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	2.066	2.260	91.42	0.39	4.20
		5200	2.065	2.285	90.37	0.44	5.26
		5240	2.066	4.714	43.83	3.58	51.01
802.11n (HT20)	MIMO	5180	1.922	2.152	89.31	0.49	4.75
		5200	1.921	2.151	89.31	0.49	6.02
		5240	1.921	2.150	89.35	0.49	6.02
802.11n (HT40)	MIMO	5190	0.946	1.157	81.76	0.87	4.03
		5230	0.945	1.175	80.43	0.95	9.68
802.11ac (VHT20)	MIMO	5180	1.921	2.142	89.68	0.47	5.65
		5200	1.922	2.151	89.35	0.49	5.09
		5240	1.922	2.152	89.31	0.49	4.71
802.11ac (VHT40)	MIMO	5190	0.946	1.175	80.51	0.94	10.45
		5230	0.945	1.148	82.32	0.85	8.57
802.11ac (VHT80)	MIMO	5210	1.922	4.003	48.01	3.19	46.49

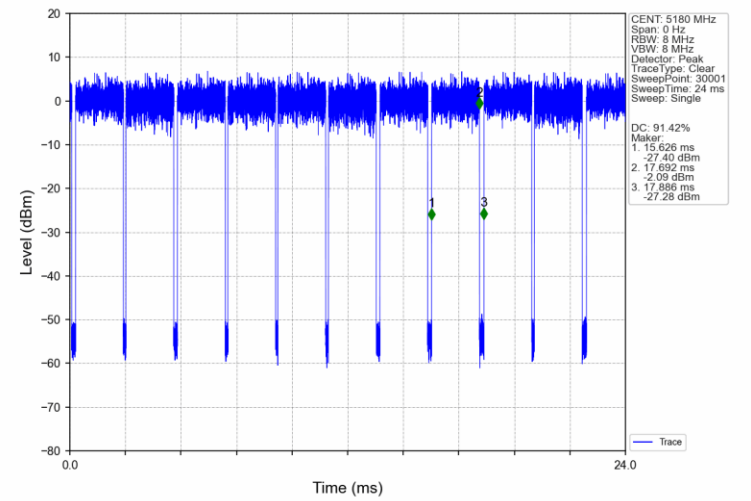
1.1.2 Ant2

Ant2							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11a	SISO	5180	2.066	2.295	90.02	0.46	5.60
		5200	2.067	2.287	90.38	0.44	4.48
		5240	2.066	2.295	90.02	0.46	5.25
802.11n (HT20)	MIMO	5180	1.921	2.151	89.31	0.49	6.02
		5200	1.922	2.151	89.35	0.49	5.57
		5240	1.921	2.151	89.31	0.49	5.57
802.11n (HT40)	MIMO	5190	0.945	1.139	82.97	0.81	7.11
		5230	0.946	1.175	80.51	0.94	8.17
802.11ac (VHT20)	MIMO	5180	1.922	2.151	89.35	0.49	3.48
		5200	1.922	4.903	39.20	4.07	56.16
		5240	1.922	2.151	89.35	0.49	5.60
802.11ac (VHT40)	MIMO	5190	0.945	1.175	80.43	0.95	10.47
		5230	0.946	1.157	81.76	0.87	9.20
802.11ac (VHT80)	MIMO	5210	1.922	2.152	89.31	0.49	5.15

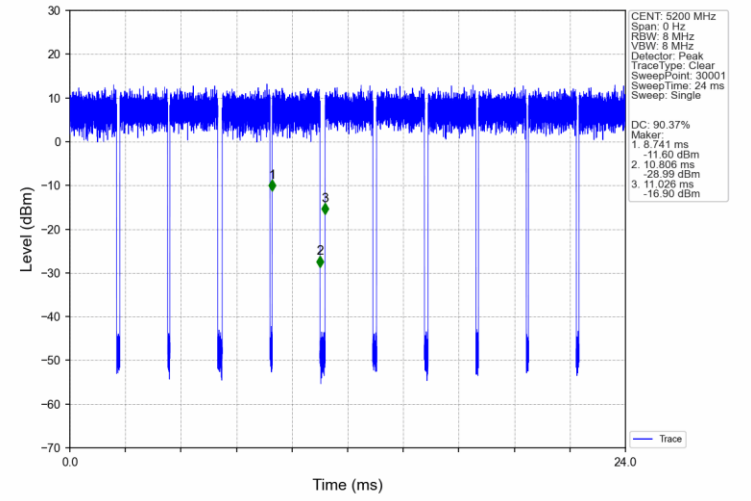
1.2 Test Graph

1.2.1 Ant1

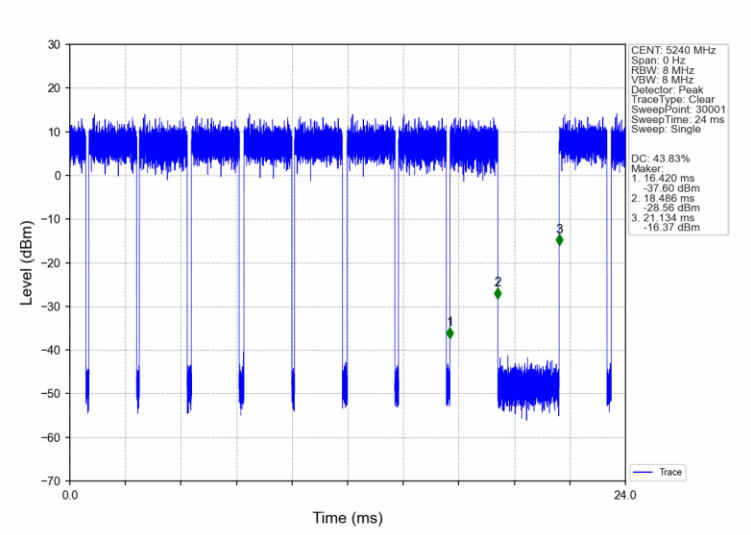
802.11a_LCH_5180MHz_Ant1_NTNV



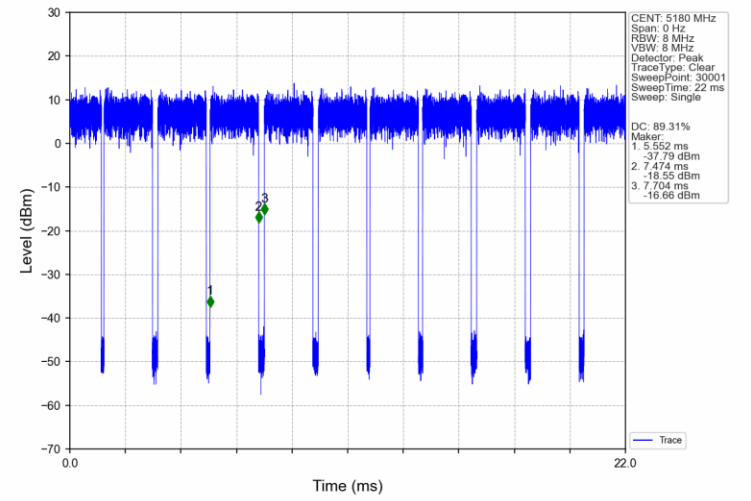
802.11a_MCH_5200MHz_Ant1_NTNV



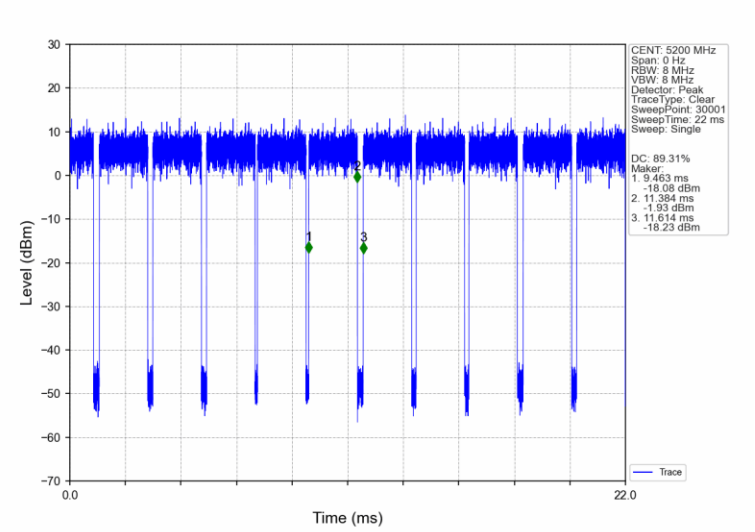
802.11a_HCH_5240MHz_Ant1_NTNV



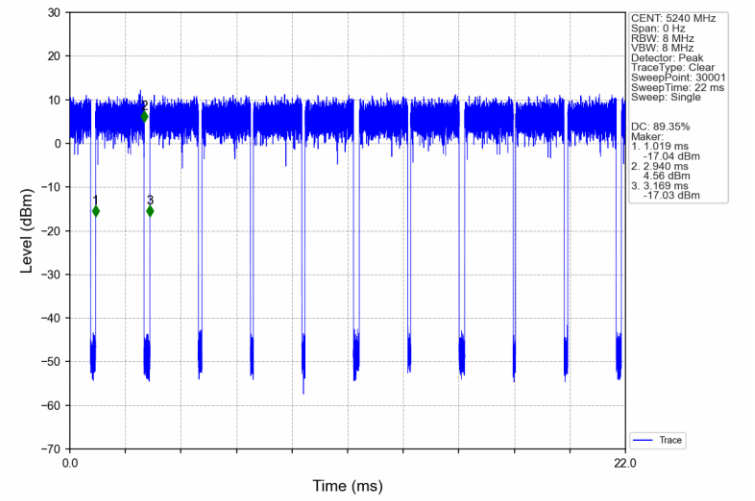
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



