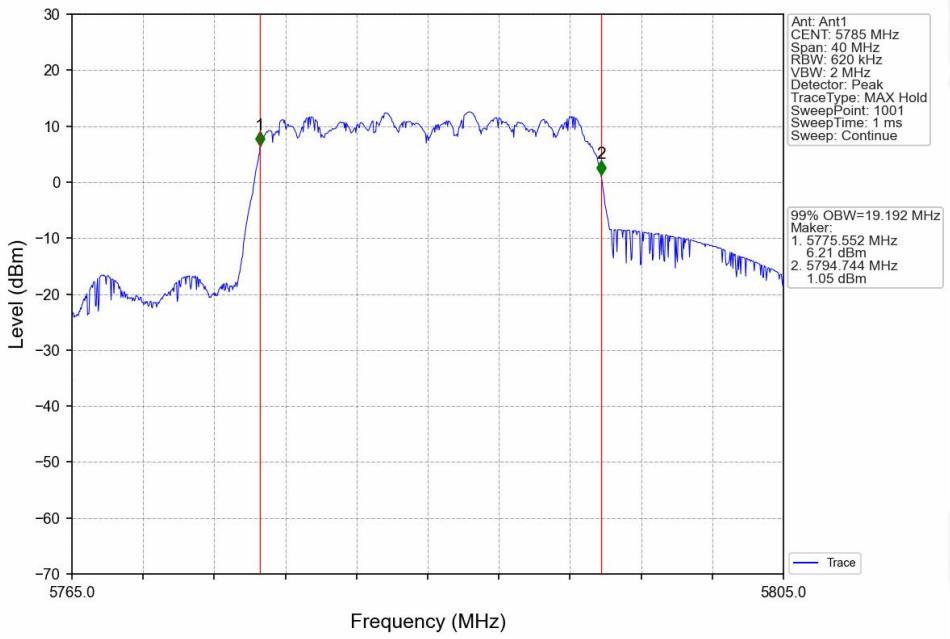
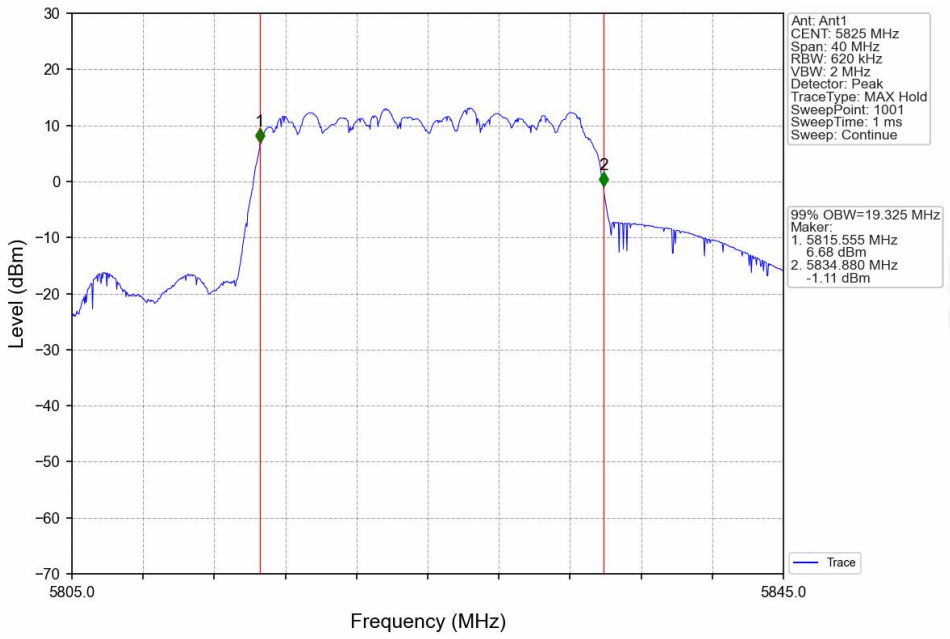
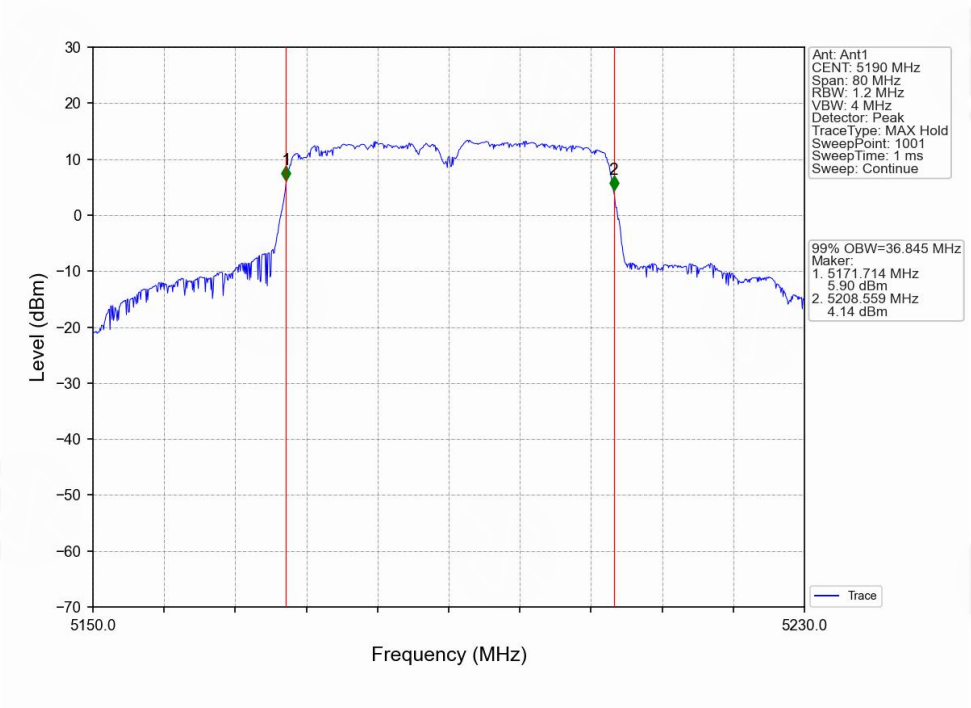
802.11ac(VHT20)_MCH_5785MHz_Ant1_NTNV



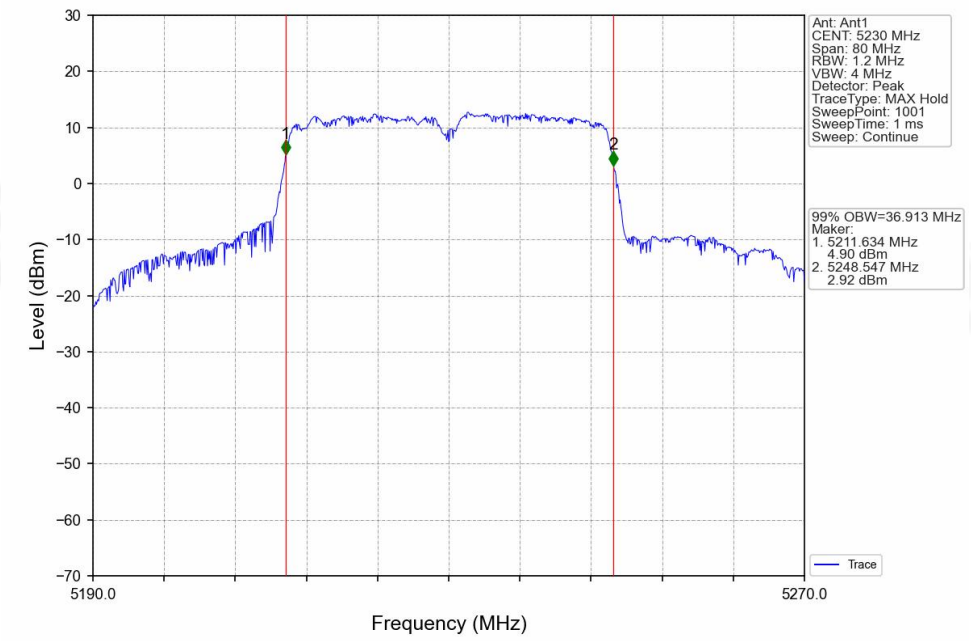
802.11ac(VHT20)_HCH_5825MHz_Ant1_NTNV



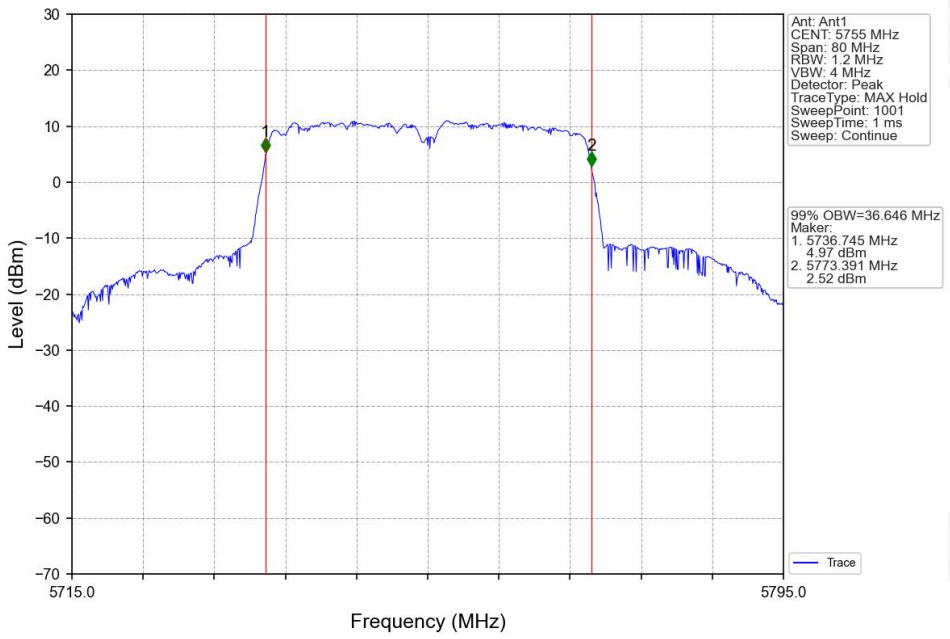
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



