Mode 2: IEEE 802.11a Continuous TX mode_ANT-1	
5260	
5280	
5320	

Mode 2: IEEE 802.11a Continuous TX mode_ANT-1	
5500	
5560	
5700	

Mode 2: IEEE 802.11a Continuous TX mode_ANT-1	
5260	
5280	
5320	

Mode 2: IEEE 802.11a Continuous TX mode_ANT-1	
5500	
5560	
5700	

Mode 4: IEEE 802.11ac 40MHz Continuous TX mode_ANT-1	
5270	
5310	

Mode 4: IEEE 802.11ac 40MHz Continuous TX mode_ANT-1	
5510	
5550	
5670	

Mode 5: IEEE 802.11ac 80MHz Continuous TX mode_ANT-1	
5290	
5530	

5.5. Maximum Power Spectral Density Measurement

Test Mode	Mode 2: IEEE 802.11a Continuous TX mode			
Frequency (MHz)	ANT-0			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5260.0	7.044	0.105	7.149	≦10.39
5280.0	7.220	0.105	7.325	
5320.0	7.022	0.105	7.127	
5500.0	6.549	0.105	6.654	≦9.94
5560.0	6.690	0.105	6.795	
5700.0	6.803	0.105	6.908	
Frequency (MHz)	ANT-1			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5260.0	6.634	0.105	6.739	≦10.39
5280.0	6.984	0.105	7.089	
5320.0	7.052	0.105	7.157	
5500.0	6.454	0.105	6.559	≦9.94
5560.0	6.497	0.105	6.602	
5700.0	6.637	0.105	6.742	
Frequency (MHz)	ANT-0+1			
	Calculated (dBm/MHz)			Limit (dBm/MHz)
5260.0	9.959			≦10.39
5280.0	10.219			
5320.0	10.152			
5500.0	9.617			≦9.94
5560.0	9.710			
5700.0	9.836			

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

Test Mode	Mode 3: IEEE 802.11ac 20MHz Continuous TX mode			
Frequency (MHz)	ANT-0			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5260.0	7.291	0.026	7.317	≦10.39
5280.0	7.269	0.026	7.295	
5320.0	7.065	0.026	7.091	
5500.0	6.666	0.026	6.692	≦9.94
5560.0	6.469	0.026	6.495	
5700.0	6.823	0.026	6.849	
Frequency (MHz)	ANT-1			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5260.0	6.668	0.026	6.694	≦10.39
5280.0	6.854	0.026	6.880	
5320.0	7.009	0.026	7.035	
5500.0	6.827	0.026	6.853	≦9.94
5560.0	6.233	0.026	6.259	
5700.0	6.270	0.026	6.296	
Frequency (MHz)	ANT-0+1			
	Calculated (dBm/MHz)			Limit (dBm/MHz)
5260.0	10.027			≦10.39
5280.0	10.103			
5320.0	10.073			
5500.0	9.783			≦9.94
5560.0	9.389			
5700.0	9.592			

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

Test Mode	Mode 4: IEEE 802.11ac 40MHz Continuous TX mode			
Frequency (MHz)	ANT-0			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5270.0	5.717	0.071	5.788	≦10.39
5310.0	4.111	0.071	4.182	
5510.0	3.795	0.071	3.866	≦9.94
5550.0	4.516	0.071	4.587	
5670.0	4.080	0.071	4.151	
Frequency (MHz)	ANT-1			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5270.0	5.405	0.071	5.476	≦10.39
5310.0	4.160	0.071	4.231	
5510.0	3.670	0.071	3.741	≦9.94
5550.0	4.236	0.071	4.307	
5670.0	3.757	0.071	3.828	
Frequency (MHz)	ANT-0+1			
	Calculated (dBm/MHz)			Limit (dBm/MHz)
5270.0	8.645			≦10.39
5310.0	7.216			
5510.0	6.814			≦9.94
5550.0	7.459			
5670.0	7.002			

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

Test Mode	Mode 5: IEEE 802.11ac 80MHz Continuous TX mode			
Frequency (MHz)	ANT-0			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5290.0	0.119	0.185	0.304	≦10.39
5530.0	0.945	0.185	1.130	≦9.94
Frequency (MHz)	ANT-1			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5290.0	-0.103	0.185	0.082	≦10.39
5530.0	0.878	0.185	1.063	≦9.94
Frequency (MHz)	ANT-0+1			
	Calculated (dBm/MHz)			Limit (dBm/MHz)
5290.0	3.205			≦10.39
5530.0	4.107			≦9.94

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

Test Mode	Mode 6: IEEE 802.11ac 80MHz+80MHz Continuous TX mode			
Indoor				
Frequency (MHz)	ANT-0			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5210.0	1.829	0.095	1.924	≦17.00
Frequency (MHz)	ANT-1			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5290.0	0.048	0.095	0.143	≦11.00
Outdoor				
Frequency (MHz)	ANT-0			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5210.0	0.481	0.095	0.576	≦17.00
Frequency (MHz)	ANT-1			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5290.0	0.048	0.095	0.143	≦11.00

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

Beamforming on

Test Mode	Mode 2: IEEE 802.11a Continuous TX mode			
Frequency (MHz)	ANT-0			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5260.0	3.716	0.105	3.821	≦10.39
5280.0	3.936	0.105	4.041	
5320.0	3.643	0.105	3.748	
5500.0	3.709	0.105	3.814	≦9.94
5560.0	3.763	0.105	3.868	
5700.0	3.700	0.105	3.805	
Frequency (MHz)	ANT-1			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5260.0	3.318	0.105	3.423	≦10.39
5280.0	3.879	0.105	3.984	
5320.0	3.578	0.105	3.683	
5500.0	3.670	0.105	3.775	≦9.94
5560.0	3.553	0.105	3.658	
5700.0	3.668	0.105	3.773	
Frequency (MHz)	ANT-0+1			
	Calculated (dBm/MHz)			Limit (dBm/MHz)
5260.0	6.637			≦10.39
5280.0	7.023			
5320.0	6.726			
5500.0	6.805			≦9.94
5560.0	6.775			
5700.0	6.799			

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

Test Mode	Mode 3: IEEE 802.11ac 20MHz Continuous TX mode			
Frequency (MHz)	ANT-0			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5260.0	4.004	0.026	4.030	≦10.39
5280.0	3.947	0.026	3.973	
5320.0	3.819	0.026	3.845	
5500.0	4.256	0.026	4.282	≦9.94
5560.0	3.798	0.026	3.824	
5700.0	4.044	0.026	4.070	
Frequency (MHz)	ANT-1			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5260.0	3.899	0.026	3.925	≦10.39
5280.0	3.810	0.026	3.836	
5320.0	3.677	0.026	3.703	
5500.0	4.227	0.026	4.253	≦9.94
5560.0	3.703	0.026	3.729	
5700.0	3.830	0.026	3.856	
Frequency (MHz)	ANT-0+1			
	Calculated (dBm/MHz)			Limit (dBm/MHz)
5260.0	6.988			≦10.39
5280.0	6.915			
5320.0	6.785			
5500.0	7.278			≦9.94
5560.0	6.787			
5700.0	6.975			

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

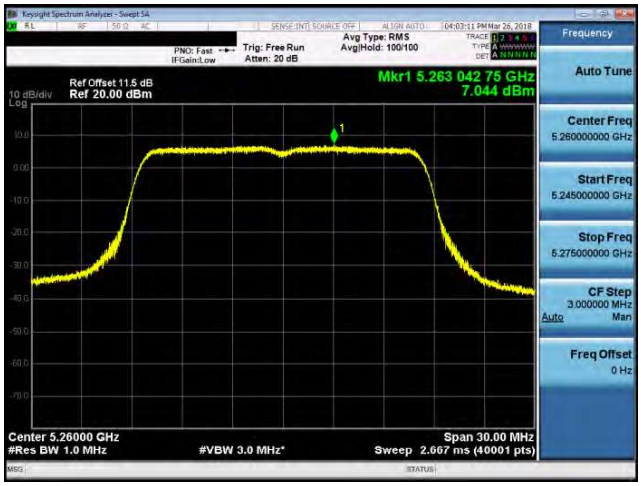
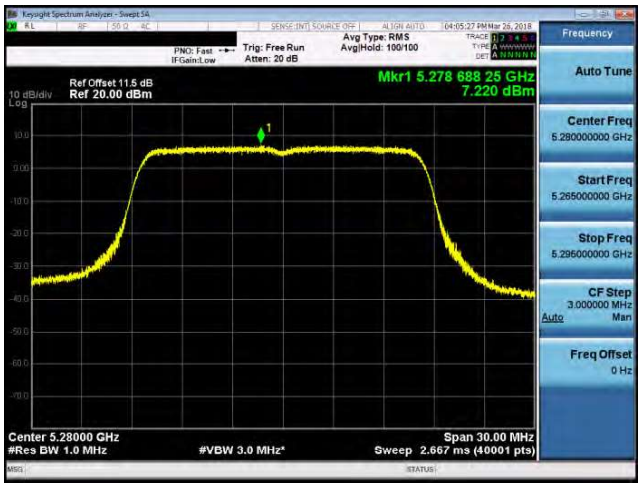
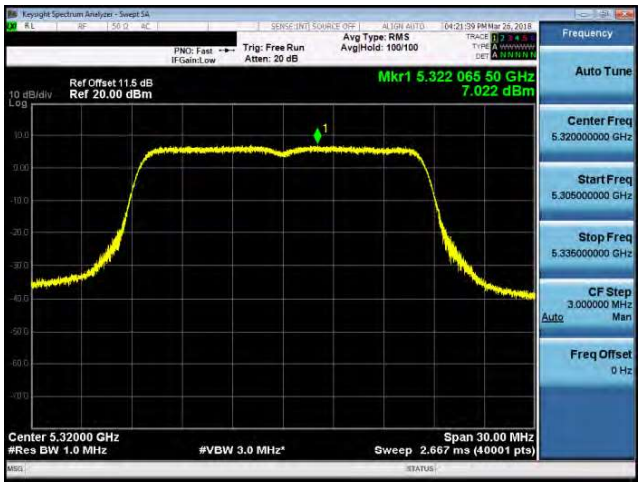
Test Mode	Mode 4: IEEE 802.11ac 40MHz Continuous TX mode			
Frequency (MHz)	ANT-0			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5270.0	2.395	0.071	2.466	≦10.39
5310.0	0.629	0.071	0.700	
5510.0	0.975	0.071	1.046	≦9.94
5550.0	1.538	0.071	1.609	
5670.0	1.115	0.071	1.186	
Frequency (MHz)	ANT-1			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5270.0	2.214	0.071	2.285	≦10.39
5310.0	0.601	0.071	0.672	
5510.0	0.816	0.071	0.887	≦9.94
5550.0	1.295	0.071	1.366	
5670.0	1.109	0.071	1.180	
Frequency (MHz)	ANT-0+1			
	Calculated (dBm/MHz)			Limit (dBm/MHz)
5270.0	5.386			≦10.39
5310.0	3.696			
5510.0	3.977			≦9.94
5550.0	4.499			
5670.0	4.193			

