

1. Duty Cycle

1.1 Test Result

1.1.1 Ant1

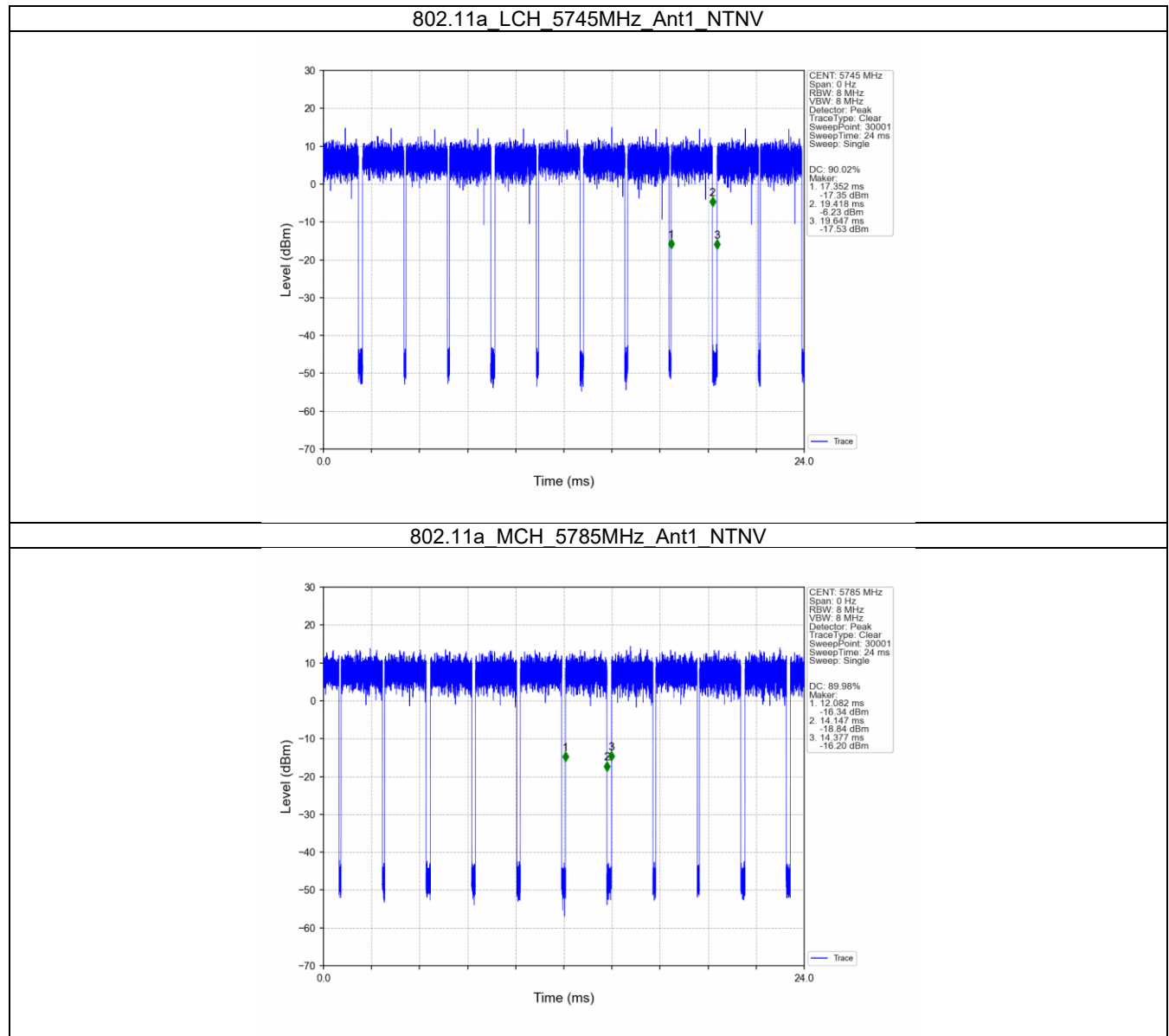
Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11a	SISO	5745	2.066	2.295	90.02	0.46	5.64
		5785	2.065	2.295	89.98	0.46	4.86
		5825	2.065	4.417	46.75	3.30	48.50
802.11n (HT20)	MIMO	5745	1.921	2.142	89.68	0.47	3.94
		5785	1.922	2.133	90.11	0.45	5.21
		5825	1.922	2.151	89.35	0.49	4.28
802.11n (HT40)	MIMO	5755	0.946	1.149	82.33	0.84	7.79
		5795	0.946	1.167	81.06	0.91	9.80
802.11ac (VHT20)	MIMO	5745	1.921	2.151	89.31	0.49	5.57
		5785	1.922	2.150	89.40	0.49	5.12
		5825	1.921	2.151	89.31	0.49	4.35
802.11ac (VHT40)	MIMO	5755	0.946	3.956	23.91	6.21	63.30
		5795	0.946	1.175	80.51	0.94	9.67
802.11ac (VHT80)	MIMO	5775	1.921	2.153	89.22	0.50	5.69

1.1.2 Ant2

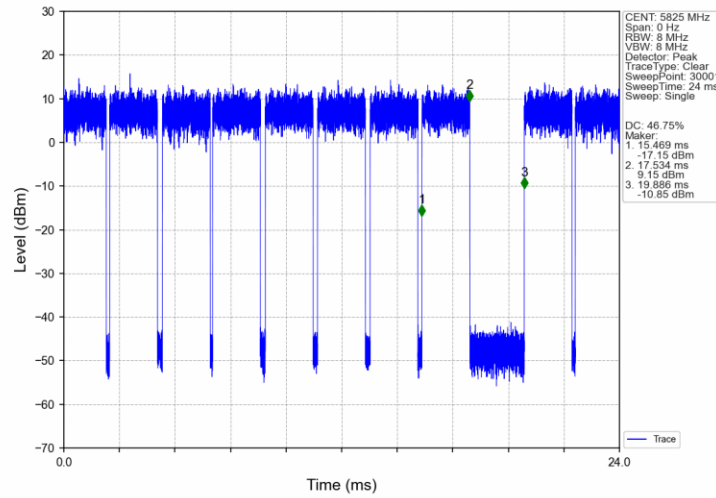
Ant2							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11a	SISO	5745	2.065	2.286	90.33	0.44	4.90
		5785	2.066	3.904	52.92	2.76	41.97
		5825	2.067	2.287	90.38	0.44	5.25
802.11n (HT20)	MIMO	5745	1.922	2.142	89.73	0.47	5.58
		5785	1.922	4.714	40.77	3.90	53.73
		5825	1.922	4.256	45.16	3.45	48.93
802.11n (HT40)	MIMO	5755	0.946	1.157	81.76	0.87	8.40
		5795	0.945	1.157	81.68	0.88	9.22
802.11ac (VHT20)	MIMO	5745	1.921	2.151	89.31	0.49	6.02
		5785	1.922	2.116	90.83	0.42	4.50
		5825	1.921	4.956	38.76	4.12	54.93
802.11ac (VHT40)	MIMO	5755	0.946	1.166	81.13	0.91	6.80
		5795	0.945	1.266	74.64	1.27	16.27
802.11ac (VHT80)	MIMO	5775	1.922	2.133	90.11	0.45	3.98

