

Appendix RF Test Data for WIFI 5G

Company: : LiveX AI Inc

EUT : Holographic AI Avatar Interactive Display

FCC ID: : 2BV7X-GATEWAY

Model Number : Gateway

Report No. : HTT202604852F02

Reviewed By : Heber He

1. Duty Cycle

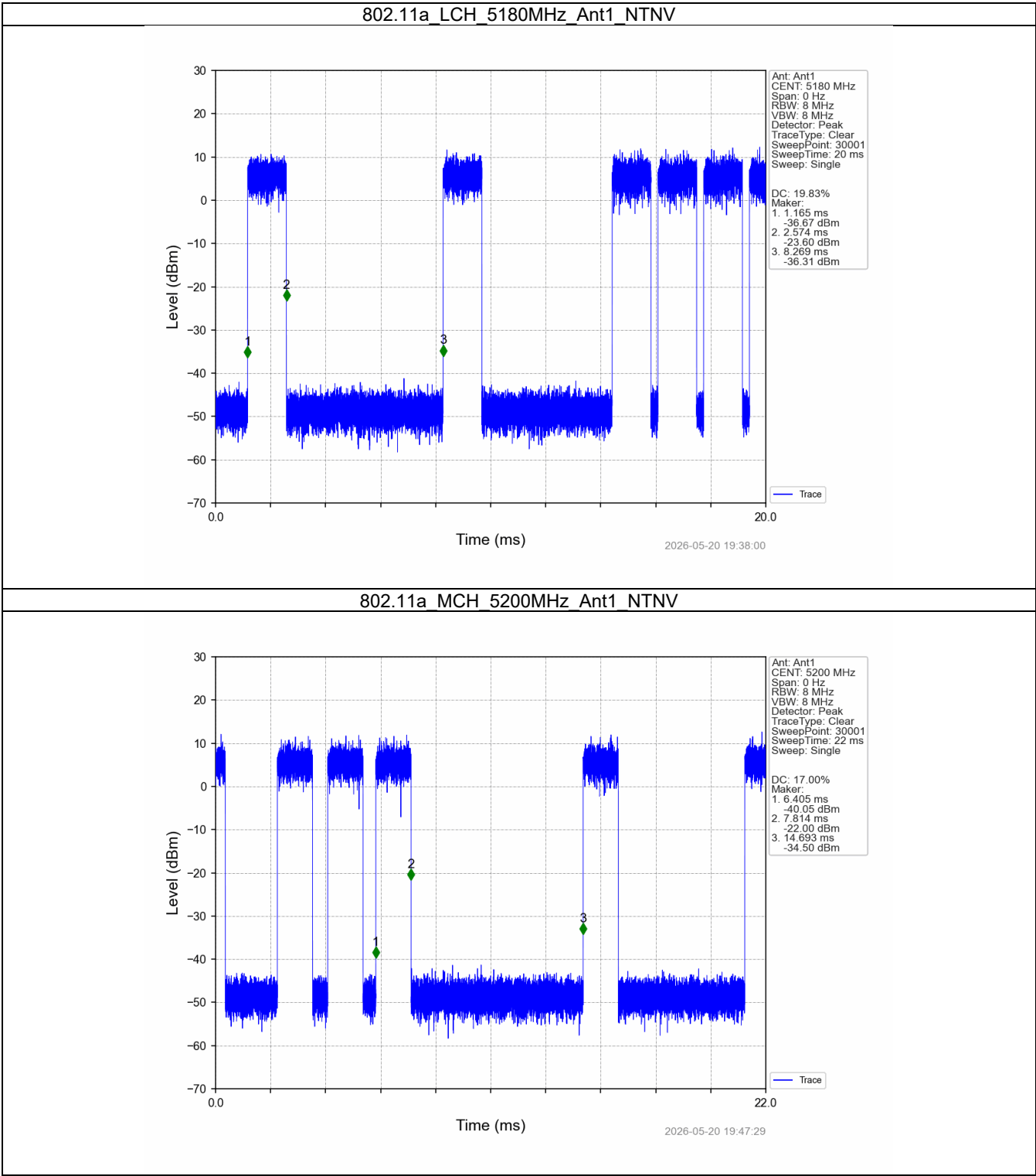
1.1 Test Result

1.1.1 Ant1

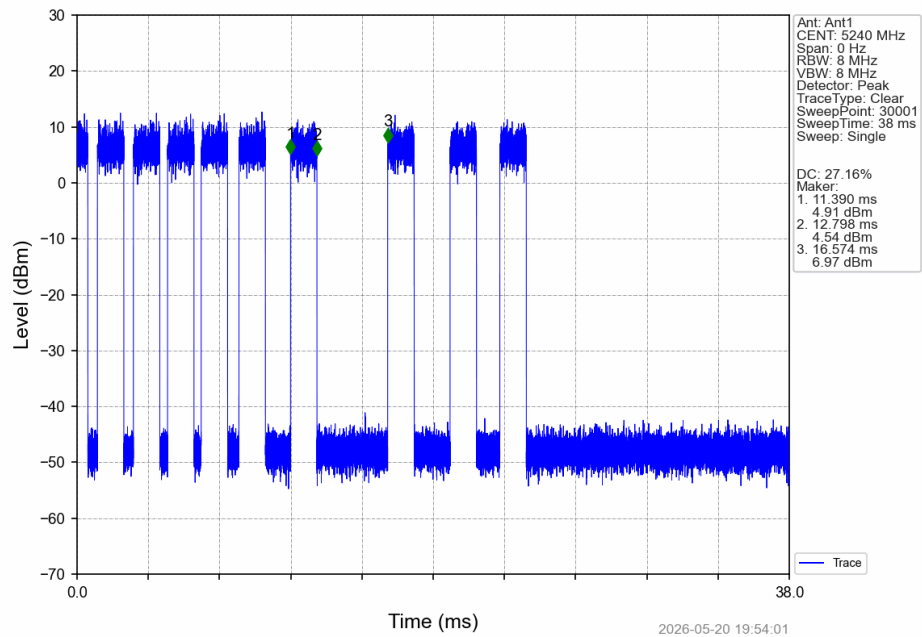
Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11a	SISO	5180	1.409	7.104	19.83	7.03	64.96
		5200	1.409	8.288	17.00	7.70	56.44
		5240	1.408	5.184	27.16	5.66	51.46
802.11n (HT20)	SISO	5180	1.317	3.488	37.76	4.23	34.47
		5200	1.318	4.302	30.64	5.14	50.14
		5240	1.318	2.177	60.54	2.18	20.21
802.11n (HT40)	SISO	5190	0.654	3.640	17.97	7.46	23.73
		5230	0.653	4.832	13.51	8.69	59.53
802.11ac (VHT20)	SISO	5180	1.325	5.311	24.95	6.03	56.32
		5200	1.324	4.543	29.14	5.35	48.96
		5240	1.325	2.048	64.70	1.89	16.52
802.11ac (VHT40)	SISO	5190	0.661	3.973	16.64	7.79	57.62
		5230	0.661	1.760	37.56	4.25	3.73
802.11ac (VHT80)	SISO	5210	0.330	4.450	7.42	11.30	50.02

1.2 Test Graph

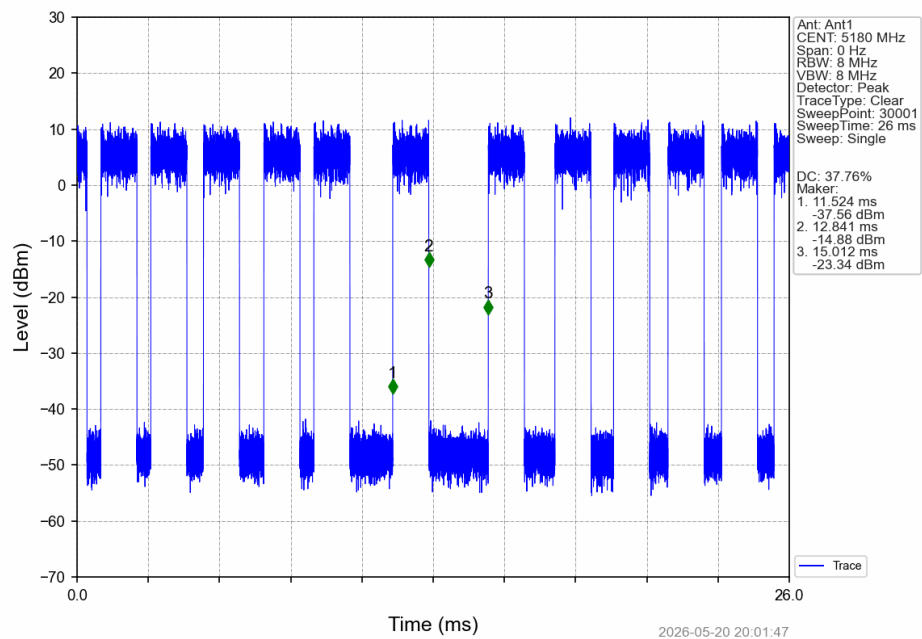
1.2.1 Ant1



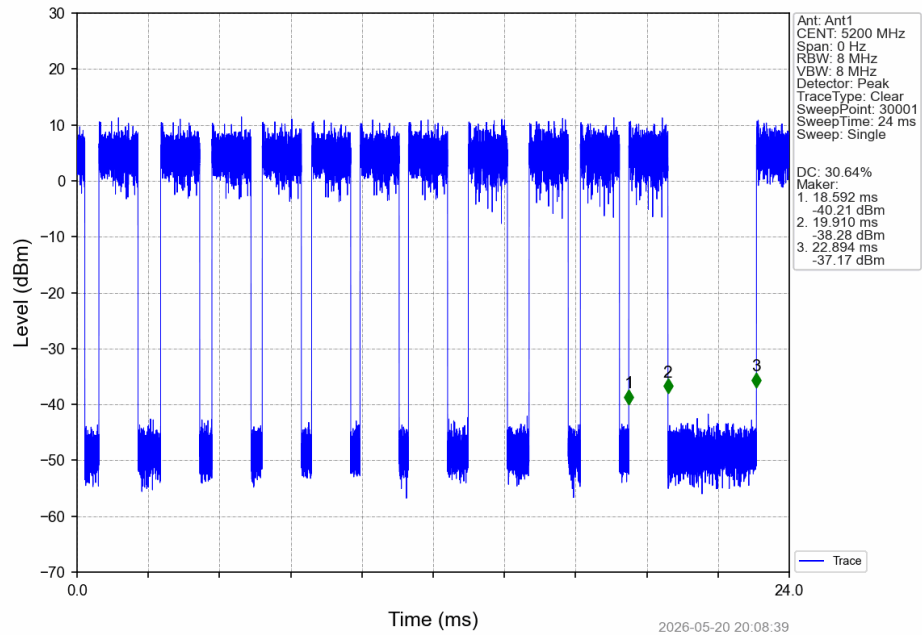
802.11a_HCH_5240MHz_Ant1_NTNV



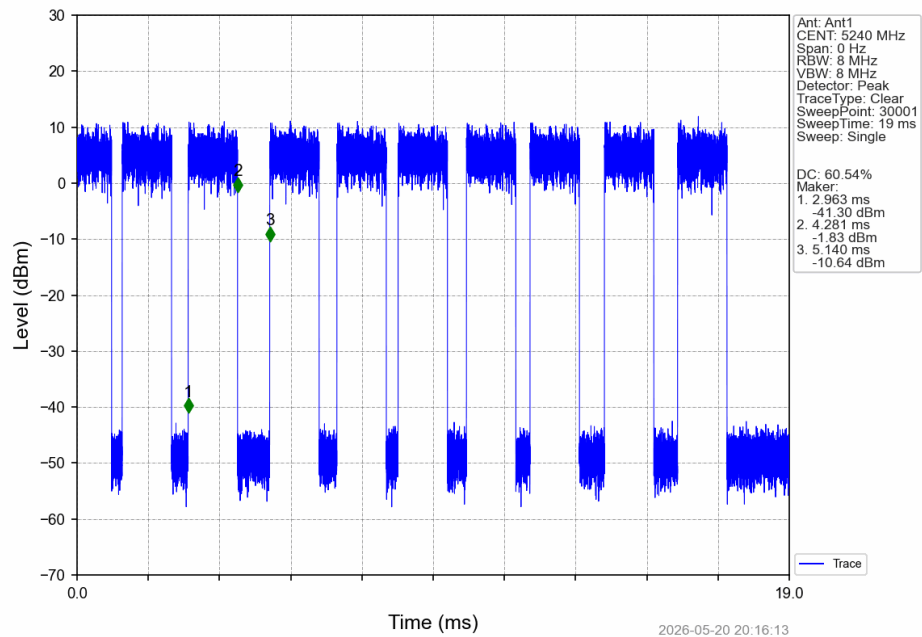
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



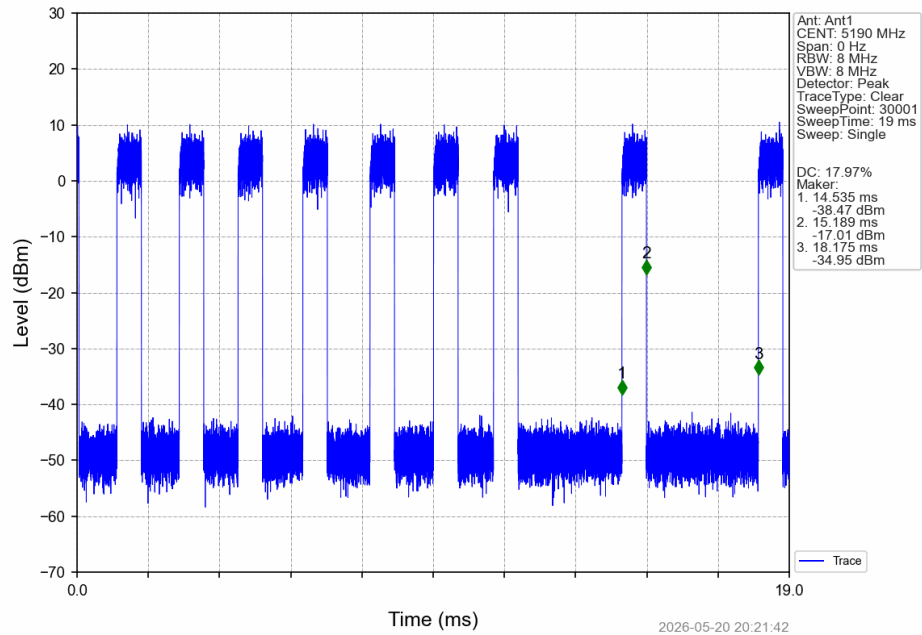
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



