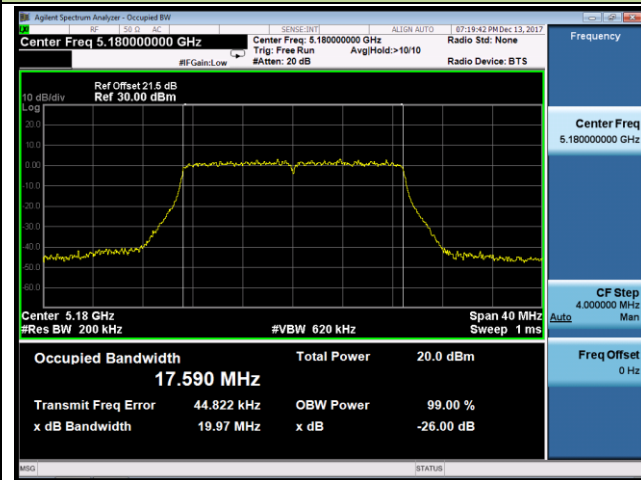
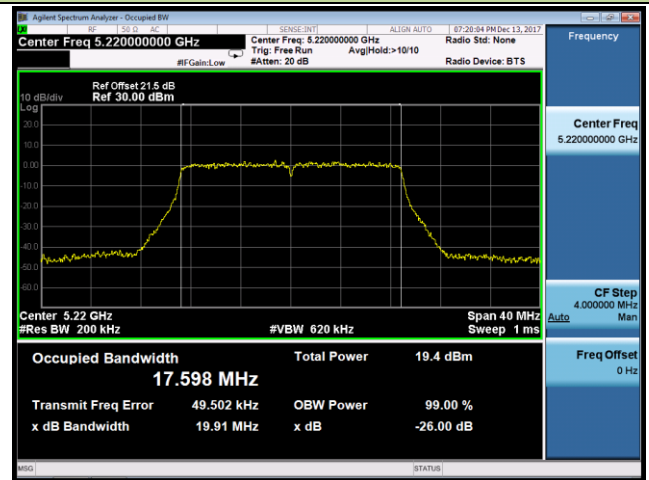


## 802.11ac-VHT20 26dB Bandwidth &amp; 99% Bandwidth - Ant 1

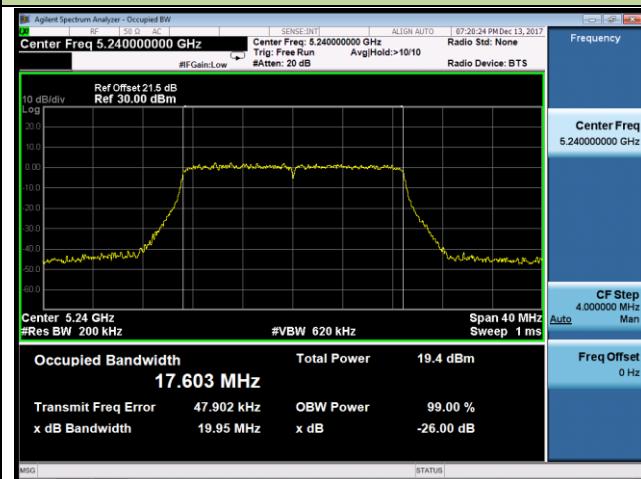
## Channel 36 (5180MHz)



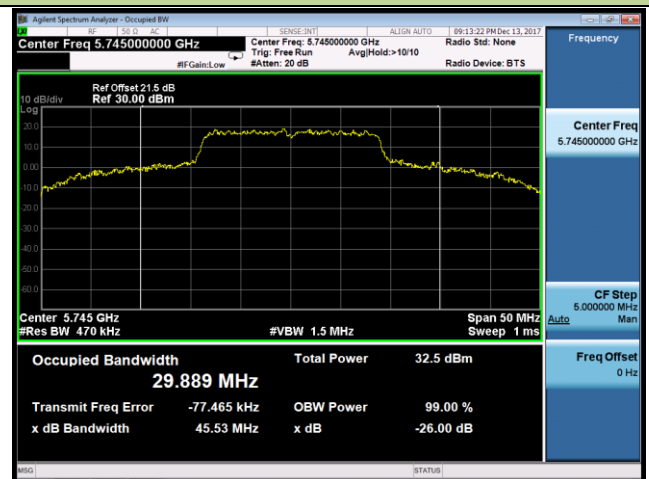
## Channel 44 (5220MHz)



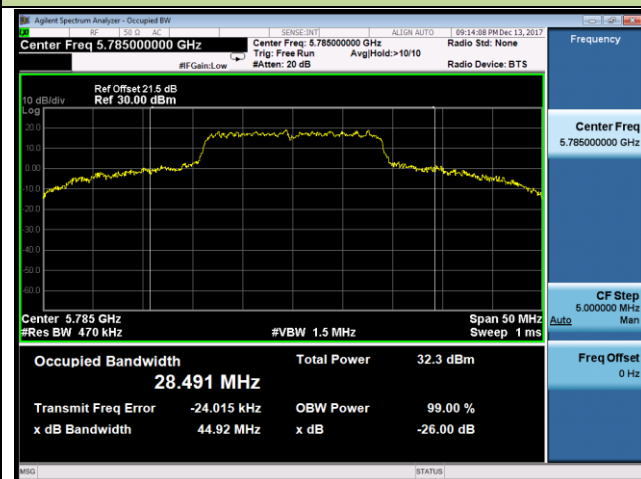
## Channel 48 (5240MHz)



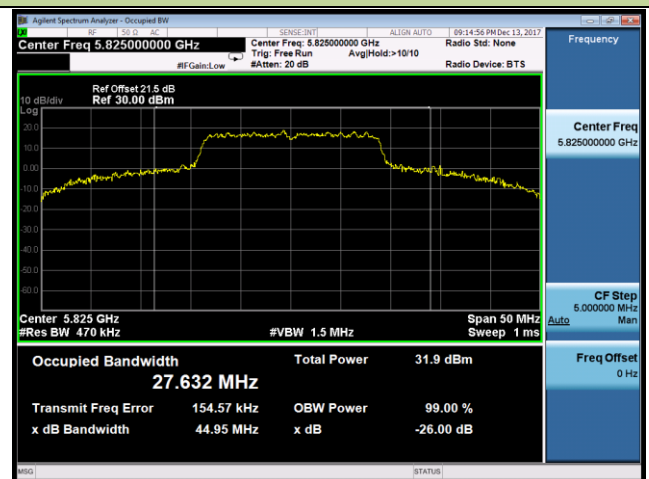
## Channel 149 (5745MHz)



## Channel 157 (5785MHz)

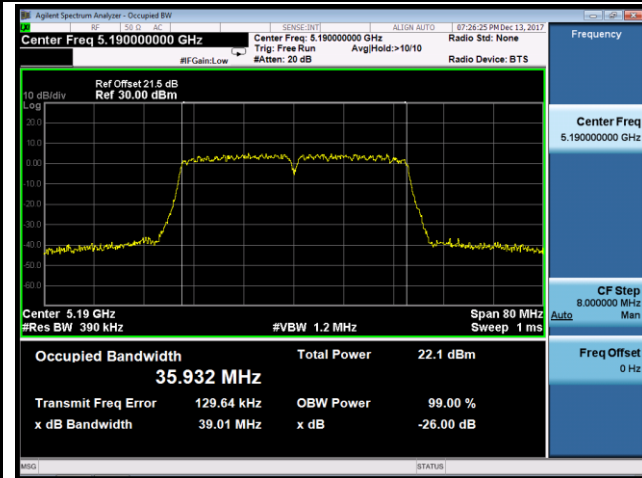


## Channel 165 (5825MHz)

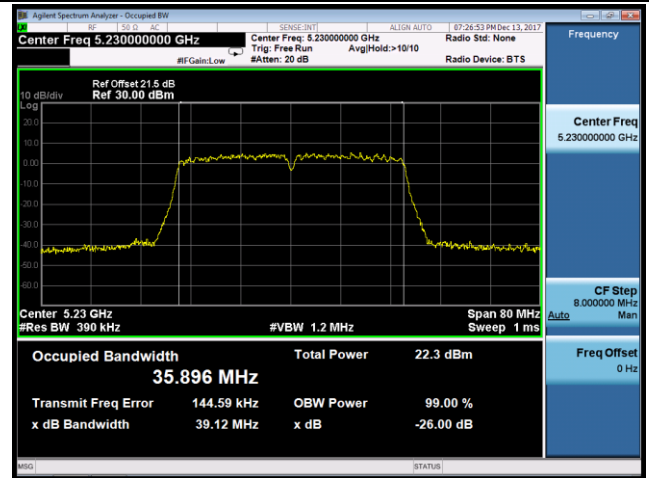


## 802.11ac-VHT40 26dB Bandwidth &amp; 99% Bandwidth - Ant 1

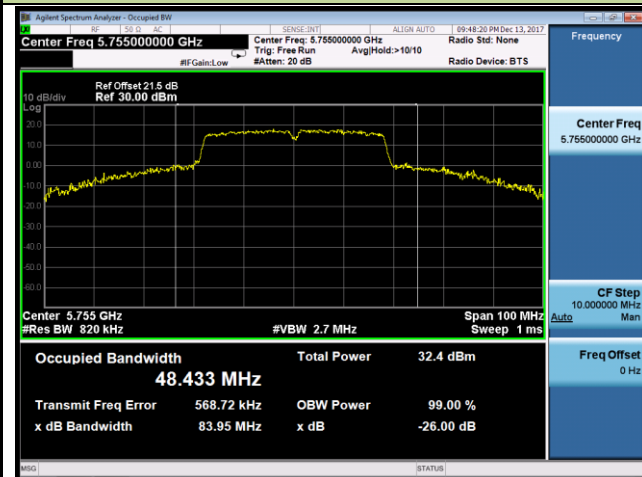
## Channel 38 (5190MHz)



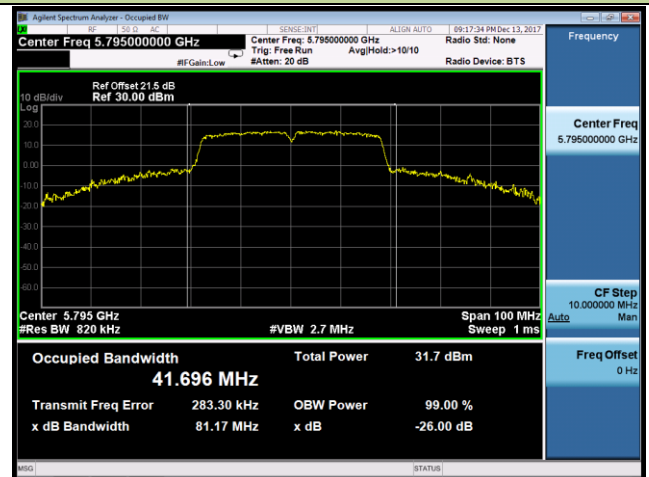
## Channel 46 (5230MHz)



## Channel 151 (5755MHz)

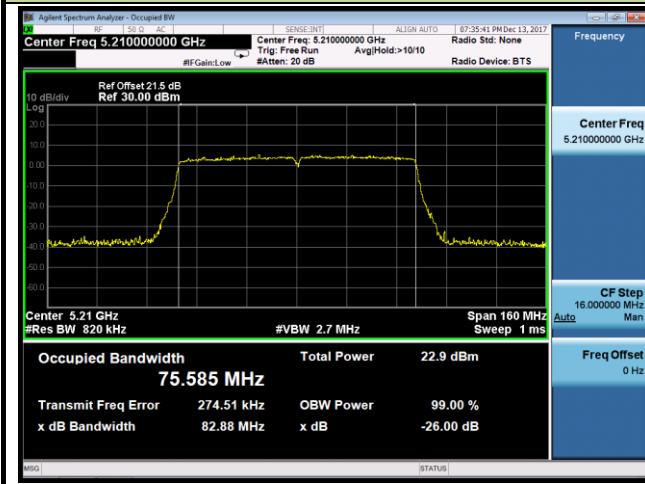


## Channel 159 (5795MHz)

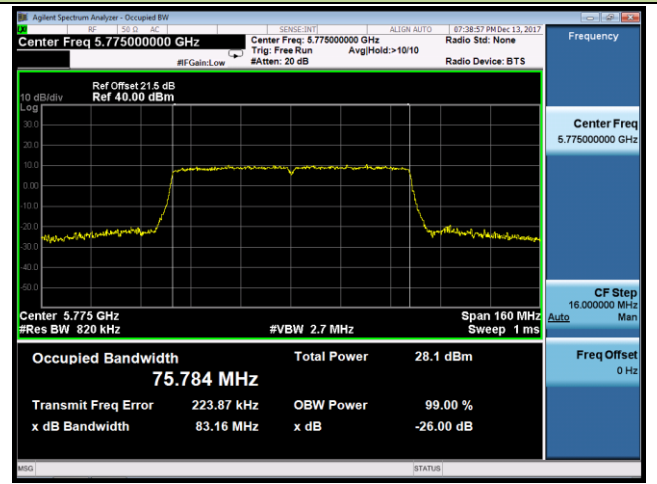


## 802.11ac-VHT80 26dB Bandwidth &amp; 99% Bandwidth - Ant 1

## Channel 42 (5210MHz)



## Channel 155 (5775MHz)



### 7.3. 6dB Bandwidth Measurement

#### 7.3.1. Test Limit

The minimum 6dB bandwidth shall be at least 500 kHz.

