ANNEX F TEST DATA

For

Project No.:	8232EU010604W
Client:	Shenzhen Qianhai Runway Technology Co., LTD
Product Description:	Smart Pet Feeder
Model No.:	F15-C
FCC ID:	2AU2C-F15-C
Technology:	WiFi 5G
Test Engineer:	Mikey zhu
Test Date:	2024-08-16

Test Summary

Item	Result
Duty Cycle	Pass
Bandwidth	Pass
Maximum Conducted Output Power	Pass
Maximum Power Spectral Density	Pass
Frequency Stability	Pass

1. Duty Cycle

1.1 Test Result

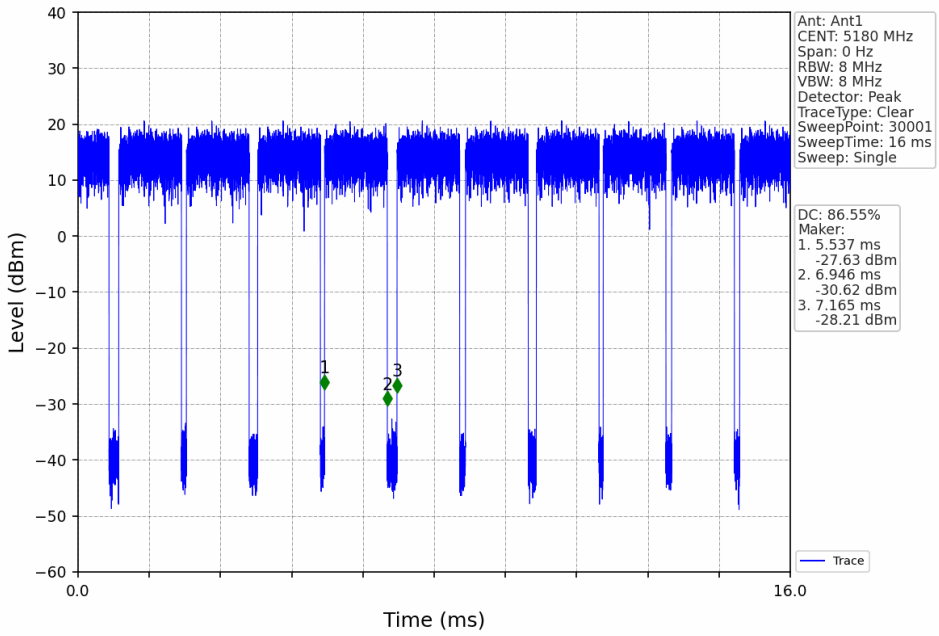
1.1.1 Ant1

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	1.409	1.628	86.55	0.63	7.26
		5200	1.409	4.363	32.29	4.91	57.75
		5240	1.409	1.628	86.55	0.63	7.25
802.11n (HT20)	SISO	5180	1.317	1.528	86.19	0.65	7.19
		5200	1.317	1.527	86.25	0.64	6.57
		5240	1.317	1.545	85.24	0.69	8.16