1.2 Test Graph

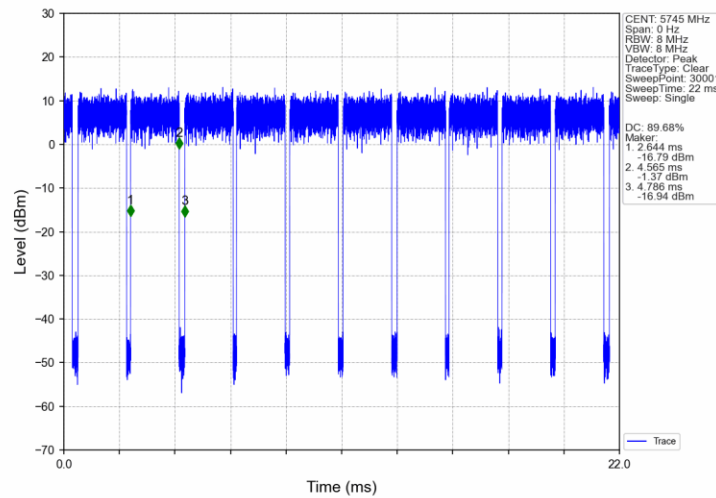
1.2.1 Ant1



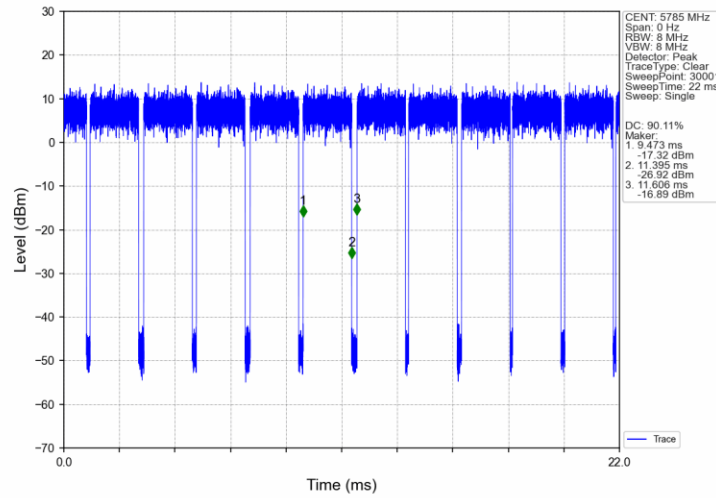
802.11a_HCH_5825MHz_Ant1_NTNV



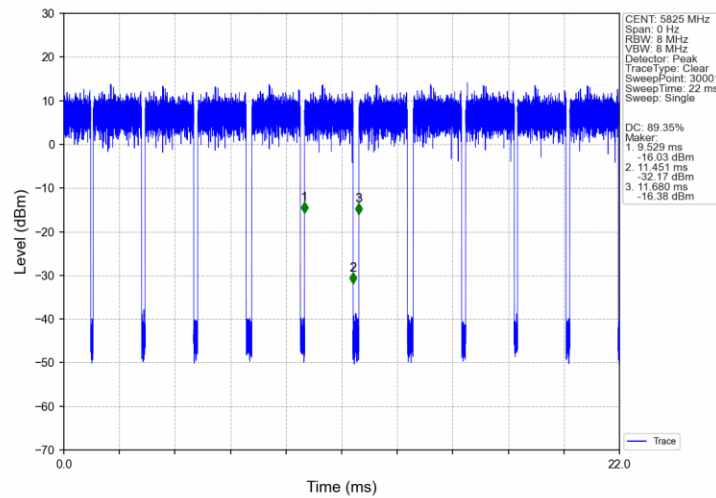
802.11n(HT20)_LCH_5745MHz_Ant1_NTNV



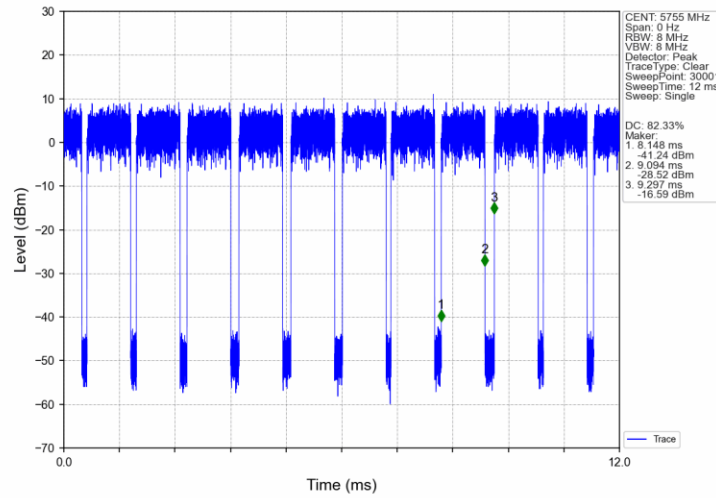
802.11n(HT20)_MCH_5785MHz_Ant1_NTNV



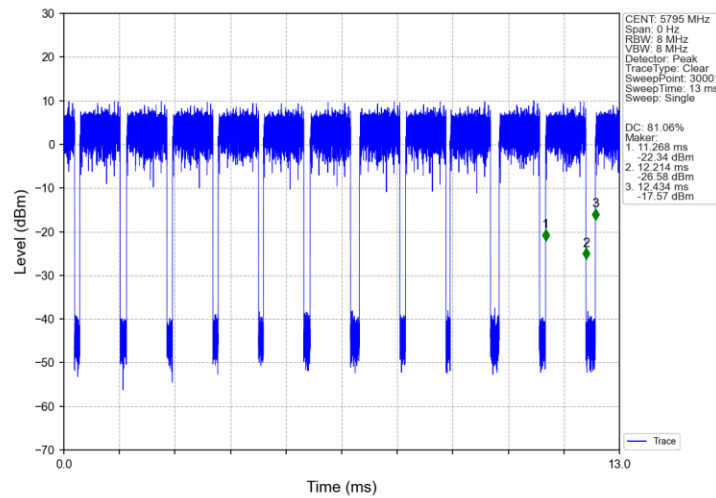
802.11n(HT20)_HCH_5825MHz_Ant1_NTNV



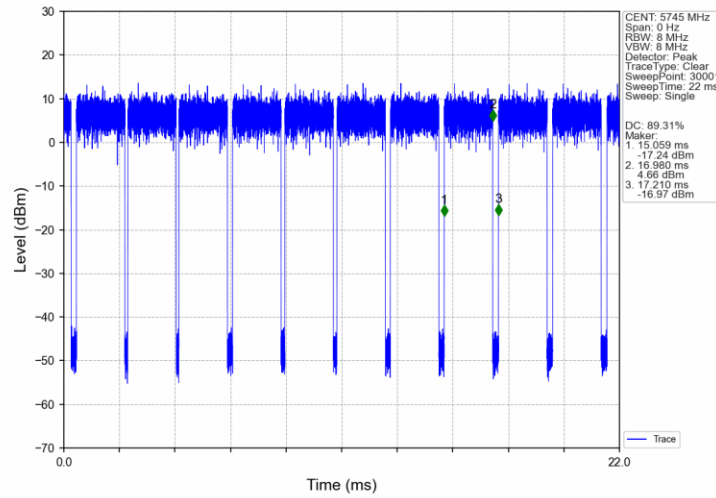
802.11n(HT40)_LCH_5755MHz_Ant1_NTNV



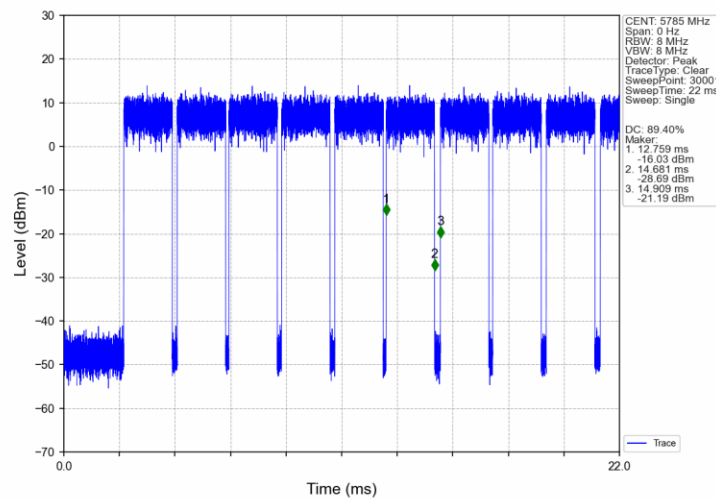
802.11n(HT40)_HCH_5795MHz_Ant1_NTNV



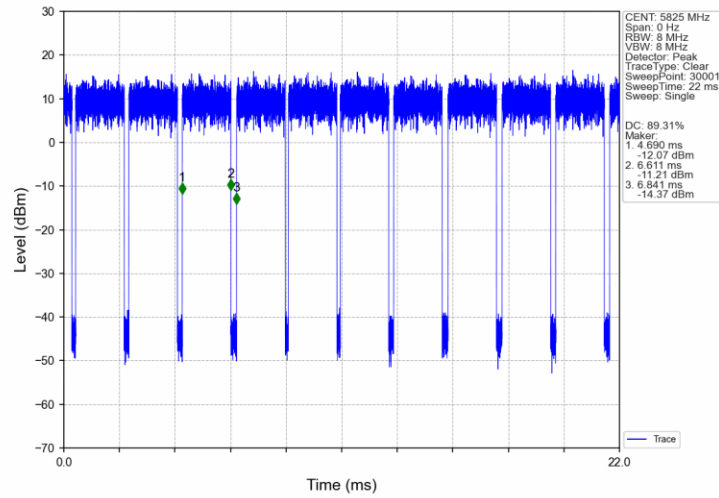
802.11ac(VHT20)_LCH_5745MHz_Ant1_NTNV



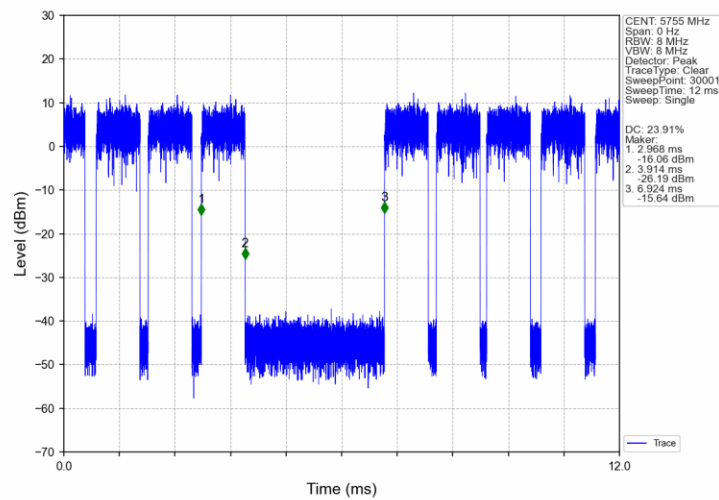
802.11ac(VHT20)_MCH_5785MHz_Ant1_NTNV



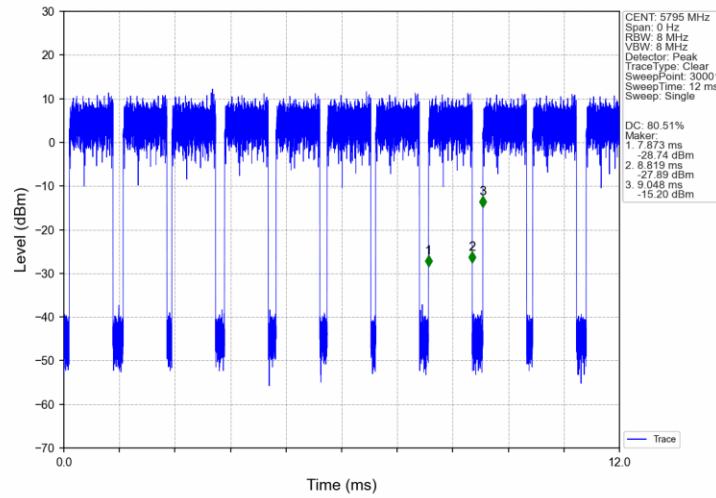
802.11ac(VHT20)_HCH_5825MHz_Ant1_NTNV



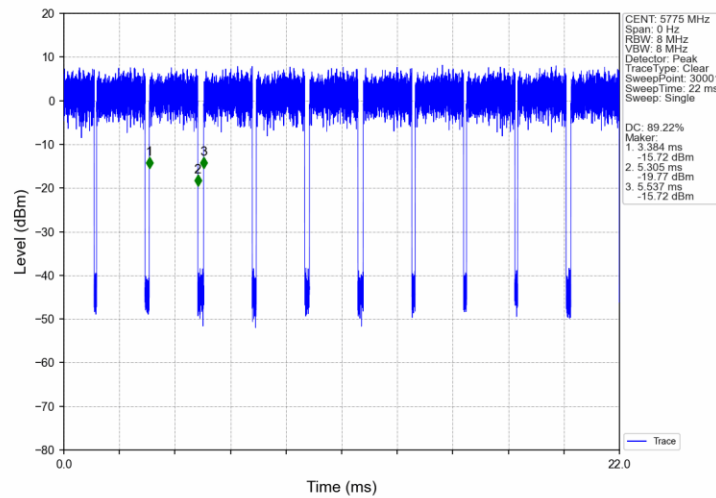
802.11ac(VHT40)_LCH_5755MHz_Ant1_NTNV



802.11ac(VHT40)_HCH_5795MHz_Ant1_NTNV

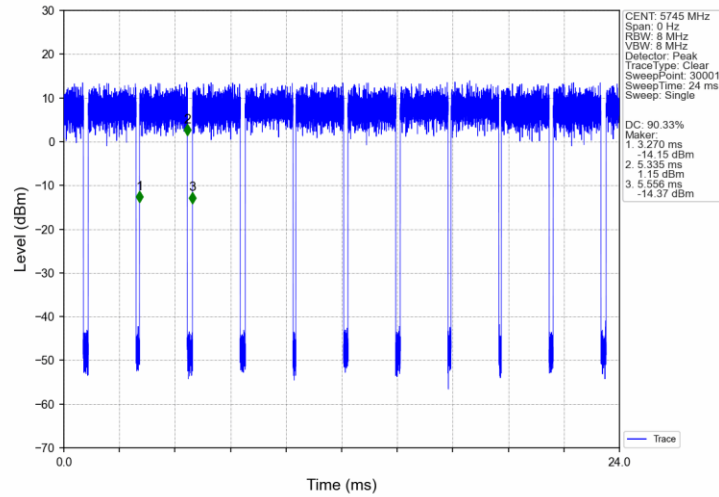


802.11ac(VHT80)_MCH_5775MHz_Ant1_NTNV

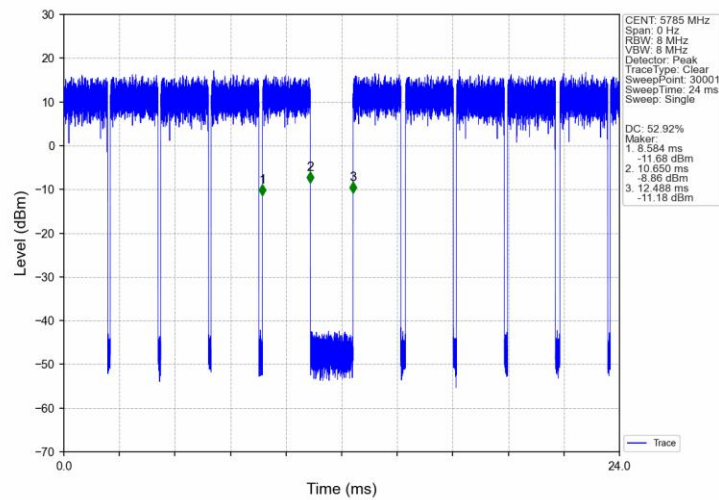


1.2.2 Ant2

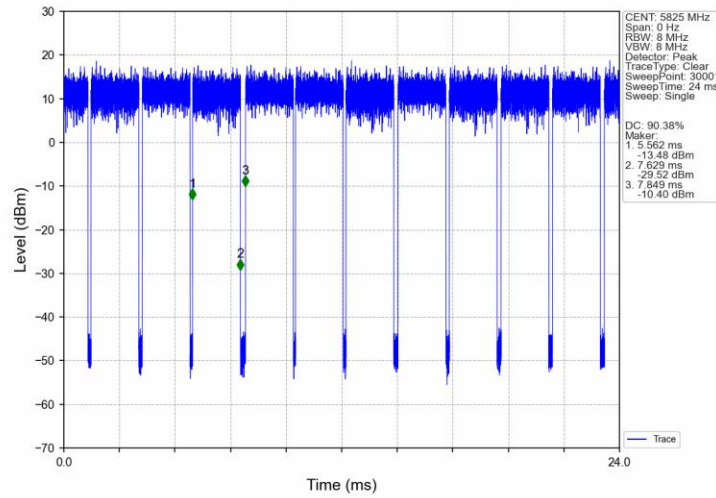
802.11a_LCH_5745MHz_Ant2_NTNV



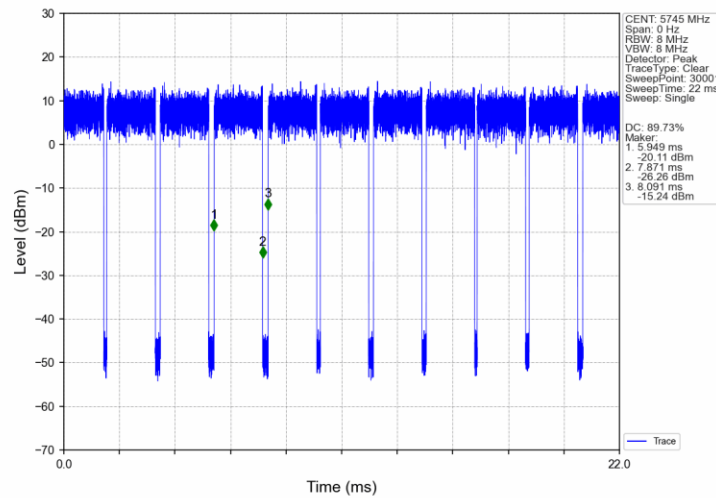
802.11a_MCH_5785MHz_Ant2_NTNV



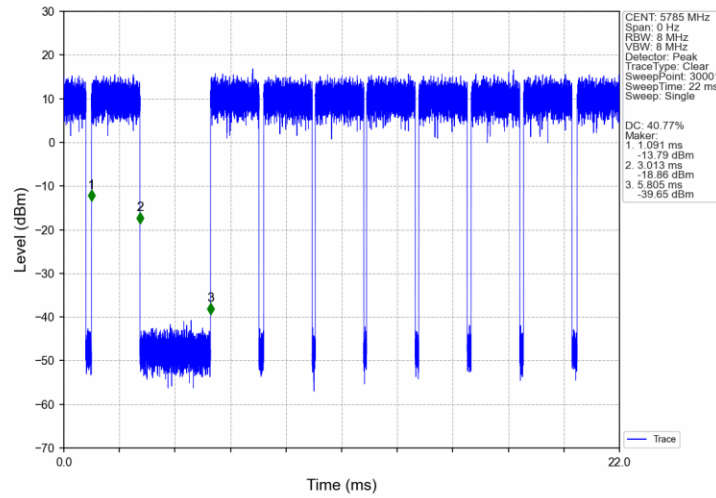
802.11a_HCH_5825MHz_Ant2_NTNV



