



26 dB RF Bandwidth & 99 % Occupied Bandwidth Measurement

Test Mode	Mode 2: IEEE 802.11a Continuous TX mode			
Frequency (MHz)	26 dB Bandwidth (MHz)		99 % Occupied Bandwidth (MHz)	
	Ant-0	Ant-1	Ant-0	Ant-1
5180	19.980	19.070	16.493	16.448
5200	35.150	32.220	17.769	17.055
5240	35.140	32.820	18.050	17.265

Test Mode	Mode 3: IEEE 802.11ac 20 MHz Continuous TX mode			
Frequency (MHz)	26 dB Bandwidth (MHz)		99 % Occupied Bandwidth (MHz)	
	Ant-0	Ant-1	Ant-0	Ant-1
5180	20.520	20.470	17.623	17.635
5200	35.530	32.580	18.245	18.099
5240	35.590	32.900	18.578	18.226

Test Mode	Mode 4: IEEE 802.11ac 40 MHz Continuous TX mode			
Frequency (MHz)	26 dB Bandwidth (MHz)		99 % Occupied Bandwidth (MHz)	
	Ant-0	Ant-1	Ant-0	Ant-1
5190	40.380	40.470	36.007	35.989
5230	49.450	45.240	36.151	36.077

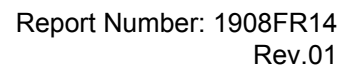
Test Mode	Mode 5: IEEE 802.11ac 80 MHz Continuous TX mode			
Frequency (MHz)	26 dB Bandwidth (MHz)		99 % Occupied Bandwidth (MHz)	
	Ant-0	Ant-1	Ant-0	Ant-1
5210	83.520	83.290	75.729	75.643

Note: The 99 % occupied bandwidth not crossed 5250 MHz.

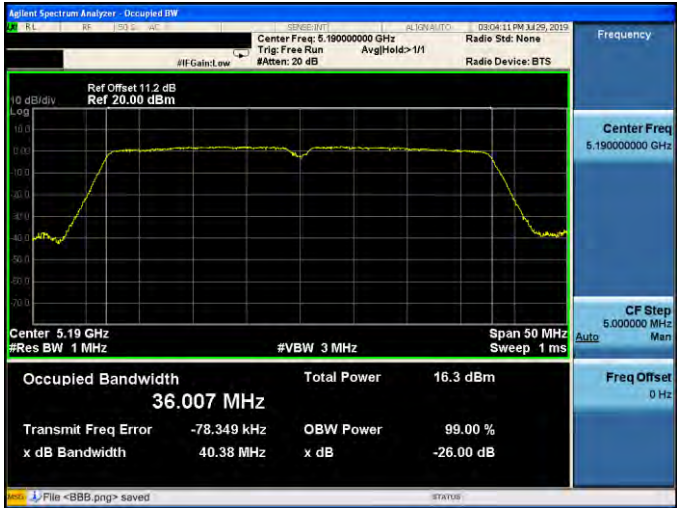


Test Graphs

Mode 2: IEEE 802.11a Continuous TX mode_ Ant-0	
5180 MHz	
5200 MHz	
5240 MHz	

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Mode 4: IEEE 802.11ac 40 MHz Continuous TX mode_ ANT-0	
5190 MHz	 Ref Offset 11.2 dB Ref 20.00 dBm Center 5.19 GHz #Res BW 1 MHz #VBW 3 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 36.007 MHz Total Power 16.3 dBm Transmit Freq Error -78.349 kHz OBW Power 99.00 % x dB Bandwidth 40.38 MHz x dB -26.00 dB File <BBB.png> saved
5230 MHz	 Ref Offset 11.2 dB Ref 20.00 dBm Center 5.23 GHz #Res BW 1 MHz #VBW 3 MHz Span 50 MHz Sweep 1 ms Occupied Bandwidth 36.151 MHz Total Power 23.5 dBm Transmit Freq Error -30.784 kHz OBW Power 99.00 % x dB Bandwidth 49.45 MHz x dB -26.00 dB File <BBB.png> saved
Mode 5: IEEE 802.11ac 80 MHz Continuous TX mode_ ANT-0	
5210 MHz	 Ref Offset 11.2 dB Ref 20.00 dBm Center 5.21 GHz #Res BW 1 MHz #VBW 3 MHz Span 100 MHz Sweep 1 ms Occupied Bandwidth 75.729 MHz Total Power 13.3 dBm Transmit Freq Error -85.116 kHz OBW Power 99.00 % x dB Bandwidth 83.52 MHz x dB -26.00 dB File <BBB.png> saved



