Appendix RF test data for WIFI5G_UNII Band 1

(Module 1: BL-M8811CU2)

1. Duty Cycle

1.1 Test Result

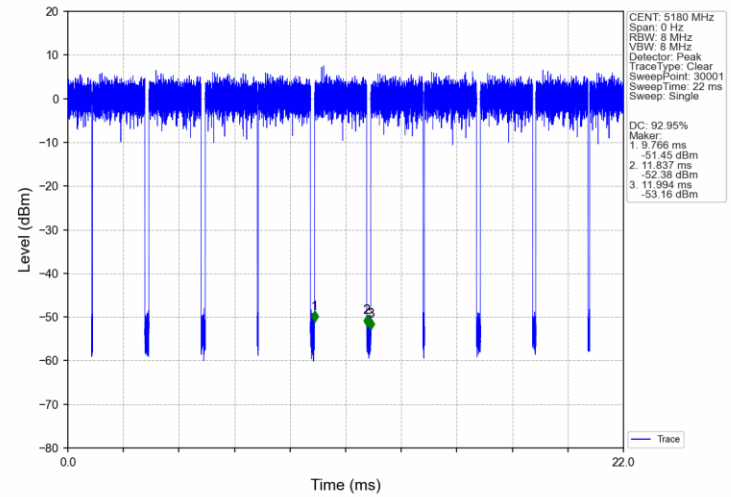
1.1.1 Ant1

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	2.071	2.228	92.95	0.32	5.61
		5200	2.071	2.228	92.95	0.32	5.58
		5240	2.065	2.237	92.31	0.35	3.88
802.11n (HT20)	SISO	5180	1.926	2.092	92.07	0.36	6.35
		5200	1.921	2.039	94.21	0.26	3.92
		5240	1.928	2.058	93.68	0.28	4.73
802.11n (HT40)	SISO	5190	0.951	1.108	85.83	0.66	11.00
		5230	0.951	1.099	86.53	0.63	10.28
802.11ac (VHT20)	SISO	5180	1.922	2.075	92.63	0.33	5.08
		5200	1.927	2.084	92.47	0.34	5.96
		5240	1.927	2.097	91.89	0.37	6.10
802.11ac (VHT40)	SISO	5190	0.945	1.117	84.60	0.73	11.67
		5230	0.946	1.108	85.38	0.69	10.97
802.11ac (VHT80)	SISO	5210	1.927	2.075	92.87	0.32	5.53

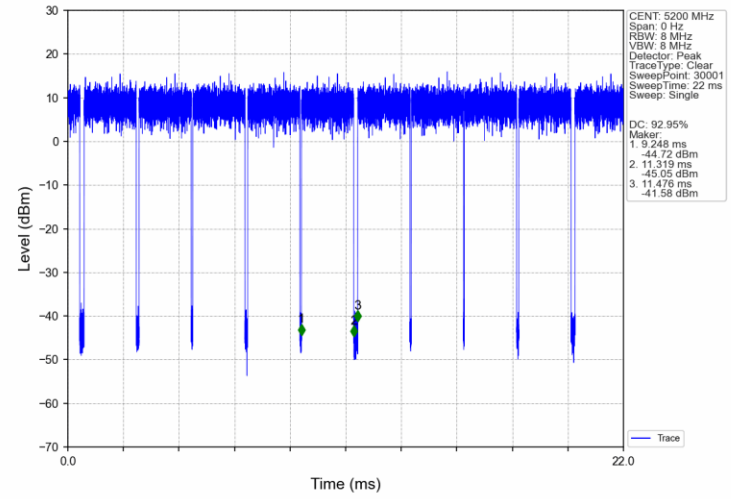
1.2 Test Graph

1.2.1 Ant1

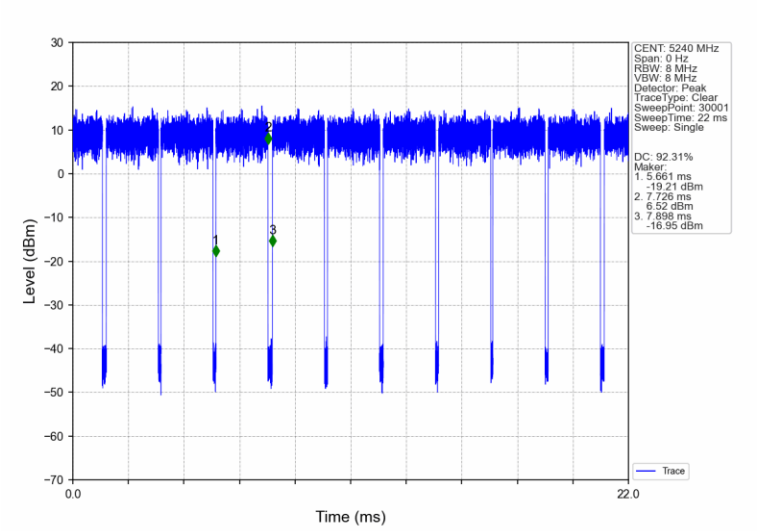
802.11a_LCH_5180MHz_Ant1_NTNV



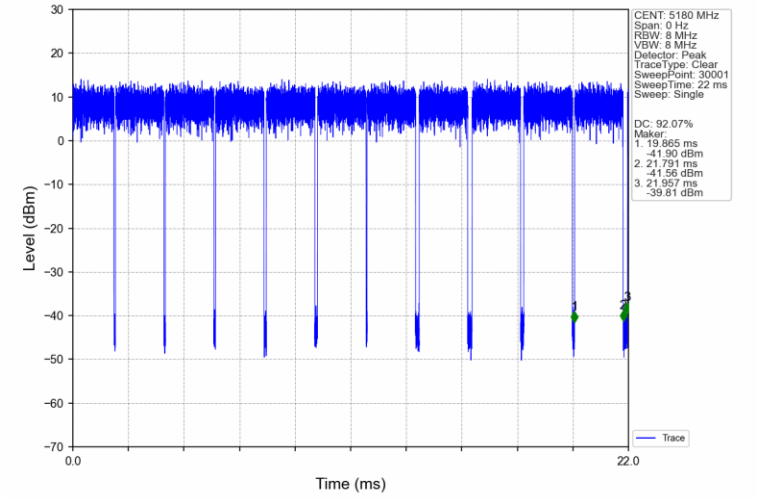
802.11a_MCH_5200MHz_Ant1_NTNV



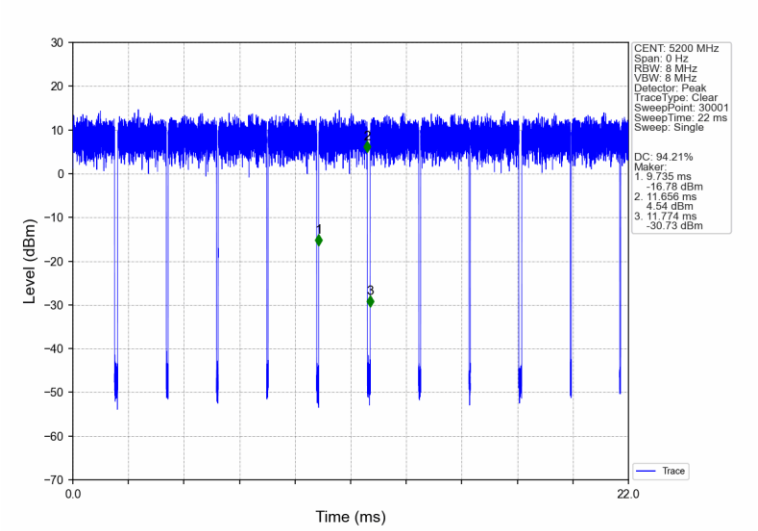
802.11a_HCH_5240MHz_Ant1_NTNV



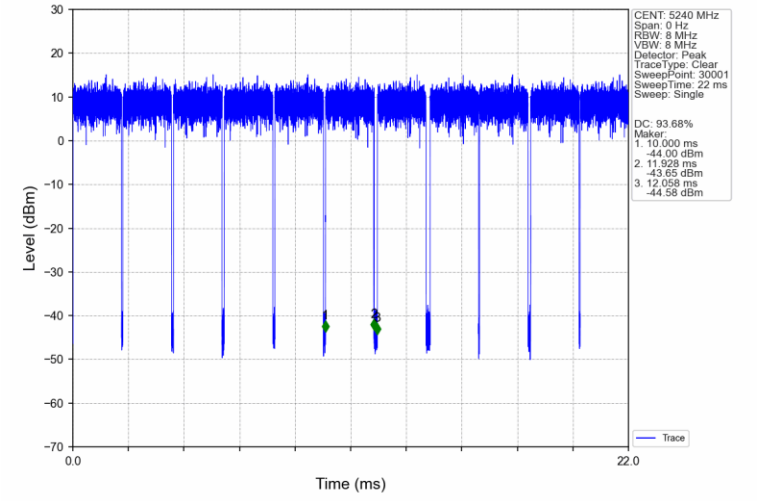
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



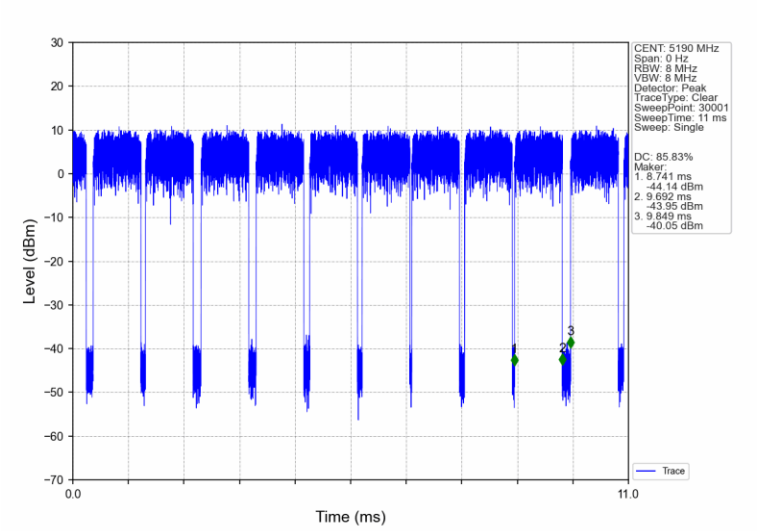
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



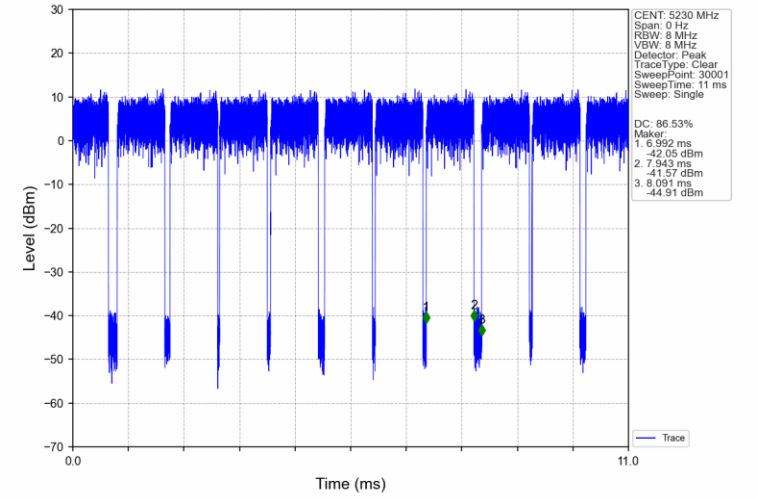
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



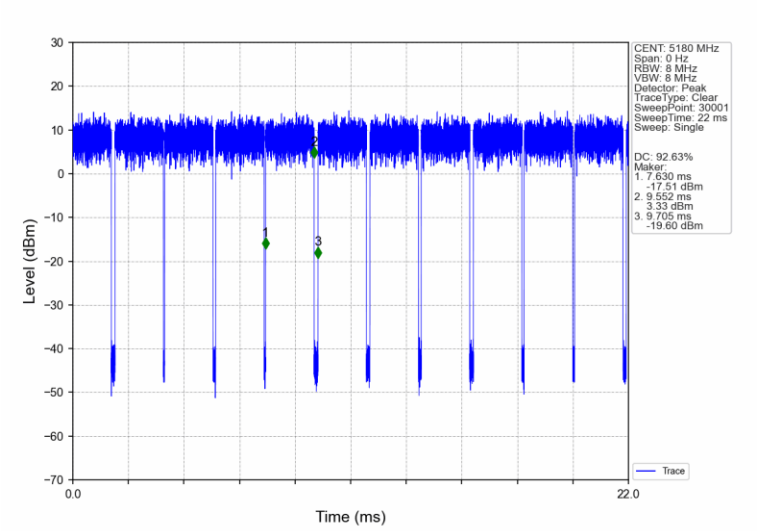
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



