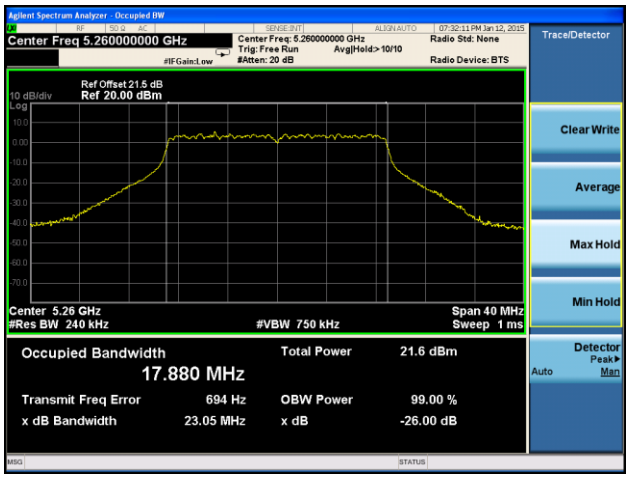
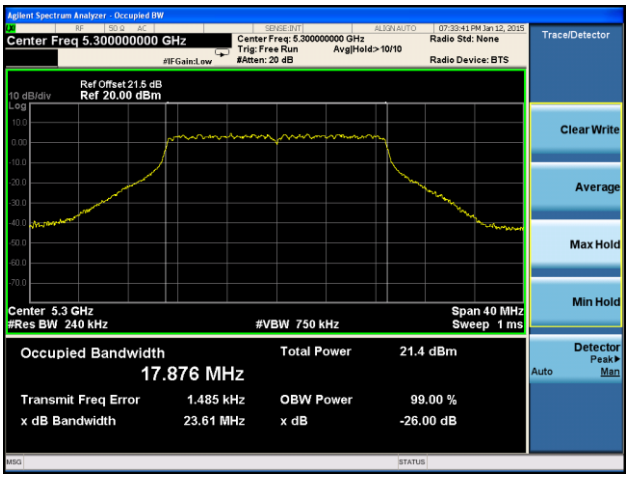
## 802.11ac-VHT20 26dB Bandwidth & 99% Bandwidth - Ant 3 / Ant 0 + 1 + 2 + 3

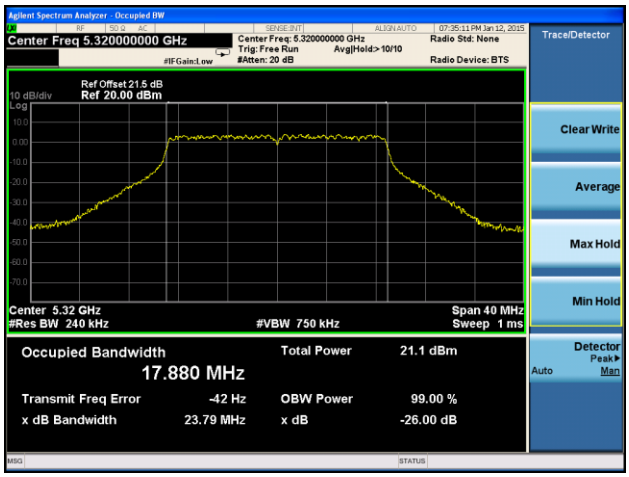
### Channel 52 (5260MHz)



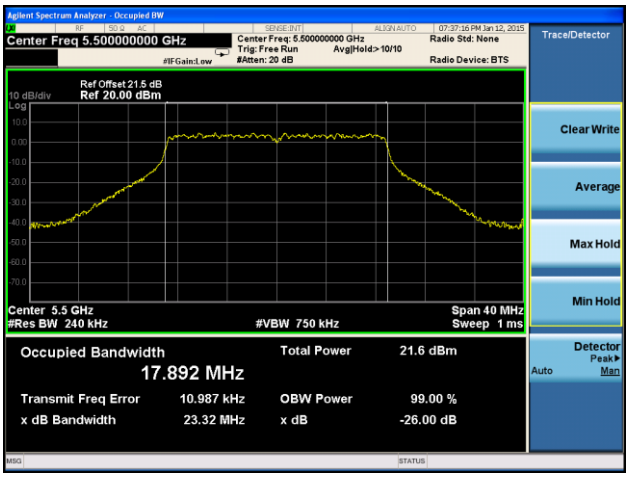

### Channel 60 (5300MHz)



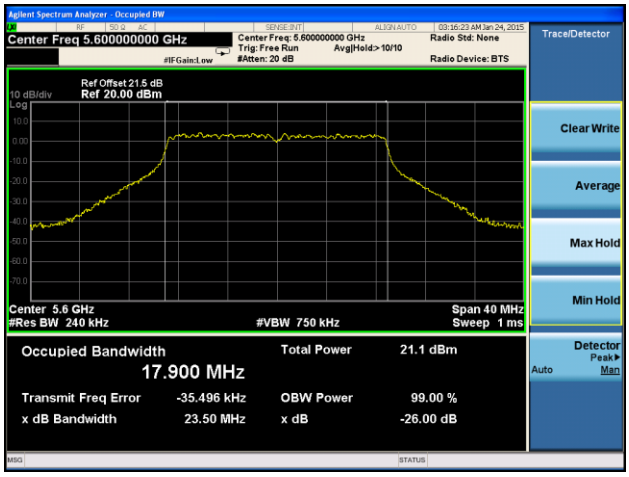

### Channel 64 (5320MHz)



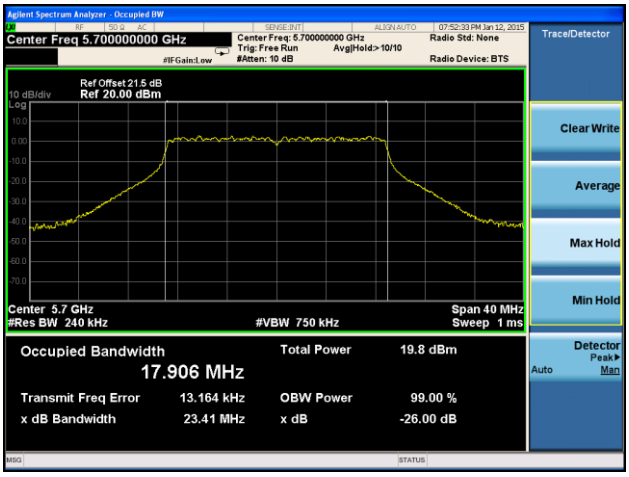

### Channel 100 (5500MHz)

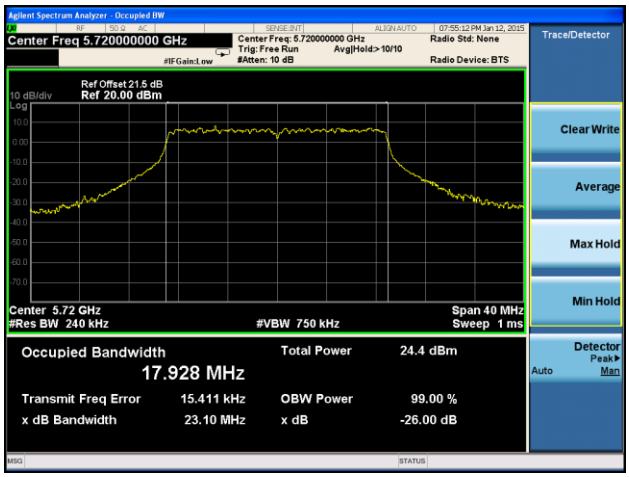



### Channel 120 (5600MHz)



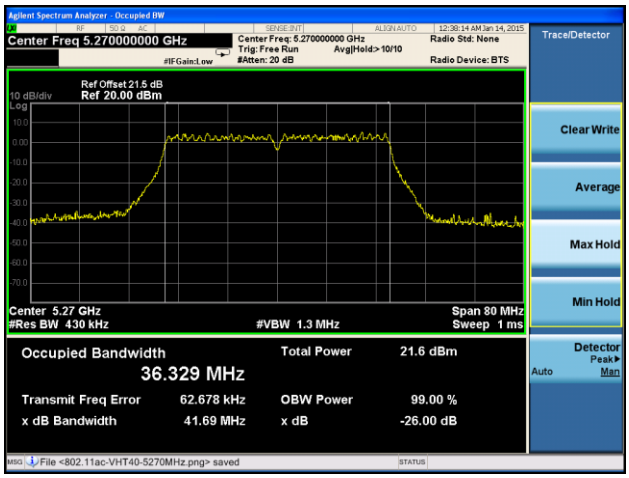

### Channel 140 (5700MHz)



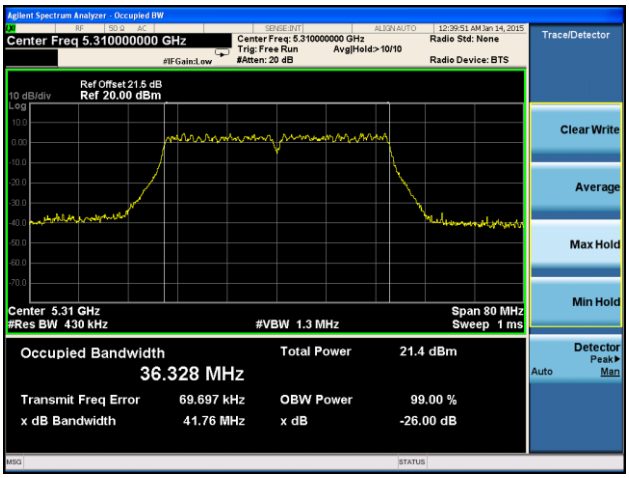
| Channel 144 (5720MHz) | |
|---|---|
|  | |

