

## UNII 5.5 GHz IEEE 802.11n HT40 mode

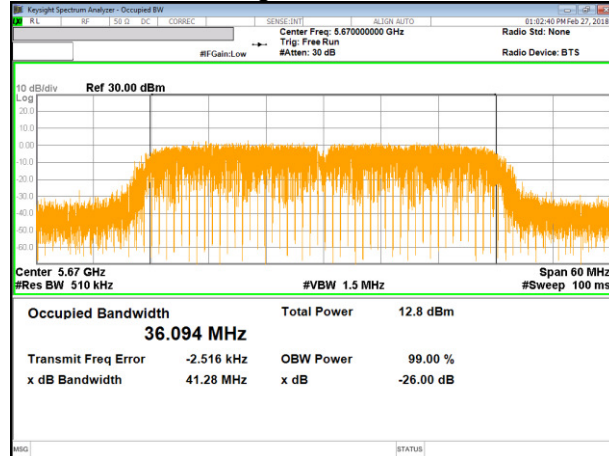
### 11n HT40 Mode Low Channel



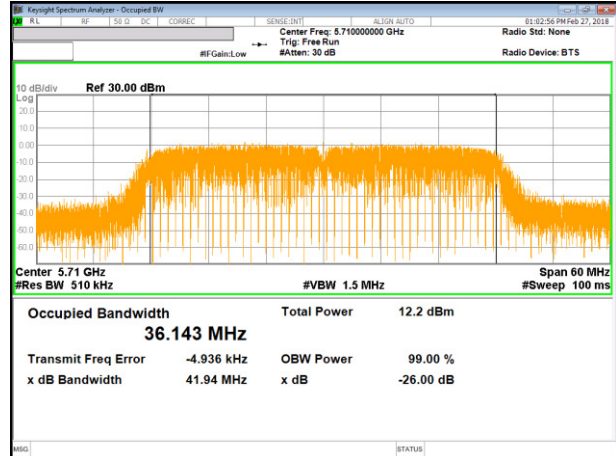
### 11n HT40 Mode Middle Channel



### 11n HT40 Mode High Channel

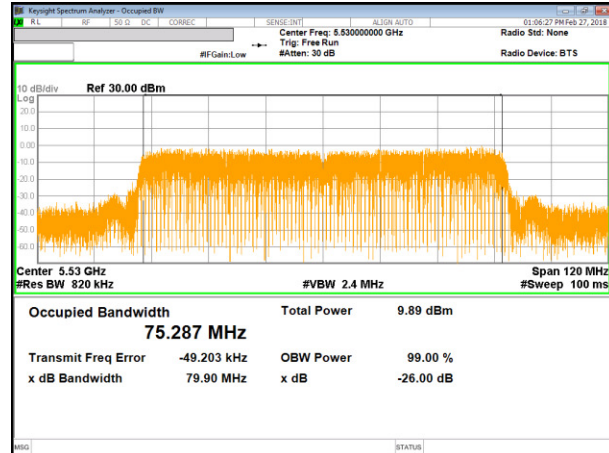


### 11n HT40 Mode Straddle Channel

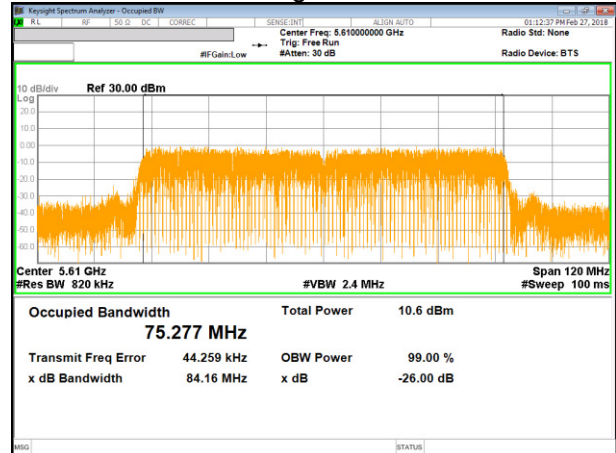


## UNII 5.5 GHz IEEE 802.11ac VHT80 mode

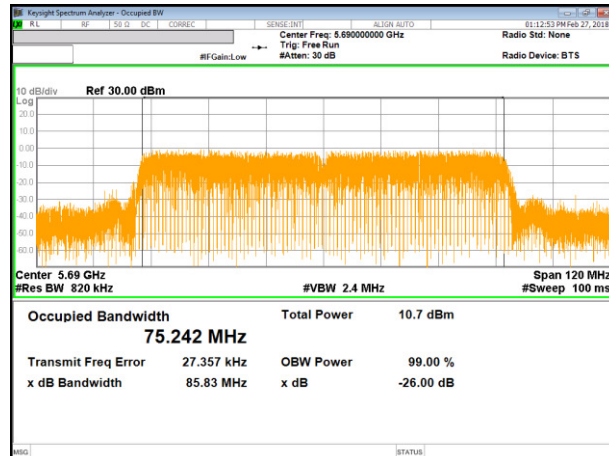
### 11ac VHT80 Mode Low Channel



### 11ac VHT80 Mode High Channel

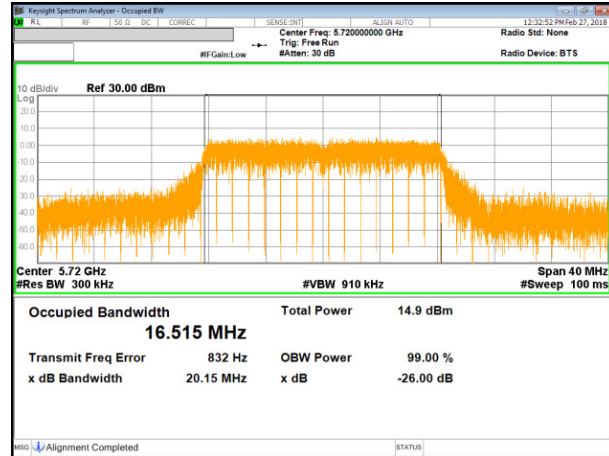


### 11ac VHT80 Mode Straddle Channel

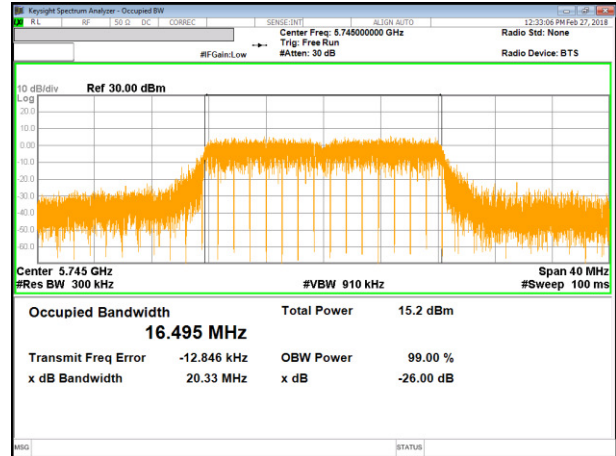


## UNII 5.8 GHz IEEE 802.11a mode

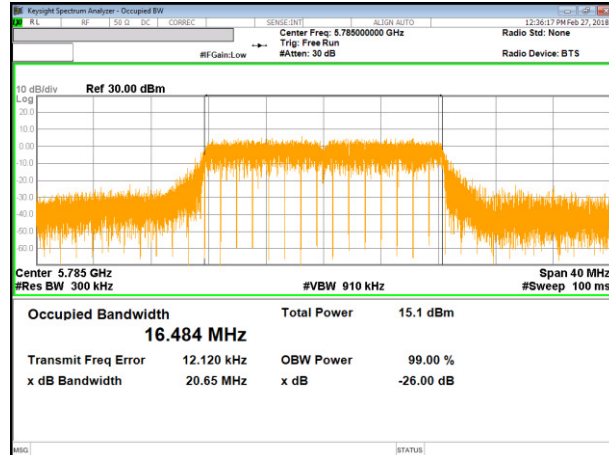
### 11a Mode Straddle Channel



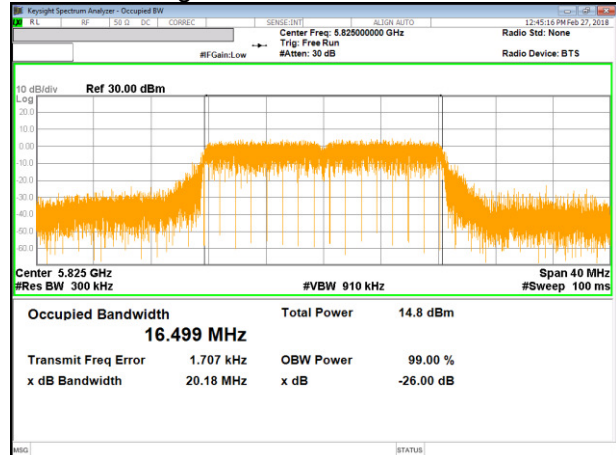
### 11a Mode Low Channel



### 11a Mode Middle Channel

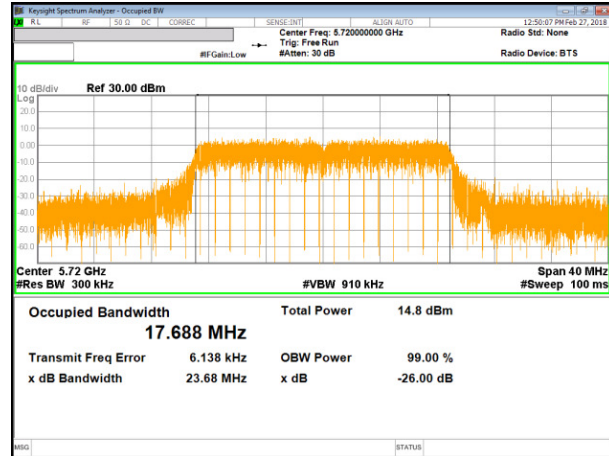


### 11a Mode High Channel

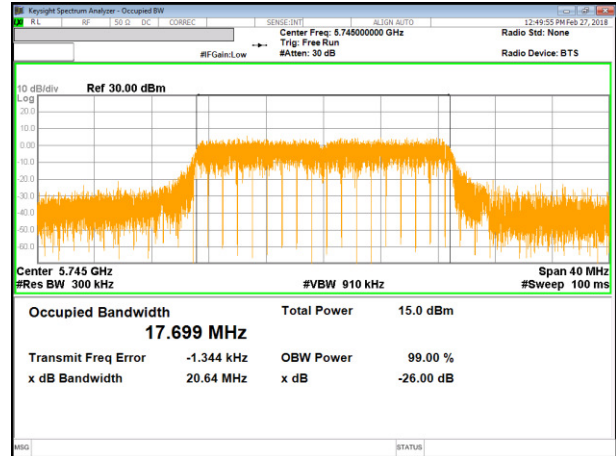


## UNII 5.8 GHz IEEE 802.11n HT20 mode

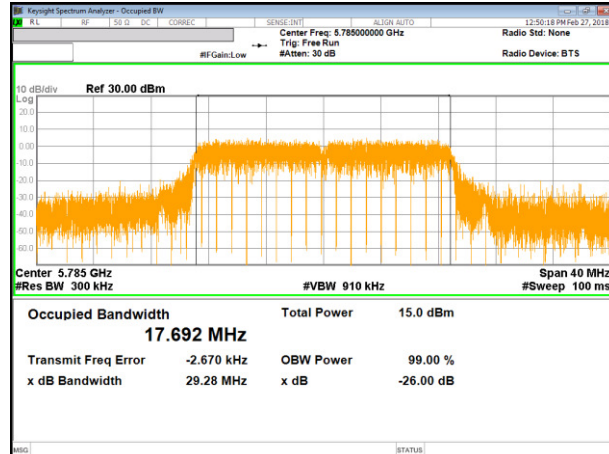
### 11n HT20 Mode Straddle Channel



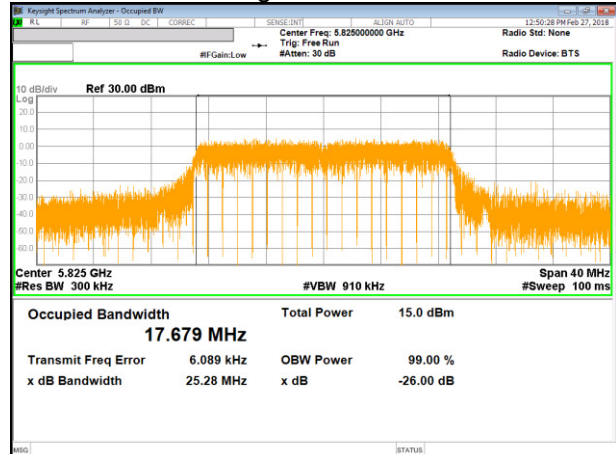
### 11n HT20 Mode Low Channel



### 11n HT20 Mode Middle Channel

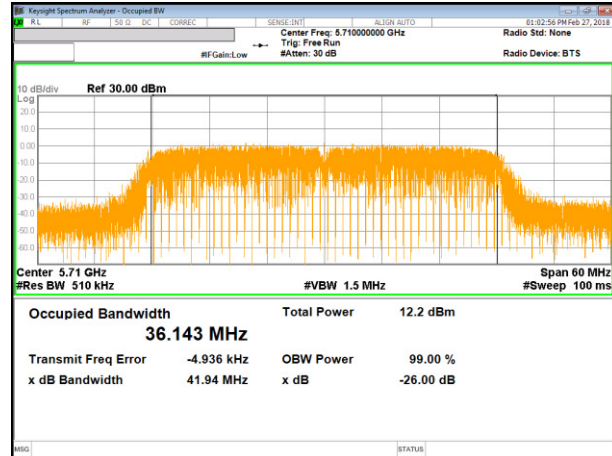


### 11n HT20 Mode High Channel

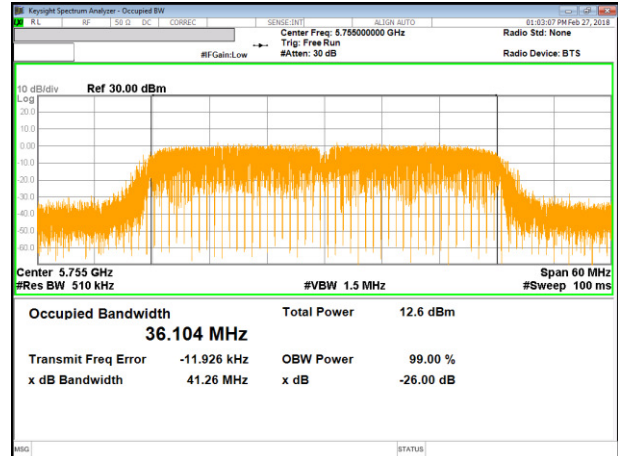


## UNII 5.8 GHz IEEE 802.11n HT40 mode

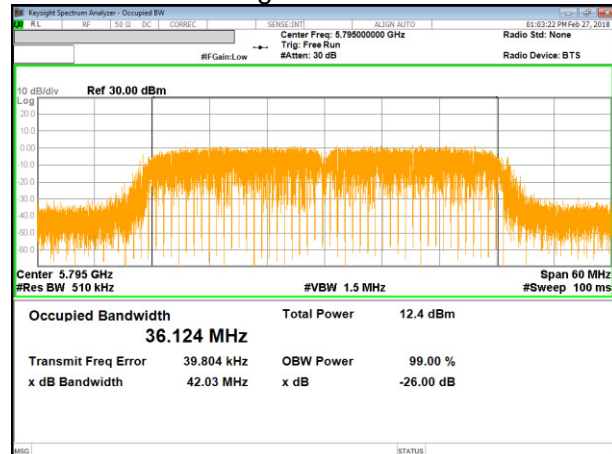
### 11n HT40 Mode Straddle Channel



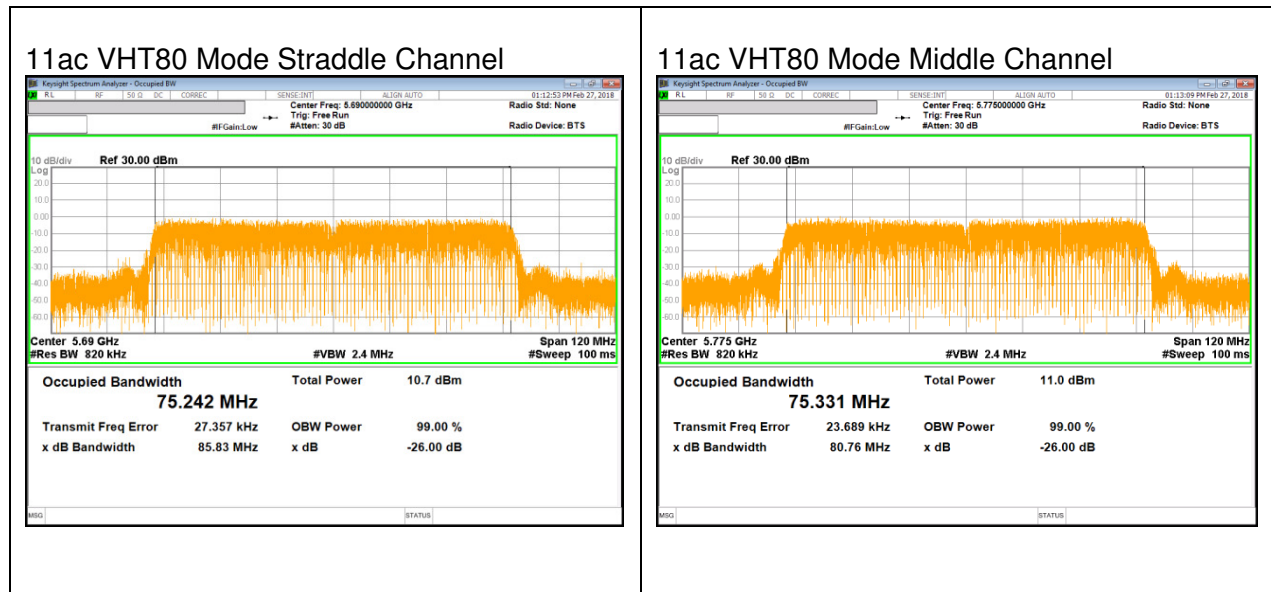
### 11n HT40 Mode Low Channel



### 11n HT40 Mode High Channel



## UNII 5.8 GHz IEEE 802.11ac VHT80 mode



## 10. ANTENNA PORT TEST RESULTS

### 10.1. 6 dB BANDWIDTH

#### LIMITS

FCC §15.407 (e)

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

#### TEST PROCEDURE

Reference to 789033 D02 General UNII Test Procedures New Rules v02r01: The transmitter output is connected to a spectrum analyzer with the RBW set to 100kHz, the VBW  $\geq 3 \times$  RBW, peak detector and max hold.

#### NOTE

- Calculation for 6dB Bandwidth of UNII-3 Straddle Channel

ex) Fundamental frequency : 5720MHz

- 6dB BW : 16.350MHz
- Starting Frequency of UNII-3 band : 5725MHz
- 6dB Bandwidth of UNII-3 band Portion  