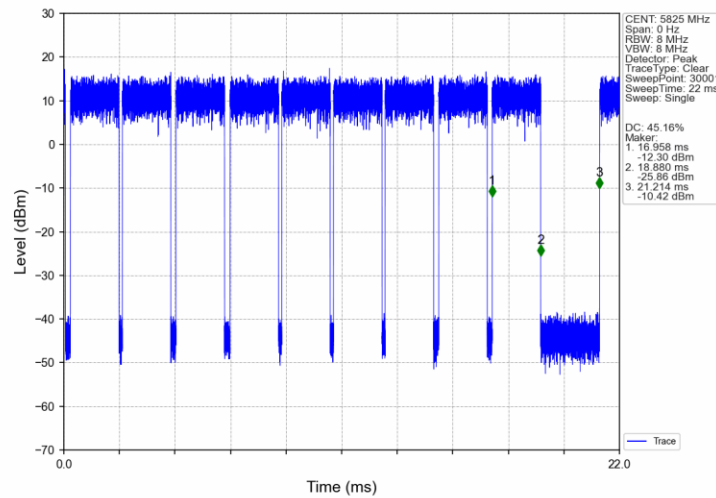
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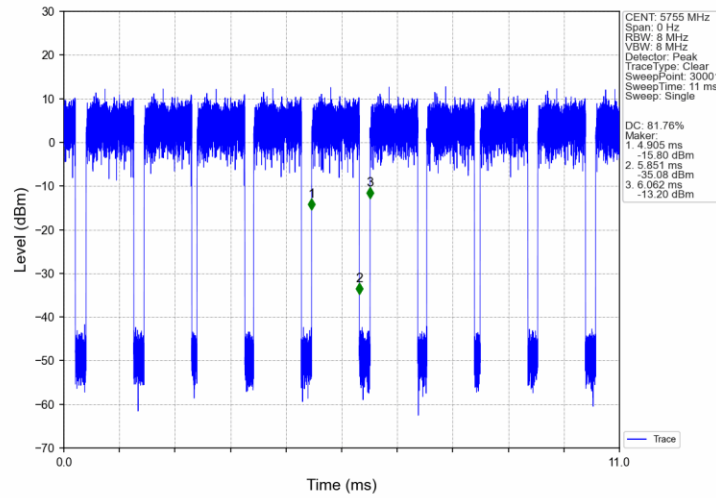
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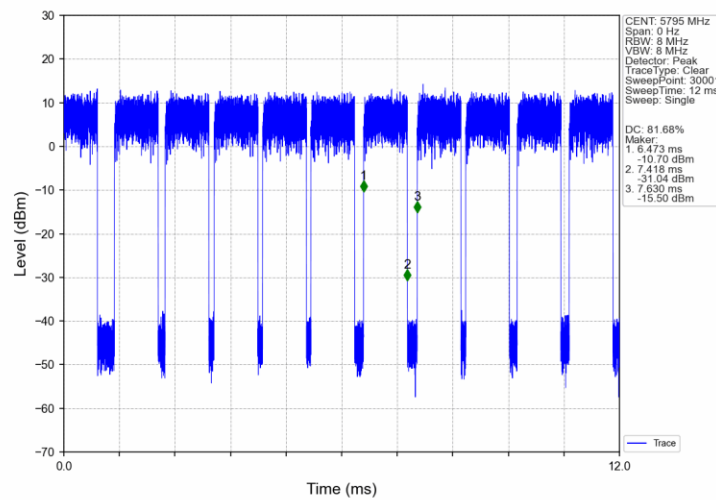
802.11n(HT20)_HCH_5825MHz_Ant2_NTNV



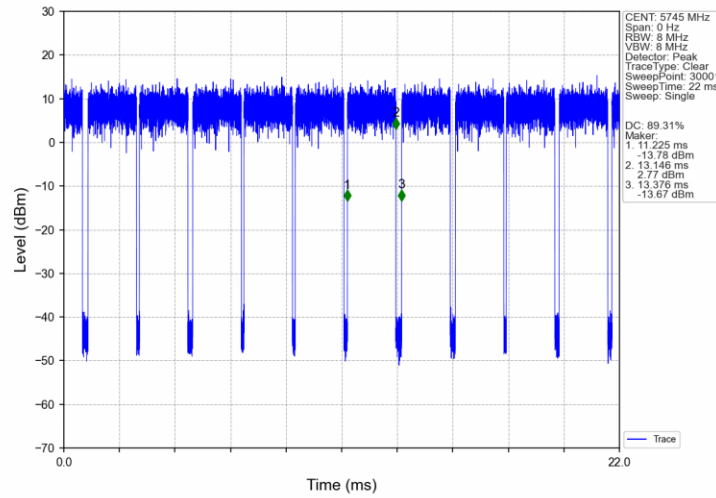
802.11n(HT40)_LCH_5755MHz_Ant2_NTNV



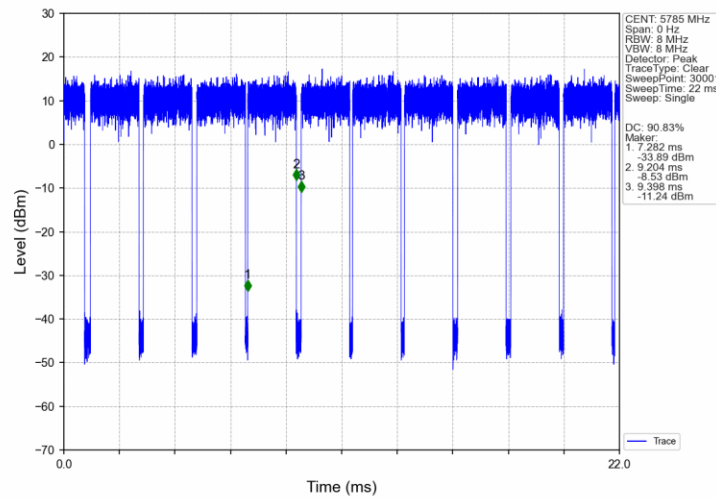
802.11n(HT40)_HCH_5795MHz_Ant2_NTNV



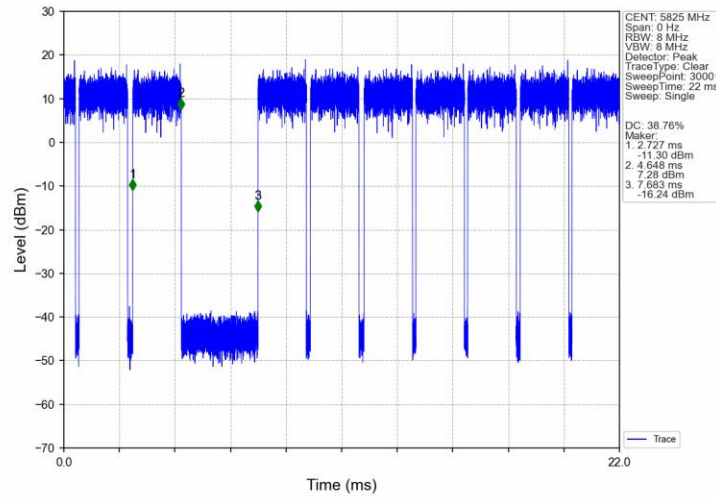
802.11ac(VHT20)_LCH_5745MHz_Ant2_NTNV



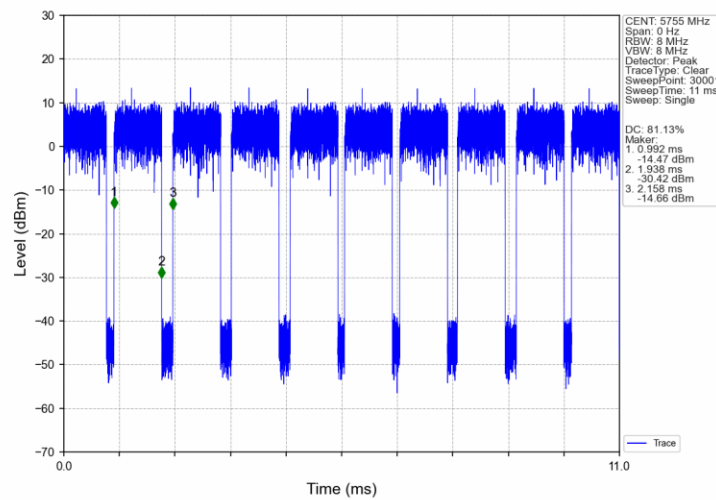
802.11ac(VHT20)_MCH_5785MHz_Ant2_NTNV



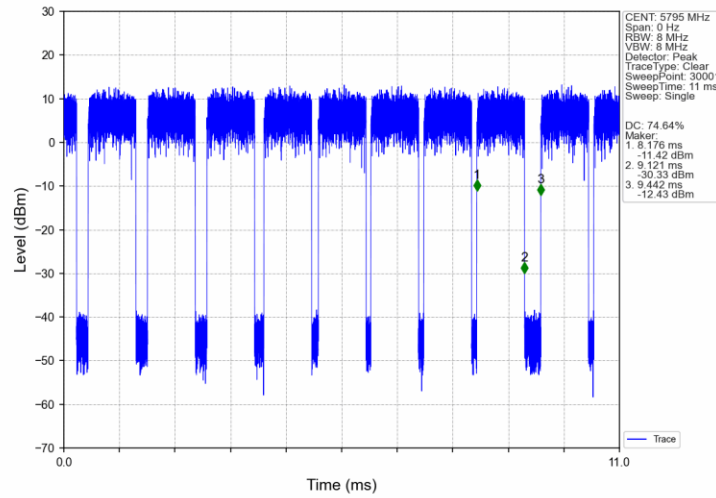
802.11ac(VHT20)_HCH_5825MHz_Ant2_NTNV



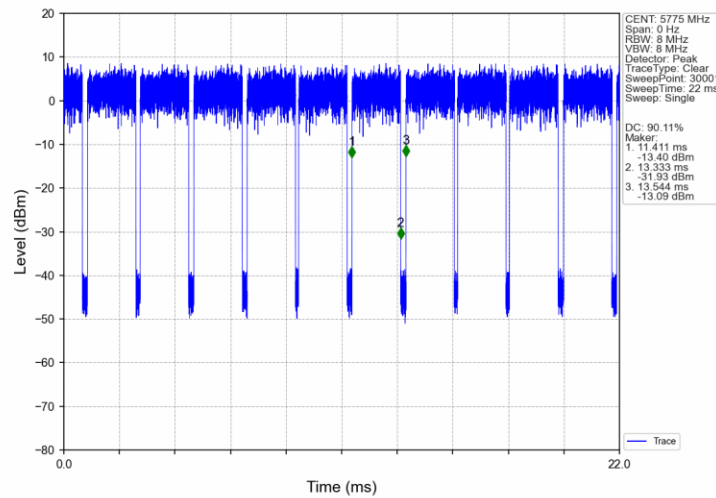
802.11ac(VHT40)_LCH_5755MHz_Ant2_NTNV



802.11ac(VHT40)_HCH_5795MHz_Ant2_NTNV



802.11ac(VHT80)_MCH_5775MHz_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	5745	1	16.608	/	Pass
		5785	1	16.614	/	Pass
		5825	1	16.622	/	Pass
802.11n (HT20)	MIMO	5745	1	17.725	/	Pass
		5785	1	17.730	/	Pass
		5825	1	17.731	/	Pass
802.11n (HT40)	MIMO	5755	1	36.398	/	Pass
		5795	1	36.323	/	Pass
802.11ac (VHT20)	MIMO	5745	1	17.785	/	Pass
		5785	1	17.709	/	Pass
		5825	1	17.756	/	Pass
802.11ac (VHT40)	MIMO	5755	1	36.352	/	Pass
		5795	1	36.486	/	Pass
802.11ac (VHT80)	MIMO	5775	1	75.101	/	Pass

