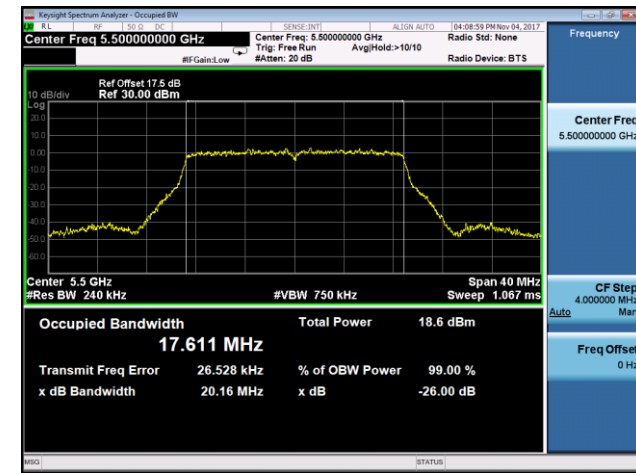


**802.11ac-VHT20 26dB Bandwidth & 99% Bandwidth - Ant 1 / Ant 0 + 1 + 2 + 3**

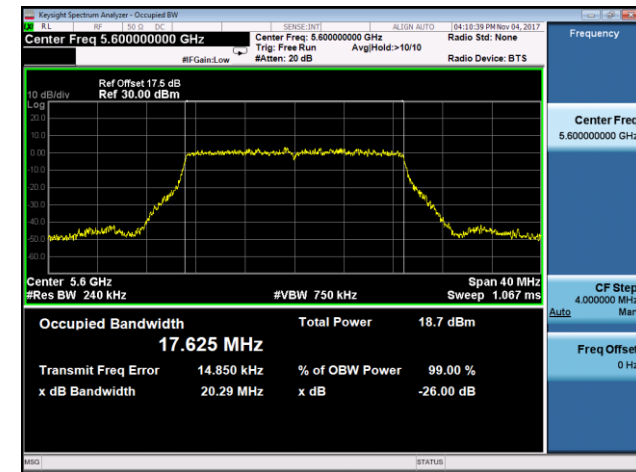
**Channel 100 (5500MHz)**



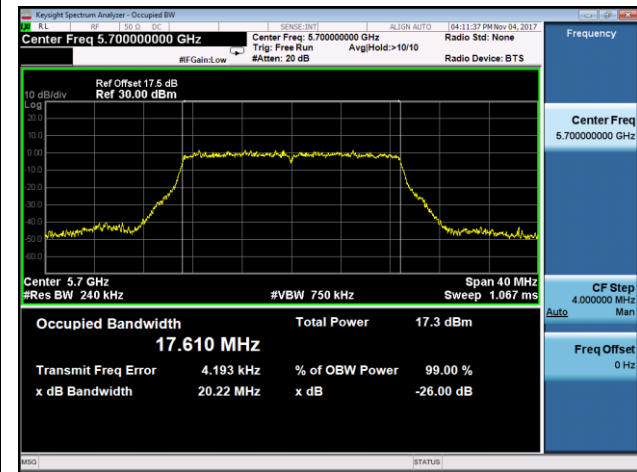
**Channel 116 (5580MHz)**



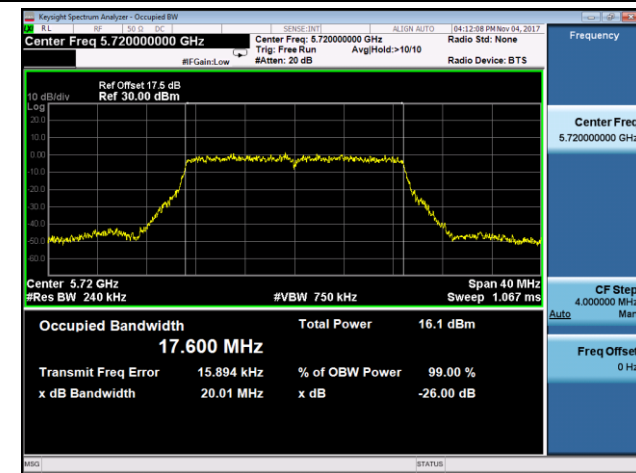
**Channel 120 (5600MHz)**



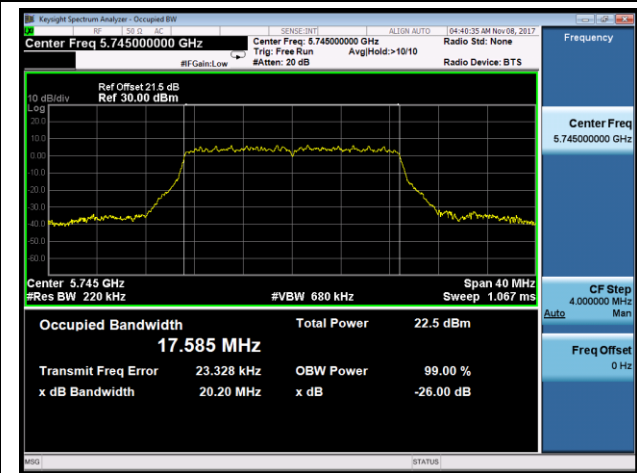
**Channel 140 (5700MHz)**



**Channel 144 (5720MHz)**



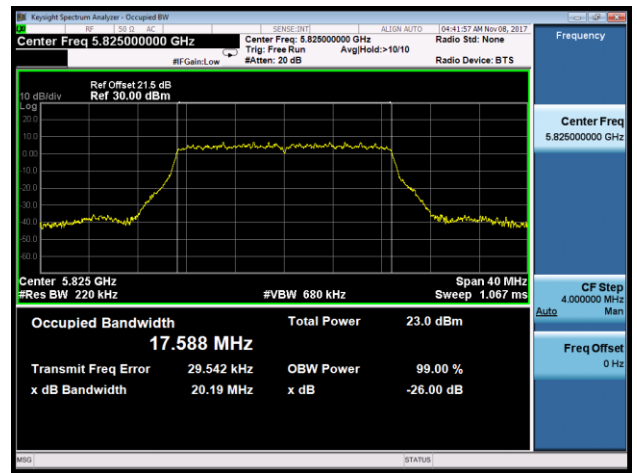
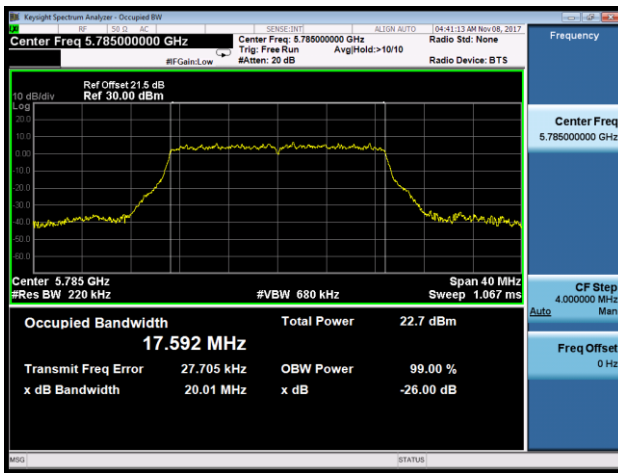
**Channel 149 (5745MHz)**

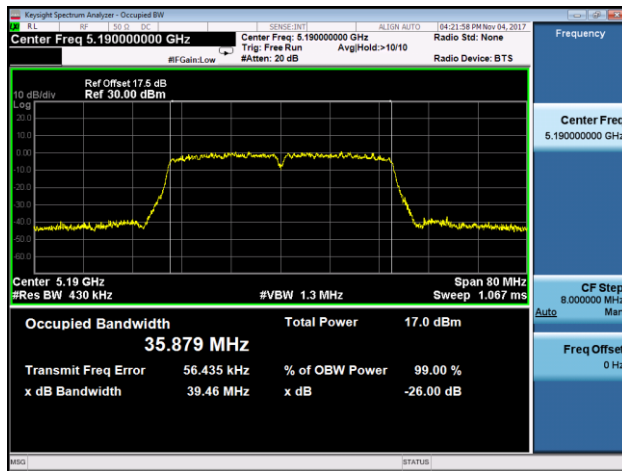
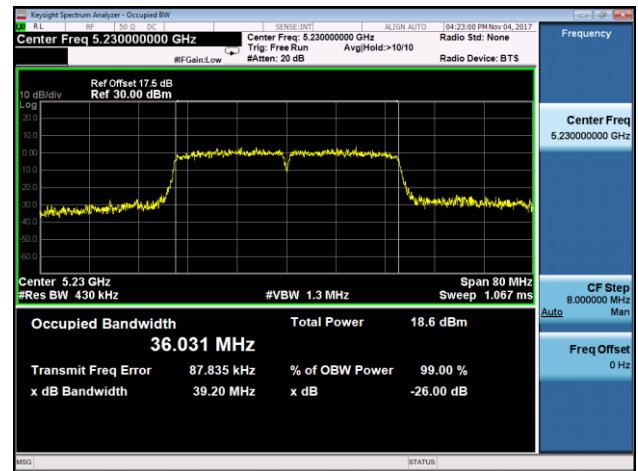
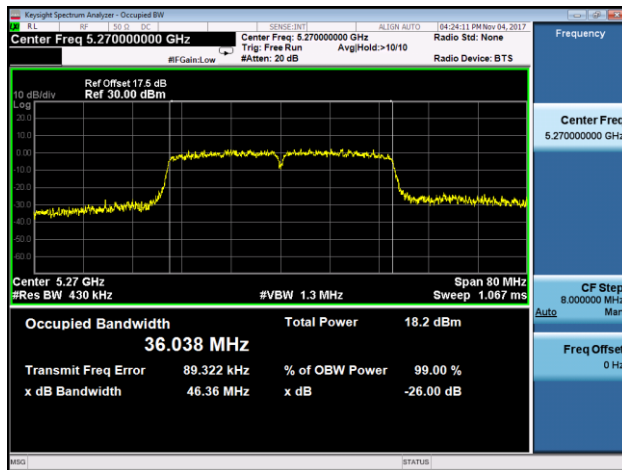
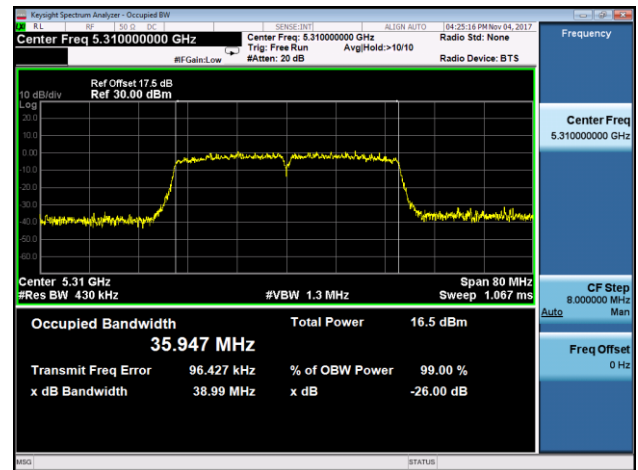
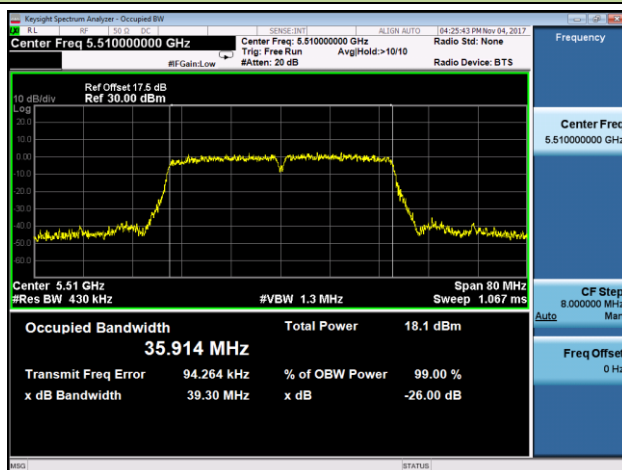
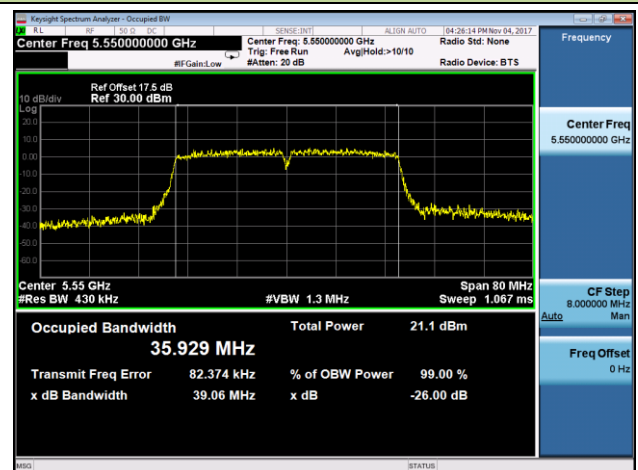