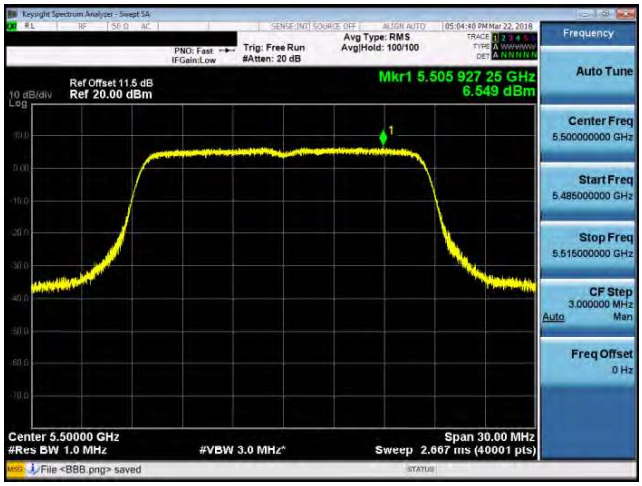
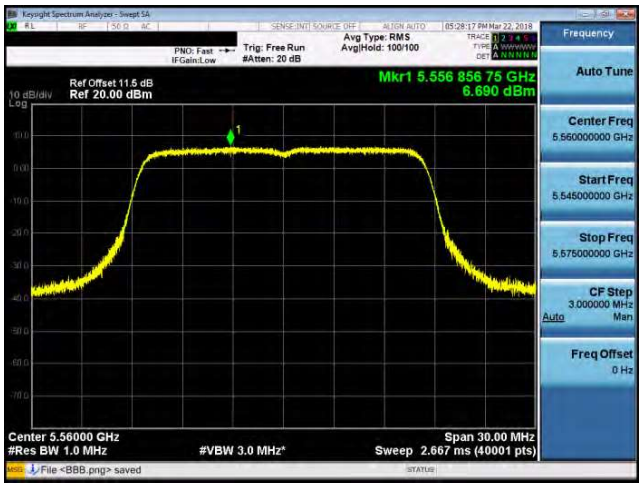
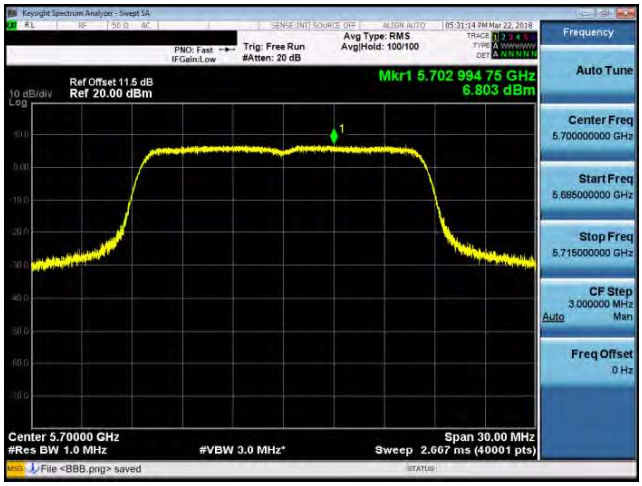
Note: Method SA-2, Power density = measured result + 10log(1/duty cycle) + Conversion ratio = measured result + duty factor.

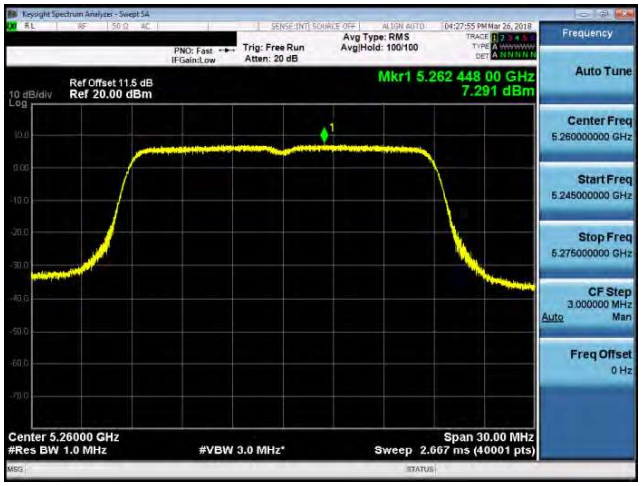
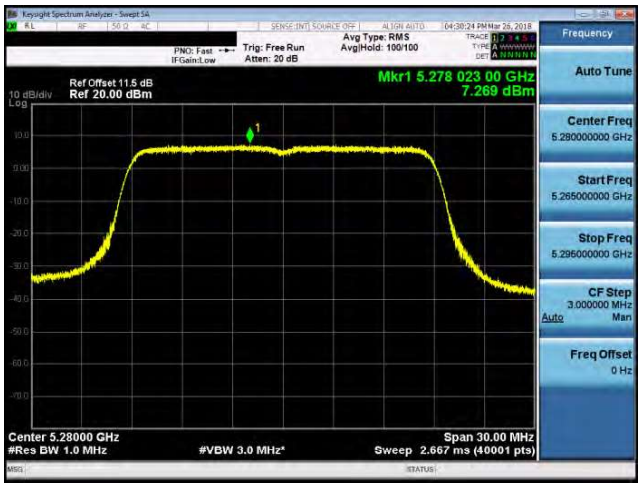
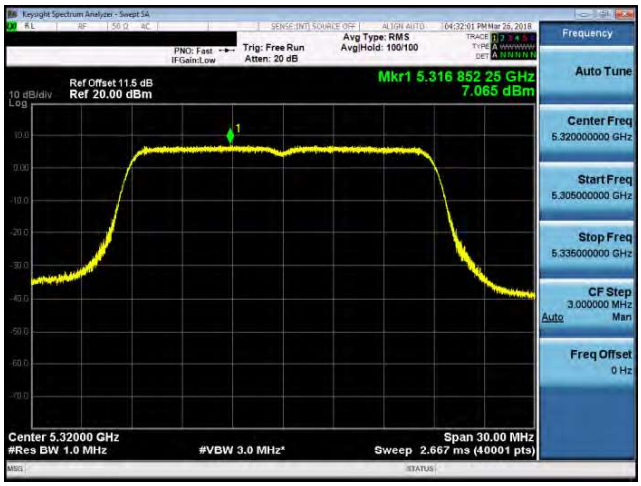
Test Mode	Mode 5: IEEE 802.11ac 80MHz Continuous TX mode			
Frequency (MHz)	ANT-0			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5290.0	-3.038	0.185	-2.853	≦10.39
5530.0	-1.992	0.185	-1.807	≦9.94
Frequency (MHz)	ANT-1			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5290.0	-3.178	0.185	-2.993	≦10.39
5530.0	-2.193	0.185	-2.008	≦9.94
Frequency (MHz)	ANT-0+1			
	Calculated (dBm/MHz)			Limit (dBm/MHz)
5290.0	0.088			≦10.39
5530.0	1.104			≦9.94