Mode 2: IEEE 802.11a Continuous TX mode_ Ant-1	
5180 MHz	
5200 MHz	
5240 MHz	



Mode 3: IEEE 802.11ac 20 MHz Continuous TX mode_ ANT-1

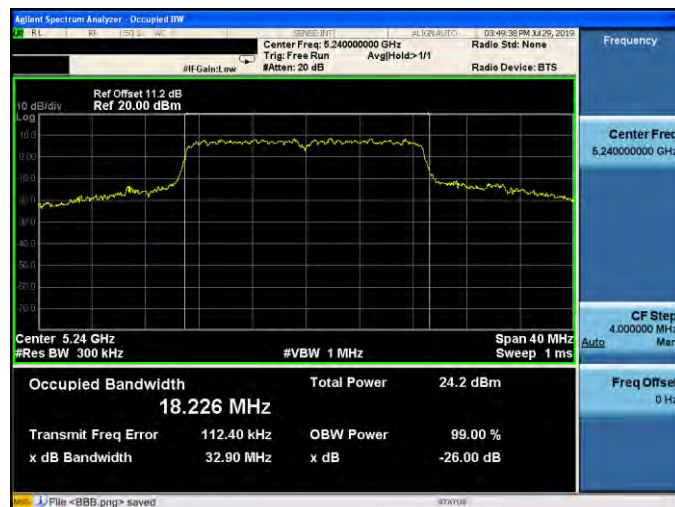
5180 MHz



5200 MHz



5240 MHz





Mode 4: IEEE 802.11ac 40 MHz Continuous TX mode_ ANT-1

5190 MHz



5230 MHz



Mode 5: IEEE 802.11ac 80 MHz Continuous TX mode_ ANT-1

5210 MHz





6 dB RF Bandwidth Measurement

Test Mode	Mode 2: IEEE 802.11a Continuous TX mode		
Frequency (MHz)	ANT-0	ANT-1	Limit (kHz)
5745	16310	16330	≥ 500
5785	16080	16320	≥ 500
5825	16330	16340	≥ 500

Test Mode	Mode 3: IEEE 802.11ac 20 MHz Continuous TX mode		
Frequency (MHz)	ANT-0	ANT-1	Limit (kHz)
5745	17600	17280	≥ 500
5785	17590	17350	≥ 500
5825	17590	17360	≥ 500

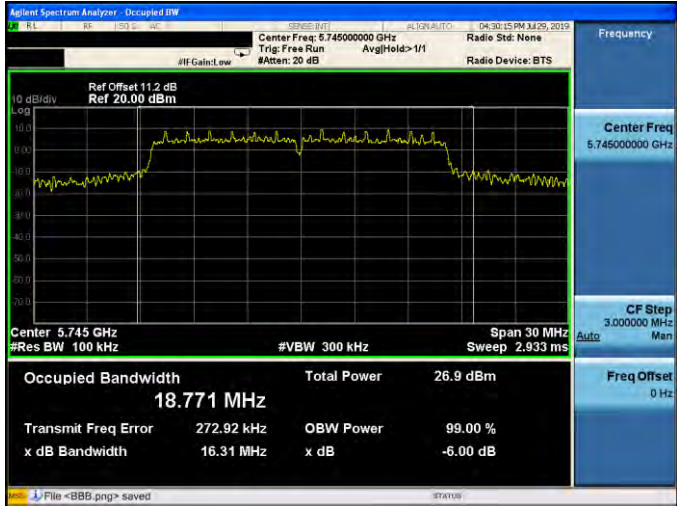
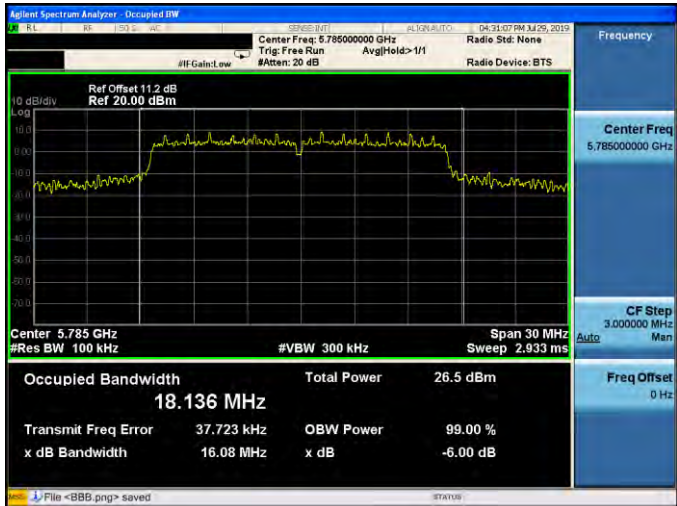
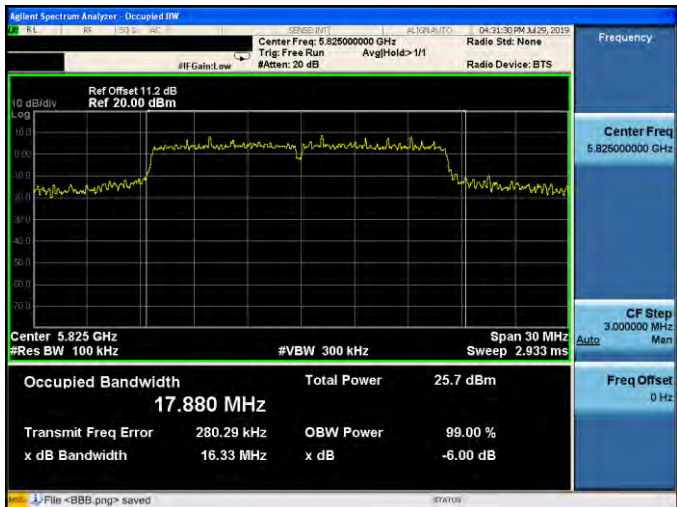
Test Mode	Mode 4: IEEE 802.11ac 40 MHz Continuous TX mode		
Frequency (MHz)	ANT-0	ANT-1	Limit (kHz)
5755	35310	35160	≥ 500
5795	35170	35180	≥ 500

Test Mode	Mode 5: IEEE 802.11ac 80 MHz Continuous TX mode		
Frequency (MHz)	ANT-0	ANT-1	Limit (kHz)
5775	75800	75800	≥ 500



