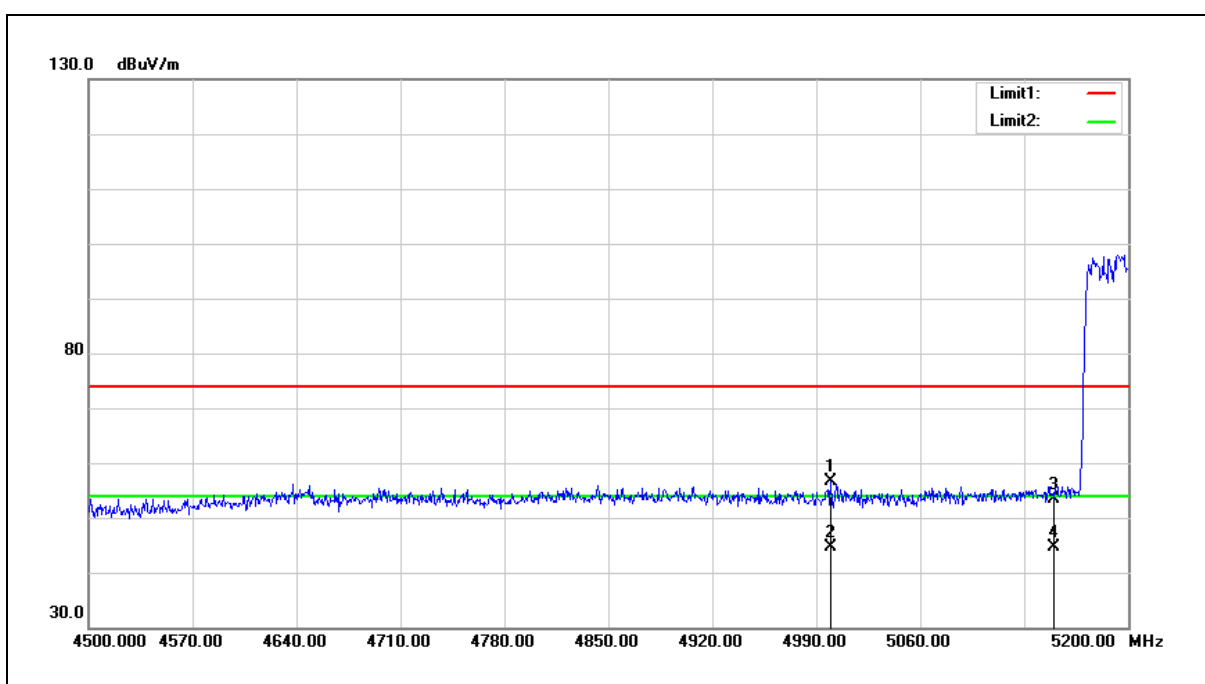


Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5190MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4999.800	51.09	5.55	56.64	74.00	-17.36	peak
2	4999.800	39.08	5.55	44.63	54.00	-9.37	AVG
3	5150.000	47.69	5.78	53.47	74.00	-20.53	peak
4	5150.000	38.85	5.78	44.63	54.00	-9.37	AVG

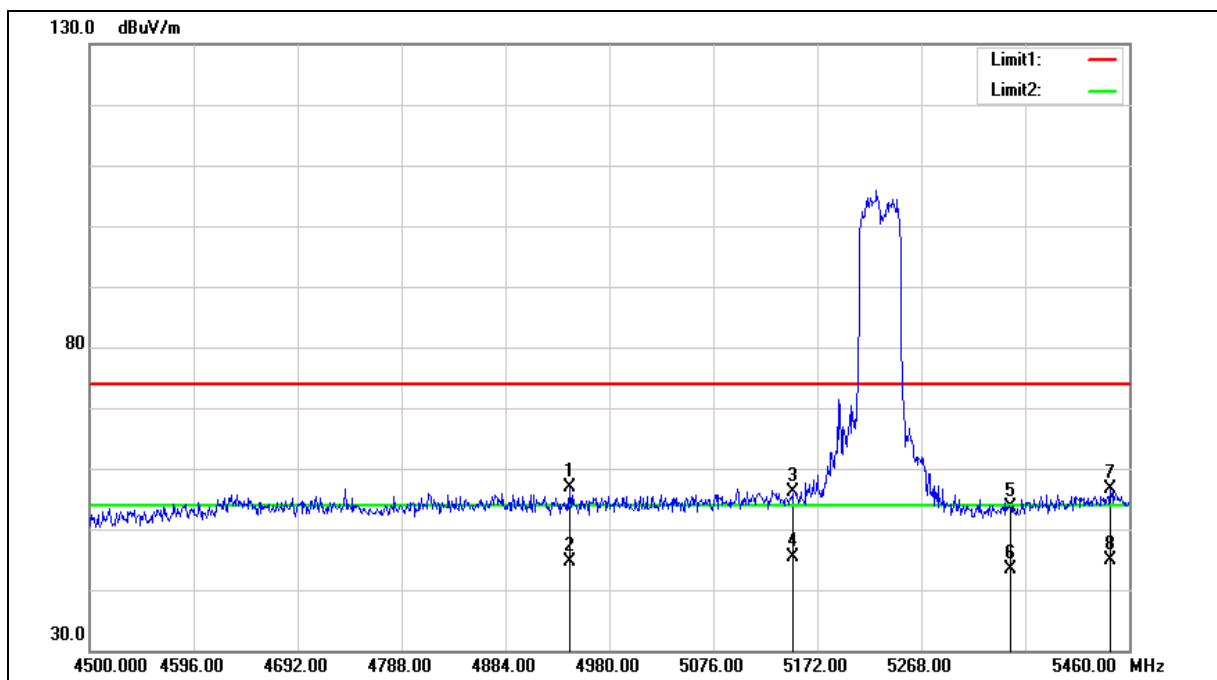
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.



Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5230MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		





Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5230MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60%RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4943.520	51.51	5.38	56.89	74.00	-17.11	peak
2	4943.520	39.30	5.38	44.68	54.00	-9.32	AVG
3	5150.000	50.34	5.78	56.12	74.00	-17.88	peak
4	5150.000	39.64	5.78	45.42	54.00	-8.58	AVG
5	5350.000	47.51	6.07	53.58	74.00	-20.42	peak
6	5350.000	37.19	6.07	43.26	54.00	-10.74	AVG
7	5442.720	50.34	6.21	56.55	74.00	-17.45	peak
8	5442.720	38.68	6.21	44.89	54.00	-9.11	AVG

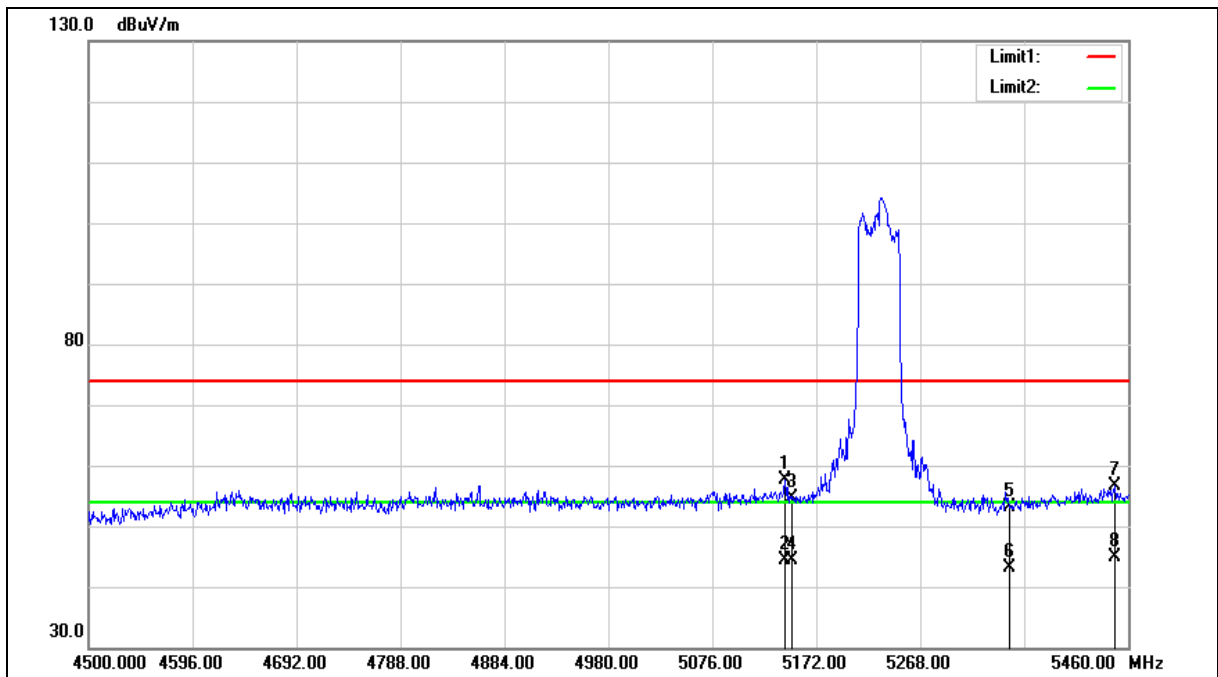
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.



Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5230MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		





Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5230MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60%RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		

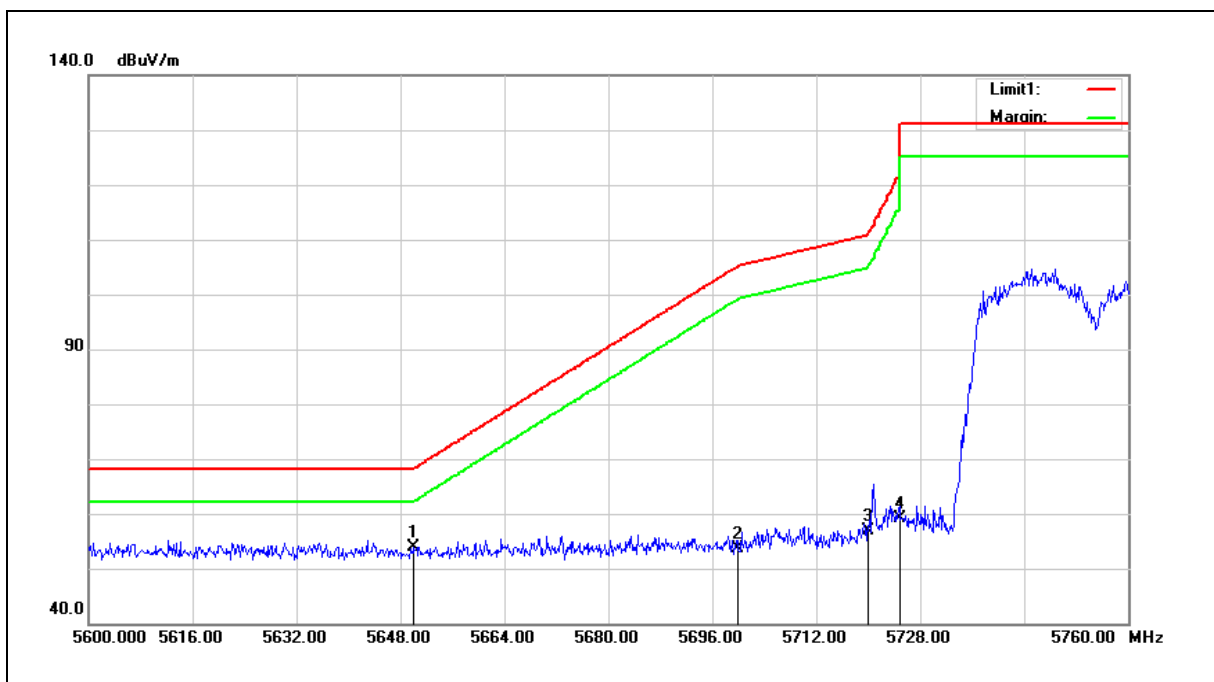
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5143.200	51.91	5.77	57.68	74.00	-16.32	peak
2	5143.200	38.66	5.77	44.43	54.00	-9.57	AVG
3	5150.000	48.90	5.78	54.68	74.00	-19.32	peak
4	5150.000	38.56	5.78	44.34	54.00	-9.66	AVG
5	5350.000	47.12	6.07	53.19	74.00	-20.81	peak
6	5350.000	37.11	6.07	43.18	54.00	-10.82	AVG
7	5447.520	50.44	6.22	56.66	74.00	-17.34	peak
8	5447.520	38.57	6.22	44.79	54.00	-9.21	AVG

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5755MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60%RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



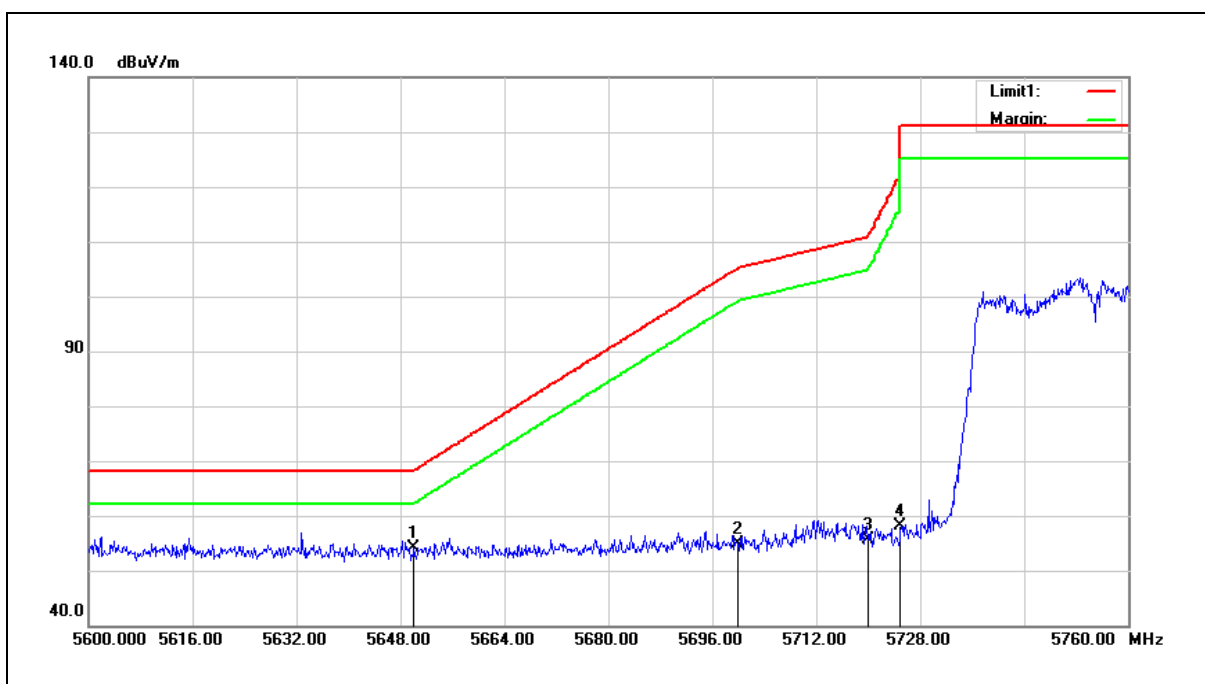
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	47.28	6.61	53.89	68.20	-14.31	peak
2	5700.000	46.89	6.71	53.60	105.20	-51.60	peak
3	5720.000	50.10	6.77	56.87	110.80	-53.93	peak
4	5725.000	52.30	6.78	59.08	122.20	-63.12	peak

Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5755MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60%RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



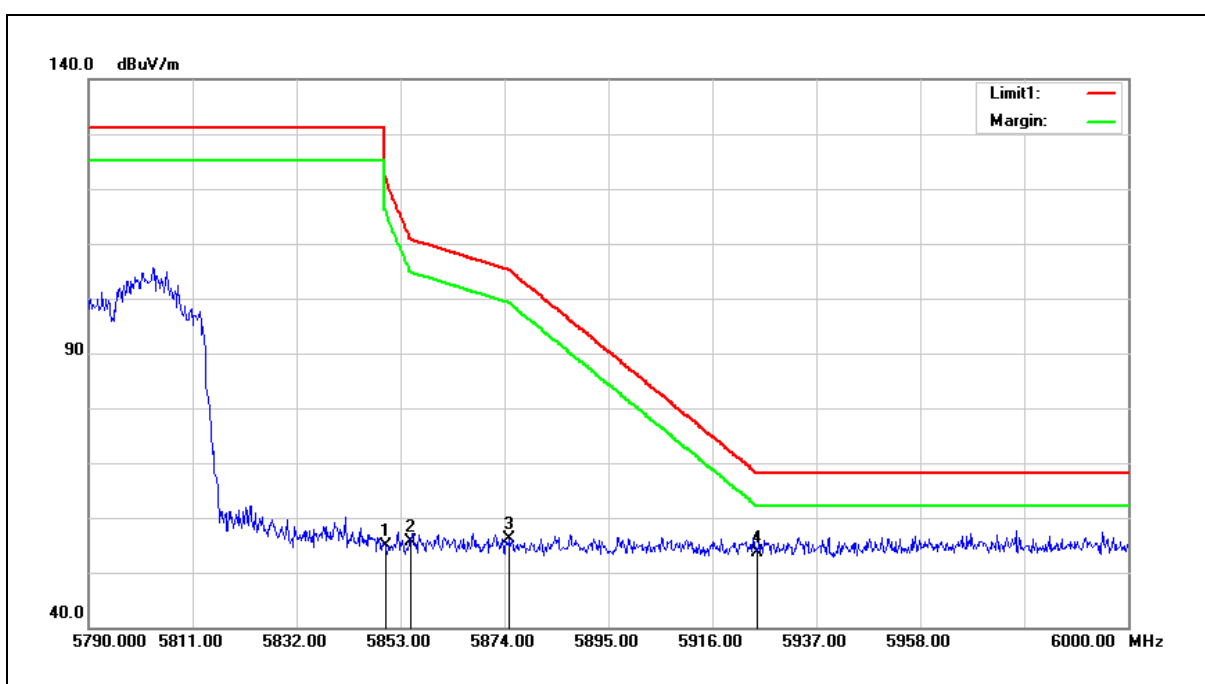
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	47.59	6.61	54.20	68.20	-14.00	peak
2	5700.000	48.18	6.71	54.89	105.20	-50.31	peak
3	5720.000	48.86	6.77	55.63	110.80	-55.17	peak
4	5725.000	51.26	6.78	58.04	122.20	-64.16	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5795MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



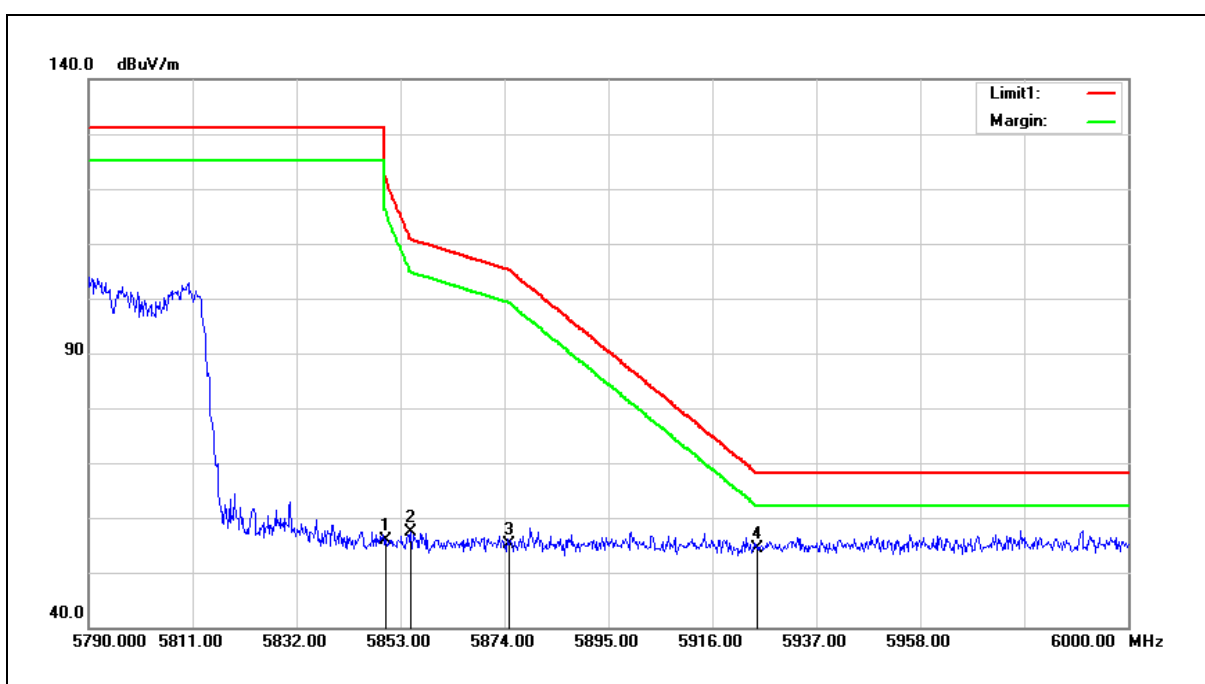
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	47.82	7.03	54.85	122.20	-67.35	peak
2	5855.000	48.50	7.04	55.54	110.80	-55.26	peak
3	5875.000	49.10	7.09	56.19	105.20	-49.01	peak
4	5925.000	46.32	7.20	53.52	68.20	-14.68	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5795MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60%RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	48.97	7.03	56.00	122.20	-66.20	peak
2	5855.000	50.37	7.04	57.41	110.80	-53.39	peak
3	5875.000	48.11	7.09	55.20	105.20	-50.00	peak
4	5925.000	47.22	7.20	54.42	68.20	-13.78	peak

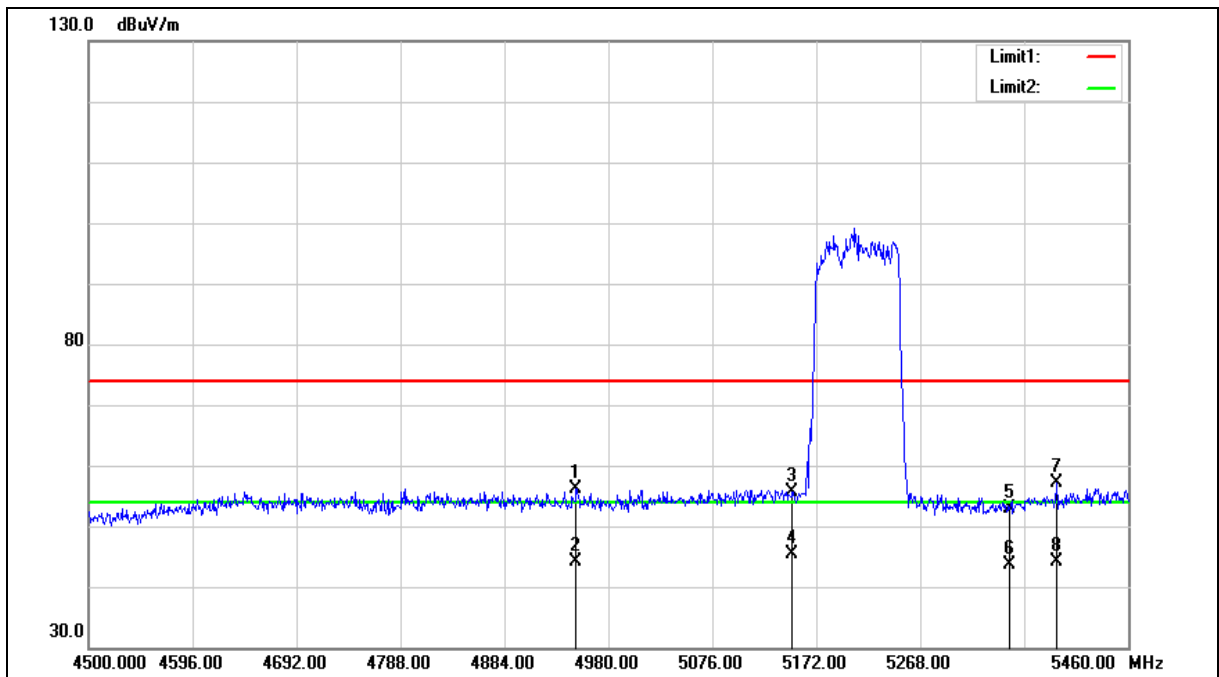
Note: 1. Result (dBuV/m) = Correct Factor (dB/m) + Reading (dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3. When the peak results are less than average limit, so not need to evaluate the average.



Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5210MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5		
Ant.Polar.:	Horizontal		





Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5210MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60%RH
Mode:	Mode 5		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4950.240	50.84	5.39	56.23	74.00	-17.77	peak
2	4950.240	38.73	5.39	44.12	54.00	-9.88	AVG
3	5150.000	49.92	5.78	55.70	74.00	-18.30	peak
4	5150.000	39.57	5.78	45.35	54.00	-8.65	AVG
5	5350.000	46.89	6.07	52.96	74.00	-21.04	peak
6	5350.000	37.66	6.07	43.73	54.00	-10.27	AVG
7	5393.760	51.09	6.14	57.23	74.00	-16.77	peak
8	5393.760	37.96	6.14	44.10	54.00	-9.90	AVG

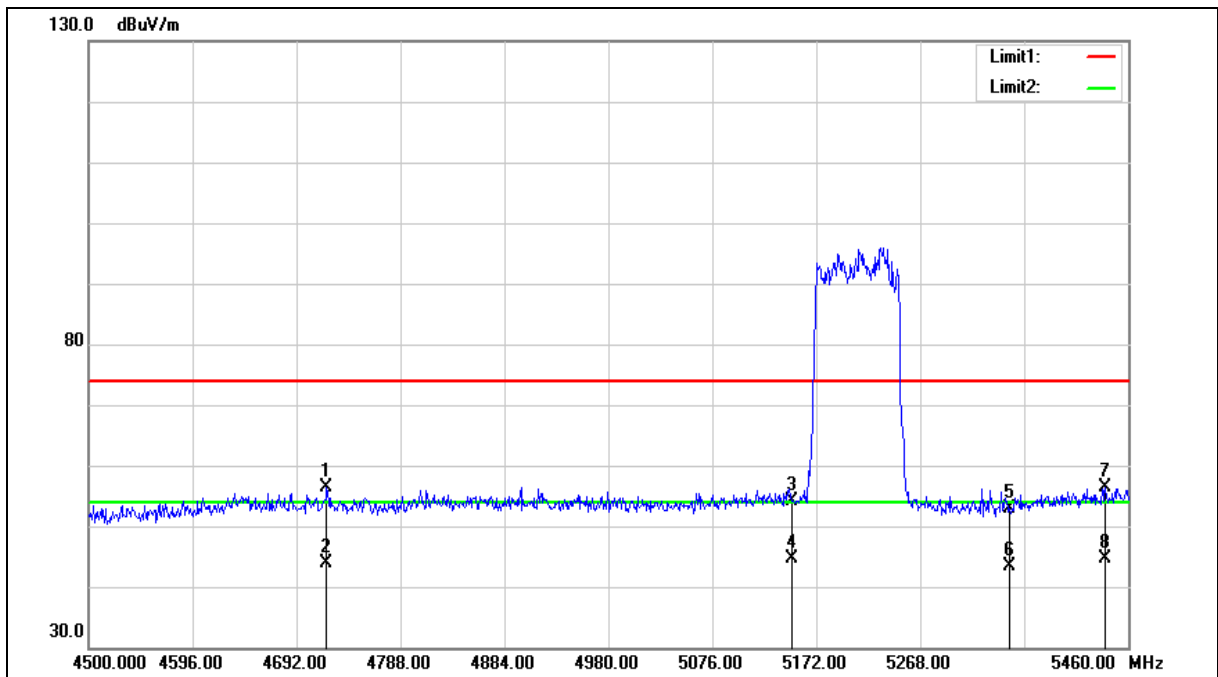
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.



Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5210MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5		
Ant.Polar.:	Vertical		





Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5210MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60%RH
Mode:	Mode 5		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4719.840	51.68	4.66	56.34	74.00	-17.66	peak
2	4719.840	39.29	4.66	43.95	54.00	-10.05	AVG
3	5150.000	48.24	5.78	54.02	74.00	-19.98	peak
4	5150.000	38.84	5.78	44.62	54.00	-9.38	AVG
5	5350.000	46.88	6.07	52.95	74.00	-21.05	peak
6	5350.000	37.19	6.07	43.26	54.00	-10.74	AVG
7	5438.880	50.16	6.20	56.36	74.00	-17.64	peak
8	5438.880	38.51	6.20	44.71	54.00	-9.29	AVG

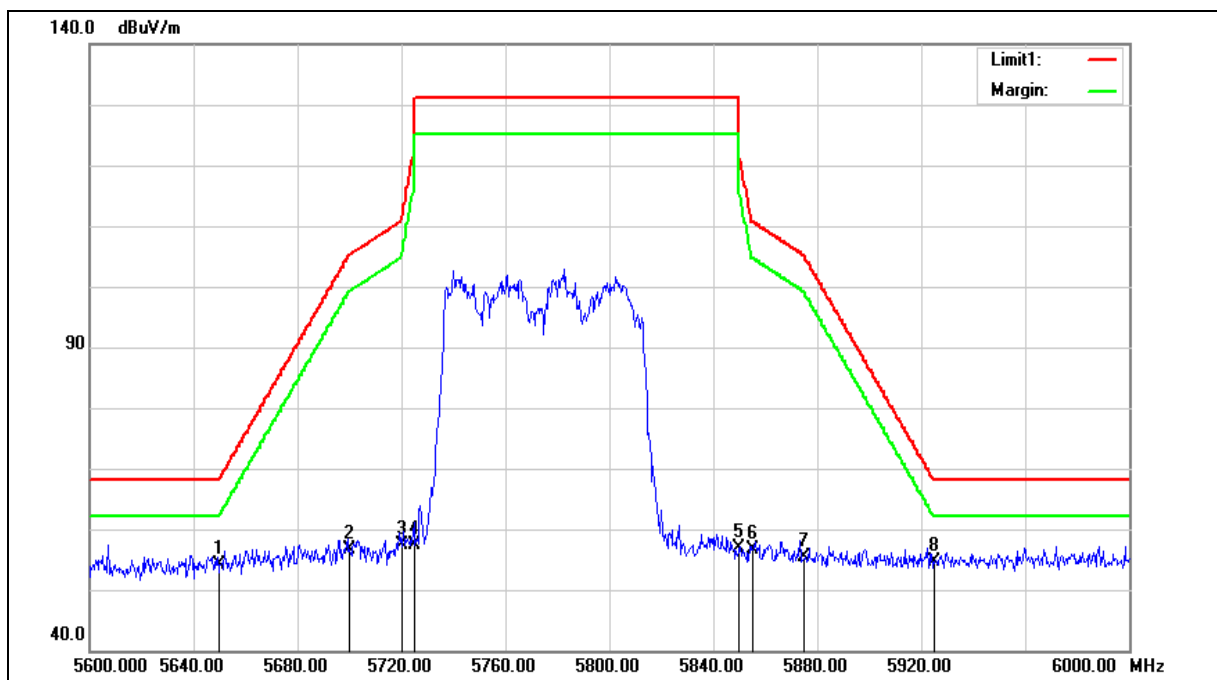
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.



Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5775MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5		
Ant.Polar.:	Horizontal		





Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5775MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60%RH
Mode:	Mode 5		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	47.63	6.61	54.24	68.20	-13.96	peak
2	5700.000	49.90	6.71	56.61	105.20	-48.59	peak
3	5720.000	50.61	6.77	57.38	110.80	-53.42	peak
4	5725.000	50.55	6.78	57.33	122.20	-64.87	peak
5	5850.000	49.87	7.03	56.90	122.20	-65.30	peak
6	5855.000	49.64	7.04	56.68	110.80	-54.12	peak
7	5875.000	48.29	7.09	55.38	105.20	-49.82	peak
8	5925.000	47.47	7.20	54.67	68.20	-13.53	peak

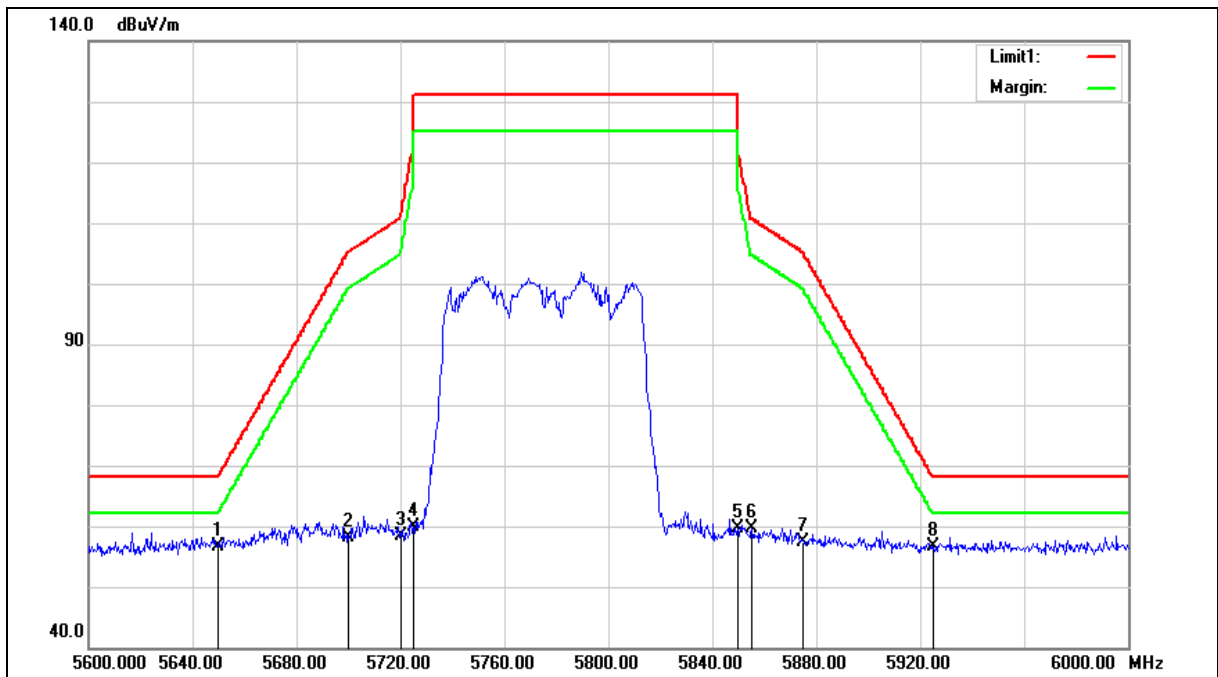
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.



Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5775MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60%RH
Mode:	Mode 5		
Ant.Polar.:	Vertical		





Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5775MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60%RH
Mode:	Mode 5		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	50.06	6.61	56.67	68.20	-11.53	peak
2	5700.000	51.33	6.71	58.04	105.20	-47.16	peak
3	5720.000	51.49	6.77	58.26	110.80	-52.54	peak
4	5725.000	53.01	6.78	59.79	122.20	-62.41	peak
5	5850.000	52.49	7.03	59.52	122.20	-62.68	peak
6	5855.000	52.51	7.04	59.55	110.80	-51.25	peak
7	5875.000	50.25	7.09	57.34	105.20	-47.86	peak
8	5925.000	49.32	7.20	56.52	68.20	-11.68	peak

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

5.3. Maximum Conducted Output Power Measurement

Test Mode		Mode 2: IEEE 802.11a Continuous TX mode						
Frequency (MHz)	Data Rate	ANT-0		ANT-1		ANT-0+1		FCC Limit (dBm)
		Max. Output Power						
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
5180	6M	20.46	0.111	20.41	0.110	23.45	0.221	≤ 30
5200		21.55	0.143	21.80	0.151	24.69	0.294	
5220		21.71	0.148	22.09	0.162	24.91	0.310	
5240		21.60	0.145	21.81	0.152	24.72	0.296	
5745		22.07	0.161	21.79	0.151	24.94	0.312	≤ 30
5765		21.81	0.152	21.66	0.147	24.75	0.298	
5785		21.82	0.152	21.47	0.140	24.66	0.292	
5805		21.61	0.145	21.43	0.139	24.53	0.284	
5825		21.58	0.144	21.52	0.142	24.56	0.286	
5180	54M	20.40	0.110	20.27	0.106	23.35	0.216	≤ 30
5200		21.48	0.141	21.69	0.148	24.60	0.288	
5220		21.61	0.145	21.93	0.156	24.78	0.301	
5240		21.47	0.140	21.65	0.146	24.57	0.286	
5745		22.00	0.158	21.71	0.148	24.87	0.307	≤ 30
5765		21.68	0.147	21.55	0.143	24.63	0.290	
5785		21.70	0.148	21.39	0.138	24.56	0.286	
5805		21.52	0.142	21.37	0.137	24.46	0.279	
5825		21.53	0.142	21.44	0.139	24.50	0.282	

Note: The relevant measured result has the offset with cable loss already.



Test Mode		Mode 3: IEEE 802.11ac 20MHz Continuous TX mode						
Frequency (MHz)	Data Rate	ANT-0		ANT-1		ANT-0+1		FCC Limit (dBm)
		Max. Output Power						
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
5180	13M	20.30	0.107	19.96	0.099	23.14	0.206	≤ 30
5200		21.68	0.147	21.79	0.151	24.75	0.298	
5220		21.55	0.143	21.62	0.145	24.60	0.288	
5240		21.14	0.130	20.89	0.123	24.03	0.253	
5745		22.61	0.182	22.13	0.163	25.39	0.346	≤ 30
5765		22.54	0.179	22.02	0.159	25.30	0.339	
5785		22.36	0.172	22.02	0.159	25.20	0.331	
5805		22.31	0.170	22.39	0.173	25.36	0.344	
5825	21.97	0.157	22.44	0.175	25.22	0.333		
5180	173.4M	20.21	0.105	19.82	0.096	23.03	0.201	≤ 30
5200		21.54	0.143	21.65	0.146	24.61	0.289	
5220		21.46	0.140	21.53	0.142	24.51	0.282	
5240		21.02	0.126	20.77	0.119	23.91	0.246	
5745		22.53	0.179	22.06	0.161	25.31	0.340	≤ 30
5765		22.42	0.175	21.96	0.157	25.21	0.332	
5785		22.30	0.170	21.95	0.157	25.14	0.326	
5805		22.19	0.166	22.27	0.169	25.24	0.334	
5825	21.85	0.153	22.32	0.171	25.10	0.324		

Note: The relevant measured result has the offset with cable loss already.



Test Mode		Mode 4: IEEE 802.11ac 40MHz Continuous TX mode						
Frequency (MHz)	Data Rate	ANT-0		ANT-1		ANT-0+1		FCC Limit (dBm)
		Max. Output Power						
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
5190	27M	17.40	0.055	17.31	0.054	20.37	0.109	≤ 30
5230		21.10	0.129	20.89	0.123	24.01	0.252	
5755		21.27	0.134	20.70	0.117	24.00	0.251	≤ 30
5795		20.76	0.119	20.33	0.108	23.56	0.227	
5190	400M	17.29	0.054	17.20	0.052	20.26	0.106	≤ 30
5230		20.97	0.125	20.80	0.120	23.90	0.245	
5755		21.21	0.132	20.62	0.115	23.94	0.247	≤ 30
5755		20.70	0.117	20.26	0.106	23.50	0.224	

Test Mode		Mode 5: IEEE 802.11ac 80MHz Continuous TX mode						
Frequency (MHz)	Data Rate	ANT-0		ANT-1		ANT-0+1		FCC Limit (dBm)
		Max. Output Power						
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
5210	58.6M	17.41	0.055	17.60	0.058	20.52	0.113	≤ 30
5775		20.60	0.115	20.46	0.111	23.54	0.226	≤ 30
5210	866.6M	17.33	0.054	17.52	0.056	20.44	0.111	≤ 30
5775		20.53	0.113	20.40	0.110	23.48	0.223	≤ 30

Note: The relevant measured result has the offset with cable loss already.

Beamforming on

Test Mode		Mode 3: IEEE 802.11ac 20MHz Continuous TX mode						
Frequency (MHz)	Data Rate	ANT-0		ANT-1		ANT-0+1		FCC Limit (dBm)
		Max. Output Power						
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
5180	13M	16.79	0.048	17.10	0.051	19.96	0.099	≤ 28.05
5200		18.54	0.071	18.62	0.073	21.59	0.144	
5220		18.42	0.070	18.61	0.073	21.53	0.142	
5240		17.74	0.059	17.80	0.060	20.78	0.120	
5745		19.21	0.083	19.16	0.082	22.20	0.166	≤ 27.74
5765		19.25	0.084	19.11	0.081	22.19	0.166	
5785		19.14	0.082	19.05	0.080	22.11	0.162	
5805		19.29	0.085	19.23	0.084	22.27	0.169	
5825		18.92	0.078	19.09	0.081	22.02	0.159	
5180	173.4M	16.71	0.047	17.00	0.050	19.87	0.097	≤ 28.05
5200		18.47	0.070	18.57	0.072	21.53	0.142	
5220		18.35	0.068	18.54	0.071	21.46	0.140	
5240		17.70	0.059	17.73	0.059	20.73	0.118	
5745		19.16	0.082	19.10	0.081	22.14	0.164	≤ 27.74
5765		19.18	0.083	19.03	0.080	22.12	0.163	
5785		19.10	0.081	18.96	0.079	22.04	0.160	
5805		19.20	0.083	19.15	0.082	22.19	0.165	
5825		18.84	0.077	19.02	0.080	21.94	0.156	

Note: The relevant measured result has the offset with cable loss already.



Test Mode		Mode 4: IEEE 802.11ac 40MHz Continuous TX mode						
Frequency (MHz)	Data Rate	ANT-0		ANT-1		ANT-0+1		FCC Limit (dBm)
		Max. Output Power						
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
5190	27M	14.31	0.027	14.25	0.027	17.29	0.054	≤ 28.05
5230		17.92	0.062	17.83	0.061	20.89	0.123	
5755		17.63	0.058	17.75	0.060	20.70	0.118	≤ 27.74
5795		17.42	0.055	17.31	0.054	20.38	0.109	
5190	400M	14.23	0.026	14.20	0.026	17.23	0.053	≤ 28.05
5230		17.88	0.061	17.77	0.060	20.84	0.121	
5755		17.55	0.057	17.69	0.059	20.63	0.116	≤ 27.74
5755		17.35	0.054	17.27	0.053	20.32	0.108	

Test Mode		Mode 5: IEEE 802.11ac 80MHz Continuous TX mode						
Frequency (MHz)	Data Rate	ANT-0		ANT-1		ANT-0+1		FCC Limit (dBm)
		Max. Output Power						
		(dBm)	(W)	(dBm)	(W)	(dBm)	(W)	
5210	58.6M	14.10	0.026	14.23	0.026	17.18	0.052	≤ 28.05
5775		17.41	0.055	17.38	0.055	20.41	0.110	≤ 27.74
5210	866.6M	13.95	0.025	14.00	0.025	16.99	0.050	≤ 28.05
5775		17.33	0.054	17.30	0.054	20.33	0.108	≤ 27.74

Note: The relevant measured result has the offset with cable loss already.