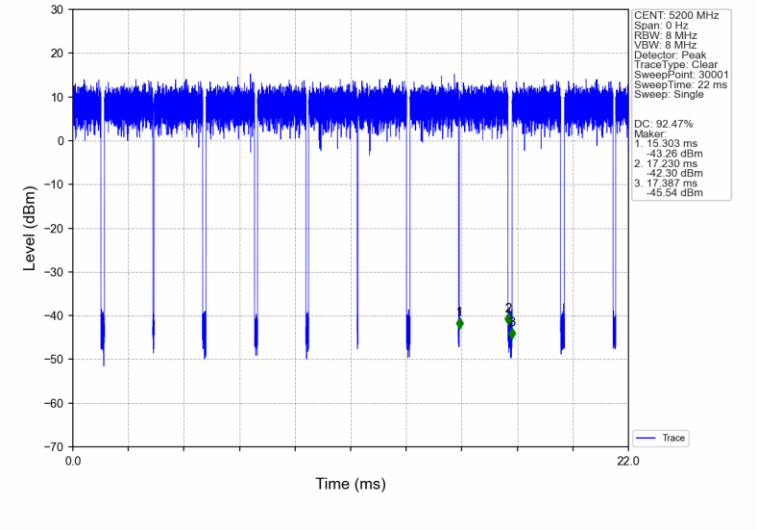
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



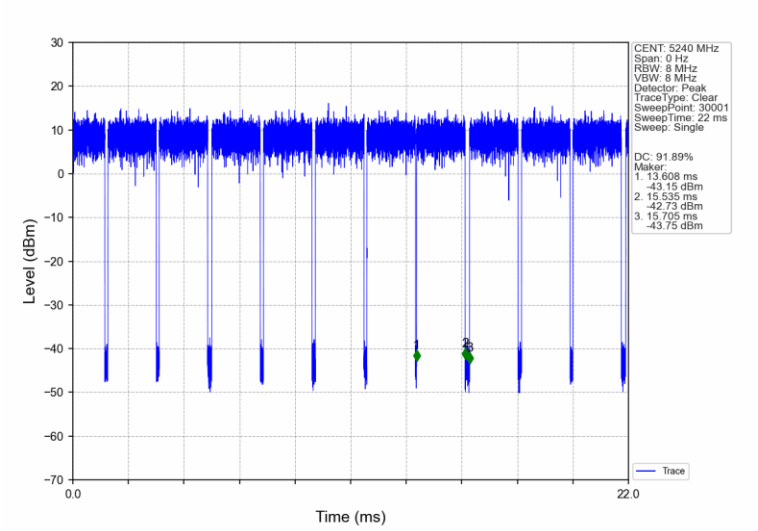
802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



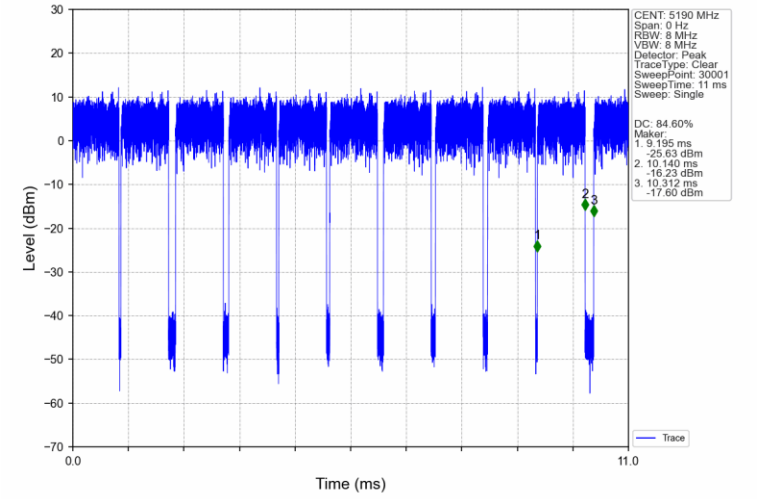
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



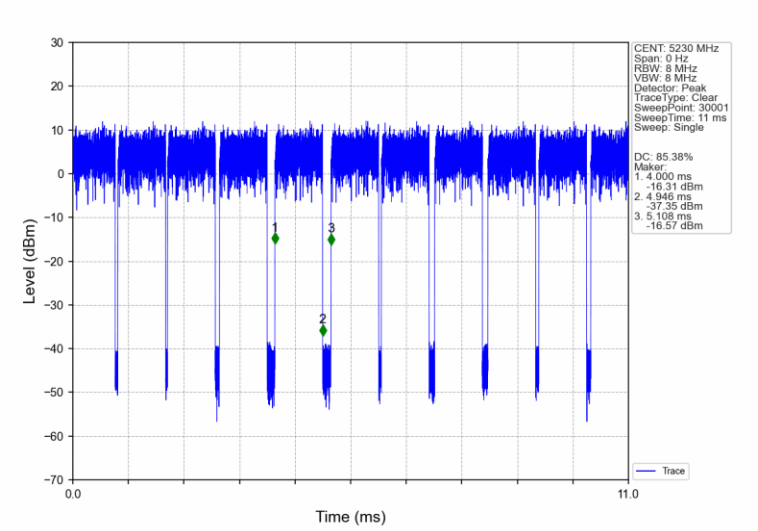
802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



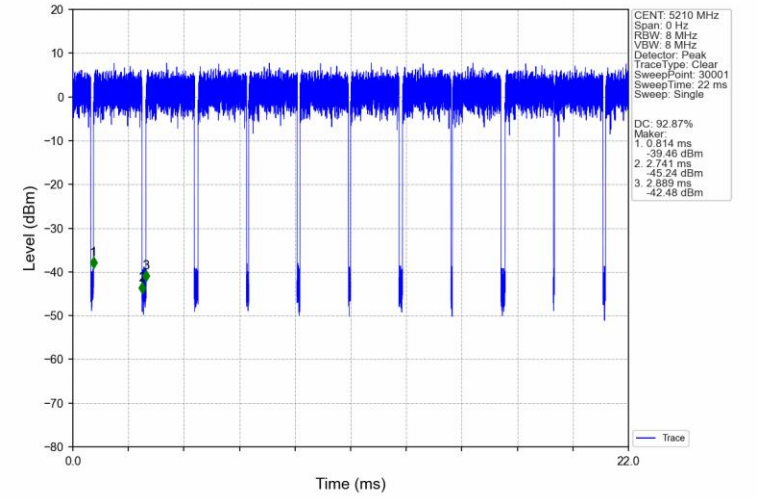
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



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	17.204	/	Pass
		5200	1	17.299	/	Pass
		5240	1	17.236	/	Pass
802.11n (HT20)	SISO	5180	1	17.963	/	Pass
		5200	1	18.030	/	Pass
		5240	1	18.060	/	Pass
802.11n (HT40)	SISO	5190	1	36.293	/	Pass
		5230	1	36.364	/	Pass
802.11ac (VHT20)	SISO	5180	1	18.082	/	Pass
		5200	1	17.983	/	Pass
		5240	1	17.990	/	Pass
802.11ac (VHT40)	SISO	5190	1	36.239	/	Pass
		5230	1	36.296	/	Pass
802.11ac (VHT80)	SISO	5210	1	75.672	/	Pass

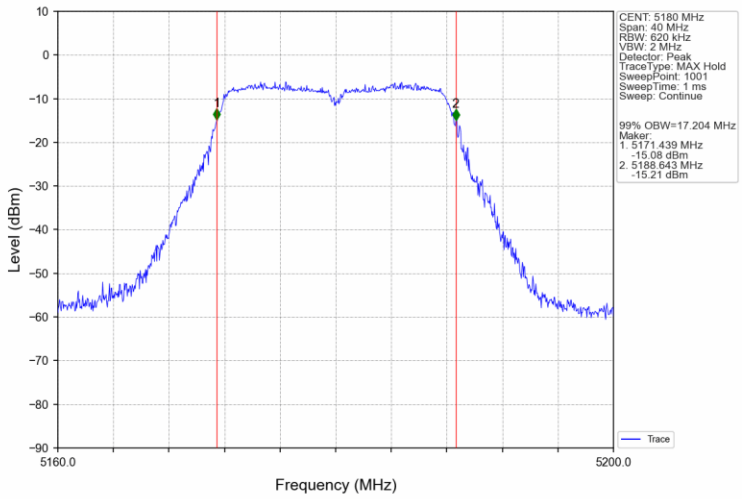
2.1.2 26dB BW

Mode	TX Type	Frequency (MHz)	ANT	26dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	20.558	/	Pass
		5200	1	21.216	/	Pass
		5240	1	20.997	/	Pass
802.11n (HT20)	SISO	5180	1	21.254	/	Pass
		5200	1	21.630	/	Pass
		5240	1	21.421	/	Pass
802.11n (HT40)	SISO	5190	1	42.039	/	Pass
		5230	1	44.103	/	Pass
802.11ac (VHT20)	SISO	5180	1	21.590	/	Pass
		5200	1	21.428	/	Pass
		5240	1	21.338	/	Pass
802.11ac (VHT40)	SISO	5190	1	42.066	/	Pass
		5230	1	41.685	/	Pass
802.11ac (VHT80)	SISO	5210	1	93.018	/	Pass