## 802.11ac-VHT40 26dB Bandwidth & 99% Bandwidth - Ant 3 / Ant 0 + 1 + 2 + 3

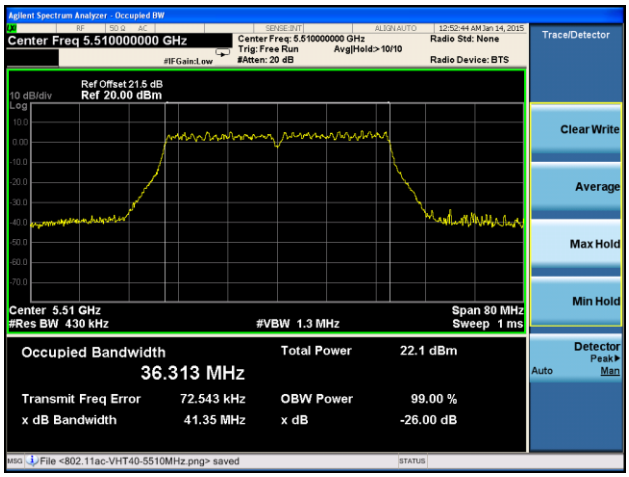
### Channel 54 (5270MHz)



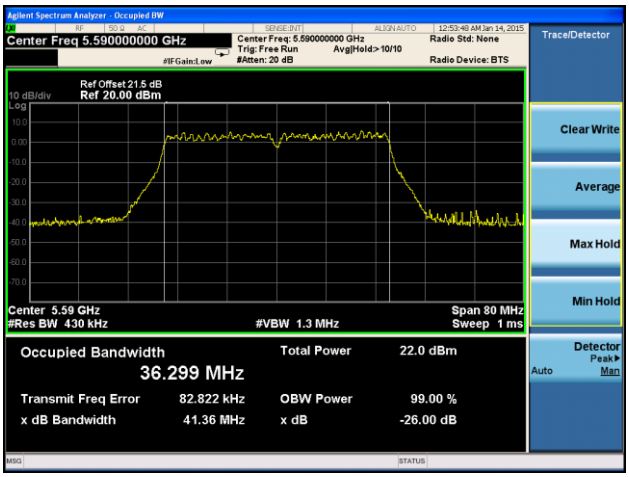

### Channel 62 (5310MHz)



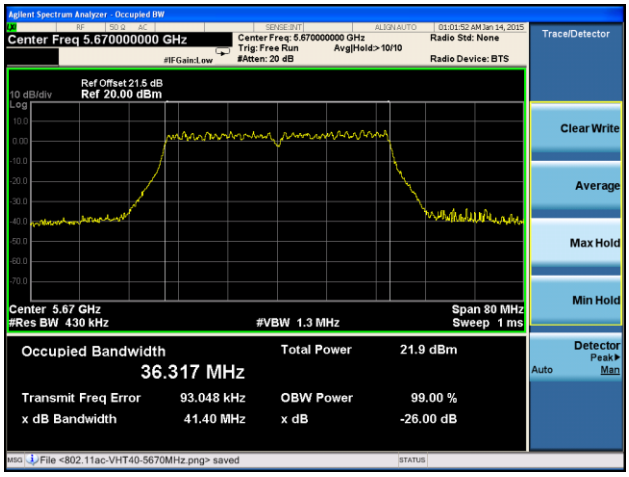

### Channel 102 (5510MHz)



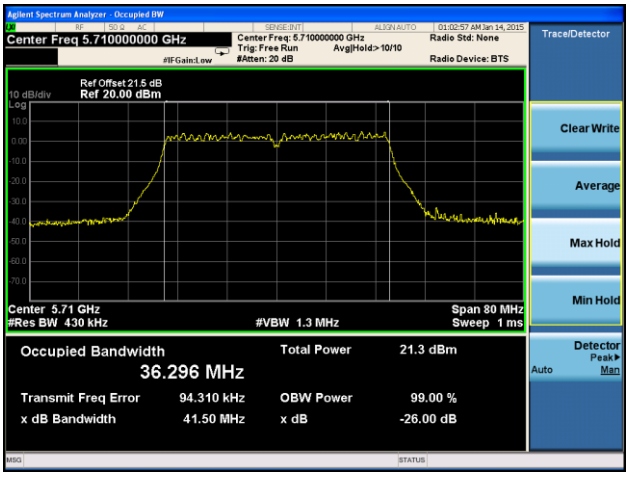

### Channel 118 (5590MHz)




### Channel 134 (5670MHz)

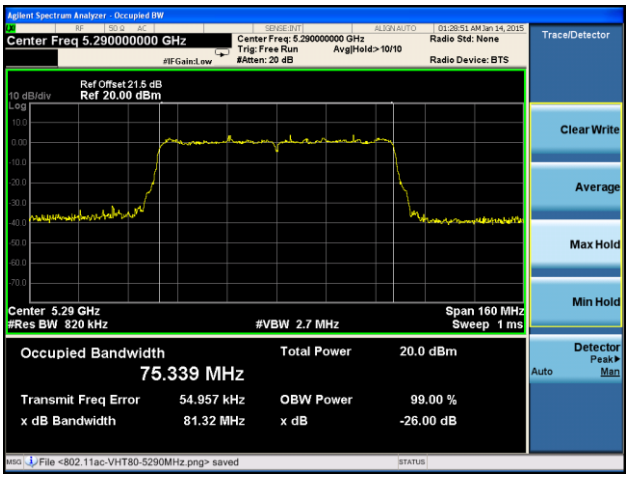



### Channel 142 (5710MHz)

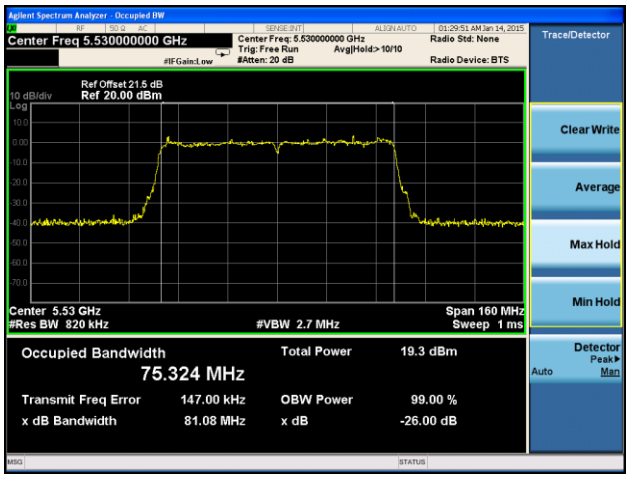


## 802.11ac-VHT80 26dB Bandwidth & 99% Bandwidth - Ant 3 / Ant 0 + 1 + 2 + 3

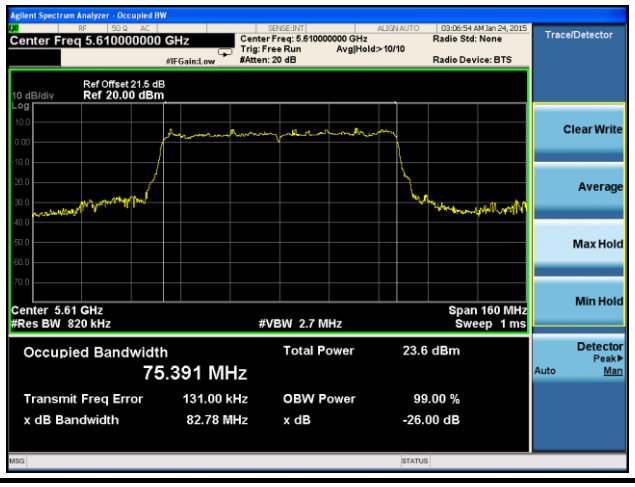
### Channel 58 (5290MHz)



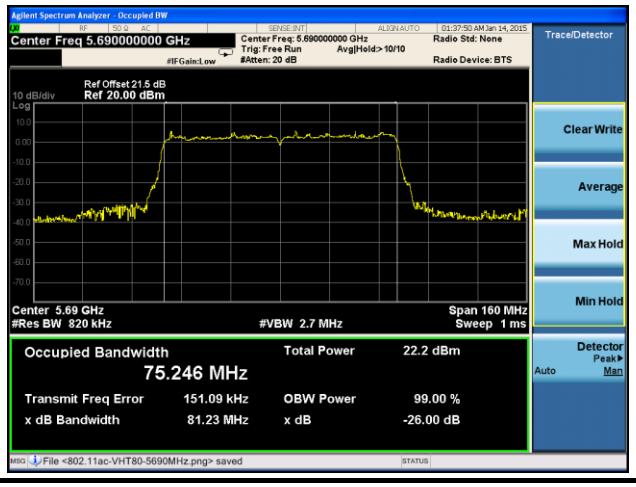

### Channel 106 (5530MHz)




### Channel 122 (5610MHz)




### Channel 138 (5690MHz)



## 7.3. Output Power Measurement

### 7.3.1. Test Limit

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

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.

***For 802.11n/ac:***

***5.25-5.35GHz: Limit (dBm) = 23.98dBm - (7.78dBi - 6dBi) = 22.22dBm***

***5.47-5.725GHz: Limit (dBm) = 23.98dBm - (8.38dBi - 6dBi) = 21.62dBm***

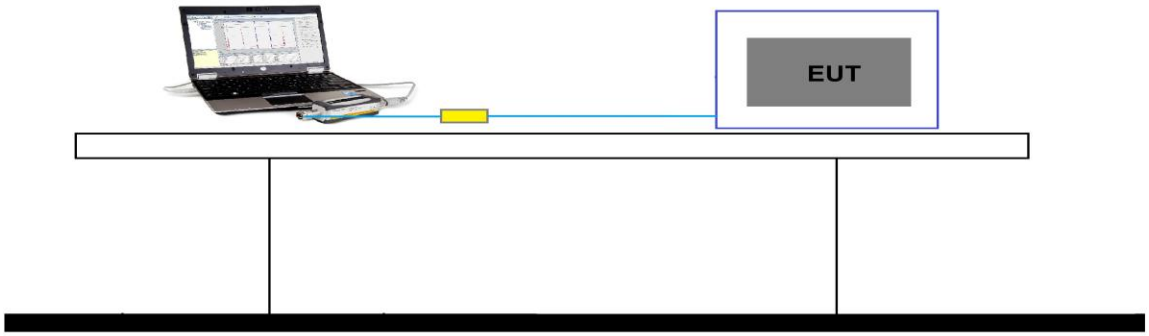
### 7.3.2. Test Procedure Used

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

### 7.3.3. Test Setting

Average power measurements were perform only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter. The trace was averaged over 100 traces to obtain the final measured average power.