5.4. 26dB RF Bandwidth Measurement & 99 % Occupied Bandwidth Measurement

Test Mode	Mode 2: IEEE 802.11a Continuous TX mode			
Frequency (MHz)	ANT-0	ANT-1	ANT-0	ANT-1
	26dB Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5180	22.530	21.190	16.478	16.595
5200	32.350	31.430	17.348	17.041
5240	32.320	31.200	17.301	16.866

Test Mode	Mode 3: IEEE 802.11ac 20MHz Continuous TX mode			
Frequency (MHz)	ANT-0	ANT-1	ANT-0	ANT-1
	26dB Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5180	23.040	22.610	17.623	17.878
5200	40.650	36.740	18.985	18.608
5240	37.860	36.230	18.587	18.980

Test Mode	Mode 4: IEEE 802.11ac 40MHz Continuous TX mode			
Frequency (MHz)	ANT-0	ANT-1	ANT-0	ANT-1
	26dB Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5190	40.010	39.390	36.012	35.762
5230	63.010	63.410	36.572	36.533

Test Mode	Mode 5: IEEE 802.11ac 80MHz Continuous TX mode			
Frequency (MHz)	ANT-0	ANT-1	ANT-0	ANT-1
	26dB Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5210	82.440	83.020	75.524	75.263

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

Beamforming on

Test Mode	Mode 3: IEEE 802.11ac 20MHz Continuous TX mode			
Frequency (MHz)	ANT-0	ANT-1	ANT-0	ANT-1
	26dB Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5180	19.840	20.610	17.523	17.791
5200	19.740	19.920	17.455	17.729
5240	20.080	19.940	17.584	17.586

Test Mode	Mode 4: IEEE 802.11ac 40MHz Continuous TX mode			
Frequency (MHz)	ANT-0	ANT-1	ANT-0	ANT-1
	26dB Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5190	39.610	39.460	35.743	35.779
5230	39.770	39.780	36.029	35.915

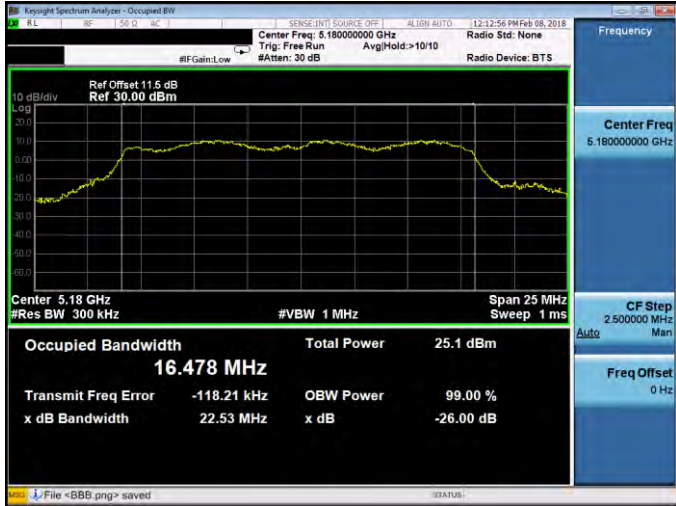
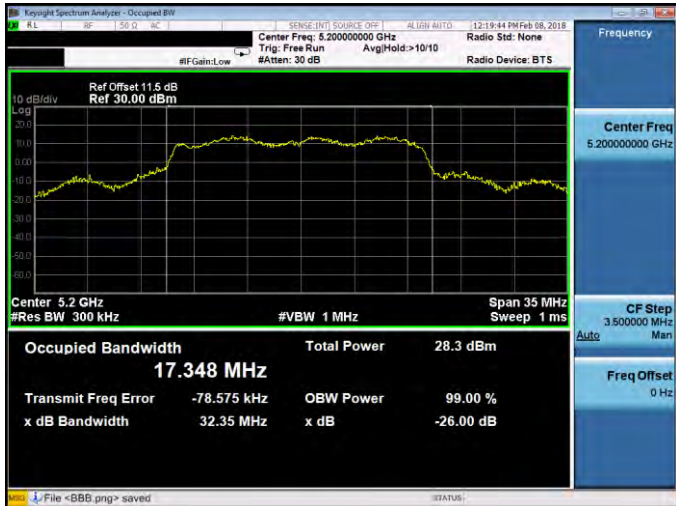
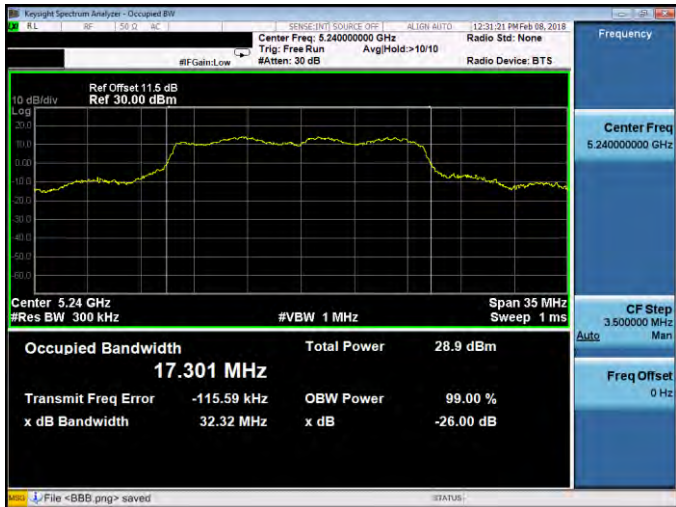
Test Mode	Mode 5: IEEE 802.11ac 80MHz Continuous TX mode			
Frequency (MHz)	ANT-0	ANT-1	ANT-0	ANT-1
	26dB Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5210	82.560	81.160	75.487	75.242

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



■ Test Graphs

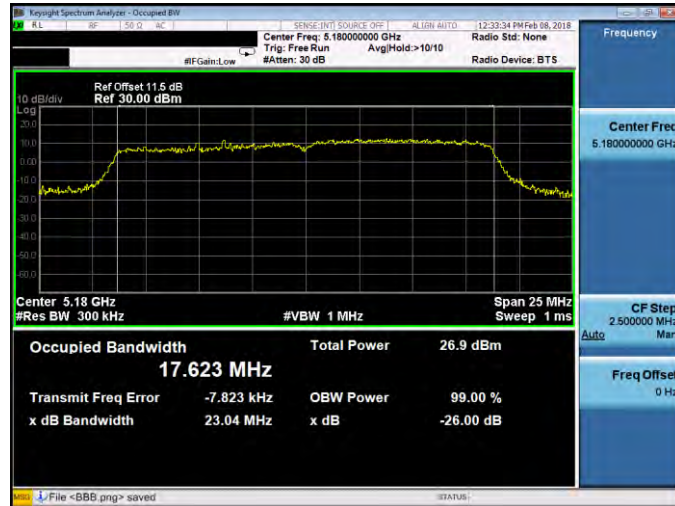
Mode 2: IEEE 802.11a Continuous TX mode_ ANT-0

5180 MHz	 Center Freq: 5.18000000 GHz Ref Offset 11.5 dB Ref 30.00 dBm Center 5.18 GHz #Res BW 300 kHz #VBW 1 MHz Span 25 MHz Sweep 1 ms Occupied Bandwidth 16.478 MHz Total Power 25.1 dBm Transmit Freq Error -118.21 kHz OBW Power 99.00 % x dB Bandwidth 22.53 MHz x dB -26.00 dB
5200 MHz	 Center Freq: 5.20000000 GHz Ref Offset 11.5 dB Ref 30.00 dBm Center 5.2 GHz #Res BW 300 kHz #VBW 1 MHz Span 35 MHz Sweep 1 ms Occupied Bandwidth 17.348 MHz Total Power 28.3 dBm Transmit Freq Error -78.575 kHz OBW Power 99.00 % x dB Bandwidth 32.35 MHz x dB -26.00 dB
5240 MHz	 Center Freq: 5.24000000 GHz Ref Offset 11.5 dB Ref 30.00 dBm Center 5.24 GHz #Res BW 300 kHz #VBW 1 MHz Span 35 MHz Sweep 1 ms Occupied Bandwidth 17.301 MHz Total Power 28.9 dBm Transmit Freq Error -115.59 kHz OBW Power 99.00 % x dB Bandwidth 32.32 MHz x dB -26.00 dB



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

5180 MHz



5200 MHz



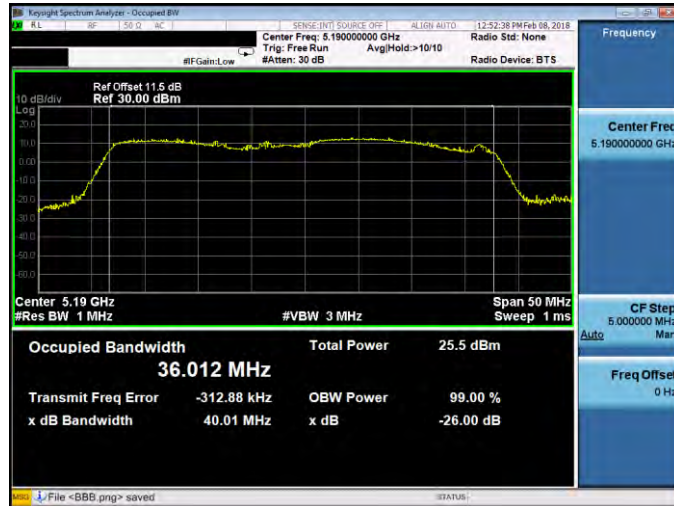
5240 MHz





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

5190 MHz



5230 MHz



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

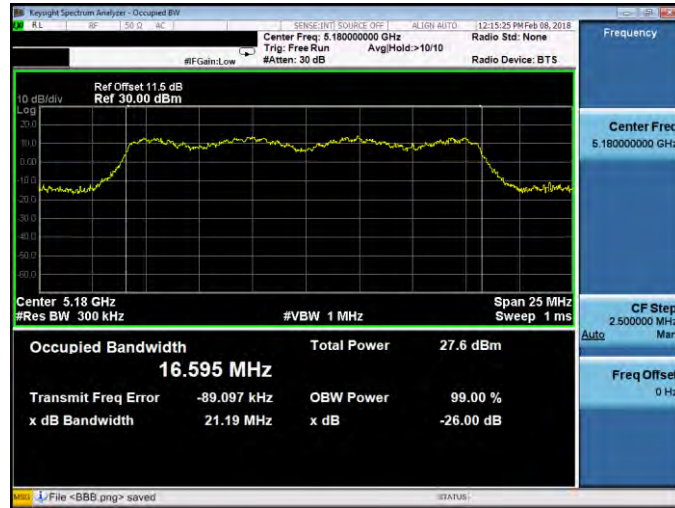
5210 MHz





Mode 2: IEEE 802.11a Continuous TX mode_ ANT-1

5180 MHz



5200 MHz

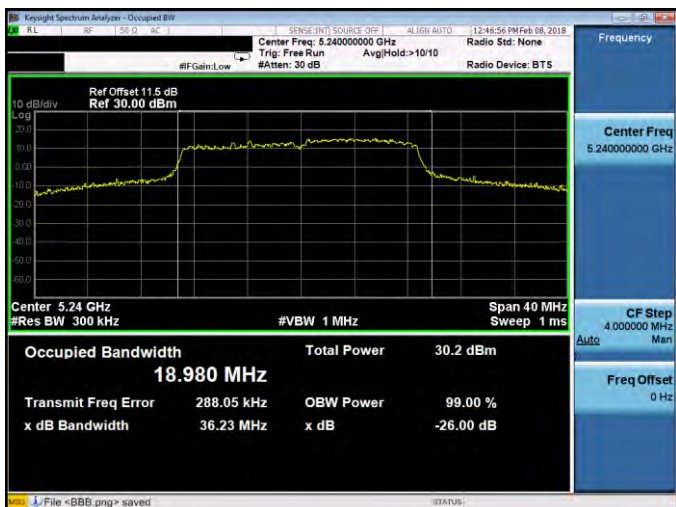


5240 MHz



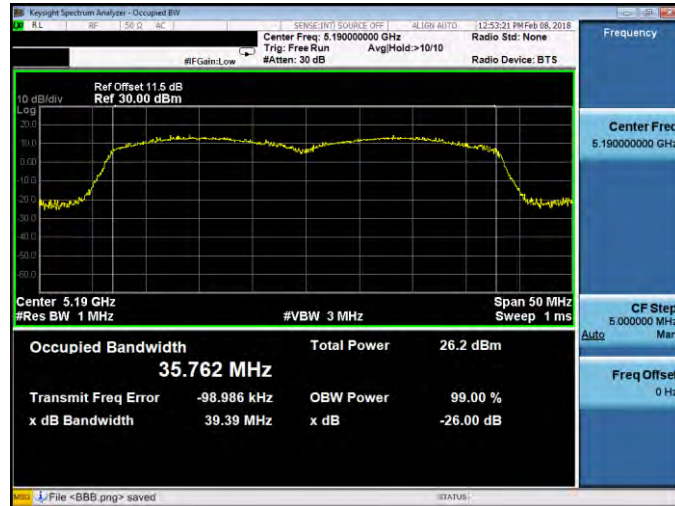


Mode 3: IEEE 802.11ac 20MHz Continuous TX mode_ ANT-1

5180 MHz	 Center Freq: 5.18000000 GHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS Ref Offset 11.5 dB Ref 30.00 dBm Center 5.18 GHz #Res BW 300 kHz #VBW 1 MHz Span 25 MHz Sweep 1 ms Occupied Bandwidth 17.878 MHz Total Power 26.8 dBm Transmit Freq Error -83.599 kHz OBW Power 99.00 % x dB Bandwidth 22.61 MHz x dB -26.00 dB File <555.png> saved
5200 MHz	 Center Freq: 5.20000000 GHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS Ref Offset 11.5 dB Ref 30.00 dBm Center 5.2 GHz #Res BW 300 kHz #VBW 1 MHz Span 40 MHz Sweep 1 ms Occupied Bandwidth 18.608 MHz Total Power 28.8 dBm Transmit Freq Error -9.219 kHz OBW Power 99.00 % x dB Bandwidth 36.74 MHz x dB -26.00 dB File <555.png> saved
5240 MHz	 Center Freq: 5.24000000 GHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS Ref Offset 11.5 dB Ref 30.00 dBm Center 5.24 GHz #Res BW 300 kHz #VBW 1 MHz Span 40 MHz Sweep 1 ms Occupied Bandwidth 18.980 MHz Total Power 30.2 dBm Transmit Freq Error 288.05 kHz OBW Power 99.00 % x dB Bandwidth 36.23 MHz x dB -26.00 dB File <555.png> saved

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

5190 MHz

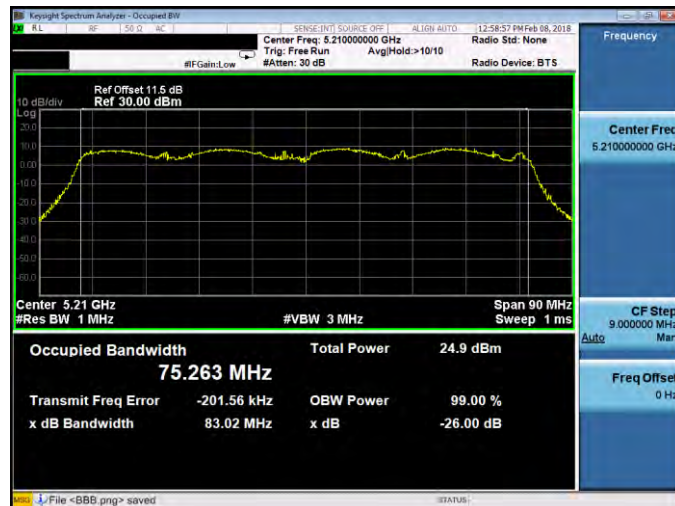


5230 MHz



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

5210 MHz

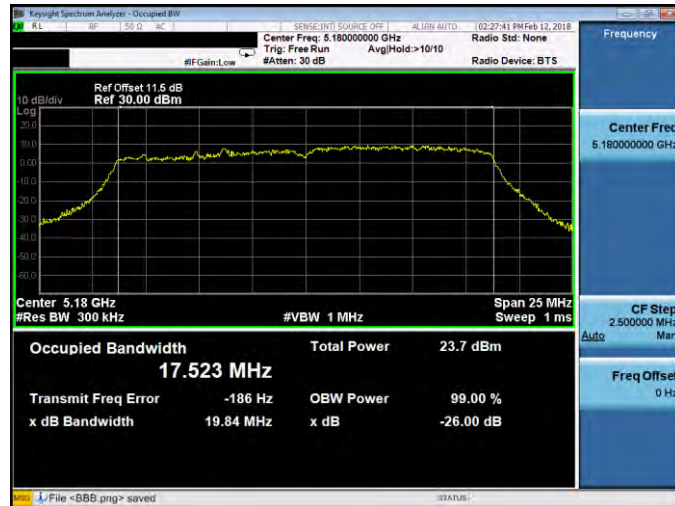




Beamforming on

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

5180 MHz



5200 MHz



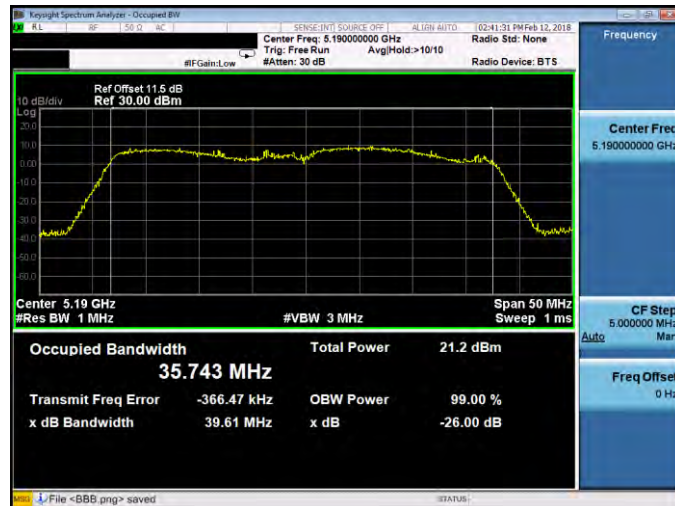
5240 MHz





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

5190 MHz



5230 MHz



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

5210 MHz



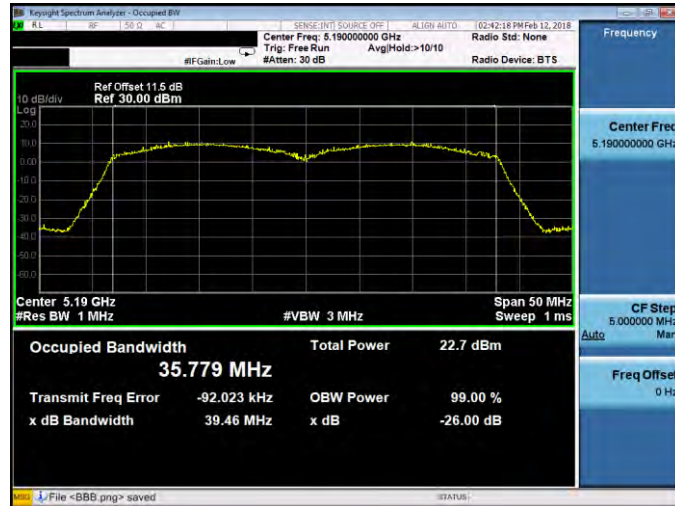


Mode 3: IEEE 802.11ac 20MHz Continuous TX mode_ ANT-1

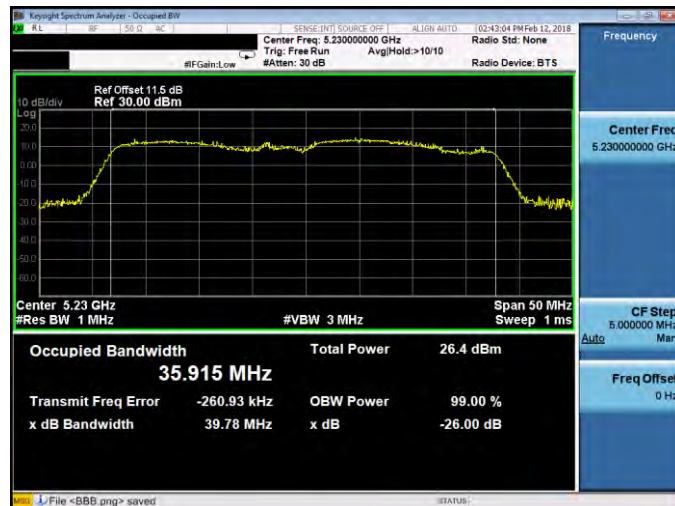
5180 MHz	Center Freq: 5.18000000 GHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS Ref Offset 11.5 dB Ref 30.00 dBm Center 5.18 GHz #Res BW 300 kHz #VBW 1 MHz Span 25 MHz Sweep 1 ms Occupied Bandwidth 17.791 MHz Total Power 24.6 dBm Transmit Freq Error -82.868 kHz OBW Power 99.00 % x dB Bandwidth 20.61 MHz x dB -26.00 dB File <555.png> saved
5200 MHz	Center Freq: 5.20000000 GHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS Ref Offset 11.5 dB Ref 30.00 dBm Center 5.2 GHz #Res BW 300 kHz #VBW 1 MHz Span 25 MHz Sweep 1 ms Occupied Bandwidth 17.729 MHz Total Power 25.0 dBm Transmit Freq Error -50.627 kHz OBW Power 99.00 % x dB Bandwidth 19.92 MHz x dB -26.00 dB File <555.png> saved
5240 MHz	Center Freq: 5.24000000 GHz Trig: Free Run Avg/Hold: >10/10 Radio Std: None Radio Device: BTS Ref Offset 11.5 dB Ref 30.00 dBm Center 5.24 GHz #Res BW 300 kHz #VBW 1 MHz Span 25 MHz Sweep 1 ms Occupied Bandwidth 17.586 MHz Total Power 25.4 dBm Transmit Freq Error -46.466 kHz OBW Power 99.00 % x dB Bandwidth 19.94 MHz x dB -26.00 dB File <555.png> saved

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

5190 MHz

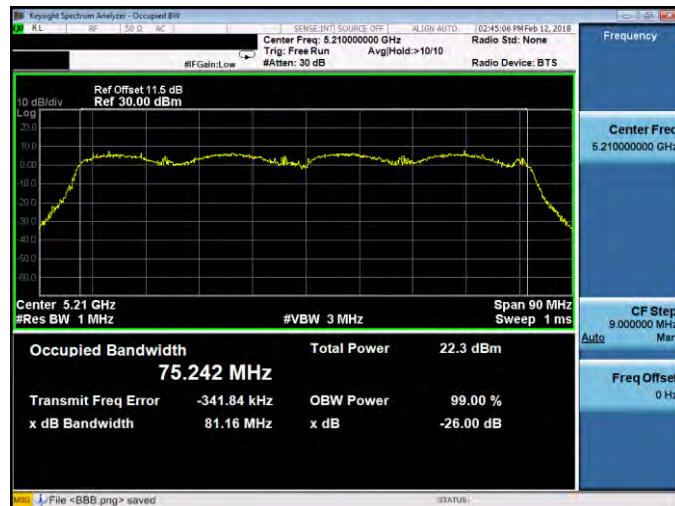


5230 MHz



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

5210 MHz



5.5. 6dB RF Bandwidth Measurement

Test Mode	Mode 2: IEEE 802.11a Continuous TX mode		
Frequency (MHz)	6dB Bandwidth (kHz)		Limit (kHz)
	ANT-0	ANT-1	
5745	16320	16370	> 500
5785	15720	16340	> 500
5825	16320	15730	> 500

Test Mode	Mode 3: IEEE 802.11ac 20MHz Continuous TX mode		
Frequency (MHz)	6dB Bandwidth (kHz)		Limit (kHz)
	ANT-0	ANT-1	
5745	17160	17610	> 500
5785	17140	16940	> 500
5825	17580	16340	> 500

Test Mode	Mode 4: IEEE 802.11ac 40MHz Continuous TX mode		
Frequency (MHz)	6dB Bandwidth (kHz)		Limit (kHz)
	ANT-0	ANT-1	
5755	35740	35170	> 500
5795	35720	35670	> 500

Test Mode	Mode 5: IEEE 802.11ac 80MHz Continuous TX mode		
Frequency (MHz)	6dB Bandwidth (kHz)		Limit (kHz)
	ANT-0	ANT-1	
5775	75820	75790	> 500



