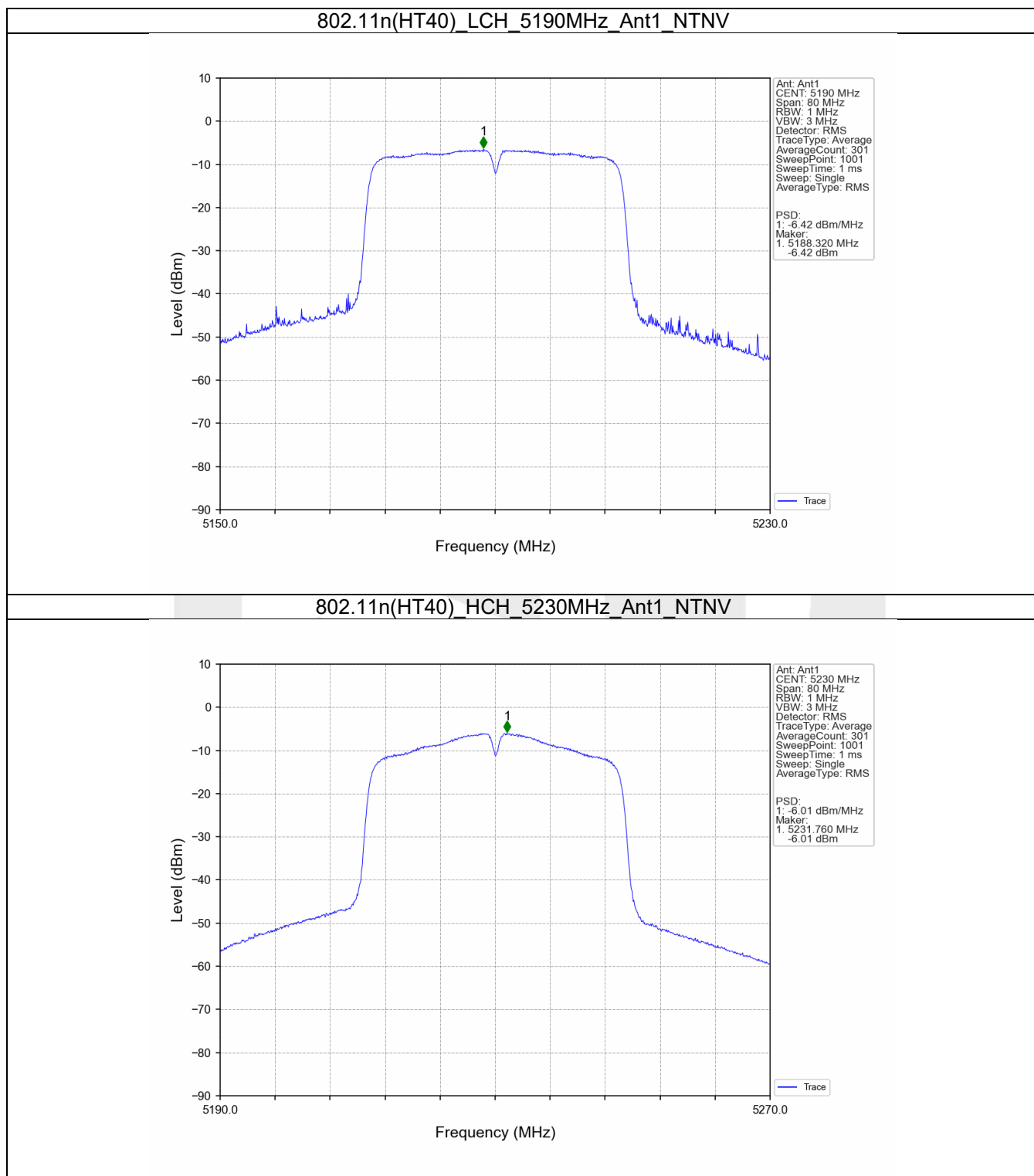
4.2 Test Graph

4.2.1 PSD









5. Unwanted Emissions In Restricted Frequency Bands

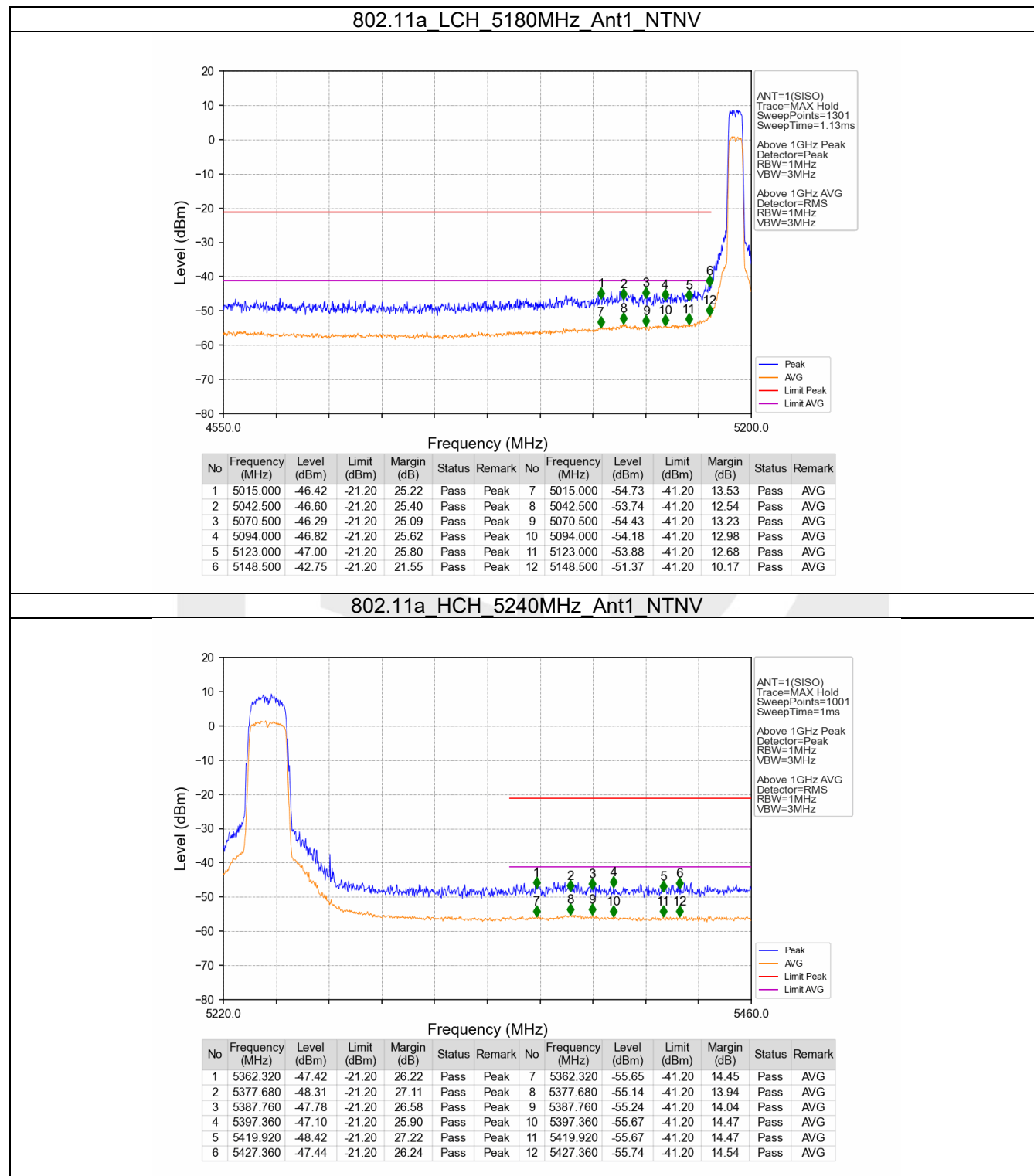
5.1 Test Result

5.1.1 CSE

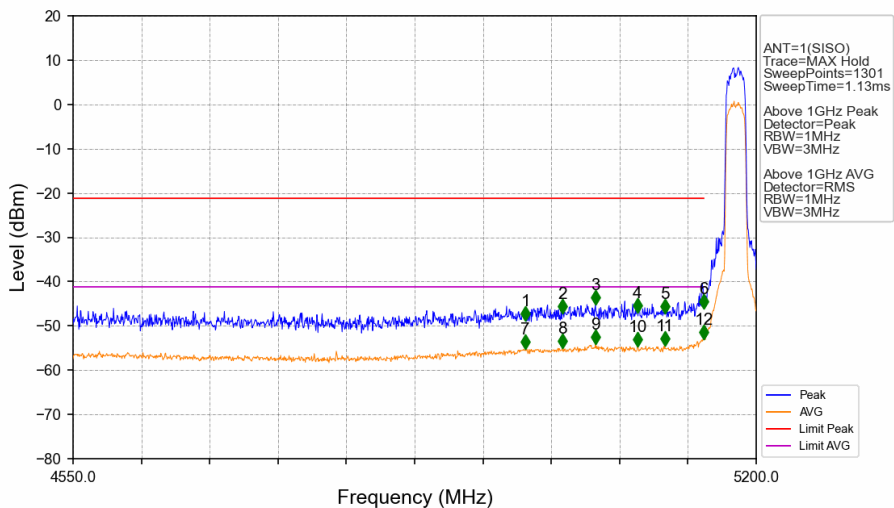
Mode	TX Type	Frequency (MHz)	ANT	Level of Unwanted Emissions (dBm)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	Refer To Test Graph		Pass
		5240	1	Refer To Test Graph		Pass
802.11n (HT20)	SISO	5180	1	Refer To Test Graph		Pass
		5240	1	Refer To Test Graph		Pass