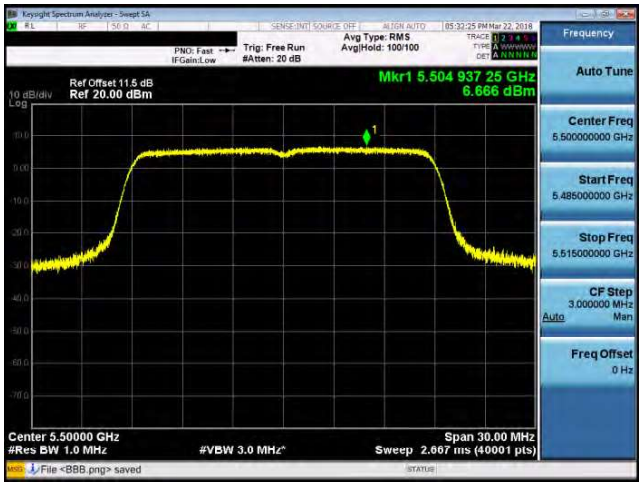
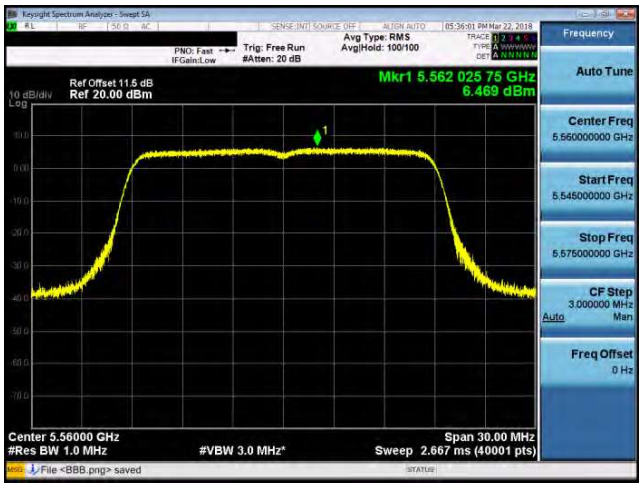
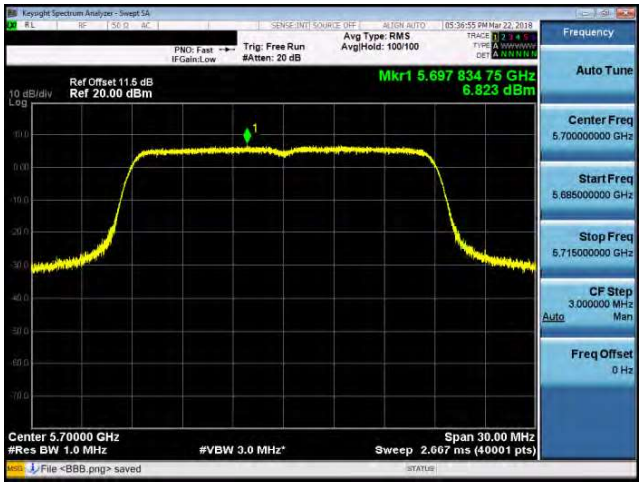
Note: Method SA-2, Power density = measured result + 10log(1/duty cycle) + Conversion ratio = measured result + duty factor.

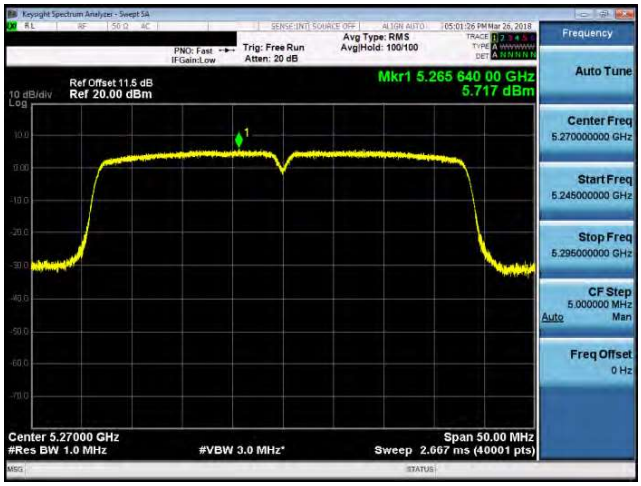
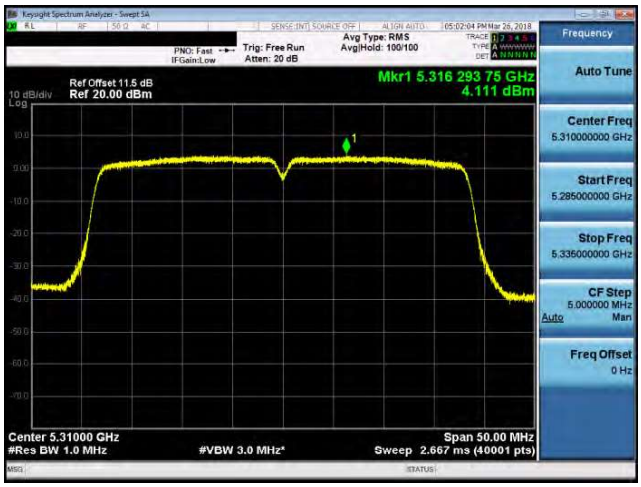
■ **Test Graphs**

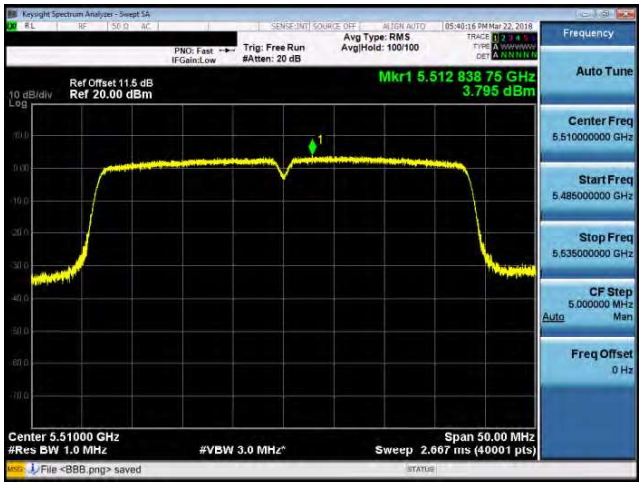
Mode 2: IEEE 802.11a Continuous TX mode_ANT-0	
5260	
5280	
5320	

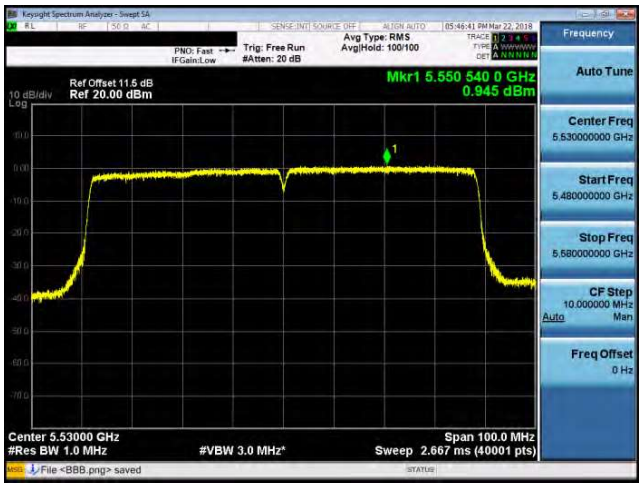
Mode 2: IEEE 802.11a Continuous TX mode_ANT-0	
5500	
5560	
5700	

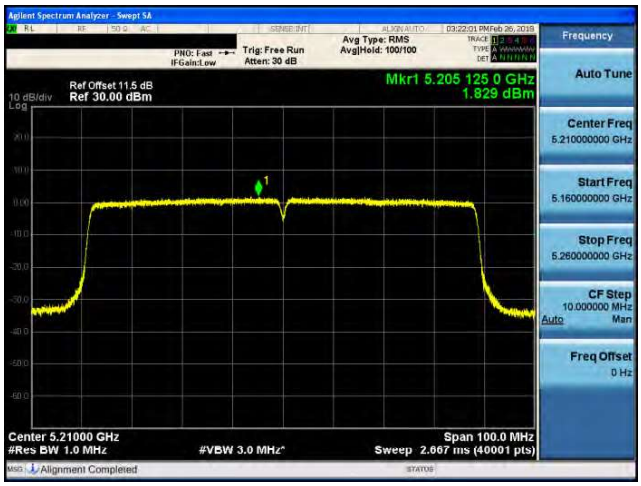
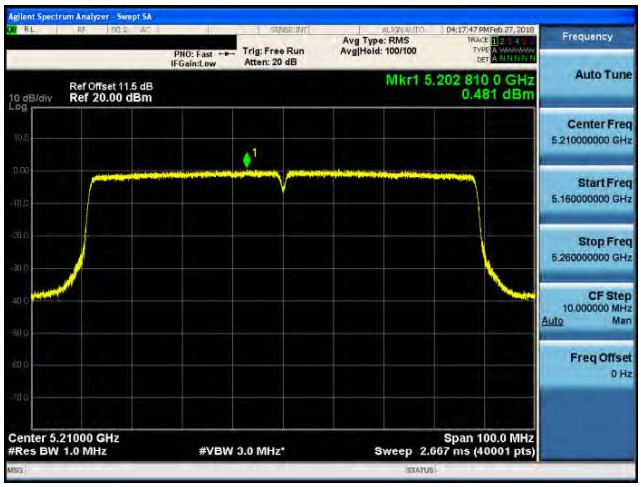
Mode 3: IEEE 802.11ac 20MHz Continuous TX mode_ANT-0	
5260	
5280	
5320	