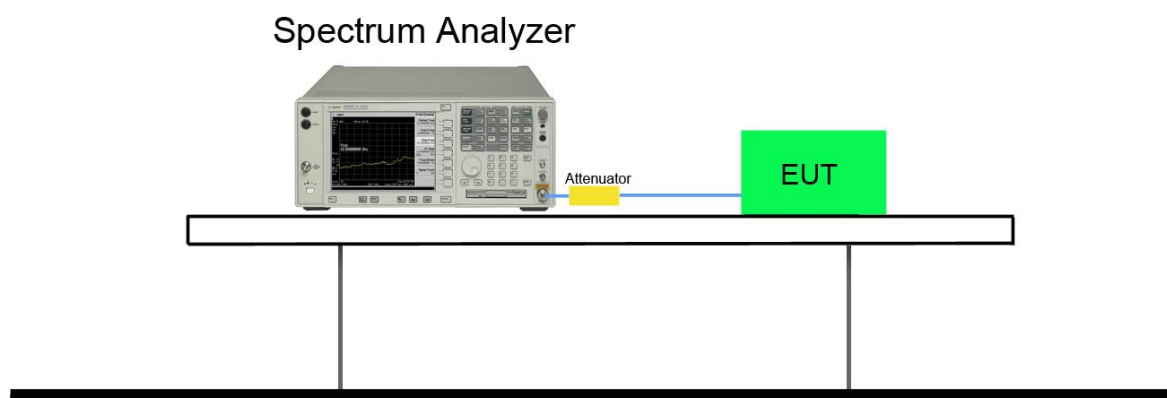
#### 7.3.2. Test Procedure used

KDB 789033 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.  $VBW \geq 3 \times RBW$ .
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

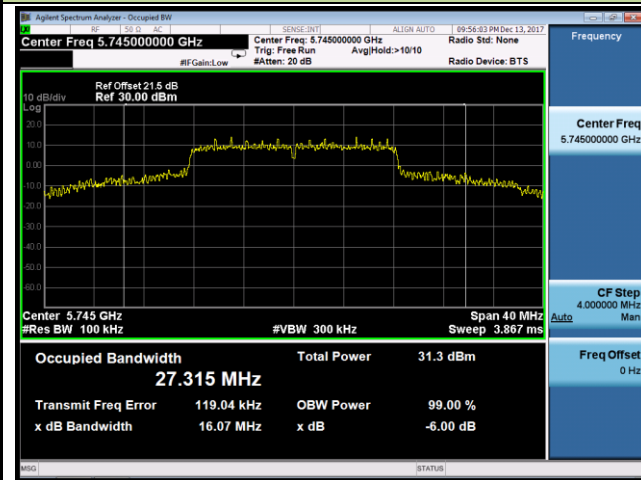
|               |                           |                   |            |
|---------------|---------------------------|-------------------|------------|
| Product       | AC220m Wi-Fi module OD US | Temperature       | 24°C       |
| Test Engineer | Peter Xu                  | Relative Humidity | 59%        |
| Test Site     | SR2                       | Test Date         | 2017/12/12 |

| Test Mode      | Data Rate/<br>MCS | Channel No. | Frequency<br>(MHz) | 6dB<br>Bandwidth(MHz) | Limit<br>(MHz) | Result |
|----------------|-------------------|-------------|--------------------|-----------------------|----------------|--------|
| Ant 0          |                   |             |                    |                       |                |        |
| 802.11a        | 6Mbps             | 149         | 5745               | 16.07                 | ≥ 0.5          | Pass   |
| 802.11a        | 6Mbps             | 157         | 5785               | 16.32                 | ≥ 0.5          | Pass   |
| 802.11a        | 6Mbps             | 165         | 5825               | 16.33                 | ≥ 0.5          | Pass   |
| 802.11n-HT20   | MCS0              | 149         | 5745               | 17.62                 | ≥ 0.5          | Pass   |
| 802.11n-HT20   | MCS0              | 157         | 5785               | 17.56                 | ≥ 0.5          | Pass   |
| 802.11n-HT20   | MCS0              | 165         | 5825               | 17.60                 | ≥ 0.5          | Pass   |
| 802.11n-HT40   | MCS0              | 151         | 5755               | 35.12                 | ≥ 0.5          | Pass   |
| 802.11n-HT40   | MCS0              | 159         | 5795               | 35.15                 | ≥ 0.5          | Pass   |
| 802.11ac-VHT20 | MCS0              | 149         | 5745               | 17.59                 | ≥ 0.5          | Pass   |
| 802.11ac-VHT20 | MCS0              | 157         | 5785               | 17.61                 | ≥ 0.5          | Pass   |
| 802.11ac-VHT20 | MCS0              | 165         | 5825               | 17.60                 | ≥ 0.5          | Pass   |
| 802.11ac-VHT40 | MCS0              | 151         | 5755               | 35.17                 | ≥ 0.5          | Pass   |
| 802.11ac-VHT40 | MCS0              | 159         | 5795               | 35.38                 | ≥ 0.5          | Pass   |
| 802.11ac-VHT80 | MCS0              | 155         | 5775               | 75.52                 | ≥ 0.5          | Pass   |

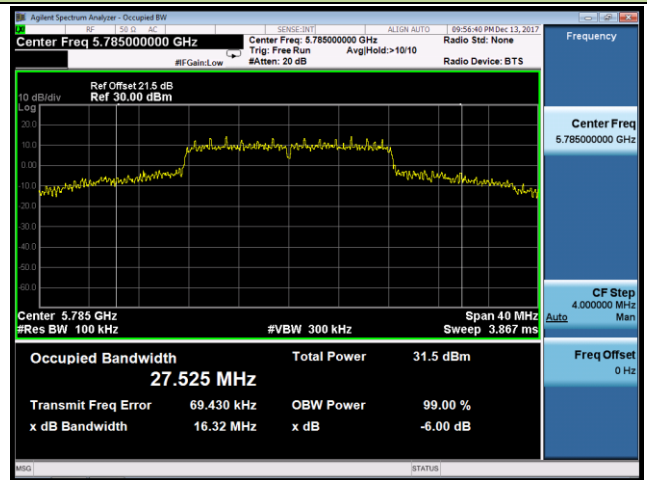
| Test Mode      | Data Rate/<br>MCS | Channel No. | Frequency<br>(MHz) | 6dB<br>Bandwidth(MHz) | Limit<br>(MHz) | Result |
|----------------|-------------------|-------------|--------------------|-----------------------|----------------|--------|
| Ant 1          |                   |             |                    |                       |                |        |
| 802.11a        | 6Mbps             | 149         | 5745               | 16.33                 | ≥ 0.5          | Pass   |
| 802.11a        | 6Mbps             | 157         | 5785               | 16.35                 | ≥ 0.5          | Pass   |
| 802.11a        | 6Mbps             | 165         | 5825               | 16.32                 | ≥ 0.5          | Pass   |
| 802.11n-HT20   | MCS0              | 149         | 5745               | 17.59                 | ≥ 0.5          | Pass   |
| 802.11n-HT20   | MCS0              | 157         | 5785               | 17.61                 | ≥ 0.5          | Pass   |
| 802.11n-HT20   | MCS0              | 165         | 5825               | 17.59                 | ≥ 0.5          | Pass   |
| 802.11n-HT40   | MCS0              | 151         | 5755               | 35.19                 | ≥ 0.5          | Pass   |
| 802.11n-HT40   | MCS0              | 159         | 5795               | 35.17                 | ≥ 0.5          | Pass   |
| 802.11ac-VHT20 | MCS0              | 149         | 5745               | 17.58                 | ≥ 0.5          | Pass   |
| 802.11ac-VHT20 | MCS0              | 157         | 5785               | 17.58                 | ≥ 0.5          | Pass   |
| 802.11ac-VHT20 | MCS0              | 165         | 5825               | 17.57                 | ≥ 0.5          | Pass   |
| 802.11ac-VHT40 | MCS0              | 151         | 5755               | 35.30                 | ≥ 0.5          | Pass   |
| 802.11ac-VHT40 | MCS0              | 159         | 5795               | 35.20                 | ≥ 0.5          | Pass   |
| 802.11ac-VHT80 | MCS0              | 155         | 5775               | 76.03                 | ≥ 0.5          | Pass   |

## 802.11a 6dB Bandwidth - Ant 0

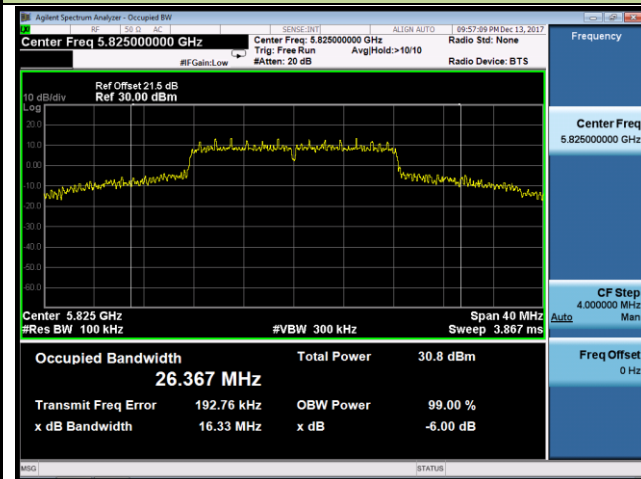
## Channel 149 (5745MHz)



## Channel 157 (5785MHz)

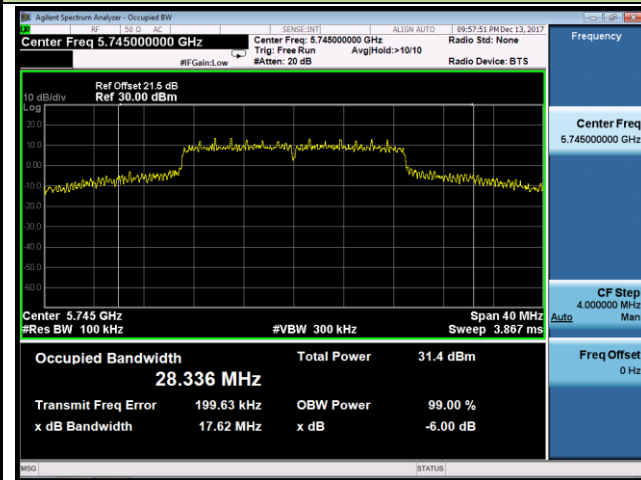


## Channel 165 (5825MHz)

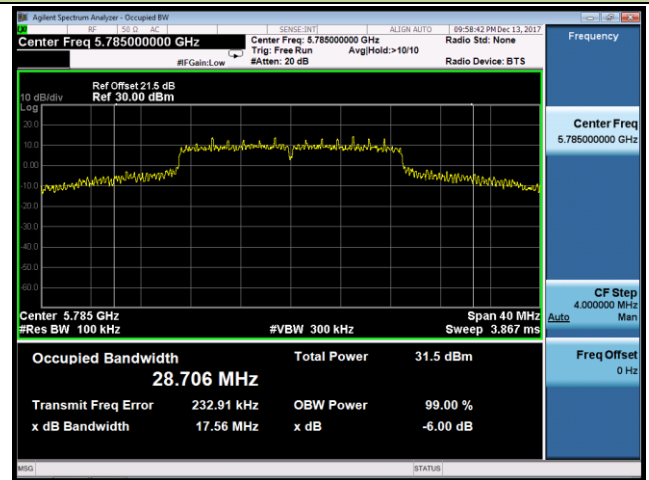


## 802.11n-HT20 6dB Bandwidth - Ant 0

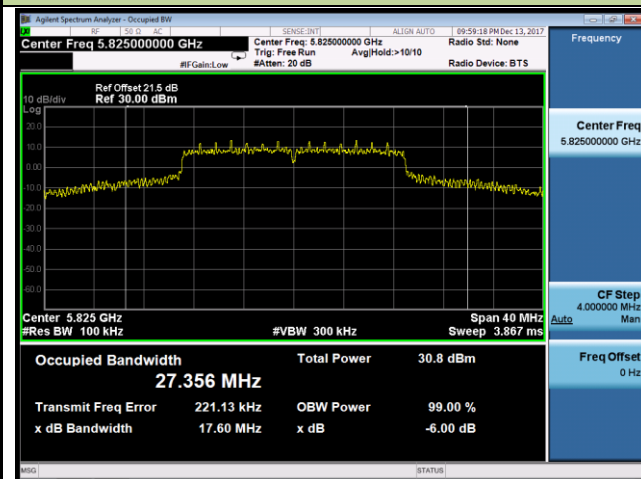
## Channel 149 (5745MHz)



