

Test Data for 5G_BAND1

Product Name: RZBoard V2L

Test Model(HVIN): AES-RZB-V2L-SK-G

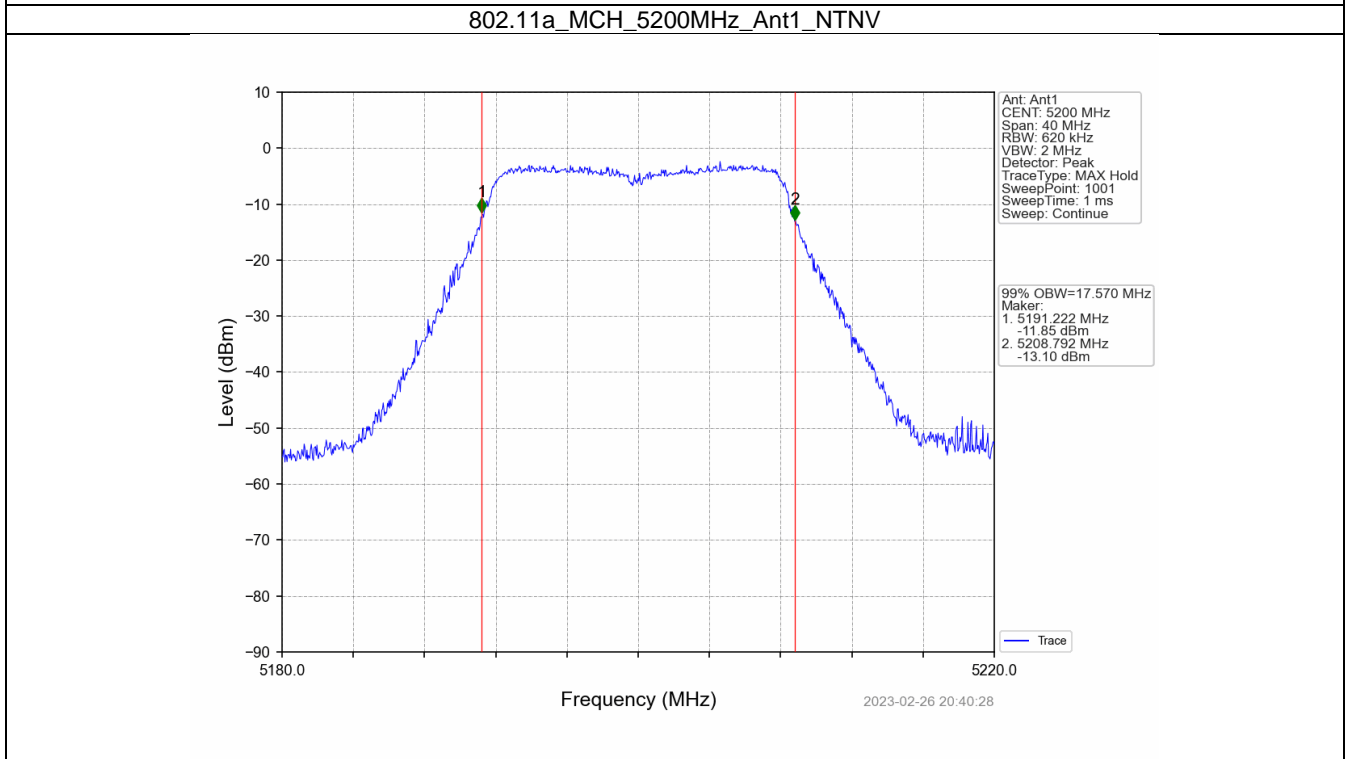
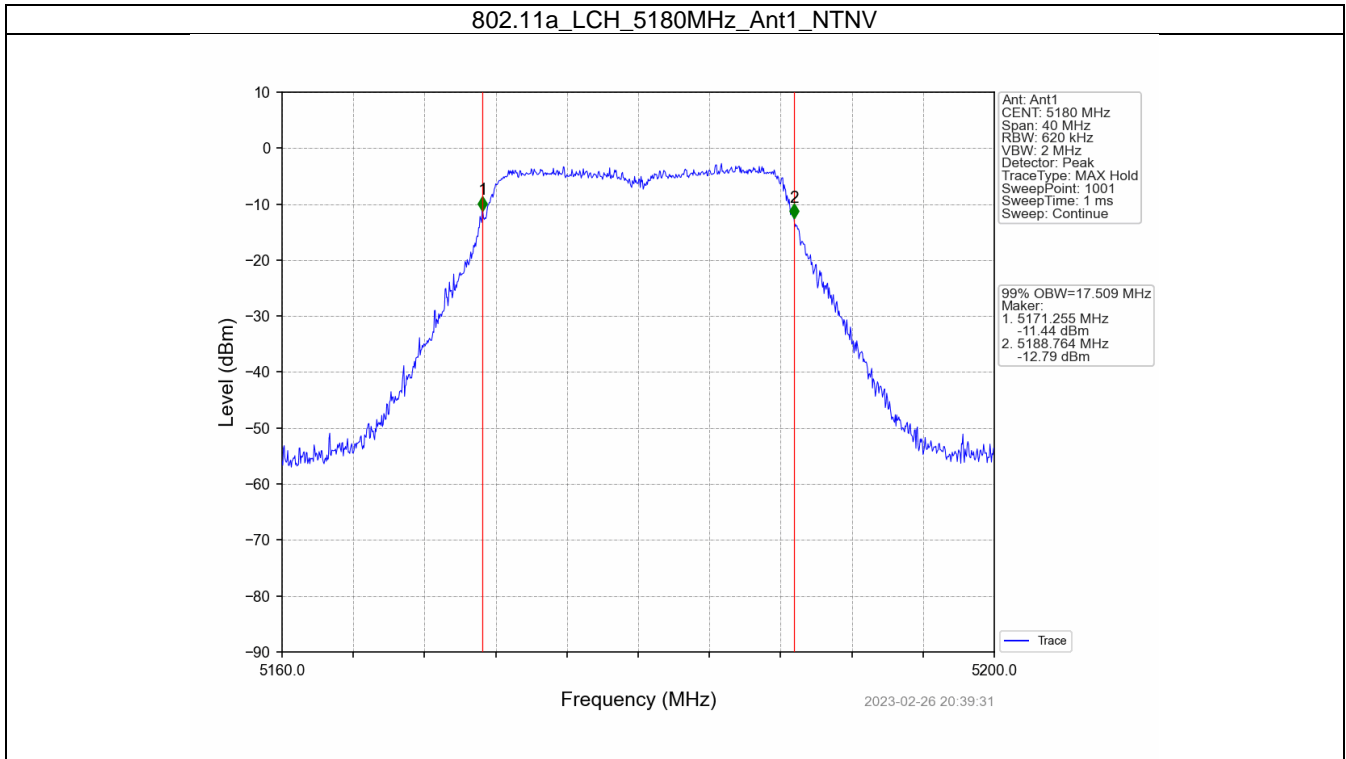
1. Bandwidth

1.1 OBW

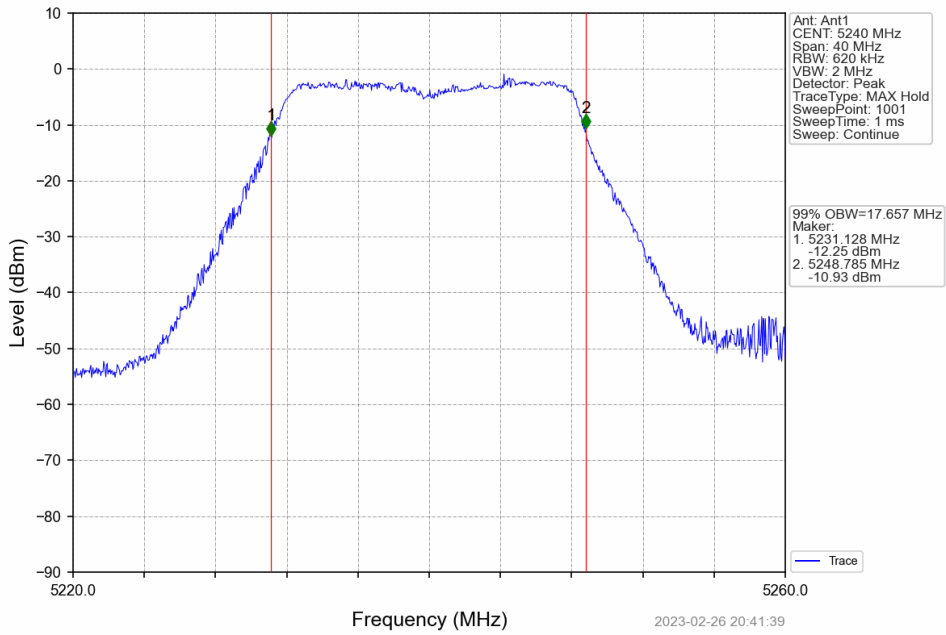
1.1.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)	Verdict
				Result	
802.11a	SISO	5180	1	17.509	Pass
		5200	1	17.570	Pass
		5240	1	17.657	Pass
802.11n (HT20)	SISO	5180	1	18.462	Pass
		5200	1	18.434	Pass
		5240	1	18.499	Pass
802.11n (HT40)	SISO	5190	1	36.954	Pass
		5230	1	36.895	Pass
802.11ac (VHT20)	SISO	5180	1	18.326	Pass
		5200	1	18.324	Pass
		5240	1	18.371	Pass
802.11ac (VHT40)	SISO	5190	1	36.921	Pass
		5230	1	36.838	Pass
802.11ac (VHT80)	SISO	5210	1	76.310	Pass

