

9.4 EUT operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

9.5 Test Result

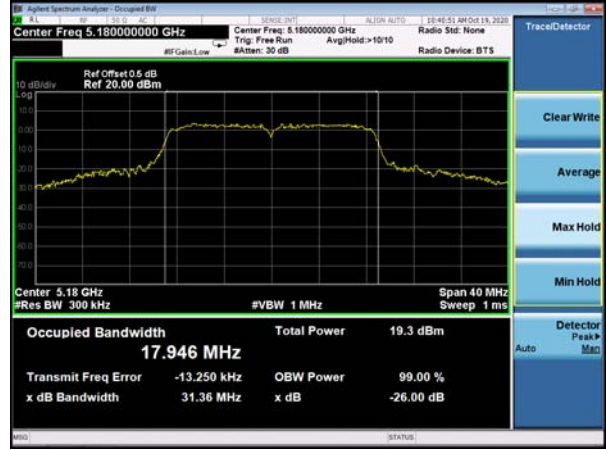
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC120V/60Hz
Test Mode :	TX Frequency U-NII-1 (5180-5240MHz)		

Mode	Channel	Frequency (MHz)	99% bandwidth (MHz)	26dB bandwidth (MHz)	Limit MHz	Result
802.11a	CH36	5180	17.092	31.18	N/A	Pass
	CH40	5200	16.944	28.61	N/A	Pass
	CH48	5240	16.823	25.64	N/A	Pass
802.11 n20	CH36	5180	17.946	31.36	N/A	Pass
	CH40	5200	17.897	30.46	N/A	Pass
	CH48	5240	17.778	25.94	N/A	Pass
802.11 n40	CH 38	5190	37.669	60	N/A	Pass
	CH 46	5230	37.044	60	N/A	Pass
802.11 ac20	CH36	5180	17.861	29.53	N/A	Pass
	CH40	5200	17.866	31.29	N/A	Pass
	CH48	5240	17.802	24.66	N/A	Pass
802.11 ac40	CH 38	5190	37.501	60	N/A	Pass
	CH 46	5230	37.407	59.97	N/A	Pass

Test plot

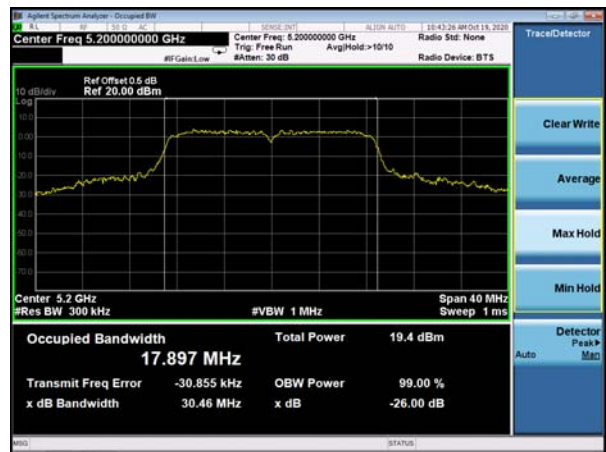
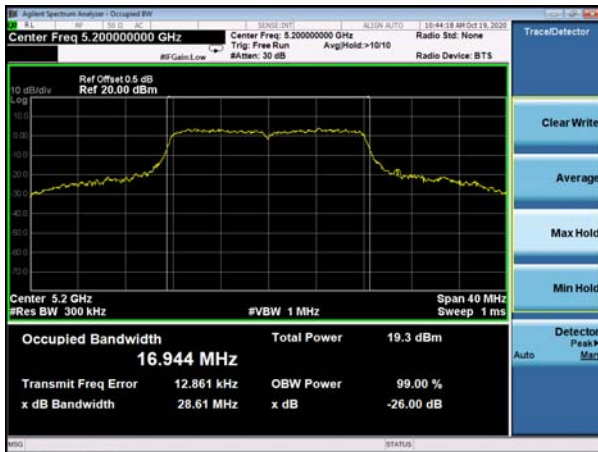
(802.11a) 26dB&99%Bandwidth plot on channel 36

(802.11 n20) 26dB&99%Bandwidth plot on channel 36



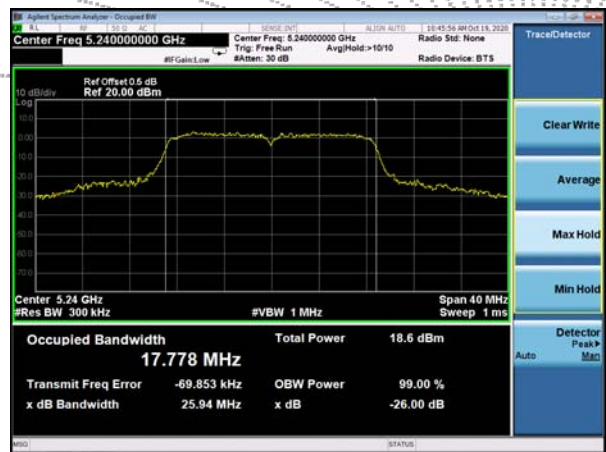
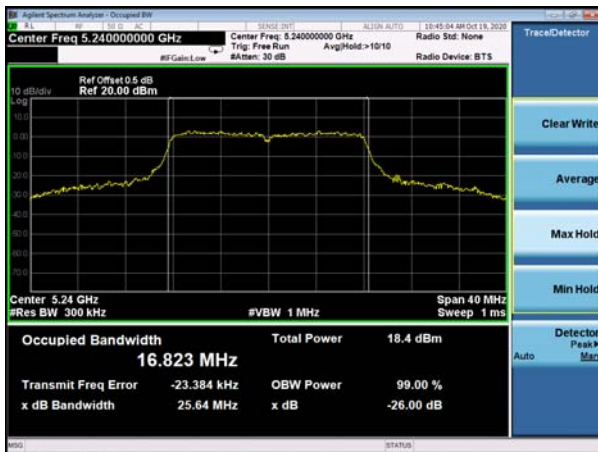
(802.11a) 26dB&99%Bandwidth plot on channel 40

(802.11 n20) 26dB&99%Bandwidth plot on channel 40



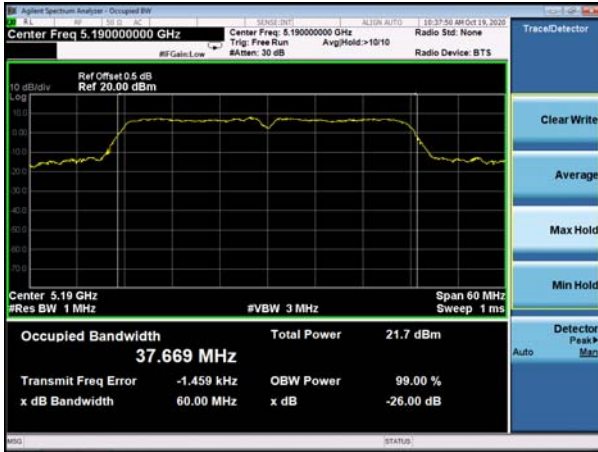
(802.11a) 26dB&99%Bandwidth plot on channel 48

(802.11 n20) 26dB&99%Bandwidth plot on channel 48

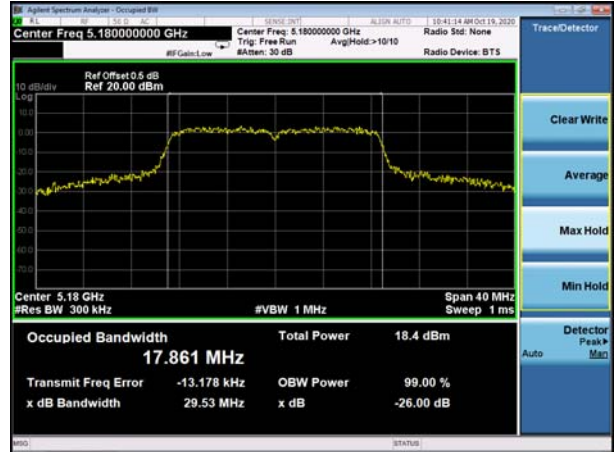


Test plot

(802.11 n40) 26dB&99%Bandwidth plot on channel 38



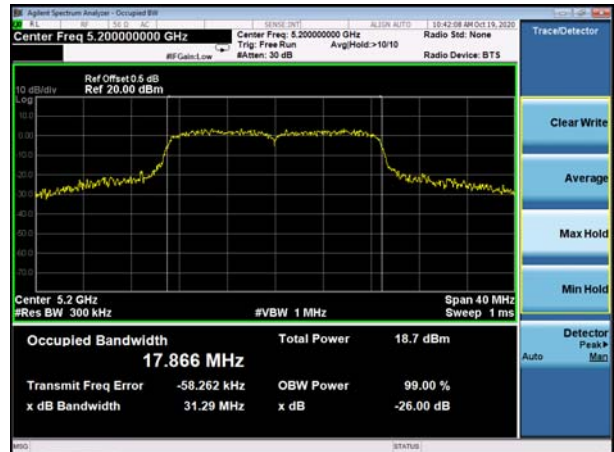
(802.11 AC20) 26dB&99%Bandwidth plot on channel 36



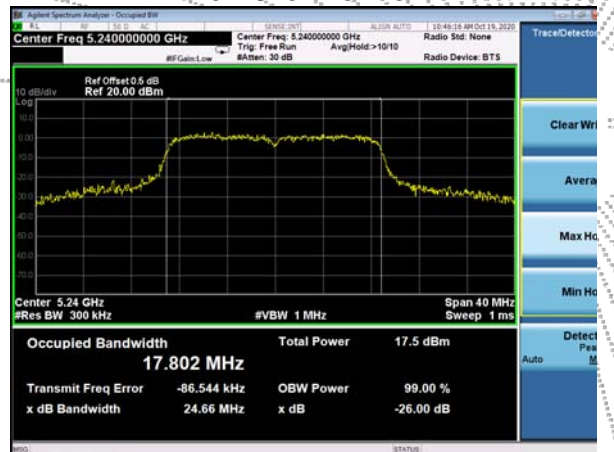
(802.11 n40) 26dB&99%Bandwidth plot on channel 46



(802.11 AC20) 26dB&99%Bandwidth plot on channel 40



(802.11 AC20) 26dB&99%Bandwidth plot on channel 48

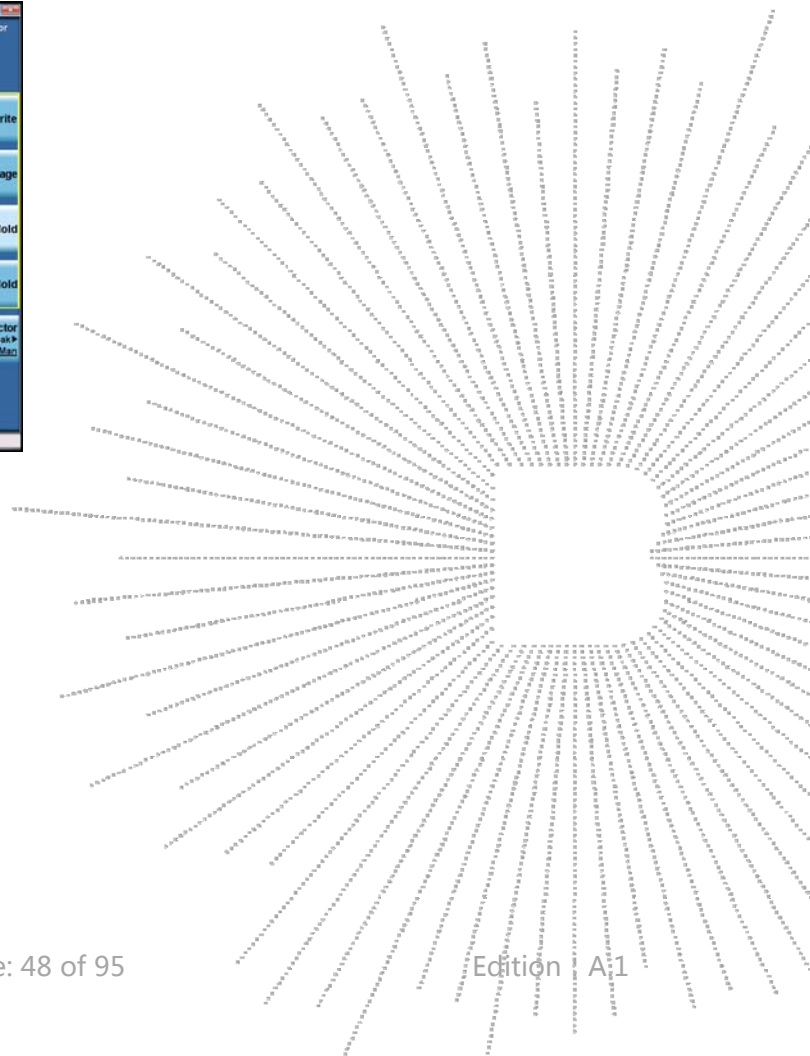
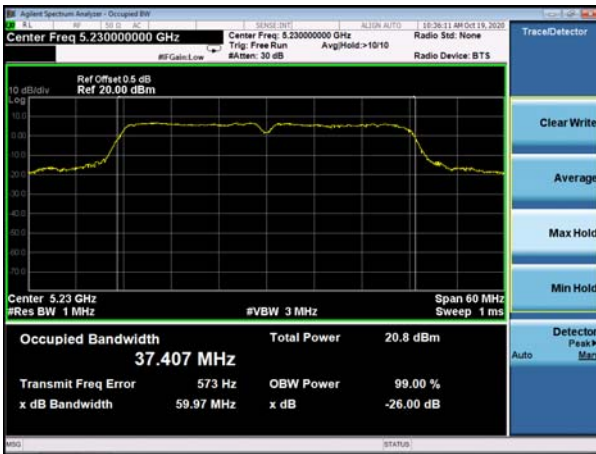