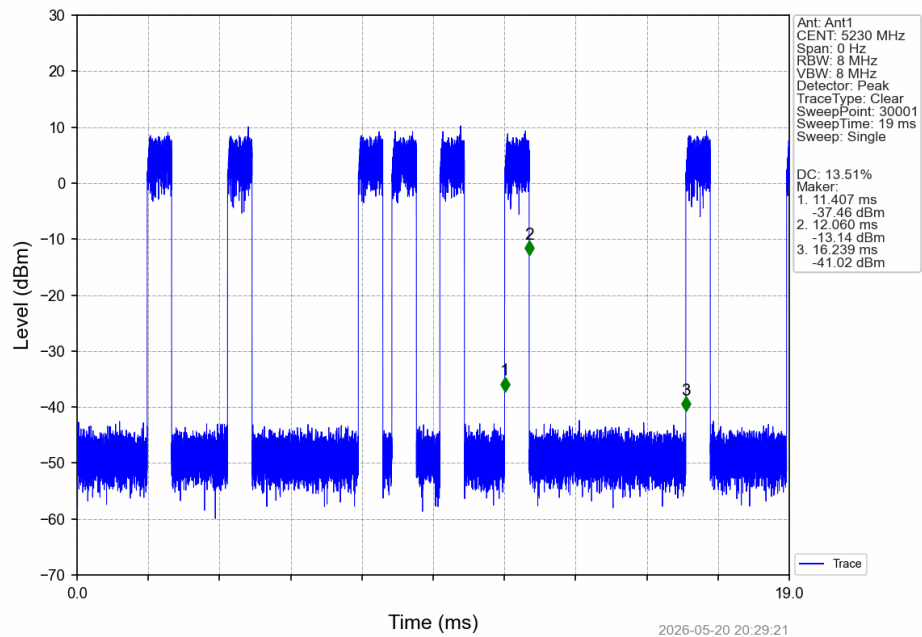
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



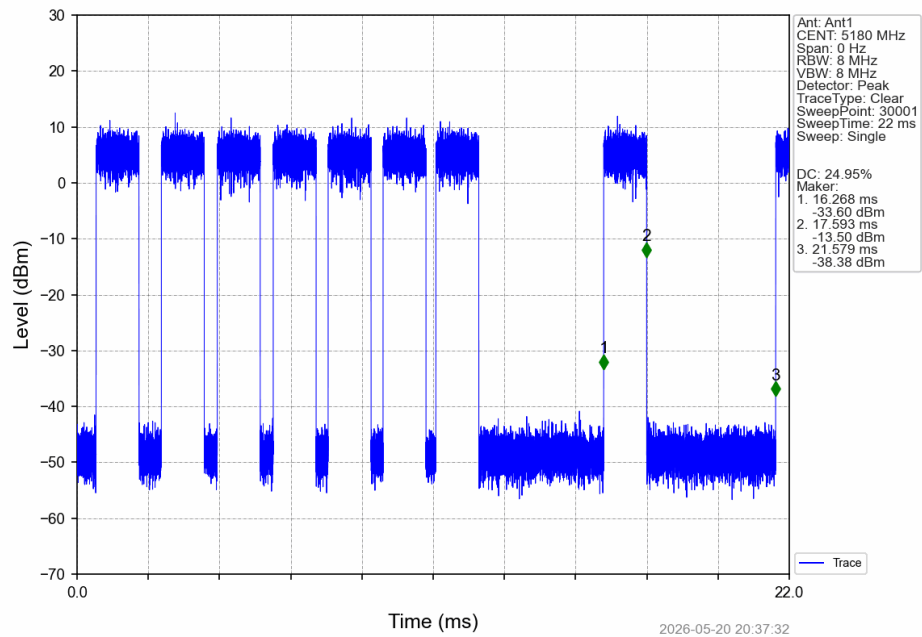
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



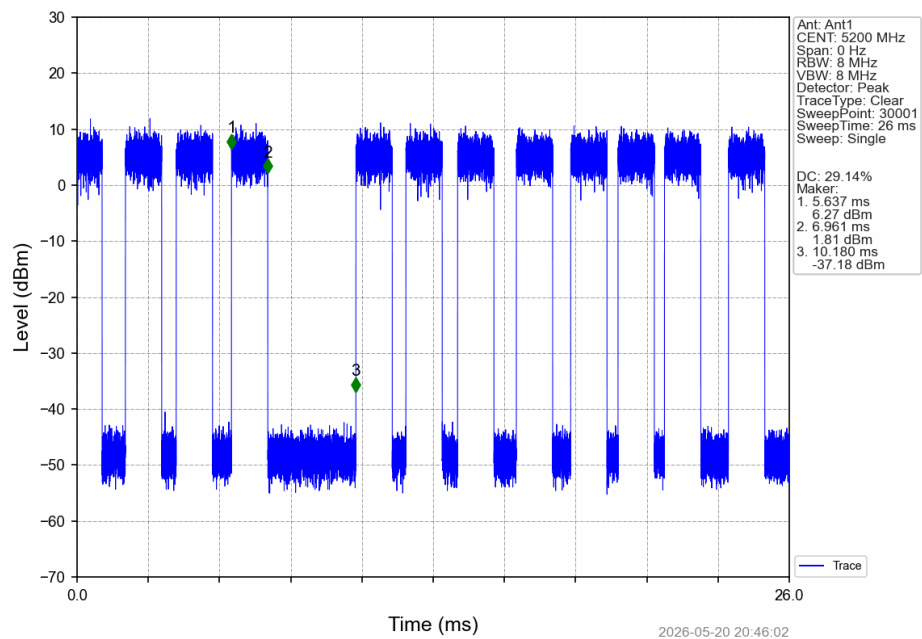
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



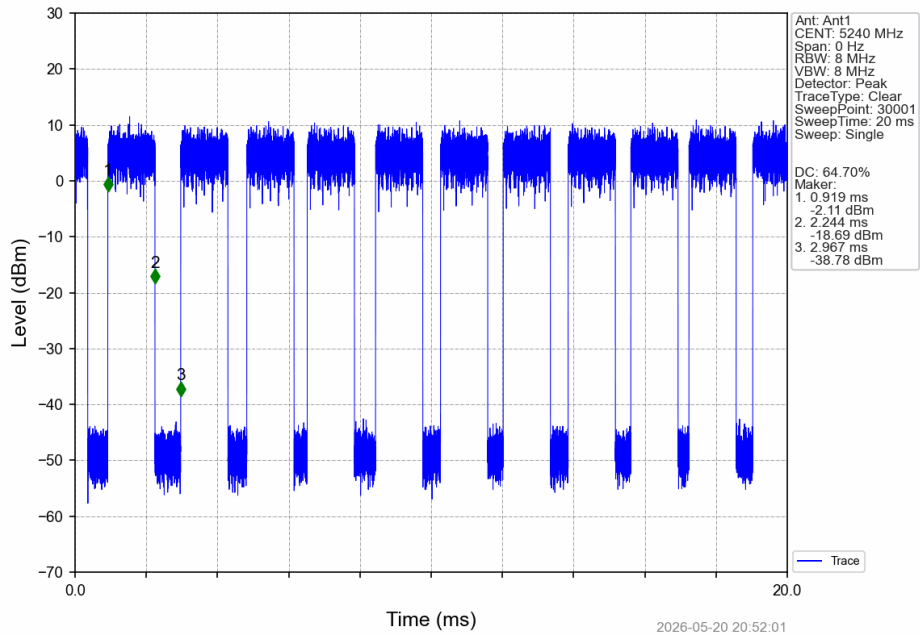
802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



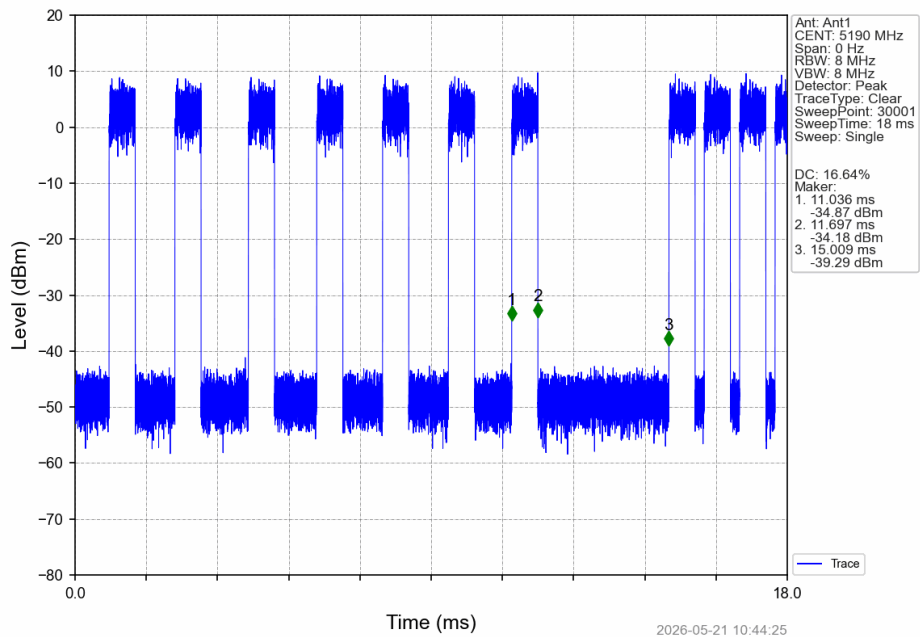
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



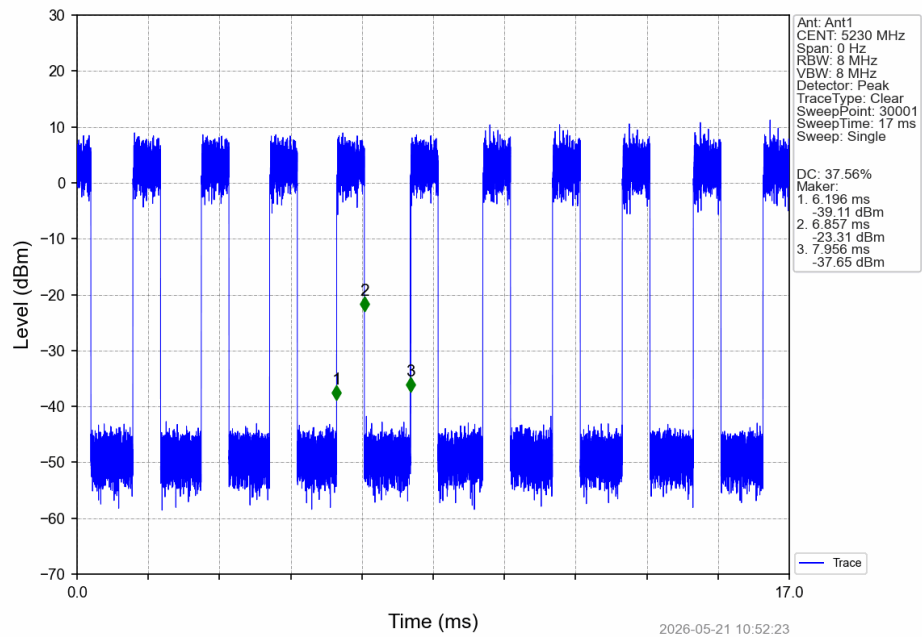
802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



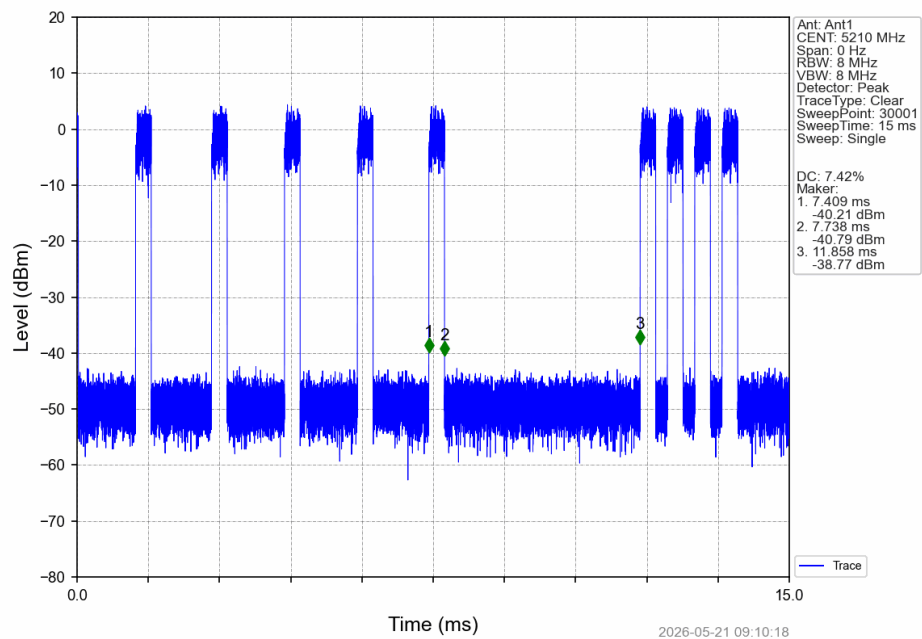
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV



802.11ac(VHT80)_MCH_5210MHz_Ant1_NTNV



2. Bandwidth

2.1 Test Result

2.1.1 OBW

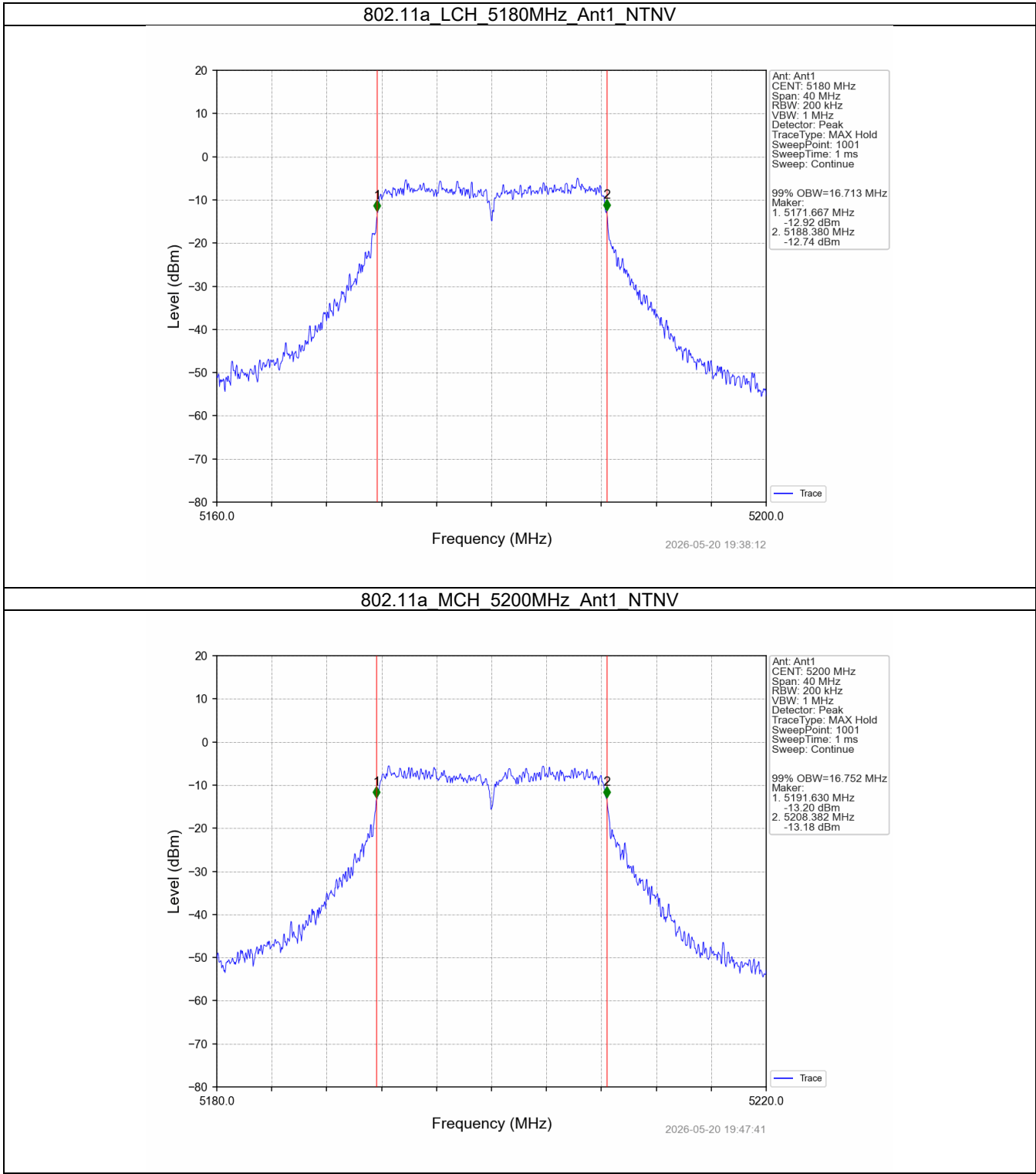
Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	16.713	/	Pass
		5200	1	16.752	/	Pass
		5240	1	16.696	/	Pass
802.11n (HT20)	SISO	5180	1	17.816	/	Pass
		5200	1	17.870	/	Pass
		5240	1	17.805	/	Pass
802.11n (HT40)	SISO	5190	1	36.819	/	Pass
		5230	1	36.826	/	Pass
802.11ac (VHT20)	SISO	5180	1	17.795	/	Pass
		5200	1	17.861	/	Pass
		5240	1	17.881	/	Pass
802.11ac (VHT40)	SISO	5190	1	36.944	/	Pass
		5230	1	37.063	/	Pass
802.11ac (VHT80)	SISO	5210	1	75.679	/	Pass