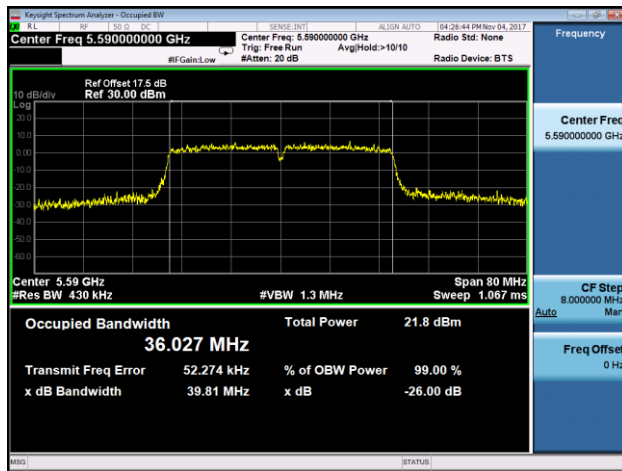
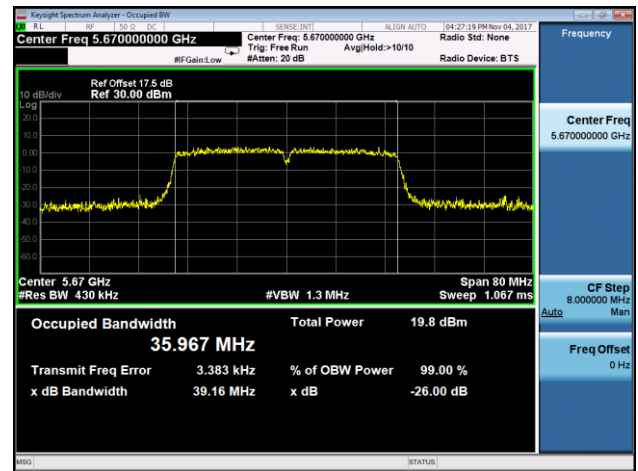
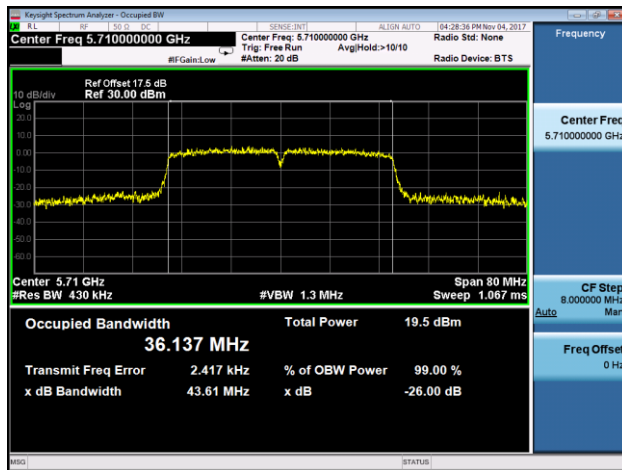
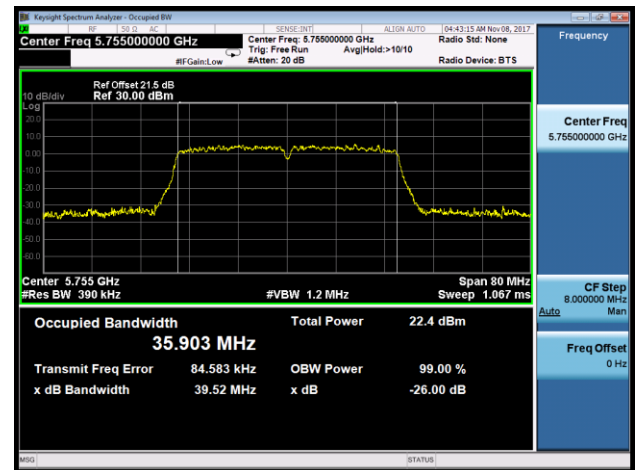
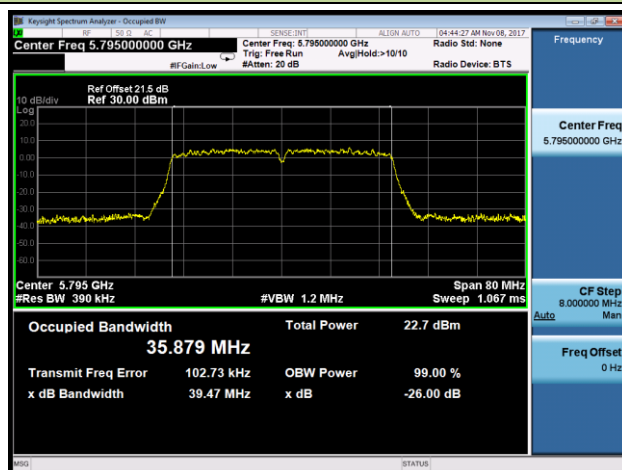
**802.11ac-VHT20 26dB Bandwidth & 99% Bandwidth - Ant 1 / Ant 0 + 1 + 2 + 3**

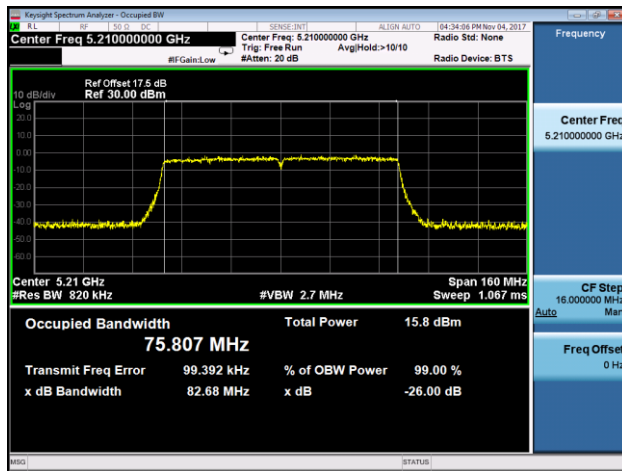
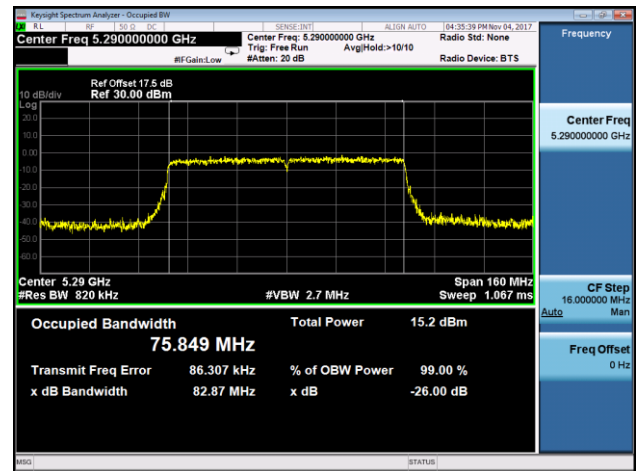
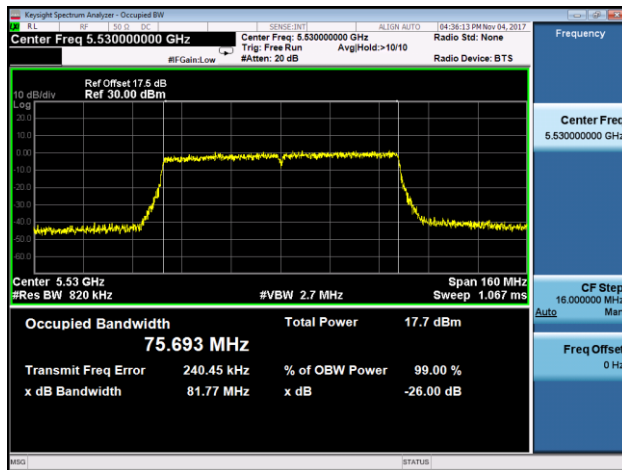
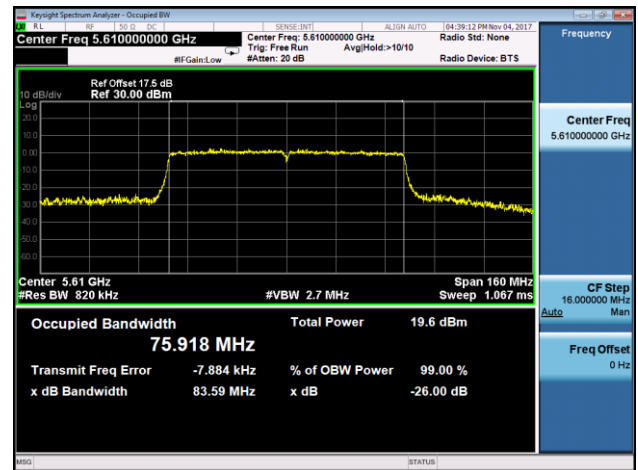
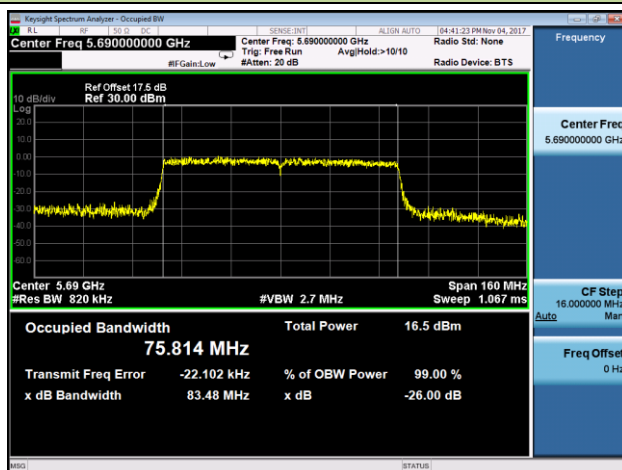
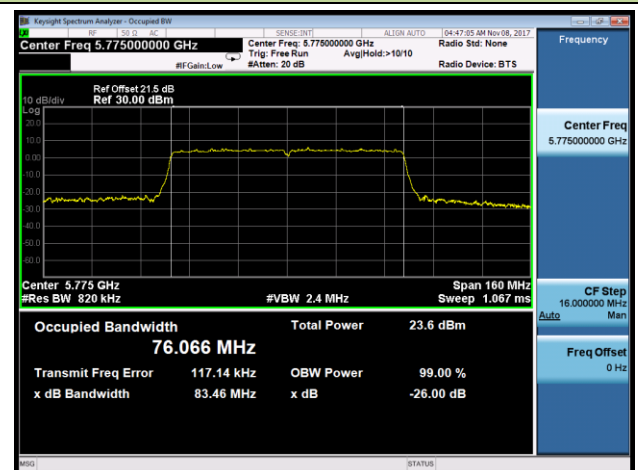
**Channel 157 (5785MHz)**

**Channel 165 (5825MHz)**



**802.11ac-VHT40 26dB Bandwidth & 99% Bandwidth - Ant 1 / Ant 0 + 1 + 2 + 3**
**Channel 38 (5190MHz)**

**Channel 46 (5230MHz)**

**Channel 54 (5270MHz)**

**Channel 62 (5310MHz)**

**Channel 102 (5510MHz)**

**Channel 110 (5550MHz)**


**802.11ac-VHT40 26dB Bandwidth & 99% Bandwidth - Ant 1 / Ant 0 + 1 + 2 + 3**
**Channel 118 (5590MHz)**

**Channel 134 (5670MHz)**

**Channel 142 (5710MHz)**

**Channel 151 (5755MHz)**

**Channel 159 (5795MHz)**


**802.11ac-VHT80 26dB Bandwidth & 99% Bandwidth - Ant 1 / Ant 0 + 1 + 2 + 3**
**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 6dB bandwidth shall be at least 500 kHz.

