



Shenzhen CTL Testing Technology Co., Ltd.

Tel: +86-755-89486194 E-mail: ctl@ctl-lab.com

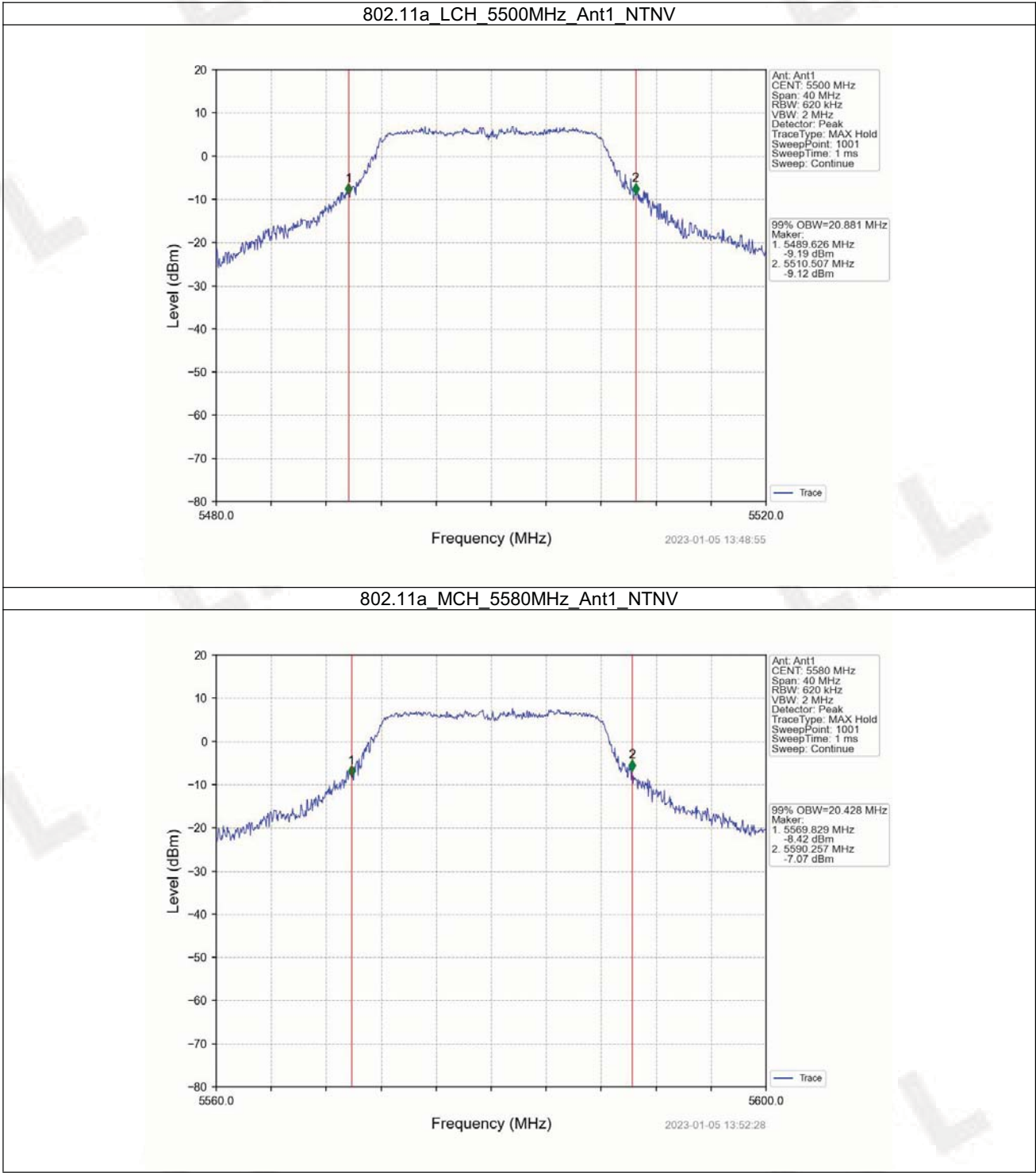
1. Bandwidth

1.1 OBW

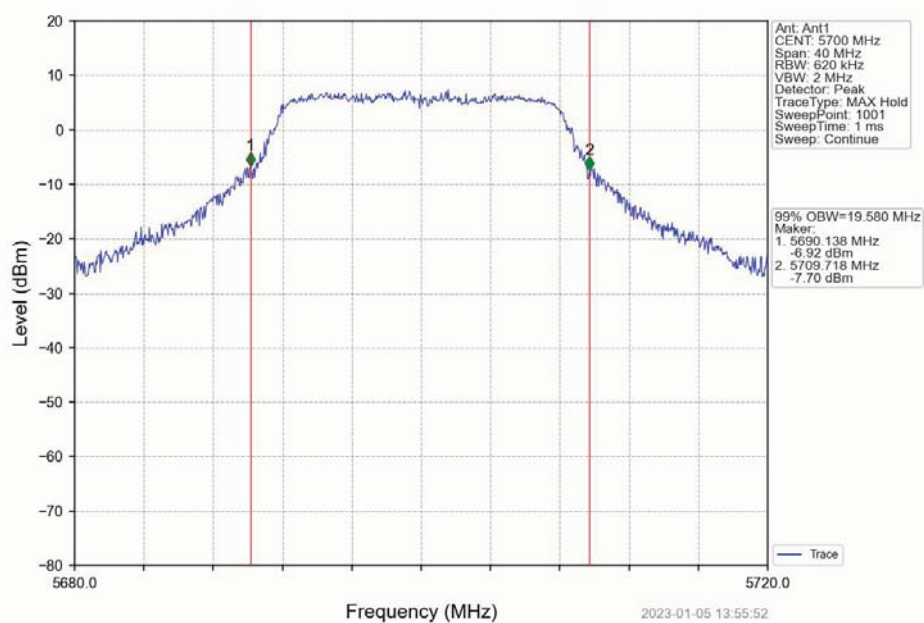
1.1.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)	Verdict
				Result	
802.11a	SISO	5500	1	20.881	Pass
		5580	1	20.428	Pass
		5700	1	19.580	Pass
802.11n (HT20)	SISO	5500	1	21.197	Pass
		5580	1	21.136	Pass
		5700	1	20.640	Pass
802.11n (HT40)	SISO	5510	1	38.759	Pass
		5550	1	38.772	Pass
		5670	1	38.659	Pass
802.11ac (VHT20)	SISO	5500	1	21.118	Pass
		5580	1	21.317	Pass
		5700	1	20.464	Pass
802.11ac (VHT40)	SISO	5510	1	38.468	Pass
		5550	1	38.595	Pass
		5670	1	38.608	Pass