802.11n (HT40)	SISO	5190	1	Refer To Test Graph		Pass
		5230	1	Refer To Test Graph		Pass
Note: 1) EIRP[dBm]=E[dBuV/m]- 95.2, for d= 3 m; 2) Level[dBm] results have calculated the antenna gain; 3) Antenna gain= U-NII-1: 5150 MHz to 5250 MHz: 2.96 dBi.						

5.2 Test Graph

5.2.1 CSE

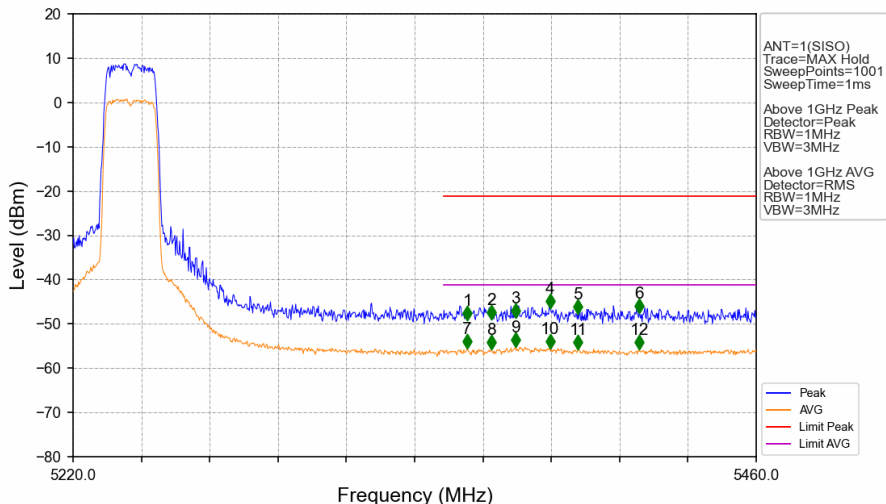


802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



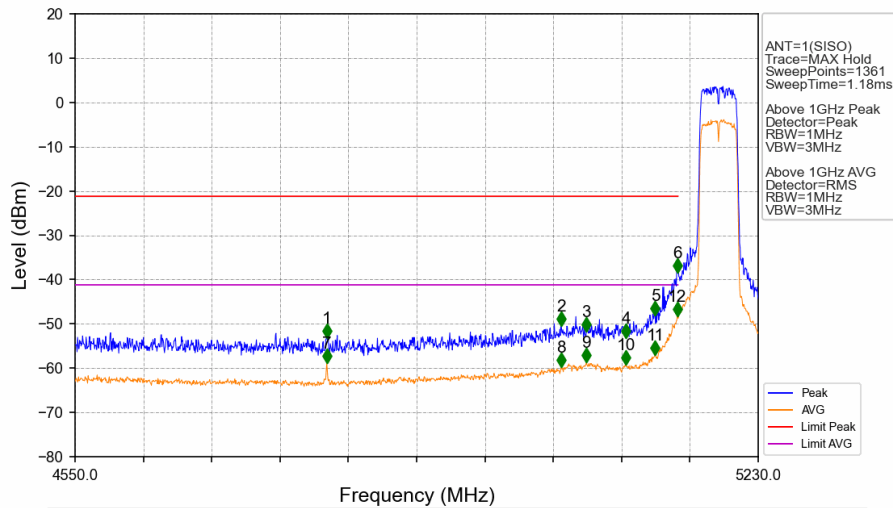
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	4980.500	-48.78	-21.20	27.58	Pass	Peak	7	4980.500	-55.19	-41.20	13.99	Pass	AVG
2	5015.500	-47.17	-21.20	25.97	Pass	Peak	8	5015.500	-54.94	-41.20	13.74	Pass	AVG
3	5047.000	-45.21	-21.20	24.01	Pass	Peak	9	5047.000	-54.00	-41.20	12.80	Pass	AVG
4	5087.000	-47.04	-21.20	25.84	Pass	Peak	10	5087.000	-54.62	-41.20	13.42	Pass	AVG
5	5113.000	-47.10	-21.20	25.90	Pass	Peak	11	5113.000	-54.47	-41.20	13.27	Pass	AVG
6	5150.000	-46.03	-21.20	24.83	Pass	Peak	12	5150.000	-52.93	-41.20	11.73	Pass	AVG