## Channel 157 (5785MHz)

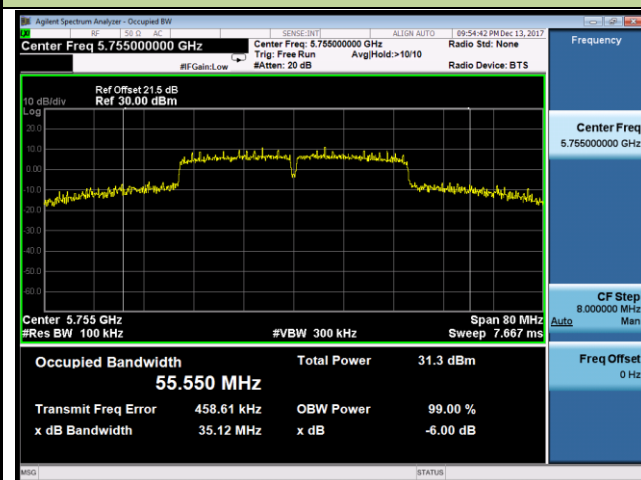


## Channel 165 (5825MHz)

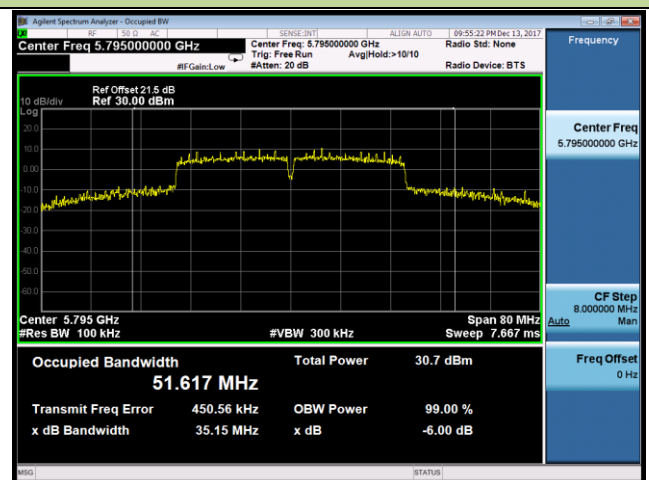


## 802.11n-HT40 6dB Bandwidth - Ant 0

## Channel 151 (5755MHz)

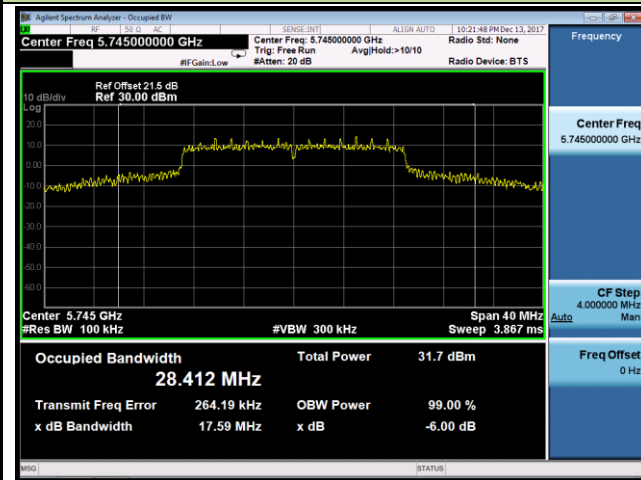


## Channel 159 (5795MHz)

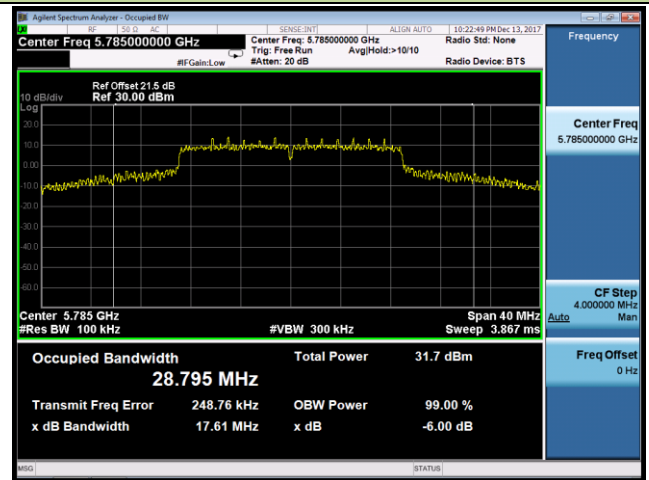


## 802.11ac-VHT20 6dB Bandwidth - Ant 0

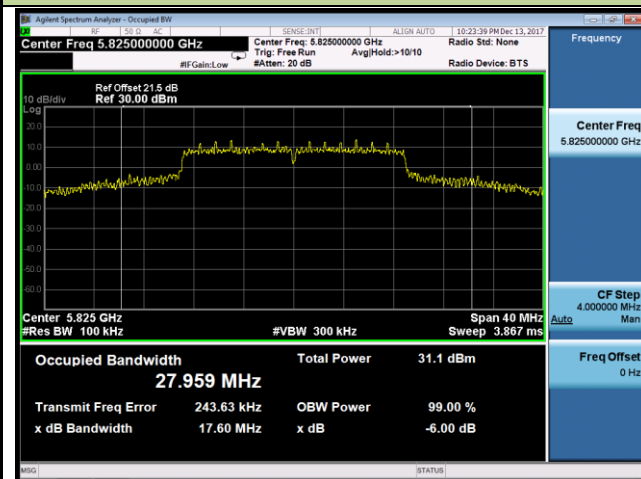
## Channel 149 (5745MHz)



## Channel 157 (5785MHz)

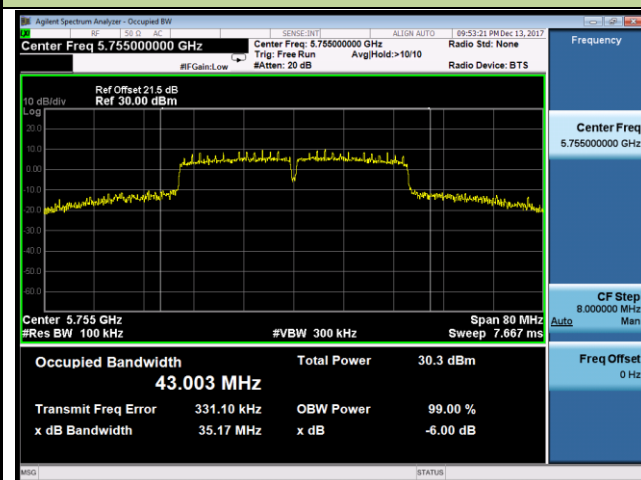


## Channel 165 (5825MHz)

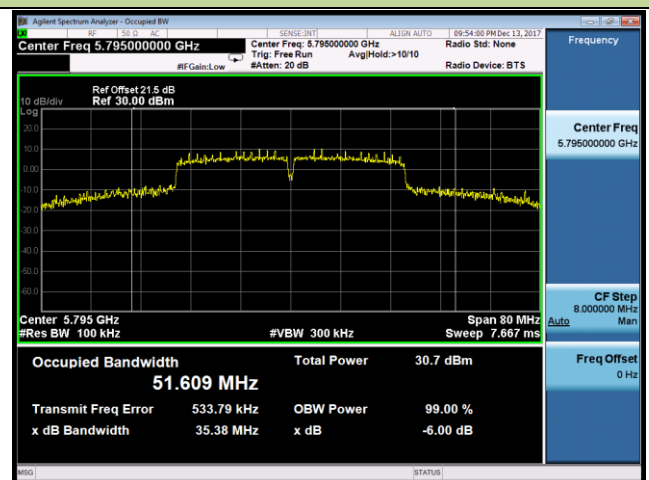


## 802.11ac-VHT40 6dB Bandwidth - Ant 0

## Channel 151 (5755MHz)

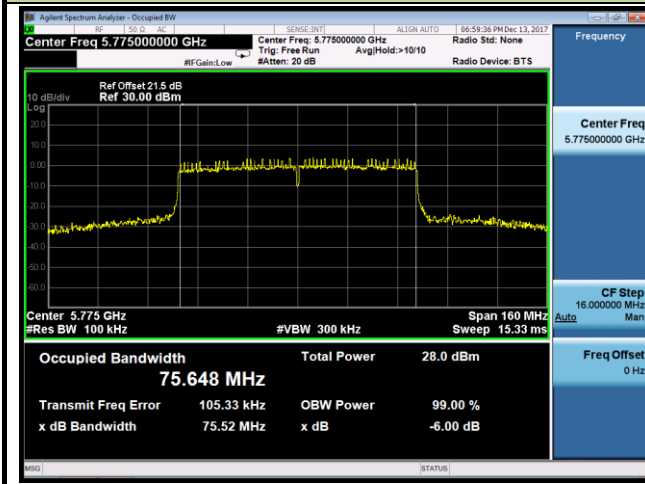


## Channel 159 (5795MHz)



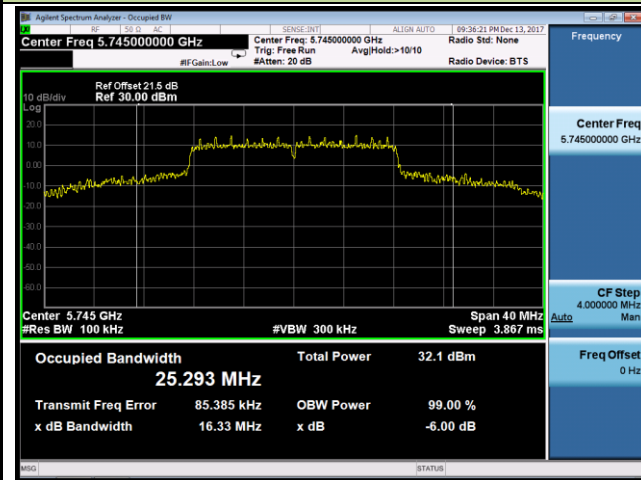
## 802.11ac-VHT80 6dB Bandwidth - Ant 0

## Channel 155 (5775MHz)

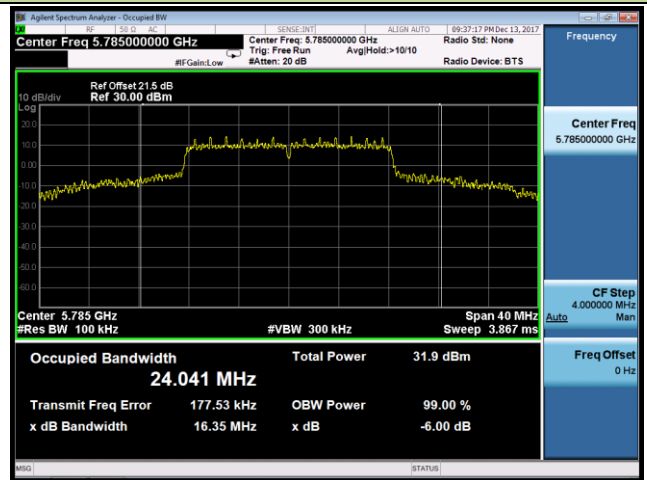


## 802.11a 6dB Bandwidth - Ant 1

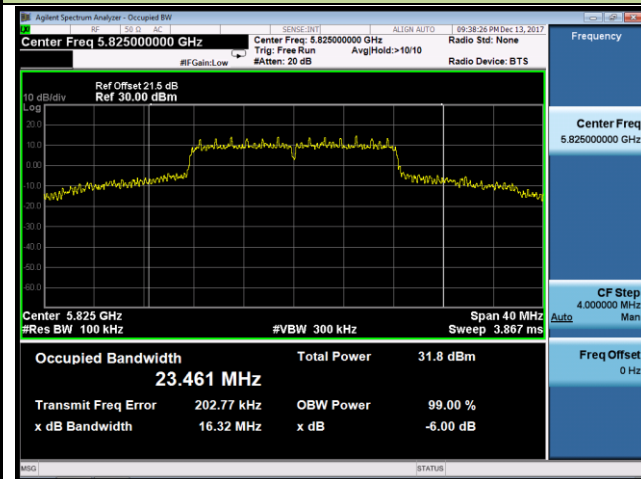
## Channel 149 (5745MHz)



## Channel 157 (5785MHz)

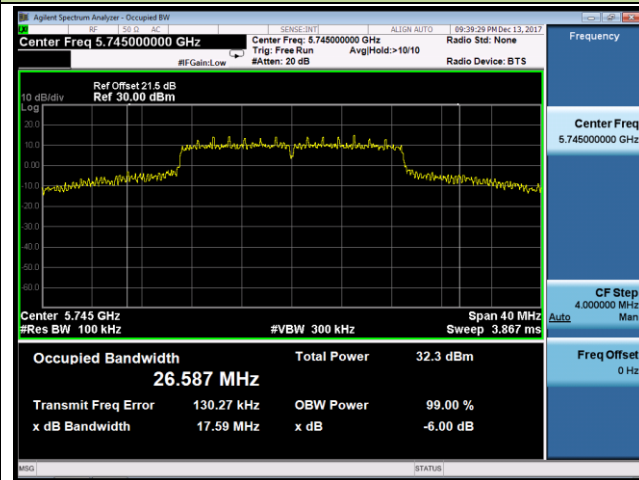


## Channel 165 (5825MHz)

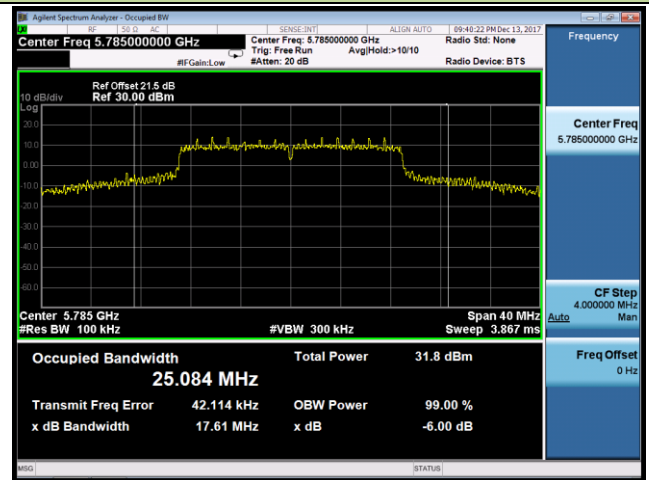


## 802.11n-HT20 6dB Bandwidth - Ant 1

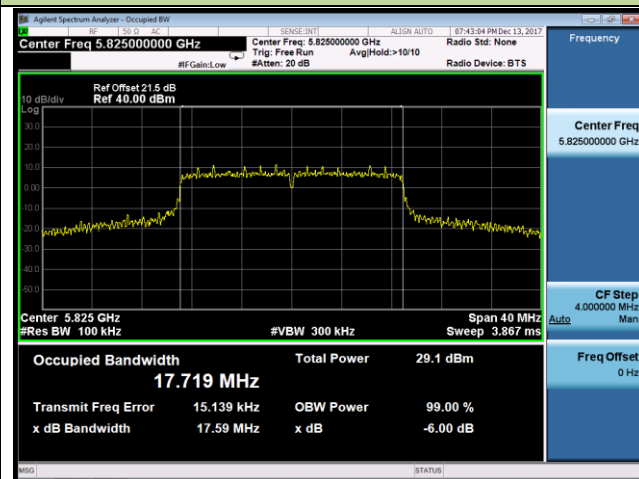
## Channel 149 (5745MHz)