 $= (5720 + (16.350 / 2) - 5725) = 3.175 \text{ MHz}$

#### RESULTS

### 10.1.1. 802.11a MODE IN THE 5.8 GHz BAND

| Channel  | Frequency [MHz] | 6 dB Bandwidth [MHz] | Minimum Limit [MHz] |
|----------|-----------------|----------------------|---------------------|
| Straddle | 5720            | 3.175                | 0.5                 |
| Low      | 5745            | 16.330               | 0.5                 |
| Mid      | 5785            | 16.330               | 0.5                 |
| High     | 5825            | 16.340               | 0.5                 |
| Worst    |                 | 3.175                |                     |

### 10.1.2. 802.11n HT20 MODE IN THE 5.8 GHz BAND

| Channel  | Frequency [MHz] | 6 dB Bandwidth [MHz] | Minimum Limit [MHz] |
|----------|-----------------|----------------------|---------------------|
| Straddle | 5720            | 3.785                | 0.5                 |
| Low      | 5745            | 17.540               | 0.5                 |
| Mid      | 5785            | 17.550               | 0.5                 |
| High     | 5825            | 17.540               | 0.5                 |
| Worst    |                 | 3.785                |                     |

### 10.1.3. 802.11n HT40 MODE IN THE 5.8 GHz BAND

| Channel  | Frequency [MHz] | 6 dB Bandwidth [MHz] | Minimum Limit [MHz] |
|----------|-----------------|----------------------|---------------------|
| Straddle | 5710            | 2.535                | 0.5                 |
| Low      | 5755            | 35.070               | 0.5                 |
| High     | 5795            | 34.990               | 0.5                 |
| Worst    |                 | 2.535                |                     |

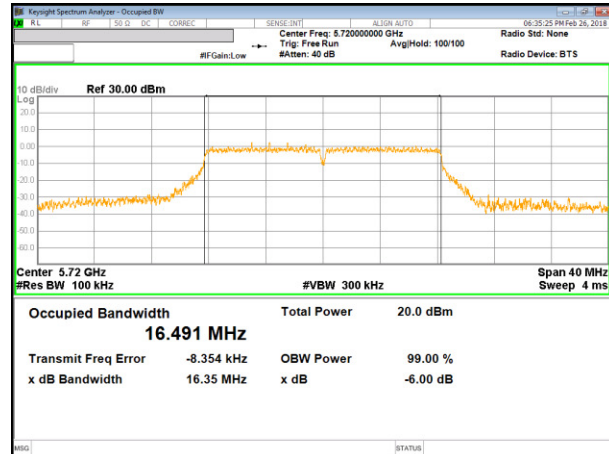
### 10.1.4. 802.11ac VHT80 MODE IN THE 5.8 GHz BAND

| Channel  | Frequency | 6 dB Bandwidth [MHz] | Minimum Limit |
|----------|-----------|----------------------|---------------|
| Straddle | 5690      | 2.570                | 0.5           |
| Middle   | 5775      | 75.140               | 0.5           |
| Worst    |           | 2.570                |               |