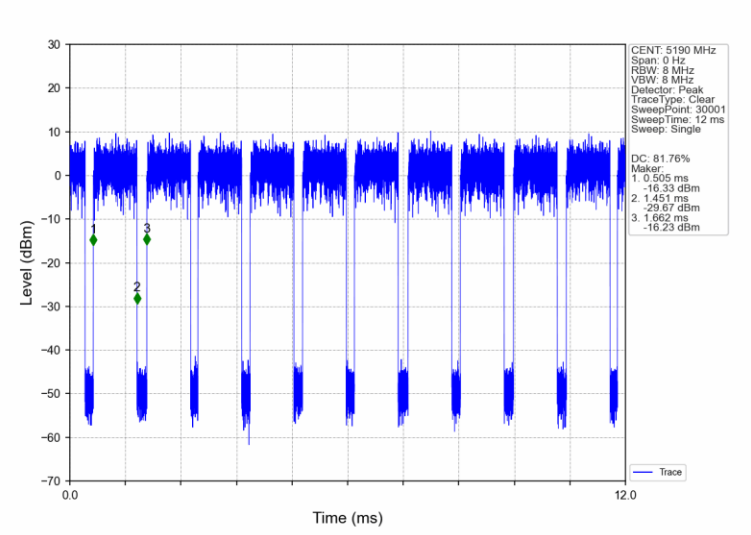
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



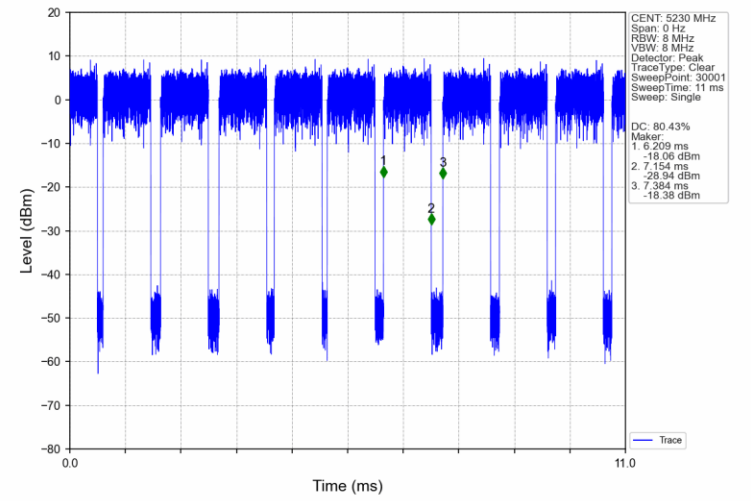
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



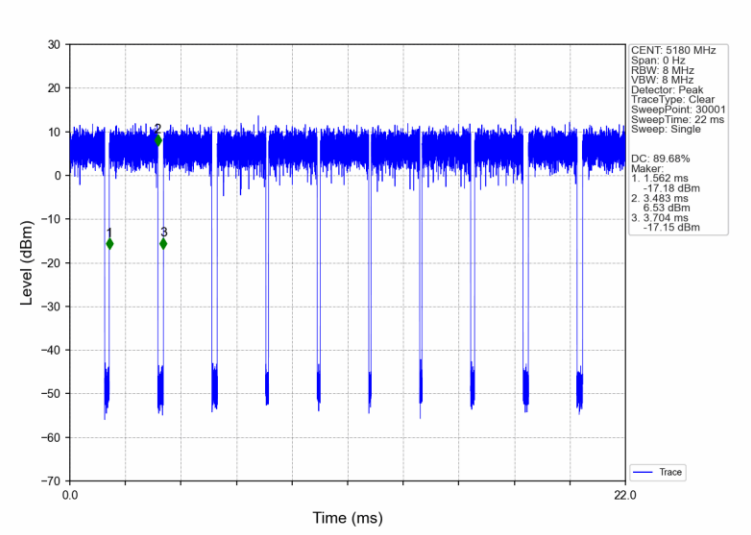
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



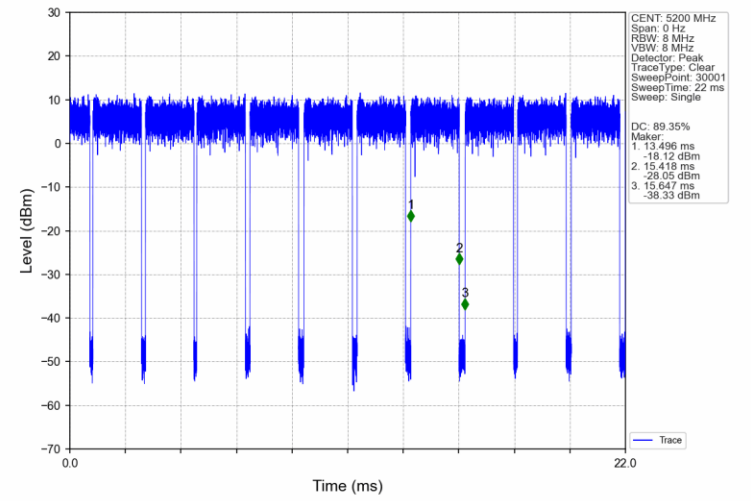
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



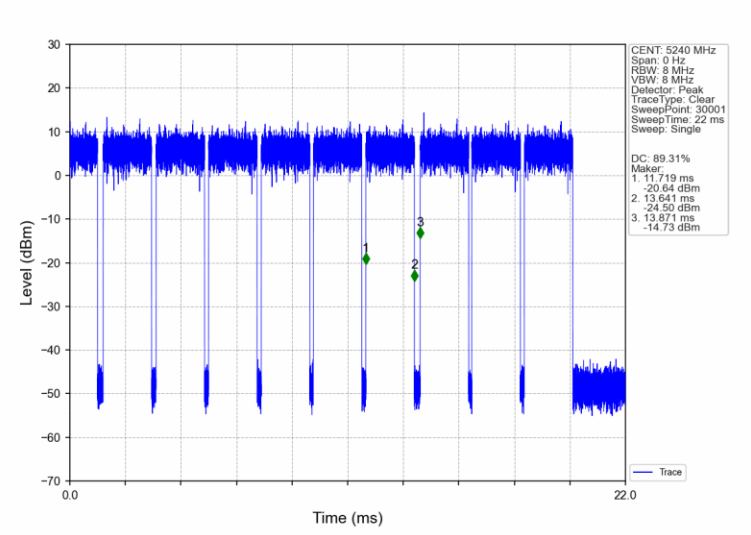
802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



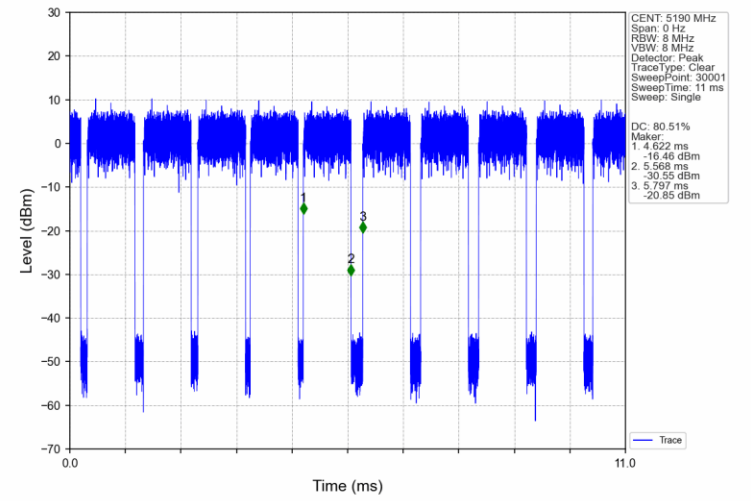
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



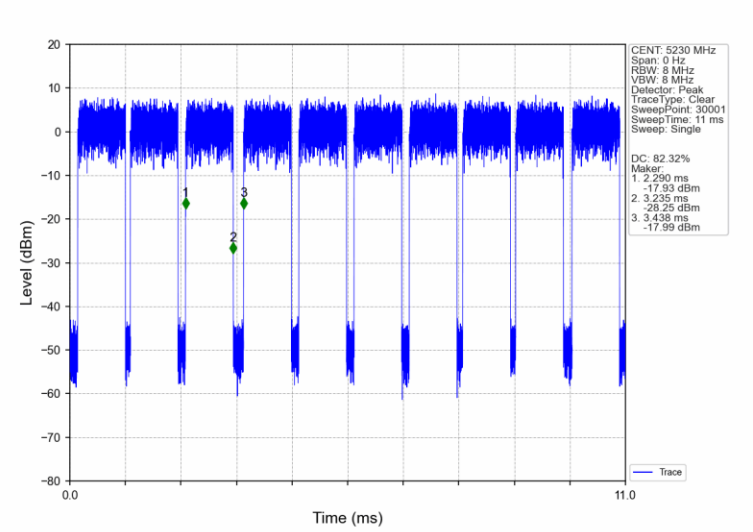
802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



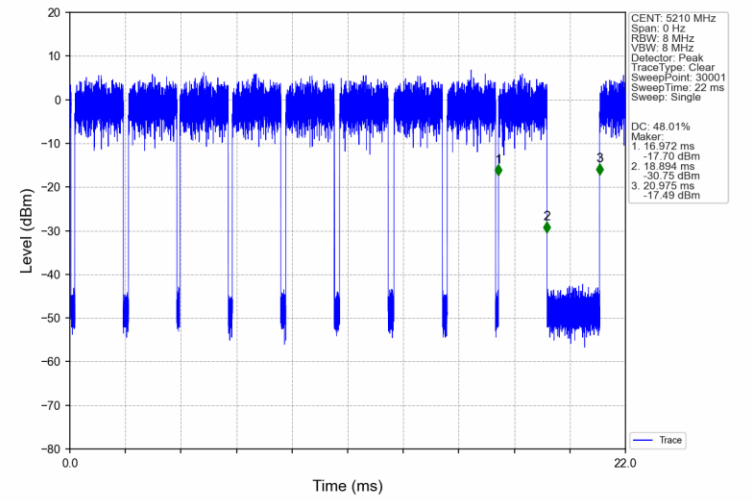
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV

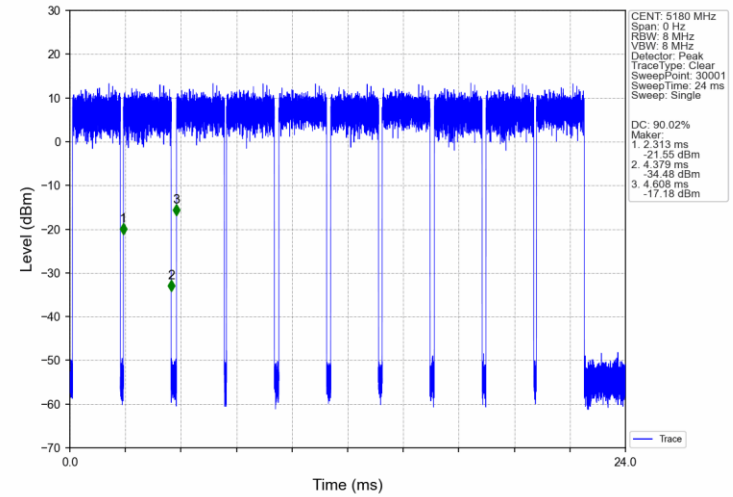


802.11ac(VHT80)_MCH_5210MHz_Ant1_NTNV

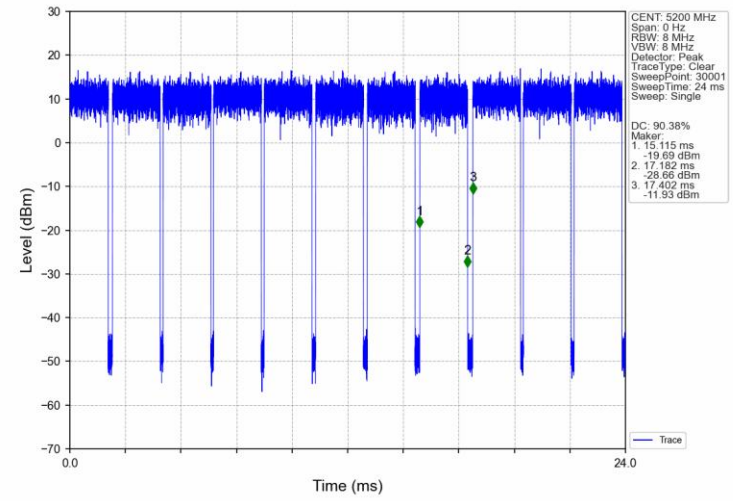


1.2.2 Ant2

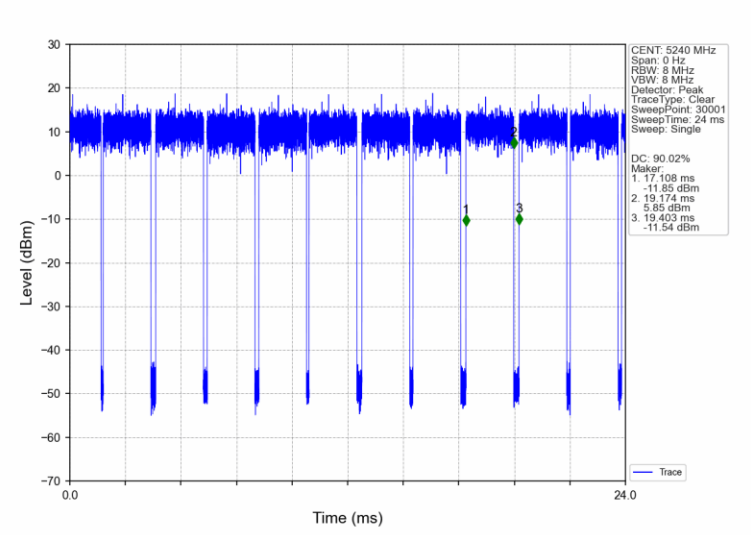
802.11a_LCH_5180MHz_Ant2_NTNV



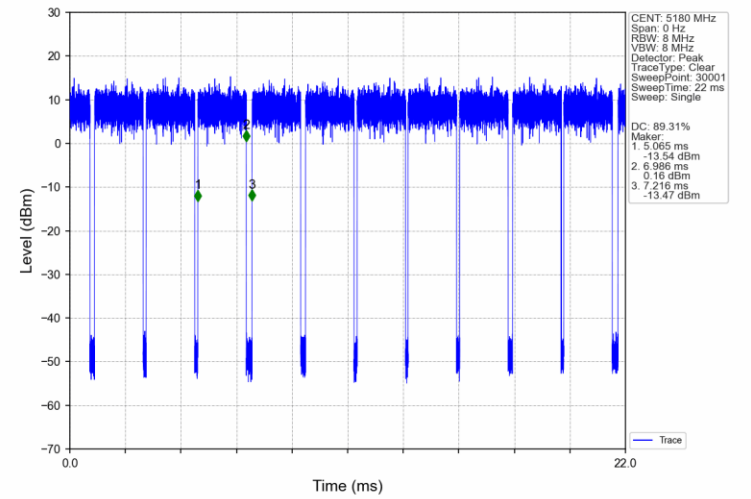
802.11a_MCH_5200MHz_Ant2_NTNV



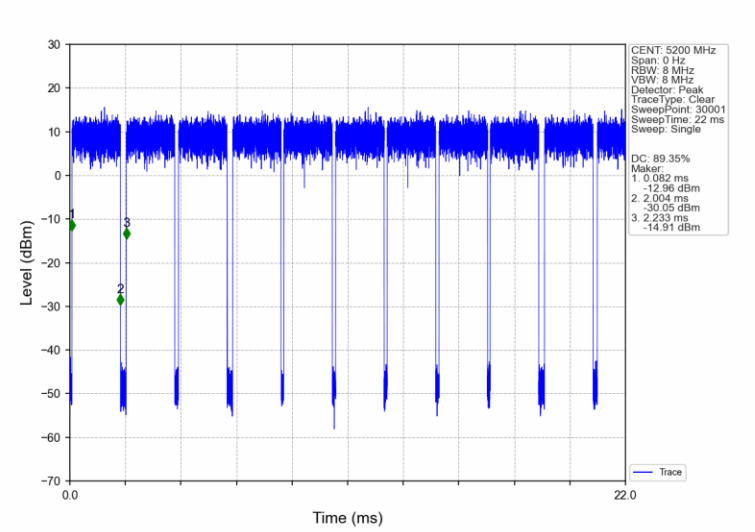
802.11a_HCH_5240MHz_Ant2_NTNV



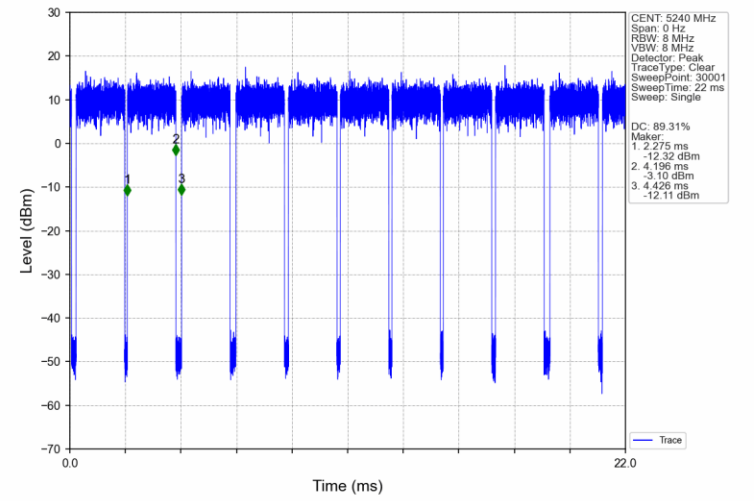
802.11n(HT20)_LCH_5180MHz_Ant2_NTNV



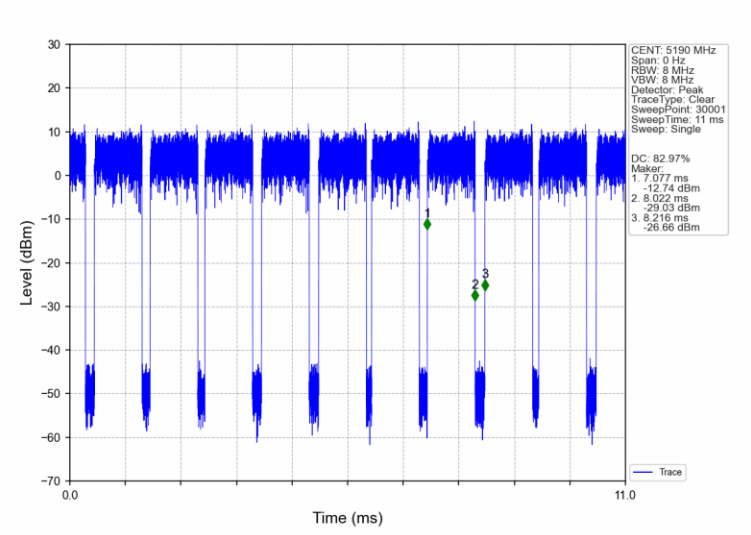
802.11n(HT20)_MCH_5200MHz_Ant2_NTNV



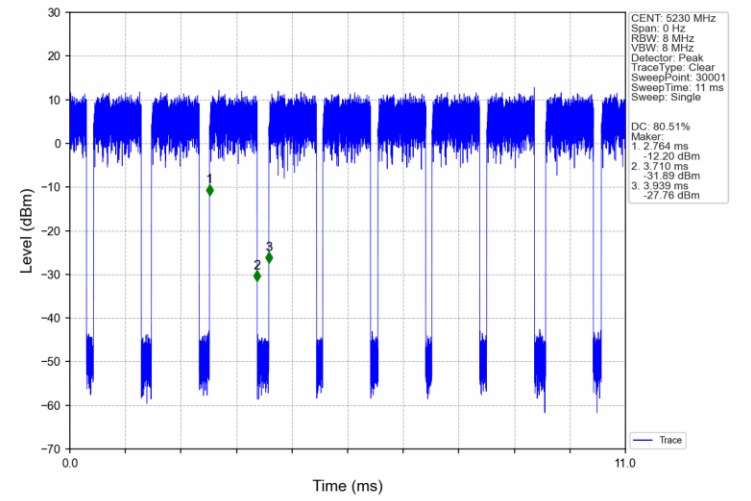
802.11n(HT20)_HCH_5240MHz_Ant2_NTNV



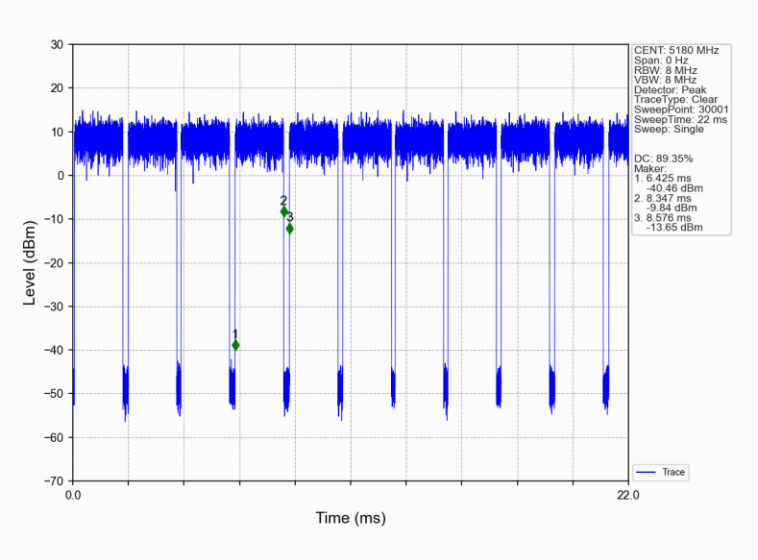
802.11n(HT40)_LCH_5190MHz_Ant2_NTNV



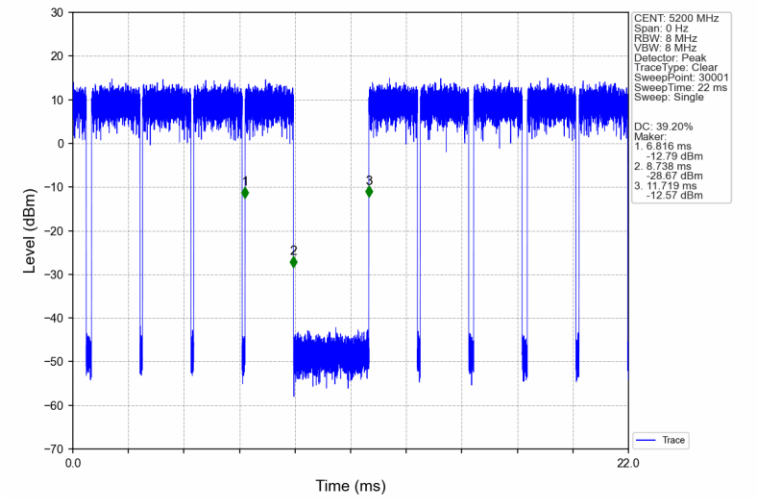
802.11n(HT40)_HCH_5230MHz_Ant2_NTNV



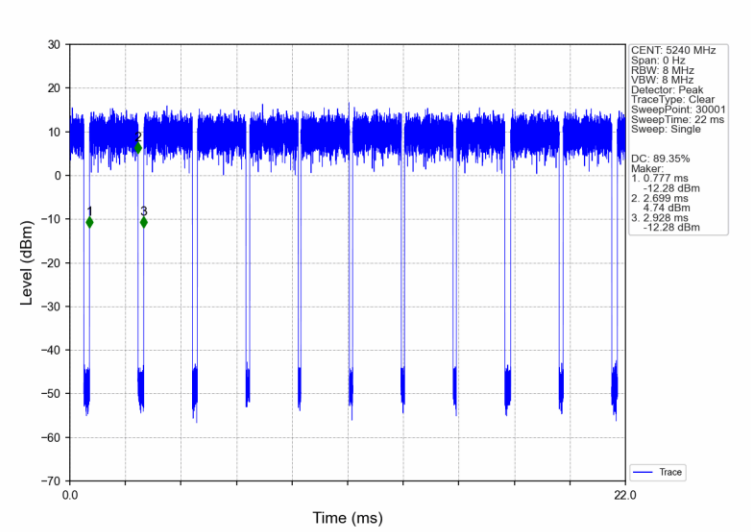