Test plot

(802.11 AC40) 26dB&99%Bandwidth plot on channel 38

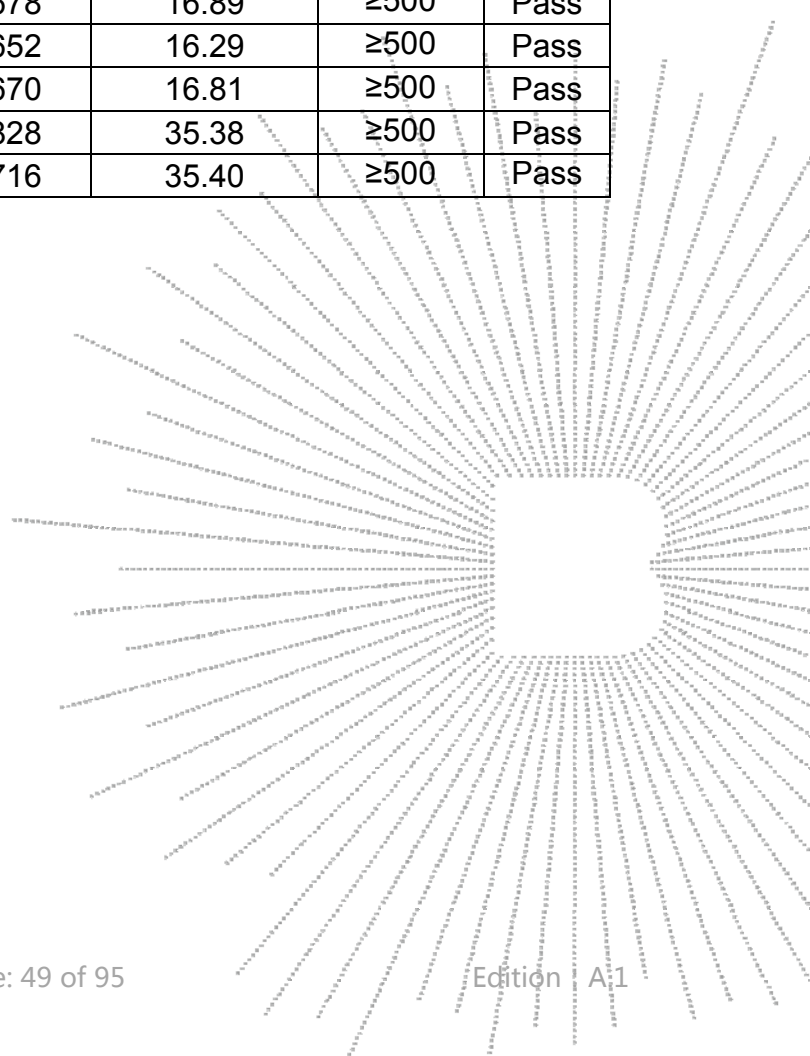


(802.11 AC40) 26dB&99%Bandwidth plot on channel 46


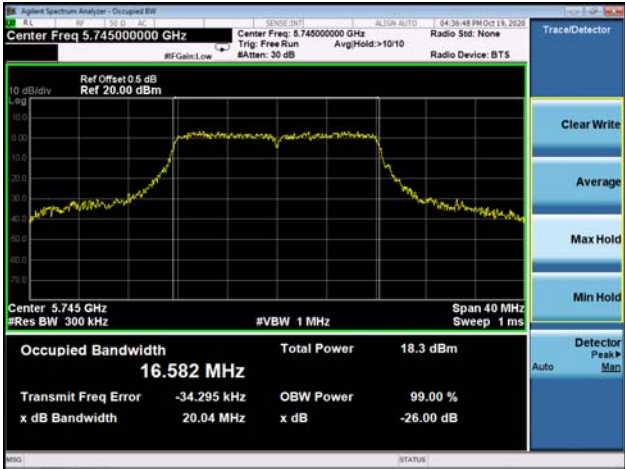
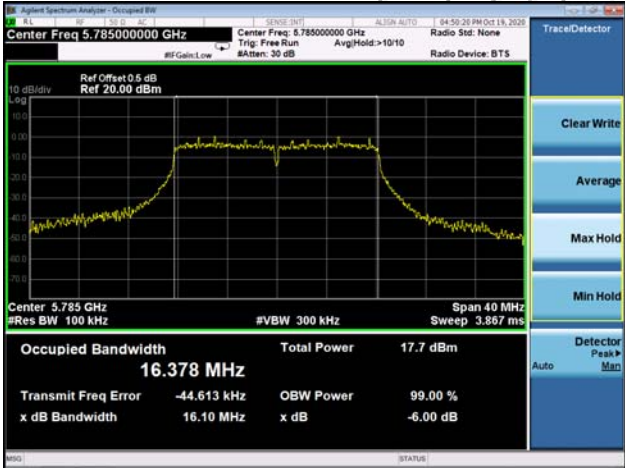





Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC120V/60Hz
Test Mode :	TX Frequency U-NII-3(5745-5825MHz)		

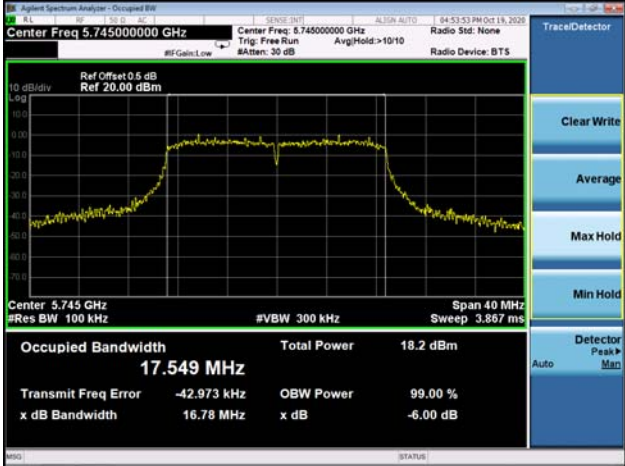
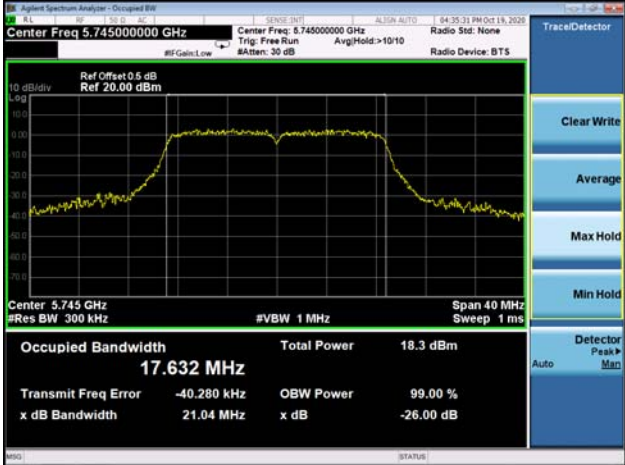
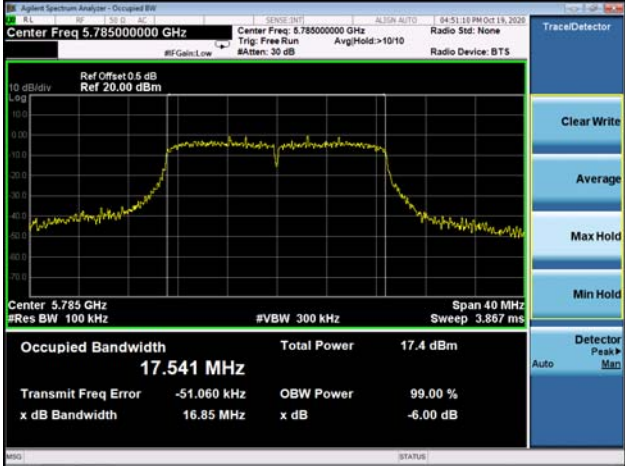
Mode	Channel	Frequency (MHz)	99% bandwidth (MHz)	6dB bandwidth (MHz)	Limit MHz	Result
802.11a	CH149	5745	16.582	16.37	≥500	Pass
	CH157	5785	16.589	16.10	≥500	Pass
	CH165	5825	16.655	15.79	≥500	Pass
802.11 n20	CH149	5745	17.632	16.78	≥500	Pass
	CH157	5785	17.583	16.85	≥500	Pass
	CH165	5825	17.617	16.33	≥500	Pass
802.11 n40	CH151	5755	36.746	35.48	≥500	Pass
	CH159	5795	36.690	35.40	≥500	Pass
802.11 ac20	CH149	5745	17.678	16.89	≥500	Pass
	CH157	5785	17.652	16.29	≥500	Pass
	CH165	5825	17.670	16.81	≥500	Pass
802.11 ac40	CH151	5755	36.828	35.38	≥500	Pass
	CH159	5795	36.716	35.40	≥500	Pass

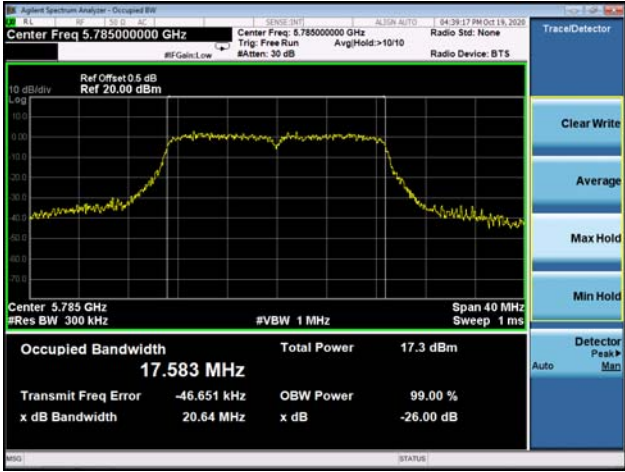
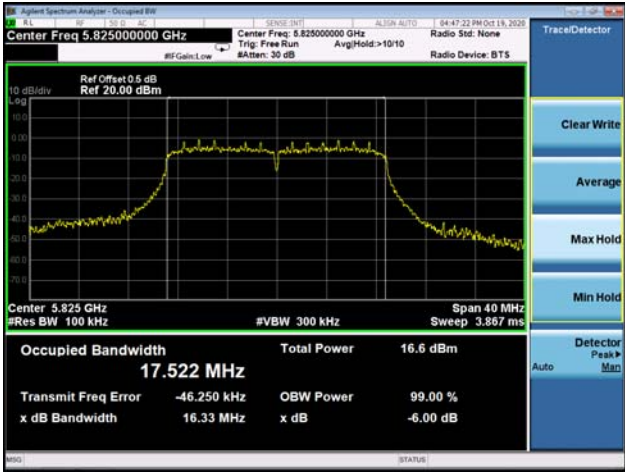
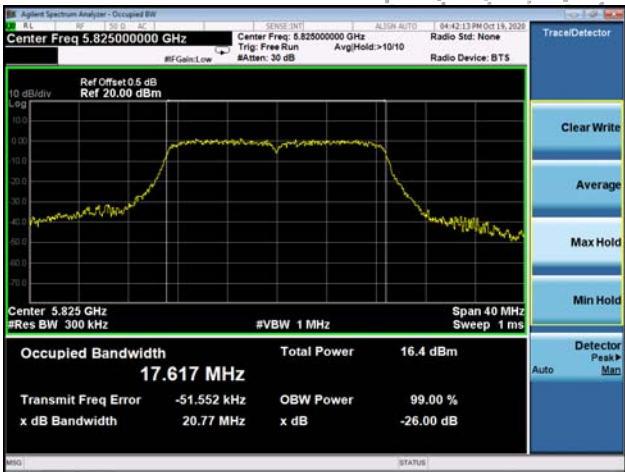