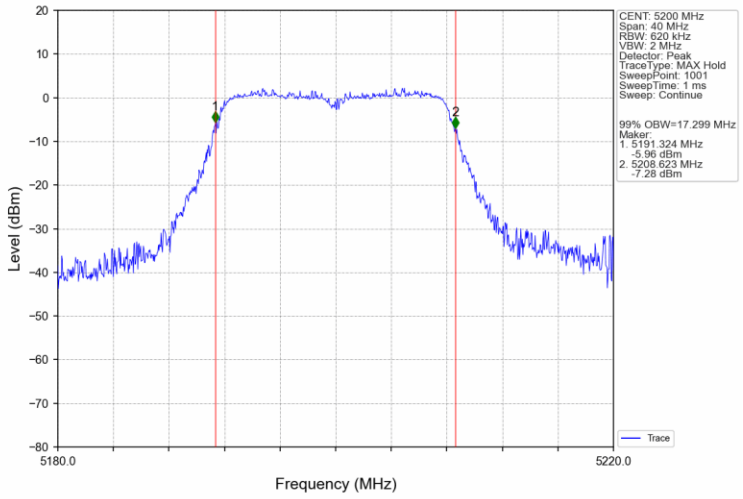
2.2 Test Graph

2.2.1 OBW

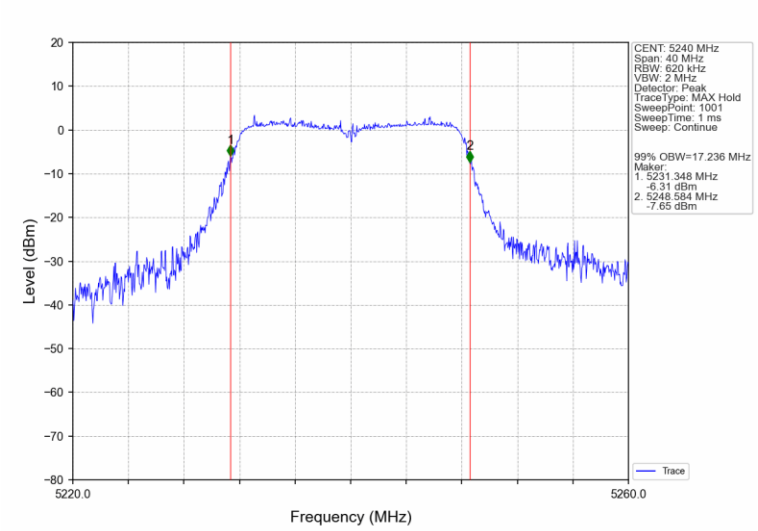
802.11a_LCH_5180MHz_Ant1_NTNV



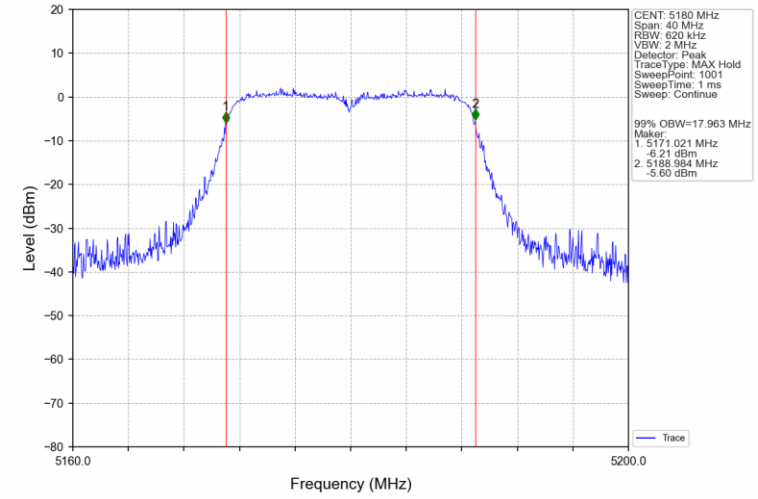
802.11a_MCH_5200MHz_Ant1_NTNV



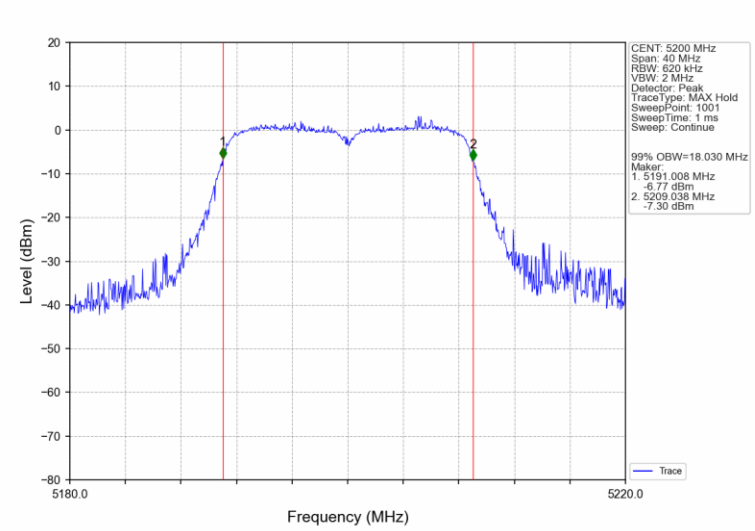
802.11a_HCH_5240MHz_Ant1_NTNV



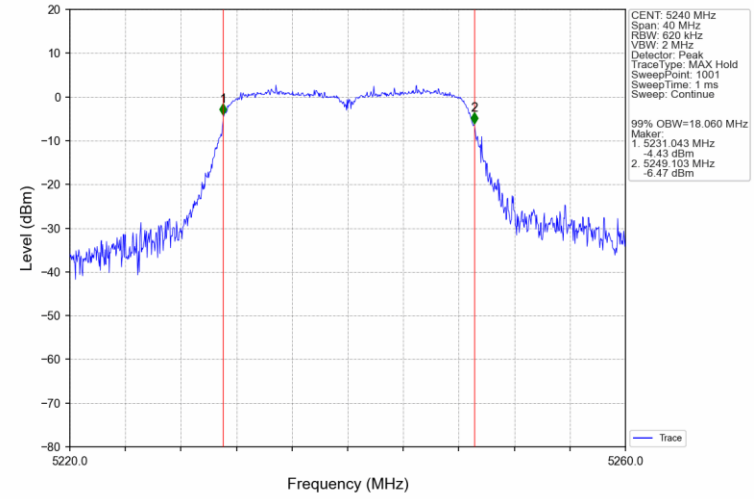
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



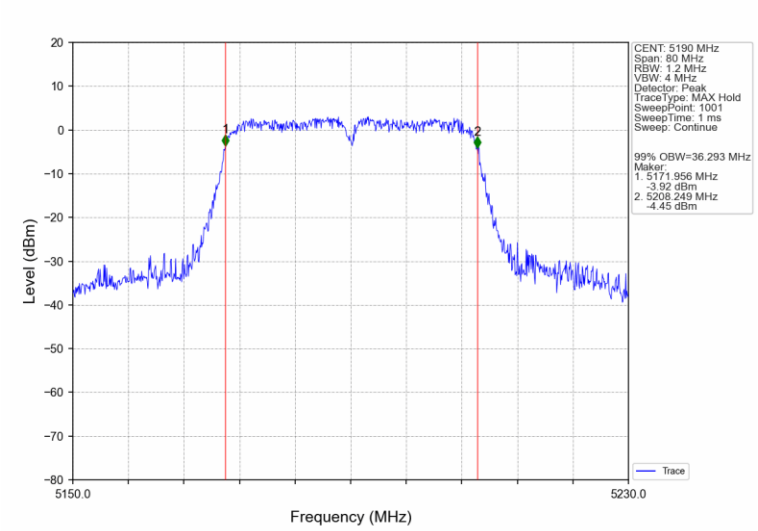
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



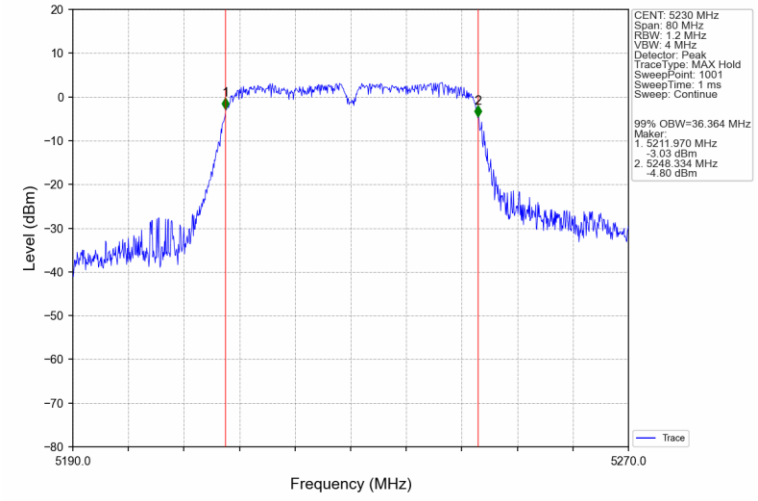
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



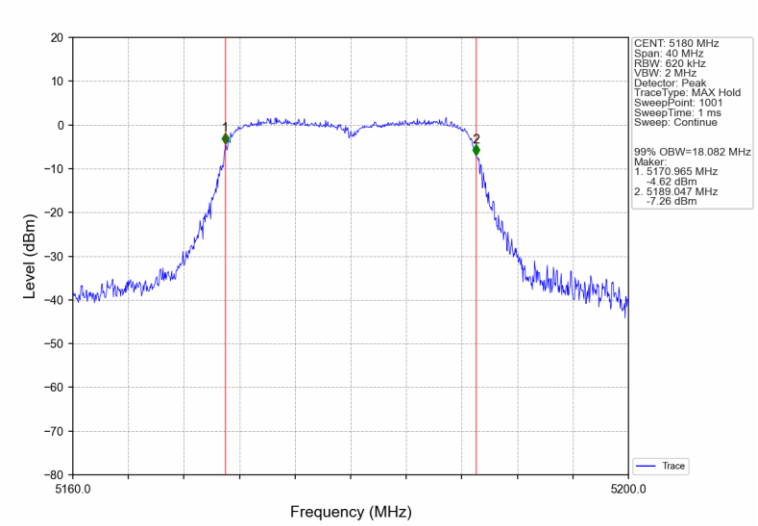
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



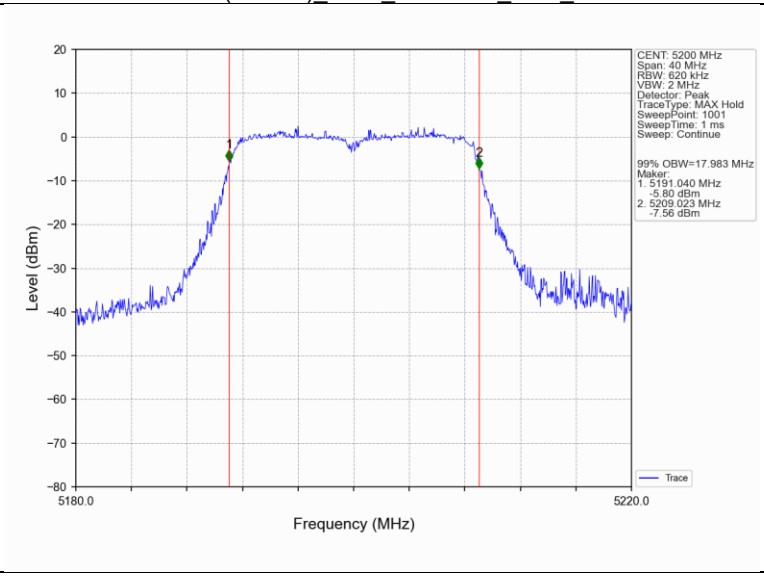
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



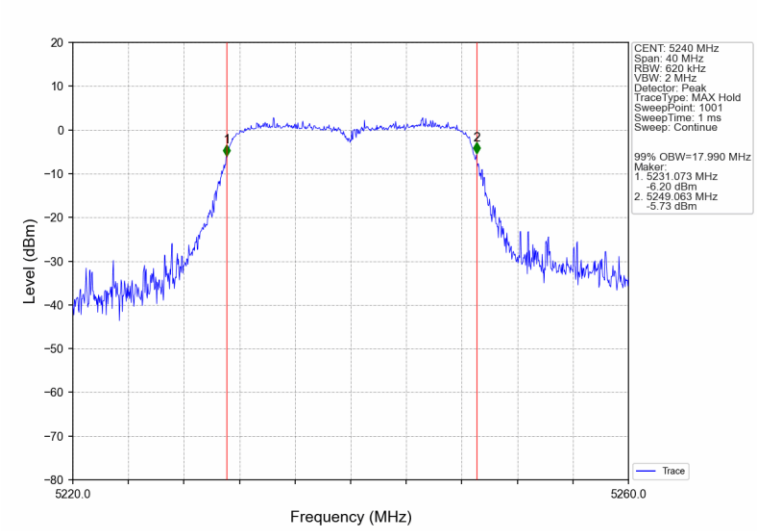
802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



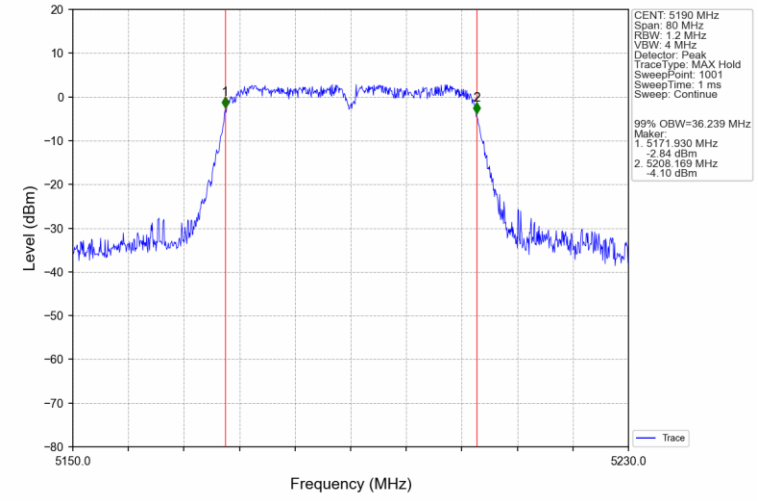
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



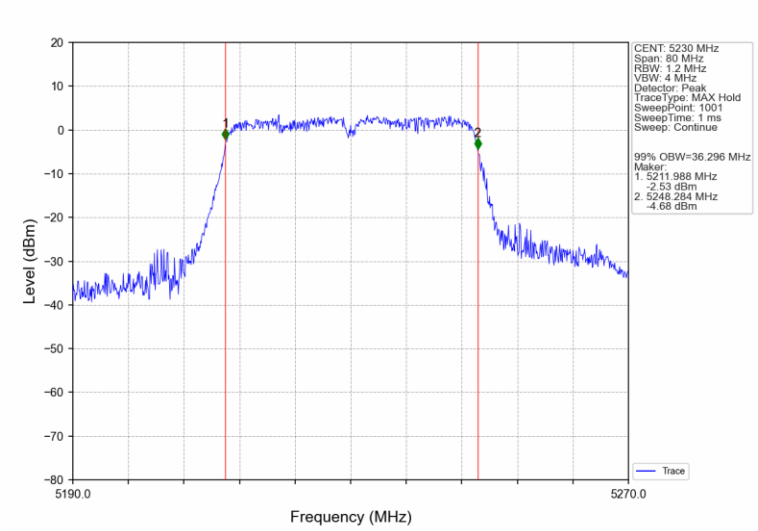
802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