## Channel 157 (5785MHz)

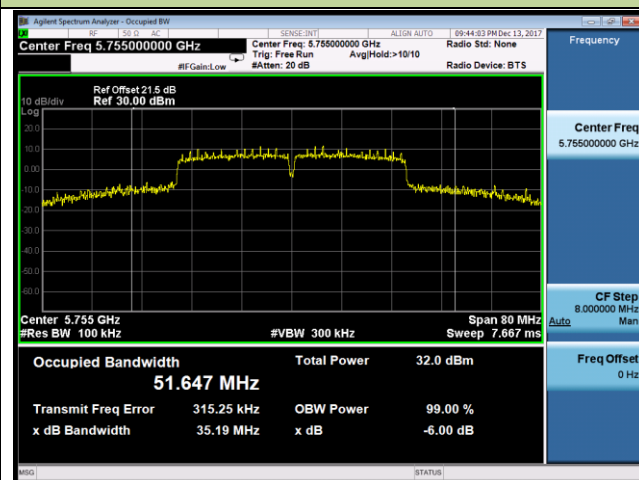


## Channel 165 (5825MHz)

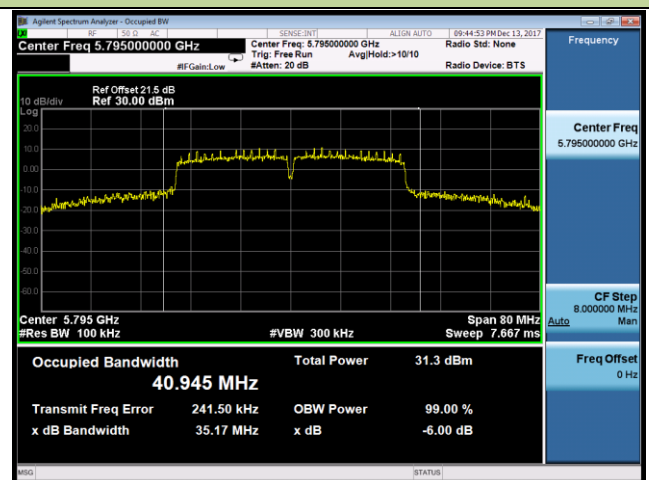


## 802.11n-HT40 6dB Bandwidth - Ant 1

## Channel 151 (5755MHz)

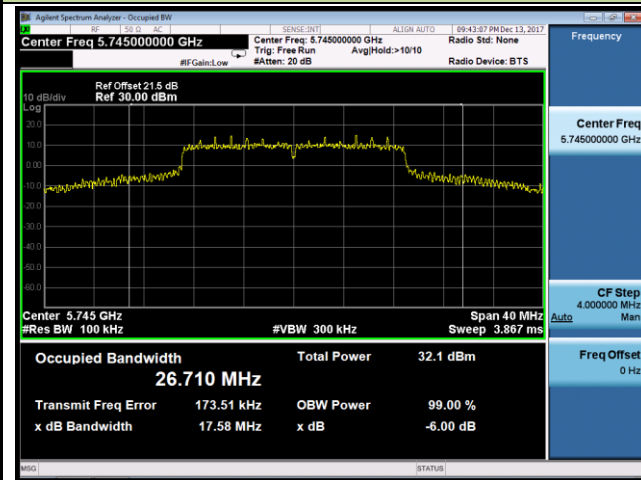


## Channel 159 (5795MHz)

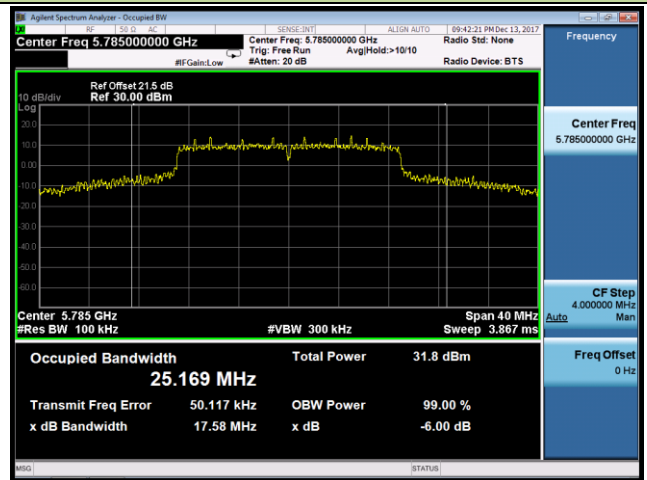


## 802.11ac-VHT20 6dB Bandwidth - Ant 1

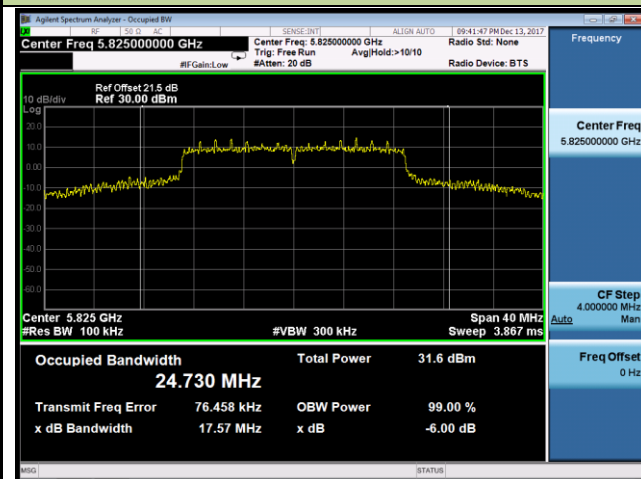
## Channel 149 (5745MHz)



## Channel 157 (5785MHz)

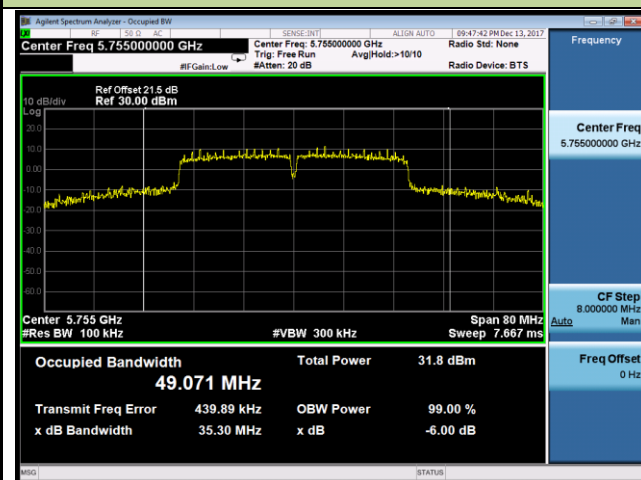


## Channel 165 (5825MHz)

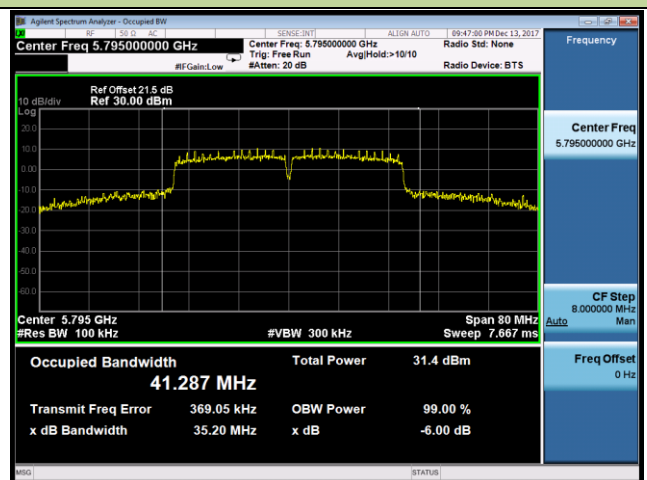


## 802.11ac-VHT40 6dB Bandwidth - Ant 1

## Channel 151 (5755MHz)

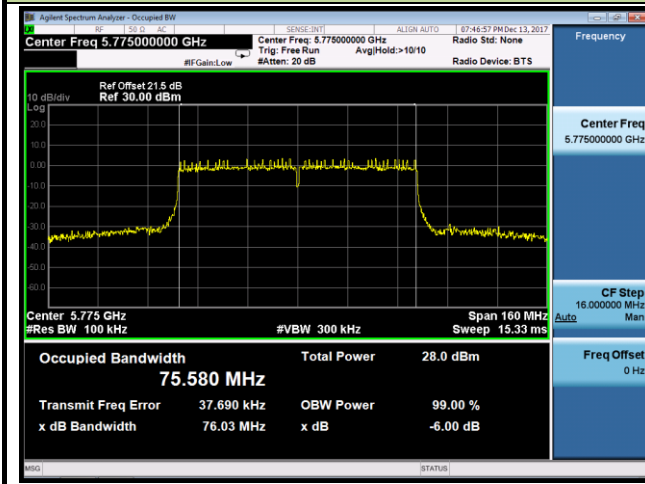


## Channel 159 (5795MHz)



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

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

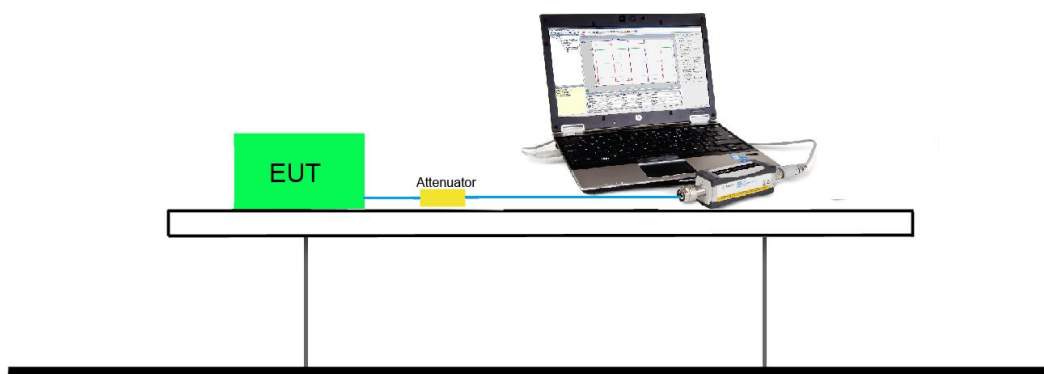
### 7.4.2. Test Procedure Used

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

### 7.4.3. Test Setting

Average power measurements were 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.

### 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 Ant 0 port:

| Test Mode | Bandwidth | Channel | Frequency (MHz) | Data Rate/ MCS | Average Power (dBm) |
|-----------|-----------|---------|-----------------|----------------|---------------------|
| 802.11a   | 20        | 36      | 5180            | 6Mbps          | 13.81               |
|           |           |         |                 | 24Mbps         | 13.73               |
|           |           |         |                 | 54Mbps         | 13.62               |
| 802.11n   | 20        | 36      | 5180            | MCS0           | 13.35               |
|           |           |         |                 | MCS3           | 13.28               |
|           |           |         |                 | MCS7           | 13.19               |
| 802.11n   | 40        | 38      | 5190            | MCS0           | 15.70               |
|           |           |         |                 | MCS3           | 15.64               |
|           |           |         |                 | MCS7           | 15.58               |
| 802.11ac  | 20        | 36      | 5180            | MCS0           | 13.31               |
|           |           |         |                 | MCS4           | 13.23               |
|           |           |         |                 | MCS8           | 13.12               |
| 802.11ac  | 40        | 38      | 5190            | MCS0           | 15.52               |
|           |           |         |                 | MCS4           | 15.41               |
|           |           |         |                 | MCS9           | 15.32               |
| 802.11ac  | 80        | 42      | 5210            | MCS0           | 15.28               |
|           |           |         |                 | MCS4           | 15.14               |
|           |           |         |                 | MCS9           | 15.02               |



|               |                           |                   |            |
|---------------|---------------------------|-------------------|------------|
| Product       | AC220m Wi-Fi module OD US | Temperature       | 24°C       |
| Test Engineer | Kevin Ker                 | Relative Humidity | 59%        |
| Test Site     | SR2                       | Test Date         | 2017/12/10 |
| Test Item     | Output Power (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               | ≤ 29.00                   | 20.75                                 | ≤ 21.00                                 | Pass   |
| 11a        | 6Mbps         | 44          | 5220        | 13.58               | ≤ 29.00                   | 20.58                                 | ≤ 21.00                                 | Pass   |
| 11a        | 6Mbps         | 48          | 5240        | 13.69               | ≤ 29.00                   | 20.69                                 | ≤ 21.00                                 | Pass   |
| 11n-HT20   | MCS0          | 36          | 5180        | 13.70               | ≤ 29.00                   | 20.70                                 | ≤ 21.00                                 | Pass   |
| 11n-HT20   | MCS0          | 44          | 5220        | 13.46               | ≤ 29.00                   | 20.46                                 | ≤ 21.00                                 | Pass   |
| 11n-HT20   | MCS0          | 48          | 5240        | 13.71               | ≤ 29.00                   | 20.71                                 | ≤ 21.00                                 | Pass   |
| 11n-HT40   | MCS0          | 38          | 5190        | 13.78               | ≤ 29.00                   | 20.78                                 | ≤ 21.00                                 | Pass   |
| 11n-HT40   | MCS0          | 46          | 5230        | 13.52               | ≤ 29.00                   | 20.52                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT20 | MCS0          | 36          | 5180        | 13.76               | ≤ 29.00                   | 20.76                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT20 | MCS0          | 44          | 5220        | 13.48               | ≤ 29.00                   | 20.48                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT20 | MCS0          | 48          | 5240        | 13.48               | ≤ 29.00                   | 20.48                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT40 | MCS0          | 38          | 5190        | 13.54               | ≤ 29.00                   | 20.54                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT40 | MCS0          | 46          | 5230        | 13.45               | ≤ 29.00                   | 20.45                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT80 | MCS0          | 42          | 5210        | 13.45               | ≤ 29.00                   | 20.45                                 | ≤ 21.00                                 | Pass   |

Note: Max EIRP of 30° Elevation Angle (dBm) = Total 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               | ≤ 29.00                   | 20.59                                 | ≤ 21.00                                 | Pass   |
| 11a        | 6Mbps         | 44          | 5220        | 13.56               | ≤ 29.00                   | 20.56                                 | ≤ 21.00                                 | Pass   |
| 11a        | 6Mbps         | 48          | 5240        | 13.42               | ≤ 29.00                   | 20.42                                 | ≤ 21.00                                 | Pass   |
| 11n-HT20   | MCS0          | 36          | 5180        | 13.53               | ≤ 29.00                   | 20.53                                 | ≤ 21.00                                 | Pass   |
| 11n-HT20   | MCS0          | 44          | 5220        | 13.50               | ≤ 29.00                   | 20.50                                 | ≤ 21.00                                 | Pass   |
| 11n-HT20   | MCS0          | 48          | 5240        | 13.56               | ≤ 29.00                   | 20.56                                 | ≤ 21.00                                 | Pass   |
| 11n-HT40   | MCS0          | 38          | 5190        | 13.52               | ≤ 29.00                   | 20.52                                 | ≤ 21.00                                 | Pass   |
| 11n-HT40   | MCS0          | 46          | 5230        | 13.55               | ≤ 29.00                   | 20.55                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT20 | MCS0          | 36          | 5180        | 13.54               | ≤ 29.00                   | 20.54                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT20 | MCS0          | 44          | 5220        | 13.42               | ≤ 29.00                   | 20.42                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT20 | MCS0          | 48          | 5240        | 13.61               | ≤ 29.00                   | 20.61                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT40 | MCS0          | 38          | 5190        | 13.57               | ≤ 29.00                   | 20.57                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT40 | MCS0          | 46          | 5230        | 13.39               | ≤ 29.00                   | 20.39                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT80 | MCS0          | 42          | 5210        | 13.43               | ≤ 29.00                   | 20.43                                 | ≤ 21.00                                 | Pass   |