Beamforming on

Test Mode	Mode 3: IEEE 802.11ac 20MHz Continuous TX mode		
Frequency (MHz)	6dB Bandwidth (kHz)		Limit (kHz)
	ANT-0	ANT-1	
5745	17180	17640	> 500
5785	17290	16900	> 500
5825	17600	17550	> 500

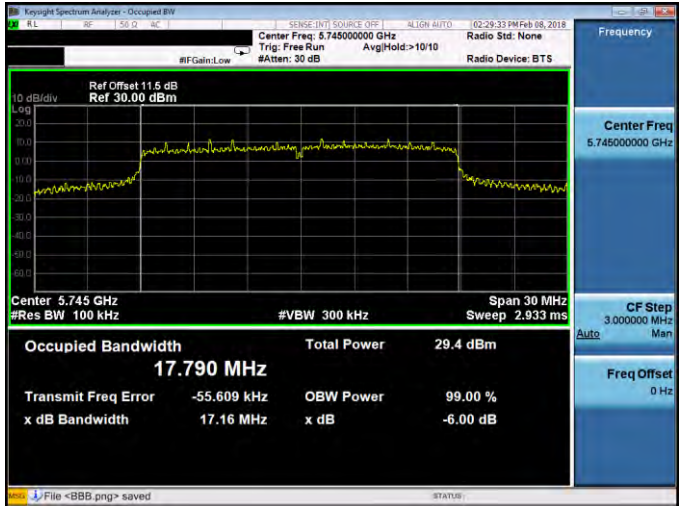
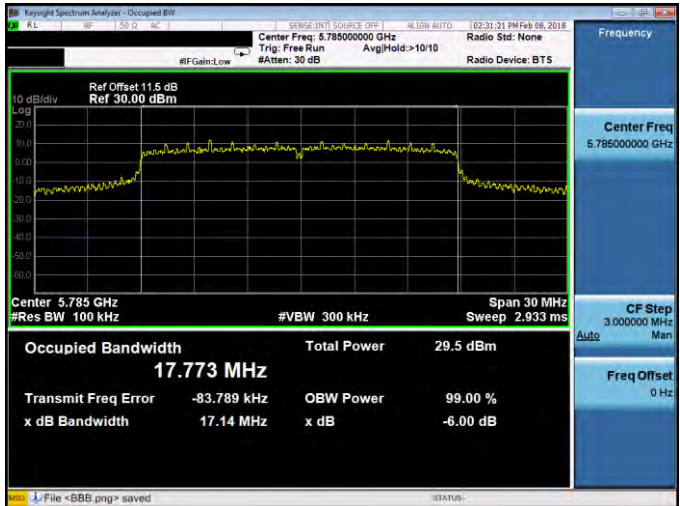
Test Mode	Mode 4: IEEE 802.11ac 40MHz Continuous TX mode		
Frequency (MHz)	6dB Bandwidth (kHz)		Limit (kHz)
	ANT-0	ANT-1	
5755	35690	33890	> 500
5795	35460	35740	> 500

Test Mode	Mode 5: IEEE 802.11ac 80MHz Continuous TX mode		
Frequency (MHz)	6dB Bandwidth (kHz)		Limit (kHz)
	ANT-0	ANT-1	
5775	75770	75500	> 500

Test Graphs

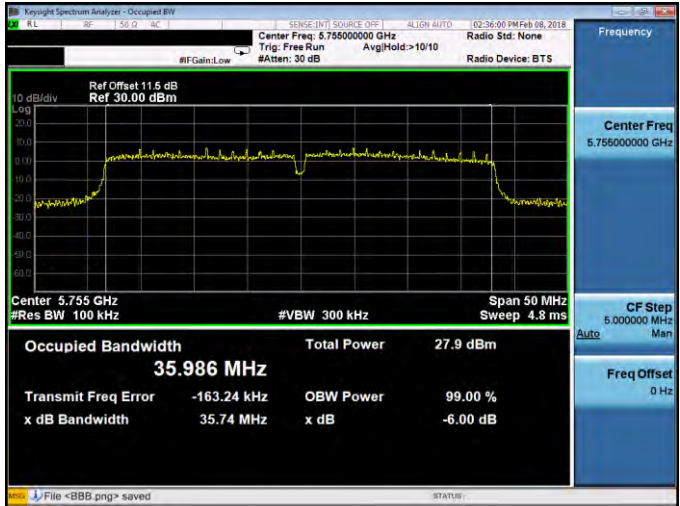
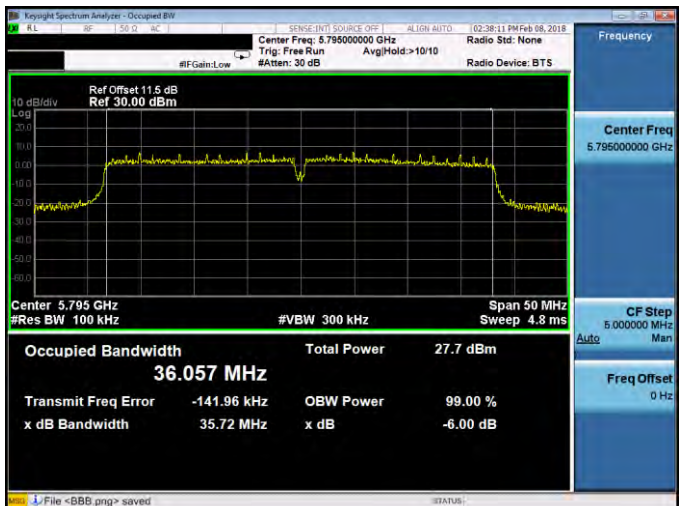
Mode 2: IEEE 802.11a Continuous TX mode_ANT-0	
5745 MHz	 Center Freq: 5.745 GHz #Res BW: 100 kHz #VBW: 300 kHz Sweep: 2.933 ms Occupied Bandwidth: 16.462 MHz Total Power: 28.5 dBm Transmit Freq Error: -97.546 kHz OBW Power: 99.00 % x dB Bandwidth: 16.32 MHz x dB: -6.00 dB
5785 MHz	 Center Freq: 5.785 GHz #Res BW: 100 kHz #VBW: 300 kHz Sweep: 2.933 ms Occupied Bandwidth: 16.451 MHz Total Power: 28.0 dBm Transmit Freq Error: -103.11 kHz OBW Power: 99.00 % x dB Bandwidth: 15.72 MHz x dB: -6.00 dB
5825 MHz	 Center Freq: 5.825 GHz #Res BW: 100 kHz #VBW: 300 kHz Sweep: 2.933 ms Occupied Bandwidth: 16.450 MHz Total Power: 27.5 dBm Transmit Freq Error: -113.75 kHz OBW Power: 99.00 % x dB Bandwidth: 16.32 MHz x dB: -6.00 dB



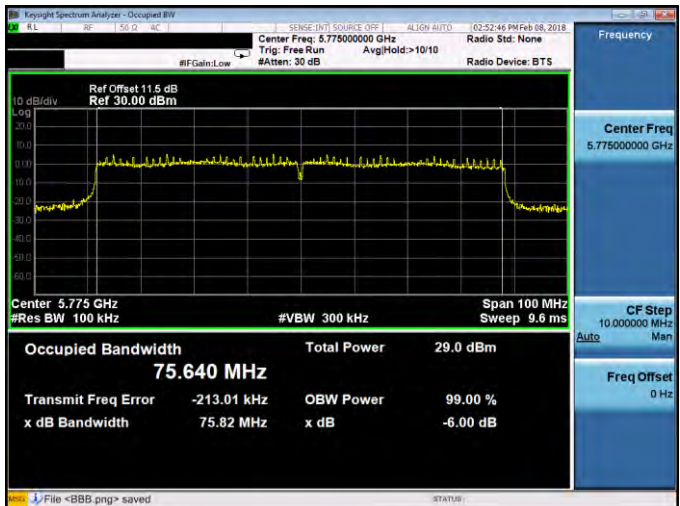
Mode 3: IEEE 802.11ac 20MHz Continuous TX mode_ANT-0	
5745 MHz	
5785 MHz	
5825 MHz	



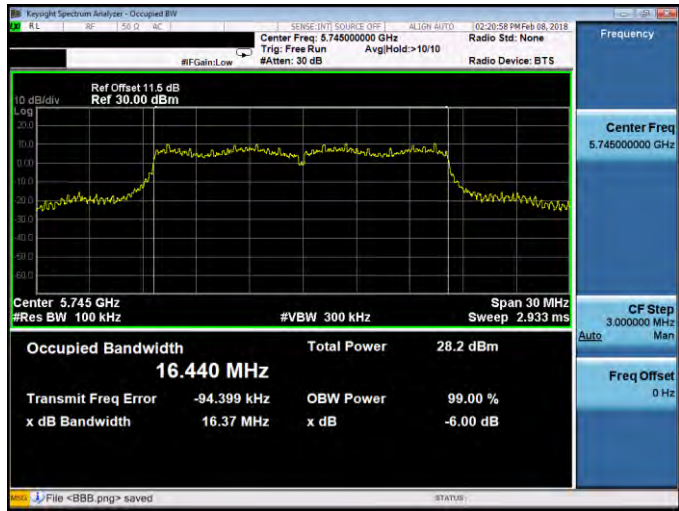
Mode 4: IEEE 802.11ac 40MHz Continuous TX mode_ANT-0

5755 MHz	
5795 MHz	

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

5775 MHz	
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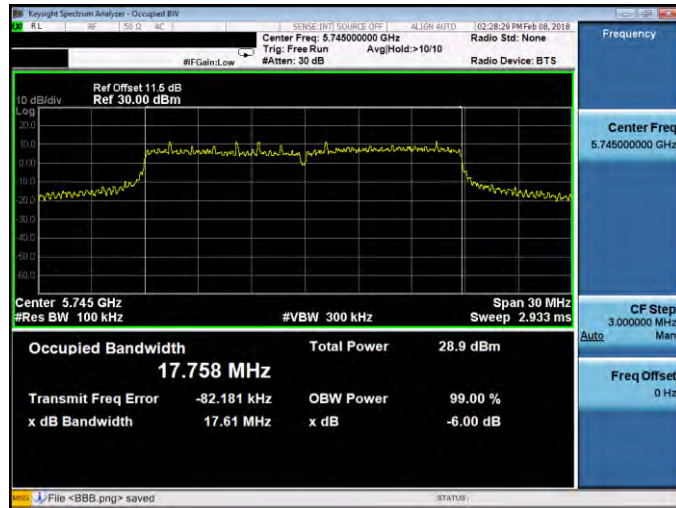


Mode 2: IEEE 802.11a Continuous TX mode _ANT-1	
5745 MHz	
5785 MHz	
5825 MHz	



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

5745 MHz



5785 MHz

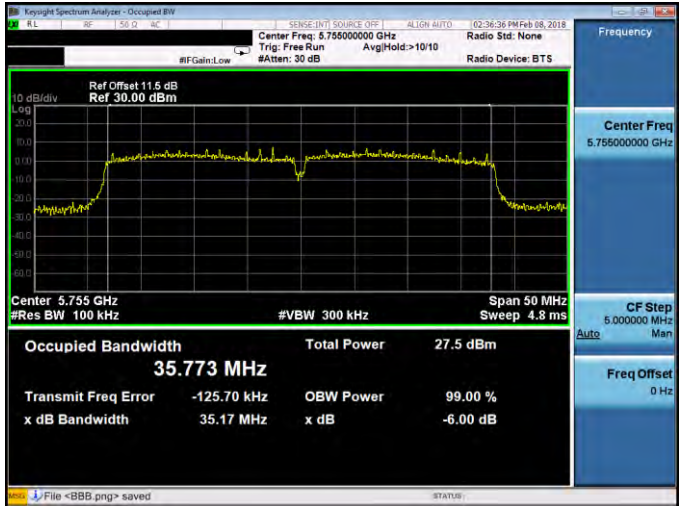


5825 MHz

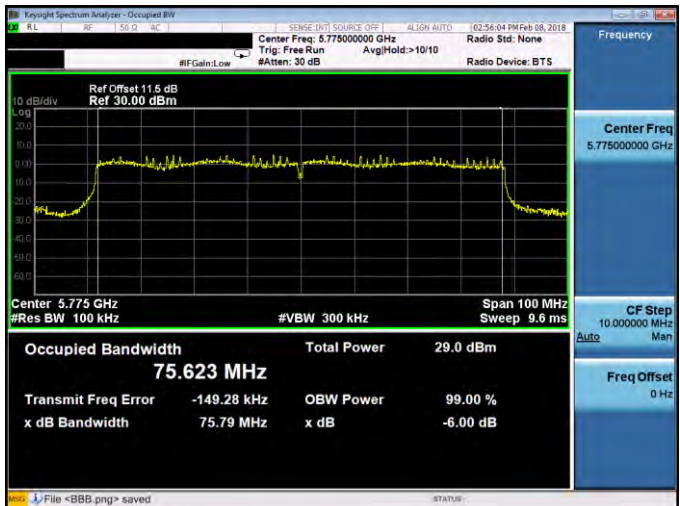




Mode 4: IEEE 802.11ac 40MHz Continuous TX mode_ANT-1

5755 MHz	
5795 MHz	

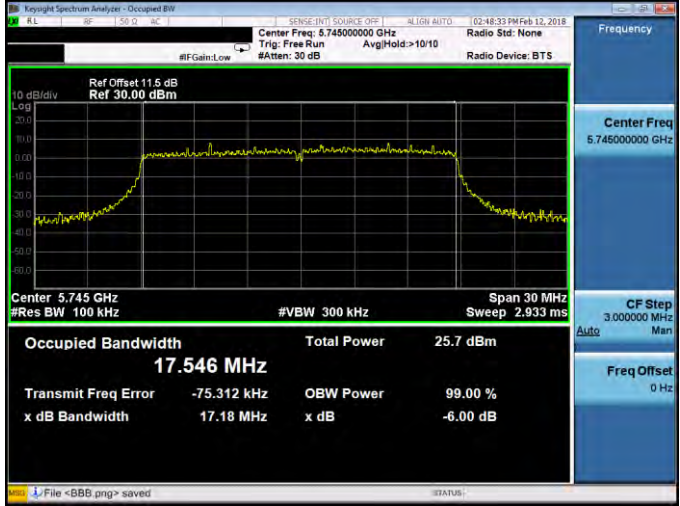
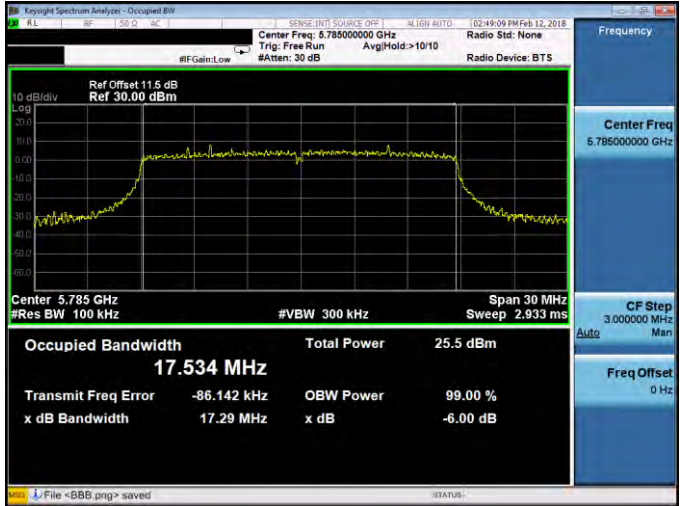
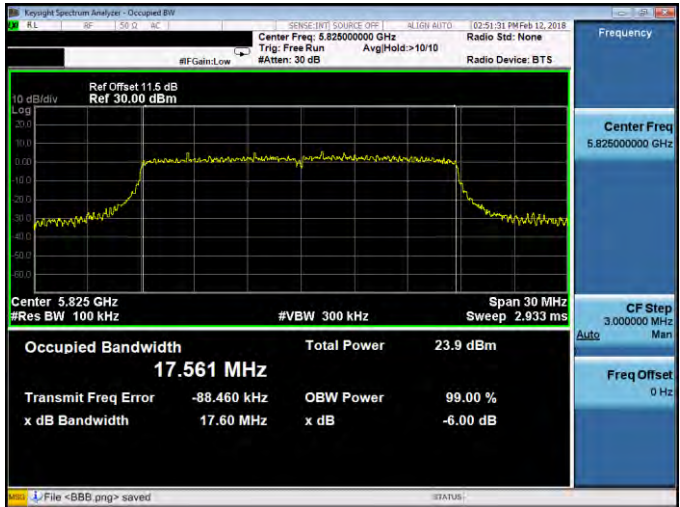
Mode 5: IEEE 802.11ac 80MHz Continuous TX mode_ANT-1

5775 MHz	
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Beamforming on

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

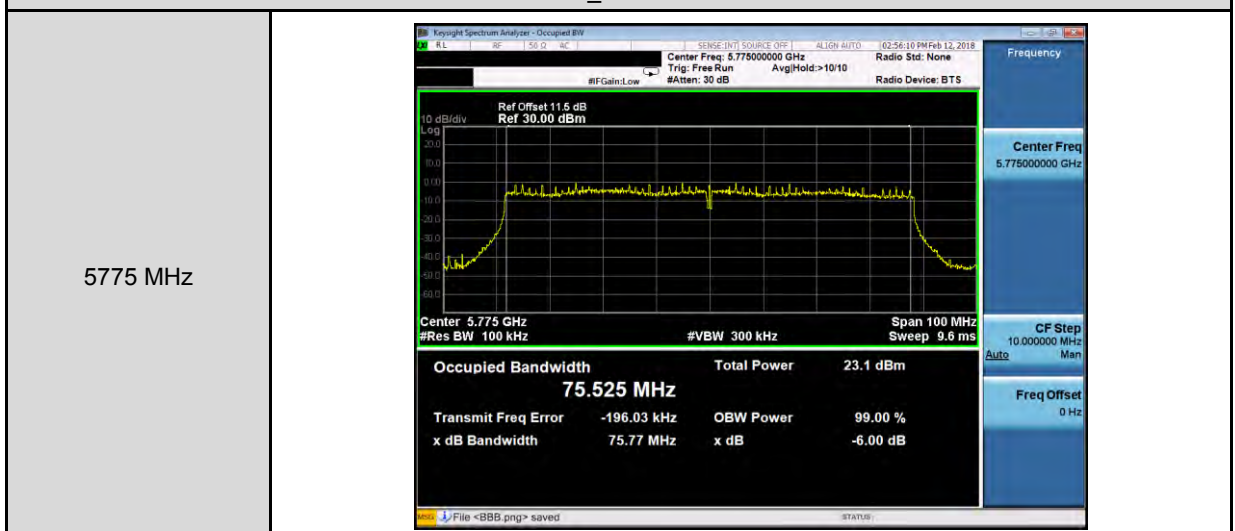
5745 MHz	 Center 5.745 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.933 ms Occupied Bandwidth 17.546 MHz Total Power 25.7 dBm Transmit Freq Error -75.312 kHz x dB Bandwidth 17.18 MHz OBW Power 99.00 % x dB -6.00 dB
5785 MHz	 Center 5.785 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.933 ms Occupied Bandwidth 17.534 MHz Total Power 25.5 dBm Transmit Freq Error -86.142 kHz x dB Bandwidth 17.29 MHz OBW Power 99.00 % x dB -6.00 dB
5825 MHz	 Center 5.825 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.933 ms Occupied Bandwidth 17.561 MHz Total Power 23.9 dBm Transmit Freq Error -88.460 kHz x dB Bandwidth 17.60 MHz OBW Power 99.00 % x dB -6.00 dB



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



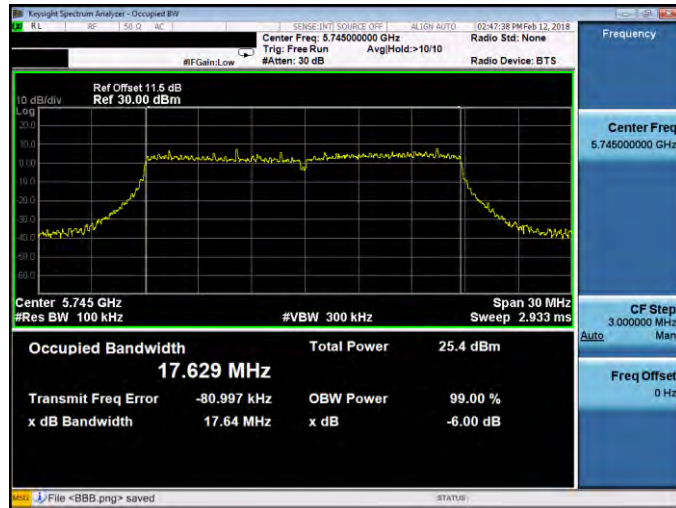
Mode 5: IEEE 802.11ac 80MHz Continuous TX mode_ANT-0





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

5745 MHz



5785 MHz



5825 MHz

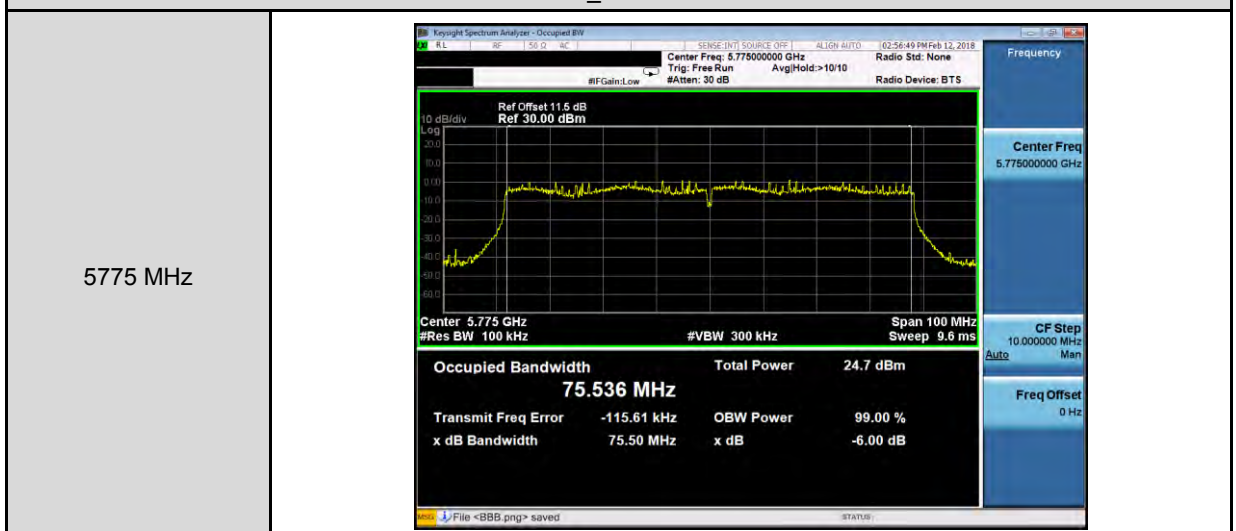




Mode 4: IEEE 802.11ac 40MHz Continuous TX mode_ANT-1



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



5.6. 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)
5180	10.281	0.105	10.386	< 15.05
5200	11.434	0.105	11.539	
5240	10.894	0.105	10.999	
Frequency (MHz)	ANT-1			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5180	10.677	0.105	10.782	< 15.05
5200	11.620	0.105	11.725	
5240	11.785	0.105	11.890	
Frequency (MHz)	ANT-0+1			Limit (dBm/MHz)
	Calculated (dBm/MHz)			
5180	13.598			< 15.05
5200	14.643			
5240	14.477			