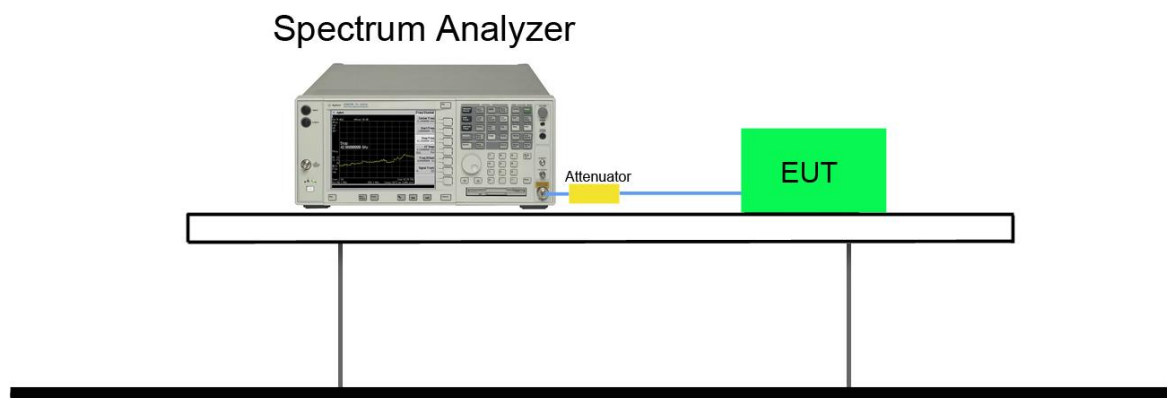
#### 7.3.2. Test Procedure Used

KDB 789033 D02v01r04 - 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  $\geq 3 \times$  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



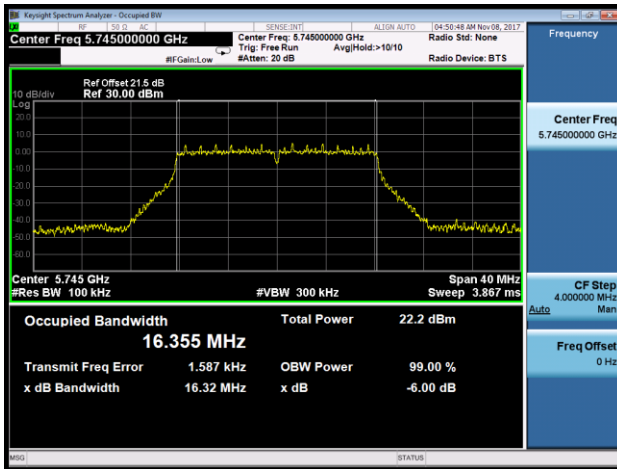
**7.3.5. Test Result**

Product	4x4 Wave-2 802.11ac/a/n Mini PCIe WiFi Module	Temperature	23°C
Test Engineer	Flag Yang	Relative Humidity	52%
Test Site	SR2	Test Date	2017/11/08

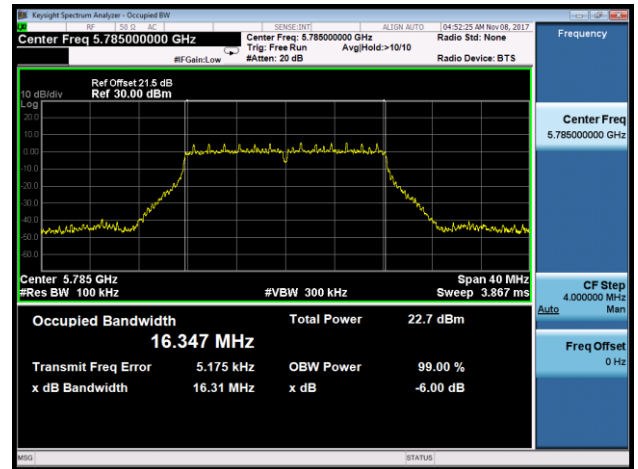
Test Mode	Data Rate/ MCS	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
<b>1TX_Ant 1</b>						
802.11a	6Mbps	149	5745	16.32	≥ 0.5	Pass
802.11a	6Mbps	157	5785	16.31	≥ 0.5	Pass
802.11a	6Mbps	165	5825	16.31	≥ 0.5	Pass
<b>4TX_Ant 1 / Ant 0 + 1 + 2 + 3</b>						
802.11n-HT20	MCS0	149	5745	17.30	≥ 0.5	Pass
802.11n-HT20	MCS0	157	5785	17.55	≥ 0.5	Pass
802.11n-HT20	MCS0	165	5825	16.94	≥ 0.5	Pass
802.11n-HT40	MCS0	151	5755	35.12	≥ 0.5	Pass
802.11n-HT40	MCS0	159	5795	35.08	≥ 0.5	Pass
802.11ac-VHT20	MCS0	149	5745	17.55	≥ 0.5	Pass
802.11ac-VHT20	MCS0	157	5785	17.15	≥ 0.5	Pass
802.11ac-VHT20	MCS0	165	5825	17.55	≥ 0.5	Pass
802.11ac-VHT40	MCS0	151	5755	35.12	≥ 0.5	Pass
802.11ac-VHT40	MCS0	159	5795	35.90	≥ 0.5	Pass
802.11ac-VHT80	MCS0	155	5775	75.64	≥ 0.5	Pass

802.11a 6dB Bandwidth - Ant 1

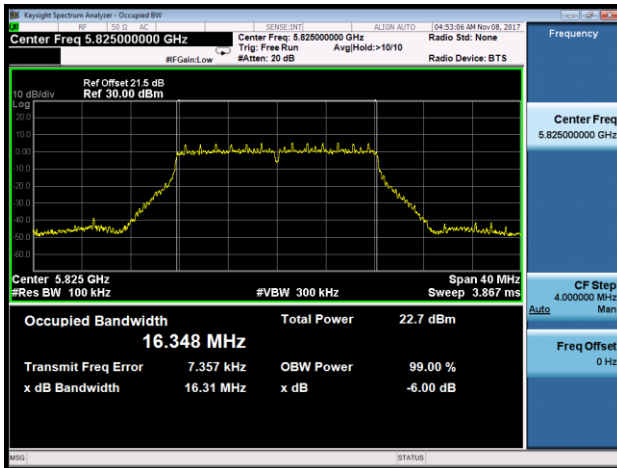
Channel 149 (5745MHz)



Channel 157 (5785MHz)



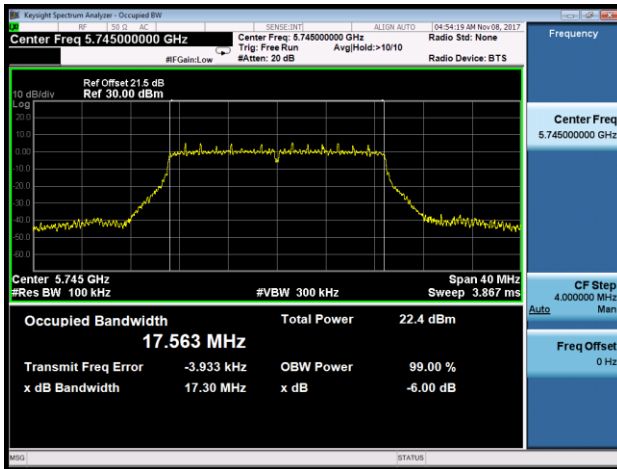
Channel 165 (5825MHz)