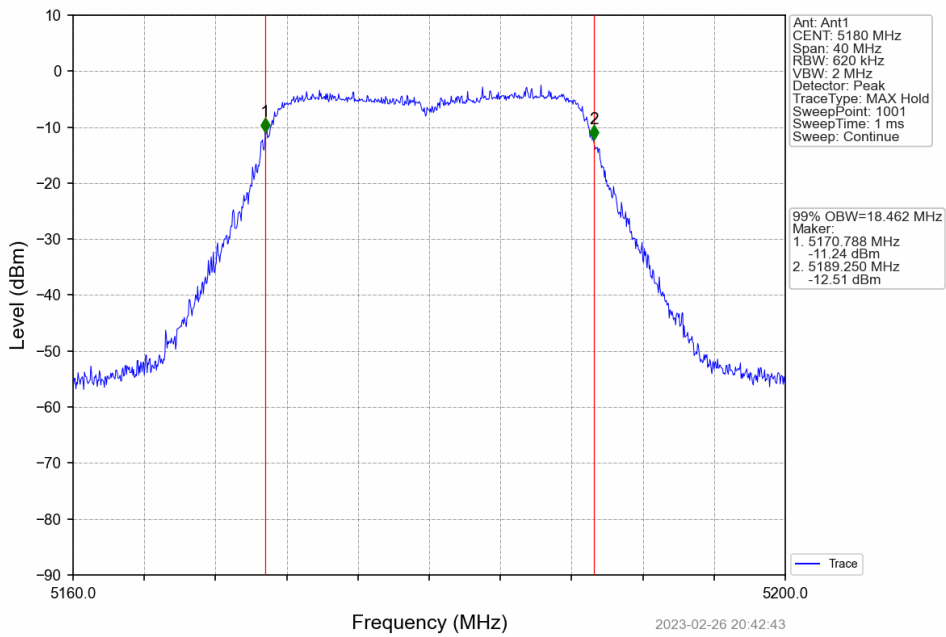
1.1.2 Test Graph



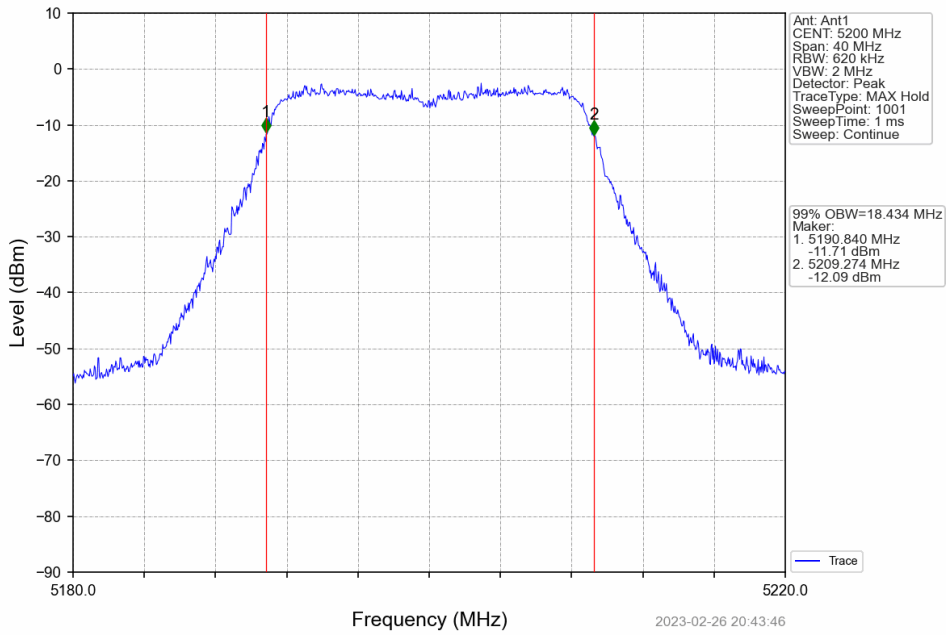
802.11a_HCH_5240MHz_Ant1_NTNV



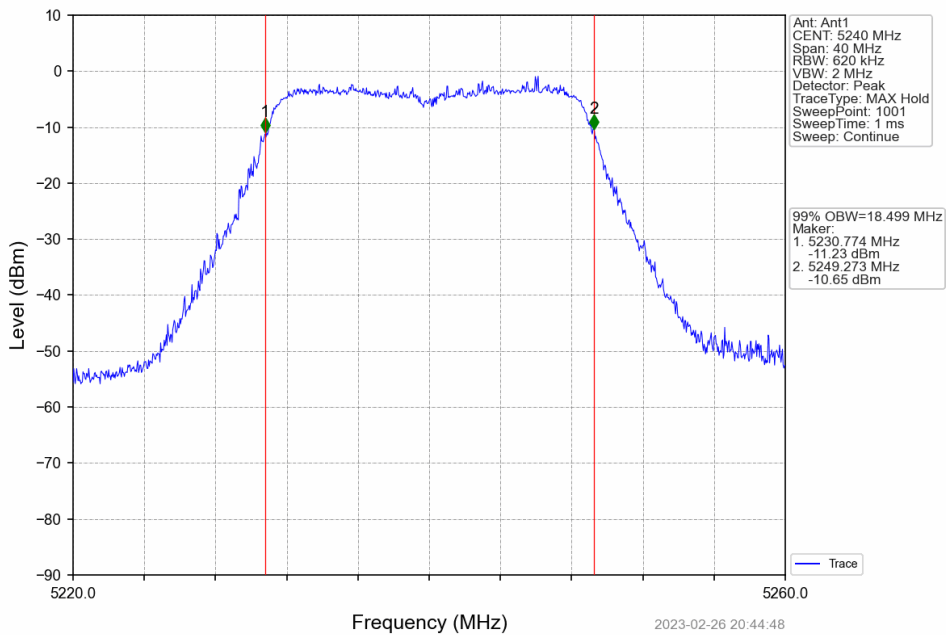
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



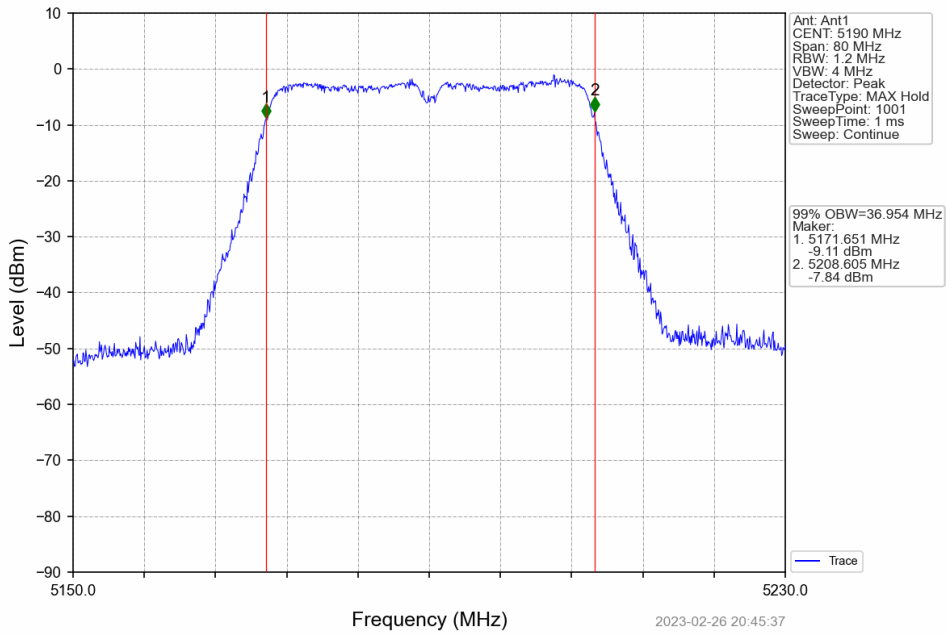
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



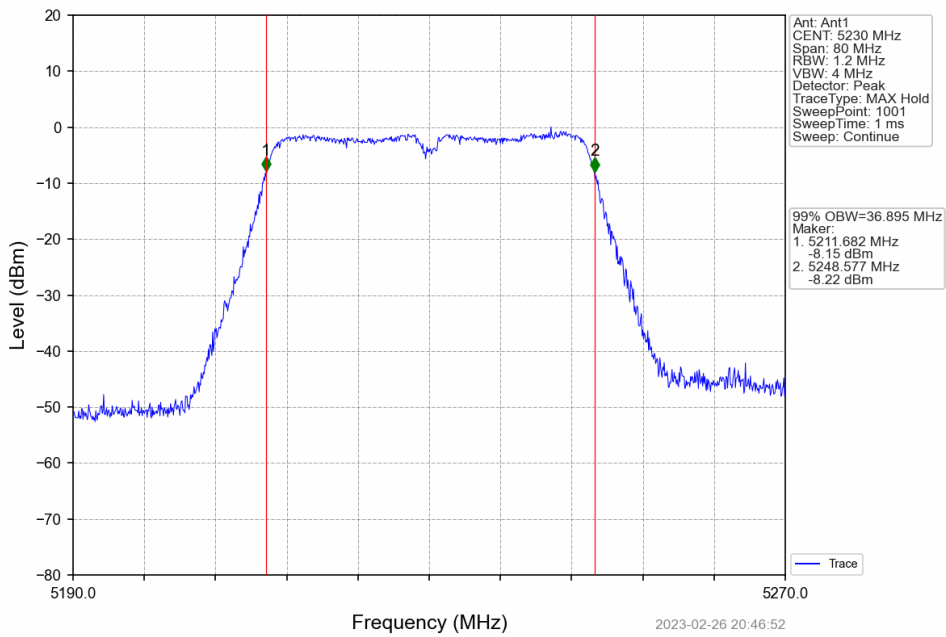
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



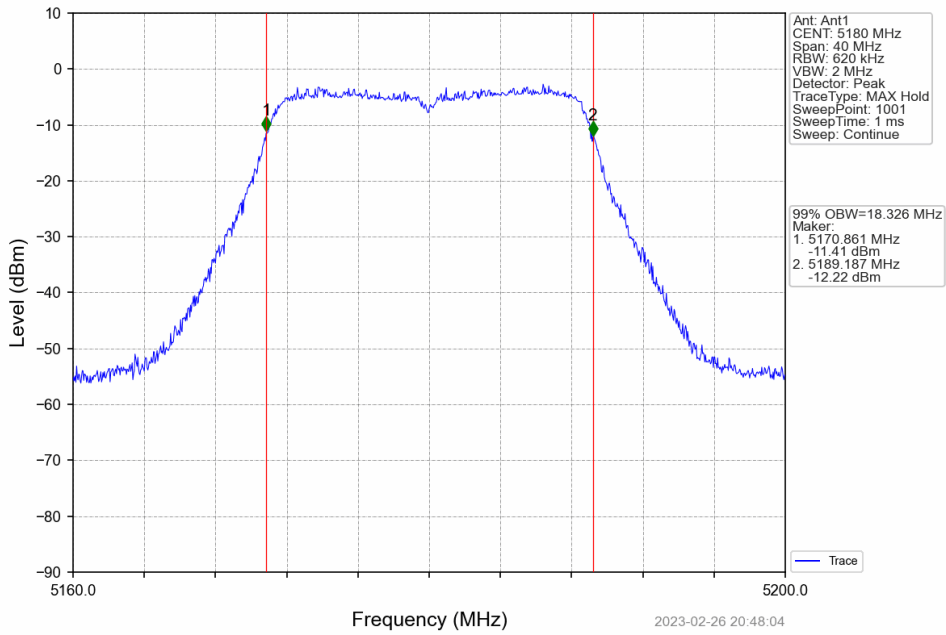
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



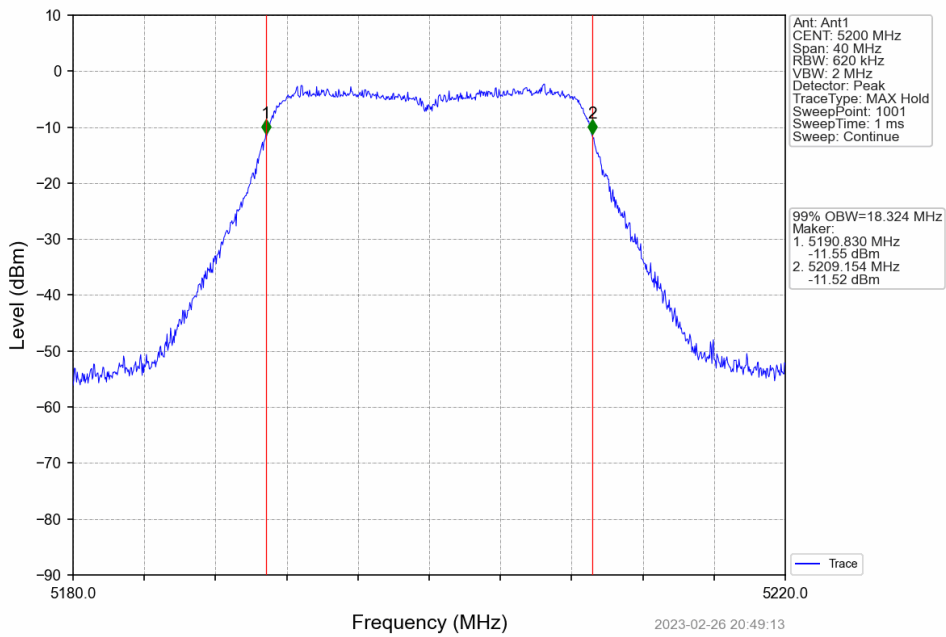
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



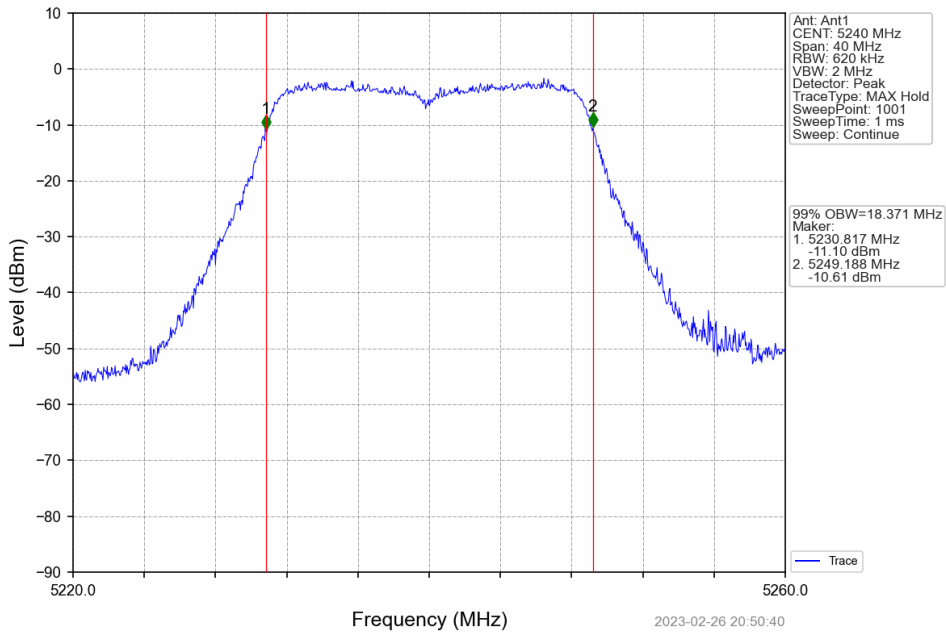
802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



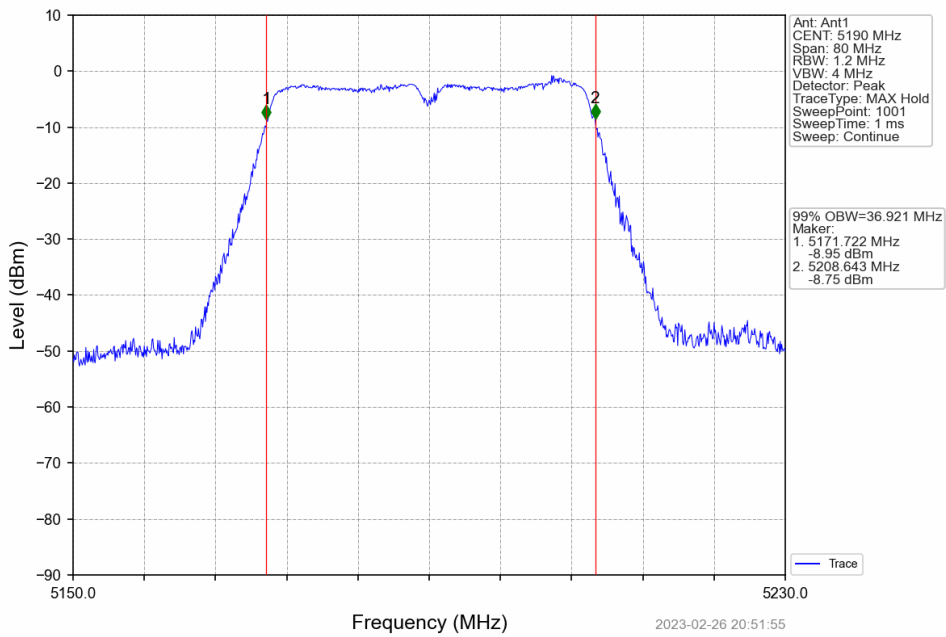
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