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

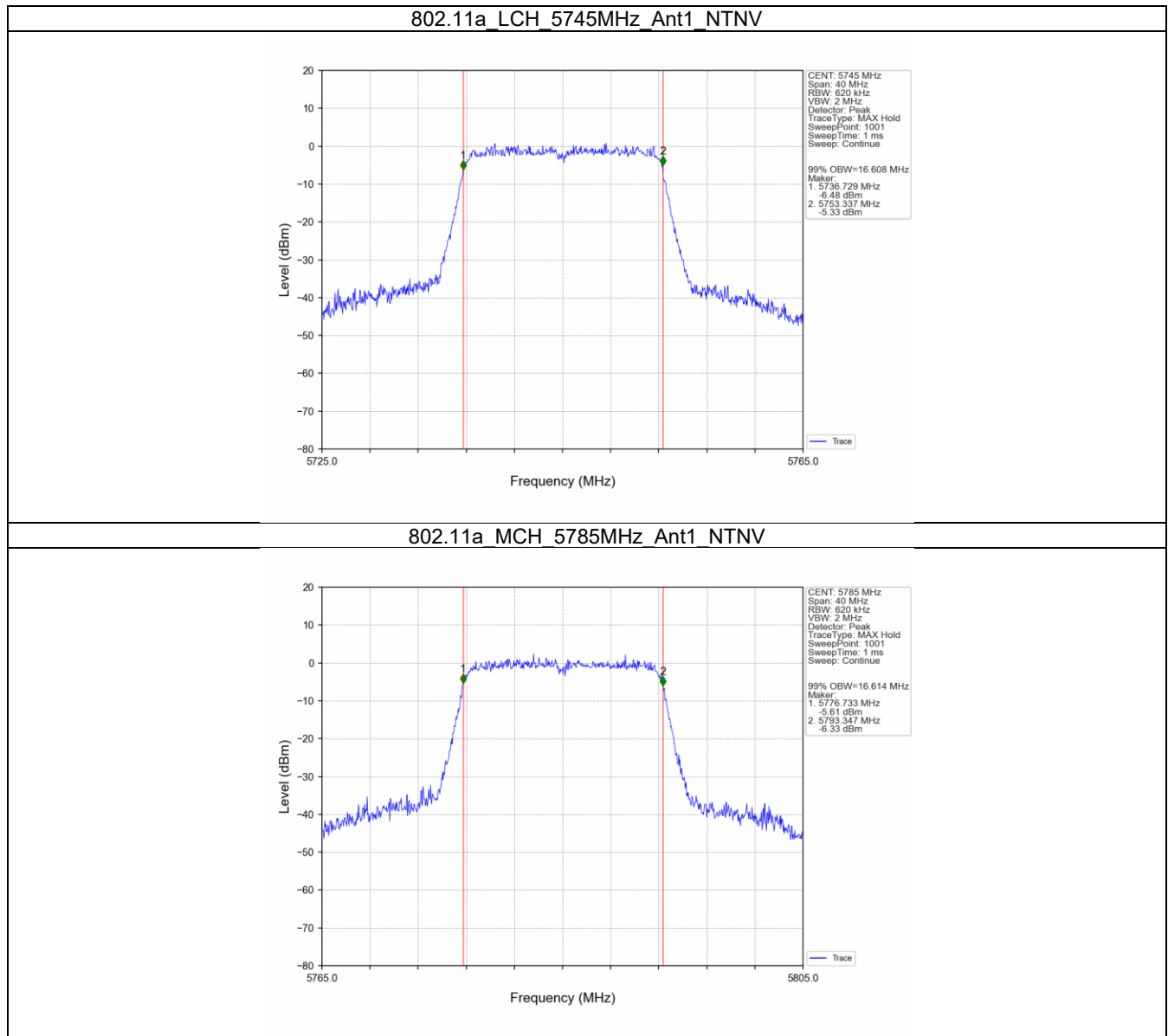
2.1.2 6dB BW

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11a	SISO	5745	1	16.363	≥ 0.5	Pass
		5785	1	16.380	≥ 0.5	Pass
		5825	1	16.316	≥ 0.5	Pass
802.11n (HT20)	MIMO	5745	1	17.549	≥ 0.5	Pass
		5785	1	17.580	≥ 0.5	Pass
		5825	1	17.576	≥ 0.5	Pass
802.11n (HT40)	MIMO	5755	1	35.139	≥ 0.5	Pass
		5795	1	35.156	≥ 0.5	Pass
802.11ac (VHT20)	MIMO	5745	1	17.610	≥ 0.5	Pass
		5785	1	17.583	≥ 0.5	Pass
		5825	1	17.598	≥ 0.5	Pass
802.11ac (VHT40)	MIMO	5755	1	35.179	≥ 0.5	Pass
		5795	1	33.851	≥ 0.5	Pass
802.11ac (VHT80)	MIMO	5775	1	67.603	≥ 0.5	Pass

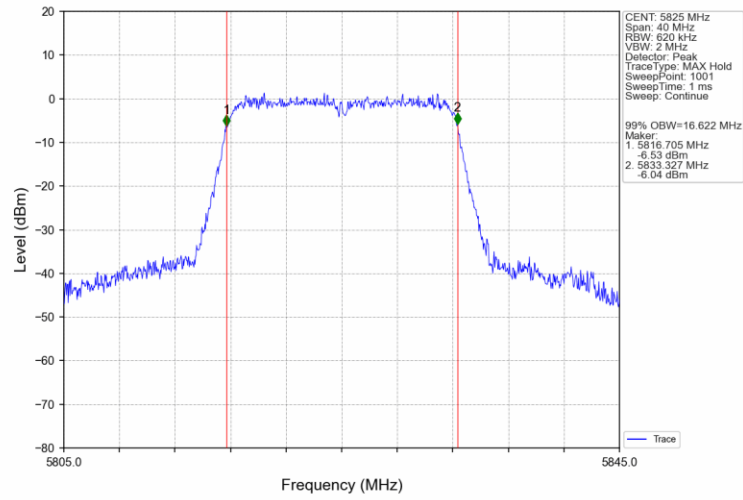
Remark: All modes have been tested, and only the worst data is displayed