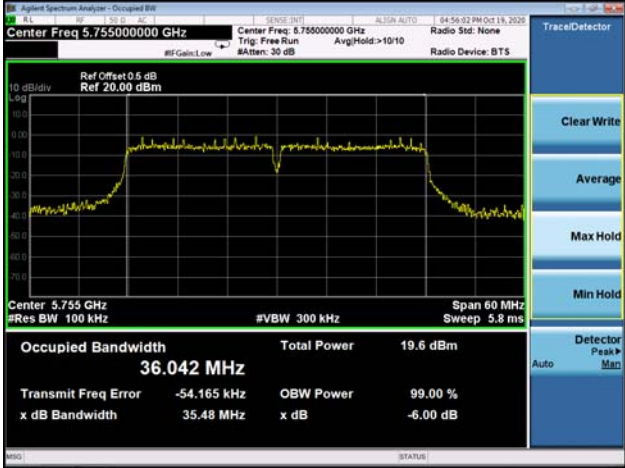
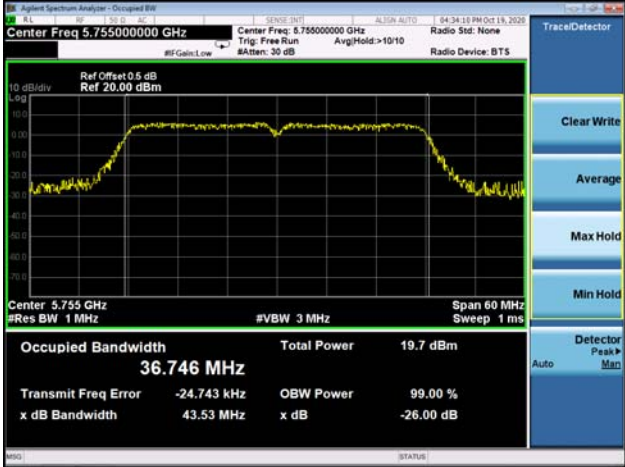
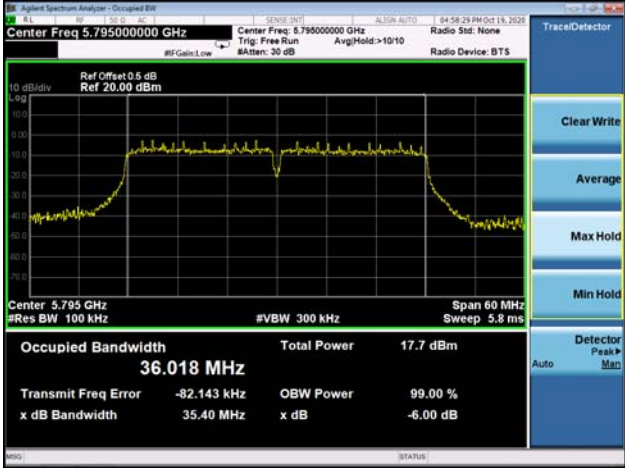
5725-5850MHz

Mode:	802.11a
<p>5745MHz 6dB bandwidth</p>	 <p>Center Freq 5.74500000 GHz</p> <p>Center Freq 5.745 GHz</p> <p>Res BW 100 kHz</p> <p>Span 40 MHz</p> <p>Sweep 3.867 ms</p> <p>Occupied Bandwidth: 16.406 MHz</p> <p>Total Power: 18.2 dBm</p> <p>Transmit Freq Error: -48.672 kHz</p> <p>x dB Bandwidth: 16.37 MHz</p>
<p>5745MHz 99% bandwidth</p>	 <p>Center Freq 5.74500000 GHz</p> <p>Center Freq 5.745 GHz</p> <p>Res BW 300 kHz</p> <p>Span 40 MHz</p> <p>Sweep 1 ms</p> <p>Occupied Bandwidth: 16.582 MHz</p> <p>Total Power: 18.3 dBm</p> <p>Transmit Freq Error: -34.295 kHz</p> <p>x dB Bandwidth: 20.04 MHz</p>
<p>5785MHz 6dB bandwidth</p>	 <p>Center Freq 5.78500000 GHz</p> <p>Center Freq 5.785 GHz</p> <p>Res BW 100 kHz</p> <p>Span 40 MHz</p> <p>Sweep 3.867 ms</p> <p>Occupied Bandwidth: 16.378 MHz</p> <p>Total Power: 17.7 dBm</p> <p>Transmit Freq Error: -44.613 kHz</p> <p>x dB Bandwidth: 16.10 MHz</p>

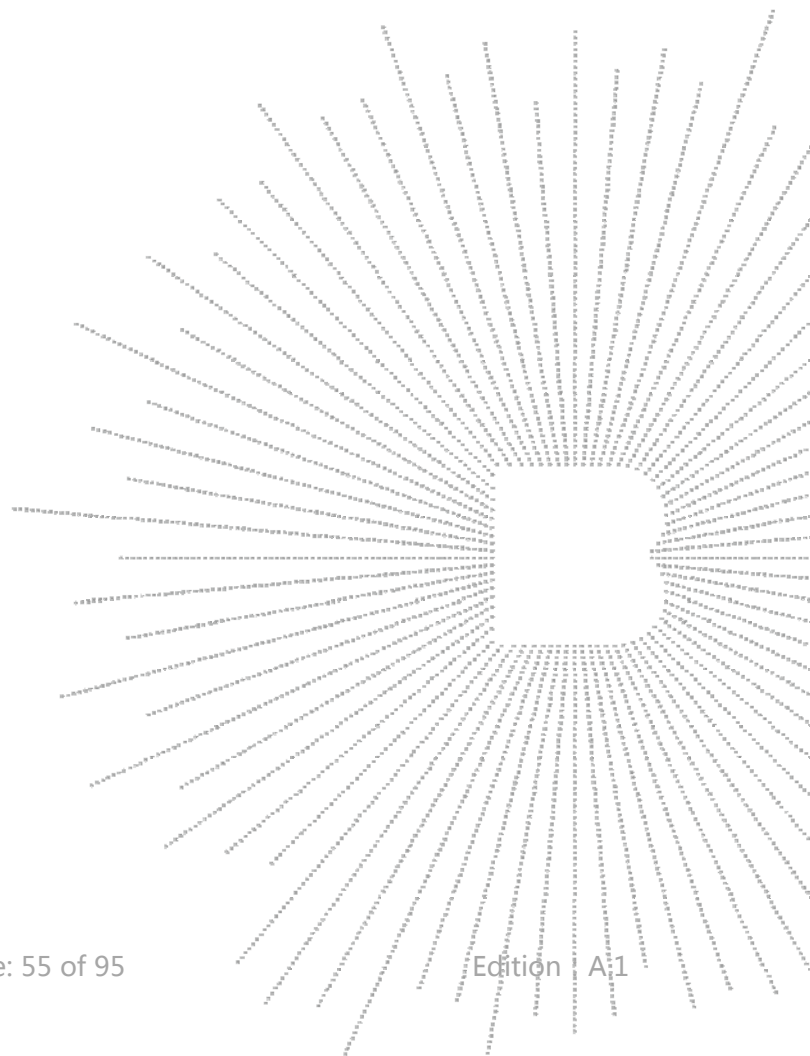
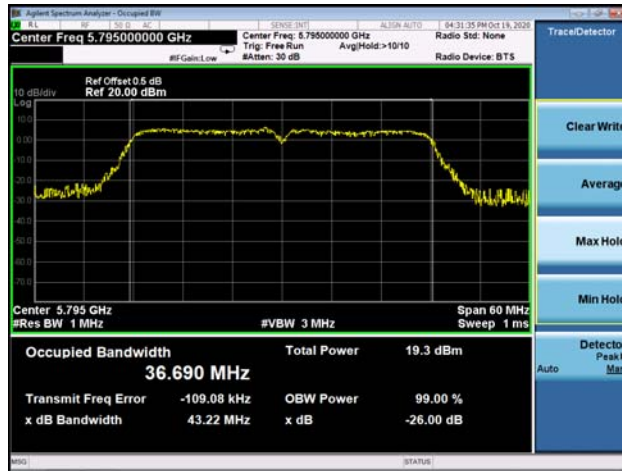
<p>5785MHz 99% bandwidth</p>	 <p>Center Freq 5.78500000 GHz</p> <p>Center Freq: 5.78500000 GHz</p> <p>Trig: Free Run</p> <p>Avg/Hold: >10/10</p> <p>Radio Device: BTS</p> <p>Ref Offset 0.5 dB</p> <p>Ref 20.00 dBm</p> <p>Center 5.785 GHz</p> <p>#Res BW 300 kHz</p> <p>#VBW 1 MHz</p> <p>Span 40 MHz</p> <p>Sweep 1 ms</p> <p>Occupied Bandwidth 16.589 MHz</p> <p>Total Power 17.3 dBm</p> <p>Transmit Freq Error -56.187 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 20.11 MHz</p> <p>x dB -26.00 dB</p>
<p>5825MHz 6dB bandwidth</p>	 <p>Center Freq 5.82500000 GHz</p> <p>Center Freq: 5.82500000 GHz</p> <p>Trig: Free Run</p> <p>Avg/Hold: >10/10</p> <p>Radio Device: BTS</p> <p>Ref Offset 0.5 dB</p> <p>Ref 20.00 dBm</p> <p>Center 5.825 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 40 MHz</p> <p>Sweep 3.867 ms</p> <p>Occupied Bandwidth 16.393 MHz</p> <p>Total Power 16.2 dBm</p> <p>Transmit Freq Error -55.539 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 15.79 MHz</p> <p>x dB -6.00 dB</p>
<p>5825MHz 99% bandwidth</p>	 <p>Center Freq 5.82500000 GHz</p> <p>Center Freq: 5.82500000 GHz</p> <p>Trig: Free Run</p> <p>Avg/Hold: >10/10</p> <p>Radio Device: BTS</p> <p>Ref Offset 0.5 dB</p> <p>Ref 20.00 dBm</p> <p>Center 5.825 GHz</p> <p>#Res BW 300 kHz</p> <p>#VBW 1 MHz</p> <p>Span 40 MHz</p> <p>Sweep 1 ms</p> <p>Occupied Bandwidth 16.655 MHz</p> <p>Total Power 16.4 dBm</p> <p>Transmit Freq Error -32.827 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 20.50 MHz</p> <p>x dB -26.00 dB</p>



Mode:	802.11n-HT20
<p>5745MHz 6dB bandwidth</p>	 <p>Center Freq 5.74500000 GHz</p> <p>Center Freq: 5.745000000 GHz</p> <p>Trig: Free Run</p> <p>Avg/Hold: >10/10</p> <p>Radio Std: None</p> <p>Radio Device: BTS</p> <p>Ref Offset 0.5 dB</p> <p>Ref 20.00 dBm</p> <p>Center 5.745 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 40 MHz</p> <p>Sweep 3.867 ms</p> <p>Occupied Bandwidth 17.549 MHz</p> <p>Total Power 18.2 dBm</p> <p>Transmit Freq Error -42.973 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 16.78 MHz</p> <p>x dB -6.00 dB</p>
<p>5745MHz 99% bandwidth</p>	 <p>Center Freq 5.74500000 GHz</p> <p>Center Freq: 5.745000000 GHz</p> <p>Trig: Free Run</p> <p>Avg/Hold: >10/10</p> <p>Radio Std: None</p> <p>Radio Device: BTS</p> <p>Ref Offset 0.5 dB</p> <p>Ref 20.00 dBm</p> <p>Center 5.745 GHz</p> <p>#Res BW 300 kHz</p> <p>#VBW 1 MHz</p> <p>Span 40 MHz</p> <p>Sweep 1 ms</p> <p>Occupied Bandwidth 17.632 MHz</p> <p>Total Power 18.3 dBm</p> <p>Transmit Freq Error -40.280 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 21.04 MHz</p> <p>x dB -26.00 dB</p>
<p>5785MHz 6dB bandwidth</p>	 <p>Center Freq 5.78500000 GHz</p> <p>Center Freq: 5.785000000 GHz</p> <p>Trig: Free Run</p> <p>Avg/Hold: >10/10</p> <p>Radio Std: None</p> <p>Radio Device: BTS</p> <p>Ref Offset 0.5 dB</p> <p>Ref 20.00 dBm</p> <p>Center 5.785 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 40 MHz</p> <p>Sweep 3.867 ms</p> <p>Occupied Bandwidth 17.541 MHz</p> <p>Total Power 17.4 dBm</p> <p>Transmit Freq Error -51.060 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 16.85 MHz</p> <p>x dB -6.00 dB</p>




