

Test Data for 5G_Band 2_WIFI

Product Name: Laser Projector

Test Model: PJ90

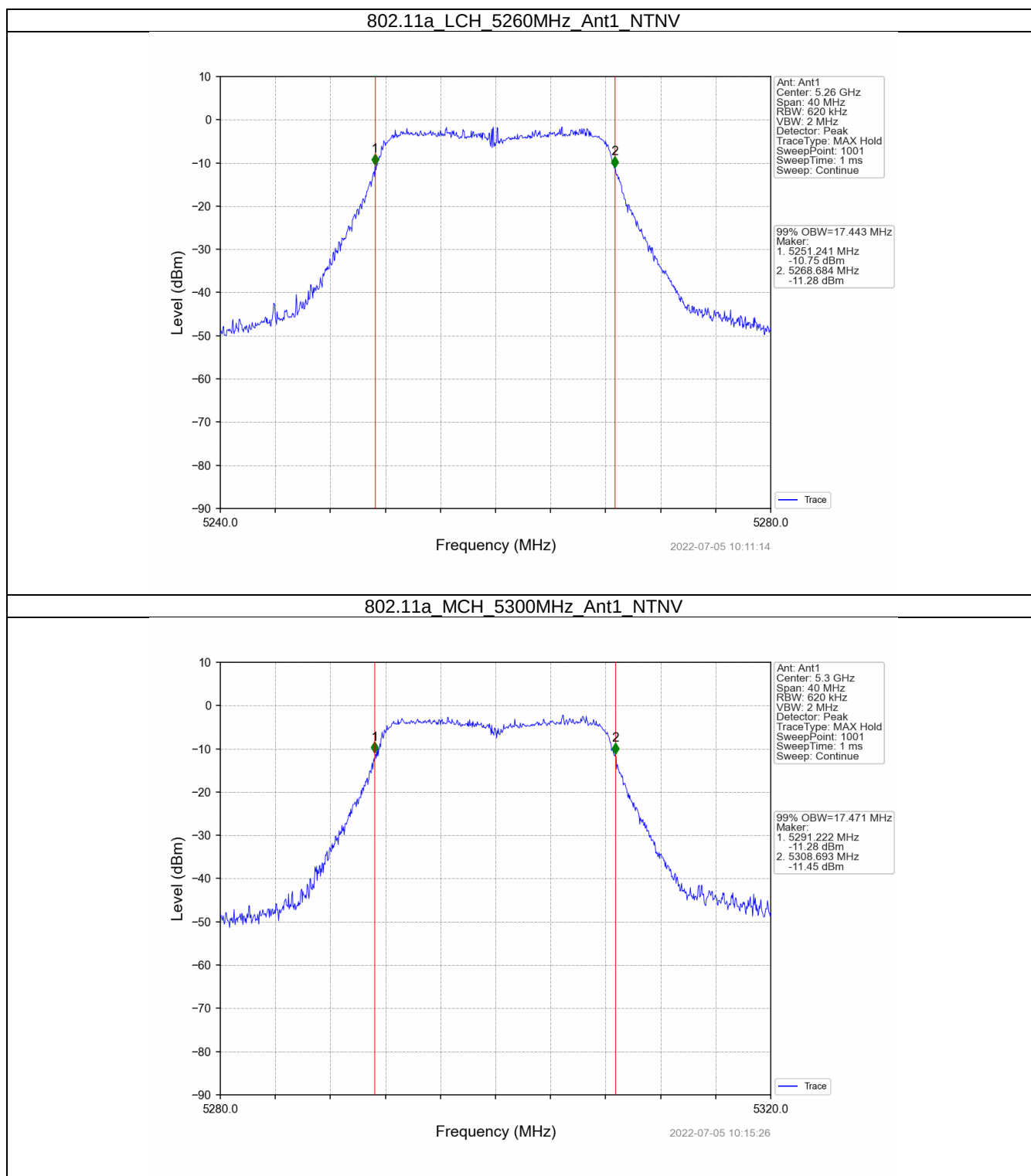
1. Bandwidth

1.1 OBW

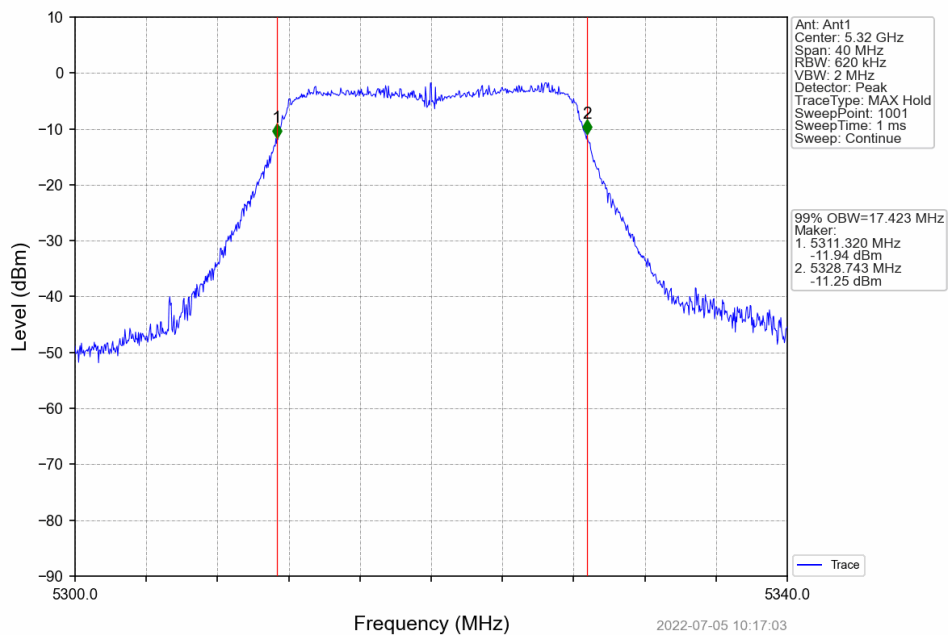
1.1.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)	Verdict
				Result	
802.11a	SISO	5260	1	17.443	Pass
		5300	1	17.471	Pass
		5320	1	17.423	Pass
802.11n (HT20)	SISO	5260	1	18.357	Pass
		5300	1	18.370	Pass
		5320	1	18.382	Pass
802.11n (HT40)	SISO	5270	1	36.661	Pass
		5310	1	36.842	Pass
802.11ac (VHT20)	SISO	5260	1	18.267	Pass
		5300	1	18.233	Pass
		5320	1	18.255	Pass
802.11ac (VHT40)	SISO	5270	1	36.716	Pass
		5310	1	36.778	Pass
802.11ac (VHT80)	SISO	5290	1	76.236	Pass