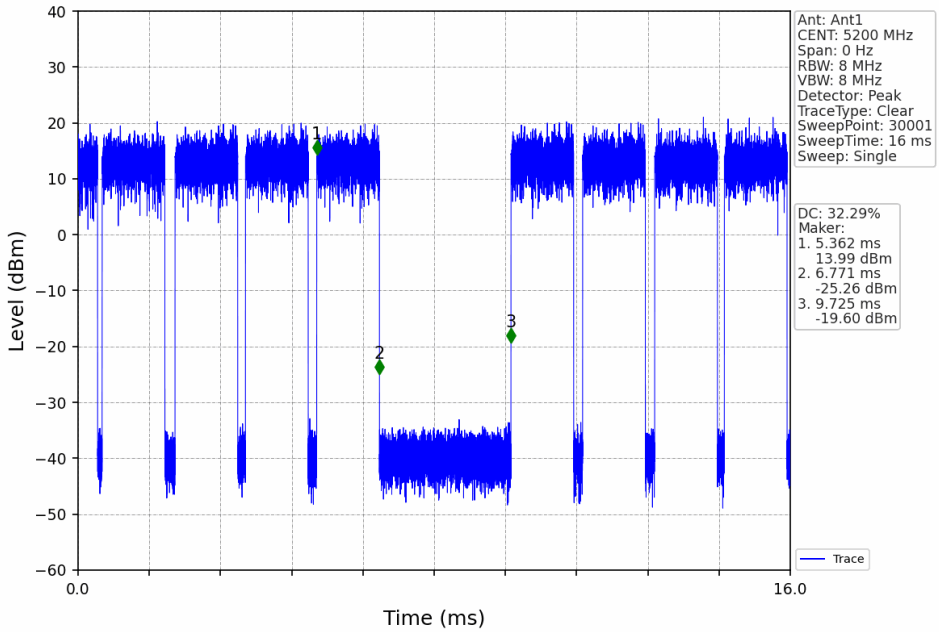
1.2 Test Graph

1.2.1 Ant1

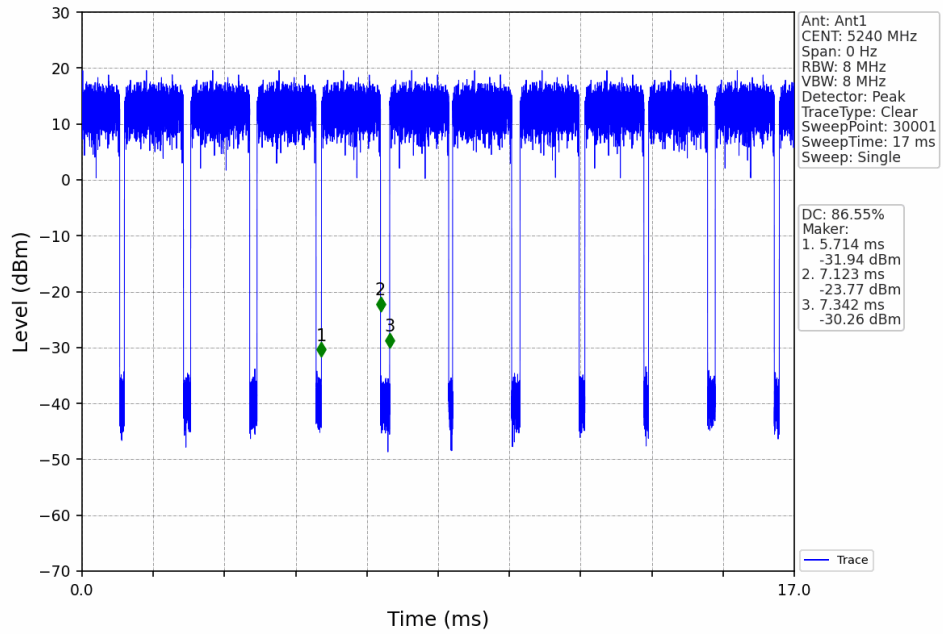
802.11a_LCH_5180MHz_Ant1_NTNV



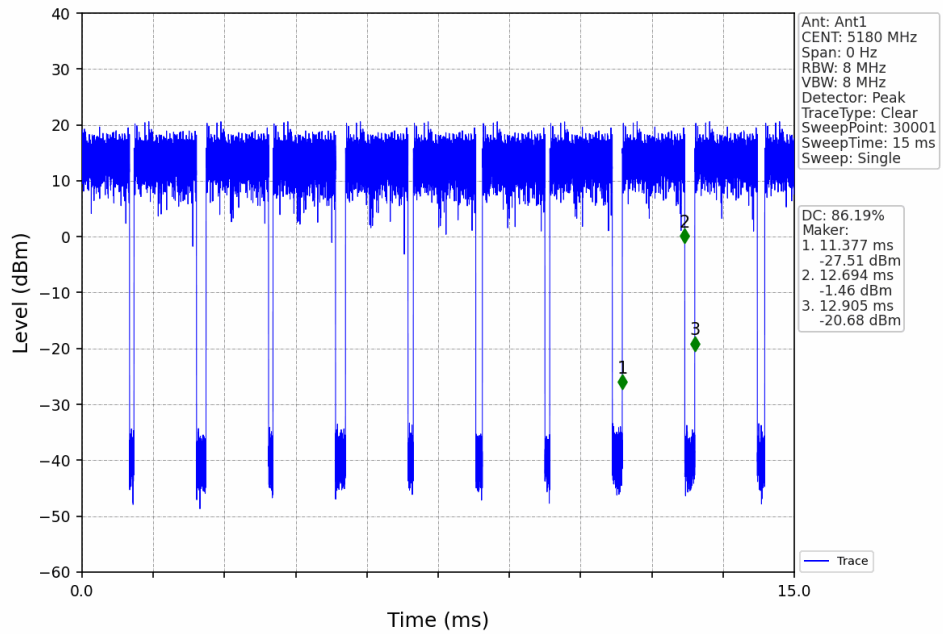
802.11a_MCH_5200MHz_Ant1_NTNV



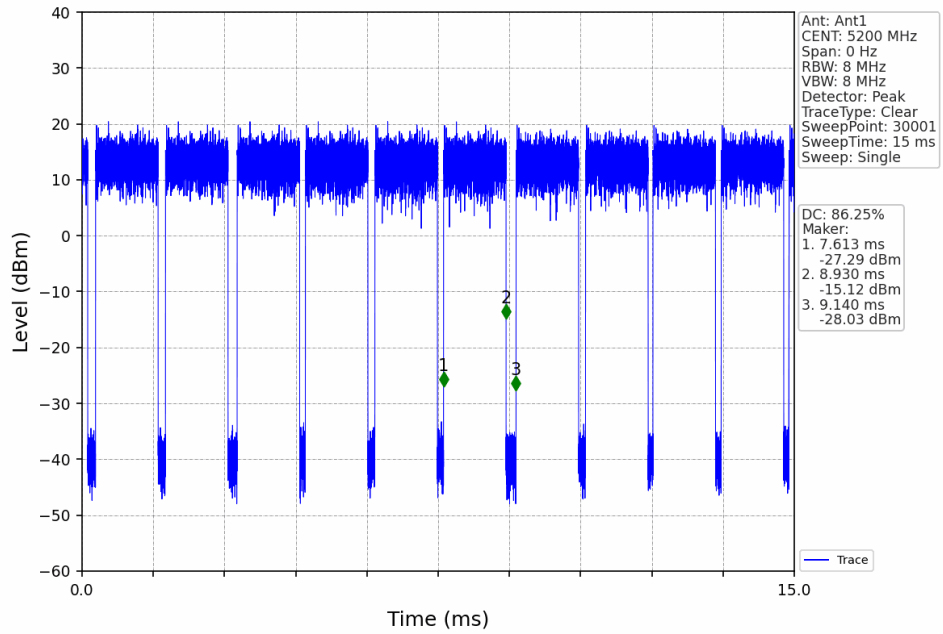
802.11a_HCH_5240MHz_Ant1_NTNV



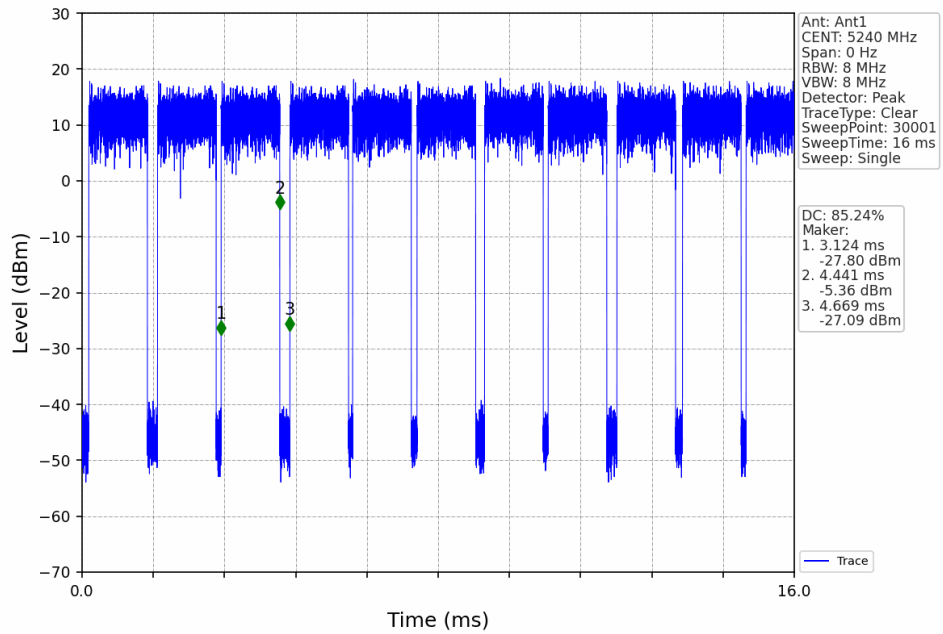
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



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	16.886	/	Pass
		5200	1	16.977	/	Pass
		5240	1	17.025	/	Pass
802.11n (HT20)	SISO	5180	1	17.843	/	Pass
		5200	1	17.916	/	Pass
		5240	1	17.948	/	Pass

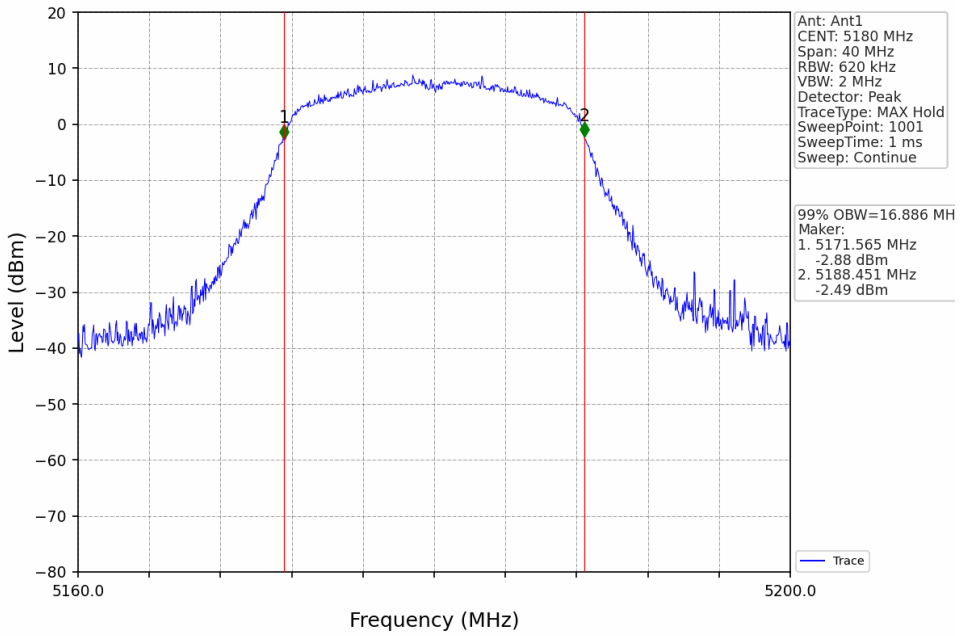
2.1.2 26dB BW

Mode	TX Type	Frequency (MHz)	ANT	26dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	19.518	/	Pass
		5200	1	19.960	/	Pass
		5240	1	19.569	/	Pass
802.11n (HT20)	SISO	5180	1	20.102	/	Pass
		5200	1	20.543	/	Pass
		5240	1	20.347	/	Pass