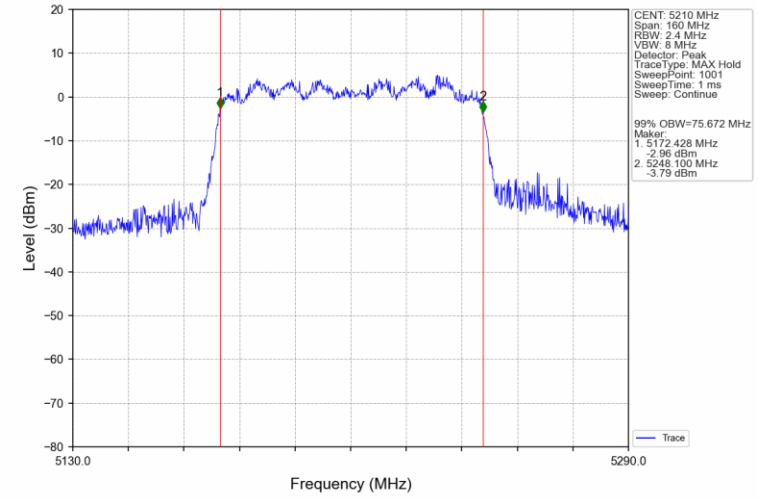
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV

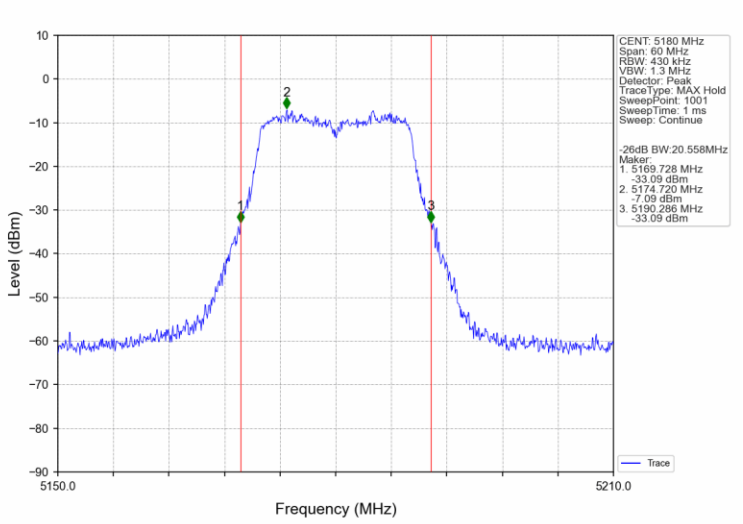


802.11ac(VHT80)_MCH_5210MHz_Ant1_NTNV

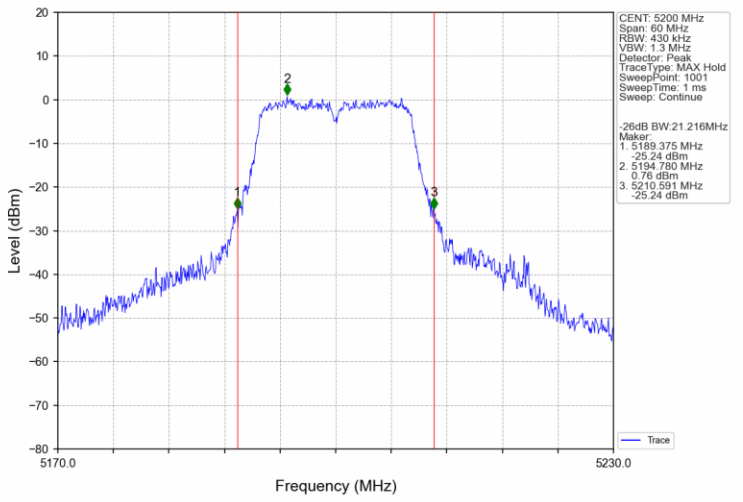


2.2.2 26dB BW

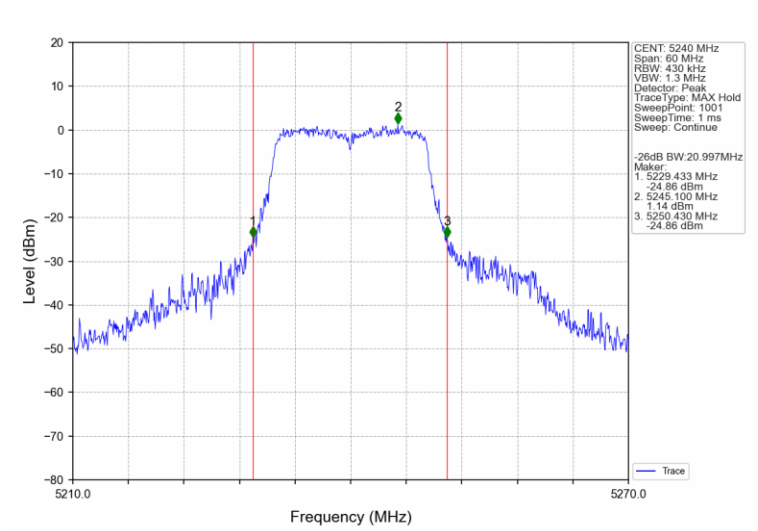
802.11a_LCH_5180MHz_Ant1_NTNV



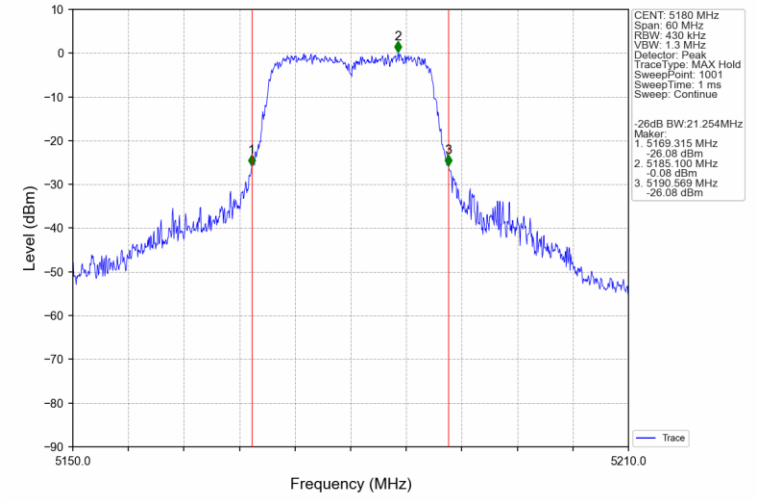
802.11a_MCH_5200MHz_Ant1_NTNV



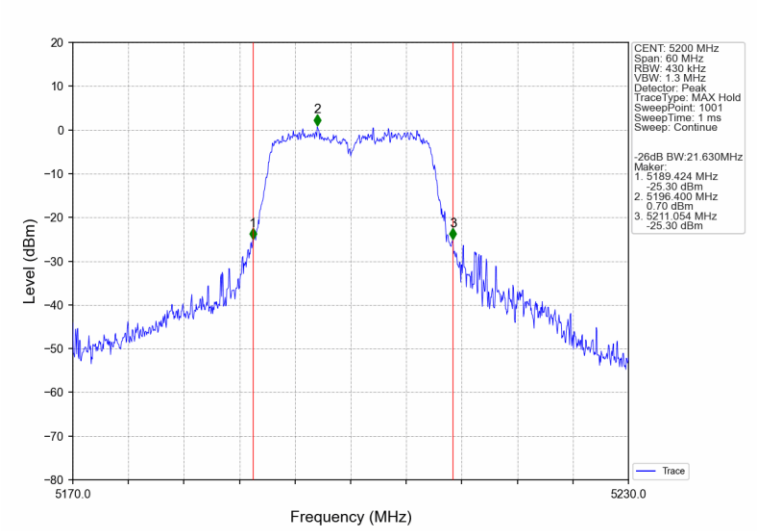
802.11a_HCH_5240MHz_Ant1_NTNV



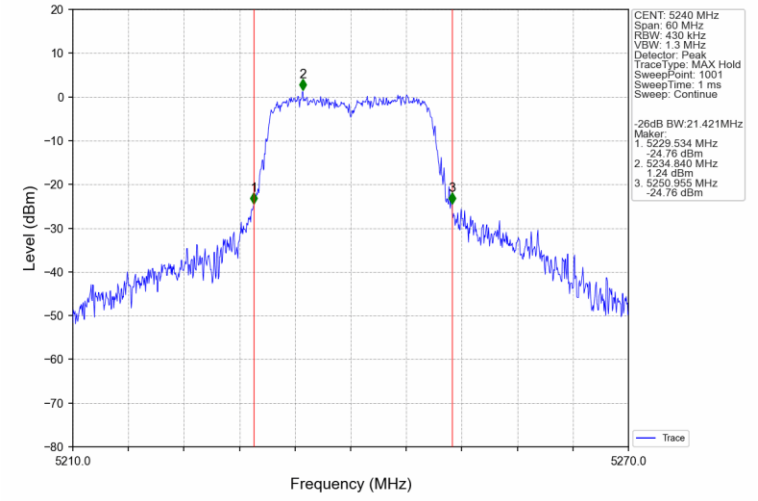
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



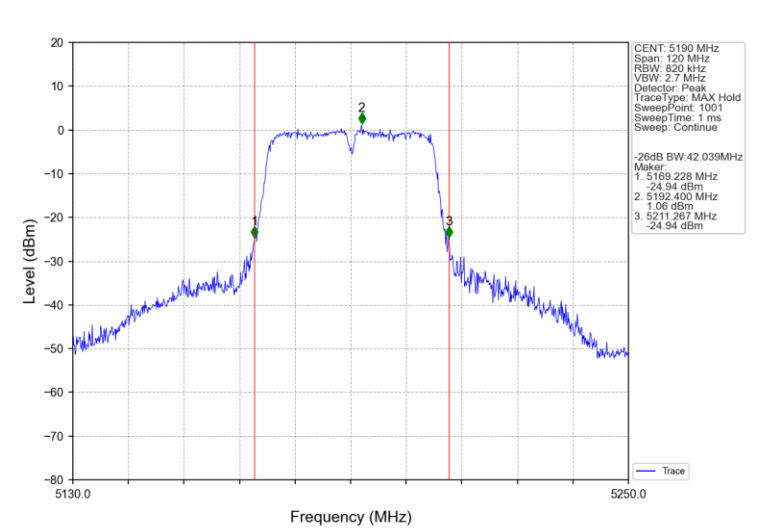
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



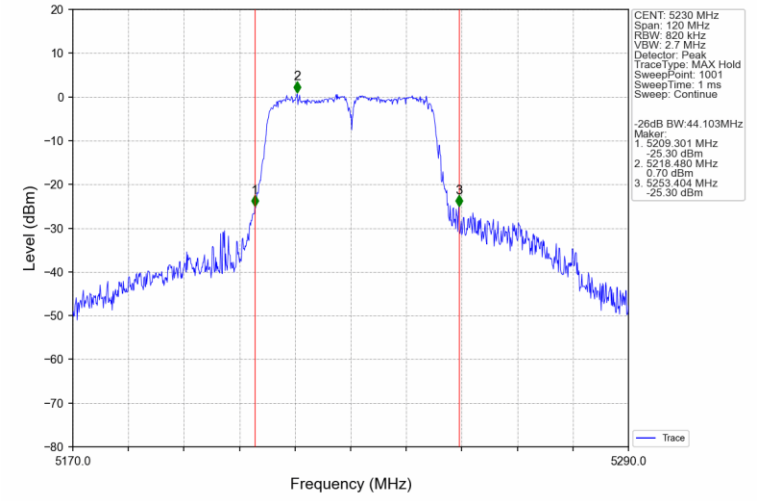
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



