

Test Data for Wi-Fi 5G

Product Name: Grace Link Internet Radio Device

Test Model: GDI-WHAL01

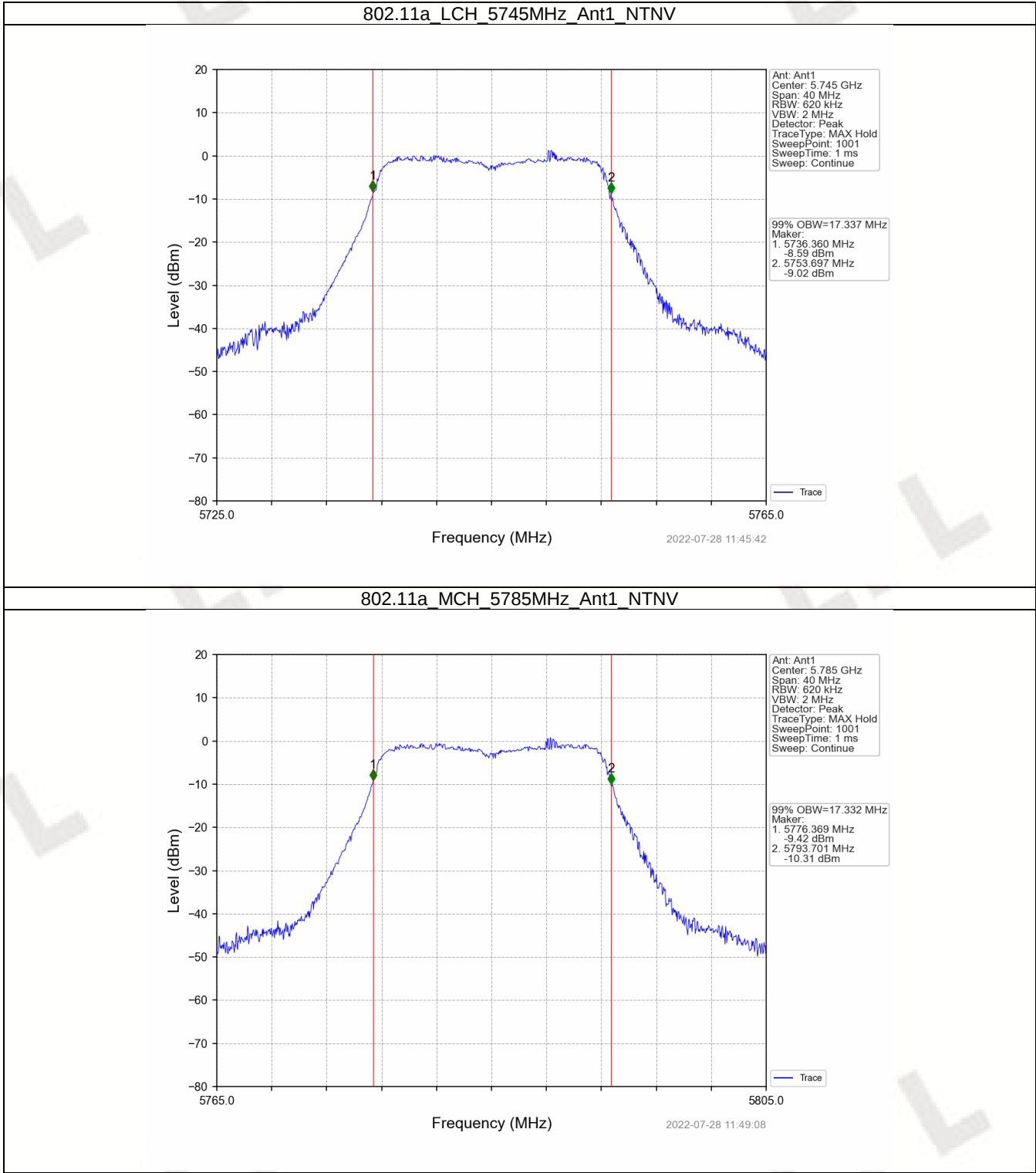
1. Bandwidth

1.1 OBW

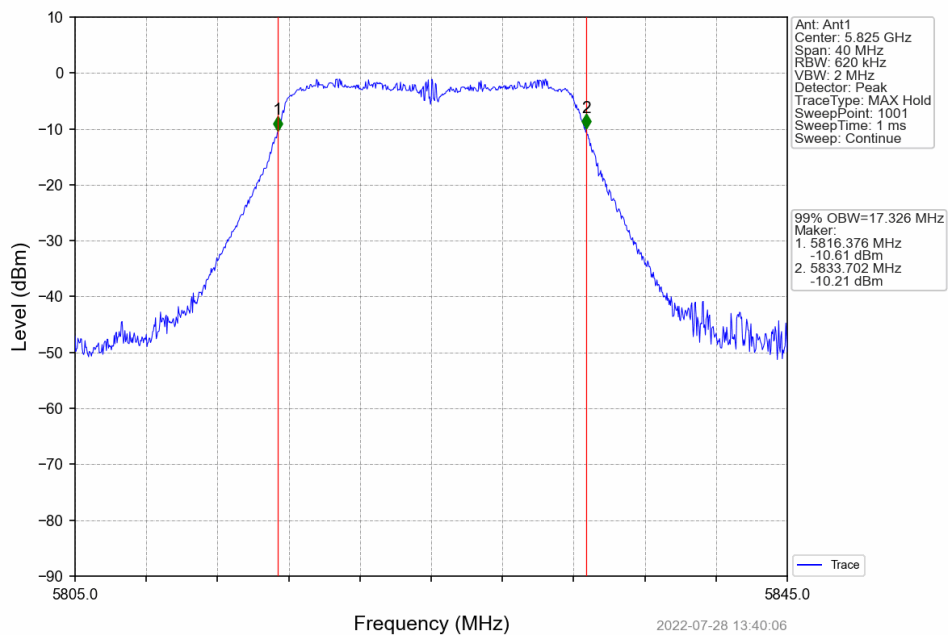
1.1.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)	Verdict
				Result	
802.11a	SISO	5745	1	17.337	Pass
		5785	1	17.332	Pass
		5825	1	17.326	Pass
802.11n (HT20)	SISO	5745	1	18.213	Pass
		5785	1	18.197	Pass
		5825	1	18.220	Pass
802.11ac (VHT20)	SISO	5745	1	18.230	Pass
		5785	1	18.239	Pass
		5825	1	18.276	Pass