### 7.3.4. Test Setup



### 7.3.5. Test Result

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

| $N_{Tx}$ | a | MCS Index for 802.11n | Data Rate (Mbps) | | | |
|---|---|---|---|---|---|---|
| | | | 20MHz Bandwidth | | 40MHz Bandwidth | |
| | | | 800ns GI | 400ns GI | 800ns GI | 400ns GI |
| 1 | 6 | 0 | 6.5 | 7.2 | 13.5 | 15.0 |
| 1 | 9 | 1 | 13.0 | 14.4 | 27.0 | 30.0 |
| 1 | 12 | 2 | 19.5 | 21.7 | 40.5 | 45.0 |
| 1 | 18 | 3 | 26.0 | 28.9 | 54.0 | 60.0 |
| 1 | 24 | 4 | 39.0 | 43.3 | 81.0 | 90.0 |
| 1 | 36 | 5 | 52.0 | 57.8 | 108.0 | 120.0 |
| 1 | 48 | 6 | 58.5 | 65.0 | 121.5 | 135.0 |
| 1 | 54 | 7 | 65.0 | 72.2 | 135.0 | 150.0 |
| 4 | 6 | 24 | 26.0 | 28.8 | 54.0 | 60.0 |
| 4 | 9 | 25 | 52.0 | 57.6 | 108.0 | 120.0 |
| 4 | 12 | 26 | 78.0 | 86.8 | 162.0 | 180.0 |
| 4 | 18 | 27 | 104.0 | 115.6 | 216.0 | 240.0 |
| 4 | 24 | 28 | 156.0 | 173.2 | 324.0 | 360.0 |
| 4 | 36 | 29 | 208.0 | 231.2 | 342.0 | 480.0 |
| 4 | 48 | 30 | 234.0 | 260.0 | 486.0 | 540.0 |
| 4 | 54 | 31 | 260.0 | 288.8 | 540.0 | 600.0 |

| $N_{Tx}$ | MCS Index for 802.11ac | Data Rate (Mbps) | | | | | |
|---|---|---|---|---|---|---|---|
| | | 20MHz Bandwidth | | 40MHz Bandwidth | | 80MHz Bandwidth | |
| | | 800ns GI | 400ns GI | 800ns GI | 400ns GI | 800ns GI | 400ns GI |
| 1 | 0 | 6.5 | 7.2 | 13.5 | 15.0 | 29.3 | 32.5 |
| 1 | 1 | 13.0 | 14.4 | 27.0 | 30.0 | 58.5 | 65.0 |
| 1 | 2 | 19.5 | 21.7 | 40.5 | 45.0 | 87.8 | 97.5 |
| 1 | 3 | 26.0 | 28.9 | 54.0 | 60.0 | 117.0 | 130.0 |
| 1 | 4 | 39.0 | 43.3 | 81.0 | 90.0 | 175.5 | 195.0 |
| 1 | 5 | 52.0 | 57.8 | 108.0 | 120.0 | 234.0 | 260.0 |
| 1 | 6 | 58.5 | 65.0 | 121.5 | 135.0 | 263.0 | 292.5 |
| 1 | 7 | 65.0 | 72.2 | 135.0 | 150.0 | 292.5 | 325.0 |
| 1 | 8 | 78.0 | 86.7 | 162.0 | 180.0 | 351.0 | 390.0 |
| 1 | 9 | -- | -- | 180.0 | 200.0 | 390.0 | 433.3 |
| 4 | 0 | 26.0 | 28.9 | 54.0 | 60.0 | 117.0 | 130.0 |
| 4 | 1 | 52.0 | 57.8 | 108.0 | 120.0 | 234.0 | 260.0 |
| 4 | 2 | 78.0 | 86.7 | 162.0 | 180.0 | 351.0 | 390.0 |
| 4 | 3 | 104.0 | 115.6 | 216.0 | 240.0 | 468.0 | 520.0 |
| 4 | 4 | 156.0 | 173.3 | 324.0 | 360.0 | 702.0 | 780.0 |
| 4 | 5 | 208.0 | 231.1 | 432.0 | 480.0 | 936.0 | 1040.0 |
| 4 | 6 | 234.0 | 260.0 | 486.0 | 540.0 | 1053.0 | 1170.0 |
| 4 | 7 | 260.0 | 288.9 | 540.0 | 600.0 | 1170.0 | 1300.0 |
| 4 | 8 | 312.0 | 246.7 | 648.0 | 720.0 | 1404.0 | 1560.0 |
| 4 | 9 | -- | -- | 720.0 | 800.0 | 1560.0 | 1733.3 |

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

**Output power at various data rates for Ant 0 / Ant 0 + 1 + 2 + 3:**

| Test Mode | Bandwidth (MHz) | Channel | Frequency (MHz) | Data Rate (Mbps) | Average Power (dBm) |
|---|---|---|---|---|---|
| 802.11a | 20 | 60 | 5260 | 6 | 15.41 |
| | | | | 24 | 15.11 |
| | | | | 54 | 15.02 |
| 802.11n | 20 | 60 | 5260 | 6.5 | 14.96 |
| | | | | 7.2 | 14.92 |
| | | | | 52 | 14.46 |
| | | | | 57.8 | 14.38 |
| | | | | 130 | 13.89 |
| | | | | 144 | 13.82 |
| 802.11n | 40 | 62 | 5270 | 13.5 | 15.39 |
| | | | | 15 | 15.33 |
| | | | | 108 | 15.02 |
| | | | | 120 | 14.95 |
| | | | | 270 | 14.86 |
| | | | | 300 | 14.80 |
| 802.11ac | 20 | 60 | 5260 | 6.5 | 15.41 |
| | | | | 7.2 | 15.35 |
| | | | | 78 | 15.22 |
| | | | | 86.7 | 15.18 |
| | | | | 156 | 14.98 |
| | | | | 173.4 | 14.90 |
| 802.11ac | 40 | 62 | 5270 | 13.5 | 15.28 |
| | | | | 15 | 15.21 |
| | | | | 162 | 15.01 |
| | | | | 180 | 14.96 |
| | | | | 324 | 14.88 |
| | | | | 360 | 14.79 |

| | | | | | |
|---|---|---|---|---|---|
| 802.11ac | 80 | 58 | 5290 | 29.3 | 12.99 |
| | | | | 32.5 | 12.89 |
| | | | | 351 | 12.55 |
| | | | | 390 | 12.49 |
| | | | | 702 | 12.23 |
| | | | | 780 | 12.16 |