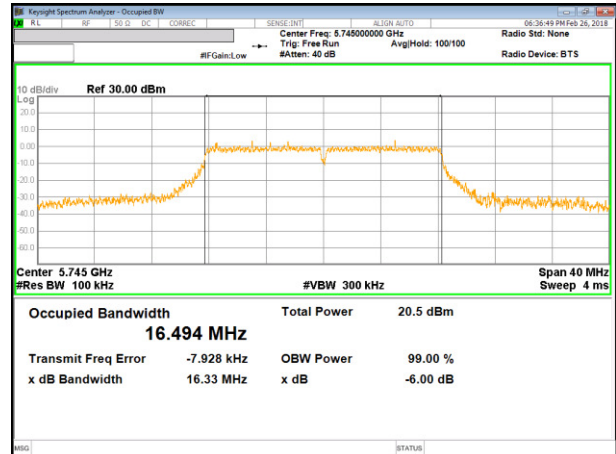
## 10.1.5. 6 dB BANDWIDTH PLOTS

### UNII 5.8 GHz IEEE 802.11a mode

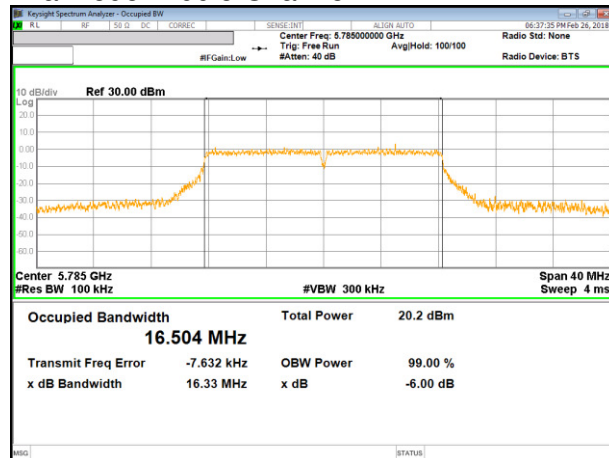
#### 11a Mode Straddle Channel



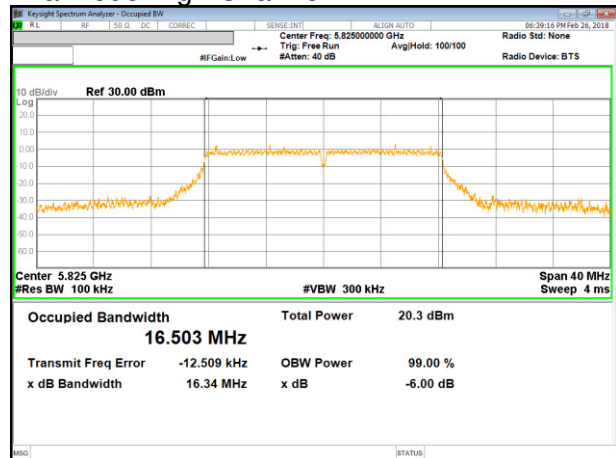
#### 11a Mode Low Channel



#### 11a Mode Middle Channel

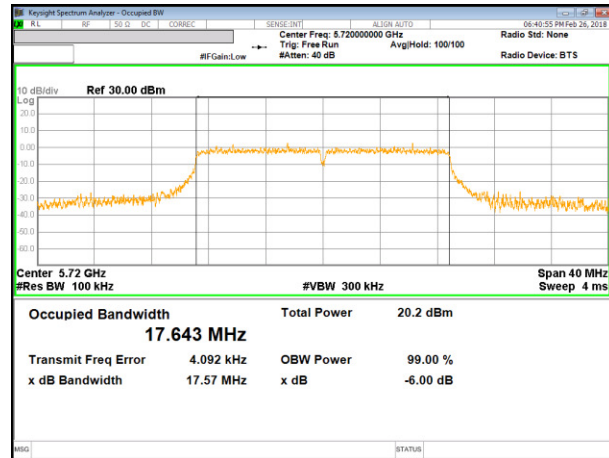


#### 11a Mode High Channel

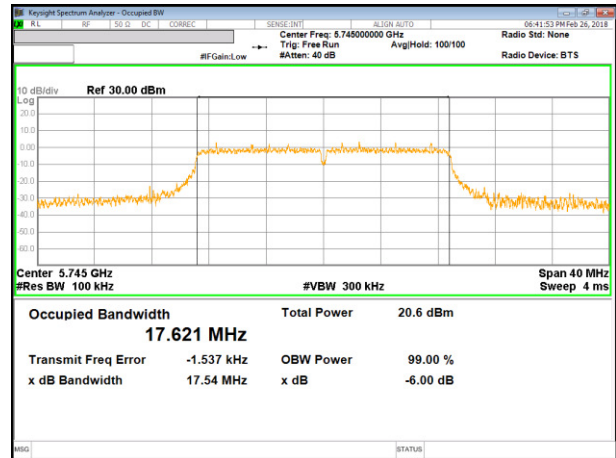


## UNII 5.8 GHz IEEE 802.11n HT20 mode

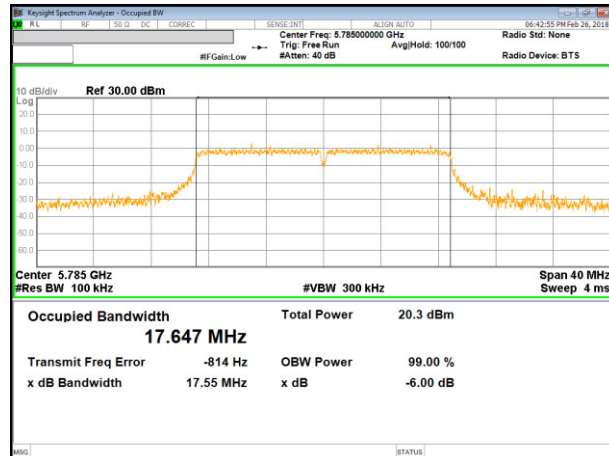
### 11n HT20 Mode Straddle Channel



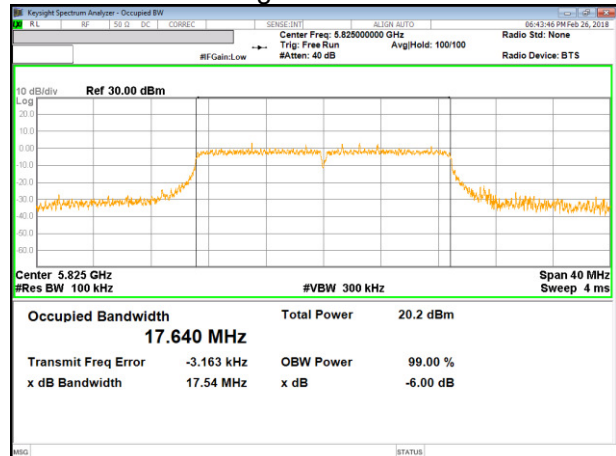
### 11n HT20 Mode Low Channel



### 11n HT20 Mode Middle Channel

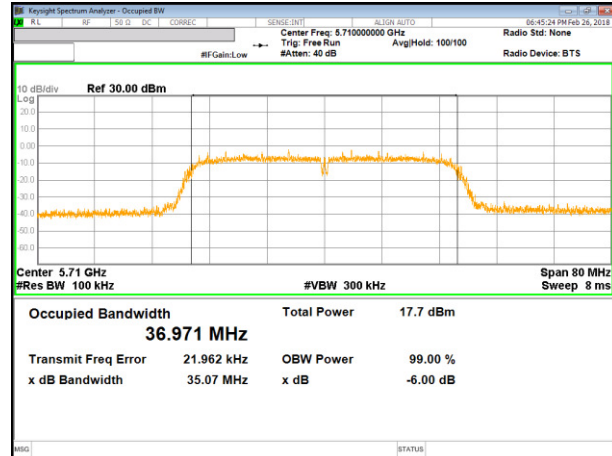


### 11n HT20 Mode High Channel

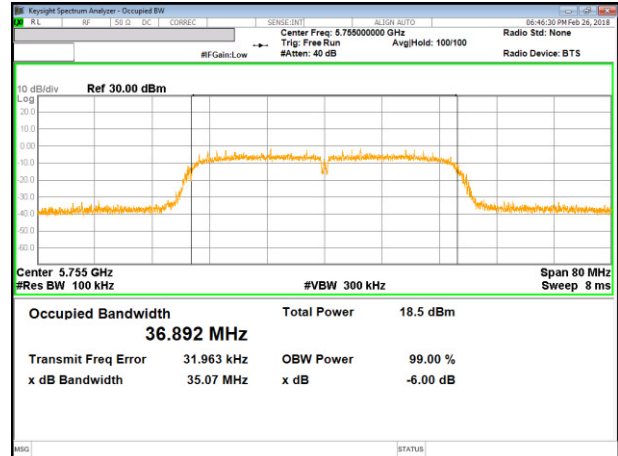


## UNII 5.8 GHz IEEE 802.11n HT40 mode

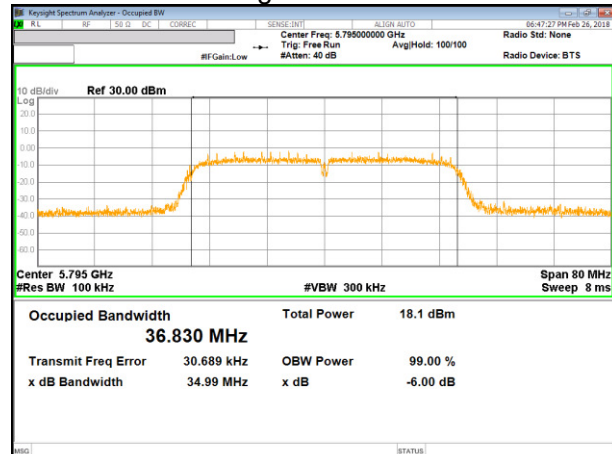
### 11n HT40 Mode Straddle Channel



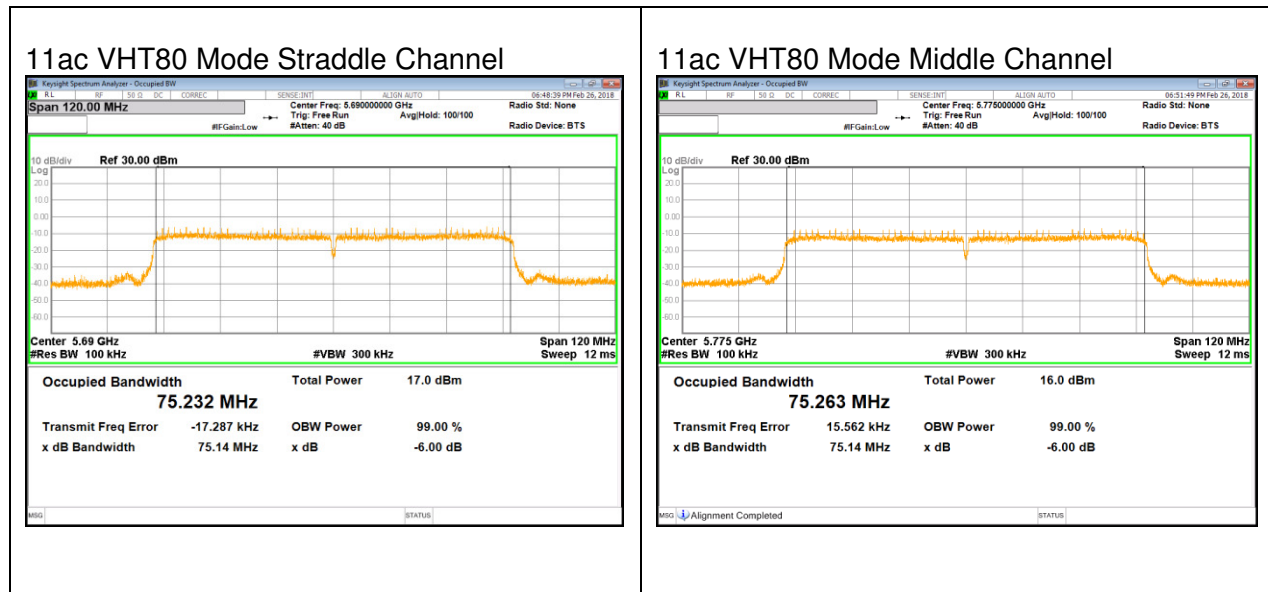
### 11n HT40 Mode Low Channel



### 11n HT40 Mode High Channel



## UNII 5.8 GHz IEEE 802.11ac VHT80 mode



## 10.2. OUTPUT POWER AND PPSD

### LIMITS

FCC §15.407 (a) (1) (2) (3)

For the band 5.15–5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

### TEST PROCEDURE

The Duty Cycle is less than 98% and consistent therefore KDB 789033 Method SA-2 is used for power and PPSD. RBW set to 1MHz (500kHz for the band 5.725-5.85 GHz, the VBW  $\geq 3 \times$  RBW, RMS detector and trace averaging). Band power function used for power and peak marker value of the spectrum is used for PSD. Add duty cycle correction factor.

### DIRECTIONAL ANTENNA GAIN

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

5 GHz

| Frequency Band<br>[MHz] | Antenna Gain<br>[dBi] |
|-------------------------|-----------------------|
| 5150 - 5250             | 2.84                  |
| 5250 - 5350             | 2.84                  |
| 5470 - 5725             | -0.55                 |
| 5725 - 5850             | -0.51                 |

## RESULTS

### 10.2.1. 802.11a MODE IN THE 5.2 GHz BAND

#### Bandwidth and Antenna Gain

| Channel | Frequency<br>[MHz] | Min<br>26 dB<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5180               | 20.57                       | 2.84                                      | 2.84                                     |
| Mid     | 5200               | 20.93                       | 2.84                                      | 2.84                                     |
| High    | 5240               | 20.47                       | 2.84                                      | 2.84                                     |

#### Limits

| Channel | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | Power<br>Limit<br>[dBm] | FCC<br>PPSD<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------|-------------------------------|
| Low     | 5180               | 24.00                          | 24.00                   | 11.00                         |
| Mid     | 5200               | 24.00                          | 24.00                   | 11.00                         |
| High    | 5240               | 24.00                          | 24.00                   | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.12 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

#### Output Power Results

| Channel | Frequency<br>[MHz] | Meas<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5180               | 14.43                  | 14.55                             | 24.00                   | -9.45                   |
| Mid     | 5200               | 14.67                  | 14.79                             | 24.00                   | -9.21                   |
| High    | 5240               | 14.56                  | 14.68                             | 24.00                   | -9.32                   |

#### PPSD Results

| Channel | Frequency<br>[MHz] | Meas<br>PPSD<br>[dBm] | Total<br>Corr'd<br>PPSD<br>[dBm] | PPSD<br>Limit<br>[dBm] | PPSD<br>Margin<br>[dB] |
|---------|--------------------|-----------------------|----------------------------------|------------------------|------------------------|
| Low     | 5180               | 3.88                  | 4.00                             | 11.00                  | -7.00                  |
| Mid     | 5200               | 4.10                  | 4.22                             | 11.00                  | -6.78                  |
| High    | 5240               | 3.96                  | 4.08                             | 11.00                  | -6.92                  |

## 10.2.2. 802.11n HT20 MODE IN THE 5.2 GHz BAND

### Bandwidth and Antenna Gain

| Channel | Frequency<br>[MHz] | Min<br>26 dB<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5180               | 23.79                       | 2.84                                      | 2.84                                     |
| Mid     | 5200               | 24.51                       | 2.84                                      | 2.84                                     |
| High    | 5240               | 23.29                       | 2.84                                      | 2.84                                     |

### Limits

| Channel | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | Power<br>Limit<br>[dBm] | FCC<br>PPSD<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------|-------------------------------|
| Low     | 5180               | 24.00                          | 24.00                   | 11.00                         |
| Mid     | 5200               | 24.00                          | 24.00                   | 11.00                         |
| High    | 5240               | 24.00                          | 24.00                   | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.13 | Included in Calculations of Corr'd Power & PPSP |
|--------------------|------|-------------------------------------------------|

### Output Power Results

| Channel | Frequency<br>[MHz] | Meas<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5180               | 14.55                  | 14.67                             | 24.00                   | -9.33                   |
| Mid     | 5200               | 14.61                  | 14.74                             | 24.00                   | -9.26                   |
| High    | 5240               | 14.61                  | 14.74                             | 24.00                   | -9.26                   |

### PPSD Results

| Channel | Frequency<br>[MHz] | Meas<br>PPSD<br>[dBm] | Total<br>Corr'd<br>PPSD<br>[dBm] | PPSD<br>Limit<br>[dBm] | PPSD<br>Margin<br>[dB] |
|---------|--------------------|-----------------------|----------------------------------|------------------------|------------------------|
| Low     | 5180               | 3.78                  | 3.91                             | 11.00                  | -7.09                  |
| Mid     | 5200               | 3.67                  | 3.80                             | 11.00                  | -7.20                  |
| High    | 5240               | 3.77                  | 3.90                             | 11.00                  | -7.10                  |

### 10.2.3. 802.11n HT40 MODE IN THE 5.2 GHz BAND

#### Bandwidth and Antenna Gain

| Channel | Frequency<br>[MHz] | Min<br>26 dB<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5190               | 42.21                       | 2.84                                      | 2.84                                     |
| High    | 5230               | 42.77                       | 2.84                                      | 2.84                                     |

#### Limits

| Channel | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | Power<br>Limit<br>[dBm] | FCC<br>PPSD<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------|-------------------------------|
| Low     | 5190               | 24.00                          | 24.00                   | 11.00                         |
| High    | 5230               | 24.00                          | 24.00                   | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.24 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

#### Output Power Results

| Channel | Frequency<br>[MHz] | Meas<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5190               | 12.19                  | 12.42                             | 24.00                   | -11.58                  |
| High    | 5230               | 12.34                  | 12.58                             | 24.00                   | -11.42                  |

#### PPSD Results

| Channel | Frequency<br>[MHz] | Meas<br>PPSD<br>[dBm] | Total<br>Corr'd<br>PPSD<br>[dBm] | PPSD<br>Limit<br>[dBm] | PPSD<br>Margin<br>[dB] |
|---------|--------------------|-----------------------|----------------------------------|------------------------|------------------------|
| Low     | 5190               | -1.56                 | -1.32                            | 11.00                  | -12.32                 |
| High    | 5230               | -1.46                 | -1.22                            | 11.00                  | -12.22                 |

## 10.2.4. 802.11ac VHT80 MODE IN THE 5.2 GHz BAND

### Bandwidth and Antenna Gain

| Channel | Frequency<br>[MHz] | Min<br>26 dB<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSP<br>[dBi] |
|---------|--------------------|-----------------------------|-------------------------------------------|------------------------------------------|
| Middle  | 5210               | 99.44                       | 2.84                                      | 2.84                                     |

### Limits

| Channel | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | Power<br>Limit<br>[dBm] | FCC<br>PPSP<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------|-------------------------------|
| Middle  | 5210               | 24.00                          | 24.00                   | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.48 | Included in Calculations of Corr'd Power & PPSP |
|--------------------|------|-------------------------------------------------|

### Output Power Results

| Channel | Frequency<br>[MHz] | Meas<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|------------------------|-----------------------------------|-------------------------|-------------------------|
| Middle  | 5210               | 10.449                 | 10.93                             | 24.00                   | -13.07                  |

### PPSP Results

| Channel | Frequency<br>[MHz] | Meas<br>PPSP<br>[dBm] | Total<br>Corr'd<br>PPSP<br>[dBm] | PPSP<br>Limit<br>[dBm] | PPSP<br>Margin<br>[dB] |
|---------|--------------------|-----------------------|----------------------------------|------------------------|------------------------|
| Middle  | 5210               | -6.25                 | -5.77                            | 11.00                  | -16.77                 |

## 10.2.5. 802.11a MODE IN THE 5.3 GHz BAND

### Bandwidth and Antenna Gain

| Channel | Frequency<br>[MHz] | Min<br>26 dB<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSP<br>[dBi] |
|---------|--------------------|-----------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5260               | 20.19                       | 2.84                                      | 2.84                                     |
| Mid     | 5300               | 20.87                       | 2.84                                      | 2.84                                     |
| High    | 5320               | 20.43                       | 2.84                                      | 2.84                                     |

### Limits

| Channel | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | Power<br>Limit<br>[dBm] | FCC<br>PPSP<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------|-------------------------------|
| Low     | 5260               | 24.00                          | 24.00                   | 11.00                         |
| Mid     | 5300               | 24.00                          | 24.00                   | 11.00                         |
| High    | 5320               | 24.00                          | 24.00                   | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.12 | Included in Calculations of Corr'd Power & PPSP |
|--------------------|------|-------------------------------------------------|

### Output Power Results

| Channel | Frequency<br>[MHz] | Meas<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5260               | 14.84                  | 14.96                             | 24.00                   | -9.04                   |
| Mid     | 5300               | 15.06                  | 15.18                             | 24.00                   | -8.82                   |
| High    | 5320               | 14.93                  | 15.05                             | 24.00                   | -8.95                   |