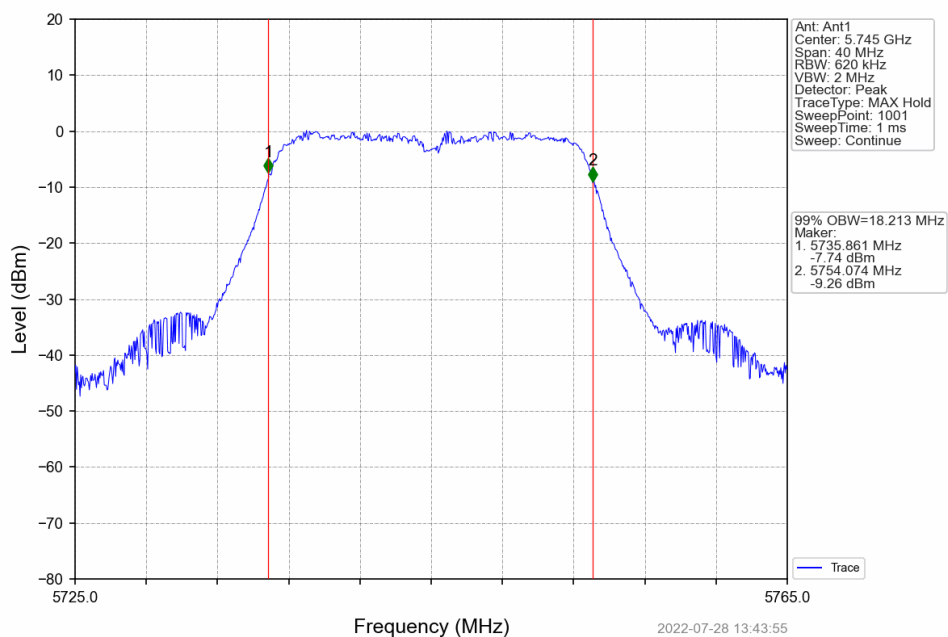
1.1.2 Test Graph



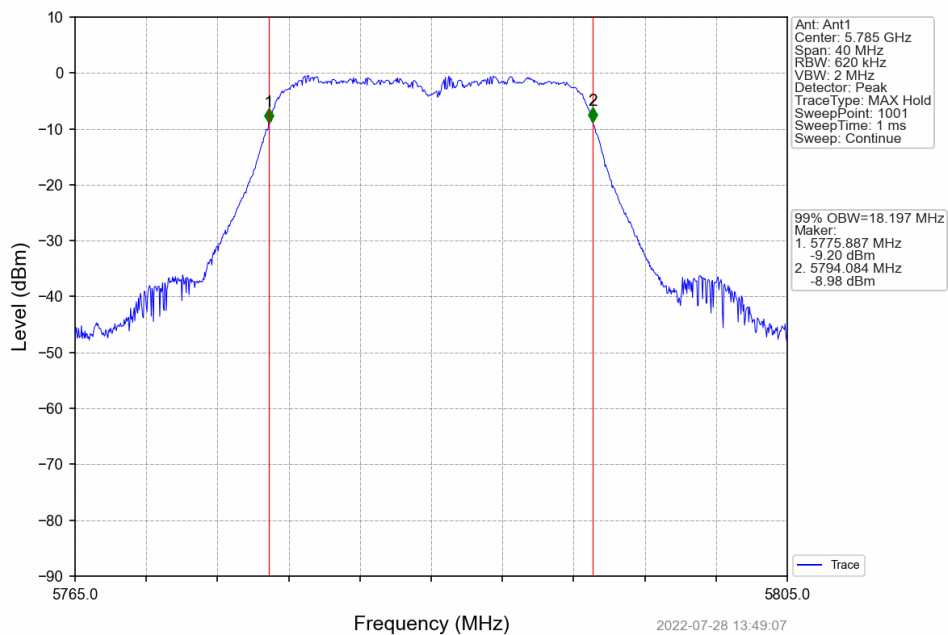
802.11a HCH 5825MHz Ant1 NTN



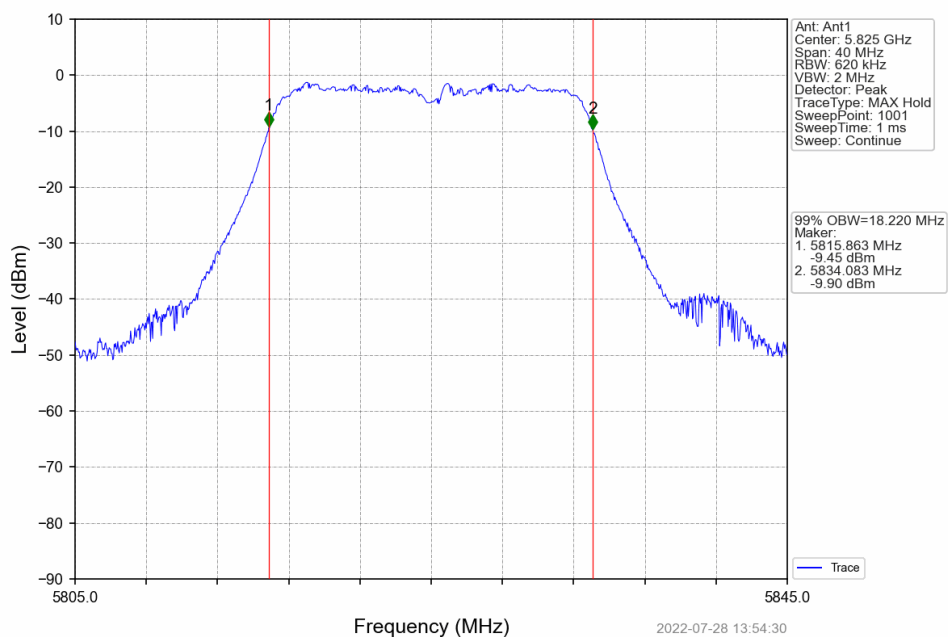
802.11n(HT20) LCH 5745MHz Ant1 NTN



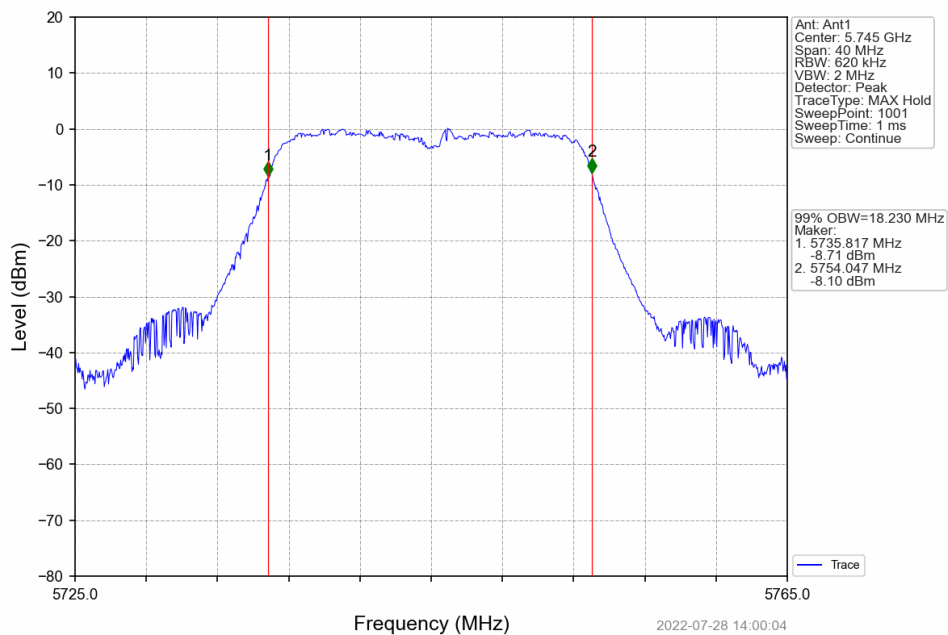
802.11n(HT20) MCH 5785MHz Ant1 NTN



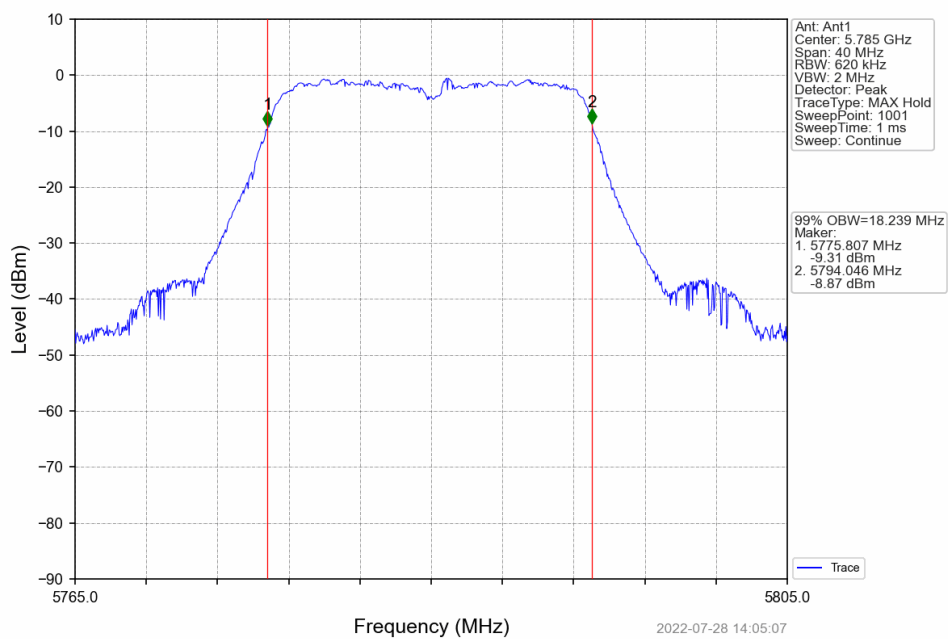
802.11n(HT20)_HCH_5825MHz_Ant1_NTN

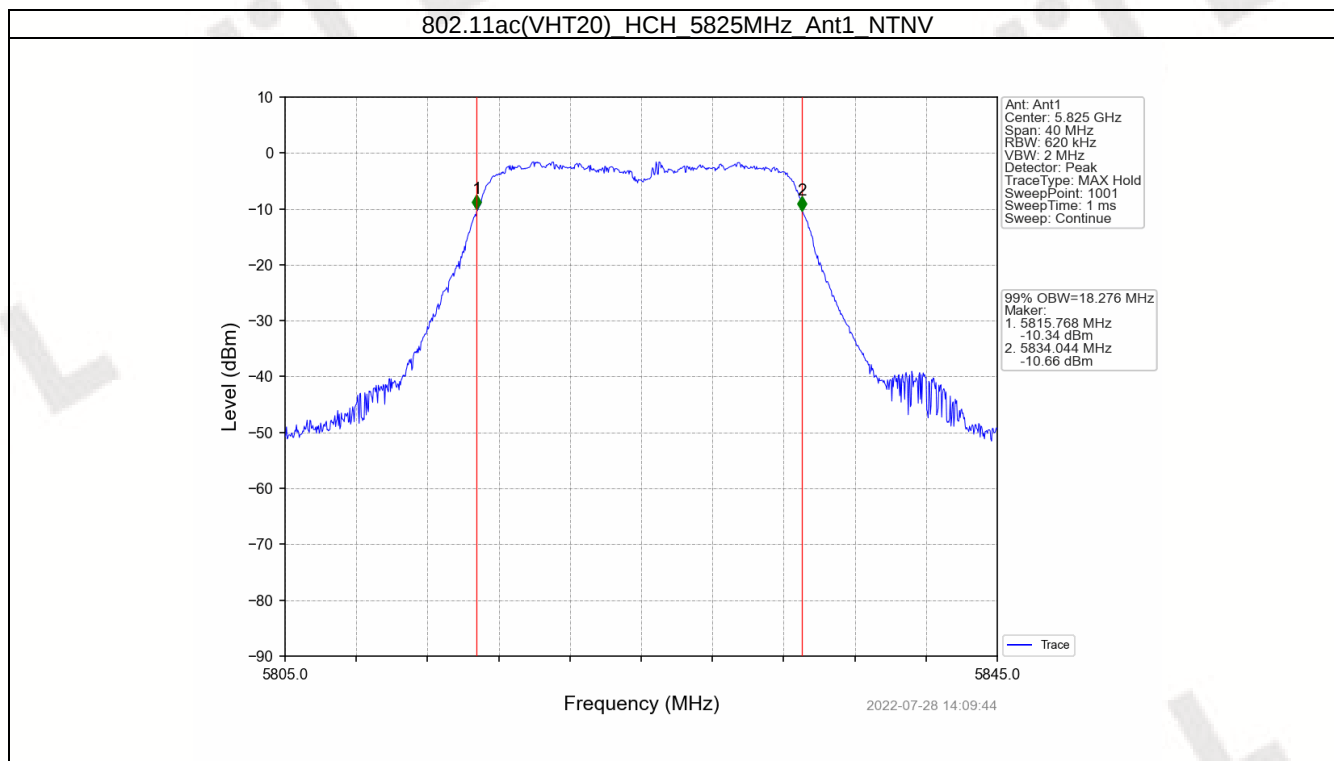


802.11ac(VHT20) LCH 5745MHz Ant1 NTNV