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

Test Mode	Mode 2: IEEE 802.11a Continuous TX mode			
Frequency (MHz)	ANT-0			
	Measurement (dBm/100KHz)	Duty Factor (dB)	Calculated (dBm/500KHz)	Limit (dBm/500KHz)
5745	2.38	0.105	9.47	< 27.74
5785	1.81	0.105	8.91	
5825	1.78	0.105	8.88	
Frequency (MHz)	ANT-1			
	Measurement (dBm/100KHz)	Duty Factor (dB)	Calculated (dBm/500KHz)	Limit (dBm/500KHz)
5745	2.04	0.105	9.14	< 27.74
5785	2.22	0.105	9.32	
5825	1.94	0.105	9.04	
Frequency (MHz)	ANT-0+1			Limit (dBm/500KHz)
	Calculated (dBm/500KHz)			
5745	12.32			< 27.74
5785	12.13			
5825	11.97			

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

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



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)
5180	10.366	0.039	10.405	< 15.05
5200	11.507	0.039	11.546	
5240	10.601	0.039	10.640	
Frequency (MHz)	ANT-1			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5180	9.832	0.039	9.871	< 15.05
5200	11.813	0.039	11.852	
5240	11.567	0.039	11.606	
Frequency (MHz)	ANT-0+1			Limit (dBm/MHz)
	Calculated (dBm/MHz)			
5180	13.156			< 15.05
5200	14.712			
5240	14.160			

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/100KHz)	Duty Factor (dB)	Calculated (dBm/500KHz)	Limit (dBm/500KHz)
5745	2.69	0.039	9.72	< 27.74
5785	2.61	0.039	9.64	
5825	1.90	0.039	8.93	
Frequency (MHz)	ANT-1			
	Measurement (dBm/100KHz)	Duty Factor (dB)	Calculated (dBm/500KHz)	Limit (dBm/500KHz)
5745	2.66	0.039	9.69	< 27.74
5785	2.64	0.039	9.67	
5825	2.49	0.039	9.52	
Frequency (MHz)	ANT-0+1			Limit (dBm/500KHz)
	Calculated (dBm/500KHz)			
5745	12.71			< 27.74
5785	12.67			
5825	12.25			

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

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

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)
5190	4.973	0.106	5.079	< 15.05
5230	8.255	0.106	8.361	
Frequency (MHz)	ANT-1			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5190	5.355	0.106	5.461	< 15.05
5230	8.856	0.106	8.962	
Frequency (MHz)	ANT-0+1			Limit (dBm/MHz)
	Calculated (dBm/MHz)			
5190	8.284			< 15.05
5230	11.682			

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/100KHz)	Duty Factor (dB)	Calculated (dBm/500KHz)	Limit (dBm/500KHz)
5755	-1.39	0.106	5.71	< 27.74
5795	-1.59	0.106	5.51	
Frequency (MHz)	ANT-1			
	Measurement (dBm/100KHz)	Duty Factor (dB)	Calculated (dBm/500KHz)	Limit (dBm/500KHz)
5755	-1.70	0.106	5.39	< 27.74
5795	-1.56	0.106	5.54	
Frequency (MHz)	ANT-0+1			Limit (dBm/500KHz)
	Calculated (dBm/500KHz)			
5755	8.56			< 27.74
5795	8.53			

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

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

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)
5210	1.527	0.240	1.767	< 15.05
Frequency (MHz)	ANT-1			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5210	1.678	0.240	1.918	< 15.05
Frequency (MHz)	ANT-0+1			Limit (dBm/MHz)
	Calculated (dBm/MHz)			
5210	4.853			< 15.05

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/100KHz)	Duty Factor (dB)	Calculated (dBm/500KHz)	Limit (dBm/500KHz)
5775	-4.45	0.240	2.78	< 27.74
Frequency (MHz)	ANT-1			
	Measurement (dBm/100KHz)	Duty Factor (dB)	Calculated (dBm/500KHz)	Limit (dBm/500KHz)
5775	-4.46	0.240	2.77	< 27.74
Frequency (MHz)	ANT-0+1			Limit (dBm/500KHz)
	Calculated (dBm/500KHz)			
5775	5.79			< 27.74

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

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

Beamforming on

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)
5180	6.709	0.039	6.748	< 15.05
5200	7.790	0.039	7.829	
5240	7.187	0.039	7.226	
Frequency (MHz)	ANT-1			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5180	6.752	0.039	6.791	< 15.05
5200	8.159	0.039	8.198	
5240	8.269	0.039	8.308	
Frequency (MHz)	ANT-0+1			Limit (dBm/MHz)
	Calculated (dBm/MHz)			
5180	9.780			< 15.05
5200	11.028			
5240	10.811			

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/100KHz)	Duty Factor (dB)	Calculated (dBm/500KHz)	Limit (dBm/500KHz)
5745	-1.12	0.039	5.91	< 27.74
5785	-1.15	0.039	5.88	
5825	-1.49	0.039	5.54	
Frequency (MHz)	ANT-1			
	Measurement (dBm/100KHz)	Duty Factor (dB)	Calculated (dBm/500KHz)	Limit (dBm/500KHz)
5745	-0.86	0.039	6.17	< 27.74
5785	-0.57	0.039	6.46	
5825	-1.06	0.039	5.97	
Frequency (MHz)	ANT-0+1			Limit (dBm/500KHz)
	Calculated (dBm/500KHz)			
5745	9.05			< 27.74
5785	9.19			
5825	8.77			

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

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



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)
5190	1.737	0.106	1.843	< 15.05
5230	4.620	0.106	4.726	
Frequency (MHz)	ANT-1			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5190	2.279	0.106	2.385	< 15.05
5230	5.529	0.106	5.635	
Frequency (MHz)	ANT-0+1			Limit (dBm/MHz)
	Calculated (dBm/MHz)			
5190	5.133			< 15.05
5230	8.214			

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/100KHz)	Duty Factor (dB)	Calculated (dBm/500KHz)	Limit (dBm/500KHz)
5755	-4.26	0.106	2.84	< 27.74
5795	-4.51	0.106	2.59	
Frequency (MHz)	ANT-1			
	Measurement (dBm/100KHz)	Duty Factor (dB)	Calculated (dBm/500KHz)	Limit (dBm/500KHz)
5755	-4.61	0.106	2.49	< 27.74
5795	-4.76	0.106	2.34	
Frequency (MHz)	ANT-0+1			Limit (dBm/500KHz)
	Calculated (dBm/500KHz)			
5755	5.68			< 27.74
5795	5.48			

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

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

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)
5210	-2.180	0.240	-1.940	< 15.05
Frequency (MHz)	ANT-1			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5210	-1.842	0.240	-1.602	< 15.05
Frequency (MHz)	ANT-0+1			Limit (dBm/MHz)
	Calculated (dBm/MHz)			
5210	-3.482			< 15.05

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

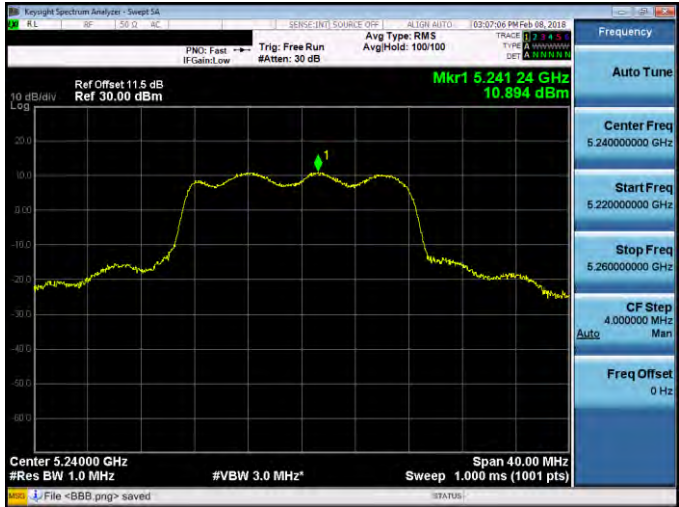
Test Mode	Mode 5: IEEE 802.11ac 80MHz Continuous TX mode			
Frequency (MHz)	ANT-0			
	Measurement (dBm/100KHz)	Duty Factor (dB)	Calculated (dBm/500KHz)	Limit (dBm/500KHz)
5775	-7.65	0.240	-0.42	< 27.74
Frequency (MHz)	ANT-1			
	Measurement (dBm/100KHz)	Duty Factor (dB)	Calculated (dBm/500KHz)	Limit (dBm/500KHz)
5775	-7.58	0.240	-0.35	< 27.74
Frequency (MHz)	ANT-0+1			Limit (dBm/500KHz)
	Calculated (dBm/500KHz)			
5775	2.62			< 27.74

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

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

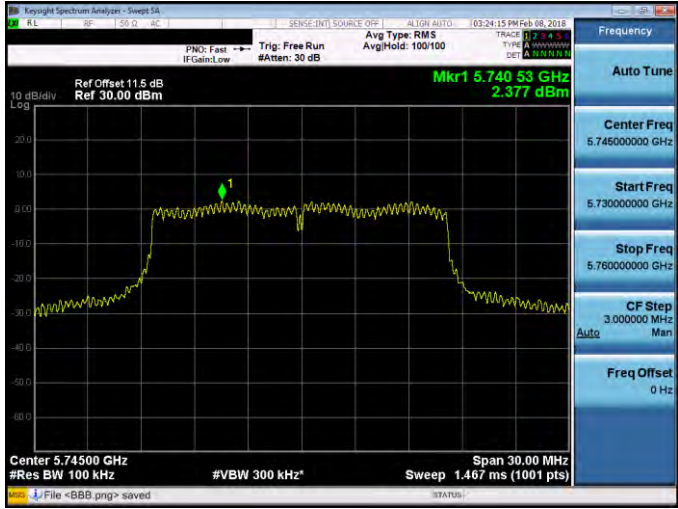
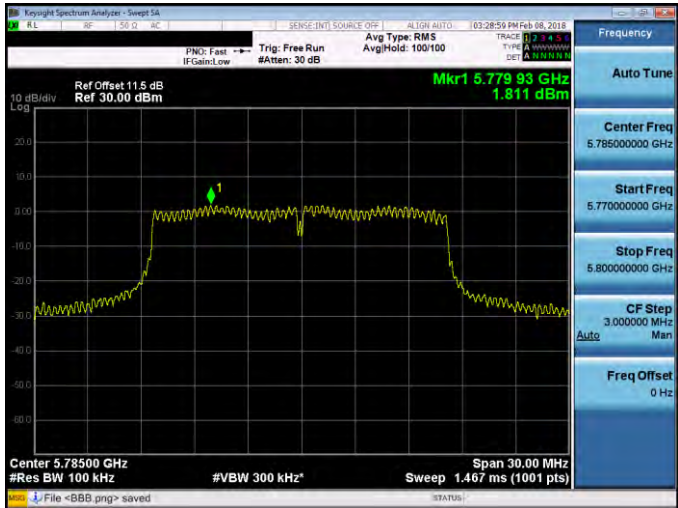
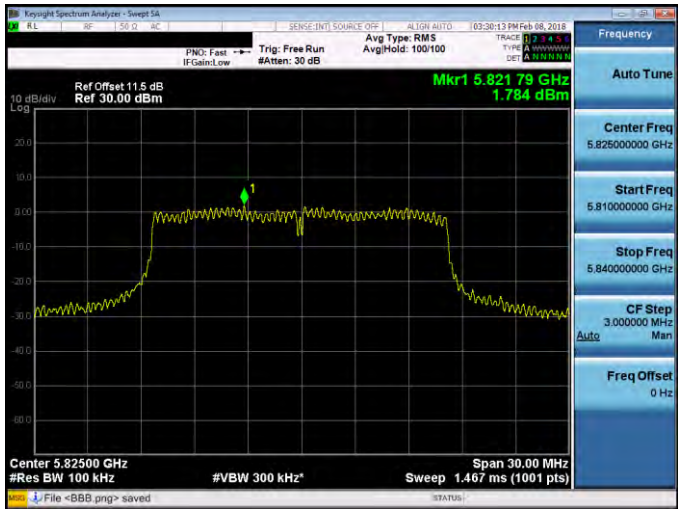
Test Graphs

Mode 2: IEEE 802.11a Continuous TX mode_ ANT-0

5180 MHz	 Keygraph Spectrum Analyzer - Sweep 54 Ref Offset 11.5 dB Ref 30.00 dBm Mkr1 5.175 56 GHz 10.281 dBm Center 5.18000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Sweep 1.000 ms (1001 pts) Span 40.00 MHz File <BBB.png> saved Frequency Auto Tune Center Freq 5.180000000 GHz Start Freq 5.160000000 GHz Stop Freq 5.200000000 GHz CF Step 4.000000 MHz Auto Freq Offset 0 Hz
5200 MHz	 Keygraph Spectrum Analyzer - Sweep 54 Ref Offset 11.5 dB Ref 30.00 dBm Mkr1 5.205 64 GHz 11.434 dBm Center 5.20000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Sweep 1.000 ms (1001 pts) Span 40.00 MHz File <BBB.png> saved Frequency Auto Tune Center Freq 5.200000000 GHz Start Freq 5.180000000 GHz Stop Freq 5.220000000 GHz CF Step 4.000000 MHz Auto Freq Offset 0 Hz
5240 MHz	 Keygraph Spectrum Analyzer - Sweep 54 Ref Offset 11.5 dB Ref 30.00 dBm Mkr1 5.241 24 GHz 10.894 dBm Center 5.24000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz* Sweep 1.000 ms (1001 pts) Span 40.00 MHz File <BBB.png> saved Frequency Auto Tune Center Freq 5.240000000 GHz Start Freq 5.220000000 GHz Stop Freq 5.260000000 GHz CF Step 4.000000 MHz Auto Freq Offset 0 Hz

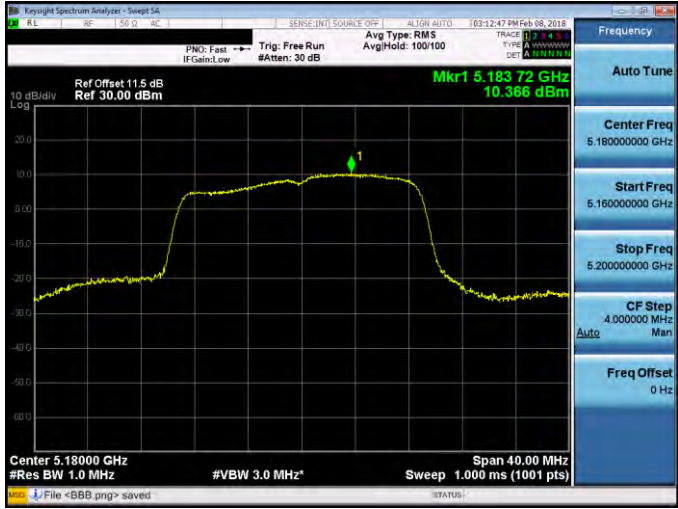
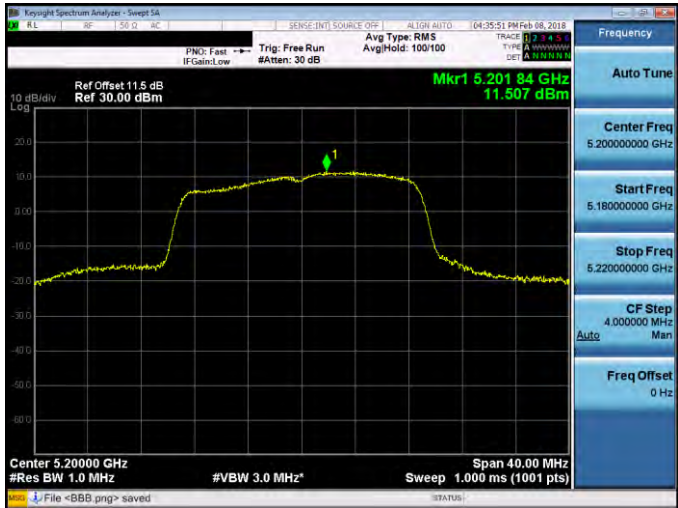
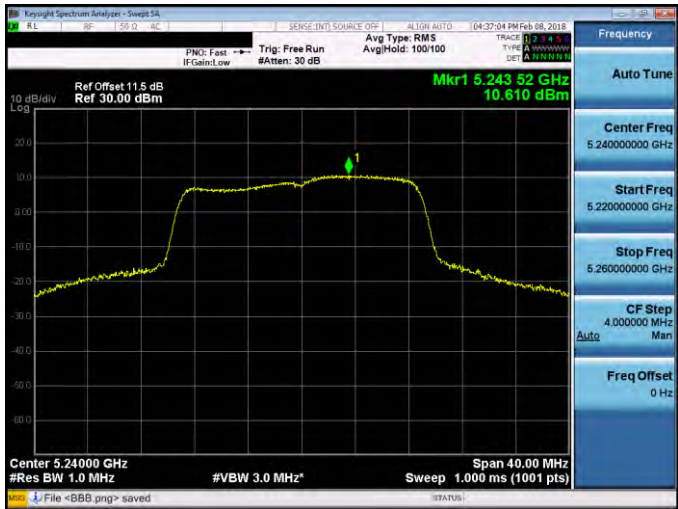


Mode 2: IEEE 802.11a Continuous TX mode_ ANT-0

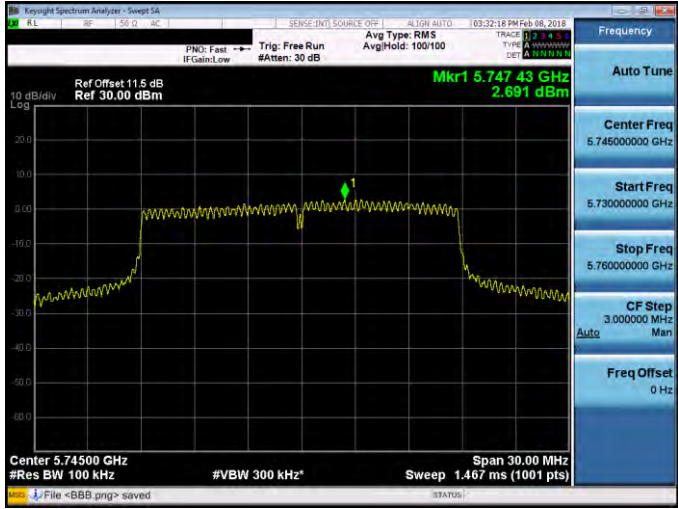
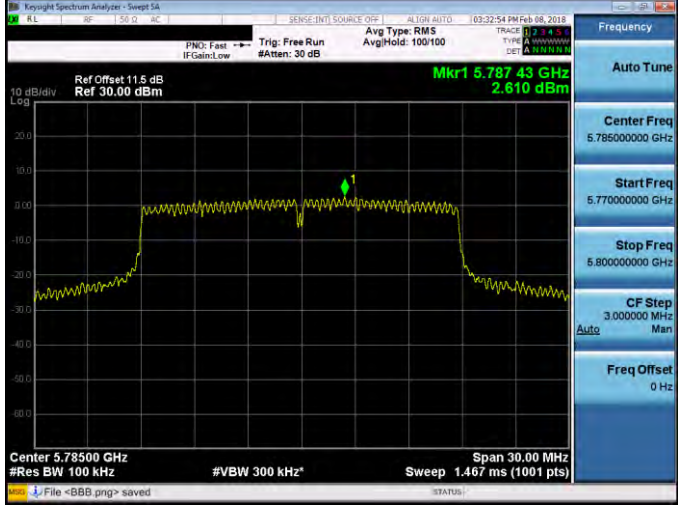
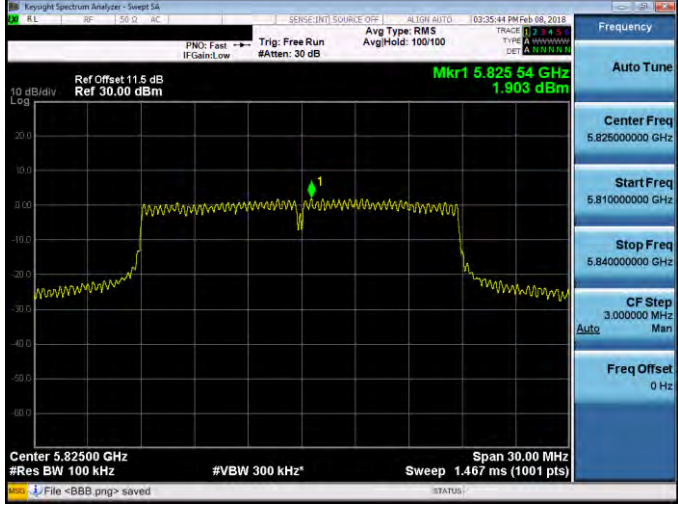
5745 MHz	 Key parameters from the screenshot: - Center Freq: 5.74500000 GHz - Start Freq: 5.73000000 GHz - Stop Freq: 5.76000000 GHz - CF Step: 3.000000 MHz - Freq Offset: 0 Hz - Mkr1: 5.740 53 GHz, 2.377 dBm - Center: 5.74500 GHz - Span: 30.00 MHz - Res BW: 100 kHz - VBW: 300 kHz - Sweep: 1.467 ms (1001 pts)
5785 MHz	 Key parameters from the screenshot: - Center Freq: 5.78500000 GHz - Start Freq: 5.77000000 GHz - Stop Freq: 5.80000000 GHz - CF Step: 3.000000 MHz - Freq Offset: 0 Hz - Mkr1: 5.779 93 GHz, 1.811 dBm - Center: 5.78500 GHz - Span: 30.00 MHz - Res BW: 100 kHz - VBW: 300 kHz - Sweep: 1.467 ms (1001 pts)
5825 MHz	 Key parameters from the screenshot: - Center Freq: 5.82500000 GHz - Start Freq: 5.81000000 GHz - Stop Freq: 5.84000000 GHz - CF Step: 3.000000 MHz - Freq Offset: 0 Hz - Mkr1: 5.821 79 GHz, 1.784 dBm - Center: 5.82500 GHz - Span: 30.00 MHz - Res BW: 100 kHz - VBW: 300 kHz - Sweep: 1.467 ms (1001 pts)