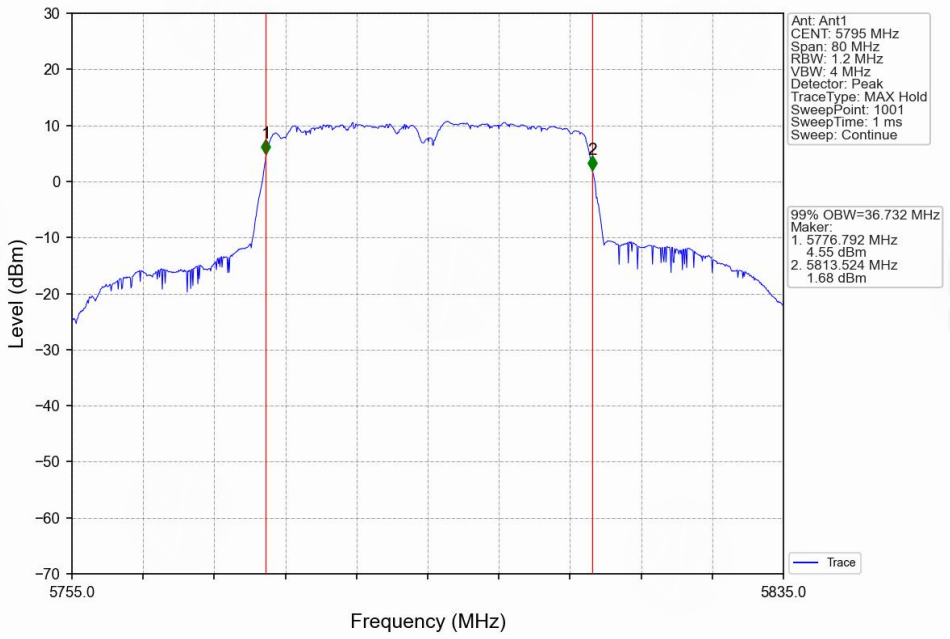
802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV



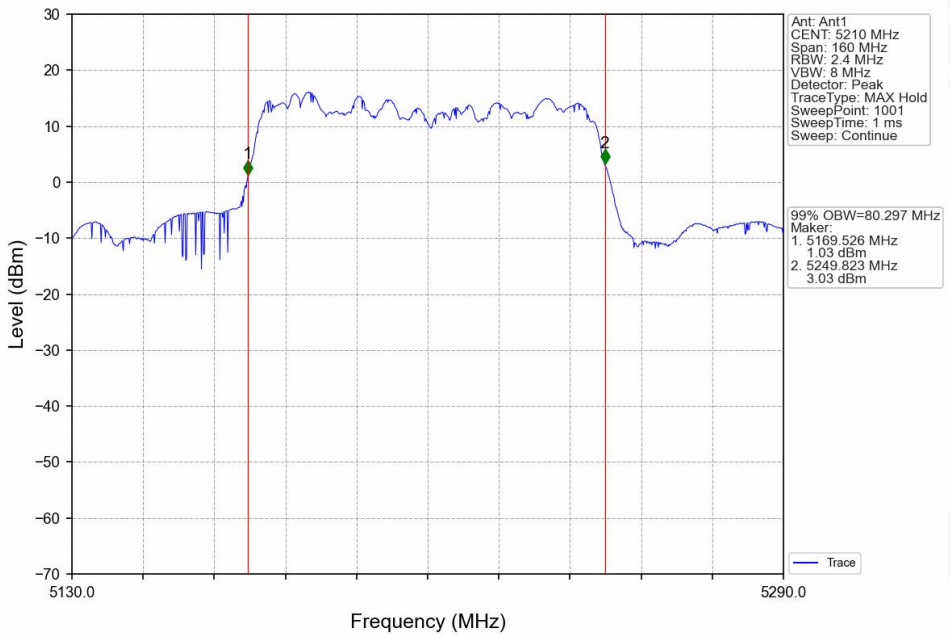
802.11ac(VHT40)_LCH_5755MHz_Ant1_NTNV



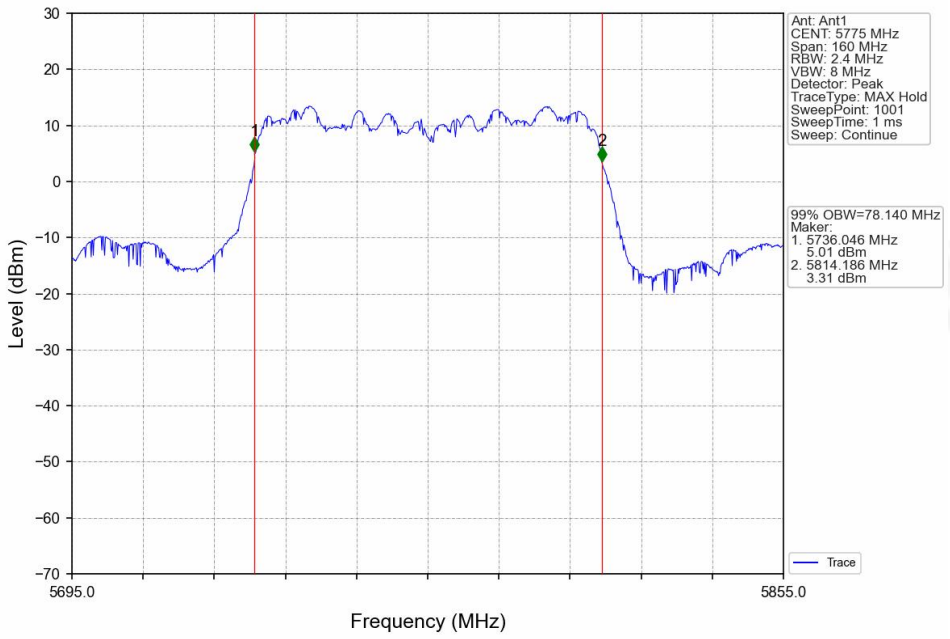
802.11ac(VHT40)_HCH_5795MHz_Ant1_NTNV



802.11ac(VHT80)_MCH_5210MHz_Ant1_NTNV



802.11ac(VHT80)_MCH_5775MHz_Ant1_NTNV



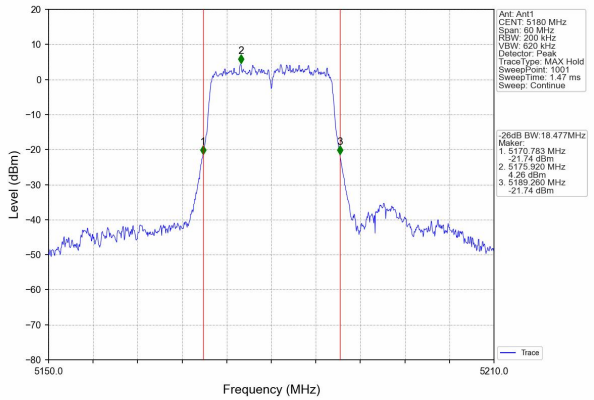
26dB Bandwidth

Test CH	-26dB Channel Bandwidth (MHz)				Limit(KHz)	Result
	802.11a20	802.11n(HT20)	802.11n(HT40)	/		
Lowest	18.477	19.456	38.854	/	>500	Pass
Middle	18.408	19.466	/	/		
Highest	18.434	19.456	38.928	/		

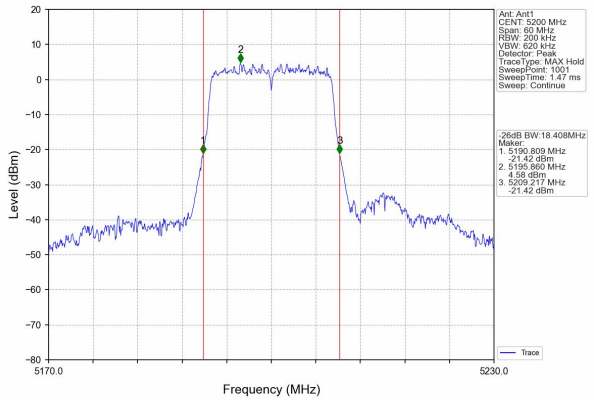
Test CH	-26dB Channel Bandwidth (MHz)				Limit(KHz)	Result
	/	802.11ac(HT20)	802.11ac(HT40)	802.11ac(HT80)		
Lowest	/	20.377	65.611	/	>500	Pass
Middle	/	20.385	/	192.653		
Highest	/	25.838	63.232	/		

Test plot

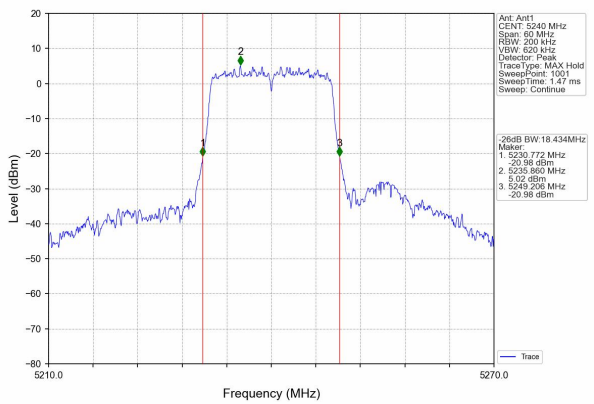
(802.11 a20) 26dB Bandwidth plot on channel 36