802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



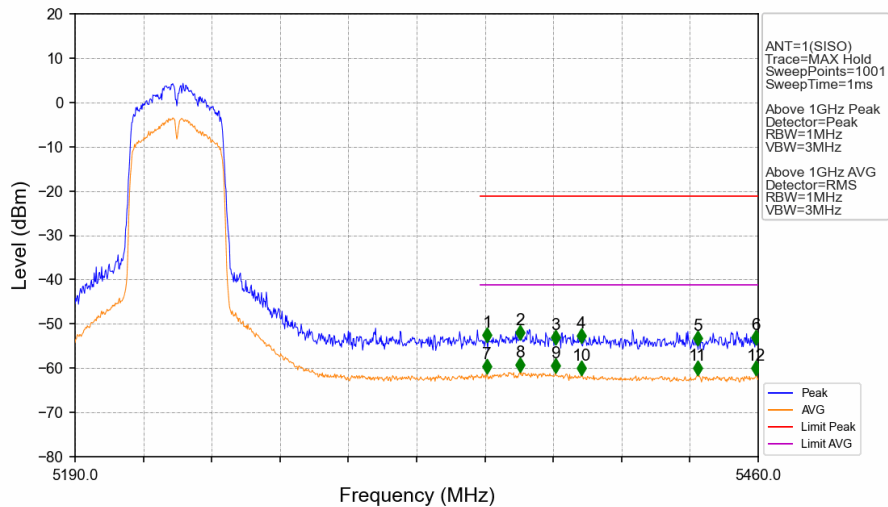
No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark	No	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Status	Remark
1	5358.480	-49.18	-21.20	27.98	Pass	Peak	7	5358.480	-55.56	-41.20	14.36	Pass	AVG
2	5366.880	-48.97	-21.20	27.77	Pass	Peak	8	5366.880	-55.73	-41.20	14.53	Pass	AVG
3	5375.520	-48.58	-21.20	27.38	Pass	Peak	9	5375.520	-55.15	-41.20	13.95	Pass	AVG
4	5387.520	-46.36	-21.20	25.16	Pass	Peak	10	5387.520	-55.50	-41.20	14.30	Pass	AVG
5	5397.360	-47.71	-21.20	26.51	Pass	Peak	11	5397.360	-55.65	-41.20	14.45	Pass	AVG
6	5418.960	-47.47	-21.20	26.27	Pass	Peak	12	5418.960	-55.70	-41.20	14.50	Pass	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	4800.500	-53.10	-21.20	31.90	Pass	Peak	7	4800.500	-58.83	-41.20	17.63	Pass	AVG
2	5034.000	-50.50	-21.20	29.30	Pass	Peak	8	5034.000	-59.79	-41.20	18.59	Pass	AVG
3	5059.000	-51.72	-21.20	30.52	Pass	Peak	9	5059.000	-58.64	-41.20	17.44	Pass	AVG
4	5098.500	-53.11	-21.20	31.91	Pass	Peak	10	5098.500	-59.26	-41.20	18.06	Pass	AVG
5	5127.500	-48.14	-21.20	26.94	Pass	Peak	11	5127.500	-56.99	-41.20	15.79	Pass	AVG
6	5149.500	-38.46	-21.20	17.26	Pass	Peak	12	5149.500	-48.17	-41.20	6.97	Pass	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	5352.810	-54.03	-21.20	32.83	Pass	Peak	7	5352.810	-61.27	-41.20	20.07	Pass	AVG
2	5365.770	-53.53	-21.20	32.33	Pass	Peak	8	5365.770	-60.87	-41.20	19.67	Pass	AVG
3	5379.810	-54.68	-21.20	33.48	Pass	Peak	9	5379.810	-61.01	-41.20	19.81	Pass	AVG
4	5390.070	-54.28	-21.20	33.08	Pass	Peak	10	5390.070	-61.59	-41.20	20.39	Pass	AVG
5	5435.970	-54.75	-21.20	33.55	Pass	Peak	11	5435.970	-61.58	-41.20	20.38	Pass	AVG
6	5459.190	-54.68	-21.20	33.48	Pass	Peak	12	5459.190	-61.63	-41.20	20.43	Pass	AVG