2.2 Test Graph

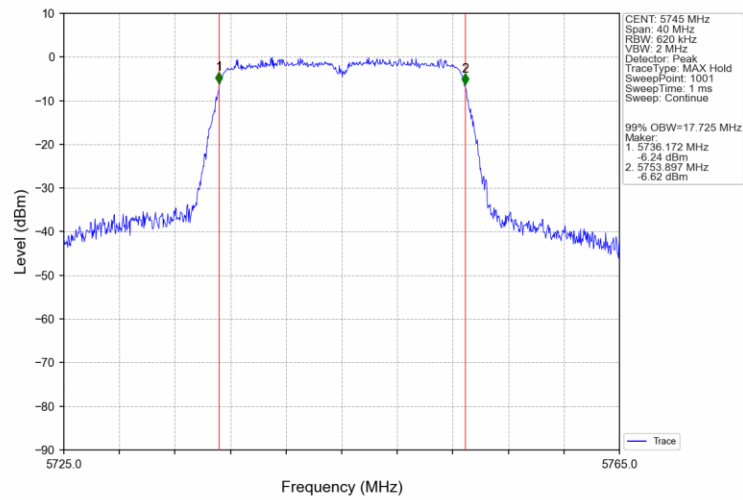
2.2.1 OBW



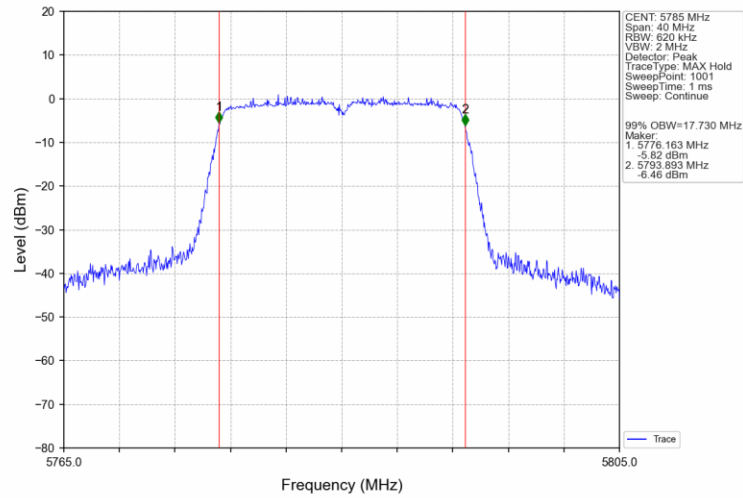
802.11a_HCH_5825MHz_Ant1_NTNV



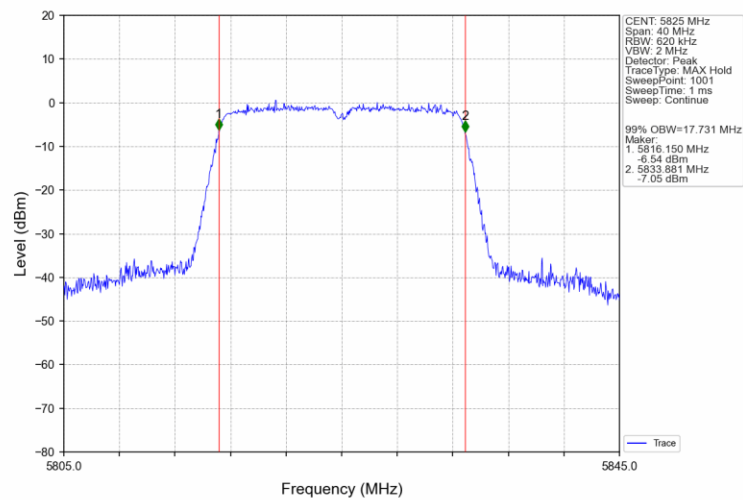
802.11n(HT20)_LCH_5745MHz_Ant1_NTNV



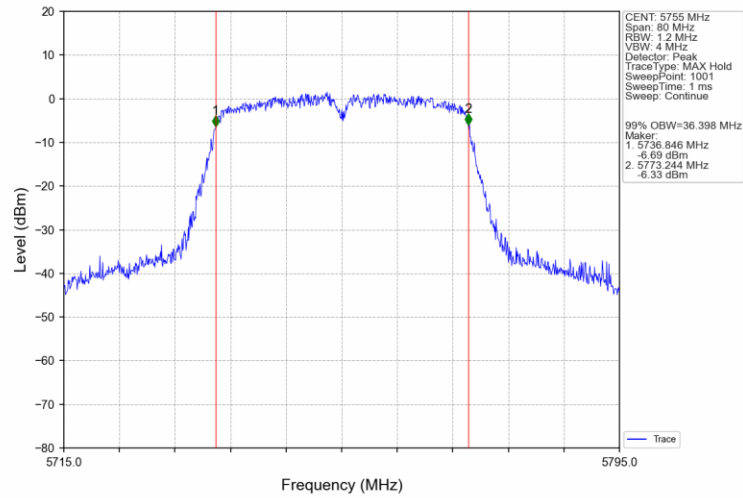
802.11n(HT20)_MCH_5785MHz_Ant1_NTNV



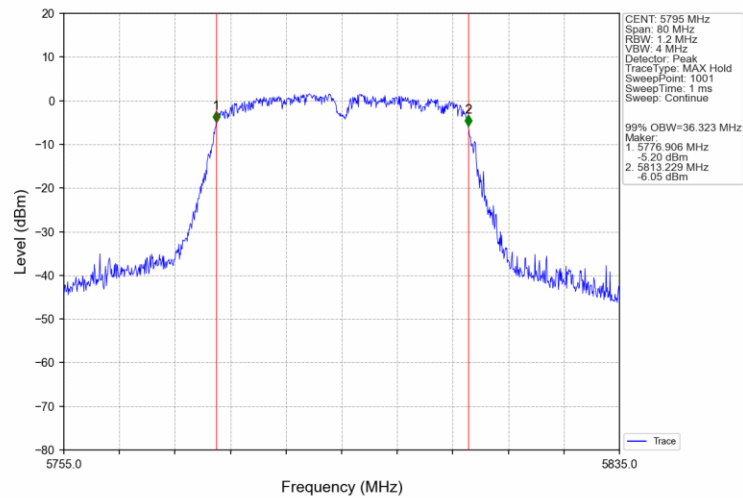
802.11n(HT20)_HCH_5825MHz_Ant1_NTNV



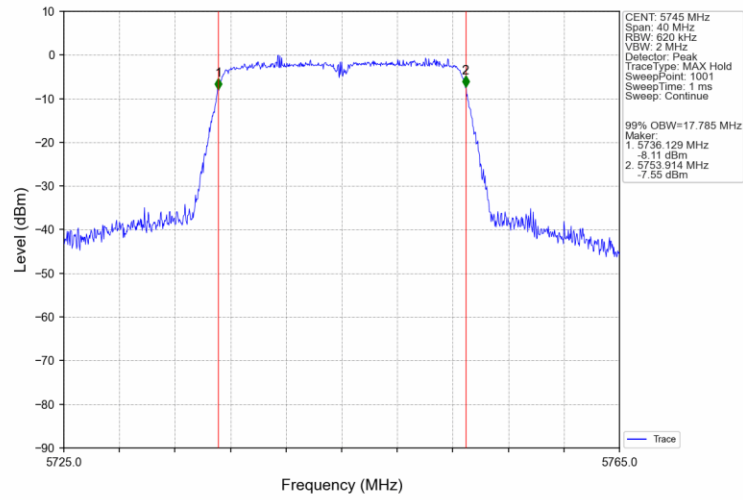
802.11n(HT40)_LCH_5755MHz_Ant1_NTNV



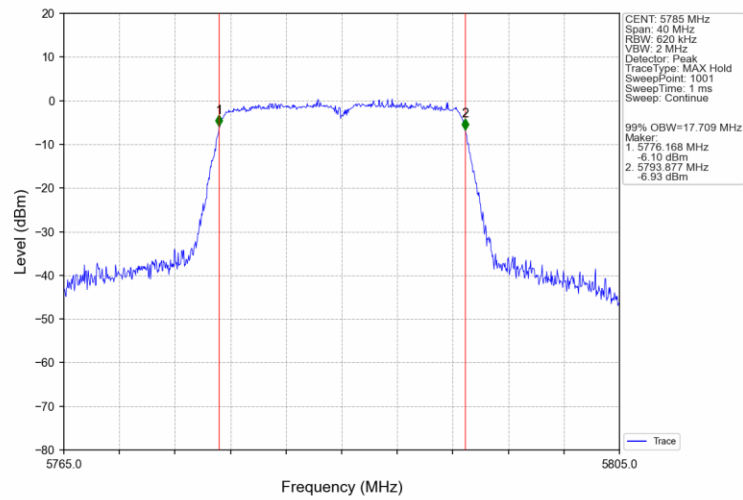
802.11n(HT40)_HCH_5795MHz_Ant1_NTNV



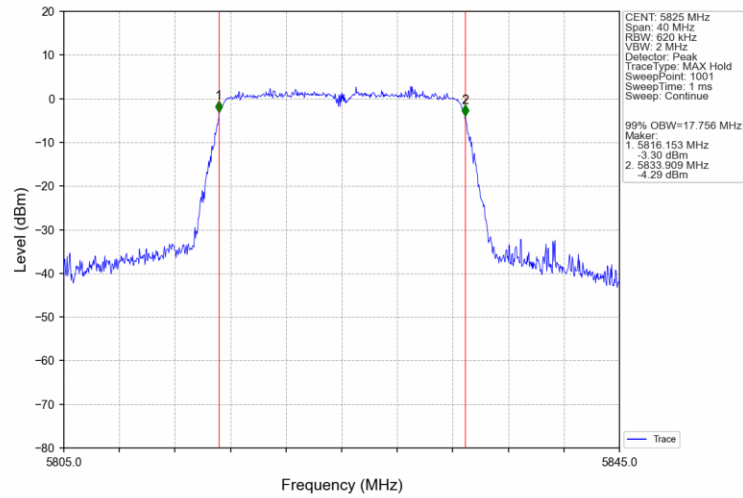
802.11ac(VHT20)_LCH_5745MHz_Ant1_NTNV



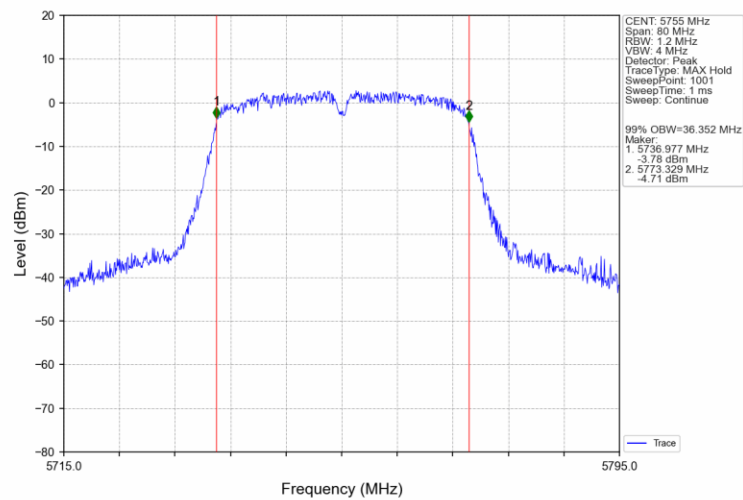
802.11ac(VHT20)_MCH_5785MHz_Ant1_NTNV



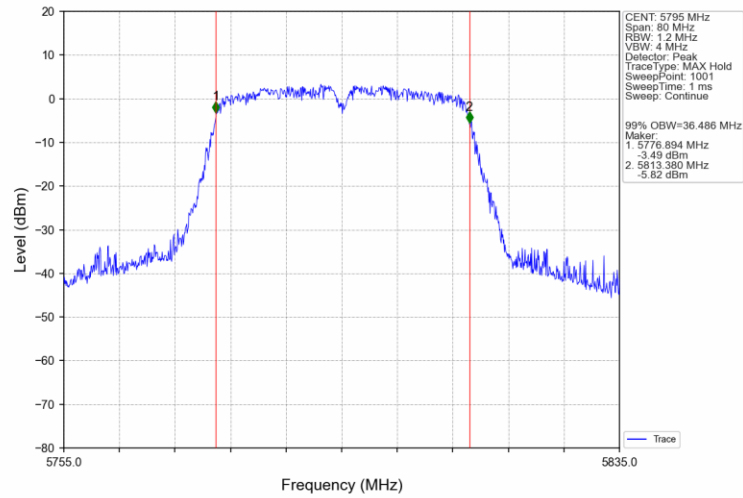
802.11ac(VHT20)_HCH_5825MHz_Ant1_NTNV



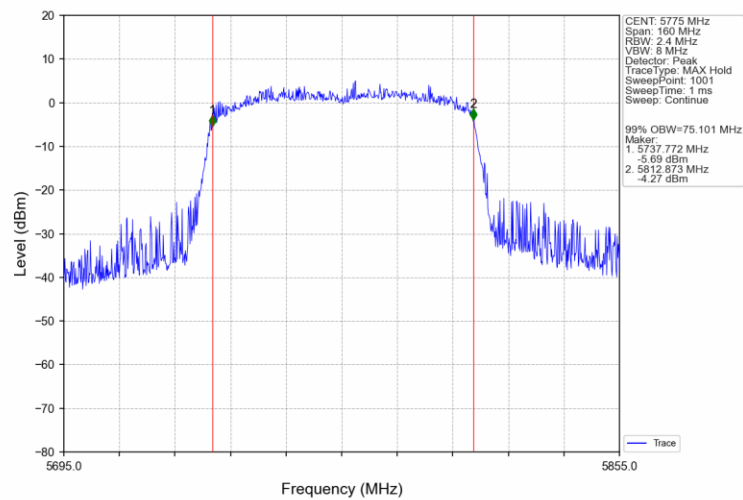
