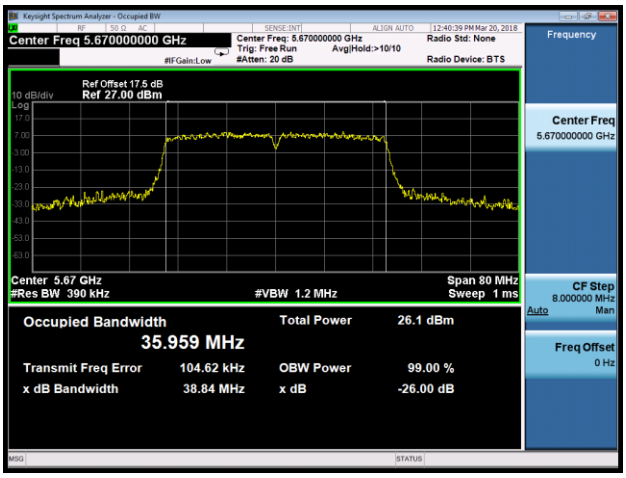
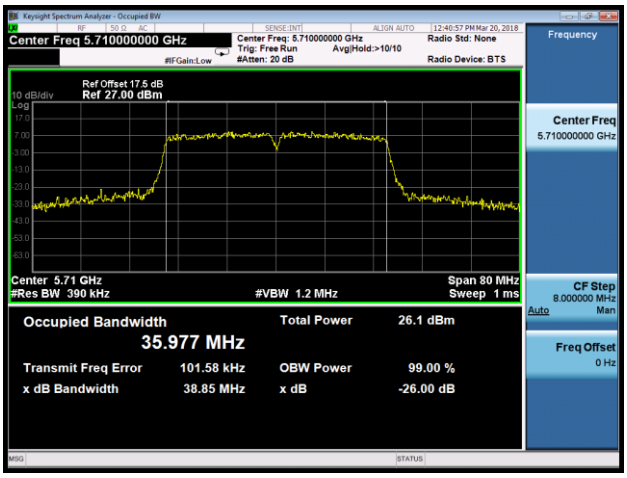
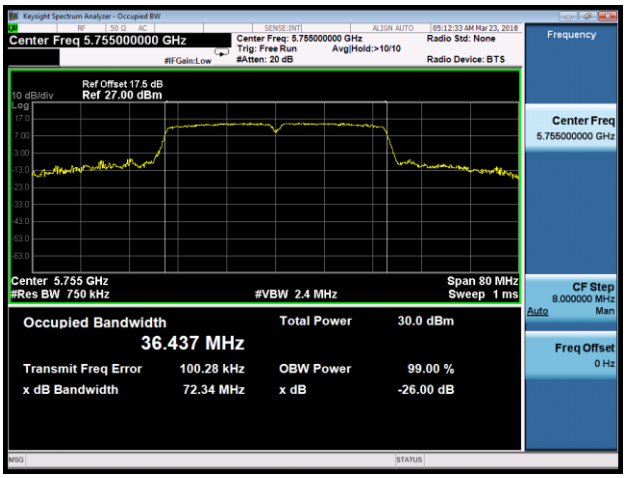
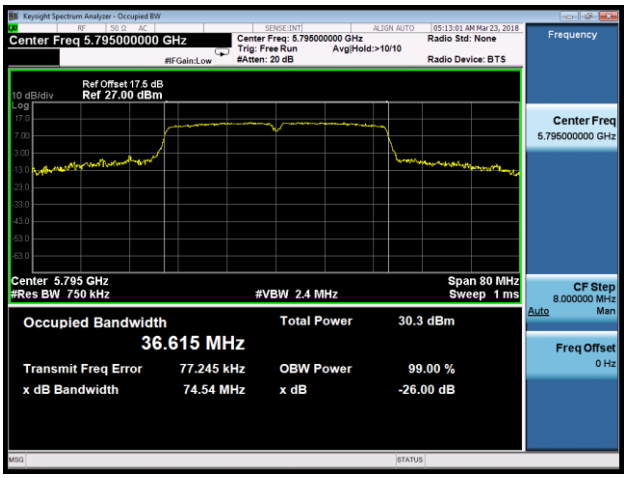
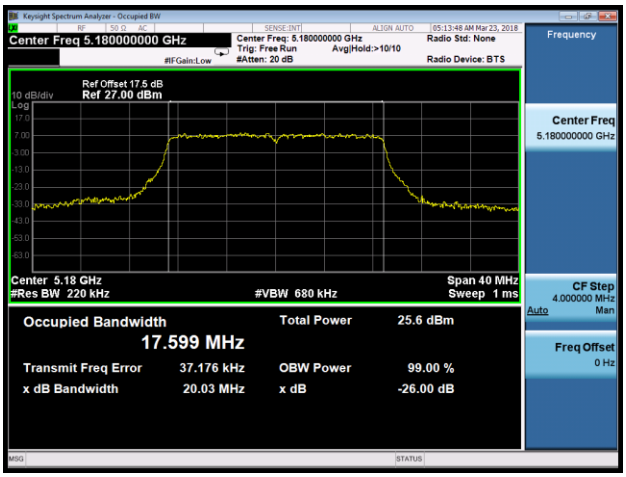
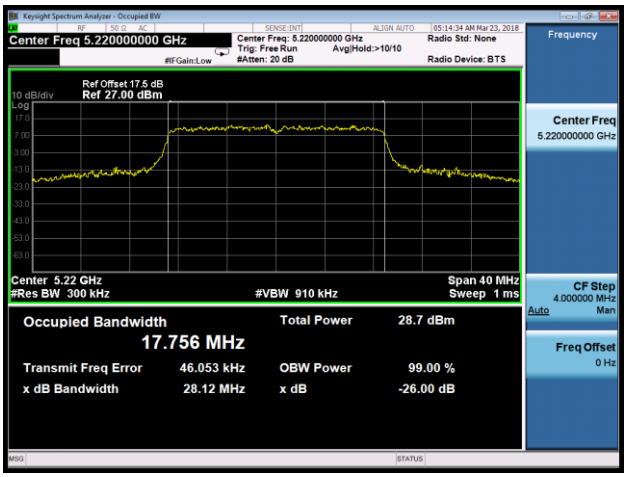
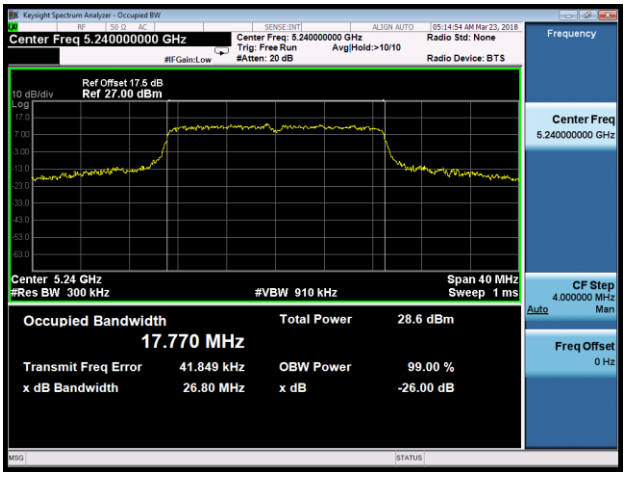
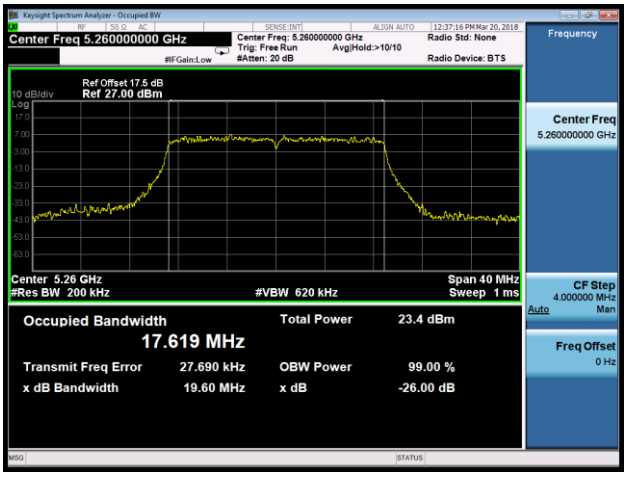
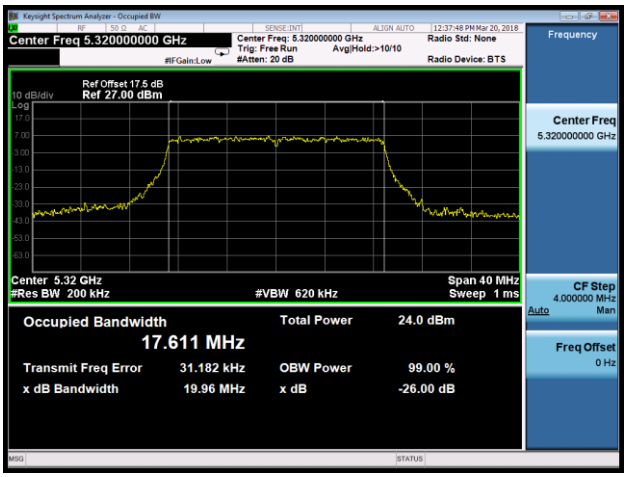
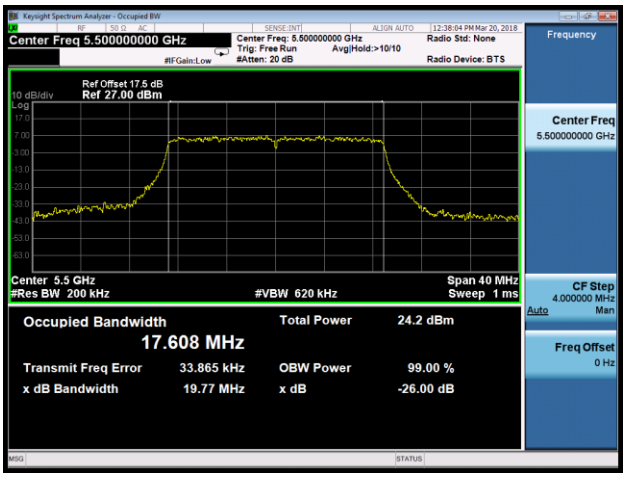
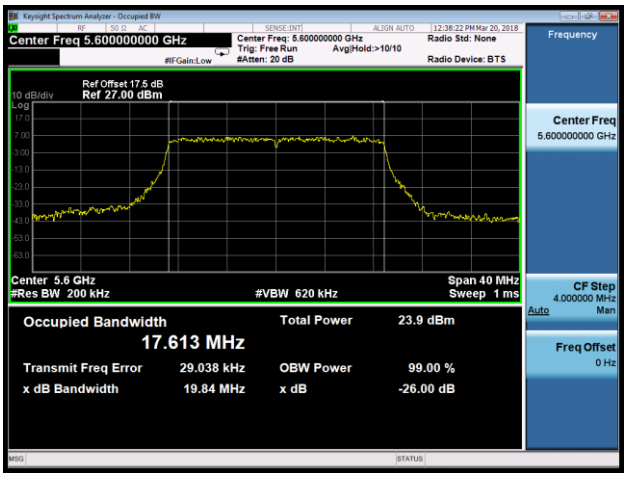
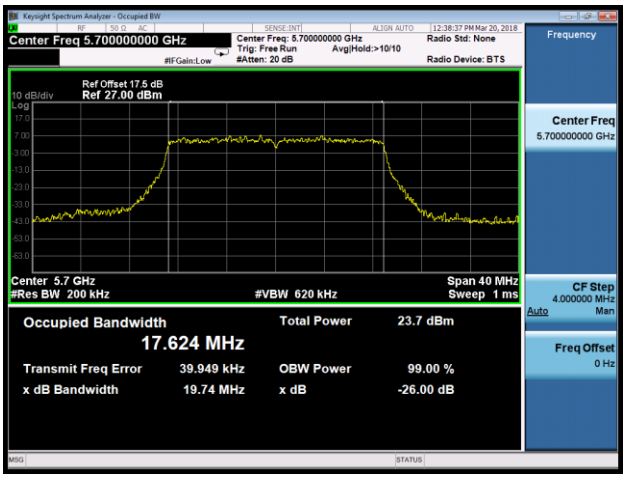
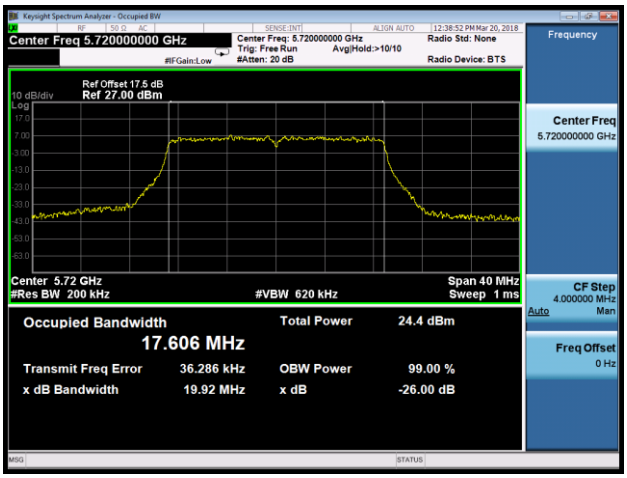
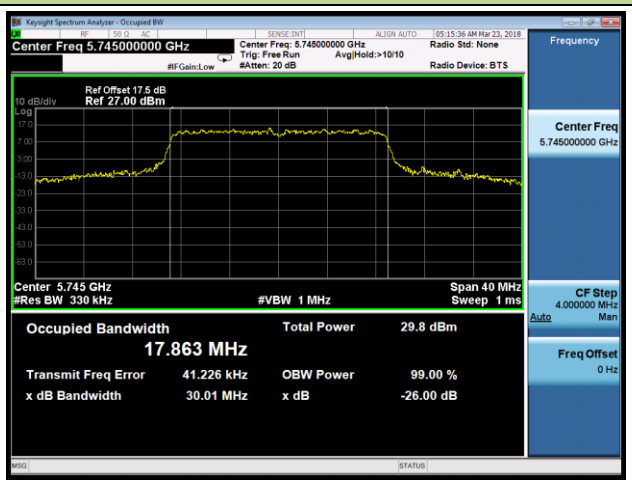
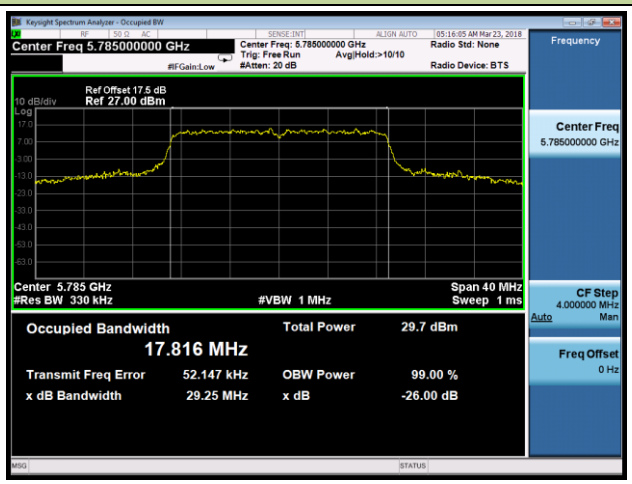
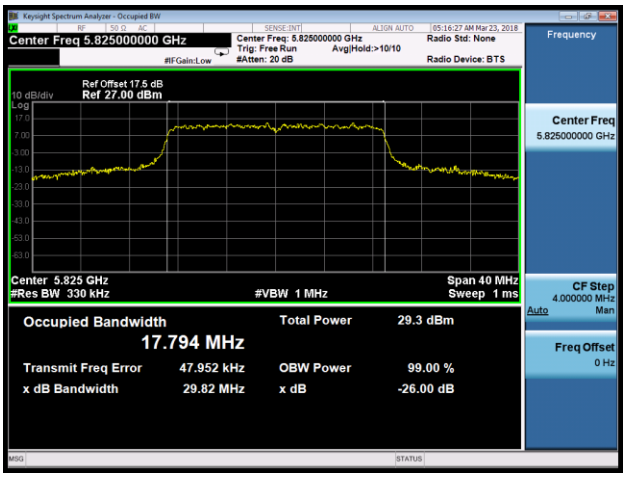
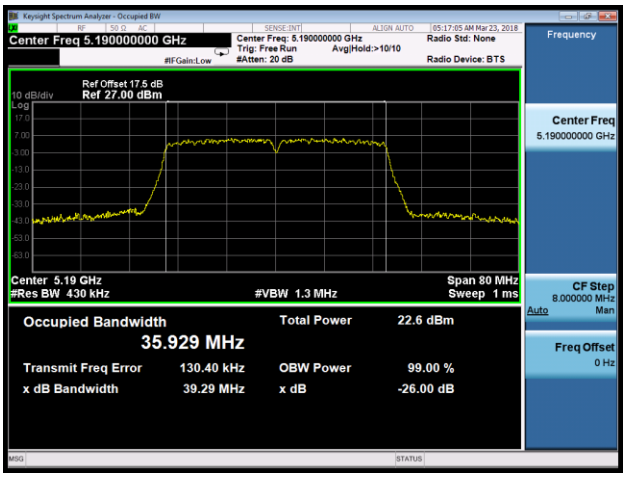
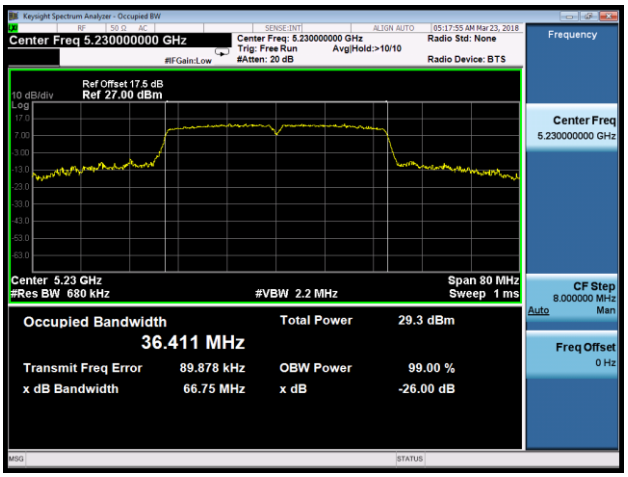
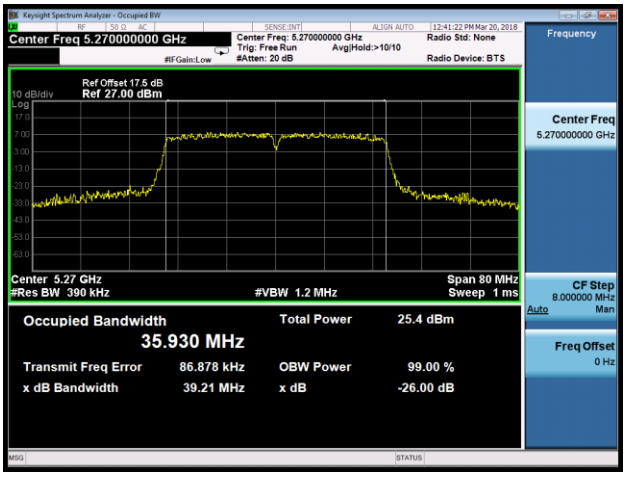
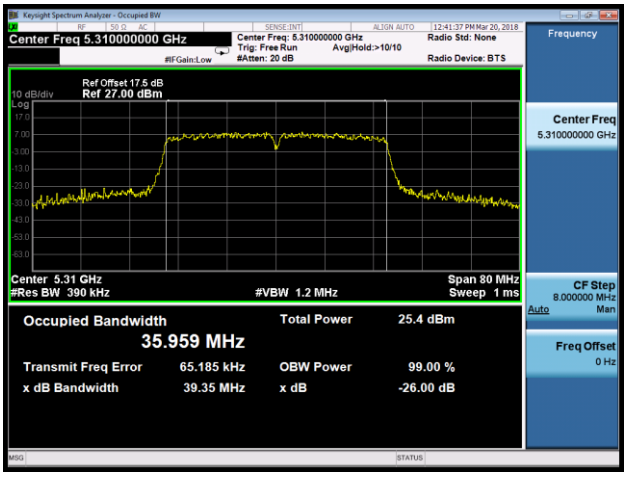
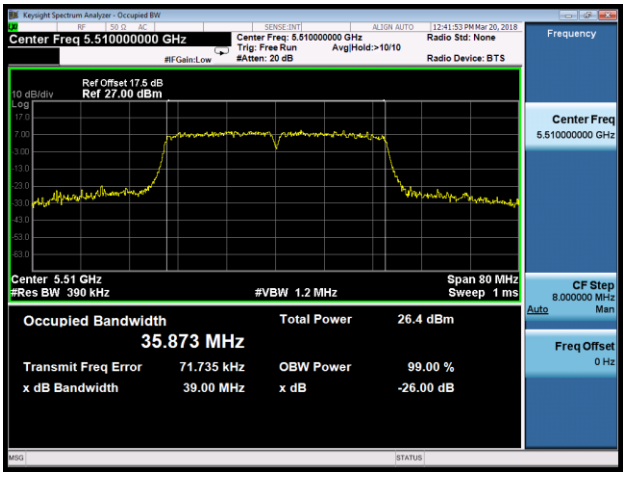
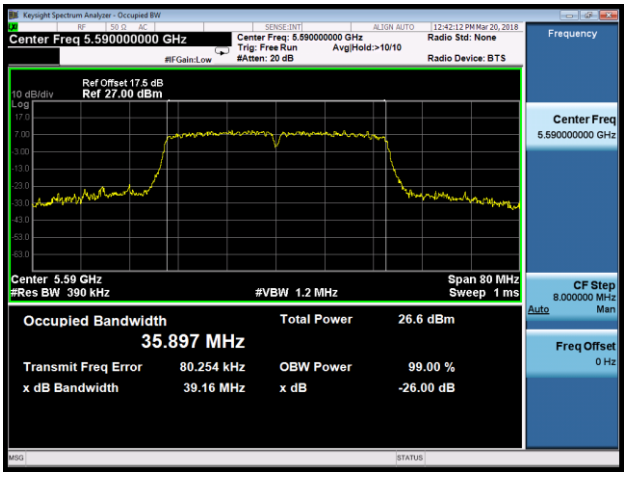
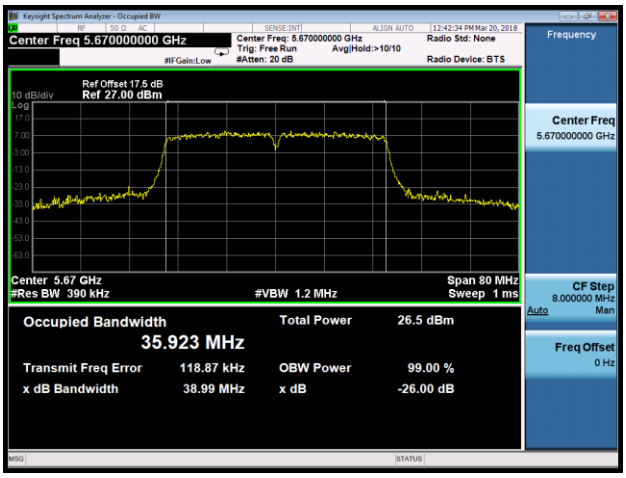
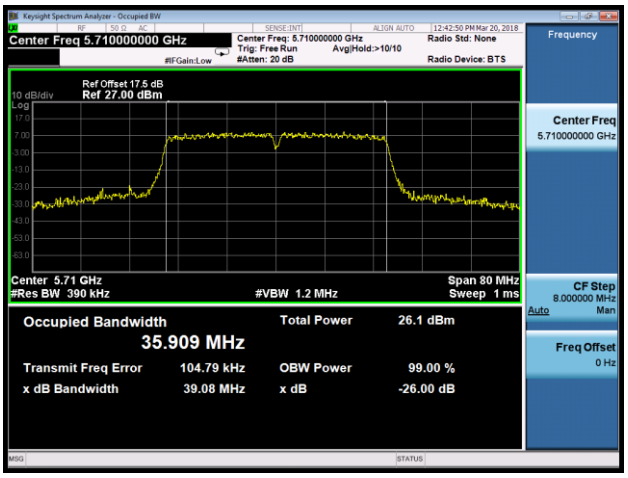
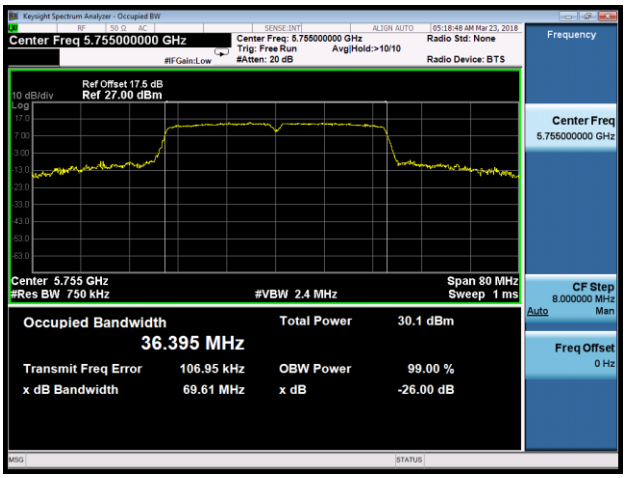
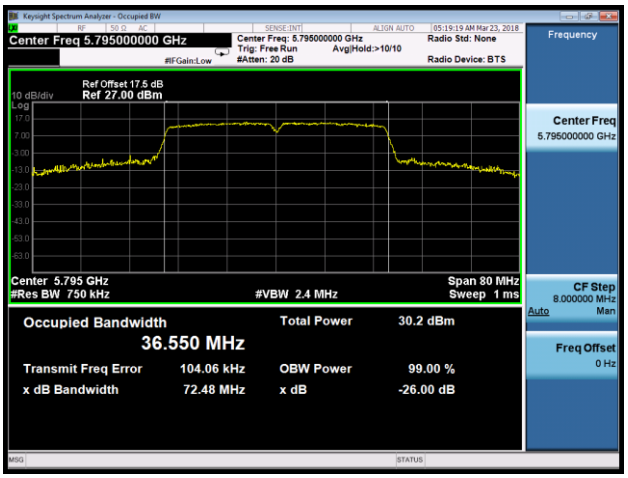
Channel 134 (5670MHz)	Channel 142 (5710MHz)
	