802.11ac(VHT20)_MCH_5785MHz_Ant1_NTNV



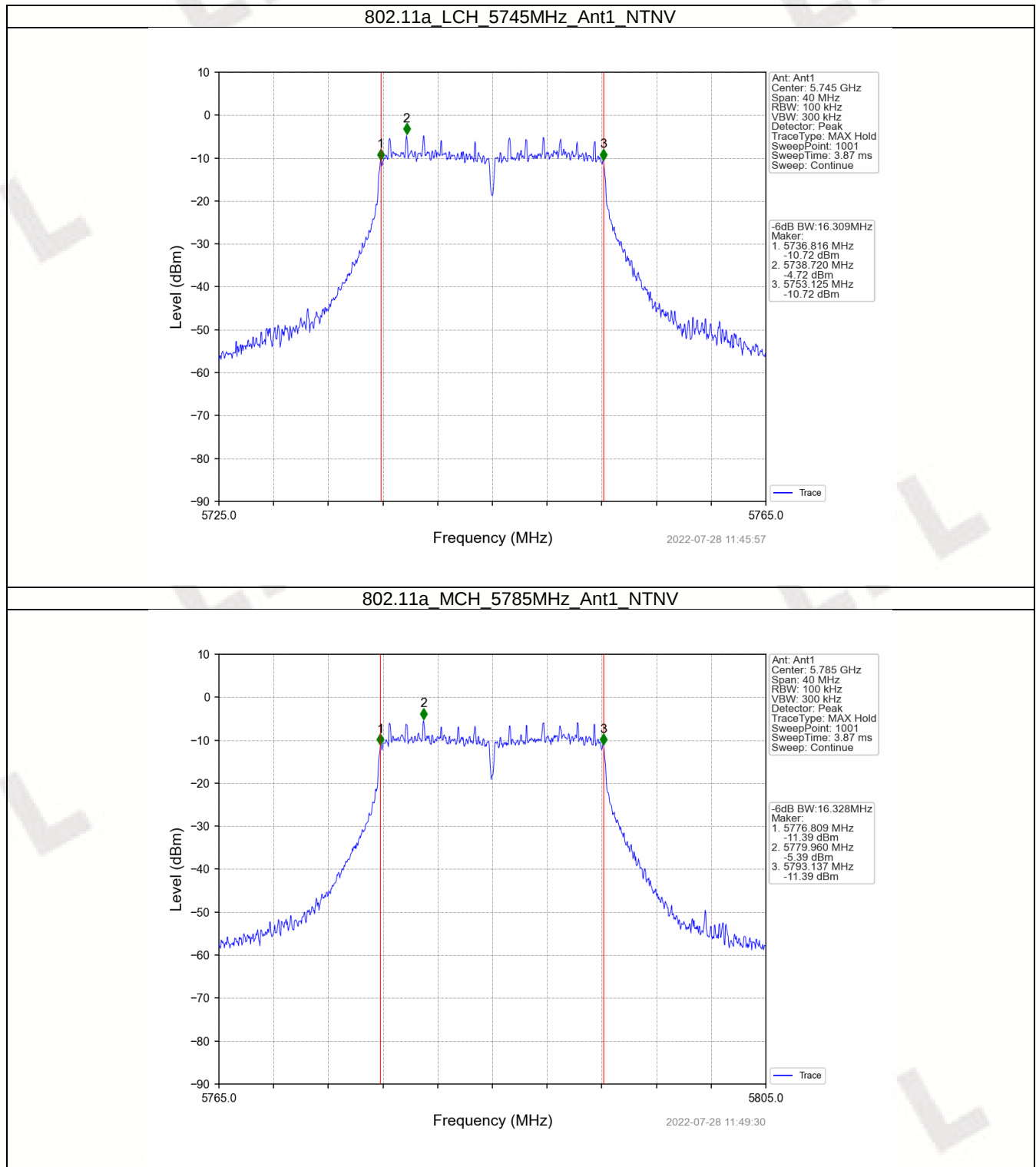


1.2 6dB BW

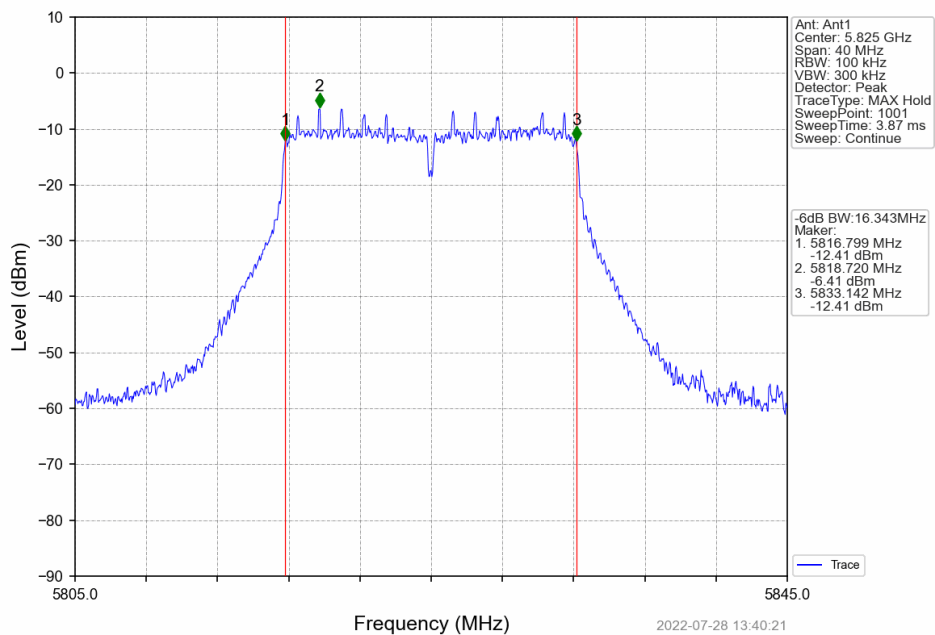
1.2.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5745	1	16.309	≥ 0.5	Pass
		5785	1	16.328	≥ 0.5	Pass
		5825	1	16.343	≥ 0.5	Pass
802.11n (HT20)	SISO	5745	1	16.851	≥ 0.5	Pass
		5785	1	16.805	≥ 0.5	Pass
		5825	1	16.750	≥ 0.5	Pass
802.11ac (VHT20)	SISO	5745	1	16.680	≥ 0.5	Pass
		5785	1	17.067	≥ 0.5	Pass
		5825	1	16.822	≥ 0.5	Pass

