



# 5.5. Maximum Power Spectral Density Measurement

Test Item	Conducted power spectral density						
Test Mode	Mode 2: IEEE 802,11a Continuous TX mode						
Fraguenay	ANT-0						
Frequency (MHz)	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)			
5260.0	6.395	0.104	6.499				
5280.0	6.539 0.104 6.643		6.643	<b>≦10.16</b>			
5320.0	6.943	0.104	7.047				
5500.0	5.360	0.104	5.464				
5560.0	4.901	0.104	5.005	<b>≦9.29</b>			
5700.0	4.848	0.104	4.952				
Frequency	ANT-1						
(MHz)	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)			
5260.0	7.038	0.104	7.142				
5280.0	6.713	0.104	6.817	≤10 <b>.</b> 16			
5320.0	6.945	0.104	7.049				
5500.0	6.802	0.104	6.906				
5560.0	6.717	0.104	6.821	<b>≦9.29</b>			
5700.0	6.619	0.104	6.723				
Frequency	ANT-0+1						
(MHz)		Calculated (dBm/MHz)		Limit (dBm/MHz)			
5260.0							
5280.0		≦10.16					
5320.0							
5500.0							
5560.0		<b>≦</b> 9.29					
5700.0							





Test Item	Conducted power spectral density					
Test Mode	Mode 3: IEEE 802.11ac 20MHz Continuous TX mode					
	ANT-0					
Frequency (MHz)	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)		
5260.0	6.582	0.039	6.621			
5280.0	6.726	0.039	6.765	≦10.16		
5320.0	6.809	0.039	6.848	]		
5500.0	4.922	0.039	4.961			
5560.0	5.723	0.039	5.762	<b>≦9.29</b>		
5700.0	5.561	0.039	5.600			
Frequency	ANT-1					
(MHz)	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)		
5260.0	7.417	0.039	7.456			
5280.0	7.351	0.039	7.390	≦10.16		
5320.0	7.387	0.039	7.426			
5500.0	6.614	0.039	6.653			
5560.0	5.919	0.039	5.958	<b>≦9.29</b>		
5700.0	6.216	0.039	6.255			
Frequency		ANT	<del>-</del> 0+1			
(MHz)		Limit (dBm/MHz)				
5260.0						
5280.0		≦10 <b>.</b> 16				
5320.0						
5500.0		]				
5560.0		<b>≦9.29</b>				
5700.0						



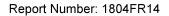


Test Item	Conducted power spectral density						
Test Mode	Mode 4: IEEE 802.11ac 40MHz Continuous TX mode						
Frequency	ANT-0						
(MHz)	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)			
5270.0	6.660	0.079	6.739	<10.16			
5310.0	3.881	0.079	3.960	≦10.16			
5510.0	4.261	0.079	4.340				
5550.0	4.856	0.079	4.935	<b>≦9.29</b>			
5670.0	6.355	0.079	6.434				
Frequency		ANT-1					
(MHz)	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)			
5270.0	7.283	0.079	7.362	≦10.16			
5310.0	4.805	0.079	4.884	≥ 10.16			
5510.0	5.359	0.079	5.438				
5550.0	6.543	0.079	6.622	<b>≦9.29</b>			
5670.0	5.777	0.079	5.856				
Frequency	ANT-0+1						
(MHz)		Calculated (dBm/MHz)		Limit (dBm/MHz)			
5270.0		≤10 <b>.</b> 16					
5310.0		≥ 10,10					
5510.0		<b>≦9.29</b>					
5550.0							
5670.0							





Test Item	Conducted power spectral density					
Test Mode	Mode 5: IEEE 802.11ac 80MHz Continuous TX mode					
Fraguency		AN	T-0			
Frequency (MHz)	Measurement Duty Factor Calculated   (dBm/MHz) (dB) (dBm/MHz)		Limit (dBm/MHz)			
5290.0	-0.048	≤10 <b>.</b> 16				
5530.0	-0.621	<b>≦9.29</b>				
Francis	ANT-1					
Frequency (MHz)	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)		
5290.0	0.444	0.164	0.608	≤10.16		
5530.0	1.447	0.164	1.611	<b>≦9.29</b>		
Fraguency	ANT-0+1					
Frequency (MHz)	Calculated Limit (dBm/MHz) (dBm/MHz)					
5290.0		≦10.16				
5530.0	3.709 ≤9.29					





## Beamforming on

Test Item	Conducted power spectral density					
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	4.177	0.039	4.216			
5280.0	4.591	0.039	4.630	≦10.16		
5320.0	4.723	0.039	4.762			
5500.0	2.266	0.039	2.305			
5560.0	1.706	0.039	1.745	<b>≦9.29</b>		
5700.0	2.727	0.039	2.766			
Eroguenev						
Frequency (MHz)	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)		
5260.0	4.636	0.039	4.675			
5280.0	4.270	0.039	4.309	≦10.16		
5320.0	4.441	0.039	4.480			
5500.0	3.807	0.039	3.846			
5560.0	3.208	0.039	3.247	≦9.29		
5700.0	3.940	0.039	3.979			
Frequency	ANT-0+1					
(MHz)		Limit (dBm/MHz)				
5260.0						
5280.0		<b>≦10.16</b>				
5320.0						
5500.0						
5560.0		<b>≦9.29</b>				
5700.0						





Test Item	Conducted power spectral density					
Test Mode	Mode 4: IEEE 802.11ac 40MHz Continuous TX mode					
Eroguenev	ANT-0					
Frequency (MHz)	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)		
5270.0	3.594	0.079	3.673	≦10.16		
5310.0	1.051	0.079	1.130	≥ 10.16		
5510.0	1.170	0.079	1.249			
5550.0	2.066	0.079	2.145	<b>≦9.29</b>		
5670.0	2.795	0.079	2.874			
Fraguency		AN <sup>-</sup>	Γ-1			
Frequency (MHz)	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)		
5270.0	4.264	0.079	4.343	<10.10		
5310.0	2.383	0.079	2.462	≦10.16		
5510.0	2.740	0.079	2.819			
5550.0	3.720	0.079	3.799	<b>≦9.29</b>		
5670.0	3.330	0.079	3.409			
Frequency	ANT-0+1					
(MHz)		Calculated (dBm/MHz)		Limit (dBm/MHz)		
5270.0		<10.16				
5310.0		≦10.16				
5510.0		<b>≤9.29</b>				
5550.0						
5670.0						