Channel 151 (5755MHz)	**Channel 159 (5795MHz)**
	

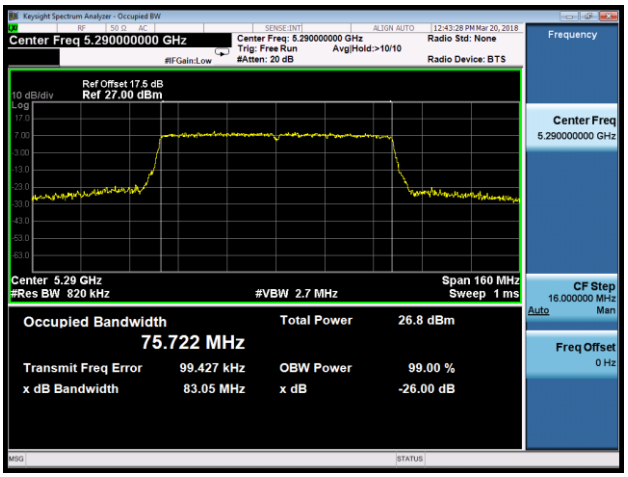
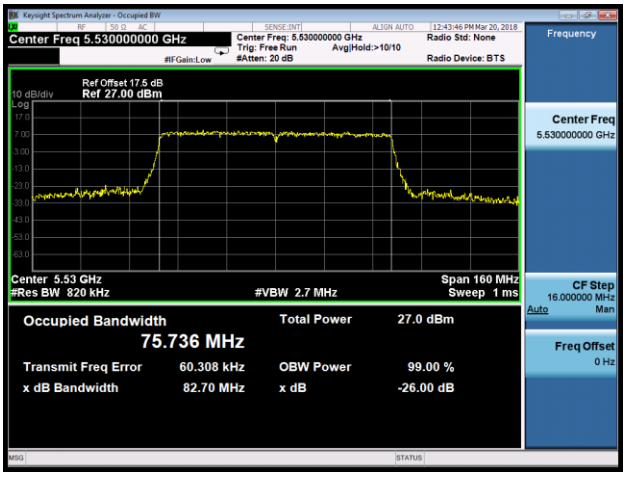
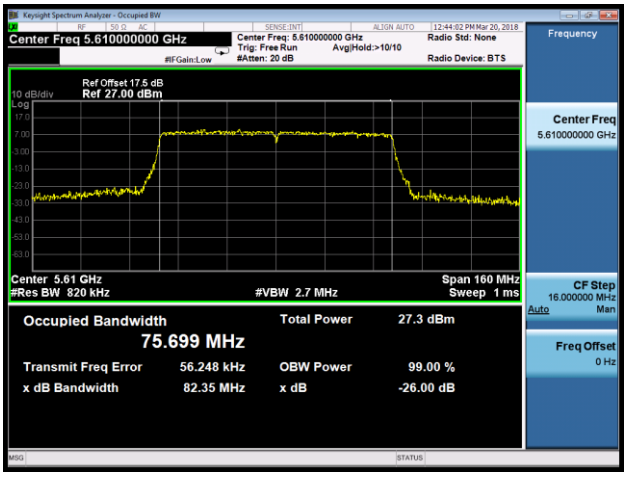
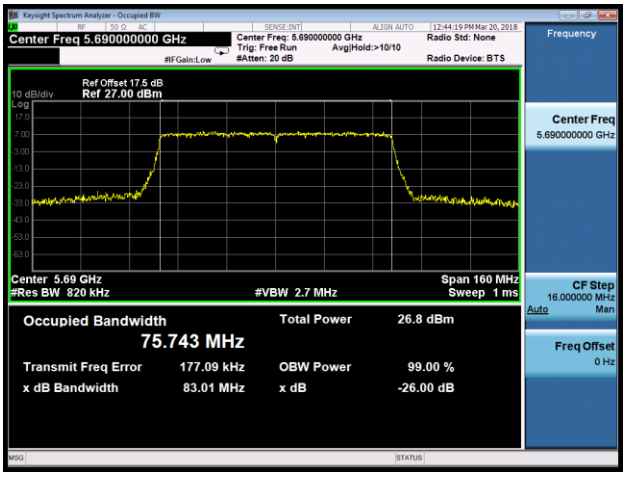
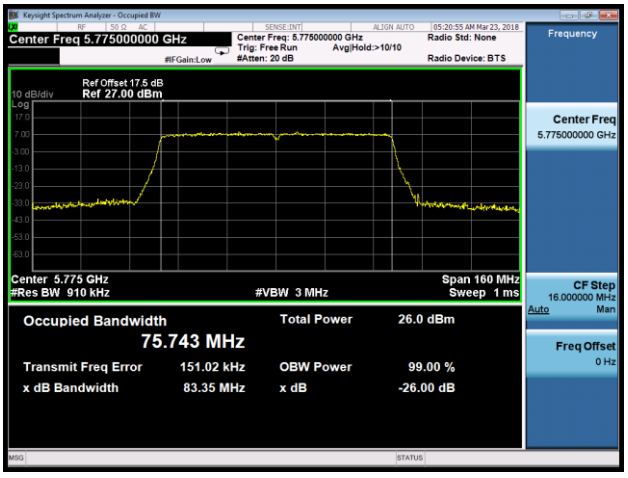
802.11ac-VHT20 26dB Bandwidth & 99% Bandwidth - Ant 1	
Channel 36 (5180MHz)	Channel 44 (5220MHz)
	