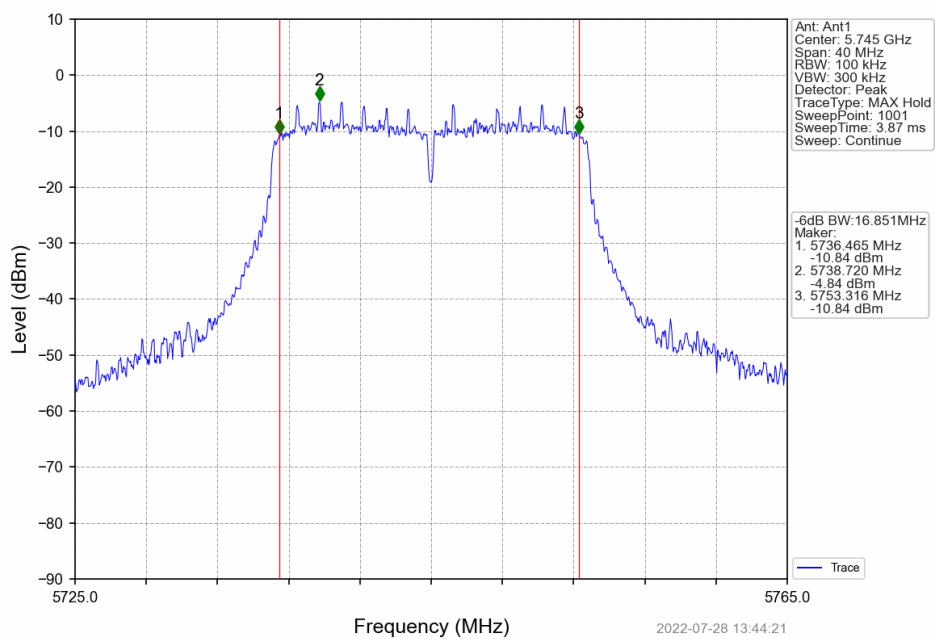
1.2.2 Test Graph



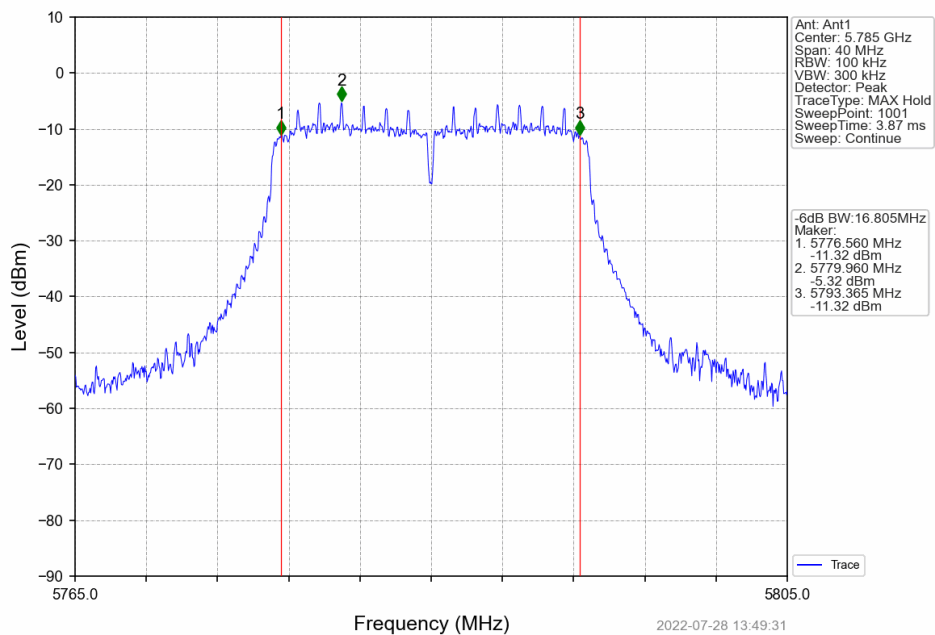
802.11a HCH 5825MHz Ant1 NTNV



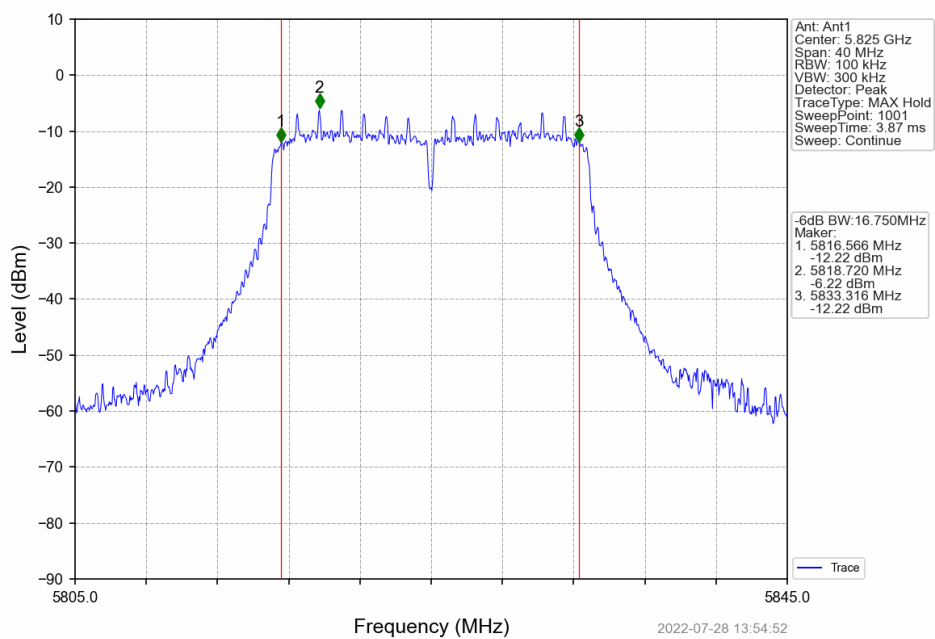
802.11n(HT20) LCH 5745MHz Ant1 NTNV



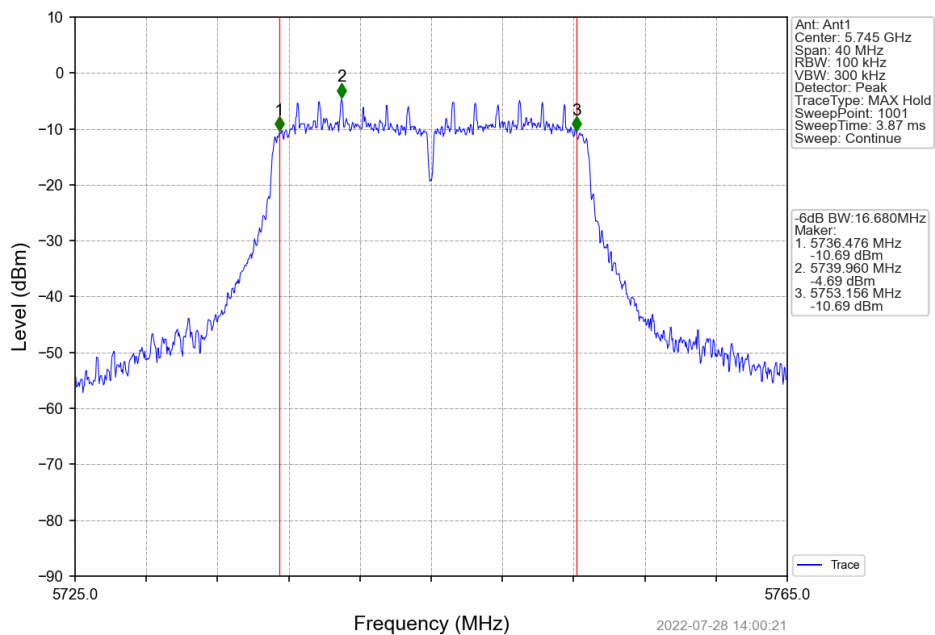
802.11n(HT20) MCH 5785MHz Ant1 NTN



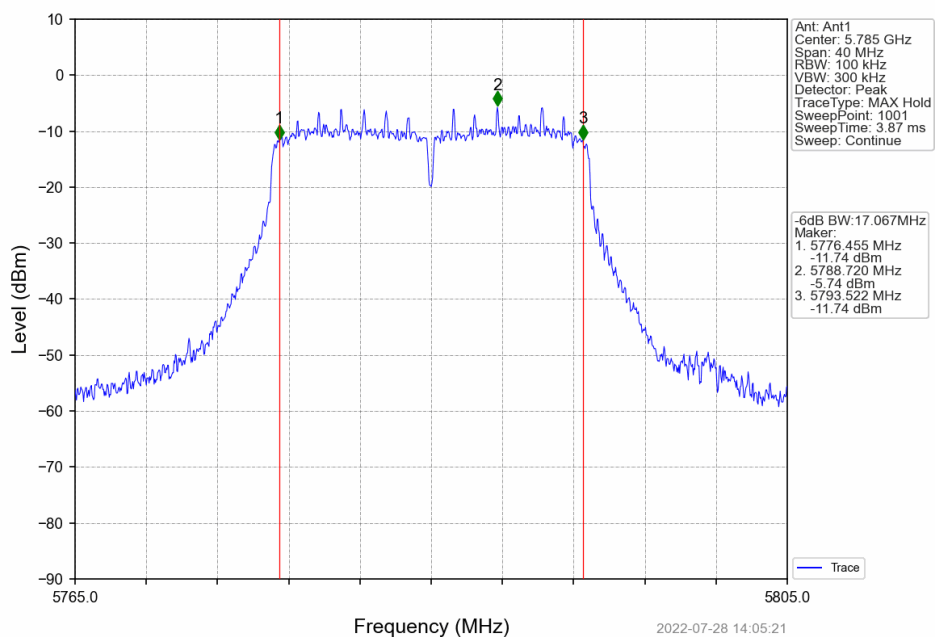
802.11n(HT20)_HCH_5825MHz_Ant1_NTN

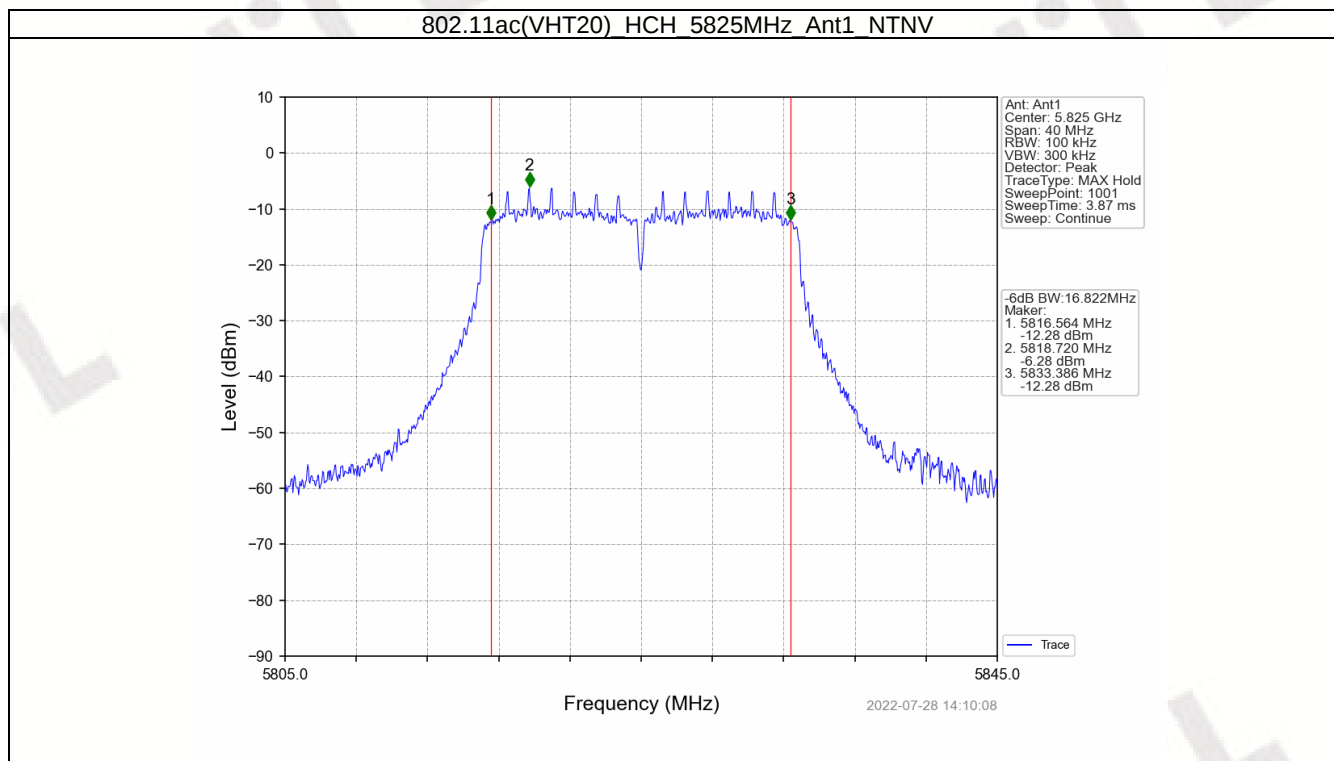


802.11ac(VHT20) LCH 5745MHz Ant1 NTNV



802.11ac(VHT20) MCH 5785MHz Ant1 NTNV