2.1.2 26dB BW

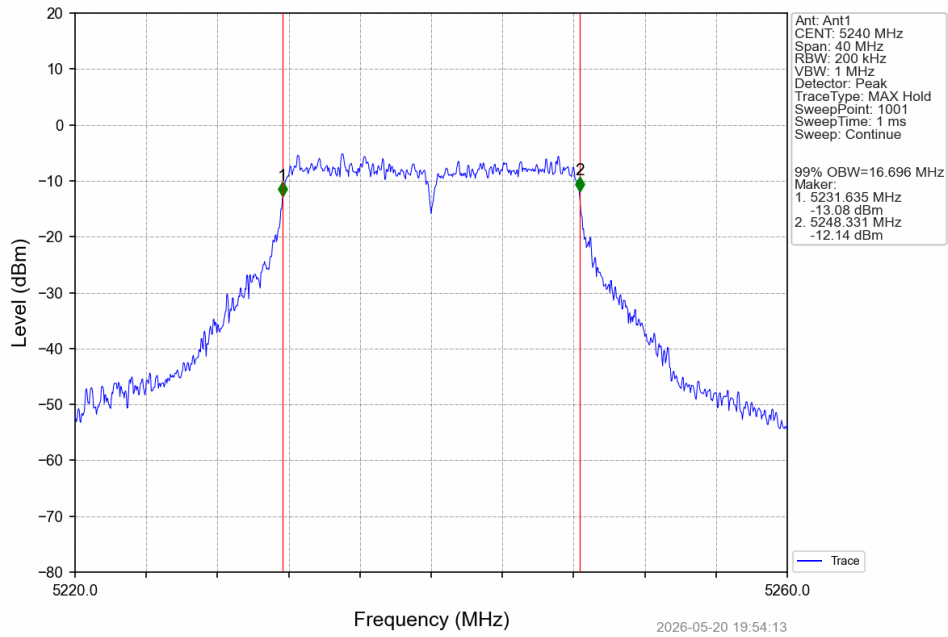
Mode	TX Type	Frequency (MHz)	ANT	26dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	22.569	/	Pass
		5200	1	23.036	/	Pass
		5240	1	22.517	/	Pass
802.11n (HT20)	SISO	5180	1	23.229	/	Pass
		5200	1	23.430	/	Pass
		5240	1	22.795	/	Pass
802.11n (HT40)	SISO	5190	1	45.188	/	Pass
		5230	1	45.467	/	Pass
802.11ac (VHT20)	SISO	5180	1	23.266	/	Pass
		5200	1	23.002	/	Pass
		5240	1	23.348	/	Pass
802.11ac (VHT40)	SISO	5190	1	45.445	/	Pass
		5230	1	45.087	/	Pass
802.11ac (VHT80)	SISO	5210	1	82.821	/	Pass

2.2 Test Graph

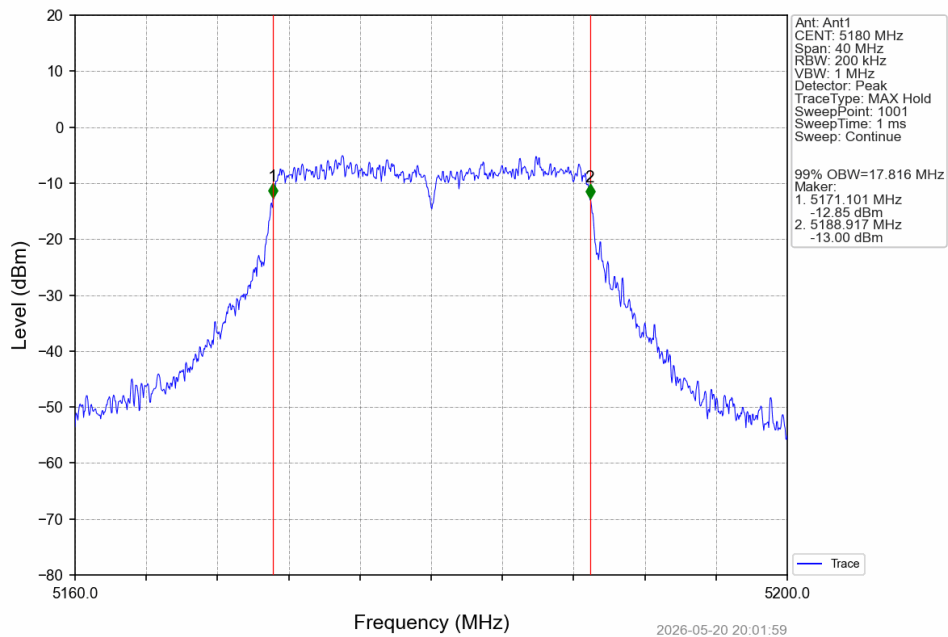
2.2.1 OBW



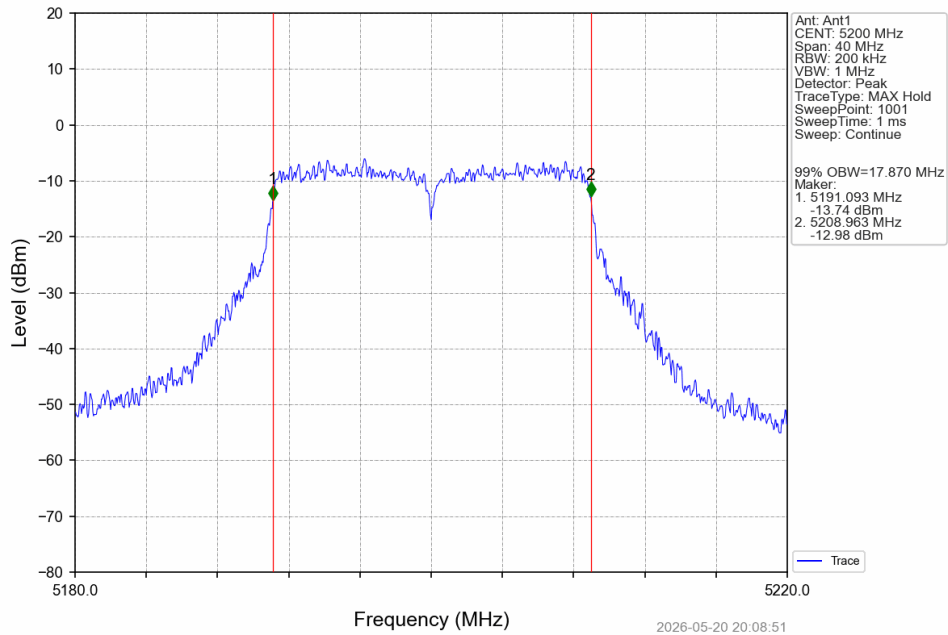
802.11a_HCH_5240MHz_Ant1_NTNV



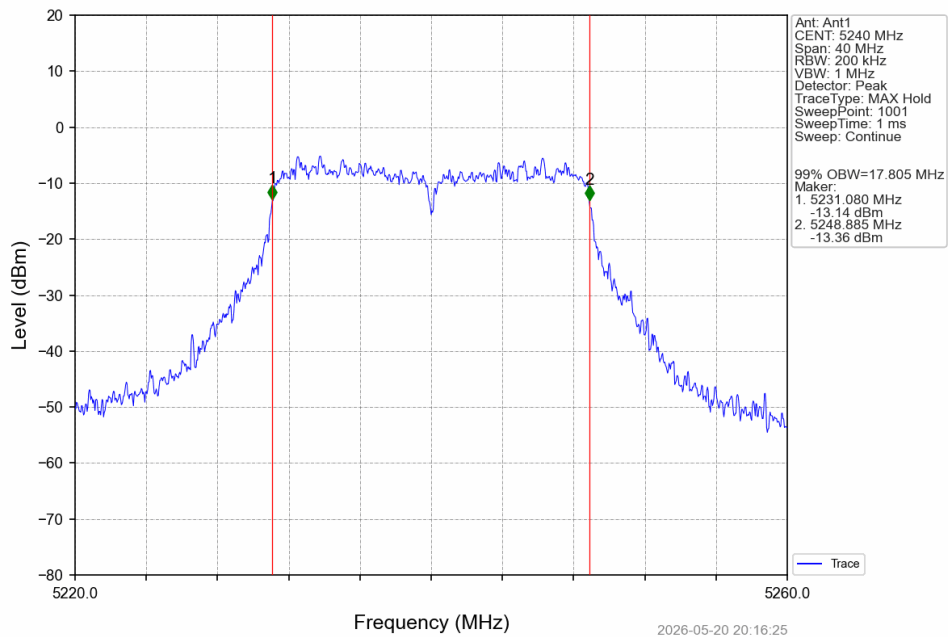
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



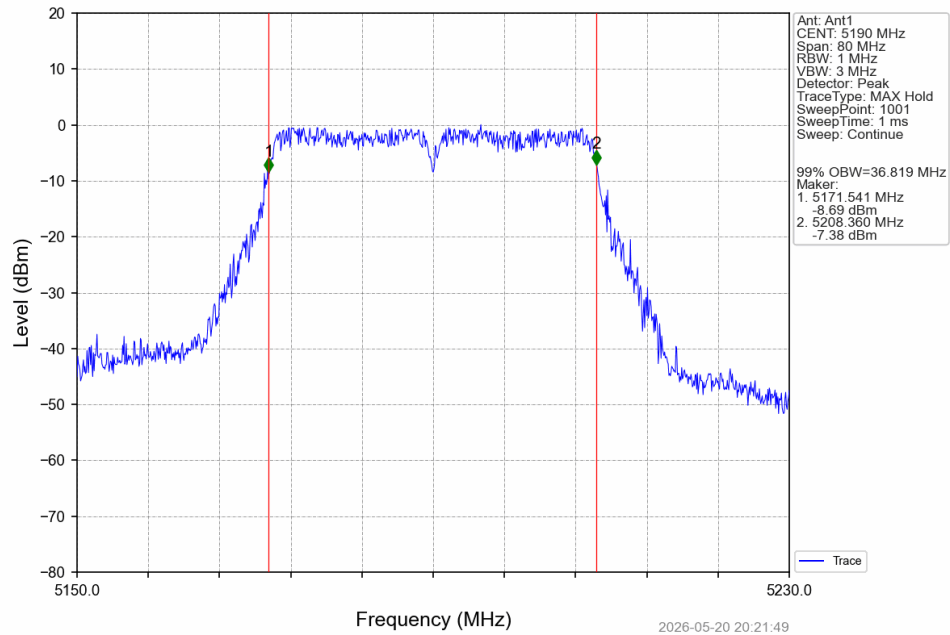
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



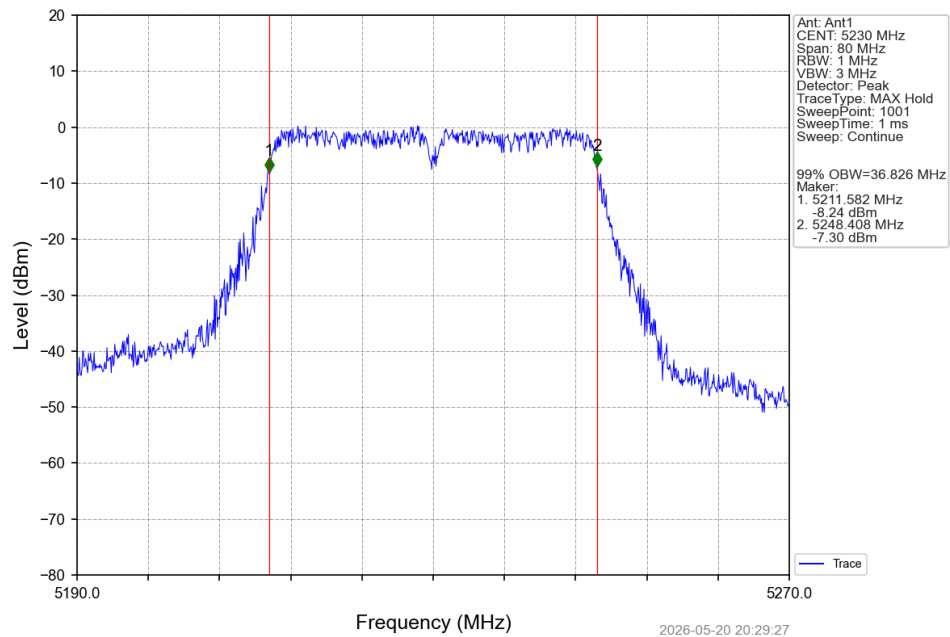
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