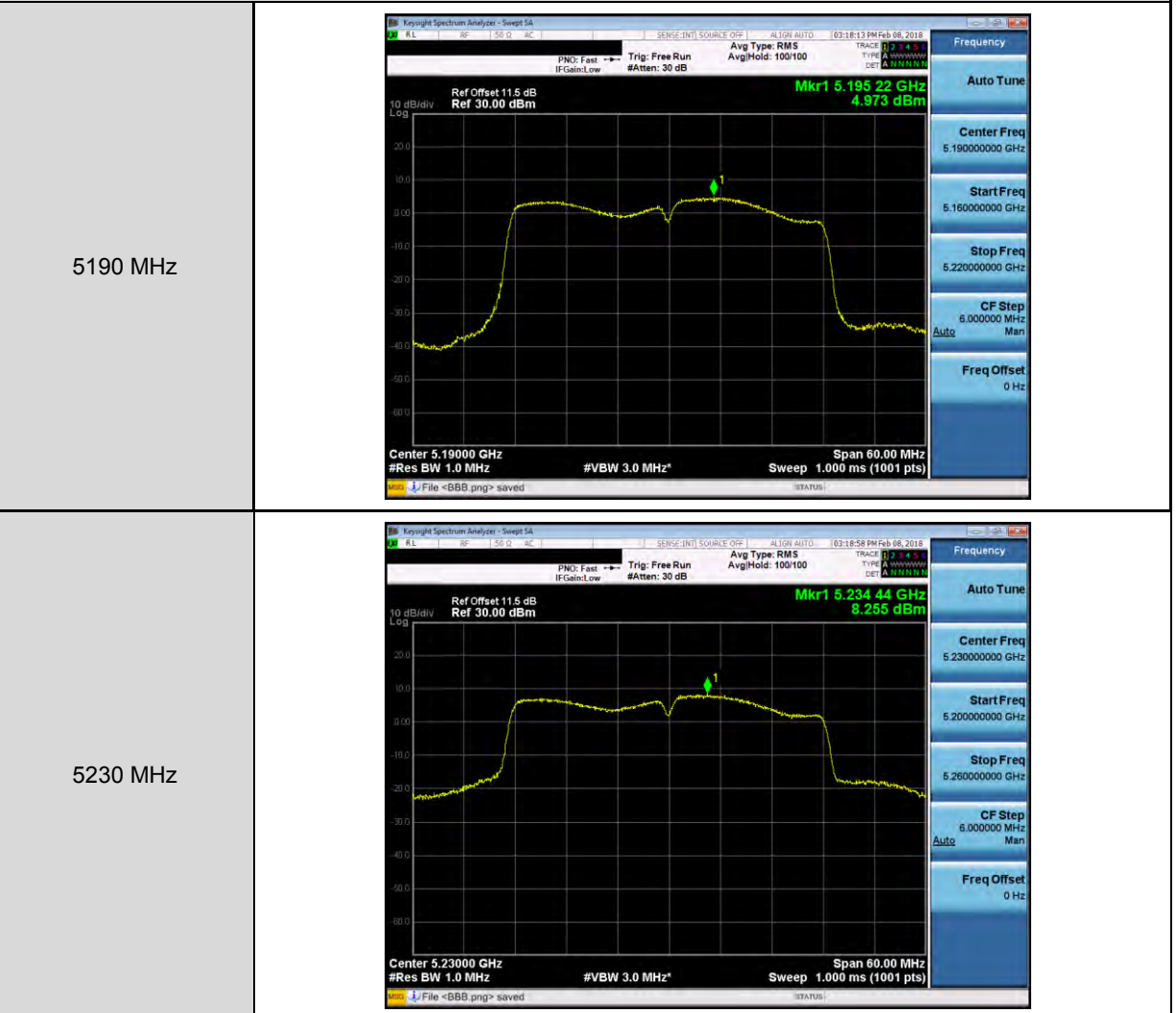
Mode 3: IEEE 802.11ac 20MHz Continuous TX mode _ANT-0

5180 MHz	 Keygraph Spectrum Analyzer - Sweep SA RF: 50.0 AC SENSE: INT1 SOURCE OFF ALIGN: AUTO 03:12:47 PM Feb 08, 2018 PNO: Fast IF Gain: Low Trig: Free Run #Att: 30 dB Avg Type: RMS Avg Hold: 100/100 Ref Offset 11.5 dB Ref 30.00 dBm Mkr1 5.183 72 GHz 10.366 dBm 10 dB/div L-F Center 5.18000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Span 40.00 MHz Sweep 1.000 ms (1001 pts) File <BBB.png> saved
5200 MHz	 Keygraph Spectrum Analyzer - Sweep SA RF: 50.0 AC SENSE: INT1 SOURCE OFF ALIGN: AUTO 04:35:51 PM Feb 08, 2018 PNO: Fast IF Gain: Low Trig: Free Run #Att: 30 dB Avg Type: RMS Avg Hold: 100/100 Ref Offset 11.5 dB Ref 30.00 dBm Mkr1 5.201 84 GHz 11.507 dBm 10 dB/div L-F Center 5.20000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Span 40.00 MHz Sweep 1.000 ms (1001 pts) File <BBB.png> saved
5240 MHz	 Keygraph Spectrum Analyzer - Sweep SA RF: 50.0 AC SENSE: INT1 SOURCE OFF ALIGN: AUTO 04:37:04 PM Feb 08, 2018 PNO: Fast IF Gain: Low Trig: Free Run #Att: 30 dB Avg Type: RMS Avg Hold: 100/100 Ref Offset 11.5 dB Ref 30.00 dBm Mkr1 5.243 52 GHz 10.610 dBm 10 dB/div L-F Center 5.24000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Span 40.00 MHz Sweep 1.000 ms (1001 pts) File <BBB.png> saved

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

5745 MHz	
5785 MHz	
5825 MHz	

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



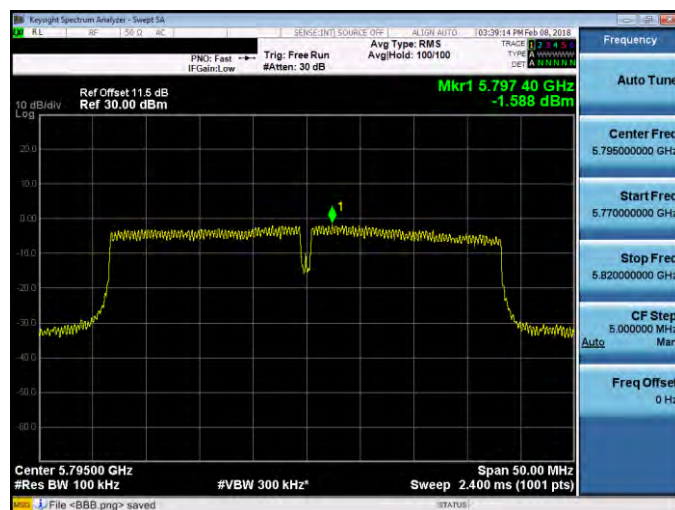


Mode 4: IEEE 802.11ac 40MHz Continuous TX mode_ ANT-0

5755 MHz



5795 MHz





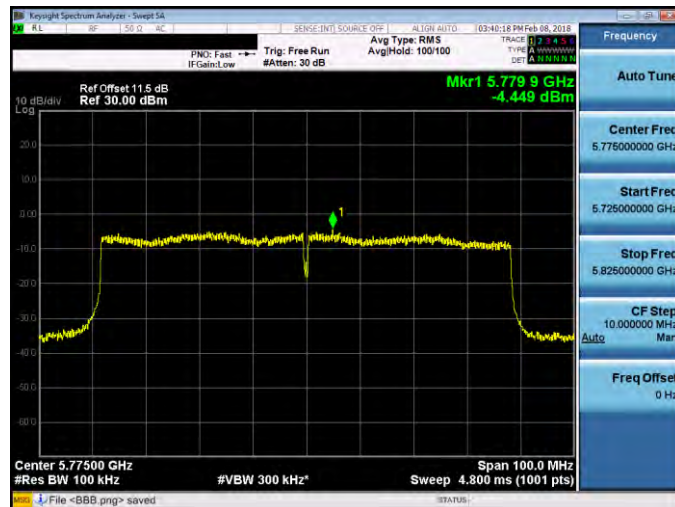
Mode 5: IEEE 802.11ac 80MHz Continuous TX mode _ANT-0

5210 MHz



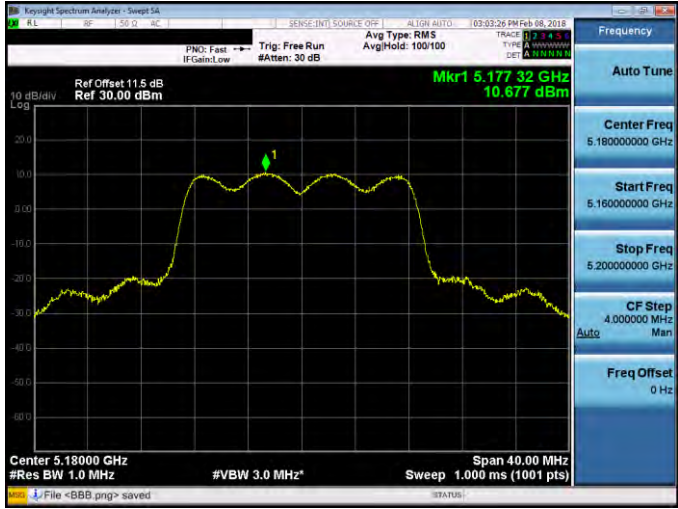
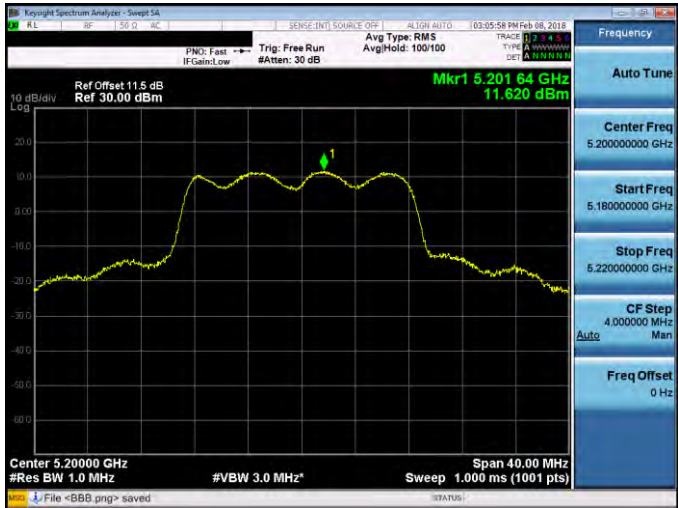
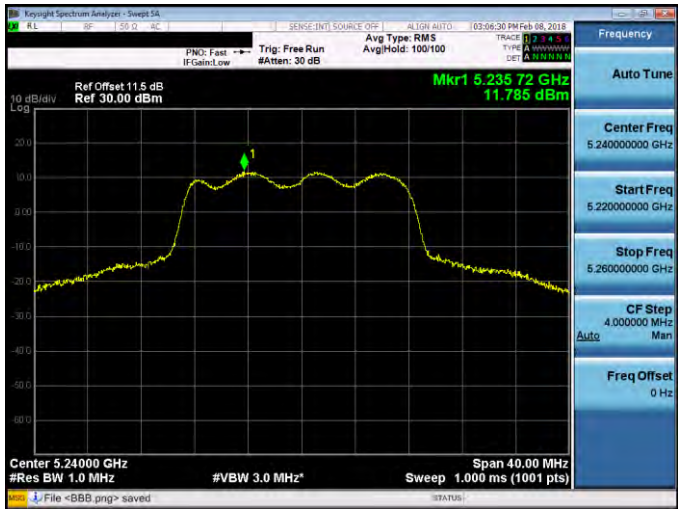
Mode 5: IEEE 802.11ac 80MHz Continuous TX mode _ANT-0

5775 MHz



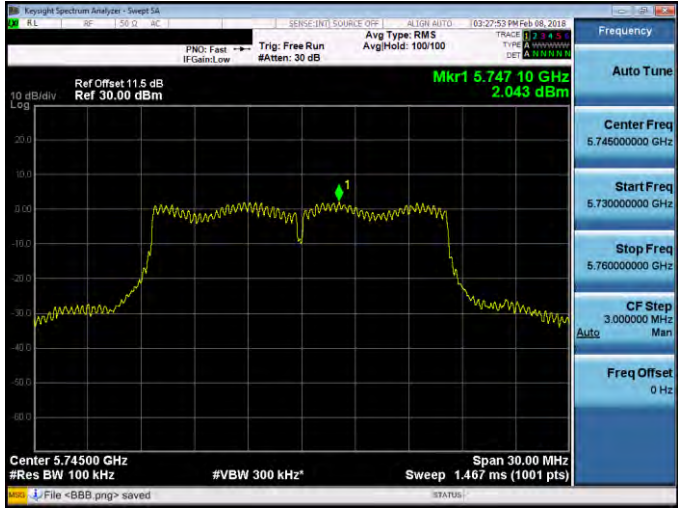
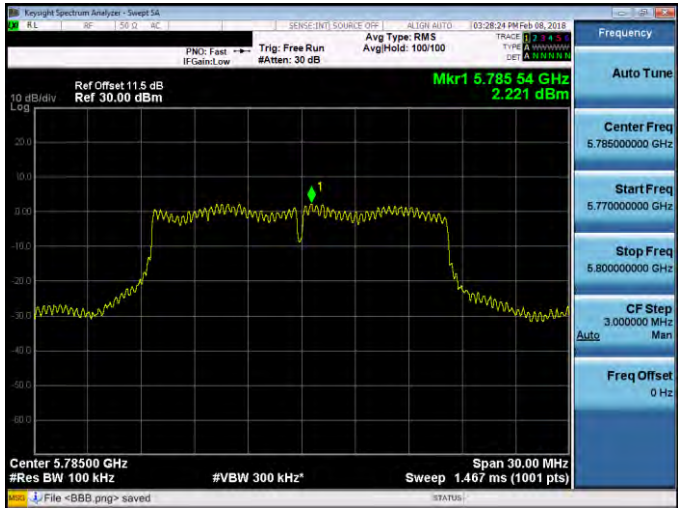
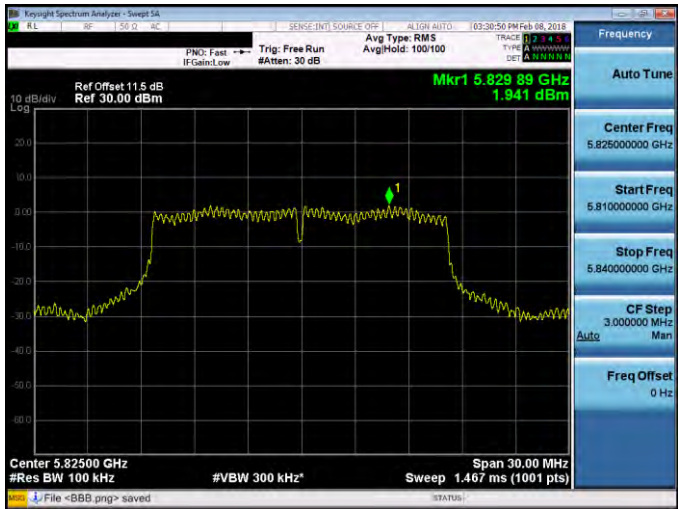


Mode 2: IEEE 802.11a Continuous TX mode_ ANT-1

5180 MHz	
5200 MHz	
5240 MHz	

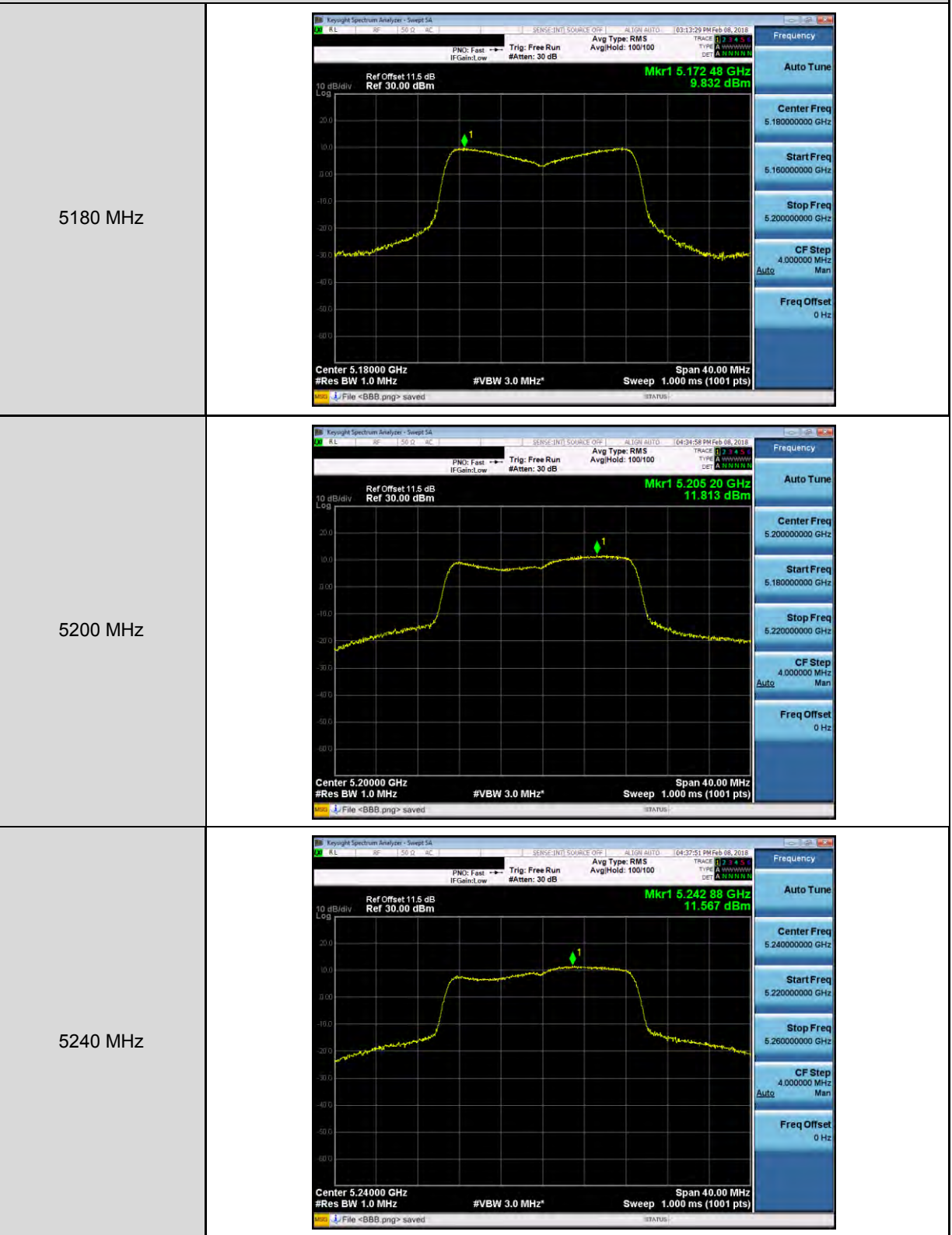


Mode 2: IEEE 802.11a Continuous TX mode_ ANT-1

5745 MHz	 Key parameters from the 5745 MHz screenshot: - Center Freq: 5.74500000 GHz - Start Freq: 5.73000000 GHz - Stop Freq: 5.76000000 GHz - CF Step: 3.000000 MHz - Freq Offset: 0 Hz - Mkr1: 5.747 10 GHz, 2.043 dBm
5785 MHz	 Key parameters from the 5785 MHz screenshot: - Center Freq: 5.78500000 GHz - Start Freq: 5.77000000 GHz - Stop Freq: 5.80000000 GHz - CF Step: 3.000000 MHz - Freq Offset: 0 Hz - Mkr1: 5.785 54 GHz, 2.221 dBm
5825 MHz	 Key parameters from the 5825 MHz screenshot: - Center Freq: 5.82500000 GHz - Start Freq: 5.81000000 GHz - Stop Freq: 5.84000000 GHz - CF Step: 3.000000 MHz - Freq Offset: 0 Hz - Mkr1: 5.829 89 GHz, 1.941 dBm