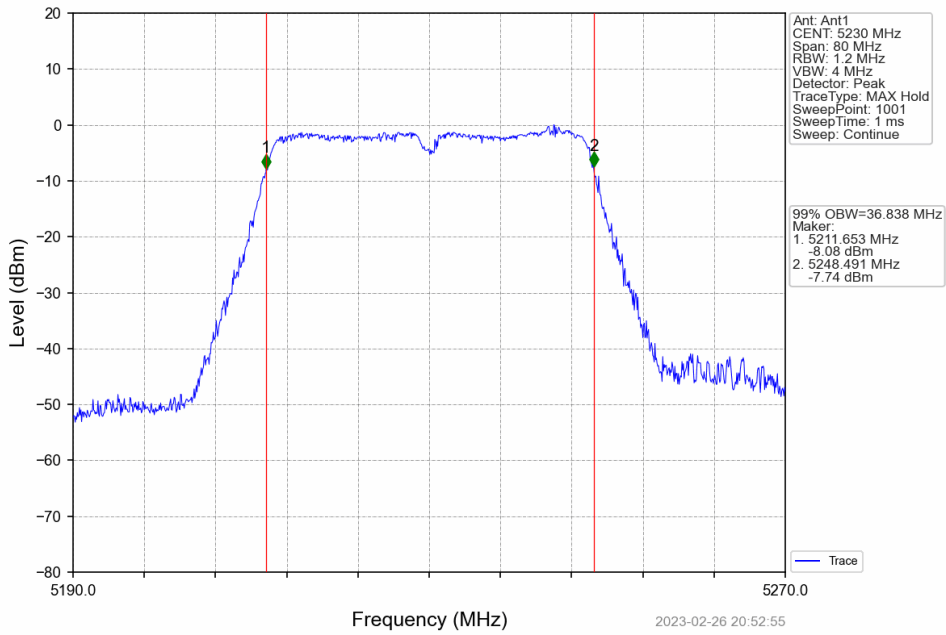
802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



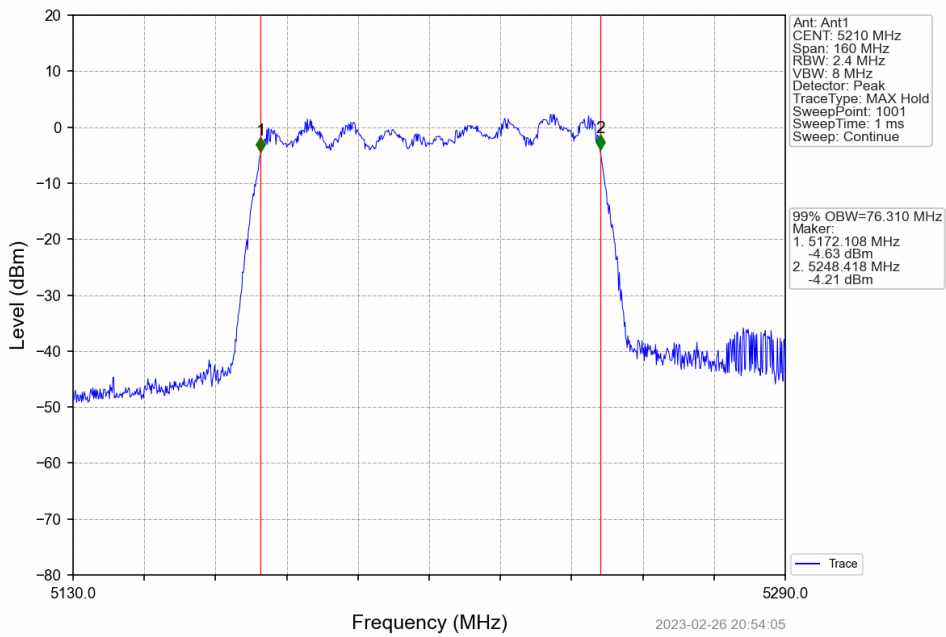
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV



802.11ac(VHT80)_MCH_5210MHz_Ant1_NTNV

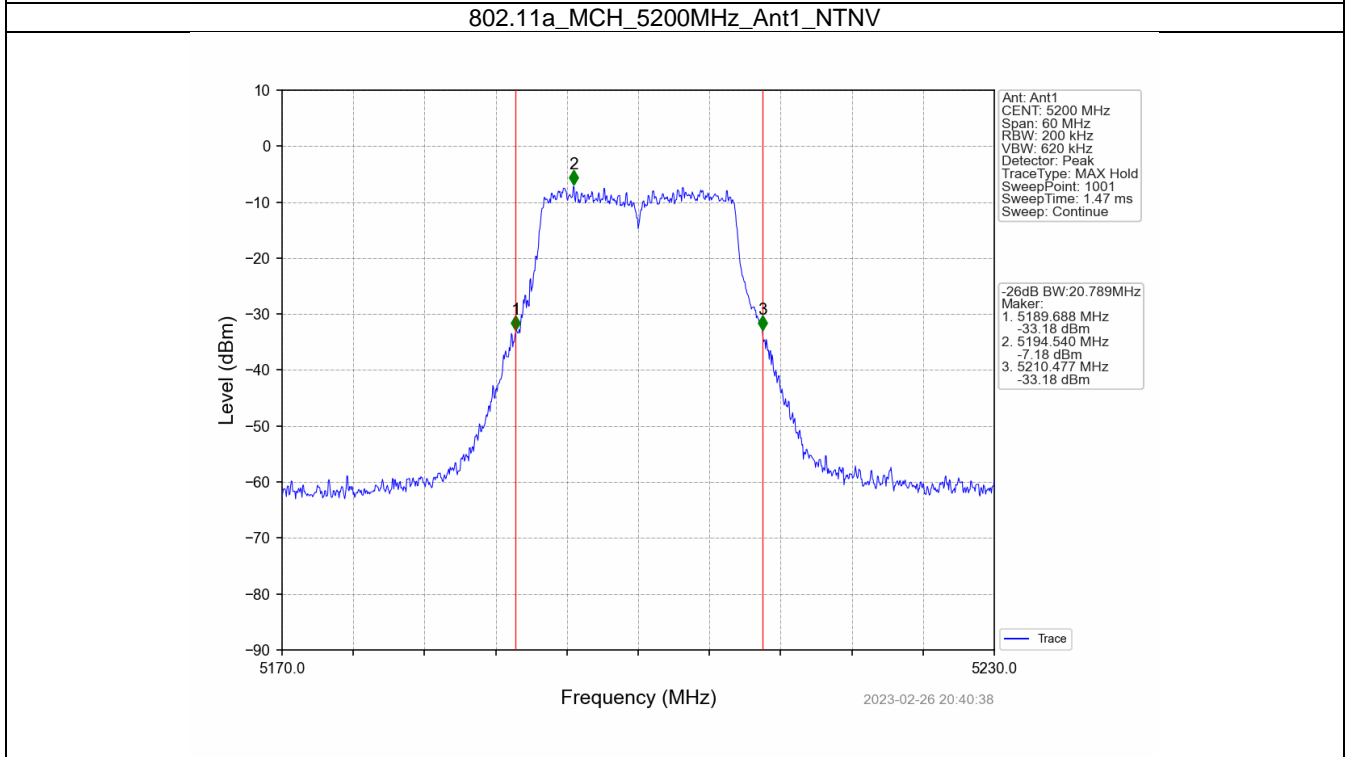
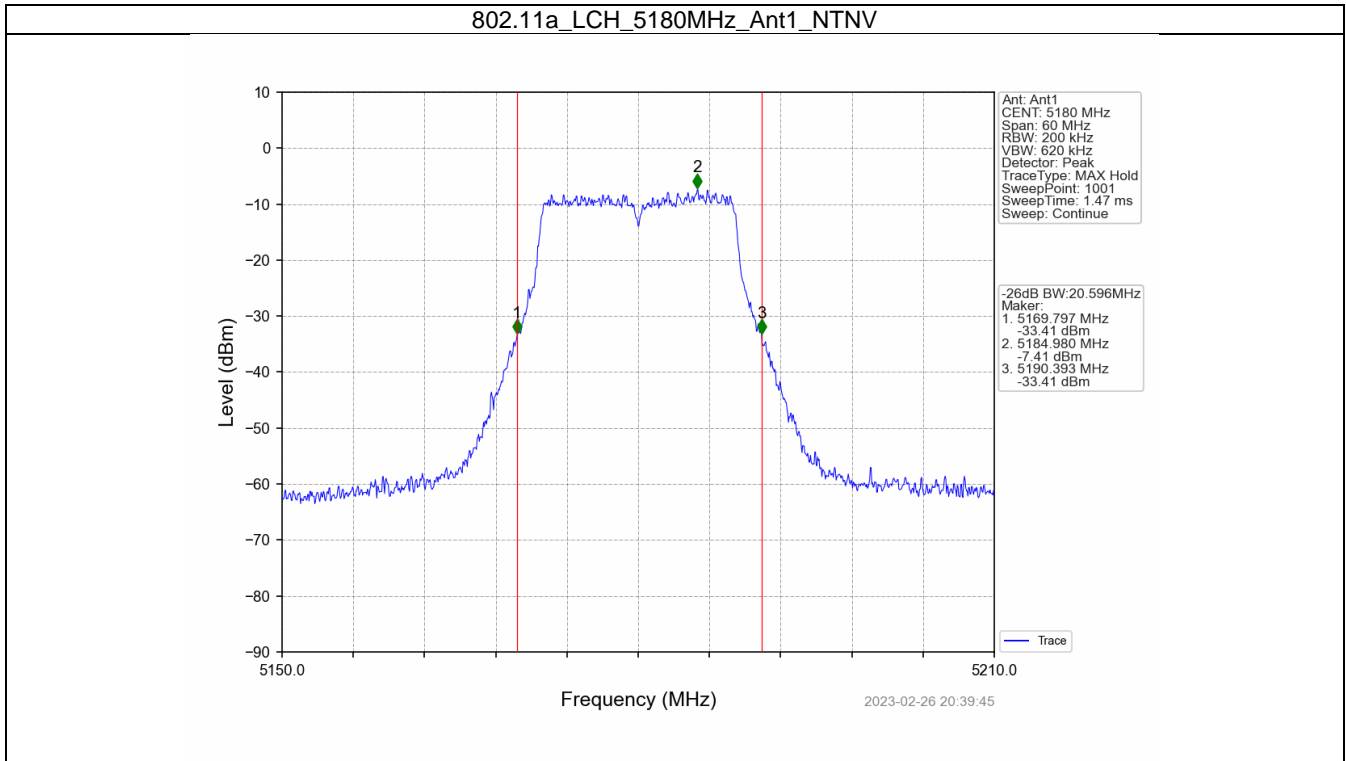


1.2 26dB BW

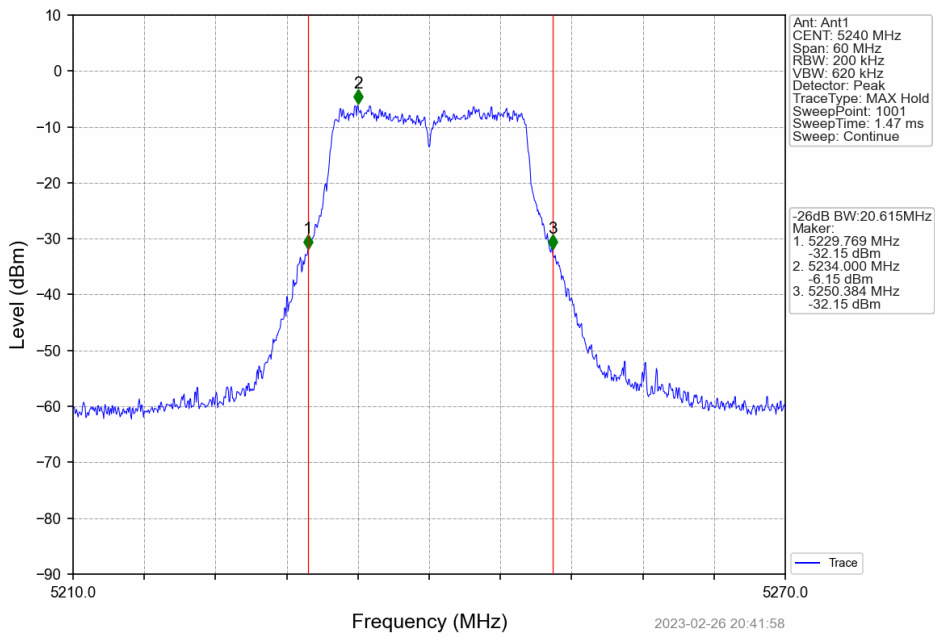
1.2.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	26dB Bandwidth (MHz)	Verdict
				Result	
802.11a	SISO	5180	1	20.596	Pass
		5200	1	20.789	Pass
		5240	1	20.615	Pass
802.11n (HT20)	SISO	5180	1	21.158	Pass
		5200	1	21.357	Pass
		5240	1	21.122	Pass
802.11n (HT40)	SISO	5190	1	42.198	Pass
		5230	1	41.723	Pass
802.11ac (VHT20)	SISO	5180	1	20.845	Pass
		5200	1	20.895	Pass
		5240	1	20.950	Pass
802.11ac (VHT40)	SISO	5190	1	41.775	Pass
		5230	1	41.225	Pass
802.11ac (VHT80)	SISO	5210	1	82.001	Pass