2. Maximum Conducted Output Power

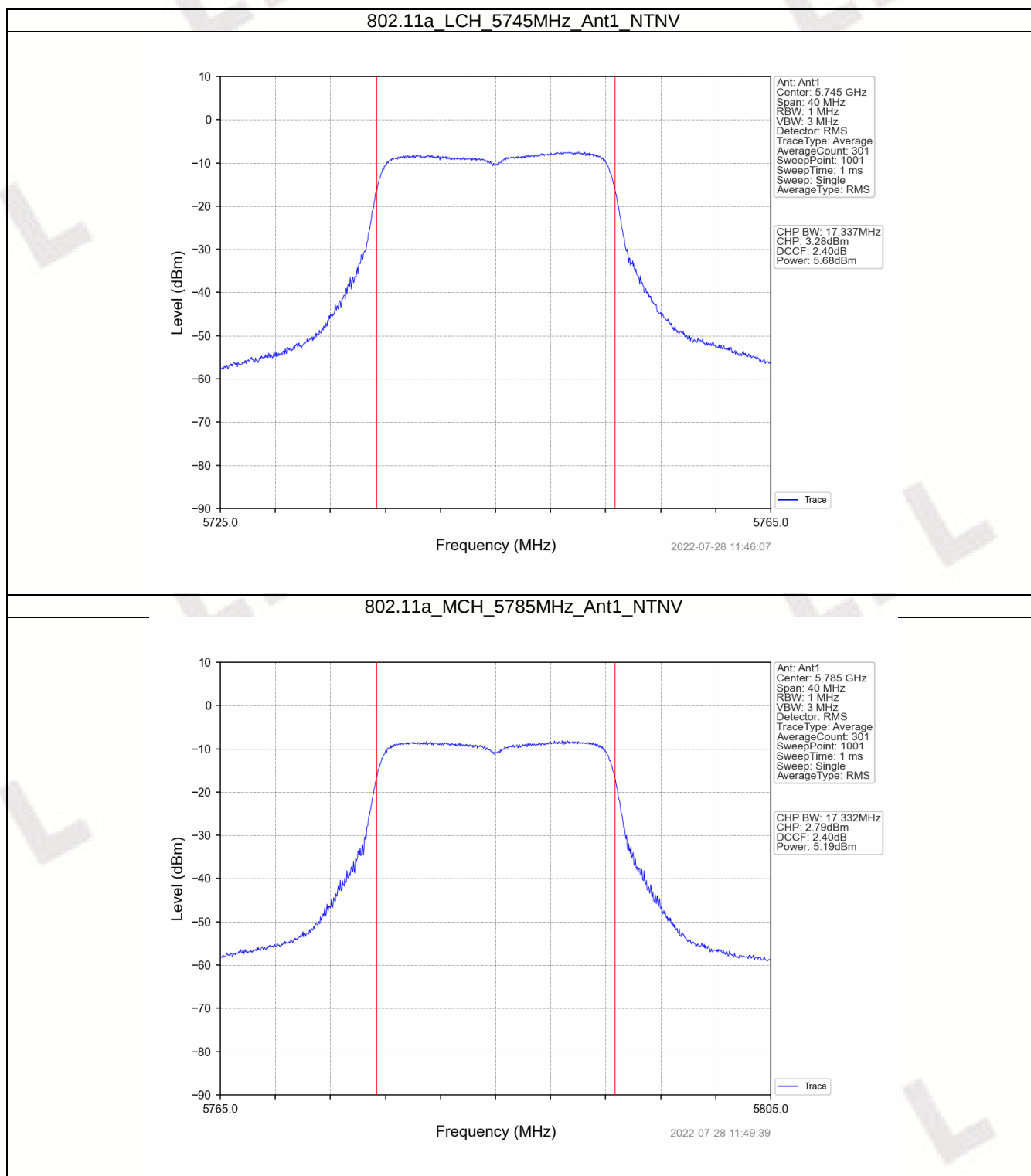
2.1 Power

2.1.1 Test Result

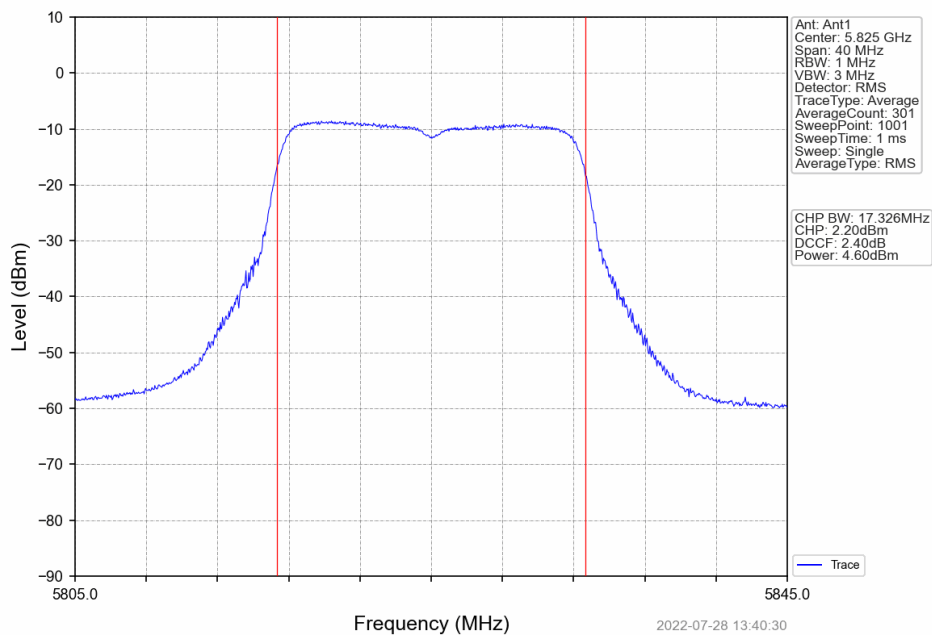
Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11a	SISO	5745	5.68	<=30	Pass
		5785	5.19	<=30	Pass
		5825	4.60	<=30	Pass
802.11n (HT20)	SISO	5745	5.97	<=30	Pass
		5785	5.35	<=30	Pass
		5825	4.48	<=30	Pass
802.11ac (VHT20)	SISO	5745	6.01	<=30	Pass
		5785	5.48	<=30	Pass
		5825	4.38	<=30	Pass

Note1: Antenna Gain: Ant1: 3.30dBi;