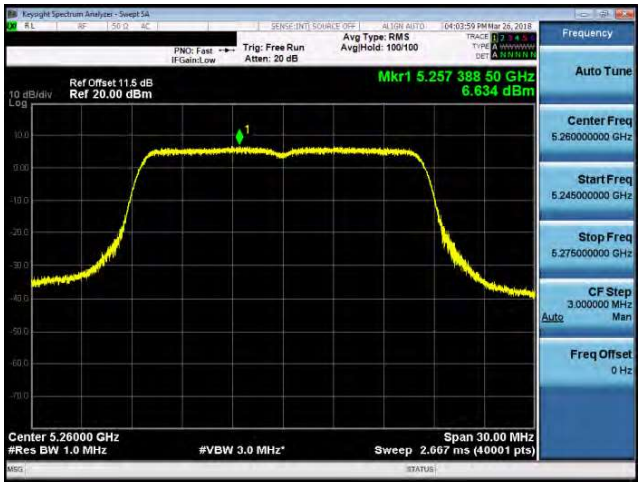
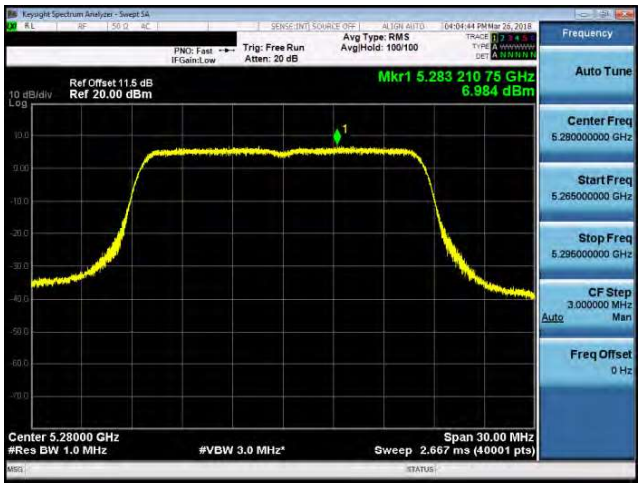
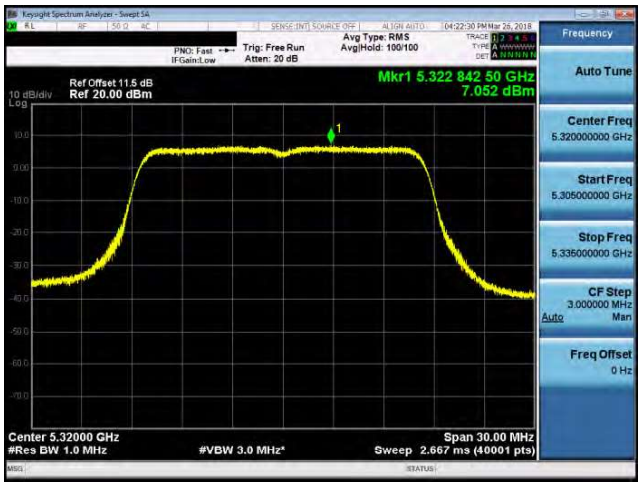
Mode 3: IEEE 802.11ac 20MHz Continuous TX mode_ANT-0	
5500	
5560	
5700	

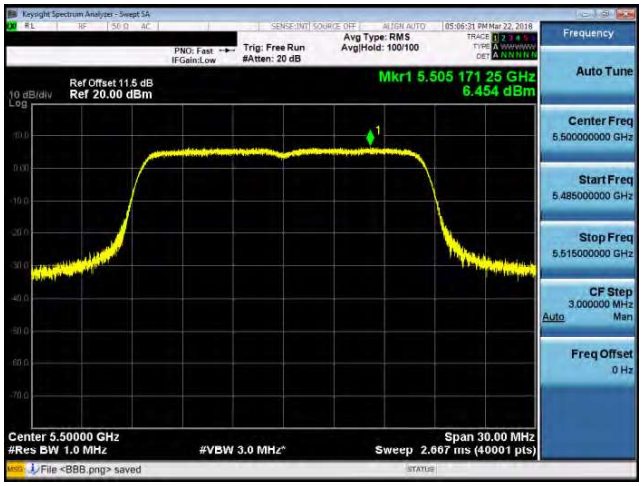
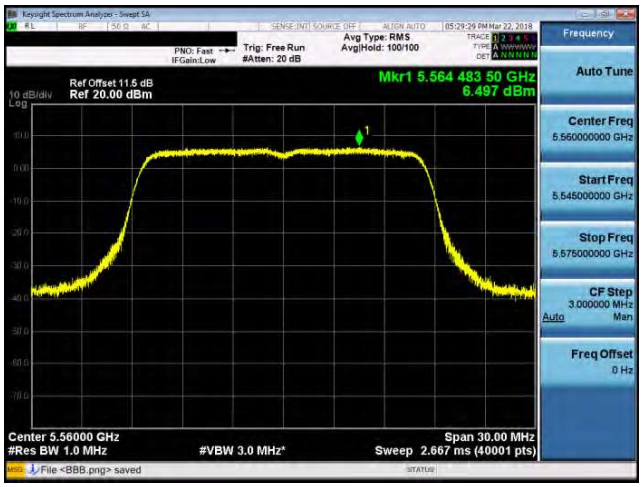
Mode 4: IEEE 802.11ac 40MHz Continuous TX mode_ANT-0	
5270	
5310	

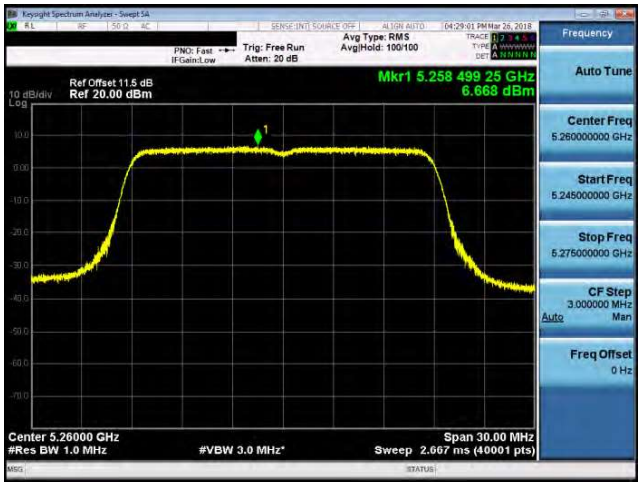
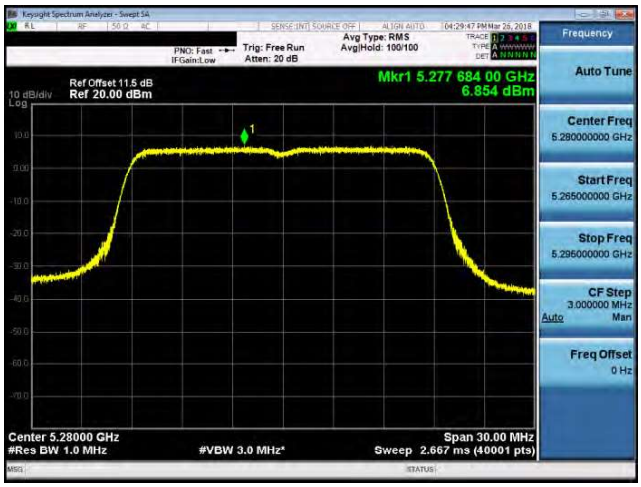
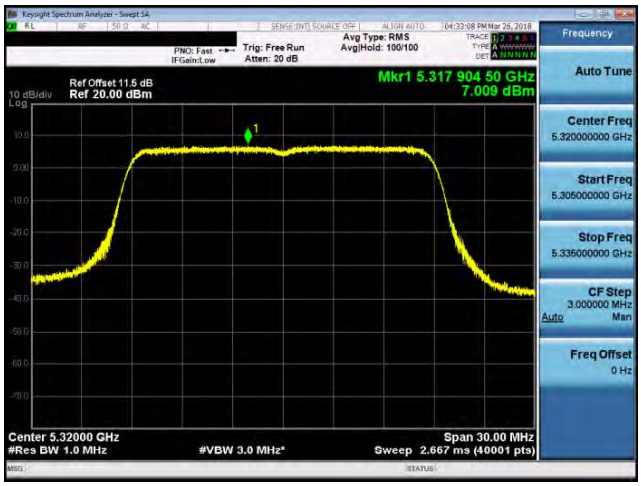
Mode 4: IEEE 802.11ac 40MHz Continuous TX mode_ANT-0	
5510	
5550	
5670	

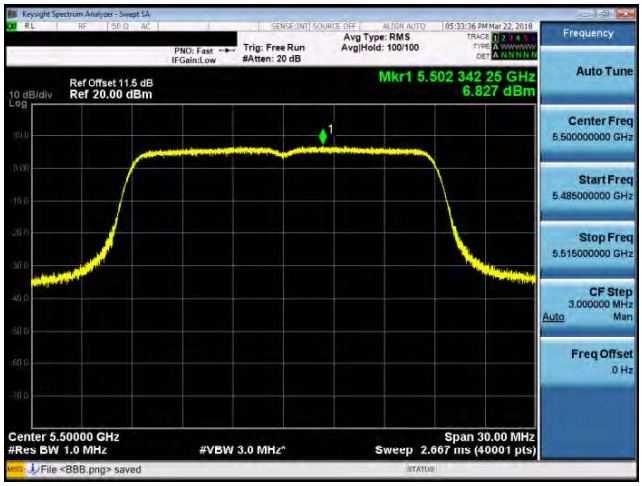
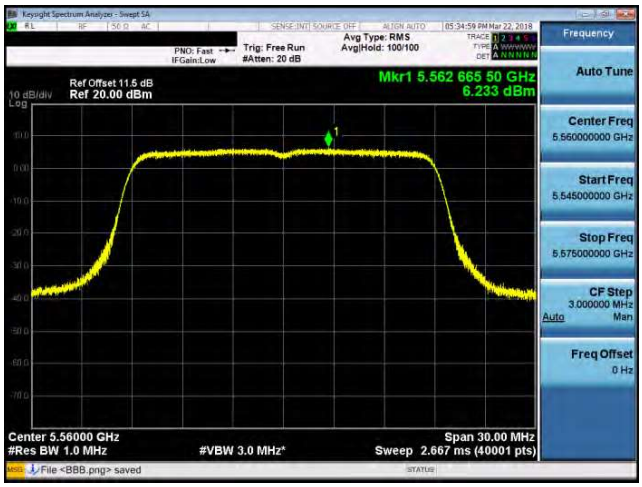
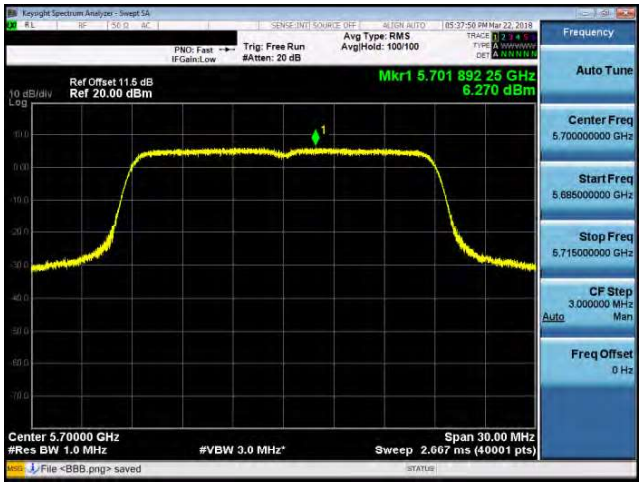
Mode 5: IEEE 802.11ac 80MHz Continuous TX mode_ANT-0	
5290	
5530	