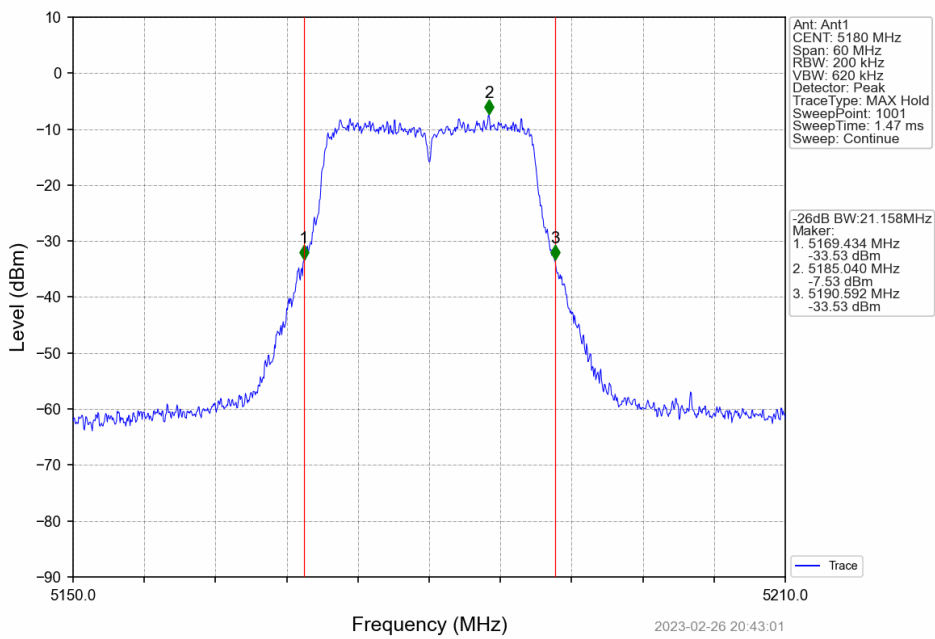
1.2.2 Test Graph



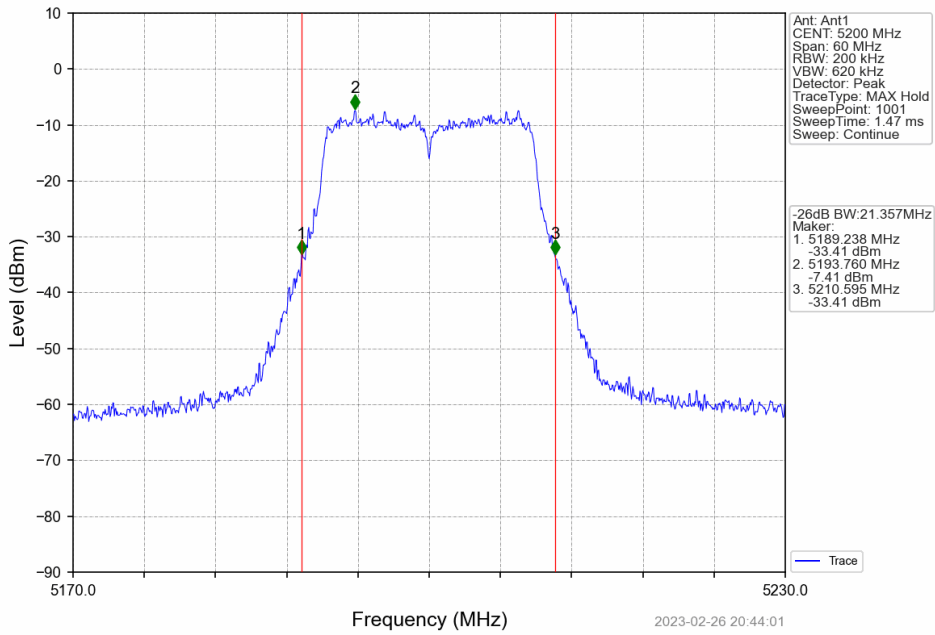
802.11a_HCH_5240MHz_Ant1_NTNV



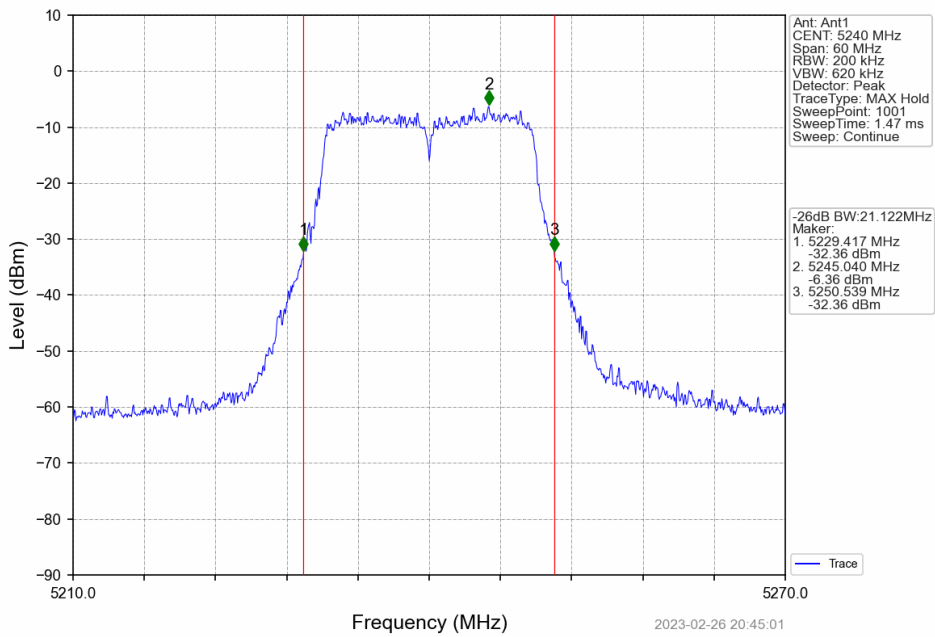
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



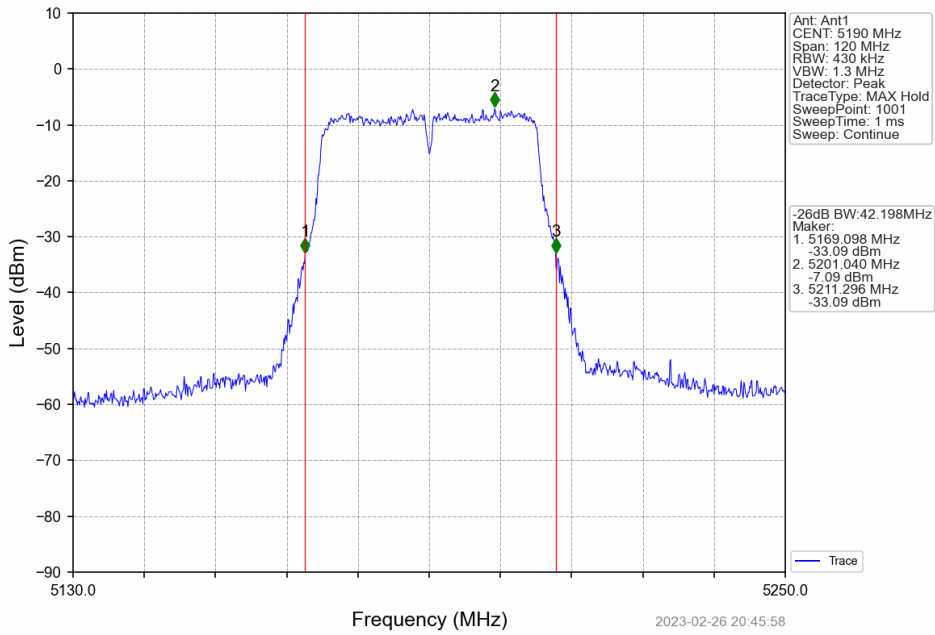
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



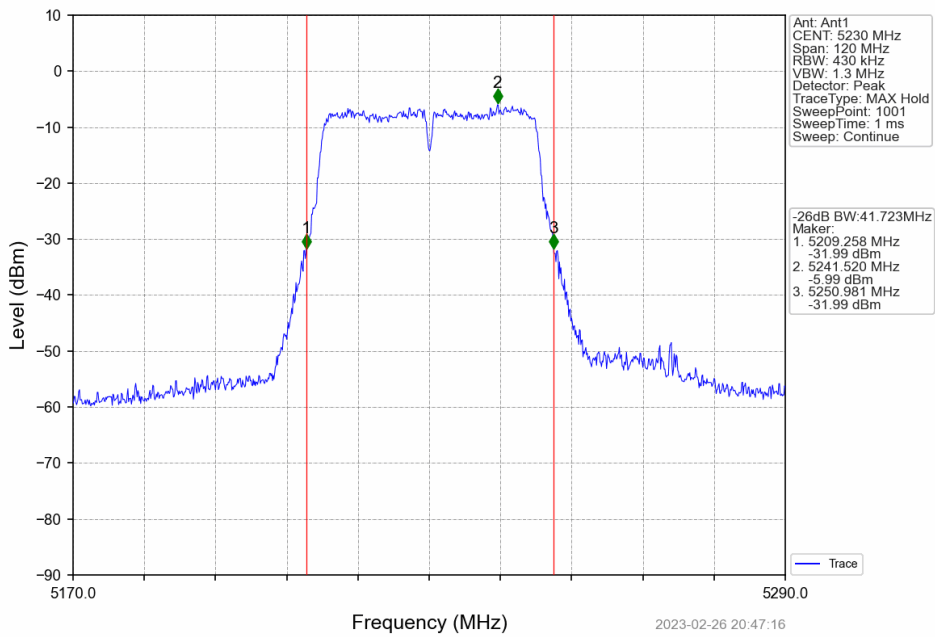
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



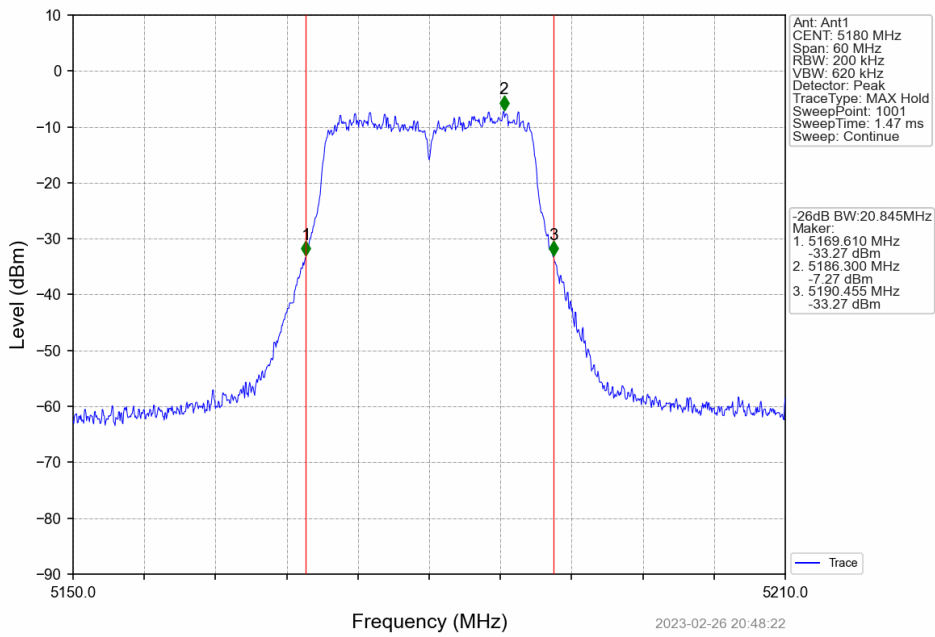
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