| Test Mode | Data Rate (Mbps) | 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) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|---|---|---|
| 11a | 6 | 52 | 5260 | 15.41 | 14.42 | 14.49 | 14.46 | 20.74 | ≤22.22 | Pass |
| 11a | 6 | 60 | 5300 | 14.76 | 14.01 | 14.21 | 14.83 | 20.49 | ≤22.22 | Pass |
| 11a | 6 | 64 | 5320 | 15.25 | 14.04 | 14.17 | 15.04 | 20.68 | ≤22.22 | Pass |
| 11a | 6 | 100 | 5500 | 15.77 | 14.88 | 14.74 | 15.51 | 21.27 | ≤21.62 | Pass |
| 11a | 6 | 120 | 5600 | 15.69 | 15.04 | 14.74 | 15.25 | 21.21 | ≤21.62 | Pass |
| 11a | 6 | 140 | 5700 | 11.47 | 12.48 | 12.96 | 10.96 | 18.06 | ≤21.62 | Pass |
| 11n-HT20 | 6.5 | 52 | 5260 | 14.96 | 14.15 | 14.39 | 14.74 | 20.59 | ≤22.22 | Pass |
| 11n-HT20 | 6.5 | 60 | 5300 | 15.05 | 14.21 | 14.33 | 14.96 | 20.67 | ≤22.22 | Pass |
| 11n-HT20 | 6.5 | 64 | 5320 | 15.30 | 14.17 | 14.63 | 14.62 | 20.72 | ≤22.22 | Pass |
| 11n-HT20 | 6.5 | 100 | 5500 | 15.42 | 15.01 | 14.81 | 15.31 | 21.16 | ≤21.62 | Pass |
| 11n-HT20 | 6.5 | 120 | 5600 | 15.38 | 14.72 | 14.87 | 15.15 | 21.06 | ≤21.62 | Pass |
| 11n-HT20 | 6.5 | 140 | 5700 | 11.59 | 13.11 | 12.42 | 10.91 | 18.11 | ≤21.62 | Pass |
| 11n-HT40 | 13.5 | 54 | 5270 | 15.39 | 14.47 | 14.99 | 14.84 | 20.96 | ≤22.22 | Pass |
| 11n-HT40 | 13.5 | 62 | 5310 | 15.42 | 14.59 | 14.57 | 15.05 | 20.94 | ≤22.22 | Pass |
| 11n-HT40 | 13.5 | 102 | 5510 | 15.88 | 15.22 | 14.98 | 15.71 | 21.48 | ≤21.62 | Pass |
| 11n-HT40 | 13.5 | 118 | 5590 | 15.79 | 15.39 | 14.78 | 15.33 | 21.36 | ≤21.62 | Pass |
| 11n-HT40 | 13.5 | 134 | 5670 | 15.73 | 14.79 | 14.76 | 15.21 | 21.16 | ≤21.62 | Pass |
| 11ac-VHT20 | 6.5 | 52 | 5260 | 15.41 | 14.23 | 14.77 | 14.68 | 20.81 | ≤22.22 | Pass |
| 11ac-VHT20 | 6.5 | 60 | 5300 | 14.89 | 13.88 | 14.40 | 14.87 | 20.55 | ≤22.22 | Pass |
| 11ac-VHT20 | 6.5 | 64 | 5320 | 15.21 | 14.42 | 14.52 | 14.88 | 20.79 | ≤22.22 | Pass |
| 11ac-VHT20 | 6.5 | 100 | 5500 | 15.77 | 15.05 | 14.79 | 15.21 | 21.24 | ≤21.62 | Pass |
| 11ac-VHT20 | 6.5 | 120 | 5600 | 15.35 | 14.72 | 14.54 | 14.93 | 20.92 | ≤21.62 | Pass |
| 11ac-VHT20 | 6.5 | 140 | 5700 | 11.28 | 13.27 | 12.42 | 10.91 | 18.09 | ≤21.62 | Pass |
| 11ac-VHT20 | 6.5 | 144 | 5720 | 14.88 | 15.87 | 15.48 | 14.71 | 21.28 | ≤21.62 | Pass |
| 11ac-VHT40 | 13.5 | 54 | 5270 | 15.28 | 14.39 | 14.82 | 15.14 | 20.94 | ≤22.22 | Pass |
| 11ac-VHT40 | 13.5 | 62 | 5310 | 15.48 | 14.57 | 14.43 | 14.71 | 20.84 | ≤22.22 | Pass |
| 11ac-VHT40 | 13.5 | 102 | 5510 | 16.06 | 14.92 | 14.82 | 15.65 | 21.41 | ≤21.62 | Pass |
| 11ac-VHT40 | 13.5 | 118 | 5590 | 15.72 | 14.87 | 14.85 | 15.33 | 21.23 | ≤21.62 | Pass |
| 11ac-VHT40 | 13.5 | 134 | 5670 | 15.66 | 14.77 | 14.48 | 15.02 | 21.03 | ≤21.62 | Pass |
| 11ac-VHT40 | 13.5 | 142 | 5710 | 15.17 | 16.31 | 15.95 | 14.30 | 21.52 | ≤21.62 | Pass |
| 11ac-VHT80 | 29.3 | 58 | 5290 | 12.99 | 11.99 | 12.17 | 11.83 | 18.29 | ≤22.22 | Pass |
| 11ac-VHT80 | 29.3 | 106 | 5530 | 12.19 | 11.12 | 10.80 | 11.57 | 17.47 | ≤21.62 | Pass |
| 11ac-VHT80 | 29.3 | 122 | 5610 | 15.12 | 14.66 | 14.11 | 14.46 | 20.62 | ≤21.62 | Pass |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 11ac-VHT80 | 29.3 | 138 | 5690 | 15.07 | 14.32 | 14.03 | 14.22 | 20.45 | ≤21.62 | Pass |

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

## 7.4. Transmit Power Control

### 7.4.1. 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.

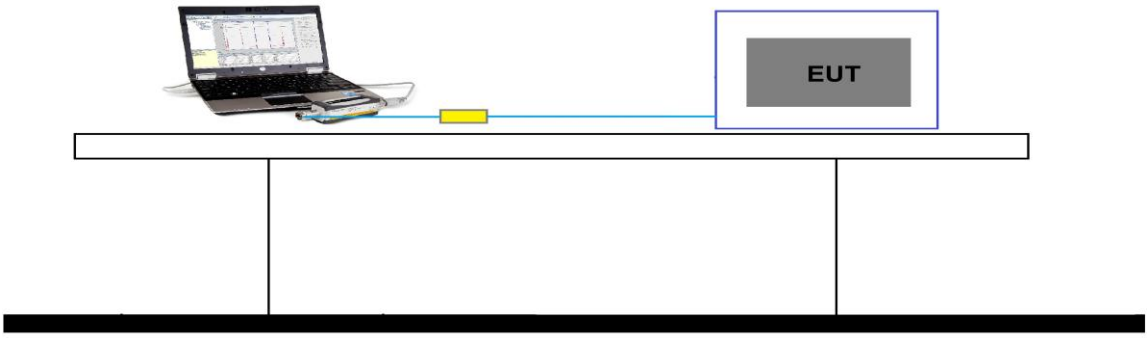
### 7.4.2. Test Procedure Used

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

### 7.4.3. Test Setting

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

| Test Mode | Data Rate (Mbps) | 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 TPC Power (dBm) | Total EIRP TPC Power (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11a | 6 | 52 | 5260 | 9.38 | 8.56 | 8.52 | 8.49 | 14.77 | 16.80 | ≤24.00 | Pass |
| 11a | 6 | 60 | 5300 | 8.78 | 8.37 | 8.39 | 8.97 | 14.66 | 16.69 | ≤24.00 | Pass |
| 11a | 6 | 64 | 5320 | 9.32 | 8.34 | 8.26 | 9.11 | 14.80 | 16.83 | ≤24.00 | Pass |
| 11a | 6 | 100 | 5500 | 9.76 | 8.69 | 8.82 | 9.62 | 15.27 | 17.82 | ≤24.00 | Pass |
| 11a | 6 | 120 | 5600 | 9.67 | 9.21 | 8.84 | 9.21 | 15.26 | 17.81 | ≤24.00 | Pass |
| 11a | 6 | 140 | 5700 | 9.57 | 9.15 | 8.86 | 9.27 | 15.24 | 17.79 | ≤24.00 | Pass |
| 11n-HT20 | 6.5 | 52 | 5260 | 9.02 | 8.54 | 8.47 | 8.71 | 14.71 | 22.49 | ≤24.00 | Pass |
| 11n-HT20 | 6.5 | 60 | 5300 | 9.13 | 8.42 | 8.53 | 8.99 | 14.80 | 22.58 | ≤24.00 | Pass |
| 11n-HT20 | 6.5 | 64 | 5320 | 9.29 | 8.47 | 8.69 | 8.76 | 14.83 | 22.61 | ≤24.00 | Pass |
| 11n-HT20 | 6.5 | 100 | 5500 | 9.27 | 8.34 | 8.15 | 7.87 | 14.46 | 22.84 | ≤24.00 | Pass |
| 11n-HT20 | 6.5 | 120 | 5600 | 9.36 | 8.13 | 8.01 | 7.98 | 14.43 | 22.81 | ≤24.00 | Pass |
| 11n-HT20 | 6.5 | 140 | 5700 | 9.21 | 8.25 | 8.33 | 7.68 | 14.42 | 22.80 | ≤24.00 | Pass |
| 11n-HT40 | 13.5 | 54 | 5270 | 9.41 | 8.39 | 9.05 | 8.46 | 14.87 | 22.65 | ≤24.00 | Pass |
| 11n-HT40 | 13.5 | 62 | 5310 | 9.54 | 8.66 | 8.56 | 9.11 | 15.01 | 22.79 | ≤24.00 | Pass |
| 11n-HT40 | 13.5 | 102 | 5510 | 9.38 | 8.79 | 8.13 | 9.01 | 14.87 | 23.25 | ≤24.00 | Pass |
| 11n-HT40 | 13.5 | 118 | 5590 | 9.23 | 8.69 | 8.17 | 9.12 | 14.84 | 23.22 | ≤24.00 | Pass |
| 11n-HT40 | 13.5 | 134 | 5670 | 9.27 | 8.27 | 8.18 | 8.99 | 14.72 | 23.10 | ≤24.00 | Pass |
| 11ac-VHT20 | 6.5 | 52 | 5260 | 9.34 | 8.49 | 8.52 | 8.82 | 14.83 | 22.61 | ≤24.00 | Pass |
| 11ac-VHT20 | 6.5 | 60 | 5300 | 9.47 | 8.38 | 8.63 | 8.93 | 14.89 | 22.67 | ≤24.00 | Pass |
| 11ac-VHT20 | 6.5 | 64 | 5320 | 9.35 | 8.46 | 8.59 | 8.98 | 14.88 | 22.66 | ≤24.00 | Pass |
| 11ac-VHT20 | 6.5 | 100 | 5500 | 9.01 | 8.69 | 8.13 | 8.87 | 14.71 | 23.09 | ≤24.00 | Pass |
| 11ac-VHT20 | 6.5 | 120 | 5600 | 9.11 | 8.58 | 8.26 | 8.69 | 14.69 | 23.07 | ≤24.00 | Pass |
| 11ac-VHT20 | 6.5 | 140 | 5700 | 5.35 | 7.33 | 6.51 | 5.28 | 12.22 | 20.60 | ≤24.00 | Pass |
| 11ac-VHT20 | 6.5 | 144 | 5720 | 8.05 | 9.07 | 9.02 | 8.28 | 14.65 | 23.03 | ≤24.00 | Pass |
| 11ac-VHT40 | 13.5 | 54 | 5270 | 9.32 | 8.43 | 8.91 | 9.25 | 15.01 | 22.79 | ≤24.00 | Pass |
| 11ac-VHT40 | 13.5 | 62 | 5310 | 9.52 | 8.64 | 8.59 | 8.88 | 14.94 | 22.72 | ≤24.00 | Pass |
| 11ac-VHT40 | 13.5 | 102 | 5510 | 9.37 | 8.16 | 8.11 | 8.89 | 14.69 | 23.07 | ≤24.00 | Pass |
| 11ac-VHT40 | 13.5 | 118 | 5590 | 9.17 | 8.25 | 8.12 | 8.97 | 14.67 | 23.05 | ≤24.00 | Pass |
| 11ac-VHT40 | 13.5 | 134 | 5670 | 9.29 | 8.18 | 8.03 | 8.85 | 14.64 | 23.02 | ≤24.00 | Pass |
| 11ac-VHT40 | 13.5 | 142 | 5710 | 8.85 | 9.03 | 8.88 | 7.43 | 14.61 | 22.99 | ≤24.00 | Pass |
| 11ac-VHT80 | 29.3 | 58 | 5290 | 7.57 | 6.98 | 7.89 | 7.69 | 13.57 | 21.35 | ≤24.00 | Pass |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11ac-VHT80 | 29.3 | 106 | 5530 | 7.26 | 7.02 | 7.98 | 7.79 | 13.55 | 21.93 | ≤24.00 | Pass |
| 11ac-VHT80 | 29.3 | 122 | 5610 | 8.54 | 7.48 | 7.67 | 7.94 | 13.95 | 22.33 | ≤24.00 | Pass |
| 11ac-VHT80 | 29.3 | 138 | 5690 | 9.12 | 8.47 | 8.28 | 8.37 | 14.59 | 22.97 | ≤24.00 | Pass |