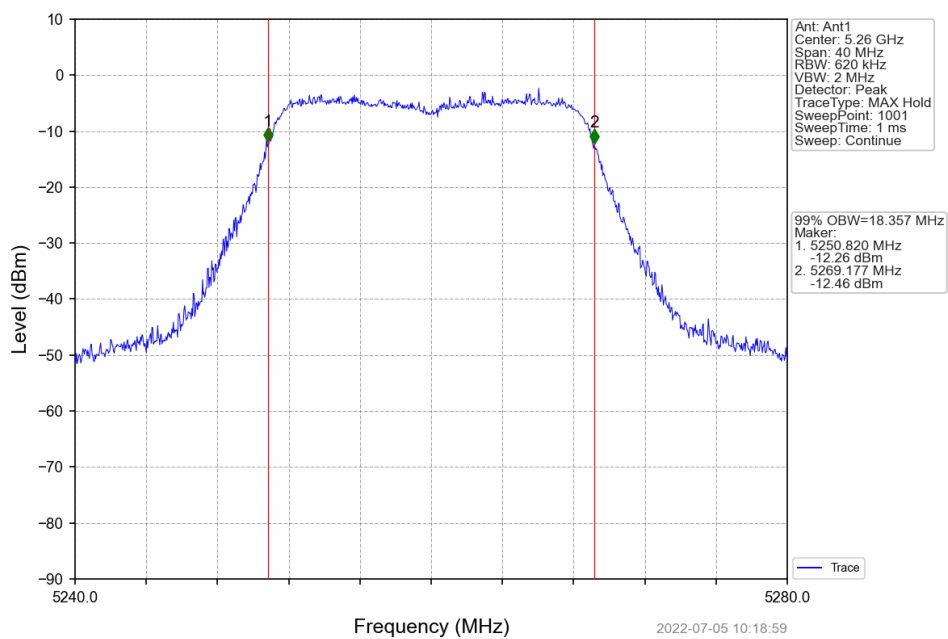
1.1.2 Test Graph



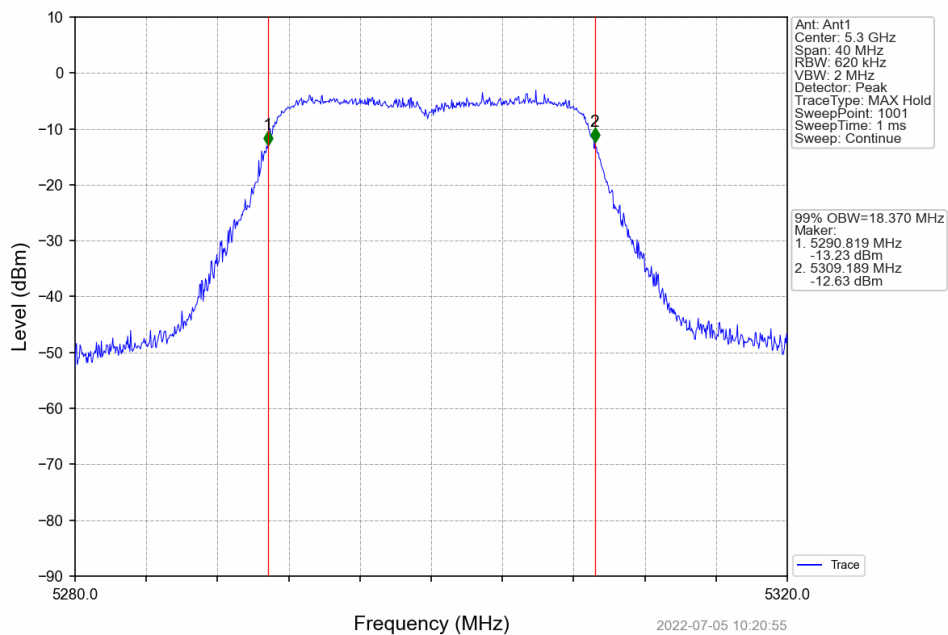
802.11a HCH 5320MHz Ant1 NTN



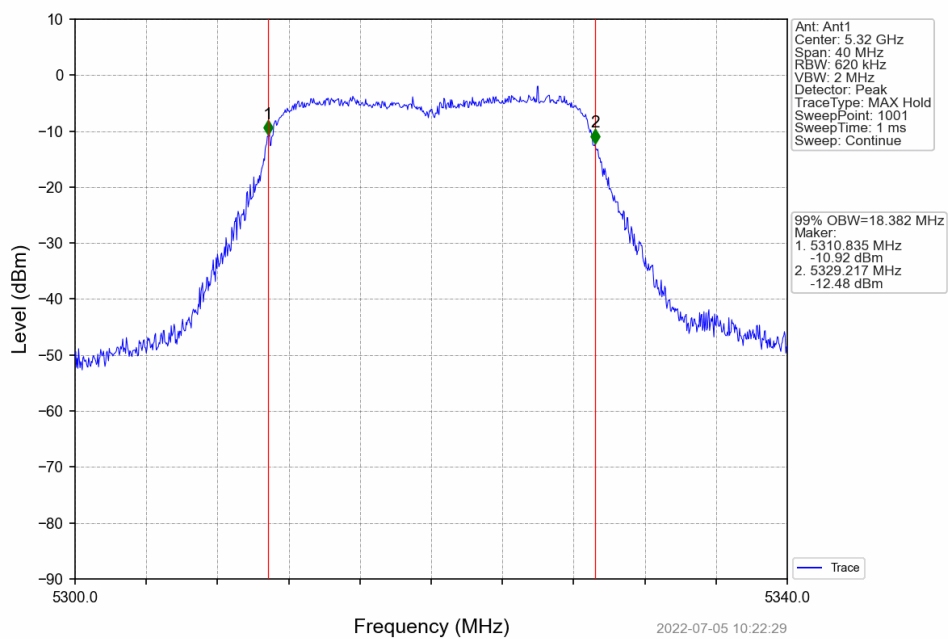
802.11n(HT20)_LCH_5260MHz_Ant1_NTN



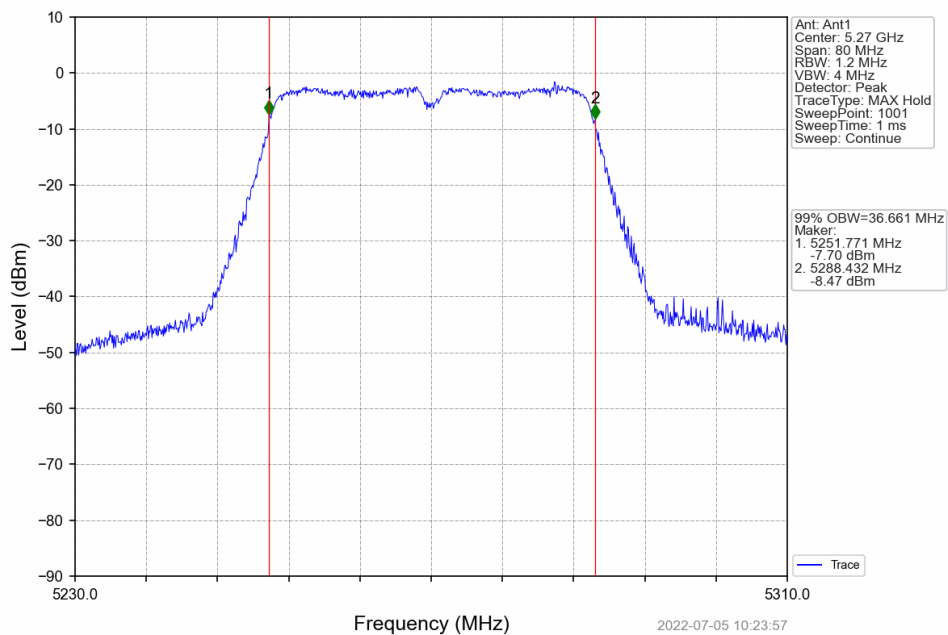
802.11n(HT20) MCH 5300MHz Ant1 NTN



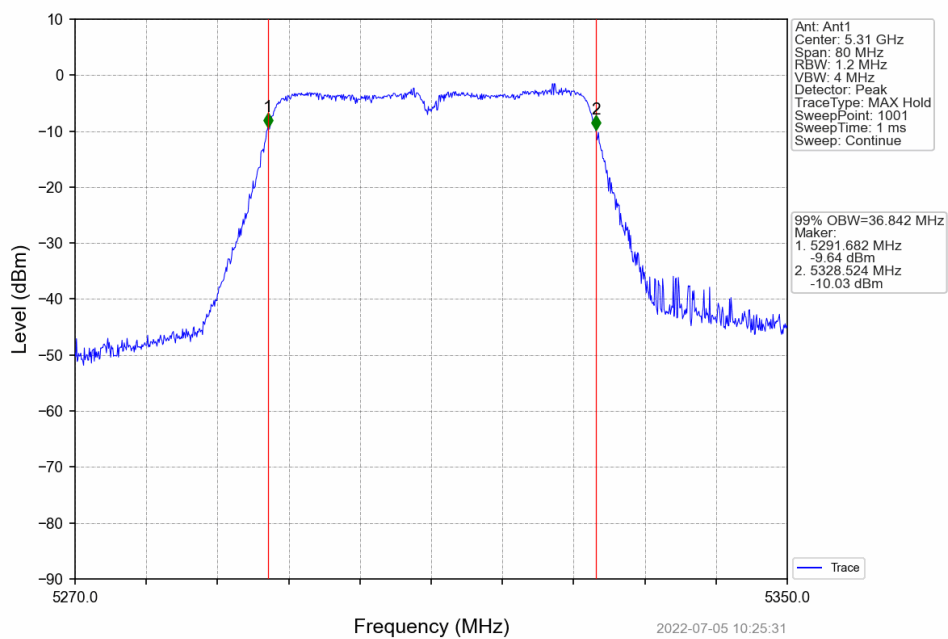
802.11n(HT20)_HCH_5320MHz_Ant1_NTN



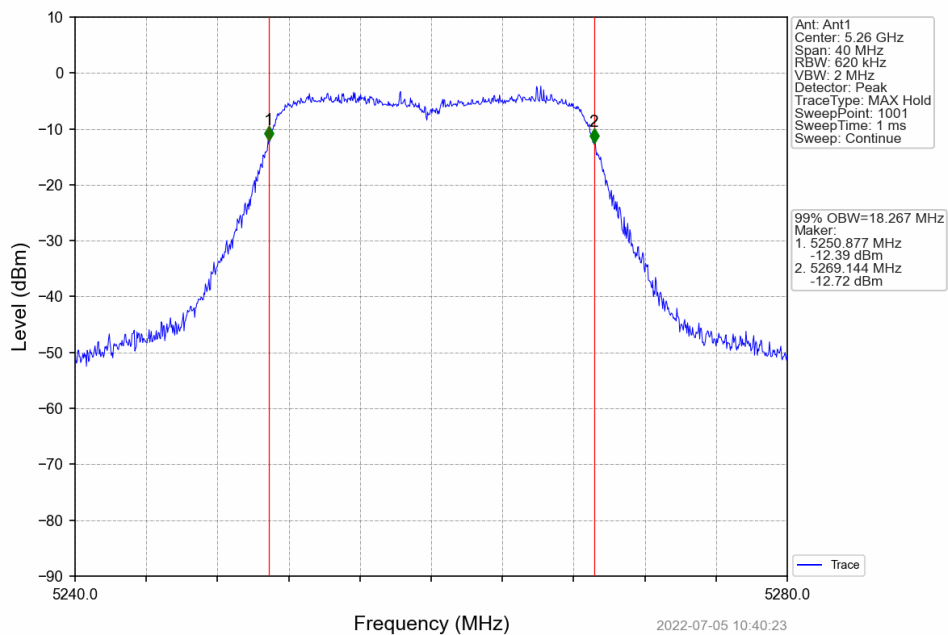
802.11n(HT40) LCH 5270MHz Ant1 NTN



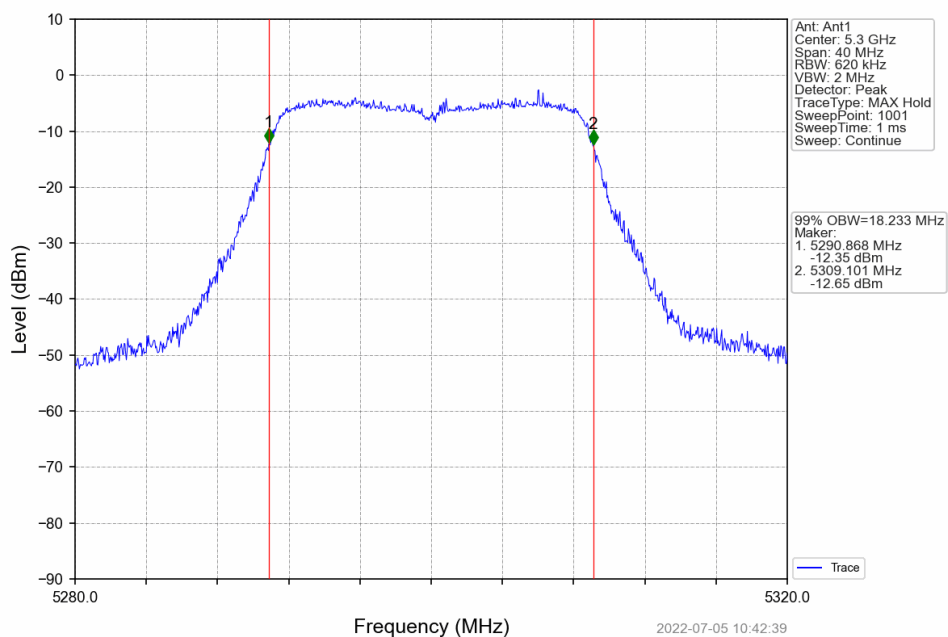
802.11n(HT40)_HCH_5310MHz_Ant1_NTN



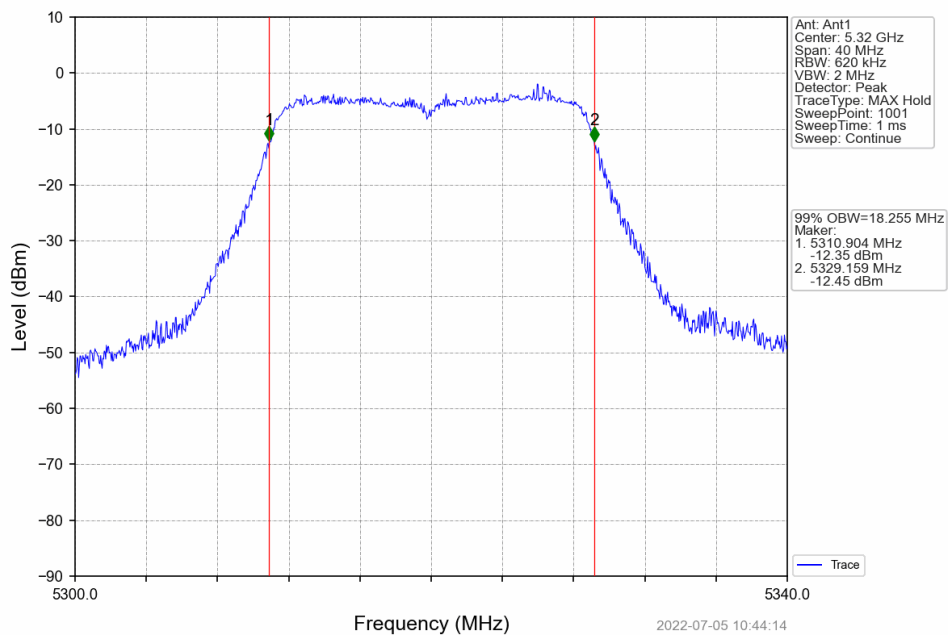
802.11ac(VHT20) LCH 5260MHz Ant1 NTN



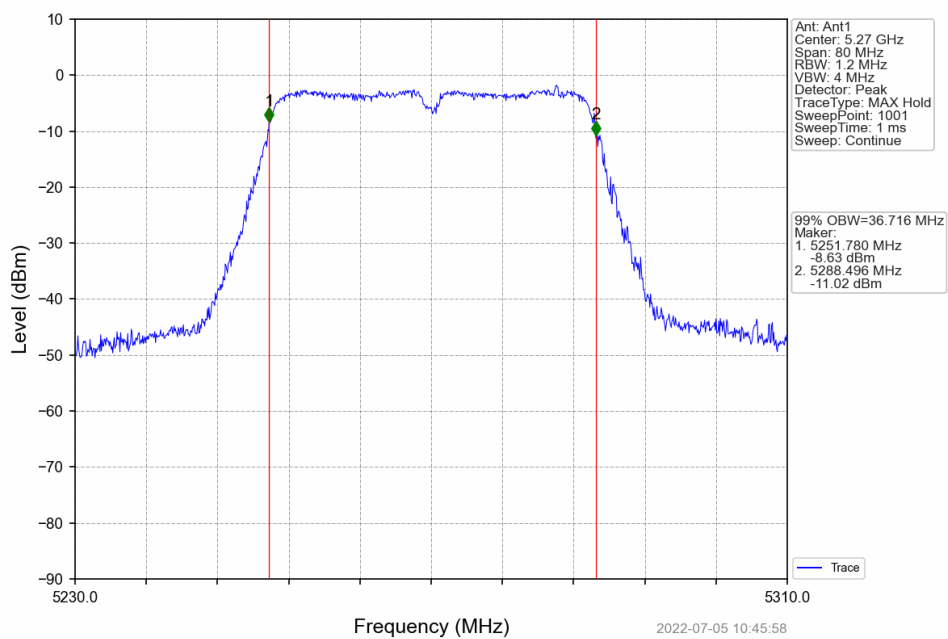
802.11ac(VHT20)_MCH_5300MHz_Ant1_NTN



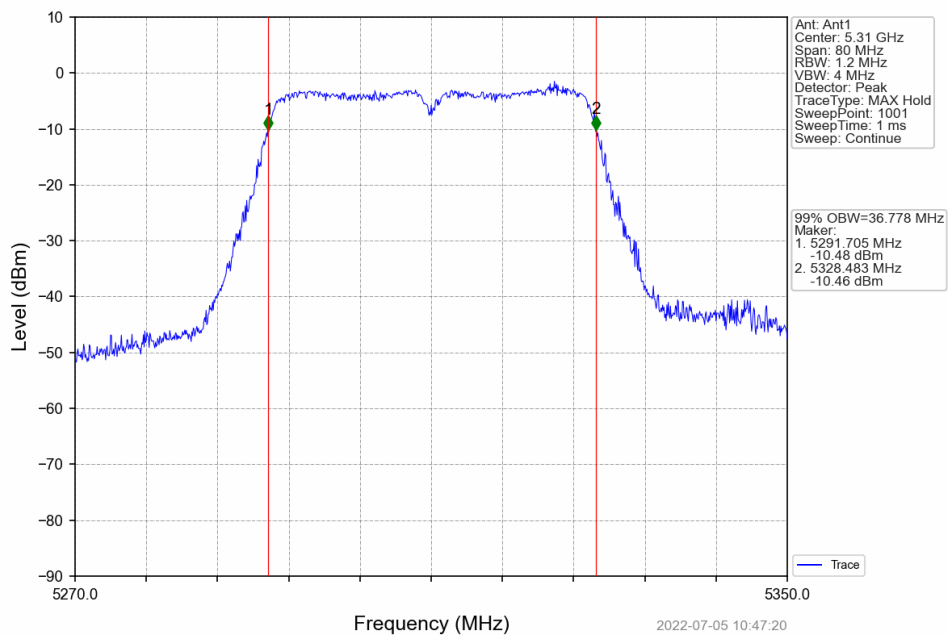
802.11ac(VHT20) HCH 5320MHz Ant1 NTN