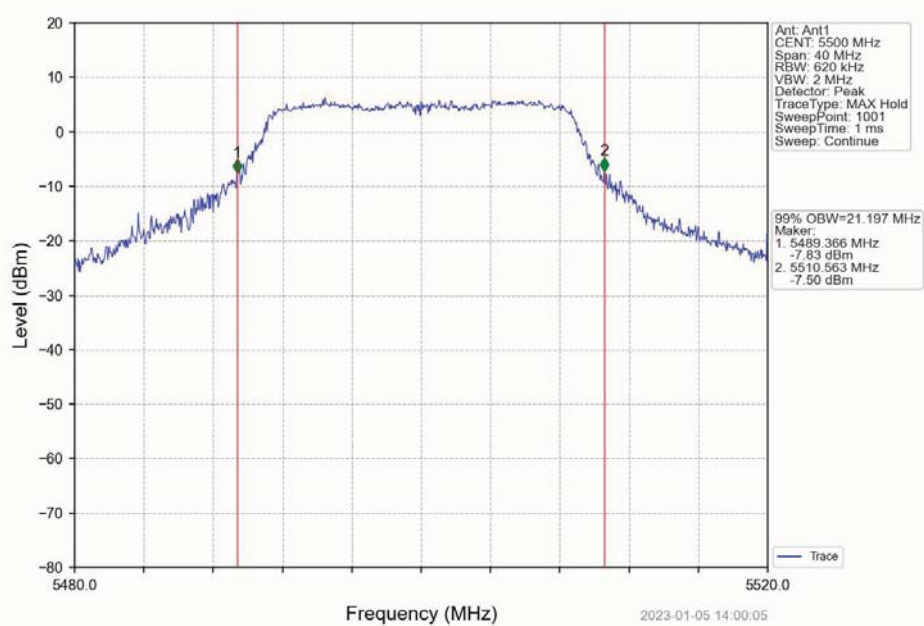
1.1.2 Test Graph



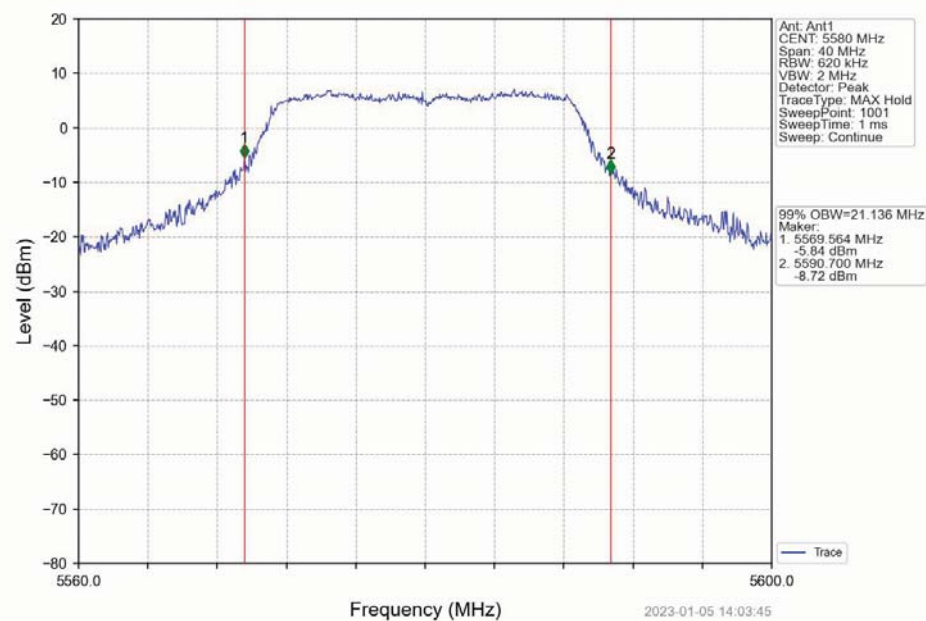
802.11a_HCH_5700MHz_Ant1_NTNV



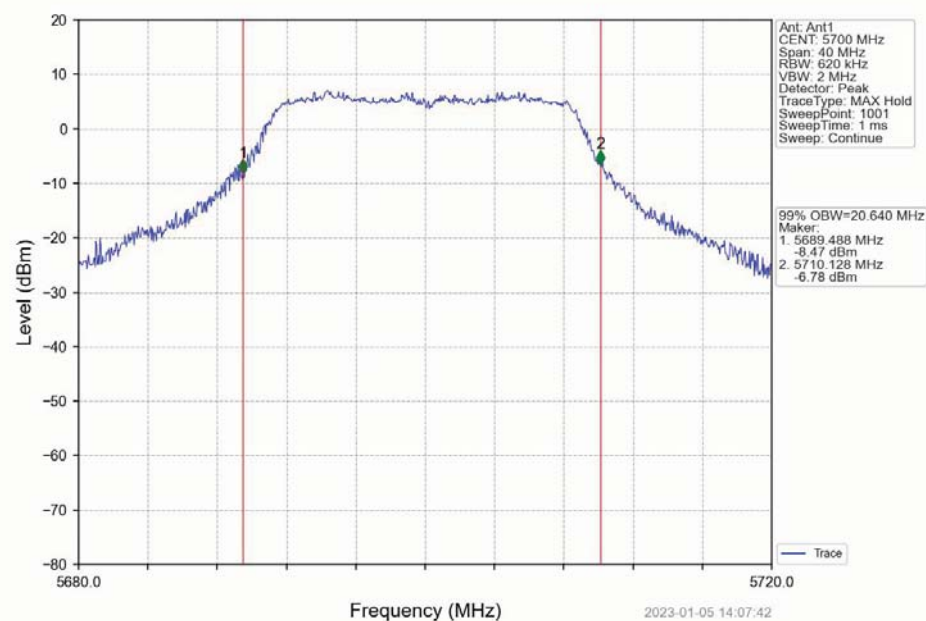
802.11n(HT20)_LCH_5500MHz_Ant1_NTNV



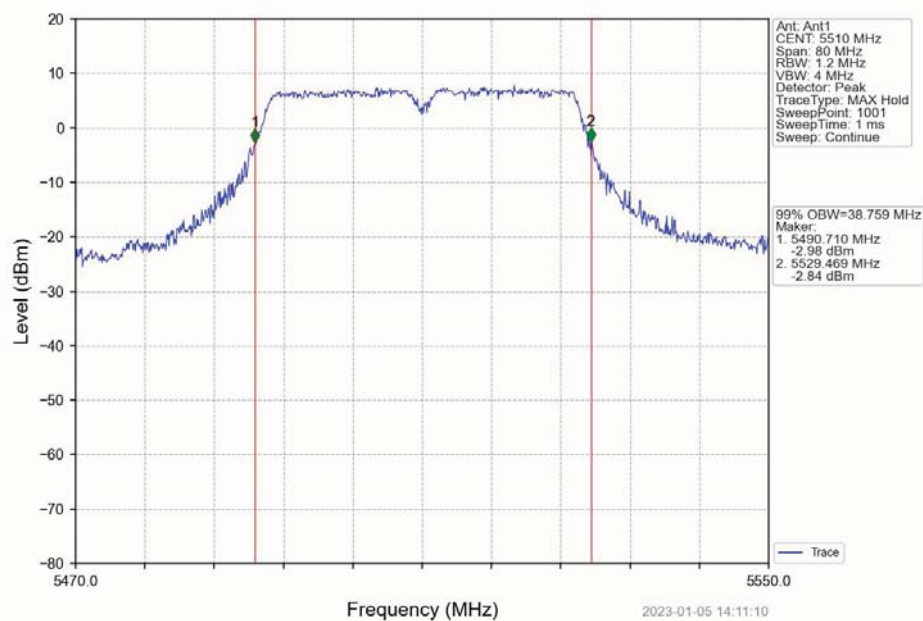
802.11n(HT20)_MCH_5580MHz_Ant1_NTNV



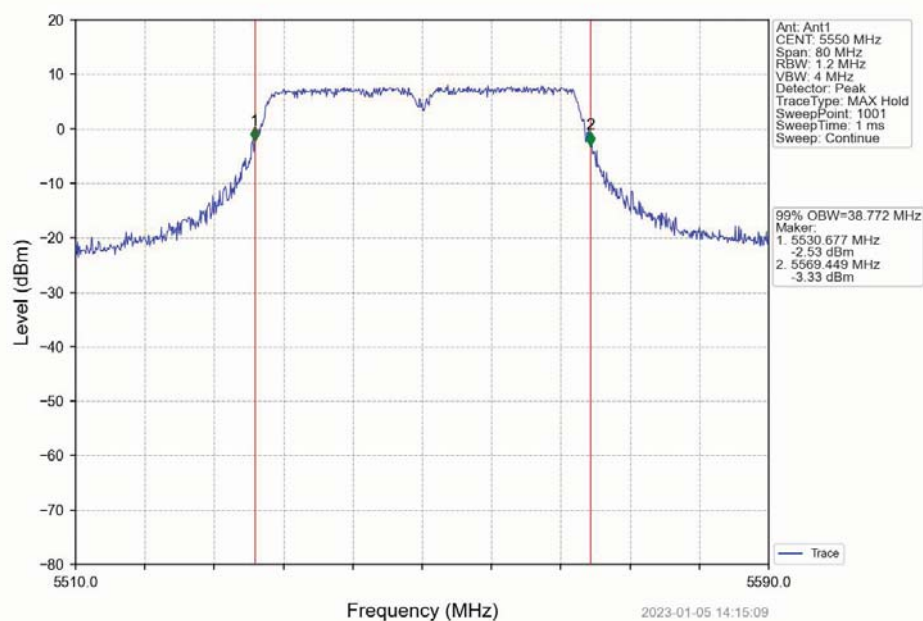
802.11n(HT20)_HCH_5700MHz_Ant1_NTNV



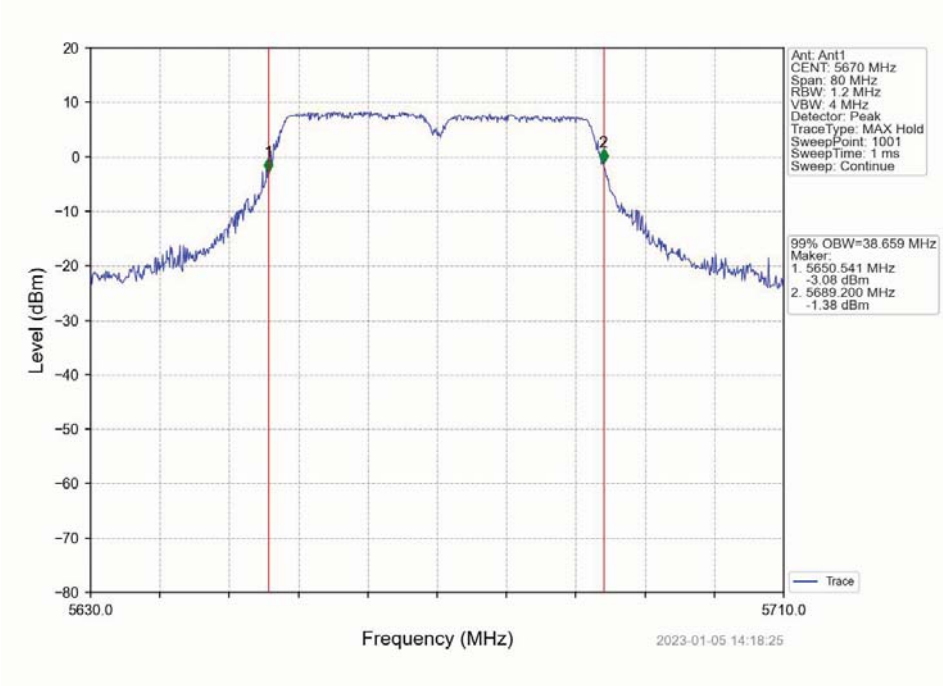
802.11n(HT40)_LCH_5510MHz_Ant1_NTNV



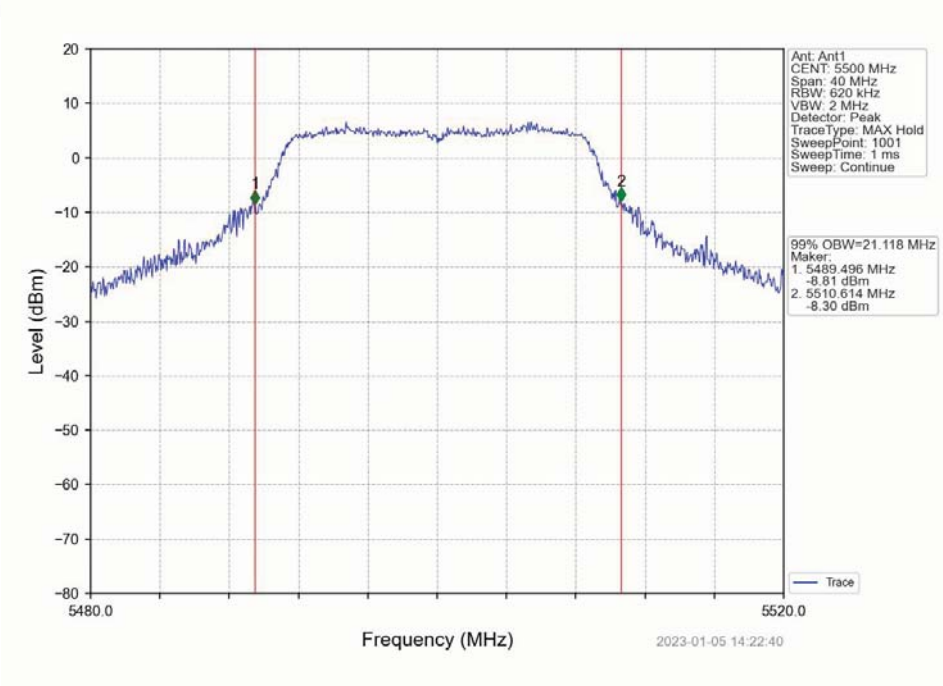
802.11n(HT40)_MCH_5550MHz_Ant1_NTNV



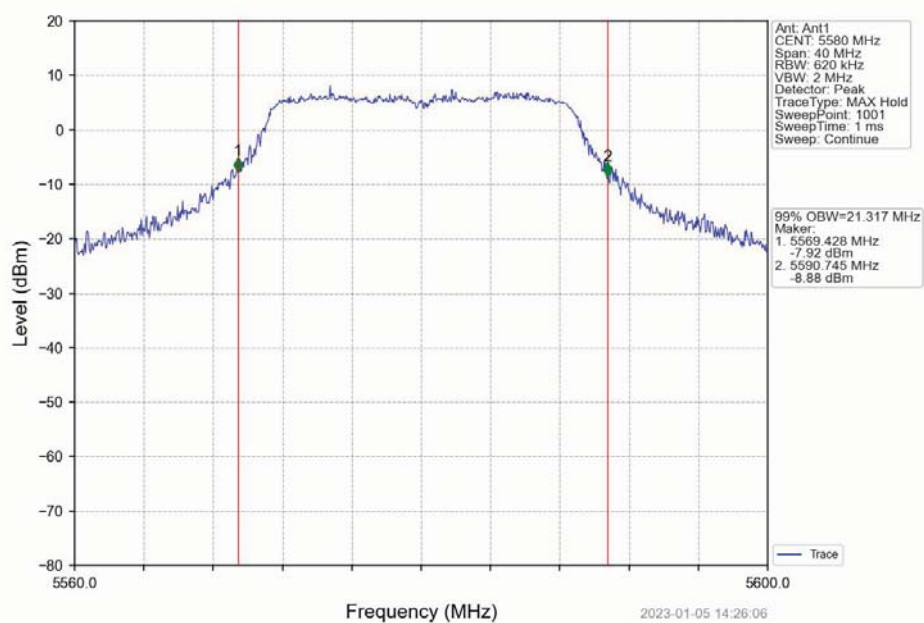
802.11n(HT40)_HCH_5670MHz_Ant1_NTNV



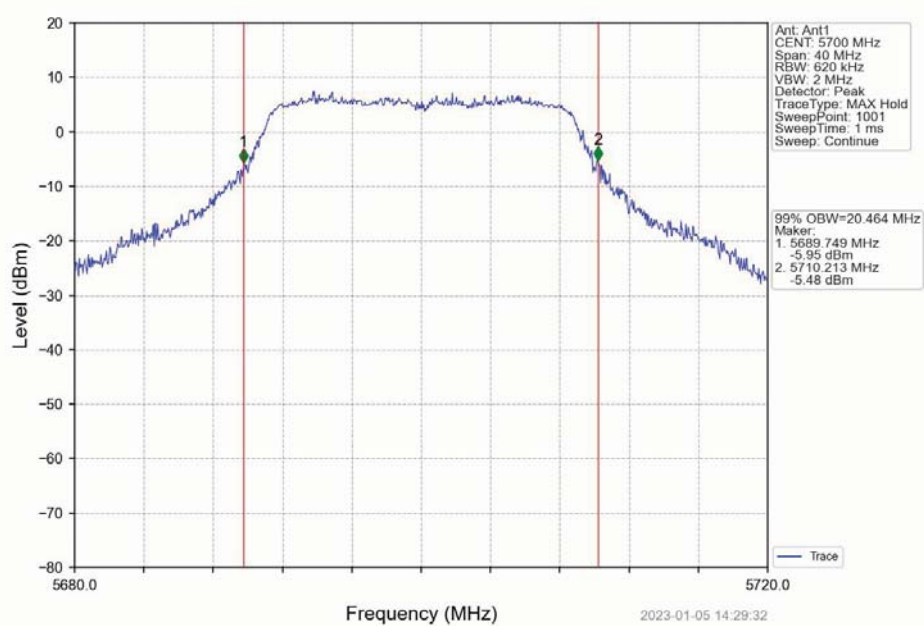
802.11ac(VHT20)_LCH_5500MHz_Ant1_NTNV



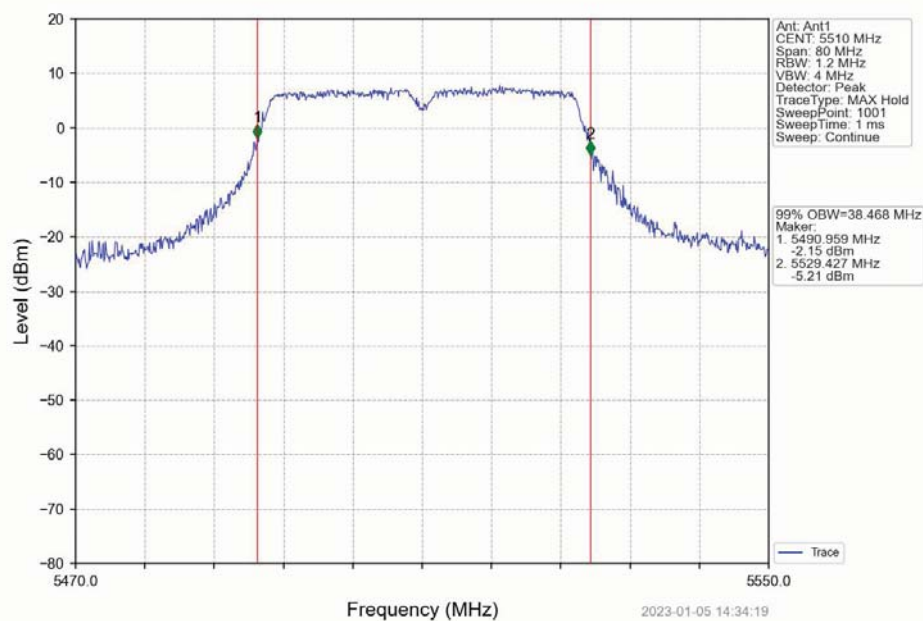
802.11ac(VHT20)_MCH_5580MHz_Ant1_NTNV