802.11ac(VHT40)_LCH_5755MHz_Ant1_NTNV



802.11ac(VHT40)_HCH_5795MHz_Ant1_NTNV

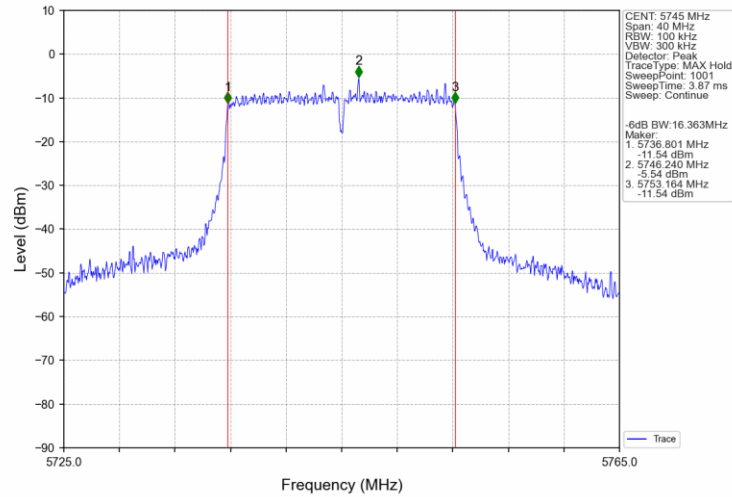


802.11ac(VHT80)_MCH_5775MHz_Ant1_NTNV

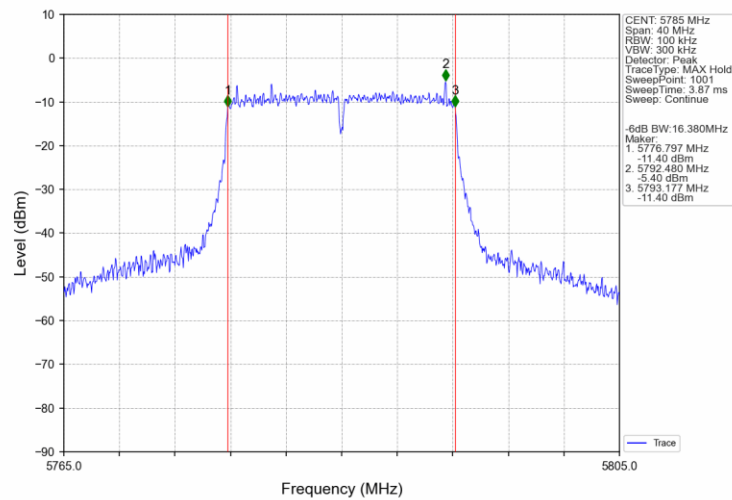


2.2.2 6dB BW

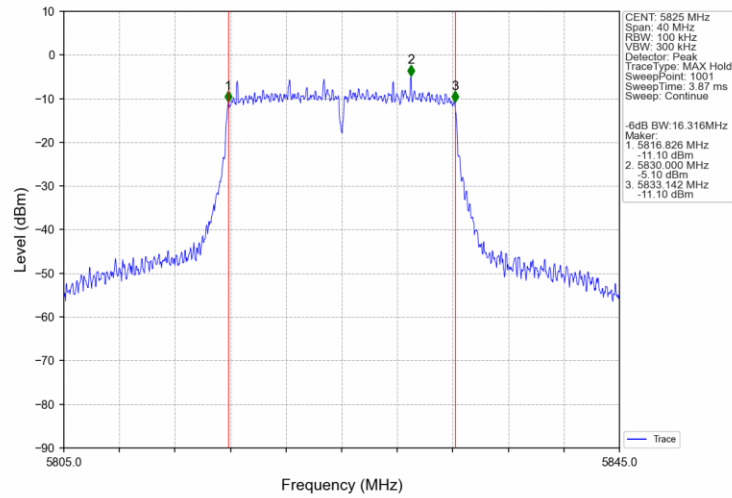
802.11a_LCH_5745MHz_Ant1_NTNV



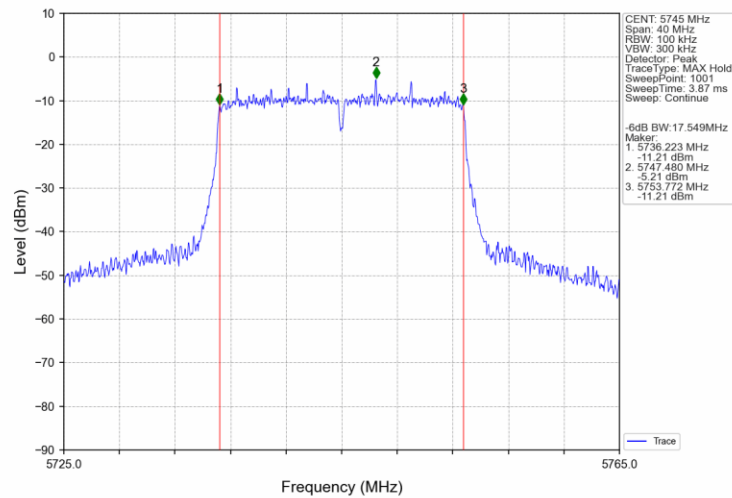
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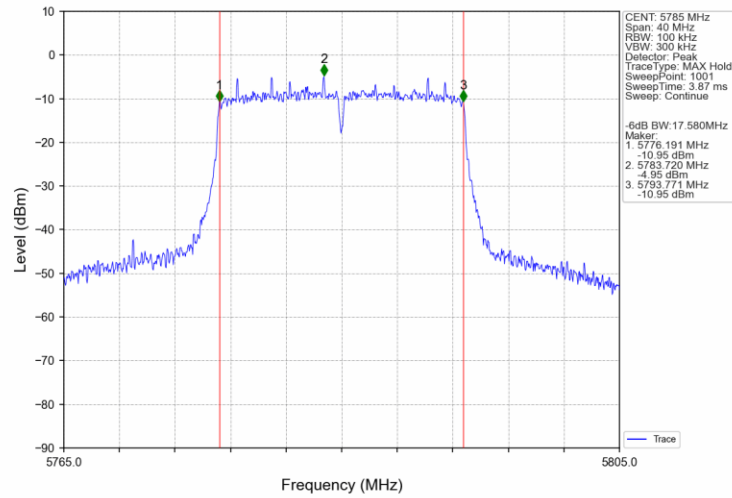
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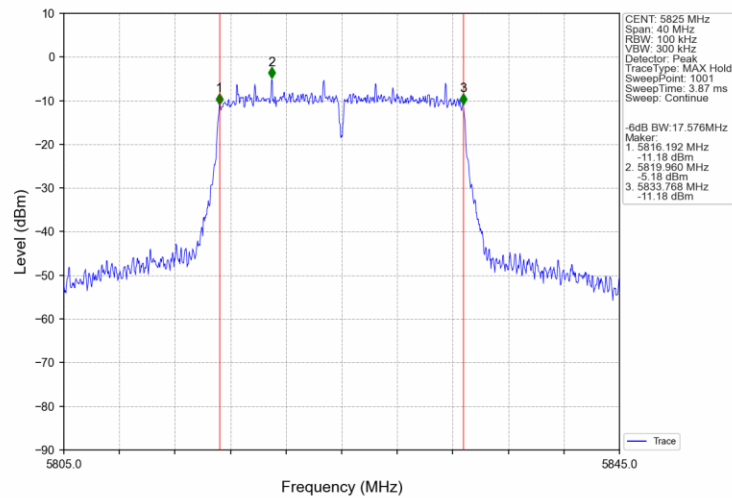
802.11n(HT20)_LCH_5745MHz_Ant1_NTNV



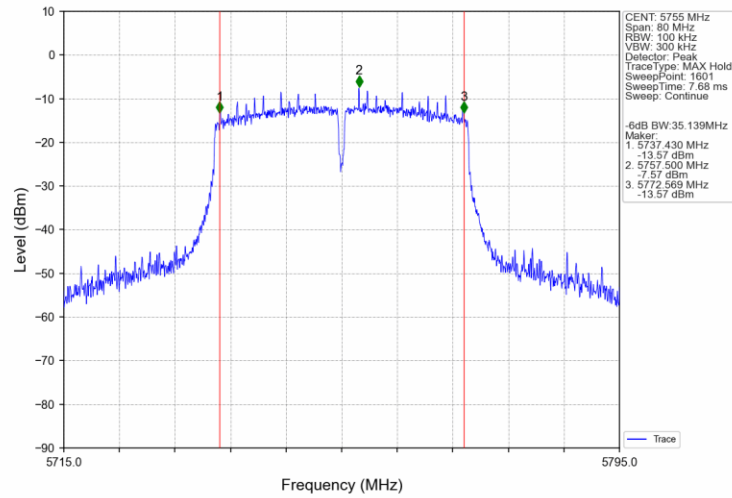
802.11n(HT20)_MCH_5785MHz_Ant1_NTNV



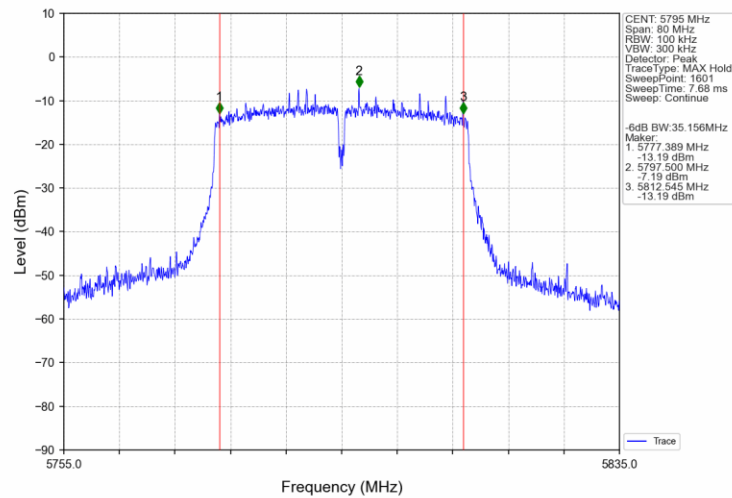
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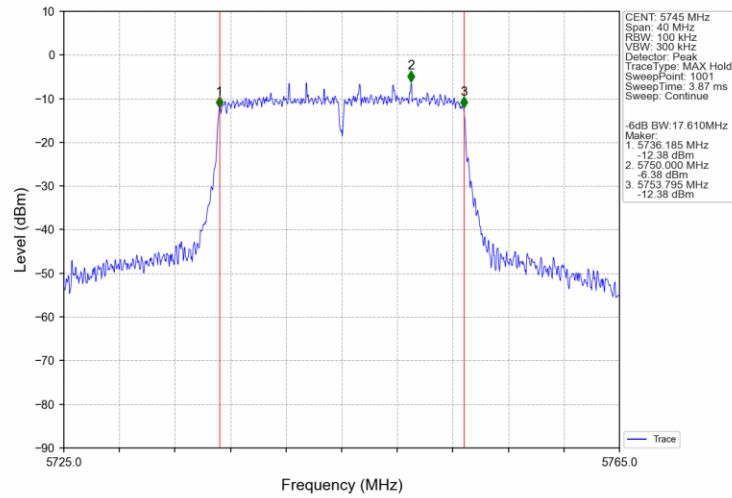
802.11n(HT40)_LCH_5755MHz_Ant1_NTNV