(802.11 a20) 26dB Bandwidth plot on channel 40

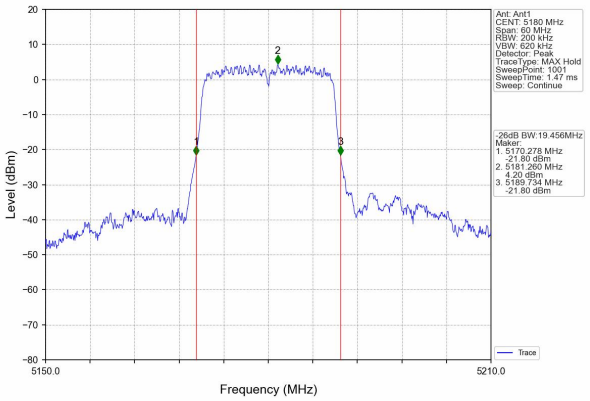


(802.11 a20) 26dB Bandwidth plot on channel 48

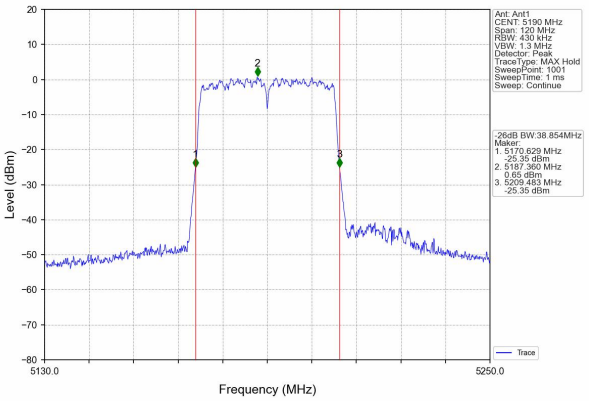


Test plot

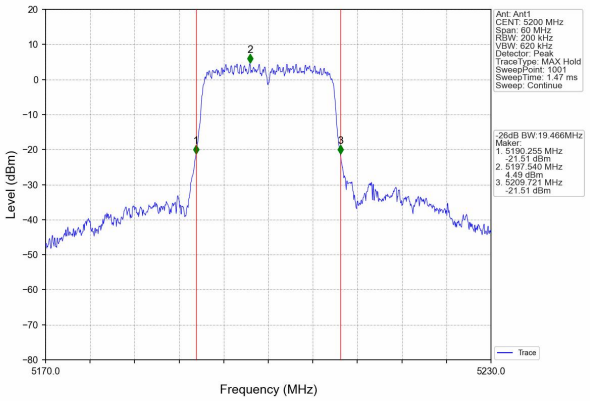
(802.11 n20) 26dB Bandwidth plot on channel 36



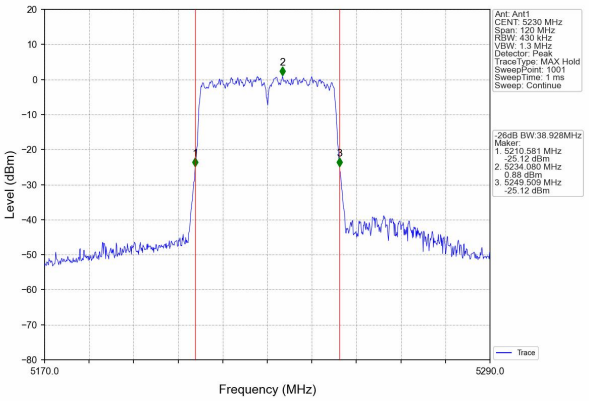
(802.11 n40) 26dB Bandwidth plot on channel 38



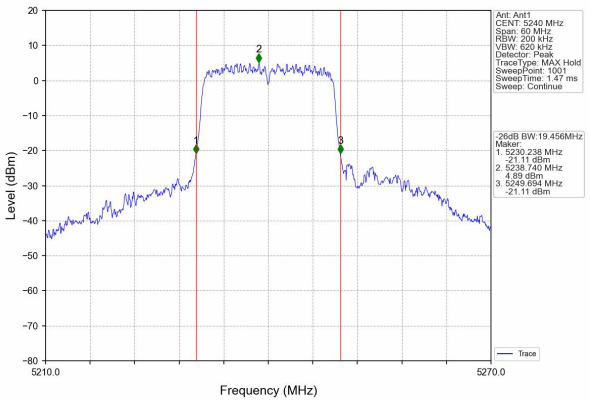
(802.11 n20) 26dB Bandwidth plot on channel 40



(802.11 n40) 26dB Bandwidth plot on channel 46

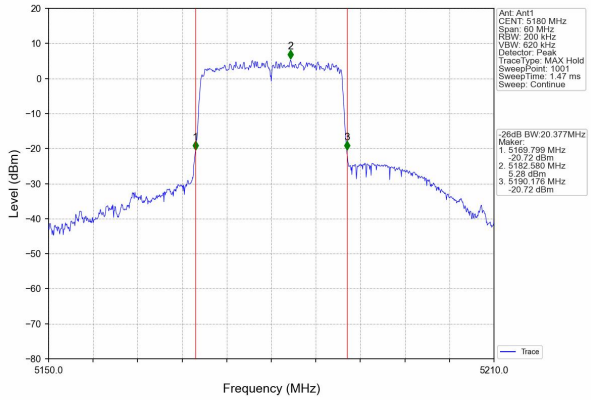


(802.11 n20) 26dB Bandwidth plot on channel 48

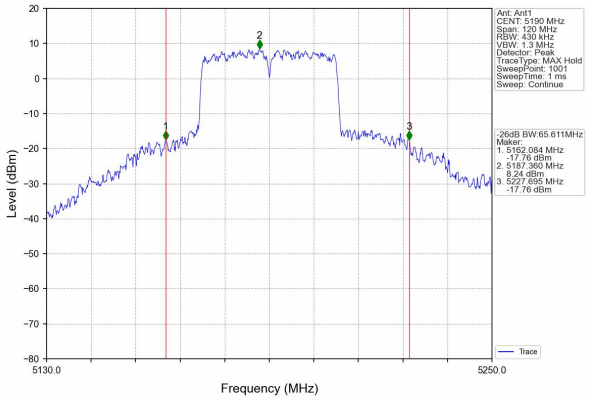


Test plot

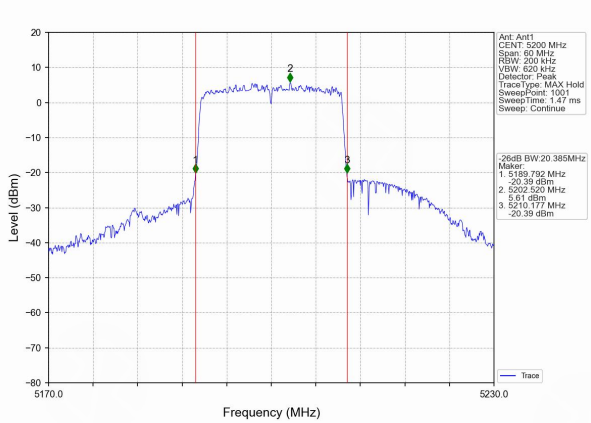
(802.11ac20) 26dB Bandwidth plot on channel 36



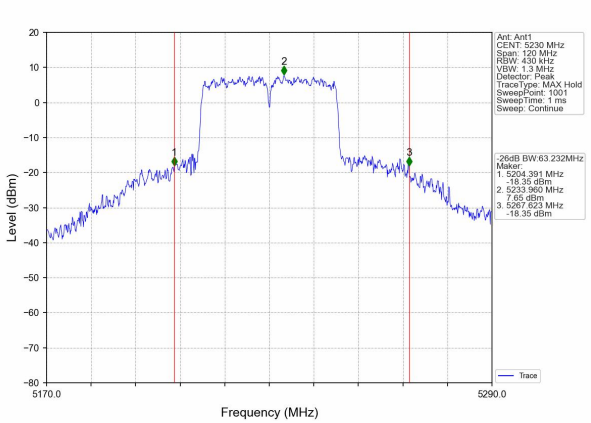
(802.11 ac40) 26dB Bandwidth plot on channel 42



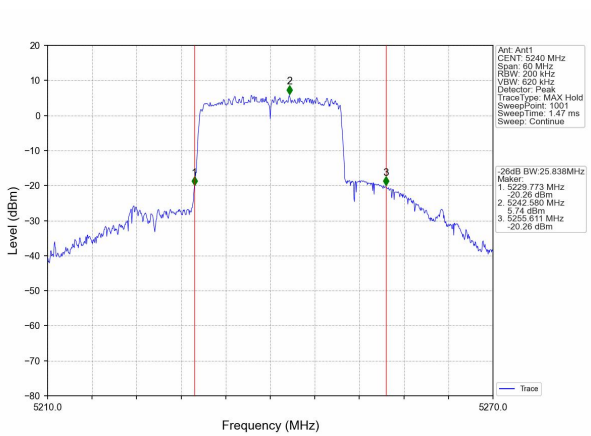
(802.11ac20) 26dB Bandwidth plot on channel 40



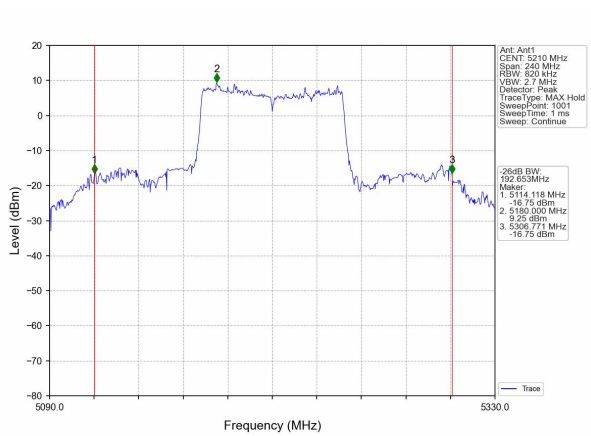
(802.11 ac40) 26dB Bandwidth plot on channel 42