<p>5785MHz 99% bandwidth</p>	 <p>Center Freq 5.78500000 GHz</p> <p>Center Freq: 5.78500000 GHz</p> <p>Trig: Free Run AvgHold: >10/10</p> <p>Radio Std: None</p> <p>Radio Device: BTS</p> <p>Ref Offset 0.5 dB</p> <p>Ref 20.00 dBm</p> <p>Center 5.785 GHz</p> <p>#Res BW 300 kHz</p> <p>#VBW 1 MHz</p> <p>Span 40 MHz</p> <p>Sweep 1 ms</p> <p>Occupied Bandwidth 17.583 MHz</p> <p>Total Power 17.3 dBm</p> <p>Transmit Freq Error -46.651 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 20.64 MHz</p> <p>x dB -26.00 dB</p>
<p>5825MHz 6dB bandwidth</p>	 <p>Center Freq 5.82500000 GHz</p> <p>Center Freq: 5.82500000 GHz</p> <p>Trig: Free Run AvgHold: >10/10</p> <p>Radio Std: None</p> <p>Radio Device: BTS</p> <p>Ref Offset 0.5 dB</p> <p>Ref 20.00 dBm</p> <p>Center 5.825 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 40 MHz</p> <p>Sweep 3.867 ms</p> <p>Occupied Bandwidth 17.522 MHz</p> <p>Total Power 16.6 dBm</p> <p>Transmit Freq Error -46.250 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 16.33 MHz</p> <p>x dB -6.00 dB</p>
<p>5825MHz 99% bandwidth</p>	 <p>Center Freq 5.82500000 GHz</p> <p>Center Freq: 5.82500000 GHz</p> <p>Trig: Free Run AvgHold: >10/10</p> <p>Radio Std: None</p> <p>Radio Device: BTS</p> <p>Ref Offset 0.5 dB</p> <p>Ref 20.00 dBm</p> <p>Center 5.825 GHz</p> <p>#Res BW 300 kHz</p> <p>#VBW 1 MHz</p> <p>Span 40 MHz</p> <p>Sweep 1 ms</p> <p>Occupied Bandwidth 17.617 MHz</p> <p>Total Power 16.4 dBm</p> <p>Transmit Freq Error -51.552 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 20.77 MHz</p> <p>x dB -26.00 dB</p>

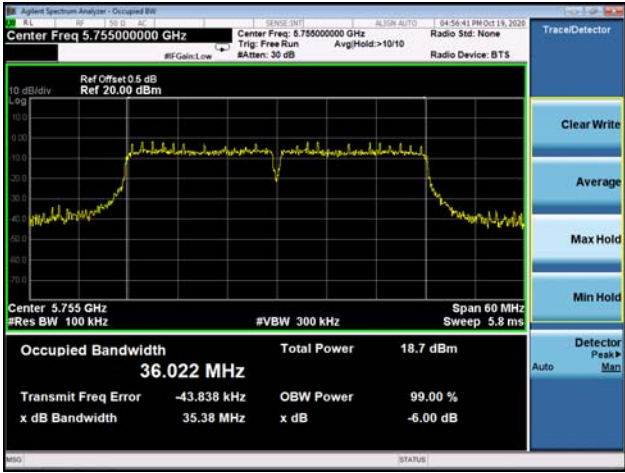

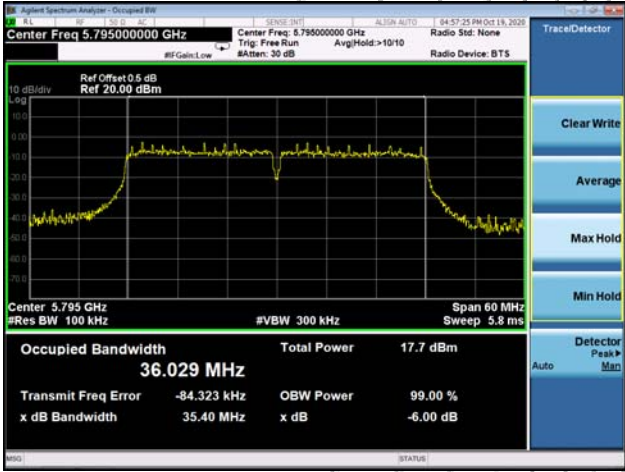
Mode:	802.11n-HT40
<p>5755 MHz 6dB bandwidth</p>	 <p>Center Freq 5.75500000 GHz</p> <p>Center Freq: 5.755000000 GHz</p> <p>Trig: Free Run</p> <p>Avg/Hold: >10/10</p> <p>Radio Std: None</p> <p>Radio Device: BTS</p> <p>Ref Offset 0.5 dB</p> <p>Ref 20.00 dBm</p> <p>Center 5.755 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 60 MHz</p> <p>Sweep 5.8 ms</p> <p>Occupied Bandwidth 36.042 MHz</p> <p>Total Power 19.6 dBm</p> <p>Transmit Freq Error -54.165 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 35.48 MHz</p> <p>x dB -6.00 dB</p>
<p>5755 MHz 99% bandwidth</p>	 <p>Center Freq 5.75500000 GHz</p> <p>Center Freq: 5.755000000 GHz</p> <p>Trig: Free Run</p> <p>Avg/Hold: >10/10</p> <p>Radio Std: None</p> <p>Radio Device: BTS</p> <p>Ref Offset 0.5 dB</p> <p>Ref 20.00 dBm</p> <p>Center 5.755 GHz</p> <p>#Res BW 1 MHz</p> <p>#VBW 3 MHz</p> <p>Span 60 MHz</p> <p>Sweep 1 ms</p> <p>Occupied Bandwidth 36.746 MHz</p> <p>Total Power 19.7 dBm</p> <p>Transmit Freq Error -24.743 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 43.53 MHz</p> <p>x dB -26.00 dB</p>
<p>5795 MHz 6dB bandwidth</p>	 <p>Center Freq 5.79500000 GHz</p> <p>Center Freq: 5.795000000 GHz</p> <p>Trig: Free Run</p> <p>Avg/Hold: >10/10</p> <p>Radio Std: None</p> <p>Radio Device: BTS</p> <p>Ref Offset 0.5 dB</p> <p>Ref 20.00 dBm</p> <p>Center 5.795 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Span 60 MHz</p> <p>Sweep 5.8 ms</p> <p>Occupied Bandwidth 36.018 MHz</p> <p>Total Power 17.7 dBm</p> <p>Transmit Freq Error -82.143 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 35.40 MHz</p> <p>x dB -6.00 dB</p>

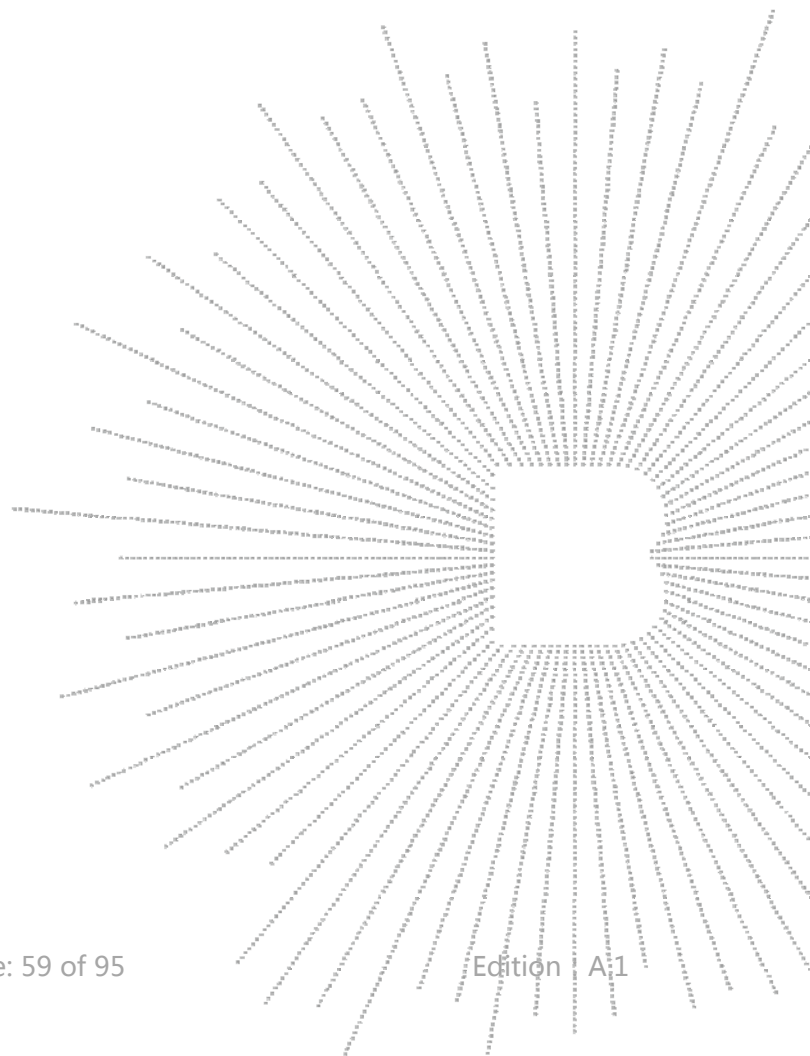
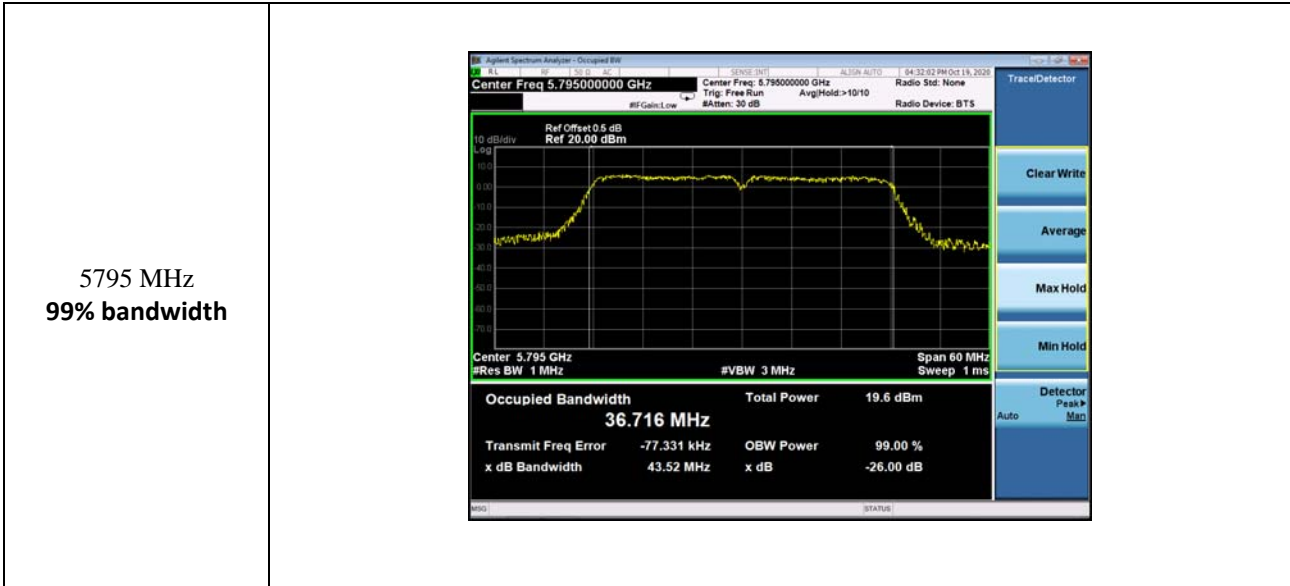
5795 MHz
99% bandwidth



Mode:	802.11ac-HT20
<p>5745MHz 6dB bandwidth</p>	 <p>Center Freq: 5.74500000 GHz</p> <p>Center Freq: 5.74500000 GHz</p> <p>Center Freq: 5.745 GHz</p> <p>Span 40 MHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Sweep 3.867 ms</p> <p>Occupied Bandwidth 17.534 MHz</p> <p>Total Power 18.2 dBm</p> <p>Transmit Freq Error -42.436 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 16.89 MHz</p> <p>x dB -6.00 dB</p>
<p>5745MHz 99% bandwidth</p>	 <p>Center Freq: 5.74500000 GHz</p> <p>Center Freq: 5.74500000 GHz</p> <p>Center Freq: 5.745 GHz</p> <p>Span 40 MHz</p> <p>#Res BW 300 kHz</p> <p>#VBW 1 MHz</p> <p>Sweep 1 ms</p> <p>Occupied Bandwidth 17.678 MHz</p> <p>Total Power 18.4 dBm</p> <p>Transmit Freq Error -49.615 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 20.70 MHz</p> <p>x dB -26.00 dB</p>
<p>5785MHz 6dB bandwidth</p>	 <p>Center Freq: 5.78500000 GHz</p> <p>Center Freq: 5.78500000 GHz</p> <p>Center Freq: 5.785 GHz</p> <p>Span 40 MHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Sweep 3.867 ms</p> <p>Occupied Bandwidth 17.545 MHz</p> <p>Total Power 17.7 dBm</p> <p>Transmit Freq Error -44.019 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 16.29 MHz</p> <p>x dB -6.00 dB</p>