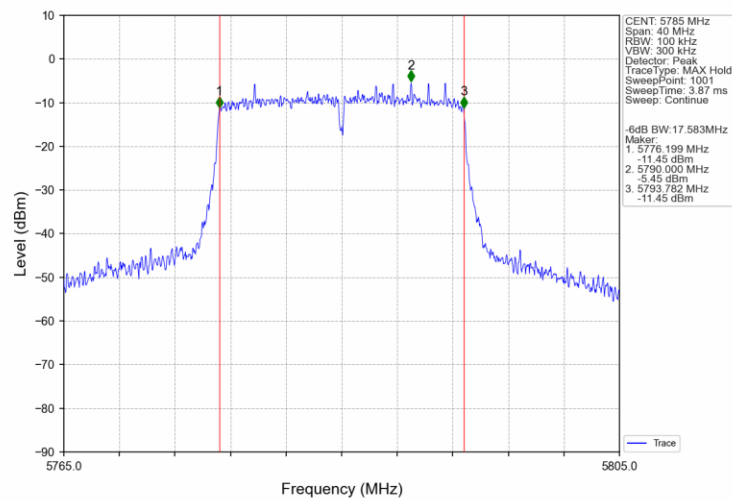
802.11n(HT40)_HCH_5795MHz_Ant1_NTNV



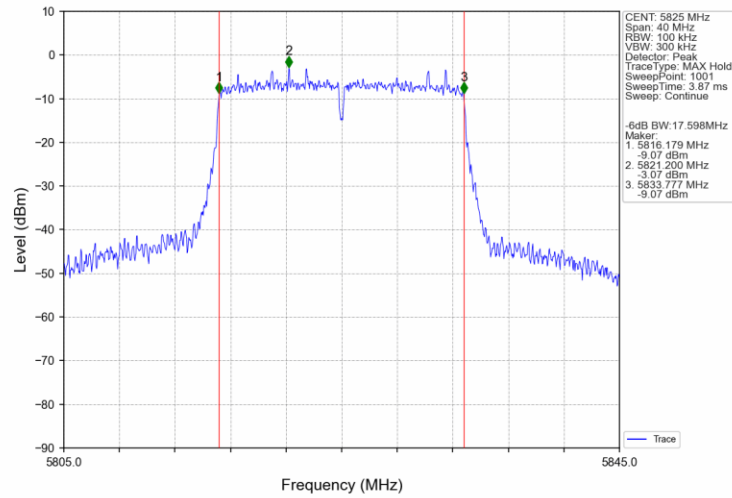
802.11ac(VHT20)_LCH_5745MHz_Ant1_NTNV



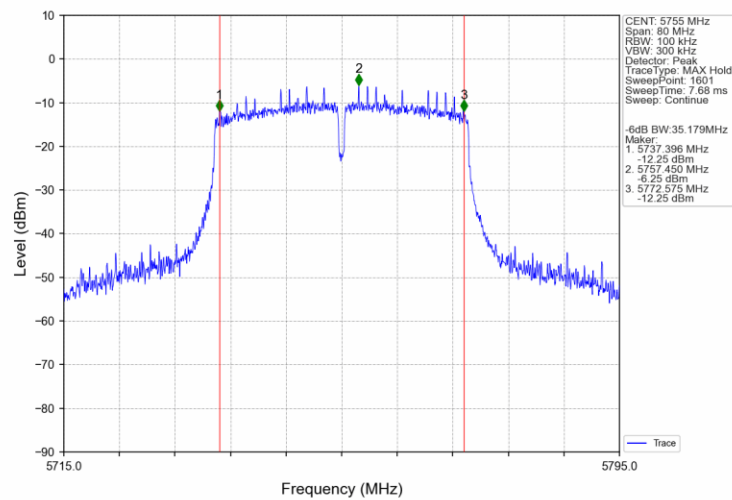
802.11ac(VHT20)_MCH_5785MHz_Ant1_NTNV



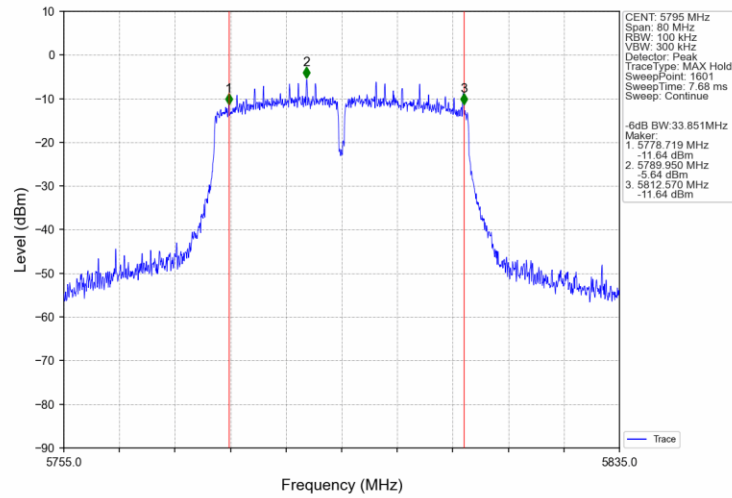
802.11ac(VHT20)_HCH_5825MHz_Ant1_NTNV



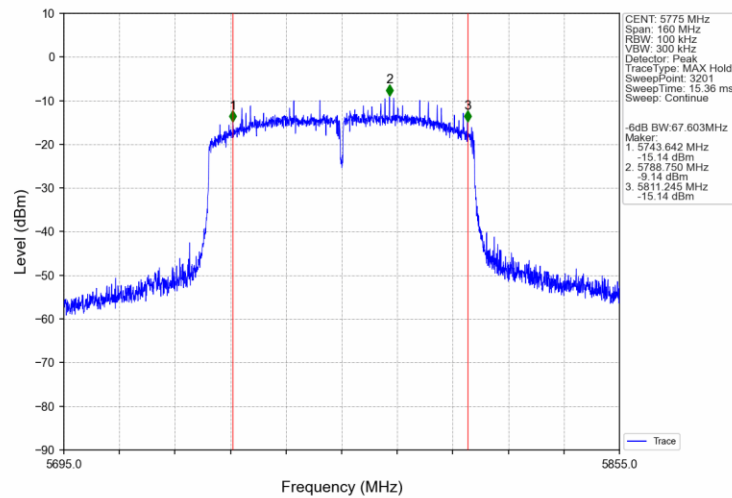
802.11ac(VHT40)_LCH_5755MHz_Ant1_NTNV



802.11ac(VHT40)_HCH_5795MHz_Ant1_NTNV



802.11ac(VHT80)_MCH_5775MHz_Ant1_NTNV



3. Maximum Conducted Output Power

3.1 Test Result

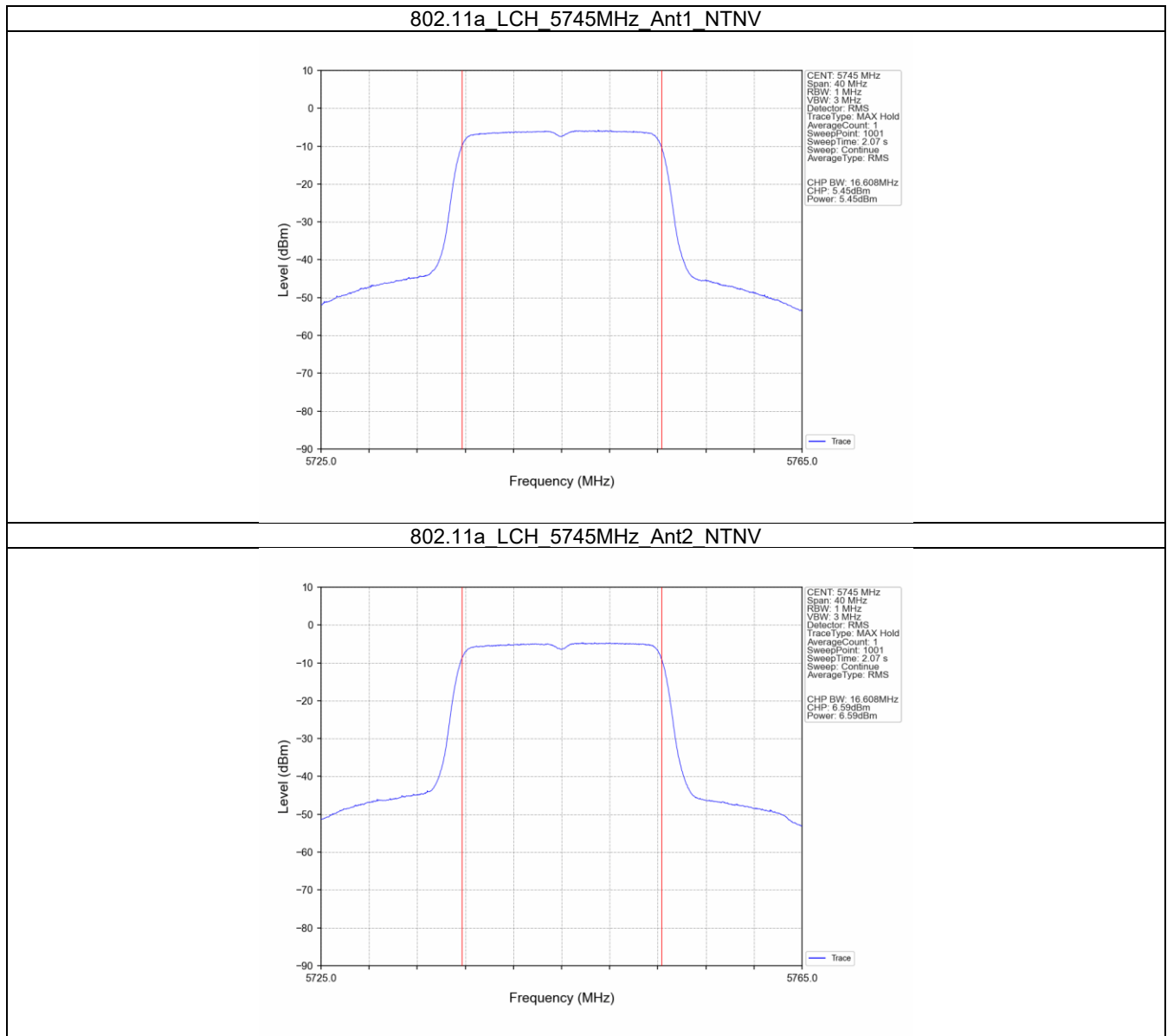
3.1.1 Power

Mode	TX Type	Frequency (MHz)	Maximum Average Conducted Output Power (dBm)				Verdict
			ANT1	ANT2	MIMO	Limit	
802.11a	SISO	5745	5.45	6.59	/	<=30	Pass
		5785	6.31	9.44	/	<=30	Pass
		5825	5.97	10.28	/	<=30	Pass
802.11n (HT20)	MIMO	5745	5.90	6.69	9.32	<=29.11	Pass
		5785	6.56	9.31	11.16	<=29.11	Pass
		5825	6.20	10.27	11.71	<=29.11	Pass
802.11n (HT40)	MIMO	5755	5.81	7.42	9.70	<=29.11	Pass
		5795	6.42	9.86	11.48	<=29.11	Pass
802.11ac (VHT20)	MIMO	5745	5.49	7.29	9.49	<=29.11	Pass
		5785	6.34	9.57	11.26	<=29.11	Pass
		5825	8.62	10.43	12.63	<=29.11	Pass
802.11ac (VHT40)	MIMO	5755	7.34	7.60	10.48	<=29.11	Pass
		5795	7.90	9.91	12.03	<=29.11	Pass
802.11ac (VHT80)	MIMO	5775	7.20	8.46	10.89	<=29.11	Pass

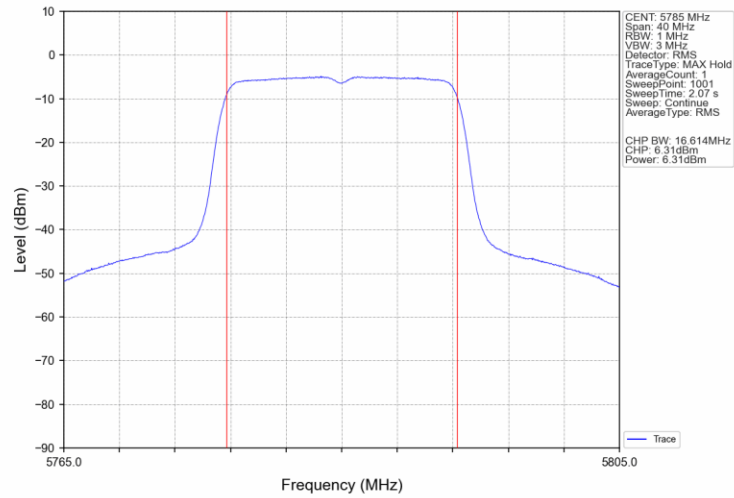
Note1: Antenna Gain: Ant1: 3.88dBi; Ant2: 3.88dBi; Directional gain : 6.89dBi
Note2: Directional Gain: $Directional\ gain = G_{ANT} + 10 \log(N_{ANT}/N_{SS})\ dBi$, where N_{SS} = the number of independent spatial streams of data and G_{ANT} is the antenna gain in dBi. For this devices $N_{SS} = 1$.
Note3: Average Power Limit (dBm) = 30 dBm - (6.89 dBi - 6 dBi) = 29.11dBm.