802.11ac(VHT20)_LCH_5180MHz_Ant2_NTNV



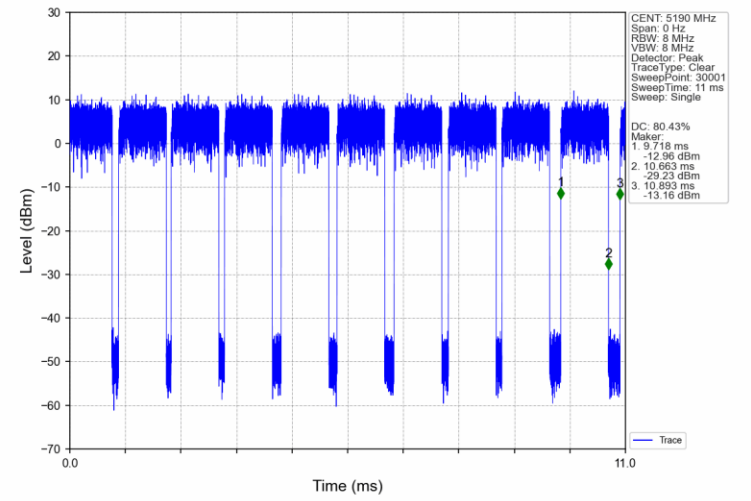
802.11ac(VHT20)_MCH_5200MHz_Ant2_NTNV



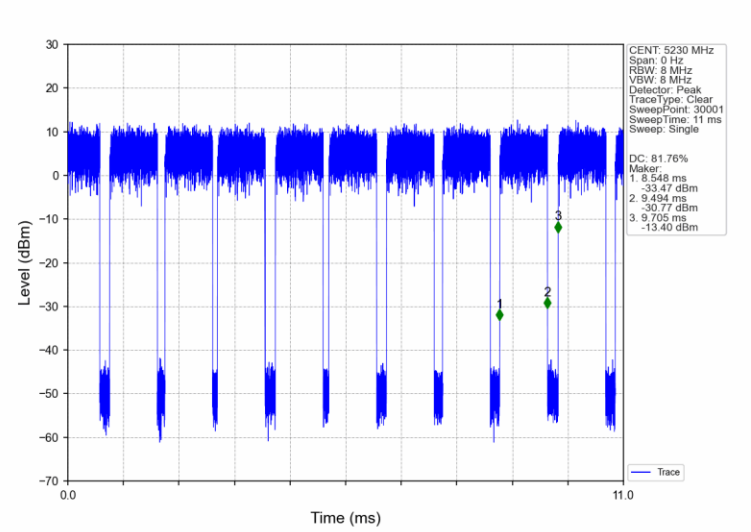
802.11ac(VHT20)_HCH_5240MHz_Ant2_NTNV



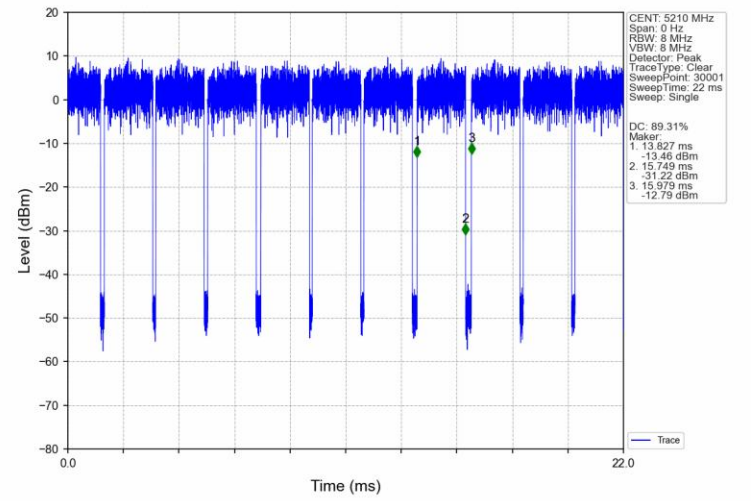
802.11ac(VHT40)_LCH_5190MHz_Ant2_NTNV



802.11ac(VHT40)_HCH_5230MHz_Ant2_NTNV



802.11ac(VHT80)_MCH_5210MHz_Ant2_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	16.658	/	Pass
		5200	1	16.664	/	Pass
		5240	1	16.639	/	Pass
802.11n (HT20)	MIMO	5180	1	17.736	/	Pass
		5200	1	17.770	/	Pass
		5240	1	17.787	/	Pass
802.11n (HT40)	MIMO	5190	1	36.253	/	Pass
		5230	1	36.385	/	Pass
802.11ac (VHT20)	MIMO	5180	1	17.737	/	Pass
		5200	1	17.709	/	Pass
		5240	1	17.760	/	Pass
802.11ac (VHT40)	MIMO	5190	1	36.449	/	Pass
		5230	1	36.588	/	Pass
802.11ac (VHT80)	MIMO	5210	1	75.274	/	Pass