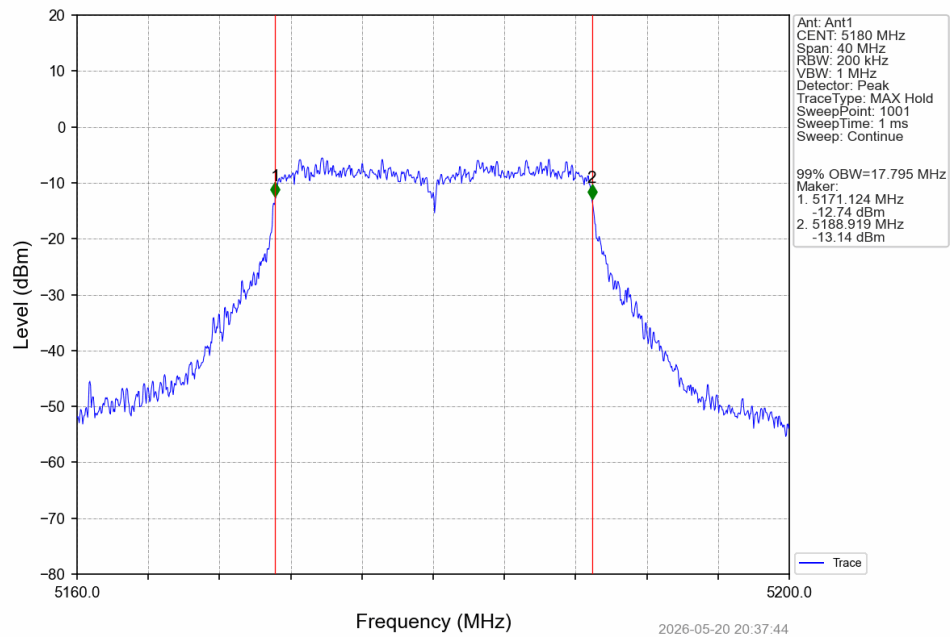
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



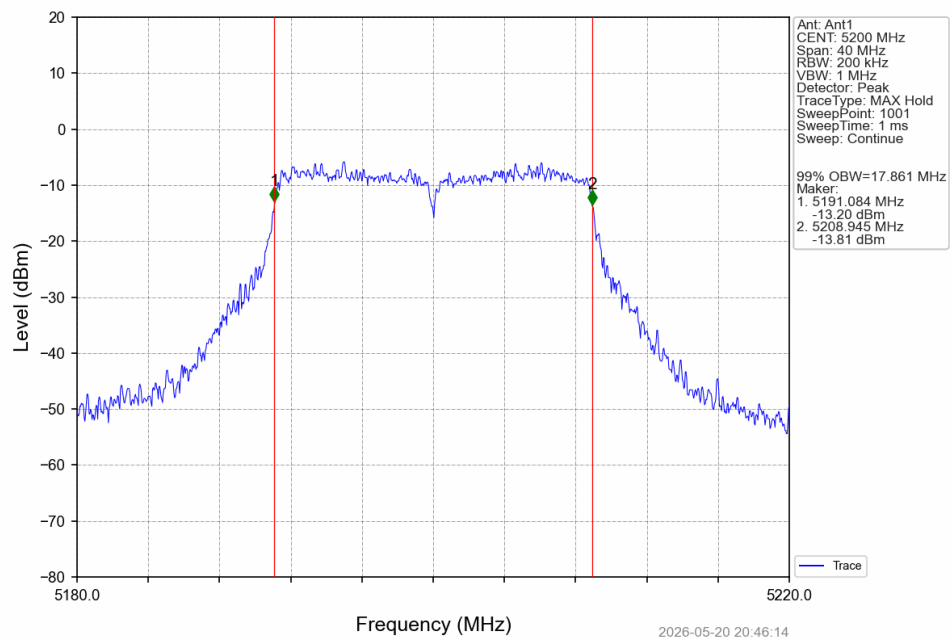
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



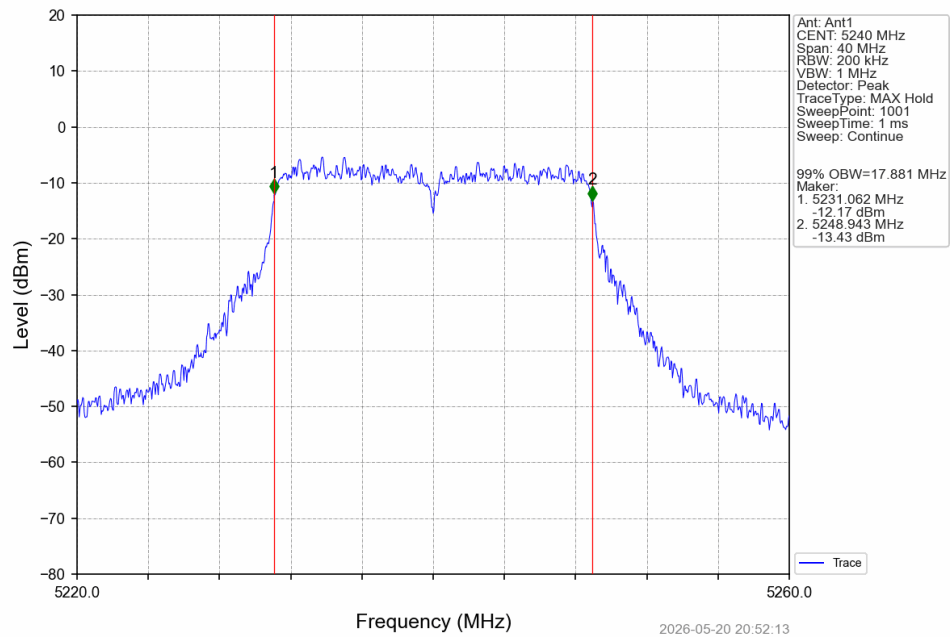
802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



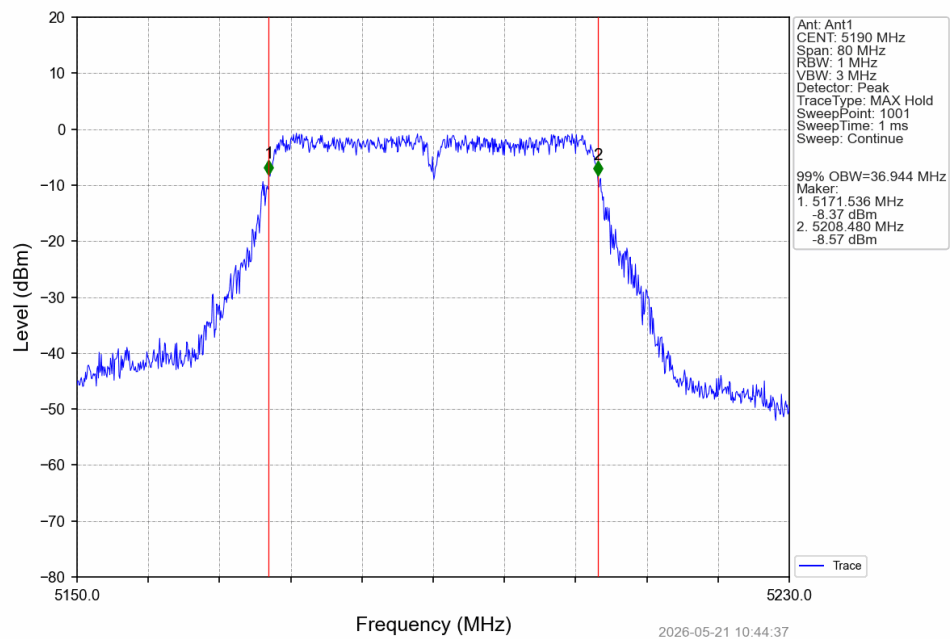
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



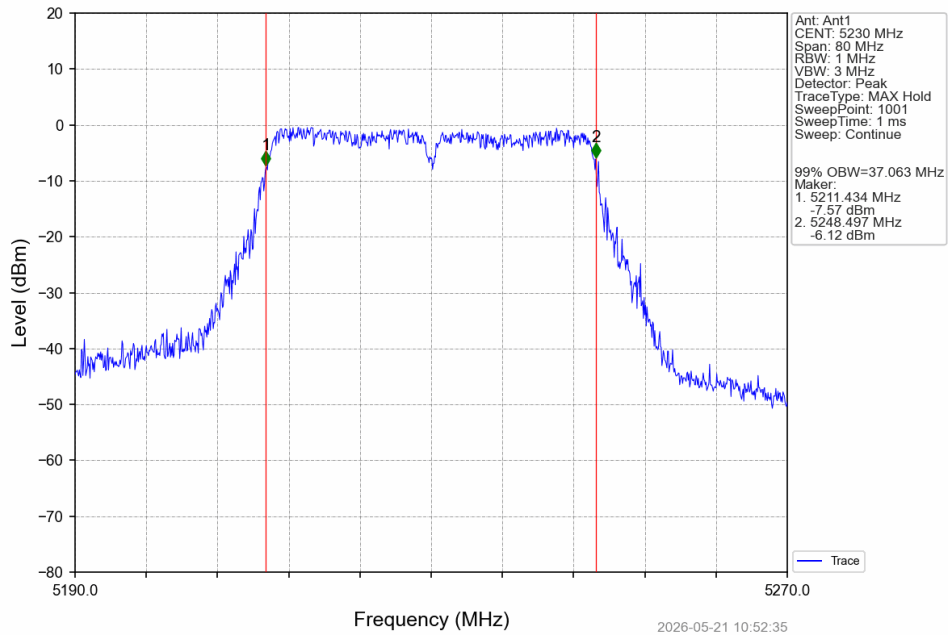
802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



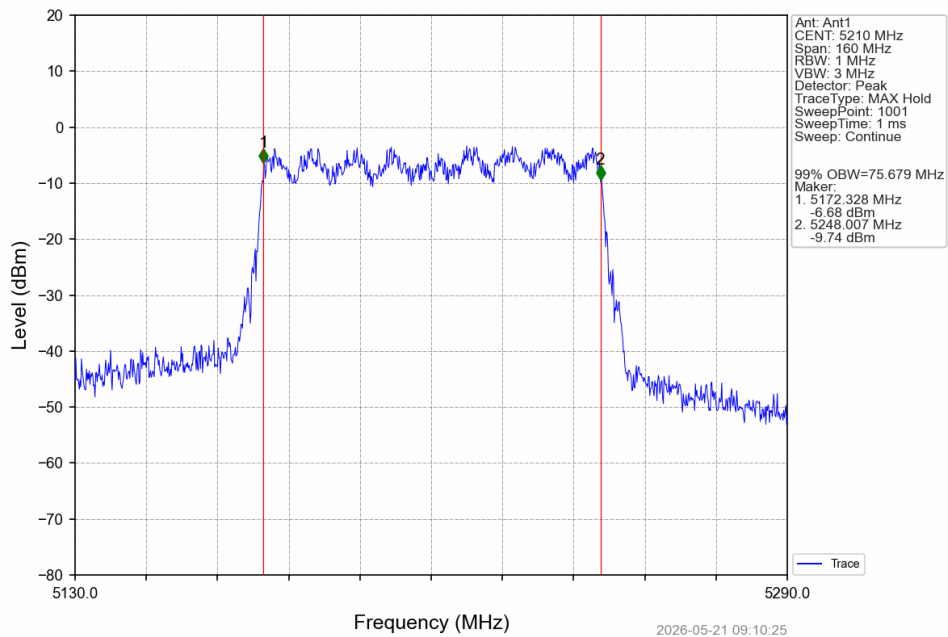
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



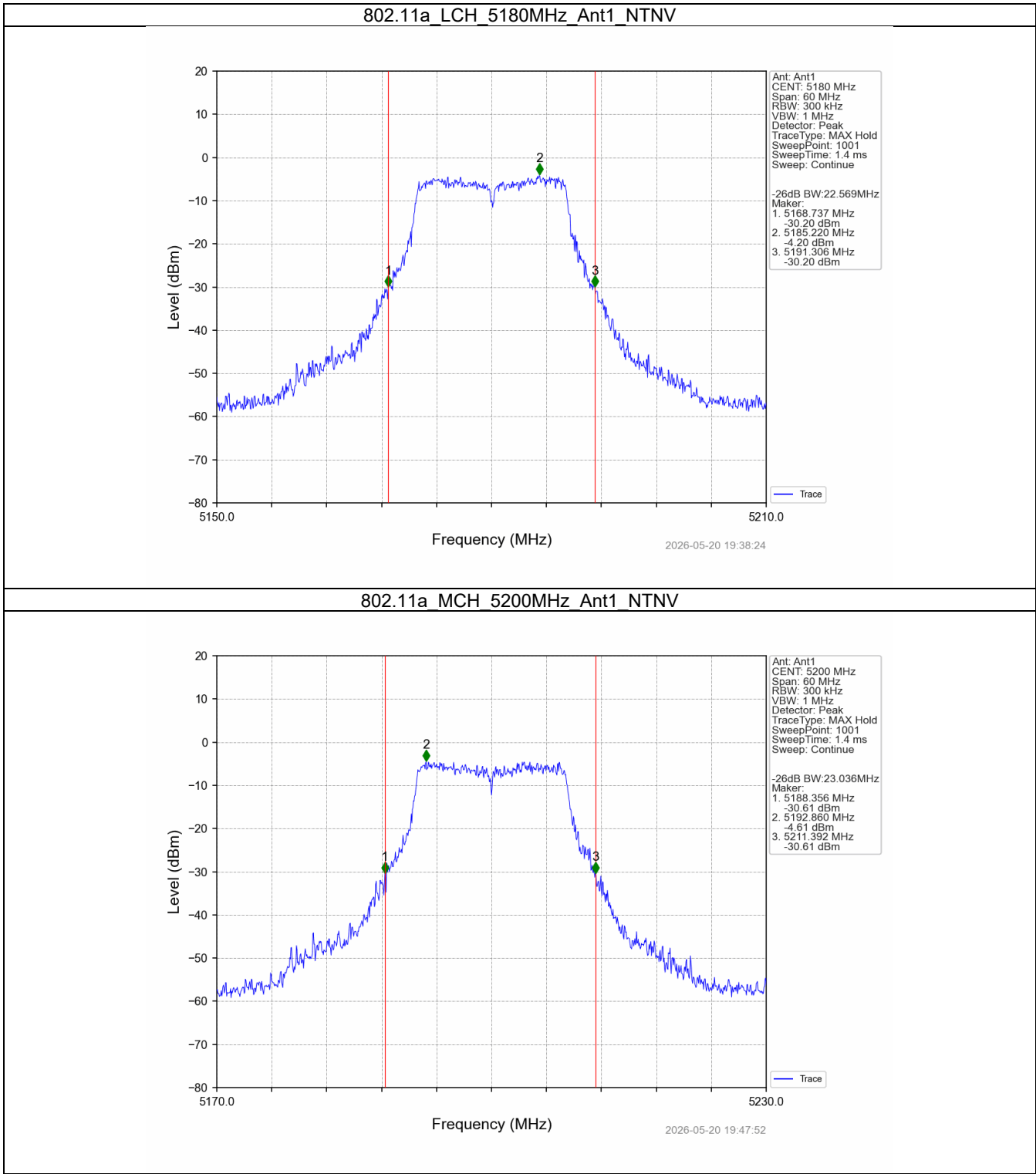
802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV