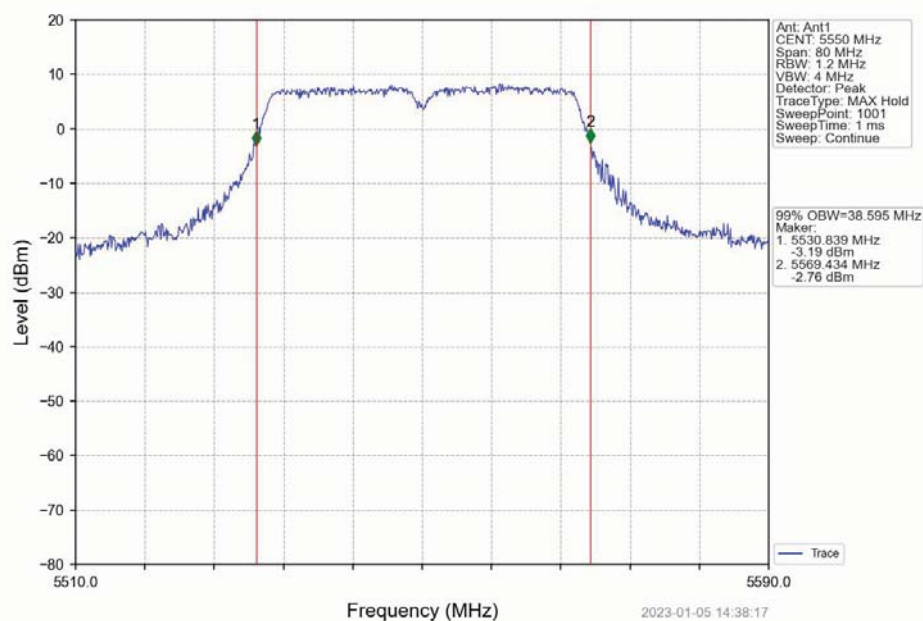
802.11ac(VHT20)_HCH_5700MHz_Ant1_NTNV

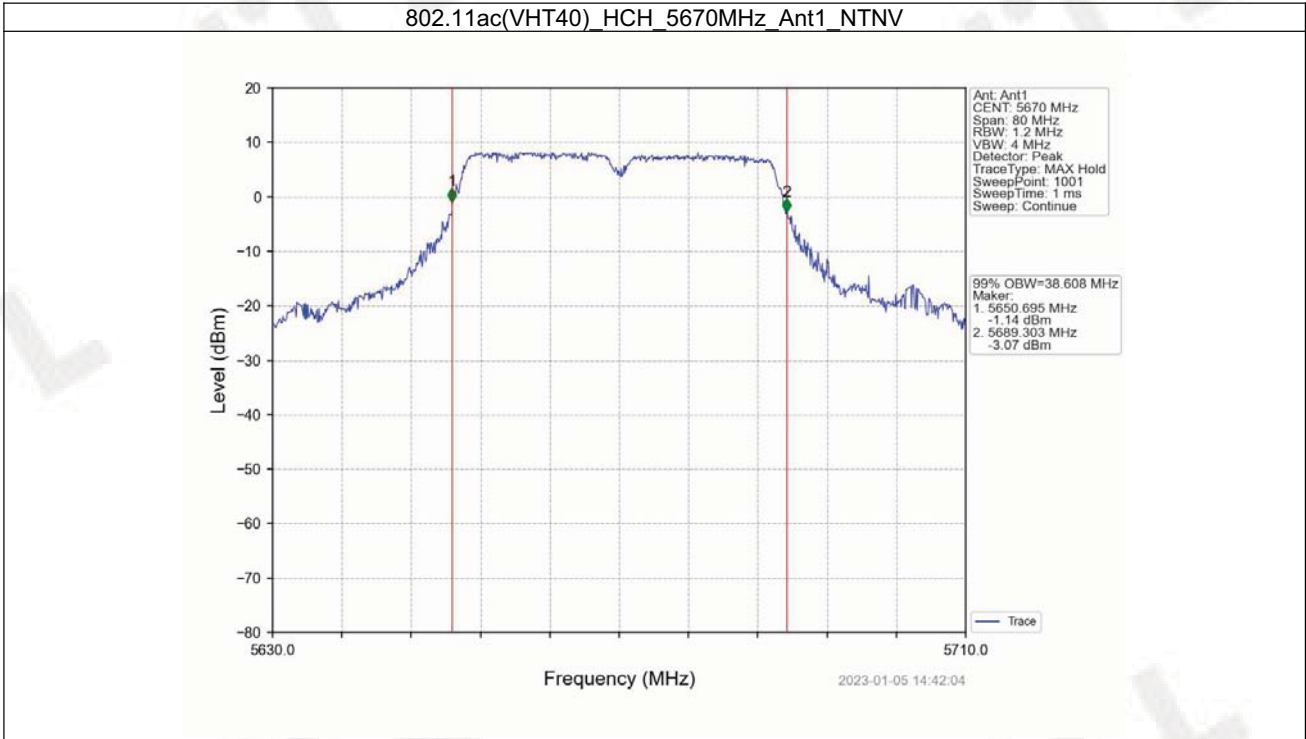


802.11ac(VHT40)_LCH_5510MHz_Ant1_NTNV



802.11ac(VHT40)_MCH_5550MHz_Ant1_NTNV



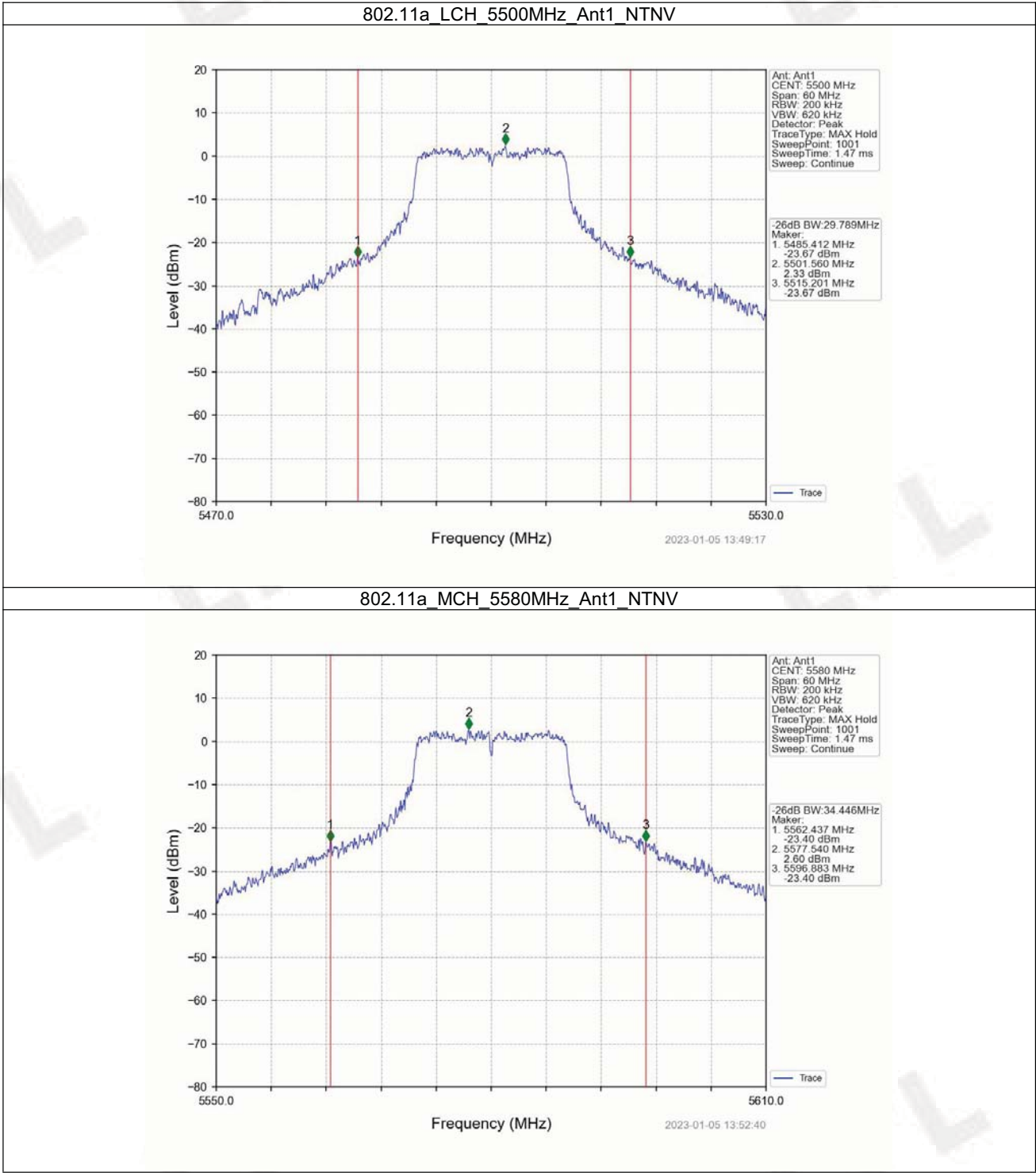


1.2 26dB BW

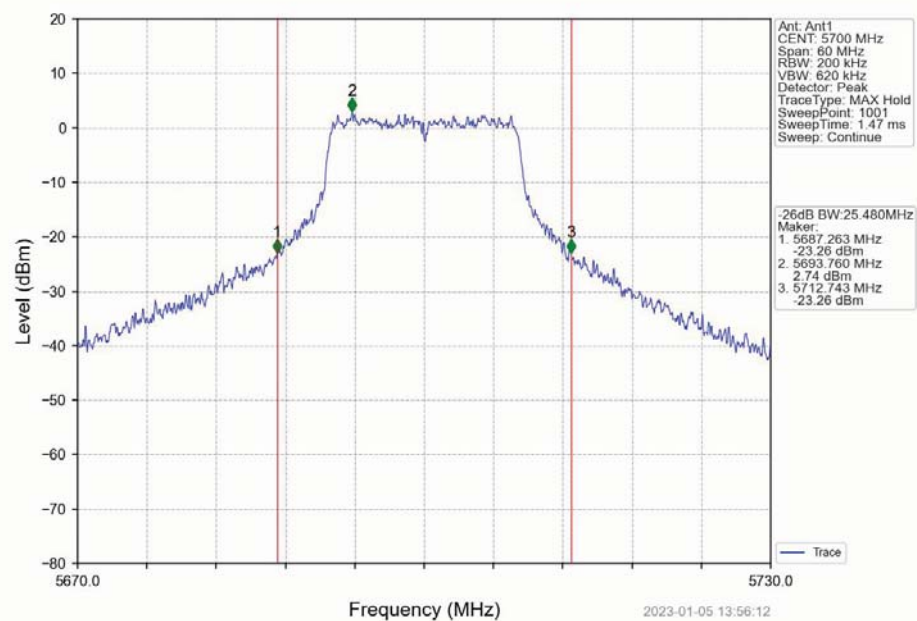
1.2.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	26dB Bandwidth (MHz)	Verdict
				Result	
802.11a	SISO	5500	1	29.789	Pass
		5580	1	34.446	Pass
		5700	1	25.480	Pass
802.11n (HT20)	SISO	5500	1	33.821	Pass
		5580	1	32.600	Pass
		5700	1	26.828	Pass
802.11n (HT40)	SISO	5510	1	59.732	Pass
		5550	1	60.317	Pass
		5670	1	55.471	Pass
802.11ac (VHT20)	SISO	5500	1	32.266	Pass
		5580	1	31.997	Pass
		5700	1	27.688	Pass
802.11ac (VHT40)	SISO	5510	1	63.569	Pass
		5550	1	70.364	Pass
		5670	1	64.586	Pass