<p>5785MHz 99% bandwidth</p>	
<p>5825MHz 6dB bandwidth</p>	
<p>5825MHz 99% bandwidth</p>	

Mode:	802.11ac-HT40
<p>5755 MHz 6dB bandwidth</p>	 <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 5.75500000 GHz Center Freq: 5.755000000 GHz Radio Std: None</p> <p>Ref Offset: 0.5 dB Ref: 20.00 dBm</p> <p>10 dB/div Log</p> <p>Center: 5.755 GHz #Res BW: 100 kHz #VBW: 300 kHz Span: 60 MHz Sweep: 5.8 ms</p> <p>Occupied Bandwidth: 36.022 MHz Total Power: 18.7 dBm</p> <p>Transmit Freq Error: -43.838 kHz OBW Power: 99.00 %</p> <p>x dB Bandwidth: 35.38 MHz x dB: -6.00 dB</p>
<p>5755 MHz 99% bandwidth</p>	 <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 5.75500000 GHz Center Freq: 5.755000000 GHz Radio Std: None</p> <p>Ref Offset: 0.5 dB Ref: 20.00 dBm</p> <p>10 dB/div Log</p> <p>Center: 5.755 GHz #Res BW: 1 MHz #VBW: 3 MHz Span: 60 MHz Sweep: 1 ms</p> <p>Occupied Bandwidth: 36.828 MHz Total Power: 20.0 dBm</p> <p>Transmit Freq Error: 32.437 kHz OBW Power: 99.00 %</p> <p>x dB Bandwidth: 43.99 MHz x dB: -26.00 dB</p>
<p>5795 MHz 6dB bandwidth</p>	 <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 5.79500000 GHz Center Freq: 5.795000000 GHz Radio Std: None</p> <p>Ref Offset: 0.5 dB Ref: 20.00 dBm</p> <p>10 dB/div Log</p> <p>Center: 5.795 GHz #Res BW: 100 kHz #VBW: 300 kHz Span: 60 MHz Sweep: 5.8 ms</p> <p>Occupied Bandwidth: 36.029 MHz Total Power: 17.7 dBm</p> <p>Transmit Freq Error: -84.323 kHz OBW Power: 99.00 %</p> <p>x dB Bandwidth: 35.40 MHz x dB: -6.00 dB</p>



10. MAXIMUM CONDUCTED OUTPUT POWER

10.1 Block Diagram Of Test Setup



10.2 Limit

According to FCC §15.407

The maximum conducted output power should not exceed:

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

10.3 Test procedure

Maximum conducted output power may be measured using a spectrum analyzer/EMI receiver or an RF 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 \geq 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 = 1 MHz.

(iii) Set VBW ≥ 3 MHz.

(iv) Number of points in sweep ≥ 2 Span / RBW. (This ensures that bin-to-bin spacing is \leq 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

10.4 EUT operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

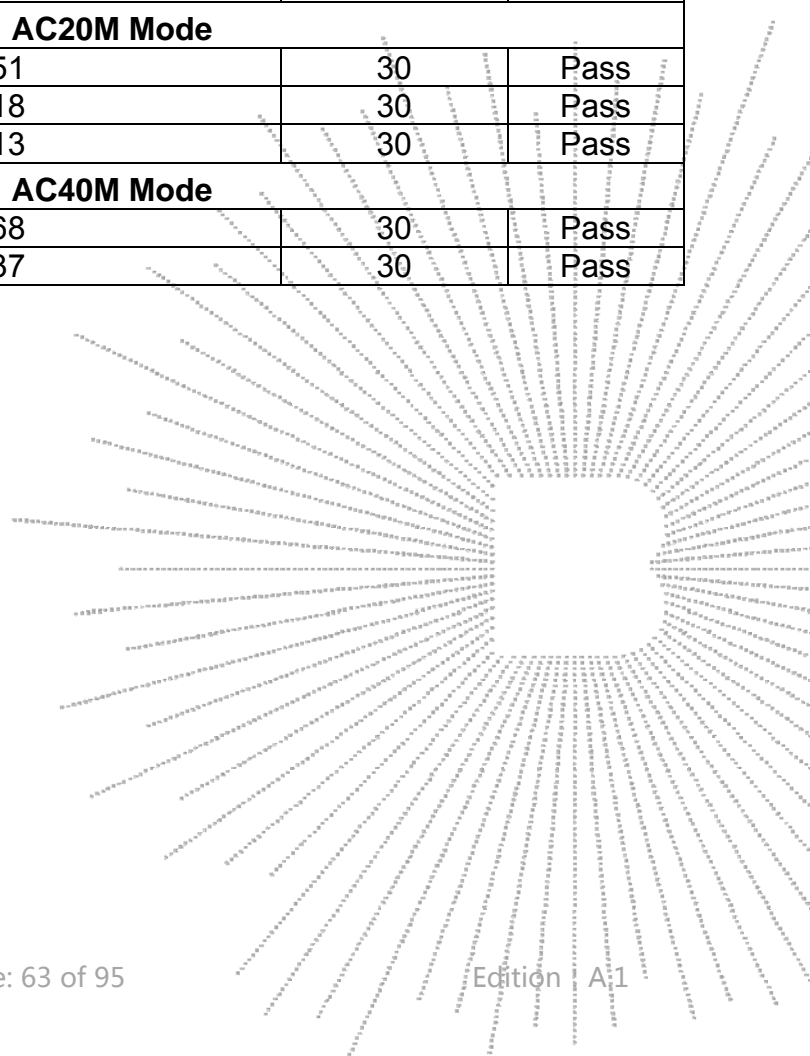
10.5 Test Result

Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC120V/60Hz
Test Mode :	TX (5G) Mode Frequency U-NII-1 (5180-5240MHz)		

Test Channel	Frequency	Maximum output power. Antenna port (AV)	LIMIT	Result
	(MHz)		dBm	
TX 802.11a Mode				
CH36	5180	15.629	30	Pass
CH40	5200	15.316	30	Pass
CH48	5240	14.746	30	Pass
TX 802.11 n20M Mode				
CH36	5180	14.733	30	Pass
CH40	5200	14.860	30	Pass
CH48	5240	14.213	30	Pass
TX 802.11 n40M Mode				
CH38	5190	13.496	30	Pass
CH46	5230	13.051	30	Pass
TX 802.11 AC20M Mode				
CH36	5180	14.546	30	Pass
CH40	5200	14.462	30	Pass
CH48	5240	14.005	30	Pass
TX 802.11 AC40M Mode				
CH38	5190	13.261	30	Pass
CH46	5230	12.664	30	Pass

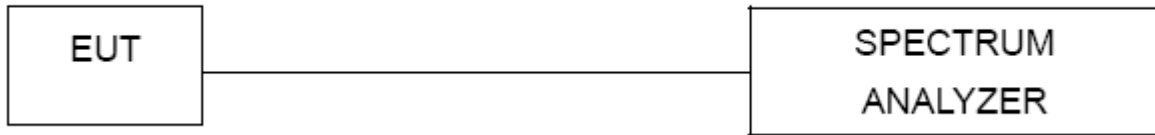
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC120V/60Hz
Test Mode :	TX (5G) Mode Frequency U-NII-3 (5745-5825MHz)		

Test Channel	Frequency	Maximum output power. Antenna port (AV)	LIMIT	Result
	(MHz)		dBm	
TX 802.11a Mode				
CH 149	5745	15.457	30	Pass
CH 157	5785	14.825	30	Pass
CH 165	5825	14.760	30	Pass
TX 802.11 n20M Mode				
CH 149	5745	14.293	30	Pass
CH 157	5785	14.403	30	Pass
CH 165	5825	14.065	30	Pass
TX 802.11 n40M Mode				
CH 151	5755	13.520	30	Pass
CH 159	5795	12.641	30	Pass
TX 802.11 AC20M Mode				
CH 149	5745	14.551	30	Pass
CH 157	5785	14.718	30	Pass
CH 165	5825	13.613	30	Pass
TX 802.11 AC40M Mode				
CH 151	5755	13.268	30	Pass
CH 159	5795	12.637	30	Pass



11. OUT OF BAND EMISSIONS

11.1 Block Diagram Of Test Setup



11.2 Limit

According to FCC §15.407(b)

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(2) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

11.3 Test procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

11.4 EUT operating Conditions

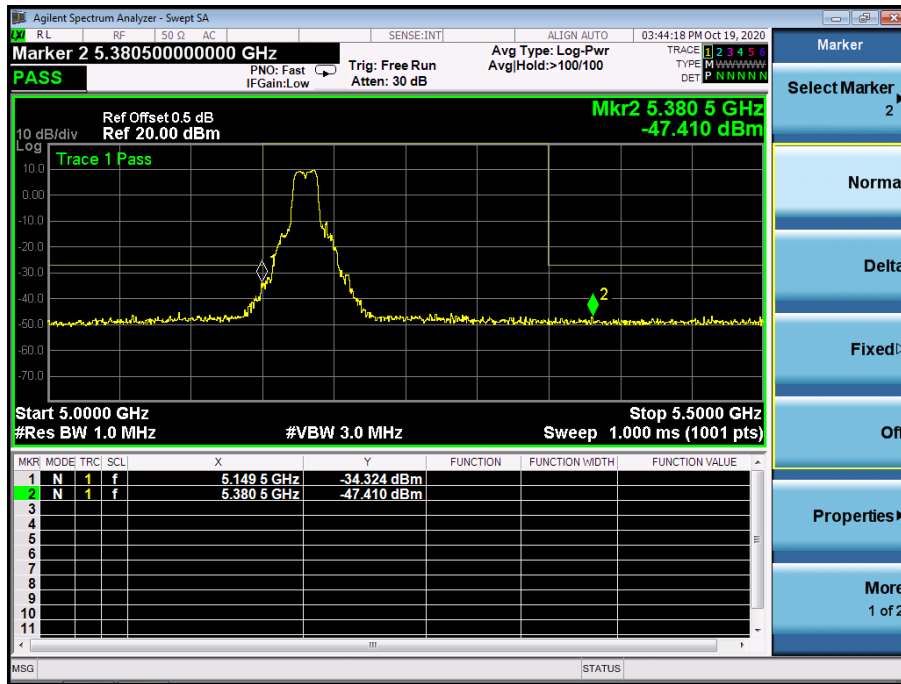
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data

11.5 Test Result

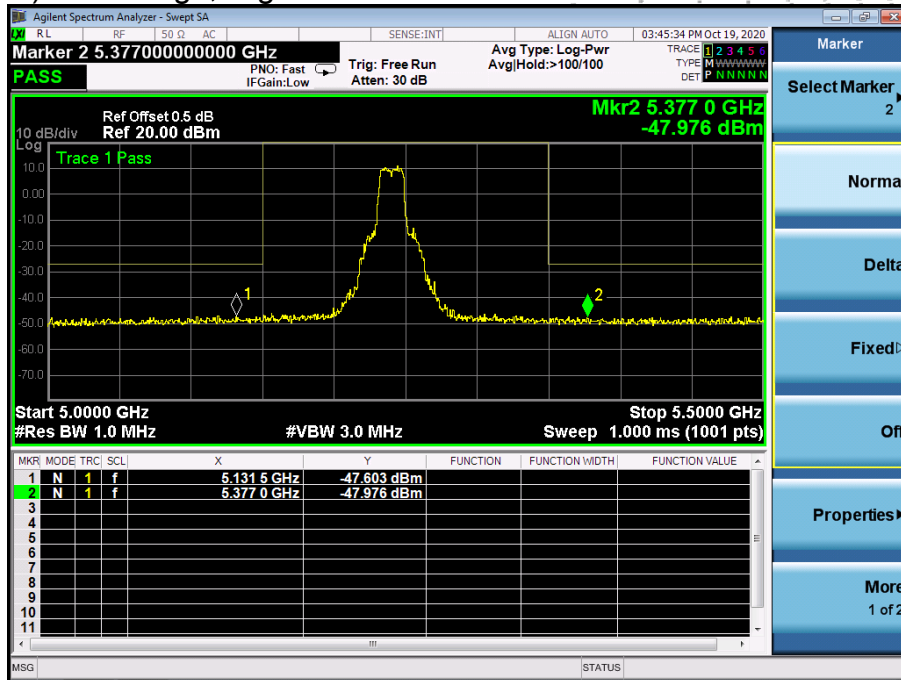
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	AC120V/60Hz