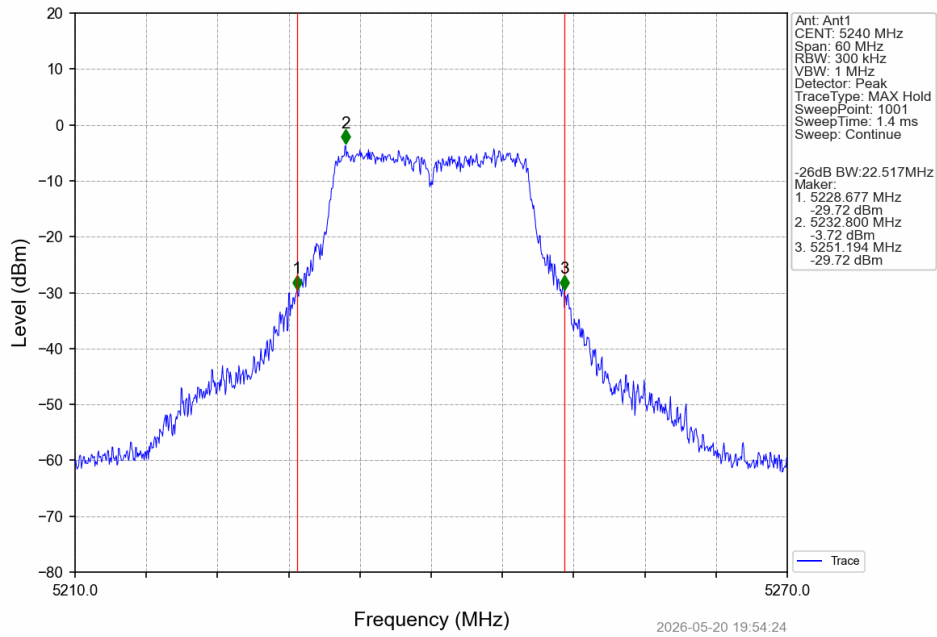
802.11ac(VHT80)_MCH_5210MHz_Ant1_NTNV



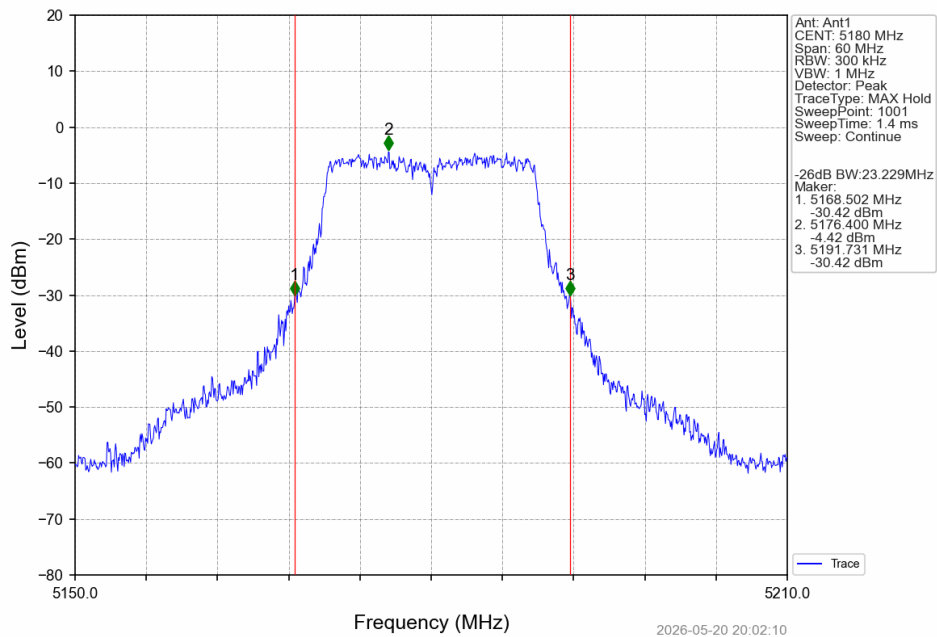
2.2.2 26dB BW



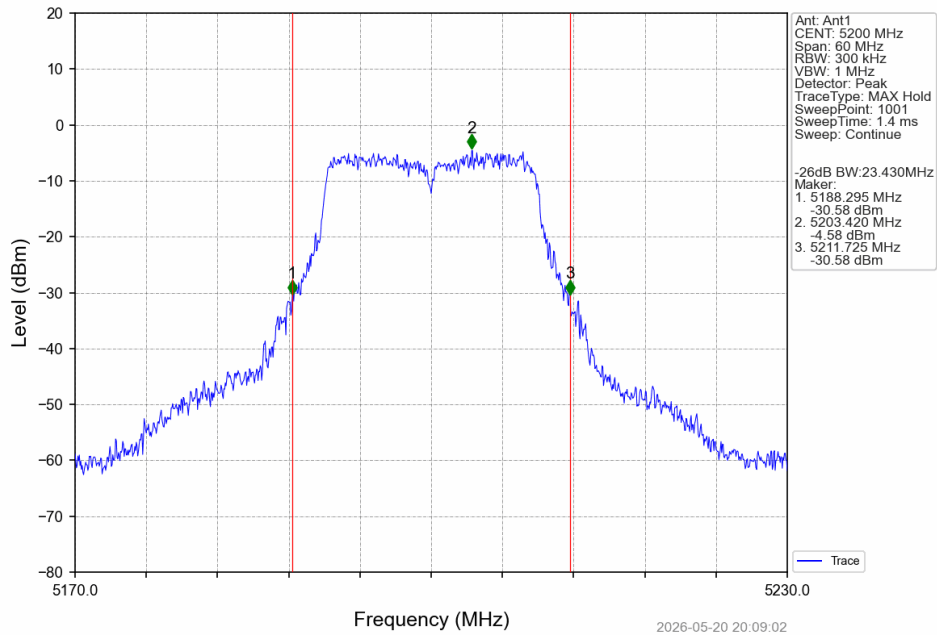
802.11a_HCH_5240MHz_Ant1_NTNV



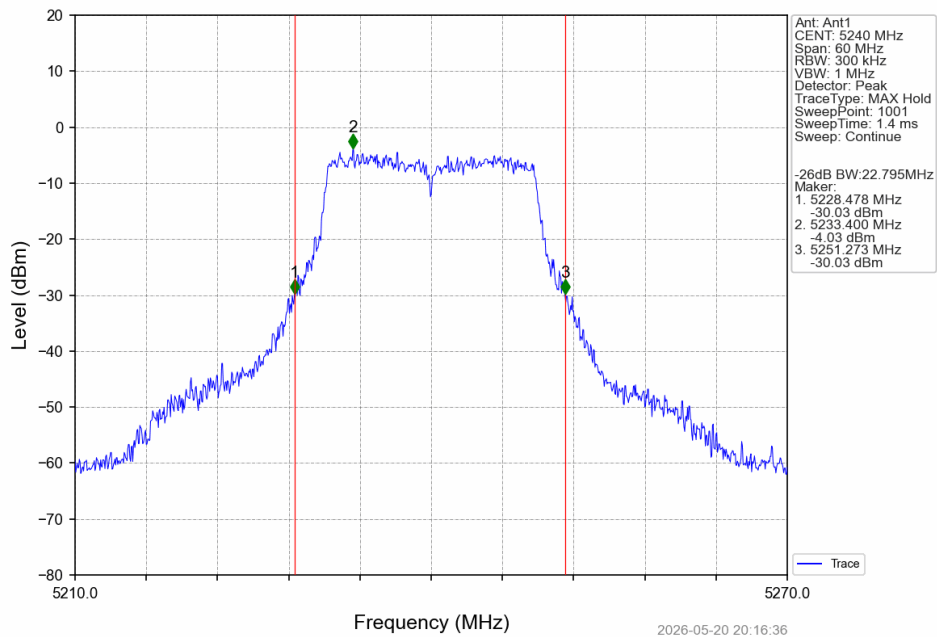
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



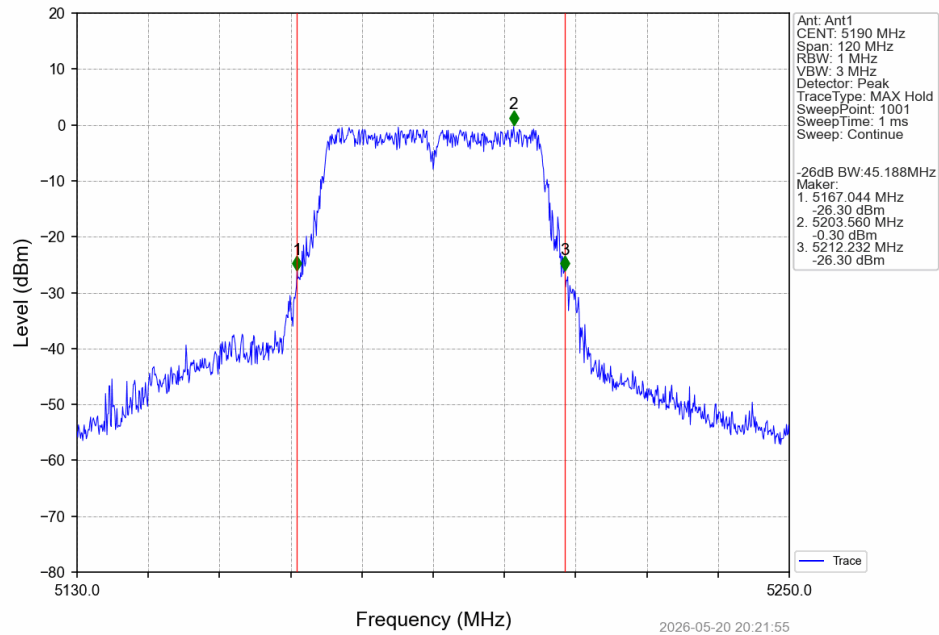
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



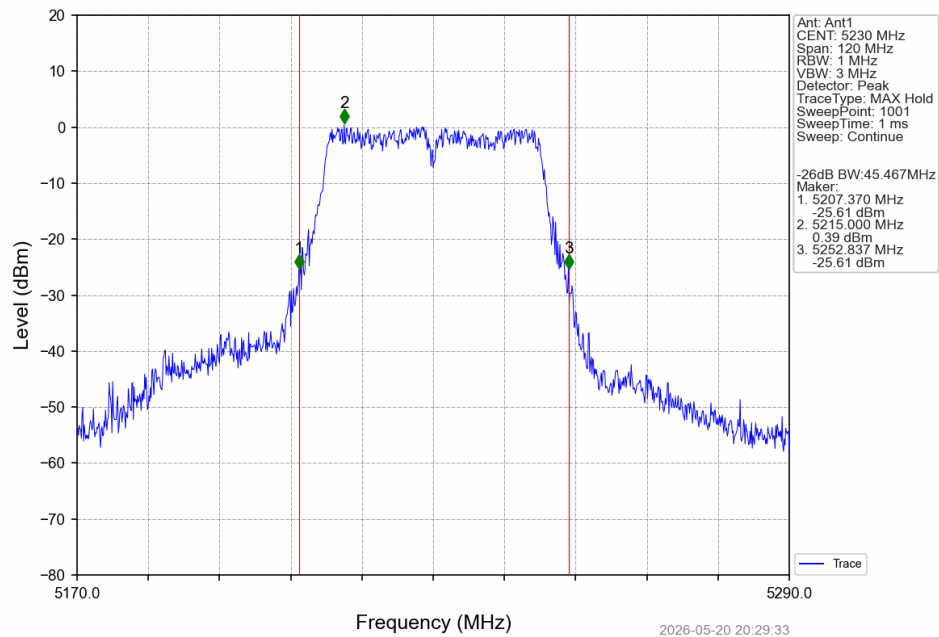
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



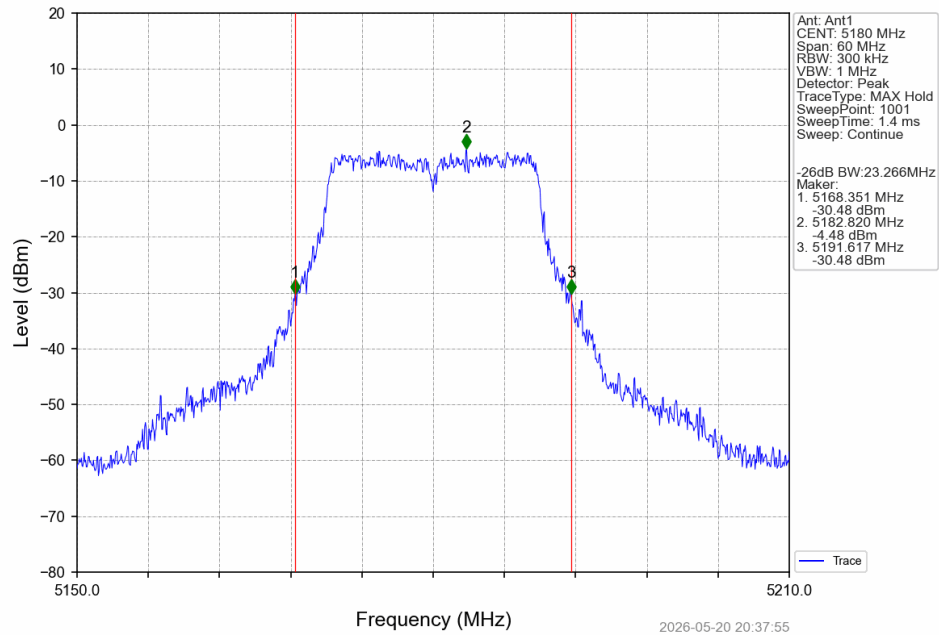
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



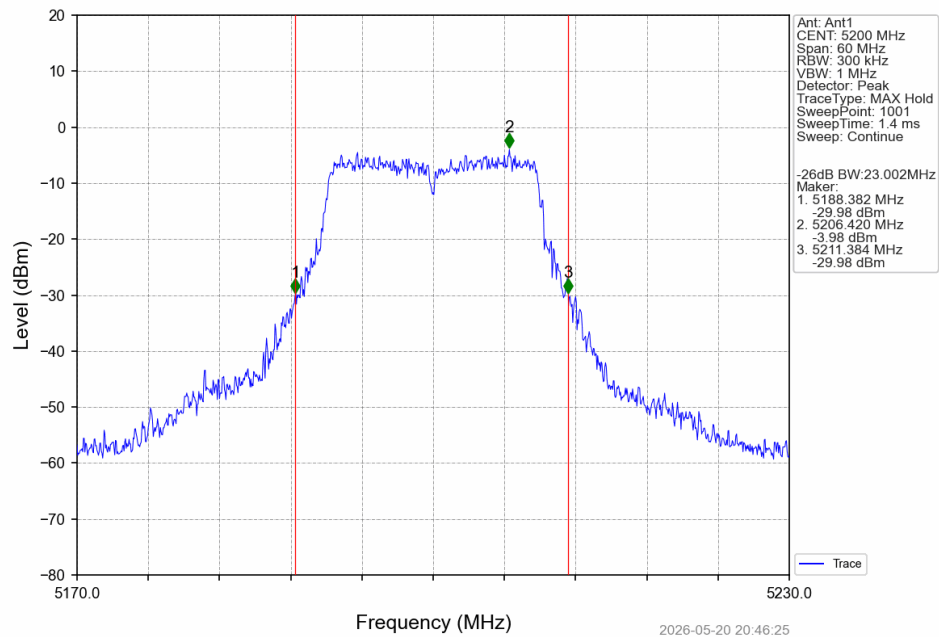
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