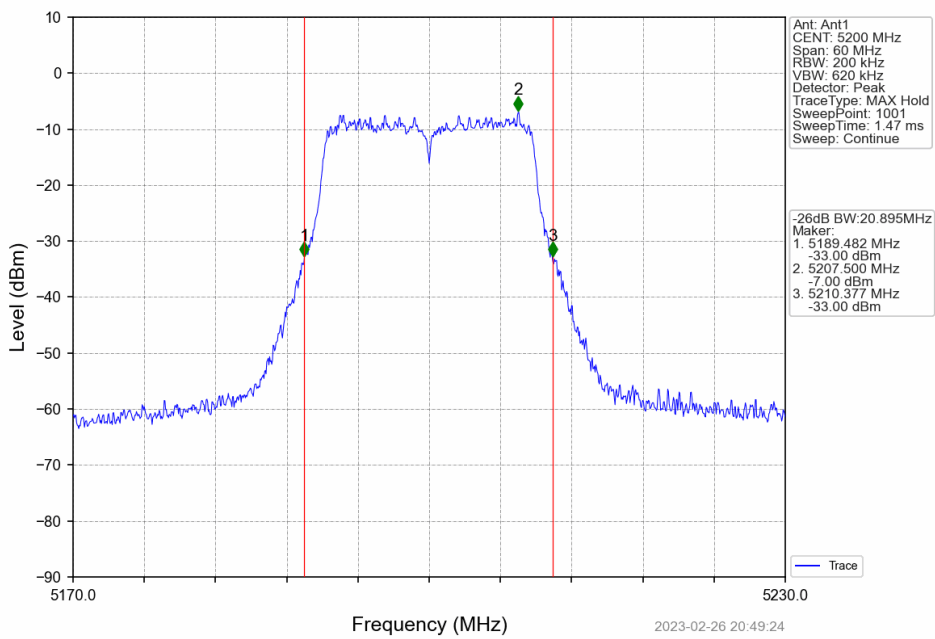
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



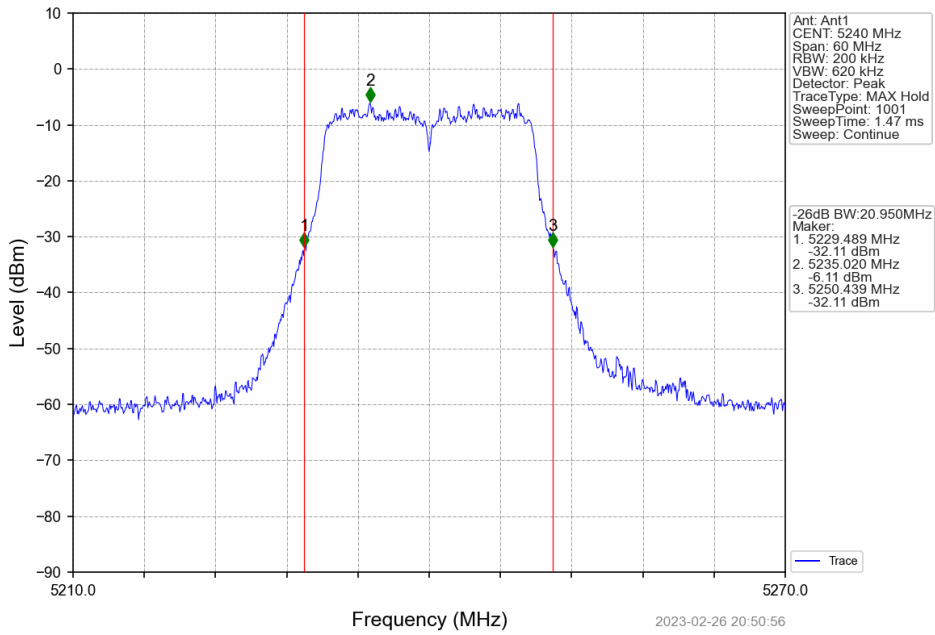
802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



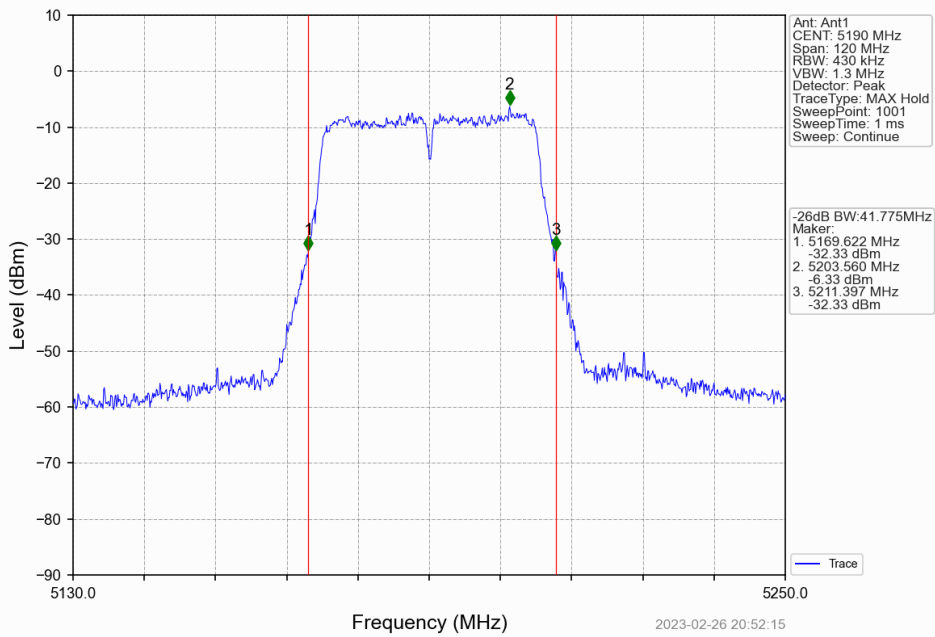
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



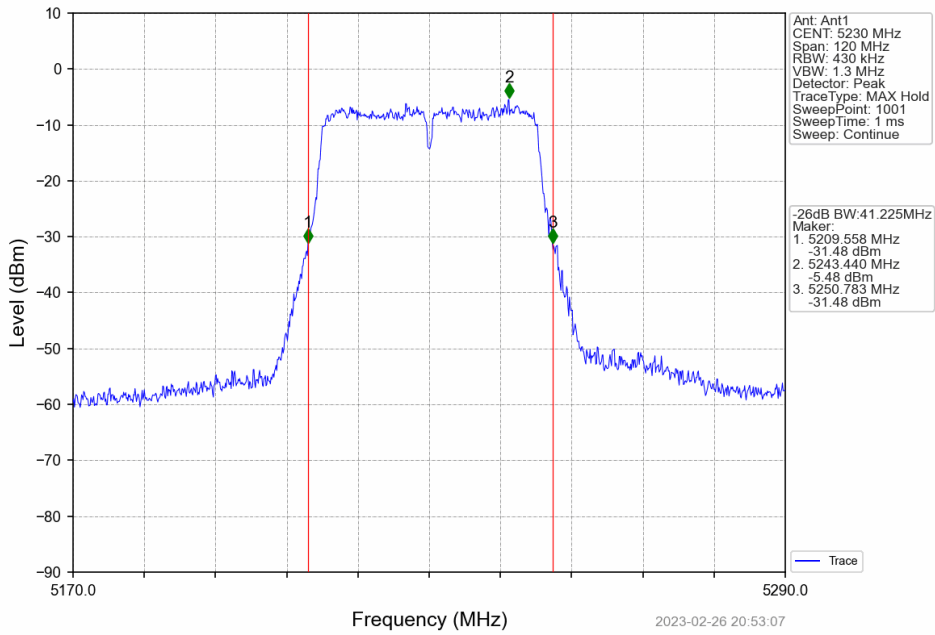
802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



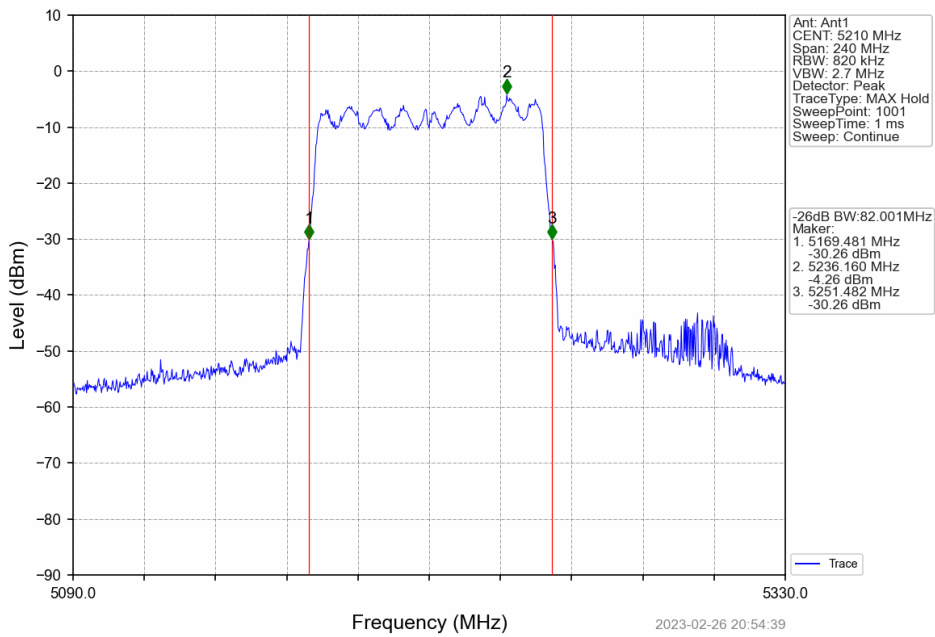
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV



802.11ac(VHT80)_MCH_5210MHz_Ant1_NTNV



2. Maximum Conducted Output Power

2.1 Power

2.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)					Verdict
			AVG Conducted Power (dBm)	Limit	Duty Cycle Factor(dB)	EIRP	Limit	
802.11a	SISO	5180	9.81	<=23.98	0.00	14.06	<=23.01	Pass
		5200	10.33	<=23.98	0.00	14.58	<=23.01	Pass
		5240	11.07	<=23.98	0.00	15.32	<=23.01	Pass
802.11n (HT20)	SISO	5180	9.83	<=23.98	0.00	14.08	<=23.01	Pass
		5200	10.34	<=23.98	0.00	14.59	<=23.01	Pass
		5240	11.14	<=23.98	0.00	15.39	<=23.01	Pass
802.11n (HT40)	SISO	5190	10.75	<=23.98	0.00	15.00	<=23.01	Pass
		5230	11.72	<=23.98	0.00	15.97	<=23.01	Pass
802.11ac (VHT20)	SISO	5180	9.57	<=23.98	0.00	13.82	<=23.01	Pass
		5200	10.08	<=23.98	0.00	14.33	<=23.01	Pass
		5240	10.84	<=23.98	0.00	15.09	<=23.01	Pass
802.11ac (VHT40)	SISO	5190	10.69	<=23.98	0.00	14.94	<=23.01	Pass
		5230	11.93	<=23.98	0.00	16.18	<=23.01	Pass
802.11ac (VHT80)	SISO	5210	12.18	<=23.98	0.00	16.43	<=23.01	Pass

Note1: Antenna Gain: Ant1: 4.25dBi;
 Note2: The Duty Cycle Factor and RBW Factor is compensated in the result;.

3. Maximum Power Spectral Density

3.1 PSD

3.1.1 Test Result

Only for FCC Review

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/MHz)				Verdict
			Report Power Density [dBm/3KHz]	Duty Cycle Factor(dB)	Report Power Density [dBm/3KHz]	Limit	
802.11a	SISO	5180	-6.35	0.00	-6.35	<=11	Pass
		5200	-6.33	0.00	-6.33	<=11	Pass
		5240	-6.65	0.00	-6.65	<=11	Pass
802.11n (HT20)	SISO	5180	-6.59	0.00	-6.59	<=11	Pass
		5200	-6.46	0.00	-6.46	<=11	Pass
		5240	-6.66	0.00	-6.66	<=11	Pass
802.11n (HT40)	SISO	5190	-9.38	0.00	-9.38	<=11	Pass
		5230	-9.24	0.00	-9.24	<=11	Pass
802.11ac (VHT20)	SISO	5180	-6.57	0.00	-6.57	<=11	Pass
		5200	-6.36	0.00	-6.36	<=11	Pass
		5240	-6.63	0.00	-6.63	<=11	Pass
802.11ac (VHT40)	SISO	5190	-9.02	0.00	-9.02	<=11	Pass
		5230	-8.91	0.00	-8.91	<=11	Pass
802.11ac (VHT80)	SISO	5210	-11.53	0.00	-11.53	<=11	Pass