### PPSP Results

| Channel | Frequency<br>[MHz] | Meas<br>PPSP<br>[dBm] | Total<br>Corr'd<br>PPSP<br>[dBm] | PPSP<br>Limit<br>[dBm] | PPSP<br>Margin<br>[dB] |
|---------|--------------------|-----------------------|----------------------------------|------------------------|------------------------|
| Low     | 5260               | 4.29                  | 4.41                             | 11.00                  | -6.59                  |
| Mid     | 5300               | 4.67                  | 4.79                             | 11.00                  | -6.21                  |
| High    | 5320               | 4.45                  | 4.57                             | 11.00                  | -6.43                  |

## 10.2.6. 802.11n HT20 MODE IN THE 5.3 GHz BAND

### Bandwidth and Antenna Gain

| Channel | Frequency<br>[MHz] | Min<br>26 dB<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5260               | 26.13                       | 2.84                                      | 2.84                                     |
| Mid     | 5300               | 26.47                       | 2.84                                      | 2.84                                     |
| High    | 5320               | 23.47                       | 2.84                                      | 2.84                                     |

### Limits

| Channel | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | Power<br>Limit<br>[dBm] | FCC<br>PPSD<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------|-------------------------------|
| Low     | 5260               | 24.00                          | 24.00                   | 11.00                         |
| Mid     | 5300               | 24.00                          | 24.00                   | 11.00                         |
| High    | 5320               | 24.00                          | 24.00                   | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.13 | Included in Calculations of Corr'd Power & PPSP |
|--------------------|------|-------------------------------------------------|

### Output Power Results

| Channel | Frequency<br>[MHz] | Meas<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5260               | 14.66                  | 14.79                             | 24.00                   | -9.21                   |
| Mid     | 5300               | 14.74                  | 14.87                             | 24.00                   | -9.13                   |
| High    | 5320               | 14.82                  | 14.95                             | 24.00                   | -9.05                   |

### PPSD Results

| Channel | Frequency<br>[MHz] | Meas<br>PPSD<br>[dBm] | Total<br>Corr'd<br>PPSD<br>[dBm] | PPSD<br>Limit<br>[dBm] | PPSD<br>Margin<br>[dB] |
|---------|--------------------|-----------------------|----------------------------------|------------------------|------------------------|
| Low     | 5260               | 3.97                  | 4.10                             | 11.00                  | -6.90                  |
| Mid     | 5300               | 3.72                  | 3.85                             | 11.00                  | -7.15                  |
| High    | 5320               | 3.93                  | 4.06                             | 11.00                  | -6.94                  |

## 10.2.7. 802.11n HT40 MODE IN THE 5.3 GHz BAND

### Bandwidth and Antenna Gain

| Channel | Frequency<br>[MHz] | Min<br>26 dB<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5270               | 42.11                       | 2.84                                      | 2.84                                     |
| High    | 5310               | 42.10                       | 2.84                                      | 2.84                                     |

### Limits

| Channel | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | Power<br>Limit<br>[dBm] | FCC<br>PPSD<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------|-------------------------------|
| Low     | 5270               | 24.00                          | 24.00                   | 11.00                         |
| High    | 5310               | 24.00                          | 24.00                   | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.24 | Included in Calculations of Corr'd Power & PPSP |
|--------------------|------|-------------------------------------------------|

### Output Power Results

| Channel | Frequency<br>[MHz] | Meas<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5270               | 12.46                  | 12.70                             | 24.00                   | -11.30                  |
| High    | 5310               | 12.46                  | 12.69                             | 24.00                   | -11.31                  |

### PPSD Results

| Channel | Frequency<br>[MHz] | Meas<br>PPSD<br>[dBm] | Total<br>Corr'd<br>PPSD<br>[dBm] | PPSD<br>Limit<br>[dBm] | PPSD<br>Margin<br>[dB] |
|---------|--------------------|-----------------------|----------------------------------|------------------------|------------------------|
| Low     | 5270               | -1.24                 | -1.00                            | 11.00                  | -12.00                 |
| High    | 5310               | -1.00                 | -0.77                            | 11.00                  | -11.77                 |

## 10.2.8. 802.11ac VHT80 MODE IN THE 5.3 GHz BAND

### Bandwidth and Antenna Gain

| Channel | Frequency<br>[MHz] | Min<br>26 dB<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|-------------------------------------------|------------------------------------------|
| Middle  | 5290               | 105.20                      | 2.84                                      | 2.84                                     |

### Limits

| Channel | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | Power<br>Limit<br>[dBm] | PPSD<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------|------------------------|
| Middle  | 5290               | 24.00                          | 24.00                   | 11.00                  |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.48 | Included in Calculations of Corr'd Power & PPSP |
|--------------------|------|-------------------------------------------------|

### Output Power Results

| Channel | Frequency<br>[MHz] | Meas<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|------------------------|-----------------------------------|-------------------------|-------------------------|
| Middle  | 5290               | 10.74                  | 11.21                             | 24.00                   | -12.79                  |

### PPSD Results

| Channel | Frequency<br>[MHz] | Meas<br>PPSD<br>[dBm] | Total<br>Corr'd<br>PPSD<br>[dBm] | PPSD<br>Limit<br>[dBm] | PPSD<br>Margin<br>[dB] |
|---------|--------------------|-----------------------|----------------------------------|------------------------|------------------------|
| Middle  | 5290               | -5.85                 | -5.37                            | 11.00                  | -16.37                 |

## 10.2.9. 802.11a MODE IN THE 5.5 GHz BAND

### Bandwidth and Antenna Gain

| Channel | Frequency<br>[MHz] | Min<br>26 dB<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSP<br>[dBi] |
|---------|--------------------|-----------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5500               | 20.53                       | -0.55                                     | -0.55                                    |
| Mid     | 5580               | 20.57                       | -0.55                                     | -0.55                                    |
| High    | 5700               | 20.50                       | -0.55                                     | -0.55                                    |

### Limits

| Channel | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | Power<br>Limit<br>[dBm] | FCC<br>PPSP<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------|-------------------------------|
| Low     | 5500               | 24.00                          | 24.00                   | 11.00                         |
| Mid     | 5580               | 24.00                          | 24.00                   | 11.00                         |
| High    | 5700               | 24.00                          | 24.00                   | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.12 | Included in Calculations of Corr'd Power & PPSP |
|--------------------|------|-------------------------------------------------|

### Output Power Results

| Channel | Frequency<br>[MHz] | Meas<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5500               | 15.02                  | 15.14                             | 24.00                   | -8.86                   |
| Mid     | 5580               | 14.90                  | 15.02                             | 24.00                   | -8.98                   |
| High    | 5700               | 14.76                  | 14.88                             | 24.00                   | -9.12                   |

### PPSP Results

| Channel | Frequency<br>[MHz] | Meas<br>PPSP<br>[dBm] | Total<br>Corr'd<br>PPSP<br>[dBm] | PPSP<br>Limit<br>[dBm] | PPSP<br>Margin<br>[dB] |
|---------|--------------------|-----------------------|----------------------------------|------------------------|------------------------|
| Low     | 5500               | 4.39                  | 4.51                             | 11.00                  | -6.49                  |
| Mid     | 5580               | 4.22                  | 4.34                             | 11.00                  | -6.66                  |
| High    | 5700               | 4.28                  | 4.40                             | 11.00                  | -6.60                  |

## 10.2.10. 802.11n HT20 MODE IN THE 5.5 GHz BAND

### Bandwidth and Antenna Gain

| Channel | Frequency<br>[MHz] | Min<br>26 dB<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5500               | 24.87                       | -0.55                                     | -0.55                                    |
| Mid     | 5580               | 21.77                       | -0.55                                     | -0.55                                    |
| High    | 5700               | 21.22                       | -0.55                                     | -0.55                                    |

### Limits

| Channel | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | Power<br>Limit<br>[dBm] | FCC<br>PPSD<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------|-------------------------------|
| Low     | 5500               | 24.00                          | 24.00                   | 11.00                         |
| Mid     | 5580               | 24.00                          | 24.00                   | 11.00                         |
| High    | 5700               | 24.00                          | 24.00                   | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.13 | Included in Calculations of Corr'd Power & PPSP |
|--------------------|------|-------------------------------------------------|

### Output Power Results

| Channel | Frequency<br>[MHz] | Meas<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5500               | 14.77                  | 14.90                             | 24.00                   | -9.10                   |
| Mid     | 5580               | 14.97                  | 15.09                             | 24.00                   | -8.91                   |
| High    | 5700               | 14.98                  | 15.11                             | 24.00                   | -8.89                   |

### PPSD Results

| Channel | Frequency<br>[MHz] | Meas<br>PPSD<br>[dBm] | Total<br>Corr'd<br>PPSD<br>[dBm] | PPSD<br>Limit<br>[dBm] | PPSD<br>Margin<br>[dB] |
|---------|--------------------|-----------------------|----------------------------------|------------------------|------------------------|
| Low     | 5500               | 3.82                  | 3.95                             | 11.00                  | -7.05                  |
| Mid     | 5580               | 4.02                  | 4.15                             | 11.00                  | -6.85                  |
| High    | 5700               | 4.58                  | 4.71                             | 11.00                  | -6.29                  |

## 10.2.11. 802.11n HT40 MODE IN THE 5.5 GHz BAND

### Bandwidth and Antenna Gain

| Channel | Frequency<br>[MHz] | Min<br>26 dB<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5510               | 41.85                       | -0.55                                     | -0.55                                    |
| Mid     | 5590               | 41.94                       | -0.51                                     | -0.51                                    |
| High    | 5670               | 41.76                       | -0.55                                     | -0.55                                    |

### Limits

| Channel | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | Power<br>Limit<br>[dBm] | FCC<br>PPSD<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------|-------------------------------|
| Low     | 5510               | 24.00                          | 24.00                   | 11.00                         |
| Mid     | 5590               | 24.00                          | 24.00                   | 11.00                         |
| High    | 5670               | 24.00                          | 24.00                   | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.24 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

### Output Power Results

| Channel | Frequency<br>[MHz] | Meas<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5510               | 12.66                  | 12.90                             | 24.00                   | -11.10                  |
| Mid     | 5590               | 12.70                  | 12.94                             | 24.00                   | -11.06                  |
| High    | 5670               | 12.64                  | 12.88                             | 24.00                   | -11.12                  |

### PPSD Results

| Channel | Frequency<br>[MHz] | Meas<br>PPSD<br>[dBm] | Total<br>Corr'd<br>PPSD<br>[dBm] | PPSD<br>Limit<br>[dBm] | PPSD<br>Margin<br>[dB] |
|---------|--------------------|-----------------------|----------------------------------|------------------------|------------------------|
| Low     | 5510               | -0.93                 | -0.69                            | 11.00                  | -11.69                 |
| Mid     | 5590               | -0.53                 | -0.29                            | 11.00                  | -11.29                 |
| High    | 5670               | -0.80                 | -0.56                            | 11.00                  | -11.56                 |

## 10.2.12. 802.11ac VHT80 MODE IN THE 5.5 GHz BAND

### Bandwidth and Antenna Gain

| Channel | Frequency<br>[MHz] | Min<br>26 dB<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSP<br>[dBi] |
|---------|--------------------|-----------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5530               | 85.88                       | -0.55                                     | -0.55                                    |
| High    | 5610               | 103.20                      | -0.55                                     | -0.55                                    |

### Limits

| Channel | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | Power<br>Limit<br>[dBm] | FCC<br>PPSP<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------|-------------------------------|
| Low     | 5530               | 24.00                          | 24.00                   | 11.00                         |
| High    | 5610               | 24.00                          | 24.00                   | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.48 | Included in Calculations of Corr'd Power & PPSP |
|--------------------|------|-------------------------------------------------|

### Output Power Results

| Channel | Frequency<br>[MHz] | Meas<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5530               | 9.90                   | 10.38                             | 24.00                   | -13.62                  |
| High    | 5610               | 10.90                  | 11.38                             | 24.00                   | -12.62                  |

### PPSP Results

| Channel | Frequency<br>[MHz] | Meas<br>PPSP<br>[dBm] | Total<br>Corr'd<br>PPSP<br>[dBm] | PPSP<br>Limit<br>[dBm] | PPSP<br>Margin<br>[dB] |
|---------|--------------------|-----------------------|----------------------------------|------------------------|------------------------|
| Low     | 5530               | -6.21                 | -5.74                            | 11.00                  | -16.74                 |
| High    | 5610               | -5.80                 | -5.33                            | 11.00                  | -16.33                 |

### 10.2.13. 802.11a MODE IN THE 5.8 GHz BAND

#### Bandwidth and Antenna Gain

| Channel | Frequency<br>[MHz] | Min<br>26 dB<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSP<br>[dBi] |
|---------|--------------------|-----------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5745               | 20.34                       | -0.51                                     | -0.51                                    |
| Mid     | 5785               | 20.40                       | -0.51                                     | -0.51                                    |
| High    | 5825               | 21.96                       | -0.51                                     | -0.51                                    |

#### Limits

| Channel | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | Power<br>Limit<br>[dBm] | FCC<br>PPSP<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------|-------------------------------|
| Low     | 5745               | 30.00                          | 30.00                   | 30.00                         |
| Mid     | 5785               | 30.00                          | 30.00                   | 30.00                         |
| High    | 5825               | 30.00                          | 30.00                   | 30.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.12 | Included in Calculations of Corr'd Power & PPSP |
|--------------------|------|-------------------------------------------------|

#### Output Power Results

| Channel | Frequency<br>[MHz] | Meas<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5745               | 15.05                  | 15.17                             | 30.00                   | -14.83                  |
| Mid     | 5785               | 15.07                  | 15.19                             | 30.00                   | -14.81                  |
| High    | 5825               | 15.02                  | 15.14                             | 30.00                   | -14.86                  |

#### PPSP Results

| Channel | Frequency<br>[MHz] | Meas<br>PPSP<br>[dBm] | Total<br>Corr'd<br>PPSP<br>[dBm] | PPSP<br>Limit<br>[dBm] | PPSP<br>Margin<br>[dB] |
|---------|--------------------|-----------------------|----------------------------------|------------------------|------------------------|
| Low     | 5745               | 1.53                  | 1.65                             | 30.00                  | -28.35                 |
| Mid     | 5785               | 1.53                  | 1.65                             | 30.00                  | -28.35                 |
| High    | 5825               | 1.73                  | 1.85                             | 30.00                  | -28.15                 |