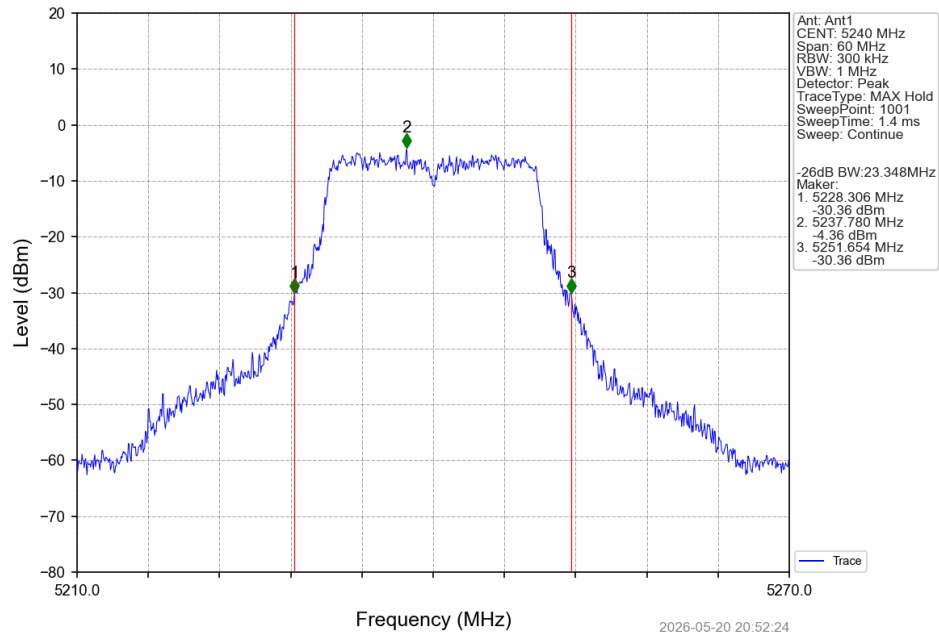
802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



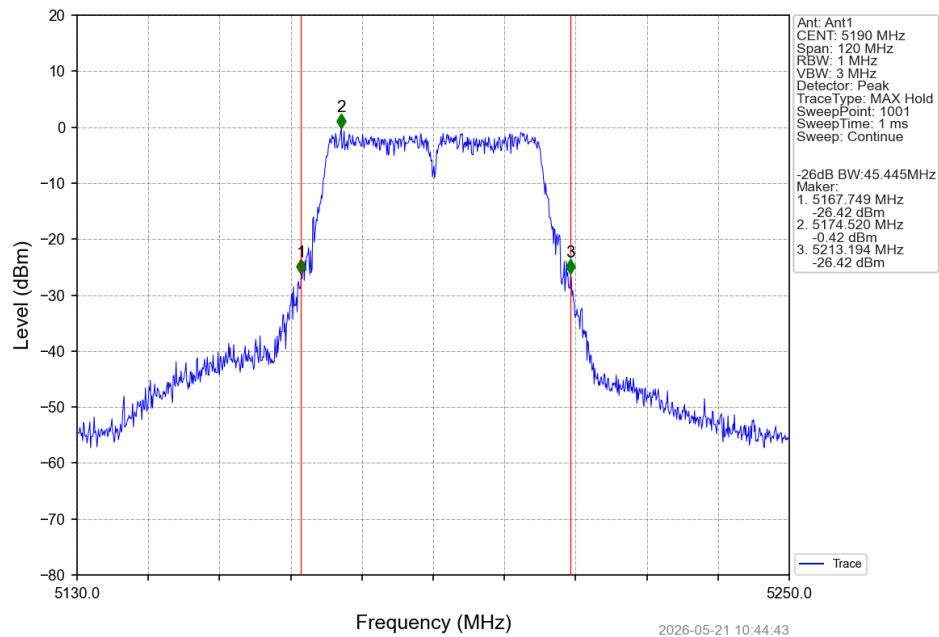
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



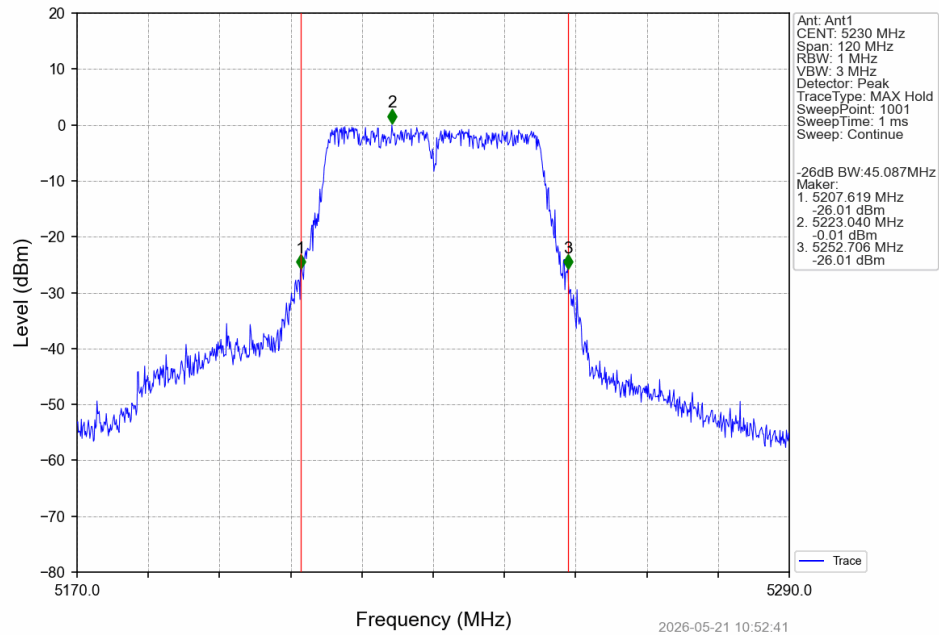
802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



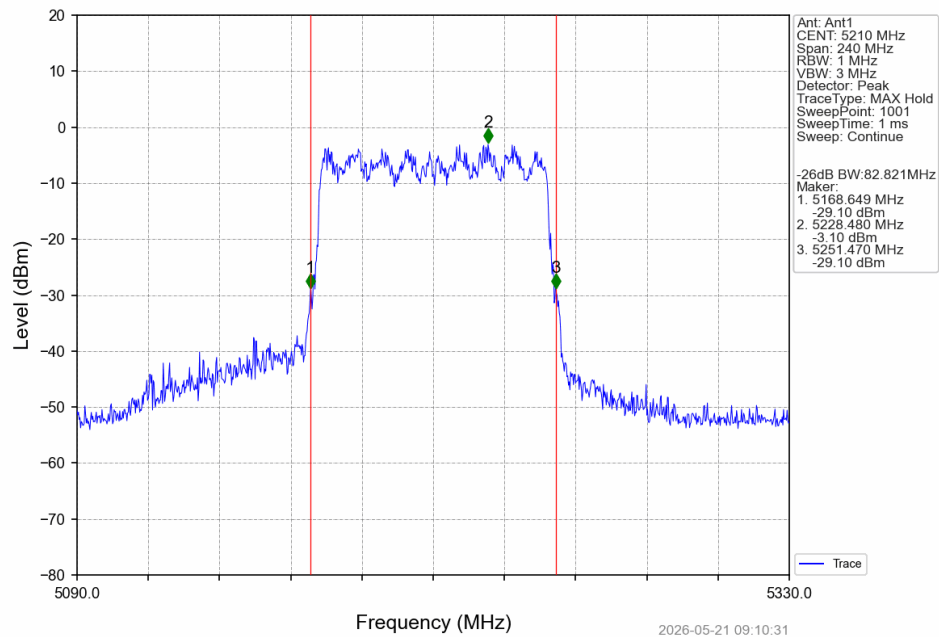
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV



802.11ac(VHT80)_MCH_5210MHz_Ant1_NTNV



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	4.99	≤ 23.98	Pass
		5200	4.87	≤ 23.98	Pass
		5240	4.85	≤ 23.98	Pass
802.11n (HT20)	SISO	5180	4.80	≤ 23.98	Pass
		5200	4.67	≤ 23.98	Pass
		5240	4.69	≤ 23.98	Pass
802.11n (HT40)	SISO	5190	6.37	≤ 23.98	Pass
		5230	6.65	≤ 23.98	Pass
802.11ac (VHT20)	SISO	5180	4.65	≤ 23.98	Pass
		5200	4.72	≤ 23.98	Pass
		5240	4.54	≤ 23.98	Pass
802.11ac (VHT40)	SISO	5190	5.77	≤ 23.98	Pass
		5230	6.17	≤ 23.98	Pass
802.11ac (VHT80)	SISO	5210	5.65	≤ 23.98	Pass

The duty factor is already compensated in the result.

4. Maximum Power Spectral Density

4.1 Test Result

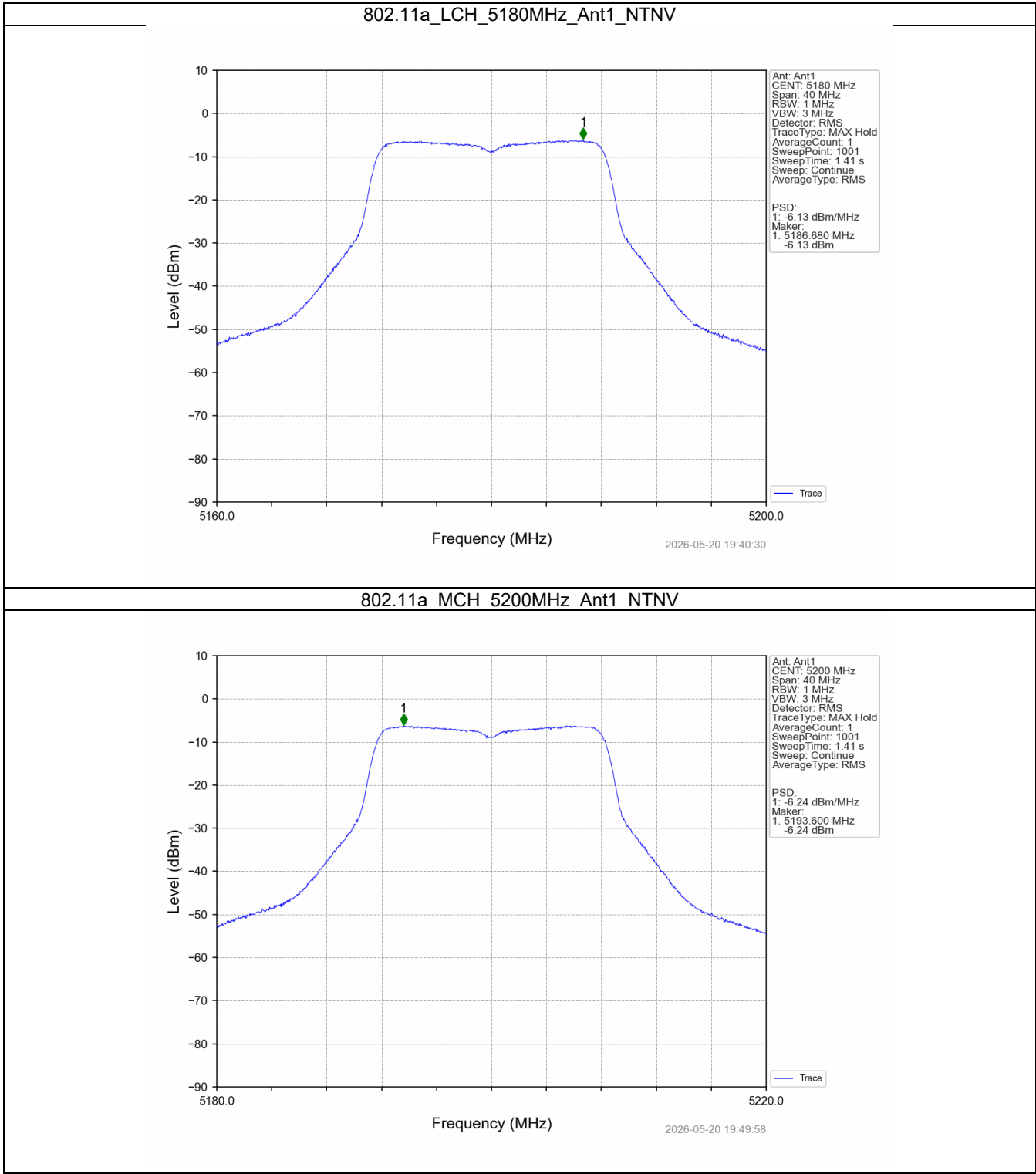
4.1.1 PSD

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/MHz)		Verdict
			ANT1	Limit	
802.11a	SISO	5180	-6.13	<=11	Pass
		5200	-6.24	<=11	Pass
		5240	-5.99	<=11	Pass
802.11n (HT20)	SISO	5180	-6.39	<=11	Pass
		5200	-6.64	<=11	Pass
		5240	-6.37	<=11	Pass
802.11n (HT40)	SISO	5190	-8.08	<=11	Pass
		5230	-7.88	<=11	Pass
802.11ac (VHT20)	SISO	5180	-6.83	<=11	Pass
		5200	-6.83	<=11	Pass
		5240	-6.53	<=11	Pass
802.11ac (VHT40)	SISO	5190	-8.82	<=11	Pass
		5230	-8.57	<=11	Pass
802.11ac (VHT80)	SISO	5210	-10.78	<=11	Pass

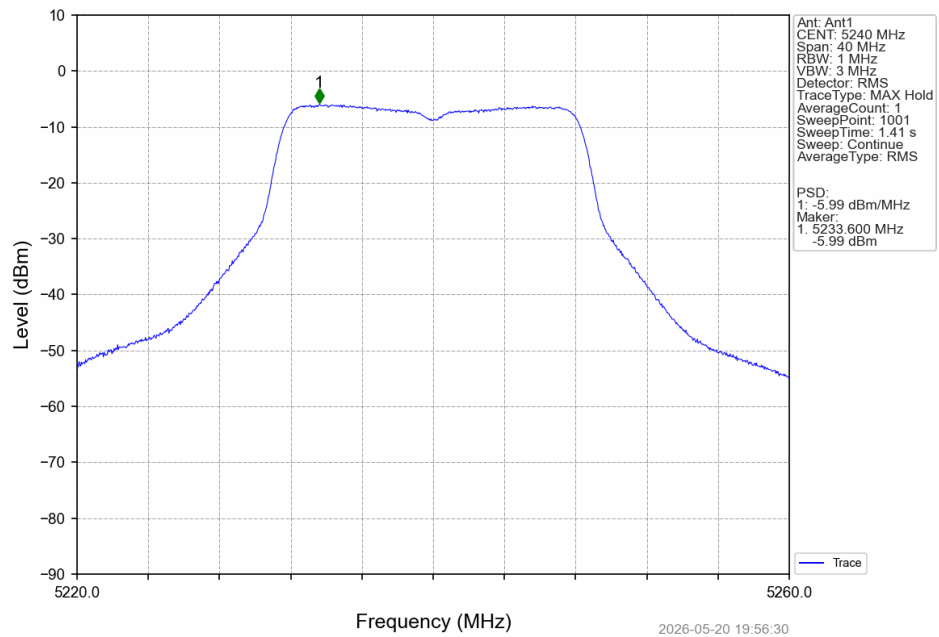
The duty factor is already compensated in the result.