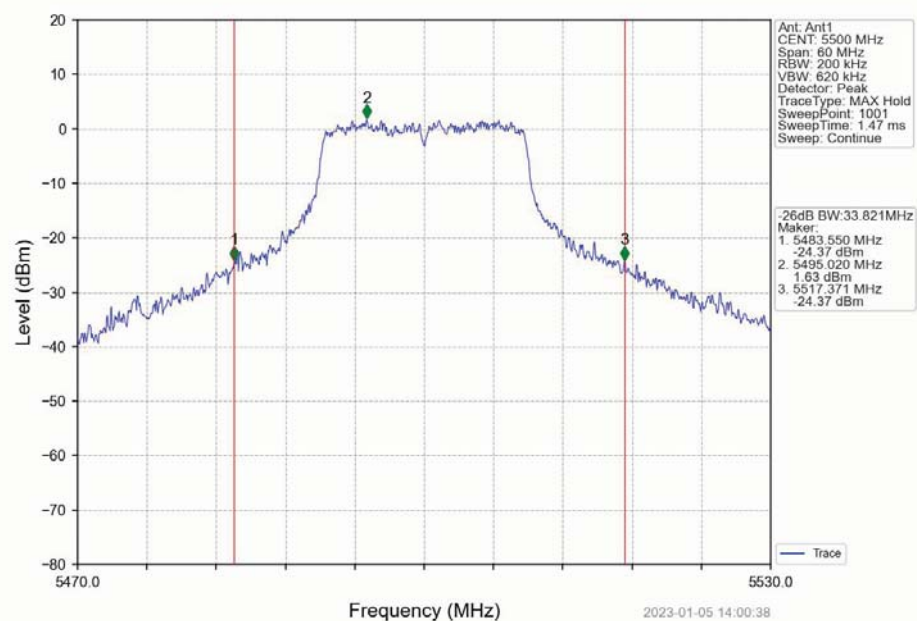
1.2.2 Test Graph



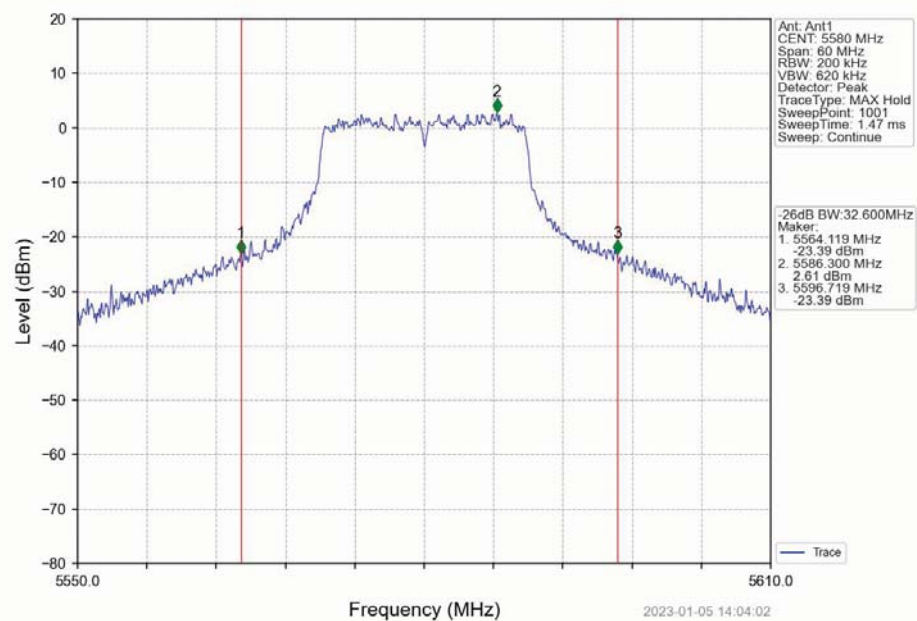
802.11a_HCH_5700MHz_Ant1_NTNV



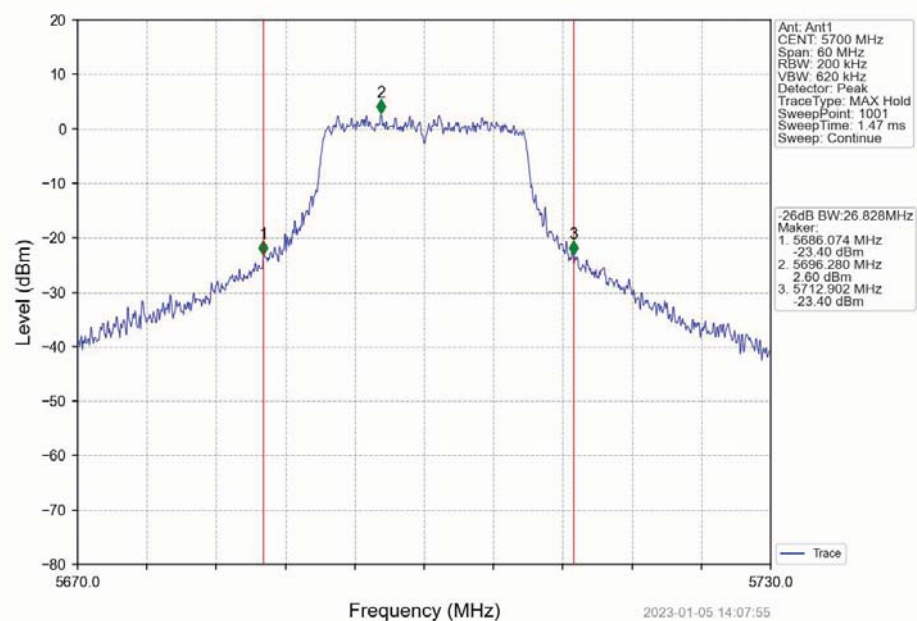
802.11n(HT20)_LCH_5500MHz_Ant1_NTNV



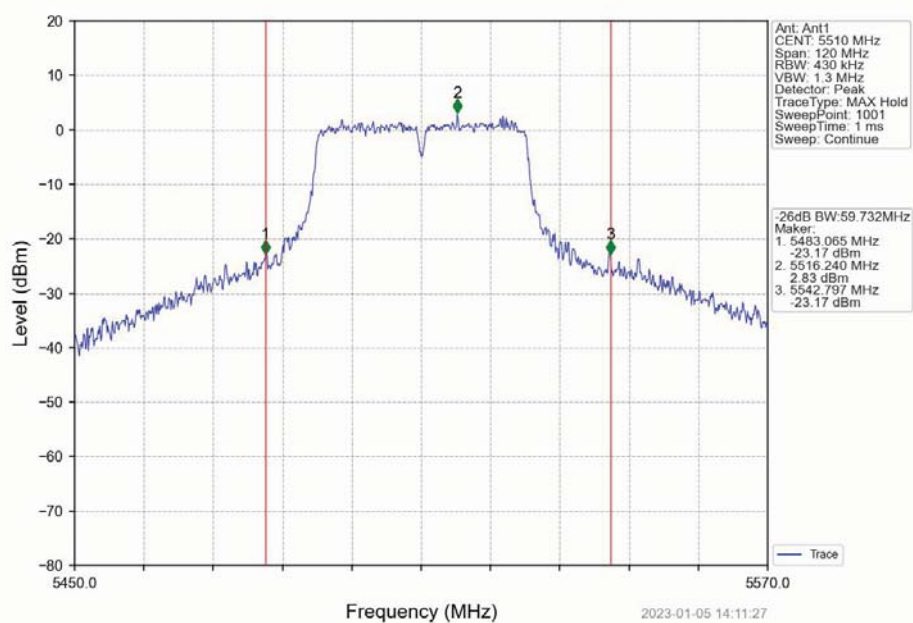
802.11n(HT20)_MCH_5580MHz_Ant1_NTNV



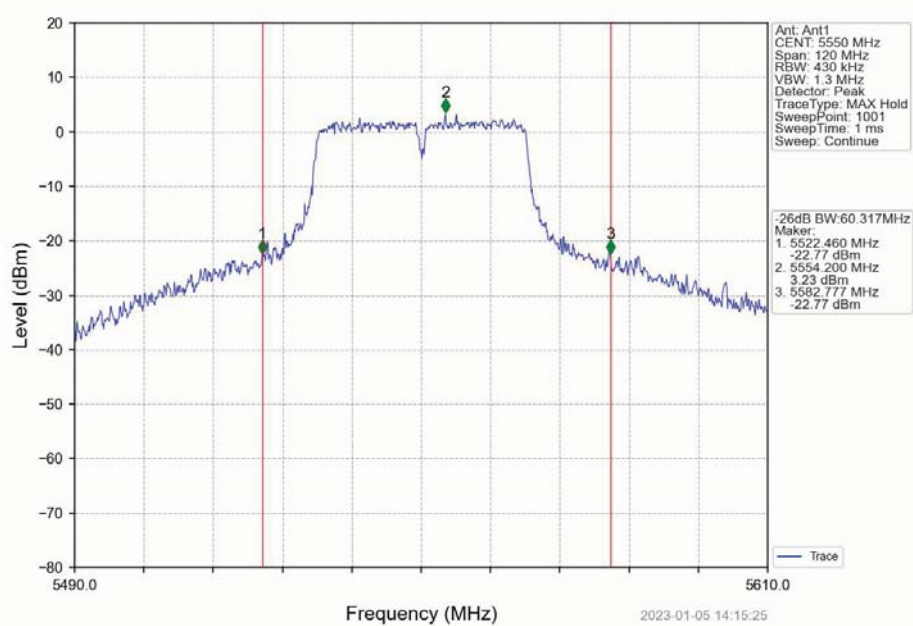
802.11n(HT20)_HCH_5700MHz_Ant1_NTNV



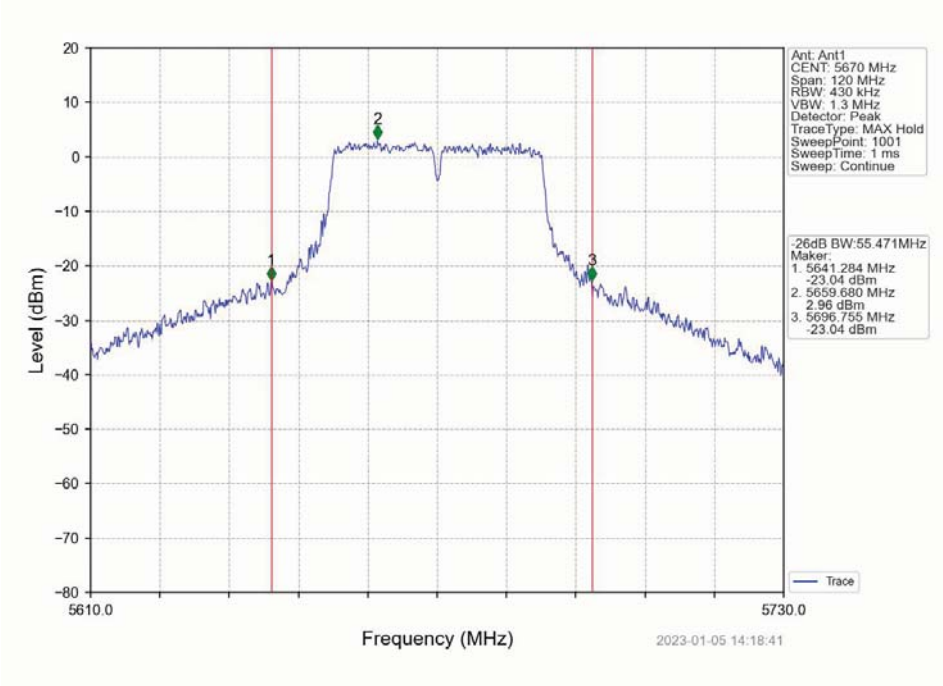
802.11n(HT40)_LCH_5510MHz_Ant1_NTNV



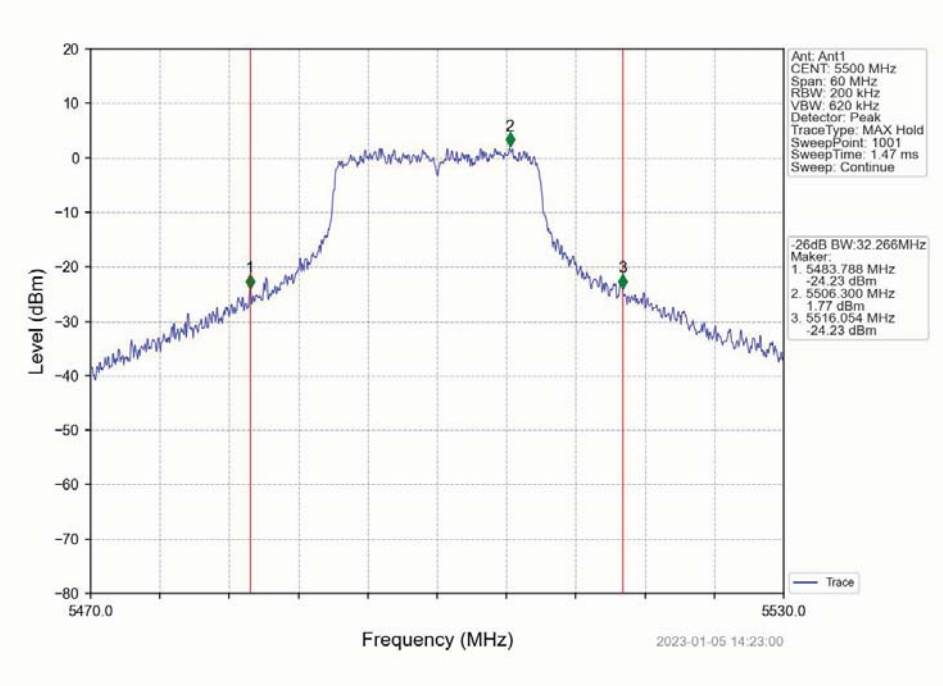
802.11n(HT40)_MCH_5550MHz_Ant1_NTNV



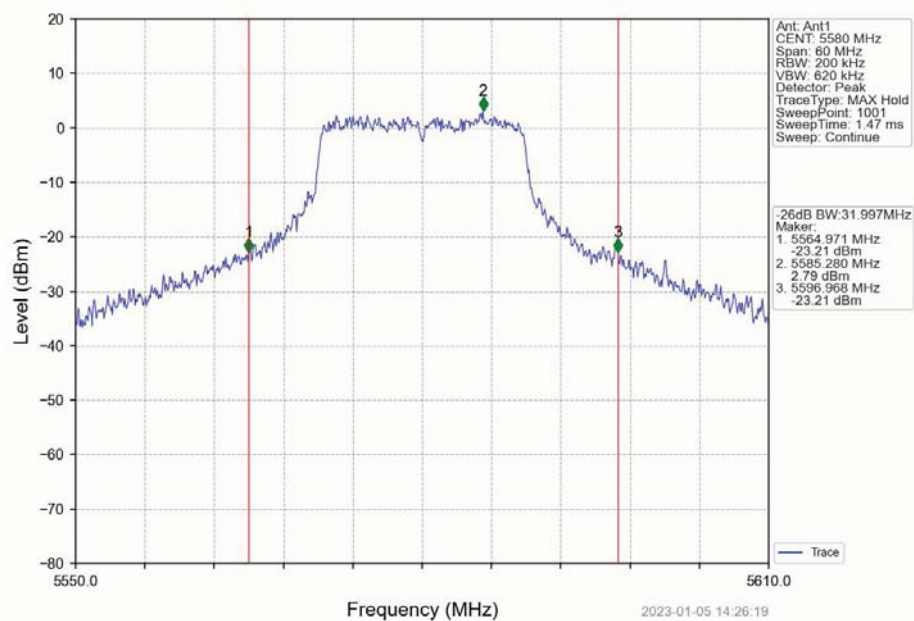
802.11n(HT40)_HCH_5670MHz_Ant1_NTNV



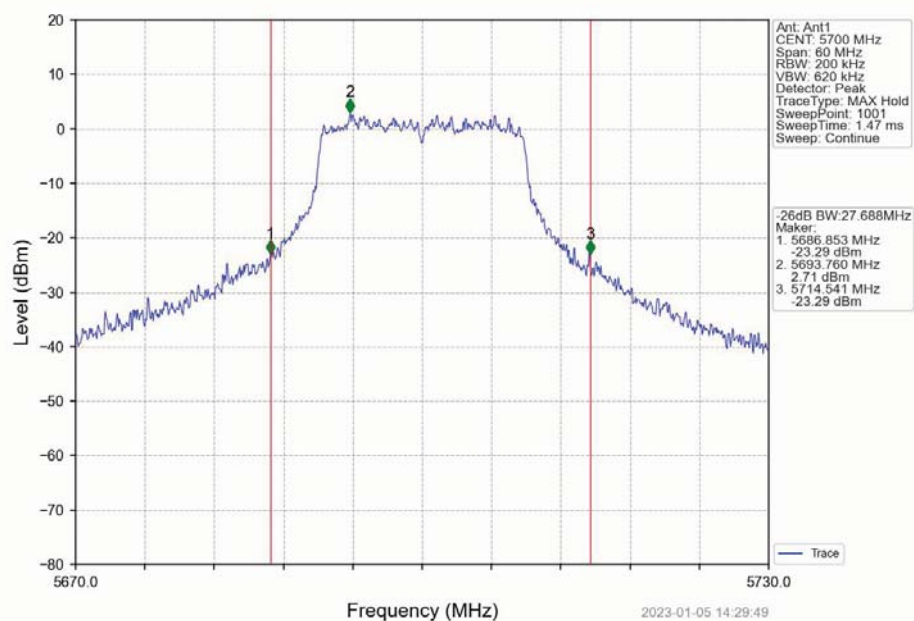
802.11ac(VHT20)_LCH_5500MHz_Ant1_NTNV



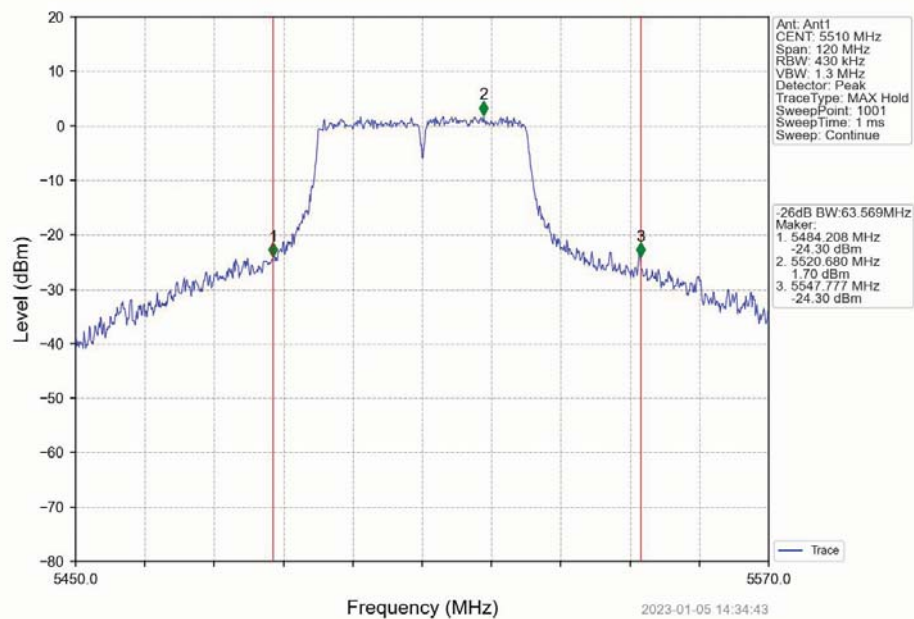
802.11ac(VHT20)_MCH_5580MHz_Ant1_NTNV



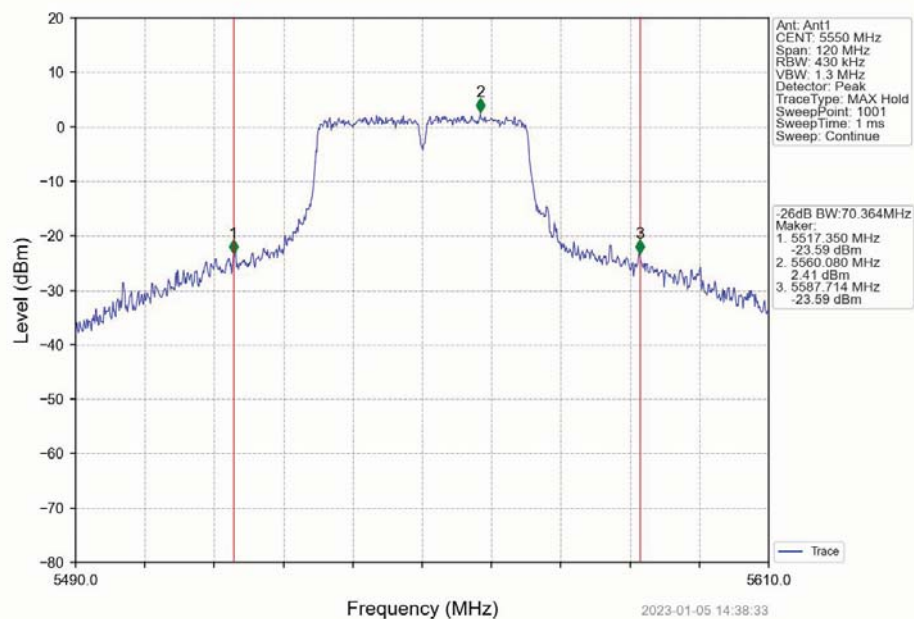
802.11ac(VHT20)_HCH_5700MHz_Ant1_NTNV