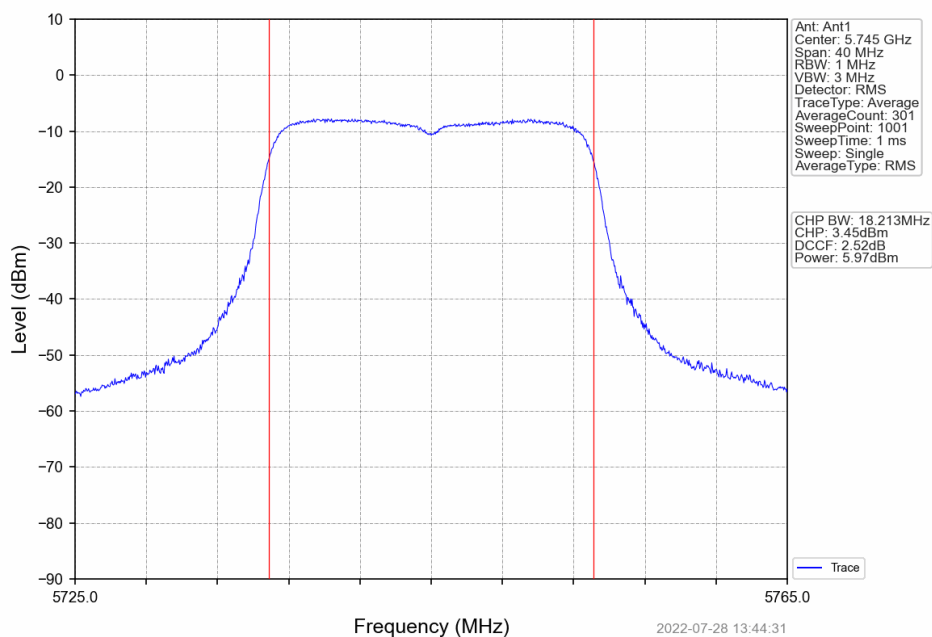
2.1.2 Test Graph



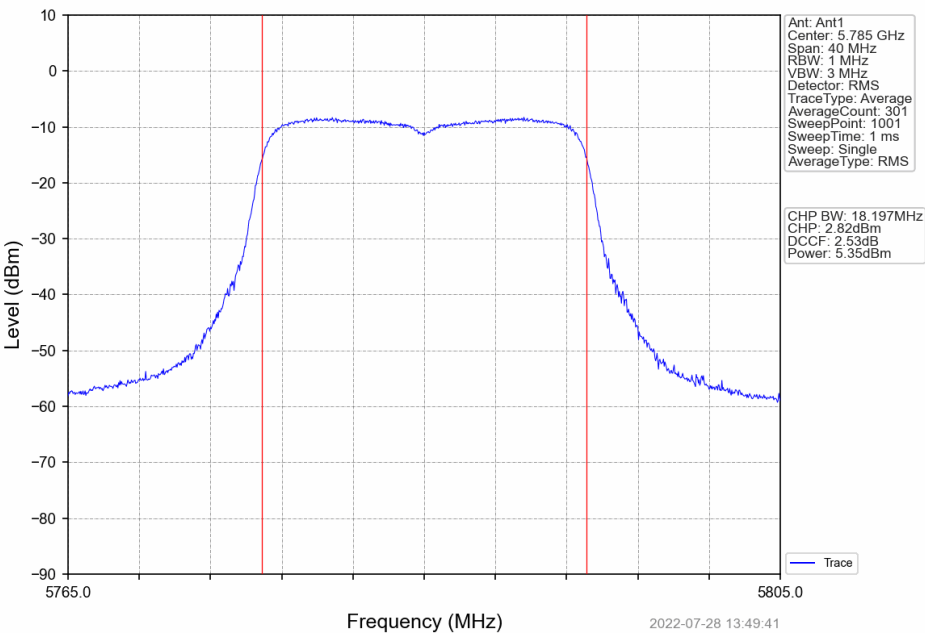
802.11a HCH 5825MHz Ant1 NTN



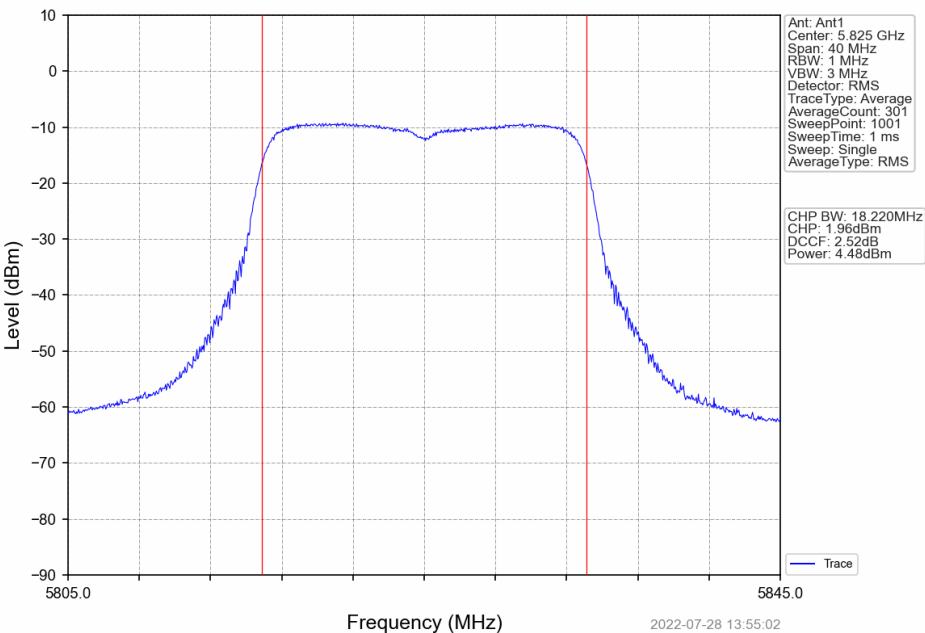
802.11n(HT20) LCH 5745MHz Ant1 NTN



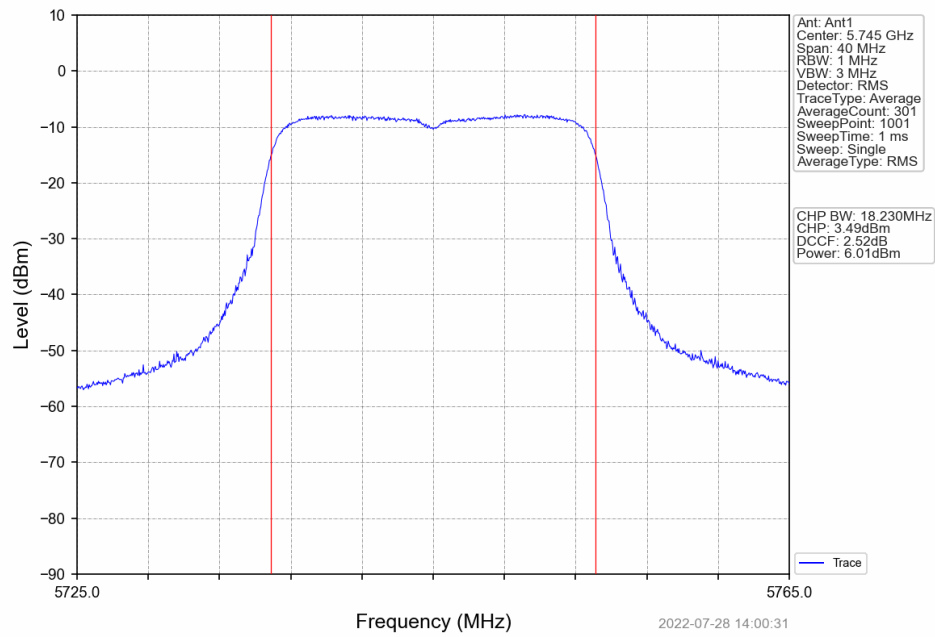
802.11n(HT20) MCH 5785MHz Ant1 NTN



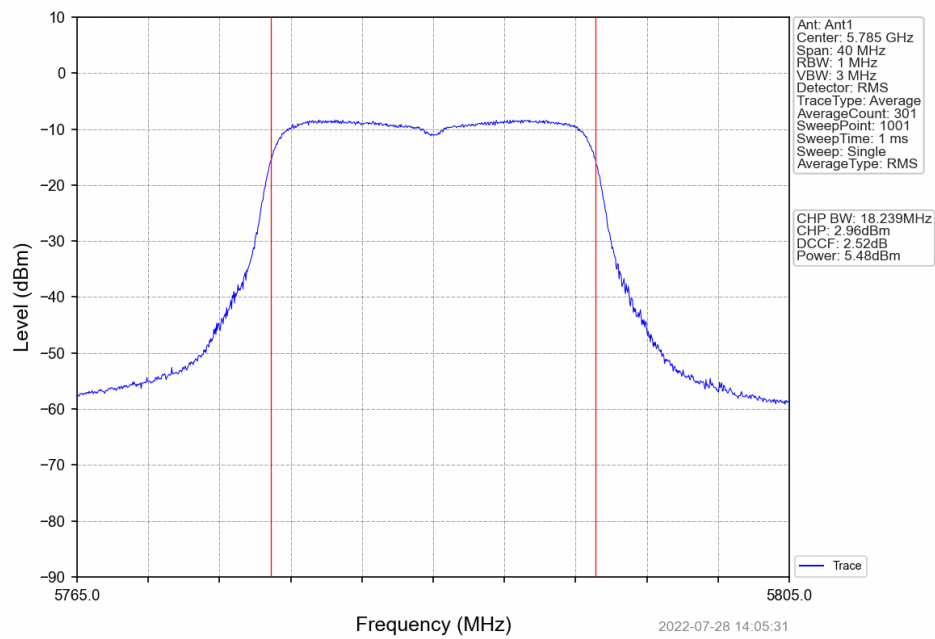
802.11n(HT20)_HCH_5825MHz_Ant1 NTN

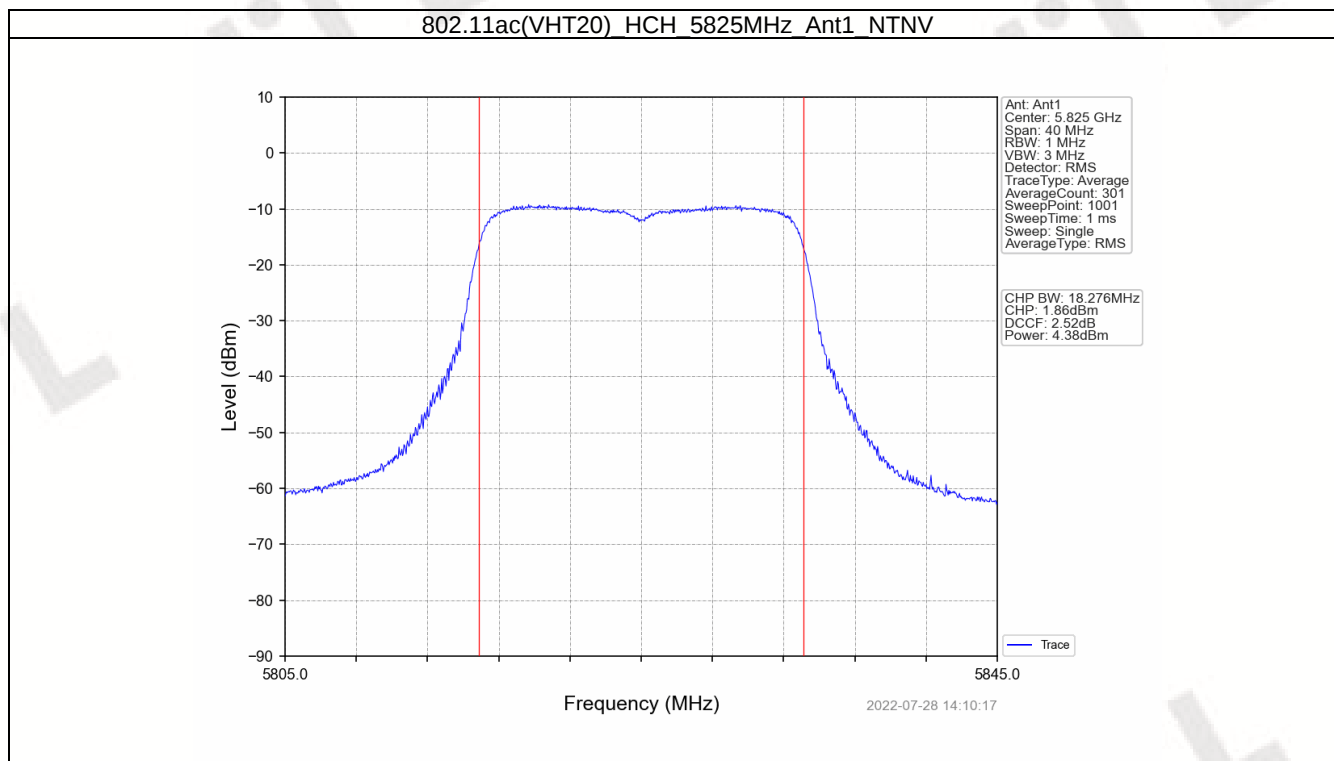


802.11ac(VHT20) LCH 5745MHz Ant1 NTN



802.11ac(VHT20)_MCH_5785MHz_Ant1_NTN





3. Maximum Power Spectral Density