Note: The Total EIRP TPC Power (dBm) = $10*\log\{10^{(\text{Ant 0 TPC Power }/10)}+10^{(\text{Ant 1 TPC Power }/10)}+10^{(\text{Ant 2 TPC Power }/10)}+10^{(\text{Ant 3 TPC Power }/10)}\}$ + Antenna Gain.

## 7.5. Power Spectral Density Measurement

### 7.5.1. Test Limit

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.

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.

***5.25-5.35GHz: Limit (dBm/MHz) = 11dBm/MHz - (7.78dBi - 6dBi) = 9.22dBm/MHz***

***5.47-5.725GHz: Limit (dBm/MHz) = 11dBm/MHz - (8.38dBi - 6dBi) = 8.62dBm/MHz***

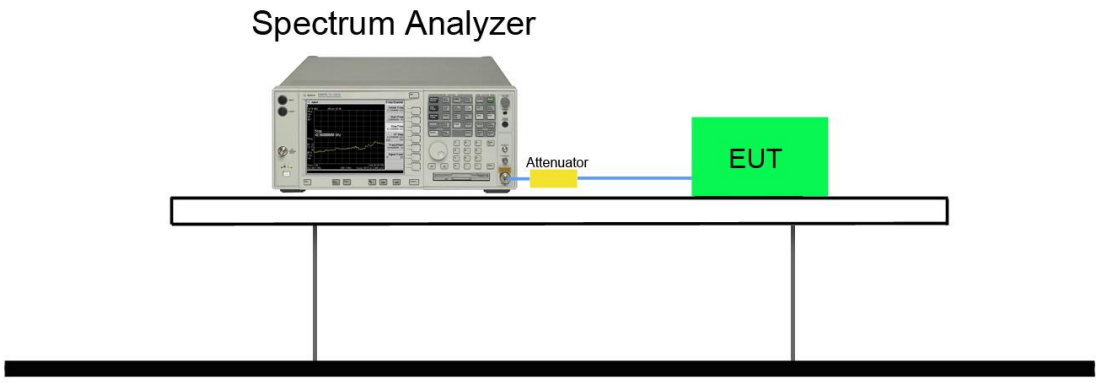
### 7.5.2. Test Procedure Used

KDB 789033 D02v01 - Section F

### 7.5.3. 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
4. VBW = 3MHz
5. Number of sweep points ≥ 2 × (span / RBW)
6. Detector = power averaging (RMS)
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*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*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*log(500kHz/100kHz) = 7 dB to the measured result

### 7.5.4. Test Setup

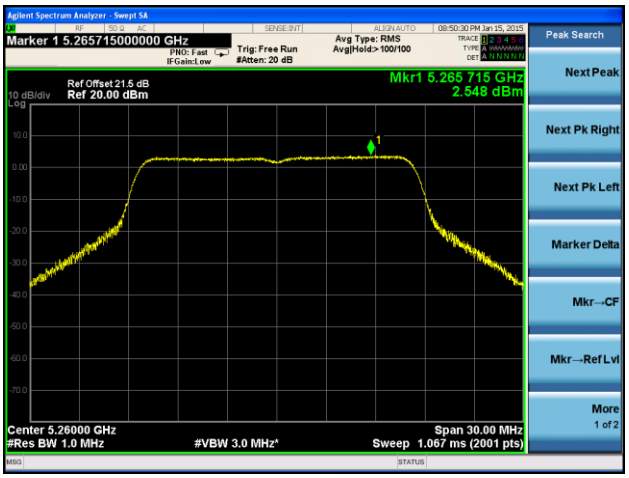
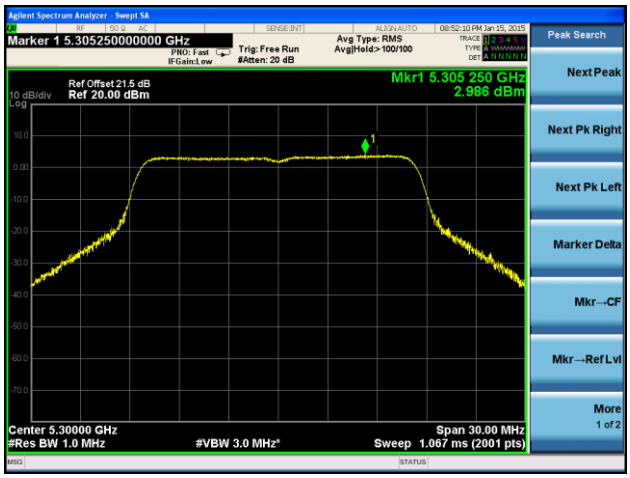
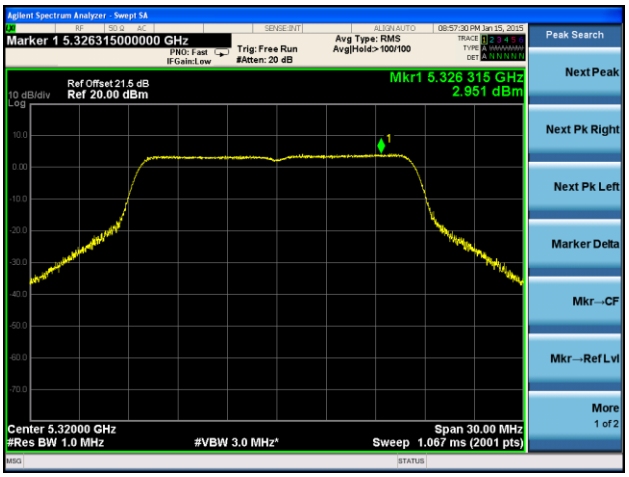
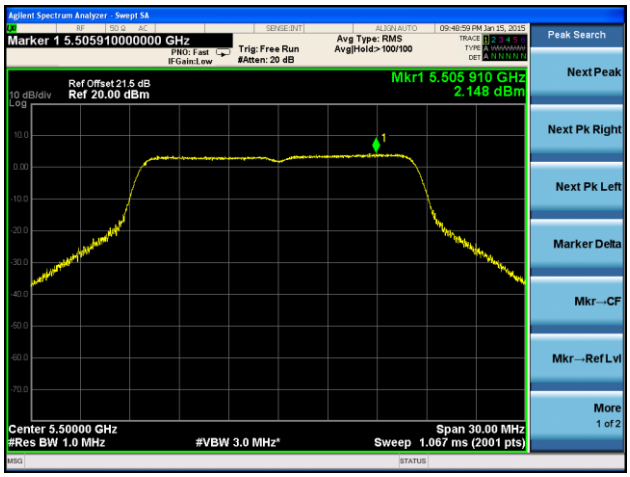