## 10.2.14. 802.11n HT20 MODE IN THE 5.8 GHz BAND

### Bandwidth and Antenna Gain

| Channel | Frequency<br>[MHz] | Min<br>26 dB<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5745               | 21.99                       | -0.51                                     | -0.51                                    |
| Mid     | 5785               | 24.73                       | -0.51                                     | -0.51                                    |
| High    | 5825               | 22.72                       | -0.51                                     | -0.51                                    |

### Limits

| Channel | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | Power<br>Limit<br>[dBm] | FCC<br>PPSD<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------|-------------------------------|
| Low     | 5745               | 30.00                          | 30.00                   | 30.00                         |
| Mid     | 5785               | 30.00                          | 30.00                   | 30.00                         |
| High    | 5825               | 30.00                          | 30.00                   | 30.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.13 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

### Output Power Results

| Channel | Frequency<br>[MHz] | Meas<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5745               | 14.98                  | 15.11                             | 30.00                   | -14.89                  |
| Mid     | 5785               | 15.05                  | 15.18                             | 30.00                   | -14.82                  |
| High    | 5825               | 15.02                  | 15.15                             | 30.00                   | -14.85                  |

### PPSD Results

| Channel | Frequency<br>[MHz] | Meas<br>PPSD<br>[dBm] | Total<br>Corr'd<br>PPSD<br>[dBm] | PPSD<br>Limit<br>[dBm] | PPSD<br>Margin<br>[dB] |
|---------|--------------------|-----------------------|----------------------------------|------------------------|------------------------|
| Low     | 5745               | 1.70                  | 1.82                             | 30.00                  | -28.18                 |
| Mid     | 5785               | 1.51                  | 1.64                             | 30.00                  | -28.36                 |
| High    | 5825               | 1.51                  | 1.64                             | 30.00                  | -28.36                 |

### 10.2.15. 802.11n HT40 MODE IN THE 5.8 GHz BAND

#### Bandwidth and Antenna Gain

| Channel | Frequency<br>[MHz] | Min<br>26 dB<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5755               | 42.34                       | -0.51                                     | -0.51                                    |
| High    | 5795               | 42.33                       | -0.51                                     | -0.51                                    |

#### Limits

| Channel | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | Power<br>Limit<br>[dBm] | FCC<br>PPSD<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------|-------------------------------|
| Low     | 5755               | 30.00                          | 30.00                   | 30.00                         |
| High    | 5795               | 30.00                          | 30.00                   | 30.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.24 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

#### Output Power Results

| Channel | Frequency<br>[MHz] | Meas<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5755               | 12.84                  | 13.08                             | 30.00                   | -16.92                  |
| High    | 5795               | 12.48                  | 12.72                             | 30.00                   | -17.28                  |

#### PPSD Results

| Channel | Frequency<br>[MHz] | Meas<br>PPSD<br>[dBm] | Total<br>Corr'd<br>PPSD<br>[dBm] | PPSD<br>Limit<br>[dBm] | PPSD<br>Margin<br>[dB] |
|---------|--------------------|-----------------------|----------------------------------|------------------------|------------------------|
| Low     | 5755               | -2.49                 | -2.25                            | 30.00                  | -32.25                 |
| High    | 5795               | -3.23                 | -2.99                            | 30.00                  | -32.99                 |

## 10.2.16. 802.11ac VHT80 MODE IN THE 5.8 GHz BAND

### Bandwidth and Antenna Gain

| Channel | Frequency | Min<br>26 dB<br>BW<br>[MHz] | Directional<br>Gain<br>for<br>Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|-----------|-----------------------------|----------------------------------------------|------------------------------------------|
| Middle  | 5775      | 105.70                      | -0.51                                        | -0.51                                    |

### Limits

| Channel | Frequency | FCC<br>Power<br>Limit<br>[dBm] | Power<br>Limit<br>[dBm] | FCC<br>PPSD<br>Limit<br>[dBm] |
|---------|-----------|--------------------------------|-------------------------|-------------------------------|
| Middle  | 5775      | 30.00                          | 30.00                   | 30.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.48 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

### Output Power Results

| Channel | Frequency | Meas<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|-----------|------------------------|-----------------------------------|-------------------------|-------------------------|
| Middle  | 5775      | 10.06                  | 10.53                             | 30.00                   | -19.47                  |

### PPSD Results

| Channel | Frequency | Meas<br>PPSD<br>[dBm] | Total<br>Corr'd<br>PPSD<br>[dBm] | PPSD<br>Limit<br>[dBm] | PPSD<br>Margin<br>[dB] |
|---------|-----------|-----------------------|----------------------------------|------------------------|------------------------|
| Middle  | 5775      | -7.70                 | -7.22                            | 30.00                  | -37.22                 |

## 10.2.17. 802.11a MODE AT STRADDLE CHANNEL

### Bandwidth and Antenna Gain

| Portion | Frequency<br>[MHz] | Min<br>26 dB<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSP<br>[dBi] |
|---------|--------------------|-----------------------------|-------------------------------------------|------------------------------------------|
| UNII-2C | 5720               | 15.42                       | -0.55                                     | -0.55                                    |
| UNII-3  | 5720               | 5.41                        | -0.55                                     | -0.55                                    |
| Whole   | 5720               | 20.83                       | -0.55                                     | -0.55                                    |

### Limits

| Portion | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | Power<br>Limit<br>[dBm] | FCC<br>PPSP<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------|-------------------------------|
| UNII-2C | 5720               | 22.88                          | 22.88                   | 11.00                         |
| UNII-3  | 5720               | 30.00                          | 30.00                   | 11.00                         |
| Whole   | 5720               | 24.00                          | 24.00                   | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.12 | Included in Calculations of Corr'd Power & PPSP |
|--------------------|------|-------------------------------------------------|

### Output Power Results

| Portion | Frequency<br>[MHz] | Meas<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|------------------------|-----------------------------------|-------------------------|-------------------------|
| UNII-2C | 5720               | 14.15                  | 14.27                             | 22.88                   | -8.61                   |
| UNII-3  | 5720               | 8.15                   | 8.27                              | 30.00                   | -21.73                  |
| Whole   | 5720               | 15.12                  | 15.24                             | 24.00                   | -8.76                   |

### PPSP Results

| Channel | Frequency<br>[MHz] | Meas<br>PPSP<br>[dBm] | Total<br>Corr'd<br>PPSP<br>[dBm] | PPSP<br>Limit<br>[dBm] | PPSP<br>Margin<br>[dB] |
|---------|--------------------|-----------------------|----------------------------------|------------------------|------------------------|
| UNII-2C | 5720               | 4.60                  | 4.72                             | 11.00                  | -6.28                  |
| UNII-3  | 5720               | 1.77                  | 1.89                             | 30.00                  | -28.11                 |

## 10.2.18. 802.11n HT20 MODE AT STRADDLE CHANNEL

### Bandwidth and Antenna Gain

| Portion | Frequency<br>[MHz] | Min<br>26 dB<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|-------------------------------------------|------------------------------------------|
| UNII-2C | 5720               | 17.37                       | -0.55                                     | -0.55                                    |
| UNII-3  | 5720               | 7.37                        | -0.55                                     | -0.55                                    |
| Whole   | 5720               | 24.74                       | -0.55                                     | -0.55                                    |

### Limits

| Portion | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | Power<br>Limit<br>[dBm] | FCC<br>PPSD<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------|-------------------------------|
| UNII-2C | 5720               | 23.40                          | 23.40                   | 11.00                         |
| UNII-3  | 5720               | 30.00                          | 30.00                   | 11.00                         |
| Whole   | 5720               | 24.00                          | 24.00                   | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.13 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

### Output Power Results

| Portion | Frequency<br>[MHz] | Meas<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|------------------------|-----------------------------------|-------------------------|-------------------------|
| UNII-2C | 5720               | 14.05                  | 14.18                             | 23.40                   | -9.22                   |
| UNII-3  | 5720               | 8.42                   | 8.55                              | 30.00                   | -21.45                  |
| Whole   | 5720               | 15.10                  | 15.23                             | 24.00                   | -8.77                   |

### PPSD Results

| Channel | Frequency<br>[MHz] | Meas<br>PPSD<br>[dBm] | Total<br>Corr'd<br>PPSD<br>[dBm] | PPSD<br>Limit<br>[dBm] | PPSD<br>Margin<br>[dB] |
|---------|--------------------|-----------------------|----------------------------------|------------------------|------------------------|
| UNII-2C | 5720               | 4.20                  | 4.20                             | 11.00                  | -6.80                  |
| UNII-3  | 5720               | 1.18                  | 1.18                             | 30.00                  | -28.82                 |

## 10.2.19. 802.11n HT40 MODE AT STRADDLE CHANNEL

### Bandwidth and Antenna Gain

| Portion | Frequency<br>[MHz] | Min<br>26 dB<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|-------------------------------------------|------------------------------------------|
| UNII-2C | 5710               | 35.90                       | -0.55                                     | -0.55                                    |
| UNII-3  | 5710               | 5.90                        | -0.55                                     | -0.55                                    |
| Whole   | 5710               | 41.79                       | -0.55                                     | -0.55                                    |

### Limits

| Portion | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | Power<br>Limit<br>[dBm] | FCC<br>PPSD<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------|-------------------------------|
| UNII-2C | 5710               | 24.00                          | 24.00                   | 11.00                         |
| UNII-3  | 5710               | 30.00                          | 30.00                   | 11.00                         |
| Whole   | 5710               | 24.00                          | 24.00                   | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.24 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

### Output Power Results

| Portion | Frequency<br>[MHz] | Meas<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|------------------------|-----------------------------------|-------------------------|-------------------------|
| UNII-2C | 5710               | 12.03                  | 12.27                             | 24.00                   | -11.73                  |
| UNII-3  | 5710               | 0.37                   | 0.61                              | 30.00                   | -29.39                  |
| Whole   | 5710               | 12.32                  | 12.56                             | 24.00                   | -11.44                  |

### PPSD Results

| Channel | Frequency<br>[MHz] | Meas<br>PPSD<br>[dBm] | Total<br>Corr'd<br>PPSD<br>[dBm] | PPSD<br>Limit<br>[dBm] | PPSD<br>Margin<br>[dB] |
|---------|--------------------|-----------------------|----------------------------------|------------------------|------------------------|
| UNII-2C | 5710               | -0.39                 | -0.39                            | 11.00                  | -11.39                 |
| UNII-3  | 5710               | -5.49                 | -5.49                            | 30.00                  | -35.49                 |

## 10.2.20. 802.11ac80 VHT80 MODE AT STRADDLE CHANNEL

### Bandwidth and Antenna Gain

| Portion | Frequency<br>[MHz] | Min<br>26 dB<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|-------------------------------------------|------------------------------------------|
| UNII-2C | 5690               | 87.85                       | -0.55                                     | -0.55                                    |
| UNII-3  | 5690               | 17.85                       | -0.55                                     | -0.55                                    |
| Whole   | 5690               | 105.70                      | -0.55                                     | -0.55                                    |

### Limits

| Portion | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | Power<br>Limit<br>[dBm] | FCC<br>PPSD<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------|-------------------------------|
| UNII-2C | 5690               | 24.00                          | 24.00                   | 11.00                         |
| UNII-3  | 5690               | 30.00                          | 30.00                   | 11.00                         |
| Whole   | 5690               | 24.00                          | 24.00                   | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.48 | Included in Calculations of Corr'd Power & PPSP |
|--------------------|------|-------------------------------------------------|

### Output Power Results

| Portion | Frequency<br>[MHz] | Meas<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|------------------------|-----------------------------------|-------------------------|-------------------------|
| UNII-2C | 5690               | 10.63                  | 11.11                             | 24.00                   | -12.89                  |
| UNII-3  | 5690               | -3.55                  | -3.07                             | 30.00                   | -33.07                  |
| Whole   | 5690               | 10.79                  | 11.27                             | 24.00                   | -12.73                  |

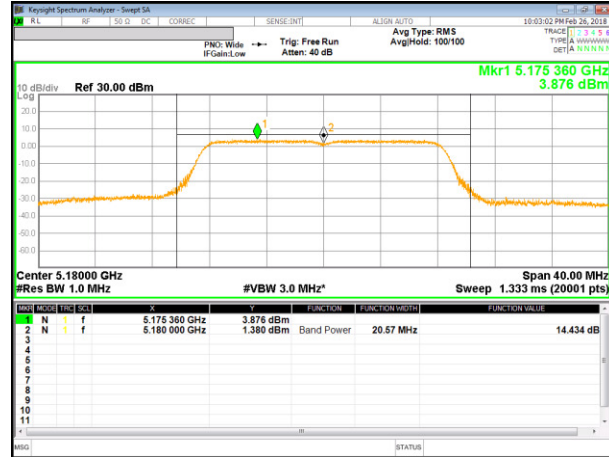
### PPSD Results

| Channel | Frequency<br>[MHz] | Meas<br>PPSD<br>[dBm] | Total<br>Corr'd<br>PPSD<br>[dBm] | PPSD<br>Limit<br>[dBm] | PPSD<br>Margin<br>[dB] |
|---------|--------------------|-----------------------|----------------------------------|------------------------|------------------------|
| UNII-2C | 5690               | -4.77                 | -4.29                            | 11.00                  | -15.29                 |
| UNII-3  | 5690               | -9.24                 | -8.77                            | 11.00                  | -19.77                 |