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

| Test Mode                     | Data Rate/MCS | Channel No. | Freq. (MHz) | Ant1 Average Power (dBm) | Ant2 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                     | ≤ 29.00                   | 20.42                                 | ≤ 21.00                                 | Pass   |
| 11a                           | 6Mbps         | 44          | 5220        | 10.31                    | 10.41                    | 13.37                     | ≤ 29.00                   | 20.37                                 | ≤ 21.00                                 | Pass   |
| 11a                           | 6Mbps         | 48          | 5240        | 10.35                    | 10.58                    | 13.48                     | ≤ 29.00                   | 20.48                                 | ≤ 21.00                                 | Pass   |
| 11n-HT20                      | MCS0          | 36          | 5180        | 10.56                    | 10.51                    | 13.55                     | ≤ 29.00                   | 20.55                                 | ≤ 21.00                                 | Pass   |
| 11n-HT20                      | MCS0          | 44          | 5220        | 10.38                    | 10.51                    | 13.46                     | ≤ 29.00                   | 20.46                                 | ≤ 21.00                                 | Pass   |
| 11n-HT20                      | MCS0          | 48          | 5240        | 10.36                    | 10.76                    | 13.57                     | ≤ 29.00                   | 20.57                                 | ≤ 21.00                                 | Pass   |
| 11n-HT40                      | MCS0          | 38          | 5190        | 10.55                    | 10.58                    | 13.58                     | ≤ 29.00                   | 20.58                                 | ≤ 21.00                                 | Pass   |
| 11n-HT40                      | MCS0          | 46          | 5230        | 10.43                    | 10.46                    | 13.46                     | ≤ 29.00                   | 20.46                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT20                    | MCS0          | 36          | 5180        | 10.54                    | 10.71                    | 13.64                     | ≤ 29.00                   | 20.64                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT20                    | MCS0          | 44          | 5220        | 10.39                    | 10.53                    | 13.47                     | ≤ 29.00                   | 20.47                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT20                    | MCS0          | 48          | 5240        | 10.42                    | 10.52                    | 13.48                     | ≤ 29.00                   | 20.48                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT40                    | MCS0          | 38          | 5190        | 10.57                    | 10.55                    | 13.57                     | ≤ 29.00                   | 20.57                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT40                    | MCS0          | 46          | 5230        | 10.45                    | 10.47                    | 13.47                     | ≤ 29.00                   | 20.47                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT80                    | MCS0          | 42          | 5210        | 10.22                    | 10.48                    | 13.36                     | ≤ 29.00                   | 20.36                                 | ≤ 21.00                                 | Pass   |
| Ant 0 + 1 (Beam-Forming Mode) |               |             |             |                          |                          |                           |                           |                                       |                                         |        |
| 11n-HT20                      | MCS0          | 36          | 5180        | 7.48                     | 7.27                     | 10.39                     | ≤ 25.99                   | 20.40                                 | ≤ 21.00                                 | Pass   |
| 11n-HT20                      | MCS0          | 44          | 5220        | 7.43                     | 7.09                     | 10.27                     | ≤ 25.99                   | 20.28                                 | ≤ 21.00                                 | Pass   |
| 11n-HT20                      | MCS0          | 48          | 5240        | 7.32                     | 7.34                     | 10.34                     | ≤ 25.99                   | 20.35                                 | ≤ 21.00                                 | Pass   |
| 11n-HT40                      | MCS0          | 38          | 5190        | 7.31                     | 7.02                     | 10.18                     | ≤ 25.99                   | 20.19                                 | ≤ 21.00                                 | Pass   |
| 11n-HT40                      | MCS0          | 46          | 5230        | 7.36                     | 6.97                     | 10.18                     | ≤ 25.99                   | 20.19                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT20                    | MCS0          | 36          | 5180        | 7.45                     | 7.30                     | 10.39                     | ≤ 25.99                   | 20.40                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT20                    | MCS0          | 44          | 5220        | 7.43                     | 7.08                     | 10.27                     | ≤ 25.99                   | 20.28                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT20                    | MCS0          | 48          | 5240        | 7.22                     | 7.20                     | 10.22                     | ≤ 25.99                   | 20.23                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT40                    | MCS0          | 38          | 5190        | 7.32                     | 7.07                     | 10.21                     | ≤ 25.99                   | 20.22                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT40                    | MCS0          | 46          | 5230        | 7.34                     | 7.01                     | 10.19                     | ≤ 25.99                   | 20.20                                 | ≤ 21.00                                 | Pass   |
| 11ac-VHT80                    | MCS0          | 42          | 5210        | 7.14                     | 6.81                     | 9.99                      | ≤ 25.99                   | 20.00                                 | ≤ 21.00                                 | Pass   |

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

Note 2: Max EIRP of 30° Elevation Angle (dBm) = Total Average Power (dBm) + Directional Antenna 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         | 2012/12/15 |
| Test Item     | Output Power (NII-3)      |                   |            |

| Test Mode  | Data Rate/<br>MCS | Channel No. | Freq.<br>(MHz) | Average Power<br>(dBm) | Power Limit<br>(dBm) | Result |
|------------|-------------------|-------------|----------------|------------------------|----------------------|--------|
| Ant 0      |                   |             |                |                        |                      |        |
| 11a        | 6Mbps             | 149         | 5745           | 24.56                  | ≤ 29.00              | Pass   |
| 11a        | 6Mbps             | 157         | 5785           | 24.48                  | ≤ 29.00              | Pass   |
| 11a        | 6Mbps             | 165         | 5825           | 23.89                  | ≤ 29.00              | Pass   |
| 11n-HT20   | MCS0              | 149         | 5745           | 24.61                  | ≤ 29.00              | Pass   |
| 11n-HT20   | MCS0              | 157         | 5785           | 24.57                  | ≤ 29.00              | Pass   |
| 11n-HT20   | MCS0              | 165         | 5825           | 23.96                  | ≤ 29.00              | Pass   |
| 11n-HT40   | MCS0              | 151         | 5755           | 24.10                  | ≤ 29.00              | Pass   |
| 11n-HT40   | MCS0              | 159         | 5795           | 23.57                  | ≤ 29.00              | Pass   |
| 11ac-VHT20 | MCS0              | 149         | 5745           | 24.60                  | ≤ 29.00              | Pass   |
| 11ac-VHT20 | MCS0              | 157         | 5785           | 24.52                  | ≤ 29.00              | Pass   |
| 11ac-VHT20 | MCS0              | 165         | 5825           | 23.92                  | ≤ 29.00              | Pass   |
| 11ac-VHT40 | MCS0              | 151         | 5755           | 23.27                  | ≤ 29.00              | Pass   |
| 11ac-VHT40 | MCS0              | 159         | 5795           | 23.57                  | ≤ 29.00              | Pass   |
| 11ac-VHT80 | MCS0              | 155         | 5775           | 20.57                  | ≤ 29.00              | Pass   |
| Ant 1      |                   |             |                |                        |                      |        |
| 11a        | 6Mbps             | 149         | 5745           | 25.01                  | ≤ 29.00              | Pass   |
| 11a        | 6Mbps             | 157         | 5785           | 24.71                  | ≤ 29.00              | Pass   |
| 11a        | 6Mbps             | 165         | 5825           | 24.35                  | ≤ 29.00              | Pass   |
| 11n-HT20   | MCS0              | 149         | 5745           | 25.09                  | ≤ 29.00              | Pass   |
| 11n-HT20   | MCS0              | 157         | 5785           | 24.78                  | ≤ 29.00              | Pass   |
| 11n-HT20   | MCS0              | 165         | 5825           | 24.43                  | ≤ 29.00              | Pass   |
| 11n-HT40   | MCS0              | 151         | 5755           | 24.50                  | ≤ 29.00              | Pass   |
| 11n-HT40   | MCS0              | 159         | 5795           | 23.71                  | ≤ 29.00              | Pass   |
| 11ac-VHT20 | MCS0              | 149         | 5745           | 25.06                  | ≤ 29.00              | Pass   |
| 11ac-VHT20 | MCS0              | 157         | 5785           | 24.72                  | ≤ 29.00              | Pass   |
| 11ac-VHT20 | MCS0              | 165         | 5825           | 24.39                  | ≤ 29.00              | Pass   |
| 11ac-VHT40 | MCS0              | 151         | 5755           | 24.33                  | ≤ 29.00              | Pass   |
| 11ac-VHT40 | MCS0              | 159         | 5795           | 23.64                  | ≤ 29.00              | Pass   |
| 11ac-VHT80 | MCS0              | 155         | 5775           | 20.31                  | ≤ 29.00              | Pass   |

| Test Mode                     | Data Rate/<br>MCS | Channel<br>No. | Freq.<br>(MHz) | Ant1<br>Average<br>Power<br>(dBm) | Ant2<br>Average<br>Power<br>(dBm) | Total<br>Average<br>Power<br>(dBm) | Power Limit<br>(dBm) | Result |
|-------------------------------|-------------------|----------------|----------------|-----------------------------------|-----------------------------------|------------------------------------|----------------------|--------|
| Ant 1 + 2 (CDD Mode)          |                   |                |                |                                   |                                   |                                    |                      |        |
| 11a                           | 6Mbps             | 149            | 5745           | 24.46                             | 25.19                             | 27.85                              | ≤ 29.00              | Pass   |
| 11a                           | 6Mbps             | 157            | 5785           | 24.40                             | 24.91                             | 27.67                              | ≤ 29.00              | Pass   |
| 11a                           | 6Mbps             | 165            | 5825           | 23.73                             | 24.56                             | 27.18                              | ≤ 29.00              | Pass   |
| 11n-HT20                      | MCS0              | 149            | 5745           | 24.54                             | 25.32                             | 27.96                              | ≤ 29.00              | Pass   |
| 11n-HT20                      | MCS0              | 157            | 5785           | 24.49                             | 25.02                             | 27.77                              | ≤ 29.00              | Pass   |
| 11n-HT20                      | MCS0              | 165            | 5825           | 23.80                             | 24.65                             | 27.26                              | ≤ 29.00              | Pass   |
| 11n-HT40                      | MCS0              | 151            | 5755           | 23.62                             | 23.63                             | 26.64                              | ≤ 29.00              | Pass   |
| 11n-HT40                      | MCS0              | 159            | 5795           | 23.98                             | 23.88                             | 26.94                              | ≤ 29.00              | Pass   |
| 11ac-VHT20                    | MCS0              | 149            | 5745           | 24.56                             | 25.22                             | 27.91                              | ≤ 29.00              | Pass   |
| 11ac-VHT20                    | MCS0              | 157            | 5785           | 24.47                             | 24.93                             | 27.72                              | ≤ 29.00              | Pass   |
| 11ac-VHT20                    | MCS0              | 165            | 5825           | 23.79                             | 24.60                             | 27.22                              | ≤ 29.00              | Pass   |
| 11ac-VHT40                    | MCS0              | 151            | 5755           | 22.58                             | 23.61                             | 26.14                              | ≤ 29.00              | Pass   |
| 11ac-VHT40                    | MCS0              | 159            | 5795           | 23.39                             | 23.86                             | 26.64                              | ≤ 29.00              | Pass   |
| 11ac-VHT80                    | MCS0              | 155            | 5775           | 18.09                             | 18.82                             | 21.48                              | ≤ 29.00              | Pass   |
| Ant 1 + 2 (Beam-Forming Mode) |                   |                |                |                                   |                                   |                                    |                      |        |
| 11n-HT20                      | MCS0              | 149            | 5745           | 22.25                             | 23.30                             | 25.82                              | ≤ 25.99              | Pass   |
| 11n-HT20                      | MCS0              | 157            | 5785           | 22.20                             | 23.12                             | 25.69                              | ≤ 25.99              | Pass   |
| 11n-HT20                      | MCS0              | 165            | 5825           | 22.05                             | 22.73                             | 25.41                              | ≤ 25.99              | Pass   |
| 11n-HT40                      | MCS0              | 151            | 5755           | 22.11                             | 23.06                             | 25.62                              | ≤ 25.99              | Pass   |
| 11n-HT40                      | MCS0              | 159            | 5795           | 22.05                             | 22.85                             | 25.48                              | ≤ 25.99              | Pass   |
| 11ac-VHT20                    | MCS0              | 149            | 5745           | 21.73                             | 22.86                             | 25.34                              | ≤ 25.99              | Pass   |
| 11ac-VHT20                    | MCS0              | 157            | 5785           | 21.70                             | 22.66                             | 25.22                              | ≤ 25.99              | Pass   |
| 11ac-VHT20                    | MCS0              | 165            | 5825           | 22.05                             | 22.67                             | 25.38                              | ≤ 25.99              | Pass   |
| 11ac-VHT40                    | MCS0              | 151            | 5755           | 22.10                             | 23.10                             | 25.64                              | ≤ 25.99              | Pass   |
| 11ac-VHT40                    | MCS0              | 159            | 5795           | 21.97                             | 22.82                             | 25.43                              | ≤ 25.99              | Pass   |
| 11ac-VHT80                    | MCS0              | 155            | 5775           | 20.12                             | 20.23                             | 23.19                              | ≤ 25.99              | Pass   |

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

## 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.

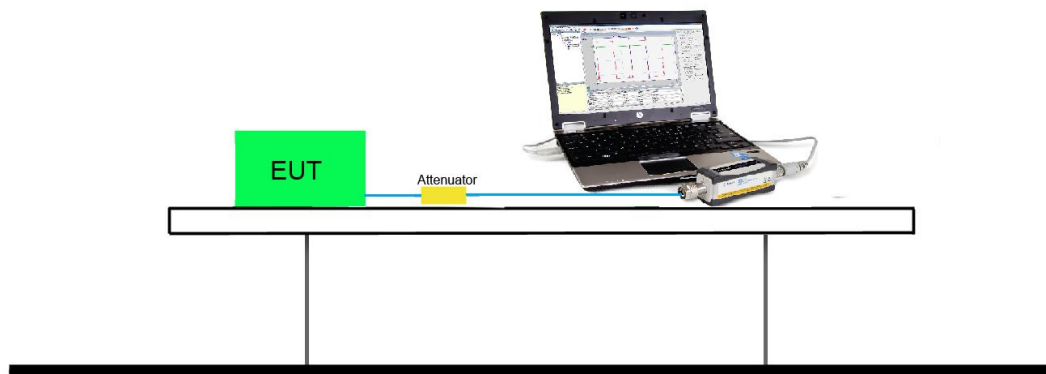
### 7.5.2. Test Procedure Used

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

### 7.5.3. Test Setting

Average power measurements were 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.