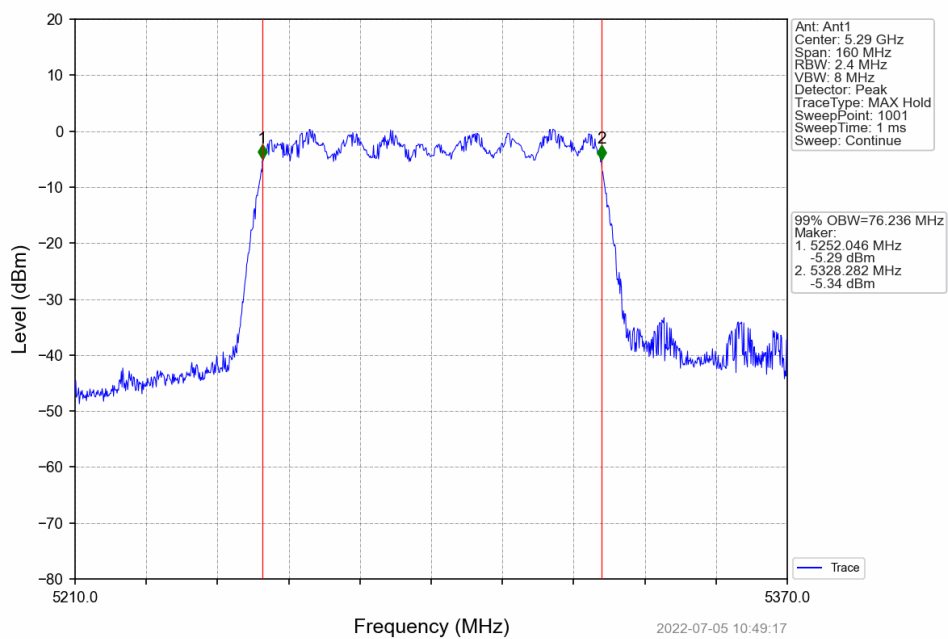
802.11ac(VHT40)_LCH_5270MHz_Ant1_NTN



802.11ac(VHT40) HCH 5310MHz Ant1 NTN



802.11ac(VHT80)_MCH_5290MHz_Ant1_NTN

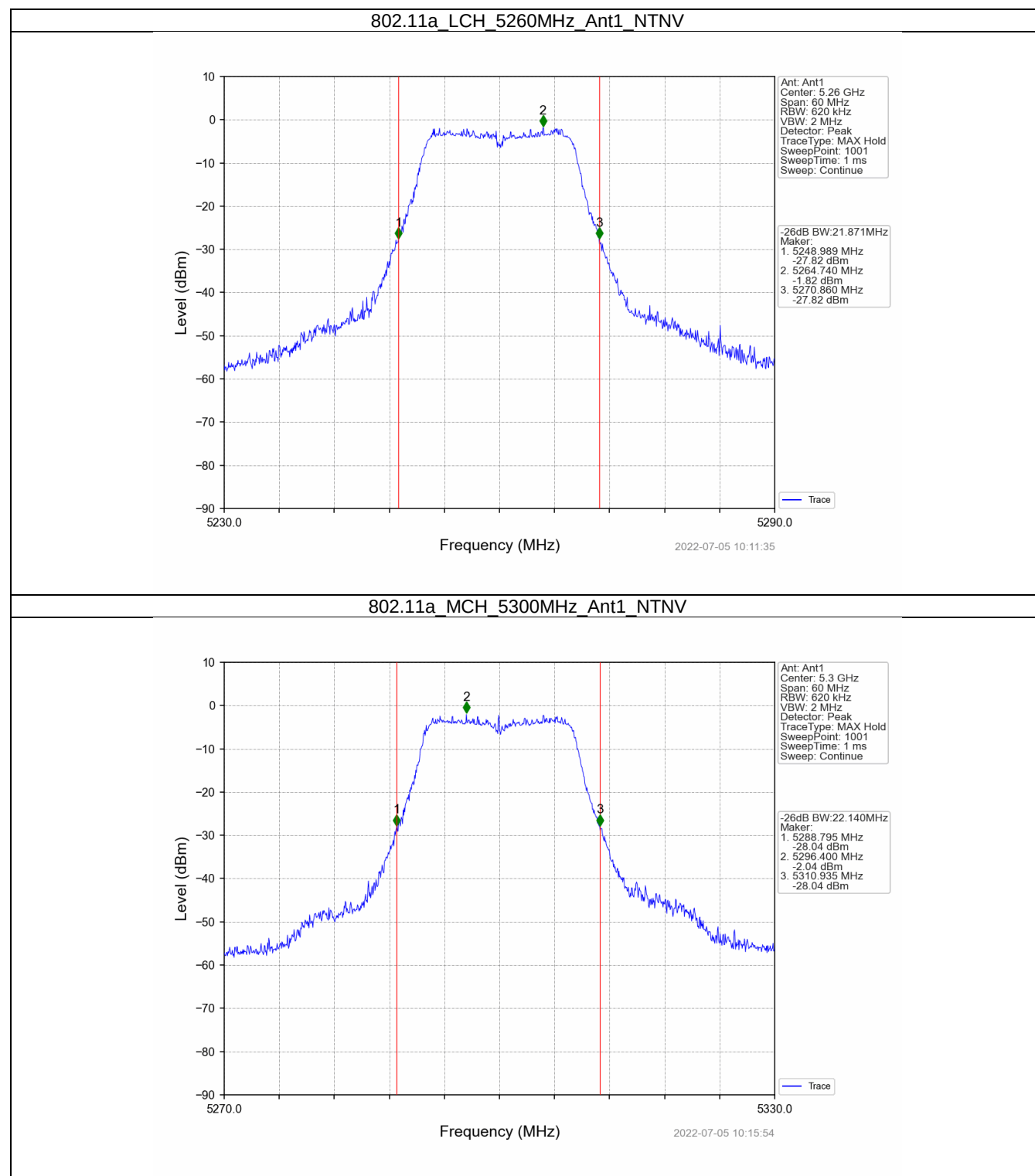


1.2 26dB BW

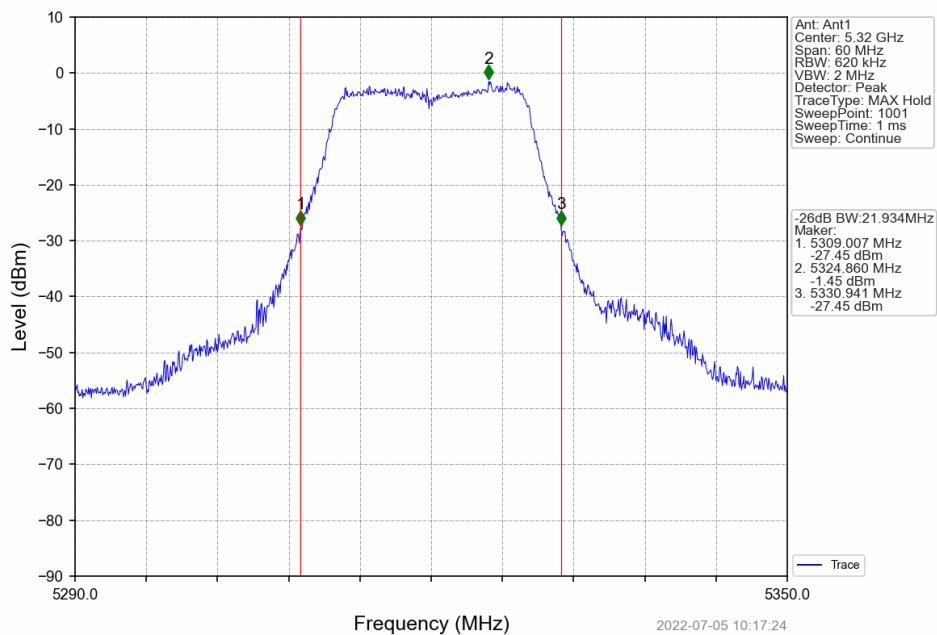
1.2.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	26dB Bandwidth (MHz)	Verdict
				Result	
802.11a	SISO	5260	1	21.871	Pass
		5300	1	22.140	Pass
		5320	1	21.934	Pass
802.11n (HT20)	SISO	5260	1	22.349	Pass
		5300	1	22.613	Pass
		5320	1	22.486	Pass
802.11n (HT40)	SISO	5270	1	43.187	Pass
		5310	1	43.532	Pass
802.11ac (VHT20)	SISO	5260	1	21.913	Pass
		5300	1	22.216	Pass
		5320	1	22.018	Pass
802.11ac (VHT40)	SISO	5270	1	43.016	Pass
		5310	1	43.777	Pass
802.11ac (VHT80)	SISO	5290	1	83.679	Pass