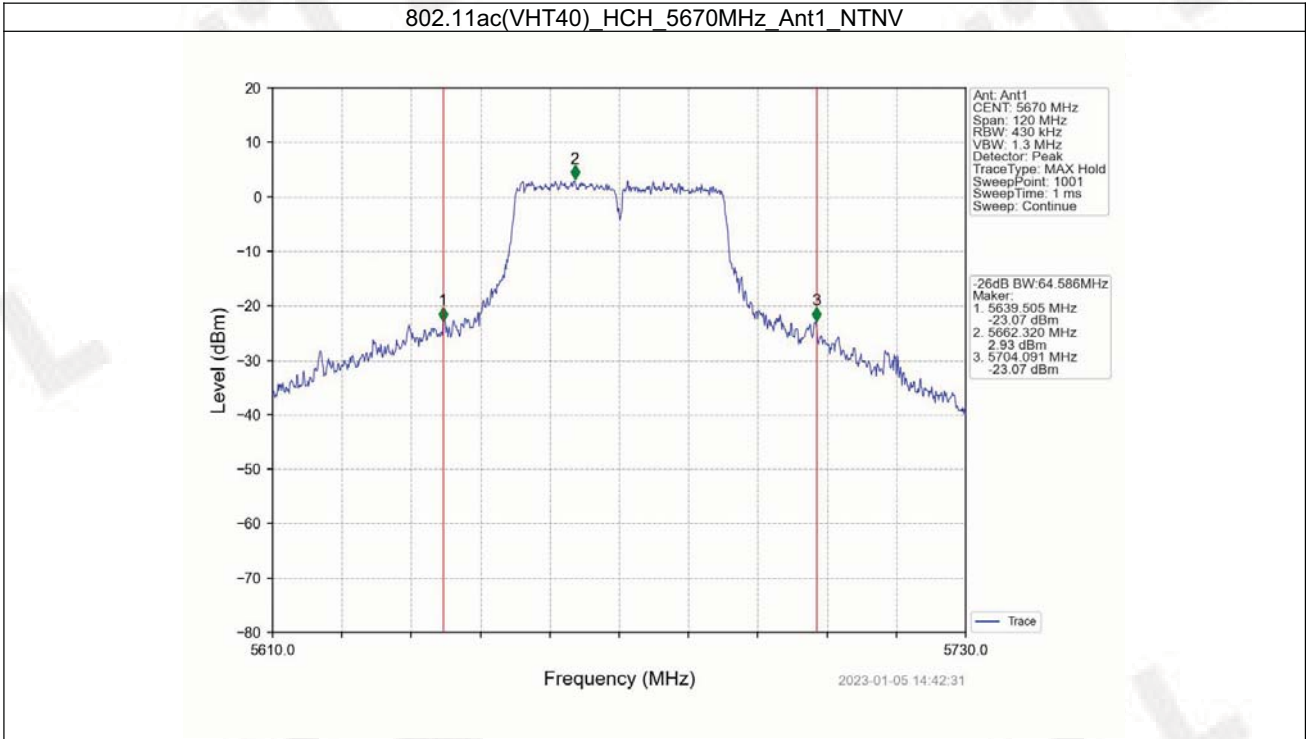


802.11ac(VHT40)_LCH_5510MHz_Ant1_NTNV



802.11ac(VHT40)_MCH_5550MHz_Ant1_NTNV





2. Maximum Conducted Output Power

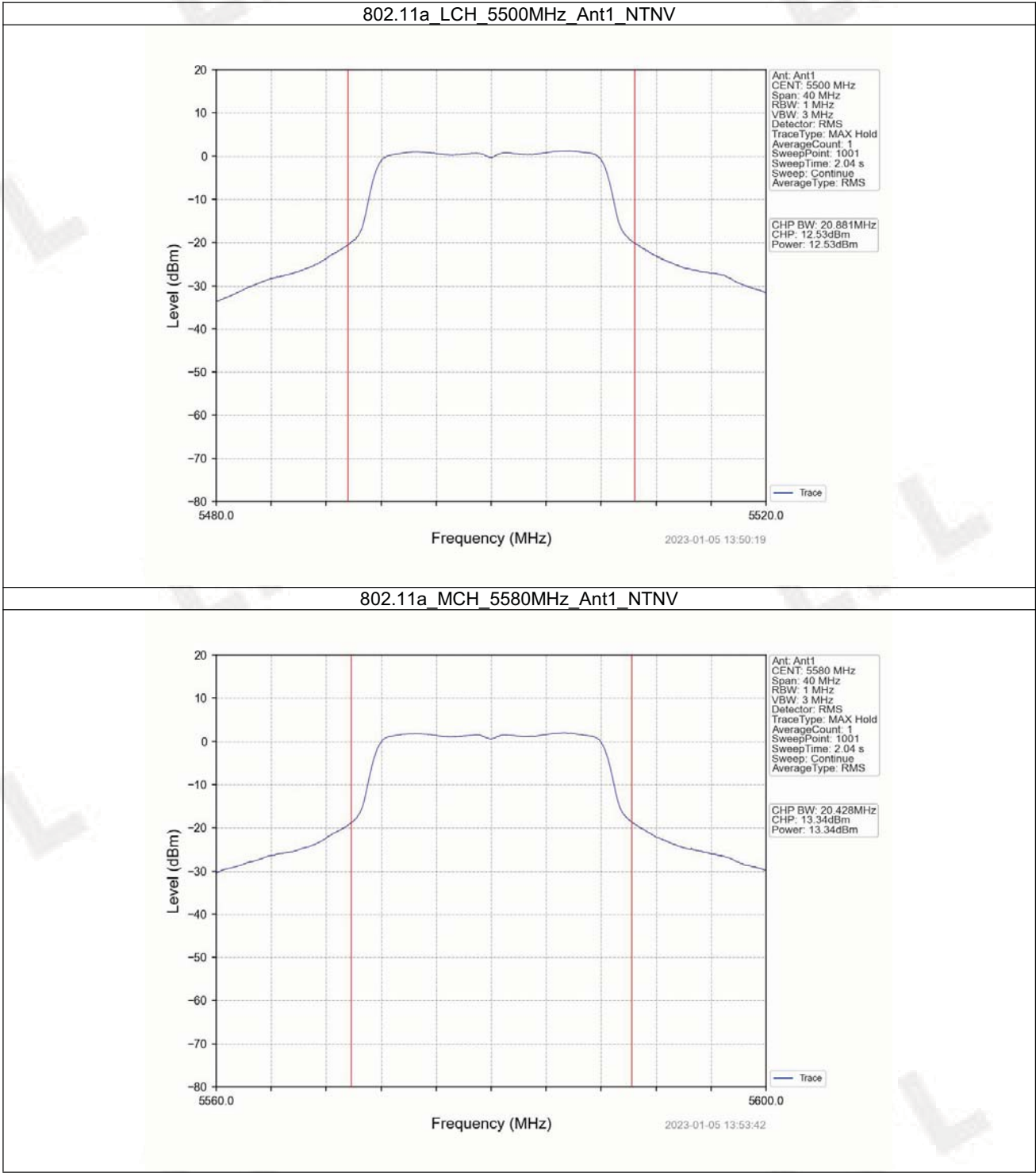
2.1 Power

2.1.1 Test Result

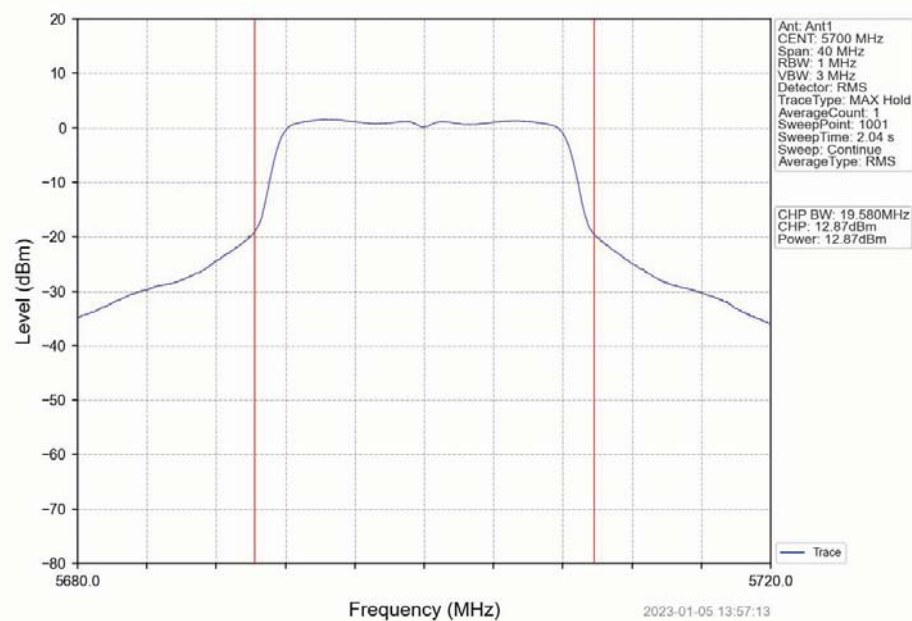
Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11a	SISO	5500	12.53	<=23.98	Pass
		5580	13.34	<=23.98	Pass
		5700	12.87	<=23.98	Pass
802.11n (HT20)	SISO	5500	12.22	<=23.98	Pass
		5580	13.20	<=23.98	Pass
		5700	12.82	<=23.98	Pass
802.11n (HT40)	SISO	5510	12.45	<=23.98	Pass
		5550	13.00	<=23.98	Pass
		5670	13.36	<=23.98	Pass
802.11ac (VHT20)	SISO	5500	12.17	<=23.98	Pass
		5580	13.16	<=23.98	Pass
		5700	12.85	<=23.98	Pass
802.11ac (VHT40)	SISO	5510	12.33	<=23.98	Pass
		5550	13.00	<=23.98	Pass
		5670	13.39	<=23.98	Pass

Note1: Antenna Gain: Ant1: 4.53dBi;