(802.11ac20) 26dB Bandwidth plot on channel 48



(802.11 ac80) 26dB Bandwidth plot on channel 42



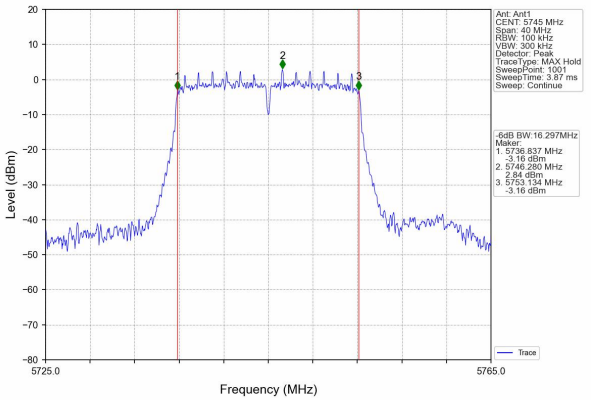
Test CH	-6dB Channel Bandwidth (MHz)				Limit(KHz)	Result
	802.11a20	802.11n(HT20)	802.11n(HT40)	/		
Lowest	16.297	16.112	35.914	/	>500	Pass
Middle	16.327	16.341	/	/		
Highest	16.091	16.085	35.238	/		

Test CH	-6dB Channel Bandwidth (MHz)				Limit(KHz)	Result
	/	802.11ac(HT20)	802.11ac(HT40)	802.11ac(HT80)		
Lowest	/	18.920	35.912	/	>500	Pass
Middle	/	18.767	/	76.194		
Highest	/	18.404	35.587	/		

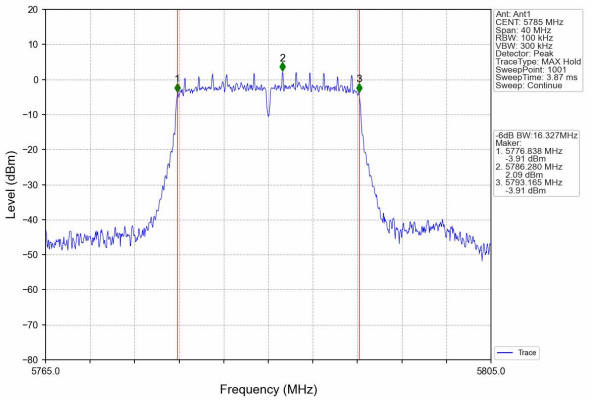
6dB Channel Bandwidth

Test plot

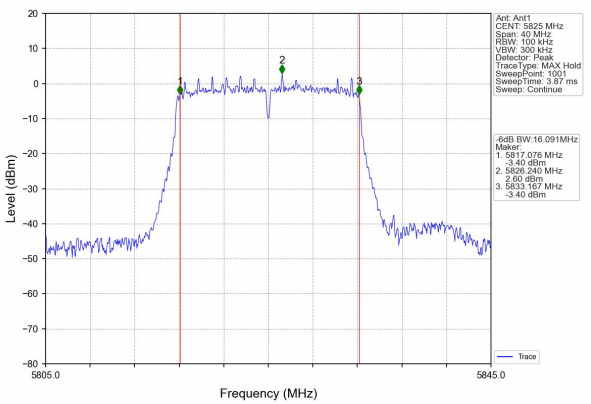
(802.11a20) 6dB Bandwidth plot on channel 149



(802.11a20) 6dB Bandwidth plot on channel 157

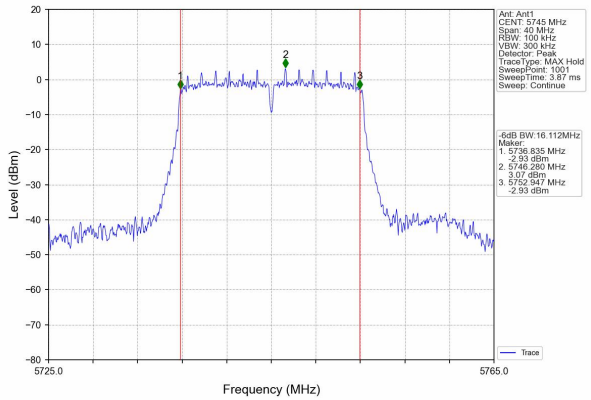


(802.11a20) 6dB Bandwidth plot on channel 165

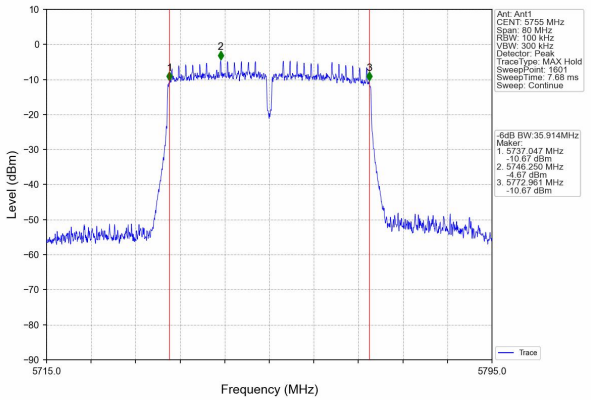


Test plot

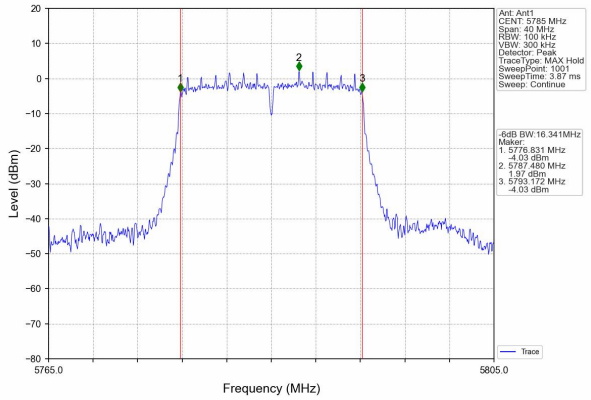
(802.11n20) 6dB Bandwidth plot on channel 149



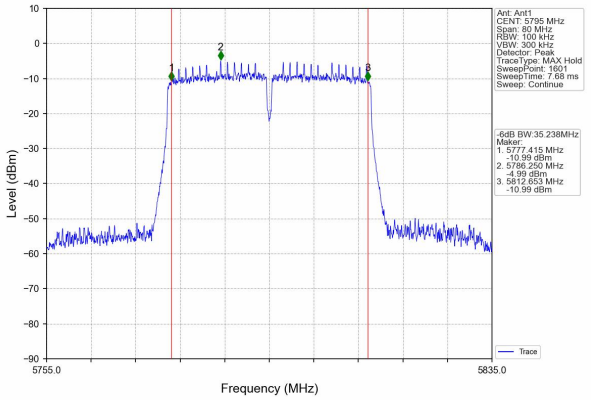
(802.11 n40) 6dB Bandwidth plot on channel 151



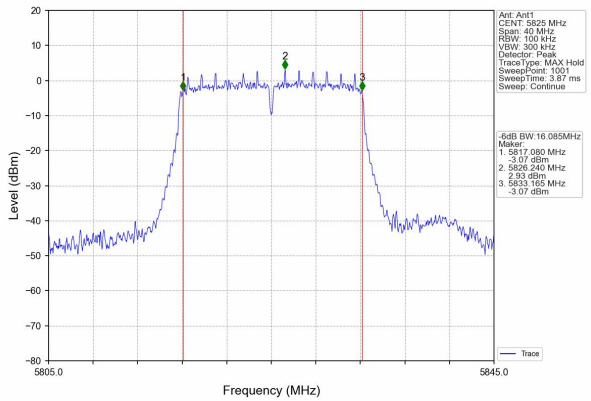
(802.11n20) 6dB Bandwidth plot on channel 157



(802.11 n40) 6dB Bandwidth plot on channel 159

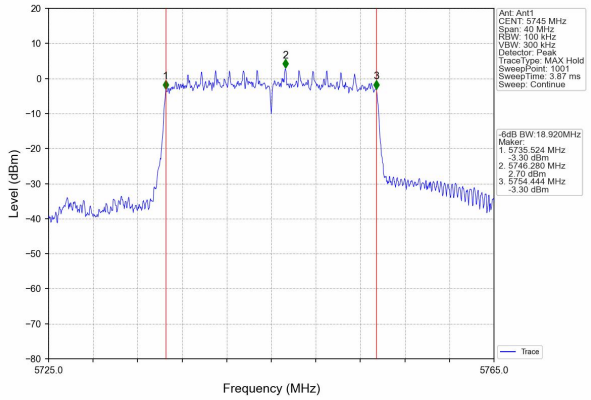


(802.11n20) 6dB Bandwidth plot on channel 165

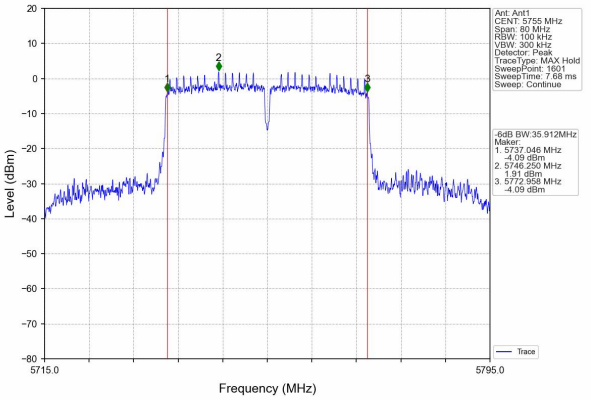


Test plot

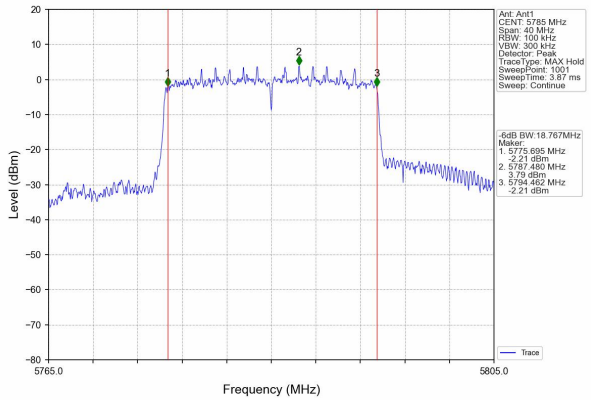
(802.11ac20) 6dB Bandwidth plot on channel 149