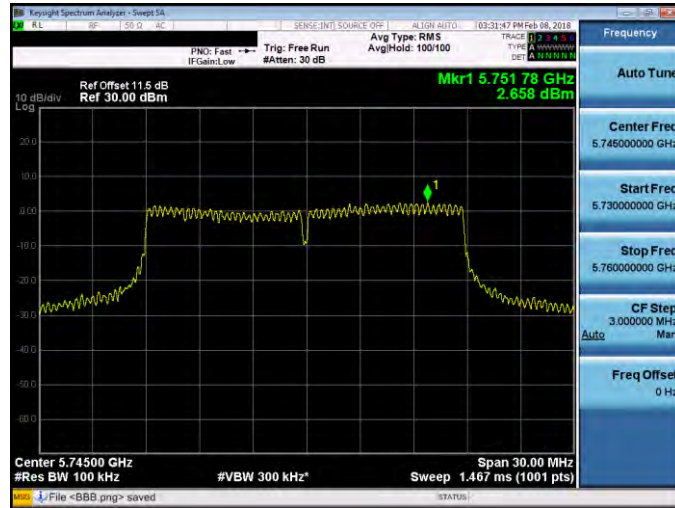


Mode 3: IEEE 802.11ac 20MHz Continuous TX mode _ANT-1

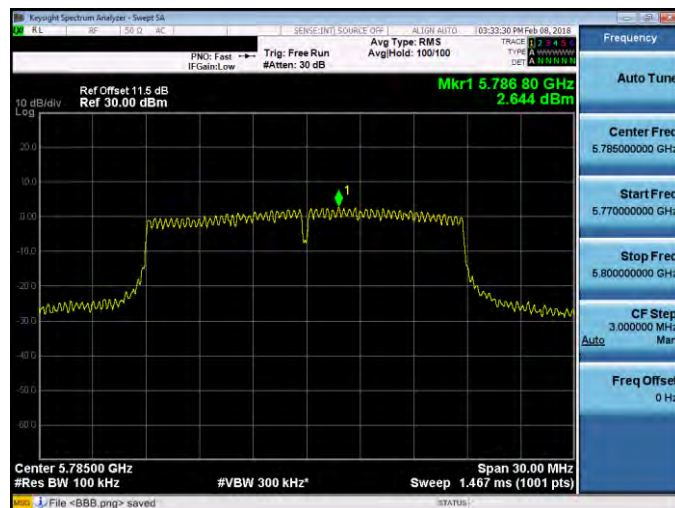


Mode 3: IEEE 802.11ac 20MHz Continuous TX mode _ANT-1

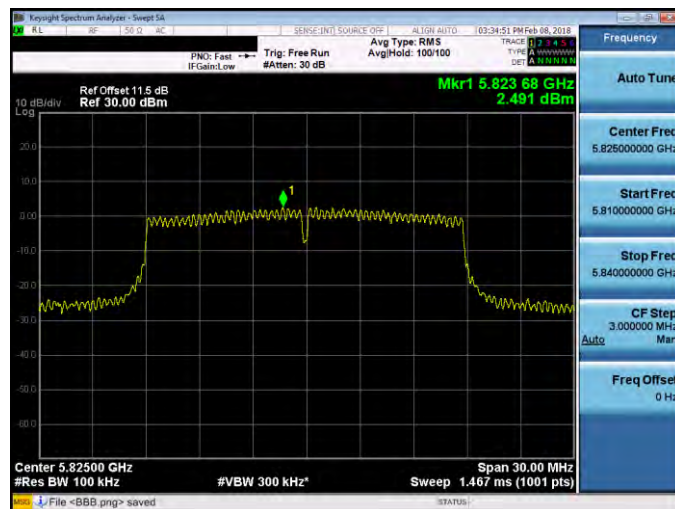
5745 MHz



5785 MHz

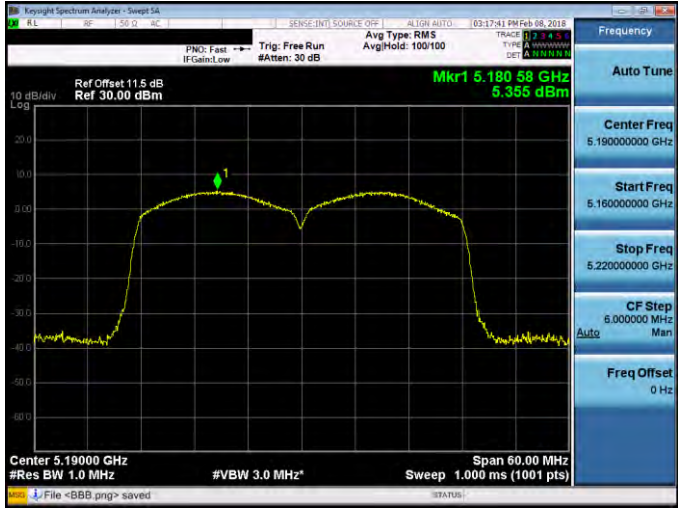
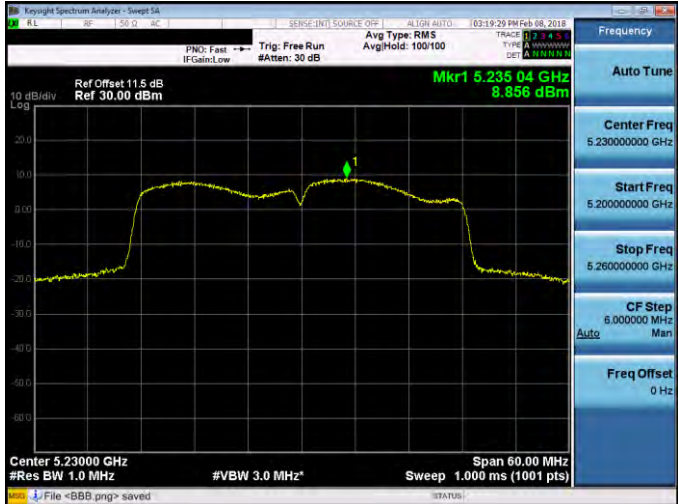


5825 MHz



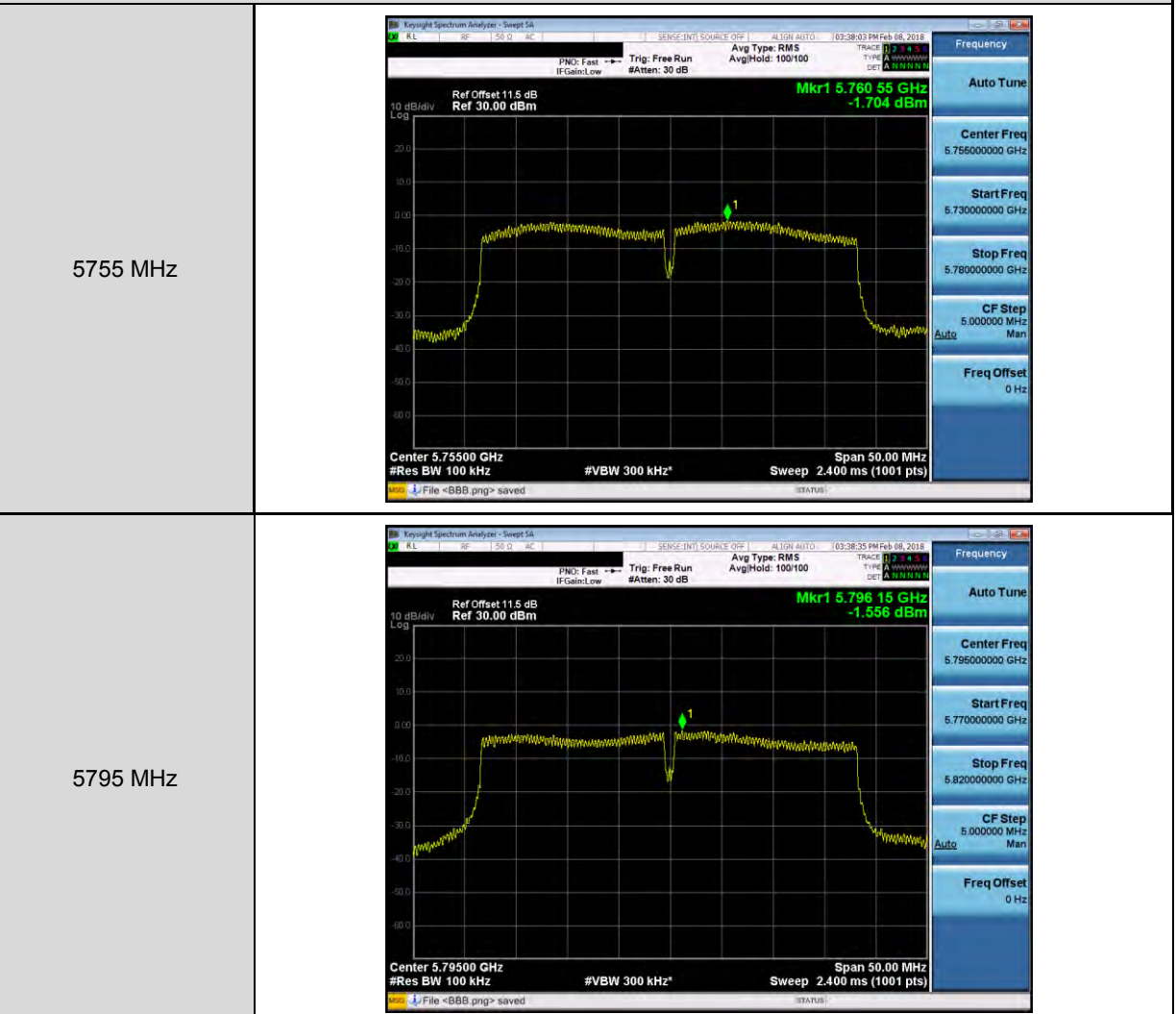


Mode 4: IEEE 802.11ac 40MHz Continuous TX mode_ ANT-1

5190 MHz	
5230 MHz	



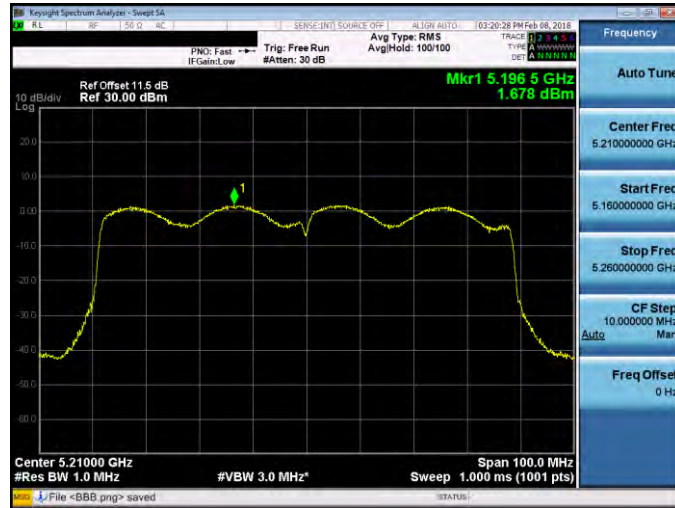
Mode 4: IEEE 802.11ac 40MHz Continuous TX mode_ ANT-1





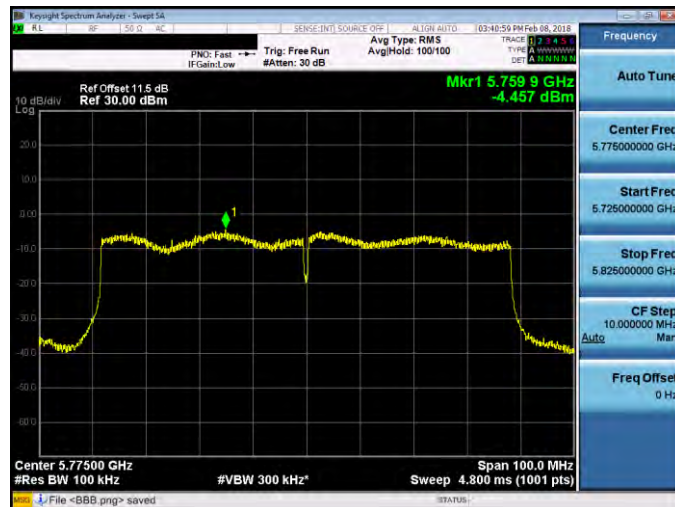
Mode 5: IEEE 802.11ac 80MHz Continuous TX mode _ANT-1

5210 MHz



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

5775 MHz

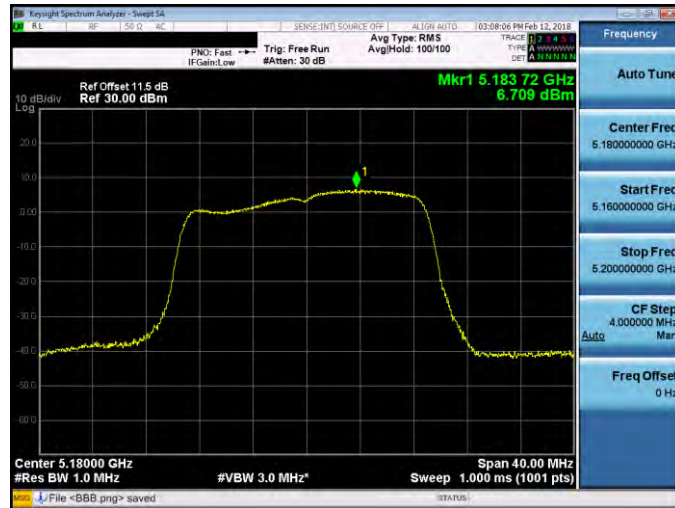




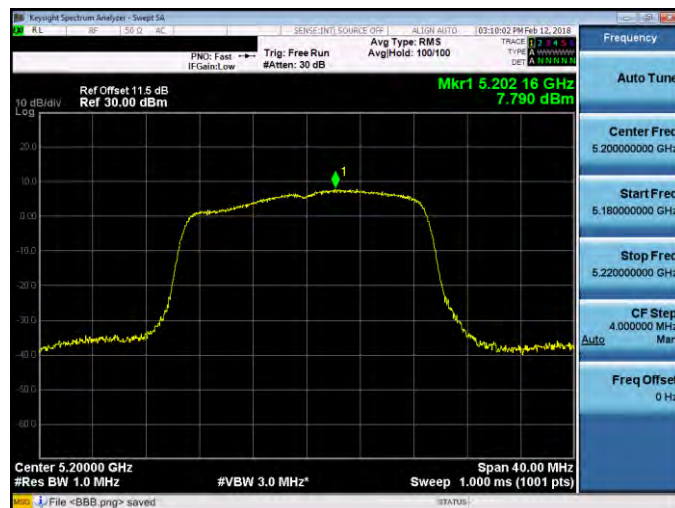
Beamforming on

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

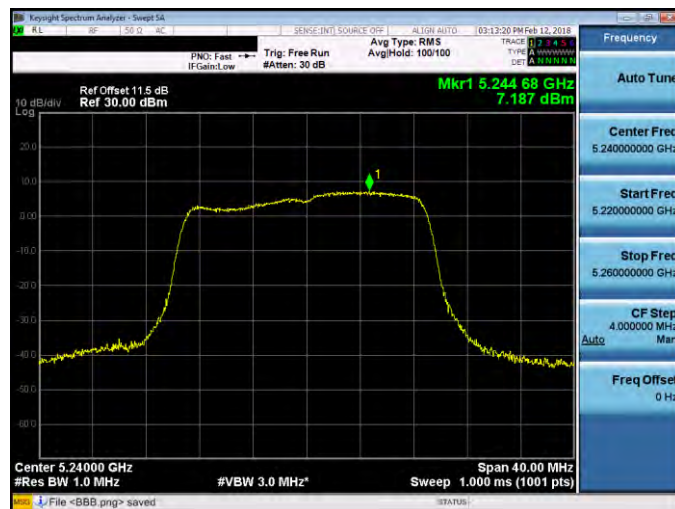
5180 MHz



5200 MHz

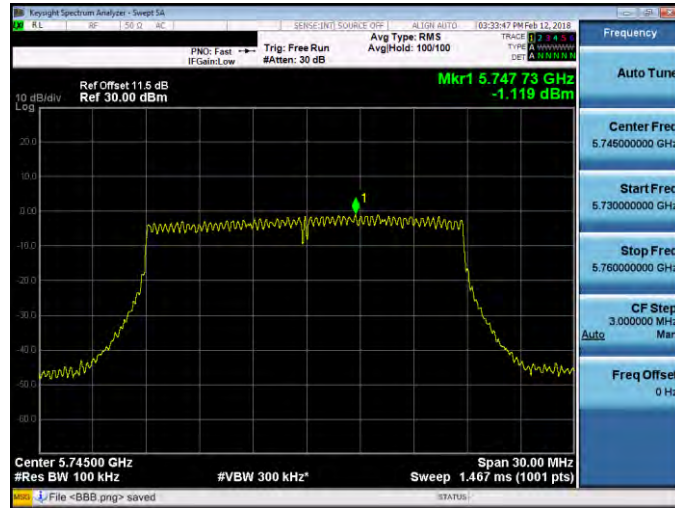


5240 MHz

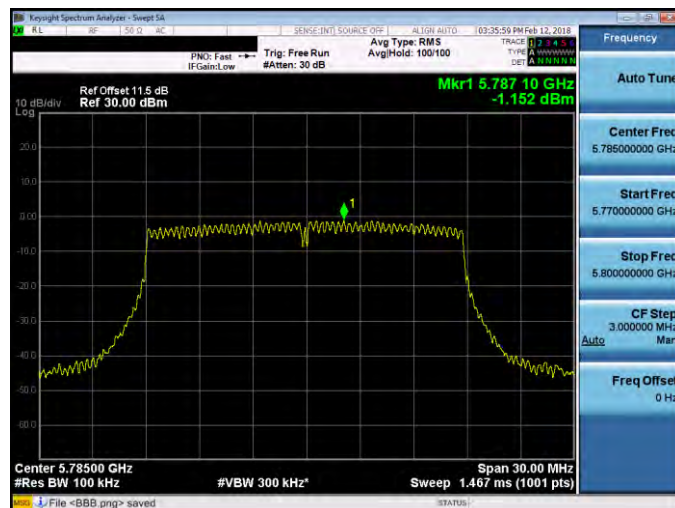


Mode 3: IEEE 802.11ac 20MHz Continuous TX mode _ANT-0

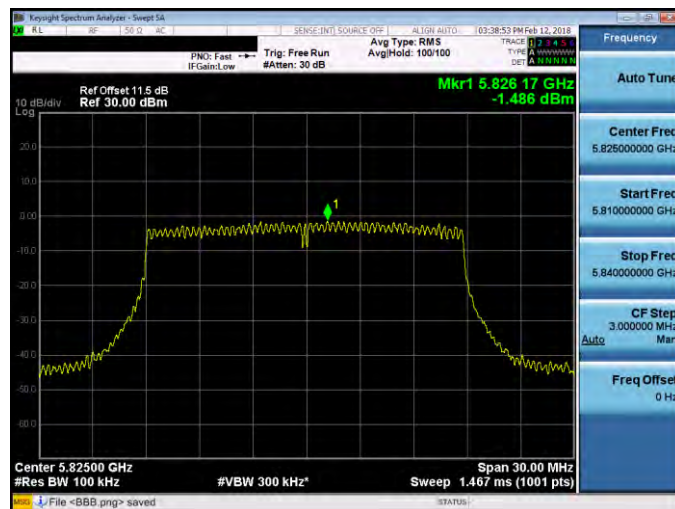
5745 MHz



5785 MHz

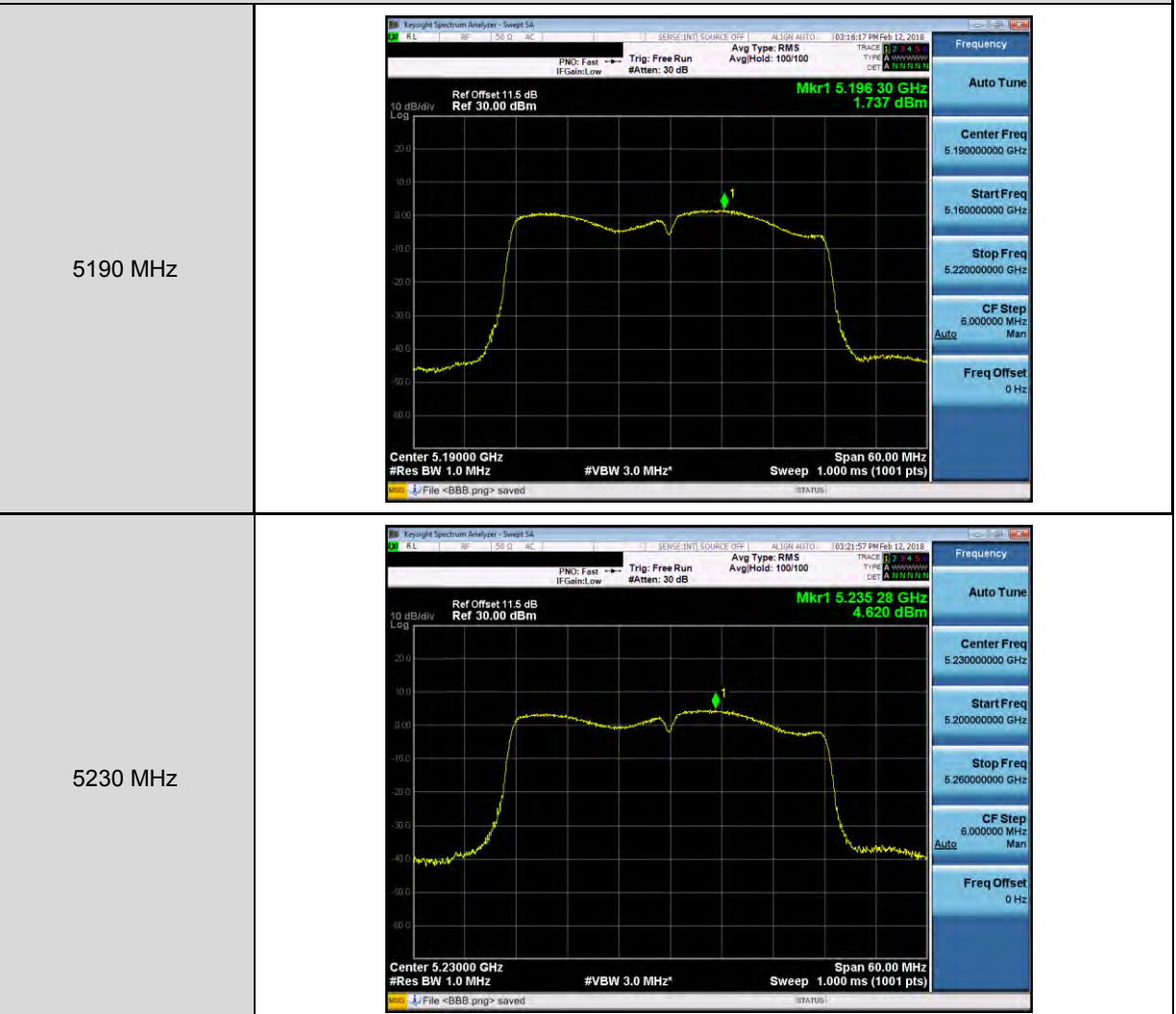


5825 MHz





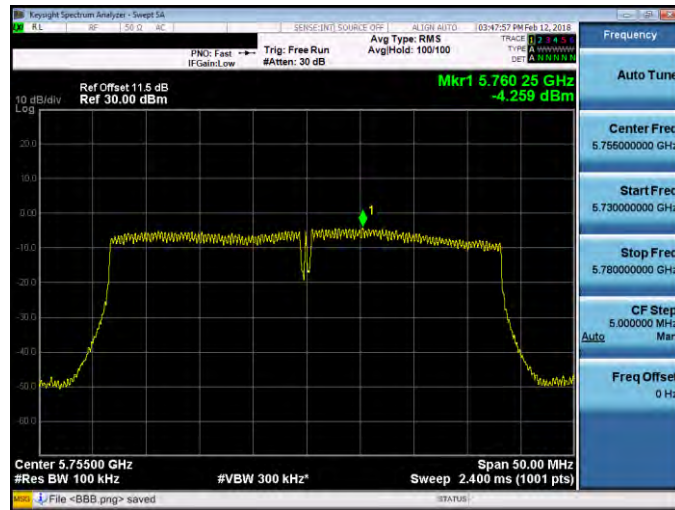
Mode 4: IEEE 802.11ac 40MHz Continuous TX mode_ ANT-0