Remark: All modes have been tested, and only the worst data is displayed

2.1.2 26dB BW

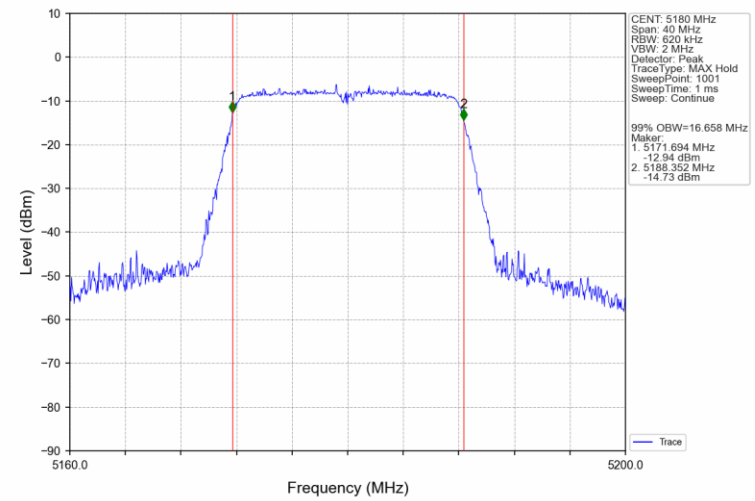
Mode	TX Type	Frequency (MHz)	ANT	26dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5180	1	18.950	/	Pass
		5200	1	18.963	/	Pass
		5240	1	19.038	/	Pass
802.11n (HT20)	MIMO	5180	1	19.832	/	Pass
		5200	1	19.773	/	Pass
		5240	1	19.814	/	Pass
802.11n (HT40)	MIMO	5190	1	42.003	/	Pass
		5230	1	42.300	/	Pass
802.11ac (VHT20)	MIMO	5180	1	19.729	/	Pass
		5200	1	19.834	/	Pass
		5240	1	19.972	/	Pass
802.11ac (VHT40)	MIMO	5190	1	41.979	/	Pass
		5230	1	42.514	/	Pass
802.11ac (VHT80)	MIMO	5210	1	89.697	/	Pass

Remark: All modes have been tested, and only the worst data is displayed

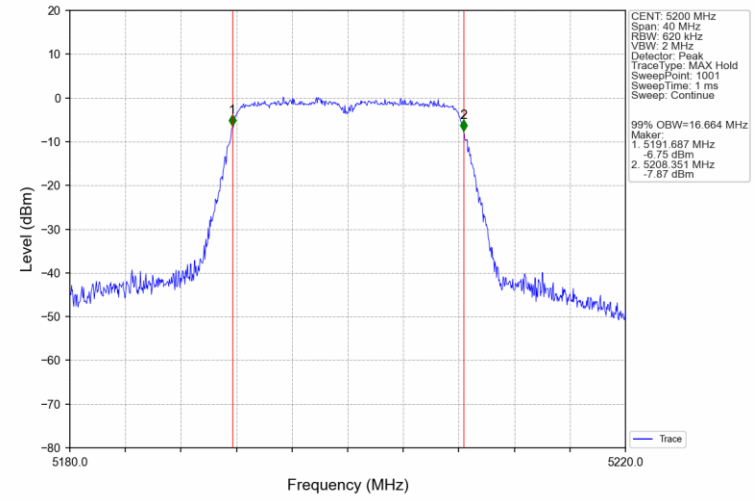
2.2 Test Graph

2.2.1 OBW

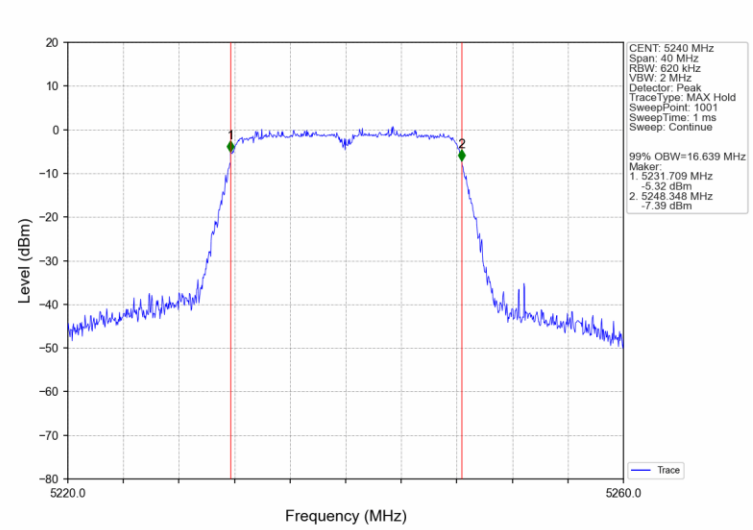
802.11a_LCH_5180MHz_Ant1_NTNV



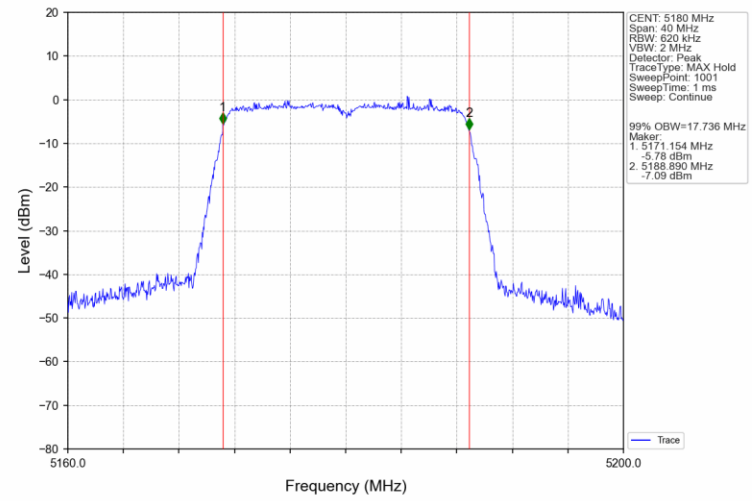
802.11a_MCH_5200MHz_Ant1_NTNV



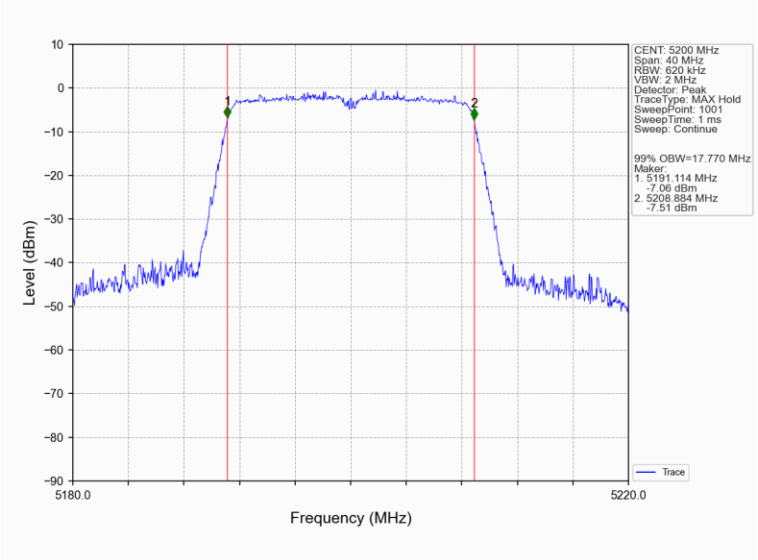
802.11a_HCH_5240MHz_Ant1_NTNV



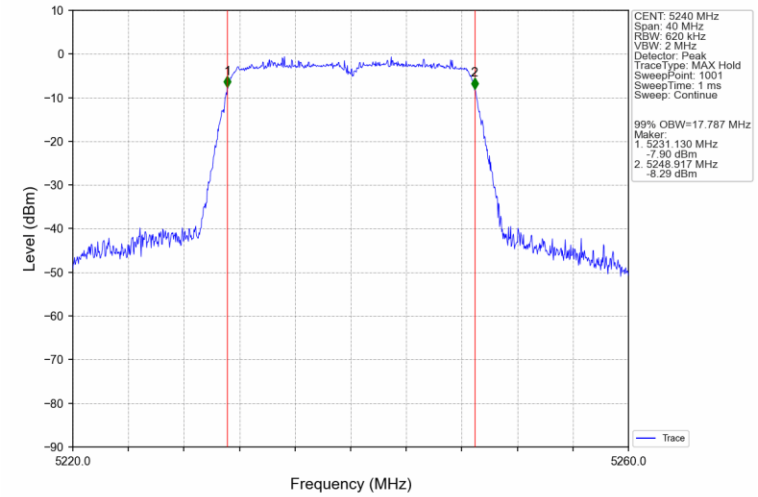
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



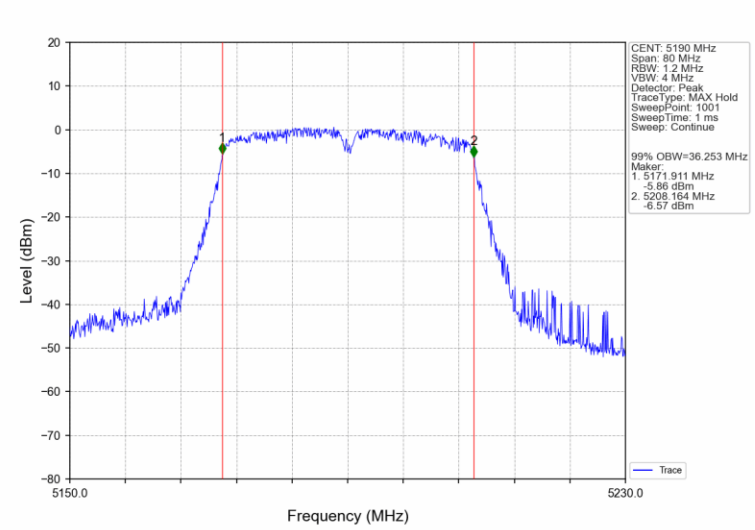
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



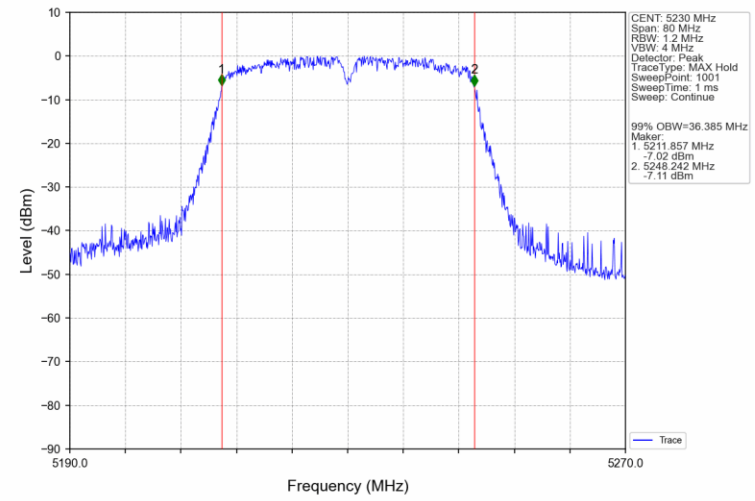
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