Test Graphs

Mode 2: IEEE 802.11a Continuous TX mode_ANT-0

5745 MHz	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 5.74500000 GHz Trig: Free Run Avg/Hold: 1/1 Radio Std: None Radio Device: BTS Ref Offset 11.2 dB Ref 20.00 dBm Center 5.745 GHz #Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 18.771 MHz Total Power 26.9 dBm Transmit Freq Error 272.92 kHz OBW Power 99.00 % x dB Bandwidth 16.31 MHz x dB -6.00 dB File <BBB.png> saved
5785 MHz	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 5.78500000 GHz Trig: Free Run Avg/Hold: 1/1 Radio Std: None Radio Device: BTS Ref Offset 11.2 dB Ref 20.00 dBm Center 5.785 GHz #Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 18.136 MHz Total Power 26.5 dBm Transmit Freq Error 37.723 kHz OBW Power 99.00 % x dB Bandwidth 16.08 MHz x dB -6.00 dB File <BBB.png> saved
5825 MHz	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 5.82500000 GHz Trig: Free Run Avg/Hold: 1/1 Radio Std: None Radio Device: BTS Ref Offset 11.2 dB Ref 20.00 dBm Center 5.825 GHz #Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 17.880 MHz Total Power 25.7 dBm Transmit Freq Error 280.29 kHz OBW Power 99.00 % x dB Bandwidth 16.33 MHz x dB -6.00 dB File <BBB.png> saved



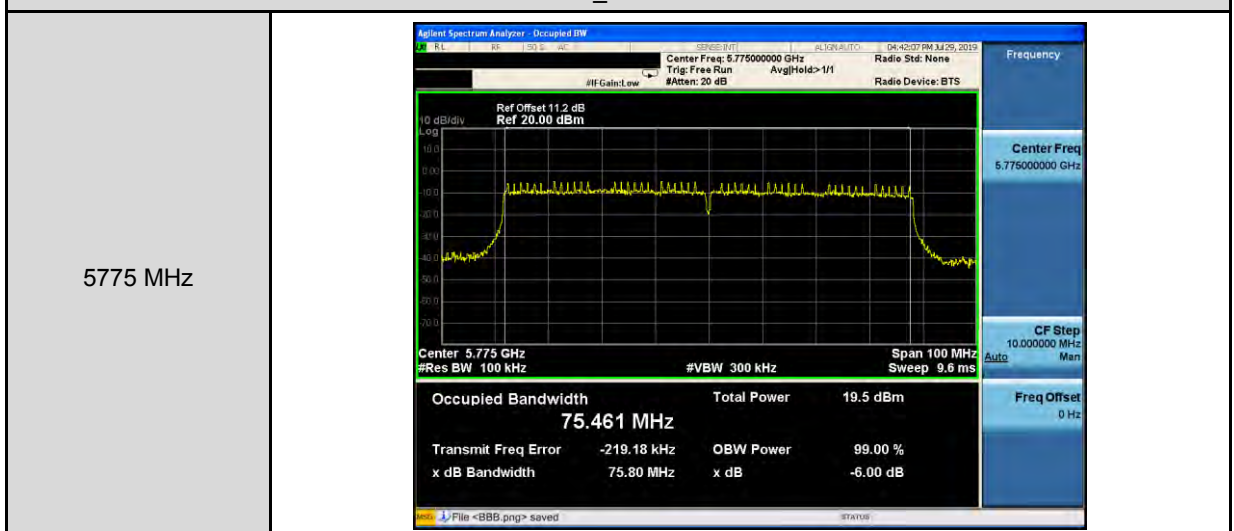
Mode 3: IEEE 802.11ac 20 MHz Continuous TX mode_ANT-0	
5745 MHz	 Ref Offset 11.2 dB Ref 20.00 dBm Center Freq: 5.74500000 GHz Trig: Free Run Avg/Hold: 1/1 Radio Std: None Radio Device: BTS Center 5.745 GHz #Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 18.920 MHz Total Power 26.5 dBm Transmit Freq Error 163.85 kHz OBW Power 99.00 % x dB Bandwidth 17.60 MHz x dB -6.00 dB File <BBB.png> saved
5785 MHz	 Ref Offset 11.2 dB Ref 20.00 dBm Center Freq: 5.78500000 GHz Trig: Free Run Avg/Hold: 1/1 Radio Std: None Radio Device: BTS Center 5.785 GHz #Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 18.554 MHz Total Power 26.5 dBm Transmit Freq Error 25.620 kHz OBW Power 99.00 % x dB Bandwidth 17.59 MHz x dB -6.00 dB File <BBB.png> saved
5825 MHz	 Ref Offset 11.2 dB Ref 20.00 dBm Center Freq: 5.82500000 GHz Trig: Free Run Avg/Hold: 1/1 Radio Std: None Radio Device: BTS Center 5.825 GHz #Res BW 100 kHz #VBW 300 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 18.487 MHz Total Power 26.3 dBm Transmit Freq Error 91.098 kHz OBW Power 99.00 % x dB Bandwidth 17.59 MHz x dB -6.00 dB File <BBB.png> saved