3.2 Test Graph

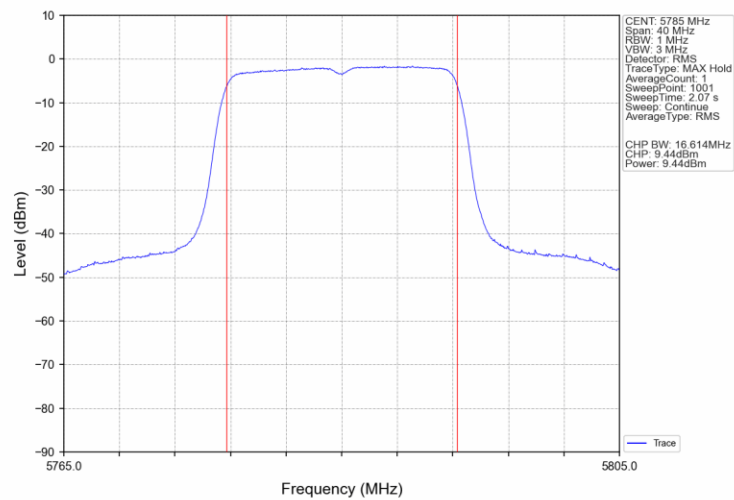
3.2.1 Power



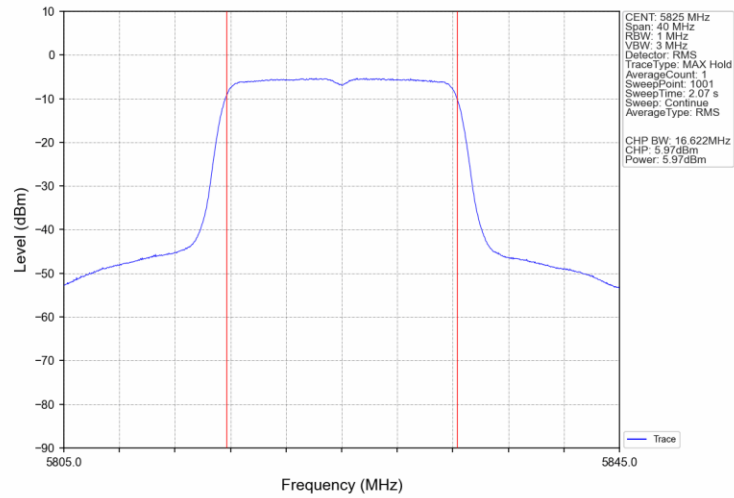
802.11a_MCH_5785MHz_Ant1_NTNV



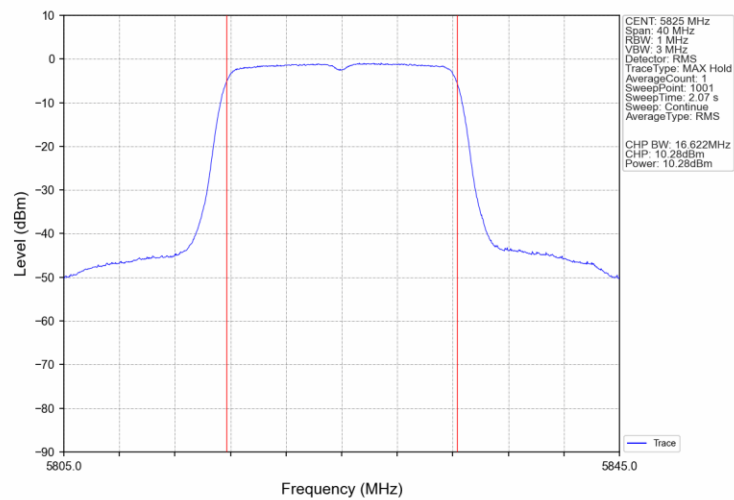
802.11a MCH 5785MHz Ant2 NTN



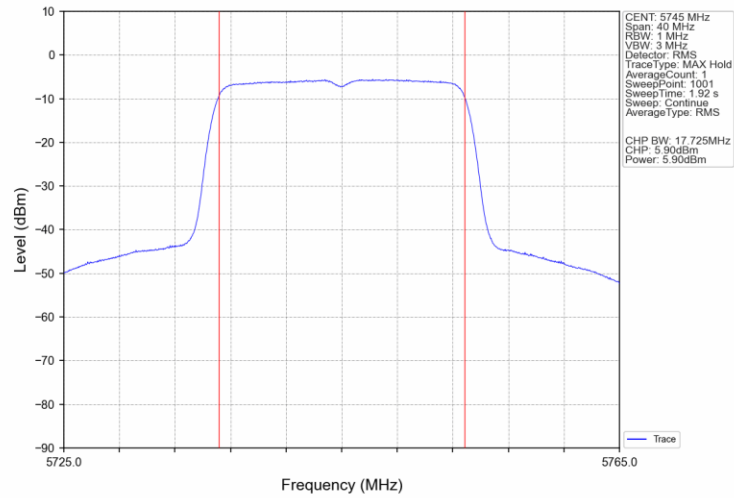
802.11a_HCH_5825MHz_Ant1_NTNV



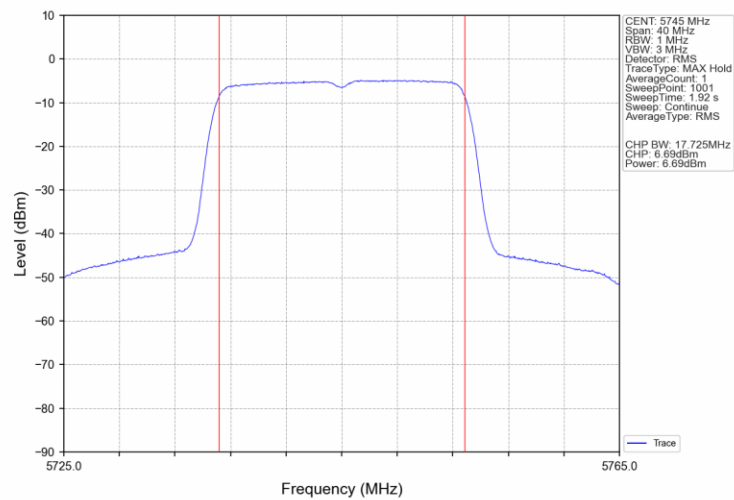
802.11a_HCH_5825MHz_Ant2_NTNV



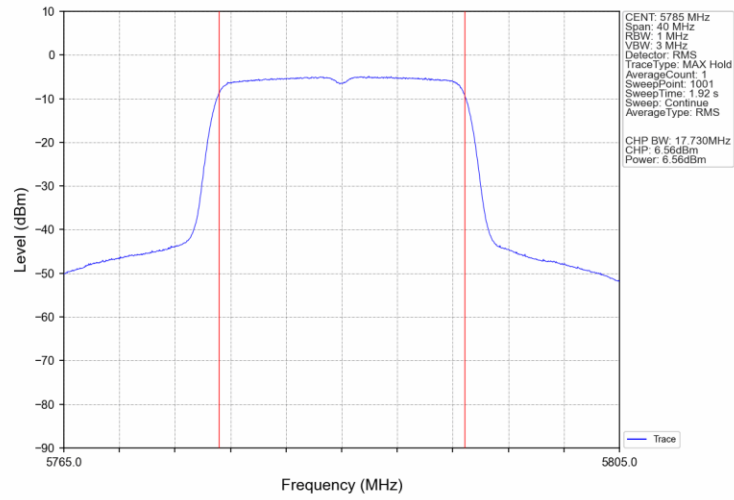
802.11n(HT20)_LCH_5745MHz_Ant1_NTNV



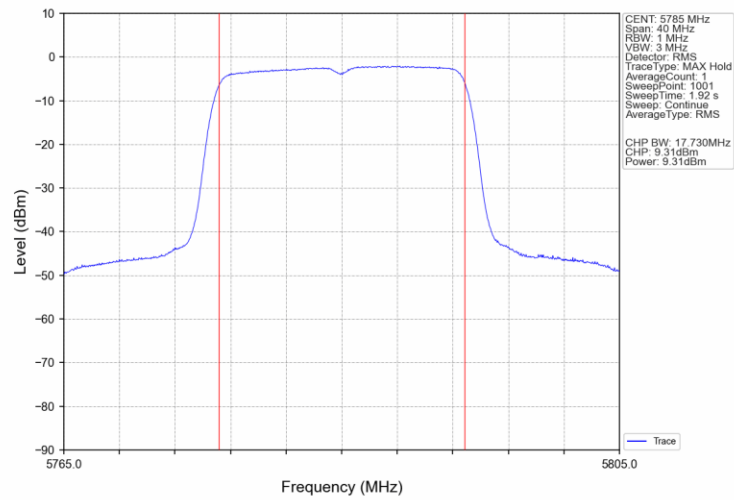
802.11n(HT20)_LCH_5745MHz_Ant2_NTNV



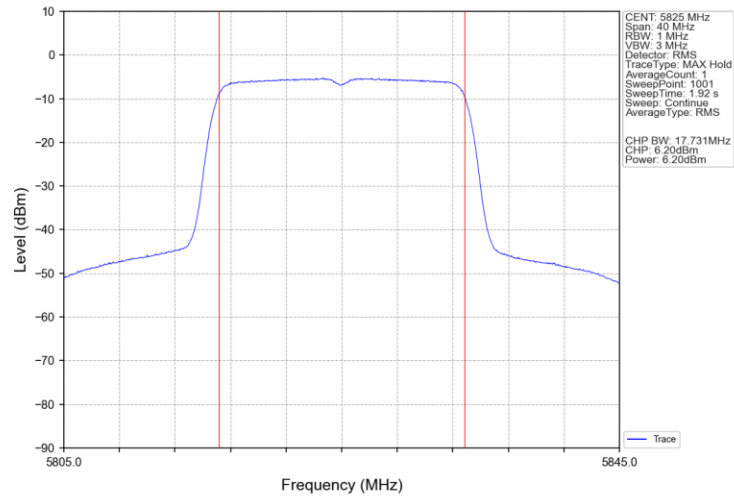
802.11n(HT20)_MCH_5785MHz_Ant1_NTNV



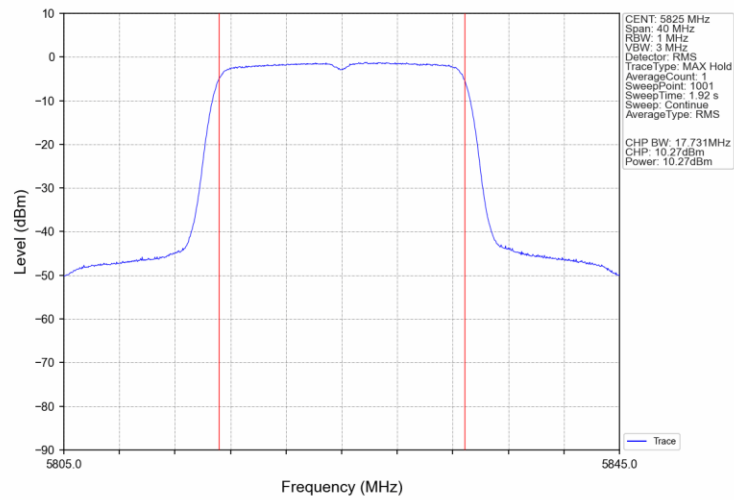
802.11n(HT20)_MCH_5785MHz_Ant2_NTNV



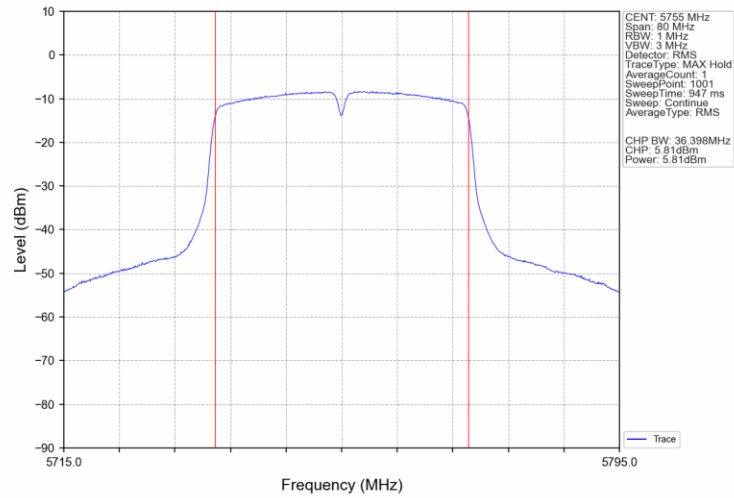
802.11n(HT20)_HCH_5825MHz_Ant1_NTNV



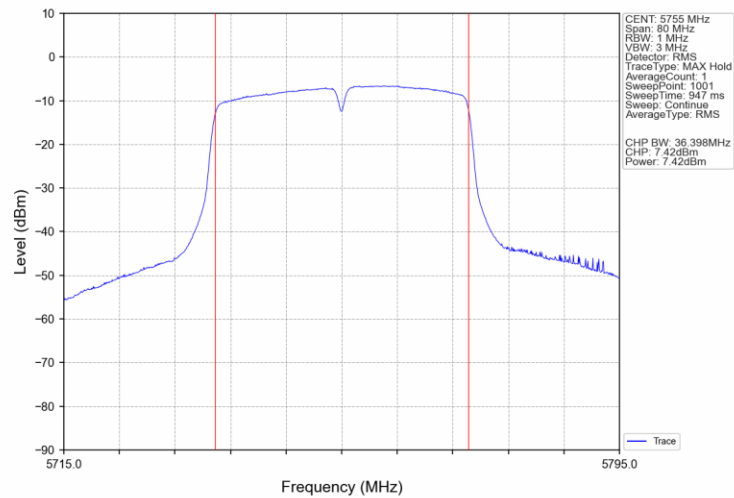
802.11n(HT20)_HCH_5825MHz_Ant2_NTNV



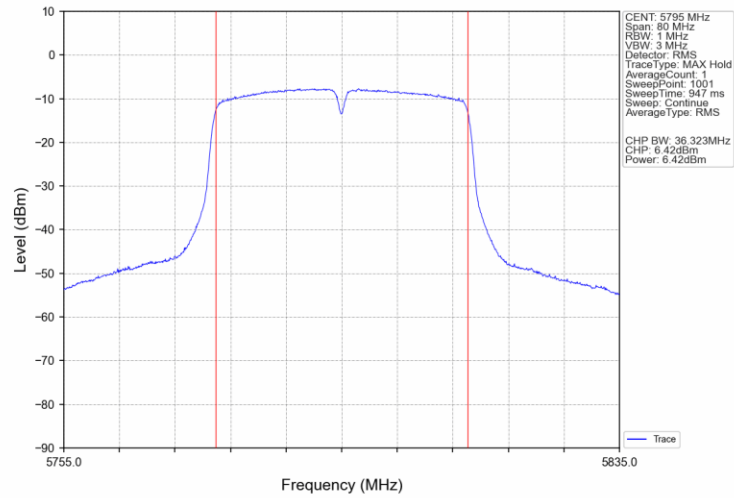
802.11n(HT40)_LCH_5755MHz_Ant1_NTNV



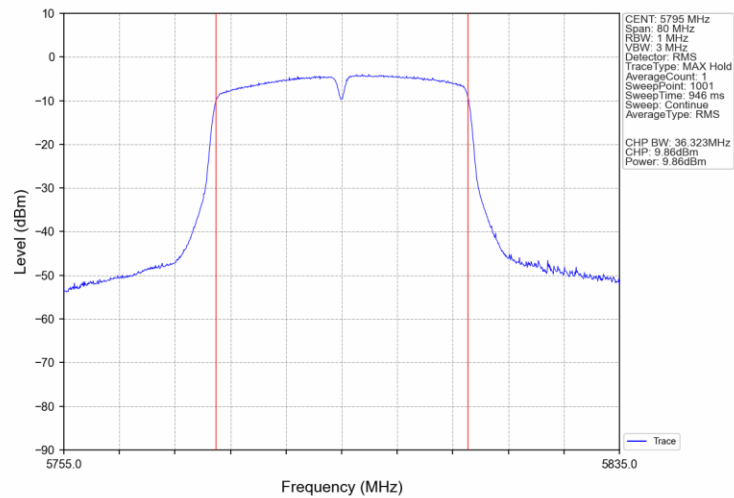
802.11n(HT40)_LCH_5755MHz_Ant2_NTNV



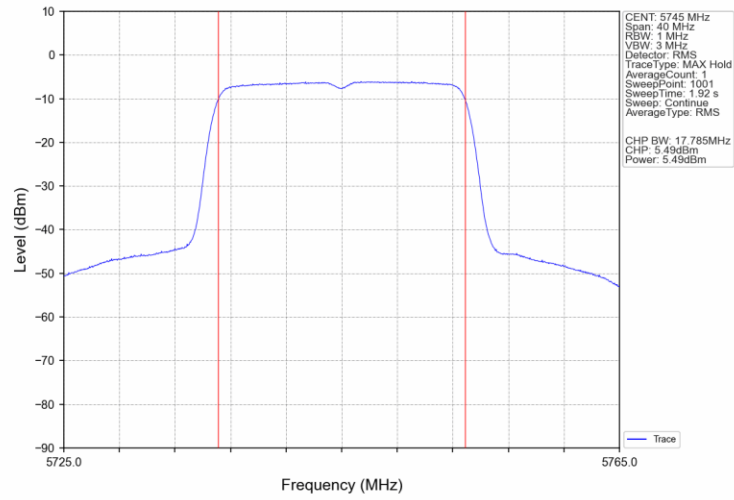
802.11n(HT40)_HCH_5795MHz_Ant1_NTNV



802.11n(HT40)_HCH_5795MHz_Ant2_NTNV



802.11ac(VHT20)_LCH_5745MHz_Ant1_NTNV



802.11ac(VHT20)_LCH_5745MHz_Ant2_NTNV