Channel 48 (5240MHz)	Channel 52 (5260MHz)
	
Channel 60 (5300MHz)	Channel 64 (5320MHz)
	

Channel 100 (5500MHz)	Channel 120 (5600MHz)
	
Channel 140 (5700MHz)	**Channel 144 (5720MHz)**
	
Channel 149 (5745MHz)	**Channel 157 (5785MHz)**
	

Channel 165 (5825MHz)	
	

802.11ac-VHT40 26dB Bandwidth & 99% Bandwidth - Ant 1	
Channel 38 (5190MHz)	Channel 46 (5230MHz)
	
Channel 54 (5270MHz)	Channel 62 (5310MHz)
	
Channel 102 (5510MHz)	Channel 118 (5590MHz)
	

Channel 134 (5670MHz)	Channel 142 (5710MHz)
	
Channel 151 (5755MHz)	**Channel 159 (5795MHz)**
	

802.11ac-VHT80 26dB Bandwidth & 99% Bandwidth - Ant 1	
Channel 42 (5210MHz)	Channel 58 (5290MHz)
	
Channel 106 (5530MHz)	Channel 122 (5610MHz)
	
Channel 138 (5690MHz)	Channel 155 (5775MHz)
	

7.3. 6dB Bandwidth Measurement

7.3.1.Test Limit

The minimum 6dBbandwidth shall be at least 500 kHz.

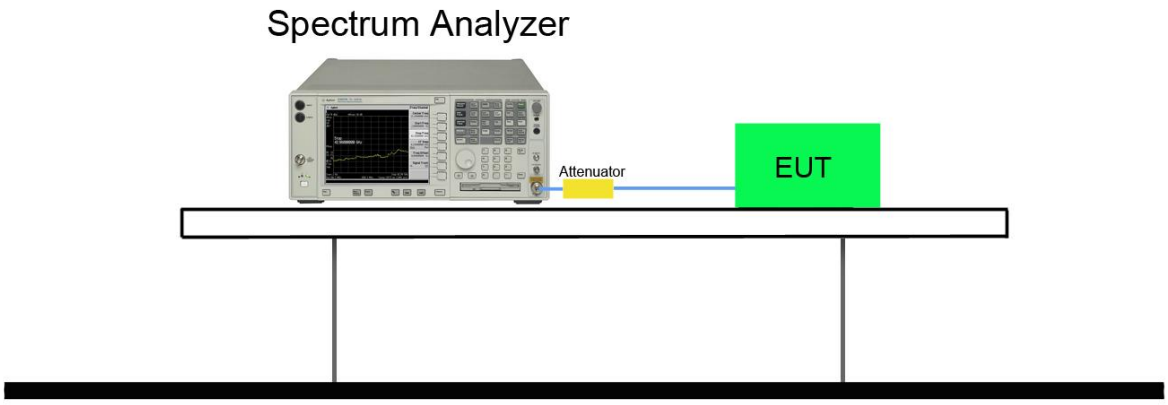
7.3.2.Test Procedure used

KDB 789033 D02v02r01 - Section C.2

7.3.3.Test Setting

1. Set center frequency to the nominal EUT channel center frequency.
2. RBW = 100 kHz.
3. VBW≧ 3 × RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Sweep = auto couple.
7. Allow the trace to stabilize.
8. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

7.3.4.Test Setup

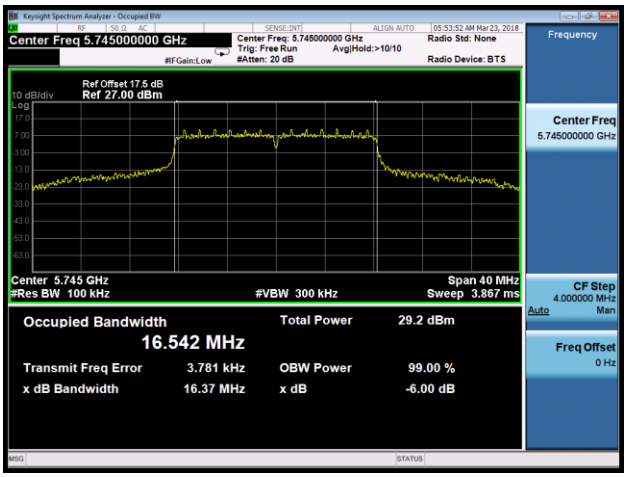
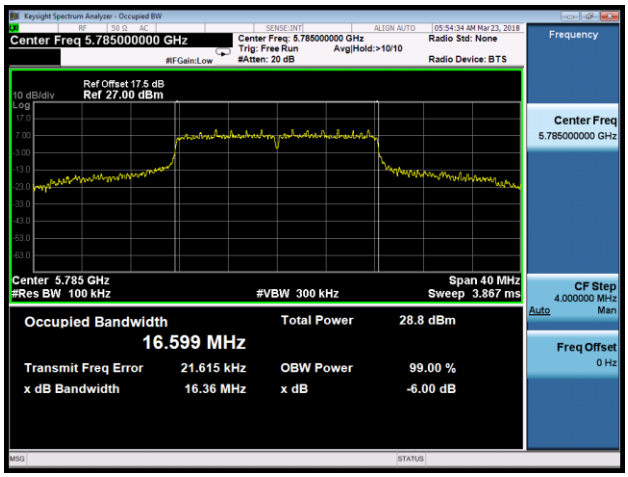
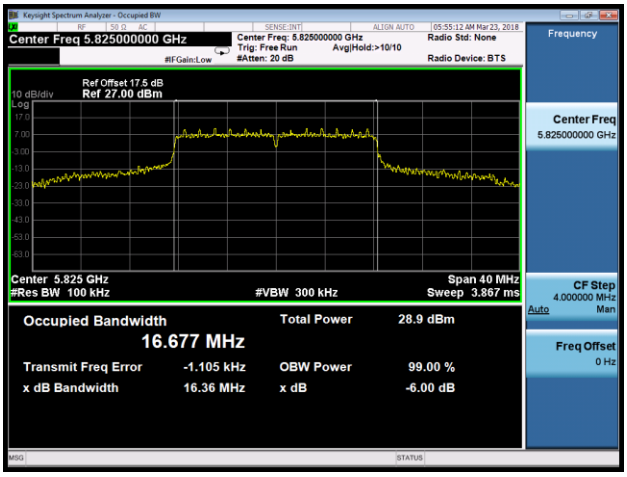


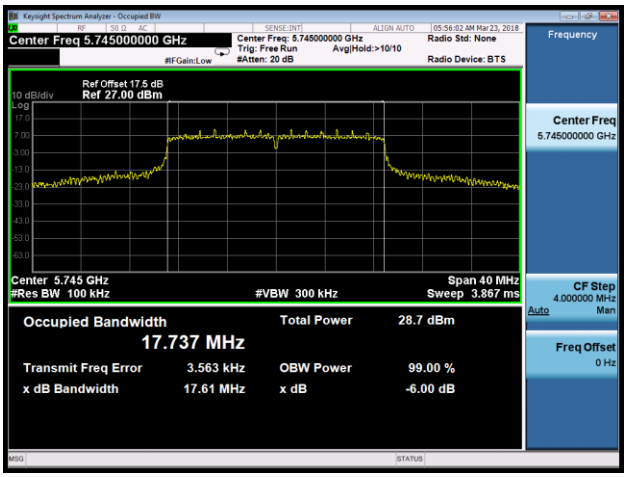
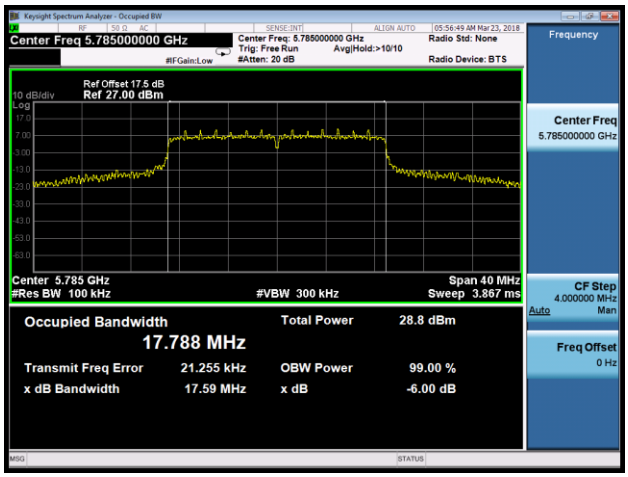
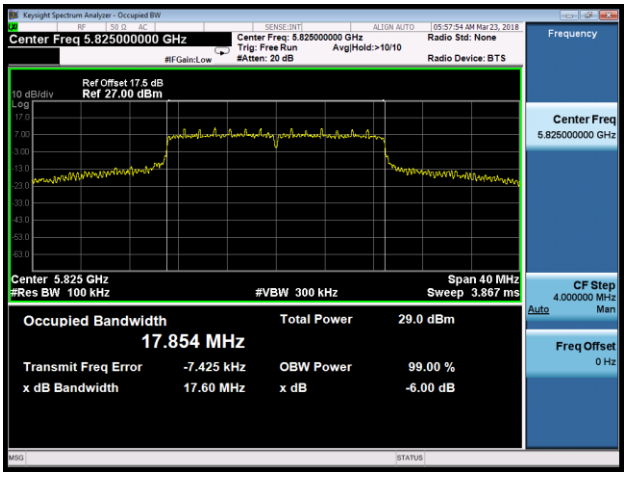
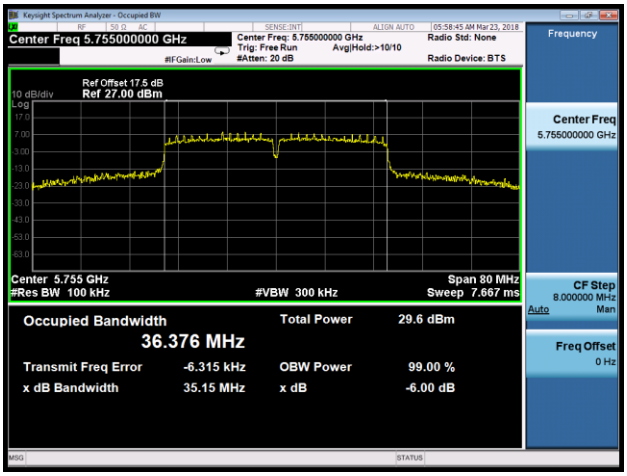
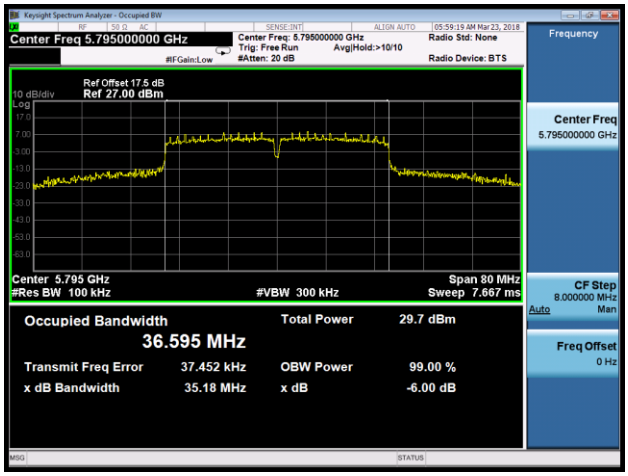
7.3.5.Test Result