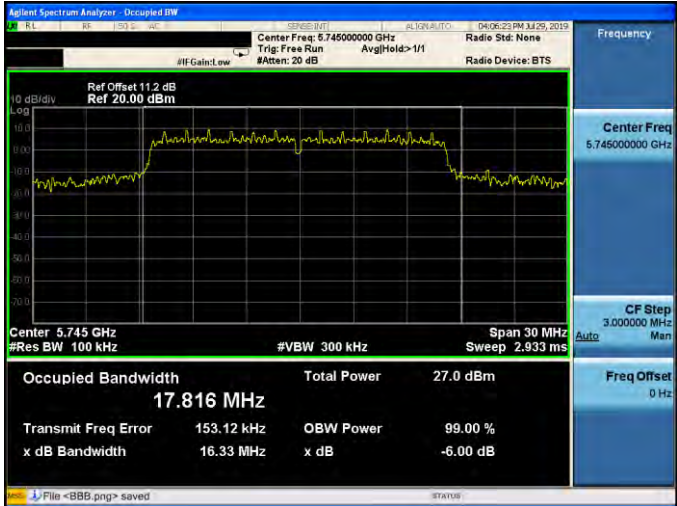
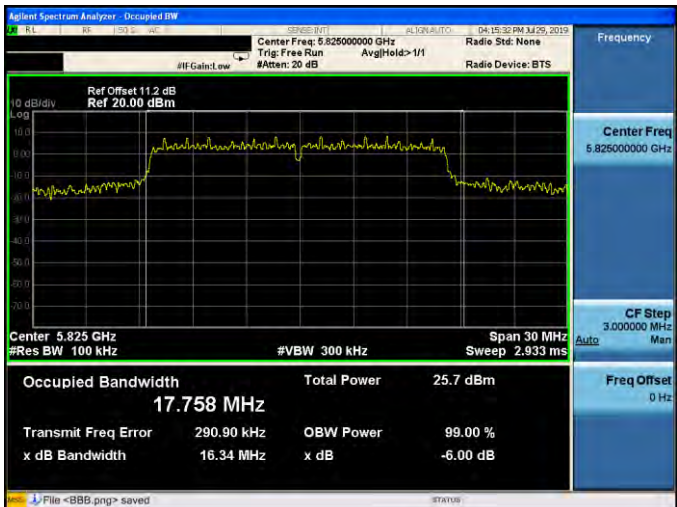
Mode 4: IEEE 802.11ac 40 MHz Continuous TX mode_ANT-0



Mode 5: IEEE 802.11ac 80 MHz Continuous TX mode_ANT-0

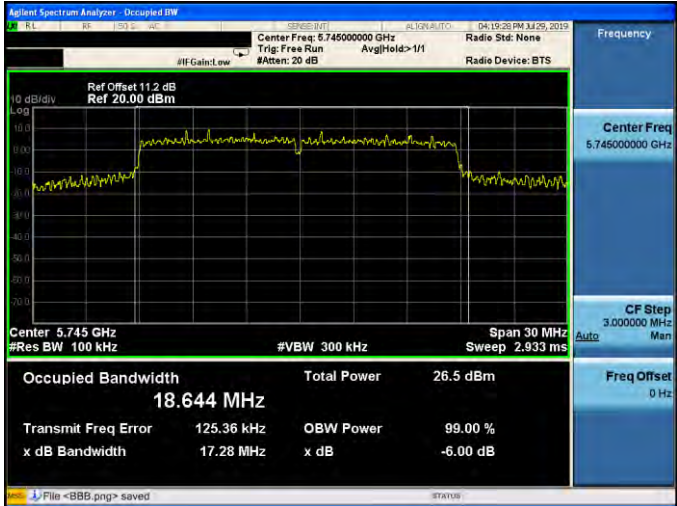
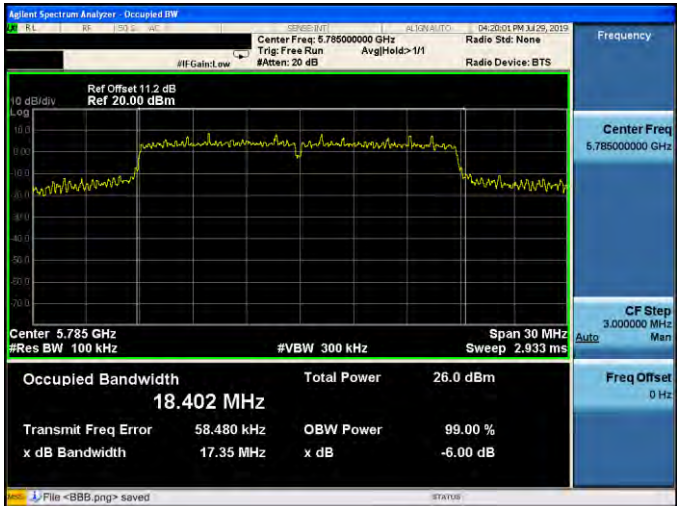
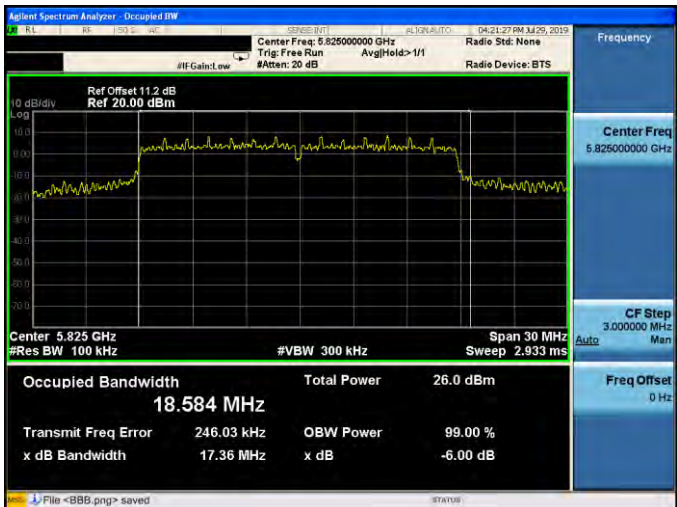