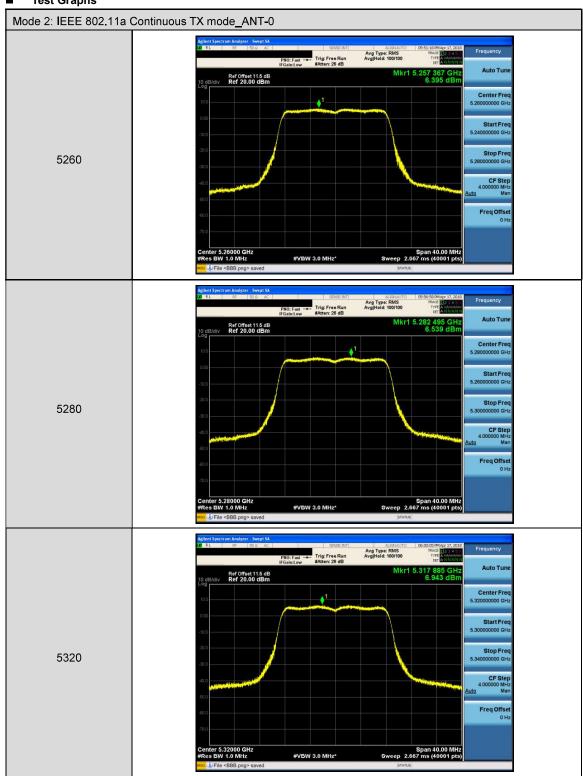




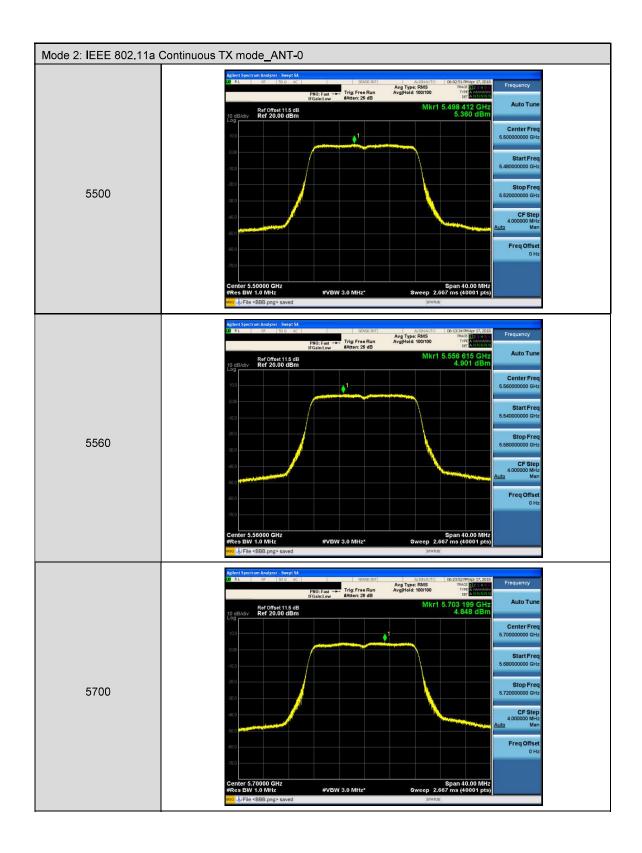
Test Item	Conducted power spectral density					
Test Mode	Mode 5: IEEE 802.11ac 80MHz Continuous TX mode					
Fraguency		AN	T-0			
Frequency (MHz)	Measurement Duty Factor Calculated (dBm/MHz) (dB) (dBm/MHz)		Limit (dBm/MHz)			
5290.0	-3.063	0.164	<b>-</b> 2.899	≤10.16		
5530.0	-3.655	<b>≦9.29</b>				
	ANT-1					
Frequency (MHz)	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)		
5290.0	-2.101	0.164	<b>-</b> 1.937	≦10.16		
5530.0	-1.718	0.164	<b>-</b> 1.554	<b>≦9.29</b>		
Fraguency	ANT-0+1					
Frequency (MHz)	Calculated Limit (dBm/MHz) (dBm/MH					
5290.0		≦10.16				
5530.0	0.595 ≤9					