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

5755 MHz



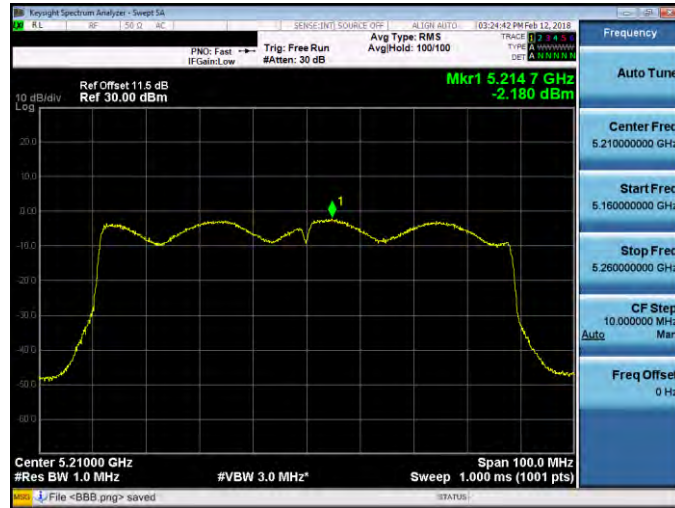
5795 MHz





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

5210 MHz



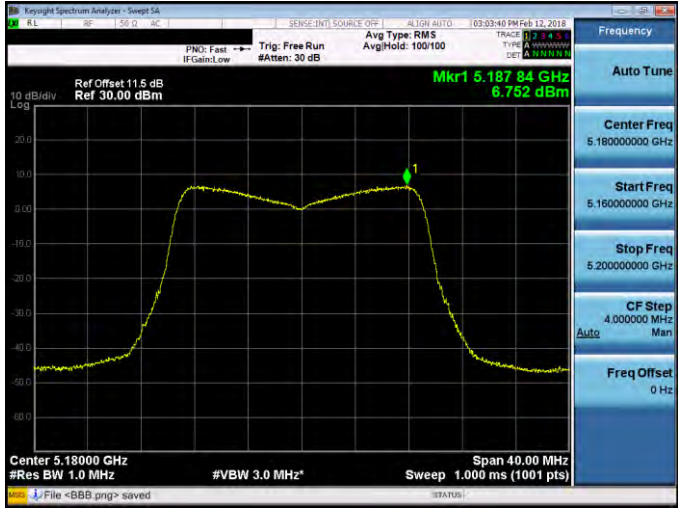
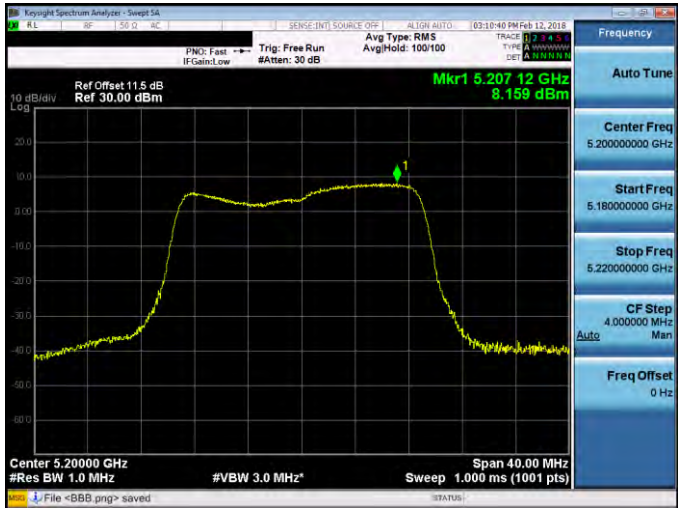
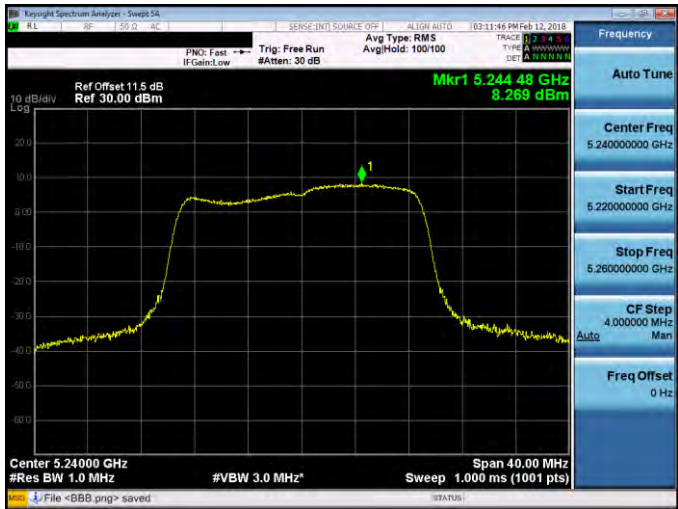
Mode 5: IEEE 802.11ac 80MHz Continuous TX mode _ANT-0

5775 MHz

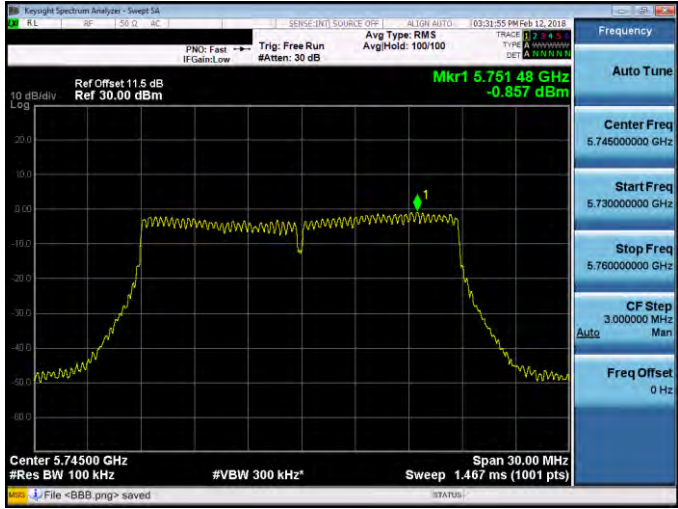
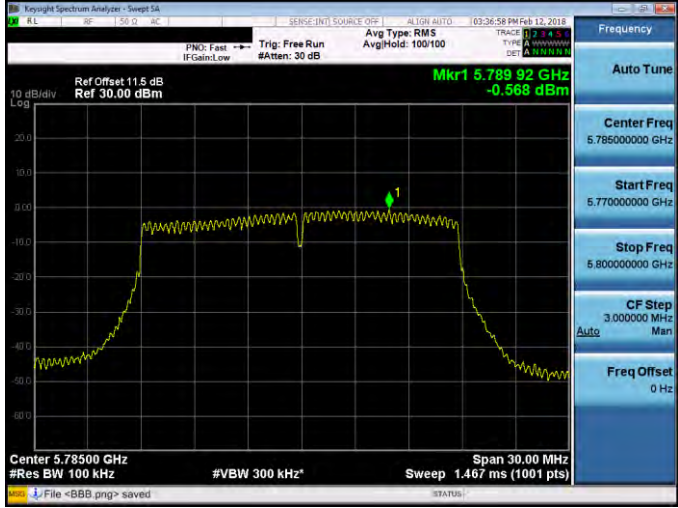
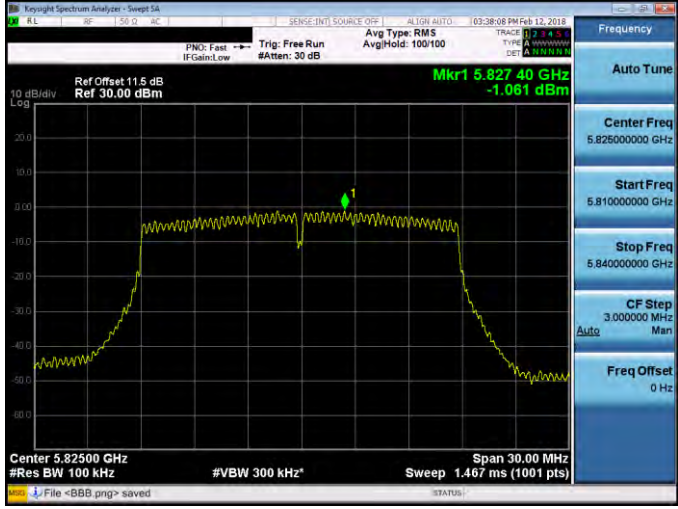




Mode 3: IEEE 802.11ac 20MHz Continuous TX mode _ANT-1

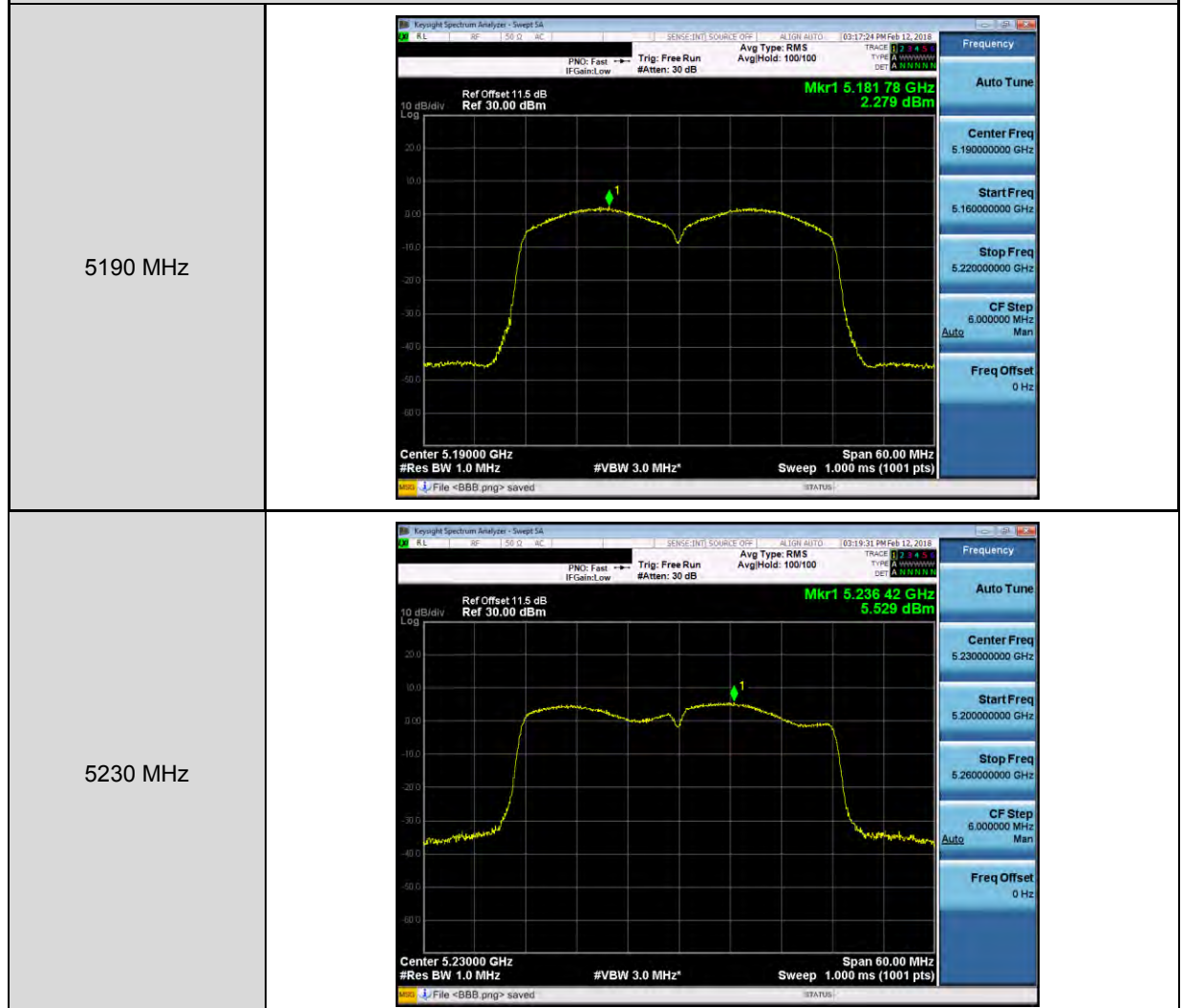
5180 MHz	
5200 MHz	
5240 MHz	

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

5745 MHz	
5785 MHz	
5825 MHz	

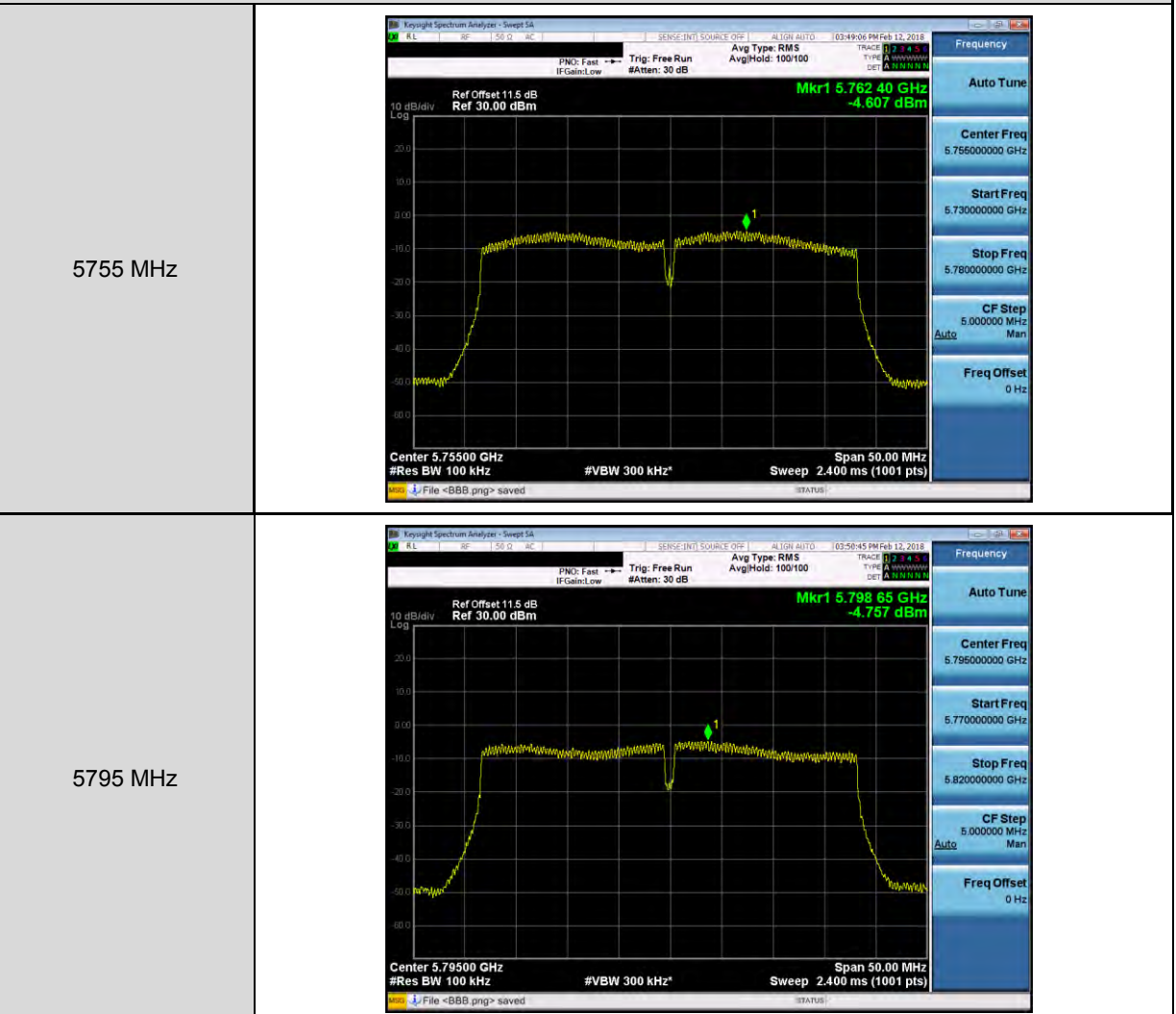


Mode 4: IEEE 802.11ac 40MHz Continuous TX mode_ ANT-1





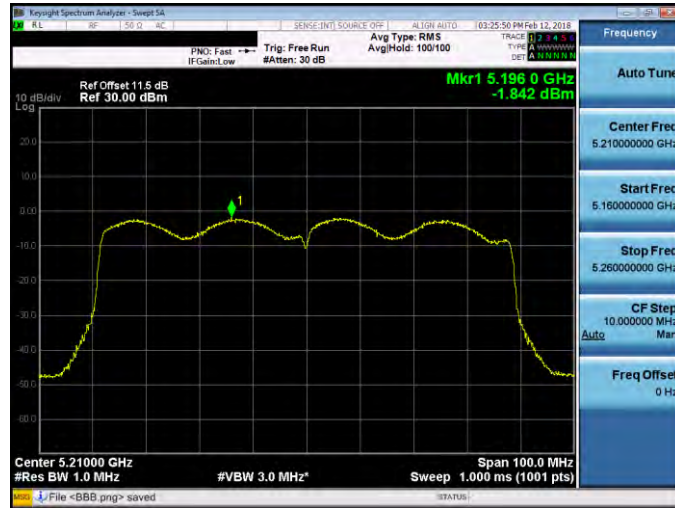
Mode 4: IEEE 802.11ac 40MHz Continuous TX mode_ ANT-1





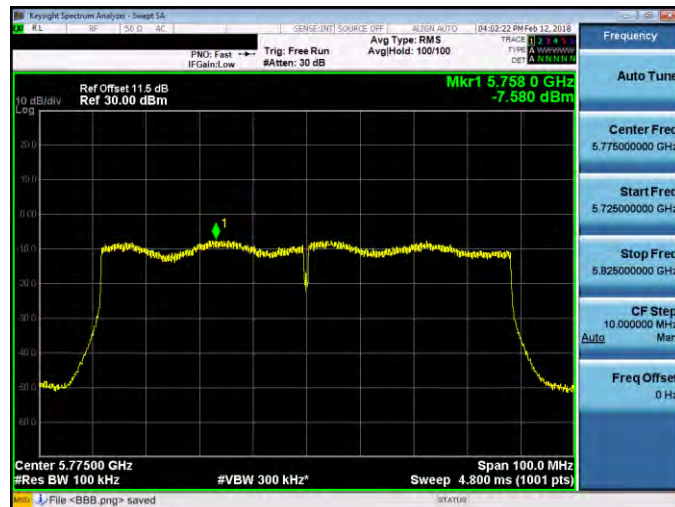
Mode 5: IEEE 802.11ac 80MHz Continuous TX mode _ANT-1

5210 MHz



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

5775 MHz





5.7. Frequency Stability Measurement

Temperature Variations

Frequency	Temp. (°C)	Voltage (Vac)	Measured Freq. (MHz)	Delta Freq. (Hz)	Tolerance (ppm)	Result (Pass/Fail)
5200 MHz	0	120	5200.0367	36700	7.058	Pass
	10		5200.0128	12800	2.462	Pass
	20		5199.935	-65000	-12.500	Pass
	30		5199.9196	-80400	-15.462	Pass
	40		5199.9005	-99500	-19.135	Pass
5785 MHz	0	120	5785.0397	39700	6.863	Pass
	10		5785.0138	13800	2.385	Pass
	20		5784.9522	-47800	-8.263	Pass
	30		5784.9166	-83400	-14.417	Pass
	40		5784.9011	-98900	-17.096	Pass

Voltage Variations

Frequency	Temp. (°C)	Voltage (Vac)	Measured Freq. (MHz)	Delta Freq. (Hz)	Tolerance (ppm)	Result (Pass/Fail)
5200 MHz	20	138.00	5199.9023	-97700	-18.788	Pass
		120.00	5199.9196	-80400	-15.462	Pass
		102.00	5199.9309	-69100	-13.288	Pass
5785 MHz	20	138.00	5784.9017	-98300	-16.992	Pass
		120.00	5784.9166	-83400	-14.417	Pass
		102.00	5784.9315	-68500	-11.841	Pass

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



Beamforming on

Temperature Variations

Frequency	Temp. (°C)	Voltage (Vac)	Measured Freq. (MHz)	Delta Freq. (Hz)	Tolerance (ppm)	Result (Pass/Fail)
5200 MHz	0	120	5200.0367	36700	7.058	Pass
	10		5200.0128	12800	2.462	Pass
	20		5199.935	-65000	-12.500	Pass
	30		5199.9196	-80400	-15.462	Pass
	40		5199.9005	-99500	-19.135	Pass
5785 MHz	0	120	5785.0397	39700	6.863	Pass
	10		5785.0138	13800	2.385	Pass
	20		5784.9522	-47800	-8.263	Pass
	30		5784.9166	-83400	-14.417	Pass
	40		5784.9011	-98900	-17.096	Pass

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5200 MHz	20	138.00	5199.9023	-97700	-18.788	Pass
		120.00	5199.9196	-80400	-15.462	Pass
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5785 MHz	20	138.00	5784.9017	-98300	-16.992	Pass
		120.00	5784.9166	-83400	-14.417	Pass
		102.00	5784.9315	-68500	-11.841	Pass

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

5.8. Automatically discontinue transmission

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving.

5.9. Antenna Requirement

■ Antenna Connector Construction

See section 2 – antenna information.

■ Directional Gain Calculated

For Maximum Conducted Output Power

$$\text{Directional Gain} = 10 \cdot \log\{[10^{(G1/20)} + 10^{(G2/20)} + \dots + 10^{(Gn/20)}]^2 / NANT\}$$

Operate Freq. Band		Directional Gain (dBi)
		MIMO/Beamforming
IEEE 802.11ac 20MHz	U-NII Band I	7.95
	U-NII Band III	8.26
IEEE 802.11ac 40MHz	U-NII Band I	7.95
	U-NII Band III	8.26
IEEE 802.11ac 80MHz	U-NII Band I	7.95
	U-NII Band III	8.26

For Maximum Power Spectral Density

$$\text{Directional Gain} = 10 \cdot \log\{[10^{(G1/20)} + 10^{(G2/20)} + \dots + 10^{(Gn/20)}]^2 / NANT\}$$

Operate Freq. Band		Directional Gain (dBi)	
		CDD	MIMO/Beamforming on
IEEE 802.11a	U-NII Band I	7.95	---
	U-NII Band III	8.26	---
IEEE 802.11ac 20MHz	U-NII Band I	7.95	7.95
	U-NII Band III	8.26	8.26
IEEE 802.11ac 40MHz	U-NII Band I	7.95	7.95
	U-NII Band III	8.26	8.26
IEEE 802.11ac 80MHz	U-NII Band I	7.95	7.95
	U-NII Band III	8.26	8.26