4.2 Test Graph

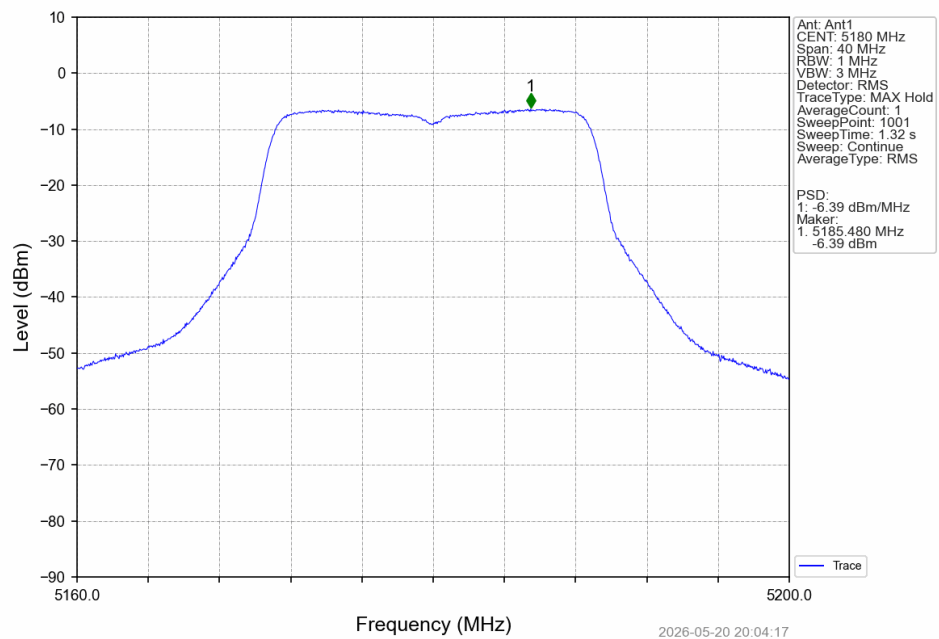
4.2.1 PSD



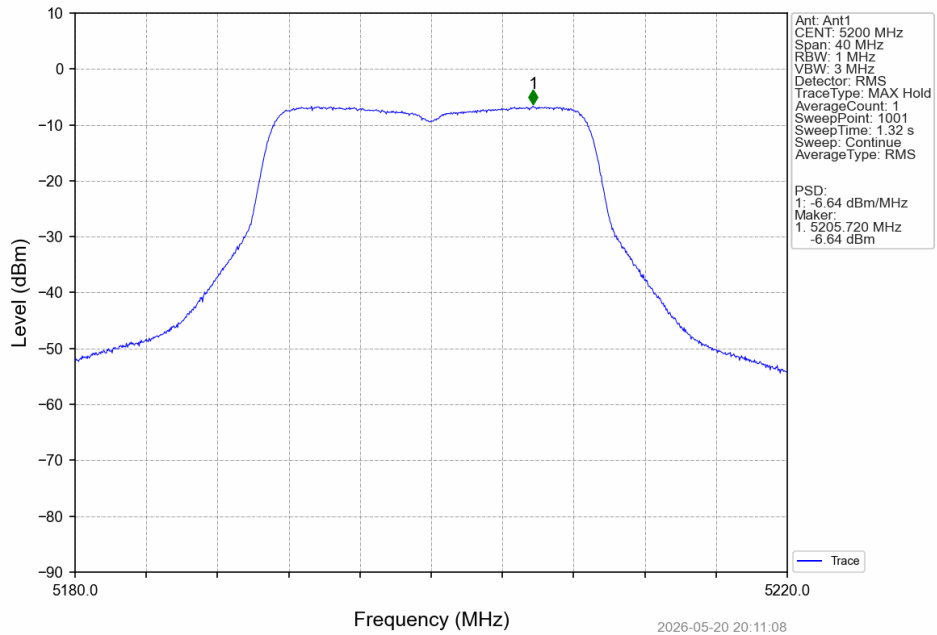
802.11a_HCH_5240MHz_Ant1_NTNV



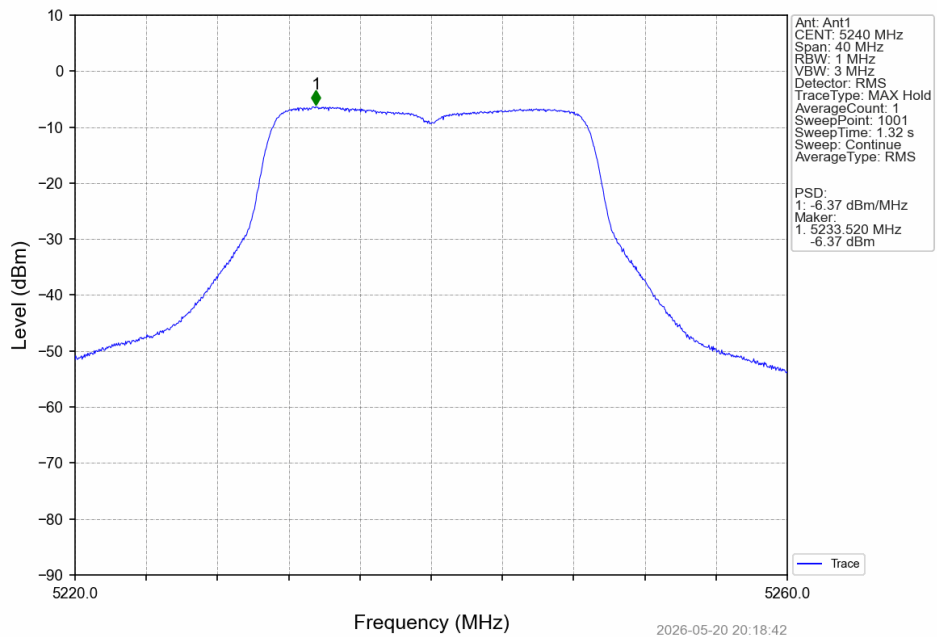
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



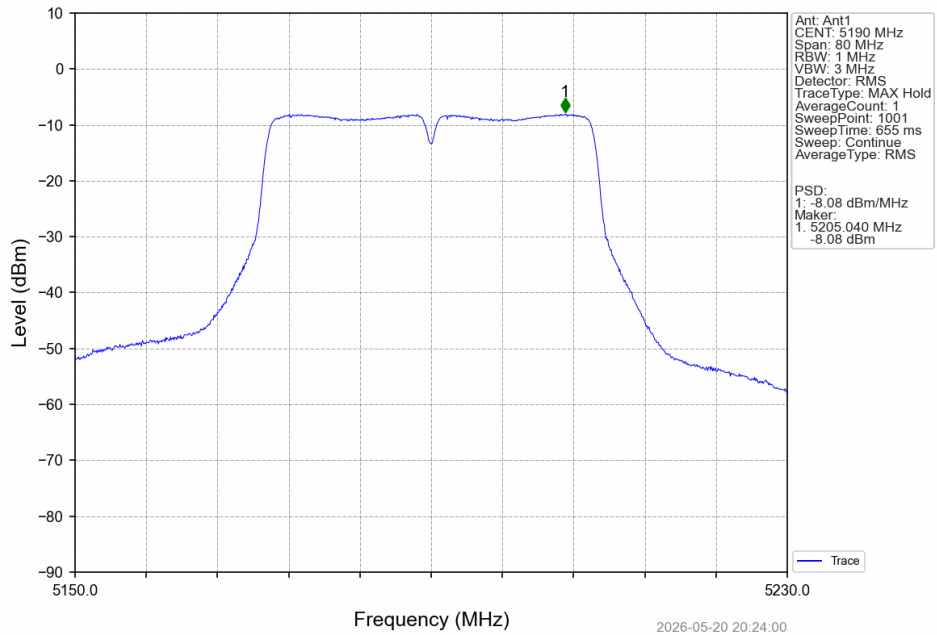
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



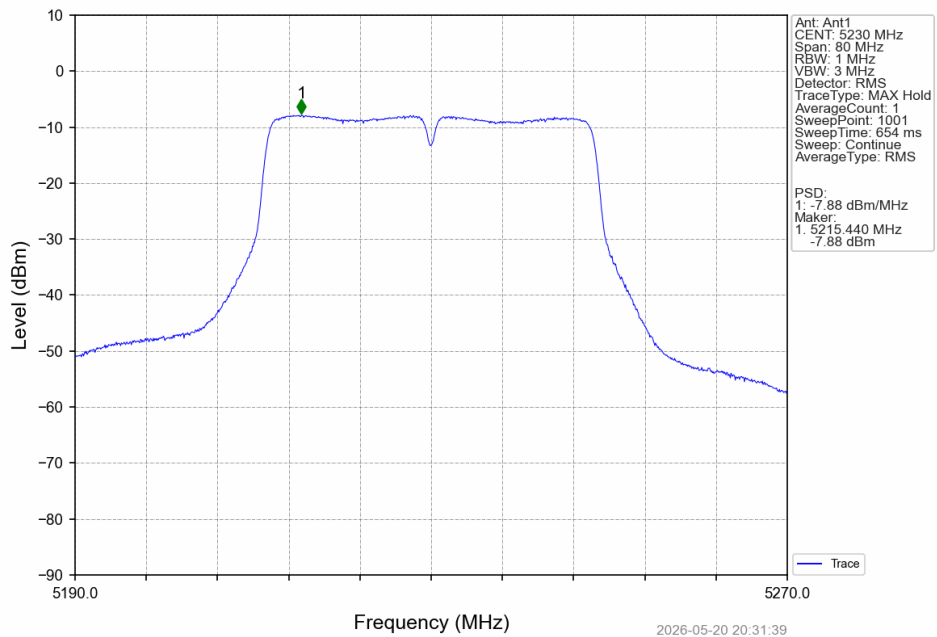
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



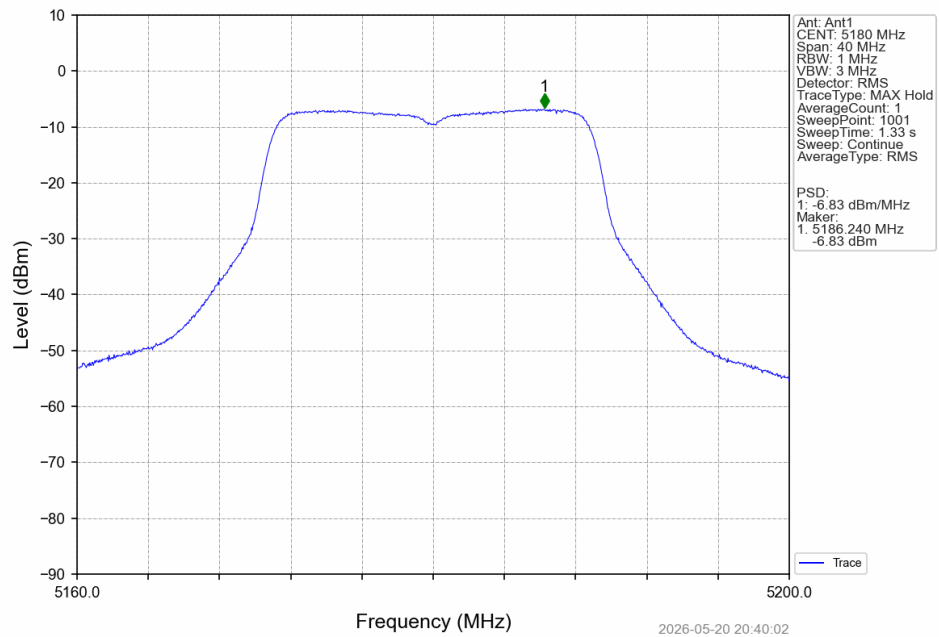
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



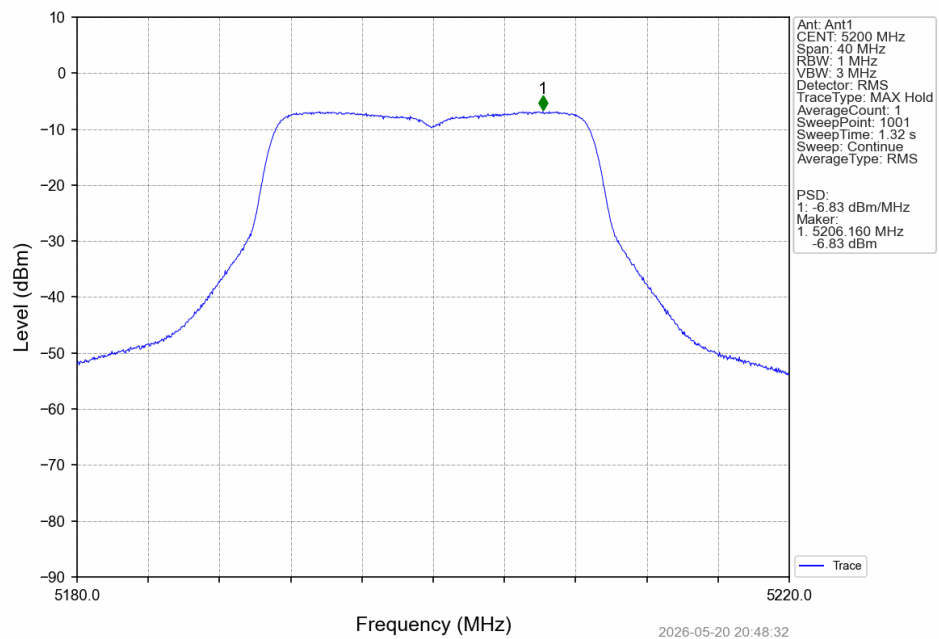
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



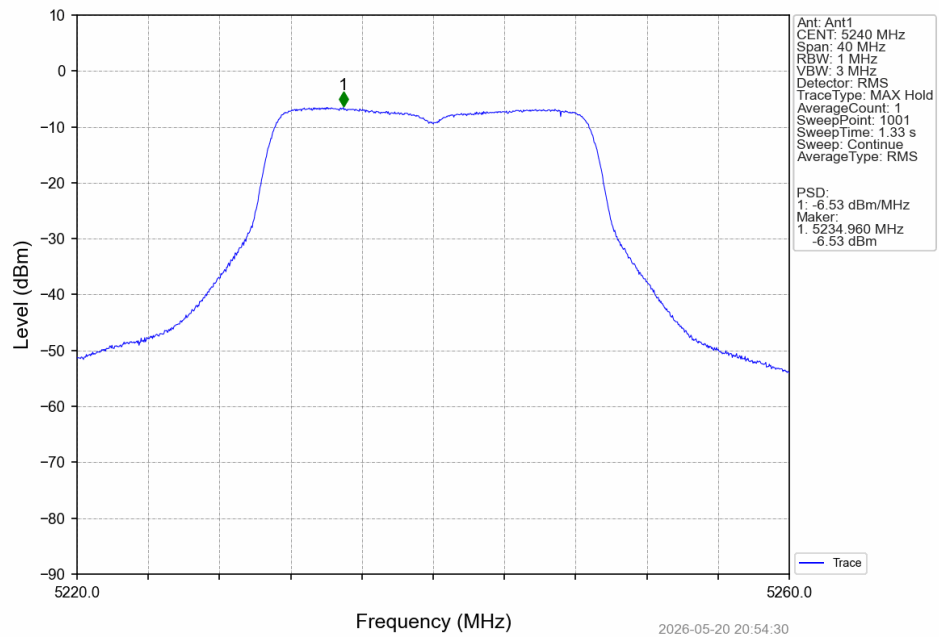
802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