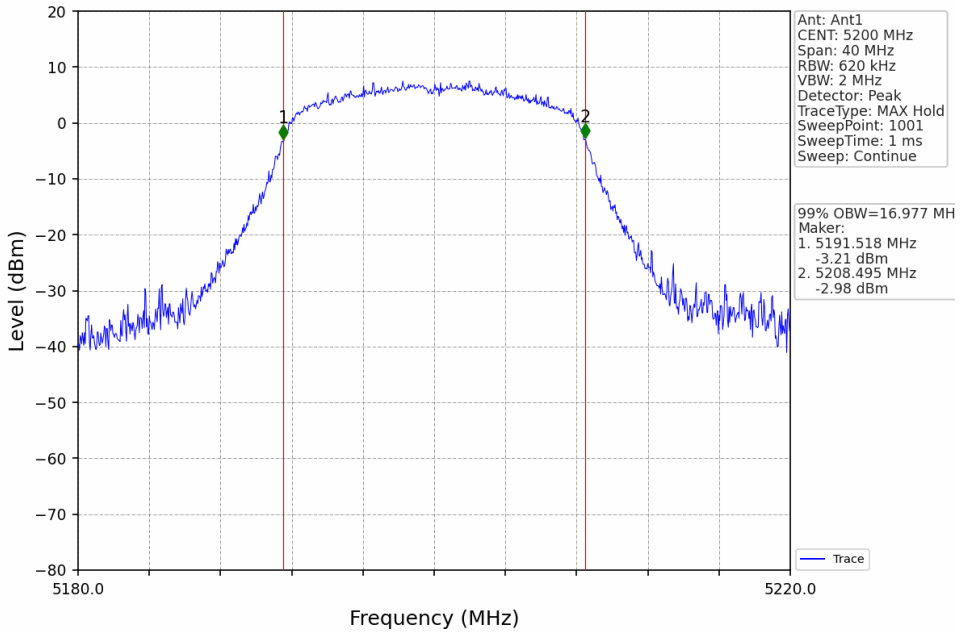
2.2 Test Graph

2.2.1 OBW

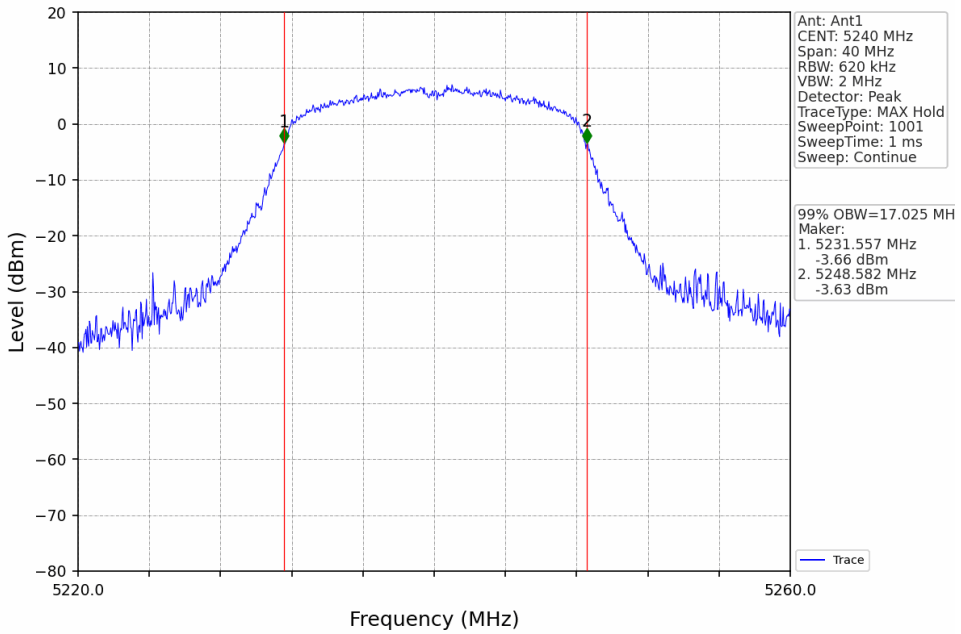
802.11a_LCH_5180MHz_Ant1_NTNV



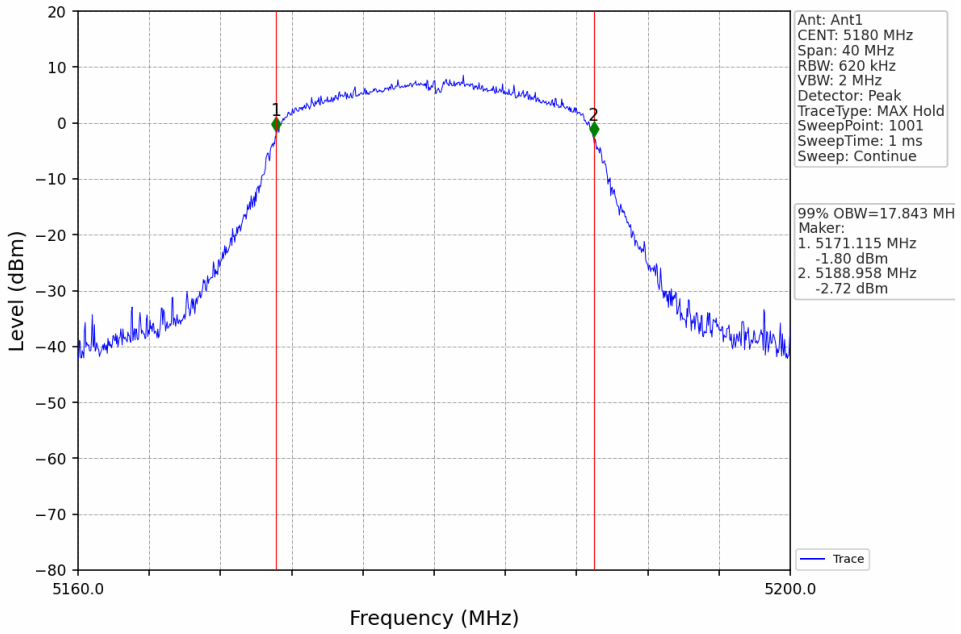
802.11a_MCH_5200MHz_Ant1_NTNV



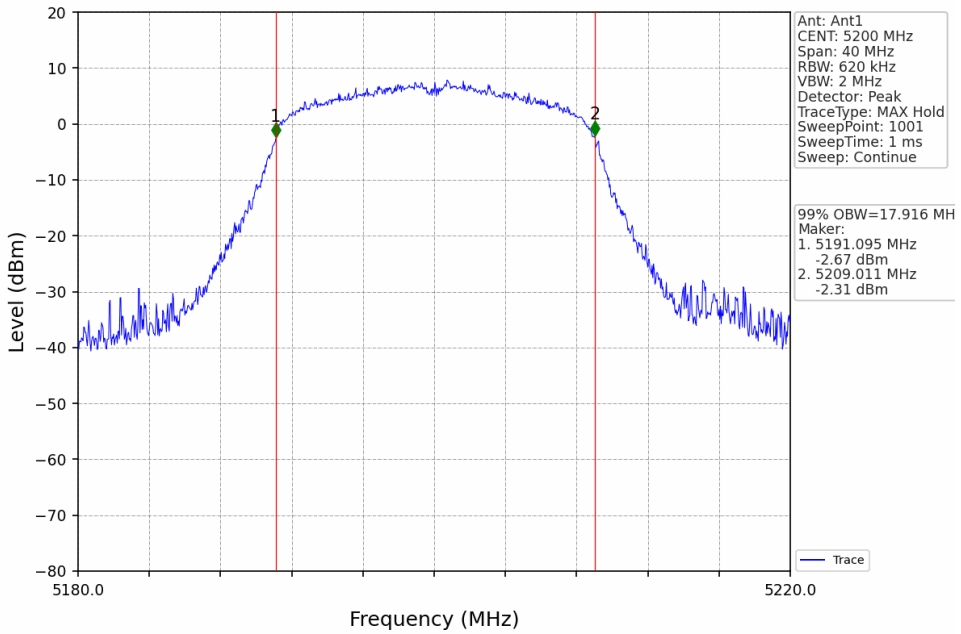
802.11a_HCH_5240MHz_Ant1_NTNV



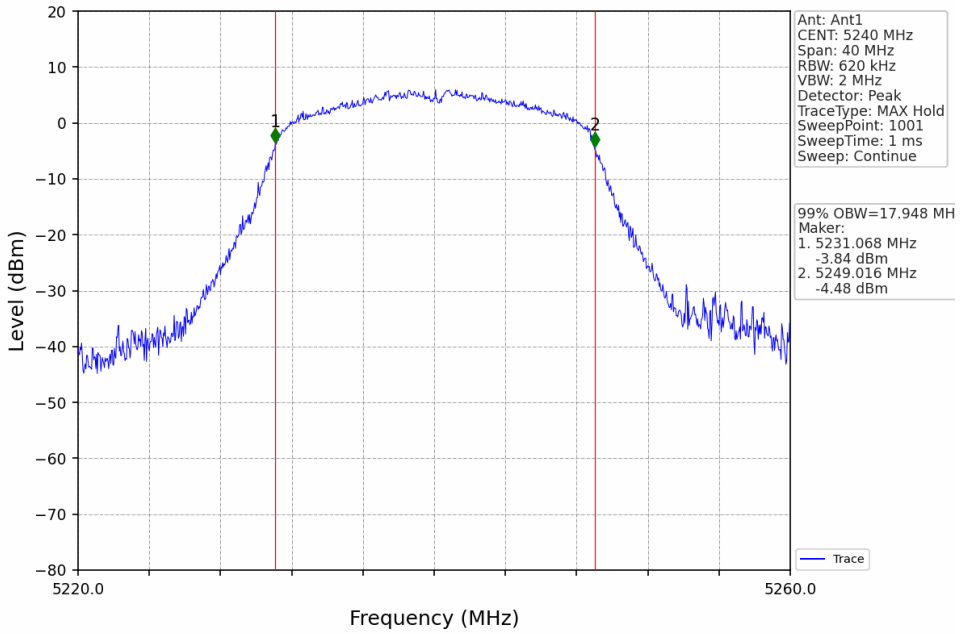
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