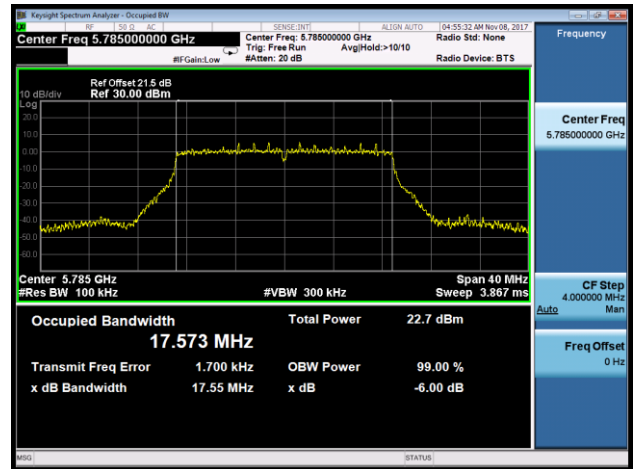


**802.11n-HT20 6dB Bandwidth - Ant 1 / Ant 0 + 1 + 2 + 3**

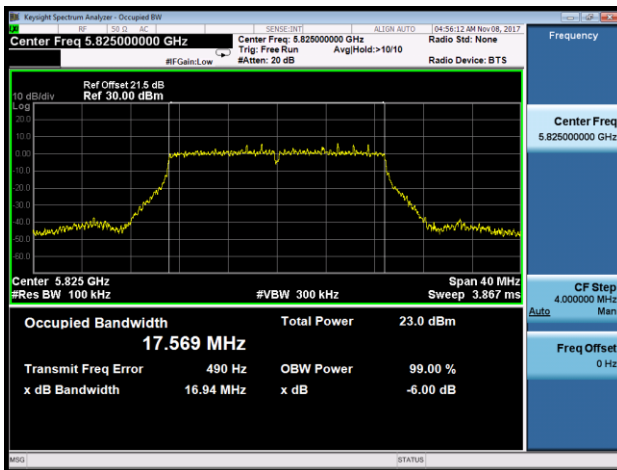
**Channel 149 (5745MHz)**



**Channel 157 (5785MHz)**

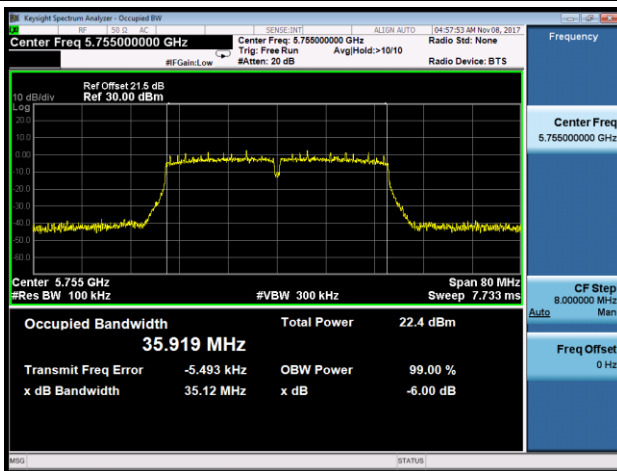


**Channel 165 (5825MHz)**

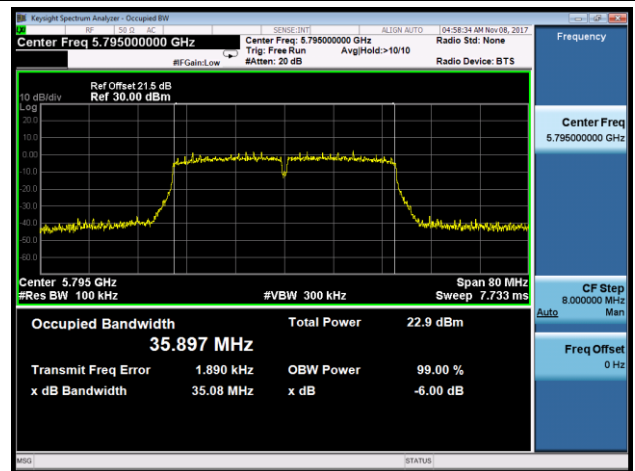


**802.11n-HT40 6dB Bandwidth - Ant 1 / Ant 0 + 1 + 2 + 3**

**Channel 151 (5755MHz)**

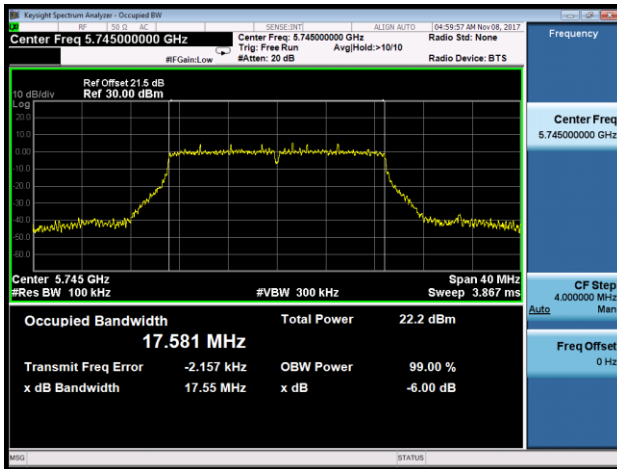


**Channel 159 (5795MHz)**

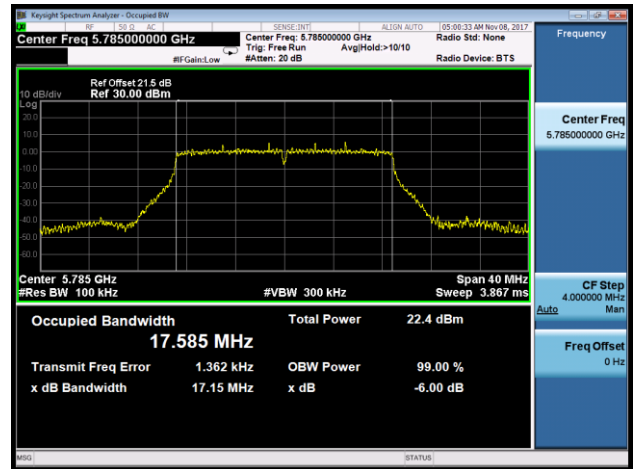


**802.11ac-VHT20 6dB Bandwidth - Ant 1 / Ant 0 + 1 + 2 + 3**

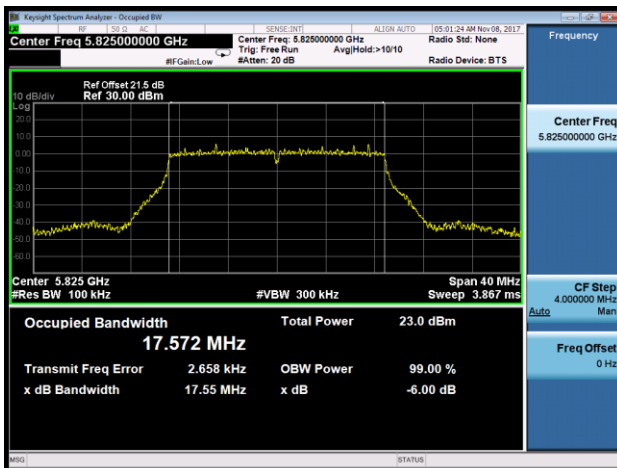
**Channel 149 (5745MHz)**



**Channel 157 (5785MHz)**

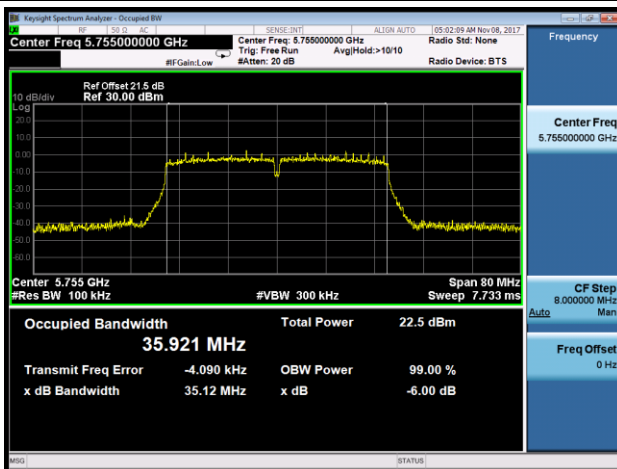


**Channel 165 (5825MHz)**

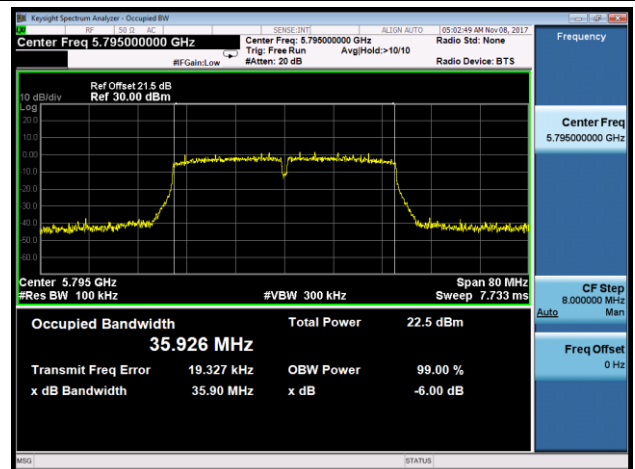


**802.11ac-VHT40 6dB Bandwidth - Ant 1 / Ant 0 + 1 + 2 + 3**

**Channel 151 (5755MHz)**

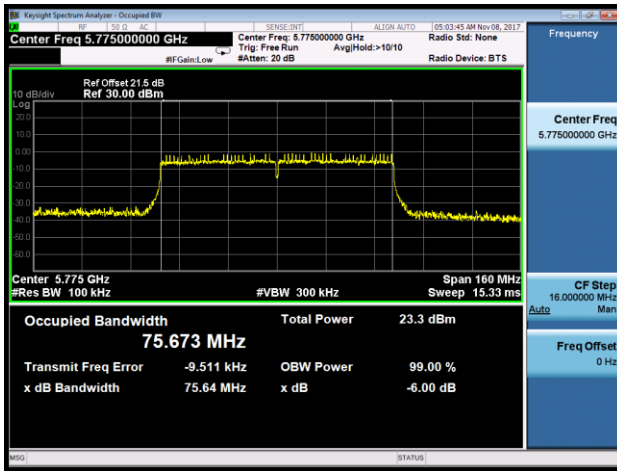


**Channel 159 (5795MHz)**



802.11ac-VHT80 6dB Bandwidth - Ant 1 / Ant 0 + 1 + 2 + 3

Channel 155 (5775MHz)



## 7.4. Output Power Measurement

### 7.4.1. Test Limit

For client device operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi.

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 or  $11 \text{ dBm} + 10 \log B$ , where B is the 26 dB emission bandwidth in megahertz.

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 maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

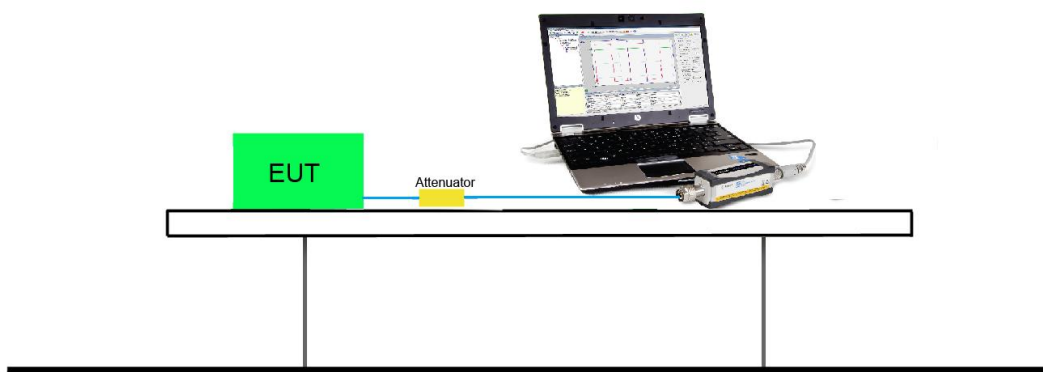
### 7.4.2. Test Procedure Used

KDB 789033D02v01r04 - Section E) 3) b) Method PM-G

### 7.4.3. Test Setting

Average power measurements were performed 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. The trace was averaged over 100 traces to obtain the final measured average power.

### 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 (yellow marker) for final test of each channel.

For Ant 1:

Test Mode	Bandwidth	Channel	Frequency (MHz)	Data Rate/ MCS	Average Power (dBm)
802.11a	20	36	5180	6Mbps	17.62
				24Mbps	17.38
				54Mbps	17.09
802.11n	20	36	5180	MCS0	17.83
				MCS3	17.59
				MCS7	17.31
802.11n	40	38	5190	MCS0	18.97
				MCS3	18.73
				MCS7	18.54
802.11ac	20	36	5180	MCS0	17.86
				MCS4	17.65
				MCS8	17.40
802.11ac	40	38	5190	MCS0	18.52
				MCS4	18.19
				MCS9	18.03
802.11ac	80	42	5210	MCS0	17.51
				MCS4	17.26
				MCS9	17.03
802.11ac	80+80	42	5210	MCS0	16.89
				MCS4	16.68
				MCS9	16.44

Product	4x4 Wave-2 802.11ac/a/n Mini PCIe WiFi Module	Temperature	24°C
Test Engineer	Flag Yang	Relative Humidity	56%
Test Site	SR2	Test Date	2017/10/31

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Average Power Limit (dBm)	Result
1TX									
11a	6Mbps	36	5180	17.43	17.62	17.70	17.62	≤ 19.98	Pass
11a	6Mbps	44	5220	17.85	17.88	17.73	17.64	≤ 19.98	Pass
11a	6Mbps	48	5240	18.03	17.95	17.78	18.05	≤ 19.98	Pass
11a	6Mbps	52	5260	16.89	15.81	15.08	17.55	≤ 19.98	Pass
11a	6Mbps	60	5300	17.00	15.63	15.03	17.40	≤ 19.98	Pass
11a	6Mbps	64	5320	17.23	15.71	14.81	17.43	≤ 19.98	Pass
11a	6Mbps	100	5500	17.48	15.11	14.70	16.24	≤ 19.98	Pass
11a	6Mbps	116	5580	17.39	15.45	14.90	16.35	≤ 19.98	Pass
11a	6Mbps	120	5600	17.52	15.66	15.62	16.41	≤ 19.98	Pass
11a	6Mbps	140	5700	17.66	15.14	15.75	17.92	≤ 19.98	Pass
11a	6Mbps	144	5720	17.69	15.44	15.81	18.10	≤ 19.98	Pass
11a	6Mbps	149	5745	21.37	20.63	21.13	22.11	≤ 26.00	Pass
11a	6Mbps	157	5785	21.63	20.97	21.53	22.61	≤ 26.00	Pass
11a	6Mbps	165	5825	21.56	21.08	21.73	22.72	≤ 26.00	Pass

Test Mode	Data Rate/MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Result
4TX_Ant 0 + 1 + 2 + 3										
11n-HT20	MCS0	36	5180	11.62	11.90	11.21	11.23	17.52	≤ 19.98	Pass
11n-HT20	MCS0	44	5220	12.14	12.28	11.73	11.86	18.03	≤ 19.98	Pass
11n-HT20	MCS0	48	5240	12.24	12.13	11.76	11.95	18.04	≤ 19.98	Pass
11n-HT20	MCS0	52	5260	11.72	10.91	9.61	12.21	17.24	≤ 19.98	Pass
11n-HT20	MCS0	60	5300	12.15	10.97	9.71	12.17	17.38	≤ 19.98	Pass
11n-HT20	MCS0	64	5320	11.83	10.74	9.52	11.97	17.14	≤ 19.98	Pass
11n-HT20	MCS0	100	5500	12.13	10.35	9.35	10.74	16.78	≤ 19.98	Pass
11n-HT20	MCS0	116	5580	11.53	10.20	9.55	10.59	16.55	≤ 19.98	Pass
11n-HT20	MCS0	120	5600	11.89	10.59	10.23	10.93	16.98	≤ 19.98	Pass
11n-HT20	MCS0	140	5700	11.05	10.38	10.82	11.96	17.11	≤ 19.98	Pass
11n-HT20	MCS0	144	5720	11.08	10.51	10.83	11.95	17.15	≤ 19.98	Pass
11n-HT20	MCS0	149	5745	19.61	19.16	19.78	20.27	25.74	≤ 26.00	Pass
11n-HT20	MCS0	157	5785	19.38	18.67	19.60	20.06	25.48	≤ 26.00	Pass
11n-HT20	MCS0	165	5825	19.30	18.97	19.71	20.34	25.63	≤ 26.00	Pass
11n-HT40	MCS0	38	5190	13.83	13.80	13.36	13.51	19.65	≤ 19.98	Pass
11n-HT40	MCS0	46	5230	13.82	13.88	13.29	13.62	19.68	≤ 19.98	Pass
11n-HT40	MCS0	54	5270	14.37	12.99	12.03	13.91	19.44	≤ 19.98	Pass
11n-HT40	MCS0	62	5310	14.41	12.99	12.04	13.98	19.47	≤ 19.98	Pass
11n-HT40	MCS0	102	5510	14.41	12.10	12.28	12.63	18.98	≤ 19.98	Pass
11n-HT40	MCS0	110	5550	14.90	12.95	12.91	13.68	19.71	≤ 19.98	Pass
11n-HT40	MCS0	118	5590	14.55	12.76	13.15	14.01	19.70	≤ 19.98	Pass
11n-HT40	MCS0	134	5670	13.92	12.79	13.10	14.01	19.51	≤ 19.98	Pass
11n-HT40	MCS0	142	5710	13.55	12.61	13.35	14.36	19.53	≤ 19.98	Pass
11n-HT40	MCS0	151	5755	19.81	19.01	19.58	20.63	25.82	≤ 26.00	Pass
11n-HT40	MCS0	159	5795	19.61	18.84	19.51	20.56	25.69	≤ 26.00	Pass

Test Mode	Data Rate/MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Result
4TX_Ant 0 + 1 + 2 + 3										
11ac-VHT20	MCS0	36	5180	11.64	12.02	11.21	11.23	17.56	≤ 19.98	Pass
11ac-VHT20	MCS0	44	5220	12.19	12.29	11.71	11.94	18.06	≤ 19.98	Pass
11ac-VHT20	MCS0	48	5240	12.35	12.14	11.74	11.96	18.07	≤ 19.98	Pass
11ac-VHT20	MCS0	52	5260	11.72	10.83	9.72	12.49	17.33	≤ 19.98	Pass
11ac-VHT20	MCS0	60	5300	12.43	10.92	9.78	12.35	17.52	≤ 19.98	Pass
11ac-VHT20	MCS0	64	5320	12.11	10.84	9.72	12.21	17.36	≤ 19.98	Pass
11ac-VHT20	MCS0	100	5500	12.34	10.40	9.51	10.71	16.89	≤ 19.98	Pass
11ac-VHT20	MCS0	116	5580	11.51	9.94	9.63	10.58	16.50	≤ 19.98	Pass
11ac-VHT20	MCS0	120	5600	11.95	10.67	10.47	11.19	17.13	≤ 19.98	Pass
11ac-VHT20	MCS0	140	5700	11.21	10.48	10.86	12.13	17.23	≤ 19.98	Pass
11ac-VHT20	MCS0	144	5720	11.20	10.63	11.06	12.34	17.38	≤ 19.98	Pass
11ac-VHT20	MCS0	149	5745	19.56	19.31	19.87	20.61	25.89	≤ 26.00	Pass
11ac-VHT20	MCS0	157	5785	19.26	18.78	19.56	20.38	25.56	≤ 26.00	Pass
11ac-VHT20	MCS0	165	5825	19.34	19.13	19.70	20.69	25.78	≤ 26.00	Pass
11ac-VHT40	MCS0	38	5190	13.83	13.82	13.38	13.55	19.67	≤ 19.98	Pass
11ac-VHT40	MCS0	46	5230	13.83	13.88	13.44	13.72	19.74	≤ 19.98	Pass
11ac-VHT40	MCS0	54	5270	14.80	13.22	12.52	14.35	19.84	≤ 19.98	Pass
11ac-VHT40	MCS0	62	5310	14.42	12.83	11.98	13.91	19.41	≤ 19.98	Pass
11ac-VHT40	MCS0	102	5510	14.34	12.08	12.18	12.75	18.96	≤ 19.98	Pass
11ac-VHT40	MCS0	110	5550	14.80	12.85	12.80	13.48	19.58	≤ 19.98	Pass
11ac-VHT40	MCS0	118	5590	14.72	12.93	12.98	13.90	19.72	≤ 19.98	Pass
11ac-VHT40	MCS0	134	5670	13.89	12.85	12.98	14.01	19.48	≤ 19.98	Pass
11ac-VHT40	MCS0	142	5710	13.45	12.73	13.11	14.29	19.45	≤ 19.98	Pass
11ac-VHT40	MCS0	151	5755	19.23	18.45	18.93	20.02	25.22	≤ 26.00	Pass
11ac-VHT40	MCS0	159	5795	19.51	18.81	19.35	20.48	25.60	≤ 26.00	Pass
11ac-VHT80	MCS0	42	5210	12.08	12.04	11.72	11.73	17.59	≤ 19.98	Pass
11ac-VHT80	MCS0	58	5290	12.81	11.32	10.35	12.41	17.85	≤ 19.98	Pass
11ac-VHT80	MCS0	106	5530	12.97	10.53	10.44	11.15	17.42	≤ 19.98	Pass
11ac-VHT80	MCS0	122	5610	14.51	12.89	13.30	14.07	19.76	≤ 19.98	Pass
11ac-VHT80	MCS0	138	5690	14.20	13.09	13.38	14.67	19.90	≤ 19.98	Pass
11ac-VHT80	MCS0	155	5775	12.21	11.57	12.22	13.38	18.42	≤ 26.00	Pass