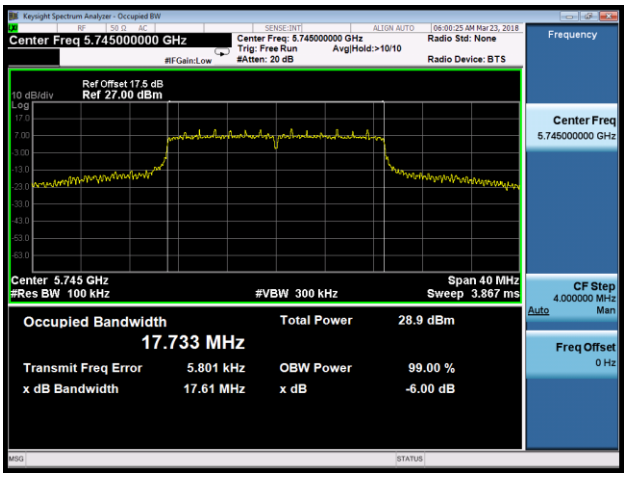
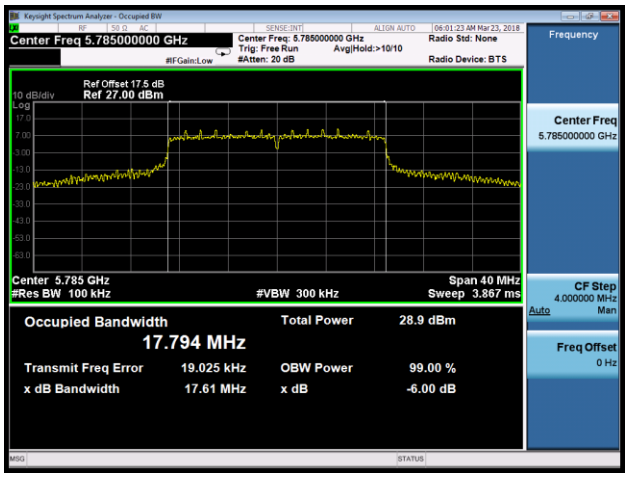
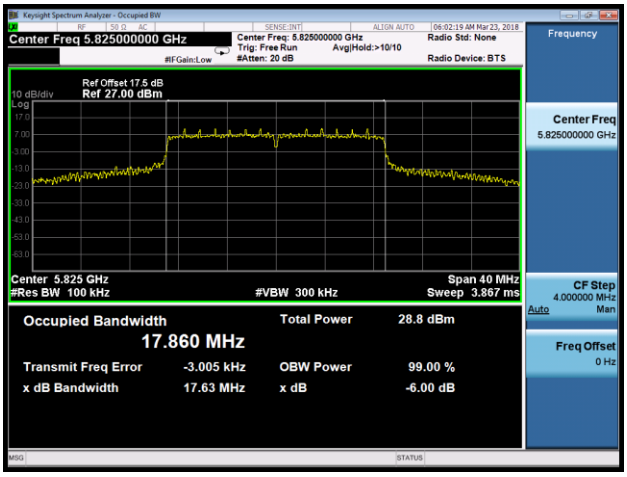
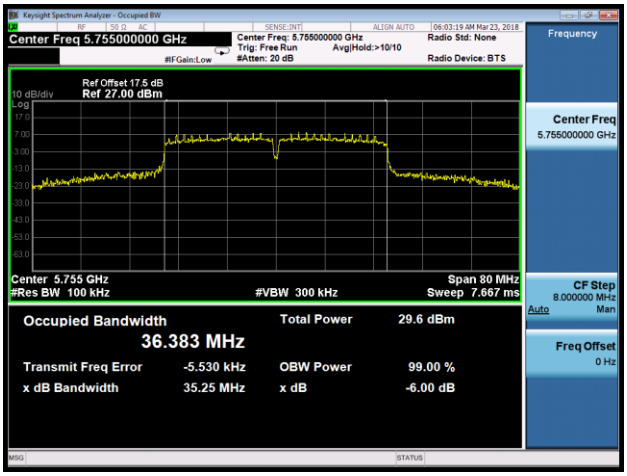
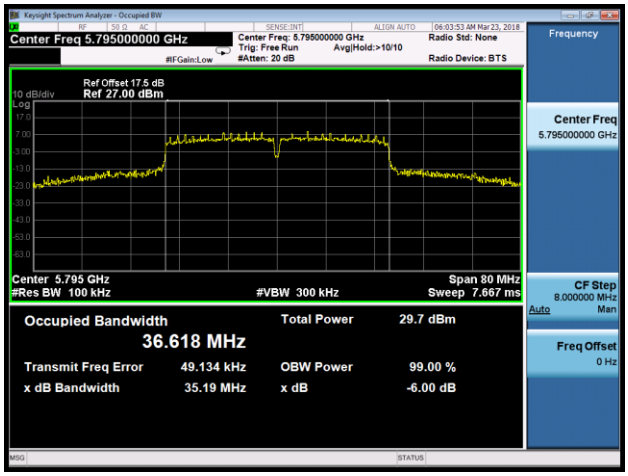
Product	AC220m Wi-Fi module OD US	Temperature	24°C
Test Engineer	Peter Xu	Relative Humidity	59%
Test Site	SR2	Test Date	2018/03/23
Antenna Type	WiFi Directional Antenna		

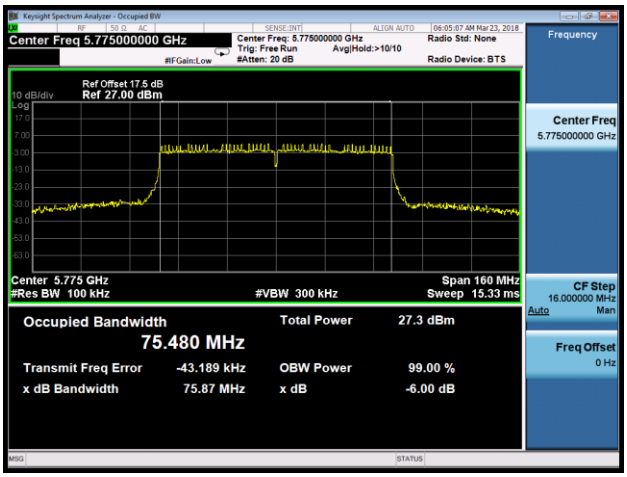
Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
Ant 0						
802.11a	6Mbps	149	5745	16.37	≥ 0.5	Pass
802.11a	6Mbps	157	5785	16.36	≥ 0.5	Pass
802.11a	6Mbps	165	5825	16.36	≥ 0.5	Pass
802.11n-HT20	MCS0	149	5745	17.61	≥ 0.5	Pass
802.11n-HT20	MCS0	157	5785	17.59	≥ 0.5	Pass
802.11n-HT20	MCS0	165	5825	17.60	≥ 0.5	Pass
802.11n-HT40	MCS0	151	5755	35.15	≥ 0.5	Pass
802.11n-HT40	MCS0	159	5795	35.18	≥ 0.5	Pass
802.11ac-VHT20	MCS0	149	5745	17.61	≥ 0.5	Pass
802.11ac-VHT20	MCS0	157	5785	17.61	≥ 0.5	Pass
802.11ac-VHT20	MCS0	165	5825	17.63	≥ 0.5	Pass
802.11ac-VHT40	MCS0	151	5755	35.25	≥ 0.5	Pass
802.11ac-VHT40	MCS0	159	5795	35.19	≥ 0.5	Pass
802.11ac-VHT80	MCS0	155	5775	75.87	≥ 0.5	Pass

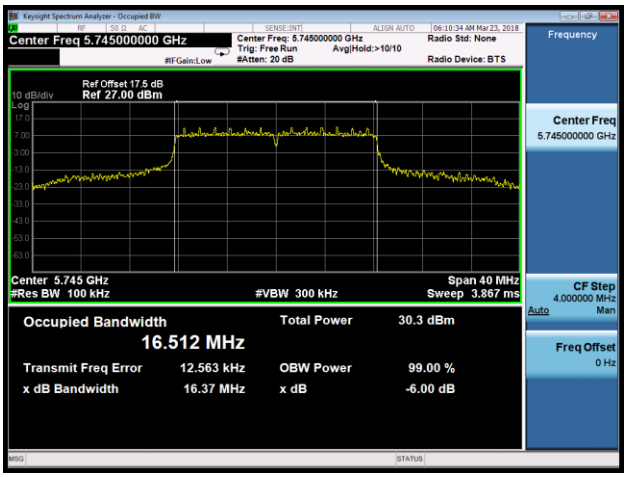
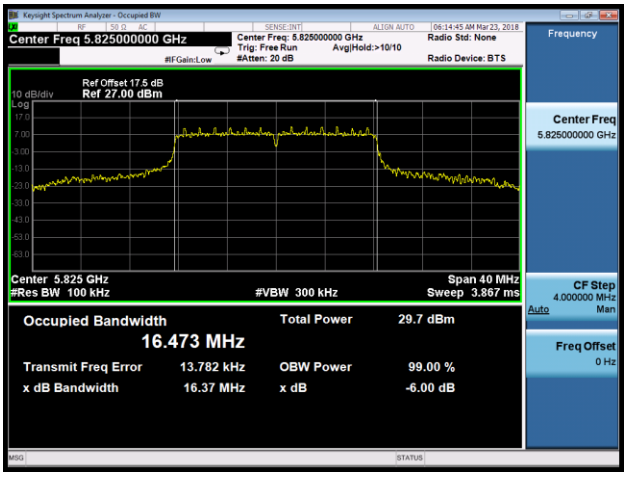
Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
Ant 1						
802.11a	6Mbps	149	5745	16.37	≥ 0.5	Pass
802.11a	6Mbps	157	5785	16.37	≥ 0.5	Pass
802.11a	6Mbps	165	5825	16.37	≥ 0.5	Pass
802.11n-HT20	MCS0	149	5745	17.63	≥ 0.5	Pass
802.11n-HT20	MCS0	157	5785	17.62	≥ 0.5	Pass
802.11n-HT20	MCS0	165	5825	17.60	≥ 0.5	Pass
802.11n-HT40	MCS0	151	5755	35.23	≥ 0.5	Pass
802.11n-HT40	MCS0	159	5795	35.24	≥ 0.5	Pass
802.11ac-VHT20	MCS0	149	5745	17.60	≥ 0.5	Pass
802.11ac-VHT20	MCS0	157	5785	17.62	≥ 0.5	Pass
802.11ac-VHT20	MCS0	165	5825	17.60	≥ 0.5	Pass
802.11ac-VHT40	MCS0	151	5755	35.36	≥ 0.5	Pass
802.11ac-VHT40	MCS0	159	5795	35.23	≥ 0.5	Pass
802.11ac-VHT80	MCS0	155	5775	76.23	≥ 0.5	Pass

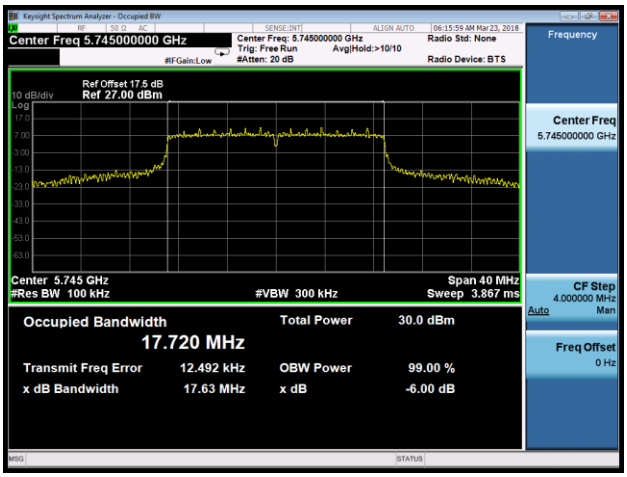
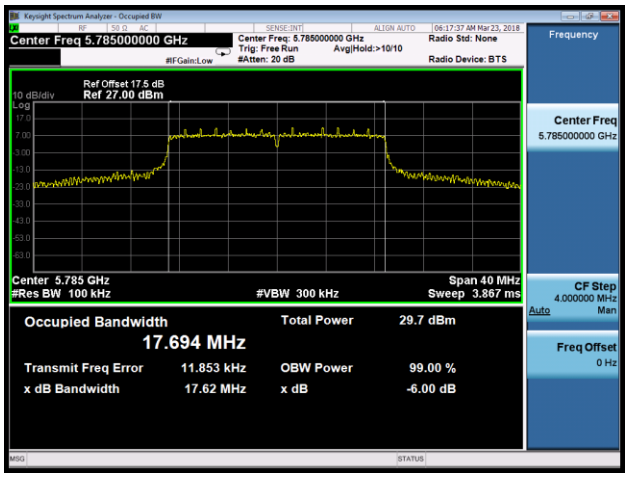
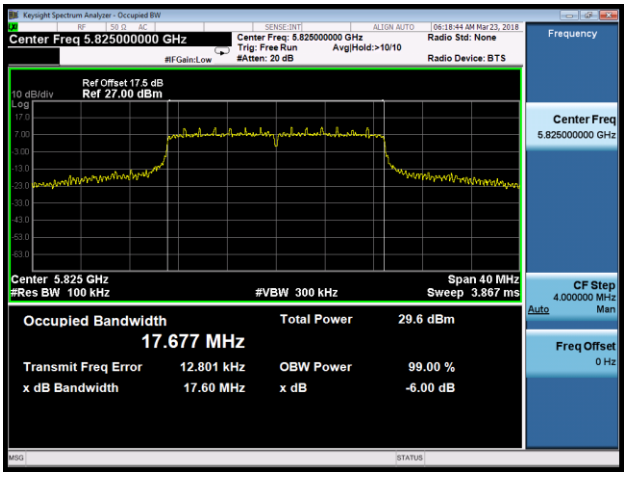
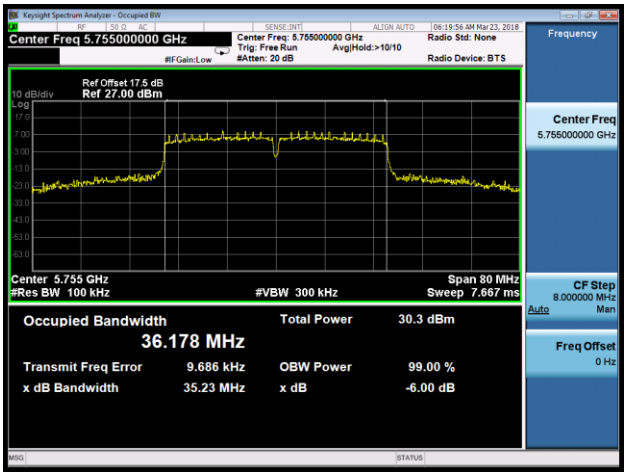
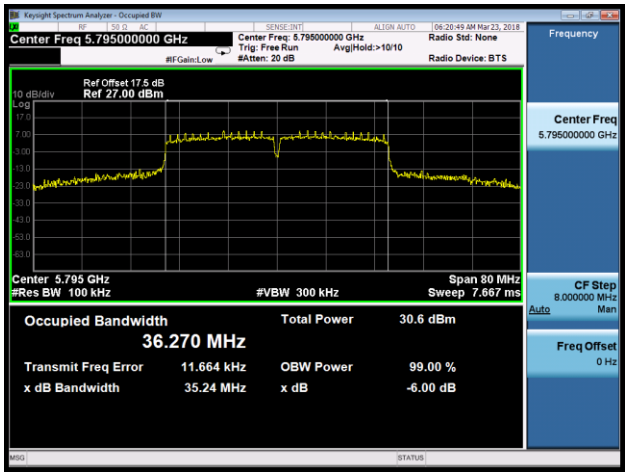
802.11a 6dB Bandwidth - Ant 0	
Channel 149 (5745MHz)	Channel 157 (5785MHz)
	
Channel 165 (5825MHz)	
	