802.11n(HT20)_MCH_5200MHz_Ant1_NTNV

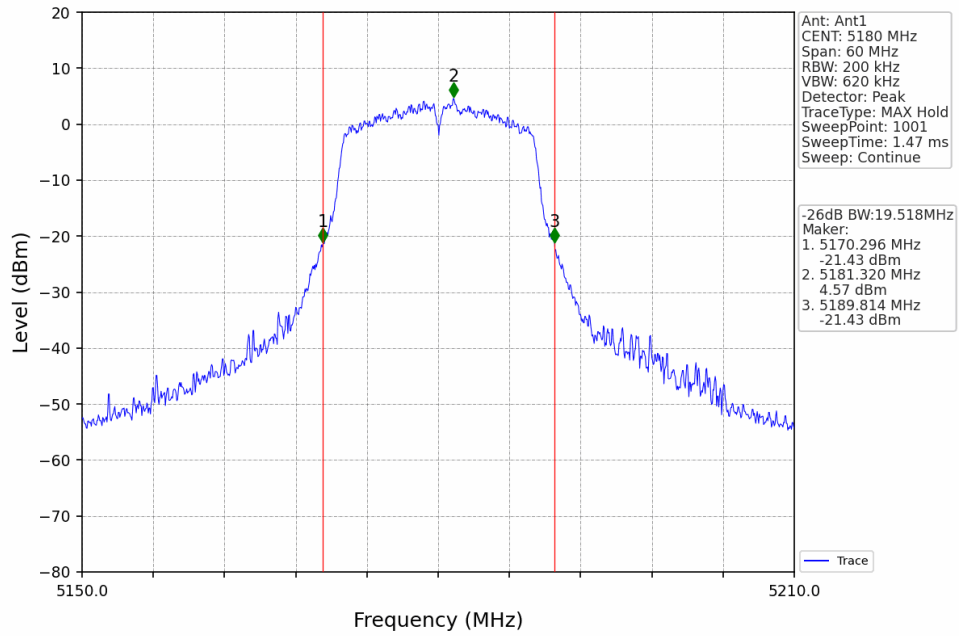


802.11n(HT20)_HCH_5240MHz_Ant1_NTNV

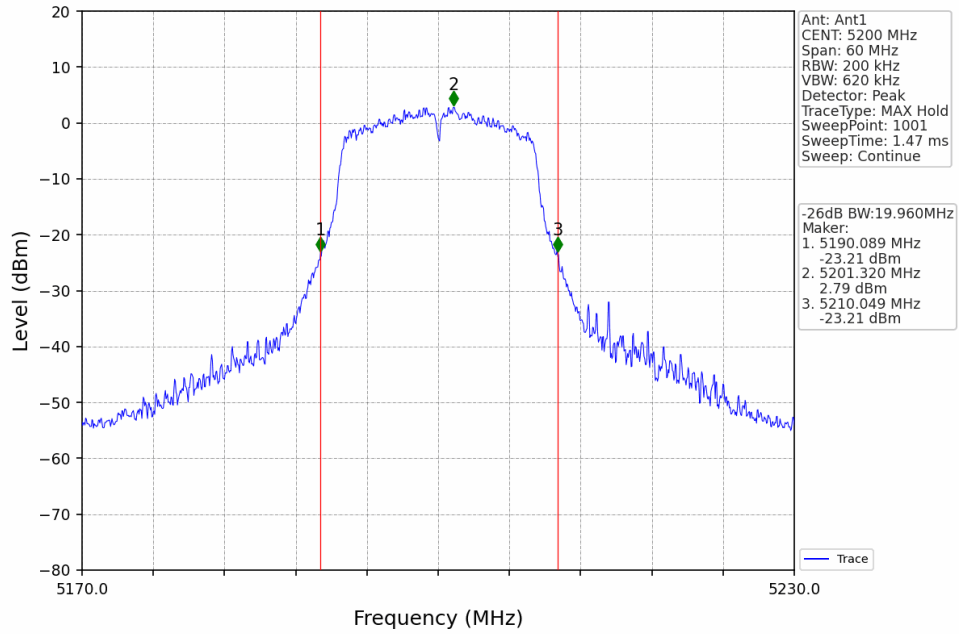


2.2.2 26dB BW

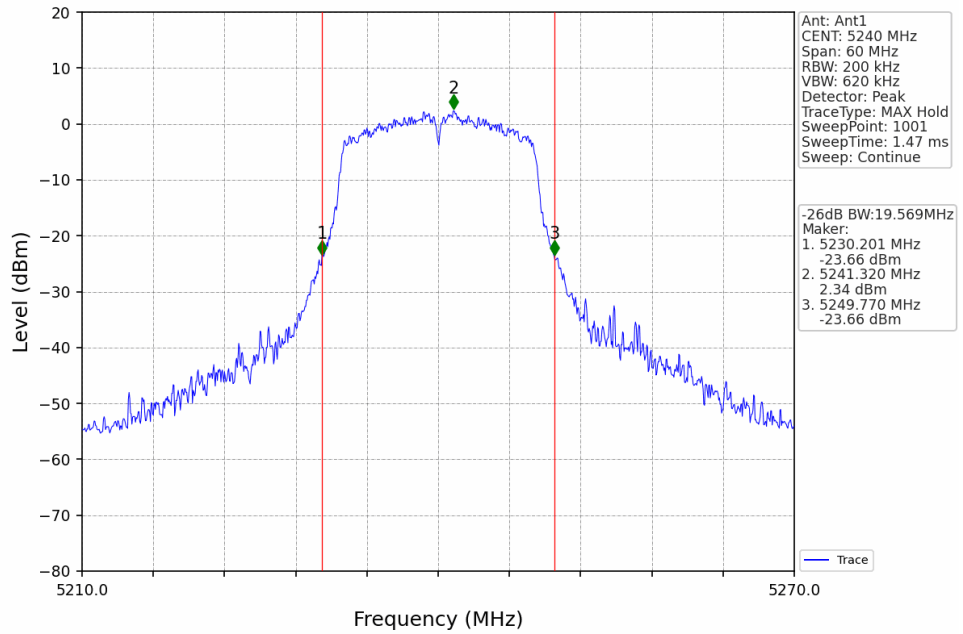
802.11a_LCH_5180MHz_Ant1_NTNV



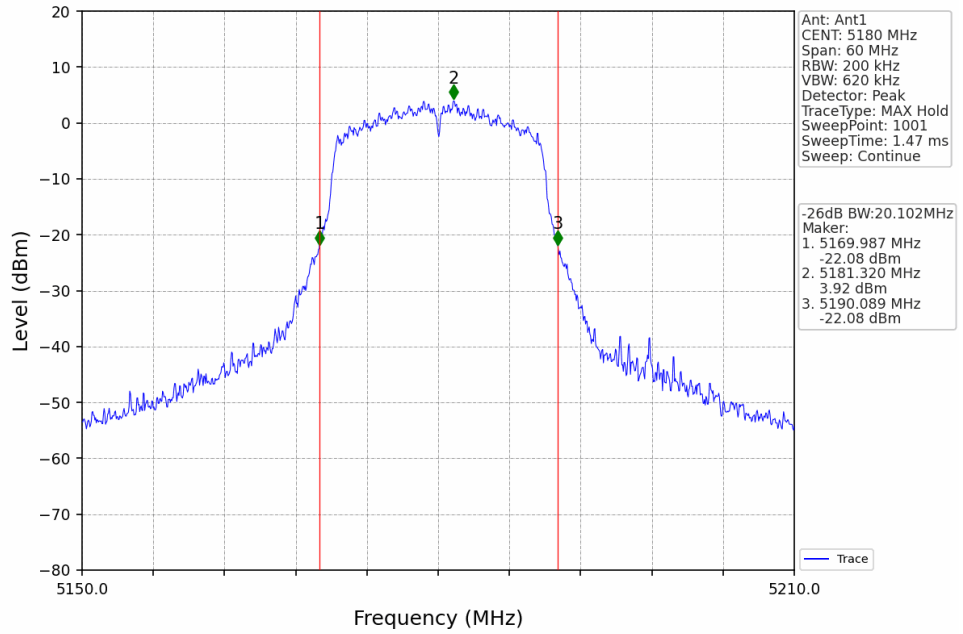
802.11a_MCH_5200MHz_Ant1_NTNV



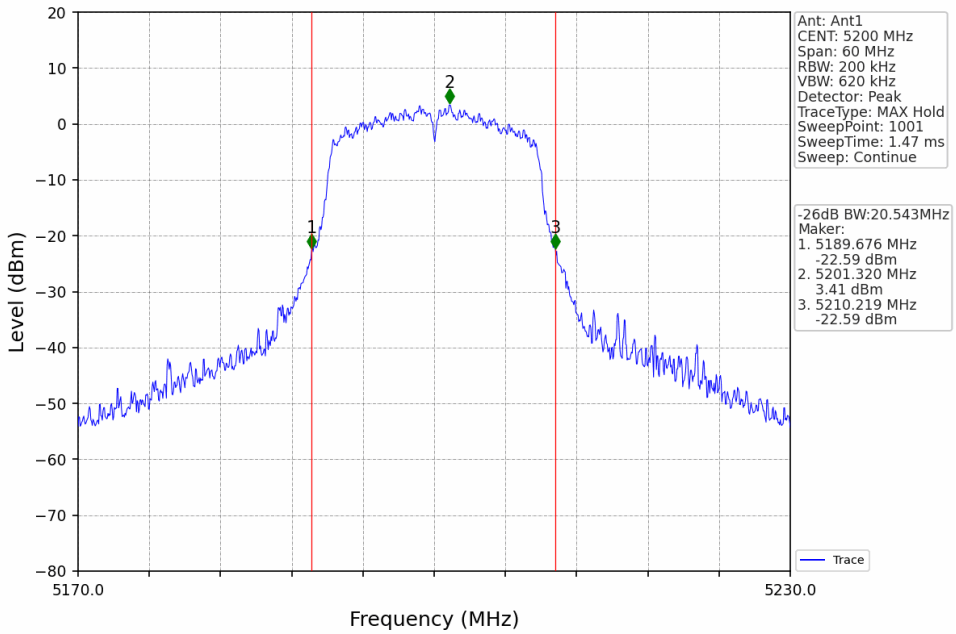
802.11a_HCH_5240MHz_Ant1_NTNV



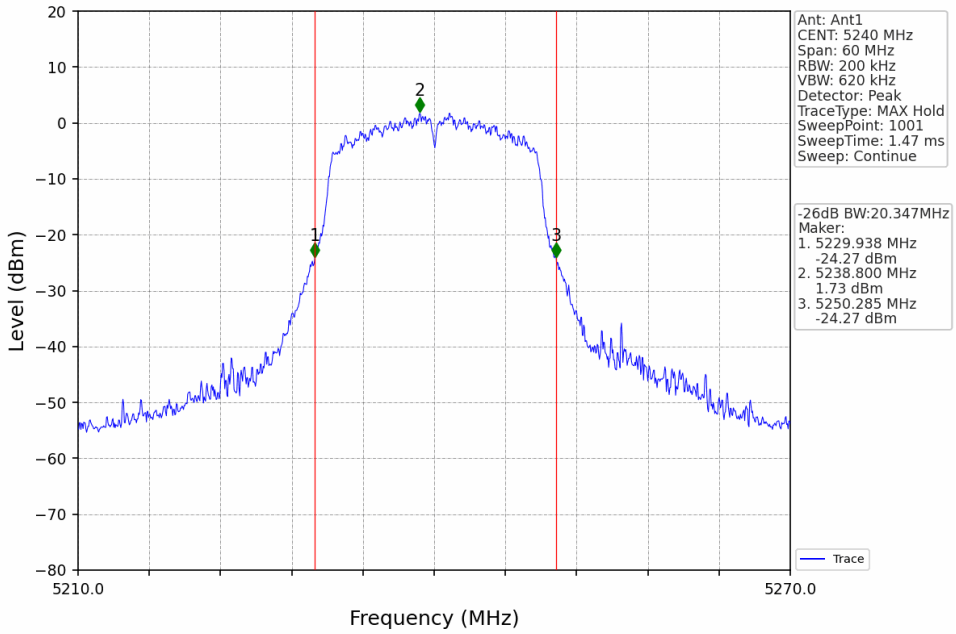