Mode 2: IEEE 802.11a Continuous TX mode_ANT-1	
5745 MHz	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 5.74500000 GHz Trig: Free Run #Att: 20 dB Avg/Hold: 1/1 Radio Std: None Radio Device: BTS Ref Offset 11.2 dB Ref 20.00 dBm Center 5.745 GHz #Res BW 100 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 17.816 MHz Total Power 27.0 dBm Transmit Freq Error 153.12 kHz OBW Power 99.00 % x dB Bandwidth 16.33 MHz x dB -6.00 dB File <BBB.png> saved
5785 MHz	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 5.78500000 GHz Trig: Free Run #Att: 20 dB Avg/Hold: 1/1 Radio Std: None Radio Device: BTS Ref Offset 11.2 dB Ref 20.00 dBm Center 5.785 GHz #Res BW 100 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 17.597 MHz Total Power 26.4 dBm Transmit Freq Error 138.66 kHz OBW Power 99.00 % x dB Bandwidth 16.32 MHz x dB -6.00 dB File <BBB.png> saved
5825 MHz	 Agilent Spectrum Analyzer - Occupied BW Center Freq: 5.82500000 GHz Trig: Free Run #Att: 20 dB Avg/Hold: 1/1 Radio Std: None Radio Device: BTS Ref Offset 11.2 dB Ref 20.00 dBm Center 5.825 GHz #Res BW 100 kHz Span 30 MHz Sweep 2.933 ms Occupied Bandwidth 17.758 MHz Total Power 25.7 dBm Transmit Freq Error 290.90 kHz OBW Power 99.00 % x dB Bandwidth 16.34 MHz x dB -6.00 dB File <BBB.png> saved



Mode 3: IEEE 802.11ac 20 MHz Continuous TX mode_ANT-1

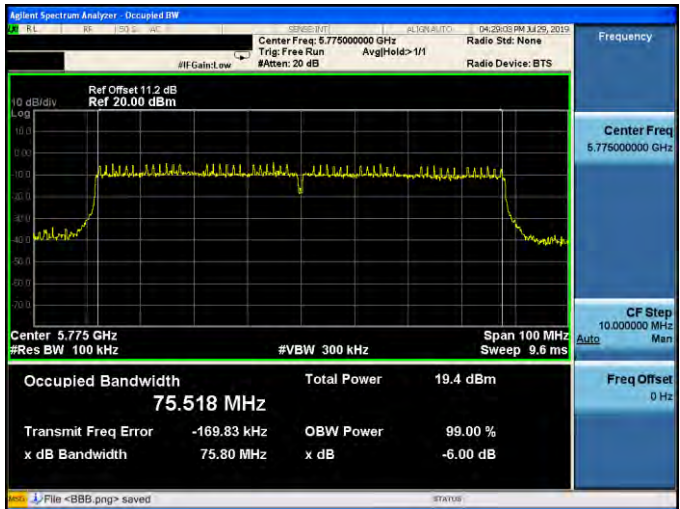
5745 MHz	
5785 MHz	
5825 MHz	



Mode 4: IEEE 802.11ac 40 MHz Continuous TX mode_ANT-1

5755 MHz	 Center Freq: 5.755 GHz Res BW: 100 kHz Span: 50 MHz Sweep: 4.8 ms Occupied Bandwidth: 35.988 MHz Total Power: 24.5 dBm Transmit Freq Error: -110.86 kHz x dB Bandwidth: 35.16 MHz OBW Power: 99.00 % x dB: -6.00 dB
5795 MHz	 Center Freq: 5.795 GHz Res BW: 100 kHz Span: 50 MHz Sweep: 4.8 ms Occupied Bandwidth: 36.002 MHz Total Power: 23.6 dBm Transmit Freq Error: -98.025 kHz x dB Bandwidth: 35.18 MHz OBW Power: 99.00 % x dB: -6.00 dB

Mode 5: IEEE 802.11ac 80 MHz Continuous TX mode_ANT-1

5775 MHz	 Center Freq: 5.775 GHz Res BW: 100 kHz Span: 100 MHz Sweep: 9.6 ms Occupied Bandwidth: 75.518 MHz Total Power: 19.4 dBm Transmit Freq Error: -169.83 kHz x dB Bandwidth: 75.80 MHz OBW Power: 99.00 % x dB: -6.00 dB
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Maximum Power Spectral Density Measurement

Test Mode	Mode 2: IEEE 802.11a link mode			
Frequency (MHz)	ANT-0			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5180	4.344	0.123	4.467	≤ 10.99
5200	7.919	0.123	8.042	
5240	7.725	0.123	7.848	
Frequency (MHz)	ANT-1			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5180	3.392	0.123	3.515	≤ 10.99
5200	7.381	0.123	7.504	
5240	7.293	0.123	7.416	
Frequency (MHz)	ANT-0+1			Limit (dBm/MHz)
	Calculated (dBm/MHz)			
5180	7.027			≤ 10.99
5200	10.792			
5240	10.648			

Note: Method SA-2, Power density = measured result + 10 log(1/duty cycle) + Conversion ratio = measured result + duty factor.