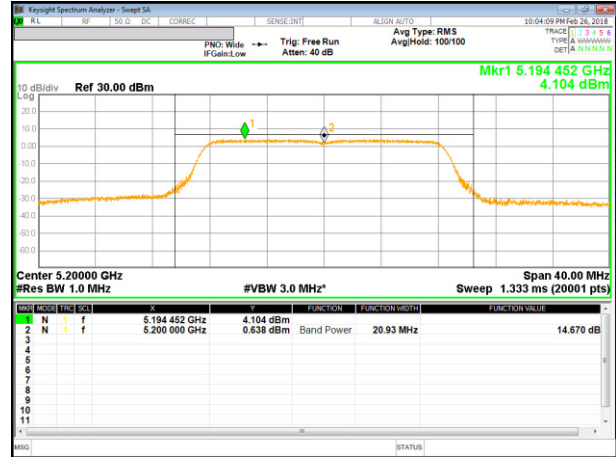
## 10.2.21. OUTPUT POWER AND PPSD PLOTS

### UNII 5.2 GHz IEEE 802.11a mode

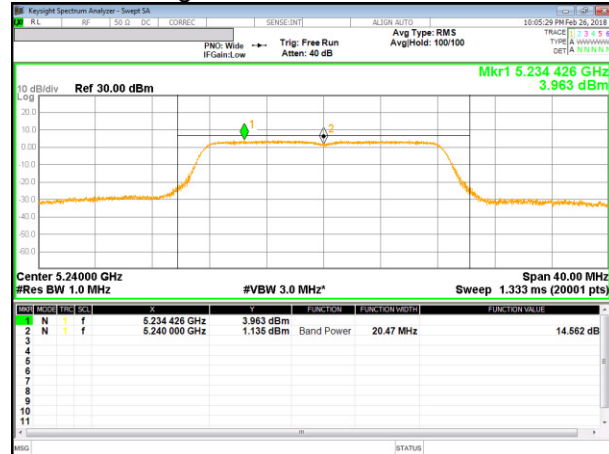
#### 11a Mode Low Channel



#### 11a Mode Middle Channel

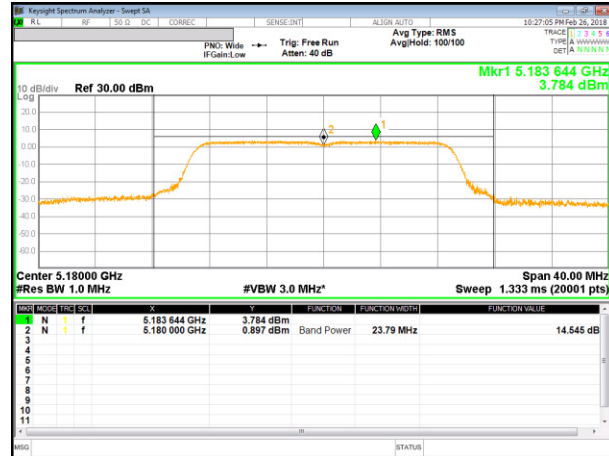


#### 11a Mode High Channel

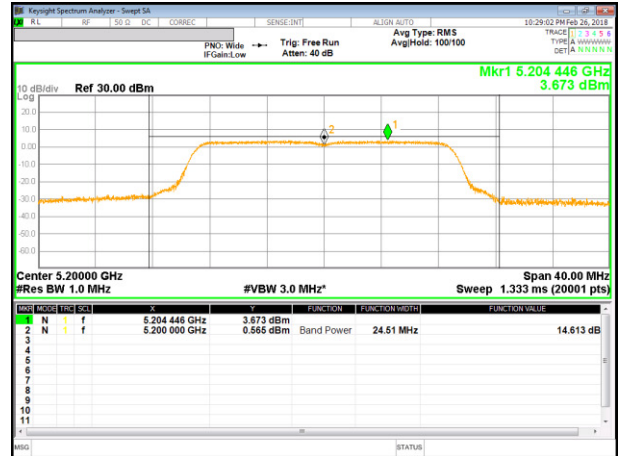


## UNII 5.2 GHz IEEE 802.11n HT20 mode

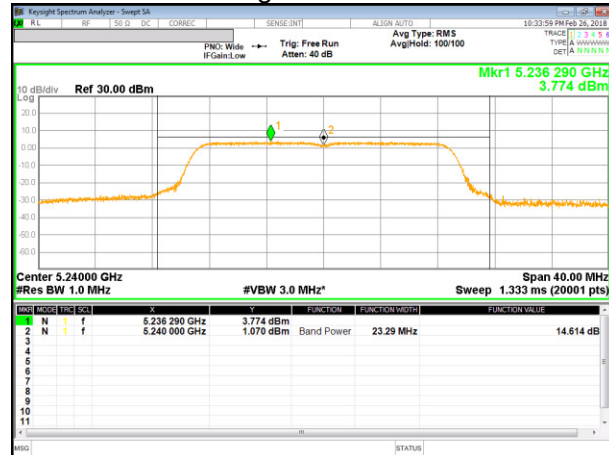
### 11n HT20 Mode Low Channel



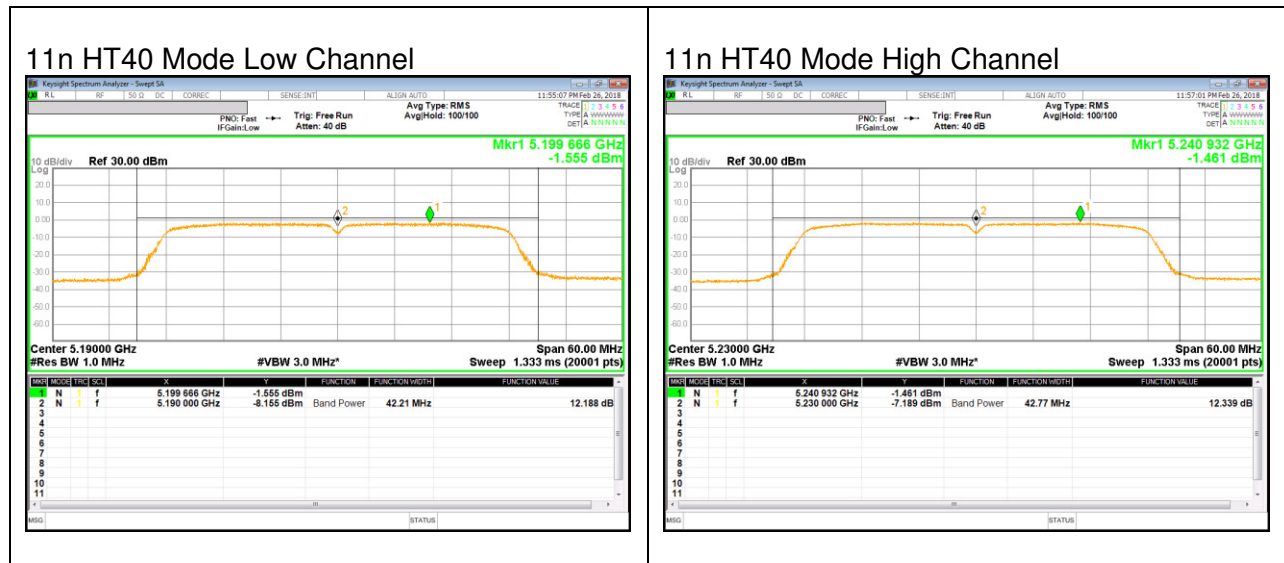
### 11n HT20 Mode Middle Channel



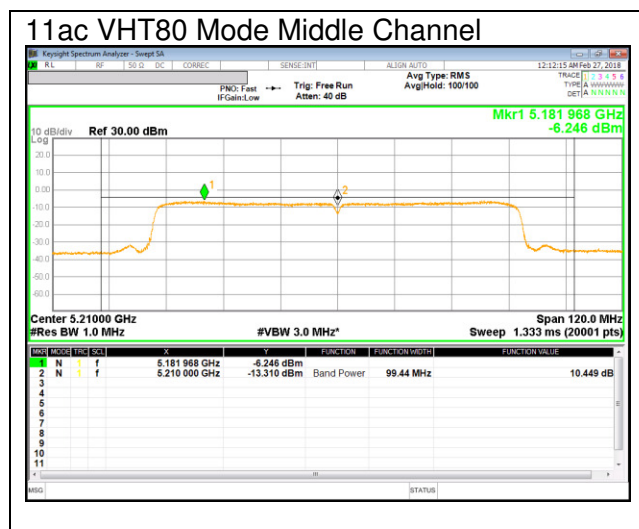
### 11n HT20 Mode High Channel



## UNII 5.2 GHz IEEE 802.11n HT40 mode

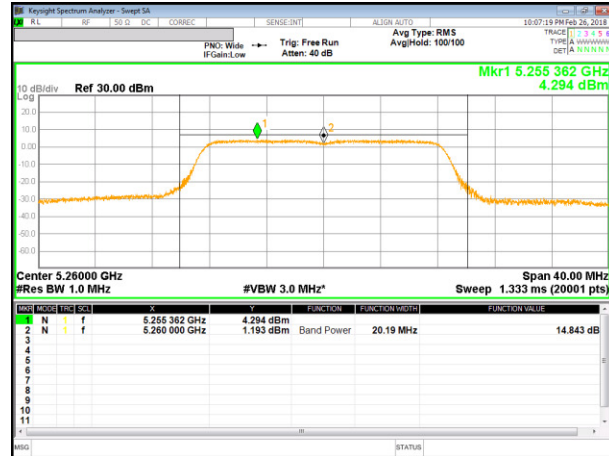


## UNII 5.2 GHz IEEE 802.11ac VHT80 mode

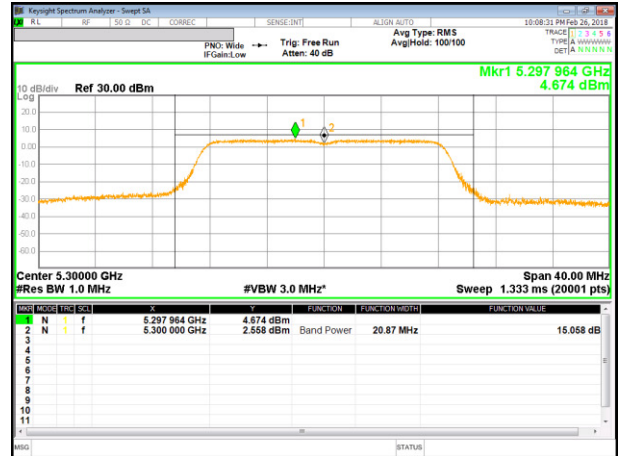


## UNII 5.3 GHz IEEE 802.11a mode

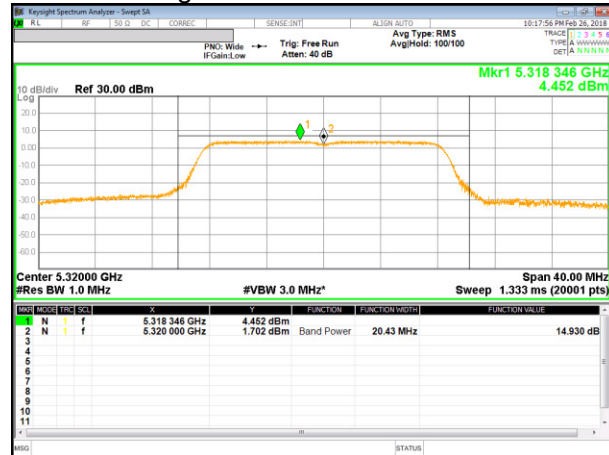
### 11a Mode Low Channel



### 11a Mode Middle Channel

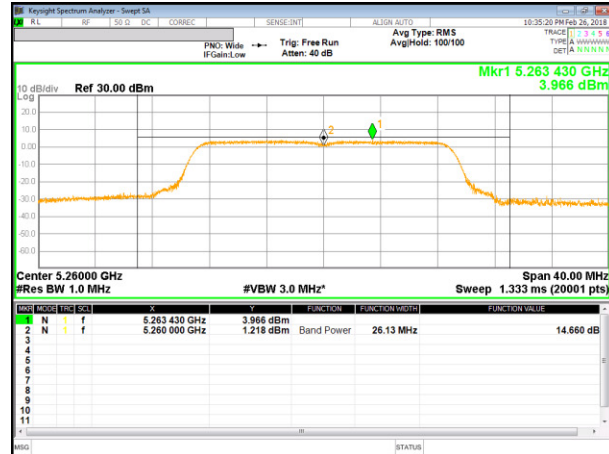


### 11a Mode High Channel

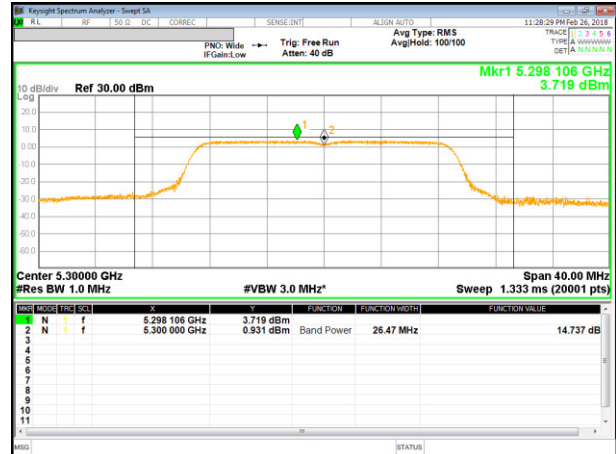


## UNII 5.3 GHz IEEE 802.11n HT20 mode

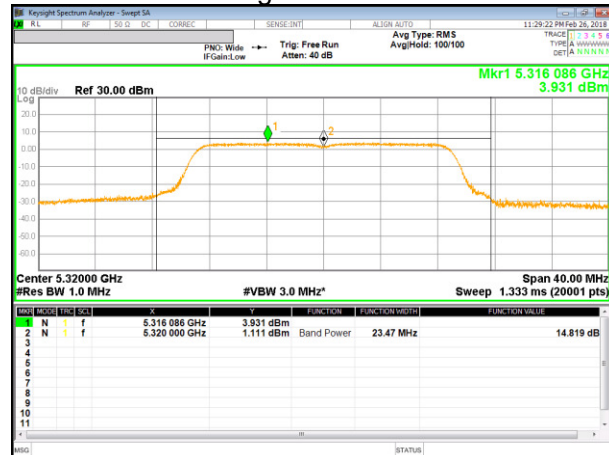
### 11n HT20 Mode Low Channel



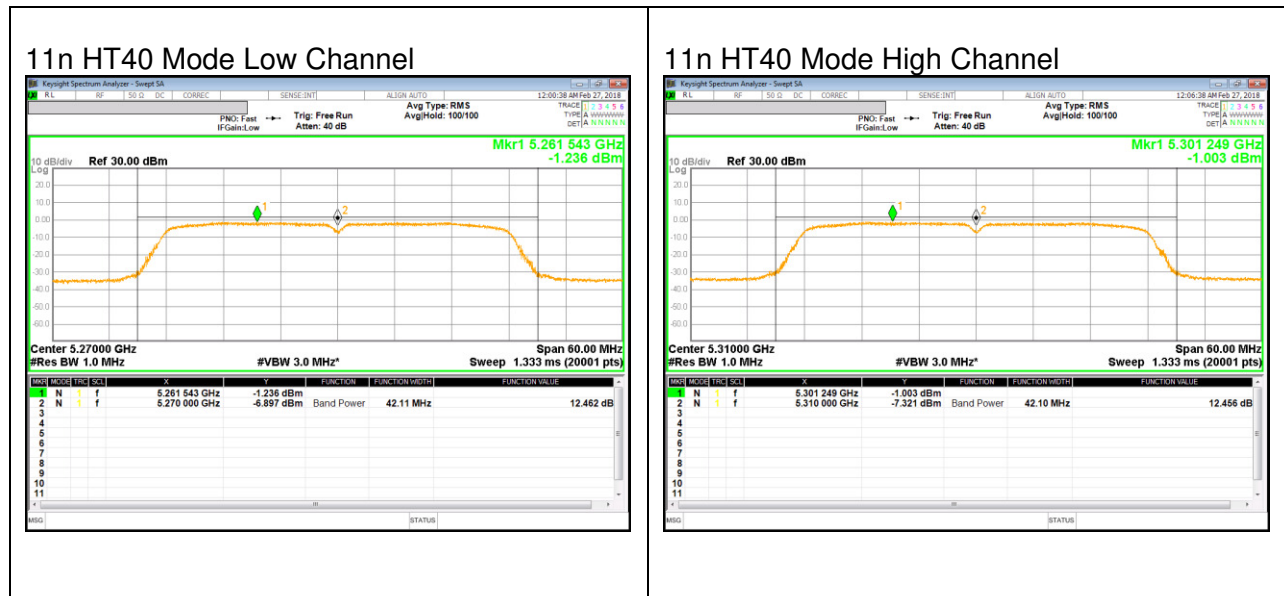
### 11n HT20 Mode Middle Channel



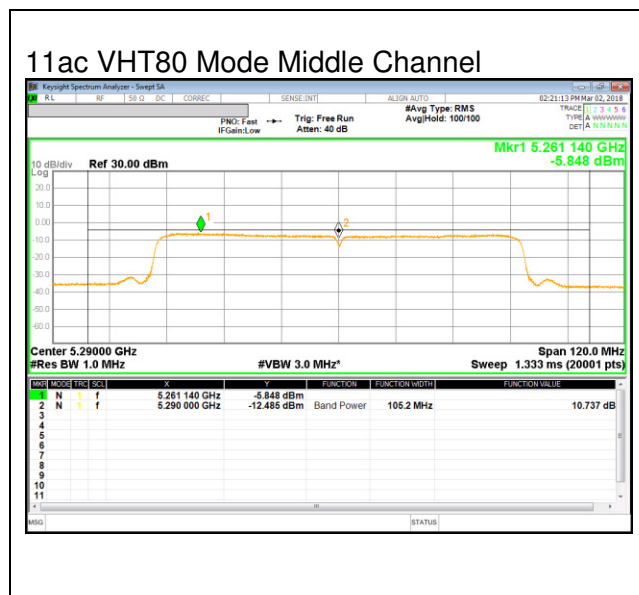