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



3. Maximum Conducted Output Power

3.1 Test Result

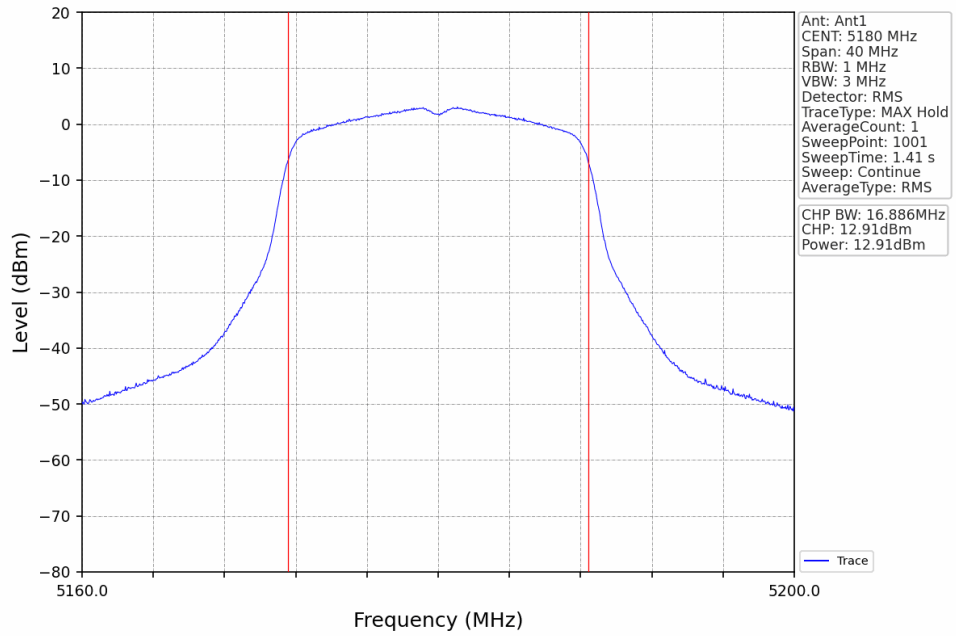
3.1.1 Power

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11a	SISO	5180	12.91	<=23.98	Pass
		5200	11.74	<=23.98	Pass
		5240	11.16	<=23.98	Pass
802.11n (HT20)	SISO	5180	12.62	<=23.98	Pass
		5200	12.07	<=23.98	Pass
		5240	10.48	<=23.98	Pass