6. Frequency Stability

6.1 Test Result

6.1.1 Ant1

Ant1							
Mode	Tx Type	Frequency (MHz)	Temperature (°C)	Voltage (VAC)	Measured Frequency (MHz)	Limit (MHz)	Verdict
Carrier Wave	SISO	5180	20	102	5179.931	5150 to 5250	Pass
				120	5179.652	5150 to 5250	Pass
				138	5180.447	5150 to 5250	Pass
			-30	120	5179.745	5150 to 5250	Pass
			-20	120	5179.926	5150 to 5250	Pass
			-10	120	5179.690	5150 to 5250	Pass
			0	120	5179.656	5150 to 5250	Pass
			10	120	5180.034	5150 to 5250	Pass
			30	120	5179.721	5150 to 5250	Pass
			40	120	5179.799	5150 to 5250	Pass
			50	120	5180.262	5150 to 5250	Pass
		5200	20	102	5199.992	5150 to 5250	Pass
				120	5199.992	5150 to 5250	Pass
				138	5199.992	5150 to 5250	Pass
			-30	120	5199.992	5150 to 5250	Pass
			-20	120	5199.991	5150 to 5250	Pass
			-10	120	5199.991	5150 to 5250	Pass
			0	120	5199.991	5150 to 5250	Pass
			10	120	5199.991	5150 to 5250	Pass
			30	120	5199.991	5150 to 5250	Pass
			40	120	5199.991	5150 to 5250	Pass
			50	120	5199.991	5150 to 5250	Pass
		5240	20	102	5239.991	5150 to 5250	Pass
				120	5239.991	5150 to 5250	Pass
				138	5239.991	5150 to 5250	Pass
			-30	120	5239.991	5150 to 5250	Pass
			-20	120	5239.991	5150 to 5250	Pass
			-10	120	5239.991	5150 to 5250	Pass
			0	120	5239.991	5150 to 5250	Pass
			10	120	5239.991	5150 to 5250	Pass
			30	120	5239.991	5150 to 5250	Pass
			40	120	5239.991	5150 to 5250	Pass
			50	120	5239.991	5150 to 5250	Pass
		5190	20	102	5189.992	5150 to 5250	Pass
				120	5189.992	5150 to 5250	Pass
				138	5189.992	5150 to 5250	Pass
			-30	120	5189.991	5150 to 5250	Pass
			-20	120	5189.991	5150 to 5250	Pass
			-10	120	5189.991	5150 to 5250	Pass
			0	120	5189.991	5150 to 5250	Pass
			10	120	5189.991	5150 to 5250	Pass

			30	120	5189.991	5150 to 5250	Pass
			40	120	5189.991	5150 to 5250	Pass
			50	120	5189.991	5150 to 5250	Pass
		5230	20	102	5229.991	5150 to 5250	Pass
				120	5229.991	5150 to 5250	Pass
				138	5229.991	5150 to 5250	Pass
			-30	120	5229.991	5150 to 5250	Pass
			-20	120	5229.991	5150 to 5250	Pass
			-10	120	5229.991	5150 to 5250	Pass
			0	120	5229.991	5150 to 5250	Pass
			10	120	5229.991	5150 to 5250	Pass
			30	120	5229.991	5150 to 5250	Pass
			40	120	5229.991	5150 to 5250	Pass
			50	120	5229.991	5150 to 5250	Pass

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