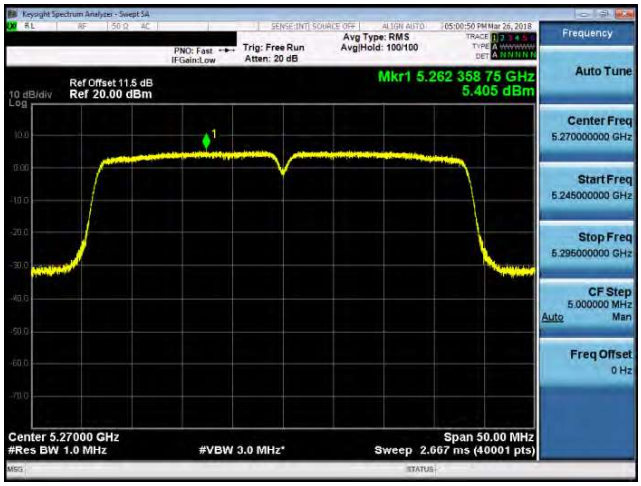
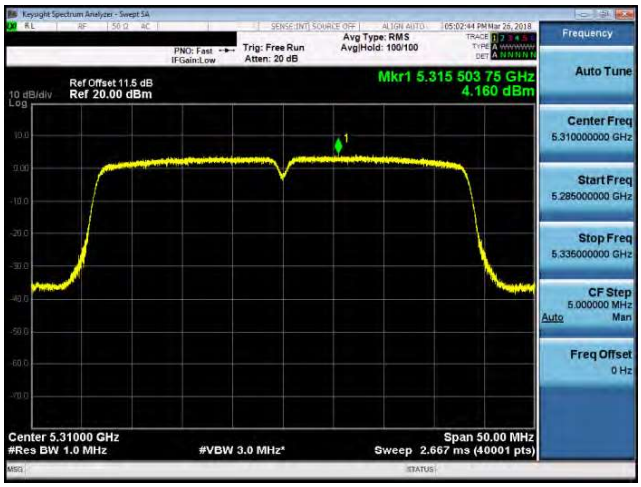
Mode 6: IEEE 802.11ac 80MHz+80MHz Continuous TX mode_ANT-0	
Indoor	
5290	
Outdoor	
5210	

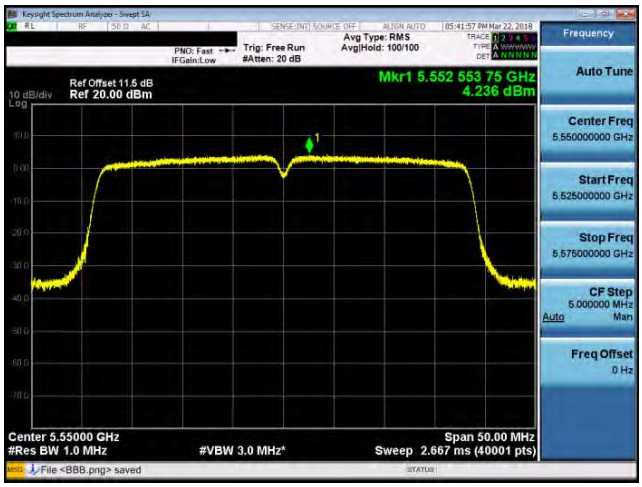
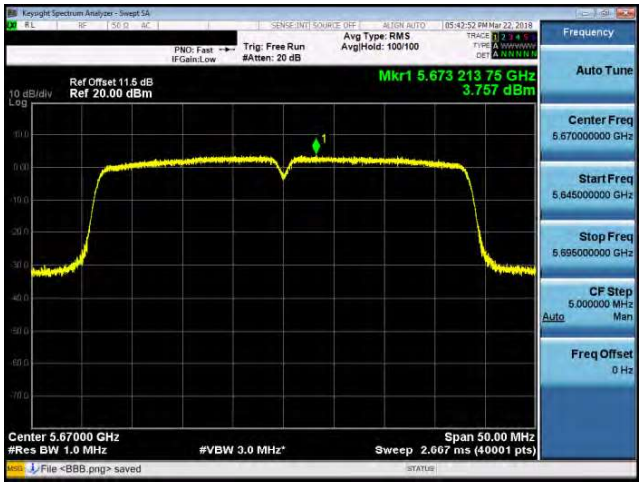
Mode 2: IEEE 802.11a Continuous TX mode_ANT-1	
5260	
5280	
5320	

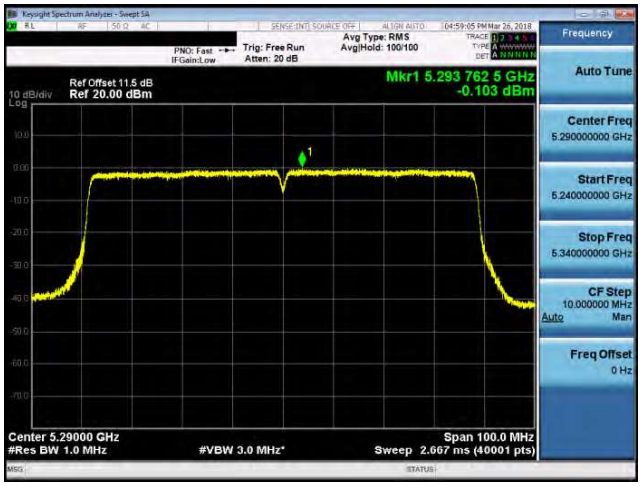
Mode 2: IEEE 802.11a Continuous TX mode_ANT-1	
5500	
5560	
5700	

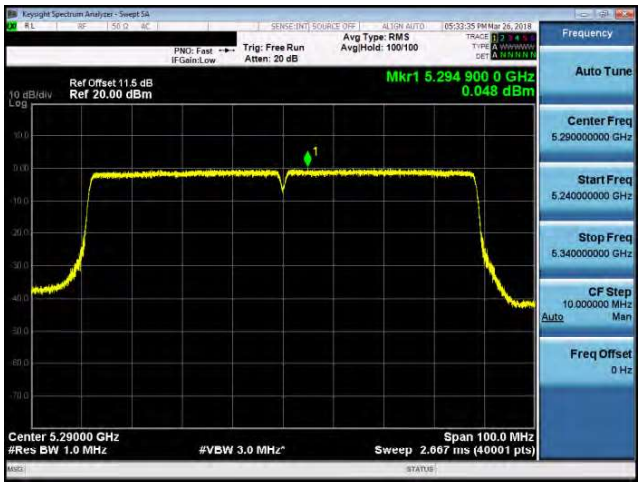
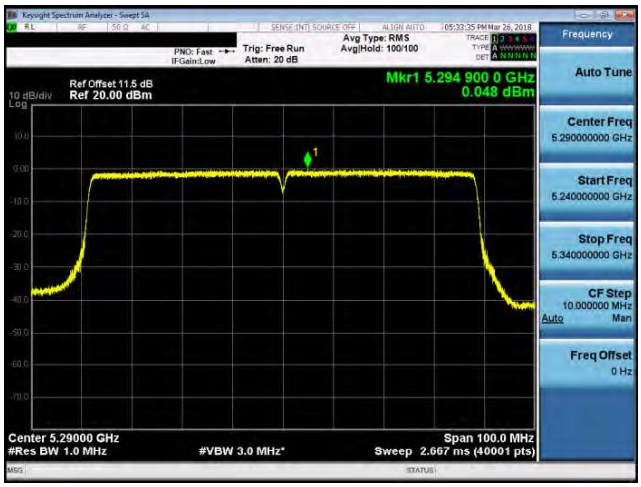
Mode 3: IEEE 802.11ac 20MHz Continuous TX mode_ANT-1	
5260	
5280	
5320	