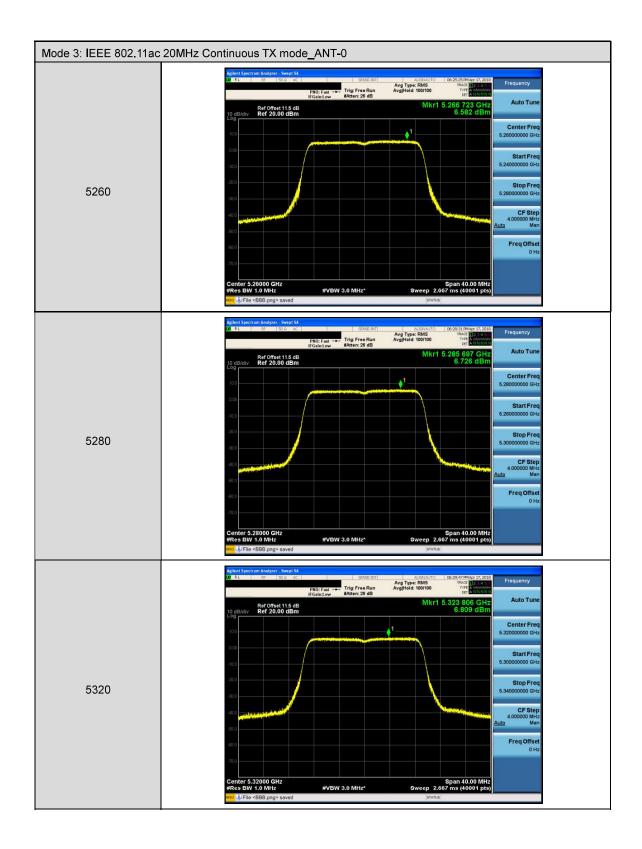
#### Test Graphs



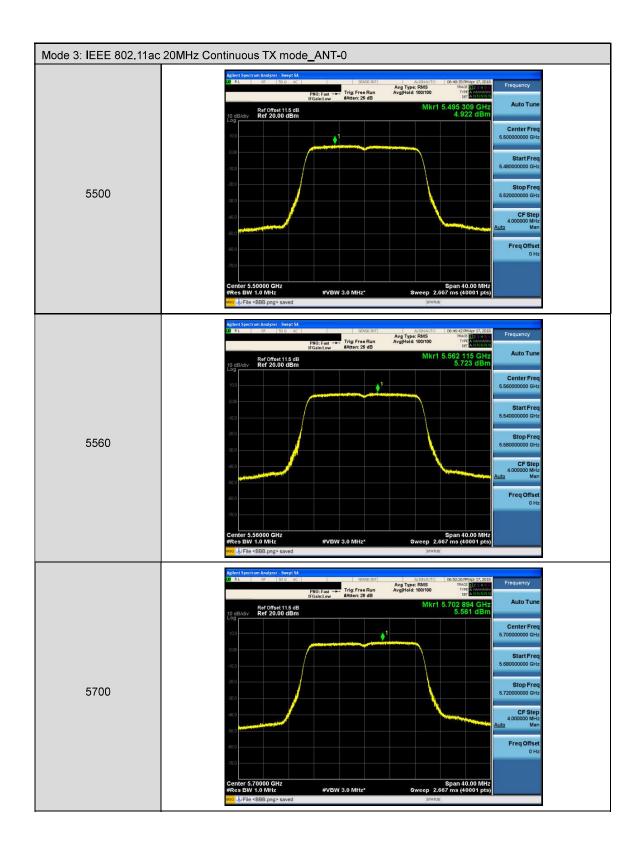




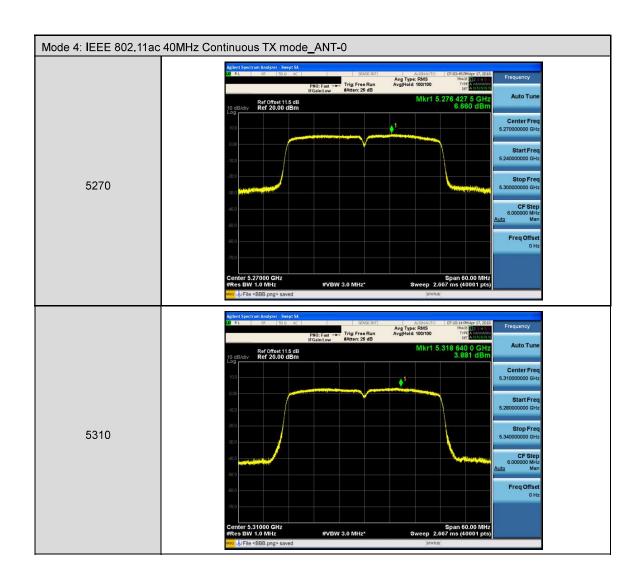




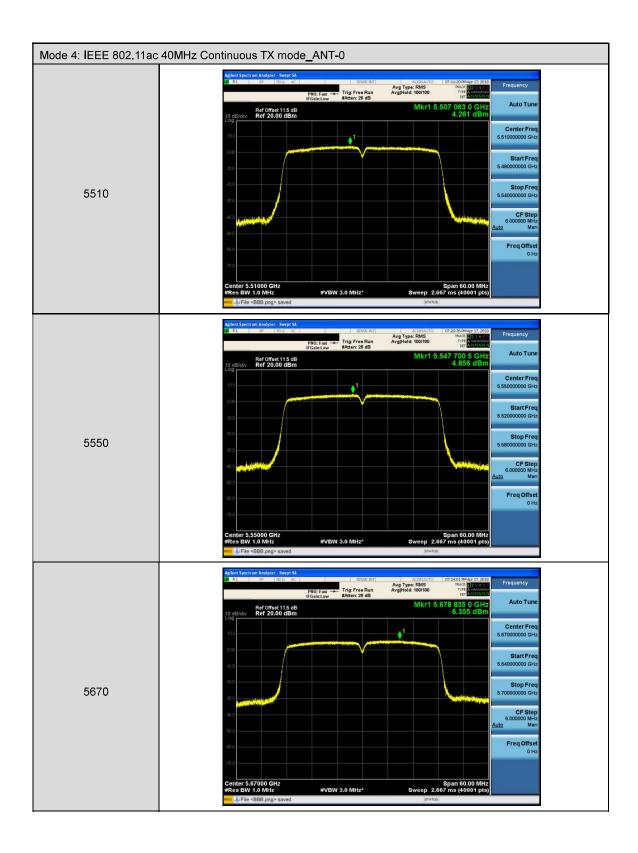




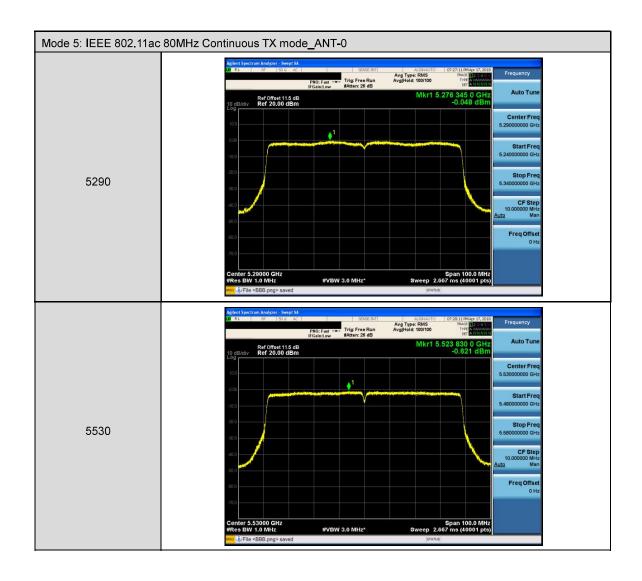




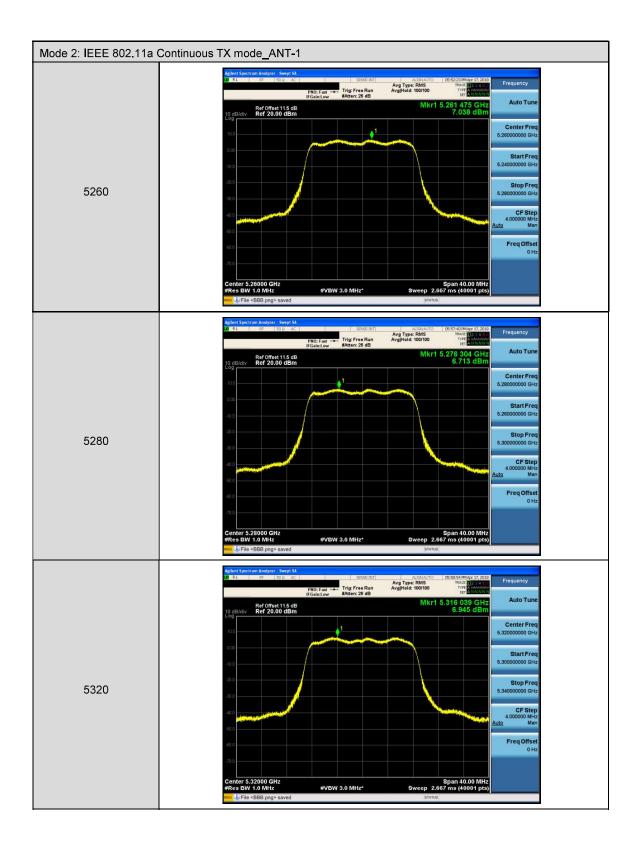




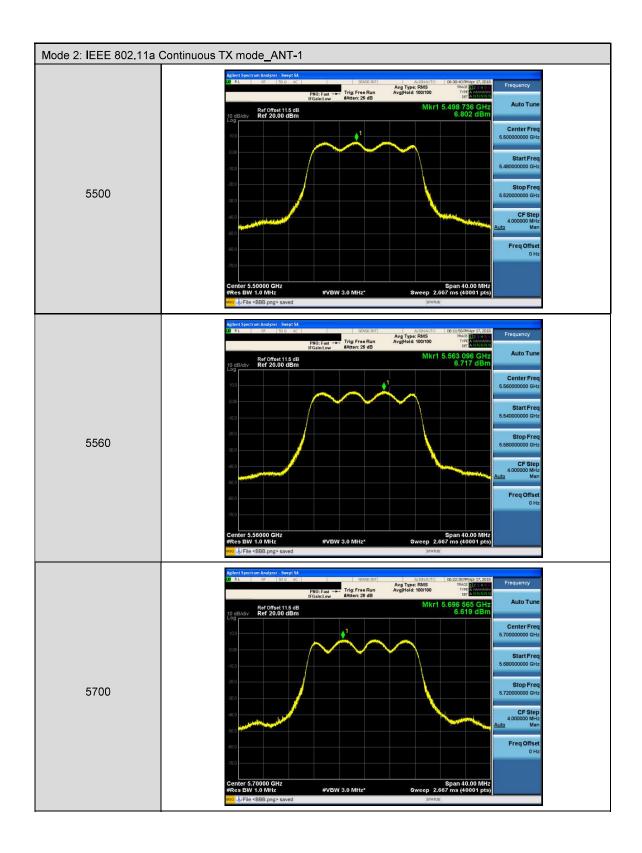




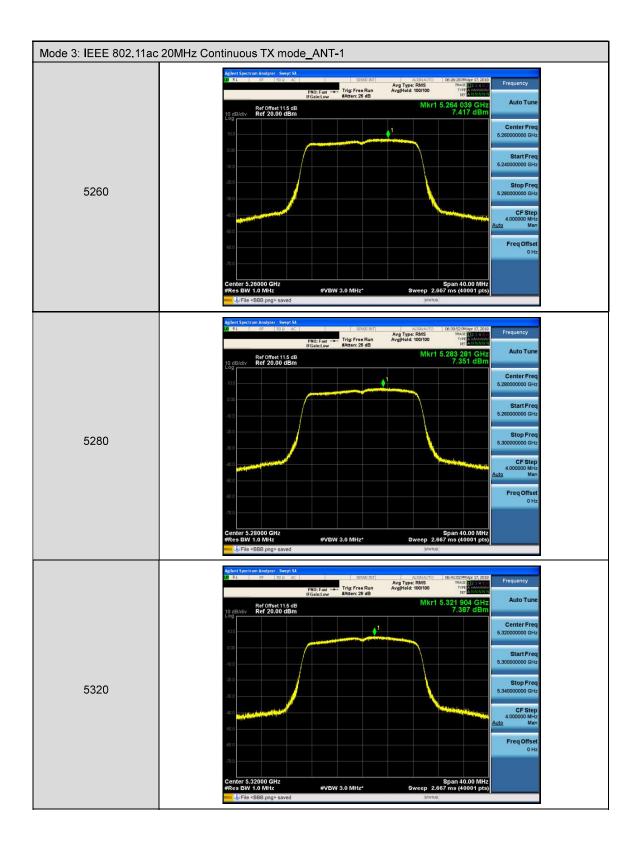