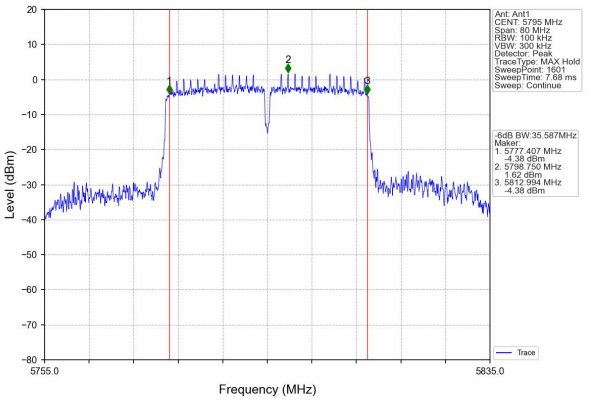
(802.11 ac40) 6dB Bandwidth plot on channel 151



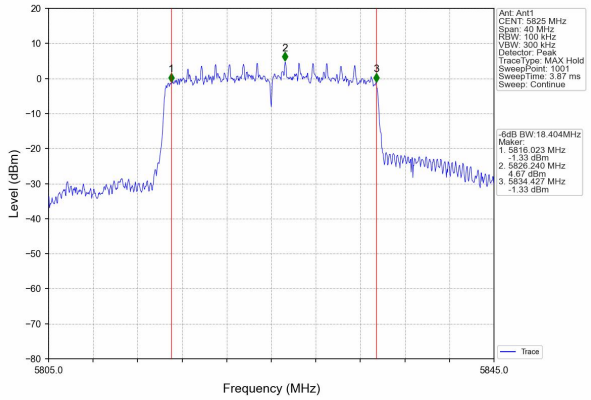
(802.11ac20) 6dB Bandwidth plot on channel 157



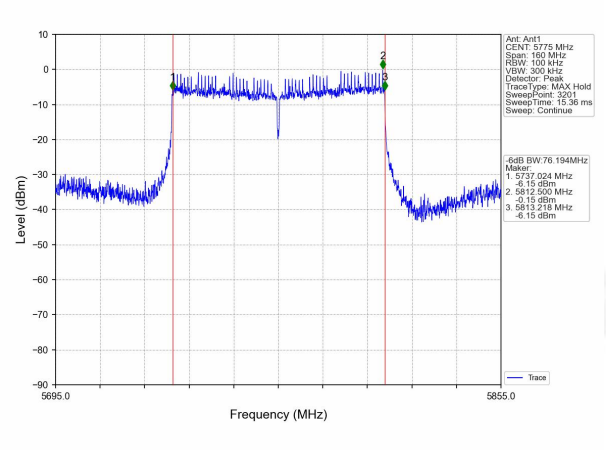
(802.11 ac40) 6dB Bandwidth plot on channel 159



(802.11ac20) 6dB Bandwidth plot on channel 165



(802.11 ac80) 6dB Bandwidth plot on channel 155



7.MAXIMUM CONDUCTED OUTPUT POWER

7.1 PPLIED PROCEDURES / LIMIT

According to FCC §15.407
The maximum conduced output power should not exceed:

Frequency Band(MHz)	Limit
5150~5250	250mW
5725~5850	1W

7.2 TEST PROCEDURE

The EUT was directly connected to the Power meter

1. Device Configuration
If possible, configure or modify the operation of the EUT so that it transmits continuously at its maximum power control level (see section II.B.).
a) The intent is to test at 100 percent duty cycle; however a small reduction in duty cycle (to no lower than 98 percent) is permitted if required by the EUT for amplitude control purposes. Manufacturers are expected to provide software to the test lab to permit such continuous operation.
b) If continuous transmission (or at least 98 percent duty cycle) cannot be achieved due to hardware limitations (e.g., overheating), the EUT shall be operated at its maximum power control level with the transmit duration as long as possible and the duty cycle as high as possible.

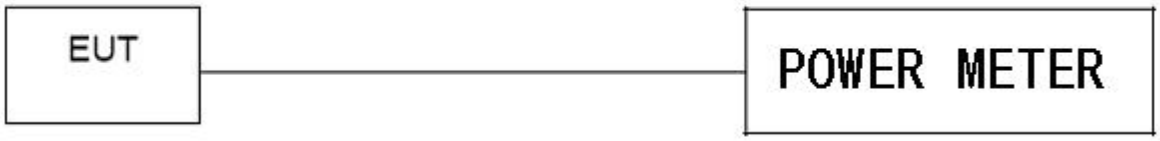
2. Measurement using a Spectrum Analyzer or EMI Receiver (SA)
Measurement of maximum conducted output power using a spectrum analyzer requires integrating the spectrum across a frequency span that encompasses, at a minimum, either the EBW or the 99-percent occupied bandwidth of the signal.1 However, the EBW must be used to determine bandwidth dependent limits on maximum conducted output power in accordance with § 15.407(a).
a) The test method shall be selected as follows: (i) Method SA-1 or SA-1 Alternative (averaging with the EUT transmitting at full power throughout each sweep) shall be applied if either of the following conditions can be satisfied:
• The EUT transmits continuously (or with a duty cycle ≥ 98 percent).
• Sweep triggering or gating can be implemented in a way that the device transmits at the maximum power control level throughout the duration of each of the instrument sweeps to be averaged. This condition can generally be achieved by triggering the instrument's sweep if the duration of the sweep (with the analyzer configured as in Method SA-1, below) is equal to or shorter than the duration T of each transmission from the EUT and if those transmissions exhibit full power throughout their durations.
(ii) Method SA-2 or SA-2 Alternative (averaging across on and off times of the EUT transmissions, followed by duty cycle correction) shall be applied if the conditions of (i) cannot be achieved and the transmissions exhibit a constant duty cycle during the measurement duration. Duty cycle will be considered to be constant if variations are less than ± 2 percent.
(iii) Method SA-3 (RMS detection with max hold) or SA-3 Alternative (reduced VBW with max hold) shall be applied if the conditions of (i) and (ii) cannot be achieved.
b) Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep): (i) Set span to encompass the entire emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal.
(ii) Set RBW = 8 MHz.
(iii) Set VBW ≥ 8 MHz.
(iv) Number of points in sweep = 30001. (This ensures that bin-to-bin spacing is ≤ RBW/2, so that narrowband signals are not lost between frequency bins.)
(v) Sweep time = auto.
(vi) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
(vii) If transmit duty cycle < 98 percent, use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle ≥ 98 percent, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to "free run".
(viii) Trace average at least 100 traces in power averaging (i.e., RMS) mode.

(ix) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

7.6 TEST RESULTS

Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	1012 hPa	Test Voltage ：	DC 3.6V
Test Mode ：	TX		

Test Channel	Frequency (MHz)	RF output power (dBm)	Duty cycle correction factor (dB)	Maximum output power (dBm)	LIMIT dBm	Result
TX 802.11 a20M Mode						
CH36	5180	13.28	1.36	14.64	23.98	Pass
CH40	5200	12.73	1.36	14.09	23.98	Pass
CH48	5240	12.83	1.37	14.20	23.98	Pass
TX 802.11 n20M Mode						
CH36	5180	12.42	1.58	14.00	23.98	Pass
CH40	5200	13.21	1.57	14.78	23.98	Pass
CH48	5240	12.09	1.57	13.66	23.98	Pass
TX 802.11 n40M Mode						
CH38	5190	8.23	2.74	10.97	23.98	Pass
CH46	5230	8.11	2.73	10.84	23.98	Pass
TX 802.11 ac20M Mode						
CH36	5180	13.74	1.78	15.52	23.98	Pass
CH40	5200	13.59	1.78	15.37	23.98	Pass
CH48	5240	13.54	1.78	15.32	23.98	Pass
TX 802.11 ac40M Mode						
CH38	5190	12.86	2.73	15.59	23.98	Pass
CH46	5230	14.13	2.73	16.86	23.98	Pass
TX 802.11 ac80M Mode						
CH42	5210	13.34	4.37	17.71	23.98	Pass

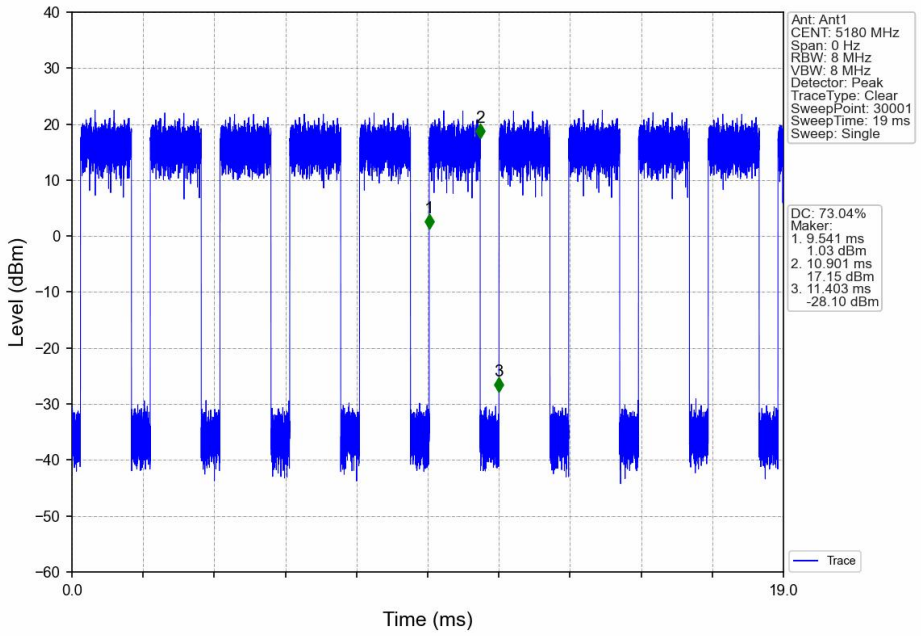
Test Channel	Frequency	RF output power	Duty cycle correction factor	Maximum output power	LIMIT	Result
	(MHz)	(dBm)	(dB)	(dBm)	dBm	
TX 802.11 a20M Mode						
CH149	5745	11.79	1.36	13.15	30	Pass
CH157	5785	12.47	1.36	13.83	30	Pass
CH165	5825	12.51	1.36	13.87	30	Pass
TX 802.11 n20M Mode						
CH149	5745	9.78	1.36	11.14	30	Pass
CH157	5785	12.47	1.36	13.83	30	Pass
CH165	5825	13.08	1.36	14.44	30	Pass
TX 802.11 n40M Mode						
CH151	5755	9.55	2.73	12.28	30	Pass
CH159	5795	11.12	2.73	13.85	30	Pass
TX 802.11 ac20M Mode						
CH149	5745	13.34	1.78	15.12	30	Pass
CH157	5785	12.95	1.77	14.72	30	Pass
CH165	5825	14.11	1.78	15.89	30	Pass
TX 802.11 ac40M Mode						
CH151	5755	13.00	2.74	15.74	30	Pass
CH159	5795	13.52	2.73	16.25	30	Pass
TX 802.11 ac80M Mode						
CH155	5775	12.20	4.37	16.57	30	Pass