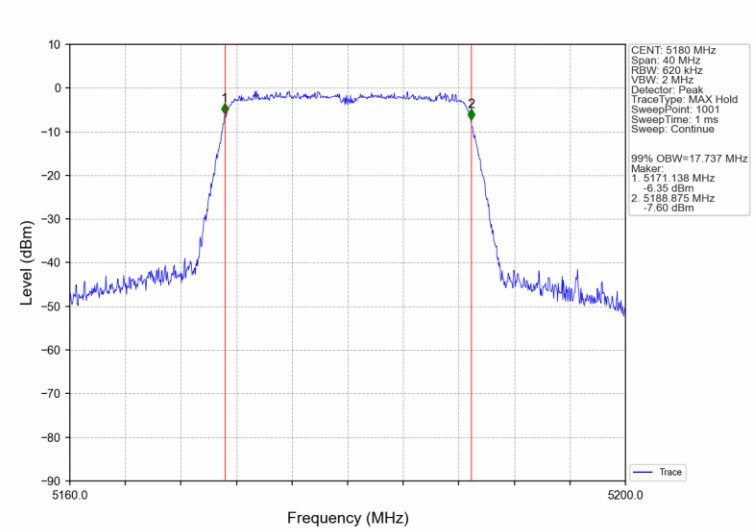
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



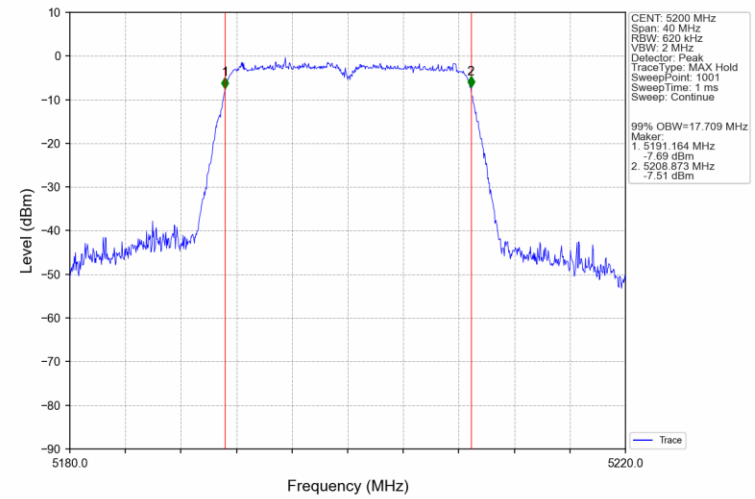
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



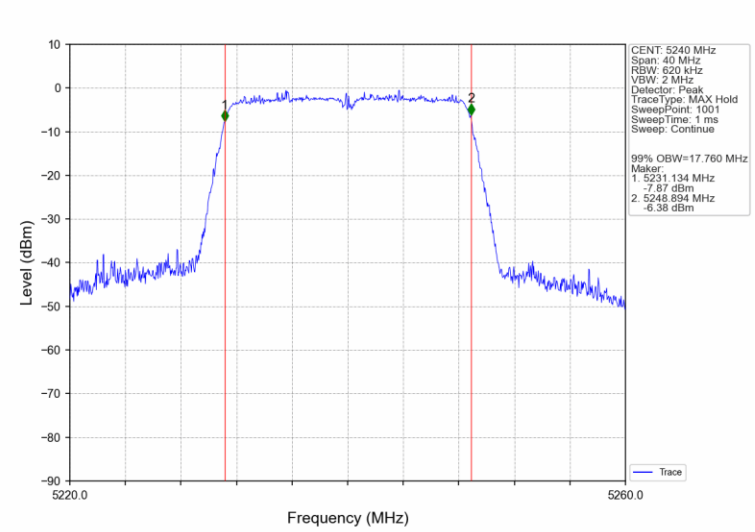
802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



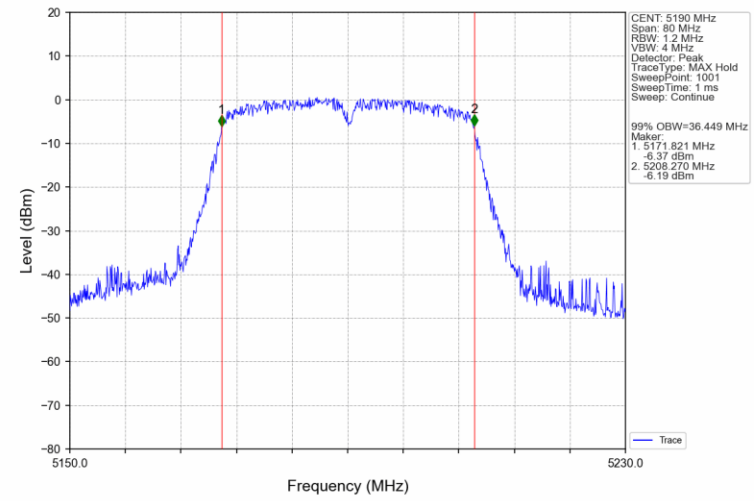
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



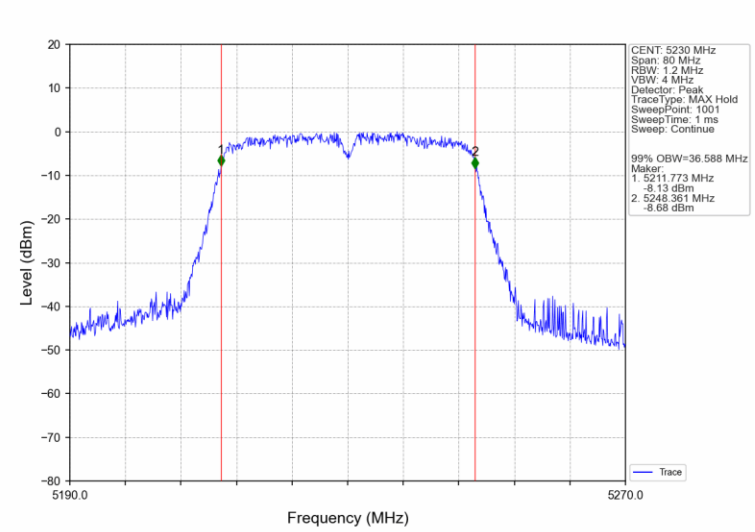
802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



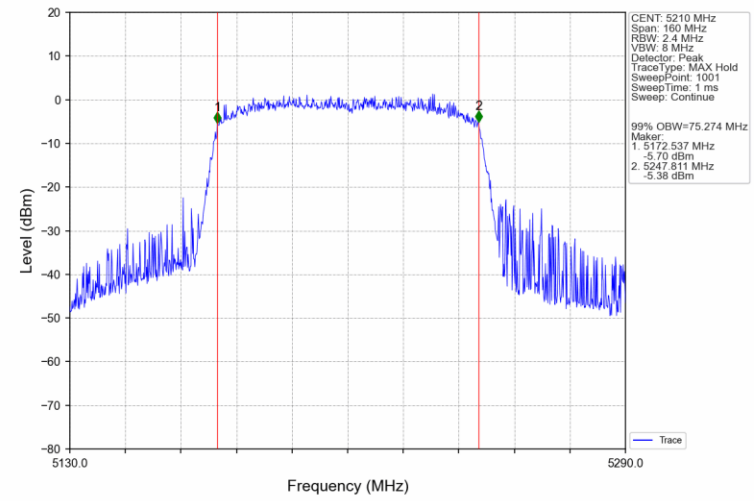
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV