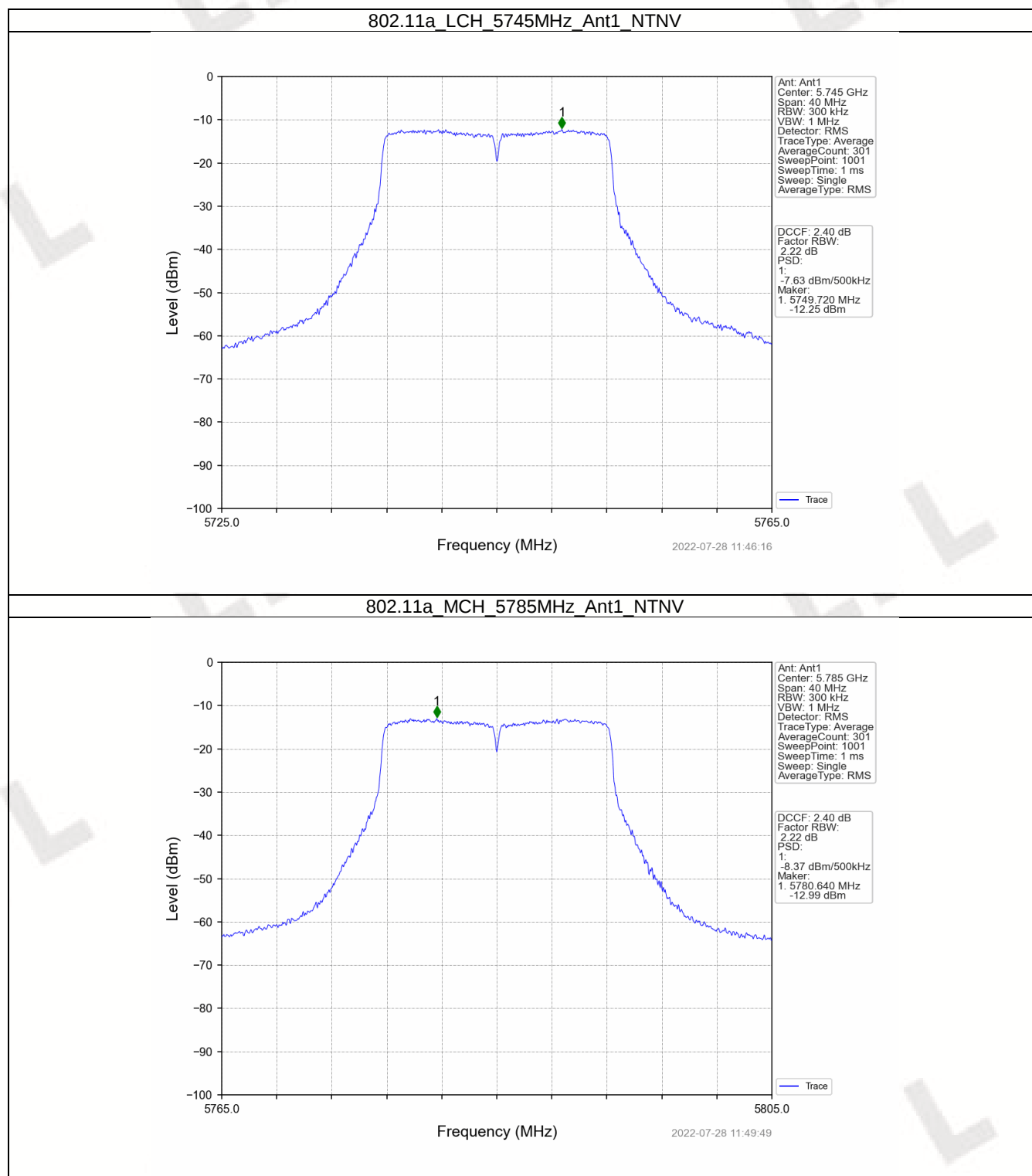
3.1 PSD-Band3

3.1.1 Test Result

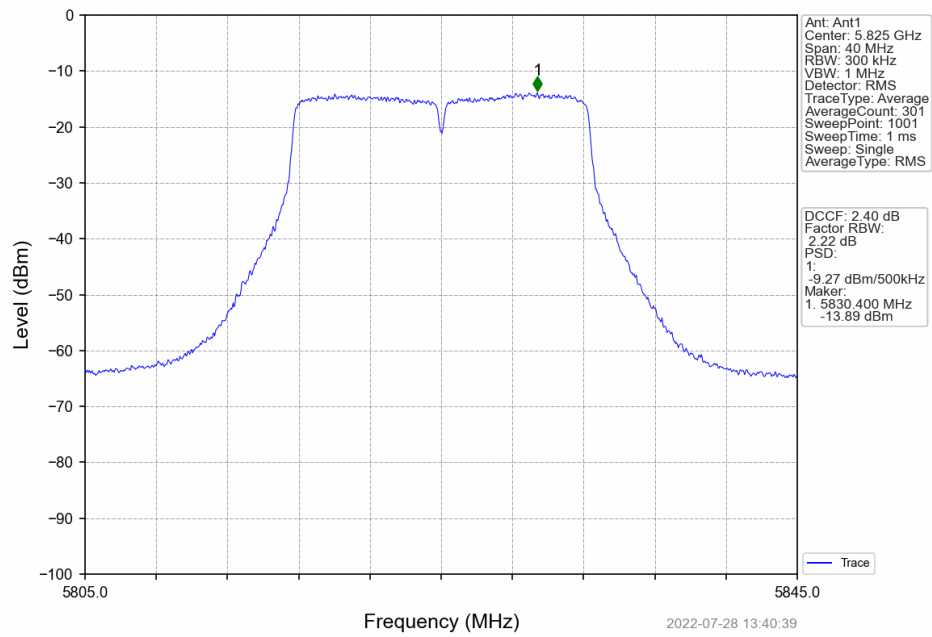
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/500kHz)		Verdict
			ANT1	Limit	
802.11a	SISO	5745	-7.63	<=30	Pass
		5785	-8.37	<=30	Pass
		5825	-9.27	<=30	Pass
802.11n (HT20)	SISO	5745	-8.28	<=30	Pass
		5785	-8.70	<=30	Pass
		5825	-9.44	<=30	Pass
802.11ac (VHT20)	SISO	5745	-7.83	<=30	Pass
		5785	-8.61	<=30	Pass
		5825	-9.55	<=30	Pass

Note1: Antenna Gain: Ant1: 3.30dBi;

