

## 8.45. 802.11ac VHT80 2Tx CDD MODE IN THE 5.6 GHz BAND

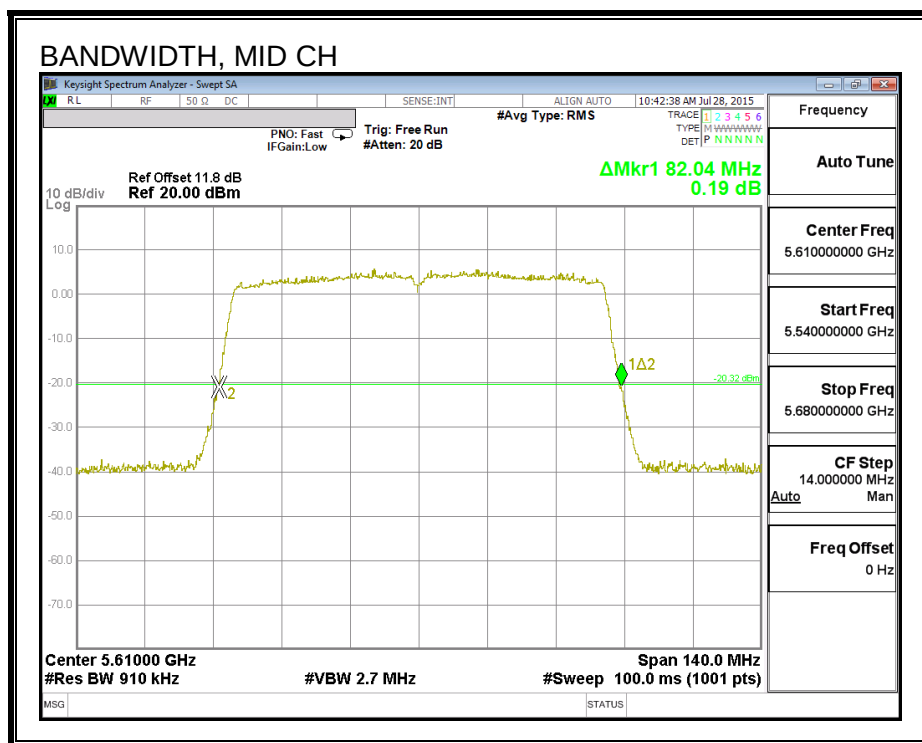
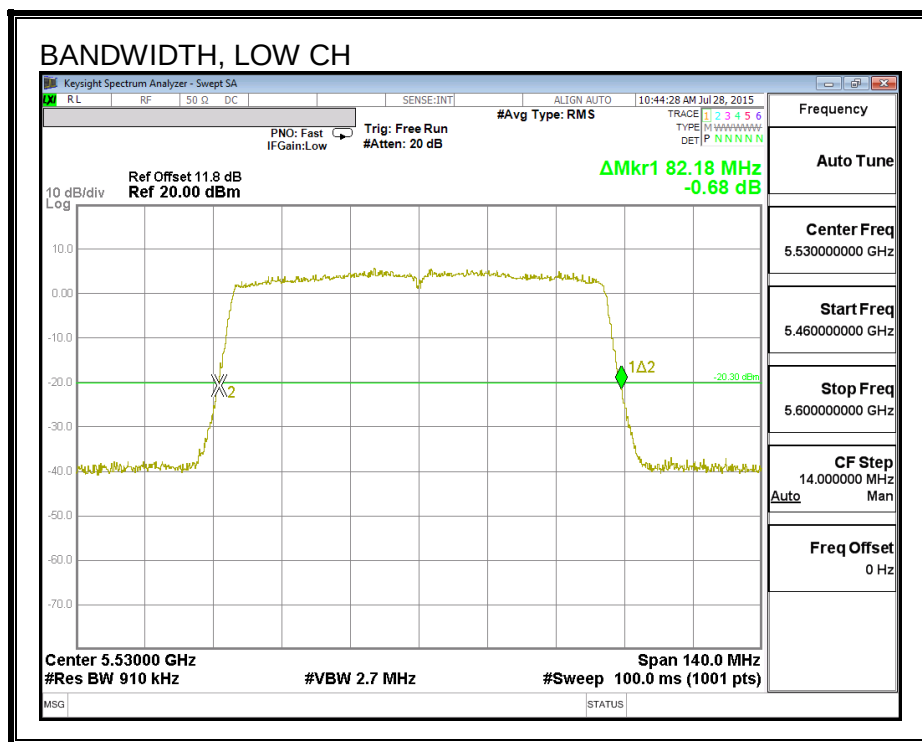
### 8.45.1. 26 dB BANDWIDTH