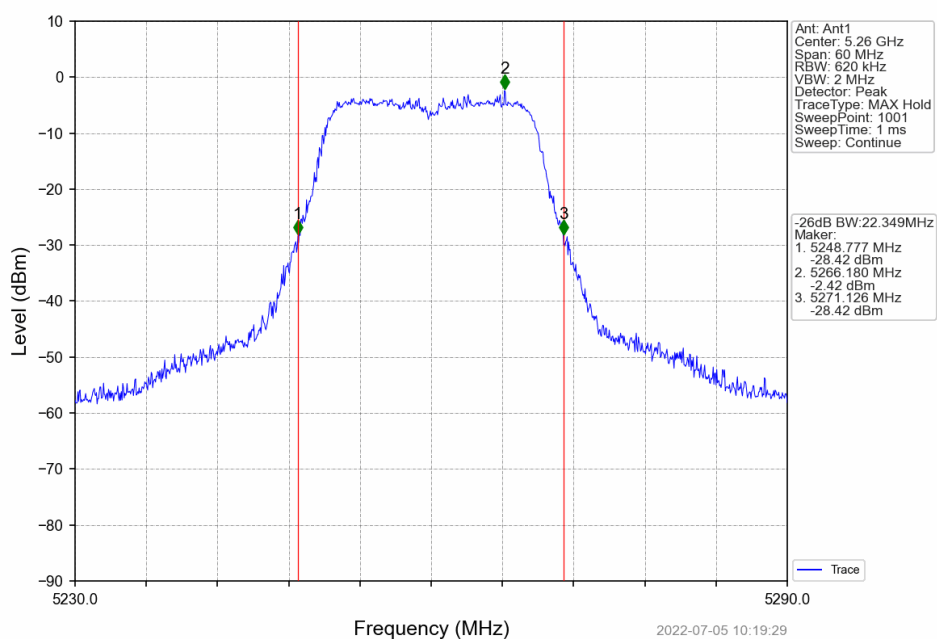
1.2.2 Test Graph



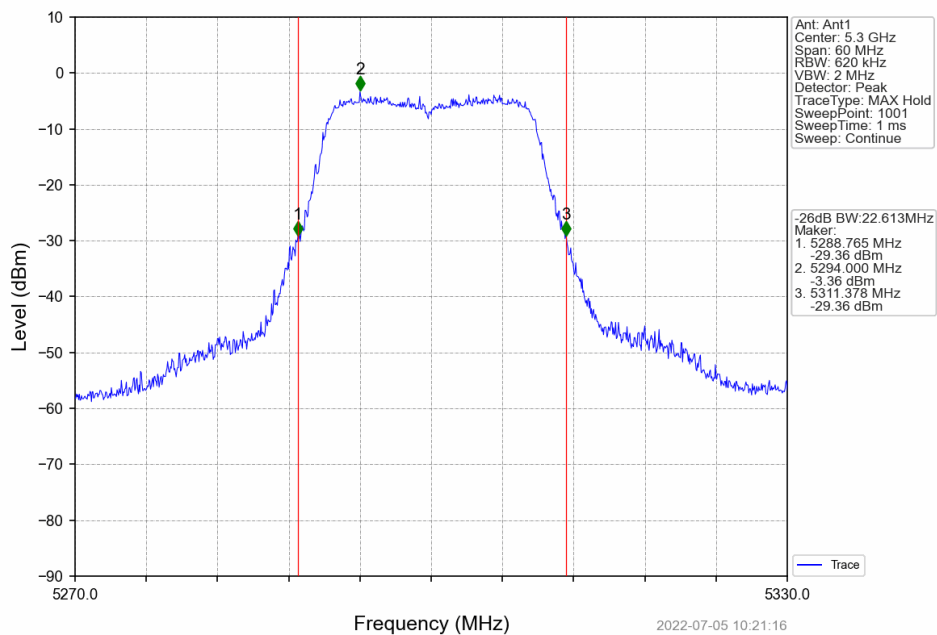
802.11a HCH 5320MHz Ant1 NTN



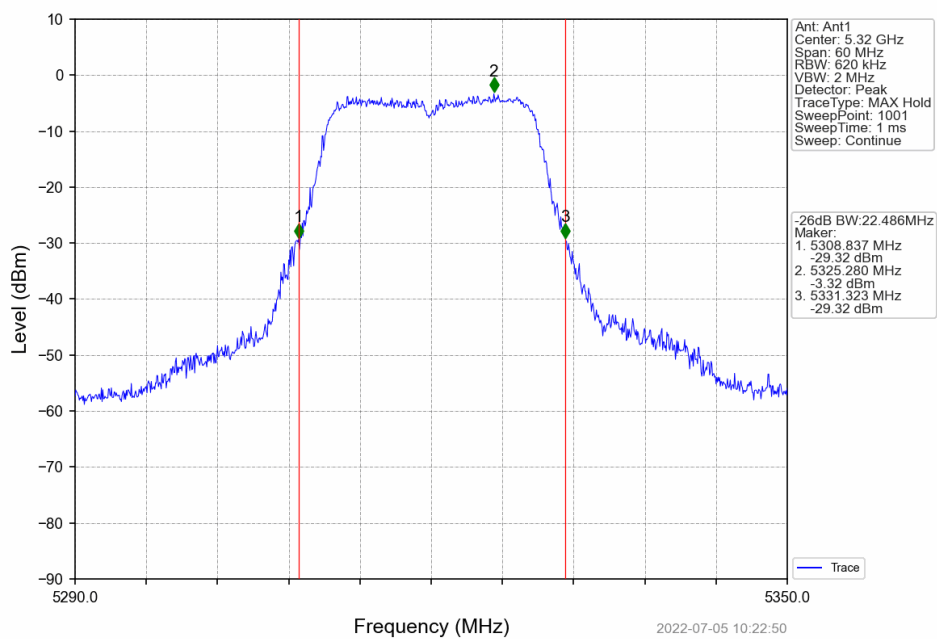
802.11n(HT20) LCH 5260MHz Ant1 NTN



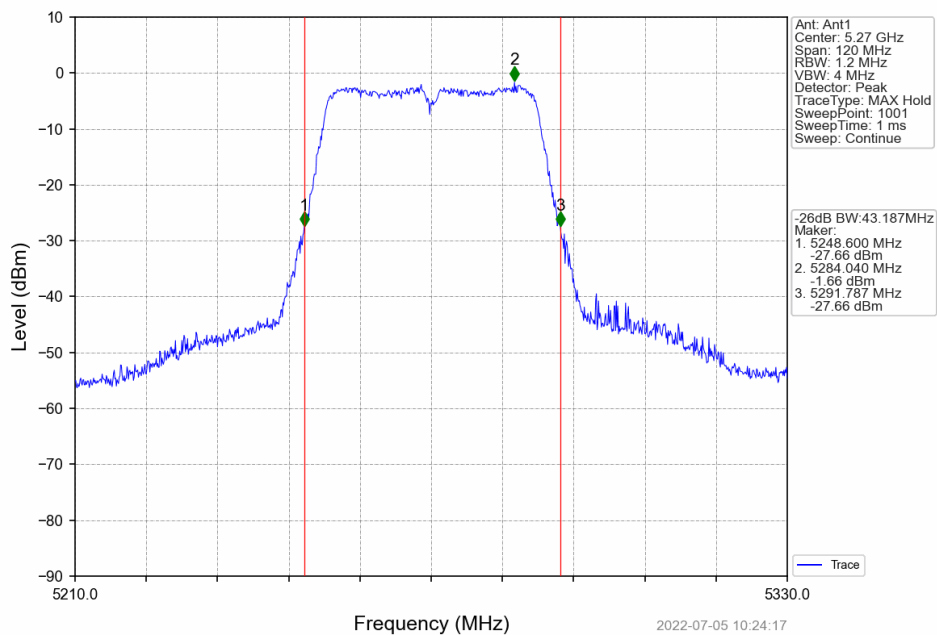
802.11n(HT20) MCH 5300MHz Ant1 NTN



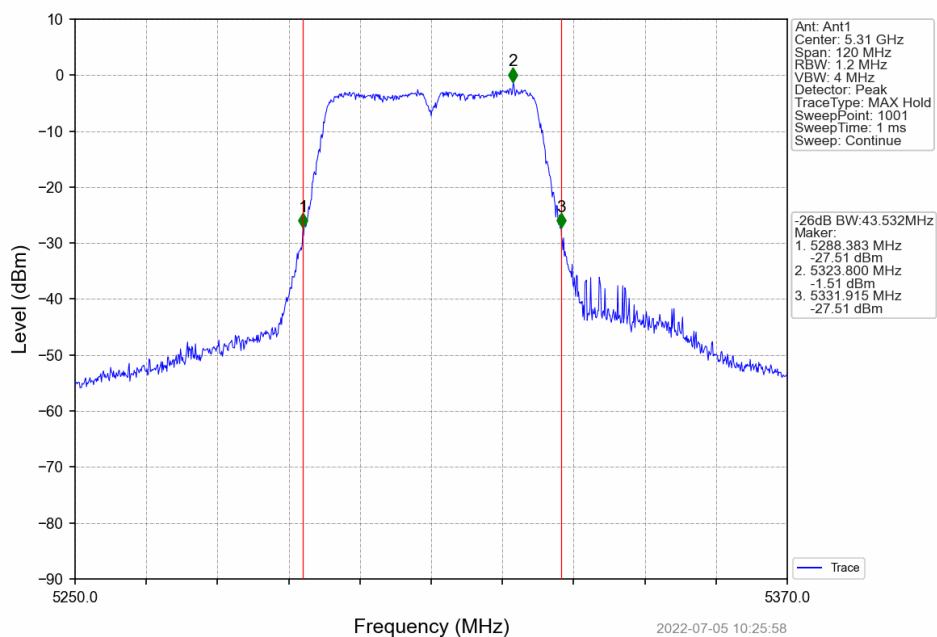
802.11n(HT20)_HCH_5320MHz_Ant1_NTN



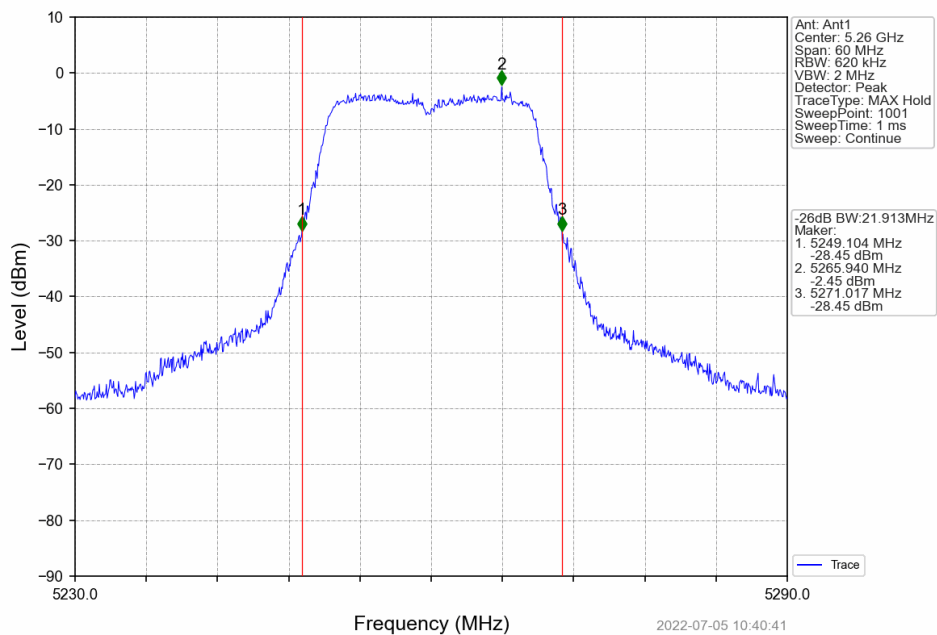
802.11n(HT40) LCH 5270MHz Ant1 NTN



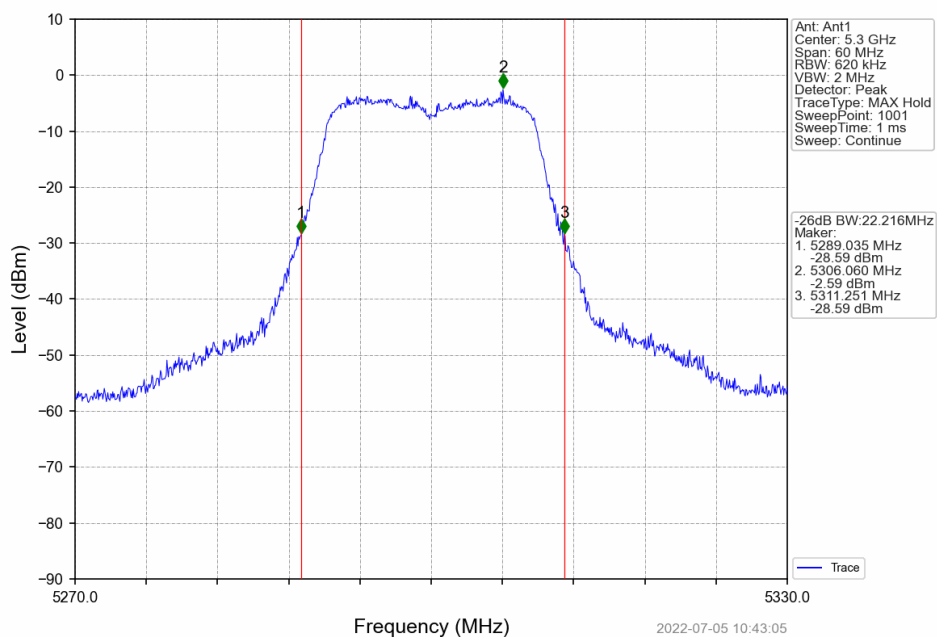
802.11n(HT40)_HCH_5310MHz_Ant1_NTN



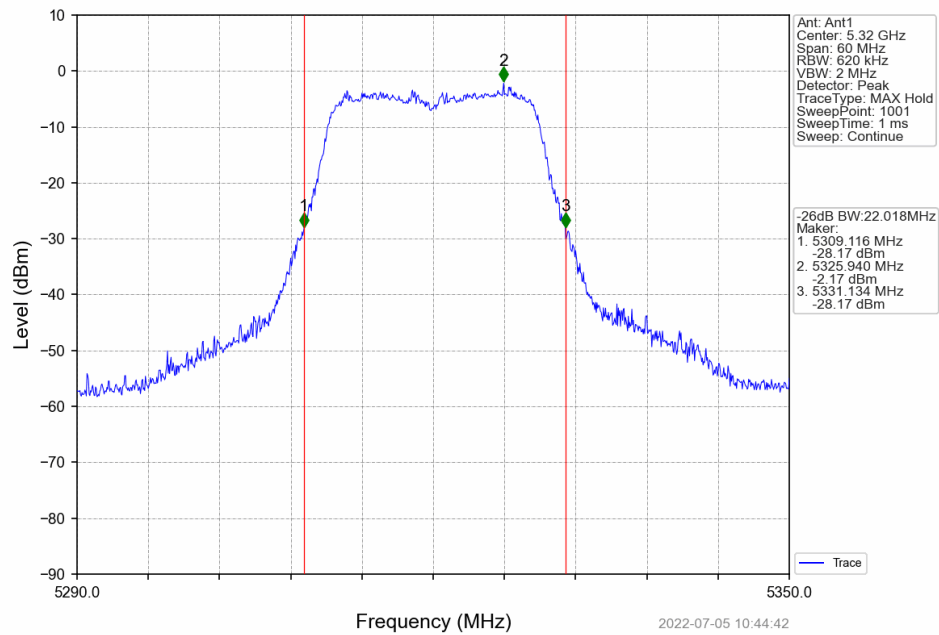
802.11ac(VHT20) LCH 5260MHz Ant1 NTN



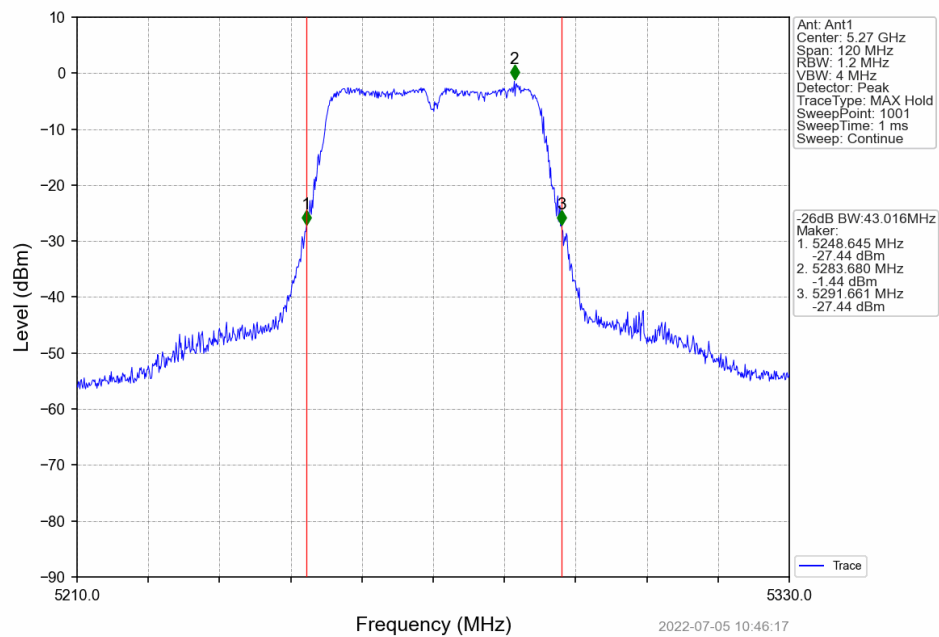
802.11ac(VHT20)_MCH_5300MHz_Ant1_NTN



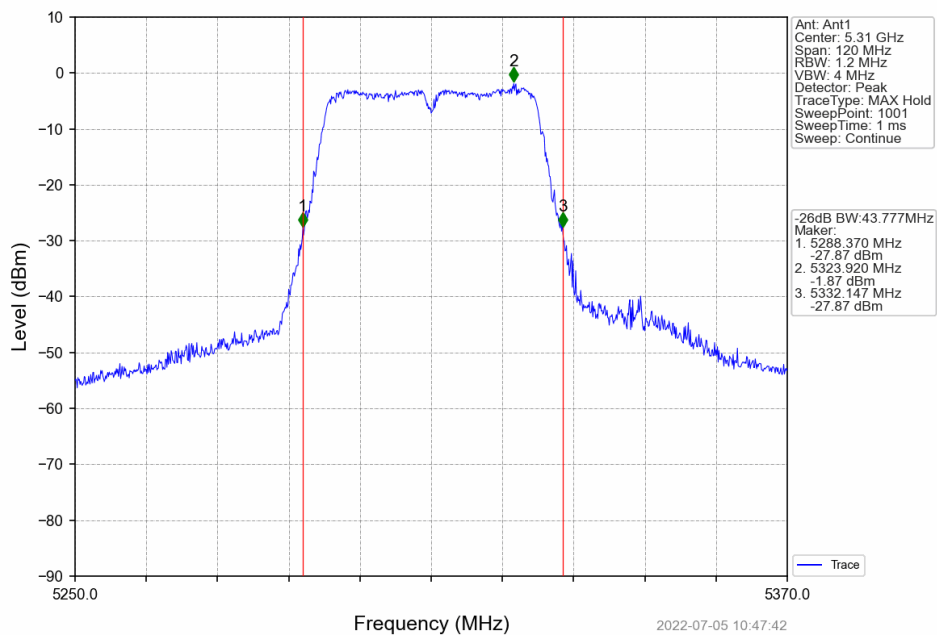
802.11ac(VHT20) HCH 5320MHz Ant1 NTN



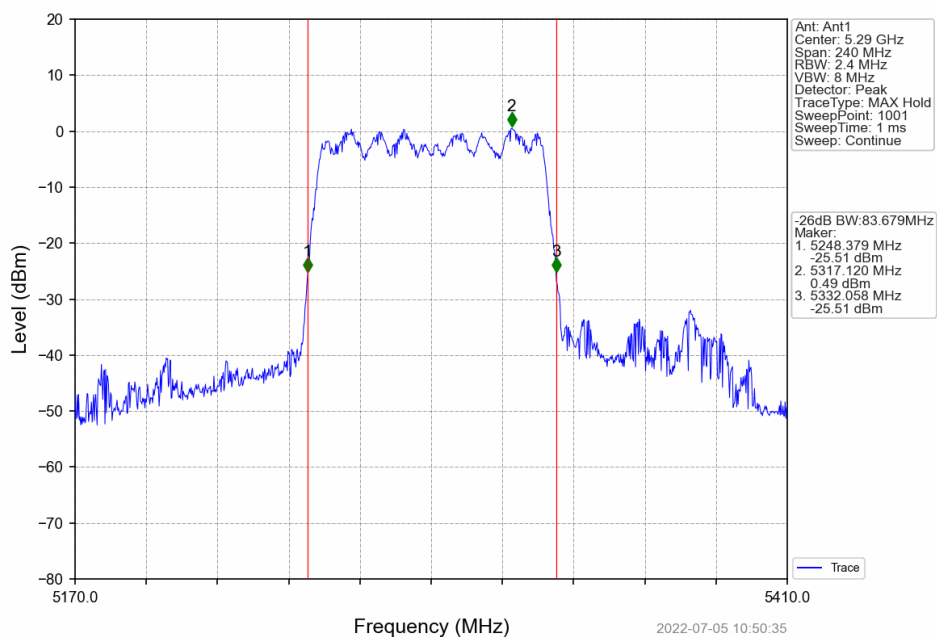