Mode 3: IEEE 802.11ac 20MHz Continuous TX mode_ANT-1	
5500	
5560	
5700	

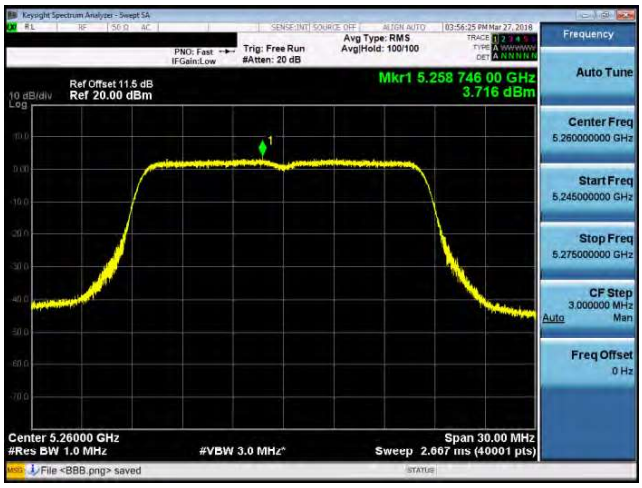
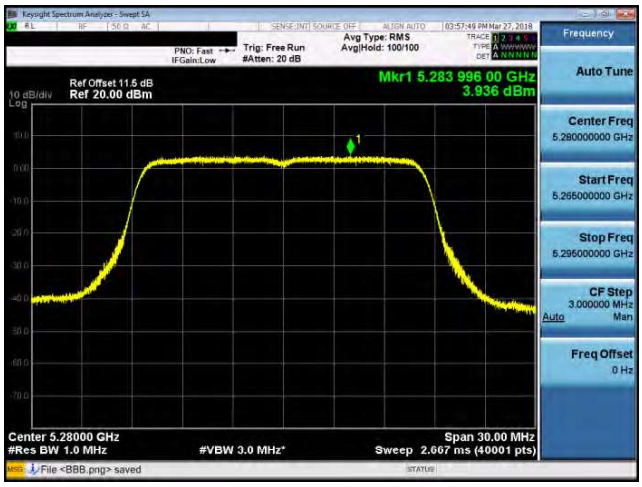
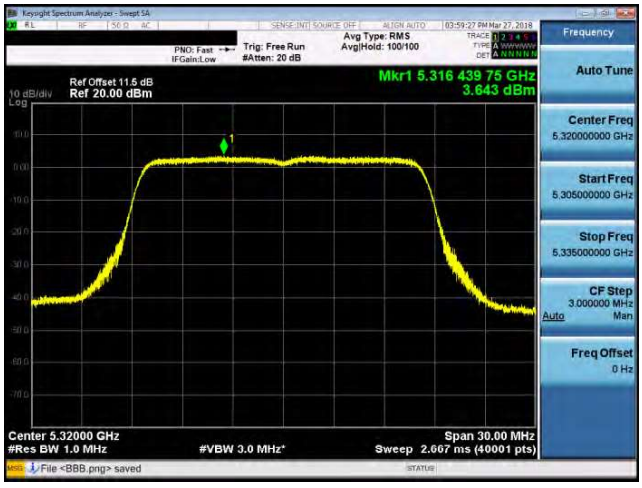
Mode 4: IEEE 802.11ac 40MHz Continuous TX mode_ANT-1	
5270	
5310	

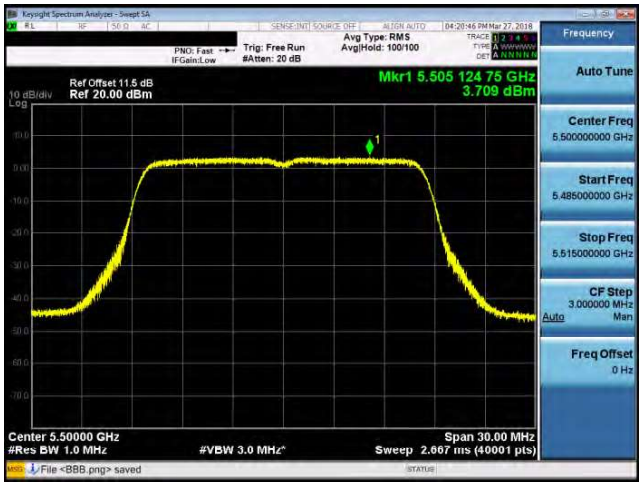
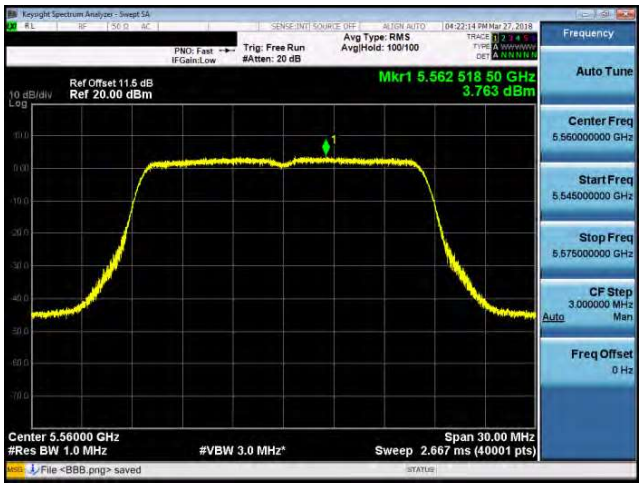
Mode 4: IEEE 802.11ac 40MHz Continuous TX mode_ANT-1	
5510	
5550	
5670	

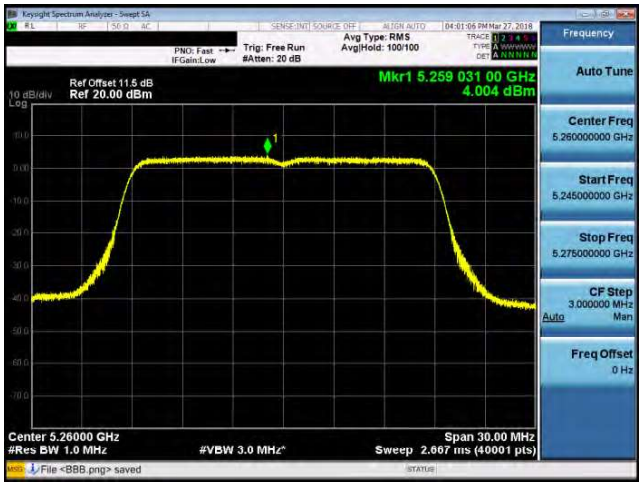
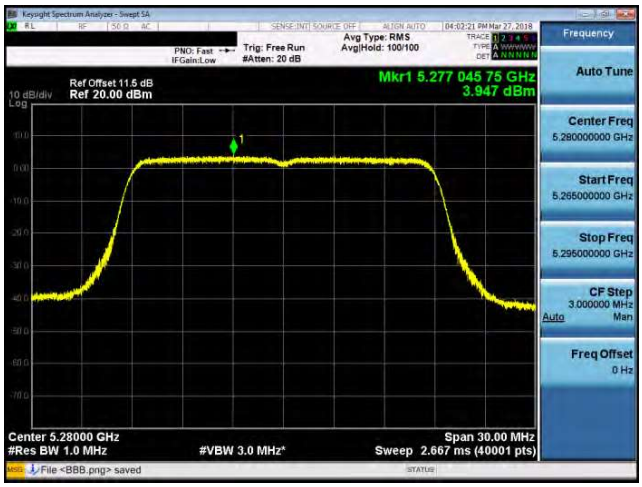
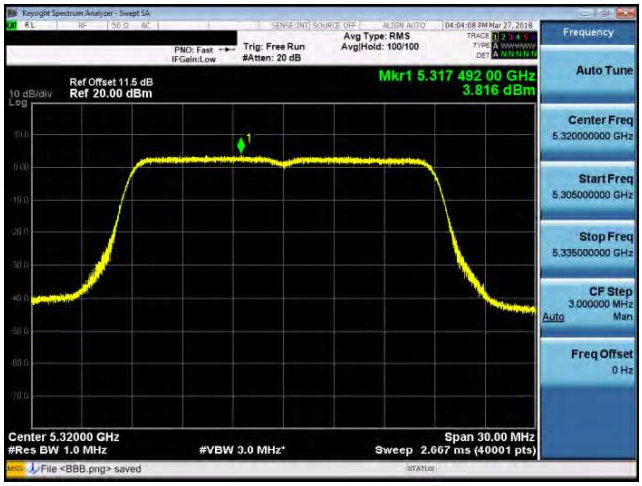
Mode 5: IEEE 802.11ac 80MHz Continuous TX mode_ANT-1	
5290	
5530	

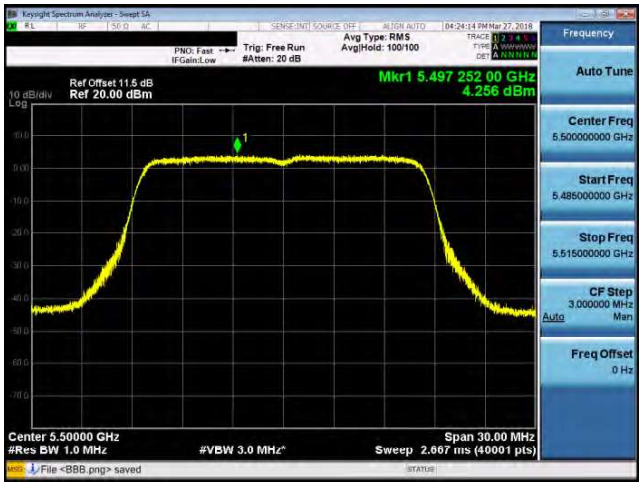
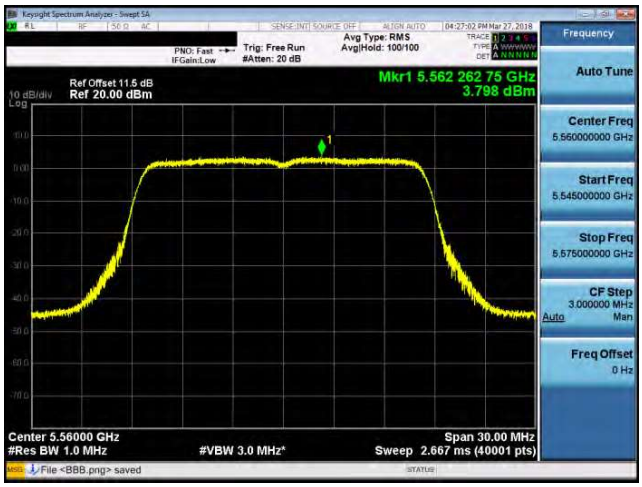
Mode 6: IEEE 802.11ac 80MHz+80MHz Continuous TX mode_ANT-1	
Intdoor	
5290	
Outdoor	
5290	