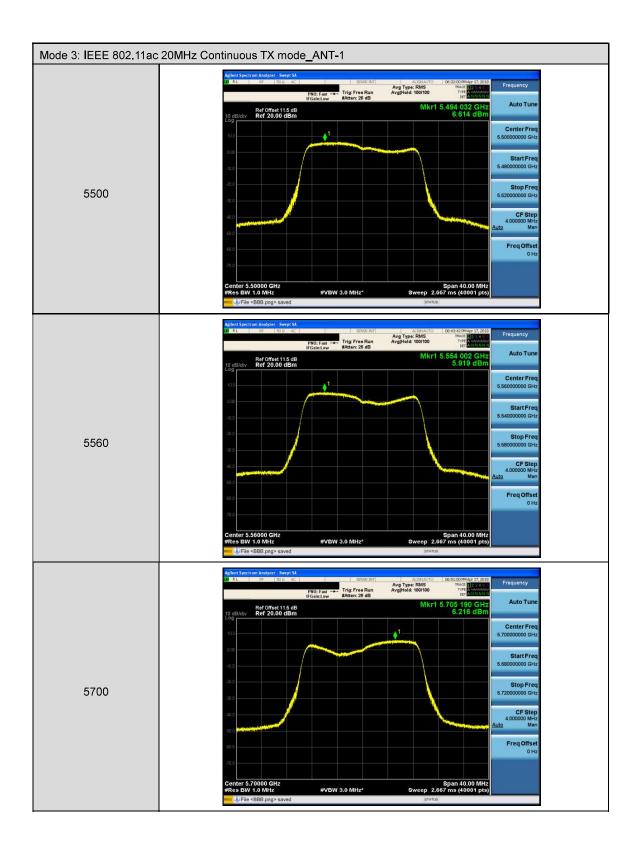




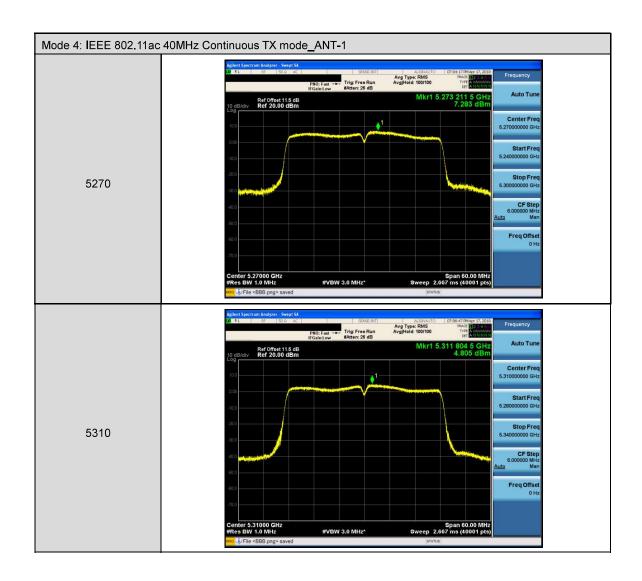




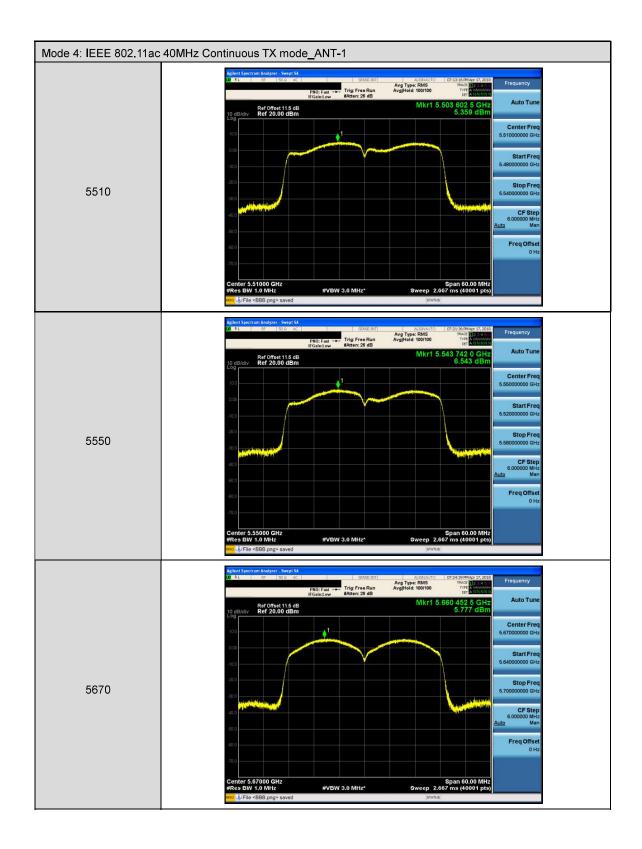




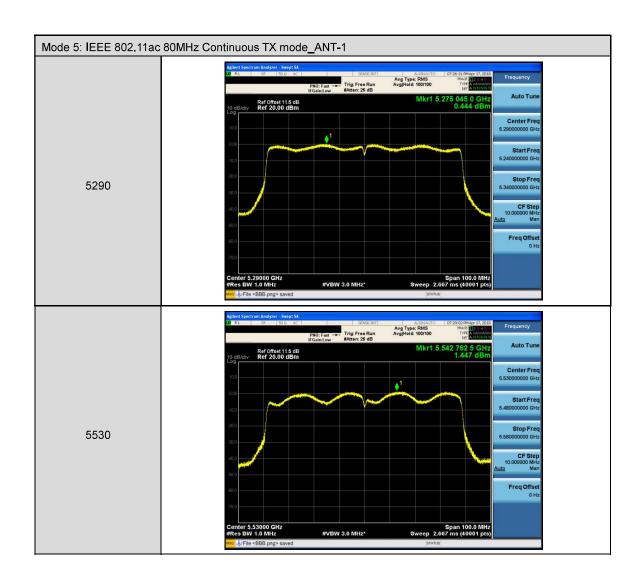






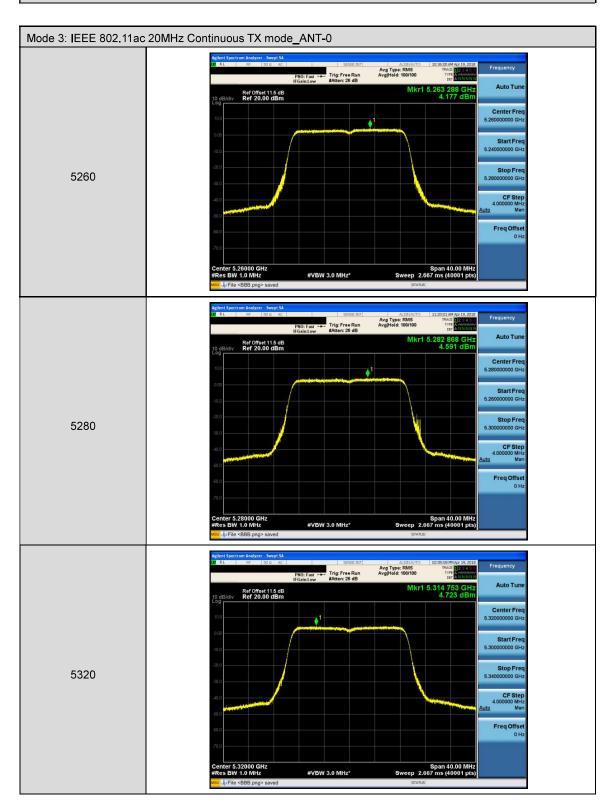




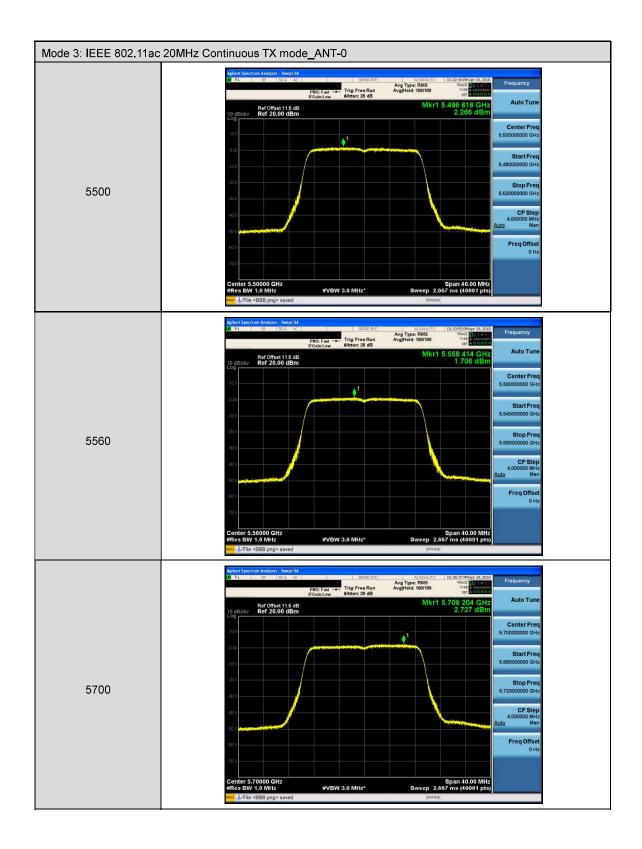




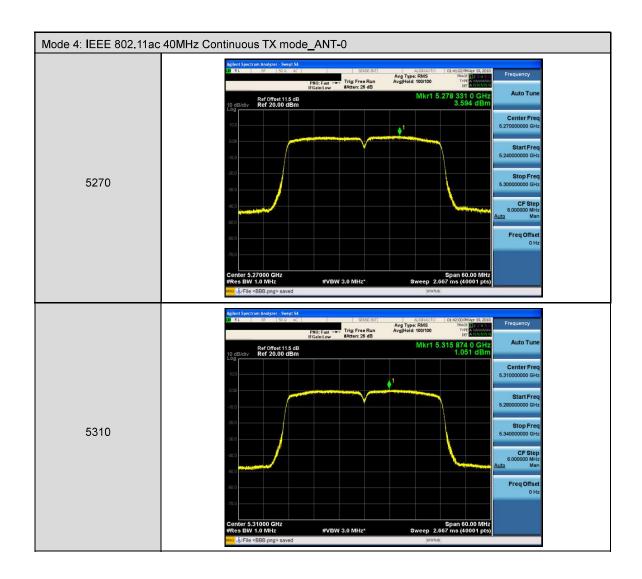
## Beamforming on



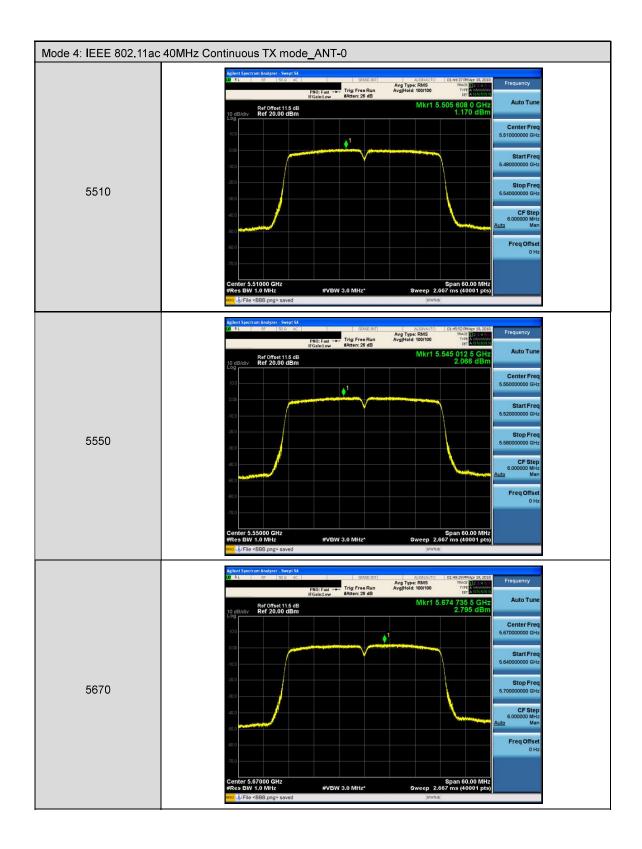