### 7.5.5. Test Result

| Test Mode | Data Rate (Mbps) | 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) | Limit (dBm/MHz) | Result |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11a | 6 | 52 | 5260 | 2.55 | 2.52 | 2.51 | 3.01 | 99.2 | 8.67 | ≤9.22 | Pass |
| 11a | 6 | 60 | 5300 | 2.99 | 2.61 | 2.41 | 2.27 | 99.2 | 8.60 | ≤9.22 | Pass |
| 11a | 6 | 64 | 5320 | 2.95 | 2.98 | 2.64 | 2.36 | 99.2 | 8.76 | ≤9.22 | Pass |
| 11a | 6 | 100 | 5500 | 2.15 | 2.50 | 2.92 | 2.59 | 99.2 | 8.57 | ≤8.62 | Pass |
| 11a | 6 | 120 | 5600 | 2.70 | 1.93 | 2.42 | 2.11 | 99.2 | 8.32 | ≤8.62 | Pass |
| 11a | 6 | 140 | 5700 | -0.11 | 1.75 | 1.23 | -1.03 | 99.2 | 6.62 | ≤8.62 | Pass |
| 11n-HT20 | 6.5 | 52 | 5260 | 3.26 | 2.02 | 2.99 | 2.90 | 99.1 | 8.84 | ≤9.22 | Pass |
| 11n-HT20 | 6.5 | 60 | 5300 | 3.17 | 2.58 | 2.60 | 2.80 | 99.1 | 8.81 | ≤9.22 | Pass |
| 11n-HT20 | 6.5 | 64 | 5320 | 2.82 | 2.77 | 2.60 | 3.00 | 99.1 | 8.82 | ≤9.22 | Pass |
| 11n-HT20 | 6.5 | 100 | 5500 | 2.64 | 2.86 | 2.39 | 2.42 | 99.1 | 8.60 | ≤8.62 | Pass |
| 11n-HT20 | 6.5 | 120 | 5600 | 2.98 | 2.72 | 2.18 | 2.28 | 99.1 | 8.57 | ≤8.62 | Pass |
| 11n-HT20 | 6.5 | 140 | 5700 | -1.01 | 1.17 | -2.06 | -0.84 | 99.1 | 5.50 | ≤8.62 | Pass |
| 11n-HT40 | 13.5 | 54 | 5270 | 0.61 | -0.45 | 0.42 | 0.58 | 97.6 | 6.44 | ≤9.22 | Pass |
| 11n-HT40 | 13.5 | 62 | 5310 | 0.83 | -0.56 | 0.27 | 0.39 | 97.6 | 6.39 | ≤9.22 | Pass |
| 11n-HT40 | 13.5 | 102 | 5510 | 1.49 | 1.02 | 0.64 | 1.26 | 97.6 | 7.24 | ≤8.62 | Pass |
| 11n-HT40 | 13.5 | 118 | 5590 | 1.05 | 0.26 | -0.06 | 1.00 | 97.6 | 6.72 | ≤8.62 | Pass |
| 11n-HT40 | 13.5 | 134 | 5670 | 0.87 | -0.25 | 0.01 | 0.78 | 97.6 | 6.51 | ≤8.62 | Pass |
| 11ac-VHT20 | 6.5 | 52 | 5260 | 2.97 | 2.36 | 2.43 | 2.92 | 98.7 | 8.70 | ≤9.22 | Pass |
| 11ac-VHT20 | 6.5 | 60 | 5300 | 3.12 | 2.48 | 2.67 | 2.61 | 98.7 | 8.74 | ≤9.22 | Pass |
| 11ac-VHT20 | 6.5 | 64 | 5320 | 3.04 | 2.47 | 2.53 | 2.55 | 98.7 | 8.67 | ≤9.22 | Pass |
| 11ac-VHT20 | 6.5 | 100 | 5500 | 2.67 | 2.67 | 2.47 | 2.34 | 98.7 | 8.56 | ≤8.62 | Pass |
| 11ac-VHT20 | 6.5 | 120 | 5600 | 2.53 | 2.36 | 2.36 | 2.12 | 98.7 | 8.36 | ≤8.62 | Pass |
| 11ac-VHT20 | 6.5 | 140 | 5700 | -0.65 | 0.62 | 0.57 | -1.02 | 98.7 | 5.96 | ≤8.62 | Pass |
| 11ac-VHT20 | 6.5 | 144 | 5720 | 2.36 | 2.27 | 2.42 | 2.42 | 98.7 | 8.39 | ≤8.62 | Pass |
| 11ac-VHT40 | 13.5 | 54 | 5270 | 0.76 | -0.05 | 0.49 | 0.55 | 97.2 | 6.59 | ≤9.22 | Pass |
| 11ac-VHT40 | 13.5 | 62 | 5310 | 0.76 | -0.33 | 0.32 | 0.47 | 97.2 | 6.47 | ≤9.22 | Pass |
| 11ac-VHT40 | 13.5 | 102 | 5510 | 1.56 | 0.74 | 0.54 | 0.78 | 97.2 | 7.07 | ≤8.62 | Pass |
| 11ac-VHT40 | 13.5 | 118 | 5590 | 0.83 | -0.26 | 0.00 | 0.81 | 97.2 | 6.52 | ≤8.62 | Pass |
| 11ac-VHT40 | 13.5 | 134 | 5670 | 0.79 | -0.19 | 0.05 | 0.33 | 97.2 | 6.41 | ≤8.62 | Pass |
| 11ac-VHT40 | 13.5 | 142 | 5710 | 0.13 | 1.57 | 1.30 | -0.14 | 97.2 | 6.92 | ≤8.62 | Pass |
| 11ac-VHT80 | 29.3 | 58 | 5290 | -3.78 | -5.18 | -4.76 | -4.40 | 94.5 | 1.77 | ≤9.22 | Pass |

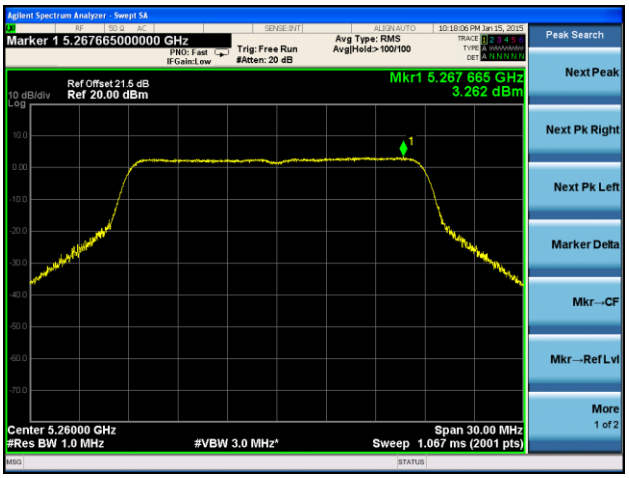
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11ac-VHT80 | 29.3 | 106 | 5530 | -4.48 | -5.74 | -6.21 | -4.71 | 94.5 | 1.04 | ≤8.62 | Pass |
| 11ac-VHT80 | 29.3 | 122 | 5610 | -1.41 | -2.38 | -2.15 | -1.52 | 94.5 | 4.18 | ≤8.62 | Pass |
| 11ac-VHT80 | 29.3 | 138 | 5690 | -2.34 | -2.43 | -3.02 | -1.96 | 94.5 | 3.84 | ≤8.62 | Pass |

Note: When EUT duty cycle < 98%, the total PSD = $10*\log\{10^{(\text{Ant 0 PSD}/10)}+10^{(\text{Ant 1 PSD}/10)}+10^{(\text{Ant 2 PSD}/10)}+10^{(\text{Ant 3 PSD}/10)}\}$ + 10*log(1/duty cycle)

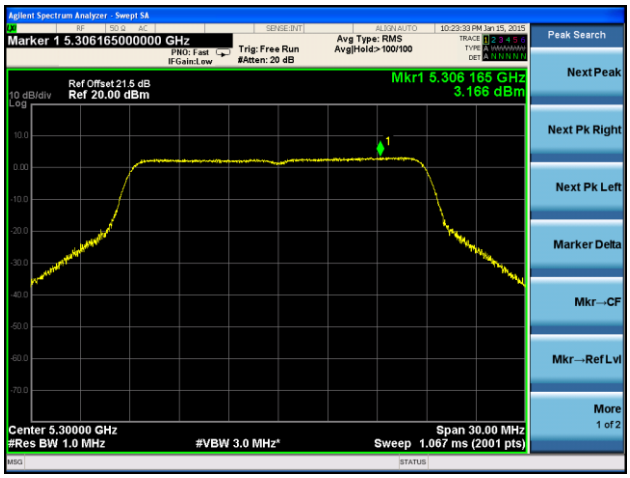
| 802.11a Power Spectral Density - Ant 0 / Ant 0 + 1 + 2 + 3 | |
|---|---|
| **Channel 52 (5260MHz)** | **Channel 60 (5300MHz)** |
|  |  |
| **Channel 64 (5320MHz)** | **Channel 100 (5500MHz)** |
|  |  |
| **Channel 120 (5600MHz)** | **Channel 140 (5700MHz)** |
|  |  |

## 802.11n-HT20 Power Spectral Density - Ant 0 / Ant 0 + 1 + 2 + 3

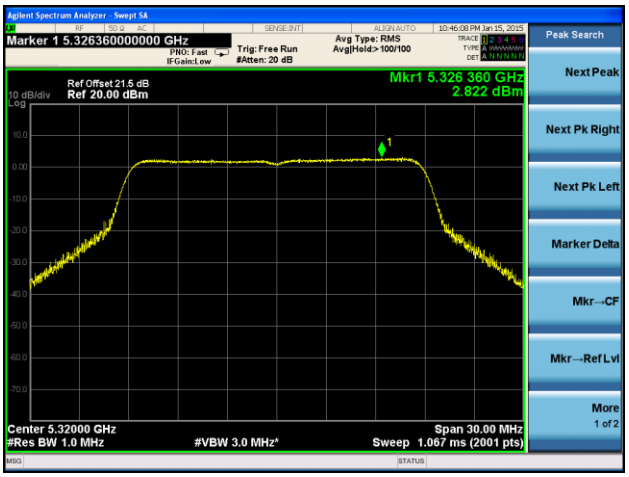
### Channel 52 (5260MHz)