### 11n HT20 Mode High Channel



## UNII 5.3 GHz IEEE 802.11n HT40 mode

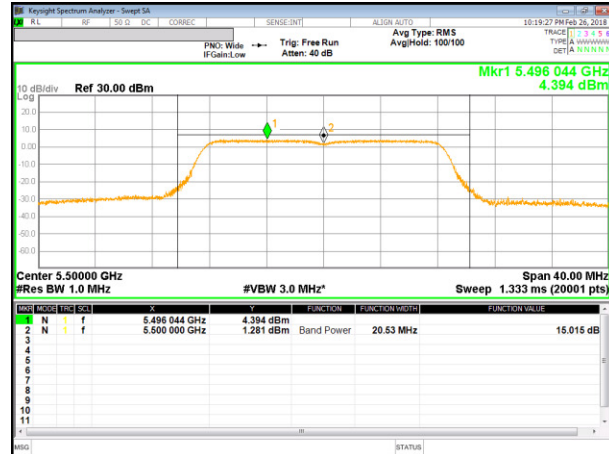


## UNII 5.3 GHz IEEE 802.11ac VHT80 mode

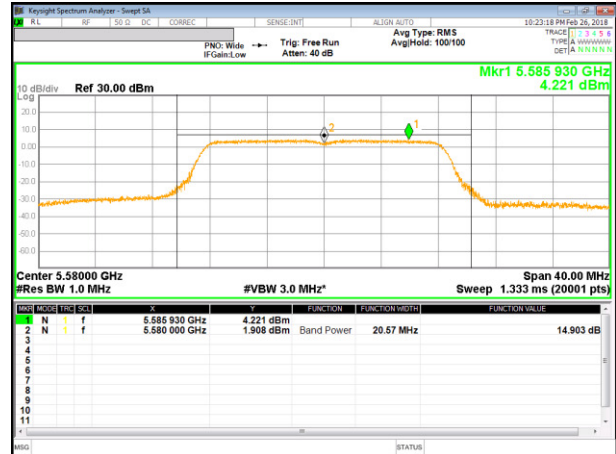


# **UNII 5.5 GHz IEEE 802.11a mode**

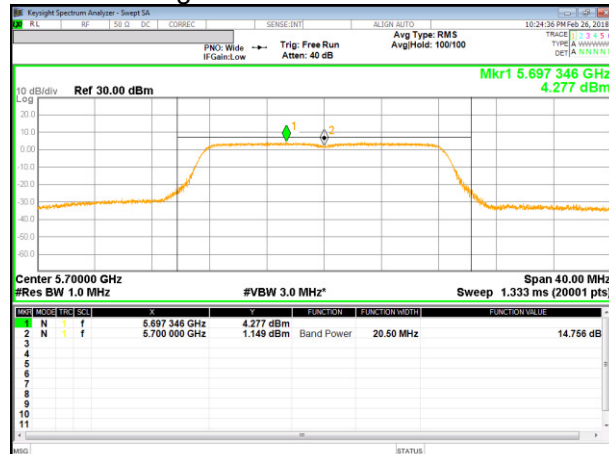
## **11a Mode Low Channel**



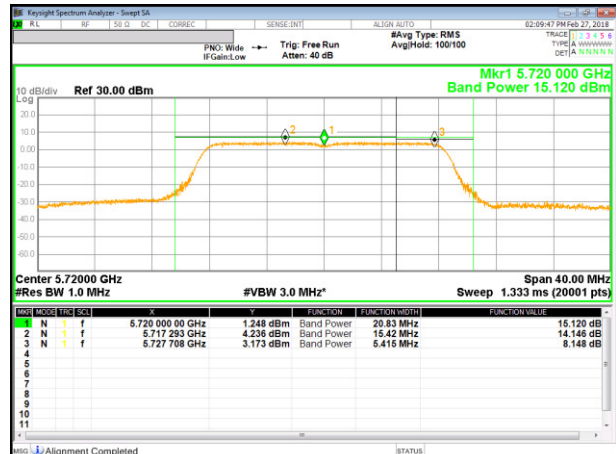
## **11a Mode Middle Channel**



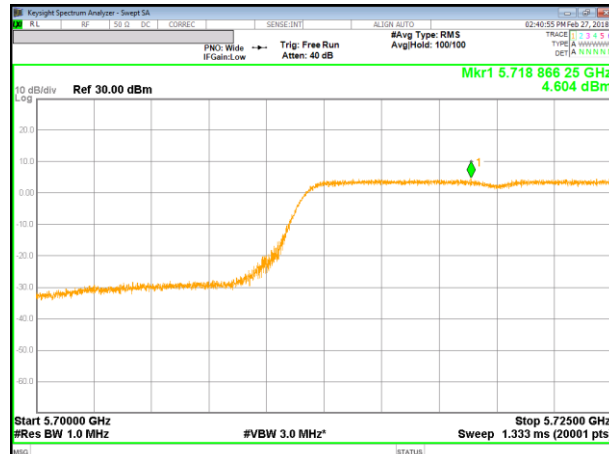
## **11a Mode High Channel**



## **11a Mode Straddle Channel Power**

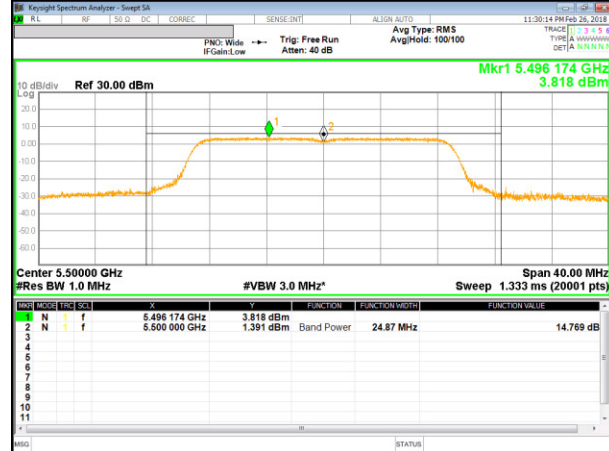


## **11a Mode Straddle Channel PSD**

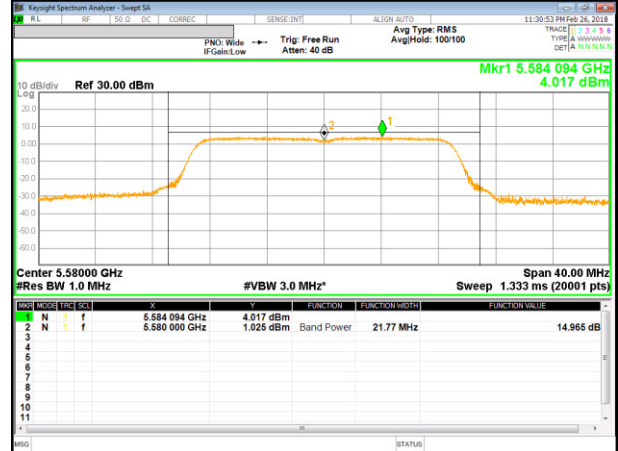


## UNII 5.5 GHz IEEE 802.11n HT20 mode

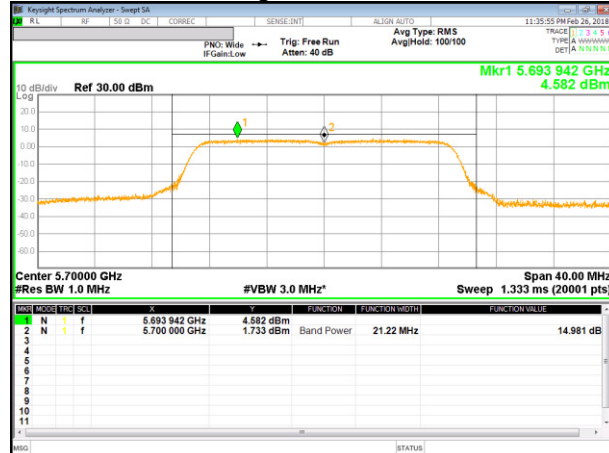
### 11n HT20 Mode Low Channel



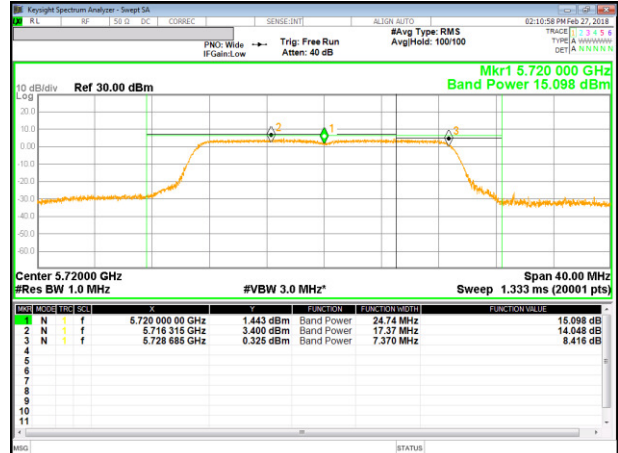
### 11n HT20 Mode Middle Channel



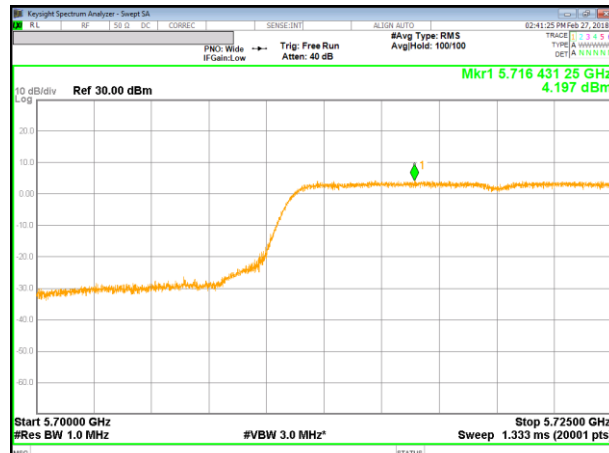
### 11n HT20 Mode High Channel



### 11n HT20 Mode Straddle Channel Power

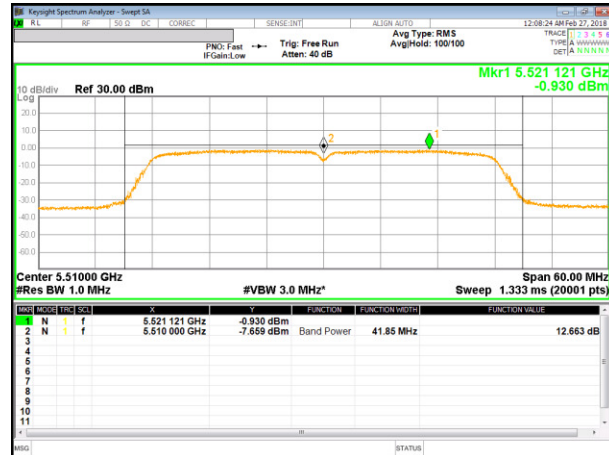


### 11n HT20 Mode Straddle Channel PSD

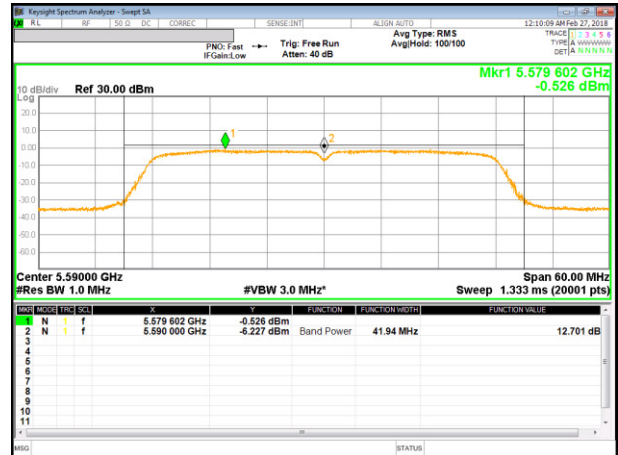


# UNII 5.5 GHz IEEE 802.11n HT40 mode

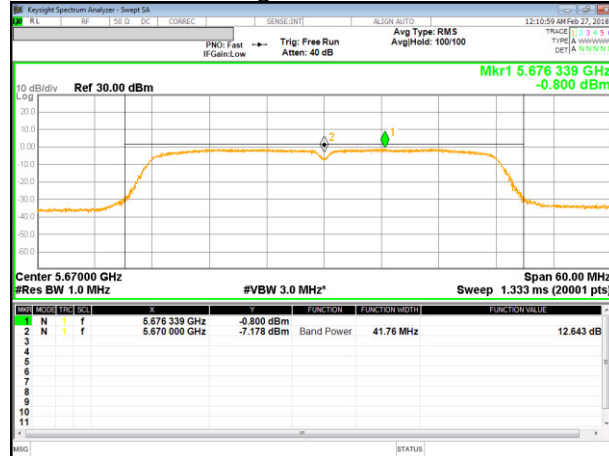
## 11n HT40 Mode Low Channel



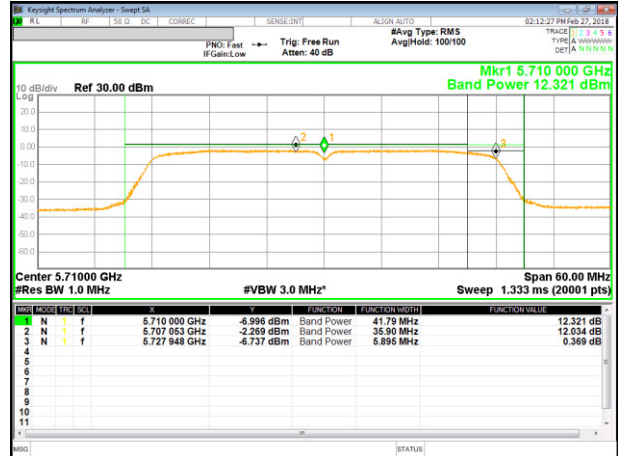
## 11n HT40 Mode Middle Channel



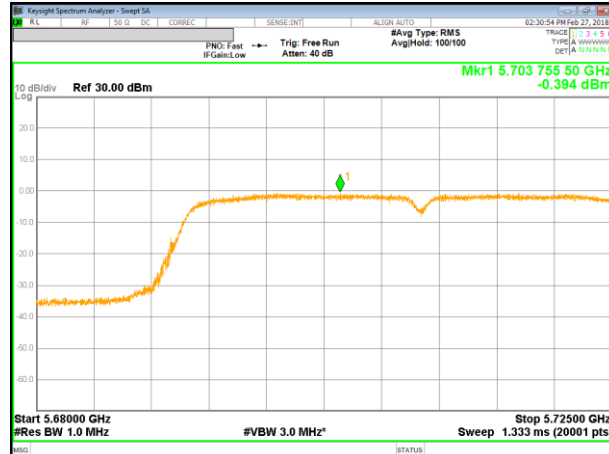