### 7.5.4. Test Setup



### 7.5.5. Test Result

Not Applicant.

## **7.6. Power Spectral Density Measurement**

### **7.6.1. Test Limit**

For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 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 500-kHz 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.

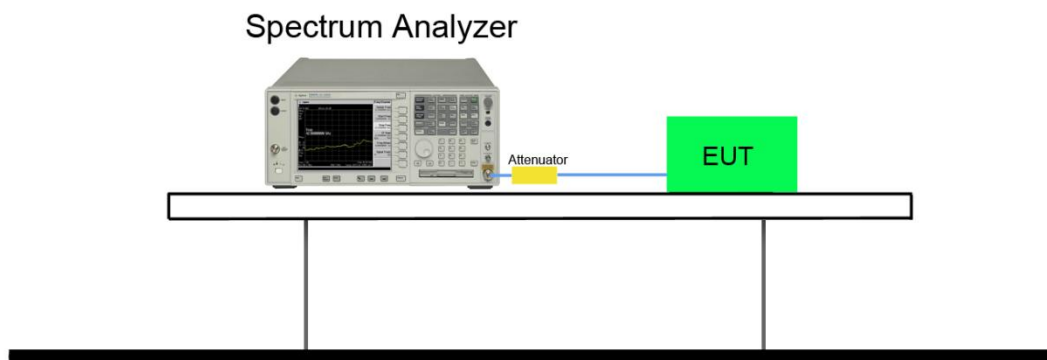
### **7.6.2. Test Procedure Used**

KDB 789033 D02v02r01 - 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       | AC220m Wi-Fi module OD US           | Temperature       | 22°C       |
| Test Engineer | Kervin Ker                          | Relative Humidity | 54%        |
| Test Site     | TR3                                 | Test Date         | 2017/12/15 |
| Test Item     | Power Spectral Density (NII-Band 1) |                   |            |

| Test Mode  | Data Rate/<br>MCS | Channel<br>No. | Freq.<br>(MHz) | Ant 0<br>PSD<br>(dBm/<br>MHz) | Duty<br>Cycle<br>(%) | Total<br>PSD<br>(dBm/<br>MHz) | PSD<br>Limit<br>(dBm/<br>MHz) | Result |
|------------|-------------------|----------------|----------------|-------------------------------|----------------------|-------------------------------|-------------------------------|--------|
| Ant 0      |                   |                |                |                               |                      |                               |                               |        |
| 11a        | 6Mbps             | 36             | 5180           | 2.29                          | 96.27                | 2.46                          | ≤ 16.00                       | Pass   |
| 11a        | 6Mbps             | 44             | 5220           | 2.01                          | 96.27                | 2.18                          | ≤ 16.00                       | Pass   |
| 11a        | 6Mbps             | 48             | 5240           | 2.17                          | 96.27                | 2.34                          | ≤ 16.00                       | Pass   |
| 11n-HT20   | MCS0              | 36             | 5180           | 2.69                          | 98.43                | 2.69                          | ≤ 16.00                       | Pass   |
| 11n-HT20   | MCS0              | 44             | 5220           | 1.99                          | 98.43                | 1.99                          | ≤ 16.00                       | Pass   |
| 11n-HT20   | MCS0              | 48             | 5240           | 1.94                          | 98.43                | 1.94                          | ≤ 16.00                       | Pass   |
| 11n-HT40   | MCS0              | 38             | 5190           | -0.20                         | 96.81                | -0.06                         | ≤ 16.00                       | Pass   |
| 11n-HT40   | MCS0              | 46             | 5230           | -0.65                         | 96.81                | -0.51                         | ≤ 16.00                       | Pass   |
| 11ac-VHT20 | MCS0              | 36             | 5180           | 2.54                          | 98.43                | 2.54                          | ≤ 16.00                       | Pass   |
| 11ac-VHT20 | MCS0              | 44             | 5220           | 2.19                          | 98.43                | 2.19                          | ≤ 16.00                       | Pass   |
| 11ac-VHT20 | MCS0              | 48             | 5240           | 2.23                          | 98.43                | 2.23                          | ≤ 16.00                       | Pass   |
| 11ac-VHT40 | MCS0              | 38             | 5190           | -0.20                         | 97.01                | -0.07                         | ≤ 16.00                       | Pass   |
| 11ac-VHT40 | MCS0              | 46             | 5230           | -0.81                         | 97.01                | -0.68                         | ≤ 16.00                       | Pass   |
| 11ac-VHT80 | MCS0              | 42             | 5210           | -4.27                         | 93.17                | -3.96                         | ≤ 16.00                       | Pass   |

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

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

| Test Mode  | Data Rate/<br>MCS | Channel<br>No. | Freq.<br>(MHz) | Ant 0<br>PSD<br>(dBm/<br>MHz) | Duty<br>Cycle<br>(%) | Total<br>PSD<br>(dBm/<br>MHz) | PSD<br>Limit<br>(dBm/<br>MHz) | Result |
|------------|-------------------|----------------|----------------|-------------------------------|----------------------|-------------------------------|-------------------------------|--------|
| Ant 1      |                   |                |                |                               |                      |                               |                               |        |
| 11a        | 6Mbps             | 36             | 5180           | 2.77                          | 96.27                | 2.94                          | ≤ 16.00                       | Pass   |
| 11a        | 6Mbps             | 44             | 5220           | 2.58                          | 96.27                | 2.75                          | ≤ 16.00                       | Pass   |
| 11a        | 6Mbps             | 48             | 5240           | 2.31                          | 96.27                | 2.48                          | ≤ 16.00                       | Pass   |
| 11n-HT20   | MCS0              | 36             | 5180           | 2.73                          | 98.43                | 2.73                          | ≤ 16.00                       | Pass   |
| 11n-HT20   | MCS0              | 44             | 5220           | 2.25                          | 98.43                | 2.25                          | ≤ 16.00                       | Pass   |
| 11n-HT20   | MCS0              | 48             | 5240           | 2.15                          | 98.43                | 2.15                          | ≤ 16.00                       | Pass   |
| 11n-HT40   | MCS0              | 38             | 5190           | -0.44                         | 96.81                | -0.30                         | ≤ 16.00                       | Pass   |
| 11n-HT40   | MCS0              | 46             | 5230           | -0.33                         | 96.81                | -0.19                         | ≤ 16.00                       | Pass   |
| 11ac-VHT20 | MCS0              | 36             | 5180           | 2.86                          | 98.43                | 2.86                          | ≤ 16.00                       | Pass   |
| 11ac-VHT20 | MCS0              | 44             | 5220           | 2.47                          | 98.43                | 2.47                          | ≤ 16.00                       | Pass   |
| 11ac-VHT20 | MCS0              | 48             | 5240           | 2.07                          | 98.43                | 2.07                          | ≤ 16.00                       | Pass   |
| 11ac-VHT40 | MCS0              | 38             | 5190           | -0.34                         | 97.01                | -0.21                         | ≤ 16.00                       | Pass   |
| 11ac-VHT40 | MCS0              | 46             | 5230           | -0.62                         | 97.01                | -0.49                         | ≤ 16.00                       | Pass   |
| 11ac-VHT80 | MCS0              | 42             | 5210           | -4.12                         | 93.17                | -3.81                         | ≤ 16.00                       | Pass   |

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

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

| Test Mode            | Data Rate/<br>MCS | Channel No. | Freq. (MHz) | Ant 0 PSD (dBm/MHz) | Ant 1 PSD (dBm/MHz) | Duty Cycle (%) | Total PSD (dBm/MHz) | PSD Limit (dBm/MHz) | Result |
|----------------------|-------------------|-------------|-------------|---------------------|---------------------|----------------|---------------------|---------------------|--------|
| Ant 0 + 1 (CDD Mode) |                   |             |             |                     |                     |                |                     |                     |        |
| 11a                  | 6Mbps             | 36          | 5180        | -0.27               | -0.32               | 96.27          | 2.88                | ≤ 12.99             | Pass   |
| 11a                  | 6Mbps             | 44          | 5220        | -0.54               | -0.52               | 96.27          | 2.65                | ≤ 12.99             | Pass   |
| 11a                  | 6Mbps             | 48          | 5240        | -0.76               | -0.29               | 96.27          | 2.66                | ≤ 12.99             | Pass   |
| 11n-HT20             | MCS0              | 36          | 5180        | -0.54               | -0.33               | 98.43          | 2.58                | ≤ 12.99             | Pass   |
| 11n-HT20             | MCS0              | 44          | 5220        | -0.93               | -0.77               | 98.43          | 2.16                | ≤ 12.99             | Pass   |
| 11n-HT20             | MCS0              | 48          | 5240        | -0.96               | -0.64               | 98.43          | 2.21                | ≤ 12.99             | Pass   |
| 11n-HT40             | MCS0              | 38          | 5190        | -3.35               | -3.43               | 96.81          | -0.24               | ≤ 12.99             | Pass   |
| 11n-HT40             | MCS0              | 46          | 5230        | -3.71               | -3.45               | 96.81          | -0.43               | ≤ 12.99             | Pass   |
| 11ac-VHT20           | MCS0              | 36          | 5180        | -0.38               | -0.22               | 98.43          | 2.71                | ≤ 12.99             | Pass   |
| 11ac-VHT20           | MCS0              | 44          | 5220        | -0.95               | -0.71               | 98.43          | 2.18                | ≤ 12.99             | Pass   |
| 11ac-VHT20           | MCS0              | 48          | 5240        | -1.03               | -0.73               | 98.43          | 2.13                | ≤ 12.99             | Pass   |
| 11ac-VHT40           | MCS0              | 38          | 5190        | -3.54               | -3.40               | 97.01          | -0.33               | ≤ 12.99             | Pass   |
| 11ac-VHT40           | MCS0              | 46          | 5230        | -3.71               | -3.41               | 97.01          | -0.42               | ≤ 12.99             | Pass   |
| 11ac-VHT80           | MCS0              | 42          | 5210        | -7.21               | -7.28               | 93.17          | -3.93               | ≤ 12.99             | Pass   |

Note 1: When EUT duty cycle ≥ 98%, the total PSD =  $10 \cdot \log\{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)}\}$

Note 2: When EUT duty cycle < 98%, the total PSD =  $10 \cdot \log\{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)}\} + 10 \cdot \log(1/\text{duty cycle})$

| Test Mode                     | Data Rate/<br>MCS | Channel No. | Freq. (MHz) | Ant 0 PSD (dBm/MHz) | Ant 1 PSD (dBm/MHz) | Duty Cycle (%) | Total PSD (dBm/MHz) | PSD Limit (dBm/MHz) | Result |
|-------------------------------|-------------------|-------------|-------------|---------------------|---------------------|----------------|---------------------|---------------------|--------|
| Ant 0 + 1 (Beam-Forming Mode) |                   |             |             |                     |                     |                |                     |                     |        |
| 11n-HT20                      | MCS0              | 36          | 5180        | -3.80               | -4.14               | 98.43          | -0.95               | ≤ 12.99             | Pass   |
| 11n-HT20                      | MCS0              | 44          | 5220        | -4.28               | -4.36               | 98.43          | -1.31               | ≤ 12.99             | Pass   |
| 11n-HT20                      | MCS0              | 48          | 5240        | -4.12               | -4.12               | 98.43          | -1.11               | ≤ 12.99             | Pass   |
| 11n-HT40                      | MCS0              | 38          | 5190        | -6.37               | -7.01               | 96.81          | -3.53               | ≤ 12.99             | Pass   |
| 11n-HT40                      | MCS0              | 46          | 5230        | -6.88               | -7.14               | 96.81          | -3.86               | ≤ 12.99             | Pass   |
| 11ac-VHT20                    | MCS0              | 36          | 5180        | -3.85               | -4.15               | 98.43          | -0.98               | ≤ 12.99             | Pass   |
| 11ac-VHT20                    | MCS0              | 44          | 5220        | -3.92               | -4.31               | 98.43          | -1.10               | ≤ 12.99             | Pass   |
| 11ac-VHT20                    | MCS0              | 48          | 5240        | -4.20               | -4.35               | 98.43          | -1.26               | ≤ 12.99             | Pass   |
| 11ac-VHT40                    | MCS0              | 38          | 5190        | -6.68               | -6.90               | 97.01          | -3.65               | ≤ 12.99             | Pass   |
| 11ac-VHT40                    | MCS0              | 46          | 5230        | -6.92               | -7.06               | 97.01          | -3.84               | ≤ 12.99             | Pass   |
| 11ac-VHT80                    | MCS0              | 42          | 5210        | -10.32              | -10.68              | 93.17          | -7.18               | ≤ 12.99             | Pass   |

Note 1: When EUT duty cycle ≥ 98%, the total PSD =  $10 \cdot \log\{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)}\}$