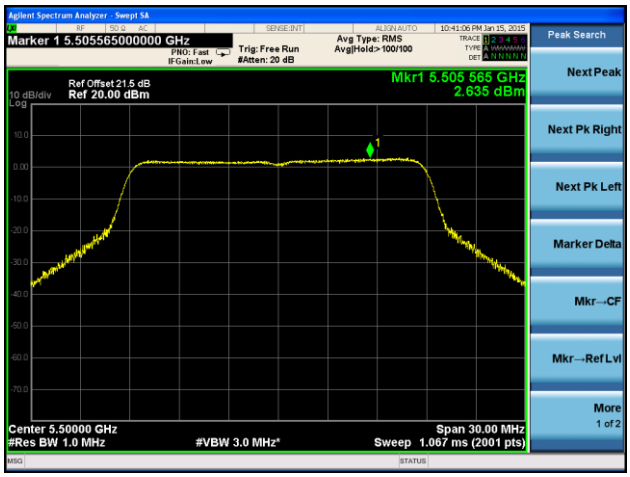

### Channel 60 (5300MHz)




### Channel 64 (5320MHz)




### Channel 100 (5500MHz)

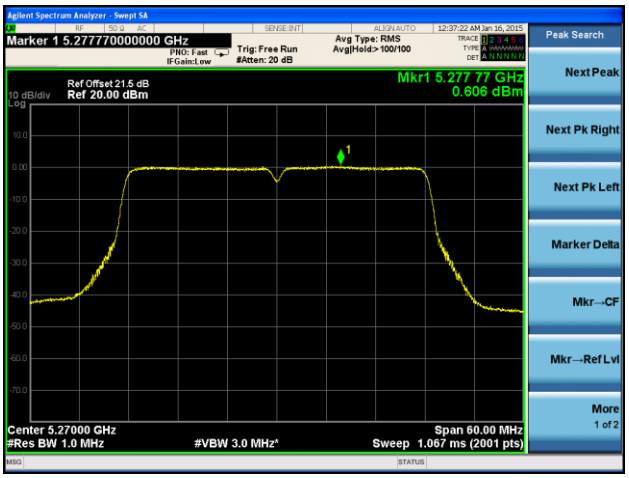



### Channel 120 (5600MHz)

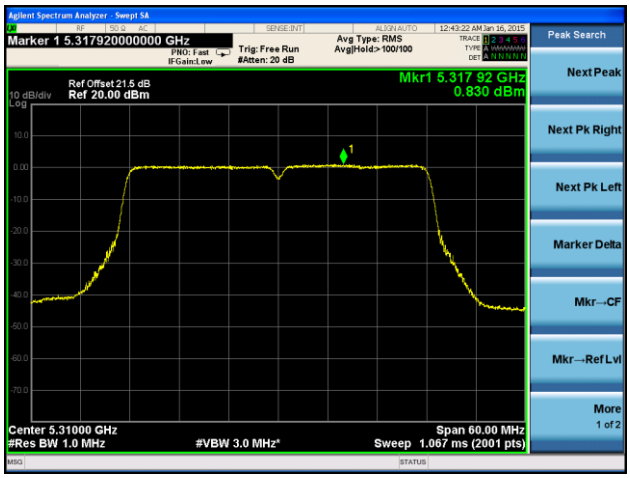

### Channel 140 (5700MHz)

## 802.11n-HT40 Power Spectral Density - Ant 0 / Ant 0 + 1 + 2 + 3

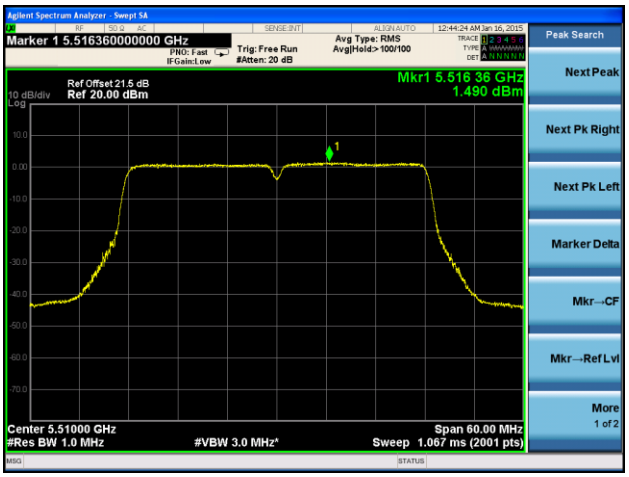
### Channel 54 (5270MHz)



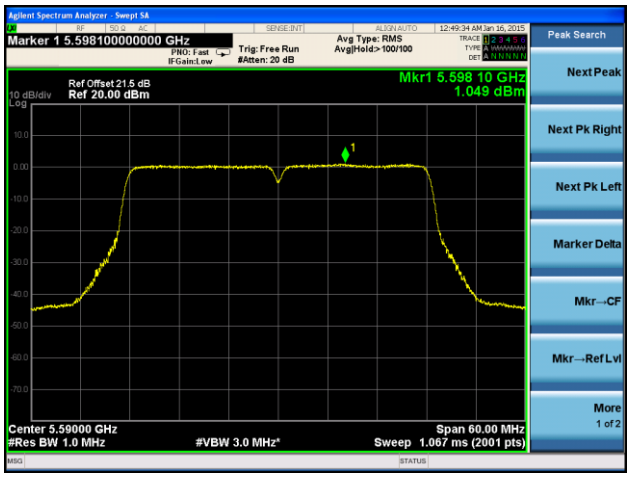

### Channel 62 (5310MHz)




### Channel 102 (5510MHz)



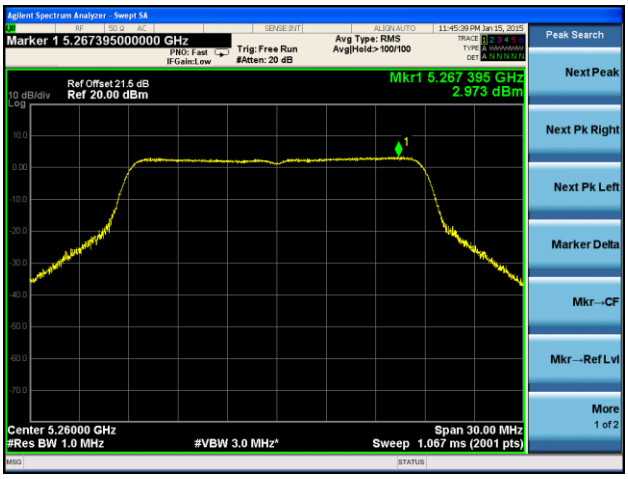

### Channel 118 (5590MHz)



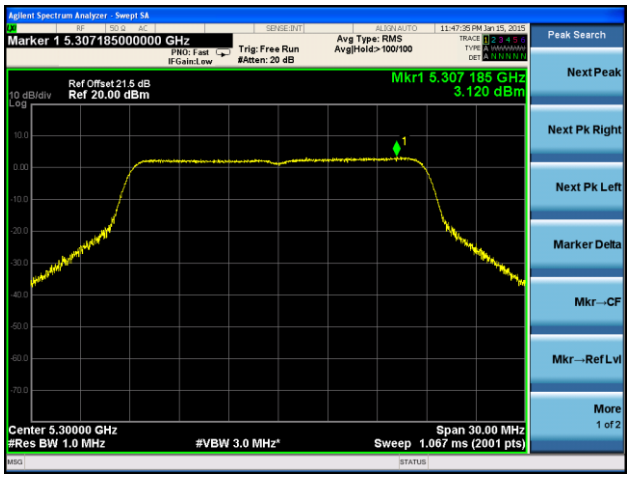

### Channel 134 (5670MHz)

## 802.11ac-VHT20 Power Spectral Density - Ant 0 / Ant 0 + 1 + 2 + 3

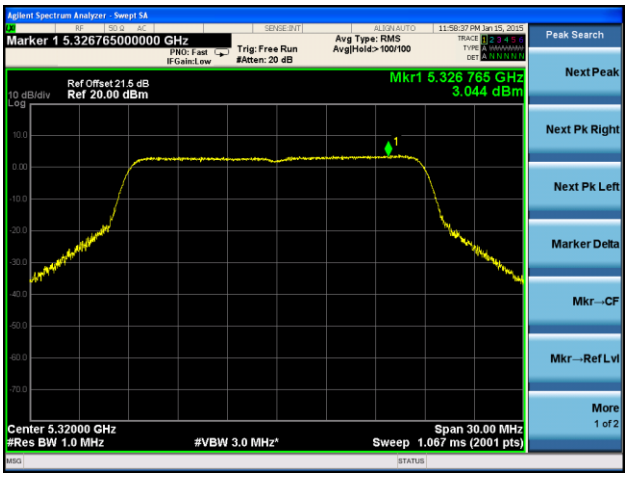
### Channel 52 (5260MHz)