Duty cycle

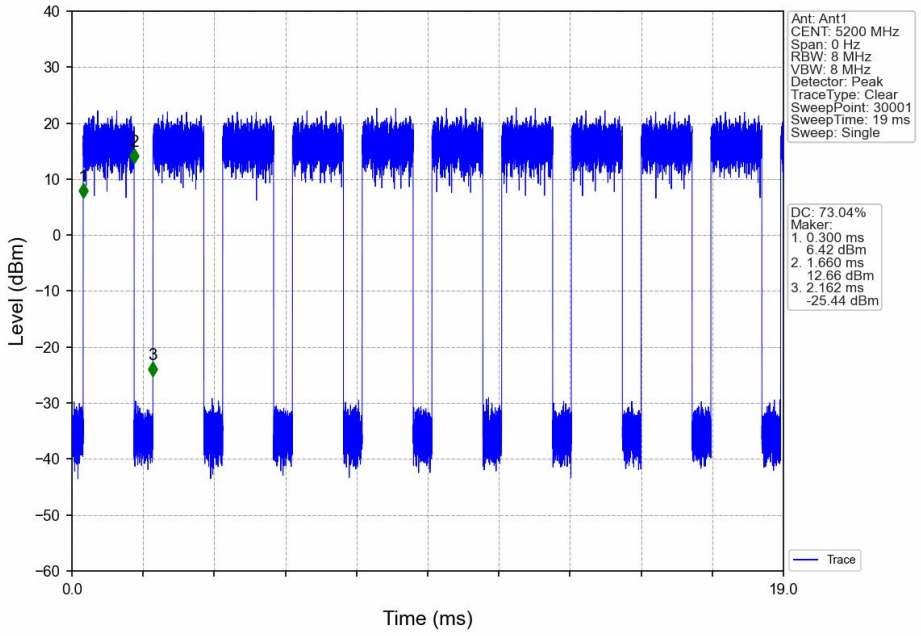
TX							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11a	SISO	5180	1.360	1.862	73.04	1.36	0.01
		5200	1.360	1.862	73.04	1.36	0.01
		5240	1.361	1.864	73.02	1.37	0.02
		5745	1.361	1.862	73.09	1.36	0.01
		5785	1.361	1.863	73.05	1.36	0.03
		5825	1.360	1.862	73.04	1.36	0.03
802.11n (HT20)	SISO	5180	1.148	1.651	69.53	1.58	0.03
		5200	1.149	1.651	69.59	1.57	0.03
		5240	1.149	1.651	69.59	1.57	0.03
		5745	1.361	1.862	73.09	1.36	0.02
		5785	1.361	1.863	73.05	1.36	0.03
		5825	1.361	1.862	73.09	1.36	0.02
802.11n (HT40)	SISO	5190	0.572	1.074	53.26	2.74	0.03
		5230	0.573	1.075	53.30	2.73	0.05
		5755	0.573	1.075	53.30	2.73	0.02
		5795	0.573	1.075	53.30	2.73	0.03
802.11ac (VHT20)	SISO	5180	0.991	1.492	66.42	1.78	0.01
		5200	0.992	1.494	66.40	1.78	0.03
		5240	0.990	1.493	66.31	1.78	0.03
		5745	0.992	1.493	66.44	1.78	0.02
		5785	0.992	1.492	66.49	1.77	0.03
		5825	0.991	1.493	66.38	1.78	0.01
802.11ac (VHT40)	SISO	5190	0.574	1.076	53.35	2.73	0.03
		5230	0.573	1.074	53.35	2.73	0.02
		5755	0.573	1.076	53.25	2.74	0.04
		5795	0.573	1.075	53.30	2.73	0.03
802.11ac (VHT80)	SISO	5210	0.289	0.791	36.54	4.37	0.03
		5775	0.289	0.791	36.54	4.37	0.03