802.11ac(VHT40)_LCH_5270MHz_Ant1_NTN



802.11ac(VHT40) HCH 5310MHz Ant1 NTN



802.11ac(VHT80)_MCH_5290MHz_Ant1_NTN



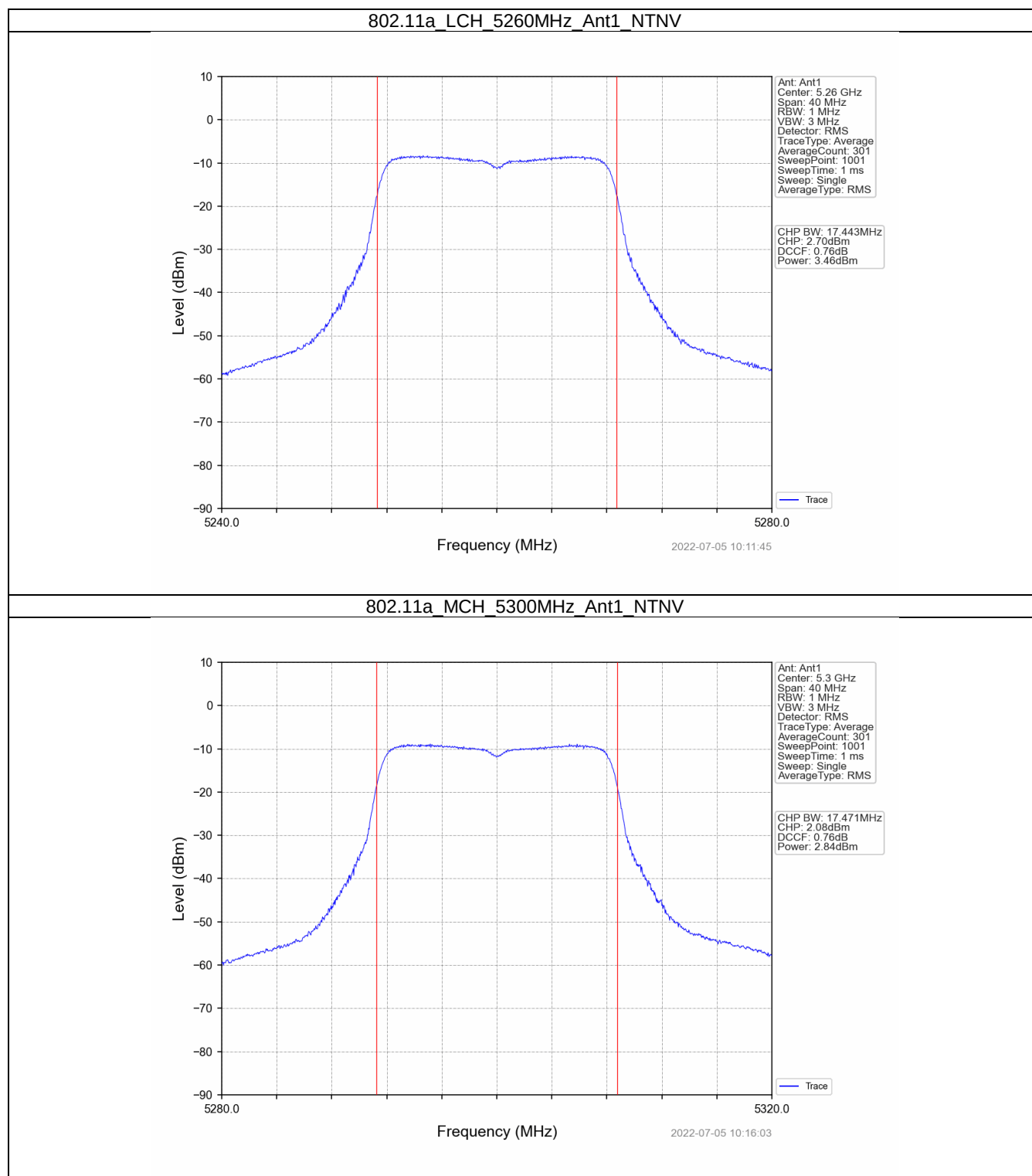
2. Maximum Conducted Output Power

2.1 Power

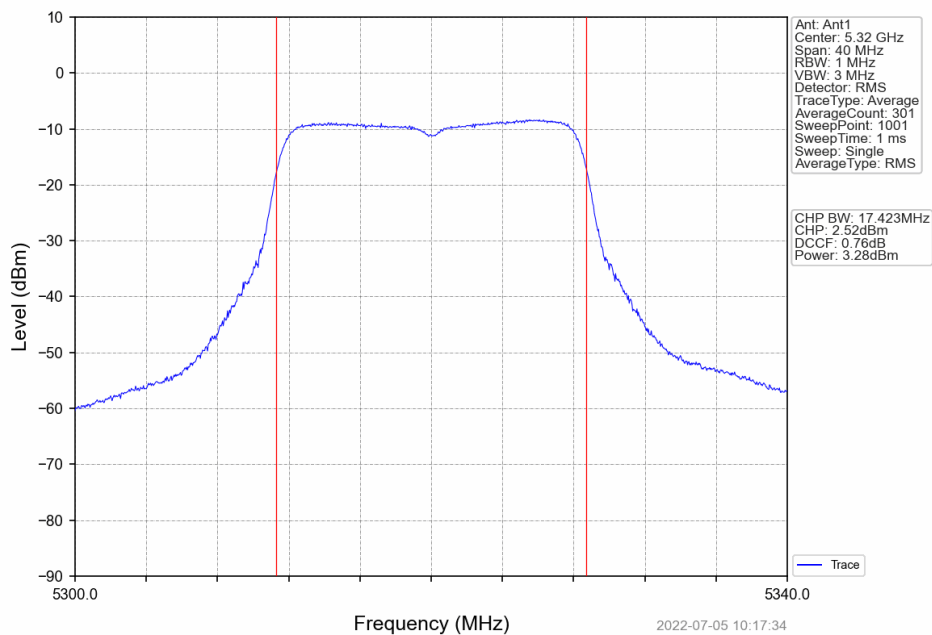
2.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11a	SISO	5260	3.46	<=23.98	Pass
		5300	2.84	<=23.98	Pass
		5320	3.28	<=23.98	Pass
802.11n (HT20)	SISO	5260	2.13	<=23.98	Pass
		5300	1.71	<=23.98	Pass
		5320	2.18	<=23.98	Pass
802.11n (HT40)	SISO	5270	2.47	<=23.98	Pass
		5310	2.19	<=23.98	Pass
802.11ac (VHT20)	SISO	5260	2.29	<=23.98	Pass
		5300	1.92	<=23.98	Pass
		5320	2.27	<=23.98	Pass
802.11ac (VHT40)	SISO	5270	2.40	<=23.98	Pass
		5310	2.15	<=23.98	Pass
802.11ac (VHT80)	SISO	5290	2.47	<=23.98	Pass
Note1: Antenna Gain: Ant1: 3.48dBi;					