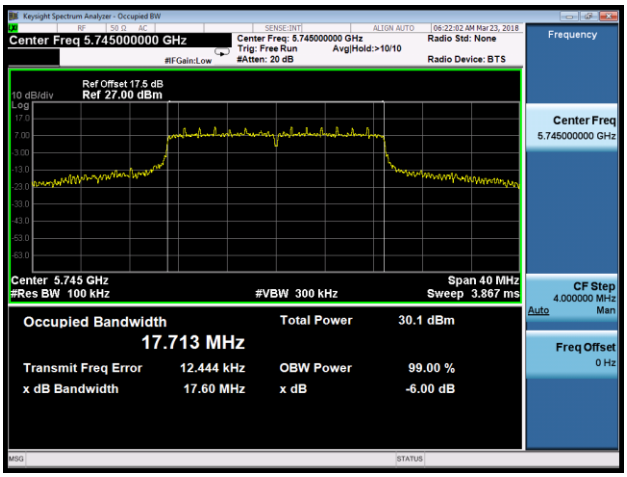
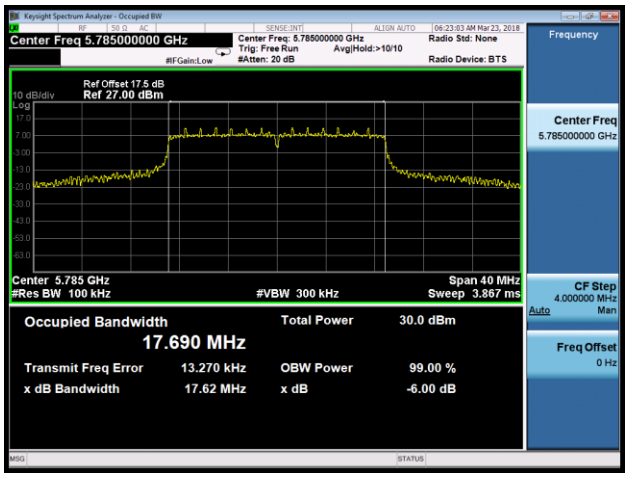
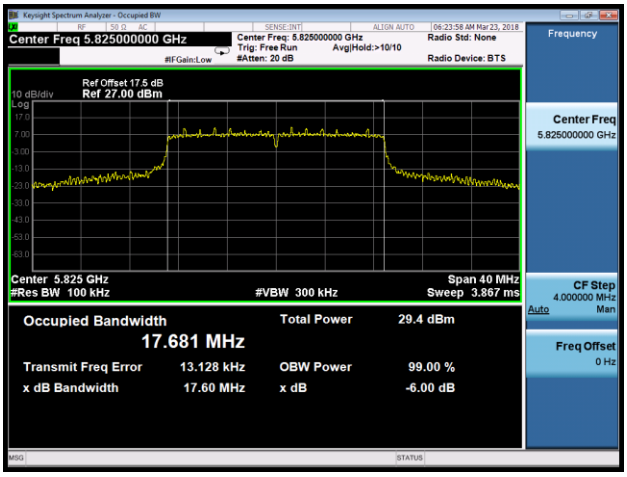
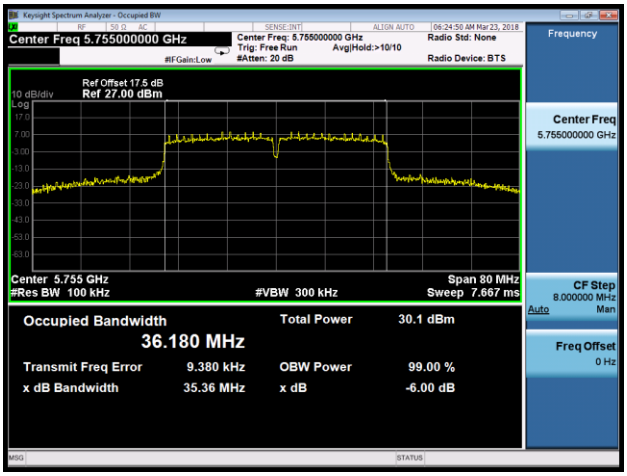
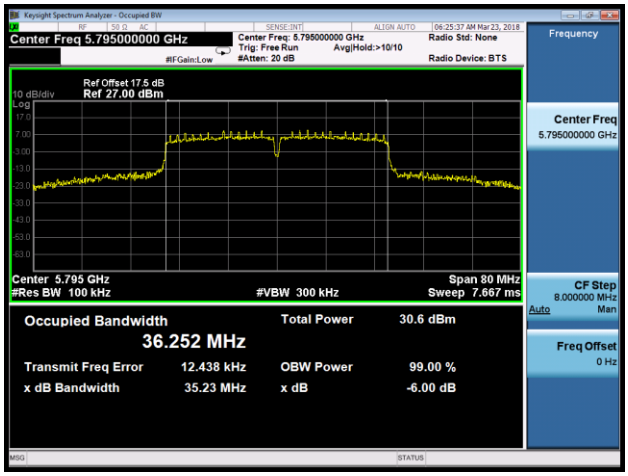
802.11n-HT20 6dB Bandwidth - Ant 0	
Channel 149 (5745MHz)	Channel 157 (5785MHz)
	
Channel 165 (5825MHz)	
	
802.11n-HT40 6dB Bandwidth - Ant 0	
Channel 151 (5755MHz)	Channel 159 (5795MHz)
	

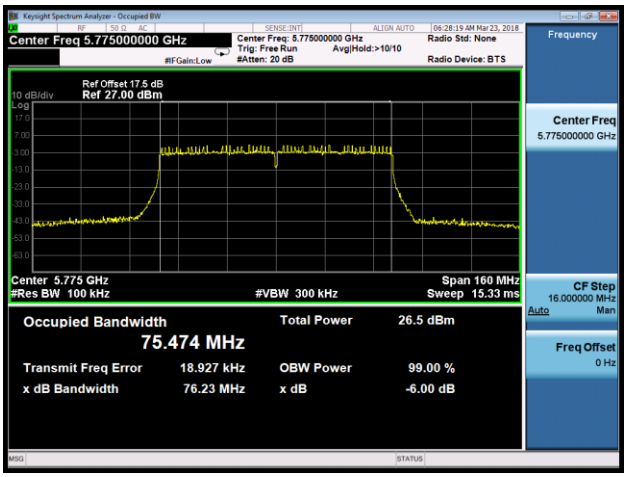
802.11ac-VHT20 6dB Bandwidth - Ant 0	
Channel 149 (5745MHz)	Channel 157 (5785MHz)
	
Channel 165 (5825MHz)	
	
802.11ac-VHT40 6dB Bandwidth - Ant 0	
Channel 151 (5755MHz)	Channel 159 (5795MHz)
	

802.11ac-VHT80 6dB Bandwidth - Ant 0	
Channel 155 (5775MHz)	
	

802.11a 6dB Bandwidth - Ant 1	
Channel 149 (5745MHz)	Channel 157 (5785MHz)
	
Channel 165 (5825MHz)	
	

802.11n-HT20 6dB Bandwidth - Ant 1	
Channel 149 (5745MHz)	Channel 157 (5785MHz)
	
Channel 165 (5825MHz)	
	
802.11n-HT40 6dB Bandwidth - Ant 1	
Channel 151 (5755MHz)	Channel 159 (5795MHz)
	

802.11ac-VHT20 6dB Bandwidth - Ant 1	
Channel 149 (5745MHz)	Channel 157 (5785MHz)
	
Channel 165 (5825MHz)	
	
802.11ac-VHT40 6dB Bandwidth - Ant 1	
Channel 151 (5755MHz)	Channel 159 (5795MHz)
	

802.11ac-VHT80 6dB Bandwidth - Ant 1	
Channel 155 (5775MHz)	
	

7.4. Output Power Measurement

7.4.1.Test Limit

For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conductedoutput power over the frequency band of operation shall not exceed 1 W provided the maximumantenna gain does not exceed 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW (23.98dBm) or 11dBm +10 log (26dB BW).

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm).

If transmitting antennas of directional gain greater than 6dBi are used, the maximumconducted output power shall be reduced by the amount in dB that the directional gain of theantenna exceeds 6dBi.

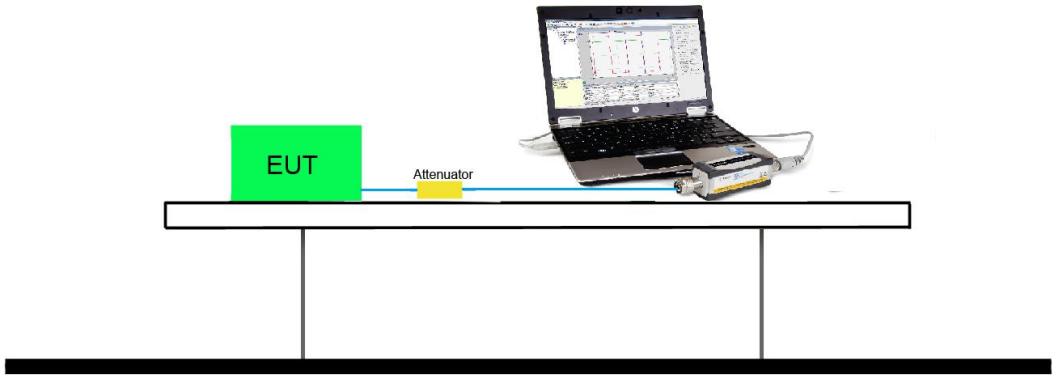
7.4.2.Test Procedure Used

KDB 789033 D02v02r01- Section E)3)b) Method PM-G

7.4.3.Test Setting

Average power measurements were perform only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor.

7.4.4.Test Setup



7.4.5.Test Result

Power output test was verified over all data rates of each mode shown as below table, and then choose the maximum power output (gray marker) for final test of each channel.

For WiFi Directional Antenna Ant 0 port:

Test Mode	Bandwidth	Channel	Frequency (MHz)	Data Rate/ MCS	Average Power (dBm)
802.11a	20	36	5180	6Mbps	19.32
				24Mbps	19.11
				54Mbps	18.82
802.11n	20	36	5180	MCS0	19.37
				MCS3	19.14
				MCS7	19.02
802.11n	40	38	5190	MCS0	17.15
				MCS3	16.89
				MCS7	16.67
802.11ac	20	36	5180	MCS0	19.35
				MCS4	19.10
				MCS8	18.87
802.11ac	40	38	5190	MCS0	18.11
				MCS4	17.93
				MCS9	17.76
802.11ac	80	42	5210	MCS0	16.75
				MCS4	16.54
				MCS9	16.23

Product Name	AC220m Wi-Fi module OD US	Temperature	24°C
Test Engineer	Kevin Ker	Relative Humidity	58%
Test Site	SR2	Test Date	2017/12/15
Antenna Type	WiFi Omni Antenna		
Test Item	Output Power (NII-band 2A & NII-band 2C)		