Test Graph

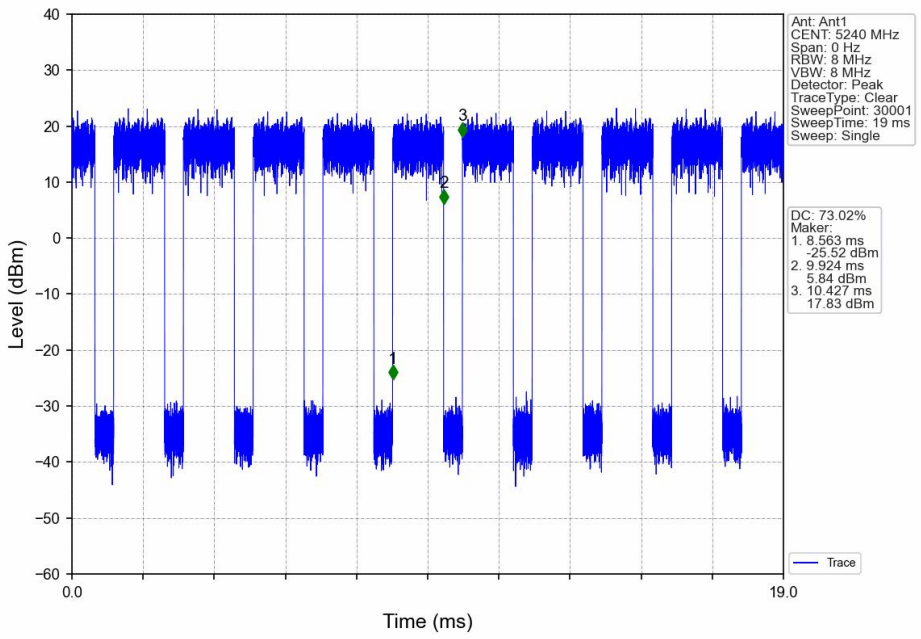
802.11a_LCH_5180MHz_Ant1_NTNV



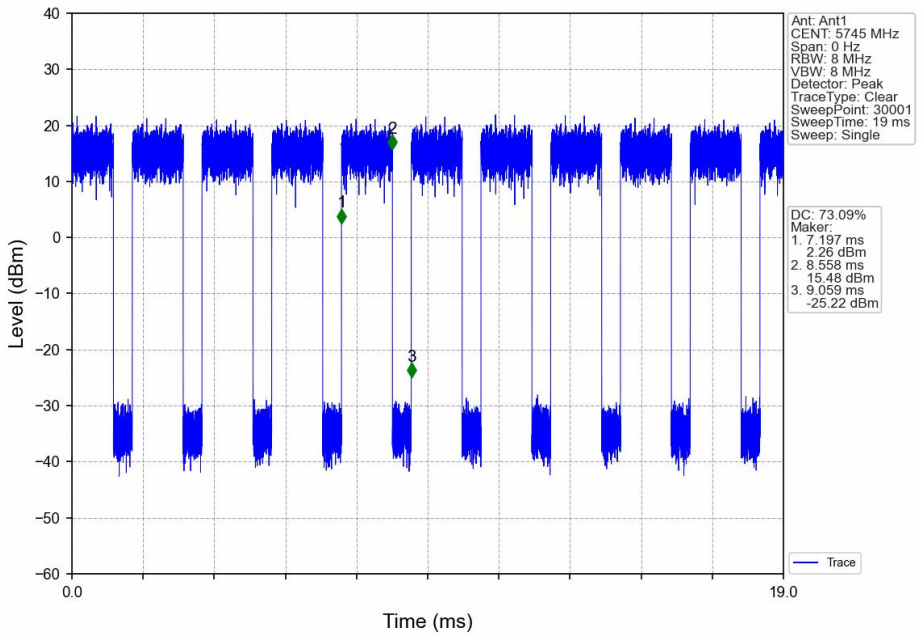
802.11a_MCH_5200MHz_Ant1_NTNV



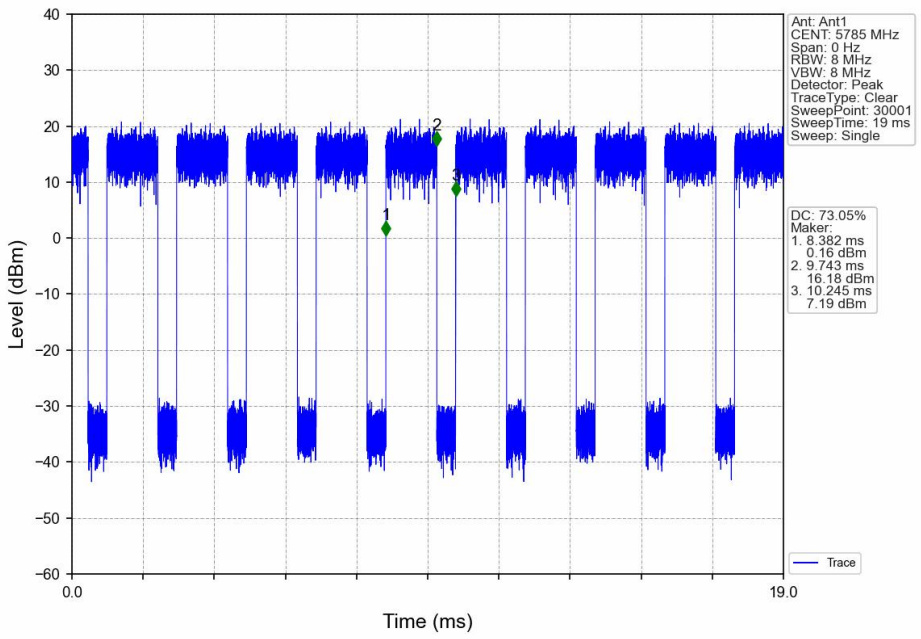
802.11a_HCH_5240MHz_Ant1_NTNV



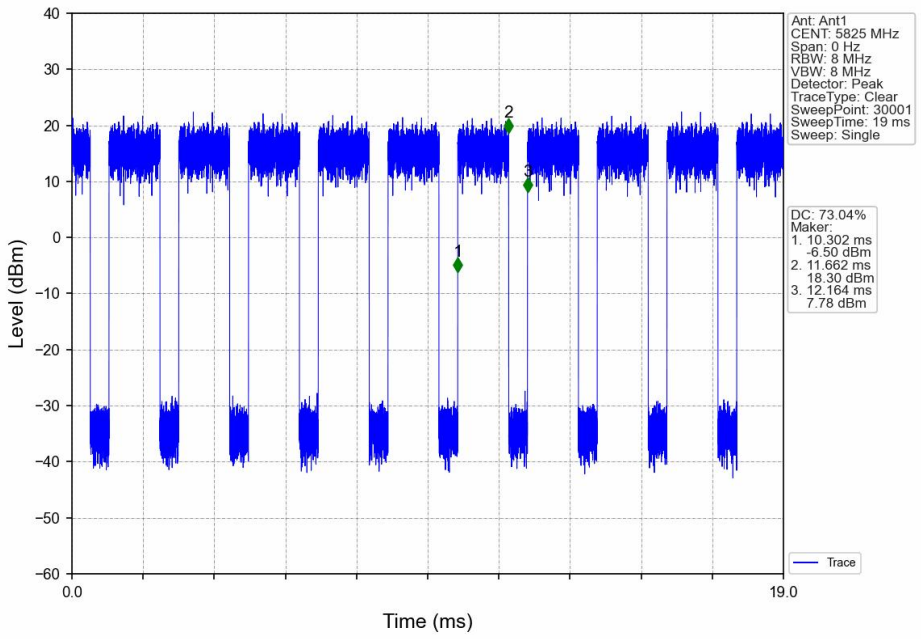
802.11a_LCH_5745MHz_Ant1_NTNV



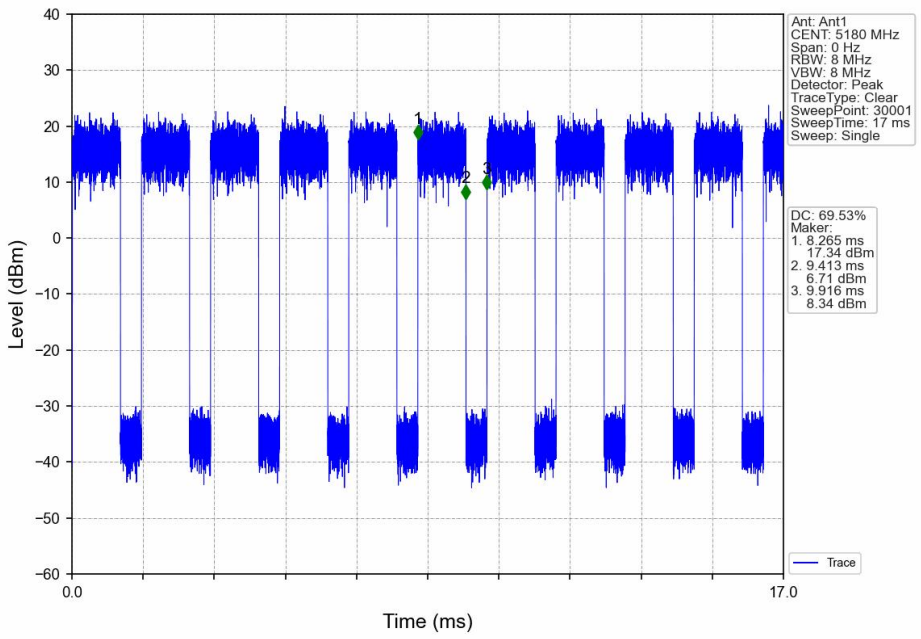
802.11a_MCH_5785MHz_Ant1_NTNV



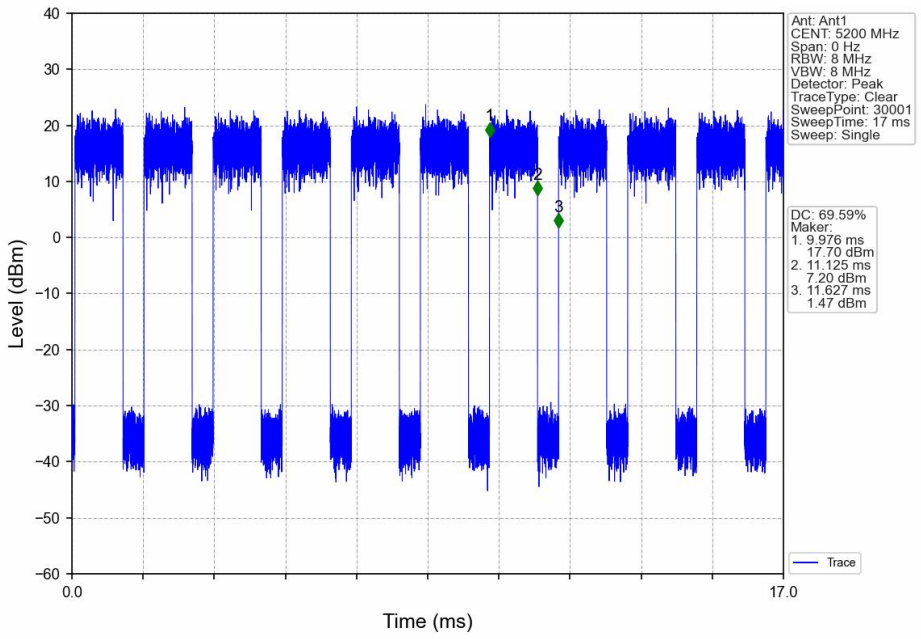
802.11a_HCH_5825MHz_Ant1_NTNV



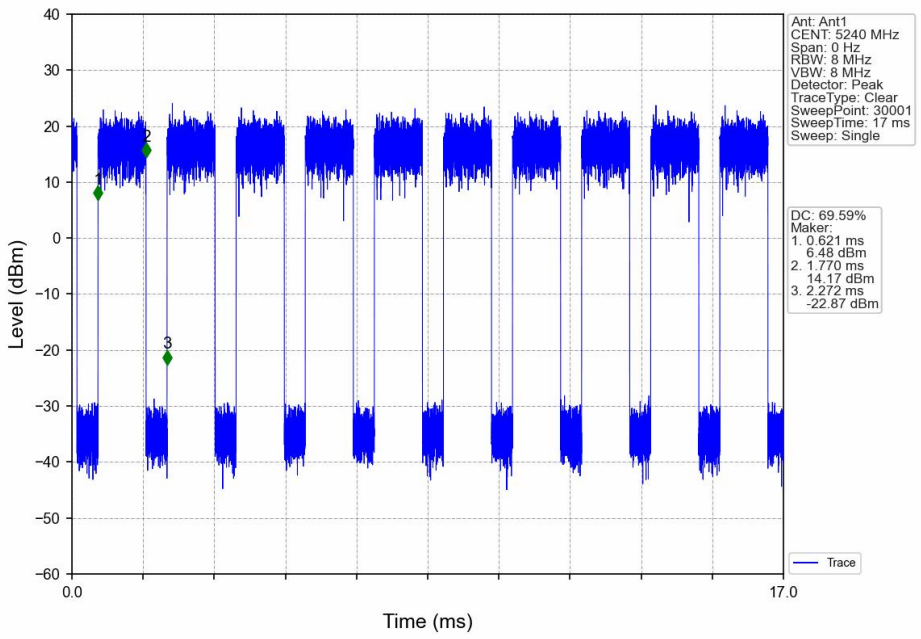
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



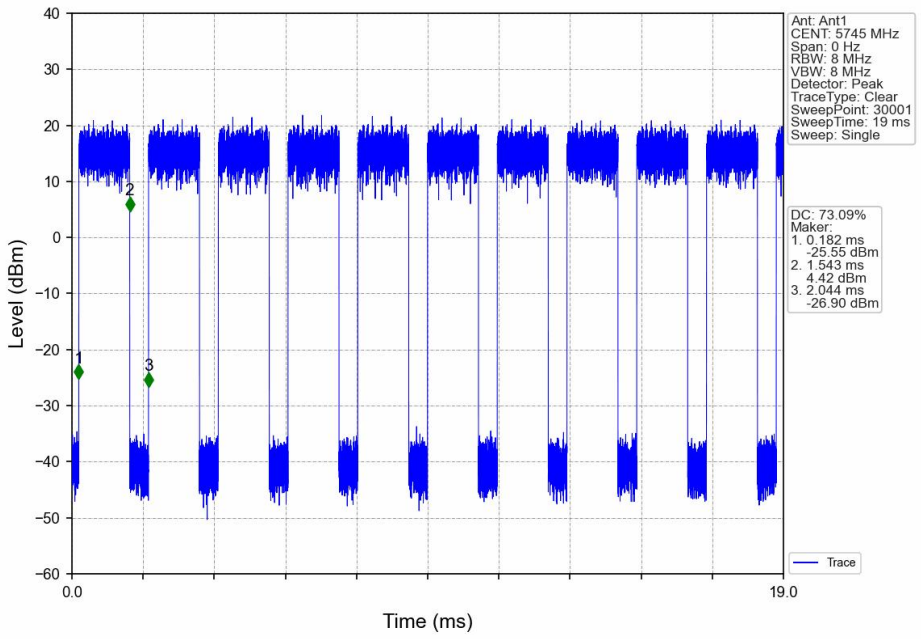
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