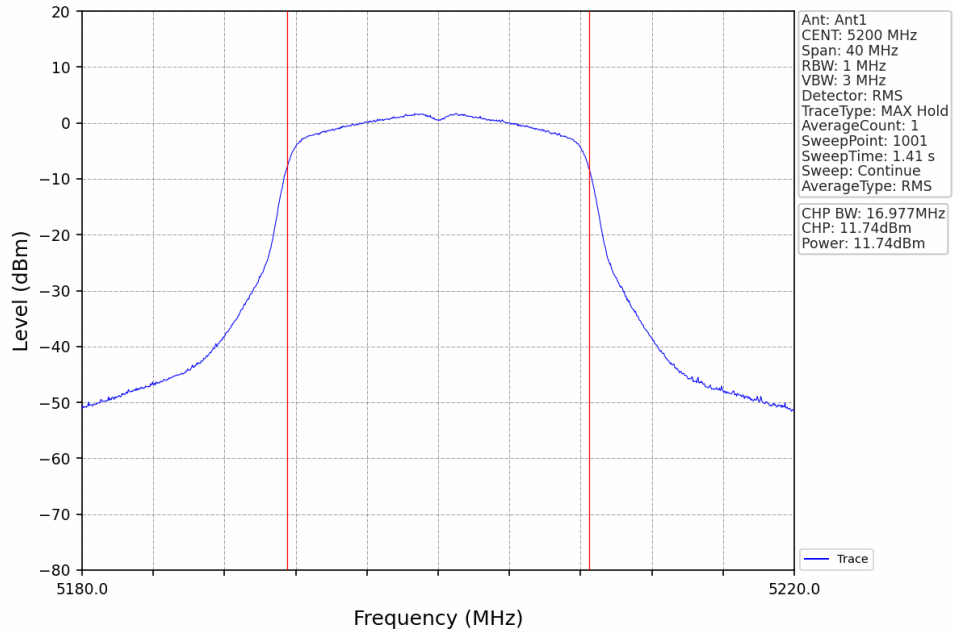
3.2 Test Graph

3.2.1 Power

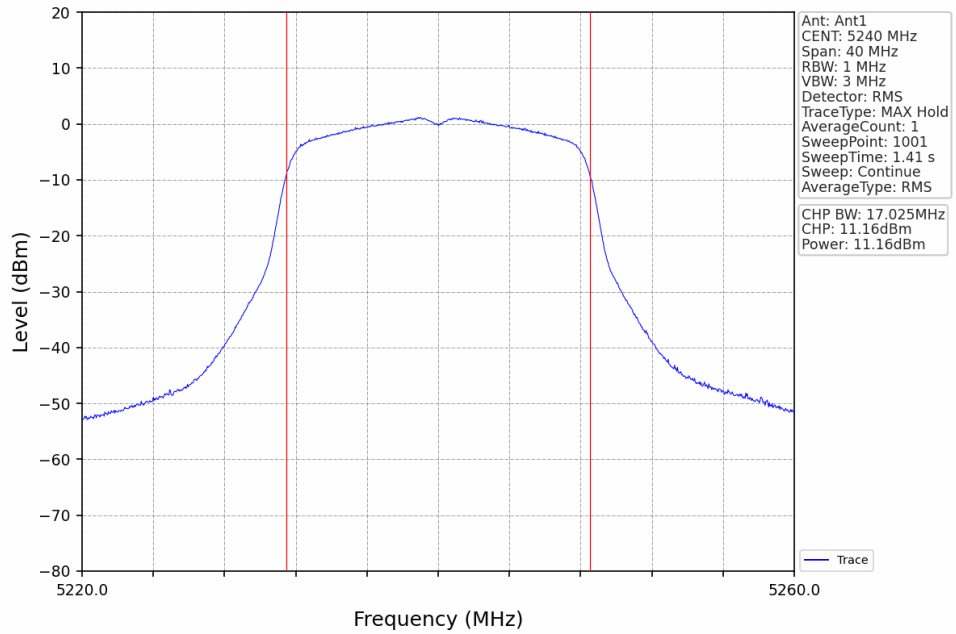
802.11a_LCH_5180MHz_Ant1_NTNV



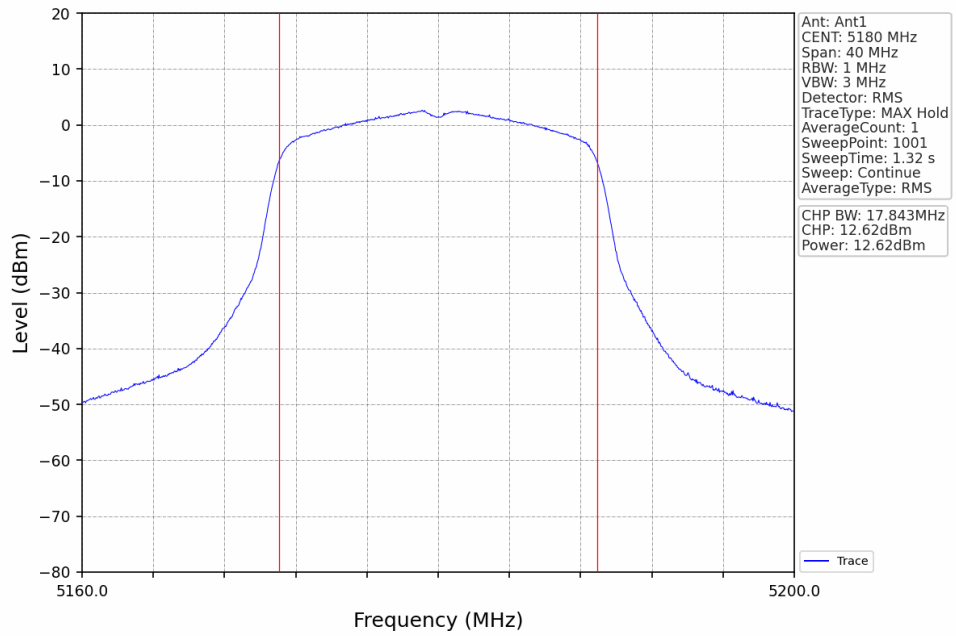
802.11a_MCH_5200MHz_Ant1_NTNV



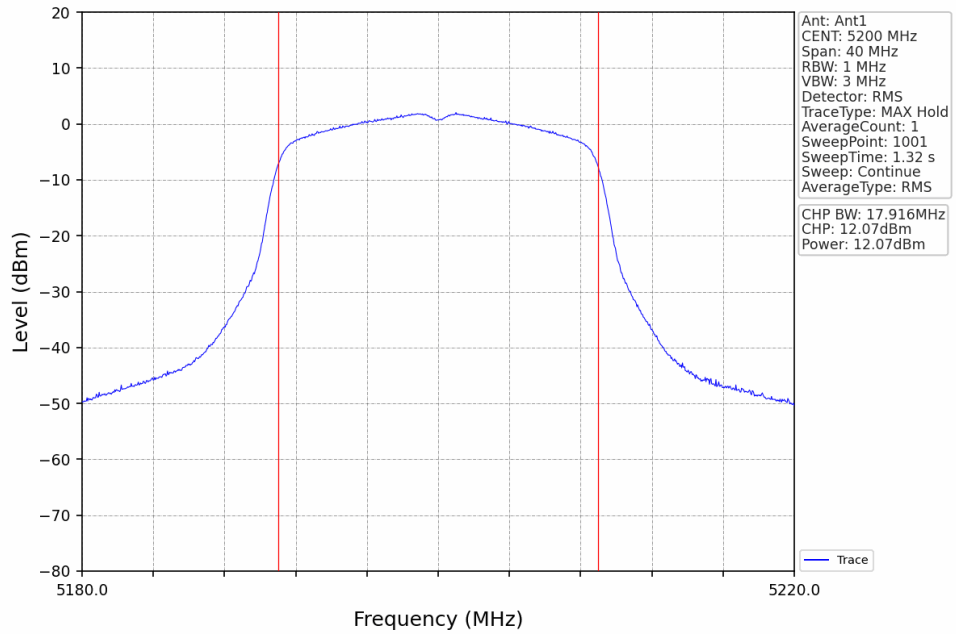
802.11a_HCH_5240MHz_Ant1_NTNV



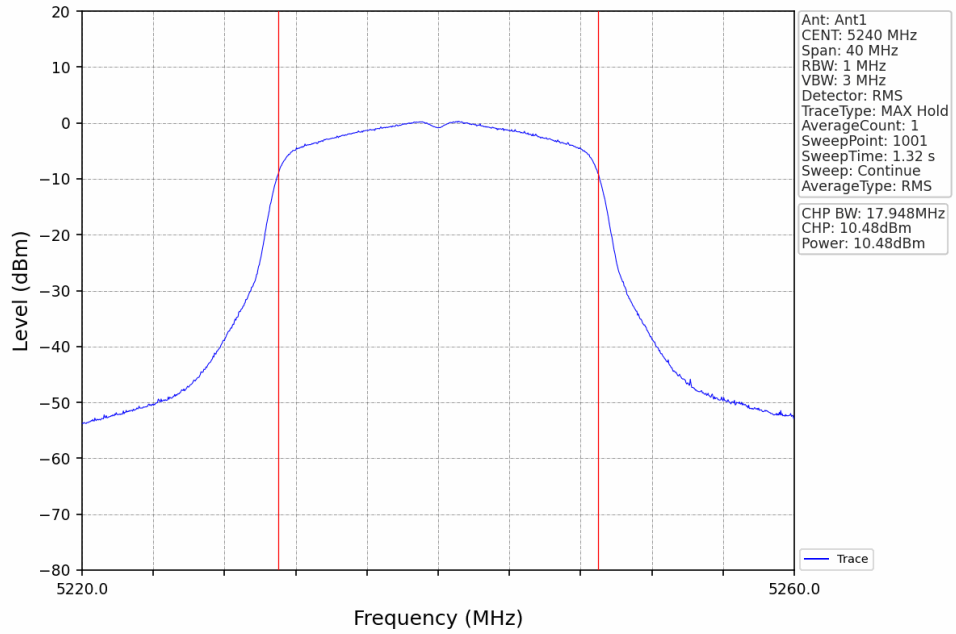
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