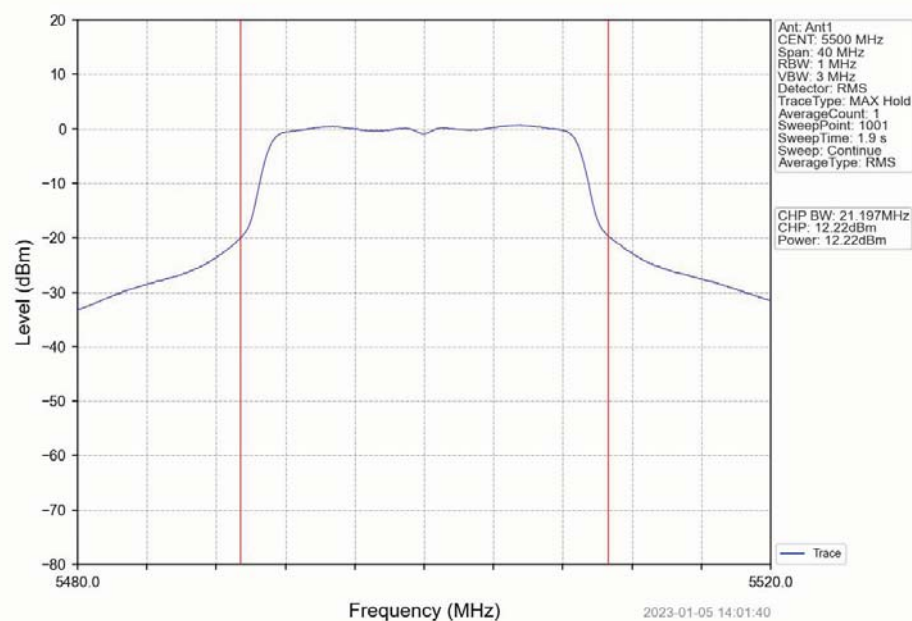
2.1.2 Test Graph



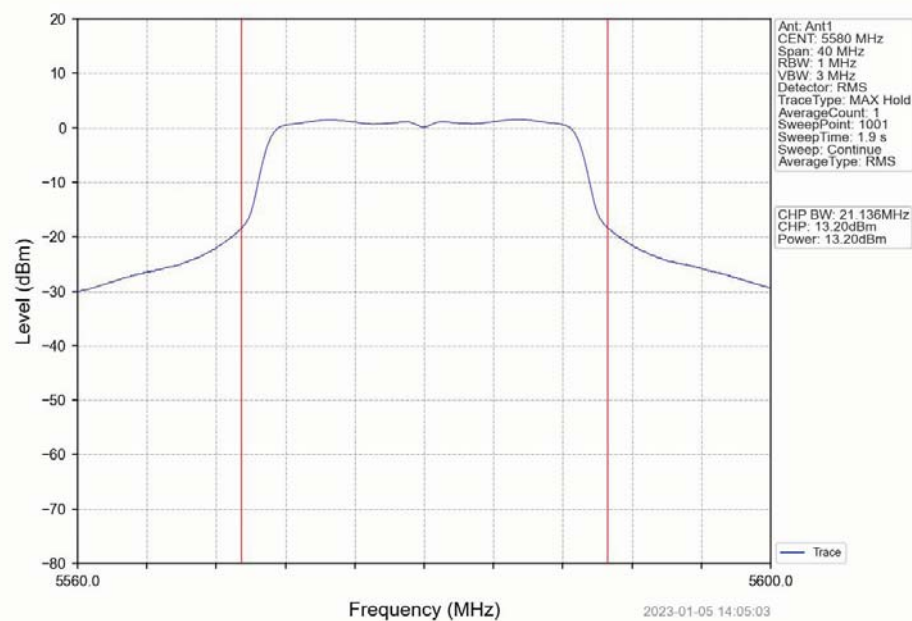
802.11a_HCH_5700MHz_Ant1_NTNV



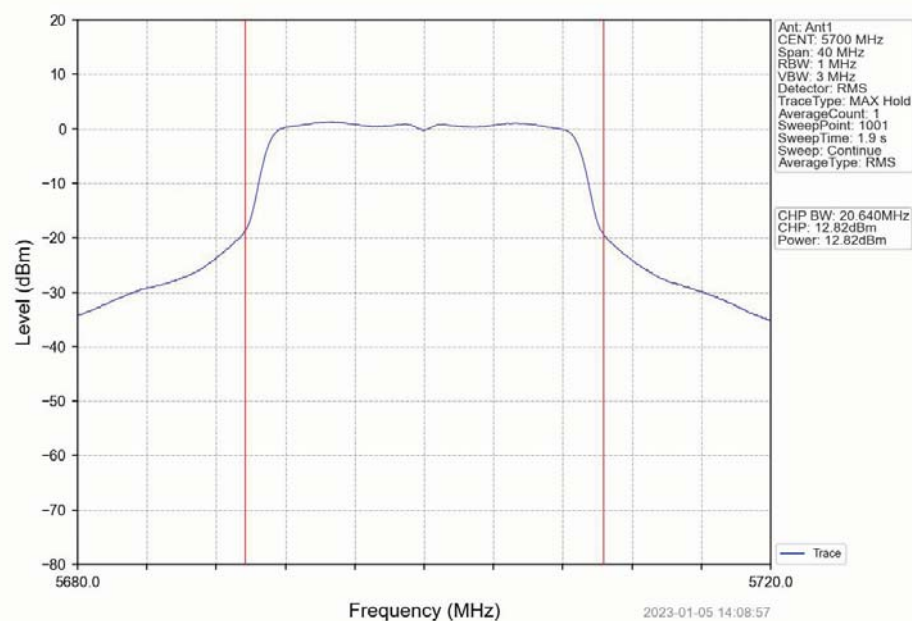
802.11n(HT20)_LCH_5500MHz_Ant1_NTNV



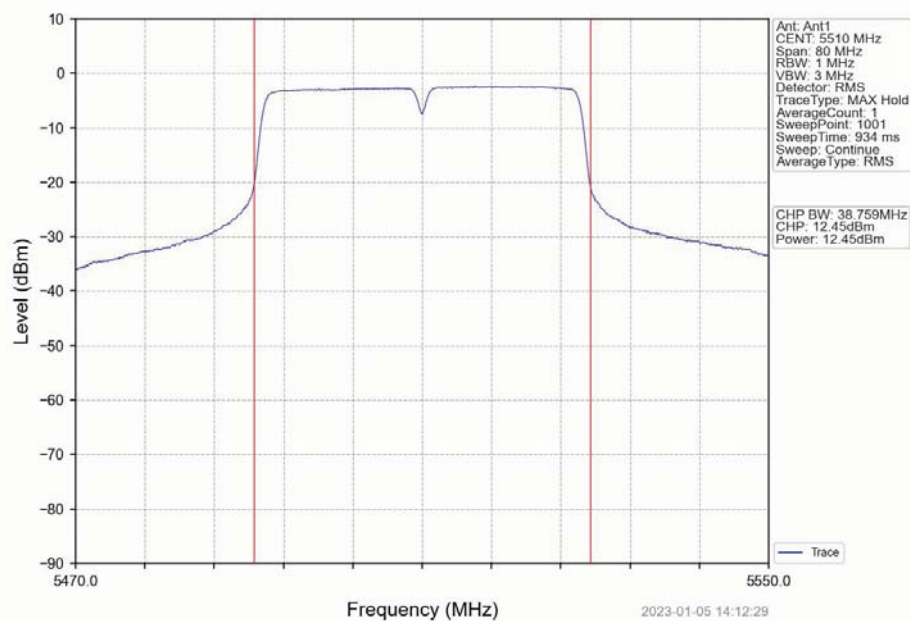
802.11n(HT20)_MCH_5580MHz_Ant1_NTNV



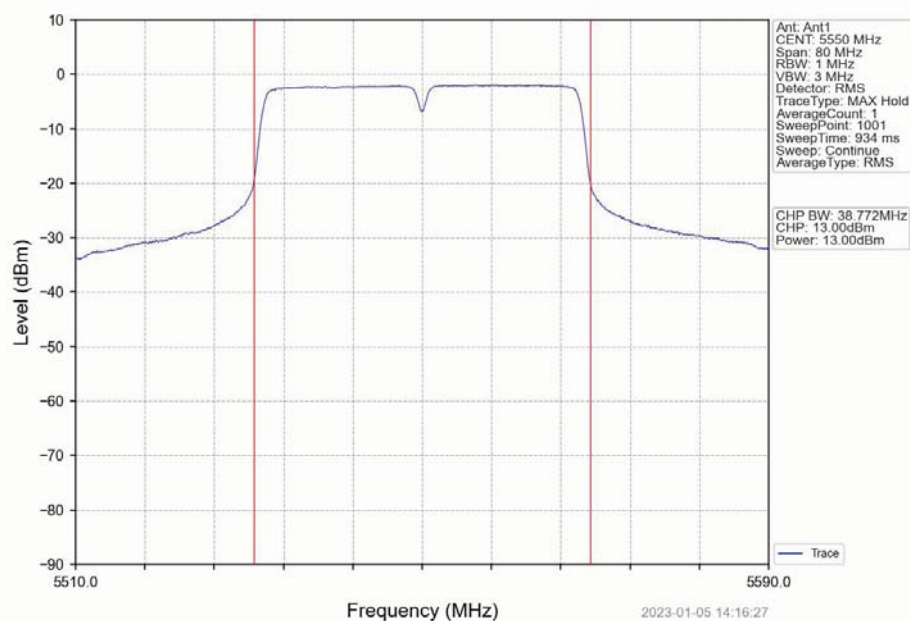
802.11n(HT20)_HCH_5700MHz_Ant1_NTNV



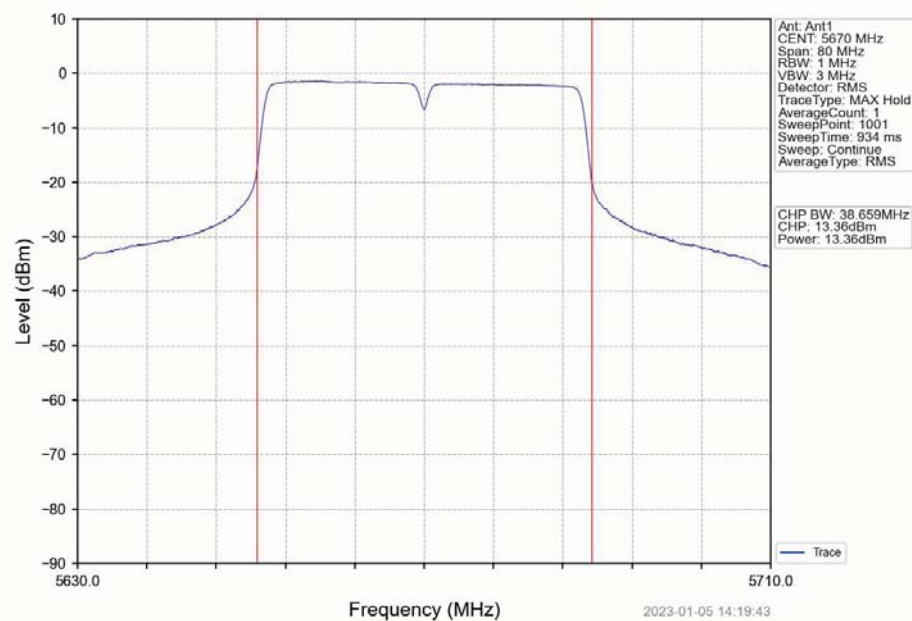
802.11n(HT40)_LCH_5510MHz_Ant1_NTNV



802.11n(HT40)_MCH_5550MHz_Ant1_NTNV



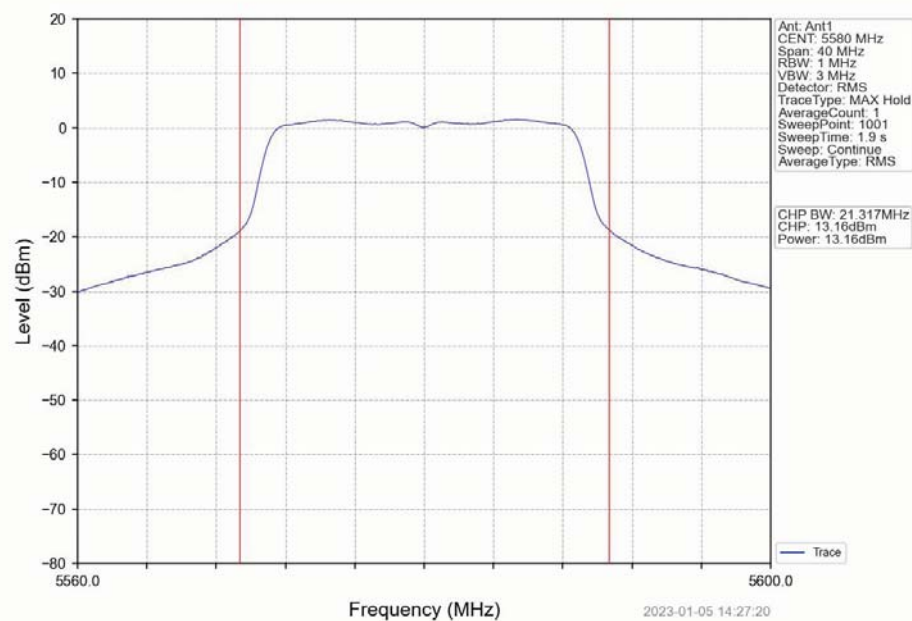
802.11n(HT40)_HCH_5670MHz_Ant1_NTNV



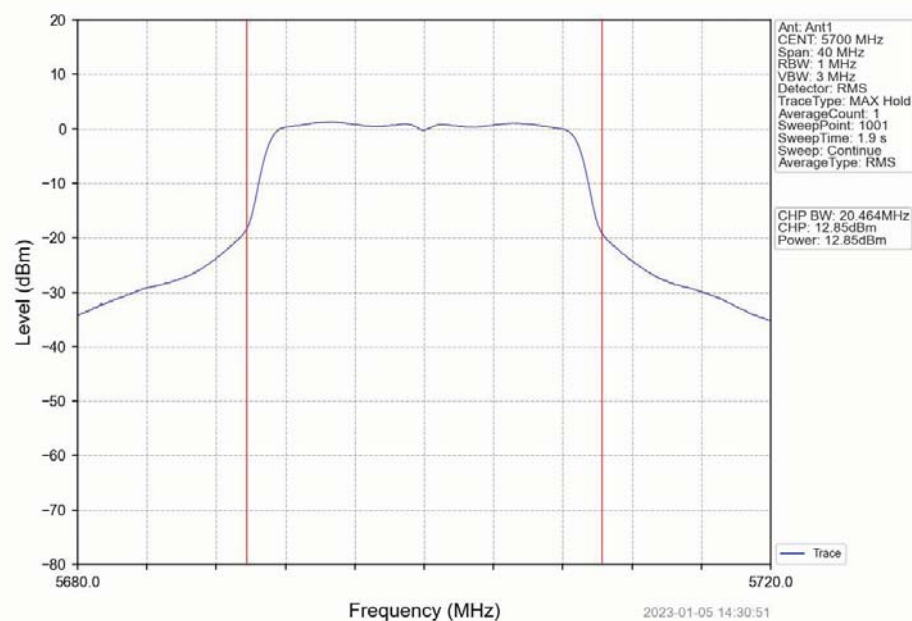
802.11ac(VHT20)_LCH_5500MHz_Ant1_NTNV



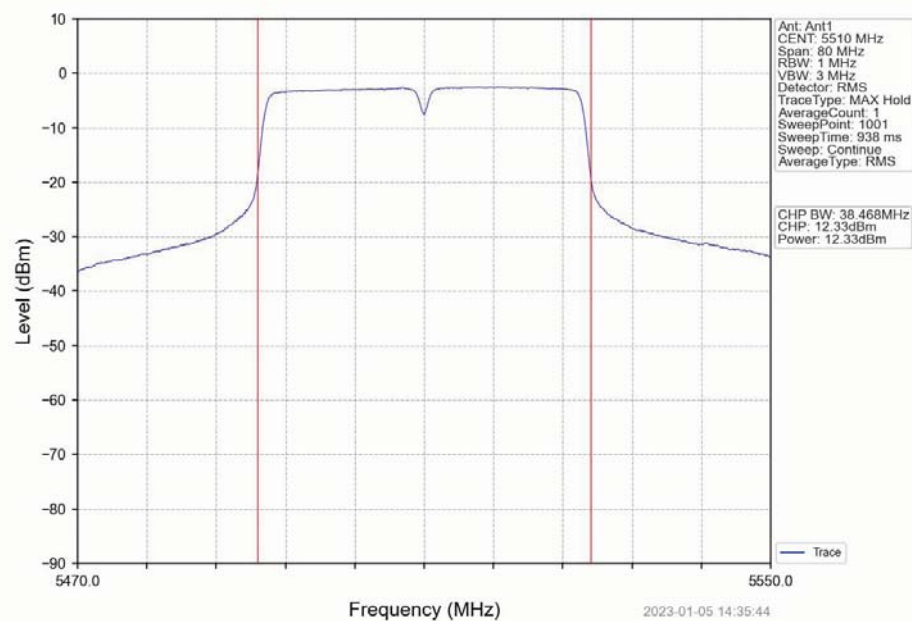
802.11ac(VHT20)_MCH_5580MHz_Ant1_NTNV



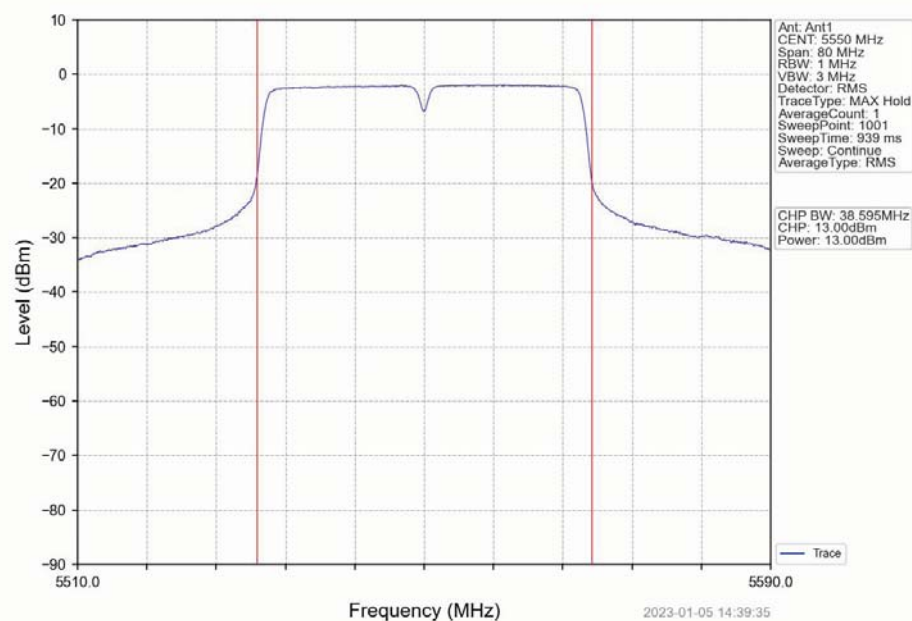
802.11ac(VHT20)_HCH_5700MHz_Ant1_NTNV