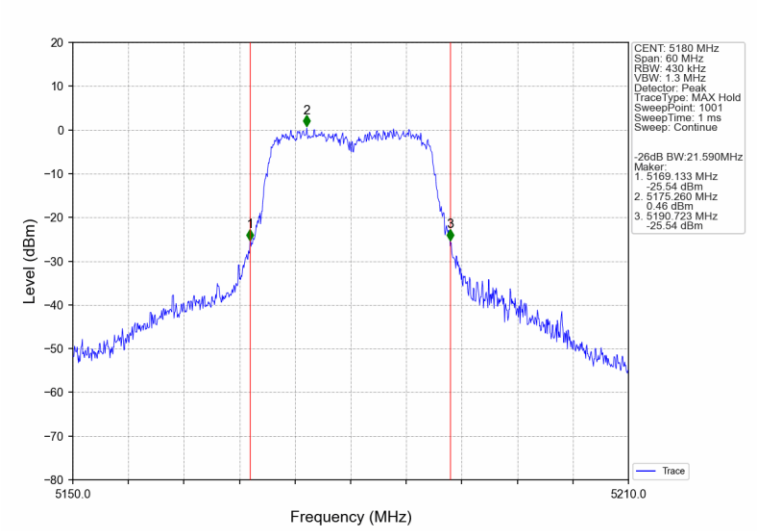
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



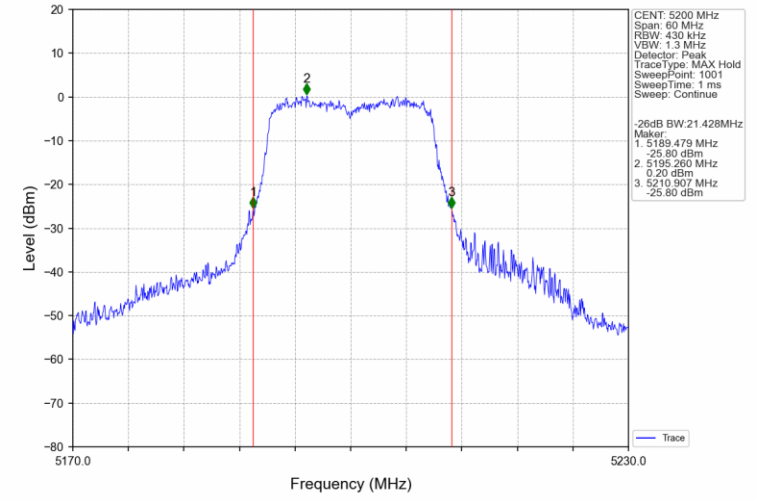
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



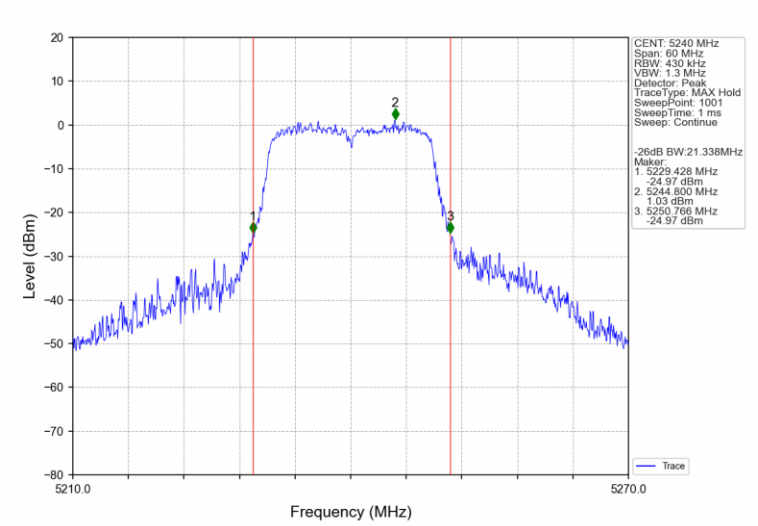
802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



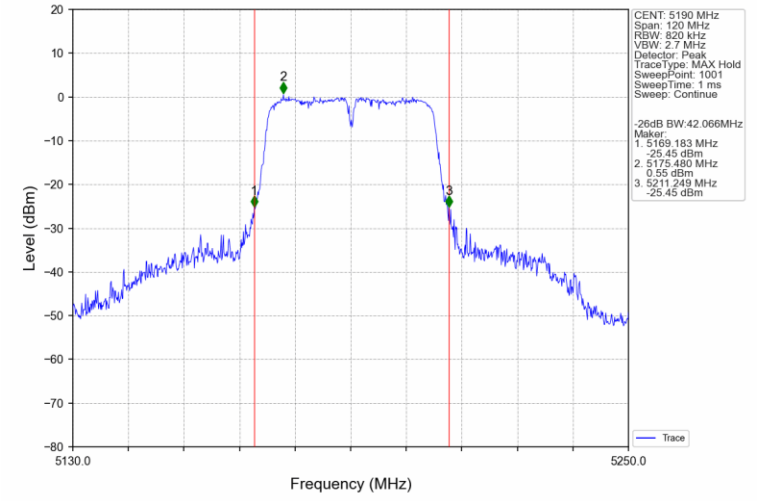
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



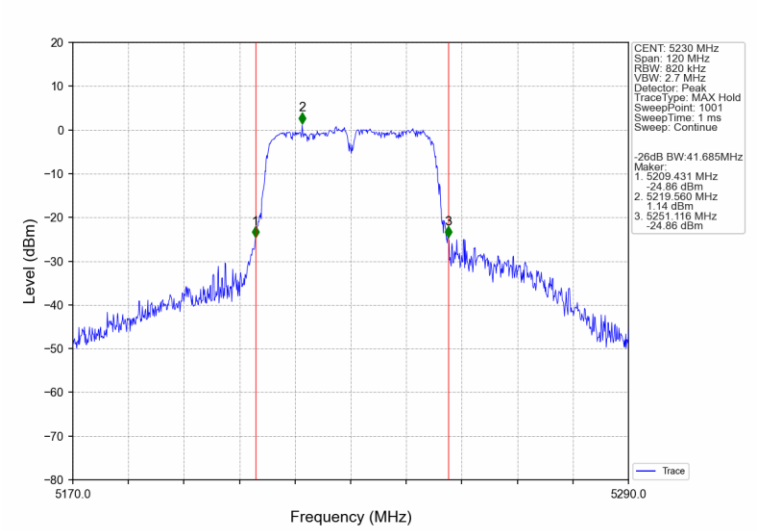
802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



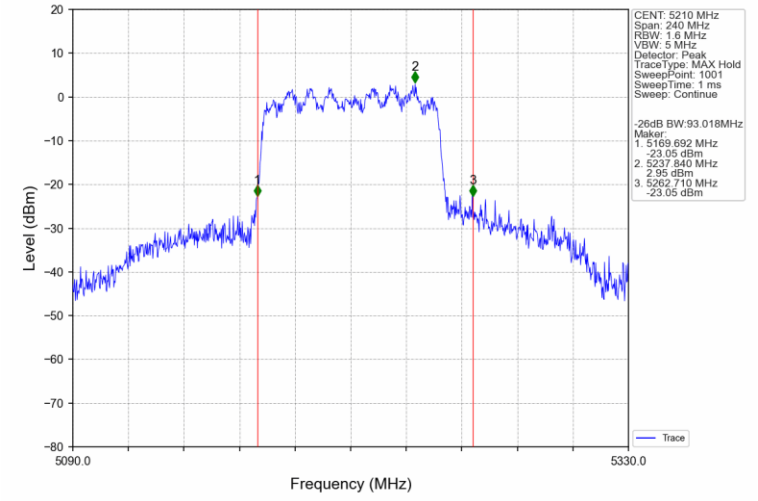
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV



802.11ac(VHT80)_MCH_5210MHz_Ant1_NTNV



3. Maximum Conducted Output Power

3.1 Test Result

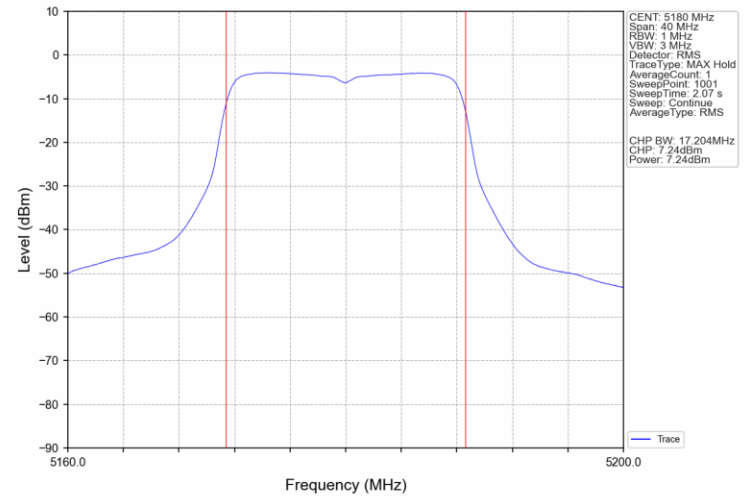
3.1.1 Power

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11a	SISO	5180	7.24	<=23.98	Pass
		5200	7.95	<=23.98	Pass
		5240	8.39	<=23.98	Pass
802.11n (HT20)	SISO	5180	7.95	<=23.98	Pass
		5200	7.83	<=23.98	Pass
		5240	8.26	<=23.98	Pass
802.11n (HT40)	SISO	5190	8.02	<=23.98	Pass
		5230	8.28	<=23.98	Pass
802.11ac (VHT20)	SISO	5180	7.92	<=23.98	Pass
		5200	7.78	<=23.98	Pass
		5240	8.23	<=23.98	Pass
802.11ac (VHT40)	SISO	5190	8.02	<=23.98	Pass
		5230	8.29	<=23.98	Pass
802.11ac (VHT80)	SISO	5210	7.67	<=23.98	Pass