Test Mode	Data Rate/MCS	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Result
4TX_Ant 0 + 1 + 2 + 3										
Non-contiguous 80+80 MHz mode fall within different UNII band										
11ac-VHT80+80	MCS0	42	5210	16.61	16.89	--	--	19.76	≤ 19.98	Pass
11ac-VHT80+80	MCS0	42	5210	--	--	17.14	16.67	19.92	≤ 19.98	Pass
11ac-VHT80+80	MCS0	58	5290	17.04	15.77	--	--	19.46	≤ 19.98	Pass
11ac-VHT80+80	MCS0	58	5290	--	--	15.95	16.86	19.44	≤ 19.98	Pass
11ac-VHT80+80	MCS0	106	5530	17.25	15.53	--	--	19.48	≤ 19.98	Pass
11ac-VHT80+80	MCS0	106	5530	--	--	16.03	16.88	19.49	≤ 19.98	Pass
11ac-VHT80+80	MCS0	122	5610	17.23	15.91	--	--	19.63	≤ 19.98	Pass
11ac-VHT80+80	MCS0	122	5610	--	--	15.85	17.24	19.61	≤ 19.98	Pass
11ac-VHT80+80	MCS0	138	5690	17.07	16.40	--	--	19.76	≤ 19.98	Pass
11ac-VHT80+80	MCS0	138	5690	--	--	15.84	17.20	19.58	≤ 19.98	Pass
11ac-VHT80+80	MCS0	155	5775	18.77	17.75	--	--	21.30	≤ 26.00	Pass
11ac-VHT80+80	MCS0	155	5775	--	--	15.39	16.73	19.12	≤ 26.00	Pass

Note1: Total Average Power (dBm) =  $10 \cdot \log \{10^{(\text{Ant 0 Average Power} / 10)} + 10^{(\text{Ant 1 Average Power} / 10)} + 10^{(\text{Ant 2 Average Power} / 10)} + 10^{(\text{Ant 3 Average Power} / 10)}\}$  (dBm).

Note2: For 802.11ac-VHT80+80 mode fall within different UNII band:

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

$$\text{Total Average Power (dBm)} = 10 \cdot \log \{10^{(\text{Ant 2 Average Power} / 10)} + 10^{(\text{Ant 3 Average Power} / 10)}\} \text{ (dBm)}.$$

Note3: For UNII-1 Band, Power Limit = 23.98dBm - (10dBi - 6dBi) = 19.98dBm

$$\text{For UNII-3 Band, Power Limit} = 30\text{dBm} - (10\text{dBi} - 6\text{dBi}) = 26.00\text{dBm};$$

$$\text{For UNII-2A \& UNII-2C Band, Power Limit} = 23.98\text{dBm} - (10\text{dBi} - 6\text{dBi}) = 19.98\text{dBm}.$$

## 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.

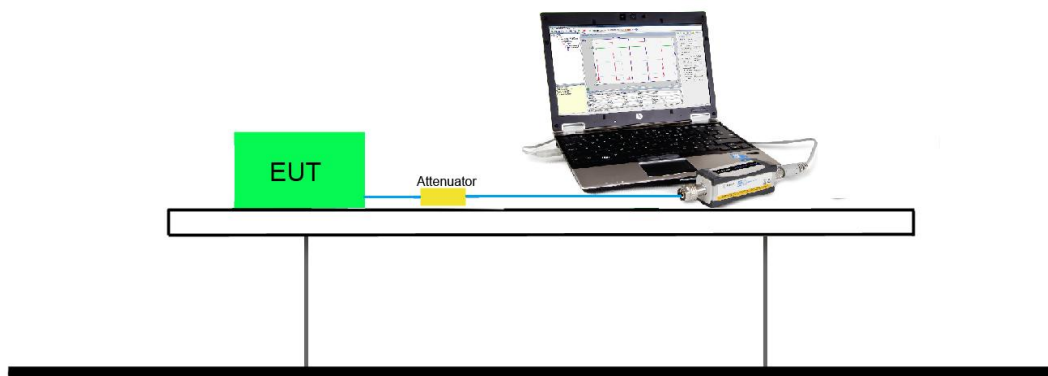
### 7.5.2. Test Procedure Used

KDB 789033 D02v01- Section E) 3) b) Method PM-G

### 7.5.3. Test Setting

Average power measurements were performed 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. The trace was averaged over 100 traces to obtain the final measured average power.

### 7.5.4. Test Setup



**7.5.5. Test Result**

Product	4x4 Wave-2 802.11ac/a/n Mini PCIe WiFi Module	Temperature	24°C
Test Engineer	Flag Yang	Relative Humidity	56%
Test Site	SR2	Test Date	2017/10/31

Test Mode	Data Rate/MCS	Channel No.	Freq. (MHz)	Ant 0 TPC Power (dBm)	Ant 1 TPC Power (dBm)	Ant 2 TPC Power (dBm)	Ant 3 TPC Power (dBm)	Limit (dBm)	Result
1TX									
11a	6Mbps	52	5260	22.18	22.78	22.70	22.49	≤ 24.00	Pass
11a	6Mbps	60	5300	22.32	22.46	22.01	22.10	≤ 24.00	Pass
11a	6Mbps	64	5320	22.11	22.47	22.52	22.23	≤ 24.00	Pass
11a	6Mbps	100	5500	22.11	22.38	22.36	22.11	≤ 24.00	Pass
11a	6Mbps	116	5580	22.09	22.48	22.59	22.32	≤ 24.00	Pass
11a	6Mbps	120	5600	22.27	22.52	22.39	22.23	≤ 24.00	Pass
11a	6Mbps	140	5700	22.56	22.39	22.52	22.72	≤ 24.00	Pass
11a	6Mbps	144	5720	22.38	22.47	22.71	22.70	≤ 24.00	Pass

Test Mode	Data Rate/MCS	Channel No.	Freq. (MHz)	Ant 0 TPC Power (dBm)	Ant 1 TPC Power (dBm)	Ant 2 TPC Power (dBm)	Ant 3 TPC Power (dBm)	Total EIRP TPC Power (dBm)	Limit (dBm)	Result
4TX_Ant 0 + 1 + 2 + 3										
11n-HT20	MCS0	52	5260	6.34	6.12	6.33	6.21	22.27	≤ 24.00	Pass
11n-HT20	MCS0	60	5300	6.94	6.64	6.44	6.88	22.75	≤ 24.00	Pass
11n-HT20	MCS0	64	5320	6.52	6.35	6.31	6.71	22.50	≤ 24.00	Pass
11n-HT20	MCS0	100	5500	6.96	6.29	6.18	6.64	22.55	≤ 24.00	Pass
11n-HT20	MCS0	116	5580	6.37	6.36	6.22	6.24	22.32	≤ 24.00	Pass
11n-HT20	MCS0	120	5600	6.71	6.52	6.14	6.61	22.52	≤ 24.00	Pass
11n-HT20	MCS0	140	5700	6.65	6.27	6.65	6.61	22.57	≤ 24.00	Pass
11n-HT20	MCS0	144	5720	6.38	6.46	6.65	6.74	22.58	≤ 24.00	Pass
11n-HT40	MCS0	54	5270	6.82	6.58	6.72	6.63	22.71	≤ 24.00	Pass
11n-HT40	MCS0	62	5310	7.56	7.67	7.54	7.70	23.64	≤ 24.00	Pass
11n-HT40	MCS0	102	5510	7.09	7.03	7.23	7.62	23.27	≤ 24.00	Pass
11n-HT40	MCS0	110	5550	7.69	7.87	7.70	7.37	23.68	≤ 24.00	Pass
11n-HT40	MCS0	118	5590	7.64	7.54	7.89	7.75	23.73	≤ 24.00	Pass
11n-HT40	MCS0	134	5670	7.85	7.50	7.59	7.69	23.68	≤ 24.00	Pass
11n-HT40	MCS0	142	5710	7.85	7.45	7.54	7.73	23.67	≤ 24.00	Pass
11ac-VHT20	MCS0	52	5260	6.54	6.66	6.38	6.24	22.48	≤ 24.00	Pass
11ac-VHT20	MCS0	60	5300	6.35	6.66	6.58	6.57	22.56	≤ 24.00	Pass
11ac-VHT20	MCS0	64	5320	6.63	6.64	6.71	6.83	22.72	≤ 24.00	Pass
11ac-VHT20	MCS0	100	5500	7.09	7.30	7.13	7.51	23.28	≤ 24.00	Pass
11ac-VHT20	MCS0	116	5580	6.32	6.88	6.52	6.28	22.53	≤ 24.00	Pass
11ac-VHT20	MCS0	120	5600	6.84	6.38	6.24	6.17	22.44	≤ 24.00	Pass
11ac-VHT20	MCS0	140	5700	6.88	6.46	6.63	6.79	22.71	≤ 24.00	Pass
11ac-VHT20	MCS0	144	5720	6.53	6.53	6.74	6.99	22.72	≤ 24.00	Pass
11ac-VHT40	MCS0	54	5270	7.74	7.16	7.38	7.24	23.41	≤ 24.00	Pass
11ac-VHT40	MCS0	62	5310	7.57	7.71	7.26	7.60	23.56	≤ 24.00	Pass
11ac-VHT40	MCS0	102	5510	6.84	6.98	6.88	6.74	22.88	≤ 24.00	Pass
11ac-VHT40	MCS0	110	5550	7.65	7.69	7.48	7.44	23.59	≤ 24.00	Pass
11ac-VHT40	MCS0	118	5590	7.69	7.90	7.81	7.63	23.78	≤ 24.00	Pass
11ac-VHT40	MCS0	134	5670	7.64	7.52	7.71	7.23	23.55	≤ 24.00	Pass
11ac-VHT40	MCS0	142	5710	7.42	7.51	7.68	7.54	23.56	≤ 24.00	Pass

Test Mode	Data Rate/MCS	Channel No.	Freq. (MHz)	Ant 0 TPC Power (dBm)	Ant 1 TPC Power (dBm)	Ant 2 TPC Power (dBm)	Ant 3 TPC Power (dBm)	Total EIRP TPC Power (dBm)	Limit (dBm)	Result
4TX_Ant 0 + 1 + 2 + 3										
11ac-VHT80	MCS0	58	5290	6.63	6.58	6.45	6.31	22.51	≤ 24.00	Pass
11ac-VHT80	MCS0	106	5530	6.84	6.51	6.37	6.86	22.67	≤ 24.00	Pass
11ac-VHT80	MCS0	122	5610	7.33	7.79	7.25	7.68	23.54	≤ 24.00	Pass
11ac-VHT80	MCS0	138	5690	7.62	7.99	7.53	7.65	23.72	≤ 24.00	Pass
Non-contiguous 80+80 MHz mode fall within different UNII band										
11ac-VHT80+80	MCS0	58	5290	10.32	10.45	--	--	23.40	≤ 24.00	Pass
11ac-VHT80+80	MCS0	58	5290	--	--	10.43	10.35	23.40	≤ 24.00	Pass
11ac-VHT80+80	MCS0	106	5530	10.41	10.42	--	--	23.43	≤ 24.00	Pass
11ac-VHT80+80	MCS0	106	5530	--	--	10.67	10.56	23.63	≤ 24.00	Pass
11ac-VHT80+80	MCS0	122	5610	10.63	10.73	--	--	23.69	≤ 24.00	Pass
11ac-VHT80+80	MCS0	122	5610	--	--	10.51	10.65	23.59	≤ 24.00	Pass
11ac-VHT80+80	MCS0	138	5690	10.62	10.55	--	--	23.60	≤ 24.00	Pass
11ac-VHT80+80	MCS0	138	5690	--	--	10.57	10.41	23.50	≤ 24.00	Pass

Note1. Total EIRP TPC Power (dBm) =  $10 \cdot \log \left\{ 10^{\frac{\text{Ant 0 TPC Power}}{10}} + 10^{\frac{\text{Ant 1 TPC Power}}{10}} + 10^{\frac{\text{Ant 2 TPC Power}}{10}} + 10^{\frac{\text{Ant 3 TPC Power}}{10}} \right\} + \text{Antenna Gain (dBi)}$ .

Note2: For 802.11ac-VHT80+80 mode fall within different UNII band:

Ant 0 & Ant 1: Total EIRP TPC Power (dBm) =  $10 \cdot \log \left\{ 10^{\frac{\text{Ant 0 TPC Power}}{10}} + 10^{\frac{\text{Ant 1 TPC Power}}{10}} \right\} + \text{Antenna Gain (dBi)}$ .