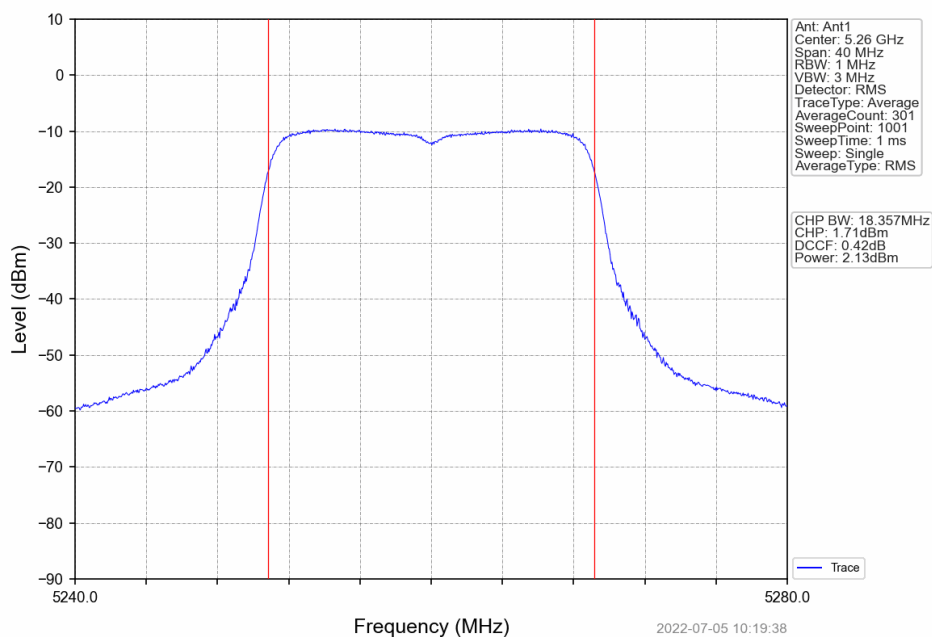
2.1.2 Test Graph



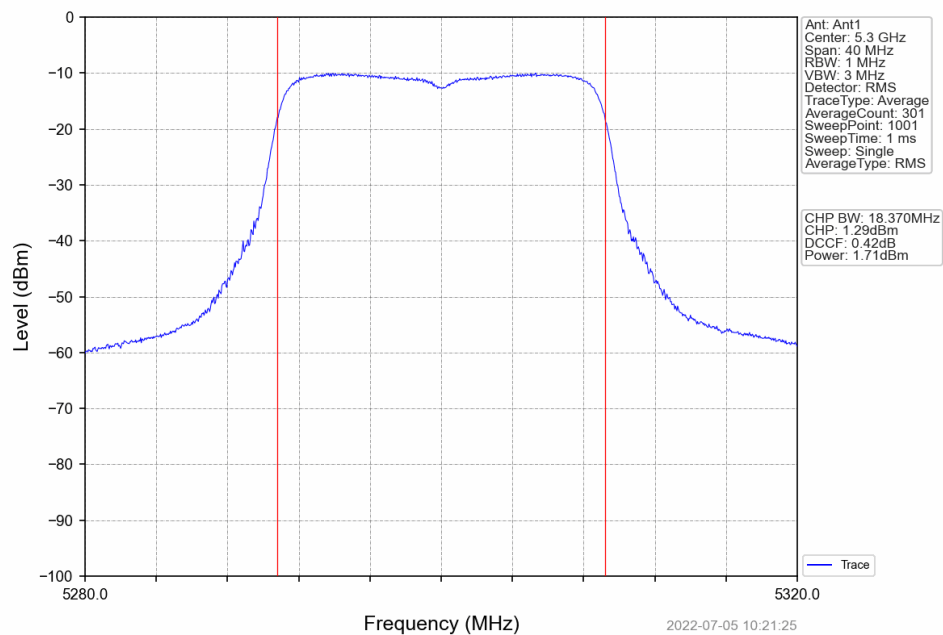
802.11a HCH 5320MHz Ant1 NTN



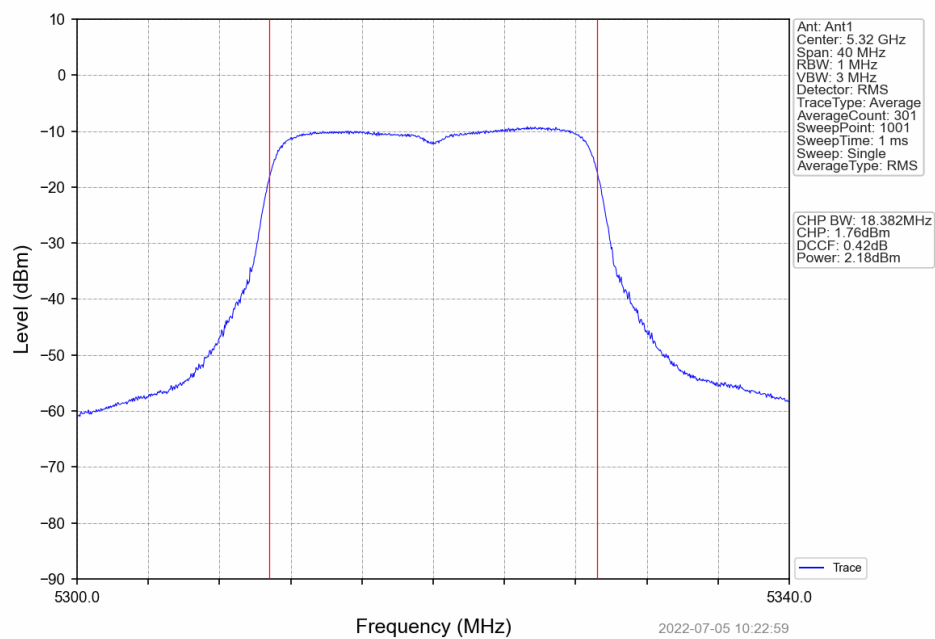
802.11n(HT20) LCH 5260MHz Ant1 NTN



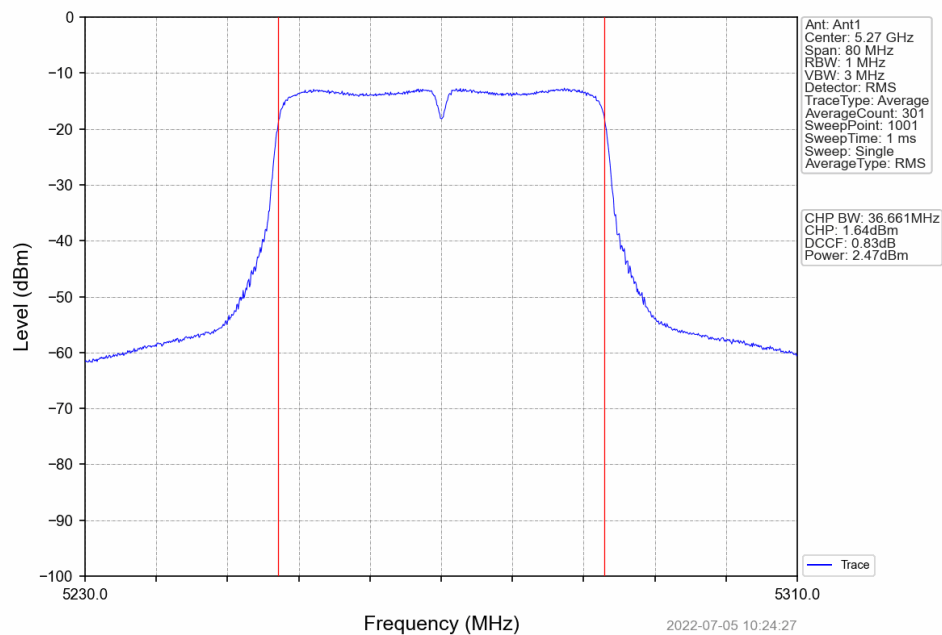
802.11n(HT20) MCH 5300MHz Ant1 NTN



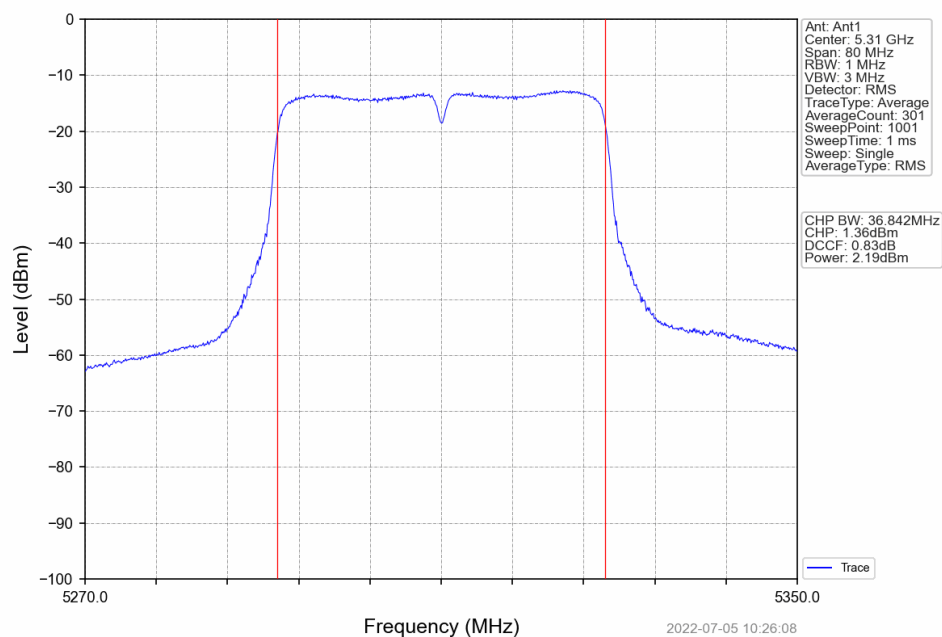
802.11n(HT20)_HCH_5320MHz_Ant1_NTN



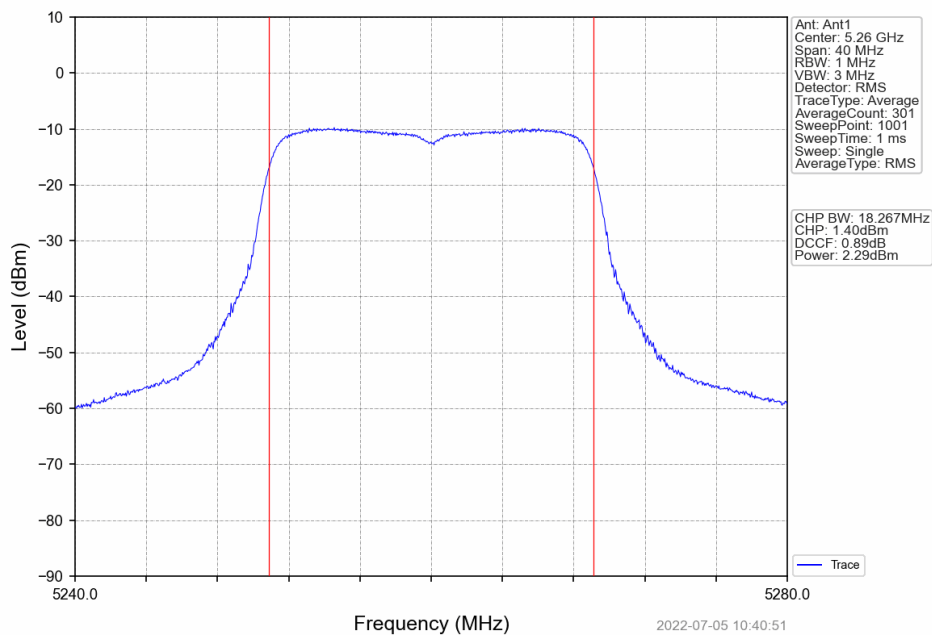
802.11n(HT40) LCH 5270MHz Ant1 NTN



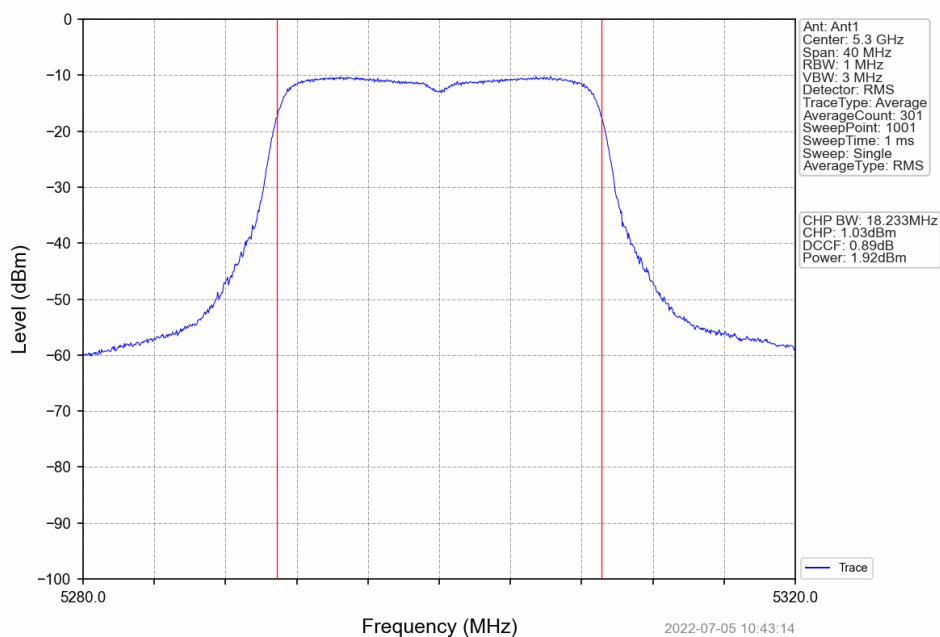
802.11n(HT40)_HCH_5310MHz_Ant1_NTN



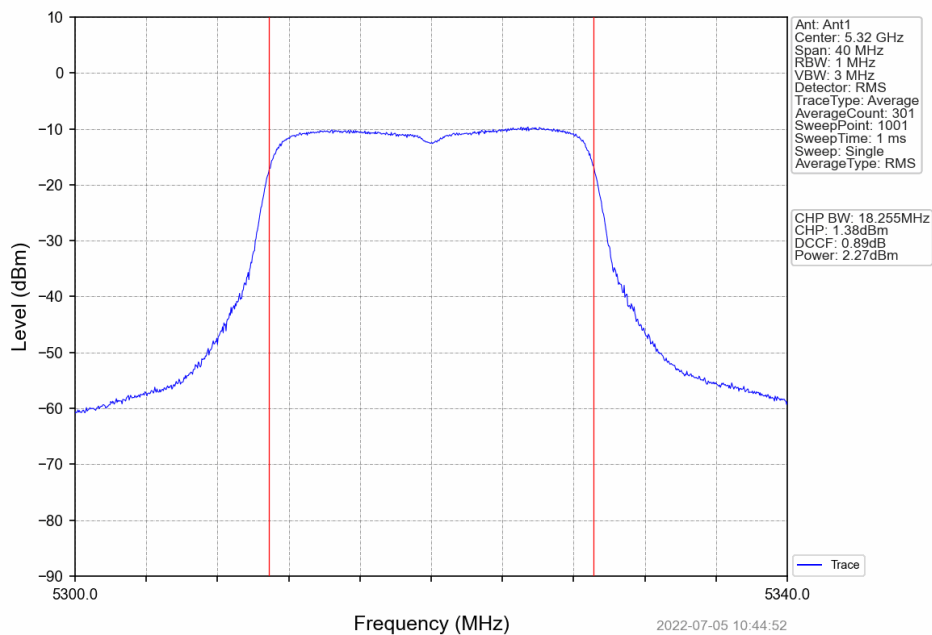
802.11ac(VHT20) LCH 5260MHz Ant1 NTN



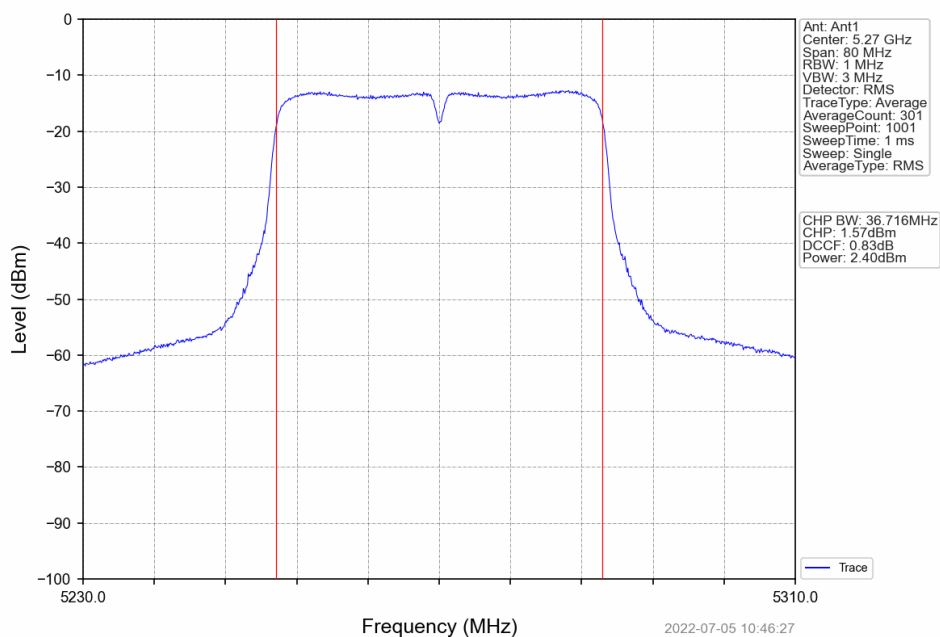
802.11ac(VHT20)_MCH_5300MHz_Ant1_NTN



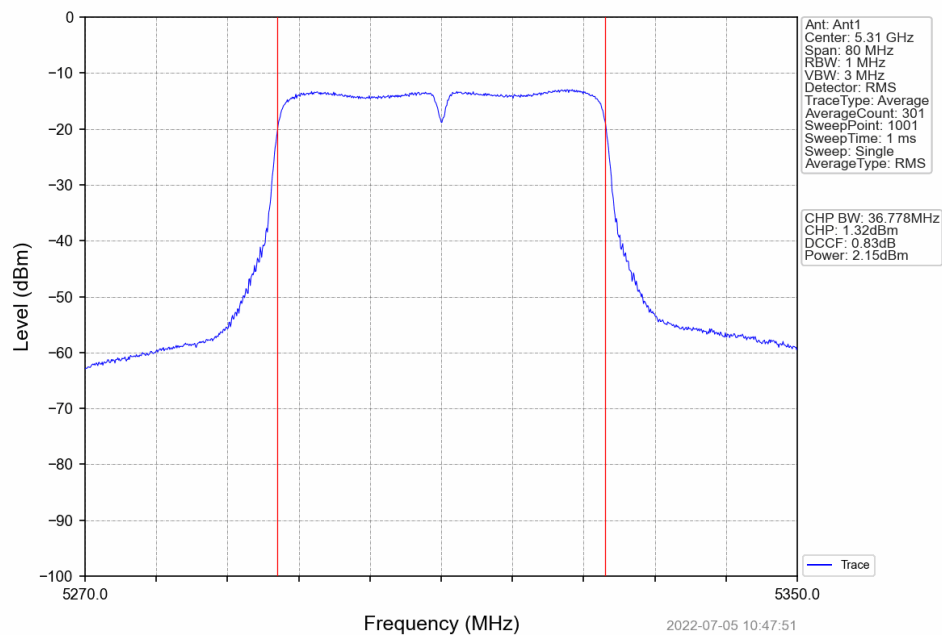
802.11ac(VHT20) HCH 5320MHz Ant1 NTN



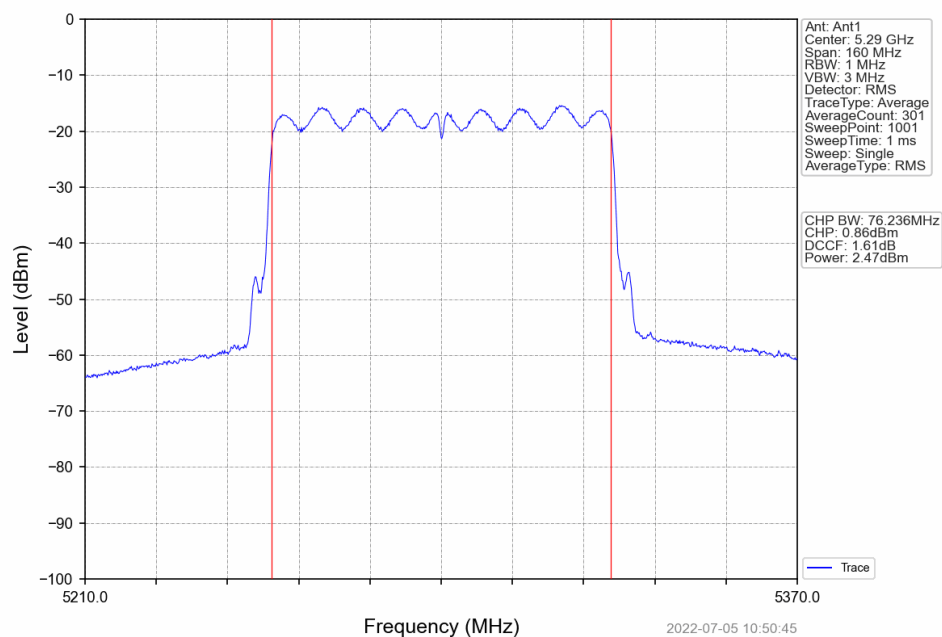