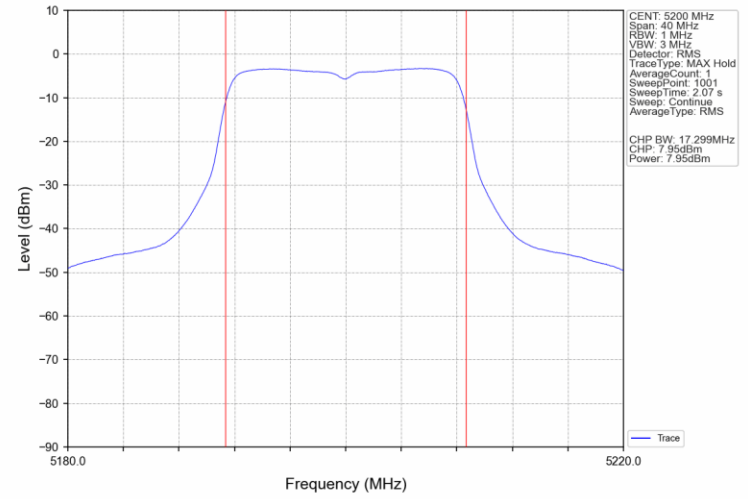
3.2 Test Graph

3.2.1 Power

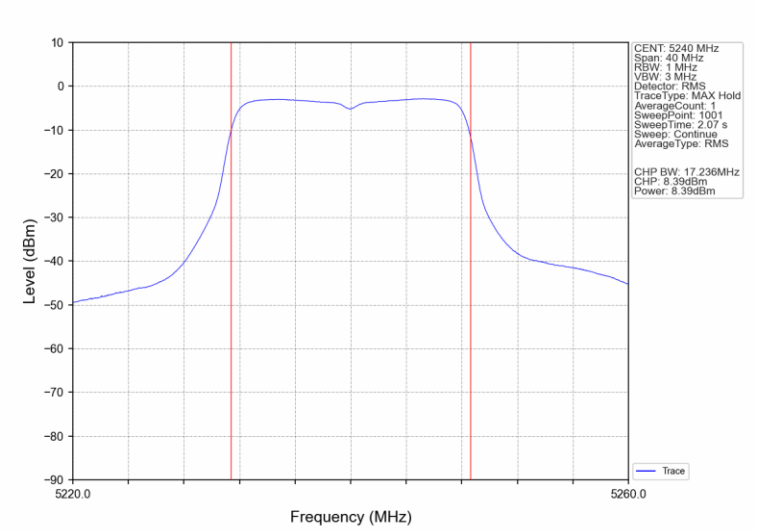
802.11a_LCH_5180MHz_Ant1_NTNV



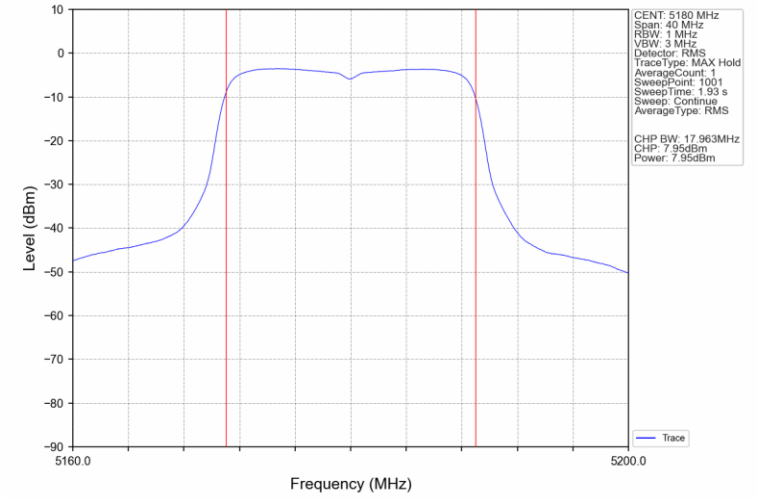
802.11a_MCH_5200MHz_Ant1_NTNV



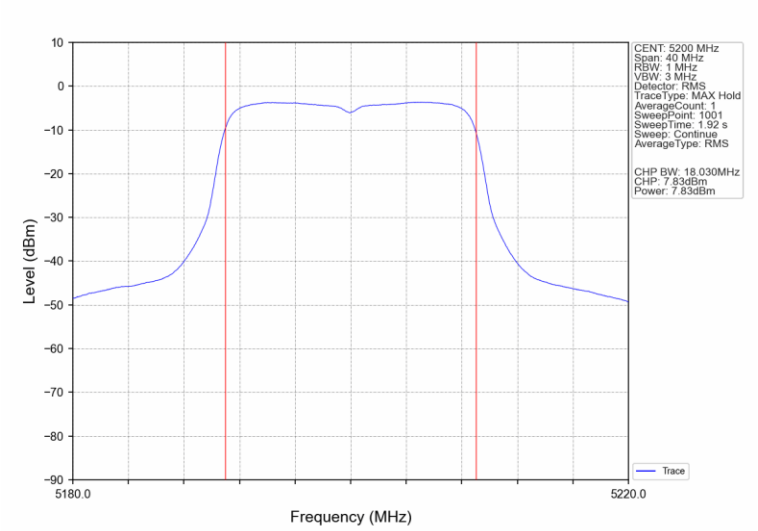
802.11a_HCH_5240MHz_Ant1_NTNV



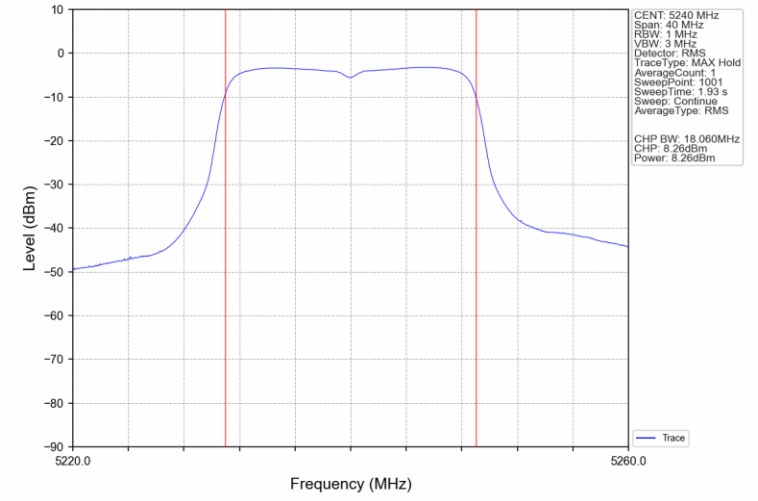
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



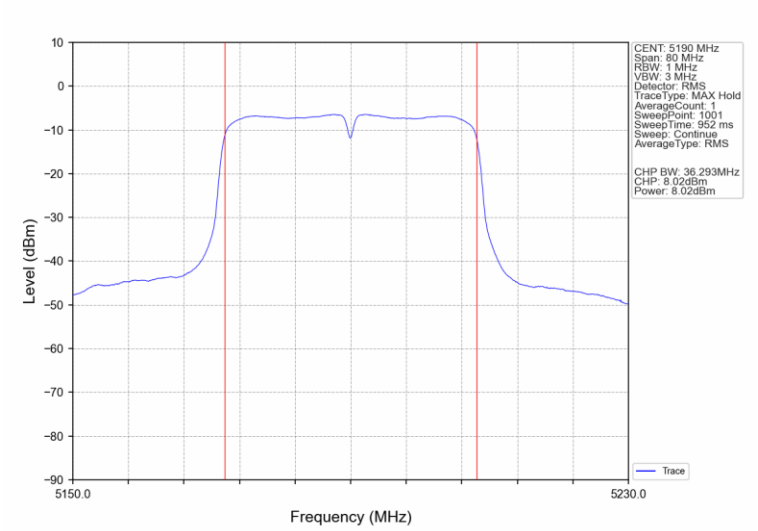
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



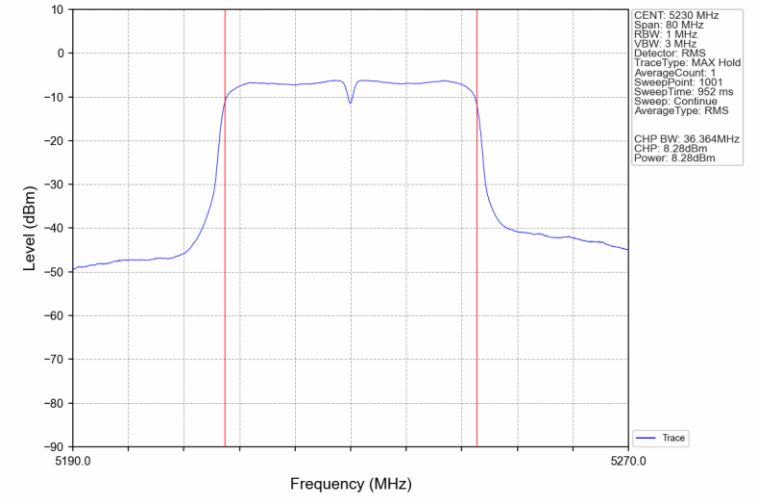
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



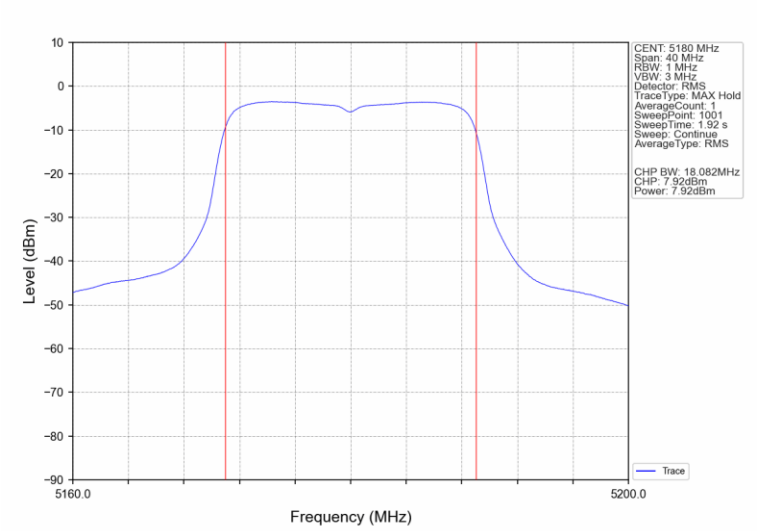
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



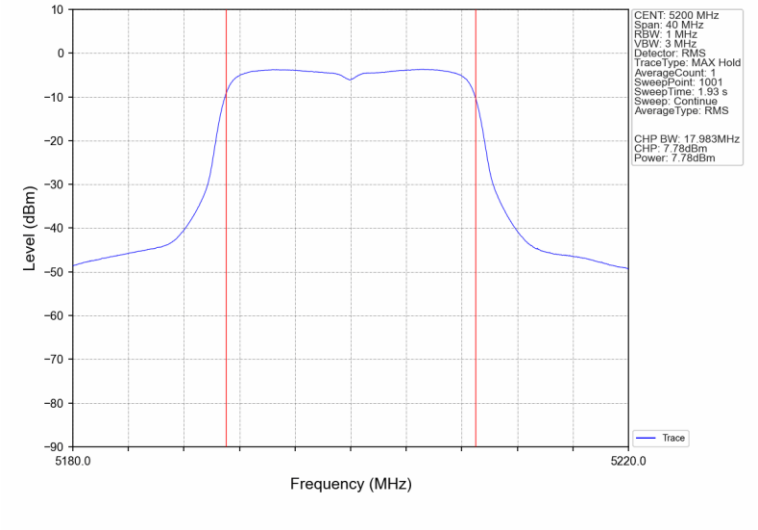
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



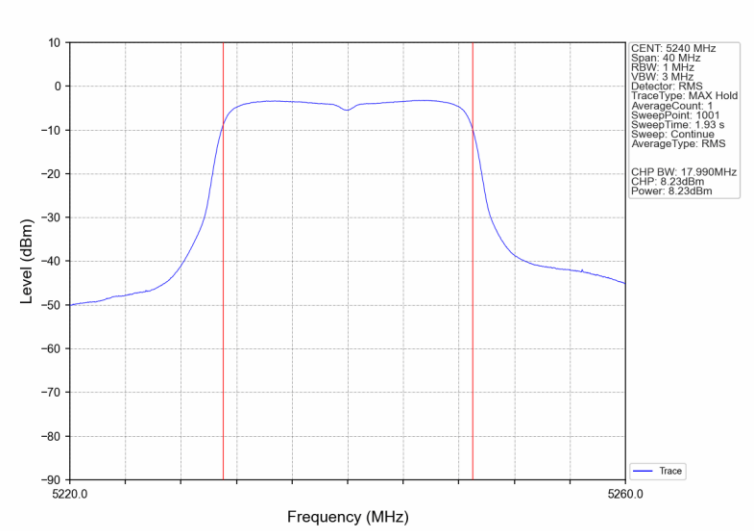
802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



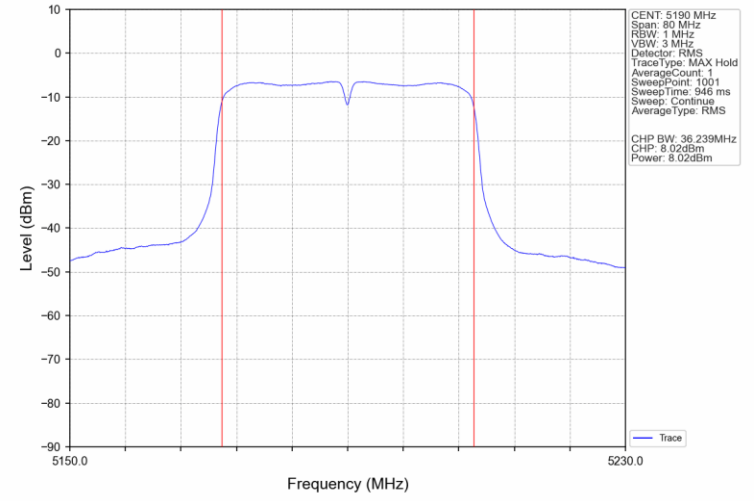
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



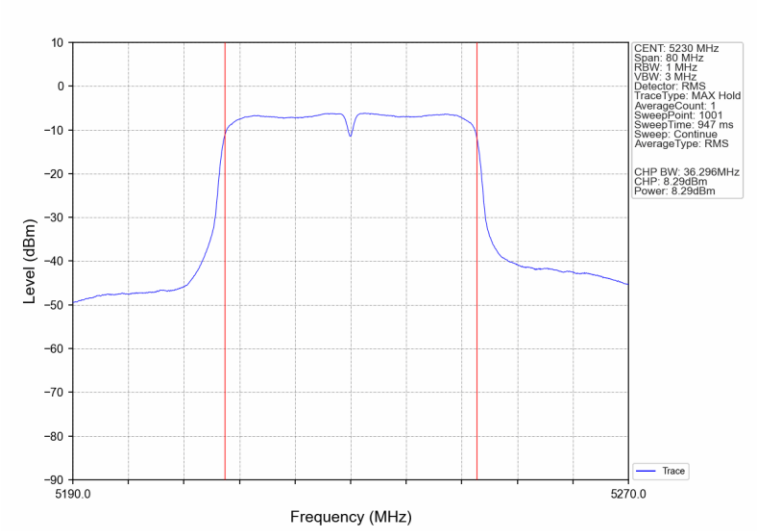
802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