4. Maximum Power Spectral Density

4.1 Test Result

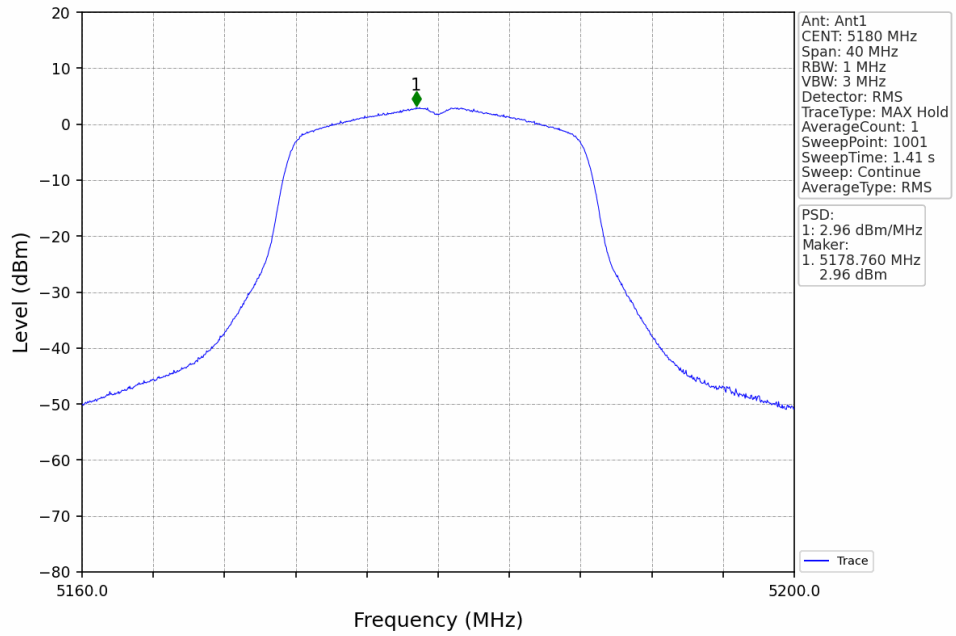
4.1.1 PSD

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/MHz)		Verdict
			ANT1	Limit	
802.11a	SISO	5180	2.96	<=11	Pass
		5200	1.82	<=11	Pass
		5240	1.19	<=11	Pass
802.11n (HT20)	SISO	5180	2.55	<=11	Pass
		5200	1.98	<=11	Pass
		5240	0.38	<=11	Pass