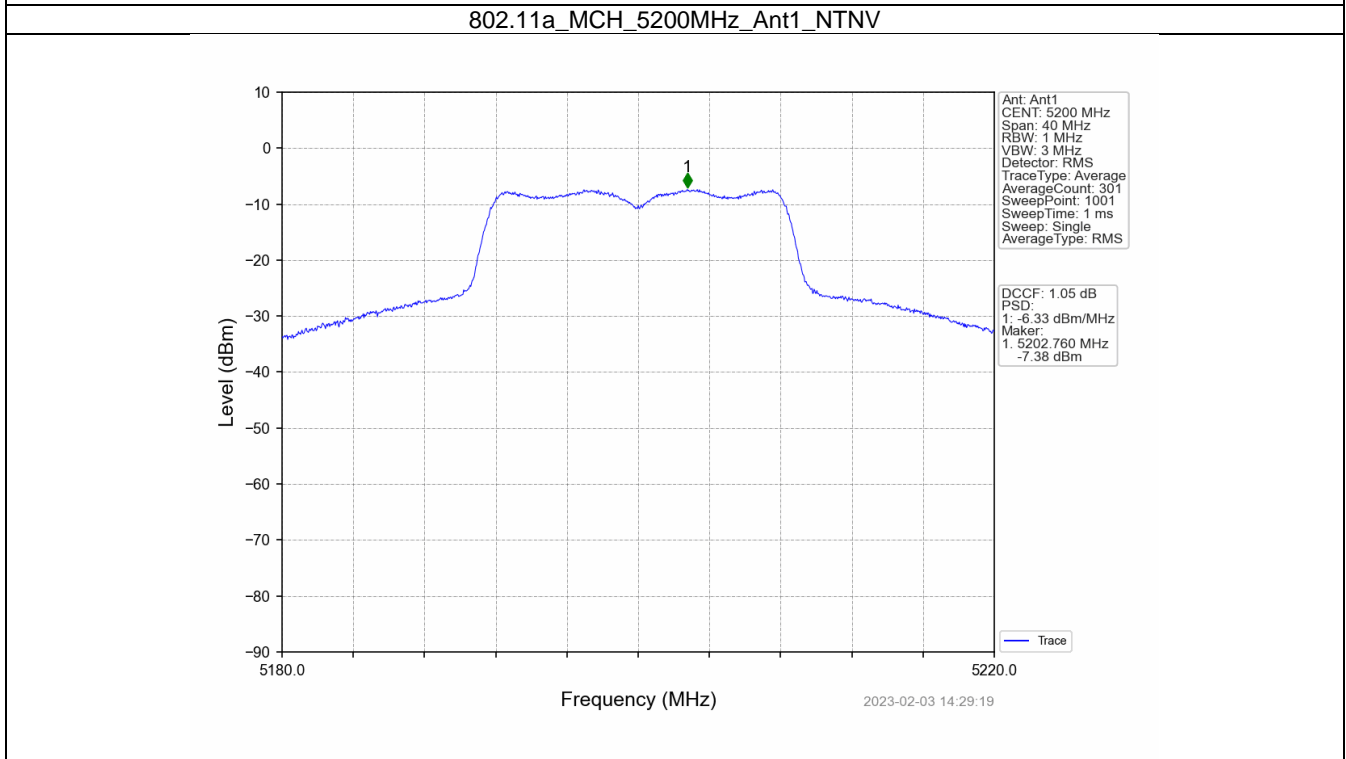
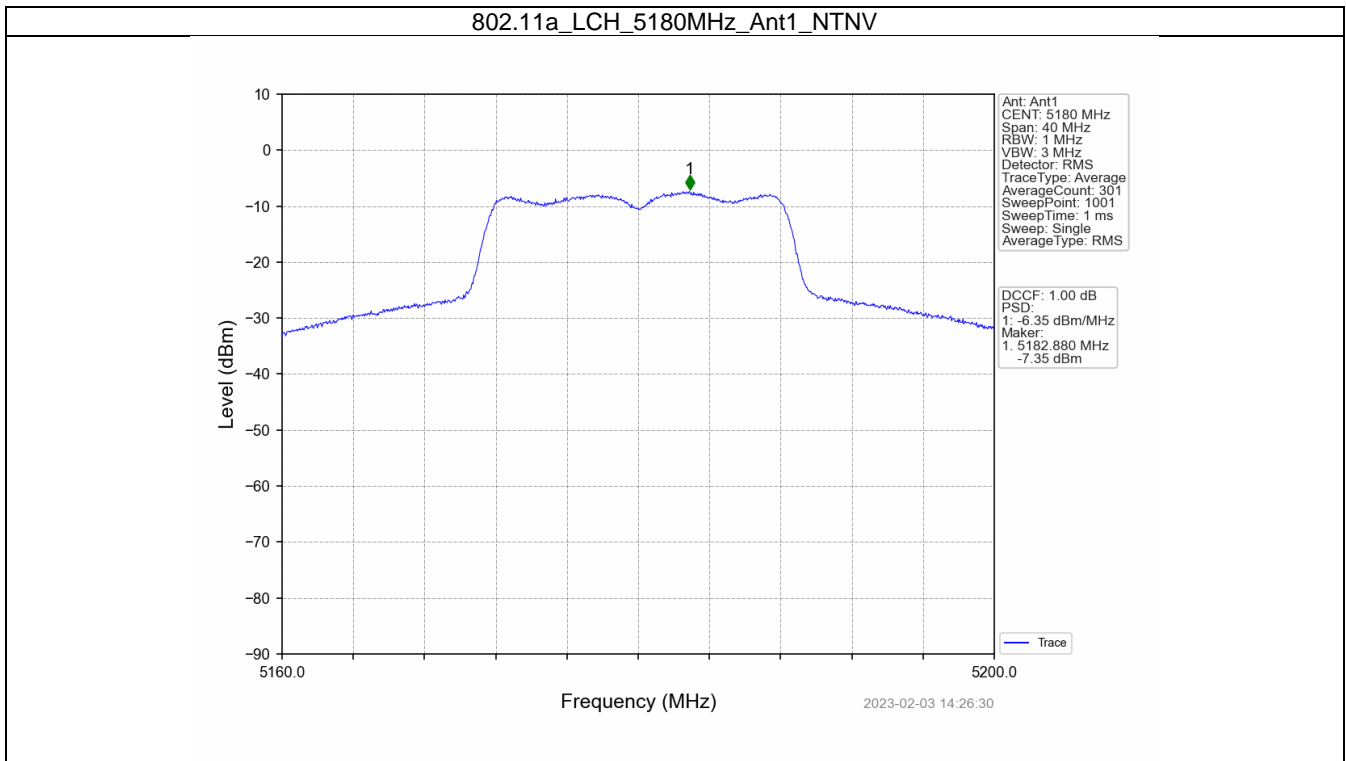
Note1: Antenna Gain: Ant1: 4.25dBi;
 Note2: The Duty Cycle Factor and RBW Factor is compensated in the graph.

Only for ISED Review

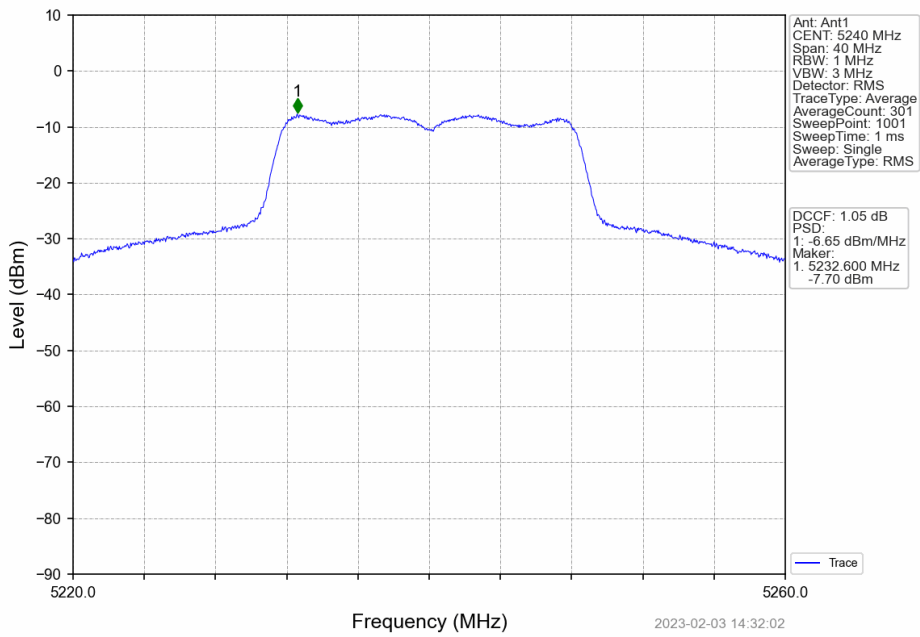
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/MHz)					Verdict
			Report Power Density [dBm/3KHz]	Antenna Gain (dBi)	Duty Cycle Factor(dB)	Report Power Density [dBm/3KHz]	Limit	
802.11a	SISO	5180	-6.35	4.25	0.00	-2.1	<=10	Pass
		5200	-6.33	4.25	0.00	-2.08	<=10	Pass
		5240	-6.65	4.25	0.00	-2.4	<=10	Pass
802.11n (HT20)	SISO	5180	-6.59	4.25	0.00	-2.34	<=10	Pass
		5200	-6.46	4.25	0.00	-2.21	<=10	Pass
		5240	-6.66	4.25	0.00	-2.41	<=10	Pass
802.11n (HT40)	SISO	5190	-9.38	4.25	0.00	-5.13	<=10	Pass
		5230	-9.24	4.25	0.00	-4.99	<=10	Pass
802.11ac (VHT20)	SISO	5180	-6.57	4.25	0.00	-2.32	<=10	Pass
		5200	-6.36	4.25	0.00	-2.11	<=10	Pass
		5240	-6.63	4.25	0.00	-2.38	<=10	Pass
802.11ac (VHT40)	SISO	5190	-9.02	4.25	0.00	-4.77	<=10	Pass
		5230	-8.91	4.25	0.00	-4.66	<=10	Pass
802.11ac (VHT80)	SISO	5210	-11.53	4.25	0.00	-7.28	<=10	Pass

Note1: Antenna Gain: Ant1: 4.25dBi;
 Note2: The Duty Cycle Factor and RBW Factor is compensated in the graph.