Test Mode	Mode 2: IEEE 802.11a link mode			
Frequency (MHz)	ANT-0			
	Measurement (dBm/100 kHz)	Duty Factor (dB)	Calculated (dBm/500 kHz)	Limit (dBm/500 kHz)
5745	0.264	0.123	7.377	≤ 23.99
5785	-0.186	0.123	6.927	
5825	-0.202	0.123	6.911	
Frequency (MHz)	ANT-1			
	Measurement (dBm/100 kHz)	Duty Factor (dB)	Calculated (dBm/500 kHz)	Limit (dBm/500 kHz)
5745	0.446	0.123	7.559	≤ 23.99
5785	-0.275	0.123	6.838	
5825	-0.549	0.123	6.564	
Frequency (MHz)	ANT-0+1			Limit (dBm/500 kHz)
	Calculated (dBm/500 kHz)			
5745	10.479			≤ 23.99
5785	9.893			
5825	9.751			

Note: Method SA-2, Power density = measured result + 10 log(1/duty cycle) + Conversion ratio = measured result + duty factor.

Conversion ratio = 10*Log(500 k/100 k)



Test Mode	Mode 3: IEEE 802.11ac 20 MHz link mode			
Frequency (MHz)	ANT-0			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5180	4.104	0.038	4.142	≤ 10.99
5200	7.722	0.038	7.760	
5240	7.757	0.038	7.795	
Frequency (MHz)	ANT-1			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5180	3.187	0.038	3.225	≤ 10.99
5200	7.061	0.038	7.099	
5240	7.181	0.038	7.219	
Frequency (MHz)	ANT-0+1			Limit (dBm/MHz)
	Calculated (dBm/MHz)			
5180	6.718			≤ 10.99
5200	10.453			
5240	10.527			

Note: Method SA-2, Power density = measured result + 10 log(1/duty cycle) + Conversion ratio = measured result + duty factor.

Test Mode	Mode 3: IEEE 802.11ac 20 MHz link mode			
Frequency (MHz)	ANT-0			
	Measurement (dBm/100 kHz)	Duty Factor (dB)	Calculated (dBm/500 kHz)	Limit (dBm/500 kHz)
5745	0.398	0.038	7.426	≤ 23.99
5785	-0.192	0.038	6.836	
5825	-0.078	0.038	6.950	
Frequency (MHz)	ANT-1			
	Measurement (dBm/100 kHz)	Duty Factor (dB)	Calculated (dBm/500 kHz)	Limit (dBm/500 kHz)
5745	0.367	0.038	7.395	≤ 23.99
5785	-0.239	0.038	6.789	
5825	-0.172	0.038	6.856	
Frequency (MHz)	ANT-0+1			Limit (dBm/500 kHz)
	Calculated (dBm/500 kHz)			
5745	10.421			≤ 23.99
5785	9.823			
5825	9.914			

Note: Method SA-2, Power density = measured result + 10 log(1/duty cycle) + Conversion ratio = measured result + duty factor.

Conversion ratio = 10*Log(500 k/100 k)

Test Mode	Mode 4: IEEE 802.11ac 40 MHz link mode			
Frequency (MHz)	ANT-0			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5190	-4.109	0.105	-4.004	≤ 10.99
5230	2.748	0.105	2.853	
Frequency (MHz)	ANT-1			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5190	-5.353	0.105	-5.248	≤ 10.99
5230	2.036	0.105	2.141	
Frequency (MHz)	ANT-0+1			Limit (dBm/MHz)
	Calculated (dBm/MHz)			
5190	-1.572			≤ 10.99
5230	5.522			

Note: Method SA-2, Power density = measured result + 10 log(1/duty cycle) + Conversion ratio = measured result + duty factor.

Test Mode	Mode 4: IEEE 802.11ac 40 MHz link mode			
Frequency (MHz)	ANT-0			
	Measurement (dBm/100 kHz)	Duty Factor (dB)	Calculated (dBm/500 kHz)	Limit (dBm/500 kHz)
5755	-5.081	0.105	2.013	≤ 23.99
5795	-5.612	0.105	1.482	
Frequency (MHz)	ANT-1			
	Measurement (dBm/100 kHz)	Duty Factor (dB)	Calculated (dBm/500 kHz)	Limit (dBm/500 kHz)
5755	-4.535	0.105	2.559	≤ 23.99
5795	-5.982	0.105	1.112	
Frequency (MHz)	ANT-0+1			Limit (dBm/500 kHz)
	Calculated (dBm/500 kHz)			
5755	5.305			≤ 23.99
5795	4.312			

Note: Method SA-2, Power density = measured result + 10 log(1/duty cycle) + Conversion ratio = measured result + duty factor.

Conversion ratio = 10*Log(500 k/100 k)

Test Mode	Mode 5: IEEE 802.11ac 80 MHz link mode			
Frequency (MHz)	ANT-0			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5210	-10.900	0.237	-10.663	≤ 10.99
Frequency (MHz)	ANT-1			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5210	-11.611	0.237	-11.374	≤ 10.99
Frequency (MHz)	ANT-0+1			Limit (dBm/MHz)
	Calculated (dBm/MHz)			
5210	-7.994			≤ 10.99

Note: Method SA-2, Power density = measured result + 10 log(1/duty cycle) + Conversion ratio = measured result + duty factor.