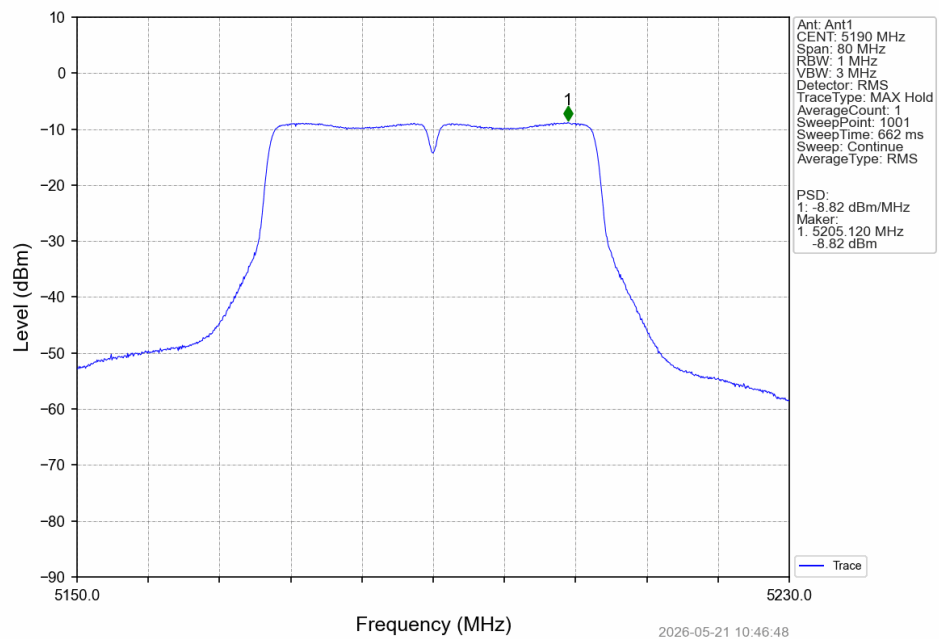
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



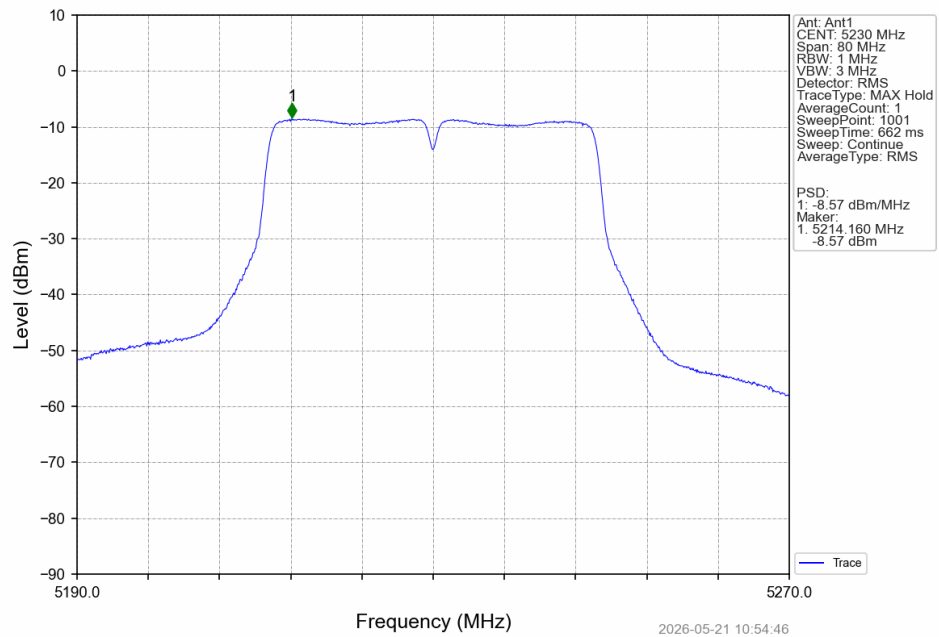
802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



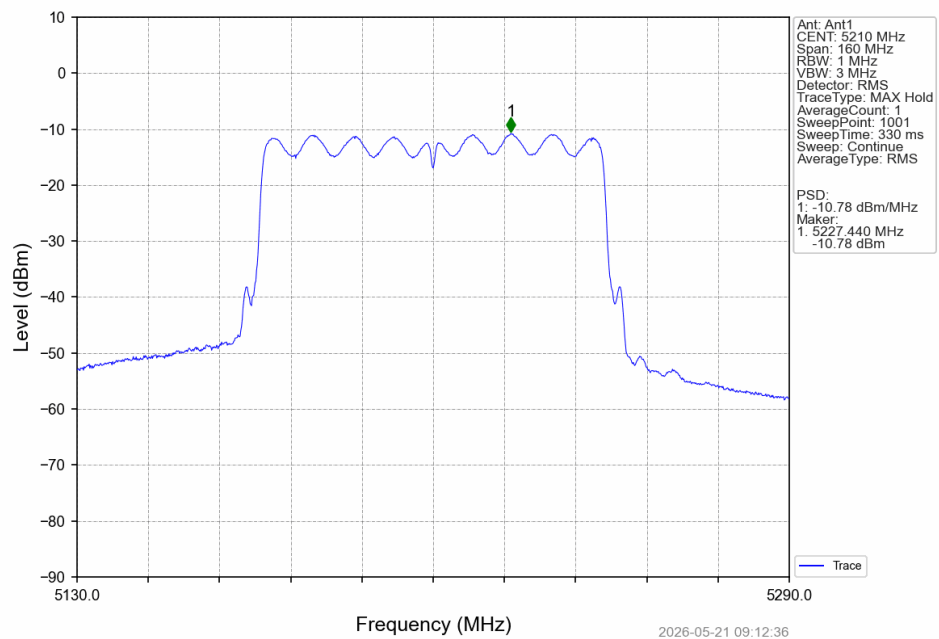
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV



802.11ac(VHT80)_MCH_5210MHz_Ant1_NTNV



5. Frequency Stability

5.1 Test Result

5.1.1 Ant1

Ant1							
Mode	Tx Type	Frequency (MHz)	Temperature (°C)	Voltage	Measured Frequency (MHz)	Limit (MHz)	Verdict
802.11a	SISO	5180	20	LV	5179.980	5150 to 5250	Pass
				NV	5179.940	5150 to 5250	Pass
				HV	5180.040	5150 to 5250	Pass
			-30	NV	5180.040	5150 to 5250	Pass
			-20	NV	5180.020	5150 to 5250	Pass
			-10	NV	5180.020	5150 to 5250	Pass
			0	NV	5180.020	5150 to 5250	Pass
			10	NV	5180.000	5150 to 5250	Pass
			30	NV	5180.000	5150 to 5250	Pass
			40	NV	5180.000	5150 to 5250	Pass
			50	NV	5179.920	5150 to 5250	Pass
		5200	20	LV	5200.020	5150 to 5250	Pass
				NV	5200.000	5150 to 5250	Pass
				HV	5200.040	5150 to 5250	Pass
			-30	NV	5200.000	5150 to 5250	Pass
			-20	NV	5200.000	5150 to 5250	Pass
			-10	NV	5199.980	5150 to 5250	Pass
			0	NV	5200.020	5150 to 5250	Pass
			10	NV	5200.060	5150 to 5250	Pass
			30	NV	5199.960	5150 to 5250	Pass
			40	NV	5199.980	5150 to 5250	Pass
			50	NV	5200.040	5150 to 5250	Pass
		5240	20	LV	5239.980	5150 to 5250	Pass
				NV	5239.980	5150 to 5250	Pass
				HV	5239.960	5150 to 5250	Pass
			-30	NV	5239.980	5150 to 5250	Pass
			-20	NV	5240.000	5150 to 5250	Pass
			-10	NV	5239.960	5150 to 5250	Pass
			0	NV	5240.020	5150 to 5250	Pass
			10	NV	5239.980	5150 to 5250	Pass
			30	NV	5239.960	5150 to 5250	Pass
			40	NV	5239.980	5150 to 5250	Pass
			50	NV	5239.980	5150 to 5250	Pass
802.11n (HT20)	SISO	5180	20	LV	5180.020	5150 to 5250	Pass
				NV	5180.020	5150 to 5250	Pass
				HV	5179.980	5150 to 5250	Pass
			-30	NV	5180.040	5150 to 5250	Pass
			-20	NV	5180.040	5150 to 5250	Pass
			-10	NV	5180.020	5150 to 5250	Pass
			0	NV	5179.960	5150 to 5250	Pass
			10	NV	5179.980	5150 to 5250	Pass
			30	NV	5180.020	5150 to 5250	Pass
			40	NV	5179.940	5150 to 5250	Pass
			50	NV	5180.120	5150 to 5250	Pass
		5200	20	LV	5199.980	5150 to 5250	Pass
				NV	5200.020	5150 to 5250	Pass
				HV	5200.040	5150 to 5250	Pass
			-30	NV	5200.000	5150 to 5250	Pass
			-20	NV	5199.960	5150 to 5250	Pass

			-10	NV	5200.040	5150 to 5250	Pass
			0	NV	5200.040	5150 to 5250	Pass
			10	NV	5199.980	5150 to 5250	Pass
			30	NV	5200.020	5150 to 5250	Pass
			40	NV	5200.000	5150 to 5250	Pass
			50	NV	5199.960	5150 to 5250	Pass
		5240	20	LV	5240.020	5150 to 5250	Pass
				NV	5240.020	5150 to 5250	Pass
				HV	5239.980	5150 to 5250	Pass
			-30	NV	5239.940	5150 to 5250	Pass
			-20	NV	5239.960	5150 to 5250	Pass
			-10	NV	5240.000	5150 to 5250	Pass
			0	NV	5240.020	5150 to 5250	Pass
			10	NV	5240.020	5150 to 5250	Pass
			30	NV	5240.060	5150 to 5250	Pass
			40	NV	5239.940	5150 to 5250	Pass
			50	NV	5239.980	5150 to 5250	Pass
802.11n (HT40)	SISO	5190	20	LV	5190.040	5150 to 5250	Pass
				NV	5190.120	5150 to 5250	Pass
				HV	5190.120	5150 to 5250	Pass
			-30	NV	5190.080	5150 to 5250	Pass
			-20	NV	5190.120	5150 to 5250	Pass
			-10	NV	5190.120	5150 to 5250	Pass
			0	NV	5190.040	5150 to 5250	Pass
			10	NV	5190.040	5150 to 5250	Pass
			30	NV	5190.000	5150 to 5250	Pass
			40	NV	5190.120	5150 to 5250	Pass
			50	NV	5190.000	5150 to 5250	Pass
		5230	20	LV	5230.080	5150 to 5250	Pass
				NV	5230.000	5150 to 5250	Pass
				HV	5230.120	5150 to 5250	Pass
			-30	NV	5230.040	5150 to 5250	Pass
			-20	NV	5230.080	5150 to 5250	Pass
			-10	NV	5230.080	5150 to 5250	Pass
			0	NV	5230.080	5150 to 5250	Pass
			10	NV	5230.080	5150 to 5250	Pass
			30	NV	5229.960	5150 to 5250	Pass
802.11ac (VHT20)	SISO	5180	20	LV	5179.960	5150 to 5250	Pass
				NV	5180.080	5150 to 5250	Pass
				HV	5180.000	5150 to 5250	Pass
			-30	NV	5179.900	5150 to 5250	Pass
			-20	NV	5180.020	5150 to 5250	Pass
			-10	NV	5179.960	5150 to 5250	Pass
			0	NV	5179.960	5150 to 5250	Pass
			10	NV	5180.060	5150 to 5250	Pass
			30	NV	5180.080	5150 to 5250	Pass
			40	NV	5179.980	5150 to 5250	Pass
			50	NV	5180.020	5150 to 5250	Pass
		5200	20	LV	5199.960	5150 to 5250	Pass
				NV	5200.020	5150 to 5250	Pass
				HV	5200.040	5150 to 5250	Pass
			-30	NV	5200.040	5150 to 5250	Pass
			-20	NV	5200.040	5150 to 5250	Pass
			-10	NV	5200.000	5150 to 5250	Pass
			0	NV	5199.980	5150 to 5250	Pass
			10	NV	5200.000	5150 to 5250	Pass
			30	NV	5200.020	5150 to 5250	Pass

			40	NV	5200.040	5150 to 5250	Pass
			50	NV	5199.980	5150 to 5250	Pass
		5240	20	LV	5240.000	5150 to 5250	Pass
				NV	5240.040	5150 to 5250	Pass
				HV	5239.960	5150 to 5250	Pass
			-30	NV	5240.000	5150 to 5250	Pass
			-20	NV	5239.960	5150 to 5250	Pass
			-10	NV	5239.940	5150 to 5250	Pass
			0	NV	5239.960	5150 to 5250	Pass
			10	NV	5240.040	5150 to 5250	Pass
			30	NV	5240.000	5150 to 5250	Pass
			40	NV	5240.020	5150 to 5250	Pass
			50	NV	5239.920	5150 to 5250	Pass
802.11ac (VHT40)	SISO	5190	20	LV	5190.040	5150 to 5250	Pass
				NV	5190.120	5150 to 5250	Pass
				HV	5190.160	5150 to 5250	Pass
			-30	NV	5190.080	5150 to 5250	Pass
			-20	NV	5189.920	5150 to 5250	Pass
			-10	NV	5190.080	5150 to 5250	Pass
			0	NV	5190.000	5150 to 5250	Pass
			10	NV	5190.080	5150 to 5250	Pass
			30	NV	5190.120	5150 to 5250	Pass
			40	NV	5190.080	5150 to 5250	Pass
			50	NV	5190.040	5150 to 5250	Pass
		5230	20	LV	5230.080	5150 to 5250	Pass
				NV	5230.040	5150 to 5250	Pass
				HV	5230.120	5150 to 5250	Pass
			-30	NV	5230.040	5150 to 5250	Pass
			-20	NV	5230.000	5150 to 5250	Pass
			-10	NV	5230.040	5150 to 5250	Pass
			0	NV	5230.080	5150 to 5250	Pass
			10	NV	5230.080	5150 to 5250	Pass
			30	NV	5230.120	5150 to 5250	Pass
			40	NV	5230.040	5150 to 5250	Pass
			50	NV	5230.000	5150 to 5250	Pass
802.11ac (VHT80)	SISO	5210	20	LV	5210.150	5150 to 5250	Pass
				NV	5210.075	5150 to 5250	Pass
				HV	5210.150	5150 to 5250	Pass
			-30	NV	5210.000	5150 to 5250	Pass
			-20	NV	5210.075	5150 to 5250	Pass
			-10	NV	5210.075	5150 to 5250	Pass
			0	NV	5210.000	5150 to 5250	Pass
			10	NV	5210.000	5150 to 5250	Pass
			30	NV	5210.075	5150 to 5250	Pass
			40	NV	5210.075	5150 to 5250	Pass
			50	NV	5210.075	5150 to 5250	Pass