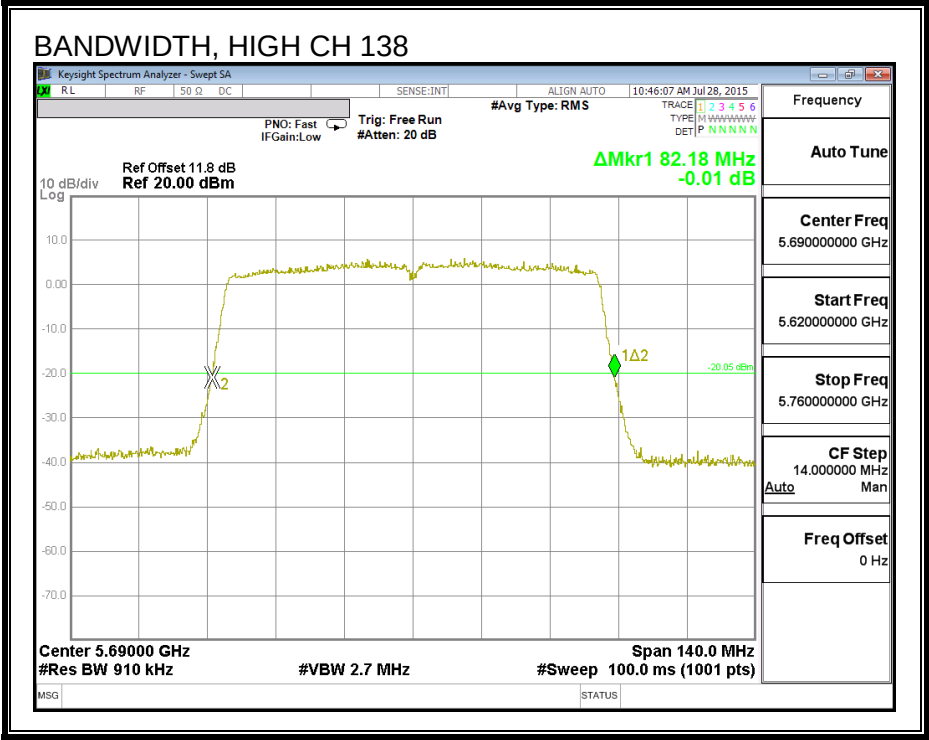
#### LIMITS

None; for reporting purposes only.