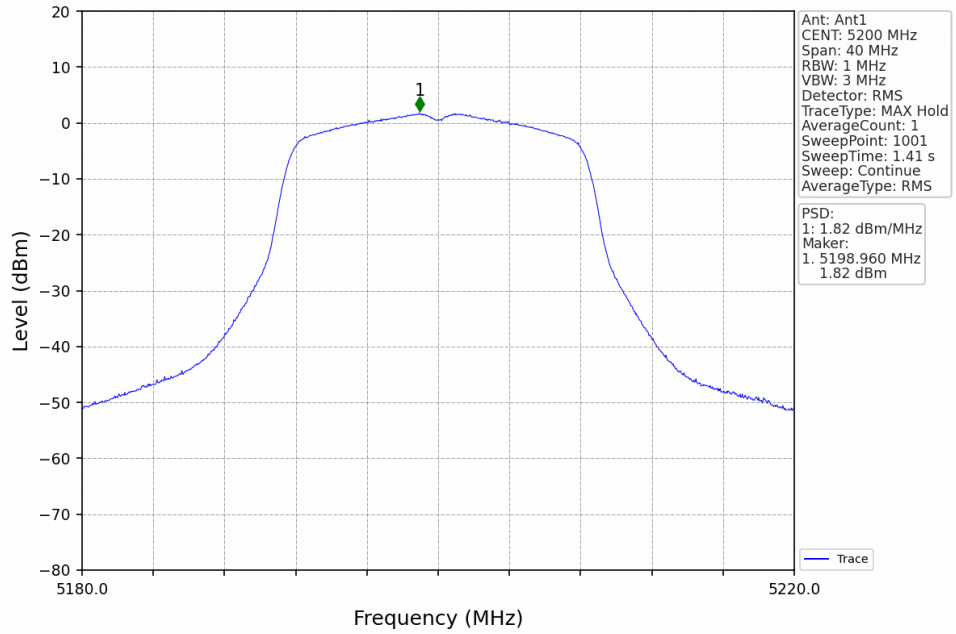
4.2 Test Graph

4.2.1 PSD

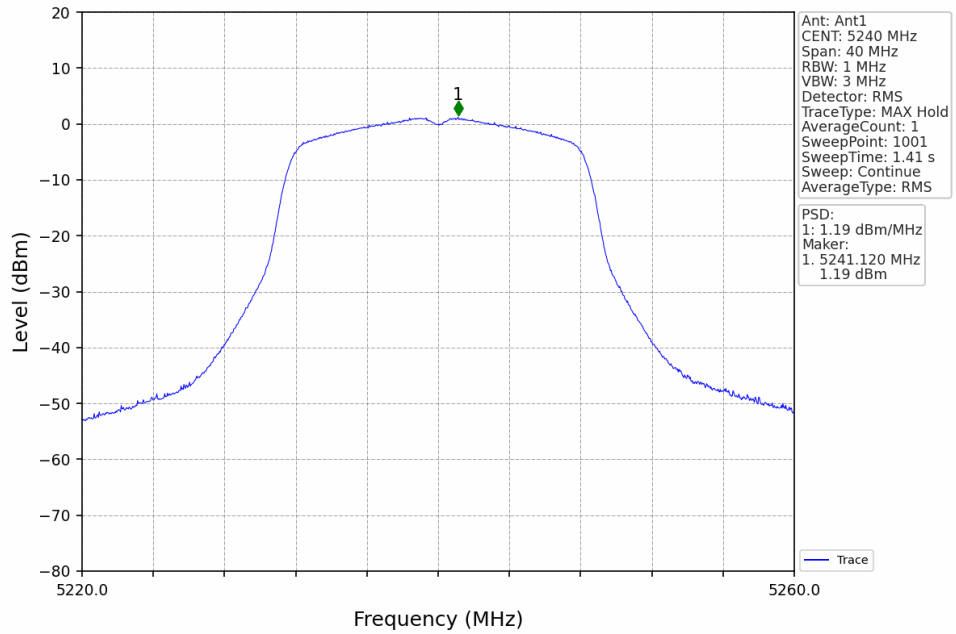
802.11a_LCH_5180MHz_Ant1_NTNV



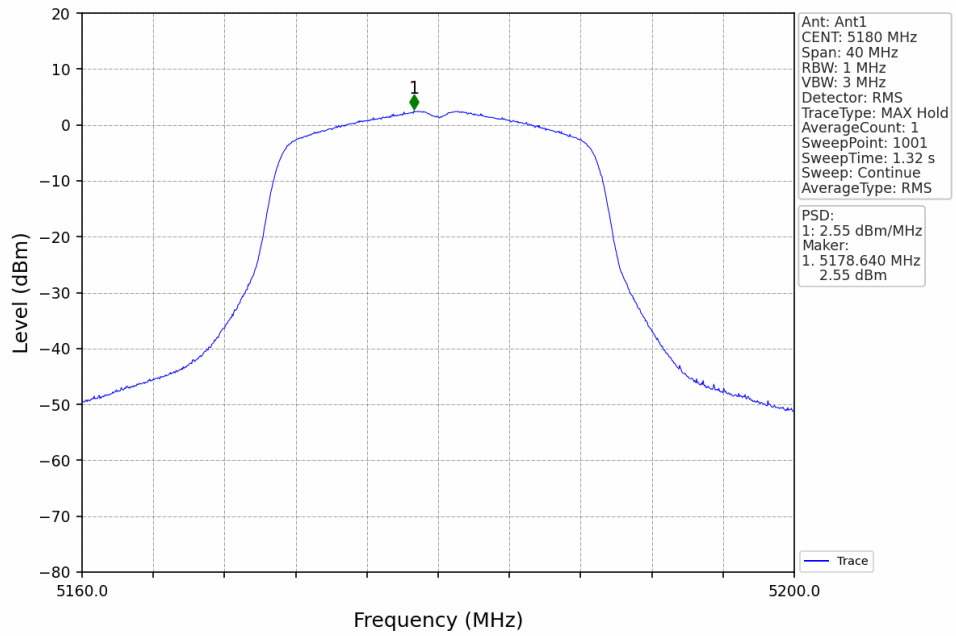
802.11a_MCH_5200MHz_Ant1_NTNV



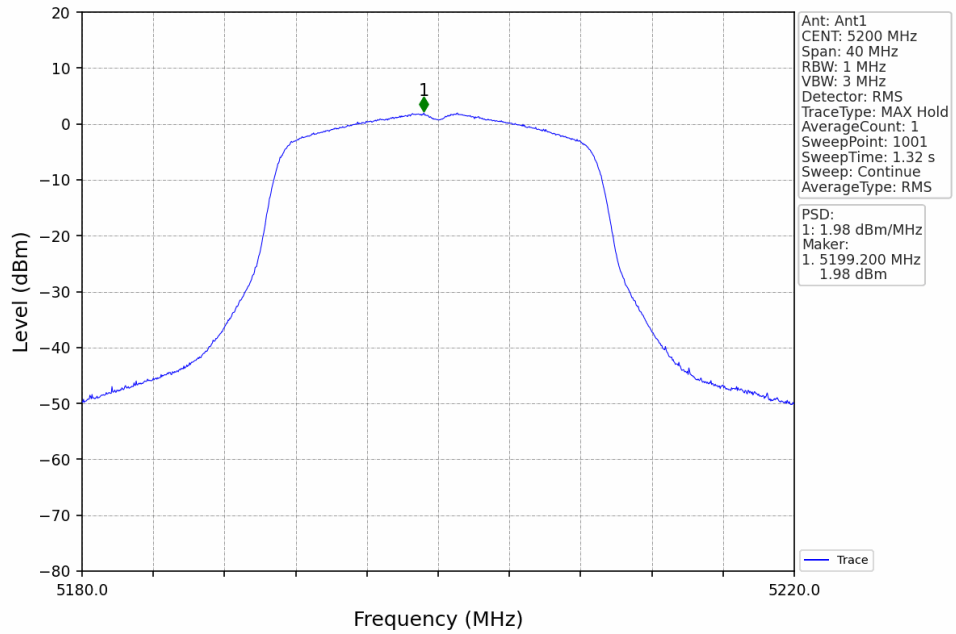
802.11a_HCH_5240MHz_Ant1_NTNV



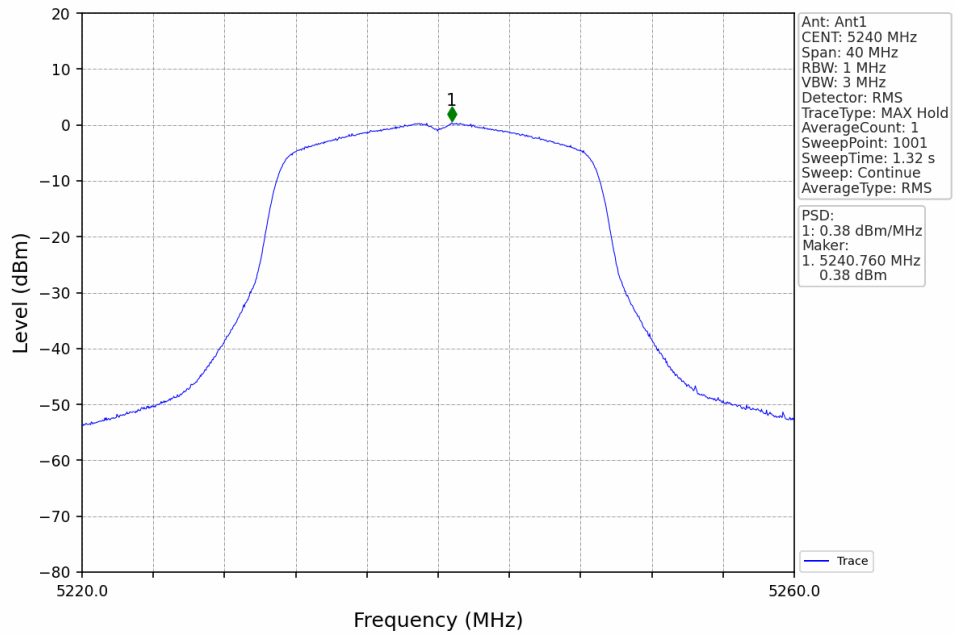
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



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	5180.000	5150 to 5250	Pass
				120	5180.000	5150 to 5250	Pass
				138	5180.000	5150 to 5250	Pass
			-30	120	5180.000	5150 to 5250	Pass
			-20	120	5180.001	5150 to 5250	Pass
			-10	120	5180.001	5150 to 5250	Pass
			0	120	5180.001	5150 to 5250	Pass
			10	120	5180.001	5150 to 5250	Pass
			30	120	5180.001	5150 to 5250	Pass
			40	120	5180.001	5150 to 5250	Pass
			50	120	5180.001	5150 to 5250	Pass
		5200	20	102	5200.001	5150 to 5250	Pass
				120	5200.001	5150 to 5250	Pass
				138	5200.001	5150 to 5250	Pass
			-30	120	5200.001	5150 to 5250	Pass
			-20	120	5200.001	5150 to 5250	Pass
			-10	120	5200.001	5150 to 5250	Pass
			0	120	5200.001	5150 to 5250	Pass
			10	120	5200.001	5150 to 5250	Pass
			30	120	5200.001	5150 to 5250	Pass
			40	120	5200.001	5150 to 5250	Pass
			50	120	5200.001	5150 to 5250	Pass
		5240	20	102	5240.001	5150 to 5250	Pass
				120	5240.001	5150 to 5250	Pass
				138	5240.001	5150 to 5250	Pass
			-30	120	5240.001	5150 to 5250	Pass
			-20	120	5240.001	5150 to 5250	Pass
			-10	120	5240.001	5150 to 5250	Pass
			0	120	5240.001	5150 to 5250	Pass
			10	120	5240.001	5150 to 5250	Pass
			30	120	5240.001	5150 to 5250	Pass
			40	120	5240.001	5150 to 5250	Pass
			50	120	5240.001	5150 to 5250	Pass

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