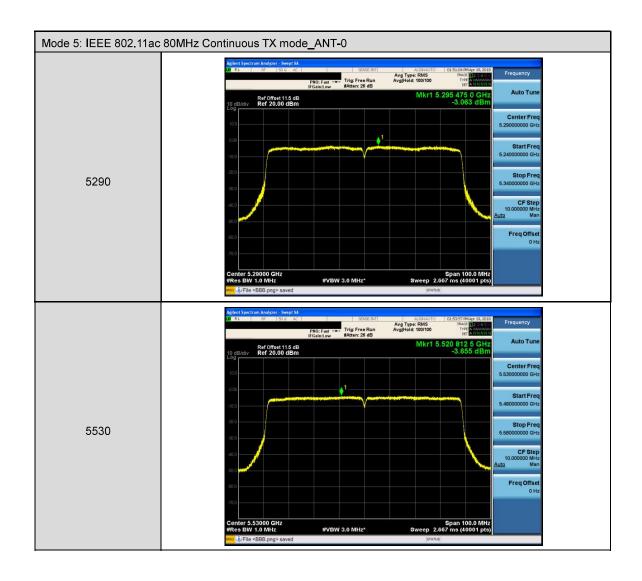




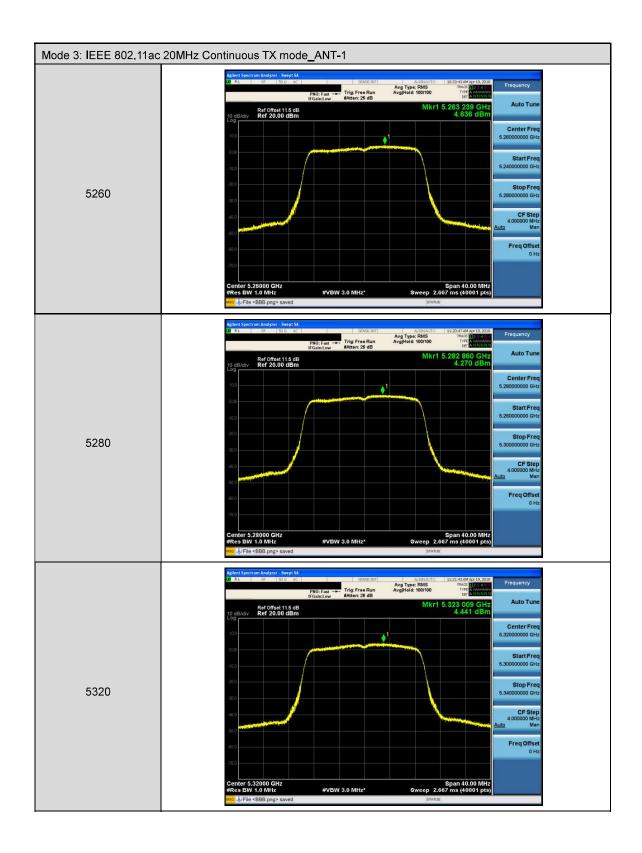




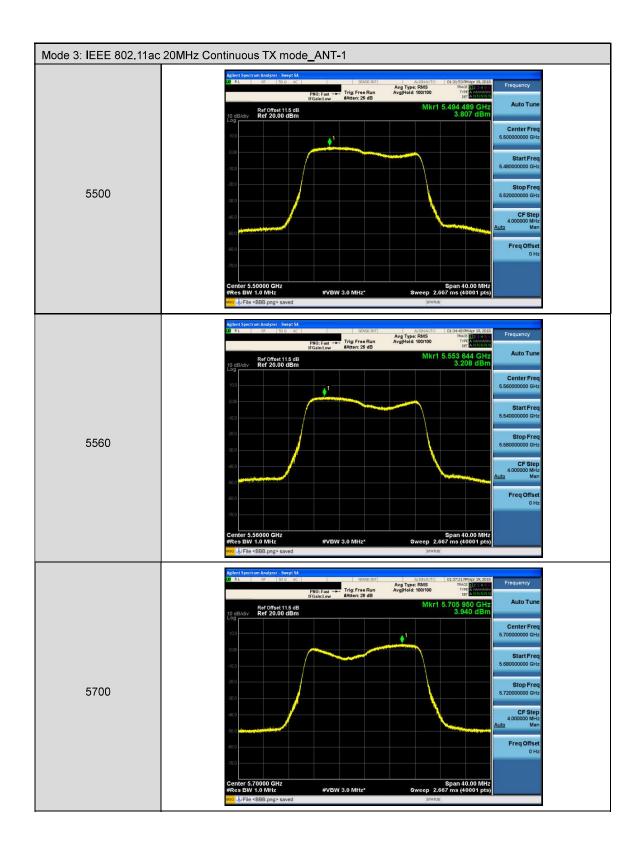




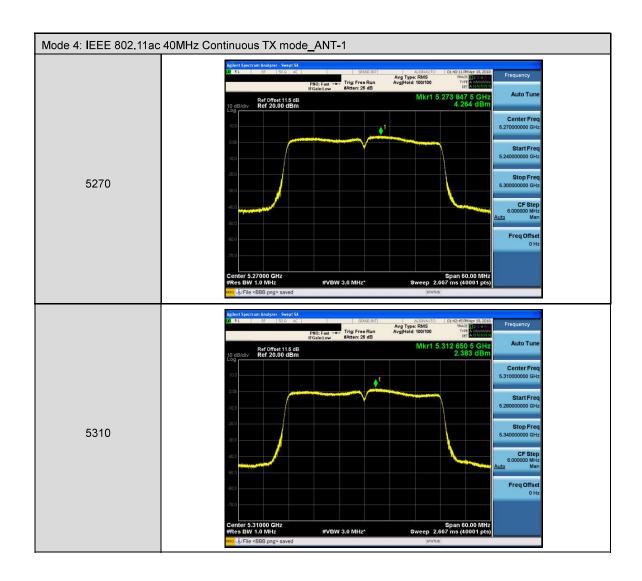




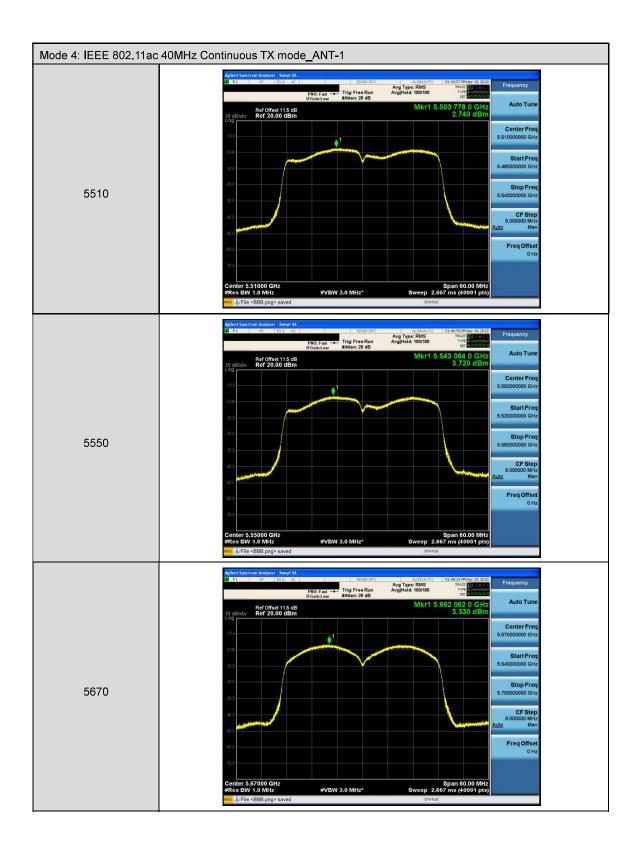




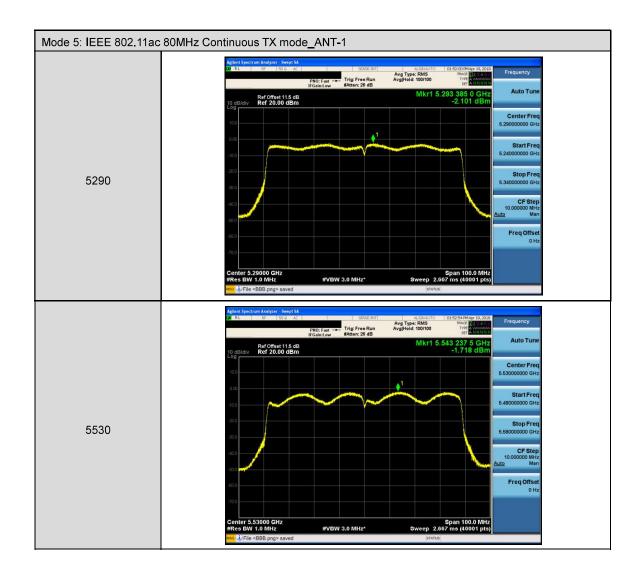


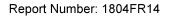














# **5.6.** Frequency Stability Measurement

#### **Temperature Variations**

Test Item	Frequency Stability						