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)	Power Limit (dBm)	Result
Ant 0						
11a	6Mbps	52	5260	20.36	≤ 22.98	Pass
11a	6Mbps	60	5300	20.46	≤ 22.98	Pass
11a	6Mbps	64	5320	20.41	≤ 22.98	Pass
11a	6Mbps	100	5500	20.15	≤ 22.98	Pass
11a	6Mbps	120	5600	20.31	≤ 22.98	Pass
11a	6Mbps	140	5700	18.99	≤ 22.98	Pass
11a	6Mbps	144	5720	20.78	≤ 22.98	Pass
11n-HT20	MCS0	52	5260	20.82	≤ 22.98	Pass
11n-HT20	MCS0	60	5300	21.27	≤ 22.98	Pass
11n-HT20	MCS0	64	5320	20.34	≤ 22.98	Pass
11n-HT20	MCS0	100	5500	19.70	≤ 22.98	Pass
11n-HT20	MCS0	120	5600	20.28	≤ 22.98	Pass
11n-HT20	MCS0	140	5700	20.01	≤ 22.98	Pass
11n-HT20	MCS0	144	5720	20.94	≤ 22.98	Pass
11n-HT40	MCS0	54	5270	22.57	≤ 22.98	Pass
11n-HT40	MCS0	62	5310	18.74	≤ 22.98	Pass
11n-HT40	MCS0	102	5510	17.82	≤ 22.98	Pass
11n-HT40	MCS0	110	5590	22.59	≤ 22.98	Pass
11n-HT40	MCS0	134	5670	19.15	≤ 22.98	Pass
11n-HT40	MCS0	142	5710	22.53	≤ 22.98	Pass
11ac-VHT20	MCS0	52	5260	20.79	≤ 22.98	Pass
11ac-VHT20	MCS0	60	5300	20.89	≤ 22.98	Pass
11ac-VHT20	MCS0	64	5320	20.41	≤ 22.98	Pass
11ac-VHT20	MCS0	100	5500	19.74	≤ 22.98	Pass
11ac-VHT20	MCS0	120	5600	20.27	≤ 22.98	Pass
11ac-VHT20	MCS0	140	5700	18.58	≤ 22.98	Pass
11ac-VHT20	MCS0	144	5720	20.95	≤ 22.98	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)	Power Limit (dBm)	Result
Ant 0						
11ac-VHT40	MCS0	54	5270	22.45	≤ 22.98	Pass
11ac-VHT40	MCS0	62	5310	18.64	≤ 22.98	Pass
11ac-VHT40	MCS0	102	5510	17.73	≤ 22.98	Pass
11ac-VHT40	MCS0	110	5590	22.58	≤ 22.98	Pass
11ac-VHT40	MCS0	134	5670	19.12	≤ 22.98	Pass
11ac-VHT40	MCS0	142	5710	22.54	≤ 22.98	Pass
11ac-VHT80	MCS0	58	5290	17.97	≤ 22.98	Pass
11ac-VHT80	MCS0	106	5530	17.24	≤ 22.98	Pass
11ac-VHT80	MCS0	122	5610	22.49	≤ 22.98	Pass
11ac-VHT80	MCS0	138	5690	22.67	≤ 22.98	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)	Power Limit (dBm)	Result
Ant 1						
11a	6Mbps	52	5260	20.64	≤ 22.98	Pass
11a	6Mbps	60	5300	20.60	≤ 22.98	Pass
11a	6Mbps	64	5320	21.05	≤ 22.98	Pass
11a	6Mbps	100	5500	20.66	≤ 22.98	Pass
11a	6Mbps	120	5600	20.30	≤ 22.98	Pass
11a	6Mbps	140	5700	19.39	≤ 22.98	Pass
11a	6Mbps	144	5720	21.36	≤ 22.98	Pass
11n-HT20	MCS0	52	5260	21.15	≤ 22.98	Pass
11n-HT20	MCS0	60	5300	21.13	≤ 22.98	Pass
11n-HT20	MCS0	64	5320	20.61	≤ 22.98	Pass
11n-HT20	MCS0	100	5500	20.67	≤ 22.98	Pass
11n-HT20	MCS0	120	5600	20.74	≤ 22.98	Pass
11n-HT20	MCS0	140	5700	19.38	≤ 22.98	Pass
11n-HT20	MCS0	144	5720	21.35	≤ 22.98	Pass
11n-HT40	MCS0	54	5270	22.43	≤ 22.98	Pass
11n-HT40	MCS0	62	5310	18.69	≤ 22.98	Pass
11n-HT40	MCS0	102	5510	17.81	≤ 22.98	Pass
11n-HT40	MCS0	110	5590	22.54	≤ 22.98	Pass
11n-HT40	MCS0	134	5670	20.39	≤ 22.98	Pass
11n-HT40	MCS0	142	5710	22.75	≤ 22.98	Pass
11ac-VHT20	MCS0	52	5260	21.15	≤ 22.98	Pass
11ac-VHT20	MCS0	60	5300	21.12	≤ 22.98	Pass
11ac-VHT20	MCS0	64	5320	20.60	≤ 22.98	Pass
11ac-VHT20	MCS0	100	5500	20.68	≤ 22.98	Pass
11ac-VHT20	MCS0	120	5600	20.75	≤ 22.98	Pass
11ac-VHT20	MCS0	140	5700	19.38	≤ 22.98	Pass
11ac-VHT20	MCS0	144	5720	21.35	≤ 22.98	Pass
11ac-VHT40	MCS0	54	5270	22.45	≤ 22.98	Pass
11ac-VHT40	MCS0	62	5310	18.51	≤ 22.98	Pass
11ac-VHT40	MCS0	102	5510	18.21	≤ 22.98	Pass
11ac-VHT40	MCS0	110	5590	22.47	≤ 22.98	Pass
11ac-VHT40	MCS0	134	5670	20.46	≤ 22.98	Pass
11ac-VHT40	MCS0	142	5710	22.70	≤ 22.98	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)	Power Limit (dBm)	Result
Ant 1						
11ac-VHT80	MCS0	58	5290	18.43	≤ 22.98	Pass
11ac-VHT80	MCS0	106	5530	16.91	≤ 22.98	Pass
11ac-VHT80	MCS0	122	5610	22.46	≤ 22.98	Pass
11ac-VHT80	MCS0	138	5690	22.45	≤ 22.98	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Power Limit (dBm)	Result
Ant 0 + 1 (CDD Mode)								
11a	6Mbps	52	5260	14.52	14.27	17.41	≤ 22.98	Pass
11a	6Mbps	60	5300	14.67	14.54	17.62	≤ 22.98	Pass
11a	6Mbps	64	5320	14.41	14.56	17.50	≤ 22.98	Pass
11a	6Mbps	100	5500	14.21	14.02	17.13	≤ 22.98	Pass
11a	6Mbps	120	5600	13.82	14.14	16.99	≤ 22.98	Pass
11a	6Mbps	140	5700	14.41	15.13	17.80	≤ 22.98	Pass
11a	6Mbps	144	5720	14.42	15.45	17.98	≤ 22.98	Pass
11n-HT20	MCS0	52	5260	14.62	14.65	17.65	≤ 22.98	Pass
11n-HT20	MCS0	60	5300	14.75	14.61	17.69	≤ 22.98	Pass
11n-HT20	MCS0	64	5320	14.53	14.73	17.64	≤ 22.98	Pass
11n-HT20	MCS0	100	5500	14.26	14.04	17.16	≤ 22.98	Pass
11n-HT20	MCS0	120	5600	13.96	14.24	17.11	≤ 22.98	Pass
11n-HT20	MCS0	140	5700	14.52	15.31	17.94	≤ 22.98	Pass
11n-HT20	MCS0	144	5720	14.53	15.15	17.86	≤ 22.98	Pass
11n-HT40	MCS0	54	5270	17.63	17.51	20.58	≤ 22.98	Pass
11n-HT40	MCS0	62	5310	17.31	17.35	20.34	≤ 22.98	Pass
11n-HT40	MCS0	102	5510	16.89	16.71	19.81	≤ 22.98	Pass
11n-HT40	MCS0	118	5590	17.12	17.03	20.09	≤ 22.98	Pass
11n-HT40	MCS0	134	5670	17.56	17.95	20.77	≤ 22.98	Pass
11n-HT40	MCS0	142	5710	17.18	17.86	20.54	≤ 22.98	Pass
11ac-VHT20	MCS0	52	5260	14.66	14.69	17.69	≤ 22.98	Pass
11ac-VHT20	MCS0	60	5300	14.76	14.57	17.68	≤ 22.98	Pass
11ac-VHT20	MCS0	64	5320	14.56	14.77	17.68	≤ 22.98	Pass
11ac-VHT20	MCS0	100	5500	14.24	14.05	17.16	≤ 22.98	Pass
11ac-VHT20	MCS0	120	5600	13.95	14.23	17.10	≤ 22.98	Pass
11ac-VHT20	MCS0	140	5700	14.52	15.24	17.91	≤ 22.98	Pass
11ac-VHT20	MCS0	144	5720	14.56	15.42	18.02	≤ 22.98	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Power Limit (dBm)	Result
Ant 0 + 1 (CDD Mode)								
11ac-VHT40	MCS0	54	5270	17.65	17.56	20.62	≤ 22.98	Pass
11ac-VHT40	MCS0	62	5310	17.31	17.32	20.33	≤ 22.98	Pass
11ac-VHT40	MCS0	102	5510	16.91	16.54	19.74	≤ 22.98	Pass
11ac-VHT40	MCS0	118	5590	16.98	17.23	20.12	≤ 22.98	Pass
11ac-VHT40	MCS0	134	5670	17.12	17.96	20.57	≤ 22.98	Pass
11ac-VHT40	MCS0	142	5710	17.18	17.85	20.54	≤ 22.98	Pass
11ac-VHT80	MCS0	58	5290	16.98	17.10	20.05	≤ 22.98	Pass
11ac-VHT80	MCS0	106	5530	15.05	14.85	17.96	≤ 22.98	Pass
11ac-VHT80	MCS0	122	5610	19.22	19.52	22.38	≤ 22.98	Pass
11ac-VHT80	MCS0	138	5690	19.33	20.04	22.71	≤ 22.98	Pass

Note: Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 0 Average Power }/10)} + 10^{(\text{Ant 1 Average Power }/10)}\}$.

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Power Limit (dBm)	Result
Ant 0 + 1 (Beam-Forming Mode)								
11n-HT20	MCS0	52	5260	15.41	15.20	18.32	≤ 19.97	Pass
11n-HT20	MCS0	60	5300	15.11	14.54	17.84	≤ 19.97	Pass
11n-HT20	MCS0	64	5320	14.88	14.70	17.80	≤ 19.97	Pass
11n-HT20	MCS0	100	5500	15.22	14.52	17.89	≤ 19.97	Pass
11n-HT20	MCS0	120	5600	14.81	14.72	17.78	≤ 19.97	Pass
11n-HT20	MCS0	140	5700	14.94	15.42	18.20	≤ 19.97	Pass
11n-HT20	MCS0	144	5720	14.30	15.04	17.70	≤ 19.97	Pass
11n-HT40	MCS0	54	5270	16.55	16.24	19.41	≤ 19.97	Pass
11n-HT40	MCS0	62	5310	16.67	16.25	19.48	≤ 19.97	Pass
11n-HT40	MCS0	102	5510	16.77	16.20	19.50	≤ 19.97	Pass
11n-HT40	MCS0	118	5590	16.58	16.15	19.38	≤ 19.97	Pass
11n-HT40	MCS0	134	5670	16.48	17.09	19.81	≤ 19.97	Pass
11n-HT40	MCS0	142	5710	16.46	17.05	19.78	≤ 19.97	Pass
11ac-VHT20	MCS0	52	5260	15.43	15.20	18.33	≤ 19.97	Pass
11ac-VHT20	MCS0	60	5300	15.18	14.60	17.91	≤ 19.97	Pass
11ac-VHT20	MCS0	64	5320	14.91	14.74	17.84	≤ 19.97	Pass
11ac-VHT20	MCS0	100	5500	15.22	14.54	17.90	≤ 19.97	Pass
11ac-VHT20	MCS0	120	5600	14.85	14.72	17.80	≤ 19.97	Pass
11ac-VHT20	MCS0	140	5700	14.96	15.46	18.23	≤ 19.97	Pass
11ac-VHT20	MCS0	144	5720	14.84	15.58	18.24	≤ 19.97	Pass
11ac-VHT40	MCS0	54	5270	16.53	16.24	19.40	≤ 19.97	Pass
11ac-VHT40	MCS0	62	5310	16.65	16.23	19.46	≤ 19.97	Pass
11ac-VHT40	MCS0	102	5510	16.77	16.15	19.48	≤ 19.97	Pass
11ac-VHT40	MCS0	118	5590	16.57	16.18	19.39	≤ 19.97	Pass
11ac-VHT40	MCS0	134	5670	16.49	17.04	19.78	≤ 19.97	Pass
11ac-VHT40	MCS0	142	5710	16.49	17.01	19.77	≤ 19.97	Pass
11ac-VHT80	MCS0	58	5290	16.87	16.53	19.71	≤ 19.97	Pass
11ac-VHT80	MCS0	106	5530	17.04	16.39	19.74	≤ 19.97	Pass
11ac-VHT80	MCS0	122	5610	16.56	16.56	19.57	≤ 19.97	Pass
11ac-VHT80	MCS0	138	5690	16.23	16.84	19.56	≤ 19.97	Pass

Note: Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 0 Average Power }/10)} + 10^{(\text{Ant 1 Average Power }/10)}\}$.

Product	AC220m Wi-Fi module OD US	Temperature	24°C
Test Engineer	Kevin Ker	Relative Humidity	59%
Test Site	SR2	Test Date	2018/03/20
Antenna Type	WiFi Directional Antenna		
Test Item	Output Power (NII-Band 1)		

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)	Average Power Limit (dBm)	Max EIRP of 30° Elevation Angle (dBm)	EIRP Limit of 30° Elevation Angle (dBm)	Result
Ant 0								
11a	6Mbps	36	5180	13.75	≤ 27.70	11.05	≤ 21.00	Pass
11a	6Mbps	44	5220	13.58	≤ 27.70	10.88	≤ 21.00	Pass
11a	6Mbps	48	5240	13.69	≤ 27.70	10.99	≤ 21.00	Pass
11n-HT20	MCS0	36	5180	13.70	≤ 27.70	11.00	≤ 21.00	Pass
11n-HT20	MCS0	44	5220	13.46	≤ 27.70	10.76	≤ 21.00	Pass
11n-HT20	MCS0	48	5240	13.71	≤ 27.70	11.01	≤ 21.00	Pass
11n-HT40	MCS0	38	5190	13.78	≤ 27.70	11.08	≤ 21.00	Pass
11n-HT40	MCS0	46	5230	13.52	≤ 27.70	10.82	≤ 21.00	Pass
11ac-VHT20	MCS0	36	5180	13.76	≤ 27.70	11.06	≤ 21.00	Pass
11ac-VHT20	MCS0	44	5220	13.48	≤ 27.70	10.78	≤ 21.00	Pass
11ac-VHT20	MCS0	48	5240	13.48	≤ 27.70	10.78	≤ 21.00	Pass
11ac-VHT40	MCS0	38	5190	13.54	≤ 27.70	10.84	≤ 21.00	Pass
11ac-VHT40	MCS0	46	5230	13.45	≤ 27.70	10.75	≤ 21.00	Pass
11ac-VHT80	MCS0	42	5210	16.75	≤ 27.70	14.05	≤ 21.00	Pass

Note: Max EIRP of 30° Elevation Angle (dBm) = Average Power (dBm) + 30° Elevation Angle Gain (dBi).

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)	Average Power Limit (dBm)	Max EIRP of 30° Elevation Angle (dBm)	EIRP Limit of 30° Elevation Angle (dBm)	Result
Ant 1								
11a	6Mbps	36	5180	13.59	≤ 26.50	9.99	≤ 21.00	Pass
11a	6Mbps	44	5220	13.56	≤ 26.50	9.96	≤ 21.00	Pass
11a	6Mbps	48	5240	13.42	≤ 26.50	9.82	≤ 21.00	Pass
11n-HT20	MCS0	36	5180	13.53	≤ 26.50	9.93	≤ 21.00	Pass
11n-HT20	MCS0	44	5220	13.50	≤ 26.50	9.90	≤ 21.00	Pass
11n-HT20	MCS0	48	5240	13.56	≤ 26.50	9.96	≤ 21.00	Pass
11n-HT40	MCS0	38	5190	13.52	≤ 26.50	9.92	≤ 21.00	Pass
11n-HT40	MCS0	46	5230	13.55	≤ 26.50	9.95	≤ 21.00	Pass
11ac-VHT20	MCS0	36	5180	13.54	≤ 26.50	9.94	≤ 21.00	Pass
11ac-VHT20	MCS0	44	5220	13.42	≤ 26.50	9.82	≤ 21.00	Pass
11ac-VHT20	MCS0	48	5240	13.61	≤ 26.50	10.01	≤ 21.00	Pass
11ac-VHT40	MCS0	38	5190	13.57	≤ 26.50	9.97	≤ 21.00	Pass
11ac-VHT40	MCS0	46	5230	13.39	≤ 26.50	9.79	≤ 21.00	Pass
11ac-VHT80	MCS0	42	5210	13.43	≤ 26.50	9.83	≤ 21.00	Pass

Note: Max EIRP of 30° Elevation Angle (dBm) = Average Power (dBm) + 30° Elevation Angle Gain (dBi).

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP of 30° Elevation Angle (dBm)	EIRP Limit of 30° Elevation Angle (dBm)	Result
Ant 0 + 1 (CDD Mode)										
11a	6Mbps	36	5180	10.48	10.34	13.42	≤ 26.50	10.72	≤ 21.00	Pass
11a	6Mbps	44	5220	10.31	10.41	13.37	≤ 26.50	10.67	≤ 21.00	Pass
11a	6Mbps	48	5240	10.35	10.58	13.48	≤ 26.50	10.78	≤ 21.00	Pass
11n-HT20	MCS0	36	5180	10.56	10.51	13.55	≤ 26.50	10.85	≤ 21.00	Pass
11n-HT20	MCS0	44	5220	10.38	10.51	13.46	≤ 26.50	10.76	≤ 21.00	Pass
11n-HT20	MCS0	48	5240	10.36	10.76	13.57	≤ 26.50	10.87	≤ 21.00	Pass
11n-HT40	MCS0	38	5190	10.55	10.58	13.58	≤ 26.50	10.88	≤ 21.00	Pass
11n-HT40	MCS0	46	5230	10.43	10.46	13.46	≤ 26.50	10.76	≤ 21.00	Pass
11ac-VHT20	MCS0	36	5180	10.54	10.71	13.64	≤ 26.50	10.94	≤ 21.00	Pass
11ac-VHT20	MCS0	44	5220	10.39	10.53	13.47	≤ 26.50	10.77	≤ 21.00	Pass
11ac-VHT20	MCS0	48	5240	10.42	10.52	13.48	≤ 26.50	10.78	≤ 21.00	Pass
11ac-VHT40	MCS0	38	5190	10.57	10.55	13.57	≤ 26.50	10.87	≤ 21.00	Pass
11ac-VHT40	MCS0	46	5230	10.45	10.47	13.47	≤ 26.50	10.77	≤ 21.00	Pass
11ac-VHT80	MCS0	42	5210	10.22	10.48	13.36	≤ 26.50	10.66	≤ 21.00	Pass
Ant 0 + 1 (Beam-Forming Mode)										
11n-HT20	MCS0	36	5180	7.48	7.27	10.39	≤ 24.07	10.26	≤ 21.00	Pass
11n-HT20	MCS0	44	5220	7.43	7.09	10.27	≤ 24.07	10.14	≤ 21.00	Pass
11n-HT20	MCS0	48	5240	7.32	7.34	10.34	≤ 24.07	10.21	≤ 21.00	Pass
11n-HT40	MCS0	38	5190	7.31	7.02	10.18	≤ 24.07	10.05	≤ 21.00	Pass
11n-HT40	MCS0	46	5230	7.36	6.97	10.18	≤ 24.07	10.05	≤ 21.00	Pass
11ac-VHT20	MCS0	36	5180	7.45	7.30	10.39	≤ 24.07	10.26	≤ 21.00	Pass
11ac-VHT20	MCS0	44	5220	7.43	7.08	10.27	≤ 24.07	10.14	≤ 21.00	Pass
11ac-VHT20	MCS0	48	5240	7.22	7.20	10.22	≤ 24.07	10.09	≤ 21.00	Pass
11ac-VHT40	MCS0	38	5190	7.32	7.07	10.21	≤ 24.07	10.08	≤ 21.00	Pass
11ac-VHT40	MCS0	46	5230	7.34	7.01	10.19	≤ 24.07	10.06	≤ 21.00	Pass
11ac-VHT80	MCS0	42	5210	7.14	6.81	9.99	≤ 24.07	9.86	≤ 21.00	Pass

Note 1: Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 0 Average Power }/10)} + 10^{(\text{Ant 1 Average Power }/10)}\}$.