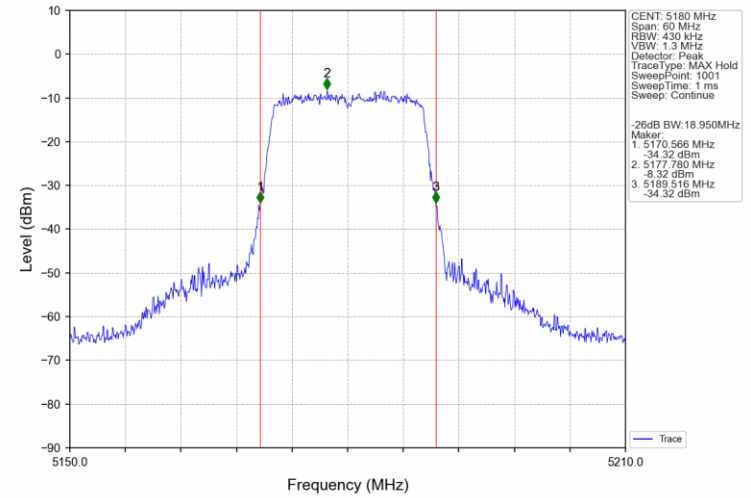


802.11ac(VHT80)_MCH_5210MHz_Ant1_NTNV

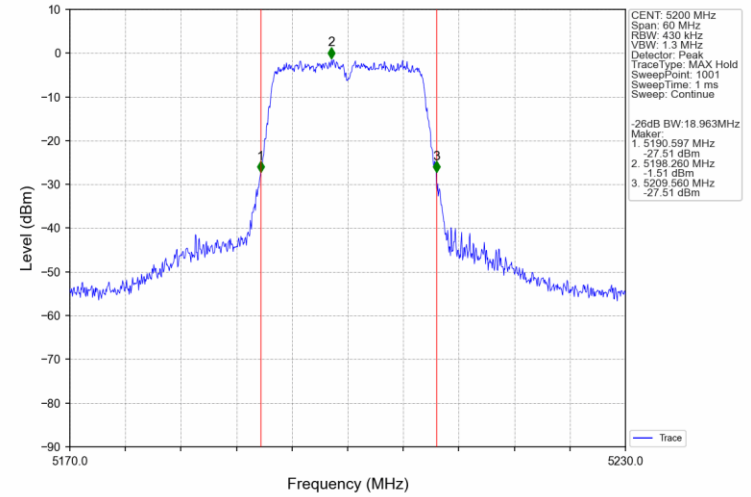


2.2.2 26dB BW

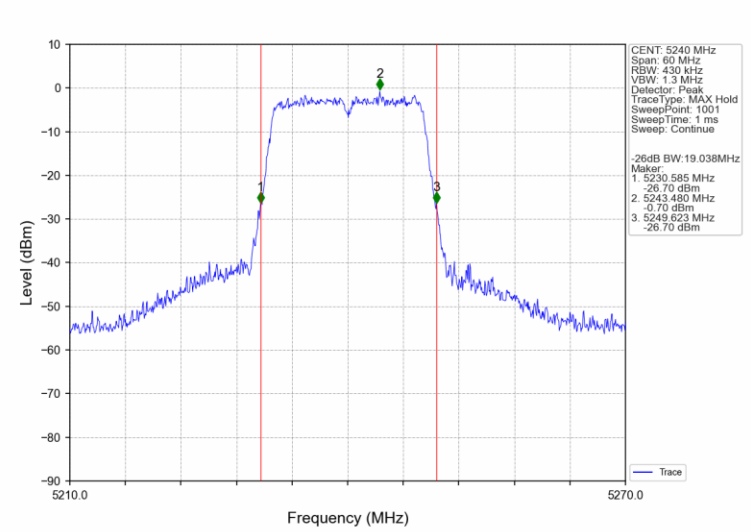
802.11a_LCH_5180MHz_Ant1_NTNV



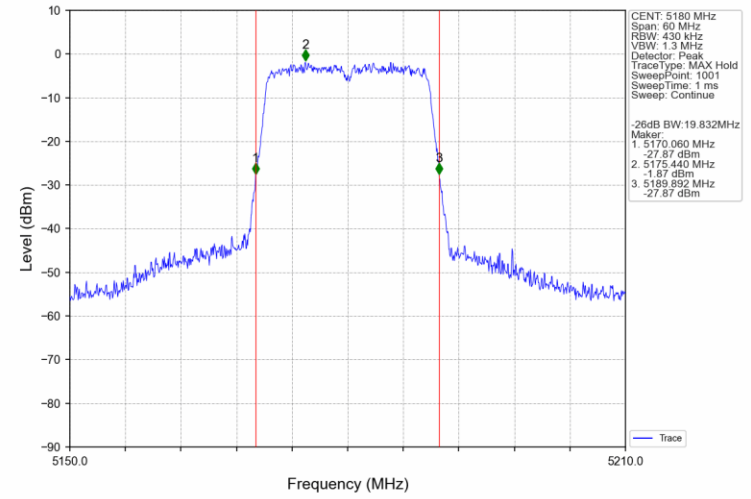
802.11a_MCH_5200MHz_Ant1_NTNV



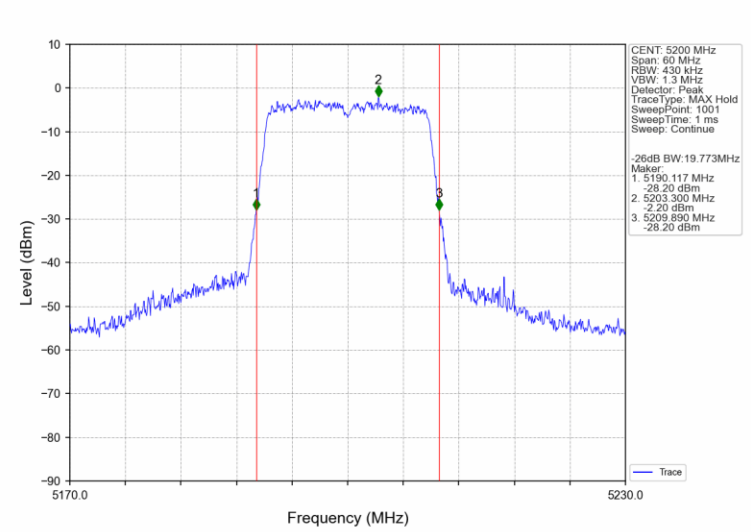
802.11a_HCH_5240MHz_Ant1_NTNV



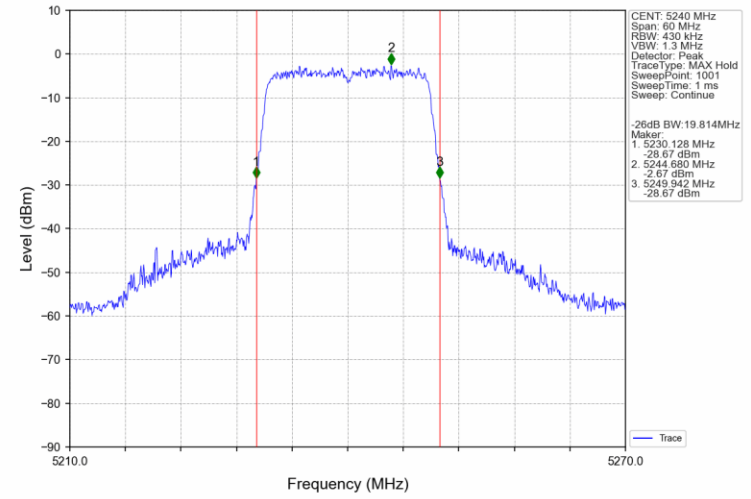
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



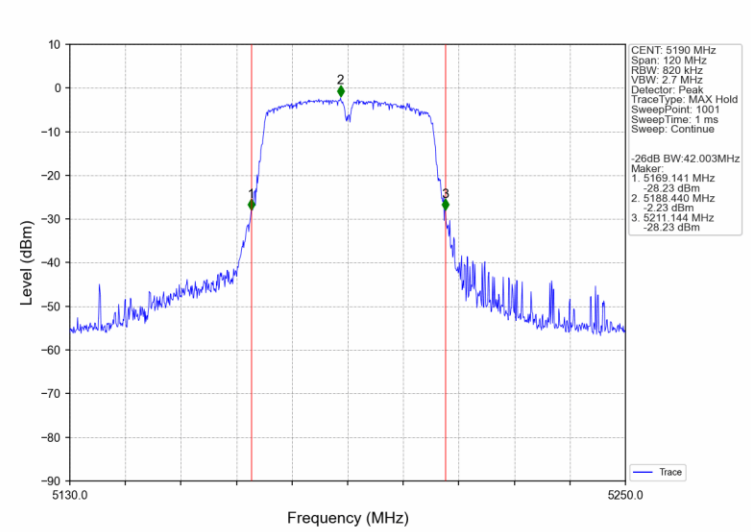
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



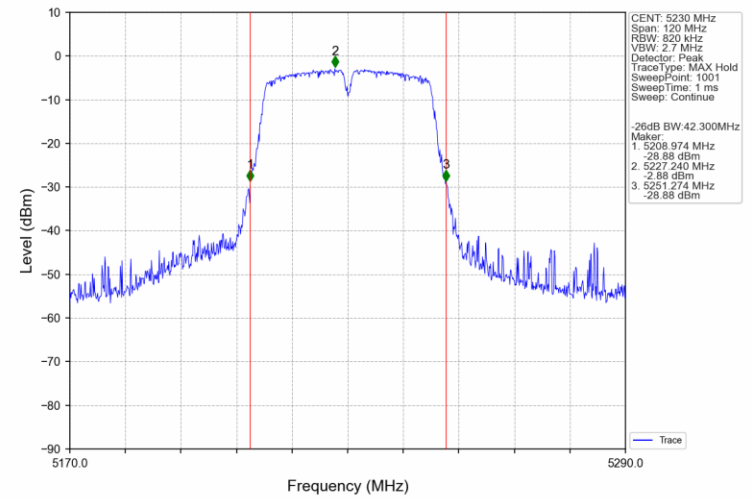
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



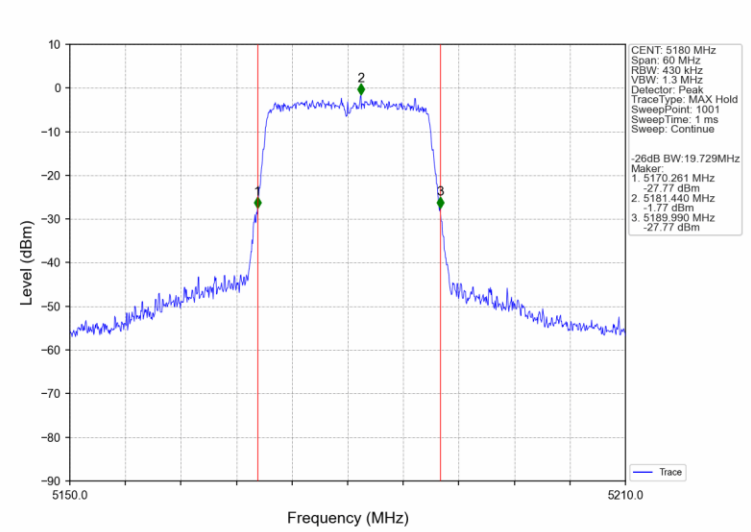
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



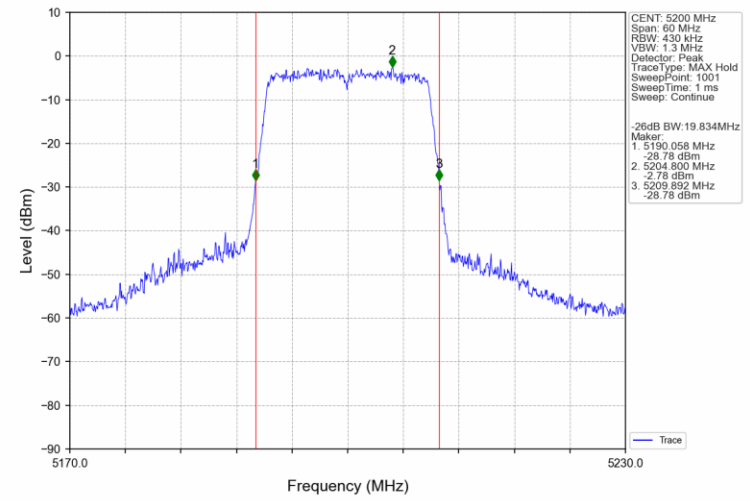
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