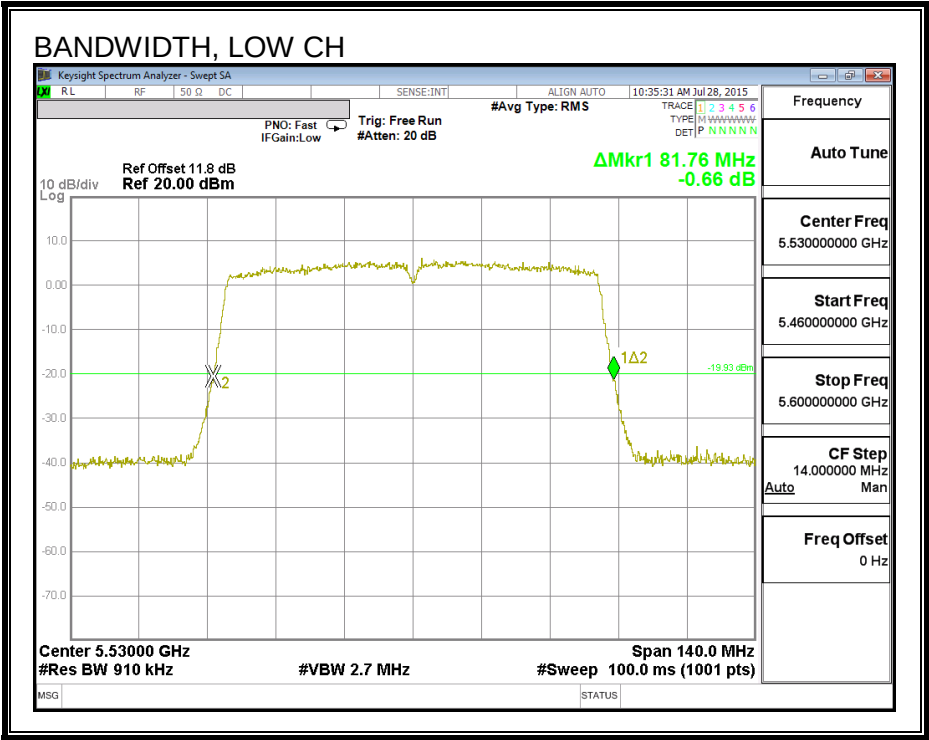
#### RESULTS

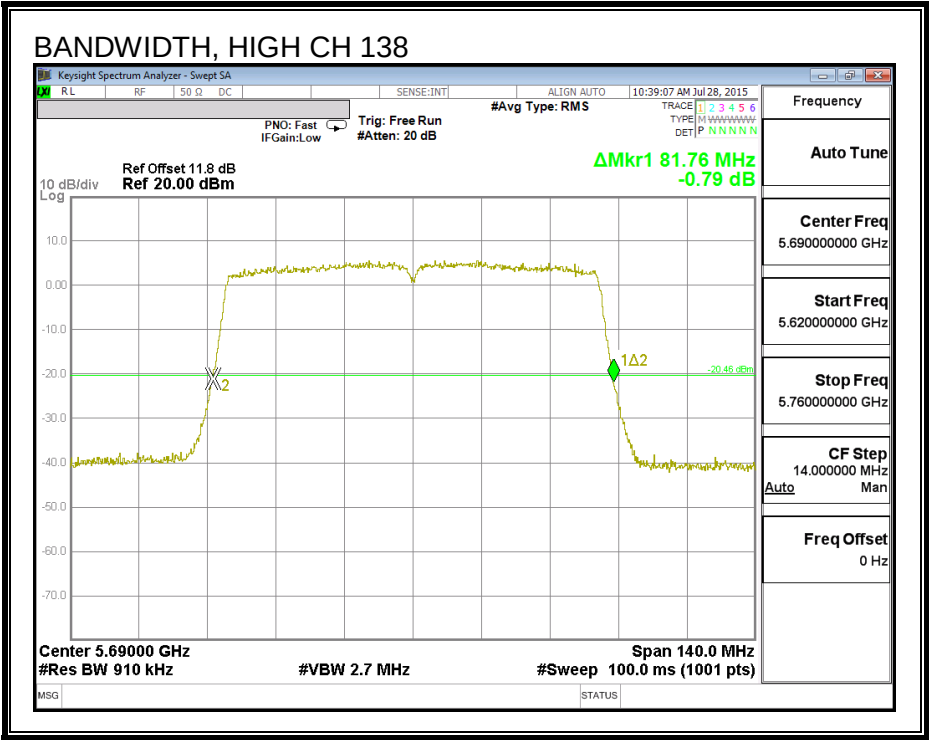
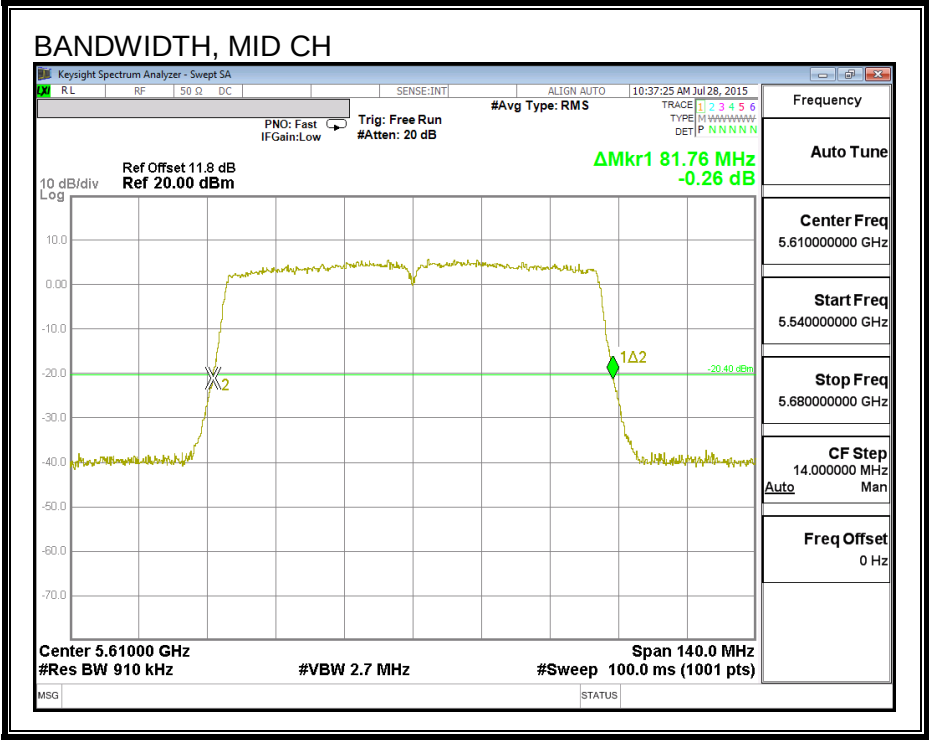
| Channel | Frequency<br>(MHz) | 26 dB BW<br>Chain 0<br>(MHz) | 26 dB BW<br>Chain 1<br>(MHz) |
|---------|--------------------|------------------------------|------------------------------|
| Low     | 5530               | 82.18                        | 81.76                        |
| Mid     | 5610               | 82.04                        | 81.76                        |
| High    | 5690               | 82.18                        | 81.76                        |