Note 2: For CDD Mode: Max EIRP of 30° Elevation Angle (dBm) = $10*\log\{10^{[(\text{Ant 0 Average Power + Ant 0 Gain of 30° Elevation Angle})/10]} + 10^{[(\text{Ant 1 Average Power + Ant 1 Gain of 30° Elevation Angle})]/10}\}$ (dBm).

For Beam-Forming Mode: Max EIRP of 30° Elevation Angle (dBm) = $10*\log\{10^{(\text{Ant 0 Average Power})/10]} + 10^{(\text{Ant 1 Average Power})/10}\}$ + BF Directional Gain of 30° Elevation Angle (dBi).

Product Name	AC220m Wi-Fi module OD US	Temperature	24°C
Test Engineer	Kevin Ker	Relative Humidity	58%
Test Site	SR2	Test Date	2018/03/20
Test Item	Output Power (NII-2A & NII-2C & NII-3)		

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)	Power Limit (dBm)	Result
Ant 0						
11a	6Mbps	52	5260	20.17	≤ 21.88	Pass
11a	6Mbps	60	5300	20.66	≤ 21.88	Pass
11a	6Mbps	64	5320	18.86	≤ 21.88	Pass
11a	6Mbps	100	5500	17.94	≤ 20.08	Pass
11a	6Mbps	120	5600	17.41	≤ 20.08	Pass
11a	6Mbps	140	5700	17.57	≤ 20.08	Pass
11a	6Mbps	144	5720	17.19	≤ 20.08	Pass
11a	6Mbps	149	5745	21.67	≤ 27.00	Pass
11a	6Mbps	157	5785	21.61	≤ 27.00	Pass
11a	6Mbps	165	5825	21.64	≤ 27.00	Pass
11n-HT20	MCS0	52	5260	20.59	≤ 21.88	Pass
11n-HT20	MCS0	60	5300	20.62	≤ 21.88	Pass
11n-HT20	MCS0	64	5320	19.37	≤ 21.88	Pass
11n-HT20	MCS0	100	5500	18.07	≤ 20.08	Pass
11n-HT20	MCS0	120	5600	17.99	≤ 20.08	Pass
11n-HT20	MCS0	140	5700	17.60	≤ 20.08	Pass
11n-HT20	MCS0	144	5720	17.64	≤ 20.08	Pass
11n-HT20	MCS0	149	5745	21.69	≤ 27.00	Pass
11n-HT20	MCS0	157	5785	21.66	≤ 27.00	Pass
11n-HT20	MCS0	165	5825	21.71	≤ 27.00	Pass
11n-HT40	MCS0	54	5270	21.34	≤ 21.88	Pass
11n-HT40	MCS0	62	5310	16.17	≤ 21.88	Pass
11n-HT40	MCS0	102	5510	17.28	≤ 20.08	Pass
11n-HT40	MCS0	110	5590	19.58	≤ 20.08	Pass
11n-HT40	MCS0	134	5670	17.94	≤ 20.08	Pass
11n-HT40	MCS0	142	5710	19.84	≤ 20.08	Pass
11n-HT40	MCS0	151	5755	22.11	≤ 27.00	Pass
11n-HT40	MCS0	159	5795	22.21	≤ 27.00	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)	Power Limit (dBm)	Result
Ant 0						
11ac-VHT20	MCS0	52	5260	20.53	≤ 21.88	Pass
11ac-VHT20	MCS0	60	5300	20.72	≤ 21.88	Pass
11ac-VHT20	MCS0	64	5320	19.39	≤ 21.88	Pass
11ac-VHT20	MCS0	100	5500	17.96	≤ 20.08	Pass
11ac-VHT20	MCS0	120	5600	17.96	≤ 20.08	Pass
11ac-VHT20	MCS0	140	5700	17.58	≤ 20.08	Pass
11ac-VHT20	MCS0	144	5720	17.60	≤ 20.08	Pass
11ac-VHT20	MCS0	149	5745	21.68	≤ 27.00	Pass
11ac-VHT20	MCS0	157	5785	21.64	≤ 27.00	Pass
11ac-VHT20	MCS0	165	5825	21.69	≤ 27.00	Pass
11ac-VHT40	MCS0	54	5270	21.32	≤ 21.88	Pass
11ac-VHT40	MCS0	62	5310	18.21	≤ 21.88	Pass
11ac-VHT40	MCS0	102	5510	17.21	≤ 20.08	Pass
11ac-VHT40	MCS0	110	5590	19.61	≤ 20.08	Pass
11ac-VHT40	MCS0	134	5670	17.97	≤ 20.08	Pass
11ac-VHT40	MCS0	142	5710	19.83	≤ 20.08	Pass
11ac-VHT40	MCS0	151	5755	22.13	≤ 27.00	Pass
11ac-VHT40	MCS0	159	5795	22.27	≤ 27.00	Pass
11ac-VHT80	MCS0	58	5290	15.83	≤ 21.88	Pass
11ac-VHT80	MCS0	106	5530	16.45	≤ 20.08	Pass
11ac-VHT80	MCS0	122	5610	19.04	≤ 20.08	Pass
11ac-VHT80	MCS0	138	5690	19.79	≤ 20.08	Pass
11ac-VHT80	MCS0	155	5775	19.08	≤ 27.00	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)	Power Limit (dBm)	Result
Ant 1						
11a	6Mbps	52	5260	18.45	≤ 20.48	Pass
11a	6Mbps	60	5300	18.72	≤ 20.48	Pass
11a	6Mbps	64	5320	17.82	≤ 20.48	Pass
11a	6Mbps	100	5500	17.86	≤ 20.38	Pass
11a	6Mbps	120	5600	17.89	≤ 20.38	Pass
11a	6Mbps	140	5700	17.95	≤ 20.38	Pass
11a	6Mbps	144	5720	18.18	≤ 20.38	Pass
11a	6Mbps	149	5745	22.81	≤ 27.20	Pass
11a	6Mbps	157	5785	22.56	≤ 27.20	Pass
11a	6Mbps	165	5825	22.32	≤ 27.20	Pass
11n-HT20	MCS0	52	5260	18.87	≤ 20.48	Pass
11n-HT20	MCS0	60	5300	18.73	≤ 20.48	Pass
11n-HT20	MCS0	64	5320	18.36	≤ 20.48	Pass
11n-HT20	MCS0	100	5500	17.85	≤ 20.38	Pass
11n-HT20	MCS0	120	5600	17.89	≤ 20.38	Pass
11n-HT20	MCS0	140	5700	17.00	≤ 20.38	Pass
11n-HT20	MCS0	144	5720	18.19	≤ 20.38	Pass
11n-HT20	MCS0	149	5745	22.81	≤ 27.20	Pass
11n-HT20	MCS0	157	5785	22.57	≤ 27.20	Pass
11n-HT20	MCS0	165	5825	22.30	≤ 27.20	Pass
11n-HT40	MCS0	54	5270	20.02	≤ 20.48	Pass
11n-HT40	MCS0	62	5310	15.94	≤ 20.48	Pass
11n-HT40	MCS0	102	5510	15.30	≤ 20.38	Pass
11n-HT40	MCS0	110	5590	20.04	≤ 20.38	Pass
11n-HT40	MCS0	134	5670	18.73	≤ 20.38	Pass
11n-HT40	MCS0	142	5710	20.11	≤ 20.38	Pass
11n-HT40	MCS0	151	5755	22.64	≤ 27.20	Pass
11n-HT40	MCS0	159	5795	22.96	≤ 27.20	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Average Power (dBm)	Power Limit (dBm)	Result
Ant 1						
11ac-VHT20	MCS0	52	5260	18.46	≤ 20.48	Pass
11ac-VHT20	MCS0	60	5300	18.70	≤ 20.48	Pass
11ac-VHT20	MCS0	64	5320	18.39	≤ 20.48	Pass
11ac-VHT20	MCS0	100	5500	16.82	≤ 20.38	Pass
11ac-VHT20	MCS0	120	5600	17.97	≤ 20.38	Pass
11ac-VHT20	MCS0	140	5700	16.51	≤ 20.38	Pass
11ac-VHT20	MCS0	144	5720	18.20	≤ 20.38	Pass
11ac-VHT20	MCS0	149	5745	22.84	≤ 27.20	Pass
11ac-VHT20	MCS0	157	5785	22.62	≤ 27.20	Pass
11ac-VHT20	MCS0	165	5825	22.31	≤ 27.20	Pass
11ac-VHT40	MCS0	54	5270	20.02	≤ 20.48	Pass
11ac-VHT40	MCS0	62	5310	15.92	≤ 20.48	Pass
11ac-VHT40	MCS0	102	5510	14.95	≤ 20.38	Pass
11ac-VHT40	MCS0	110	5590	20.03	≤ 20.38	Pass
11ac-VHT40	MCS0	134	5670	18.75	≤ 20.38	Pass
11ac-VHT40	MCS0	142	5710	20.06	≤ 20.38	Pass
11ac-VHT40	MCS0	151	5755	22.69	≤ 27.20	Pass
11ac-VHT40	MCS0	159	5795	22.96	≤ 27.20	Pass
11ac-VHT80	MCS0	58	5290	14.61	≤ 20.48	Pass
11ac-VHT80	MCS0	106	5530	13.37	≤ 20.38	Pass
11ac-VHT80	MCS0	122	5610	20.20	≤ 20.38	Pass
11ac-VHT80	MCS0	138	5690	19.85	≤ 20.38	Pass
11ac-VHT80	MCS0	155	5775	18.32	≤ 27.20	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Power Limit (dBm)	Result
Ant 0 + 1 (CDD Mode)								
11a	6Mbps	52	5260	12.85	12.88	15.88	≤ 20.48	Pass
11a	6Mbps	60	5300	12.96	12.73	15.86	≤ 20.48	Pass
11a	6Mbps	64	5320	12.82	12.93	15.89	≤ 20.48	Pass
11a	6Mbps	100	5500	12.12	11.83	14.99	≤ 20.08	Pass
11a	6Mbps	120	5600	11.24	11.63	14.45	≤ 20.08	Pass
11a	6Mbps	140	5700	11.19	12.06	14.66	≤ 20.08	Pass
11a	6Mbps	144	5720	11.28	12.24	14.80	≤ 20.08	Pass
11a	6Mbps	149	5745	21.60	22.87	25.29	≤ 27.00	Pass
11a	6Mbps	157	5785	21.56	22.61	25.13	≤ 27.00	Pass
11a	6Mbps	165	5825	21.58	22.28	24.95	≤ 27.00	Pass
11n-HT20	MCS0	52	5260	12.86	13.00	15.94	≤ 20.48	Pass
11n-HT20	MCS0	60	5300	13.02	12.91	15.98	≤ 20.48	Pass
11n-HT20	MCS0	64	5320	12.82	13.00	15.92	≤ 20.48	Pass
11n-HT20	MCS0	100	5500	12.09	11.92	15.02	≤ 20.08	Pass
11n-HT20	MCS0	120	5600	11.57	11.92	14.76	≤ 20.08	Pass
11n-HT20	MCS0	140	5700	11.15	12.08	14.65	≤ 20.08	Pass
11n-HT20	MCS0	144	5720	11.30	12.25	14.81	≤ 20.08	Pass
11n-HT20	MCS0	149	5745	21.65	22.88	25.32	≤ 27.00	Pass
11n-HT20	MCS0	157	5785	21.61	22.68	25.19	≤ 27.00	Pass
11n-HT20	MCS0	165	5825	21.65	22.28	24.99	≤ 27.00	Pass
11n-HT40	MCS0	54	5270	15.48	15.61	18.56	≤ 20.48	Pass
11n-HT40	MCS0	62	5310	14.09	13.86	16.99	≤ 20.48	Pass
11n-HT40	MCS0	102	5510	13.09	12.87	15.99	≤ 20.08	Pass
11n-HT40	MCS0	118	5590	14.32	14.30	17.32	≤ 20.08	Pass
11n-HT40	MCS0	134	5670	14.21	14.80	17.53	≤ 20.08	Pass
11n-HT40	MCS0	142	5710	14.33	15.15	17.77	≤ 20.08	Pass
11n-HT40	MCS0	151	5755	21.16	22.11	24.67	≤ 27.00	Pass
11n-HT40	MCS0	159	5795	22.14	22.93	25.56	≤ 27.00	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Result
Ant 0 + 1 (CDD Mode)								
11ac-VHT20	MCS0	52	5260	12.36	12.51	15.45	≤ 20.48	Pass
11ac-VHT20	MCS0	60	5300	12.54	12.40	15.48	≤ 20.48	Pass
11ac-VHT20	MCS0	64	5320	12.85	13.03	15.95	≤ 20.48	Pass
11ac-VHT20	MCS0	100	5500	12.02	11.97	15.01	≤ 20.08	Pass
11ac-VHT20	MCS0	120	5600	11.59	12.05	14.84	≤ 20.08	Pass
11ac-VHT20	MCS0	140	5700	11.21	12.13	14.70	≤ 20.08	Pass
11ac-VHT20	MCS0	144	5720	11.21	12.26	14.78	≤ 20.08	Pass
11ac-VHT20	MCS0	149	5745	21.61	22.83	25.27	≤ 27.00	Pass
11ac-VHT20	MCS0	157	5785	21.63	22.64	25.17	≤ 27.00	Pass
11ac-VHT20	MCS0	165	5825	21.65	22.35	25.02	≤ 27.00	Pass
11ac-VHT40	MCS0	54	5270	15.55	15.56	18.57	≤ 20.48	Pass
11ac-VHT40	MCS0	62	5310	13.21	13.38	16.31	≤ 20.48	Pass
11ac-VHT40	MCS0	102	5510	14.10	13.79	16.96	≤ 20.08	Pass
11ac-VHT40	MCS0	118	5590	14.37	14.30	17.35	≤ 20.08	Pass
11ac-VHT40	MCS0	134	5670	14.19	15.18	17.72	≤ 20.08	Pass
11ac-VHT40	MCS0	142	5710	14.29	15.17	17.76	≤ 20.08	Pass
11ac-VHT40	MCS0	151	5755	21.13	22.17	24.69	≤ 27.00	Pass
11ac-VHT40	MCS0	159	5795	22.16	22.98	25.60	≤ 27.00	Pass
11ac-VHT80	MCS0	58	5290	11.65	11.68	14.68	≤ 20.48	Pass
11ac-VHT80	MCS0	106	5530	10.73	10.72	13.74	≤ 20.08	Pass
11ac-VHT80	MCS0	122	5610	16.35	16.71	19.54	≤ 20.08	Pass
11ac-VHT80	MCS0	138	5690	16.42	16.80	19.62	≤ 20.08	Pass
11ac-VHT80	MCS0	155	5775	16.98	17.93	20.49	≤ 27.00	Pass

Note: Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 0 Average Power }/10)} + 10^{(\text{Ant 1 Average Power }/10)}\}$.