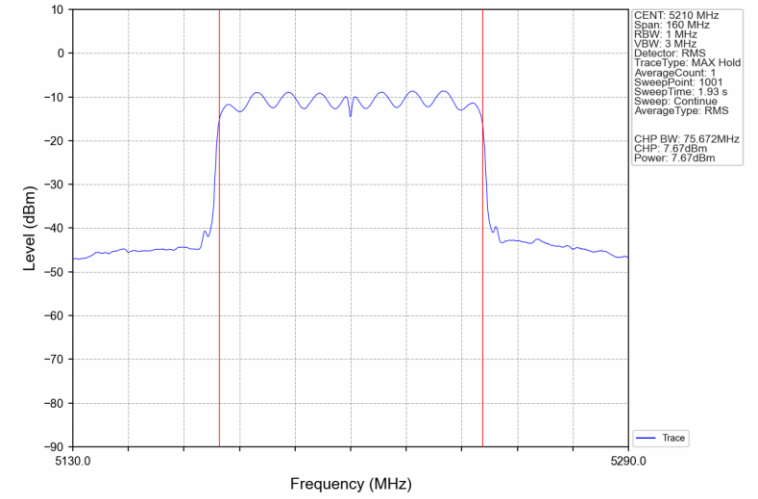
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV



802.11ac(VHT80)_MCH_5210MHz_Ant1_NTNV



4. Maximum Power Spectral Density

4.1 Test Result

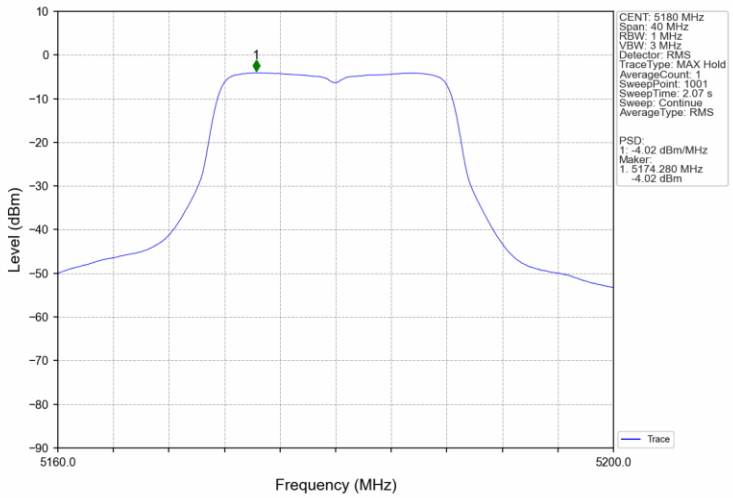
4.1.1 PSD

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/MHz)		Verdict
			ANT1	Limit	
802.11a	SISO	5180	-4.02	<=11	Pass
		5200	-3.29	<=11	Pass
		5240	-2.86	<=11	Pass
802.11n (HT20)	SISO	5180	-3.52	<=11	Pass
		5200	-3.66	<=11	Pass
		5240	-3.22	<=11	Pass
802.11n (HT40)	SISO	5190	-6.45	<=11	Pass
		5230	-6.24	<=11	Pass
802.11ac (VHT20)	SISO	5180	-3.52	<=11	Pass
		5200	-3.70	<=11	Pass
		5240	-3.20	<=11	Pass
802.11ac (VHT40)	SISO	5190	-6.48	<=11	Pass
		5230	-6.21	<=11	Pass
802.11ac (VHT80)	SISO	5210	-8.63	<=11	Pass

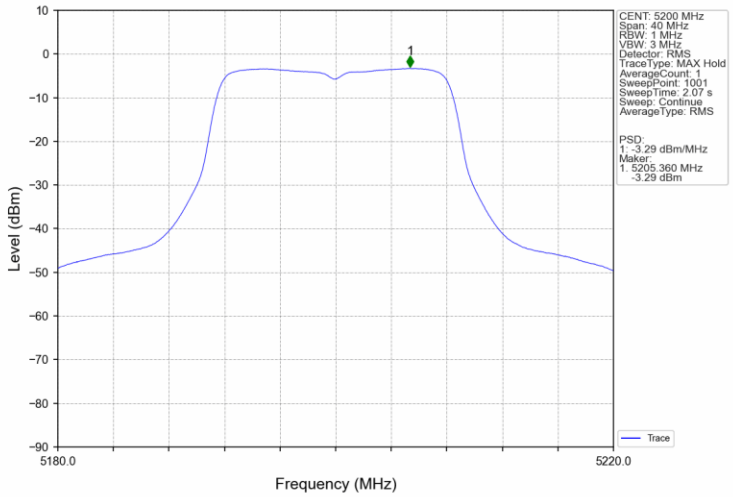
4.2 Test Graph

4.2.1 PSD

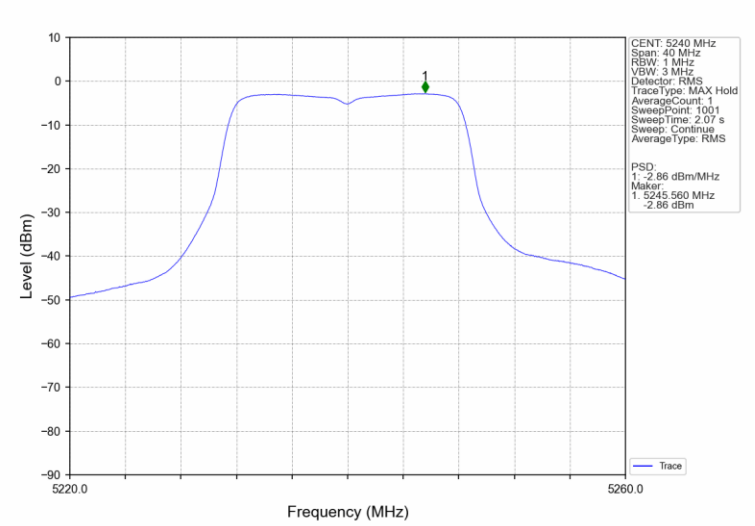
802.11a_LCH_5180MHz_Ant1_NTNV



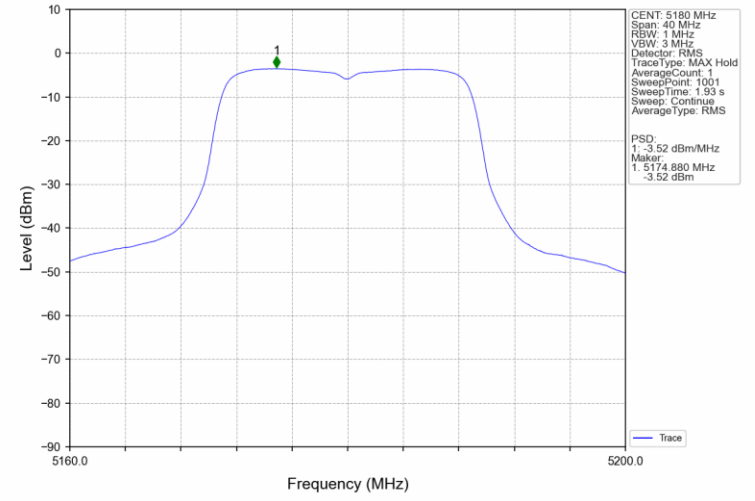
802.11a_MCH_5200MHz_Ant1_NTNV



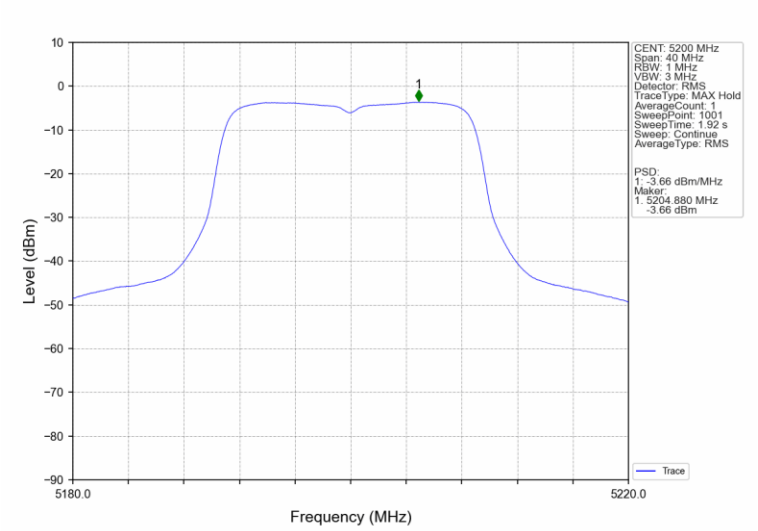
802.11a_HCH_5240MHz_Ant1_NTNV



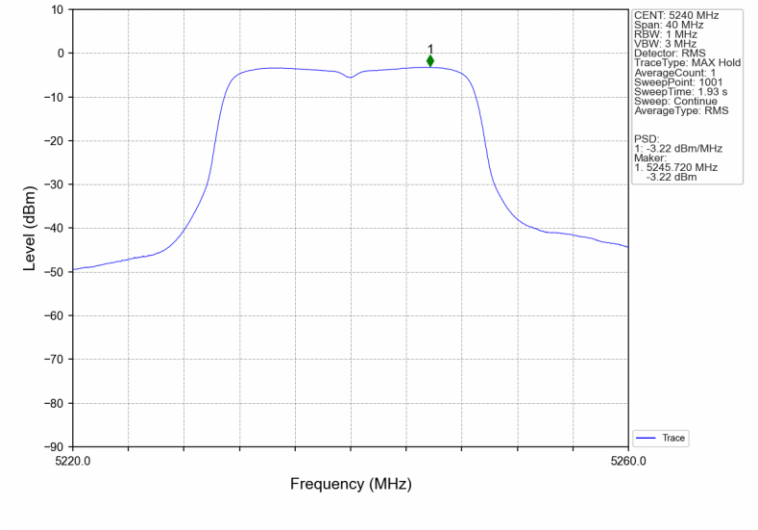
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



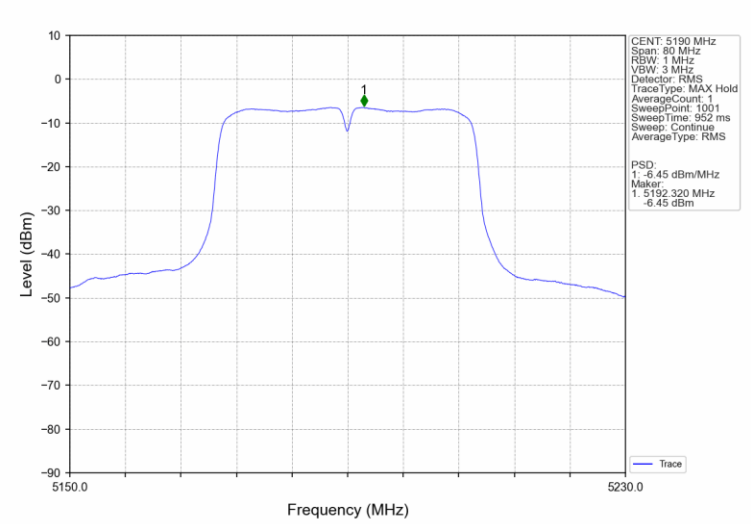
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



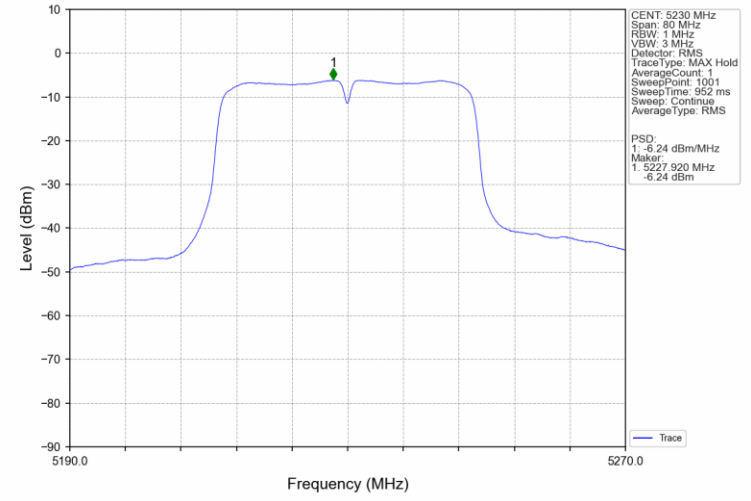
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