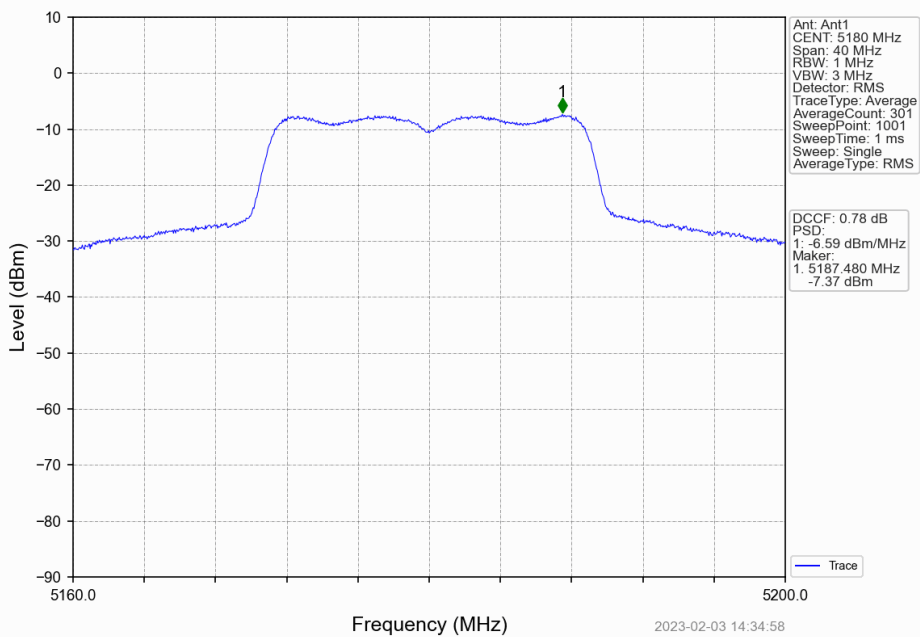
3.1.2 Test Graph



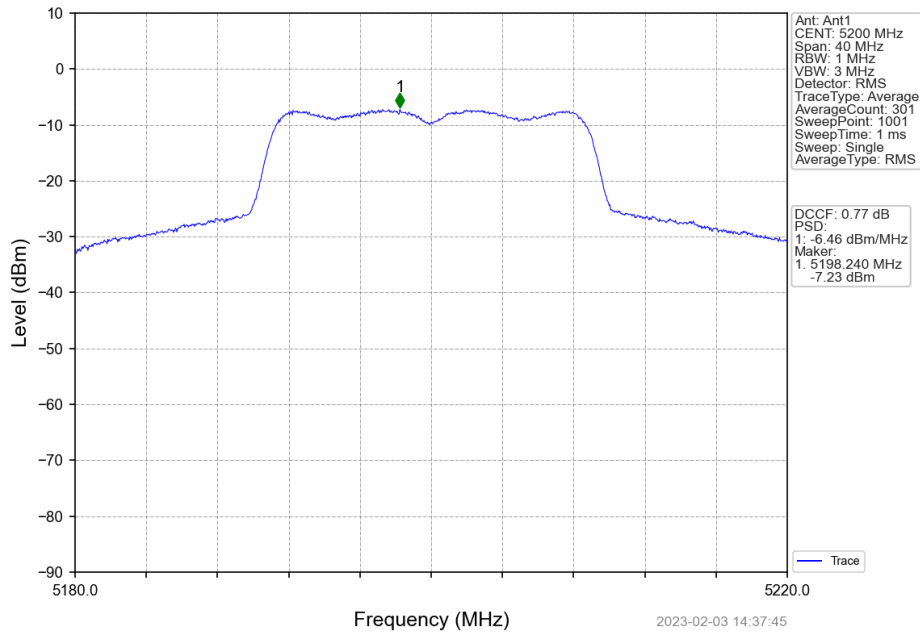
802.11a_HCH_5240MHz_Ant1_NTNV



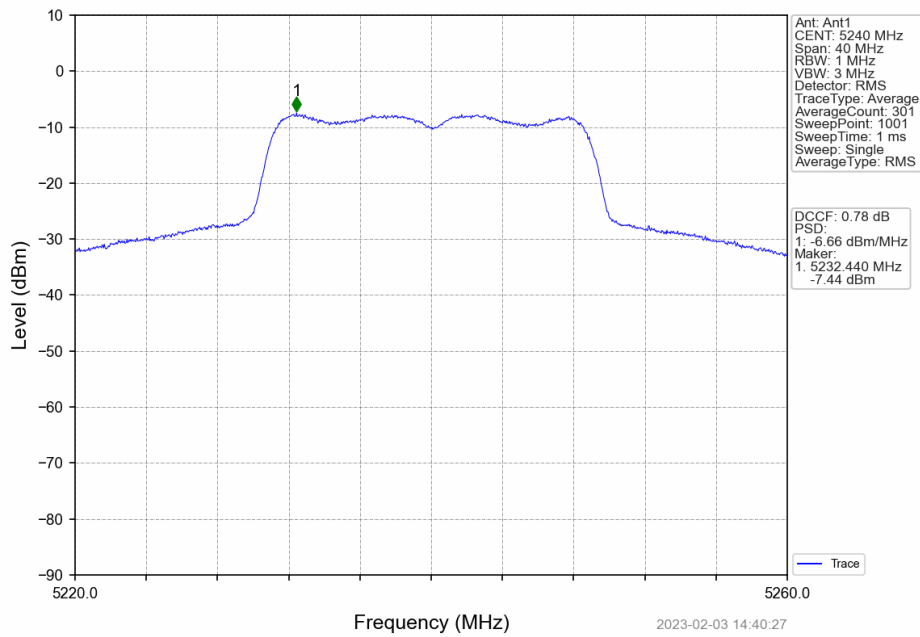
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



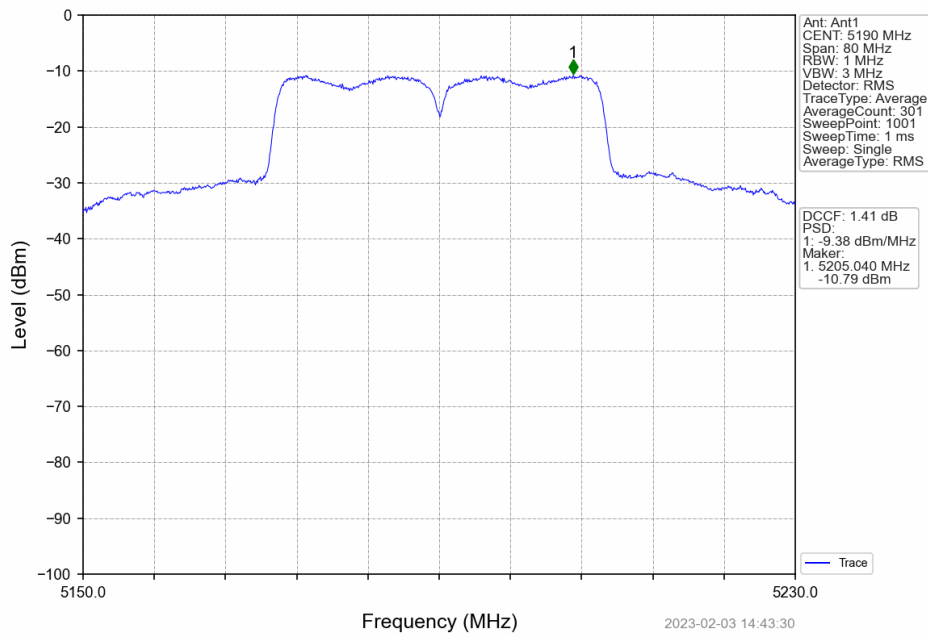
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



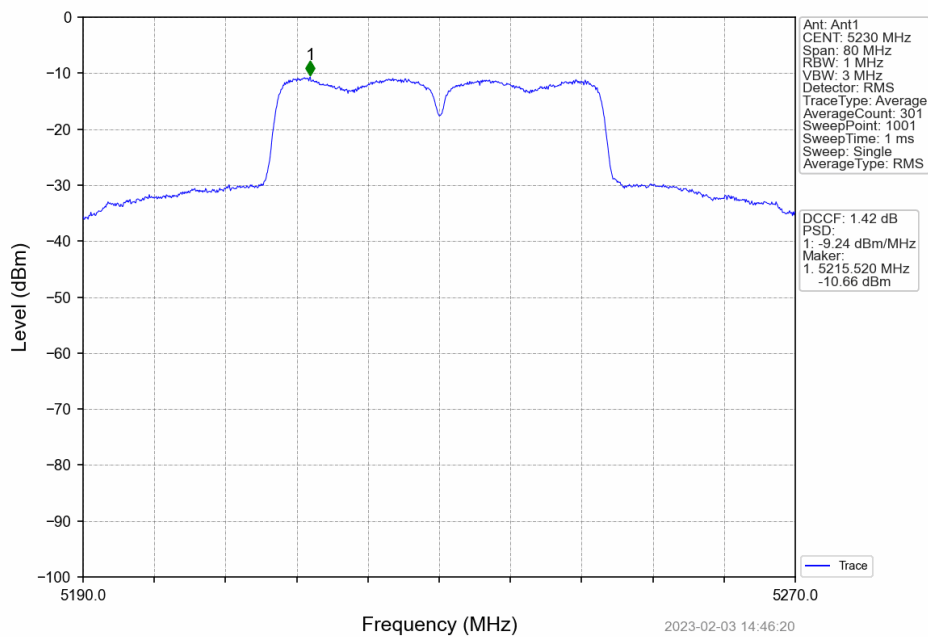
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



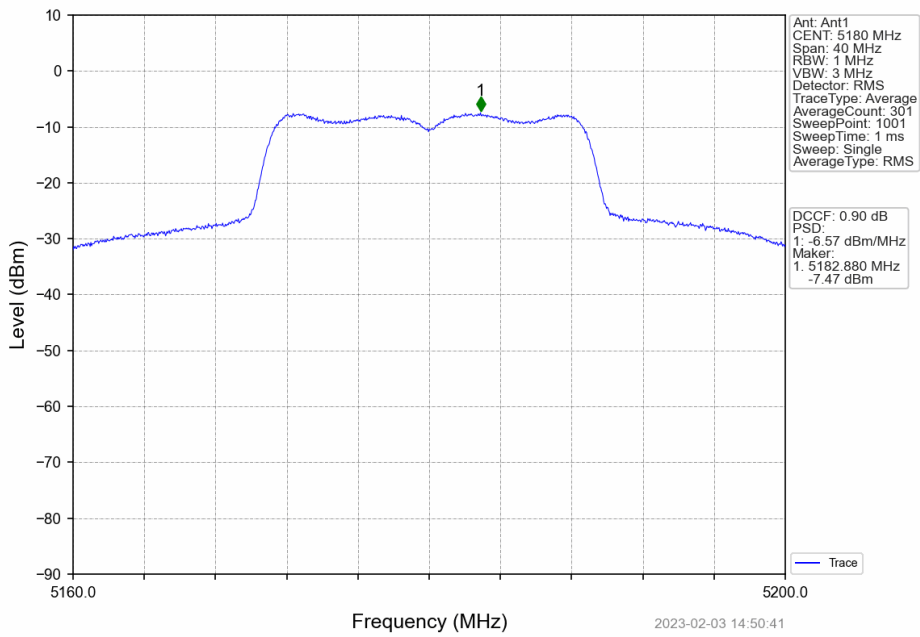
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



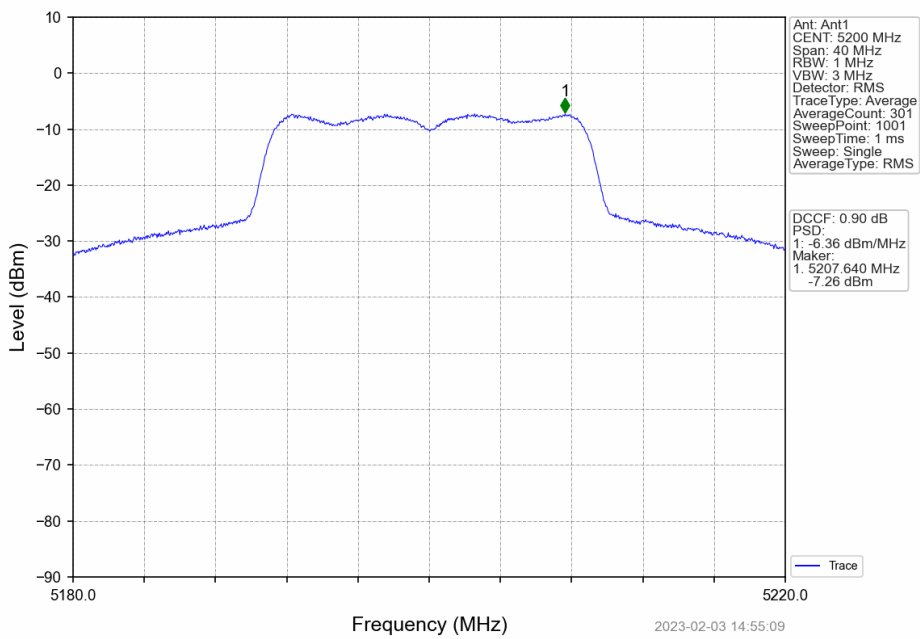
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



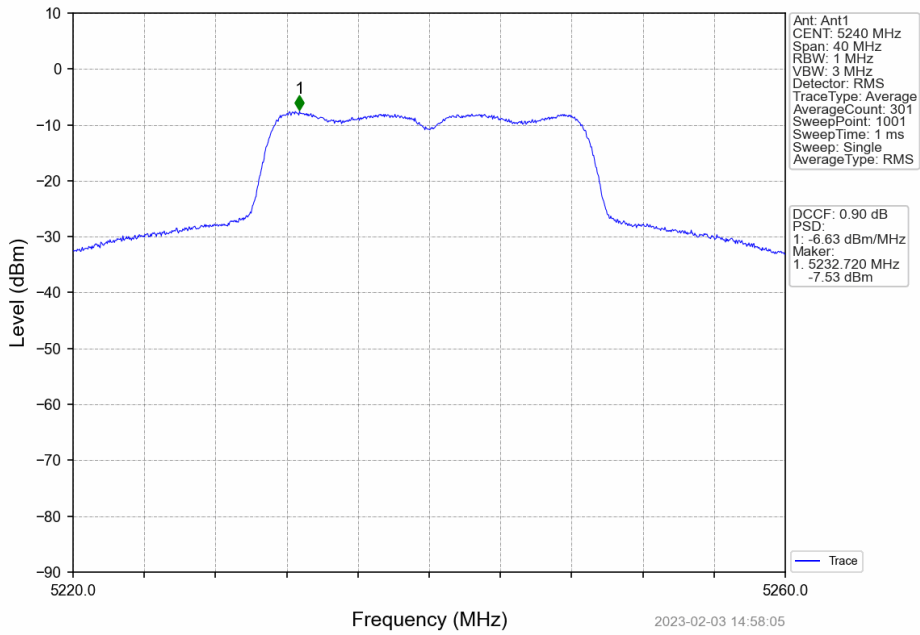
802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



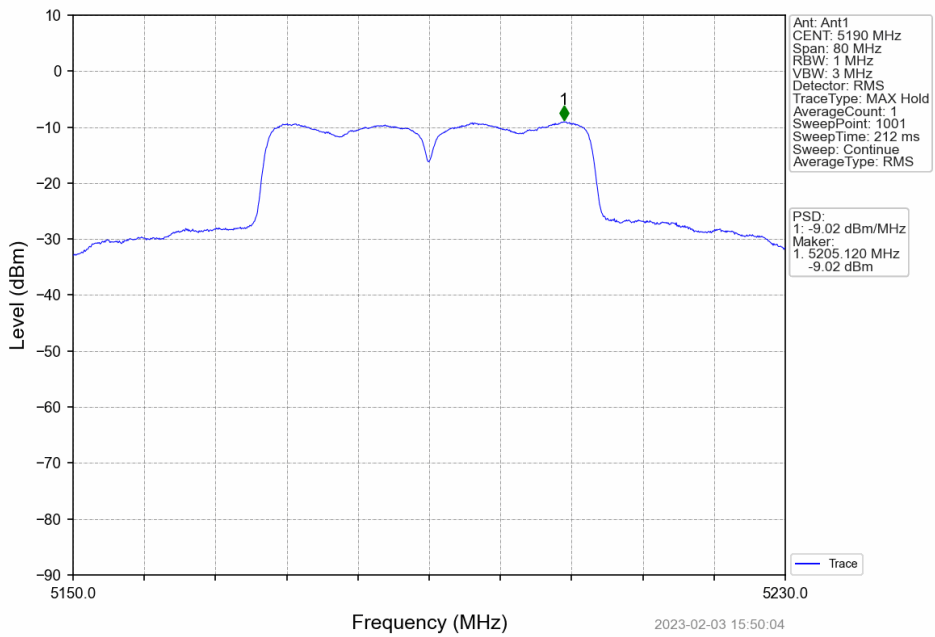
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