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Power Limit (dBm)	Result
Ant 0 + 1 (Beam-Forming Mode)								
11n-HT20	MCS0	52	5260	13.49	13.52	16.52	≤ 18.14	Pass
11n-HT20	MCS0	60	5300	13.50	13.54	16.53	≤ 18.14	Pass
11n-HT20	MCS0	64	5320	12.89	13.07	15.99	≤ 18.14	Pass
11n-HT20	MCS0	100	5500	12.07	12.11	15.10	≤ 17.22	Pass
11n-HT20	MCS0	120	5600	11.70	12.05	14.89	≤ 17.22	Pass
11n-HT20	MCS0	140	5700	11.32	12.22	14.80	≤ 17.22	Pass
11n-HT20	MCS0	144	5720	11.41	12.34	14.91	≤ 17.22	Pass
11n-HT20	MCS0	149	5745	20.23	21.13	23.71	≤ 24.09	Pass
11n-HT20	MCS0	157	5785	19.98	21.16	23.62	≤ 24.09	Pass
11n-HT20	MCS0	165	5825	20.35	21.13	23.77	≤ 24.09	Pass
11n-HT40	MCS0	54	5270	14.50	14.72	17.62	≤ 18.14	Pass
11n-HT40	MCS0	62	5310	14.05	14.20	17.14	≤ 18.14	Pass
11n-HT40	MCS0	102	5510	14.13	13.92	17.04	≤ 17.22	Pass
11n-HT40	MCS0	118	5590	13.80	13.90	16.86	≤ 17.22	Pass
11n-HT40	MCS0	134	5670	13.38	14.37	16.91	≤ 17.22	Pass
11n-HT40	MCS0	142	5710	13.37	14.26	16.85	≤ 17.22	Pass
11n-HT40	MCS0	151	5755	20.33	21.33	23.87	≤ 24.09	Pass
11n-HT40	MCS0	159	5795	20.22	21.26	23.78	≤ 24.09	Pass
11ac-VHT20	MCS0	52	5260	13.26	13.54	16.41	≤ 18.14	Pass
11ac-VHT20	MCS0	60	5300	13.53	13.45	16.50	≤ 18.14	Pass
11ac-VHT20	MCS0	64	5320	12.89	13.16	16.04	≤ 18.14	Pass
11ac-VHT20	MCS0	100	5500	12.05	11.90	14.99	≤ 17.22	Pass
11ac-VHT20	MCS0	120	5600	11.69	12.06	14.89	≤ 17.22	Pass
11ac-VHT20	MCS0	140	5700	11.31	12.24	14.81	≤ 17.22	Pass
11ac-VHT20	MCS0	144	5720	11.37	12.37	14.91	≤ 17.22	Pass
11ac-VHT20	MCS0	149	5745	20.17	21.17	23.71	≤ 24.09	Pass
11ac-VHT20	MCS0	157	5785	19.99	21.15	23.62	≤ 24.09	Pass
11ac-VHT20	MCS0	165	5825	20.25	21.06	23.68	≤ 24.09	Pass

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Power Limit (dBm)	Result
Ant 0 + 1 (Beam-Forming Mode)								
11ac-VHT40	MCS0	54	5270	14.57	14.64	17.62	≤ 18.14	Pass
11ac-VHT40	MCS0	62	5310	14.10	14.04	17.08	≤ 18.14	Pass
11ac-VHT40	MCS0	102	5510	14.09	13.86	16.99	≤ 17.22	Pass
11ac-VHT40	MCS0	118	5590	13.78	13.85	16.83	≤ 17.22	Pass
11ac-VHT40	MCS0	134	5670	13.45	14.36	16.94	≤ 17.22	Pass
11ac-VHT40	MCS0	142	5710	13.30	14.26	16.82	≤ 17.22	Pass
11ac-VHT40	MCS0	151	5755	20.28	21.28	23.82	≤ 24.09	Pass
11ac-VHT40	MCS0	159	5795	20.16	21.25	23.75	≤ 24.09	Pass
11ac-VHT80	MCS0	58	5290	14.72	14.84	17.79	≤ 18.14	Pass
11ac-VHT80	MCS0	106	5530	13.87	13.46	16.68	≤ 17.22	Pass
11ac-VHT80	MCS0	122	5610	13.52	13.89	16.72	≤ 17.22	Pass
11ac-VHT80	MCS0	138	5690	13.53	14.54	17.07	≤ 17.22	Pass
11ac-VHT80	MCS0	155	5775	18.46	19.49	22.02	≤ 24.09	Pass

Note: Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 0 Average Power }/10)} + 10^{(\text{Ant 1 Average Power }/10)}\}$.

7.5. Transmit Power Control

7.5.1.Test Limit

The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm.

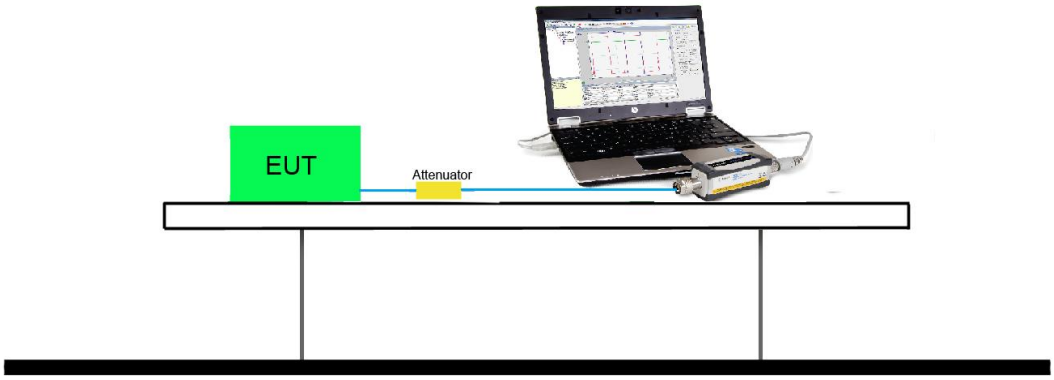
7.5.2.Test Procedure Used

KDB 789033 D02v02r01- Section E)3)b) Method PM-G

7.5.3.Test Setting

Average power measurements were perform only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.

7.5.4.Test Setup



7.5.5.Test Result

Product	AC220m Wi-Fi module OD US	Temperature	22°C
Test Engineer	Peter Xu	Relative Humidity	54%
Test Site	TR3	Test Date	2017/12/04
Antenna Type	WiFi Omni Antenna		
Test Item	Transmit Power Control		

Test Mode	Data Rate /MCS	Channel No.	Freq. (MHz)	TPC Power (dBm)		EIRP TPC Power (dBm)		Limit (dBm)	Result
				Ant 0	Ant 1	Ant 0	Ant 1		
11a	6Mbps	52	5260	16.55	16.18	23.55	23.18	≤ 24.00	Pass
11a	6Mbps	60	5300	16.67	16.24	23.67	23.24	≤ 24.00	Pass
11a	6Mbps	64	5320	15.66	15.91	22.66	22.91	≤ 24.00	Pass
11a	6Mbps	100	5500	15.11	16.01	22.11	23.01	≤ 24.00	Pass
11a	6Mbps	118	5580	15.47	15.77	22.47	22.77	≤ 24.00	Pass
11a	6Mbps	140	5700	16.48	16.22	23.48	23.22	≤ 24.00	Pass
11a	6Mbps	144	5720	16.58	16.76	23.58	23.76	≤ 24.00	Pass
11n-HT20	MCS0	52	5260	15.82	16.64	22.82	23.64	≤ 24.00	Pass
11n-HT20	MCS0	60	5300	15.17	15.90	22.17	22.90	≤ 24.00	Pass
11n-HT20	MCS0	64	5320	15.67	16.05	22.67	23.05	≤ 24.00	Pass
11n-HT20	MCS0	100	5500	15.60	15.52	22.60	22.52	≤ 24.00	Pass
11n-HT20	MCS0	118	5580	15.83	15.80	22.83	22.80	≤ 24.00	Pass
11n-HT20	MCS0	140	5700	16.03	16.22	23.03	23.22	≤ 24.00	Pass
11n-HT20	MCS0	144	5720	15.63	15.38	22.63	22.38	≤ 24.00	Pass
11n-HT40	MCS0	54	5270	15.77	15.22	22.77	22.22	≤ 24.00	Pass
11n-HT40	MCS0	62	5310	16.99	15.36	23.99	22.36	≤ 24.00	Pass
11n-HT40	MCS0	102	5510	15.57	15.90	22.57	22.90	≤ 24.00	Pass
11n-HT40	MCS0	110	5550	16.36	15.33	23.36	22.33	≤ 24.00	Pass
11n-HT40	MCS0	134	5670	16.67	16.24	23.67	23.24	≤ 24.00	Pass
11n-HT40	MCS0	142	5710	15.66	15.91	22.66	22.91	≤ 24.00	Pass
11ac-VHT20	MCS0	52	5260	16.67	16.69	23.67	23.69	≤ 24.00	Pass
11ac-VHT20	MCS0	60	5300	16.69	16.58	23.69	23.58	≤ 24.00	Pass
11ac-VHT20	MCS0	64	5320	15.32	15.07	22.32	22.07	≤ 24.00	Pass
11ac-VHT20	MCS0	100	5500	15.68	16.05	22.68	23.05	≤ 24.00	Pass
11ac-VHT20	MCS0	116	5580	15.67	15.65	22.67	22.65	≤ 24.00	Pass
11ac-VHT20	MCS0	140	5700	16.69	16.33	23.69	23.33	≤ 24.00	Pass
11ac-VHT20	MCS0	144	5720	16.28	16.37	23.28	23.37	≤ 24.00	Pass

Test Mode	Data Rate /MCS	Channel No.	Freq. (MHz)	TPC Power (dBm)		EIRP TPC Power (dBm)		Limit (dBm)	Result
				Ant 0	Ant 1	Ant 0	Ant 1		
11ac-VHT40	MCS0	54	5270	15.67	15.16	22.67	22.16	≤ 24.00	Pass
11ac-VHT40	MCS0	62	5310	15.94	15.86	22.94	22.86	≤ 24.00	Pass
11ac-VHT40	MCS0	102	5510	16.13	16.43	23.13	23.43	≤ 24.00	Pass
11ac-VHT40	MCS0	110	5550	14.15	15.90	21.15	22.90	≤ 24.00	Pass
11ac-VHT40	MCS0	134	5670	15.93	15.16	22.93	22.16	≤ 24.00	Pass
11ac-VHT40	MCS0	142	5710	15.08	15.49	22.08	22.49	≤ 24.00	Pass
11ac-VHT80	MCS0	58	5290	16.37	16.07	23.37	23.07	≤ 24.00	Pass
11ac-VHT80	MCS0	106	5530	16.67	16.69	23.67	23.69	≤ 24.00	Pass
11ac-VHT80	MCS0	138	5690	15.32	15.07	22.32	22.07	≤ 24.00	Pass

Note: EIRP TPC Power (dBm) = TPC Power (dBm) + Antenna Gain (dBi).

Test Mode	Data Rate /MCS	Channel No.	Freq. (MHz)	Ant 0 TPC Power (dBm)	Ant 1 TPC Power (dBm)	Total EIRP TPC Power (dBm)	Limit (dBm)	Result
Ant 0 + 1 (CDD Mode)								
11a	6Mbps	52	5260	13.52	13.52	23.53	≤ 24.00	Pass
11a	6Mbps	60	5300	13.58	13.45	23.53	≤ 24.00	Pass
11a	6Mbps	64	5320	13.56	13.46	23.52	≤ 24.00	Pass
11a	6Mbps	100	5500	13.69	13.51	23.61	≤ 24.00	Pass
11a	6Mbps	118	5580	13.58	13.42	23.51	≤ 24.00	Pass
11a	6Mbps	140	5700	13.06	14.07	23.60	≤ 24.00	Pass
11a	6Mbps	144	5720	13.47	13.62	23.56	≤ 24.00	Pass
11n-HT20	MCS0	52	5260	13.56	13.47	23.53	≤ 24.00	Pass
11n-HT20	MCS0	60	5300	13.51	13.55	23.54	≤ 24.00	Pass
11n-HT20	MCS0	64	5320	13.70	13.57	23.65	≤ 24.00	Pass
11n-HT20	MCS0	100	5500	13.57	13.60	23.60	≤ 24.00	Pass
11n-HT20	MCS0	118	5580	12.05	12.73	22.41	≤ 24.00	Pass
11n-HT20	MCS0	140	5700	13.59	13.54	23.58	≤ 24.00	Pass
11n-HT20	MCS0	144	5720	12.26	12.28	22.28	≤ 24.00	Pass
11n-HT40	MCS0	54	5270	12.42	12.18	22.31	≤ 24.00	Pass
11n-HT40	MCS0	62	5310	13.62	13.58	23.61	≤ 24.00	Pass
11n-HT40	MCS0	102	5510	13.32	13.38	23.36	≤ 24.00	Pass
11n-HT40	MCS0	110	5550	13.25	13.27	23.27	≤ 24.00	Pass
11n-HT40	MCS0	134	5670	13.68	13.47	23.59	≤ 24.00	Pass
11n-HT40	MCS0	142	5710	13.58	13.49	23.55	≤ 24.00	Pass
11ac-VHT20	MCS0	52	5260	13.24	13.03	23.15	≤ 24.00	Pass
11ac-VHT20	MCS0	60	5300	13.08	13.28	23.19	≤ 24.00	Pass
11ac-VHT20	MCS0	64	5320	13.13	13.70	23.43	≤ 24.00	Pass
11ac-VHT20	MCS0	100	5500	13.44	13.77	23.62	≤ 24.00	Pass
11ac-VHT20	MCS0	116	5580	13.52	13.52	23.53	≤ 24.00	Pass
11ac-VHT20	MCS0	140	5700	13.56	13.46	23.52	≤ 24.00	Pass
11ac-VHT20	MCS0	144	5720	13.69	13.51	23.61	≤ 24.00	Pass