**26 dB BANDWIDTH, CHAIN 1**





**8.45.2. 99% BANDWIDTH**

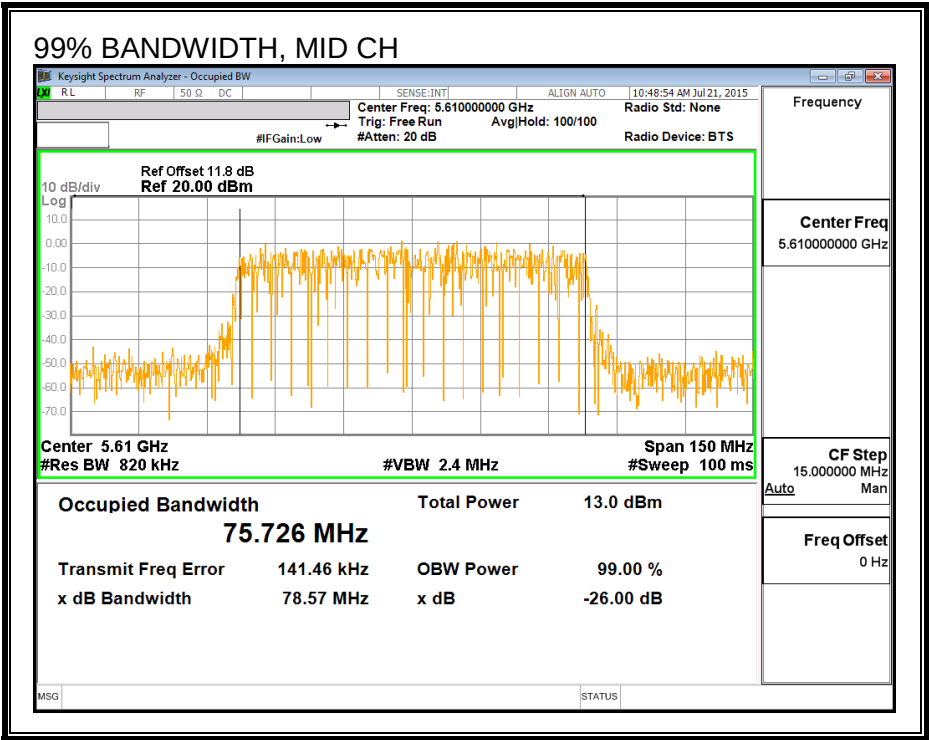
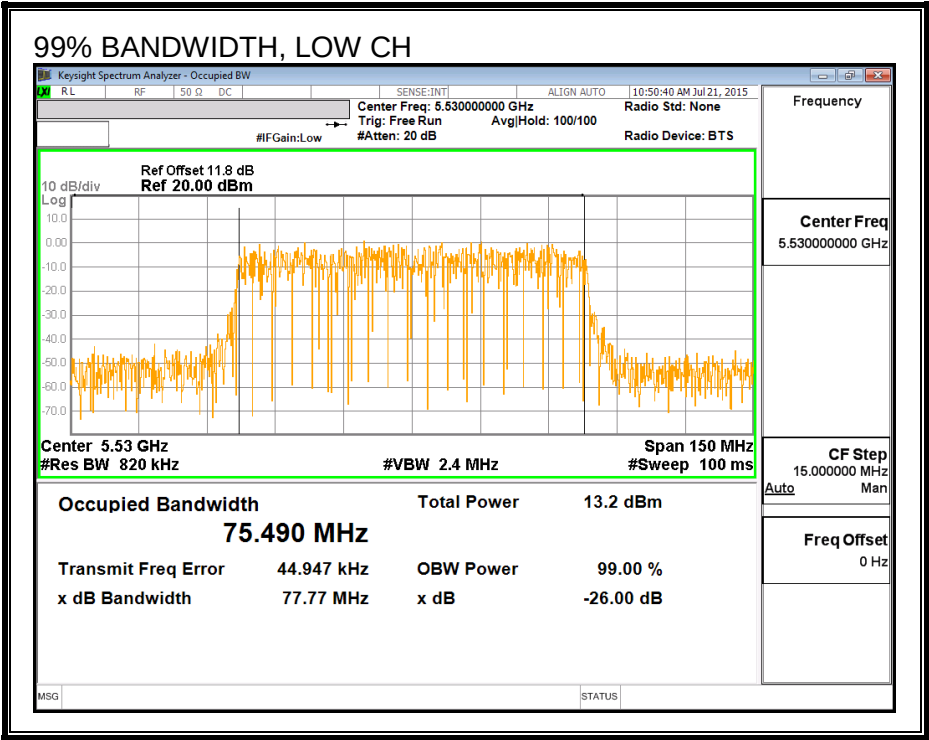
**LIMITS**