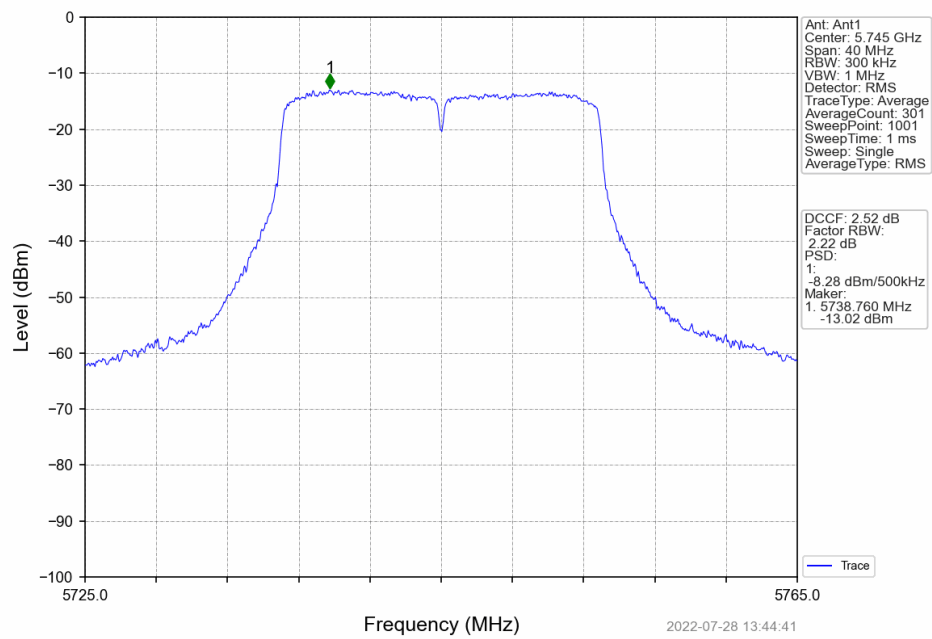
3.1.2 Test Graph



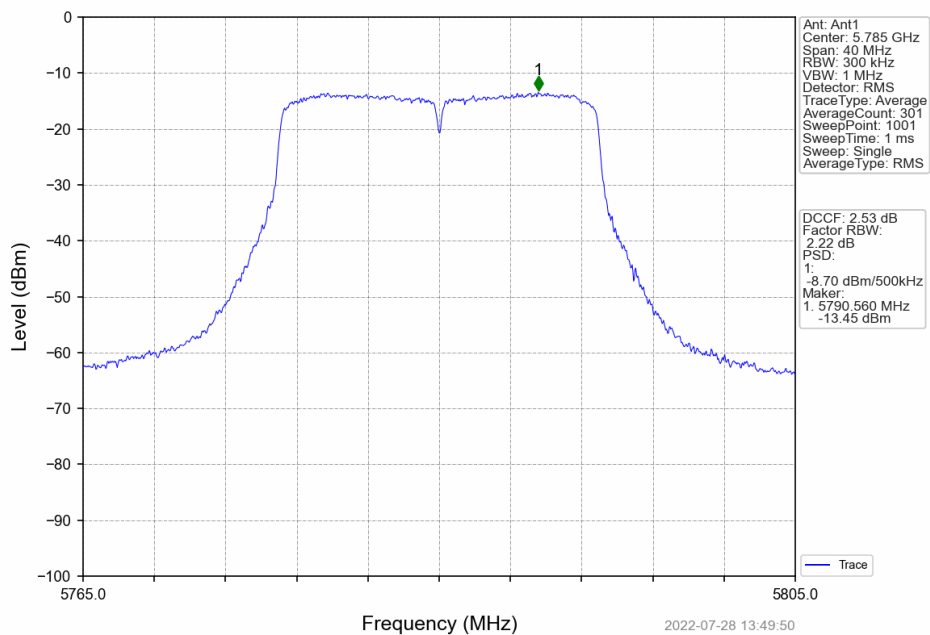
802.11a HCH 5825MHz Ant1 NTN



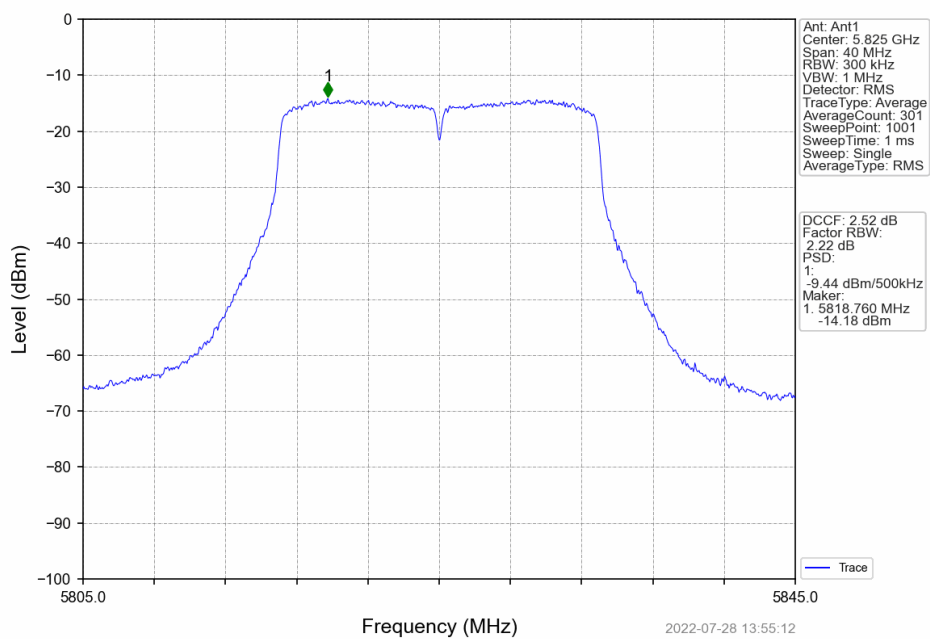
802.11n(HT20) LCH 5745MHz Ant1 NTN



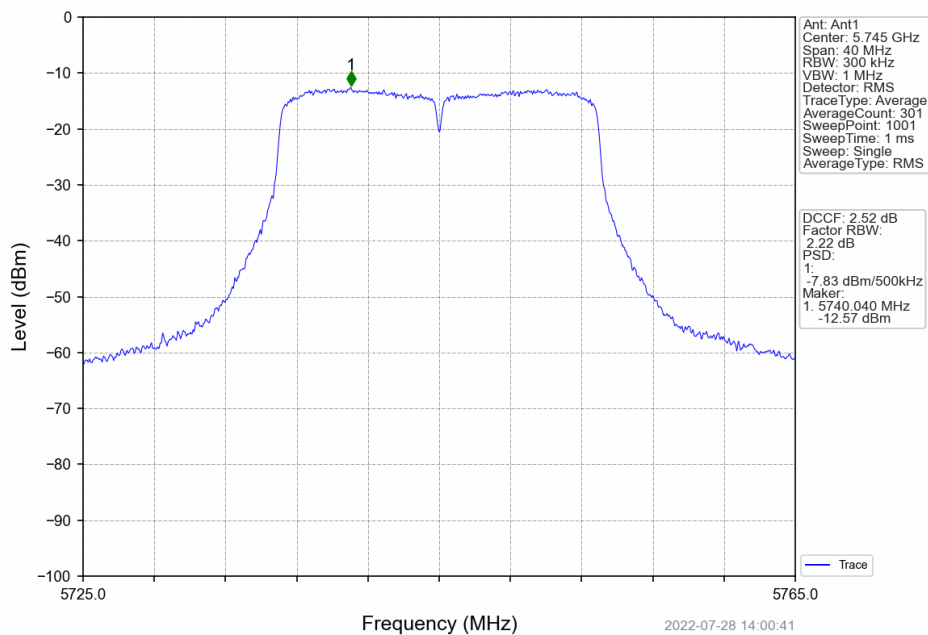
802.11n(HT20) MCH 5785MHz Ant1 NTN



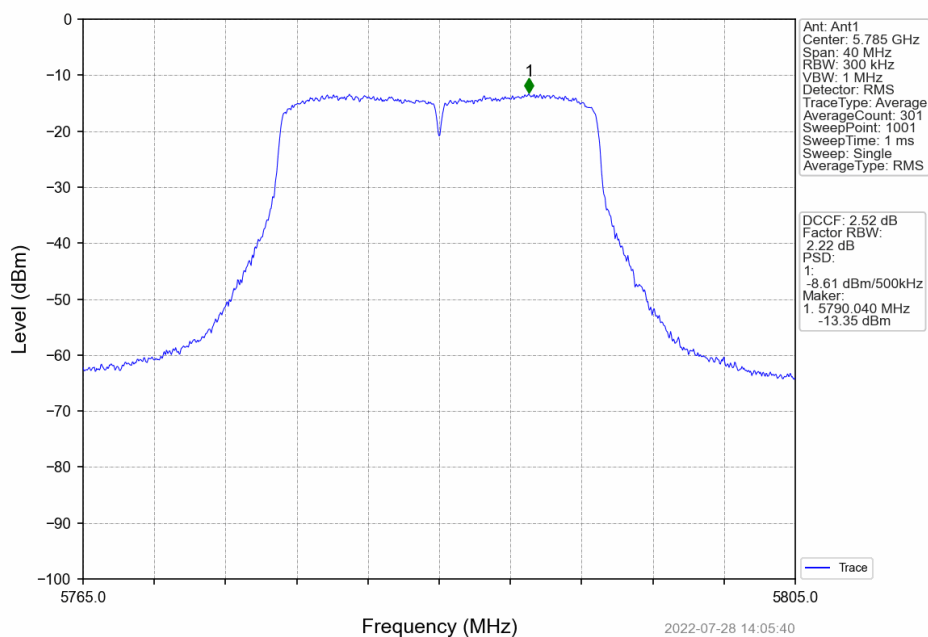
802.11n(HT20)_HCH_5825MHz_Ant1_NTN

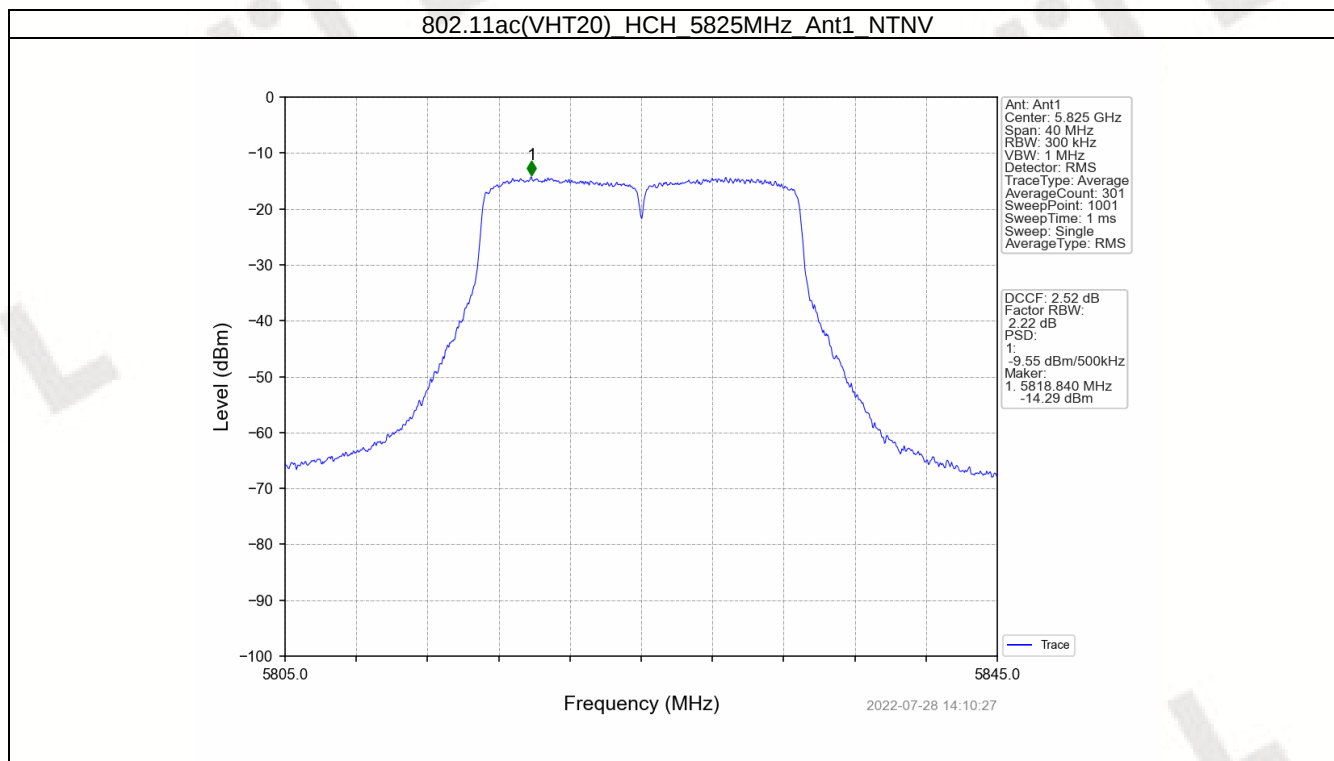


802.11ac(VHT20) LCH 5745MHz Ant1 NTN



802.11ac(VHT20) MCH 5785MHz 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
802.11a	SISO	5745	20	102	5744.980	5725 to 5850	Pass
				120	5745.020	5725 to 5850	Pass
				138	5745.000	5725 to 5850	Pass
			-30	120	5744.980	5725 to 5850	Pass
			-20	120	5744.980	5725 to 5850	Pass
			-10	120	5744.980	5725 to 5850	Pass
			0	120	5745.020	5725 to 5850	Pass
			10	120	5745.020	5725 to 5850	Pass
			30	120	5745.000	5725 to 5850	Pass
			40	120	5745.000	5725 to 5850	Pass
			50	120	5744.960	5725 to 5850	Pass
		5785	20	102	5785.000	5725 to 5850	Pass
				120	5784.980	5725 to 5850	Pass
				138	5785.040	5725 to 5850	Pass
			-30	120	5785.020	5725 to 5850	Pass
			-20	120	5785.020	5725 to 5850	Pass
			-10	120	5785.000	5725 to 5850	Pass
			0	120	5784.980	5725 to 5850	Pass
			10	120	5785.000	5725 to 5850	Pass
			30	120	5785.020	5725 to 5850	Pass
			40	120	5785.020	5725 to 5850	Pass
			50	120	5785.020	5725 to 5850	Pass
		5825	20	102	5825.020	5725 to 5850	Pass
				120	5824.980	5725 to 5850	Pass
				138	5825.060	5725 to 5850	Pass
			-30	120	5825.020	5725 to 5850	Pass
			-20	120	5824.980	5725 to 5850	Pass
			-10	120	5825.040	5725 to 5850	Pass
			0	120	5825.000	5725 to 5850	Pass
			10	120	5825.020	5725 to 5850	Pass
			30	120	5825.020	5725 to 5850	Pass
			40	120	5825.000	5725 to 5850	Pass
			50	120	5825.020	5725 to 5850	Pass
802.11n (HT20)	SISO	5745	20	102	5744.980	5725 to 5850	Pass
				120	5744.980	5725 to 5850	Pass
				138	5745.000	5725 to 5850	Pass
			-30	120	5744.980	5725 to 5850	Pass
			-20	120	5745.020	5725 to 5850	Pass
			-10	120	5744.960	5725 to 5850	Pass
			0	120	5745.000	5725 to 5850	Pass
			10	120	5744.960	5725 to 5850	Pass
			30	120	5744.980	5725 to 5850	Pass
			40	120	5745.020	5725 to 5850	Pass
			50	120	5745.000	5725 to 5850	Pass
		5785	20	102	5785.000	5725 to 5850	Pass
				120	5784.980	5725 to 5850	Pass
				138	5784.940	5725 to 5850	Pass
			-30	120	5785.000	5725 to 5850	Pass
			-20	120	5785.020	5725 to 5850	Pass

			-10	120	5784.960	5725 to 5850	Pass
			0	120	5785.000	5725 to 5850	Pass
			10	120	5784.980	5725 to 5850	Pass
			30	120	5785.000	5725 to 5850	Pass
			40	120	5785.020	5725 to 5850	Pass
			50	120	5785.020	5725 to 5850	Pass
		5825	20	102	5825.000	5725 to 5850	Pass
				120	5824.980	5725 to 5850	Pass
				138	5825.020	5725 to 5850	Pass
			-30	120	5825.020	5725 to 5850	Pass
			-20	120	5824.980	5725 to 5850	Pass
			-10	120	5824.980	5725 to 5850	Pass
			0	120	5825.040	5725 to 5850	Pass
			10	120	5825.020	5725 to 5850	Pass
			30	120	5825.000	5725 to 5850	Pass
			40	120	5824.960	5725 to 5850	Pass
			50	120	5825.000	5725 to 5850	Pass
802.11ac (VHT20)	SISO	5745	20	102	5744.960	5725 to 5850	Pass
				120	5744.980	5725 to 5850	Pass
				138	5744.940	5725 to 5850	Pass
			-30	120	5745.000	5725 to 5850	Pass
			-20	120	5744.960	5725 to 5850	Pass
			-10	120	5745.000	5725 to 5850	Pass
			0	120	5744.960	5725 to 5850	Pass
			10	120	5744.960	5725 to 5850	Pass
			30	120	5745.000	5725 to 5850	Pass
			40	120	5745.020	5725 to 5850	Pass
			50	120	5744.960	5725 to 5850	Pass
		5785	20	102	5785.000	5725 to 5850	Pass
				120	5784.960	5725 to 5850	Pass
				138	5784.960	5725 to 5850	Pass
			-30	120	5784.980	5725 to 5850	Pass
			-20	120	5784.960	5725 to 5850	Pass
			-10	120	5785.000	5725 to 5850	Pass
			0	120	5784.940	5725 to 5850	Pass
			10	120	5785.000	5725 to 5850	Pass
			30	120	5784.980	5725 to 5850	Pass
			40	120	5784.980	5725 to 5850	Pass
			50	120	5784.960	5725 to 5850	Pass
		5825	20	102	5824.940	5725 to 5850	Pass
				120	5824.960	5725 to 5850	Pass
				138	5825.000	5725 to 5850	Pass
			-30	120	5825.000	5725 to 5850	Pass
			-20	120	5825.000	5725 to 5850	Pass
			-10	120	5825.000	5725 to 5850	Pass
			0	120	5824.980	5725 to 5850	Pass
			10	120	5824.980	5725 to 5850	Pass
			30	120	5824.960	5725 to 5850	Pass
			40	120	5824.940	5725 to 5850	Pass
			50	120	5824.960	5725 to 5850	Pass