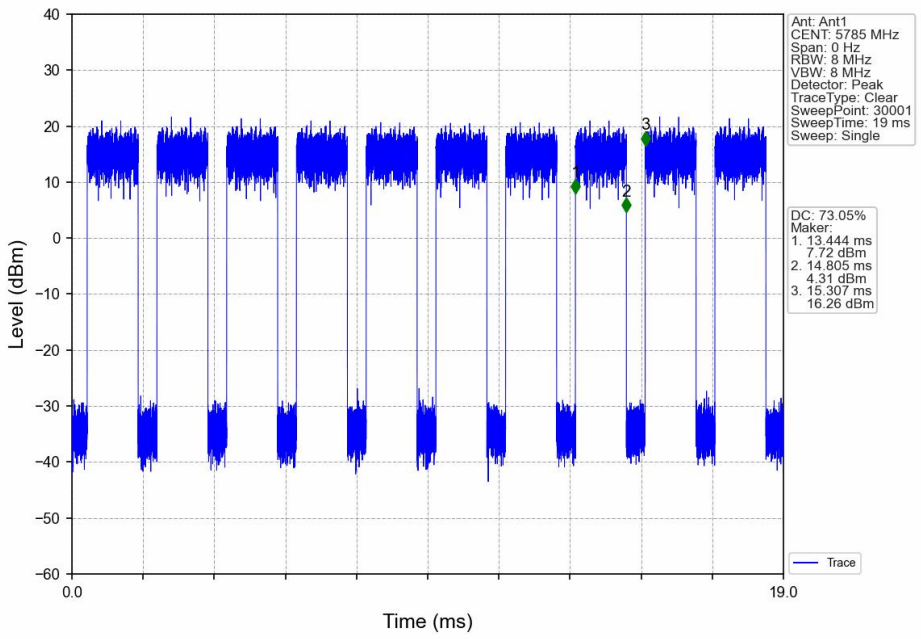
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



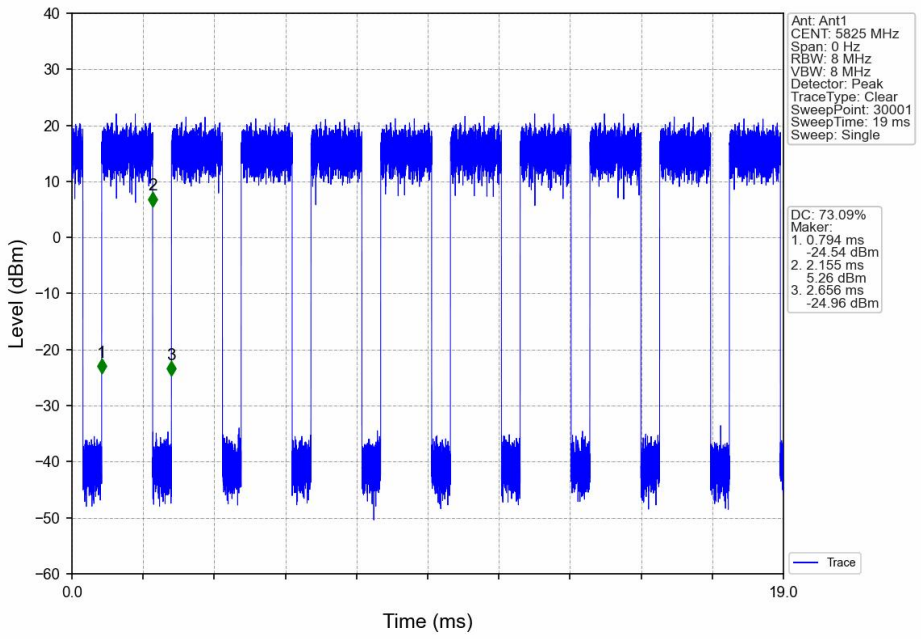
802.11n(HT20)_LCH_5745MHz_Ant1_NTNV



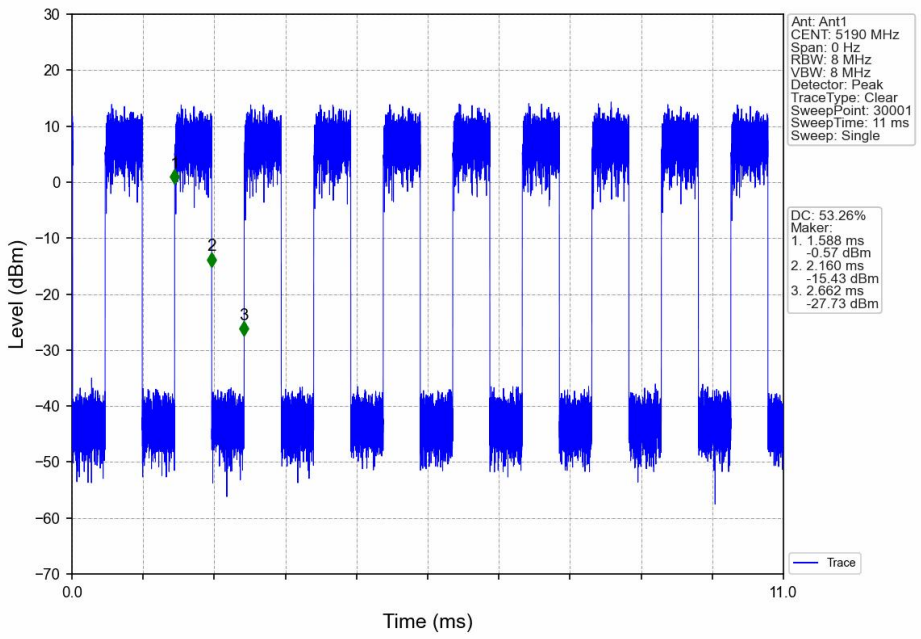
802.11n(HT20)_MCH_5785MHz_Ant1_NTNV



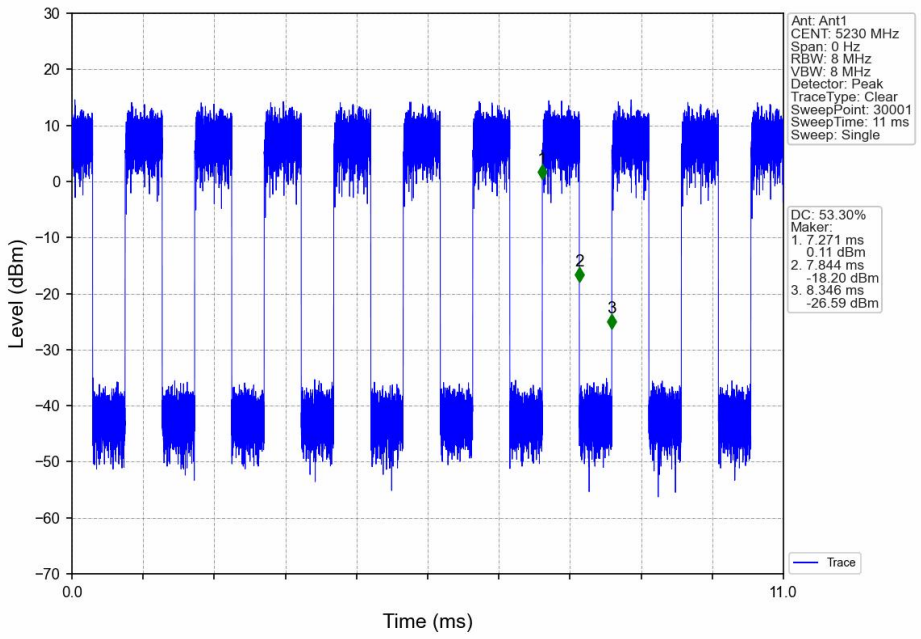
802.11n(HT20)_HCH_5825MHz_Ant1_NTNV



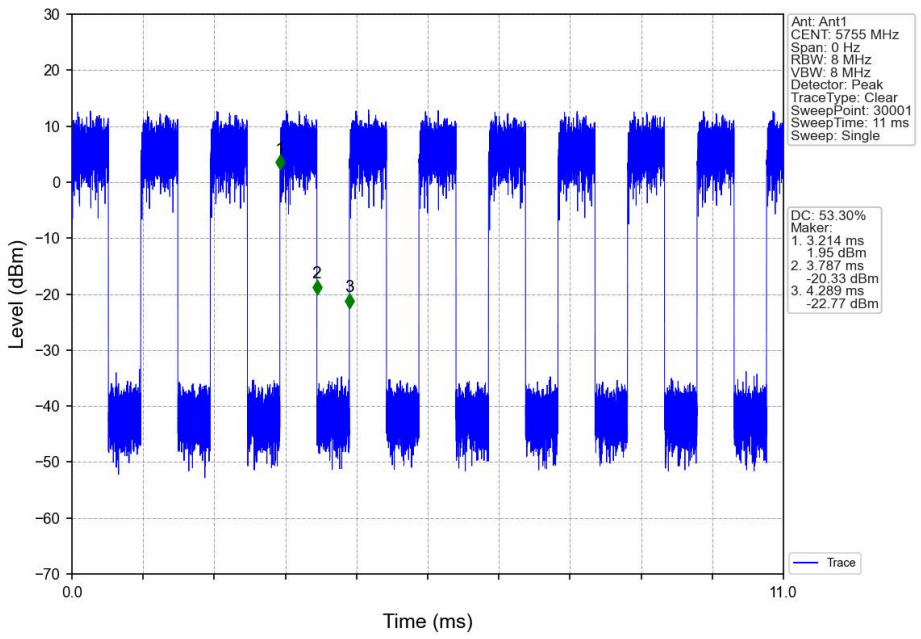
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



802.11n(HT40)_LCH_5755MHz_Ant1_NTNV



802.11n(HT40)_HCH_5795MHz_Ant1_NTNV