Ant 2 & Ant 3: Total EIRP TPC Power (dBm) =  $10 \cdot \log \left\{ 10^{\frac{\text{Ant 2 TPC Power}}{10}} + 10^{\frac{\text{Ant 3 TPC Power}}{10}} \right\} + \text{Antenna Gain (dBi)}$ .

## 7.6. Power Spectral Density Measurement

### 7.6.1. Test Limit

For client device operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500kHz band.

If transmitting antennas of directional gain greater than 6dBi are used, the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

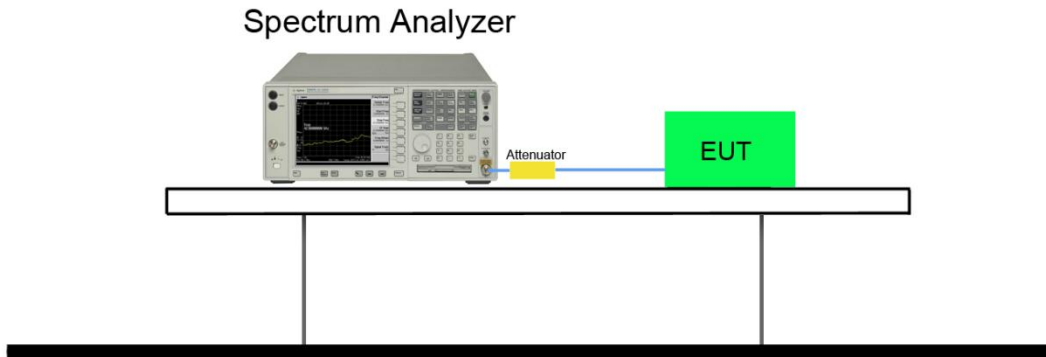
### 7.6.2. Test Procedure Used

KDB 789033 D02v01r04 - Section F

### 7.6.3. Test Setting

1. Analyzer was set to the center frequency of the UNII channel under investigation
2. Span was set to encompass the entire 26dB EBW of the signal.
3. RBW = 1MHz, if measurement bandwidth of Maximum PSD is specified in 500 kHz,  
RBW = 100 kHz
4. VBW = 3MHz
5. Number of sweep points  $\geq 2 \times (\text{span} / \text{RBW})$
6. Detector = power averaging (Average)
7. Sweep time = auto
8. Trigger = free run
9. Use the peak search function on the instrument to find the peak of the spectrum and record its value.
10. Add  $10 \cdot \log(1/x)$ , where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission). For example, add  $10 \cdot \log(1/0.25) = 6$  dB if the duty cycle is 25 percent.
11. When the measurement bandwidth of Maximum PSD is specified in 500 kHz, add a constant factor  $10 \cdot \log(500\text{kHz}/100\text{kHz}) = 6.99$  dB to the measured result.

### 7.6.4. Test Setup



**7.6.5. Test Result**

Product	4x4 Wave-2 802.11ac/a/n Mini PCIe WiFi Module	Temperature	23°C
Test Engineer	Flag Yang	Relative Humidity	52%
Test Site	SR2	Test Date	2017/11/08
Test Item	Power Spectral Density (UNII-Band 1 & UNII-2A & UNII-2C)		

Test Mode	Data Rate	Channel No.	Freq. (MHz)	PSD (dBm/MHz)				Duty Cycle (%)	Final PSD (dBm/MHz)	PSD Limit (dBm/MHz)	Result
				Ant 0	Ant 1	Ant 2	Ant 3				
1TX_Ant 1											
11a	6Mbps	36	5180	6.44	6.72	6.74	6.71	97.04	6.87	≤ 7.00	Pass
11a	6Mbps	44	5220	6.50	6.37	6.45	6.79	97.04	6.92	≤ 7.00	Pass
11a	6Mbps	48	5240	6.80	6.40	6.34	6.65	97.04	6.93	≤ 7.00	Pass
11a	6Mbps	52	5260	6.63	6.58	6.48	6.65	97.04	6.78	≤ 7.00	Pass
11a	6Mbps	60	5300	6.48	6.74	6.41	6.62	97.04	6.87	≤ 7.00	Pass
11a	6Mbps	64	5320	6.52	6.77	6.57	6.51	97.04	6.90	≤ 7.00	Pass
11a	6Mbps	100	5500	6.44	6.55	6.78	6.60	97.04	6.91	≤ 7.00	Pass
11a	6Mbps	116	5580	6.55	6.75	6.44	6.45	97.04	6.88	≤ 7.00	Pass
11a	6Mbps	120	5600	6.42	6.52	6.75	6.44	97.04	6.88	≤ 7.00	Pass
11a	6Mbps	140	5700	6.61	6.30	6.28	6.58	97.04	6.74	≤ 7.00	Pass
11a	6Mbps	144	5720	6.74	6.56	6.47	6.74	97.04	6.87	≤ 7.00	Pass

Note 1: When EUT duty cycle ≥ 98%, Final PSD (dBm/MHz) = Max Each PSD (dBm/MHz).

Note 2: When EUT duty cycle < 98%, Final PSD (dBm/MHz) = Max Each PSD (dBm/MHz) + 10\*log (1/Duty Cycle).

Note 3: PSD Limit Calculation as below:

For UNII-1 & UNII-2A & UNII-2C & UNII-3 Band

802.11a/n-HT20/n-HT40/ac-VHT20/ac-VHT40/ac-VHT80:

11dBm/MHz - (10dBi - 6dBi) = 7.00dBm/MHz.



Test Mode	Data Rate/MCS	Channel No.	Freq. (MHz)	Ant 0 PSD (dBm/MHz)	Ant 1 PSD (dBm/MHz)	Ant 2 PSD (dBm/MHz)	Ant 3 PSD (dBm/MHz)	Duty Cycle (%)	Total PSD (dBm/MHz)	PSD Limit (dBm/MHz)	Result
4TX_Ant 0 + 1 + 2 + 3											
11n-HT20	MCS0	36	5180	0.61	0.63	0.21	0.23	98.68	6.45	≤ 7.00	Pass
11n-HT20	MCS0	44	5220	0.87	1.01	0.83	0.65	98.68	6.86	≤ 7.00	Pass
11n-HT20	MCS0	48	5240	0.94	0.96	0.36	0.77	98.68	6.78	≤ 7.00	Pass
11n-HT20	MCS0	52	5260	0.85	1.22	0.37	-0.14	98.68	6.63	≤ 7.00	Pass
11n-HT20	MCS0	60	5300	0.58	1.49	0.45	0.14	98.68	6.72	≤ 7.00	Pass
11n-HT20	MCS0	64	5320	0.69	0.95	0.89	-0.21	98.68	6.62	≤ 7.00	Pass
11n-HT20	MCS0	100	5500	-0.41	1.23	1.46	0.08	98.68	6.68	≤ 7.00	Pass
11n-HT20	MCS0	116	5580	0.01	1.16	0.58	0.23	98.68	6.54	≤ 7.00	Pass
11n-HT20	MCS0	120	5600	-1.09	1.53	1.25	0.84	98.68	6.76	≤ 7.00	Pass
11n-HT20	MCS0	140	5700	0.28	0.43	0.76	0.64	98.68	6.55	≤ 7.00	Pass
11n-HT20	MCS0	144	5720	0.12	0.50	0.80	0.76	98.68	6.57	≤ 7.00	Pass
11n-HT40	MCS0	38	5190	0.77	0.56	0.36	0.42	97.71	6.65	≤ 7.00	Pass
11n-HT40	MCS0	46	5230	0.75	0.72	0.32	0.66	97.71	6.74	≤ 7.00	Pass
11n-HT40	MCS0	54	5270	0.73	1.27	0.56	0.12	97.71	6.81	≤ 7.00	Pass
11n-HT40	MCS0	62	5310	0.45	1.27	0.56	0.35	97.71	6.79	≤ 7.00	Pass
11n-HT40	MCS0	102	5510	0.51	1.23	1.23	0.12	97.71	6.92	≤ 7.00	Pass
11n-HT40	MCS0	110	5550	0.14	0.67	0.91	0.17	97.71	6.61	≤ 7.00	Pass
11n-HT40	MCS0	118	5590	0.04	0.82	0.79	0.02	97.71	6.56	≤ 7.00	Pass
11n-HT40	MCS0	134	5670	0.06	1.04	0.94	0.82	97.71	6.85	≤ 7.00	Pass
11n-HT40	MCS0	142	5710	0.30	0.76	0.86	1.05	97.71	6.87	≤ 7.00	Pass
11ac-VHT20	MCS0	36	5180	0.58	0.69	0.24	0.43	98.68	6.51	≤ 7.00	Pass
11ac-VHT20	MCS0	44	5220	0.72	0.85	0.52	0.47	98.68	6.66	≤ 7.00	Pass
11ac-VHT20	MCS0	48	5240	0.98	0.73	0.50	0.60	98.68	6.73	≤ 7.00	Pass
11ac-VHT20	MCS0	52	5260	0.71	0.86	0.26	0.10	98.68	6.51	≤ 7.00	Pass
11ac-VHT20	MCS0	60	5300	0.81	1.29	0.47	0.13	98.68	6.72	≤ 7.00	Pass
11ac-VHT20	MCS0	64	5320	0.55	1.03	0.94	-0.17	98.68	6.63	≤ 7.00	Pass
11ac-VHT20	MCS0	100	5500	0.15	1.24	1.19	0.05	98.68	6.71	≤ 7.00	Pass
11ac-VHT20	MCS0	116	5580	0.13	1.21	0.50	0.28	98.68	6.57	≤ 7.00	Pass
11ac-VHT20	MCS0	120	5600	0.30	1.28	0.73	0.84	98.68	6.82	≤ 7.00	Pass
11ac-VHT20	MCS0	140	5700	0.15	0.66	0.60	0.58	98.68	6.52	≤ 7.00	Pass
11ac-VHT20	MCS0	144	5720	0.31	0.72	0.60	0.74	98.68	6.62	≤ 7.00	Pass

Test Mode	Data Rate/MCS	Channel No.	Freq. (MHz)	Ant 0 PSD (dBm/MHz)	Ant 1 PSD (dBm/MHz)	Ant 2 PSD (dBm/MHz)	Ant 3 PSD (dBm/MHz)	Duty Cycle (%)	Total PSD (dBm/MHz)	PSD Limit (dBm/MHz)	Result
4TX_Ant 0 + 1 + 2 + 3											
11ac-VHT40	MCS0	38	5190	0.93	0.85	0.38	0.58	97.44	6.82	≤ 7.00	Pass
11ac-VHT40	MCS0	46	5230	0.62	0.55	0.31	0.44	97.44	6.61	≤ 7.00	Pass
11ac-VHT40	MCS0	54	5270	0.86	1.31	0.23	0.15	97.44	6.80	≤ 7.00	Pass
11ac-VHT40	MCS0	62	5310	0.77	1.21	0.46	0.29	97.44	6.83	≤ 7.00	Pass
11ac-VHT40	MCS0	102	5510	0.08	1.11	1.12	0.13	97.44	6.77	≤ 7.00	Pass
11ac-VHT40	MCS0	110	5550	0.06	1.25	0.90	0.11	97.44	6.74	≤ 7.00	Pass
11ac-VHT40	MCS0	118	5590	0.13	0.86	0.72	0.26	97.44	6.64	≤ 7.00	Pass
11ac-VHT40	MCS0	134	5670	0.18	0.86	0.97	0.80	97.44	6.85	≤ 7.00	Pass
11ac-VHT40	MCS0	142	5710	0.42	0.70	0.92	1.19	97.44	6.95	≤ 7.00	Pass
11ac-VHT80	MCS0	42	5210	-5.61	-6.81	-7.18	-5.68	95.03	-0.02	≤ 7.00	Pass
11ac-VHT80	MCS0	58	5290	-5.43	-6.50	-7.37	-5.35	95.03	0.16	≤ 7.00	Pass
11ac-VHT80	MCS0	106	5530	-4.80	-7.21	-7.17	-6.69	95.03	-0.11	≤ 7.00	Pass
11ac-VHT80	MCS0	122	5610	3.63	1.88	2.27	3.11	95.03	9.02	≤ 7.00	Pass
11ac-VHT80	MCS0	138	5690	1.63	0.23	0.60	1.74	95.03	7.34	≤ 7.00	Pass
Non-contiguous 80+80 MHz mode fall within different UNII band											
11ac-VHT80+80	MCS0	42	5210	-0.58	-0.59	--	--	95.03	2.65	≤ 7.00	Pass
11ac-VHT80+80	MCS0	42	5210	--	--	-0.90	-1.48	95.03	2.05	≤ 7.00	Pass
11ac-VHT80+80	MCS0	58	5290	-1.23	-2.22	--	--	95.03	1.53	≤ 7.00	Pass
11ac-VHT80+80	MCS0	58	5290	--	--	-3.33	-2.05	95.03	0.59	≤ 7.00	Pass
11ac-VHT80+80	MCS0	106	5530	0.11	-1.74	--	--	95.03	2.51	≤ 7.00	Pass
11ac-VHT80+80	MCS0	106	5530	--	--	-1.98	-0.95	95.03	1.80	≤ 7.00	Pass
11ac-VHT80+80	MCS0	122	5610	-0.36	-1.20	--	--	95.03	2.47	≤ 7.00	Pass
11ac-VHT80+80	MCS0	122	5610	--	--	-0.27	1.00	95.03	3.64	≤ 7.00	Pass
11ac-VHT80+80	MCS0	138	5690	-0.97	-1.94	--	--	95.03	1.80	≤ 7.00	Pass
11ac-VHT80+80	MCS0	138	5690	--	--	-0.20	1.42	95.03	3.92	≤ 7.00	Pass

Note 1: When EUT duty cycle ≥ 98%, Total PSD (dBm/MHz) =  $10 \cdot \log \{ 10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)} + 10^{(\text{Ant 3 PSD}/10)} \}$ .