5.180~5.240 GHz

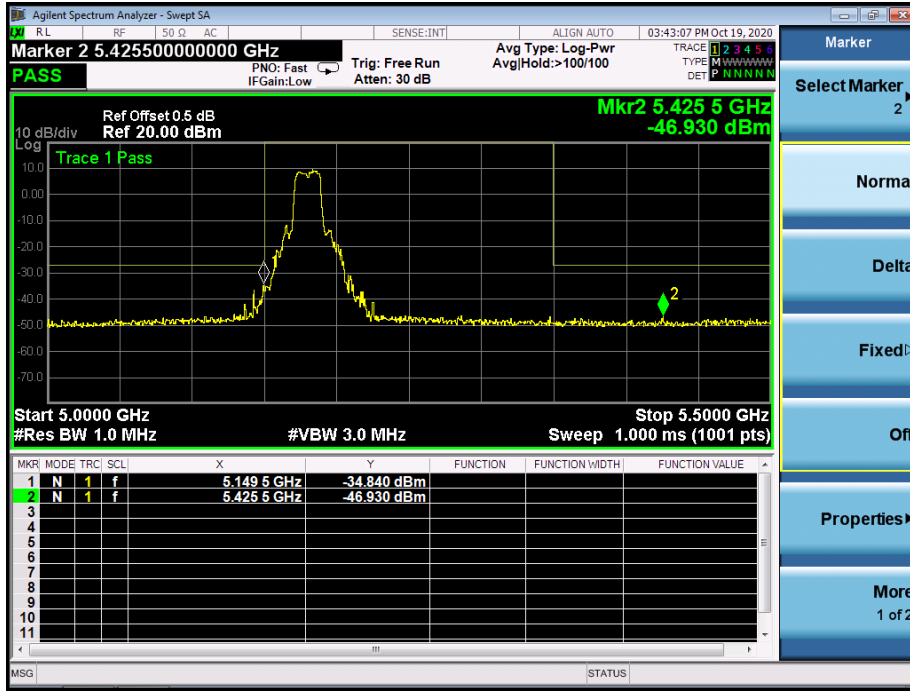
(802.11a) Band Edge, Left Side



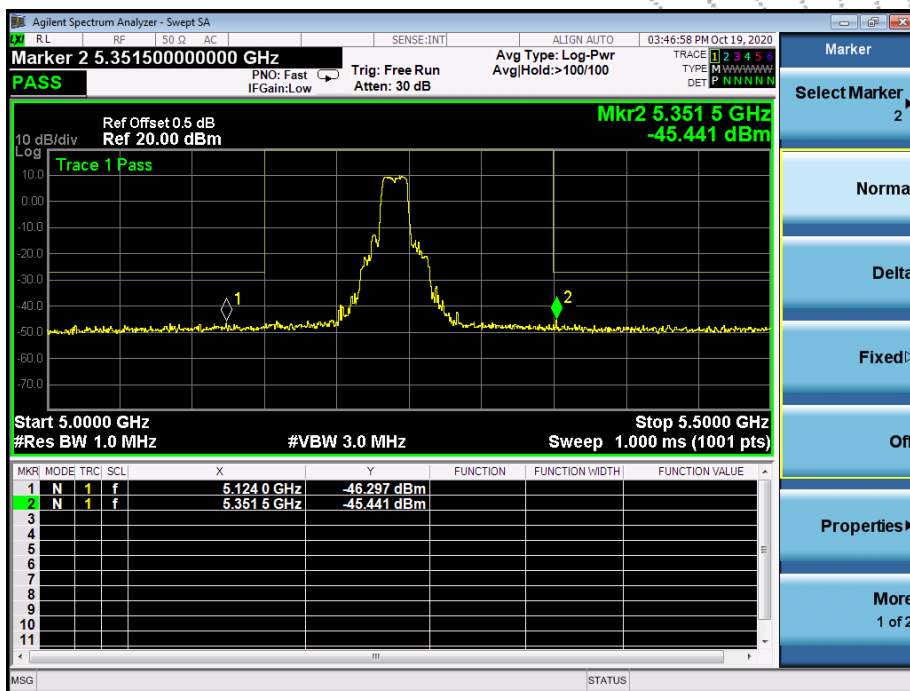
(802.11a) Band Edge, Right Side



(802.11n20) Band Edge, Left Side

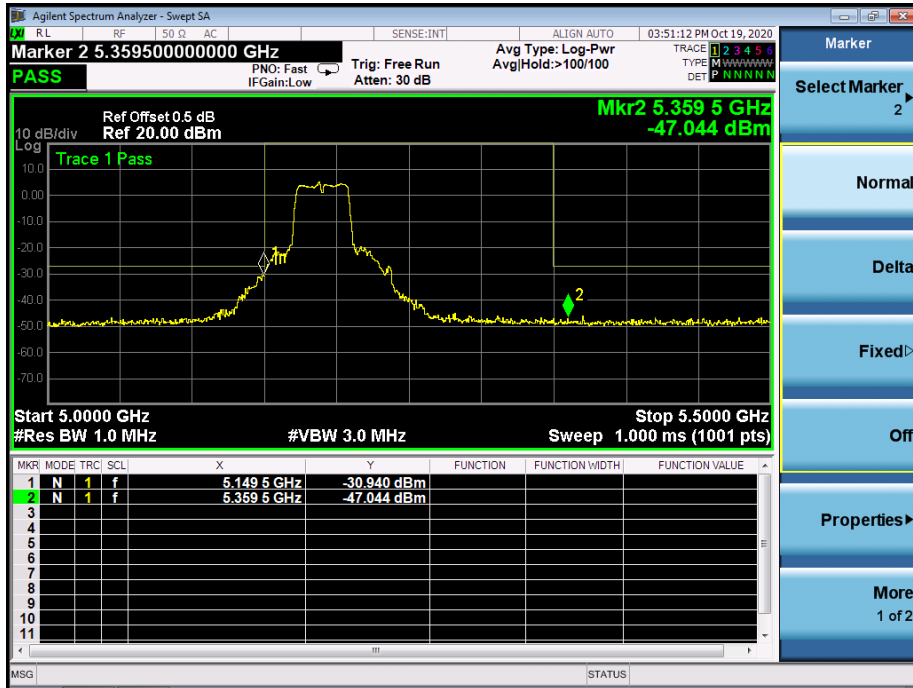


(802.11n20) Band Edge, Right Side

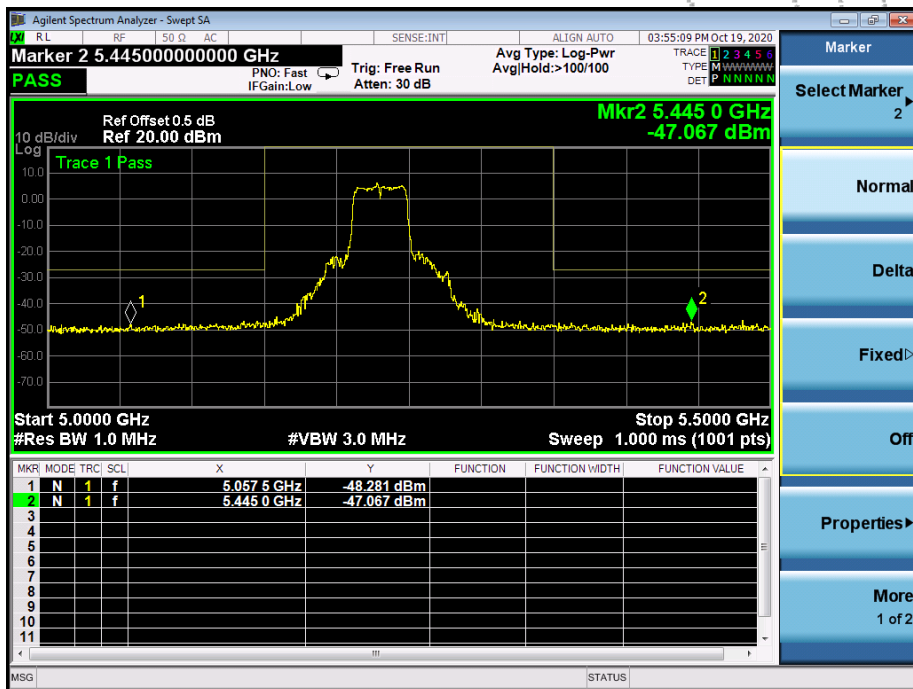


5.180~5.240 GHz

(802.11n40) Band Edge, Left Side

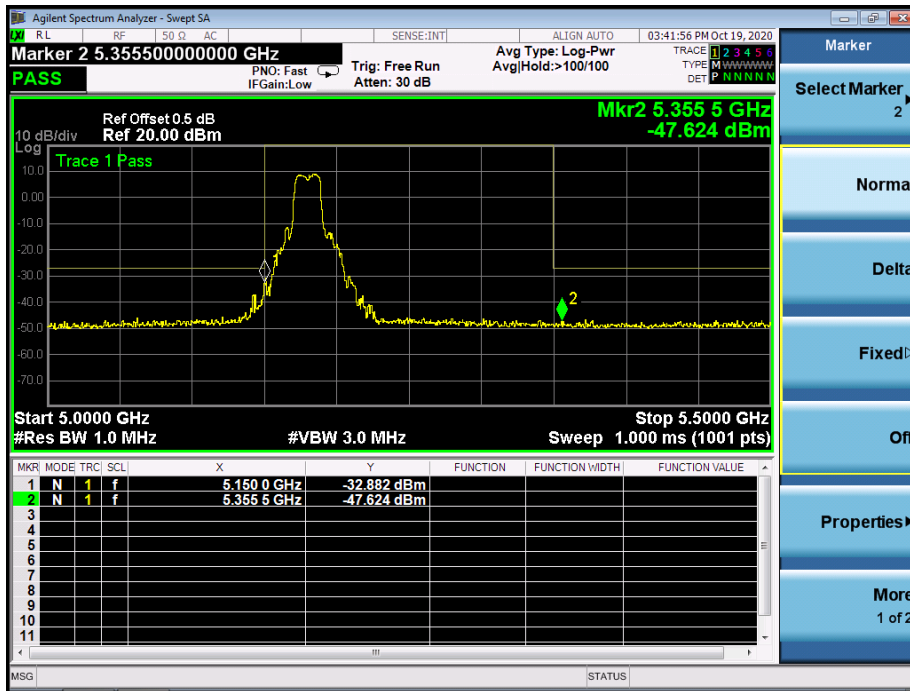


(802.11n40) Band Edge, Right Side

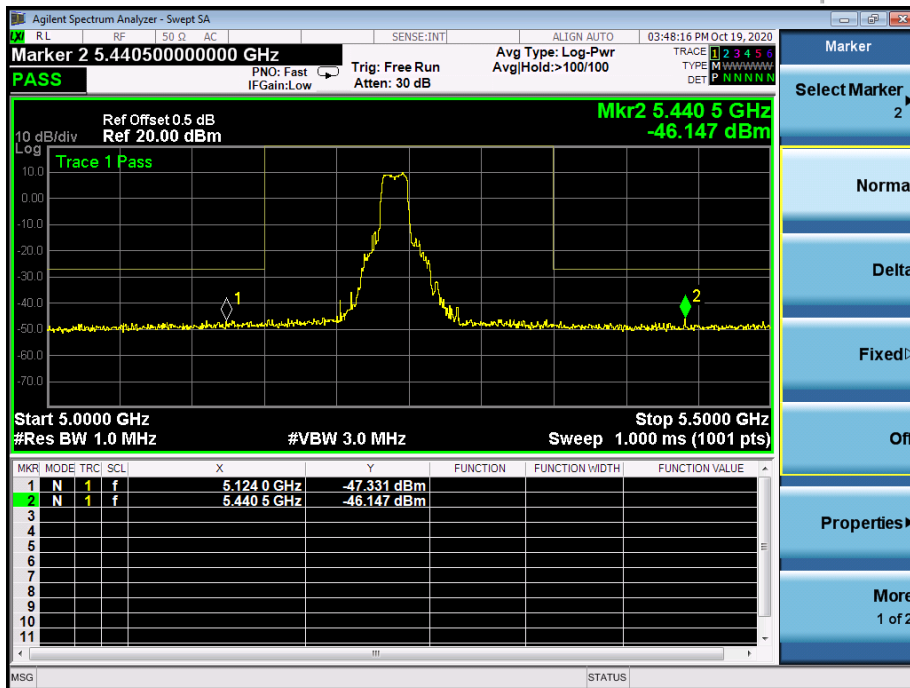


5.180~5.240 GHz

(802.11ac20) Band Edge, Left Side

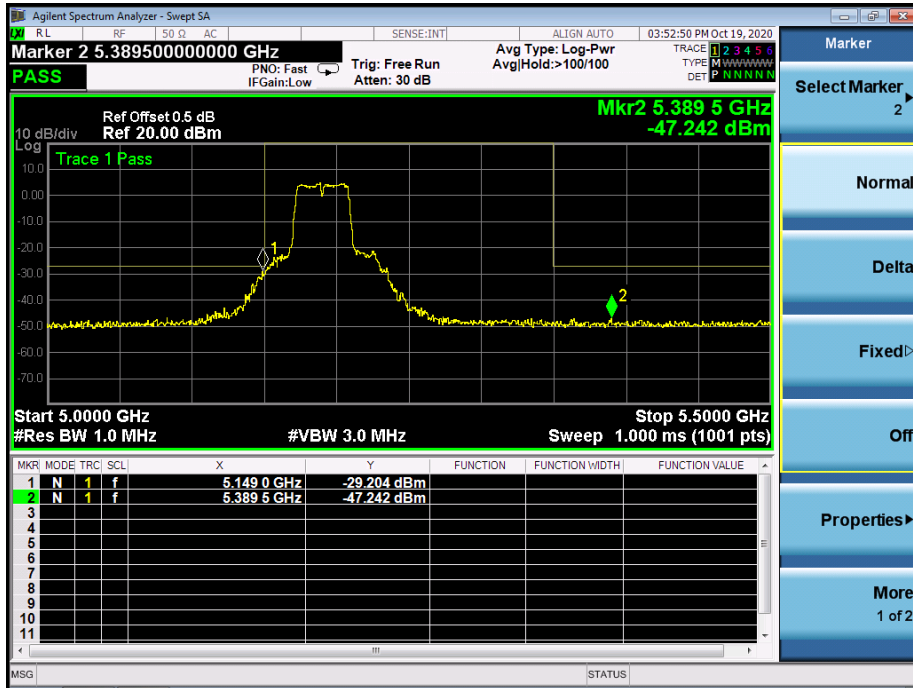


(802.11ac20) Band Edge, Right Side