Frequency	Temp. (°C)	Voltage (Vac)	Measured Freq. (MHz)	Delta Freq. (Hz)	Tolerance (ppm)	Result (Pass/Fail)	
	0		5279.9724	<b>-</b> 27600	-5.227	Pass	
	10		5279.9736	-26400	-5.000	Pass	
5280 MHz	20	120	5279.9742	<b>-</b> 25800	<b>-</b> 4.886	Pass	
	30		5279.9783	<b>-</b> 21700	-4.110	Pass	
	40		5279.995	-5000	-0.947	Pass	
	0		5559.9559	<del>-</del> 44100	<b>-</b> 7.932	Pass	
	10		5559.9575	<del>-</del> 42500	<b>-</b> 7.644	Pass	
5560 MHz	20	120	5559.9589	-41100	<b>-</b> 7.392	Pass	
	30		5559.9597	<del>-4</del> 0300	-7.248	Pass	
	40		5559.9613	-38700	-6.960	Pass	

### **Voltage Variations**

voltage variations							
Test Item	Frequency Stability						
Frequency	Temp. (°C)	Voltage (Vac)	Measured Freq. (MHz)	Delta Freq. (Hz)	Tolerance (ppm)	Result (Pass/Fail)	
	5280 MHz 20	138.00	5279.973	<b>-</b> 27000	-5.114	Pass	
5280 MHz		120.00	5279.9742	<b>-</b> 25800	-4.886	Pass	
		102.00	5279.9755	-24500	<b>-</b> 4.640	Pass	
		138.00	5559.9565	<del>-4</del> 3500	-7.824	Pass	
5560 MHz	20	120.00	5559.9589	<b>-</b> 41100	<b>-</b> 7.392	Pass	
		102.00	5559.961	-39000	-7.014	Pass	

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