Test Mode	Mode 5: IEEE 802.11ac 80 MHz link mode			
Frequency (MHz)	ANT-0			
	Measurement (dBm/100 kHz)	Duty Factor (dB)	Calculated (dBm/500 kHz)	Limit (dBm/500 kHz)
5775	-14.100	0.237	-6.874	≤ 23.99
Frequency (MHz)	ANT-1			
	Measurement (dBm/100 kHz)	Duty Factor (dB)	Calculated (dBm/500 kHz)	Limit (dBm/500 kHz)
5775	-14.306	0.237	-7.080	≤ 23.99
Frequency (MHz)	ANT-0+1			Limit (dBm/500 kHz)
	Calculated (dBm/500 kHz)			
5775	-3.965			≤ 23.99

Note: Method SA-2, Power density = measured result + 10 log(1/duty cycle) + Conversion ratio = measured result + duty factor.

Conversion ratio = 10*Log(500 k/100 k)



■ Test Graphs

Mode 2: IEEE 802.11a Continuous TX mode_ ANT-0	
5180 MHz	
5200 MHz	
5240 MHz	



Mode 2: IEEE 802.11a Continuous TX mode_ ANT-0	
5745 MHz	
5785 MHz	
5825 MHz	



Mode 3: IEEE 802.11ac 20 MHz Continuous TX mode _ ANT-0

5180 MHz



5200 MHz



5240 MHz





Mode 3: IEEE 802.11ac 20 MHz Continuous TX mode _ ANT-0	
5745 MHz	
5785 MHz	
5825 MHz	





Mode 4: IEEE 802.11ac 40 MHz Continuous TX mode_ ANT-0	
5755 MHz	
5795 MHz	



Mode 5: IEEE 802.11ac 80 MHz Continuous TX mode _ ANT-0

5210 MHz



Mode 5: IEEE 802.11ac 80 MHz Continuous TX mode _ ANT-0

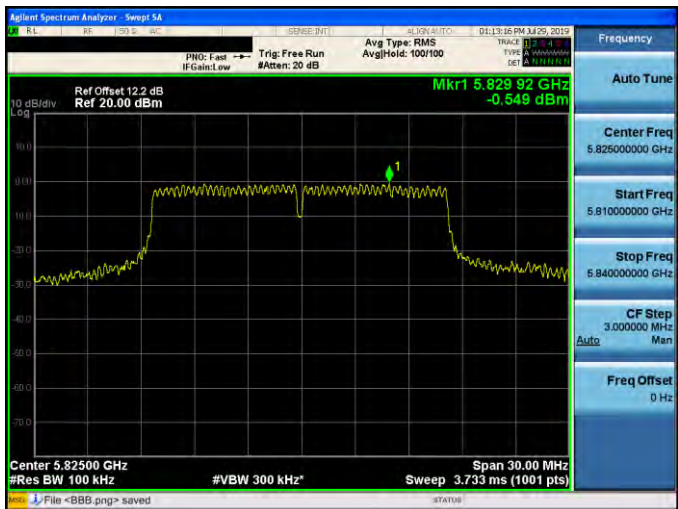
5775 MHz





Mode 2: IEEE 802.11a Continuous TX mode_ ANT-1	
5180 MHz	
5200 MHz	
5240 MHz	



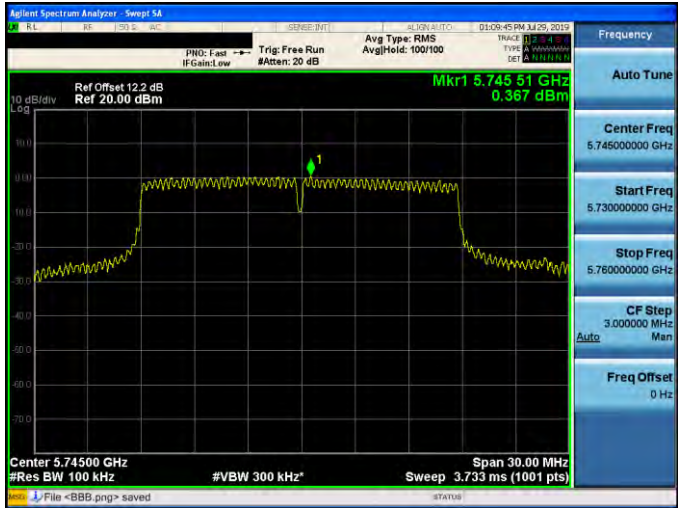
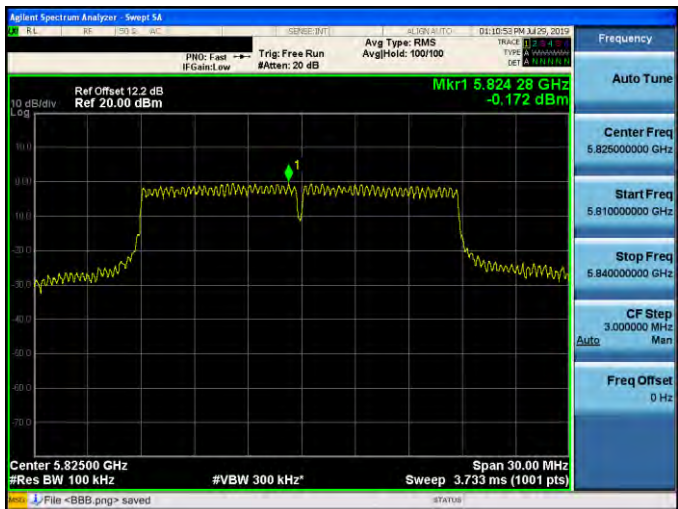
Mode 2: IEEE 802.11a Continuous TX mode_ ANT-1	
5745 MHz	
5785 MHz	
5825 MHz	