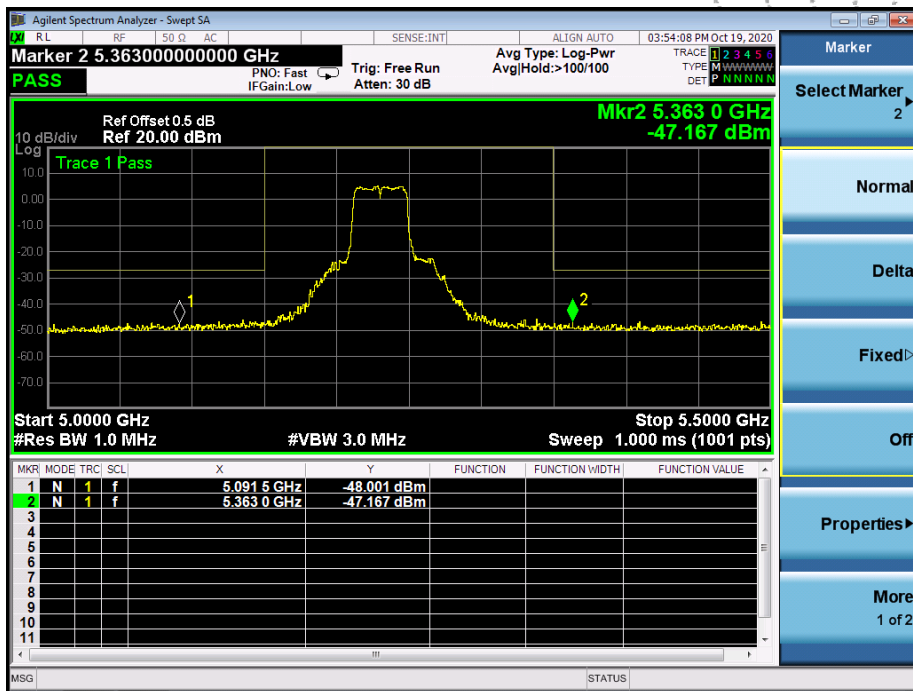


5.180~5.240 GHz

(802.11ac40) Band Edge, Left Side

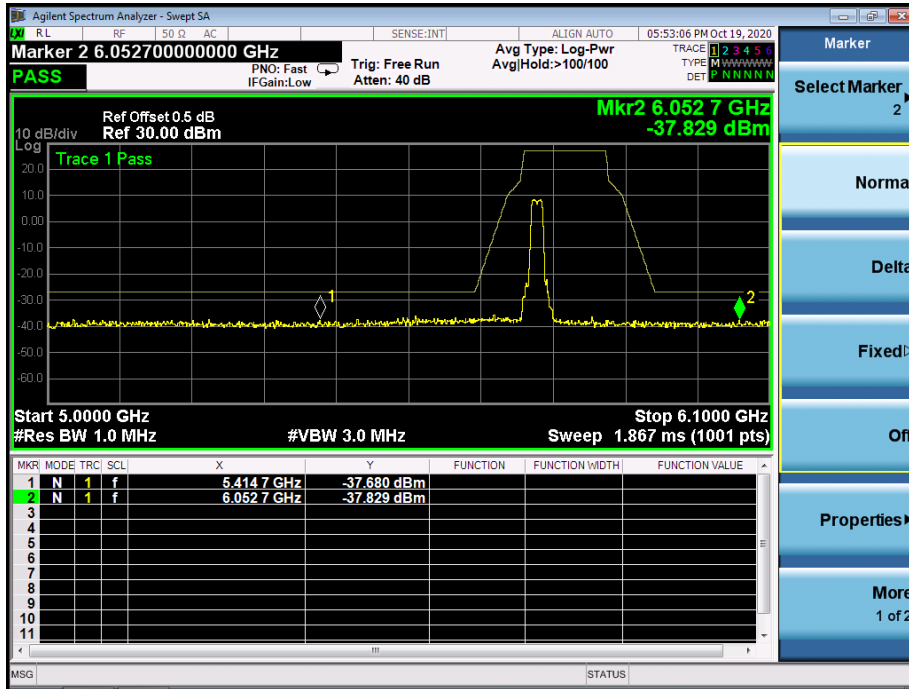


(802.11ac40) Band Edge, Right Side

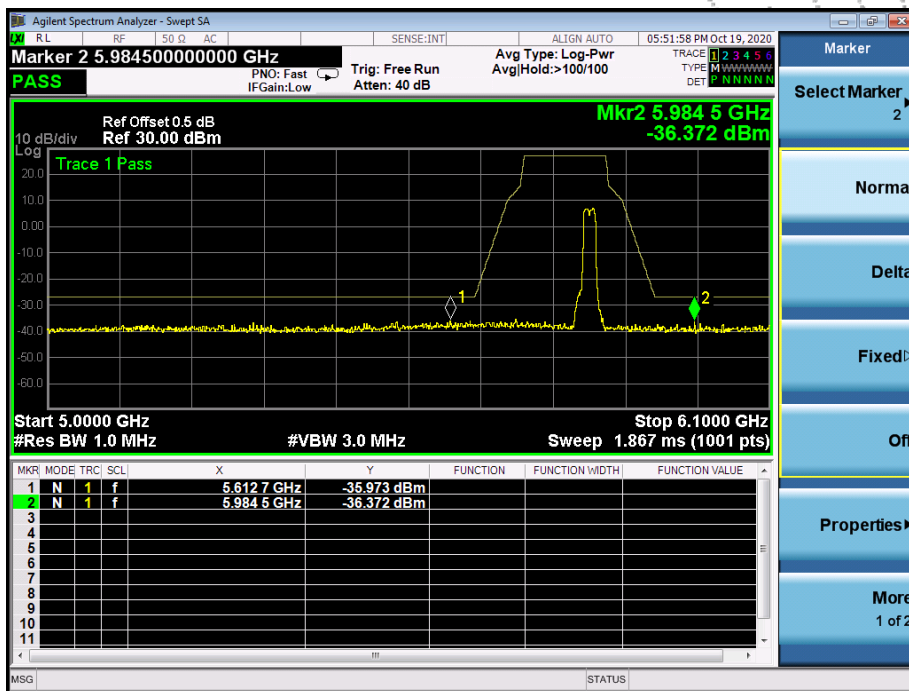


5.745~5.825 GHz

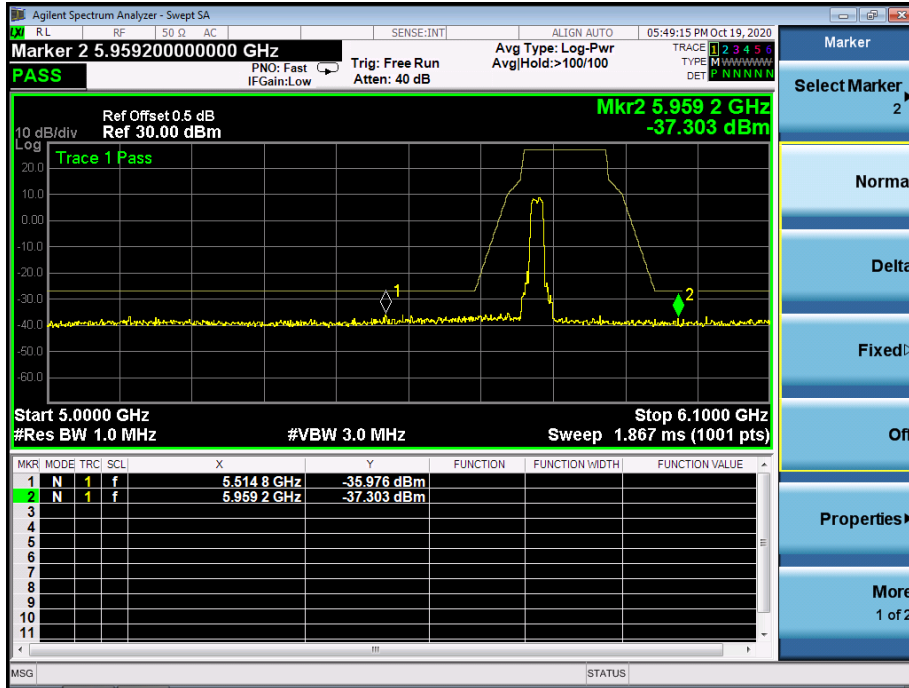
(802.11a) Band Edge, Left Side



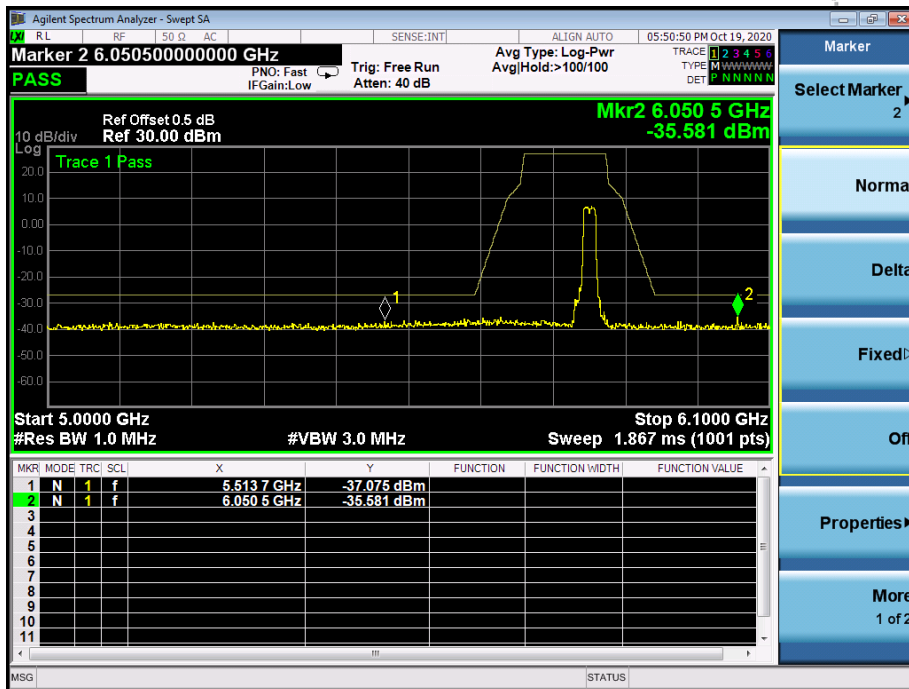
(802.11a) Band Edge, Right Side



(802.11 n20) Band Edge, Left Side

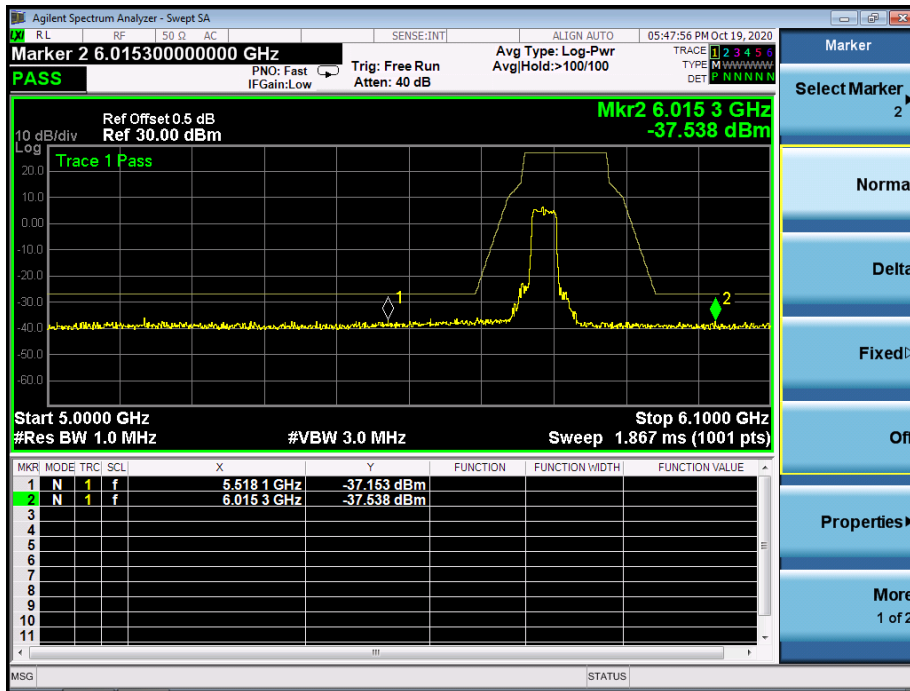


(802.11n20) Band Edge, Right Side

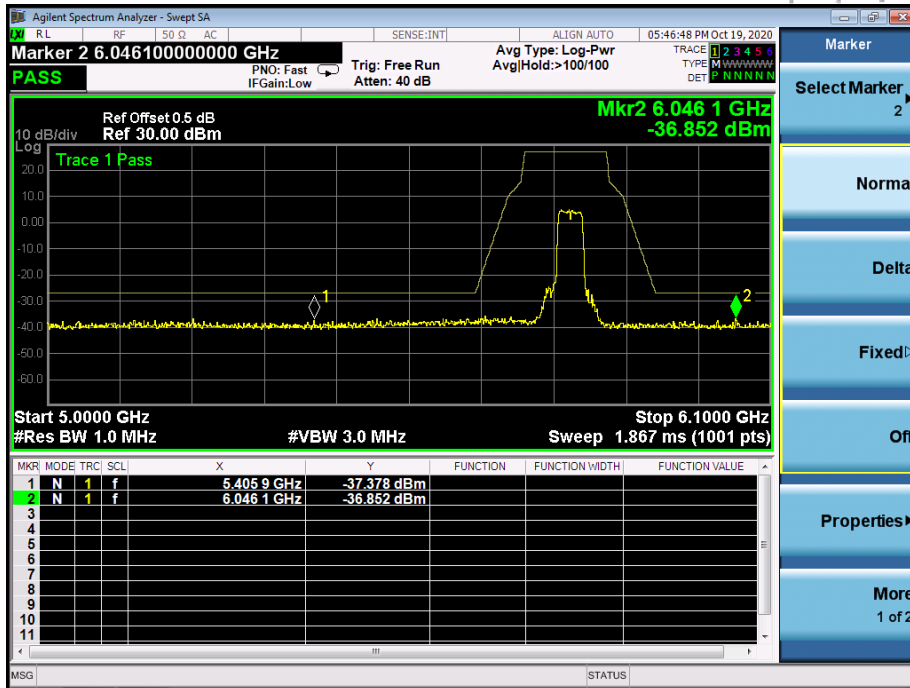


5.745~5.825 GHz

(802.11n40) Band Edge, Left Side

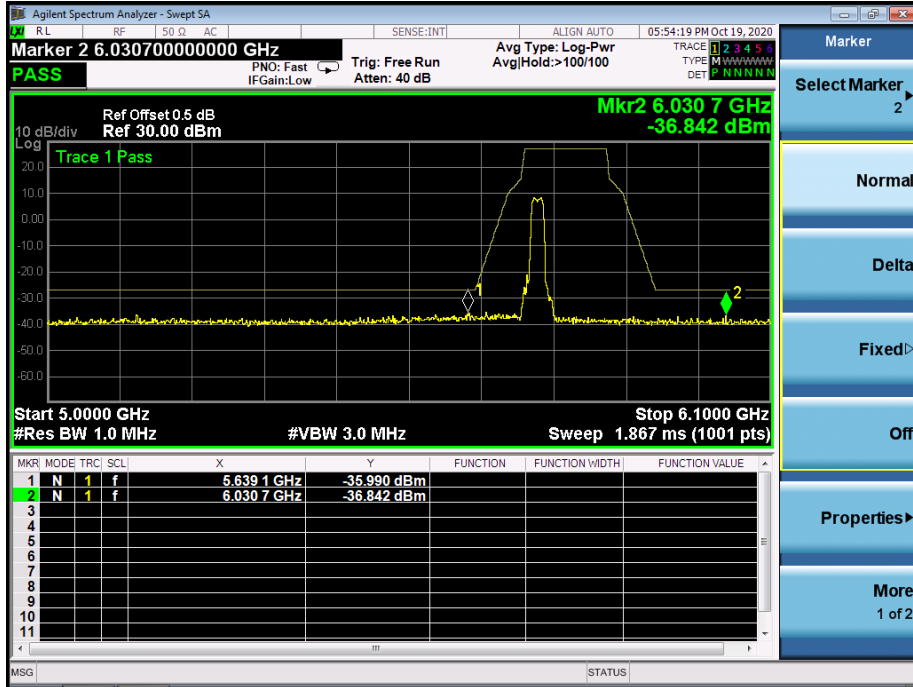


(802.11n40) Band Edge, Right Side