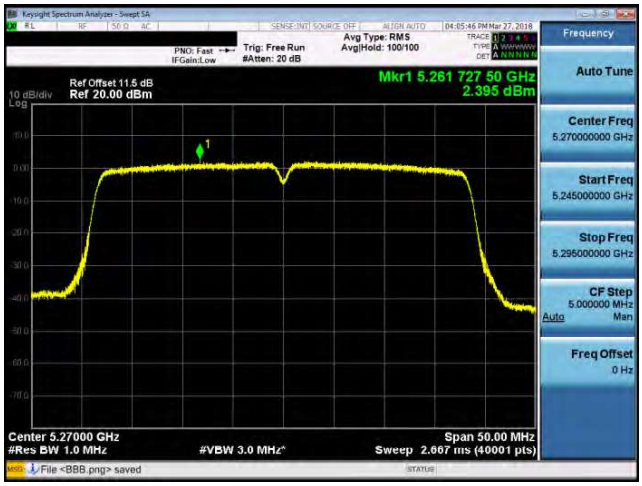
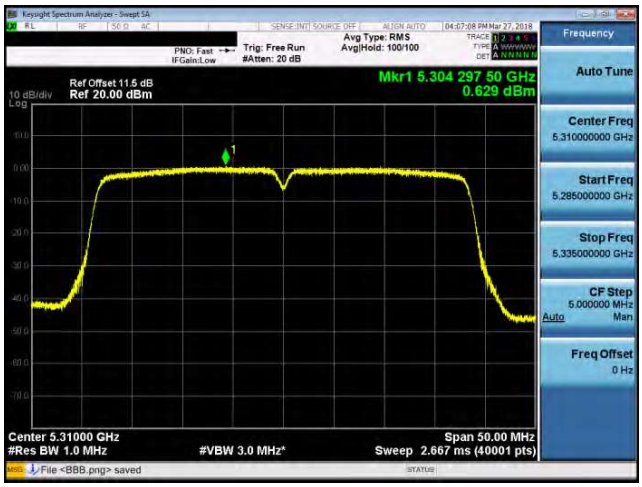
Beamforming on

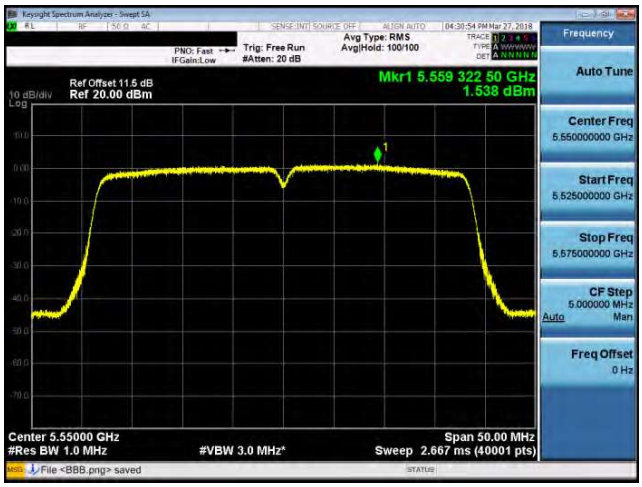
Mode 2: IEEE 802.11a Continuous TX mode_ANT-0	
5260	
5280	
5320	

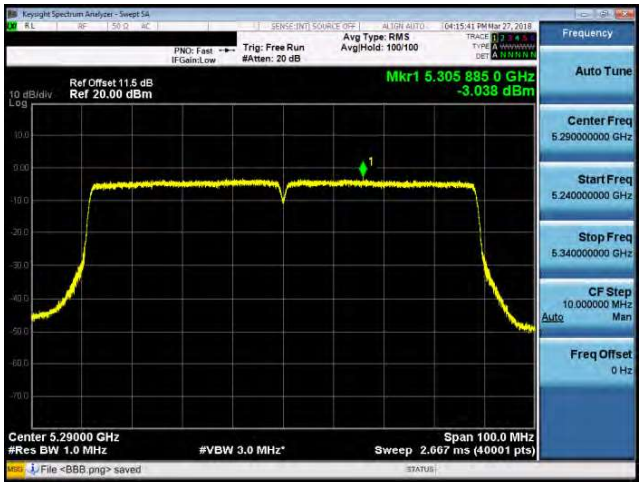
Mode 2: IEEE 802.11a Continuous TX mode_ANT-0	
5500	
5560	
5700	

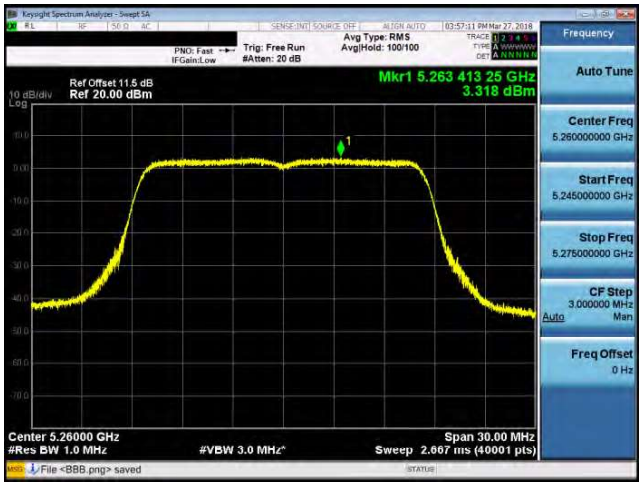
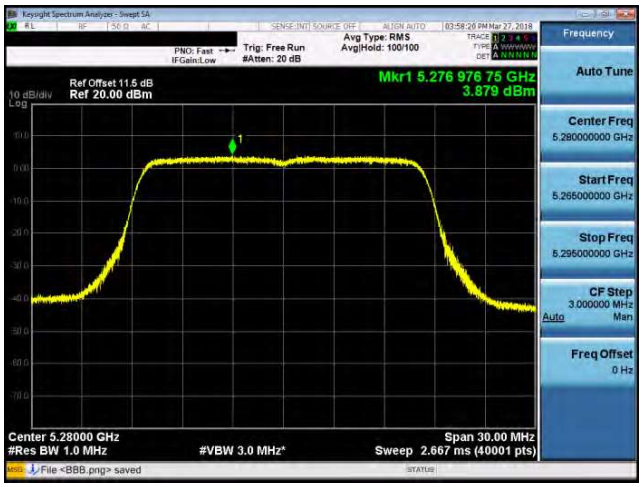
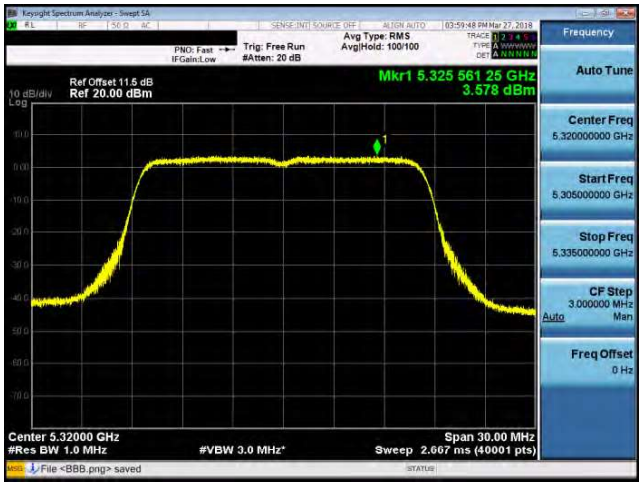
Mode 3: IEEE 802.11ac 20MHz Continuous TX mode_ANT-0	
5260	
5280	
5320	

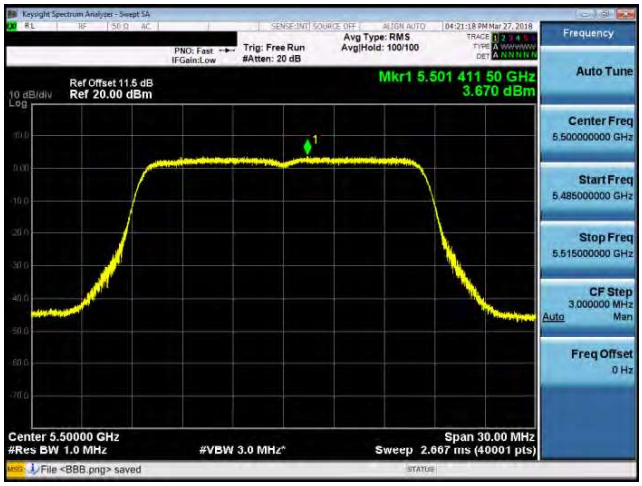
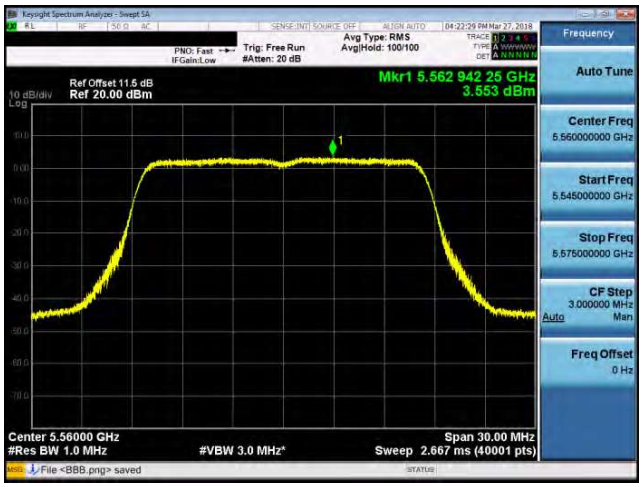
Mode 3: IEEE 802.11ac 20MHz Continuous TX mode_ANT-0	
5500	
5560	
5700	