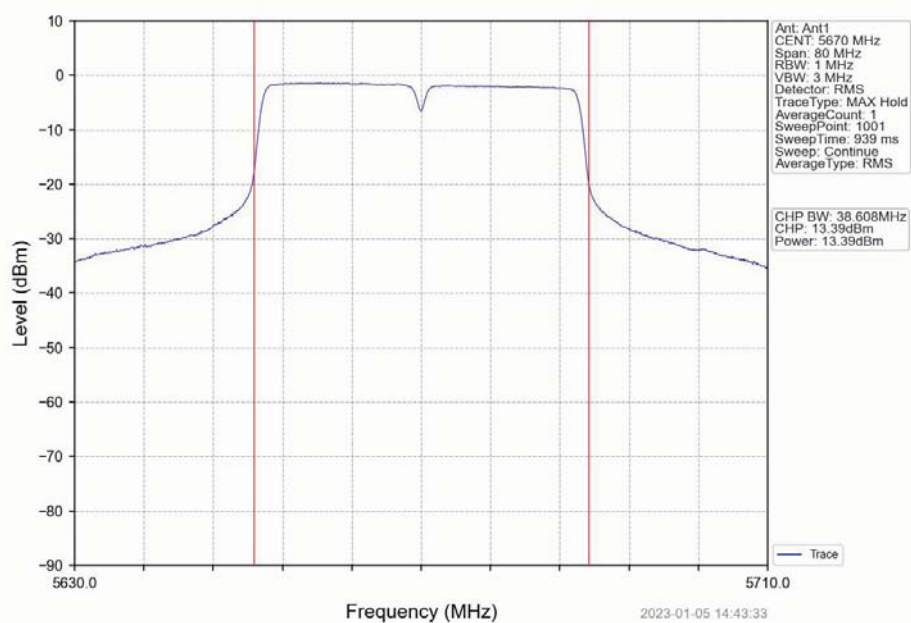
802.11ac(VHT40)_LCH_5510MHz_Ant1_NTNV



802.11ac(VHT40)_MCH_5550MHz_Ant1_NTNV



802.11ac(VHT40)_HCH_5670MHz_Ant1_NTNV



3. Maximum Power Spectral Density

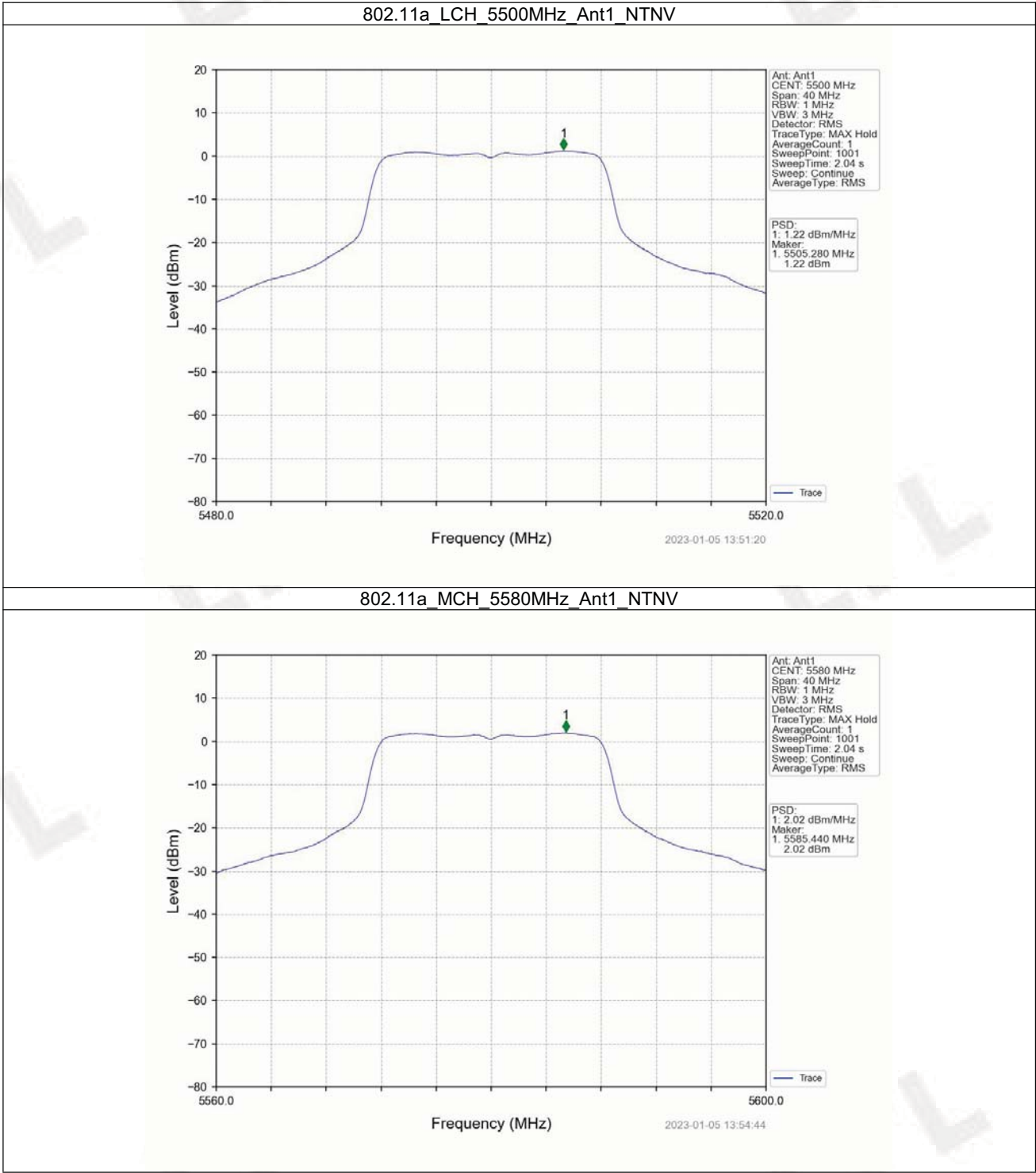
3.1 PSD

3.1.1 Test Result

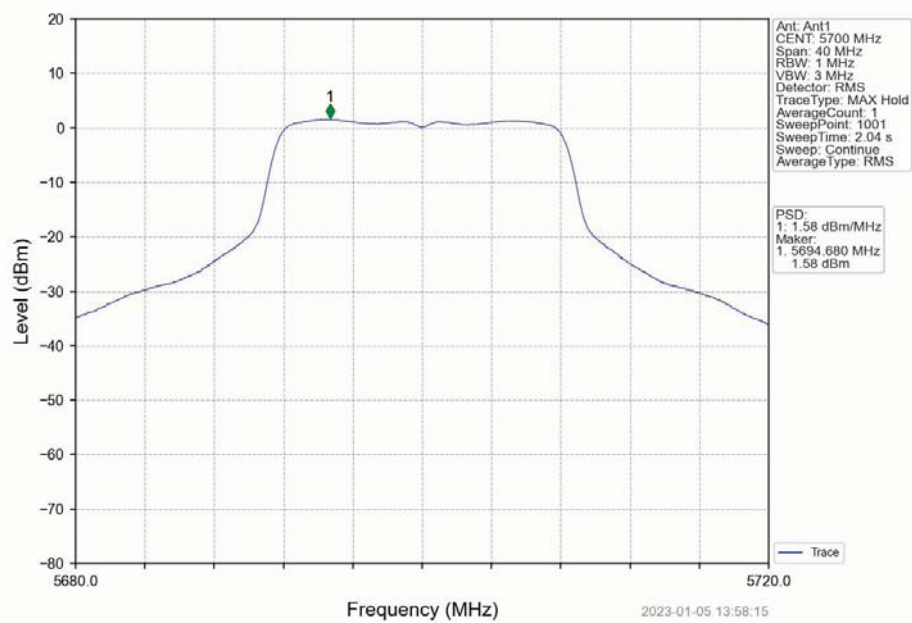
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/MHz)		Verdict
			ANT1	Limit	
802.11a	SISO	5500	1.22	<=11	Pass
		5580	2.02	<=11	Pass
		5700	1.58	<=11	Pass
802.11n (HT20)	SISO	5500	0.66	<=11	Pass
		5580	1.58	<=11	Pass
		5700	1.32	<=11	Pass
802.11n (HT40)	SISO	5510	-2.40	<=11	Pass
		5550	-1.81	<=11	Pass
		5670	-1.28	<=11	Pass
802.11ac (VHT20)	SISO	5500	0.61	<=11	Pass
		5580	1.56	<=11	Pass
		5700	1.37	<=11	Pass
802.11ac (VHT40)	SISO	5510	-2.35	<=11	Pass
		5550	-1.95	<=11	Pass
		5670	-1.35	<=11	Pass

Note1: Antenna Gain: Ant1: 4.53dBi;