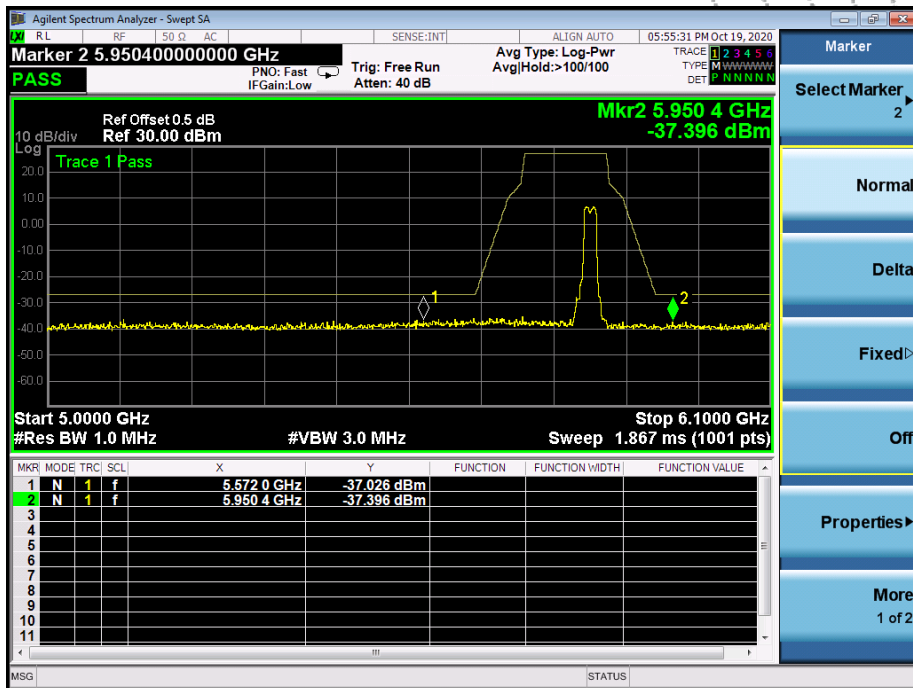


5.745~5.825 GHz

(802.11ac20) Band Edge, Left Side

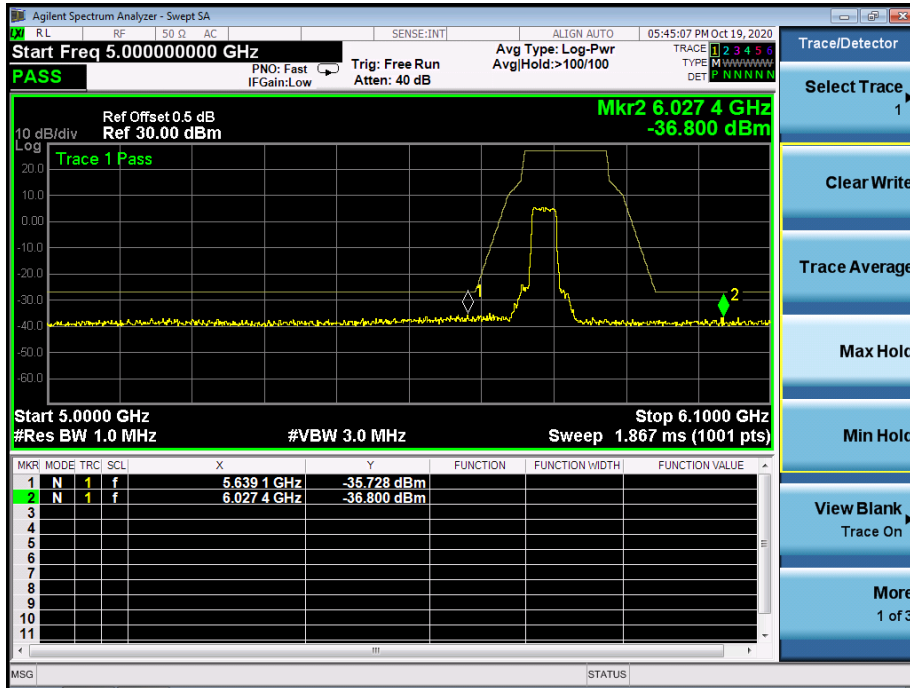


(802.11 ac20) Band Edge, Right Side

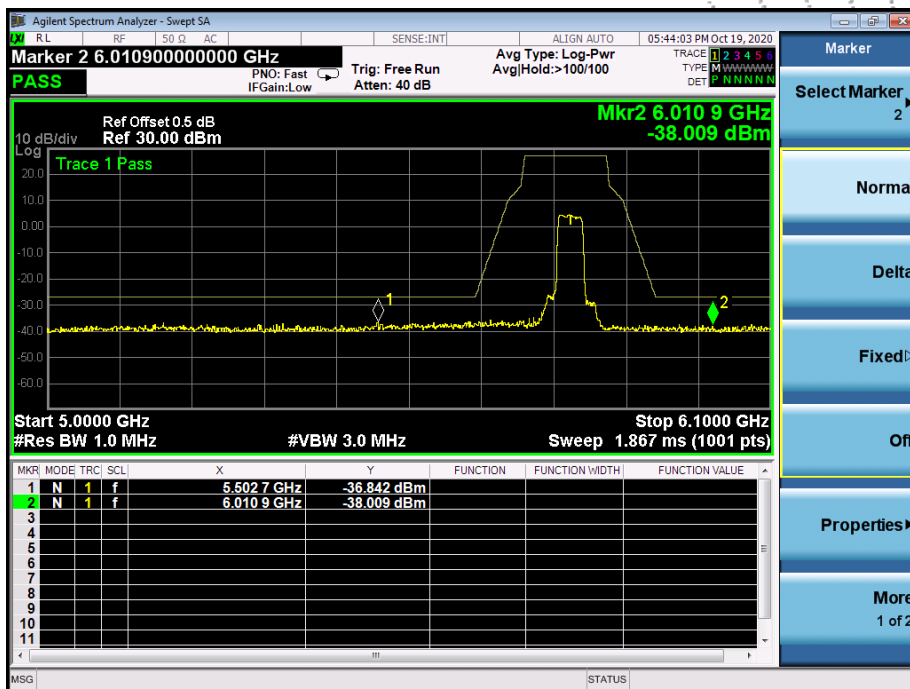


5.745~5.825 GHz

(802.11ac40) Band Edge, Left Side



(802.11ac40) Band Edge, Right Side



12. SPURIOUS RF CONDUCTED EMISSIONS

12.1 Block Diagram Of Test Setup



12.2 Limit

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(2) For transmitters operating in the 5.725-5.85 GHz band(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge..

12.3 Test procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.