Note 2: When EUT duty cycle < 98%, the total PSD =  $10 \cdot \log\{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)}\} + 10 \cdot \log(1/\text{duty cycle})$

|               |                                 |                   |            |
|---------------|---------------------------------|-------------------|------------|
| Product       | AC220m Wi-Fi module OD US       | Temperature       | 22°C       |
| Test Engineer | Kevin Ker                       | Relative Humidity | 54%        |
| Test Site     | SR2                             | Test Date         | 2017/12/12 |
| Test Item     | Power Spectral Density (Band 3) |                   |            |

| Test Mode  | Data Rate/MCS | Channel No. | Freq. (MHz) | PSD (dBm/100KHz) | Duty Cycle (%) | Constant Factor | Final PSD (dBm/MHz) | PSD Limit (dBm/MHz) | Result |
|------------|---------------|-------------|-------------|------------------|----------------|-----------------|---------------------|---------------------|--------|
| Ant 0      |               |             |             |                  |                |                 |                     |                     |        |
| 11a        | 6Mbps         | 149         | 5745        | 4.24             | 96.27          | 6.99            | 11.39               | ≤ 29.00             | Pass   |
| 11a        | 6Mbps         | 157         | 5785        | 4.04             | 96.27          | 6.99            | 11.20               | ≤ 29.00             | Pass   |
| 11a        | 6Mbps         | 165         | 5825        | 3.61             | 96.27          | 6.99            | 10.77               | ≤ 29.00             | Pass   |
| 11n-HT20   | MCS0          | 149         | 5745        | 4.07             | 98.43          | 6.99            | 11.06               | ≤ 29.00             | Pass   |
| 11n-HT20   | MCS0          | 157         | 5785        | 4.03             | 98.43          | 6.99            | 11.02               | ≤ 29.00             | Pass   |
| 11n-HT20   | MCS0          | 165         | 5825        | 3.66             | 98.43          | 6.99            | 10.65               | ≤ 29.00             | Pass   |
| 11n-HT40   | MCS0          | 151         | 5755        | 0.86             | 96.81          | 6.99            | 7.99                | ≤ 29.00             | Pass   |
| 11n-HT40   | MCS0          | 159         | 5795        | 0.59             | 96.81          | 6.99            | 7.72                | ≤ 29.00             | Pass   |
| 11ac-VHT20 | MCS0          | 149         | 5745        | 4.30             | 98.43          | 6.99            | 11.29               | ≤ 29.00             | Pass   |
| 11ac-VHT20 | MCS0          | 157         | 5785        | 3.77             | 98.43          | 6.99            | 10.76               | ≤ 29.00             | Pass   |
| 11ac-VHT20 | MCS0          | 165         | 5825        | 3.60             | 98.43          | 6.99            | 10.59               | ≤ 29.00             | Pass   |
| 11ac-VHT40 | MCS0          | 151         | 5755        | -0.03            | 97.01          | 6.99            | 7.09                | ≤ 29.00             | Pass   |
| 11ac-VHT40 | MCS0          | 159         | 5795        | 0.76             | 97.01          | 6.99            | 7.88                | ≤ 29.00             | Pass   |
| 11ac-VHT80 | MCS0          | 155         | 5775        | -5.88            | 93.17          | 6.99            | 1.41                | ≤ 29.00             | Pass   |

Note 1: When EUT duty cycle ≥ 98%, the Final PSD (dBm/MHz) = PSD (dBm/100kHz) + Constant Factor.

Note 2: When EUT duty cycle < 98%, the Final PSD (dBm/MHz) = PSD (dBm/100k Hz) + 10\*log(1/Duty Cycle) + Constant Factor.

| Test Mode  | Data Rate/<br>MCS | Channel No. | Freq. (MHz) | PSD (dBm/100KHz) | Duty Cycle (%) | Constant Factor | Final PSD (dBm/MHz) | PSD Limit (dBm/MHz) | Result |
|------------|-------------------|-------------|-------------|------------------|----------------|-----------------|---------------------|---------------------|--------|
| Ant 1      |                   |             |             |                  |                |                 |                     |                     |        |
| 11a        | 6Mbps             | 149         | 5745        | 5.14             | 96.27          | 6.99            | 12.30               | ≤ 29.00             | Pass   |
| 11a        | 6Mbps             | 157         | 5785        | 4.64             | 96.27          | 6.99            | 11.80               | ≤ 29.00             | Pass   |
| 11a        | 6Mbps             | 165         | 5825        | 4.36             | 96.27          | 6.99            | 11.52               | ≤ 29.00             | Pass   |
| 11n-HT20   | MCS0              | 149         | 5745        | 4.67             | 98.43          | 6.99            | 11.66               | ≤ 29.00             | Pass   |
| 11n-HT20   | MCS0              | 157         | 5785        | 4.37             | 98.43          | 6.99            | 11.36               | ≤ 29.00             | Pass   |
| 11n-HT20   | MCS0              | 165         | 5825        | 3.99             | 98.43          | 6.99            | 10.98               | ≤ 29.00             | Pass   |
| 11n-HT40   | MCS0              | 151         | 5755        | 2.05             | 96.81          | 6.99            | 9.18                | ≤ 29.00             | Pass   |
| 11n-HT40   | MCS0              | 159         | 5795        | 1.50             | 96.81          | 6.99            | 8.63                | ≤ 29.00             | Pass   |
| 11ac-VHT20 | MCS0              | 149         | 5745        | 4.43             | 98.43          | 6.99            | 11.42               | ≤ 29.00             | Pass   |
| 11ac-VHT20 | MCS0              | 157         | 5785        | 4.72             | 98.43          | 6.99            | 11.71               | ≤ 29.00             | Pass   |
| 11ac-VHT20 | MCS0              | 165         | 5825        | 4.52             | 98.43          | 6.99            | 11.51               | ≤ 29.00             | Pass   |
| 11ac-VHT40 | MCS0              | 151         | 5755        | 1.99             | 97.01          | 6.99            | 9.11                | ≤ 29.00             | Pass   |
| 11ac-VHT40 | MCS0              | 159         | 5795        | 1.04             | 97.01          | 6.99            | 8.16                | ≤ 29.00             | Pass   |
| 11ac-VHT80 | MCS0              | 155         | 5775        | -6.13            | 93.17          | 6.99            | 1.17                | ≤ 29.00             | Pass   |

Note 1: When EUT duty cycle ≥ 98%, the Final PSD (dBm/MHz) = PSD (dBm/100kHz) + Constant Factor.

Note 2: When EUT duty cycle < 98%, the Final PSD (dBm/MHz) = PSD (dBm/100k Hz) + 10\*log(1/Duty Cycle) + Constant Factor.

| Test Mode            | Data Rate/MCS | Channel No. | Freq. (MHz) | Ant 0 PSD (dBm/100kHz) | Ant 1 PSD (dBm/100kHz) | Duty Cycle (%) | Constant Factor | Total PSD(dBm/500kHz) | Limit (dBm/500kHz) | Result |
|----------------------|---------------|-------------|-------------|------------------------|------------------------|----------------|-----------------|-----------------------|--------------------|--------|
| Ant 0 + 1 (CDD Mode) |               |             |             |                        |                        |                |                 |                       |                    |        |
| 11a                  | 6             | 149         | 5745        | 3.80                   | 4.92                   | 96.27          | 6.99            | 14.56                 | ≤ 25.99            | Pass   |
| 11a                  | 6             | 157         | 5785        | 3.73                   | 4.94                   | 96.27          | 6.99            | 14.54                 | ≤ 25.99            | Pass   |
| 11a                  | 6             | 165         | 5825        | 3.02                   | 4.50                   | 96.27          | 6.99            | 13.99                 | ≤ 25.99            | Pass   |
| 11n-HT20             | MCS0          | 149         | 5745        | 3.34                   | 4.85                   | 98.43          | 6.99            | 14.16                 | ≤ 25.99            | Pass   |
| 11n-HT20             | MCS0          | 157         | 5785        | 3.42                   | 4.49                   | 98.43          | 6.99            | 13.99                 | ≤ 25.99            | Pass   |
| 11n-HT20             | MCS0          | 165         | 5825        | 2.69                   | 4.34                   | 98.43          | 6.99            | 13.59                 | ≤ 25.99            | Pass   |
| 11n-HT40             | MCS0          | 151         | 5755        | -0.33                  | 0.55                   | 96.81          | 6.99            | 10.27                 | ≤ 25.99            | Pass   |
| 11n-HT40             | MCS0          | 159         | 5795        | 0.50                   | 0.92                   | 96.81          | 6.99            | 10.86                 | ≤ 25.99            | Pass   |
| 11ac-VHT20           | MCS0          | 149         | 5745        | 3.80                   | 4.36                   | 98.43          | 6.99            | 14.09                 | ≤ 25.99            | Pass   |
| 11ac-VHT20           | MCS0          | 157         | 5785        | 3.99                   | 4.31                   | 98.43          | 6.99            | 14.15                 | ≤ 25.99            | Pass   |
| 11ac-VHT20           | MCS0          | 165         | 5825        | 3.27                   | 4.42                   | 98.43          | 6.99            | 13.88                 | ≤ 25.99            | Pass   |
| 11ac-VHT40           | MCS0          | 151         | 5755        | -0.42                  | 0.52                   | 97.01          | 6.99            | 10.21                 | ≤ 25.99            | Pass   |
| 11ac-VHT40           | MCS0          | 159         | 5795        | 0.27                   | 0.70                   | 97.01          | 6.99            | 10.62                 | ≤ 25.99            | Pass   |
| 11ac-VHT80           | MCS0          | 155         | 5775        | -8.32                  | -8.03                  | 93.17          | 6.99            | 2.14                  | ≤ 25.99            | Pass   |

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

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

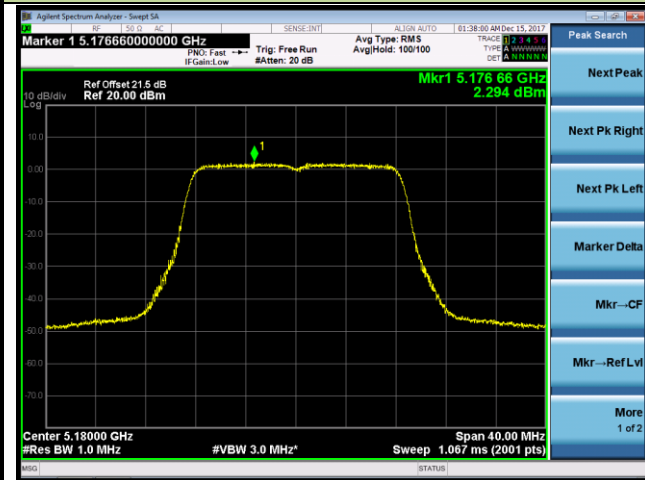
| Test Mode                     | Data Rate/<br>MCS | Channel No. | Freq. (MHz) | Ant 0 PSD (dBm/100kHz) | Ant 1 PSD (dBm/100kHz) | Duty Cycle (%) | Constant Factor | Total PSD(dBm/500kHz) | Limit (dBm/500kHz) | Result |
|-------------------------------|-------------------|-------------|-------------|------------------------|------------------------|----------------|-----------------|-----------------------|--------------------|--------|
| Ant 0 + 1 (Beam-Forming Mode) |                   |             |             |                        |                        |                |                 |                       |                    |        |
| 11n-HT20                      | MCS0              | 149         | 5745        | 1.33                   | 2.09                   | 98.43          | 6.99            | 11.73                 | ≤ 25.99            | Pass   |
| 11n-HT20                      | MCS0              | 157         | 5785        | 1.15                   | 1.44                   | 98.43          | 6.99            | 11.30                 | ≤ 25.99            | Pass   |
| 11n-HT20                      | MCS0              | 165         | 5825        | 0.92                   | 1.56                   | 98.43          | 6.99            | 11.25                 | ≤ 25.99            | Pass   |
| 11n-HT40                      | MCS0              | 151         | 5755        | -1.53                  | -0.32                  | 96.81          | 6.99            | 9.25                  | ≤ 25.99            | Pass   |
| 11n-HT40                      | MCS0              | 159         | 5795        | -1.06                  | -0.56                  | 96.81          | 6.99            | 9.34                  | ≤ 25.99            | Pass   |
| 11ac-VHT20                    | MCS0              | 149         | 5745        | 0.96                   | 2.05                   | 98.43          | 6.99            | 11.61                 | ≤ 25.99            | Pass   |
| 11ac-VHT20                    | MCS0              | 157         | 5785        | 0.92                   | 2.21                   | 98.43          | 6.99            | 11.68                 | ≤ 25.99            | Pass   |
| 11ac-VHT20                    | MCS0              | 165         | 5825        | 1.01                   | 2.22                   | 98.43          | 6.99            | 11.72                 | ≤ 25.99            | Pass   |
| 11ac-VHT40                    | MCS0              | 151         | 5755        | -1.86                  | -0.54                  | 97.01          | 6.99            | 8.98                  | ≤ 25.99            | Pass   |
| 11ac-VHT40                    | MCS0              | 159         | 5795        | -1.63                  | -0.83                  | 97.01          | 6.99            | 8.92                  | ≤ 25.99            | Pass   |
| 11ac-VHT80                    | MCS0              | 155         | 5775        | -5.75                  | -5.52                  | 93.17          | 6.99            | 4.68                  | ≤ 25.99            | Pass   |

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

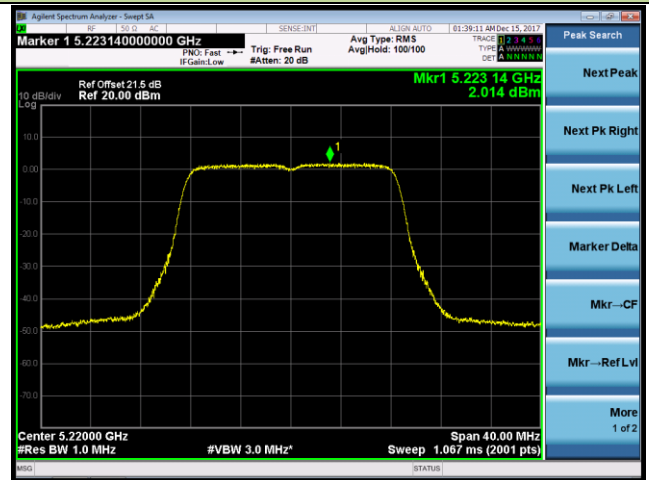
Note 2: When EUT duty cycle < 98%, Total PSD (dBm/500kHz) =  $10 \cdot \log\{10^{(\text{Ant 0 PSD}/10)} + 10^{(\text{Ant 1 PSD}/10)}\} + 10 \cdot \log(1/\text{duty cycle}) + \text{Constant Factor}$ .