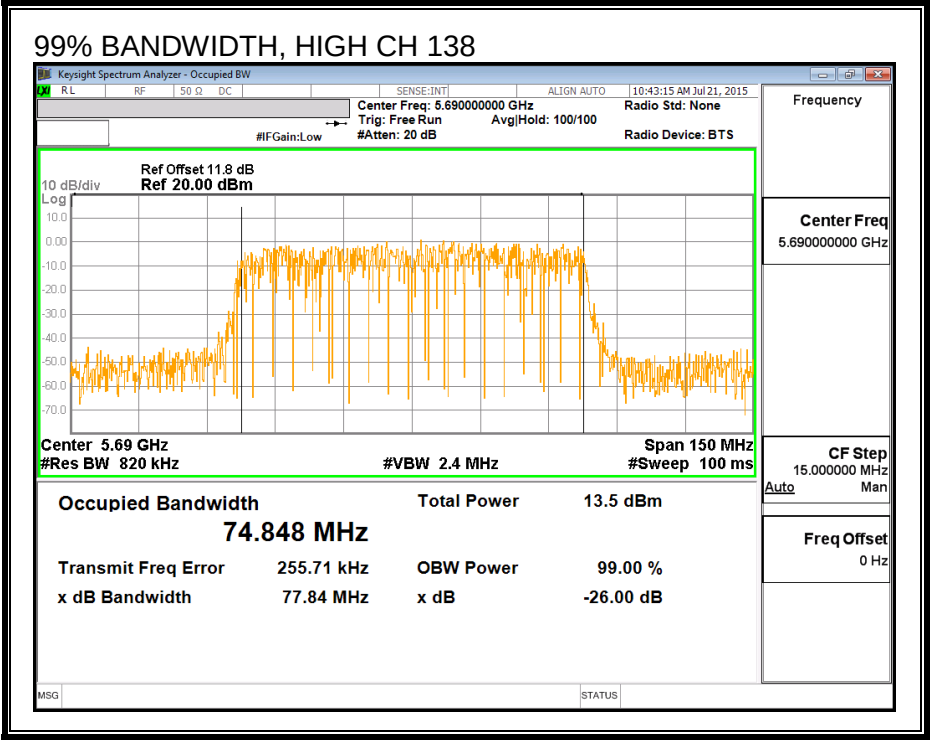
None; for reporting purposes only.

**RESULTS**

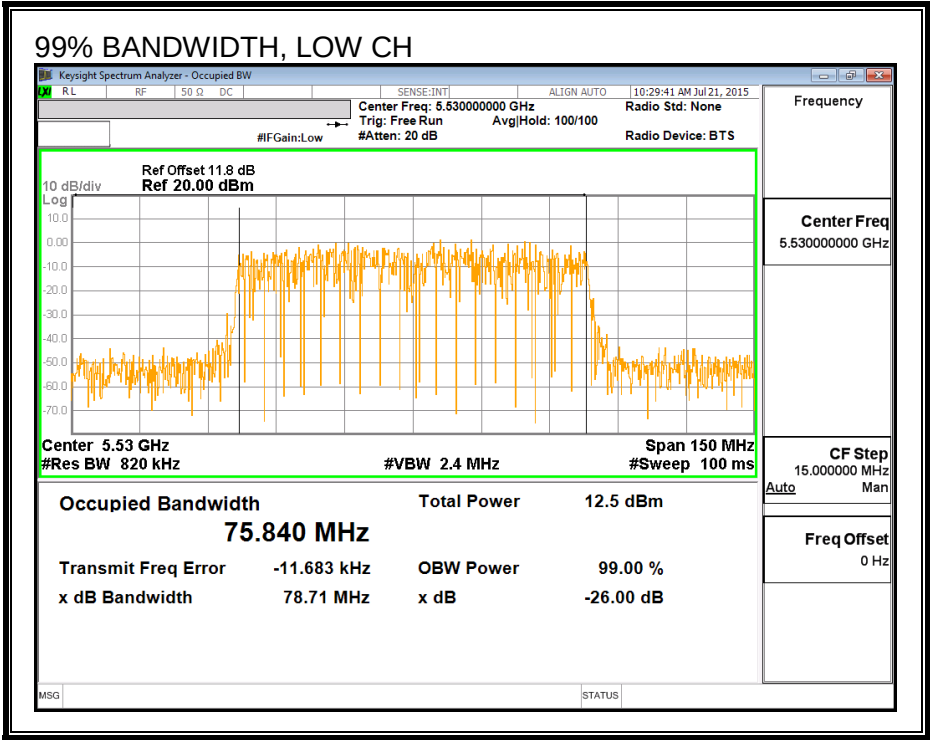
| Channel | Frequency<br>(MHz) | 99% BW<br>Chain 0<br>(MHz) | 99% BW<br>Chain 1<br>(MHz) |
|---------|--------------------|----------------------------|----------------------------|
| Low     | 5530               | 75.490                     | 75.840                     |
| Mid     | 5610               | 75.726                     | 75.767                     |
| High    | 5690               | 75.848                     | 75.858                     |