802.11ac(VHT40)_LCH_5270MHz_Ant1_NTN



802.11ac(VHT40) HCH 5310MHz Ant1 NTN



802.11ac(VHT80)_MCH_5290MHz_Ant1_NTN



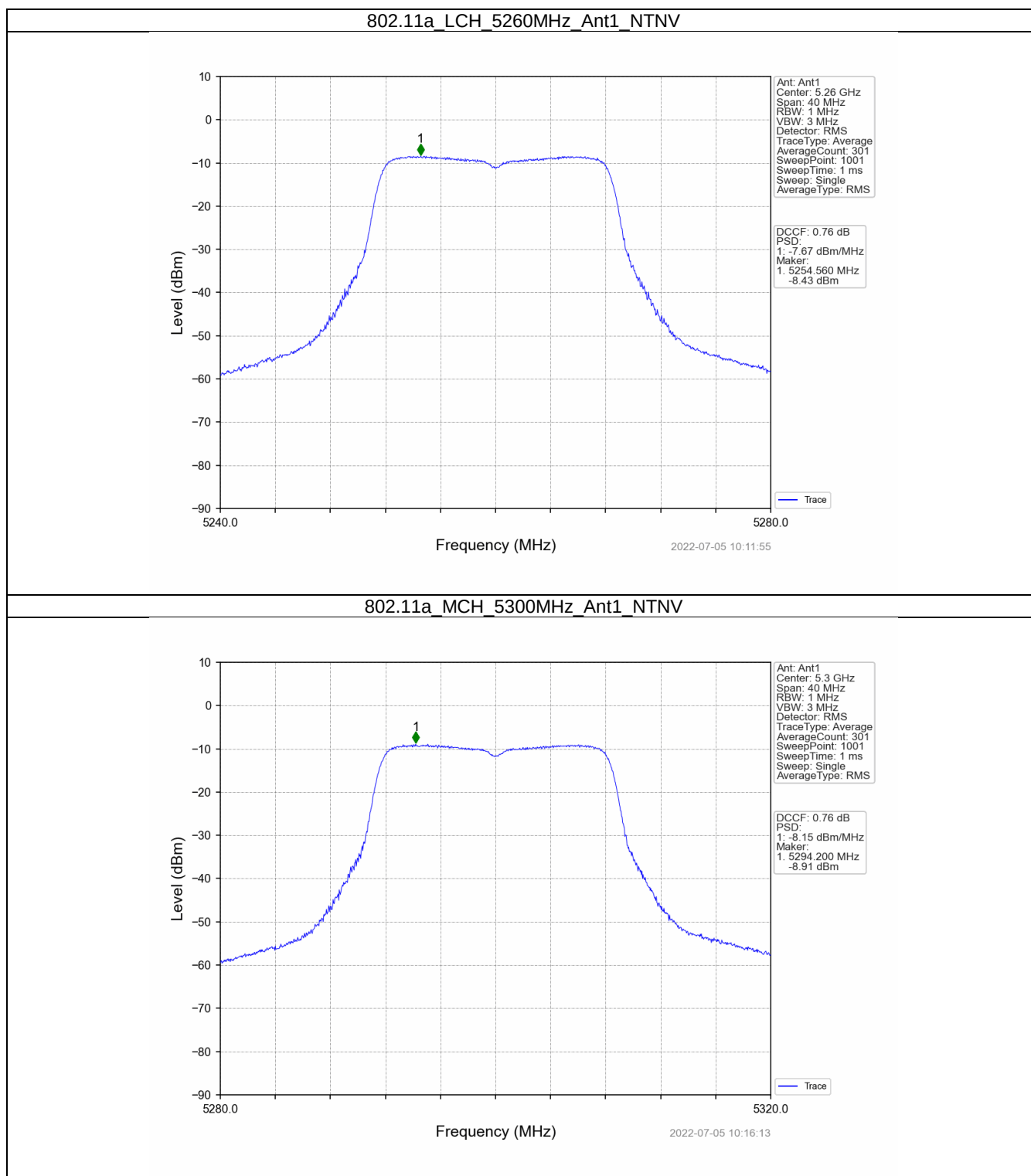
3. Maximum Power Spectral Density

3.1 PSD

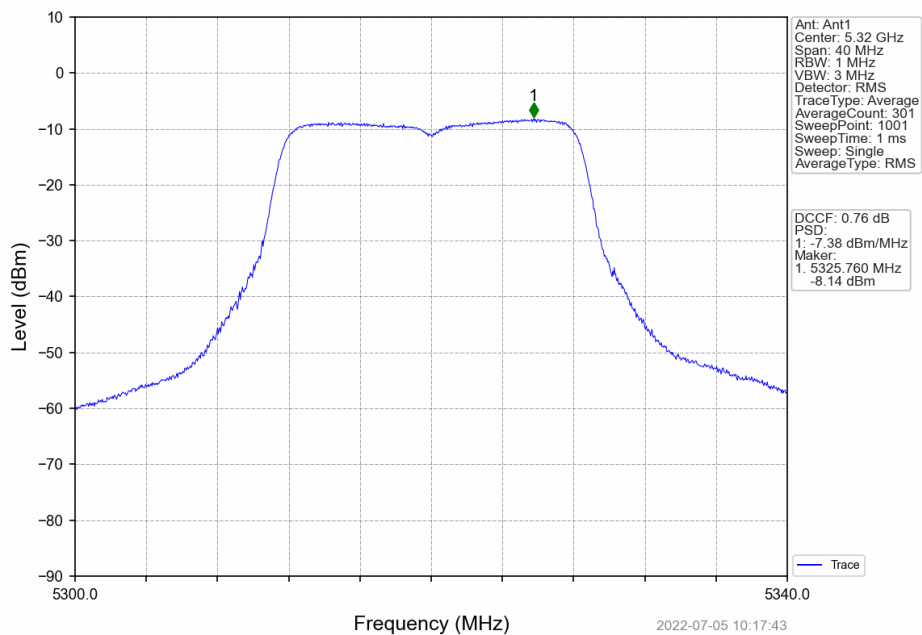
3.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/MHz)		Verdict
			ANT1	Limit	
802.11a	SISO	5260	-7.67	<=11	Pass
		5300	-8.15	<=11	Pass
		5320	-7.38	<=11	Pass
802.11n (HT20)	SISO	5260	-9.05	<=11	Pass
		5300	-9.47	<=11	Pass
		5320	-9.07	<=11	Pass
802.11n (HT40)	SISO	5270	-11.88	<=11	Pass
		5310	-11.85	<=11	Pass
802.11ac (VHT20)	SISO	5260	-9.00	<=11	Pass
		5300	-9.40	<=11	Pass
		5320	-8.79	<=11	Pass
802.11ac (VHT40)	SISO	5270	-11.92	<=11	Pass
		5310	-11.99	<=11	Pass
802.11ac (VHT80)	SISO	5290	-13.92	<=11	Pass
Note1: Antenna Gain: Ant1: 3.48dBi;					