## 11n HT40 Mode High Channel



## 11n HT40 Mode Straddle Channel Power

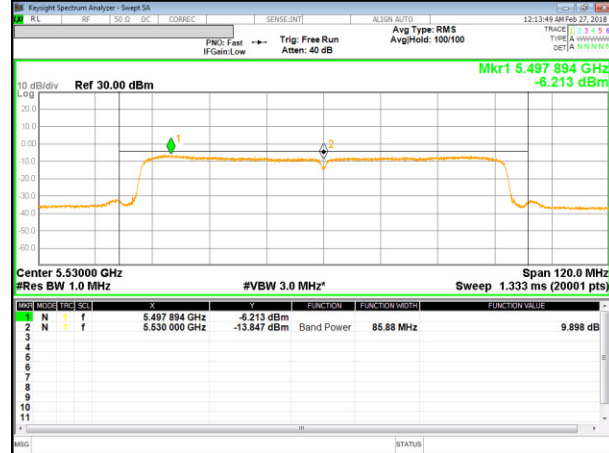


## 11n HT40 Mode Straddle Channel PSD

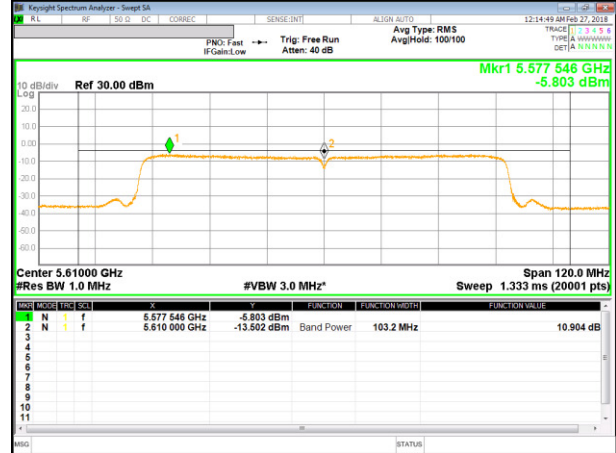


## UNII 5.5 GHz IEEE 802.11ac VHT80 mode

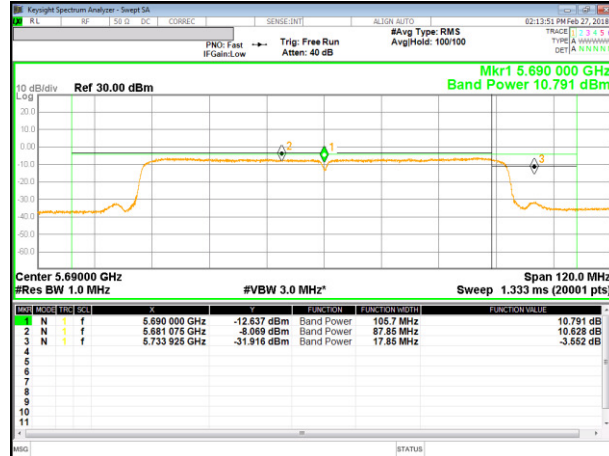
### 11ac VHT80 Mode Low Channel



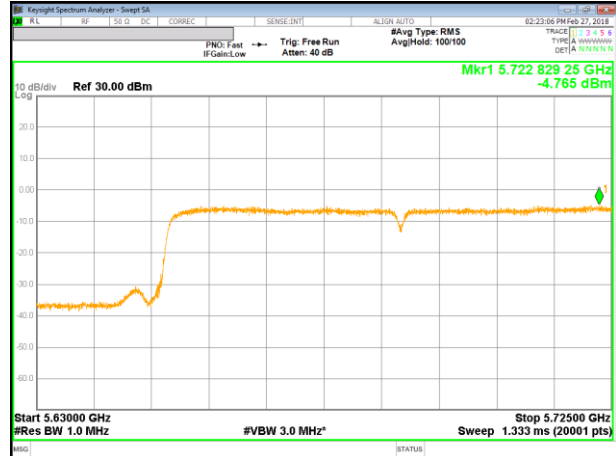
### 11ac VHT80 Mode High Channel



### 11ac VHT80 Mode Straddle Channel Power

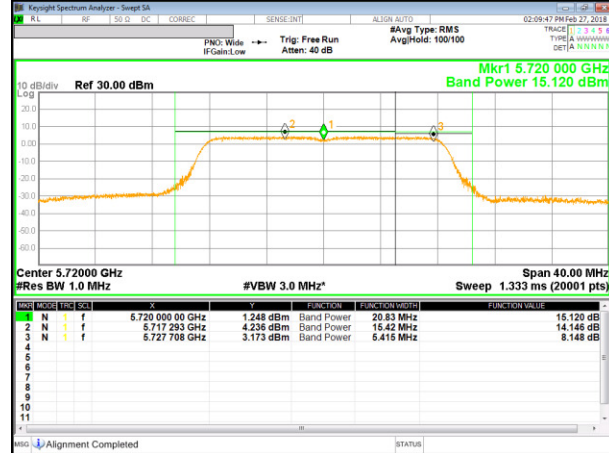


### 11ac VHT80 Mode Straddle Channel PSD



## UNII 5.8 GHz IEEE 802.11a mode for POWER

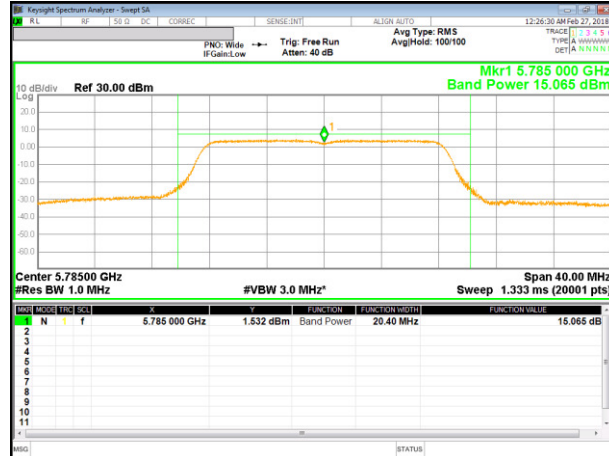
### 11a Mode Straddle Channel



### 11a Mode Low Channel



### 11a Mode Middle Channel

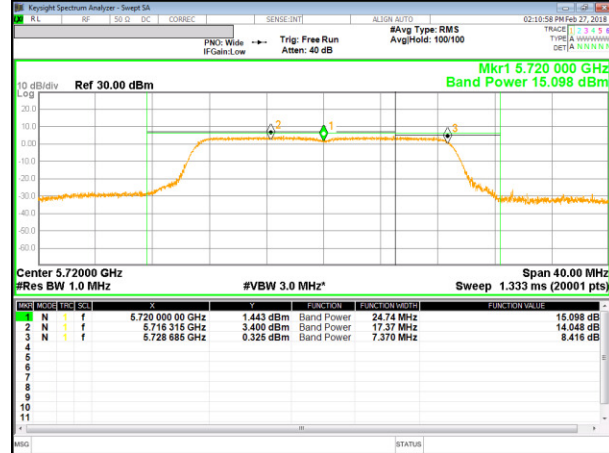


### 11a Mode High Channel

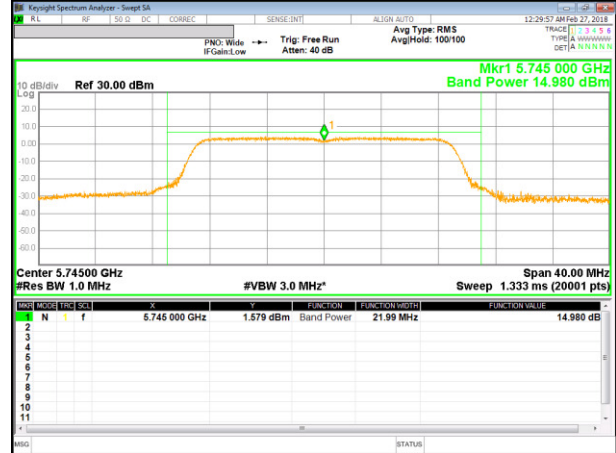


## UNII 5.8 GHz IEEE 802.11n HT20 mode for POWER

### 11n HT20 Mode Straddle Channel



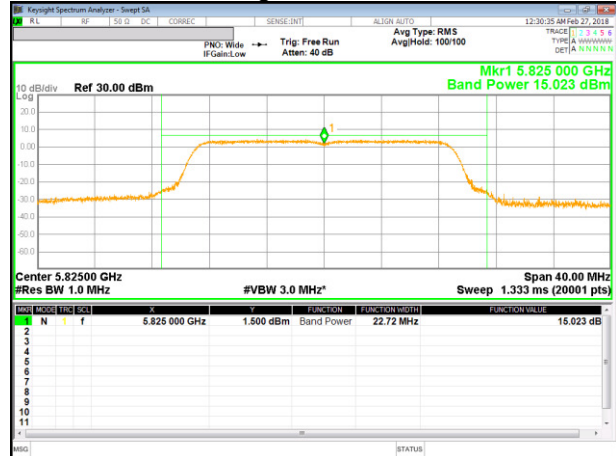
### 11n HT20 Mode Low Channel



### 11n HT20 Mode Middle Channel

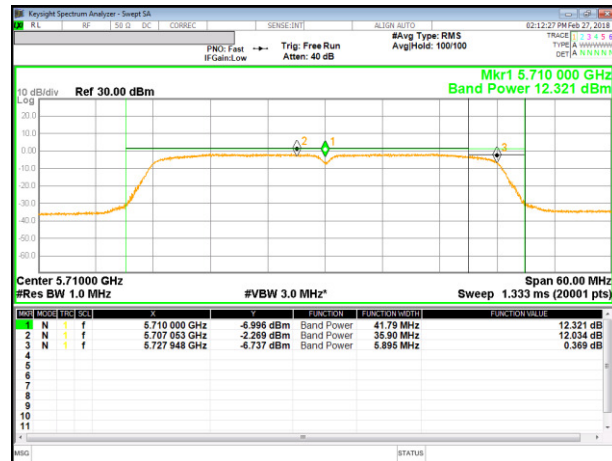


### 11n HT20 Mode High Channel

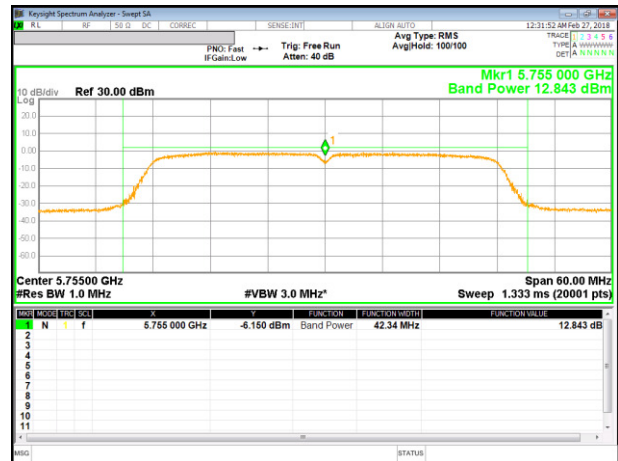


## UNII 5.8 GHz IEEE 802.11n HT40 mode for POWER

### 11n HT40 Mode Straddle Channel



### 11n HT40 Mode Low Channel



### 11n HT40 Mode High Channel