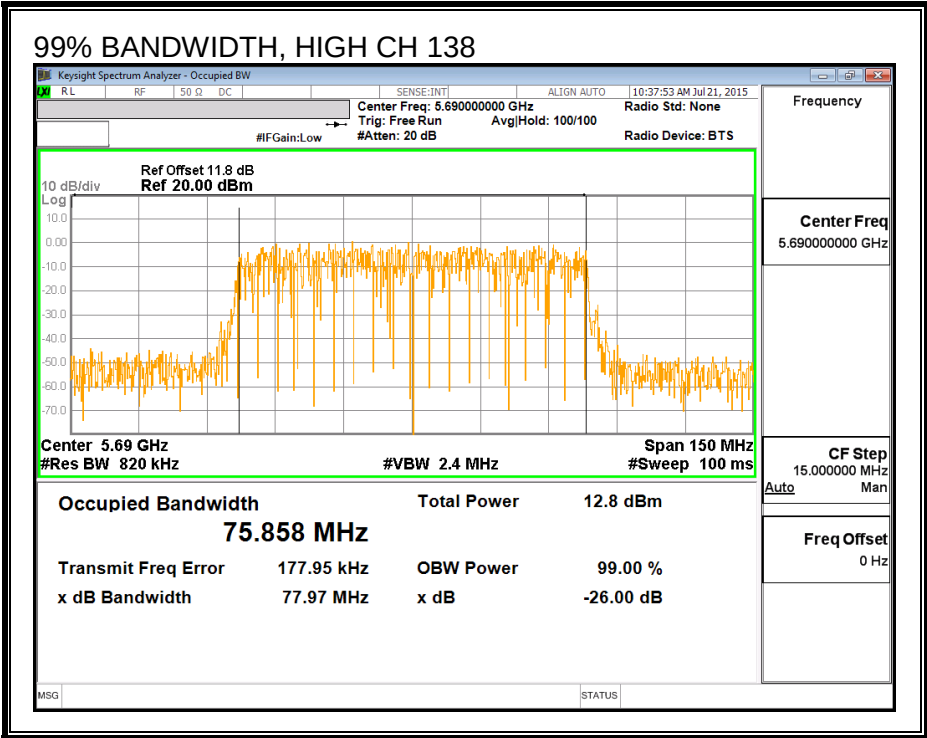
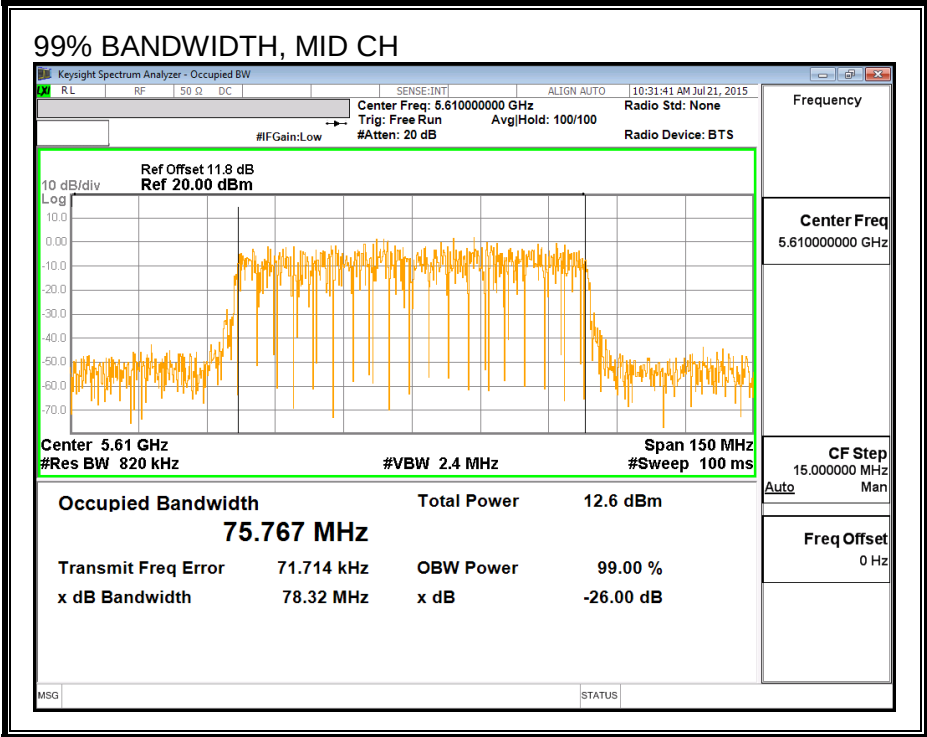
99% BANDWIDTH, CHAIN 0





99% BANDWIDTH, CHAIN 1





### 8.45.3. AVERAGE POWER

#### LIMITS

None; for reporting purposes only.