Note 2: When EUT duty cycle < 98%, Total PSD (dBm/MHz) =  $10 \cdot \log \{ 10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)} + 10^{(\text{Ant 3 PSD}/10)} \} + 10 \cdot \log (1/\text{Duty Cycle})$ .

Note 3: For 802.11ac-VHT80+80 mode fall within different UNII band:

Ant 0 & Ant 1: Total PSD (dBm/MHz) =  $10 \cdot \log \{ 10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)} \}$  (dBm/MHz) +  $10 \cdot \log (1/\text{Duty Cycle})$ .

Ant 2 & Ant 3: Total PSD (dBm/MHz) =  $10 \cdot \log \{ 10^{(\text{Ant 2 PSD}/10)} + 10^{(\text{Ant 3 PSD}/10)} \}$  (dBm/MHz) +  $10 \cdot \log (1/\text{Duty Cycle})$ .

$10 \cdot \log(1/\text{Duty Cycle})$ .

Note 4: PSD Limit Calculation as below:

For UNII-1 & UNII-2A & UNII-2C & UNII-3 Band

802.11a/n-HT20/n-HT40/ac-VHT20/ac-VHT40/ac-VHT80:

$11\text{dBm/MHz} - (10\text{dBi} - 6\text{dBi}) = 7.00\text{dBm/MHz}$ .

Product	4x4 Wave-2 802.11ac/a/n Mini PCIe WiFi Module	Temperature	23°C
Test Engineer	Alex Ma	Relative Humidity	52%
Test Site	SR2	Test Date	2017/11/08
Test Item	Power Spectral Density (UNII-Band 3)		

Test Mode	Data Rate	Channel No.	Freq. (MHz)	PSD (dBm/100kHz)				Duty Cycle (%)	Constant Factor (dB)	Final PSD (dBm/500kHz)	Limit (dBm/500kHz)	Result
				Ant 0	Ant 1	Ant 2	Ant 3					
1TX												
11a	6Mbps	149	5745	1.30	0.63	0.94	2.15	97.04	6.99	9.27	≤ 26.00	Pass
11a	6Mbps	157	5785	1.41	0.82	0.95	2.62	97.04	6.99	9.74	≤ 26.00	Pass
11a	6Mbps	165	5825	1.42	0.85	1.18	2.50	97.04	6.99	9.62	≤ 26.00	Pass

Note 1: When EUT duty cycle ≥ 98%, Final PSD (dBm/500kHz) = Max each PSD (dBm/100kHz).

Note 2: When EUT duty cycle < 98%, Final PSD (dBm/500kHz) = Max each PSD (dBm/100kHz) + 10\*log (1/Duty Cycle).

Note 3: PSD Limit Calculation as below:

For 5725-5850MHz

30dBm/500kHz - (10dBi - 6dBi) = 26.00dBm/500kHz.

Test Mode	Data Rate/MCS	Channel No.	Freq. (MHz)	Ant 0 PSD (dBm/100kHz)	Ant 1 PSD (dBm/100kHz)	Ant 2 PSD (dBm/100kHz)	Ant 3 PSD (dBm/100kHz)	Duty Cycle (%)	Constant Factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Result
4TX_Ant 0 + 1 + 2 + 3												
11n-HT20	MCS0	149	5745	0.14	-0.43	0.70	0.79	98.68	6.99	13.34	≤ 26.00	Pass
11n-HT20	MCS0	157	5785	0.35	0.11	0.30	0.62	98.68	6.99	13.36	≤ 26.00	Pass
11n-HT20	MCS0	165	5825	0.23	-0.46	0.31	0.23	98.68	6.99	13.10	≤ 26.00	Pass
11n-HT40	MCS0	151	5755	-3.13	-4.37	-3.94	-2.09	97.71	6.99	9.82	≤ 26.00	Pass
11n-HT40	MCS0	159	5795	-3.66	-3.13	-3.07	-1.49	97.71	6.99	10.35	≤ 26.00	Pass
11ac-VHT20	MCS0	149	5745	0.37	-0.21	0.29	0.83	98.68	6.99	13.35	≤ 26.00	Pass
11ac-VHT20	MCS0	157	5785	0.29	0.03	0.75	1.60	98.68	6.99	13.72	≤ 26.00	Pass
11ac-VHT20	MCS0	165	5825	0.34	-0.37	0.35	1.28	98.68	6.99	13.45	≤ 26.00	Pass
11ac-VHT40	MCS0	151	5755	-4.51	-5.11	-4.35	-3.21	97.44	6.99	8.88	≤ 26.00	Pass
11ac-VHT40	MCS0	159	5795	-4.15	-4.80	-3.63	-3.15	97.44	6.99	9.23	≤ 26.00	Pass
11ac-VHT80	MCS0	155	5775	-14.53	-16.49	-14.34	-11.47	95.03	6.99	-0.59	≤ 26.00	Pass
11ac-VHT80+80	MCS0	155	5775	-8.26	-9.05	--	--	95.03	6.99	1.58	≤ 26.00	Pass
11ac-VHT80+80	MCS0	155	5775	--	--	-5.86	-7.42	95.03	6.99	3.65	≤ 26.00	Pass

Note 1: When EUT duty cycle ≥ 98%, Total PSD (dBm/500kHz) =  $10 \cdot \log \{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)} + 10^{(\text{Ant 3 PSD}/10)}\}$  (dBm/100kHz) + Constant Factor.

Note 2: When EUT duty cycle < 98%, Total PSD (dBm/500kHz) =  $10 \cdot \log \{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)} + 10^{(\text{Ant 3 PSD}/10)}\}$  (dBm/100kHz) + Constant Factor +  $10 \cdot \log (1/\text{Duty Cycle})$ .

Note 3: For 802.11ac-VHT80+80:

Ant 0 & Ant 1: Total PSD (dBm/500kHz) =  $10 \cdot \log \{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)}\}$  (dBm/100kHz) + Constant Factor +  $10 \cdot \log (1/\text{Duty Cycle})$ .

Ant 2 & Ant 3: Total PSD (dBm/500kHz) =  $10 \cdot \log \{10^{(\text{Ant 2 PSD}/10)} + 10^{(\text{Ant 3 PSD}/10)}\}$  (dBm/100kHz) + Constant Factor +  $10 \cdot \log (1/\text{Duty Cycle})$ .

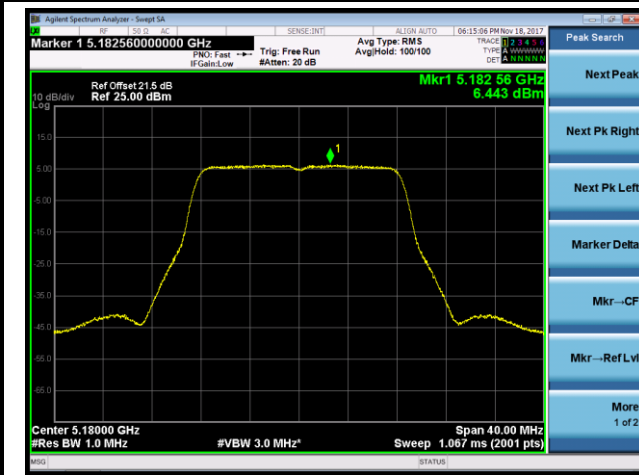
Note 3: PSD Limit Calculation as below:

For 5725-5850MHz

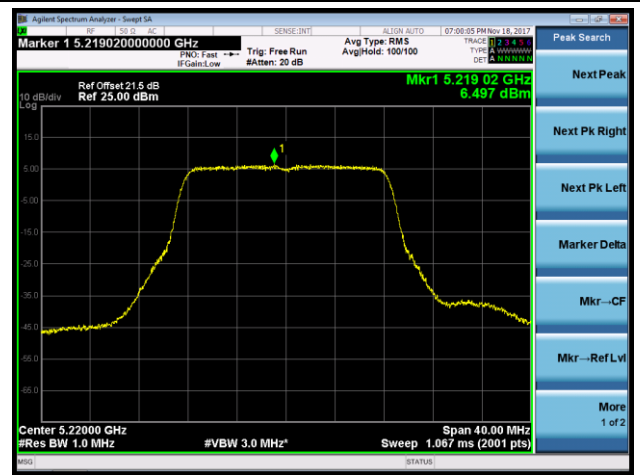
30dBm/500kHz - (10dBi - 6dBi) = 26.00dBm/500kHz.

802.11a Power Spectral Density - Ant 0

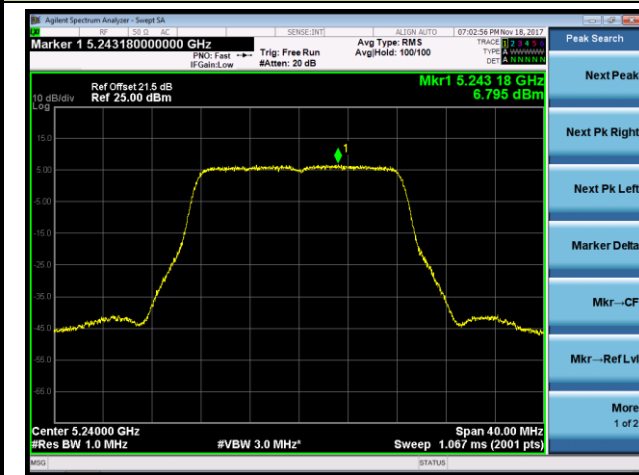
Channel 36 (5180MHz)



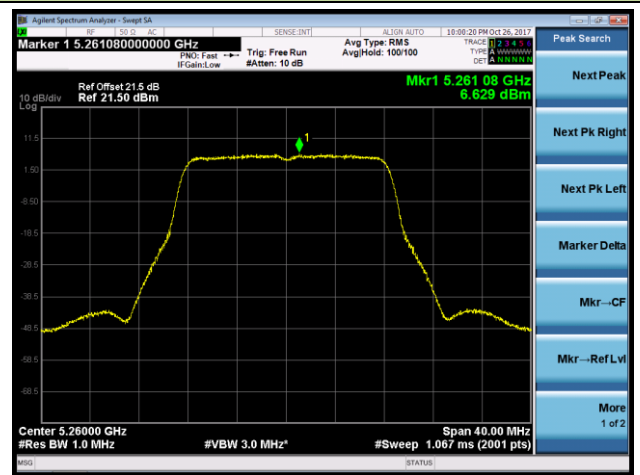
Channel 44 (5220MHz)



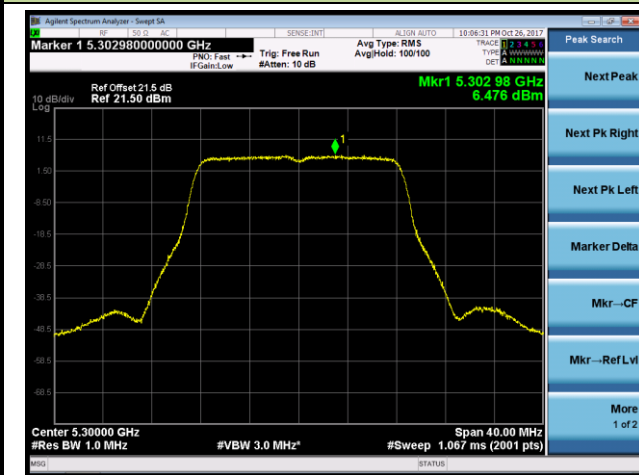
Channel 48 (5240MHz)



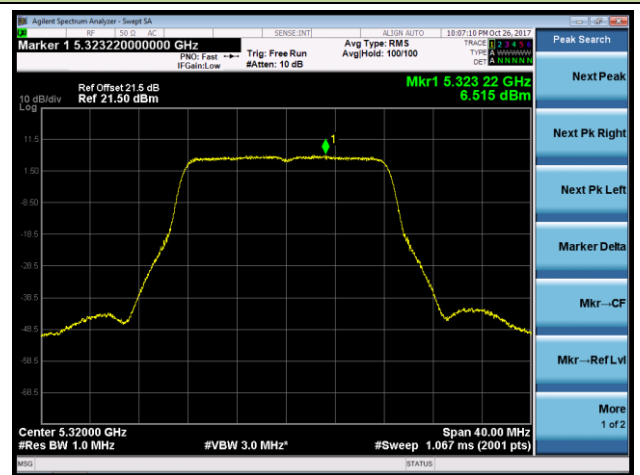
Channel 52 (5260MHz)



Channel 60 (5300MHz)