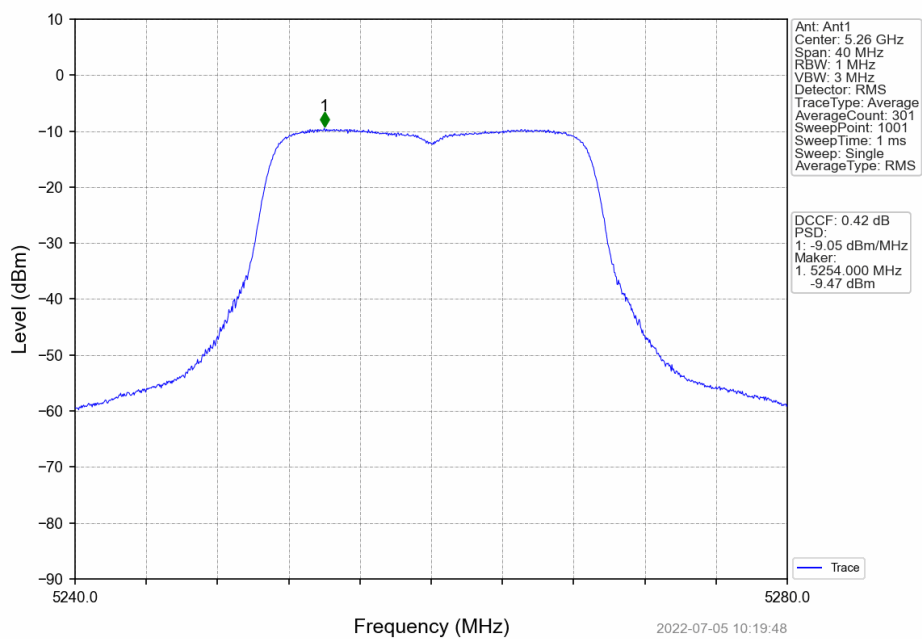
3.1.2 Test Graph



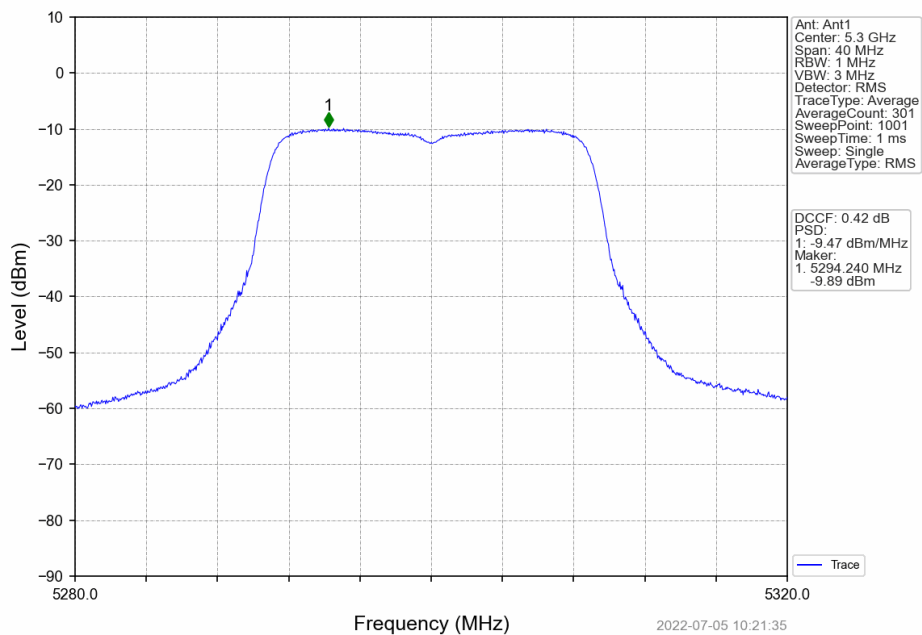
802.11a HCH 5320MHz Ant1 NTN



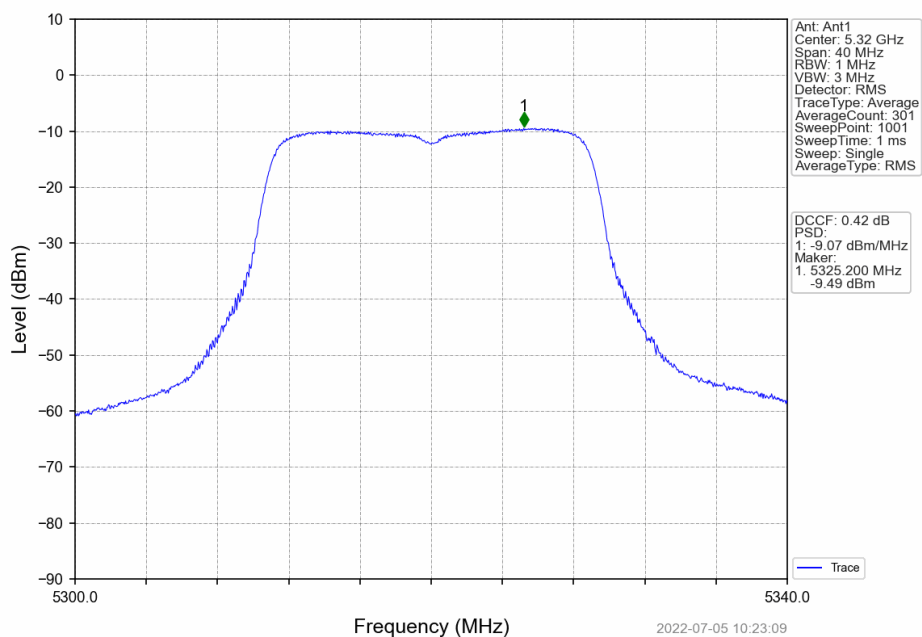
802.11n(HT20) LCH 5260MHz Ant1 NTN



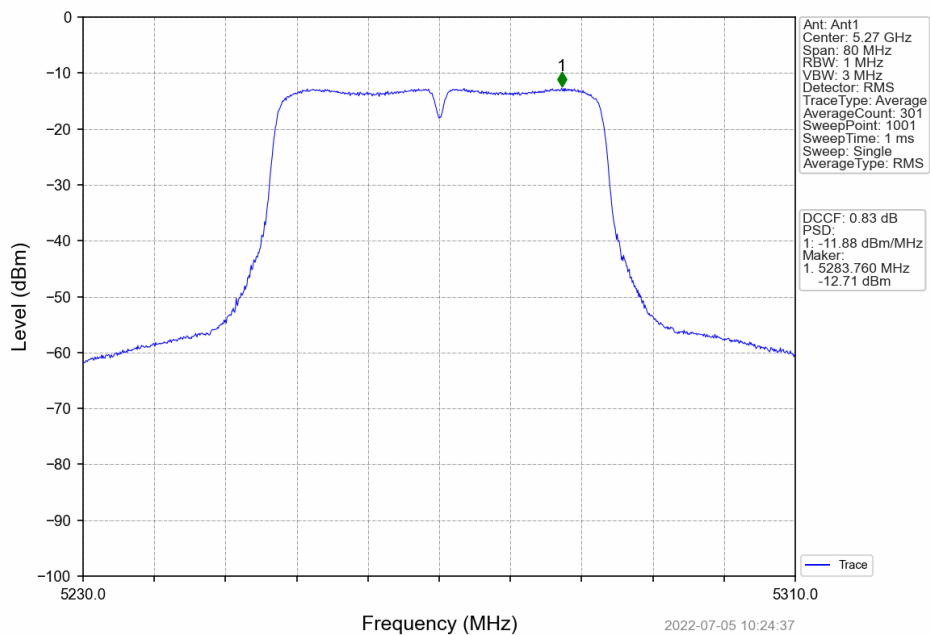
802.11n(HT20) MCH 5300MHz Ant1 NTN



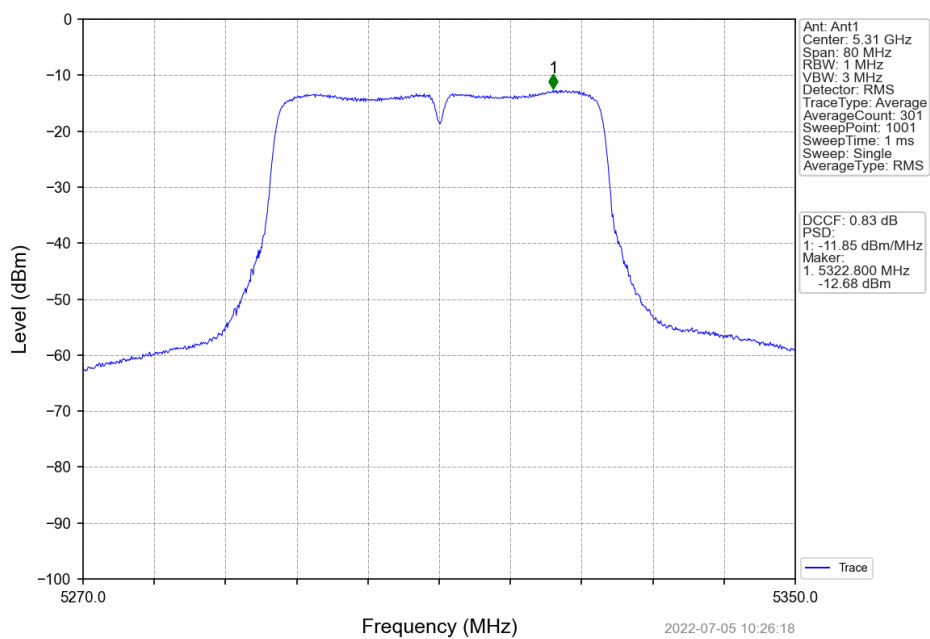
802.11n(HT20)_HCH_5320MHz_Ant1_NTN



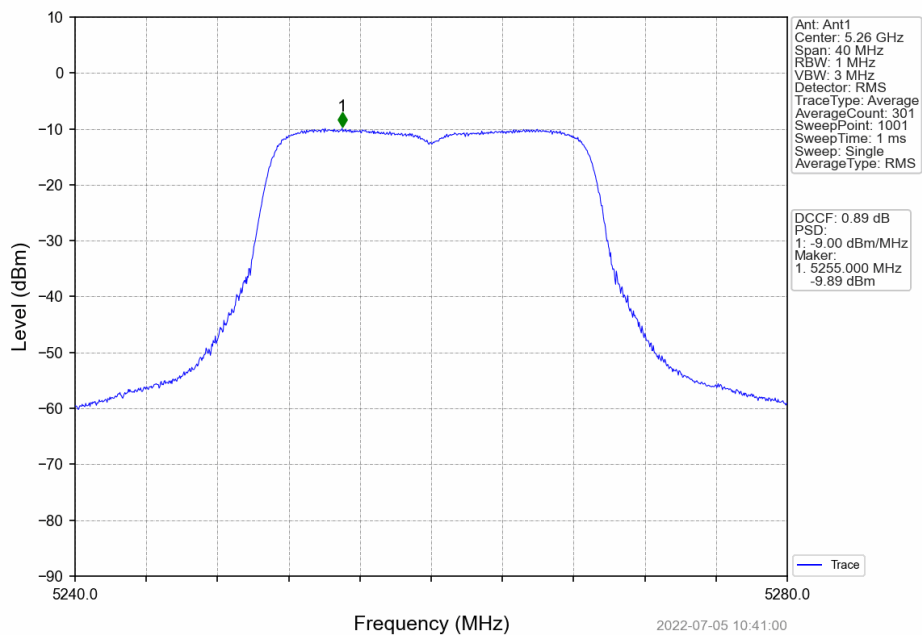
802.11n(HT40) LCH 5270MHz Ant1 NTN



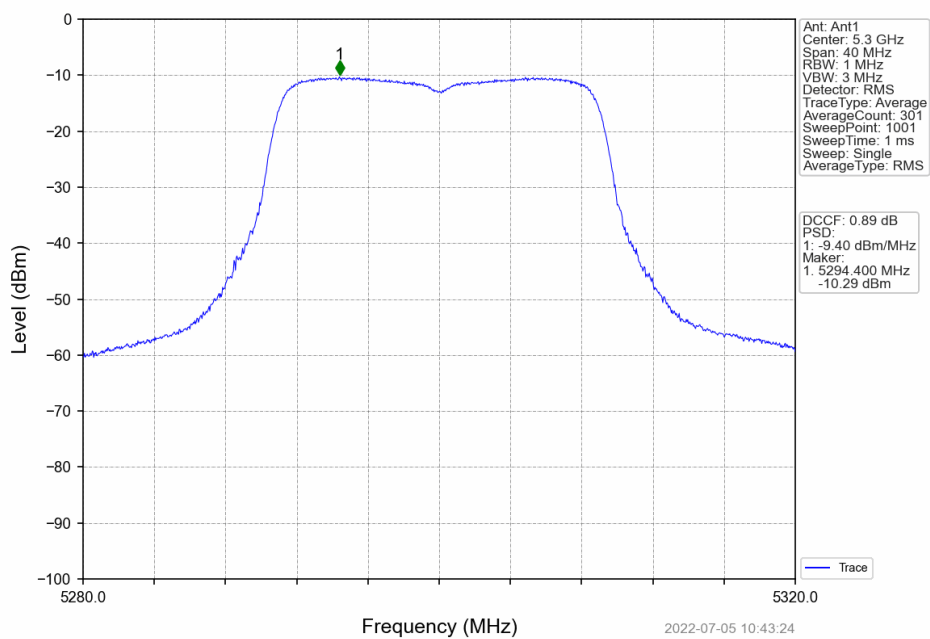
802.11n(HT40)_HCH_5310MHz_Ant1_NTN



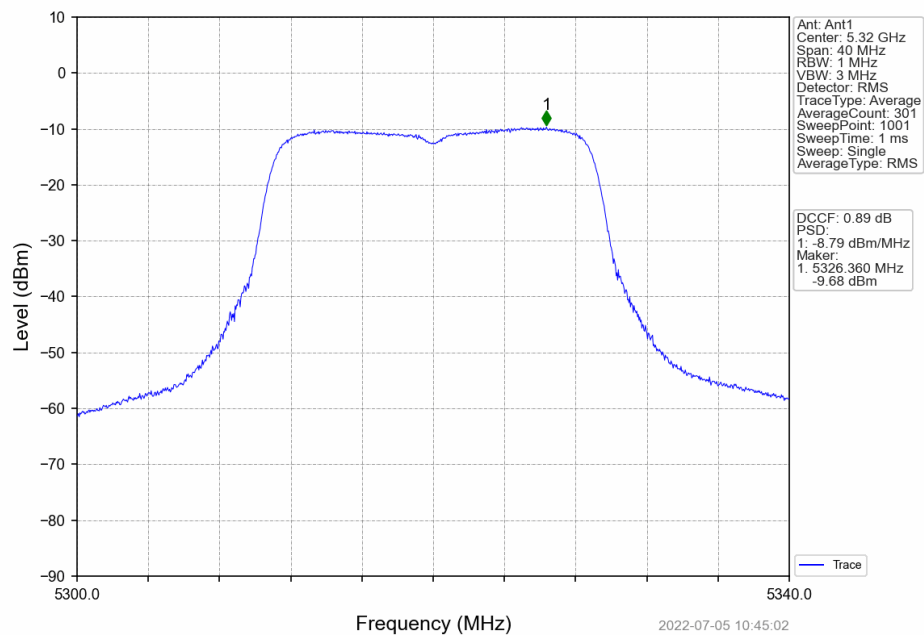
802.11ac(VHT20) LCH 5260MHz Ant1 NTN



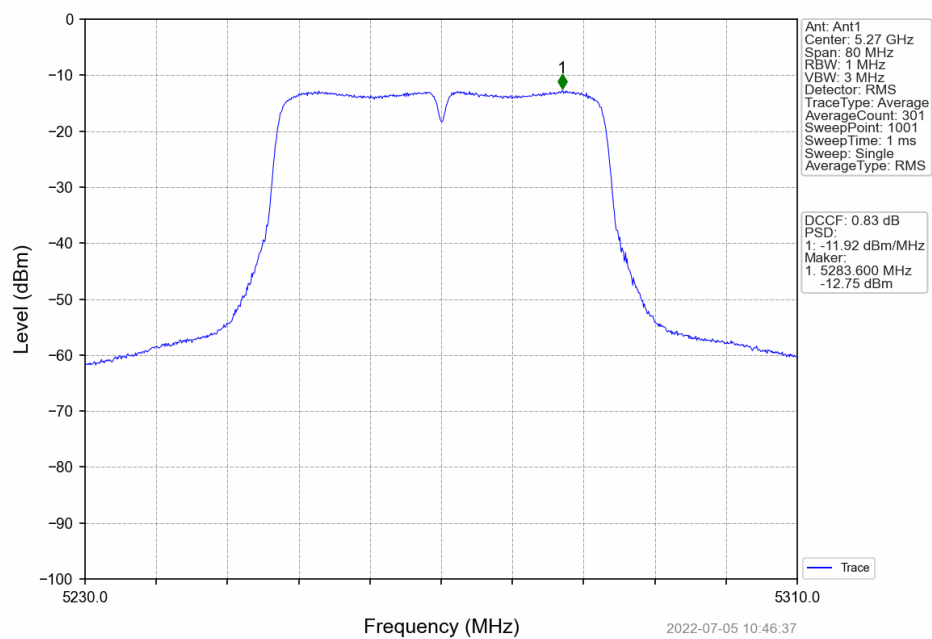
802.11ac(VHT20) MCH 5300MHz Ant1 NTN



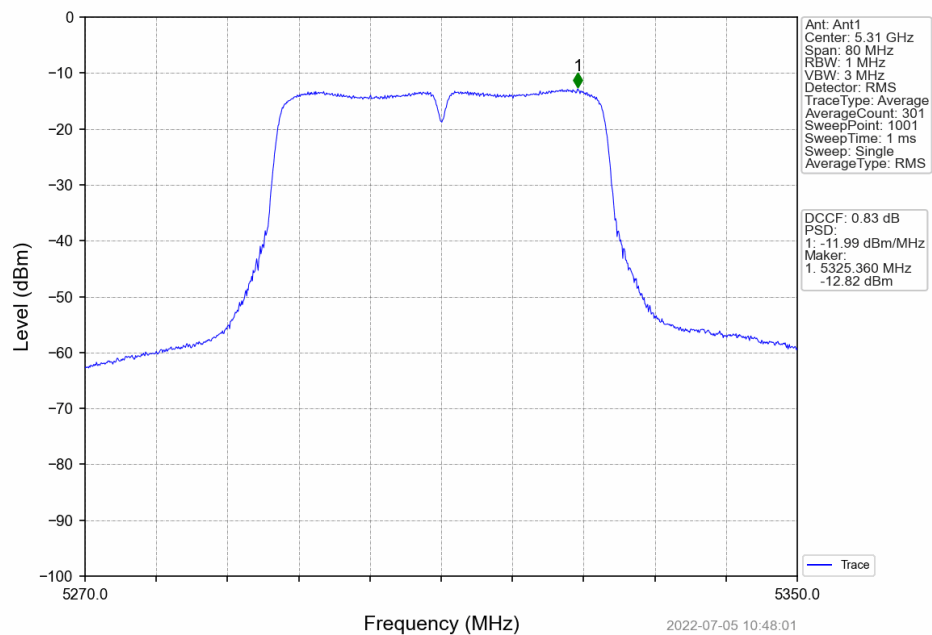
802.11ac(VHT20) HCH 5320MHz Ant1 NTN



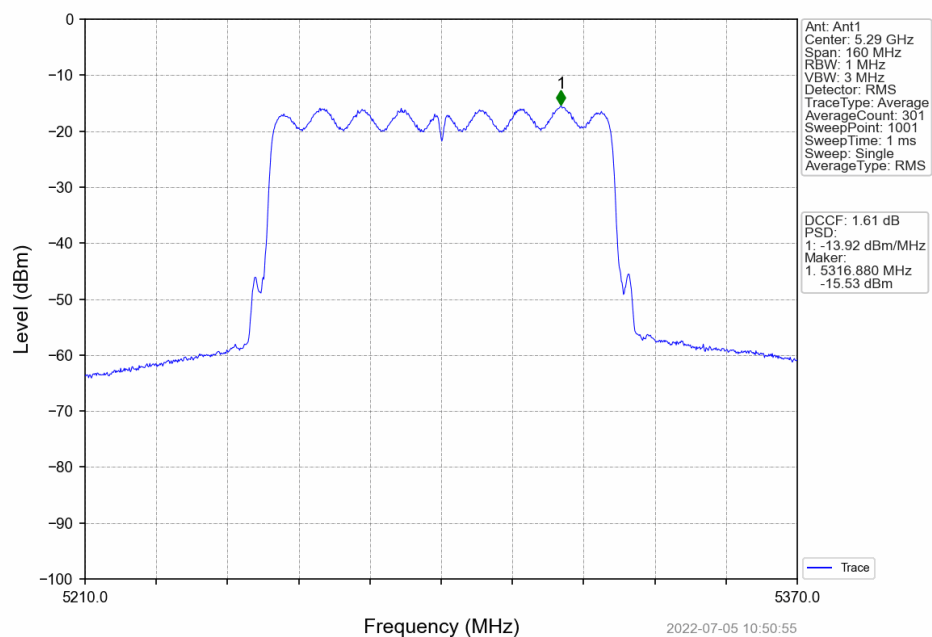
802.11ac(VHT40)_LCH_5270MHz_Ant1_NTN



802.11ac(VHT40) HCH 5310MHz Ant1 NTN



802.11ac(VHT80)_MCH_5290MHz_Ant1_NTN



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
Carrier Wave	SISO	5260	20	102	5259.963	5250 to 5350	Pass
				120	5259.962	5250 to 5350	Pass
				138	5259.960	5250 to 5350	Pass
			-30	120	5259.960	5250 to 5350	Pass
			-20	120	5259.959	5250 to 5350	Pass
			-10	120	5259.959	5250 to 5350	Pass
			0	120	5259.959	5250 to 5350	Pass
			10	120	5259.958	5250 to 5350	Pass
			30	120	5259.958	5250 to 5350	Pass
			40	120	5259.958	5250 to 5350	Pass
			50	120	5259.958	5250 to 5350	Pass
		5300	20	102	5299.960	5250 to 5350	Pass
				120	5299.959	5250 to 5350	Pass
				138	5299.958	5250 to 5350	Pass
			-30	120	5299.958	5250 to 5350	Pass
			-20	120	5299.958	5250 to 5350	Pass
			-10	120	5299.958	5250 to 5350	Pass
			0	120	5299.957	5250 to 5350	Pass
			10	120	5299.957	5250 to 5350	Pass
			30	120	5299.957	5250 to 5350	Pass
			40	120	5299.957	5250 to 5350	Pass
			50	120	5299.957	5250 to 5350	Pass
		5320	20	102	5319.959	5250 to 5350	Pass
				120	5319.959	5250 to 5350	Pass
				138	5319.958	5250 to 5350	Pass
			-30	120	5319.958	5250 to 5350	Pass
			-20	120	5319.958	5250 to 5350	Pass
			-10	120	5319.958	5250 to 5350	Pass
			0	120	5319.957	5250 to 5350	Pass
			10	120	5319.957	5250 to 5350	Pass
			30	120	5319.957	5250 to 5350	Pass
			40	120	5319.957	5250 to 5350	Pass
			50	120	5319.957	5250 to 5350	Pass
		5270	20	102	5269.960	5250 to 5350	Pass
				120	5269.959	5250 to 5350	Pass
				138	5269.958	5250 to 5350	Pass
			-30	120	5269.958	5250 to 5350	Pass
			-20	120	5269.958	5250 to 5350	Pass
			-10	120	5269.958	5250 to 5350	Pass
			0	120	5269.958	5250 to 5350	Pass
			10	120	5269.957	5250 to 5350	Pass
			30	120	5269.957	5250 to 5350	Pass
			40	120	5269.957	5250 to 5350	Pass
			50	120	5269.957	5250 to 5350	Pass
		5310	20	102	5309.959	5250 to 5350	Pass
				120	5309.958	5250 to 5350	Pass
				138	5309.958	5250 to 5350	Pass
			-30	120	5309.958	5250 to 5350	Pass
			-20	120	5309.957	5250 to 5350	Pass

			-10	120	5309.957	5250 to 5350	Pass
			0	120	5309.957	5250 to 5350	Pass
			10	120	5309.957	5250 to 5350	Pass
			30	120	5309.957	5250 to 5350	Pass
			40	120	5309.957	5250 to 5350	Pass
			50	120	5309.957	5250 to 5350	Pass
		5290	20	102	5289.961	5250 to 5350	Pass
				120	5289.960	5250 to 5350	Pass
				138	5289.959	5250 to 5350	Pass
			-30	120	5289.958	5250 to 5350	Pass
			-20	120	5289.958	5250 to 5350	Pass
			-10	120	5289.958	5250 to 5350	Pass
			0	120	5289.957	5250 to 5350	Pass
			10	120	5289.957	5250 to 5350	Pass
			30	120	5289.957	5250 to 5350	Pass
			40	120	5289.957	5250 to 5350	Pass
			50	120	5289.957	5250 to 5350	Pass