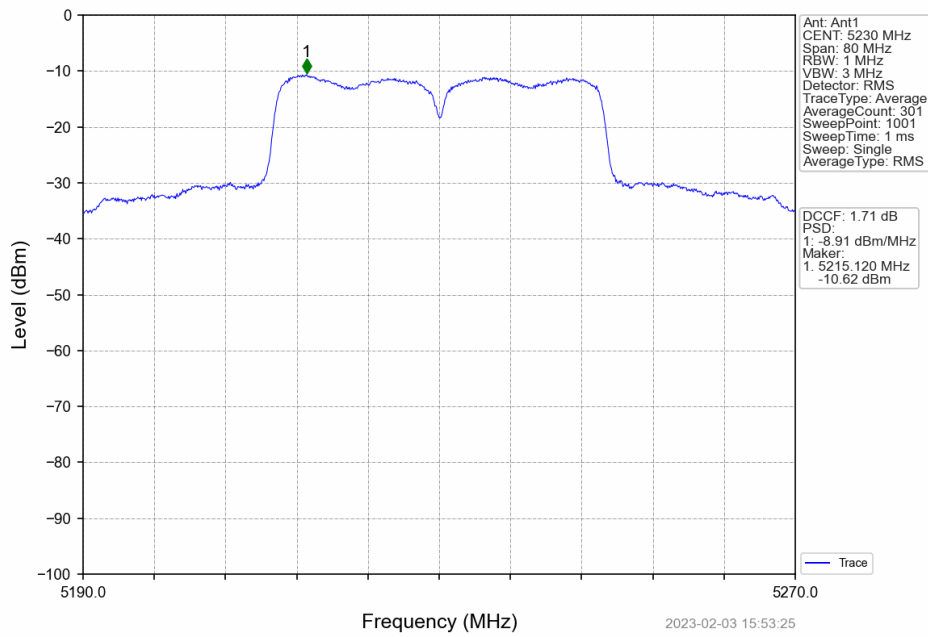
802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



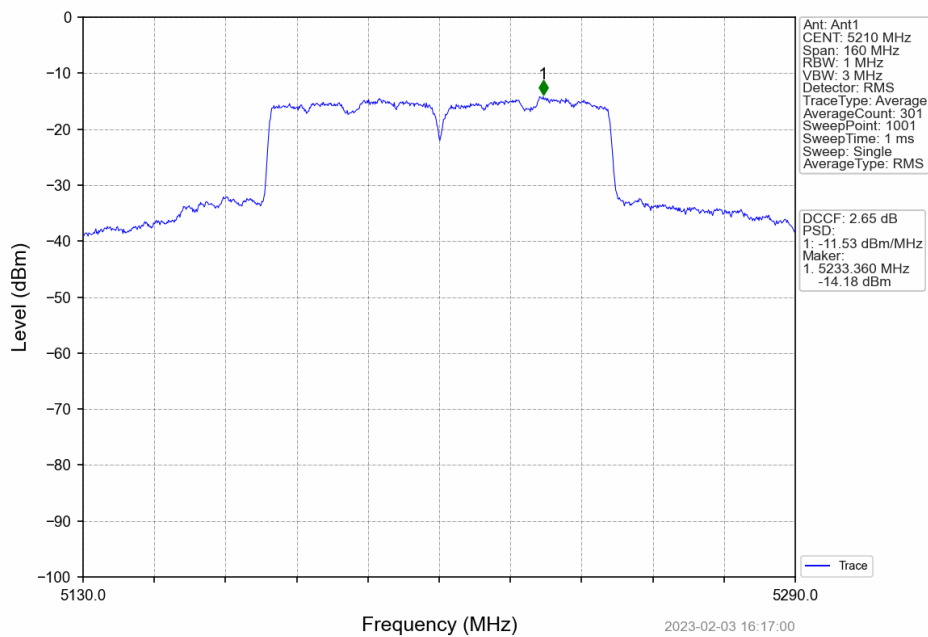
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV



802.11ac(VHT80)_MCH_5210MHz_Ant1_NTNV



4. Frequency Stability

4.1 Ant1

4.1.1 Test Result

Ant1								
Mode	TX Type	Frequency (MHz)	Temperature (°C)	Voltage (VAC)	Measured Frequency (MHz)	Limit (MHz)	Verdict	
802.11a	SISO	5180	20	102	5180.020	5150 to 5250	Pass	
				120	5180.020	5150 to 5250	Pass	
				138	5180.020	5150 to 5250	Pass	
			-30	120	5180.000	5150 to 5250	Pass	
				-20	120	5180.000	5150 to 5250	Pass
					120	5180.020	5150 to 5250	Pass
			0	120	5180.020	5150 to 5250	Pass	
				10	120	5180.020	5150 to 5250	Pass
			30	120	5180.040	5150 to 5250	Pass	
		40	120	5180.020	5150 to 5250	Pass		
		85	120	5180.040	5150 to 5250	Pass		
		5200	20	102	5200.060	5150 to 5250	Pass	
				120	5200.020	5150 to 5250	Pass	
				138	5199.980	5150 to 5250	Pass	
			-30	120	5200.060	5150 to 5250	Pass	
				-20	120	5200.060	5150 to 5250	Pass
					120	5200.040	5150 to 5250	Pass
			0	120	5200.020	5150 to 5250	Pass	
				10	120	5199.980	5150 to 5250	Pass
			30	120	5200.000	5150 to 5250	Pass	
		40	120	5200.000	5150 to 5250	Pass		
		85	120	5200.060	5150 to 5250	Pass		
		5240	20	102	5239.960	5150 to 5250	Pass	
				120	5239.980	5150 to 5250	Pass	
				138	5239.940	5150 to 5250	Pass	
			-30	120	5239.960	5150 to 5250	Pass	
				-20	120	5239.940	5150 to 5250	Pass
					120	5239.940	5150 to 5250	Pass
			0	120	5239.980	5150 to 5250	Pass	
				10	120	5239.940	5150 to 5250	Pass
30	120		5240.000	5150 to 5250	Pass			
40	120	5239.980	5150 to 5250	Pass				
85	120	5240.000	5150 to 5250	Pass				
802.11n (HT20)	SISO	5180	20	102	5180.000	5150 to 5250	Pass	
				120	5179.960	5150 to 5250	Pass	
				138	5180.000	5150 to 5250	Pass	
			-30	120	5180.040	5150 to 5250	Pass	
				-20	120	5180.000	5150 to 5250	Pass
					120	5180.000	5150 to 5250	Pass
			0	120	5179.980	5150 to 5250	Pass	
				10	120	5180.000	5150 to 5250	Pass
			30	120	5180.000	5150 to 5250	Pass	
		40	120	5179.980	5150 to 5250	Pass		
		85	120	5179.980	5150 to 5250	Pass		
		5200	20	102	5200.000	5150 to 5250	Pass	
				120	5200.020	5150 to 5250	Pass	
				138	5199.980	5150 to 5250	Pass	
			-30	120	5200.000	5150 to 5250	Pass	
120	5200.020			5150 to 5250	Pass			

			-10	120	5199.980	5150 to 5250	Pass
			0	120	5200.040	5150 to 5250	Pass
			10	120	5200.000	5150 to 5250	Pass
			30	120	5200.000	5150 to 5250	Pass
			40	120	5200.000	5150 to 5250	Pass
		85	120	5200.000	5150 to 5250	Pass	
		5240	20	102	5240.000	5150 to 5250	Pass
				120	5239.960	5150 to 5250	Pass
				138	5239.980	5150 to 5250	Pass
			-30	120	5240.000	5150 to 5250	Pass
			-20	120	5239.940	5150 to 5250	Pass
			-10	120	5240.000	5150 to 5250	Pass
			0	120	5239.980	5150 to 5250	Pass
			10	120	5239.940	5150 to 5250	Pass
			30	120	5239.960	5150 to 5250	Pass
40	120		5239.960	5150 to 5250	Pass		
85	120	5239.960	5150 to 5250	Pass			
802.11n (HT40)	SISO	5190	20	102	5190.080	5150 to 5250	Pass
				120	5190.040	5150 to 5250	Pass
				138	5190.040	5150 to 5250	Pass
			-30	120	5190.120	5150 to 5250	Pass
			-20	120	5190.080	5150 to 5250	Pass
			-10	120	5190.120	5150 to 5250	Pass
			0	120	5190.120	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	
		85	120	5190.080	5150 to 5250	Pass	
		5230	20	102	5230.040	5150 to 5250	Pass
				120	5230.000	5150 to 5250	Pass
				138	5230.120	5150 to 5250	Pass
			-30	120	5230.080	5150 to 5250	Pass
-20	120		5230.000	5150 to 5250	Pass		
-10	120		5230.040	5150 to 5250	Pass		
0	120	5230.040	5150 to 5250	Pass			
10	120	5230.080	5150 to 5250	Pass			
30	120	5230.040	5150 to 5250	Pass			
40	120	5230.000	5150 to 5250	Pass			
85	120	5230.080	5150 to 5250	Pass			
802.11ac (VHT20)	SISO	5180	20	102	5180.000	5150 to 5250	Pass
				120	5180.060	5150 to 5250	Pass
				138	5180.040	5150 to 5250	Pass
			-30	120	5180.080	5150 to 5250	Pass
			-20	120	5180.040	5150 to 5250	Pass
			-10	120	5180.000	5150 to 5250	Pass
			0	120	5180.040	5150 to 5250	Pass
			10	120	5180.000	5150 to 5250	Pass
			30	120	5179.980	5150 to 5250	Pass
		40	120	5180.020	5150 to 5250	Pass	
		85	120	5179.960	5150 to 5250	Pass	
		5200	20	102	5200.000	5150 to 5250	Pass
				120	5200.020	5150 to 5250	Pass
				138	5200.040	5150 to 5250	Pass
			-30	120	5199.980	5150 to 5250	Pass
-20	120		5199.980	5150 to 5250	Pass		
-10	120		5199.960	5150 to 5250	Pass		
0	120	5200.000	5150 to 5250	Pass			
10	120	5200.000	5150 to 5250	Pass			
30	120	5199.980	5150 to 5250	Pass			

		5240	40	120	5200.000	5150 to 5250	Pass
			85	120	5200.020	5150 to 5250	Pass
			20	102	5239.980	5150 to 5250	Pass
				120	5240.000	5150 to 5250	Pass
				138	5240.000	5150 to 5250	Pass
			-30	120	5239.980	5150 to 5250	Pass
			-20	120	5240.060	5150 to 5250	Pass
			-10	120	5240.000	5150 to 5250	Pass
			0	120	5239.940	5150 to 5250	Pass
			10	120	5240.000	5150 to 5250	Pass
			30	120	5240.060	5150 to 5250	Pass
			40	120	5239.960	5150 to 5250	Pass
			85	120	5240.000	5150 to 5250	Pass
			802.11ac (VHT40)	SISO	5190	20	102
120	5190.040	5150 to 5250					Pass
138	5189.960	5150 to 5250					Pass
-30	120	5190.000				5150 to 5250	Pass
-20	120	5190.000				5150 to 5250	Pass
-10	120	5190.000				5150 to 5250	Pass
0	120	5190.040				5150 to 5250	Pass
10	120	5190.040				5150 to 5250	Pass
30	120	5190.000				5150 to 5250	Pass
40	120	5190.040				5150 to 5250	Pass
85	120	5190.080			5150 to 5250	Pass	
5230	20	102			5230.040	5150 to 5250	Pass
		120			5230.000	5150 to 5250	Pass
		138			5230.040	5150 to 5250	Pass
	-30	120			5230.080	5150 to 5250	Pass
	-20	120			5230.040	5150 to 5250	Pass
	-10	120			5230.040	5150 to 5250	Pass
	0	120			5230.040	5150 to 5250	Pass
	10	120			5230.040	5150 to 5250	Pass
	30	120			5230.040	5150 to 5250	Pass
	40	120			5230.040	5150 to 5250	Pass
	85	120			5230.040	5150 to 5250	Pass
	802.11ac (VHT80)	SISO	5210	20	102	5210.075	5150 to 5250
120					5210.075	5150 to 5250	Pass
138					5210.000	5150 to 5250	Pass
-30				120	5210.075	5150 to 5250	Pass
-20				120	5210.000	5150 to 5250	Pass
-10				120	5210.075	5150 to 5250	Pass
0				120	5210.000	5150 to 5250	Pass
10				120	5210.075	5150 to 5250	Pass
30				120	5210.075	5150 to 5250	Pass
40				120	5210.075	5150 to 5250	Pass
85				120	5210.150	5150 to 5250	Pass