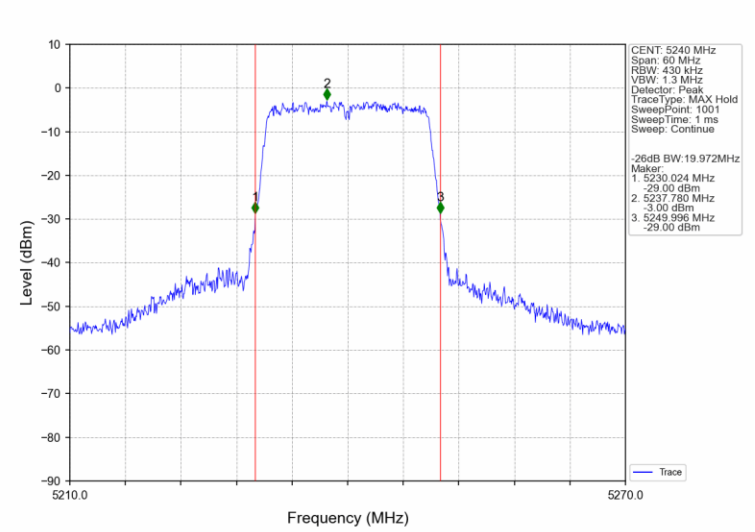
802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



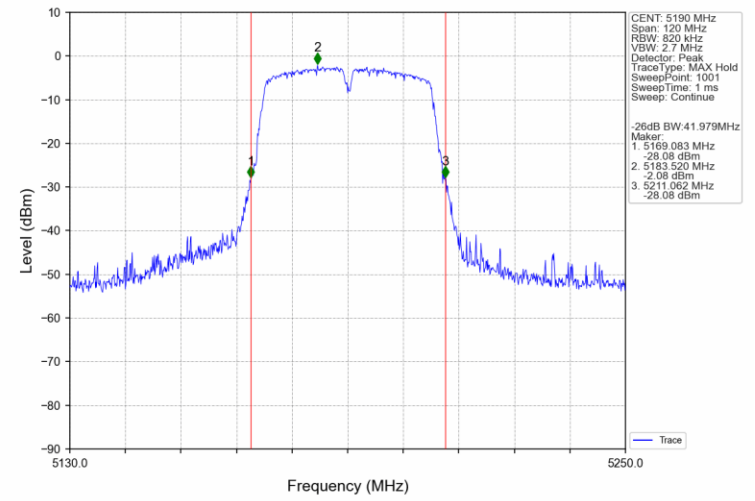
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



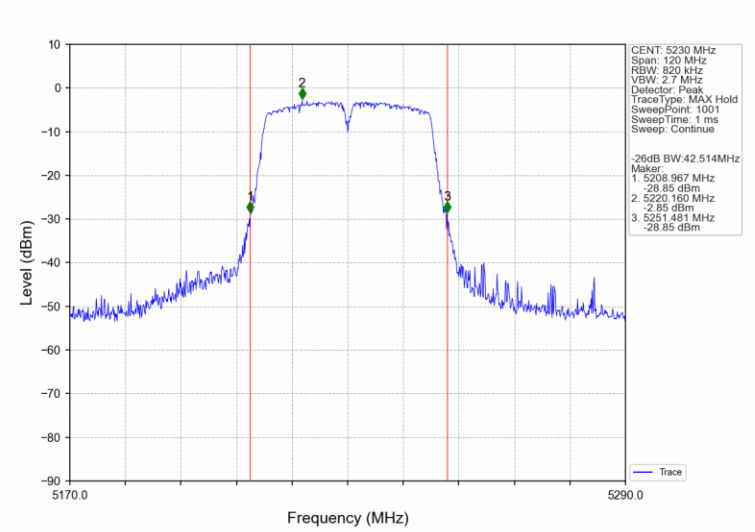
802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



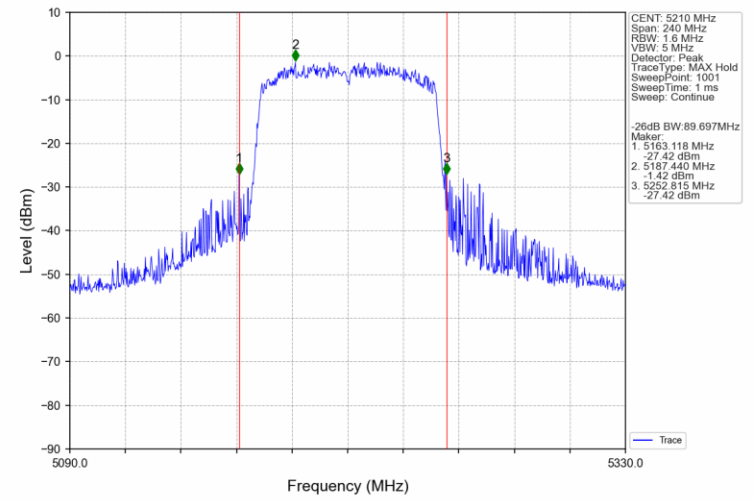
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



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	ANT2	MIMO	Limit	
802.11a	SISO	5180	6.45	8.37	/	<=23.98	Pass
		5200	6.13	9.22	/	<=23.98	Pass
		5240	6.12	9.87	/	<=23.98	Pass
802.11n (HT20)	MIMO	5180	5.84	7.53	9.78	<=23.98	Pass
		5200	5.18	8.26	10.00	<=23.98	Pass
		5240	5.08	8.80	10.34	<=23.98	Pass
802.11n (HT40)	MIMO	5190	5.20	7.71	9.64	<=23.98	Pass
		5230	4.85	8.70	10.20	<=23.98	Pass
802.11ac (VHT20)	MIMO	5180	5.56	7.48	9.64	<=23.98	Pass
		5200	5.03	8.16	9.88	<=23.98	Pass
		5240	5.11	8.83	10.37	<=23.98	Pass
802.11ac (VHT40)	MIMO	5190	5.20	7.70	9.64	<=23.98	Pass
		5230	4.89	8.67	10.19	<=23.98	Pass
802.11ac (VHT80)	MIMO	5210	4.38	7.64	9.32	<=23.98	Pass

Note1: Antenna Gain: Ant1: 1.75dBi; Ant2: 1.75dBi; Directional gain：4.76dBi

Note2: Directional Gain: *Directional gain* = G_{ANT}+*10 log*(N_{ANT}/N_{SS}) *dBi*, where N_{SS} = the number of independent spatial streams of data and G_{ANT} is the antenna gain in dBi. For this devices N_{SS} =1.

4. Maximum Power Spectral Density

4.1 Test Result

4.1.1 PSD

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/MHz)				Verdict
			ANT1	ANT2	MIMO	Limit	
802.11a	SISO	5180	-4.94	-2.95	/	<=11	Pass
		5200	-5.16	-2.09	/	<=11	Pass
		5240	-5.24	-1.49	/	<=11	Pass
802.11n (HT20)	MIMO	5180	-5.81	-4.07	-1.89	<=11	Pass
		5200	-6.40	-3.35	-1.64	<=11	Pass
		5240	-6.45	-2.83	-1.31	<=11	Pass
802.11n (HT40)	MIMO	5190	-8.99	-6.49	-4.69	<=11	Pass
		5230	-9.50	-5.52	-4.12	<=11	Pass
802.11ac (VHT20)	MIMO	5180	-6.02	-4.04	-1.98	<=11	Pass
		5200	-6.51	-3.37	-1.73	<=11	Pass
		5240	-6.47	-2.71	-1.25	<=11	Pass
802.11ac (VHT40)	MIMO	5190	-9.01	-6.42	-4.64	<=11	Pass
		5230	-9.49	-5.50	-4.06	<=11	Pass
802.11ac (VHT80)	MIMO	5210	-13.05	-9.32	-7.88	<=11	Pass

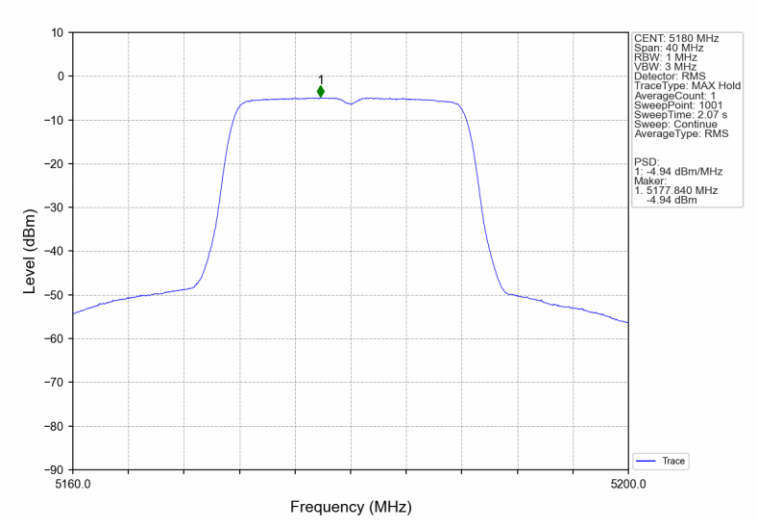
Note1: Antenna Gain: Ant1: 1.75dBi; Ant2: 1.75dBi; Directional gain : 4.76dBi

Note2: Directional Gain: *Directional gain* = G_{ANT}+10 log(N_{ANT}/N_{SS}) *dBi*, where N_{SS} = the number of independent spatial streams of data and G_{ANT} is the antenna gain in dBi. For this devices N_{SS} =1.

4.2 Test Graph

4.2.1 PSD

802.11a_LCH_5180MHz_Ant1_NTNV



802.11a_LCH_5180MHz_Ant2_NTNV