## 802.11a Power Spectral Density - Ant 0

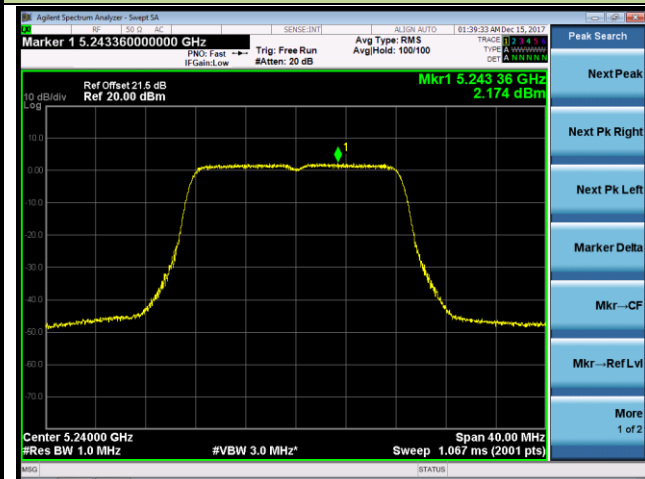
Channel 36 (5180MHz)



Channel 44 (5220MHz)



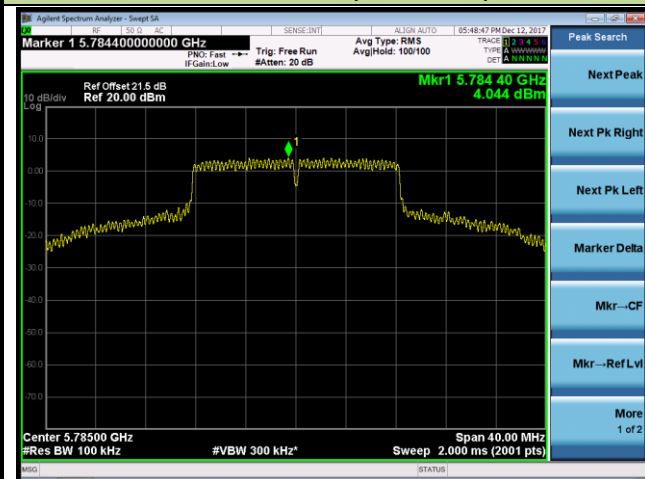
Channel 48 (5240MHz)



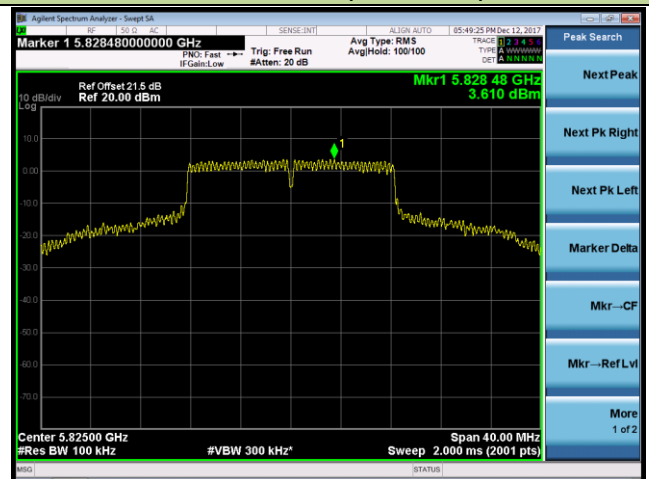
Channel 149 (5745MHz)



Channel 157 (5785MHz)

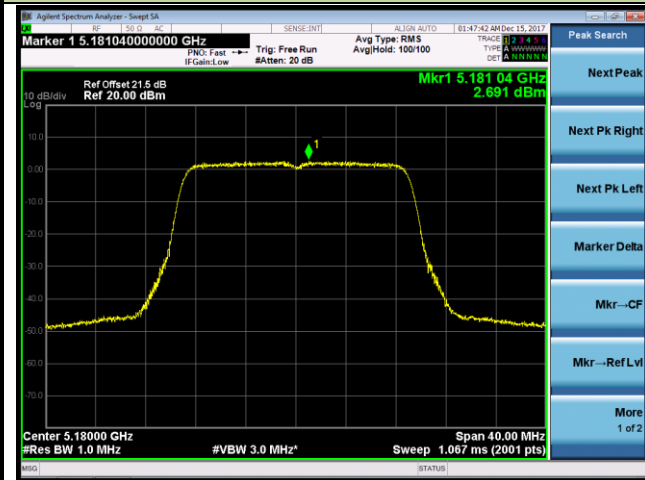


Channel 165 (5825MHz)

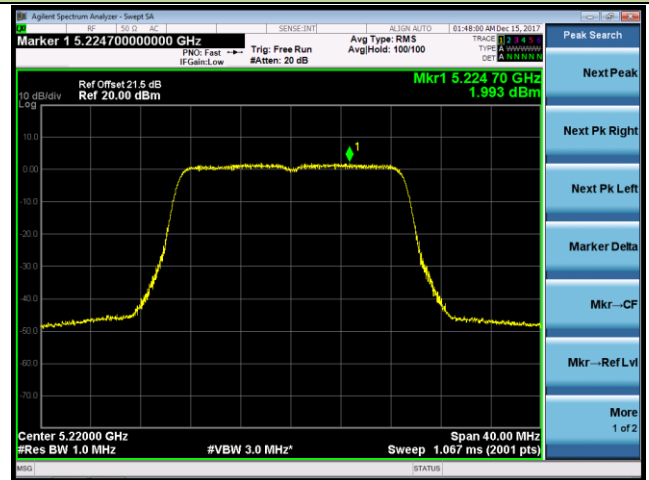


## 802.11n-HT20 Power Spectral Density - Ant 0

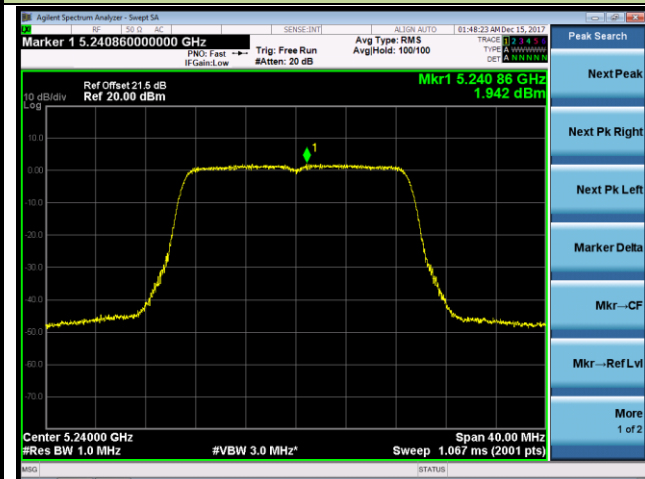
Channel 36 (5180MHz)



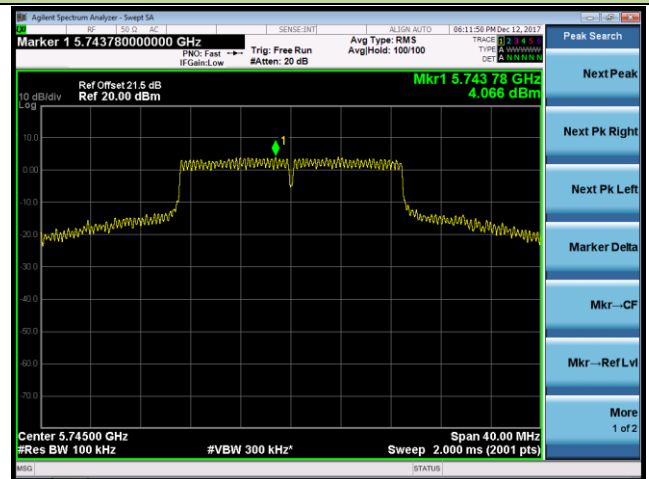
Channel 44 (5220MHz)



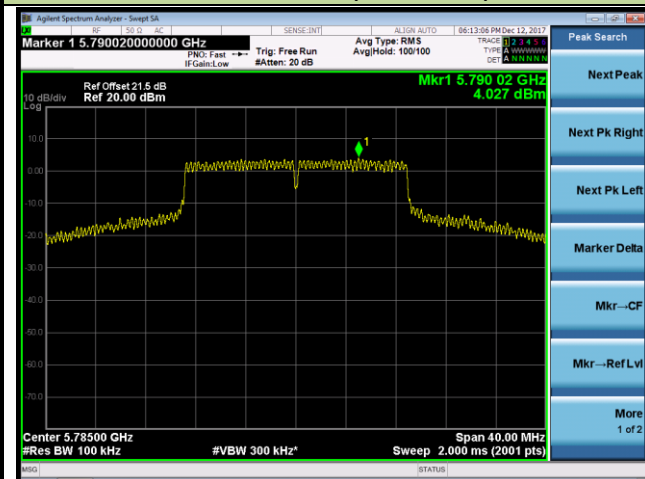
Channel 48 (5240MHz)



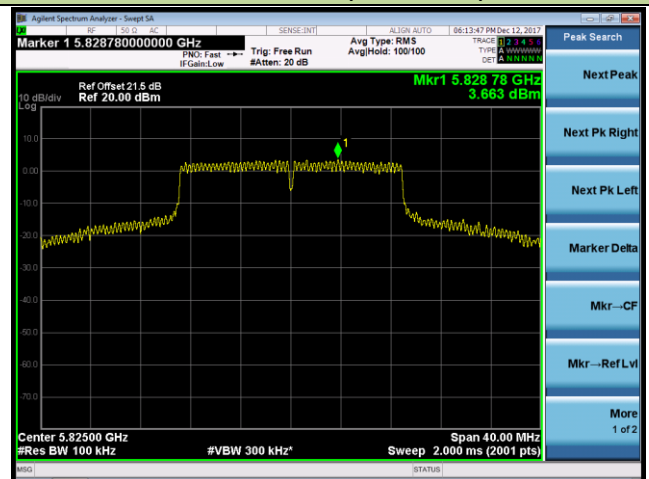
Channel 149 (5745MHz)



Channel 157 (5785MHz)

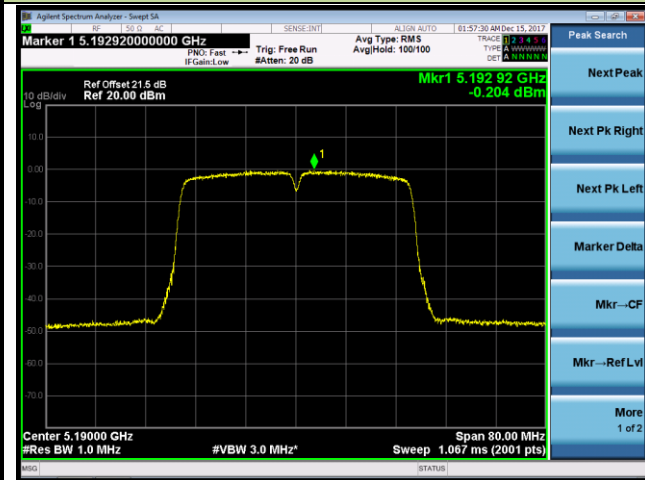


Channel 165 (5825MHz)

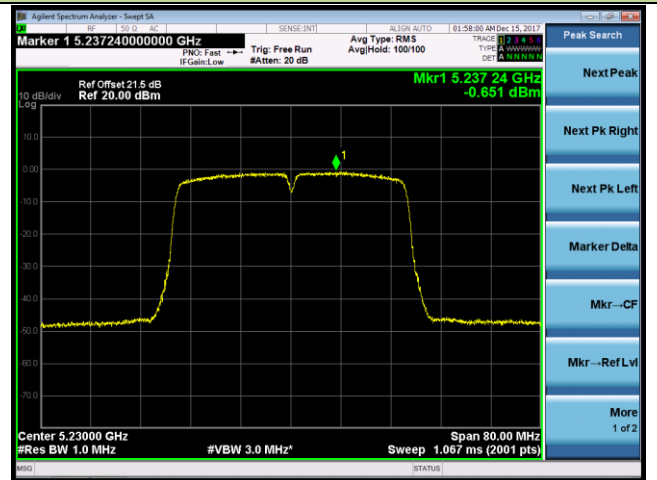


## 802.11n-HT40 Power Spectral Density - Ant 0

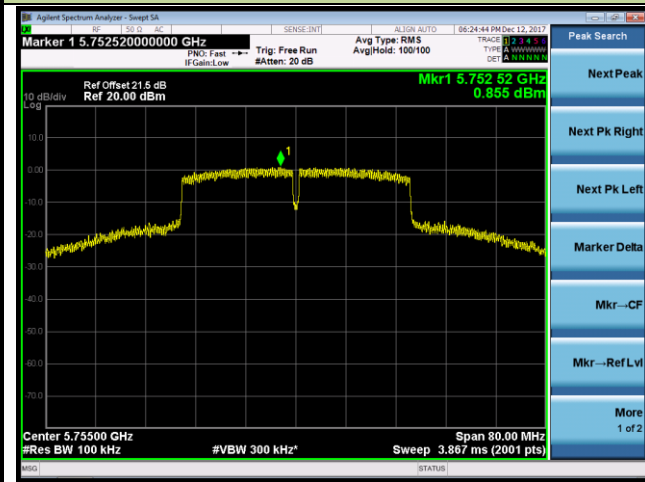
## Channel 38 (5190MHz)



## Channel 46 (5230MHz)



## Channel 151 (5755MHz)



## Channel 159 (5795MHz)