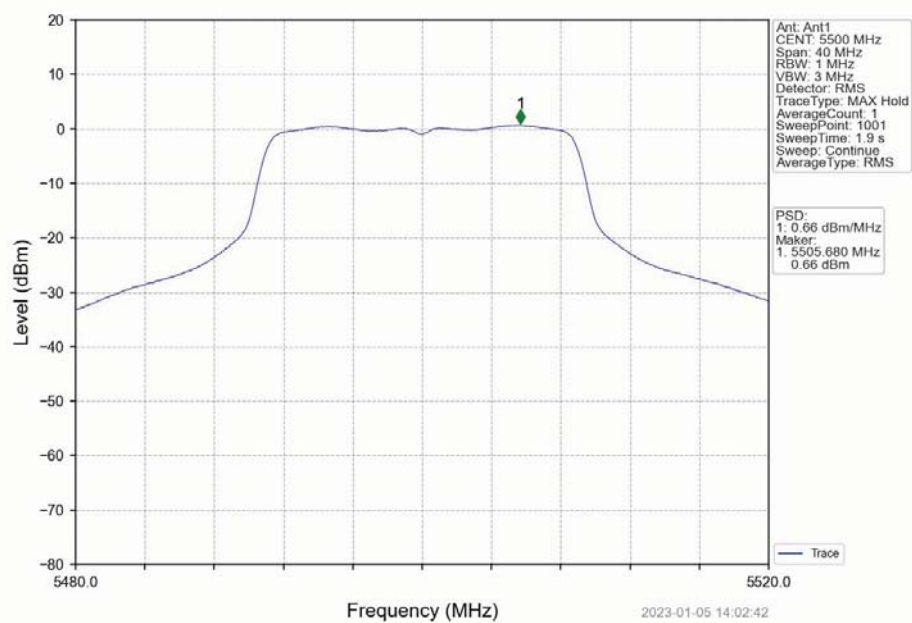
3.1.2 Test Graph



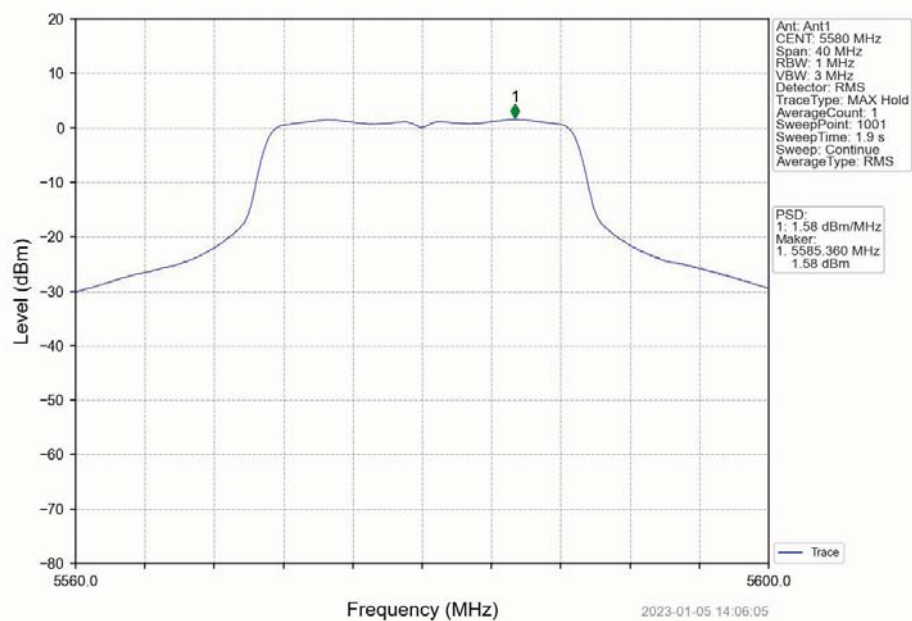
802.11a_HCH_5700MHz_Ant1_NTNV



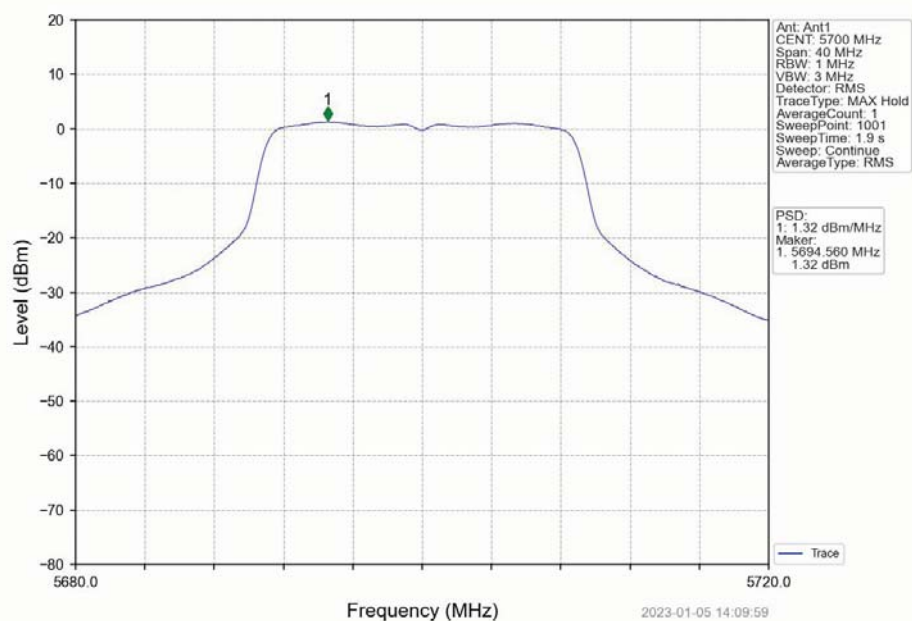
802.11n(HT20)_LCH_5500MHz_Ant1_NTNV



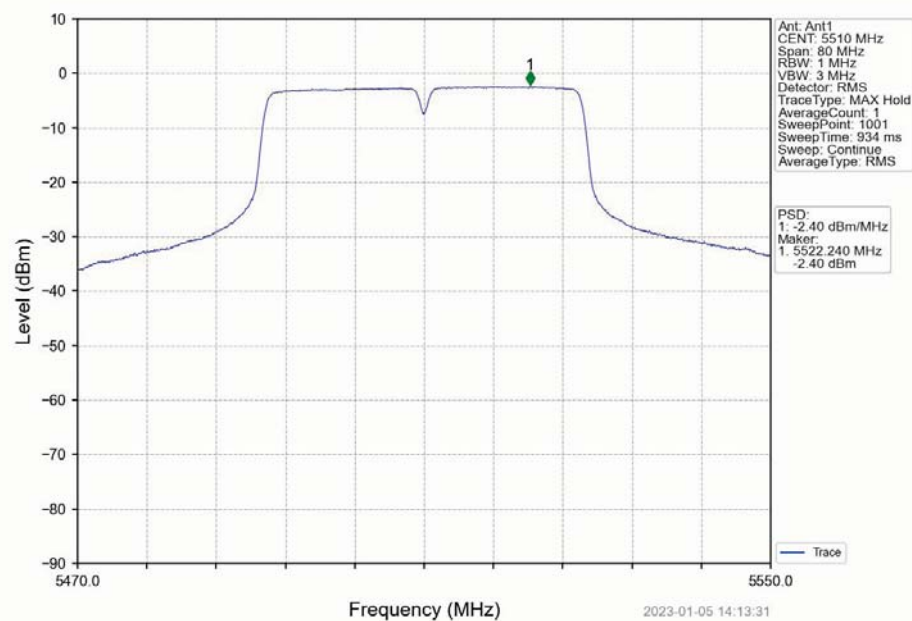
802.11n(HT20)_MCH_5580MHz_Ant1_NTNV



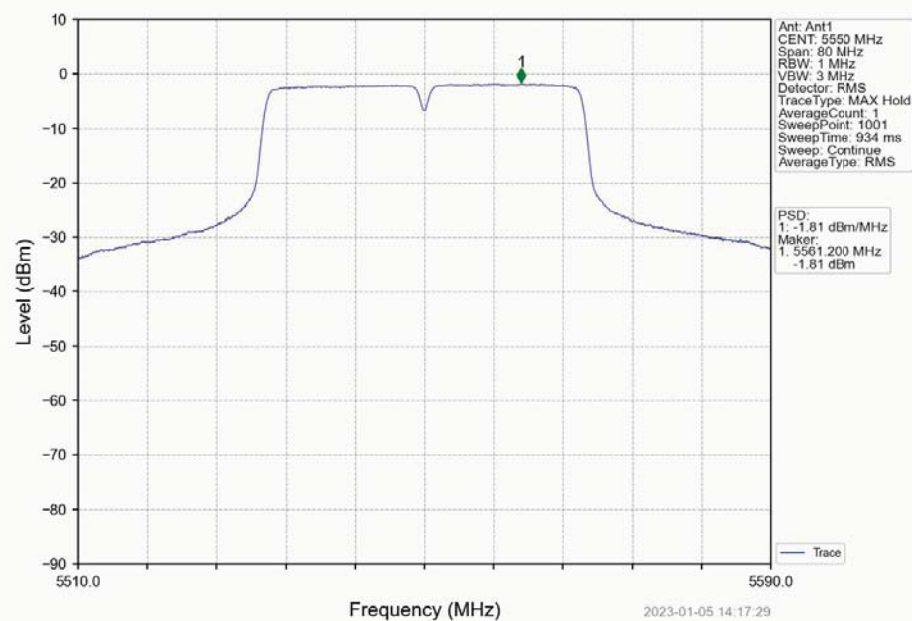
802.11n(HT20)_HCH_5700MHz_Ant1_NTNV



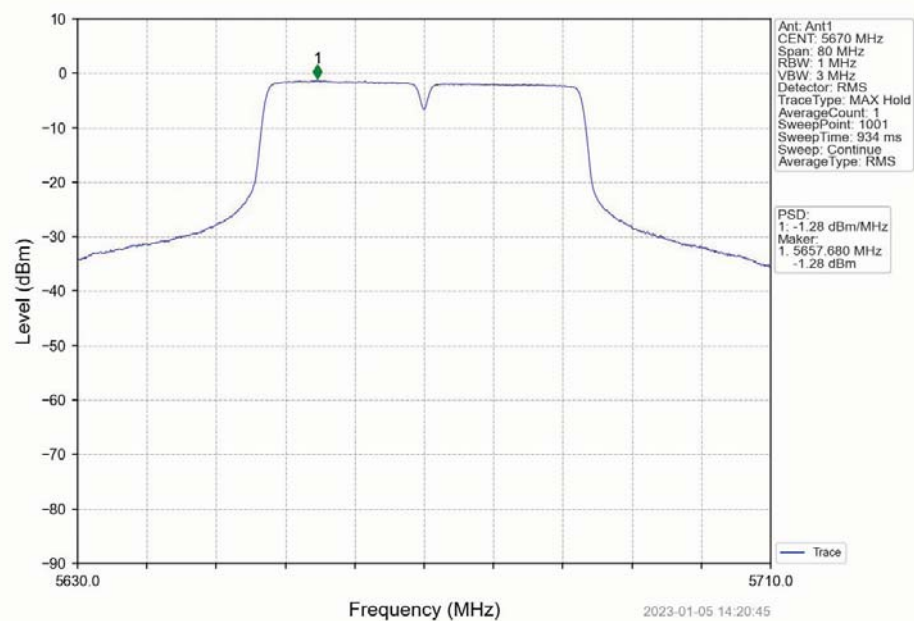
802.11n(HT40)_LCH_5510MHz_Ant1_NTNV



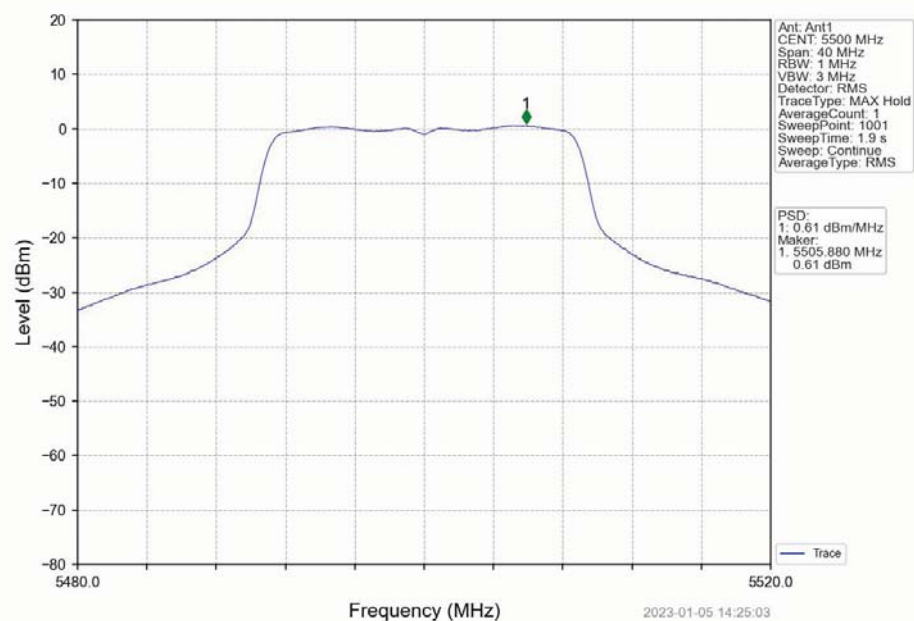
802.11n(HT40)_MCH_5550MHz_Ant1_NTNV



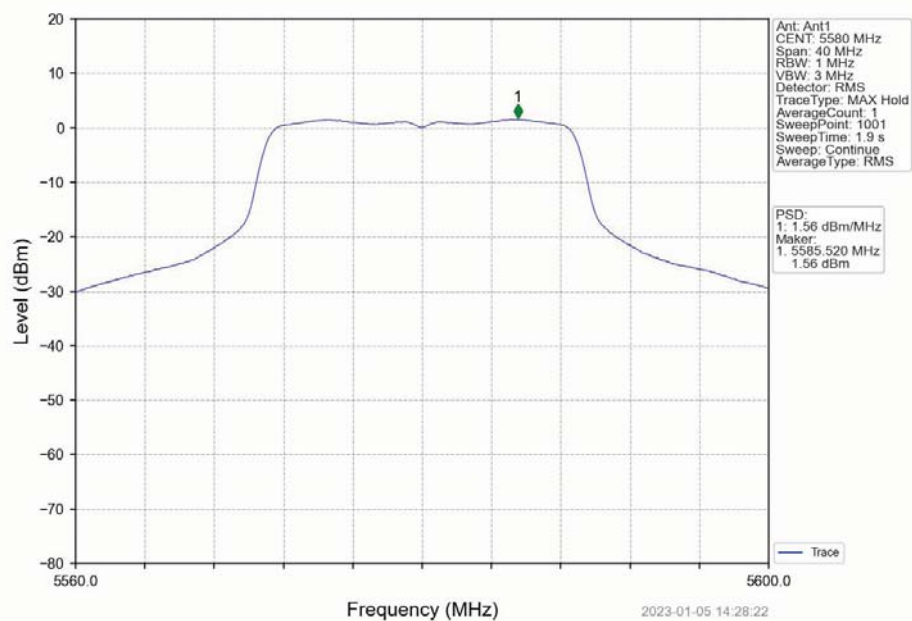
802.11n(HT40)_HCH_5670MHz_Ant1_NTNV



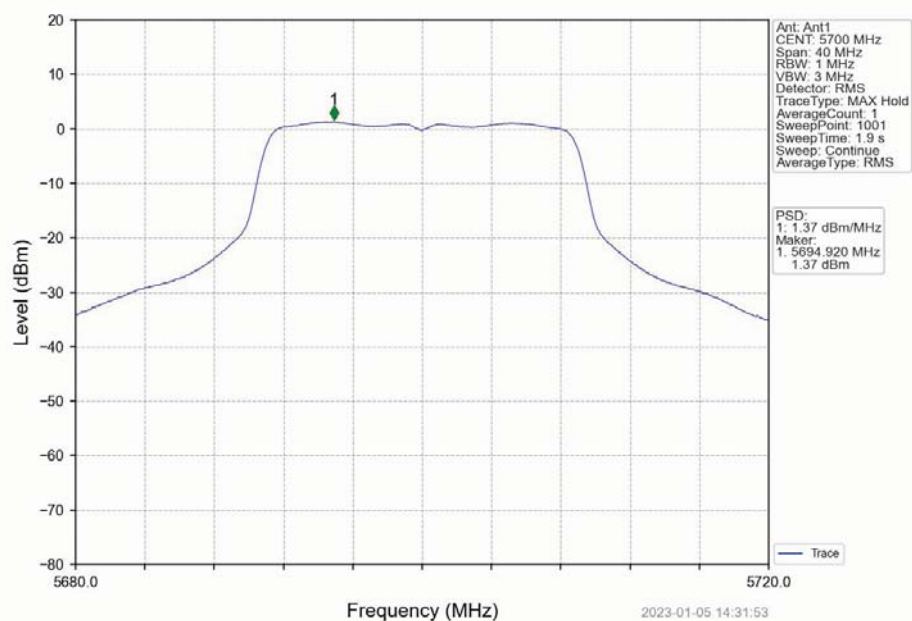
802.11ac(VHT20)_LCH_5500MHz_Ant1_NTNV



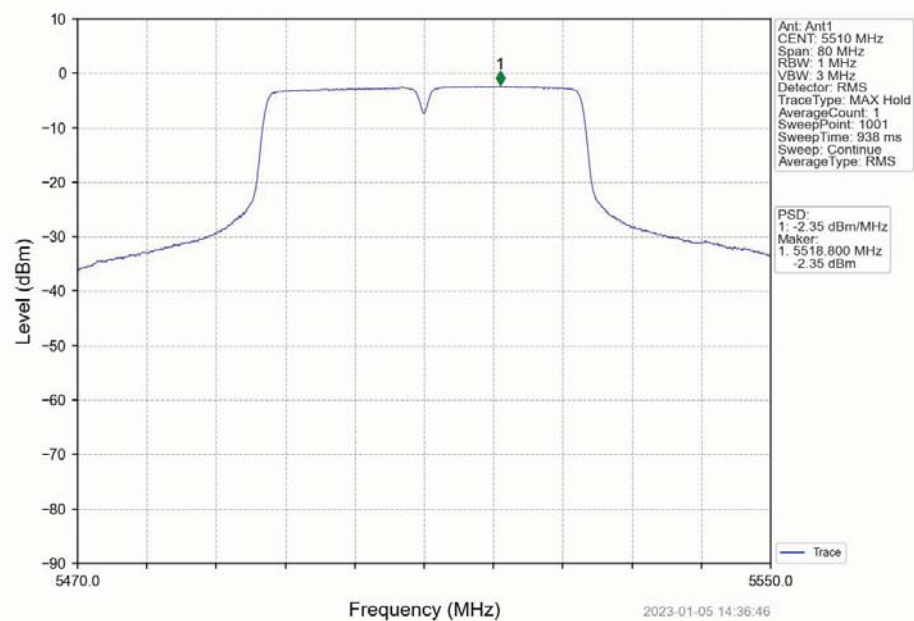
802.11ac(VHT20)_MCH_5580MHz_Ant1_NTNV



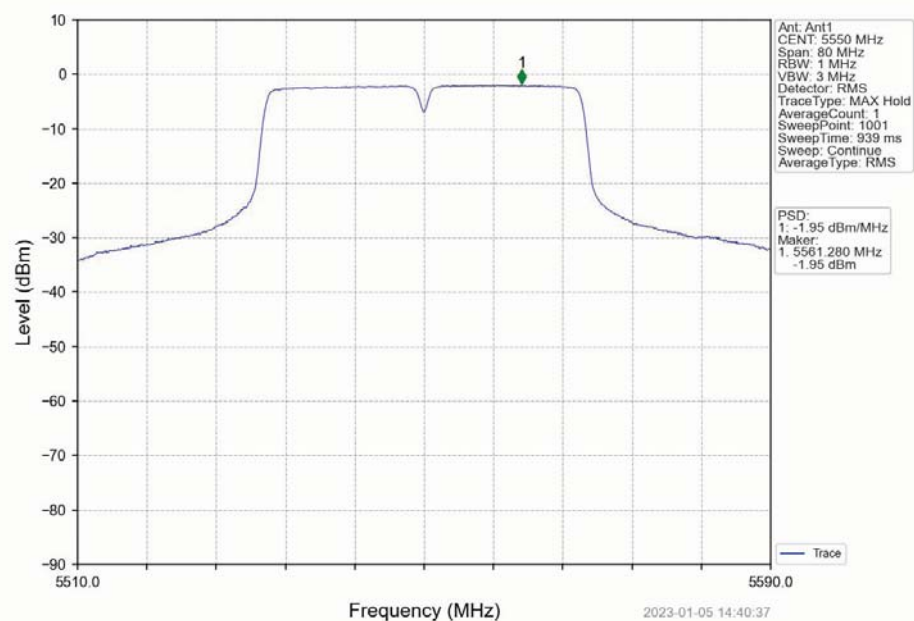
802.11ac(VHT20)_HCH_5700MHz_Ant1_NTNV



802.11ac(VHT40)_LCH_5510MHz_Ant1_NTNV



802.11ac(VHT40)_MCH_5550MHz_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
Carrier Wave	SISO	5500	20	102	5499.985	5470 to 5725	Pass
				120	5499.985	5470 to 5725	Pass
				138	5499.985	5470 to 5725	Pass
			-30	120	5499.985	5470 to 5725	Pass
			-20	120	5499.985	5470 to 5725	Pass
			-10	120	5499.985	5470 to 5725	Pass
			0	120	5499.985	5470 to 5725	Pass
			10	120	5499.985	5470 to 5725	Pass
			30	120	5499.985	5470 to 5725	Pass
			40	120	5499.985	5470 to 5725	Pass
			50	120	5499.985	5470 to 5725	Pass
		5580	20	102	5579.985	5470 to 5725	Pass
				120	5579.985	5470 to 5725	Pass
				138	5579.984	5470 to 5725	Pass
			-30	120	5579.985	5470 to 5725	Pass
			-20	120	5579.985	5470 to 5725	Pass
			-10	120	5579.985	5470 to 5725	Pass
			0	120	5579.985	5470 to 5725	Pass
			10	120	5579.985	5470 to 5725	Pass
			30	120	5579.985	5470 to 5725	Pass
			40	120	5579.985	5470 to 5725	Pass
			50	120	5579.985	5470 to 5725	Pass
		5700	20	102	5699.984	5470 to 5725	Pass
				120	5699.984	5470 to 5725	Pass
				138	5699.984	5470 to 5725	Pass
			-30	120	5699.984	5470 to 5725	Pass
			-20	120	5699.984	5470 to 5725	Pass
			-10	120	5699.985	5470 to 5725	Pass
			0	120	5699.985	5470 to 5725	Pass
			10	120	5699.985	5470 to 5725	Pass
			30	120	5699.985	5470 to 5725	Pass
			40	120	5699.985	5470 to 5725	Pass
			50	120	5699.985	5470 to 5725	Pass
		5510	20	102	5509.985	5470 to 5725	Pass
				120	5509.985	5470 to 5725	Pass
				138	5509.985	5470 to 5725	Pass
			-30	120	5509.985	5470 to 5725	Pass
			-20	120	5509.985	5470 to 5725	Pass
			-10	120	5509.985	5470 to 5725	Pass
			0	120	5509.985	5470 to 5725	Pass
			10	120	5509.985	5470 to 5725	Pass
			30	120	5509.985	5470 to 5725	Pass
			40	120	5509.985	5470 to 5725	Pass
			50	120	5509.985	5470 to 5725	Pass
		5550	20	102	5549.572	5470 to 5725	Pass
				120	5549.537	5470 to 5725	Pass
				138	5549.651	5470 to 5725	Pass

			-30	120	5549.700	5470 to 5725	Pass
			-20	120	5549.985	5470 to 5725	Pass
			-10	120	5549.985	5470 to 5725	Pass
			0	120	5549.985	5470 to 5725	Pass
			10	120	5549.985	5470 to 5725	Pass
			30	120	5549.985	5470 to 5725	Pass
			40	120	5549.985	5470 to 5725	Pass
			50	120	5549.985	5470 to 5725	Pass
		5670	20	102	5669.984	5470 to 5725	Pass
				120	5669.984	5470 to 5725	Pass
				138	5669.984	5470 to 5725	Pass
			-30	120	5669.984	5470 to 5725	Pass
			-20	120	5669.985	5470 to 5725	Pass
			-10	120	5669.984	5470 to 5725	Pass
			0	120	5669.985	5470 to 5725	Pass
			10	120	5669.985	5470 to 5725	Pass
			30	120	5669.984	5470 to 5725	Pass
			40	120	5669.985	5470 to 5725	Pass
			50	120	5669.985	5470 to 5725	Pass