Mode 3: IEEE 802.11ac 20 MHz Continuous TX mode _ ANT-1

5180 MHz	
5200 MHz	
5240 MHz	



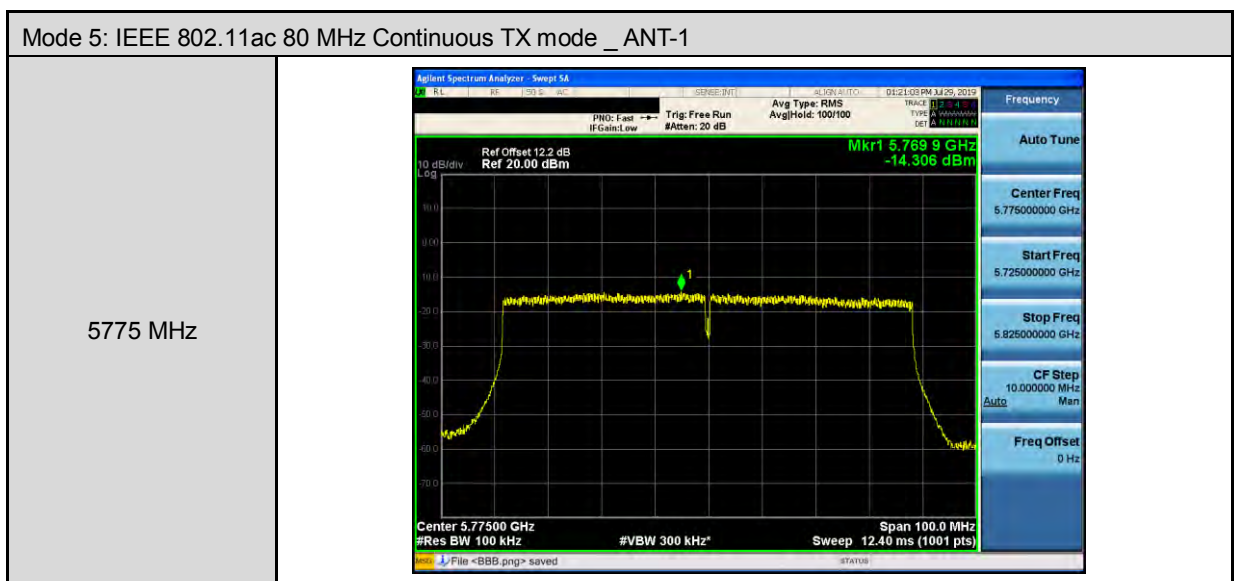
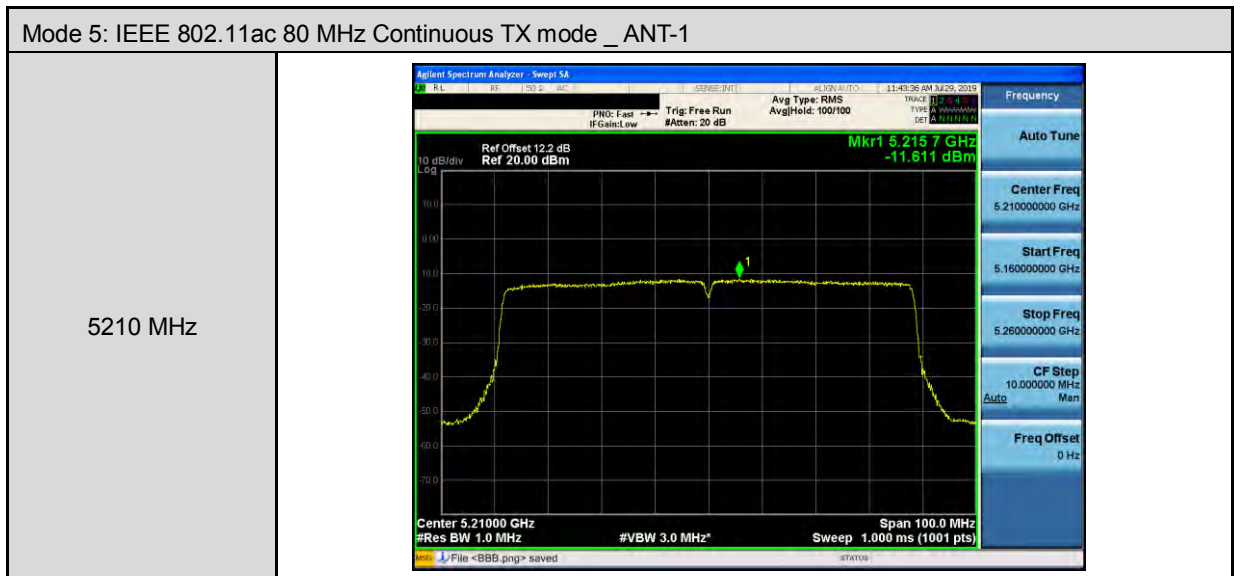
Mode 3: IEEE 802.11ac 20 MHz Continuous TX mode _ ANT-1	
5745 MHz	
5785 MHz	
5825 MHz	



Mode 4: IEEE 802.11ac 40 MHz Continuous TX mode_ ANT-1	
5190 MHz	
5230 MHz	



Mode 4: IEEE 802.11ac 40 MHz Continuous TX mode_ ANT-1	
5755 MHz	
5795 MHz	



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