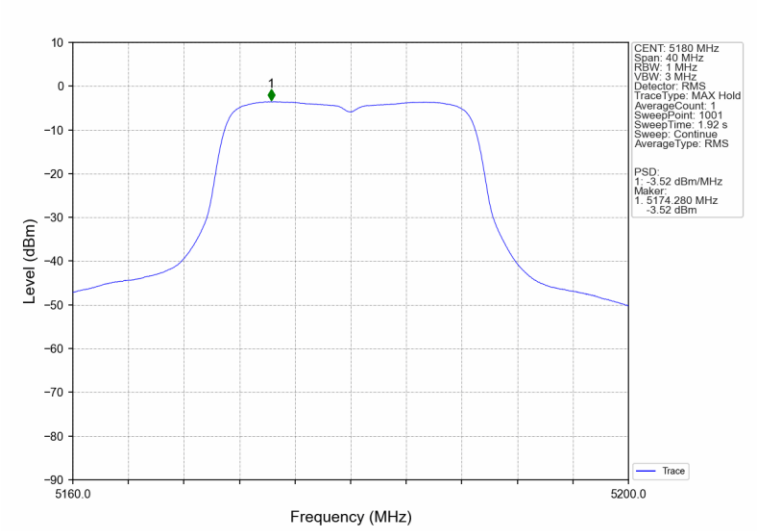
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



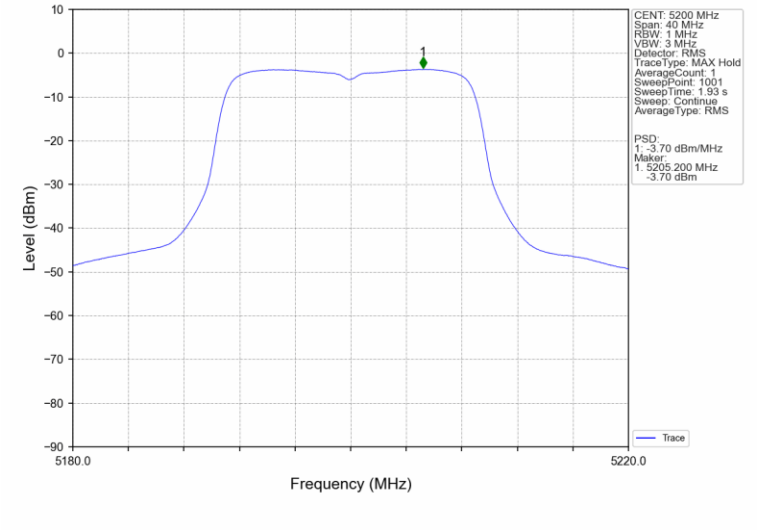
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



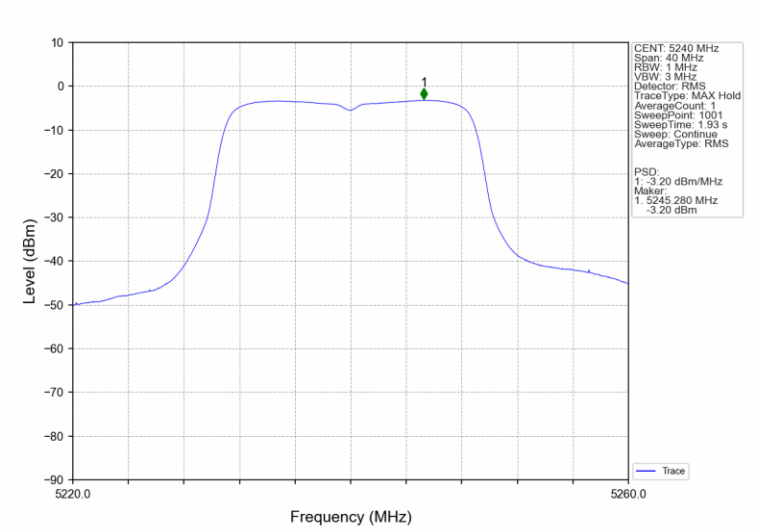
802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



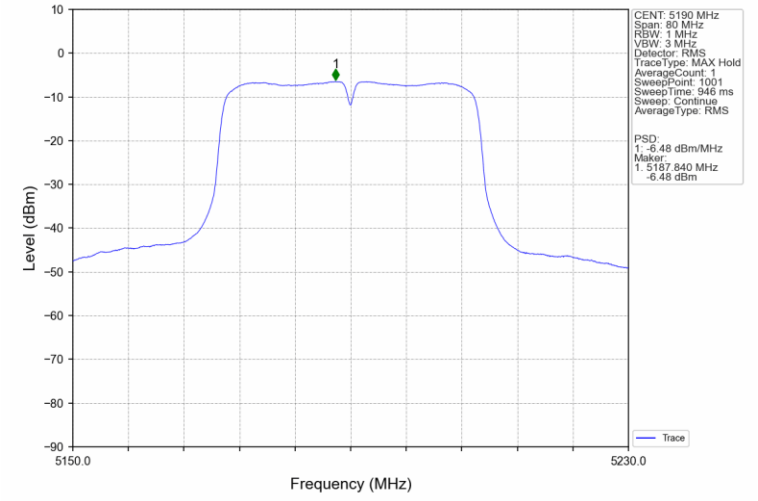
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



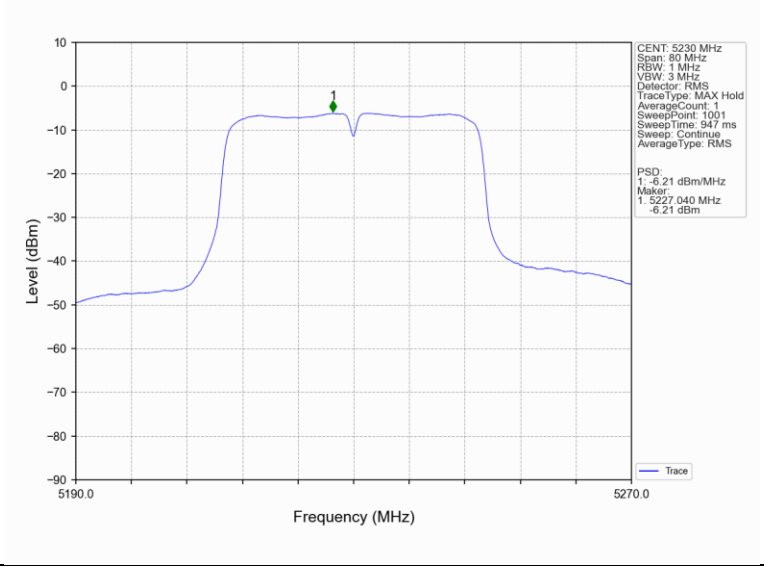
802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



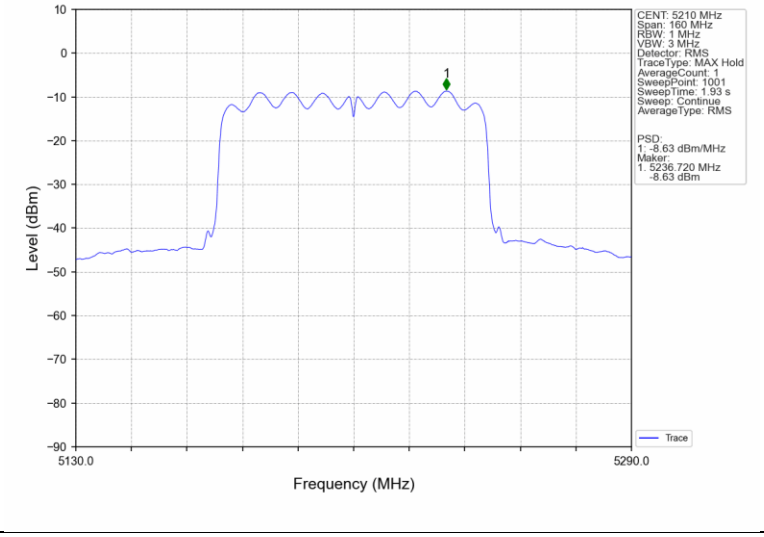
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



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 (VAC)	Measured Frequency (MHz)	Limit (MHz)	Verdict
Carrier Wave	SISO	5180	20	102	5179.997	5150 to 5250	Pass
				120	5179.997	5150 to 5250	Pass
				138	5179.997	5150 to 5250	Pass
			-30	120	5179.997	5150 to 5250	Pass
			-20	120	5179.996	5150 to 5250	Pass
			-10	120	5179.996	5150 to 5250	Pass
			0	120	5179.996	5150 to 5250	Pass
			10	120	5179.996	5150 to 5250	Pass
			30	120	5179.996	5150 to 5250	Pass
			40	120	5179.996	5150 to 5250	Pass
			50	120	5179.995	5150 to 5250	Pass
		5200	20	102	5199.995	5150 to 5250	Pass
				120	5199.994	5150 to 5250	Pass
				138	5199.994	5150 to 5250	Pass
			-30	120	5199.994	5150 to 5250	Pass
			-20	120	5199.994	5150 to 5250	Pass
			-10	120	5199.994	5150 to 5250	Pass
			0	120	5199.994	5150 to 5250	Pass
			10	120	5199.994	5150 to 5250	Pass
			30	120	5199.994	5150 to 5250	Pass
			40	120	5199.994	5150 to 5250	Pass
			50	120	5199.994	5150 to 5250	Pass
		5240	20	102	5239.993	5150 to 5250	Pass
				120	5239.993	5150 to 5250	Pass
				138	5239.993	5150 to 5250	Pass
			-30	120	5239.993	5150 to 5250	Pass
			-20	120	5239.993	5150 to 5250	Pass
			-10	120	5239.993	5150 to 5250	Pass
			0	120	5239.993	5150 to 5250	Pass
			10	120	5239.993	5150 to 5250	Pass
			30	120	5239.993	5150 to 5250	Pass
			40	120	5239.993	5150 to 5250	Pass
			50	120	5239.992	5150 to 5250	Pass
		5190	20	102	5189.992	5150 to 5250	Pass
				120	5189.992	5150 to 5250	Pass
				138	5189.992	5150 to 5250	Pass
			-30	120	5189.992	5150 to 5250	Pass
			-20	120	5189.992	5150 to 5250	Pass
			-10	120	5189.992	5150 to 5250	Pass
			0	120	5189.992	5150 to 5250	Pass
			10	120	5189.992	5150 to 5250	Pass
			30	120	5189.992	5150 to 5250	Pass
			40	120	5189.992	5150 to 5250	Pass
			50	120	5189.991	5150 to 5250	Pass
		5230	20	102	5229.991	5150 to 5250	Pass
				120	5229.991	5150 to 5250	Pass

				138	5229.991	5150 to 5250	Pass
			-30	120	5229.991	5150 to 5250	Pass
			-20	120	5229.991	5150 to 5250	Pass
			-10	120	5229.991	5150 to 5250	Pass
			0	120	5229.991	5150 to 5250	Pass
			10	120	5229.991	5150 to 5250	Pass
			30	120	5229.991	5150 to 5250	Pass
			40	120	5229.991	5150 to 5250	Pass
			50	120	5229.991	5150 to 5250	Pass
		5210	20	102	5209.991	5150 to 5250	Pass
				120	5209.991	5150 to 5250	Pass
				138	5209.990	5150 to 5250	Pass
			-30	120	5209.990	5150 to 5250	Pass
			-20	120	5209.990	5150 to 5250	Pass
			-10	120	5209.990	5150 to 5250	Pass
			0	120	5209.990	5150 to 5250	Pass
			10	120	5209.990	5150 to 5250	Pass
			30	120	5209.990	5150 to 5250	Pass
			40	120	5209.990	5150 to 5250	Pass
			50	120	5209.990	5150 to 5250	Pass

6. Form731

6.1 Test Result

6.1.1 Form731

Lower Freq (MHz)	High Freq (MHz)	MAX Power (W)	MAX Power (dBm)
5180	5240	0.0069	8.39
5190	5230	0.0067	8.29
5210	5210	0.0058	7.67

********** End of Report **********