#### RESULTS

##### Average Power Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Power<br>(dBm) | Chain 1<br>Power<br>(dBm) | Total<br>Power<br>(dBm) |
|---------|--------------------|---------------------------|---------------------------|-------------------------|
| Low     | 5530               | 13.37                     | 13.42                     | 16.41                   |
| Mid     | 5610               | 15.42                     | 15.85                     | 18.65                   |
| High    | 5690               | 15.50                     | 16.00                     | 18.77                   |

## 8.45.4. OUTPUT POWER AND PSD

### LIMITS

FCC §15.407 (a) (2)

For the band 5.47–5.725 GHz, the maximum conducted output power over the frequency band 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 MHz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

| Chain 0<br>Antenna<br>Gain<br>(dBi) | Chain 1<br>Antenna<br>Gain<br>(dBi) | Uncorrelated Chains<br>Directional<br>Gain<br>(dBi) |
|-------------------------------------|-------------------------------------|-----------------------------------------------------|
| 2.70                                | 3.10                                | 2.90                                                |

The TX chains are correlated and the antenna gain is unequal among the chains. The directional gain is:

| Chain 0<br>Antenna<br>Gain<br>(dBi) | Chain 1<br>Antenna<br>Gain<br>(dBi) | Correlated Chains<br>Directional<br>Gain<br>(dBi) |
|-------------------------------------|-------------------------------------|---------------------------------------------------|
| 2.70                                | 3.10                                | 5.91                                              |

## RESULTS

### Bandwidth, Antenna Gain and Limits

| Channel | Frequency<br>(MHz) | Min<br>26 dB<br>BW<br>(MHz) | Min<br>99%<br>BW<br>(MHz) | Directional<br>Gain<br>for Power<br>(dBi) | Directional<br>Gain<br>for PSD<br>(dBi) | Power<br>Limit<br>(dBm) | PSD<br>Limit<br>(dBm) |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|-----------------------------------------|-------------------------|-----------------------|
| Low     | 5530               | 81.76                       | 75.490                    | 2.90                                      | 5.91                                    | 24.00                   | 11.00                 |
| High    | 5610               | 81.76                       | 75.726                    | 2.90                                      | 5.91                                    | 24.00                   | 11.00                 |

|                    |      |                                                |
|--------------------|------|------------------------------------------------|
| Duty Cycle CF (dB) | 0.22 | Included in Calculations of Corr'd Power & PSD |
|--------------------|------|------------------------------------------------|