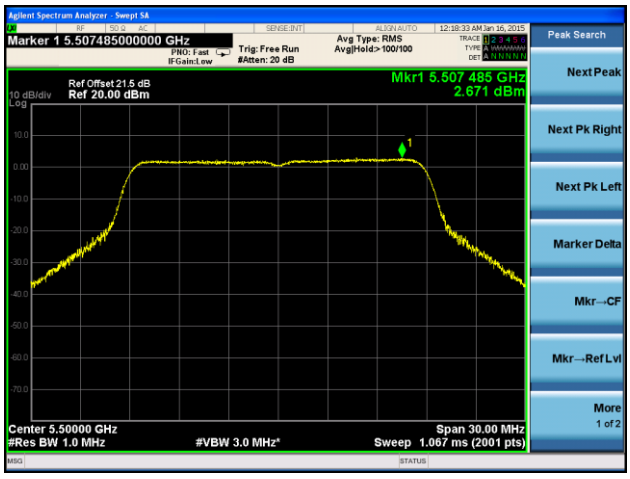

### Channel 60 (5300MHz)



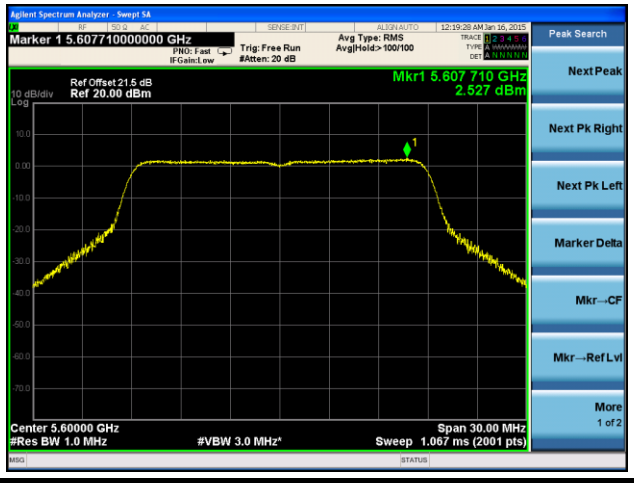

### Channel 64 (5320MHz)



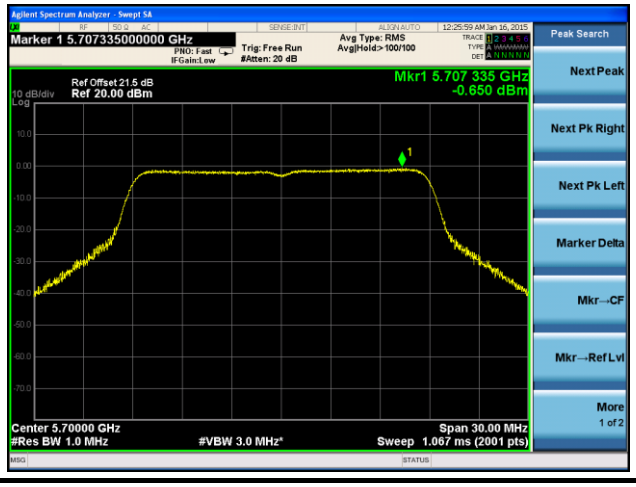

### Channel 100 (5500MHz)

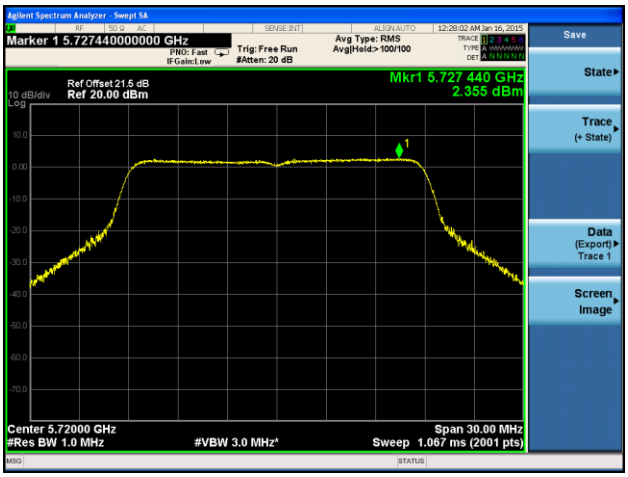



### Channel 120 (5600MHz)



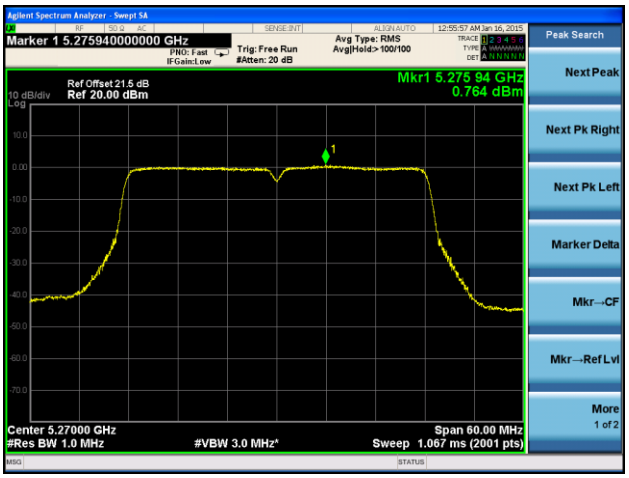

### Channel 140 (5700MHz)



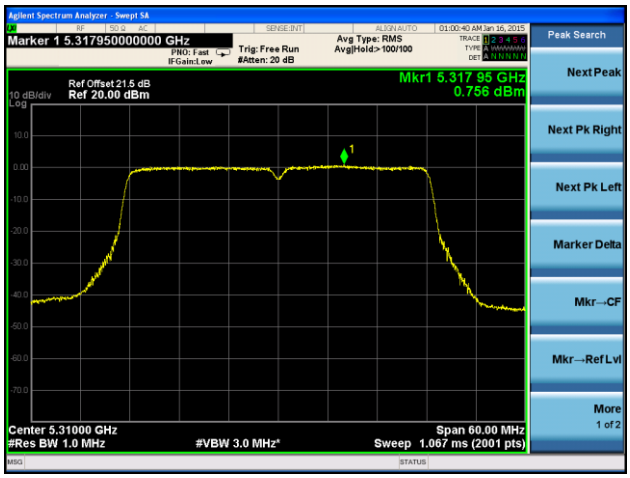
| Channel 144 (5720MHz) | |
|---|---|
|  | |

## 802.11ac-VHT40 Power Spectral Density - Ant 0 / Ant 0 + 1 + 2 + 3

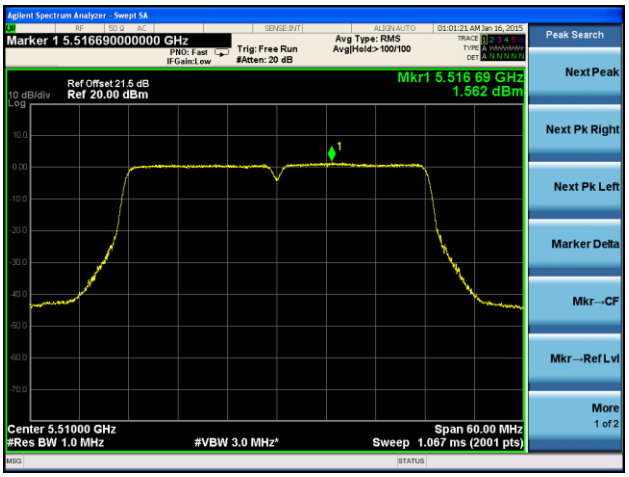
### Channel 54 (5270MHz)



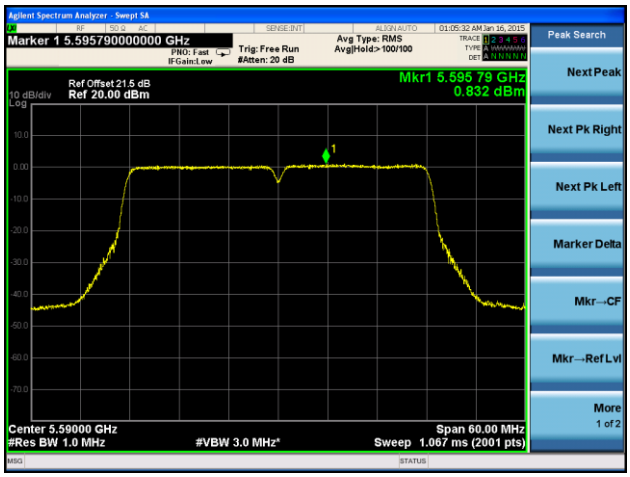

### Channel 62 (5310MHz)



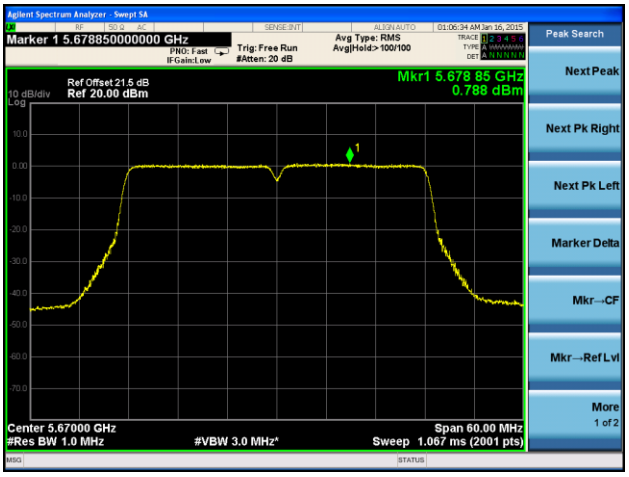

### Channel 102 (5510MHz)



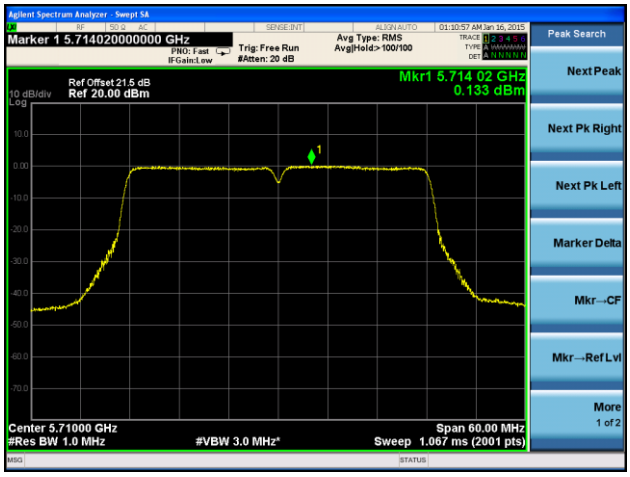

### Channel 118 (5590MHz)

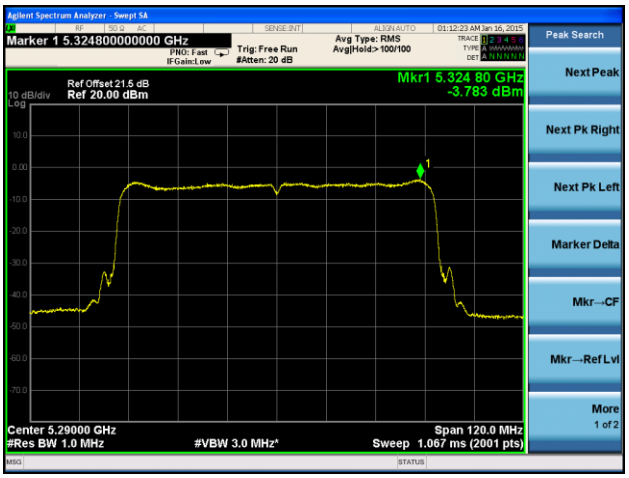



### Channel 134 (5670MHz)




### Channel 142 (5710MHz)



| 802.11ac-VHT80 Power Spectral Density - Ant 0 / Ant 0 + 1 + 2 + 3 | |
|---|---|
| **Channel 58 (5290MHz)** | **Channel 106 (5530MHz)** |
|  |  |
| **Channel 122 (5610MHz)** | **Channel 138 (5690MHz)** |
|  |  |