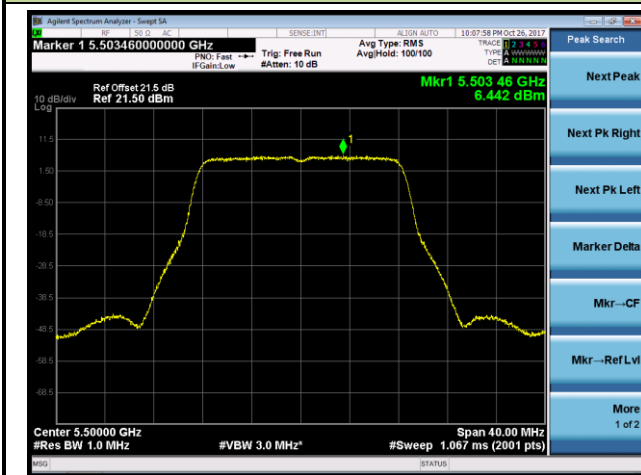


Channel 64 (5320MHz)

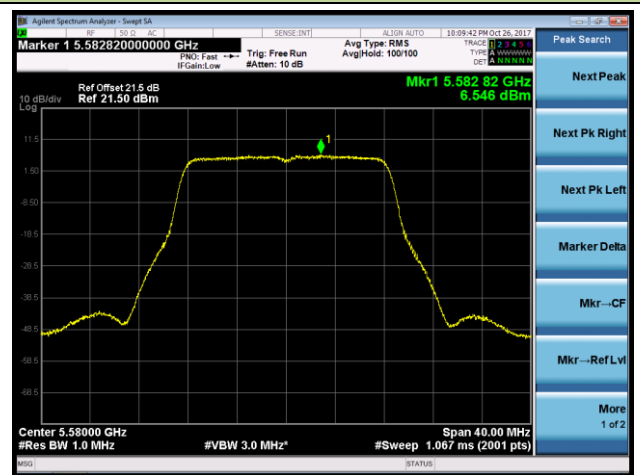


### 802.11a Power Spectral Density - Ant 0

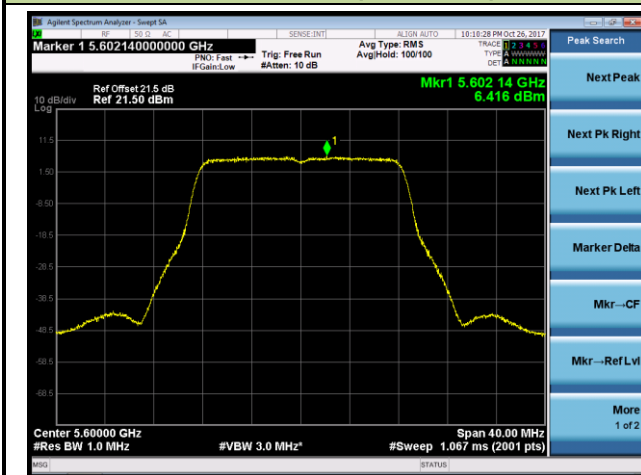
**Channel 100 (5500MHz)**



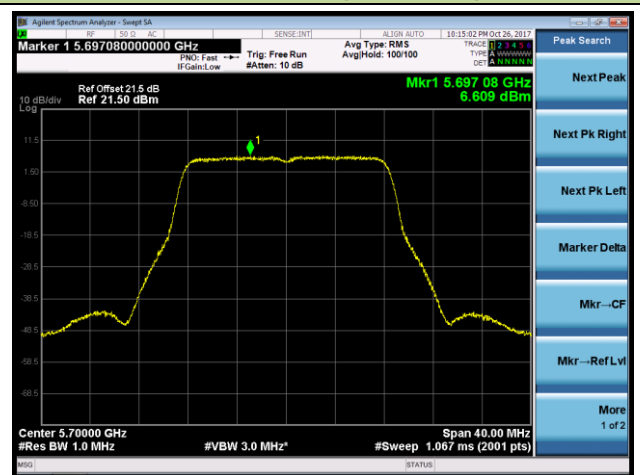
**Channel 116 (5580MHz)**



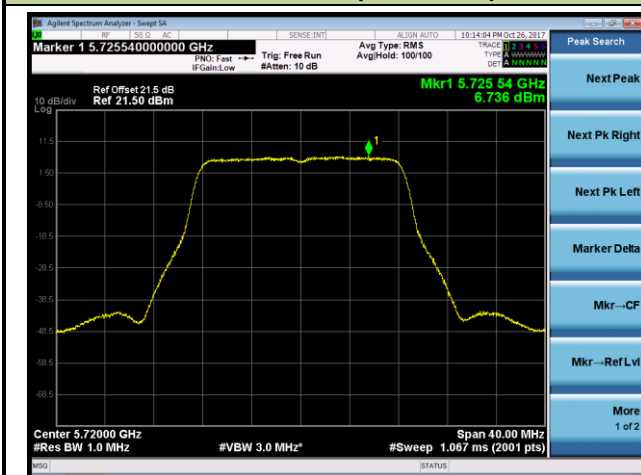
**Channel 120 (5600MHz)**



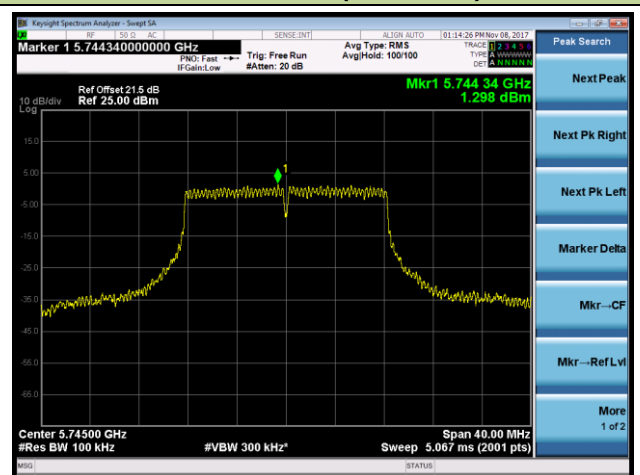
**Channel 140 (5700MHz)**



**Channel 144 (5720MHz)**

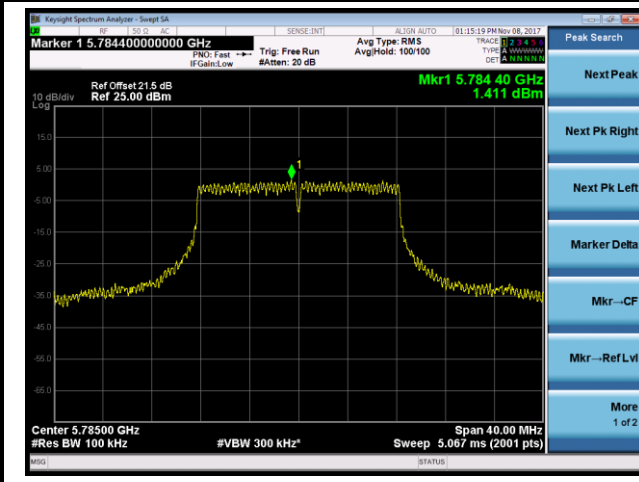


**Channel 149 (5745MHz)**

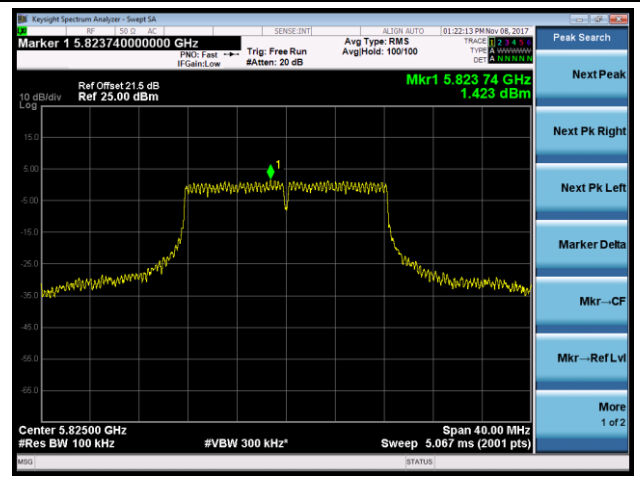


### 802.11a Power Spectral Density - Ant 0

#### Channel 157 (5785MHz)



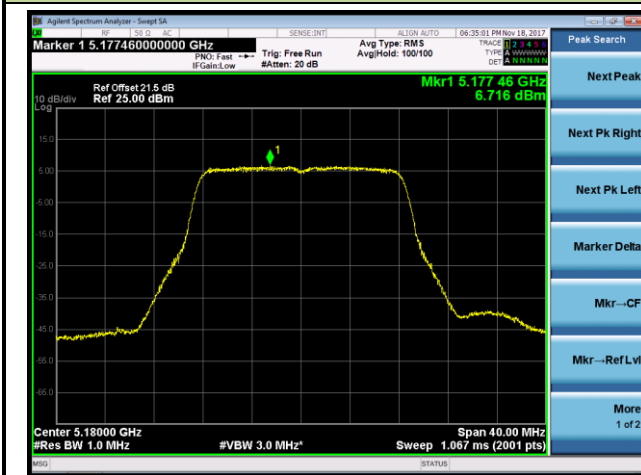
#### Channel 165 (5825MHz)



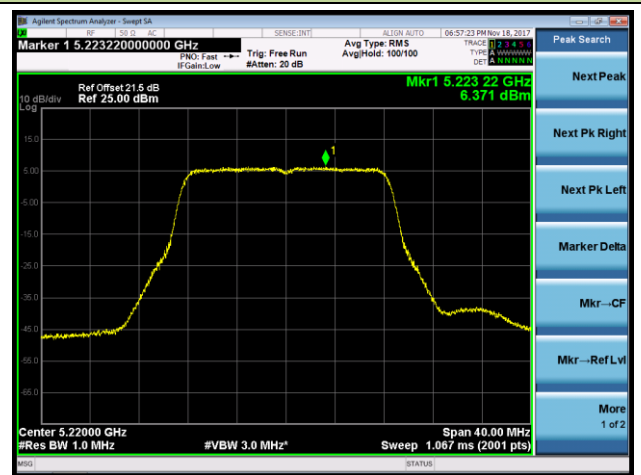


### 802.11a Power Spectral Density - Ant 1

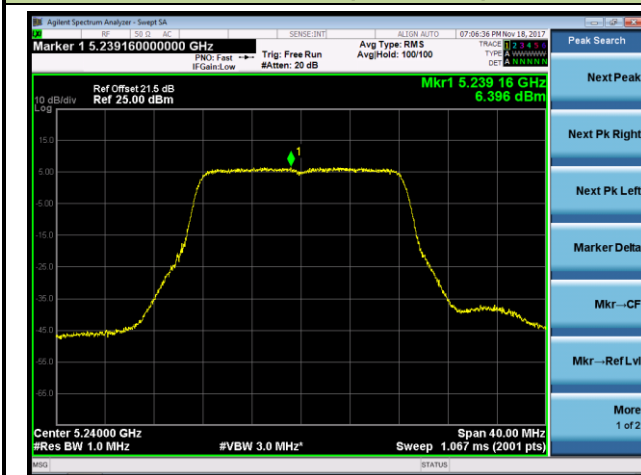
**Channel 36 (5180MHz)**



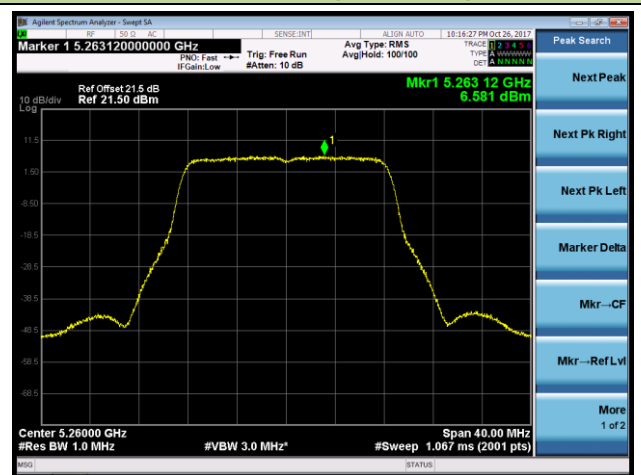
**Channel 44 (5220MHz)**



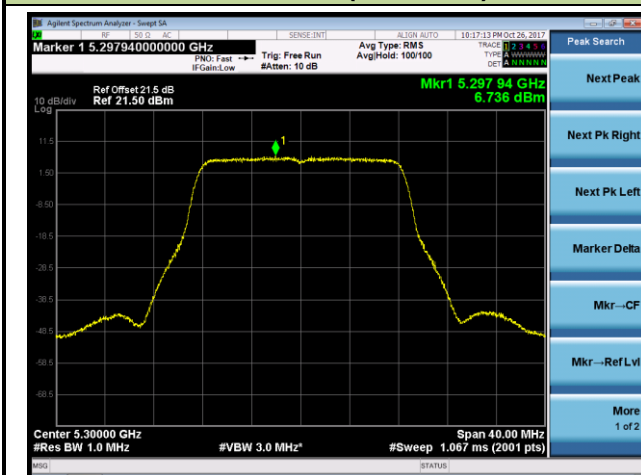
**Channel 48 (5240MHz)**



**Channel 52 (5260MHz)**



**Channel 60 (5300MHz)**



**Channel 64 (5320MHz)**