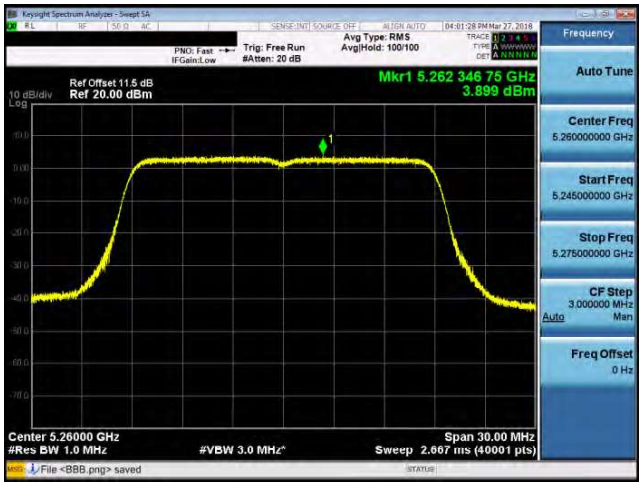
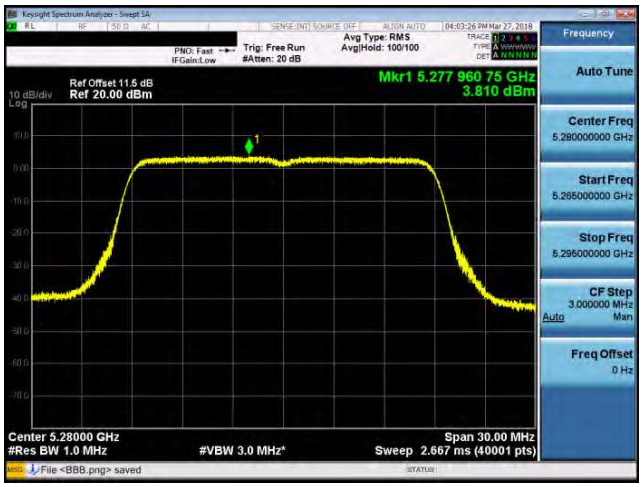
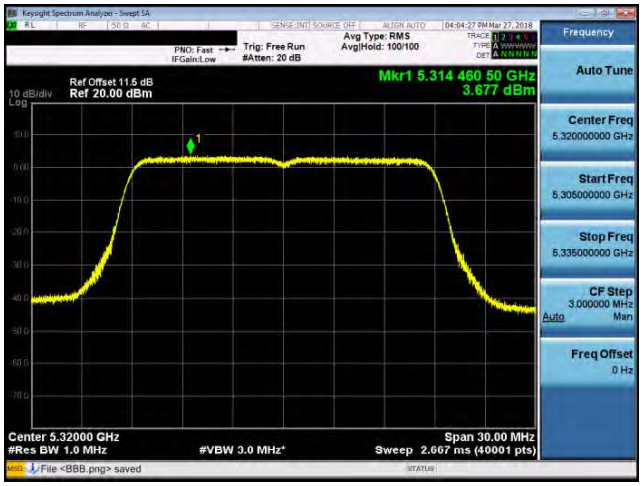
Mode 4: IEEE 802.11ac 40MHz Continuous TX mode_ANT-0	
5270	
5310	

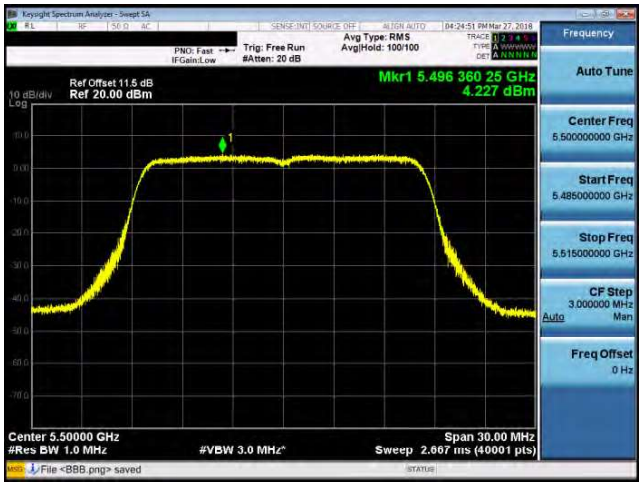
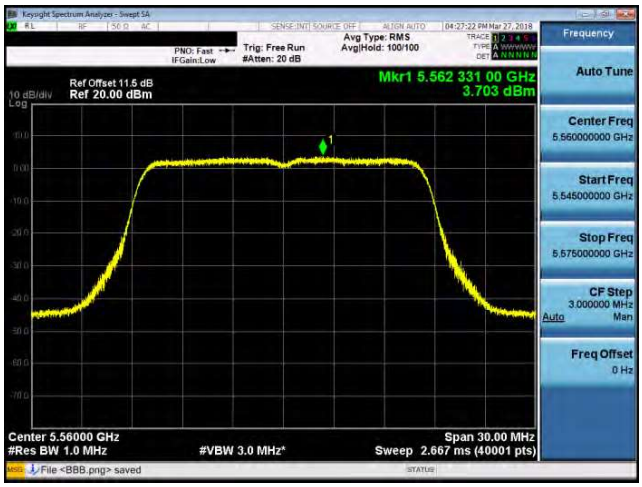
Mode 4: IEEE 802.11ac 40MHz Continuous TX mode_ANT-0	
5510	
5550	
5670	

Mode 5: IEEE 802.11ac 80MHz Continuous TX mode_ANT-0	
5290	
5530	

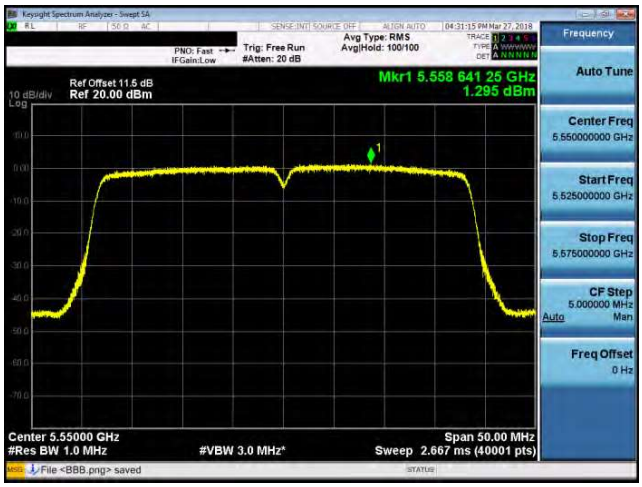
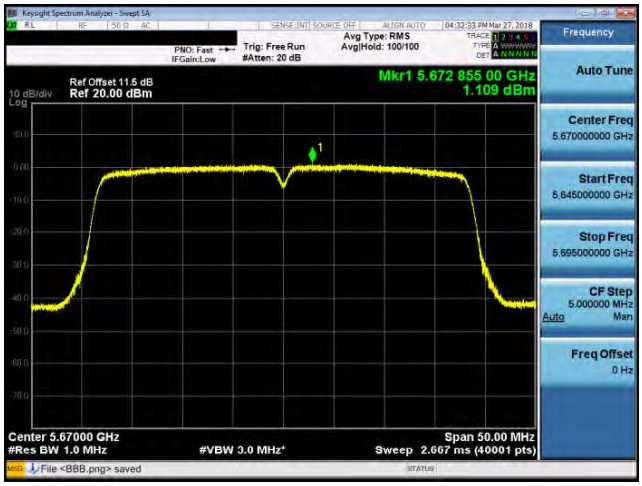
Mode 2: IEEE 802.11a Continuous TX mode_ANT-1	
5260	
5280	
5320	

Mode 2: IEEE 802.11a Continuous TX mode_ANT-1	
5500	
5560	
5700	

Mode 3: IEEE 802.11ac 20MHz Continuous TX mode_ANT-1	
5260	
5280	
5320	

Mode 3: IEEE 802.11ac 20MHz Continuous TX mode_ANT-1	
5500	
5560	
5700	

Mode 4: IEEE 802.11ac 40MHz Continuous TX mode_ANT-1	
5270	
5310	

Mode 4: IEEE 802.11ac 40MHz Continuous TX mode_ANT-1	
5510	
5550	
5670	

Mode 5: IEEE 802.11ac 80MHz Continuous TX mode_ANT-1	
5290	
5530	

5.6. Frequency Stability Measurement

Temperature Variations

Frequency	Temp. (°C)	Voltage (Vac)	Measured Freq. (MHz)	Delta Freq. (Hz)	Tolerance (ppm)	Result (Pass/Fail)
5280 MHz	0	120	5279.9742	-25800	-4.886	Pass
	10		5279.9758	-24200	-4.583	Pass
	20		5279.976	-24000	-4.545	Pass
	30		5279.9775	-22500	-4.261	Pass
	40		5279.978	-22000	-4.167	Pass
	50		5279.9783	-21700	-4.110	Pass
5560 MHz	0	120	5559.9575	-42500	-7.644	Pass
	10		5559.9589	-41100	-7.392	Pass
	20		5559.9595	-40500	-7.284	Pass
	30		5559.9599	-40100	-7.212	Pass
	40		5559.9601	-39900	-7.176	Pass
	50		5559.9615	-38500	-6.924	Pass

Voltage Variations

Frequency	Temp. (°C)	Voltage (Vac)	Measured Freq. (MHz)	Delta Freq. (Hz)	Tolerance (ppm)	Result (Pass/Fail)
5280 MHz	20	138.00	5279.9754	-24600	-4.659	Pass
		120.00	5279.976	-24000	-4.545	Pass
		102.00	5279.9762	-23800	-4.508	Pass
5560 MHz	20	138.00	5559.959	-41000	-7.374	Pass
		120.00	5559.9595	-40500	-7.284	Pass
		102.00	5559.9599	-40100	-7.212	Pass

Note: The manufacturer's frequency stability specification is better then 20ppm.