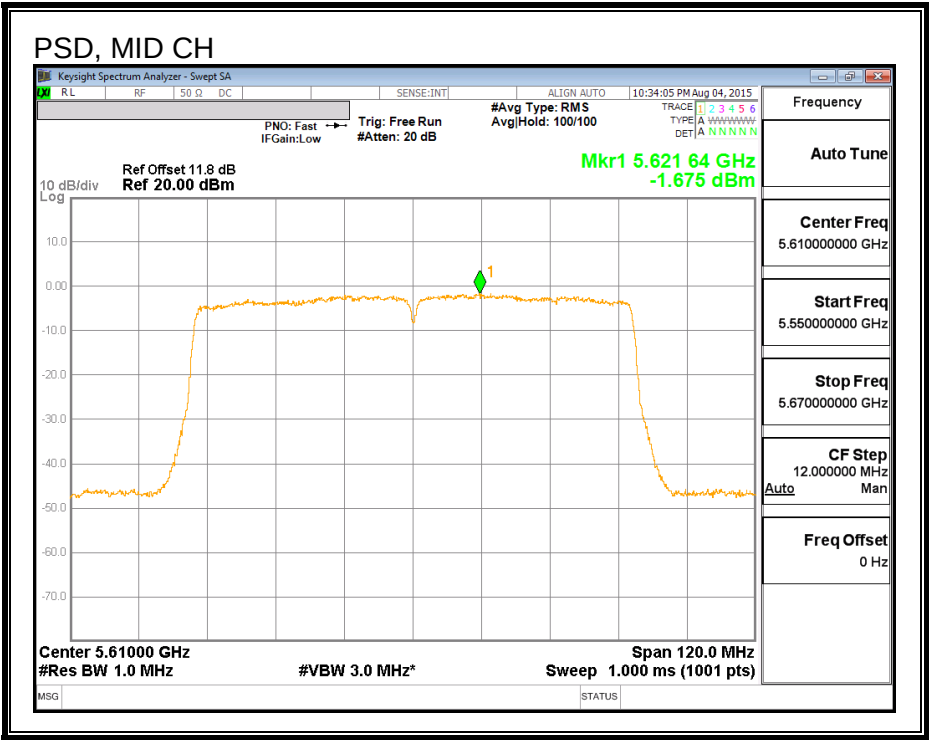
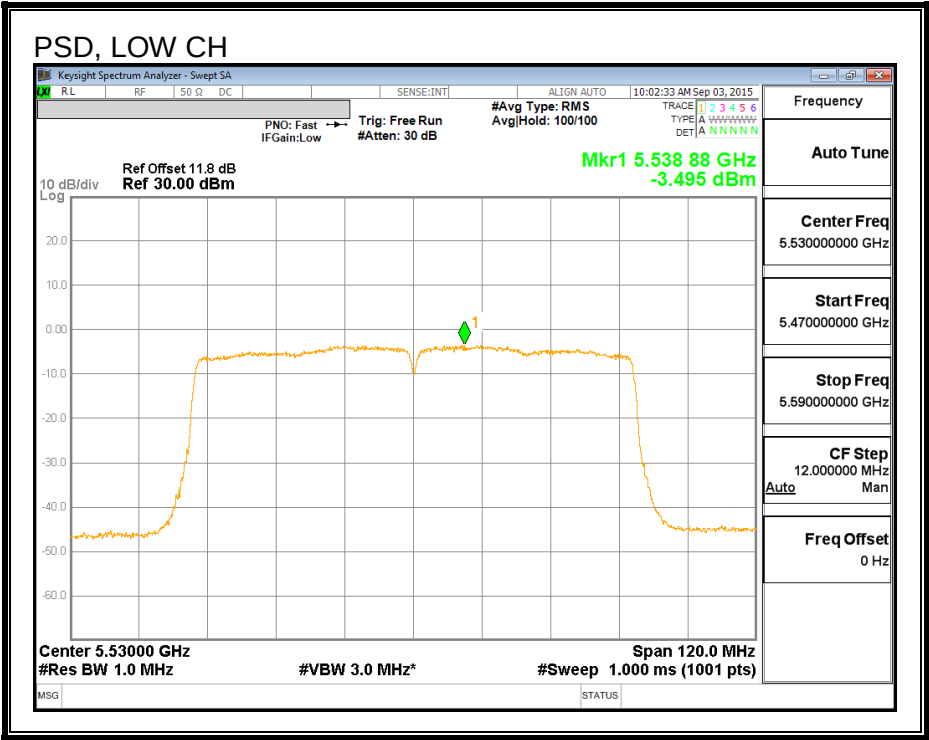
### Output Power Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>Power<br>(dBm) | Chain 1<br>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               | 13.15                             | 13.20                             | 16.41                             | 24.00                   | -7.59                   |
| High    | 5610               | 15.20                             | 15.63                             | 18.65                             | 24.00                   | -5.35                   |

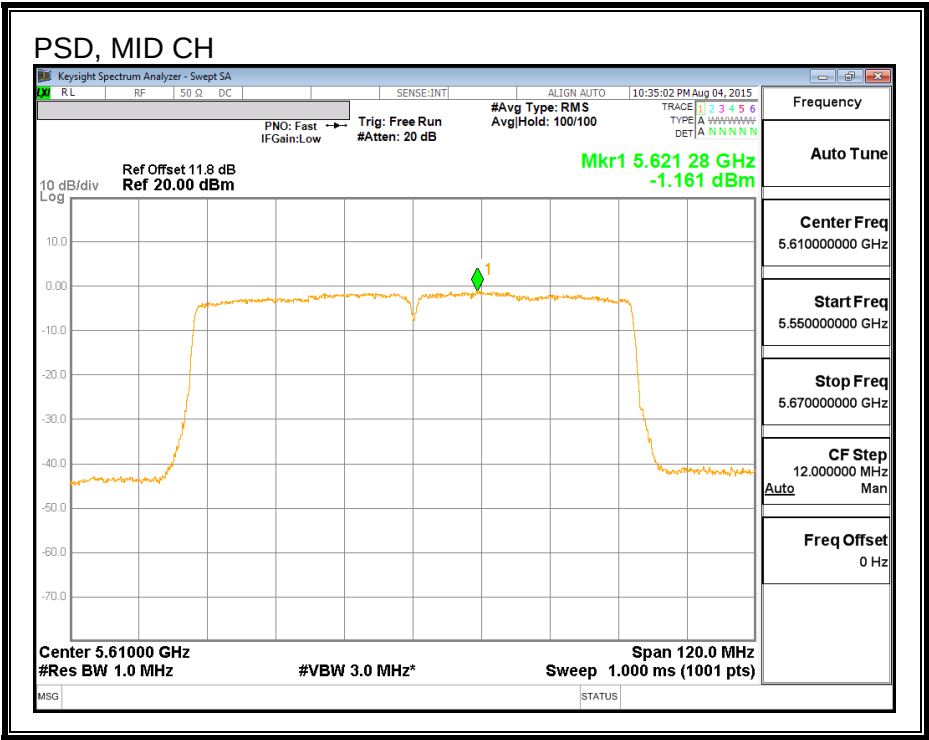
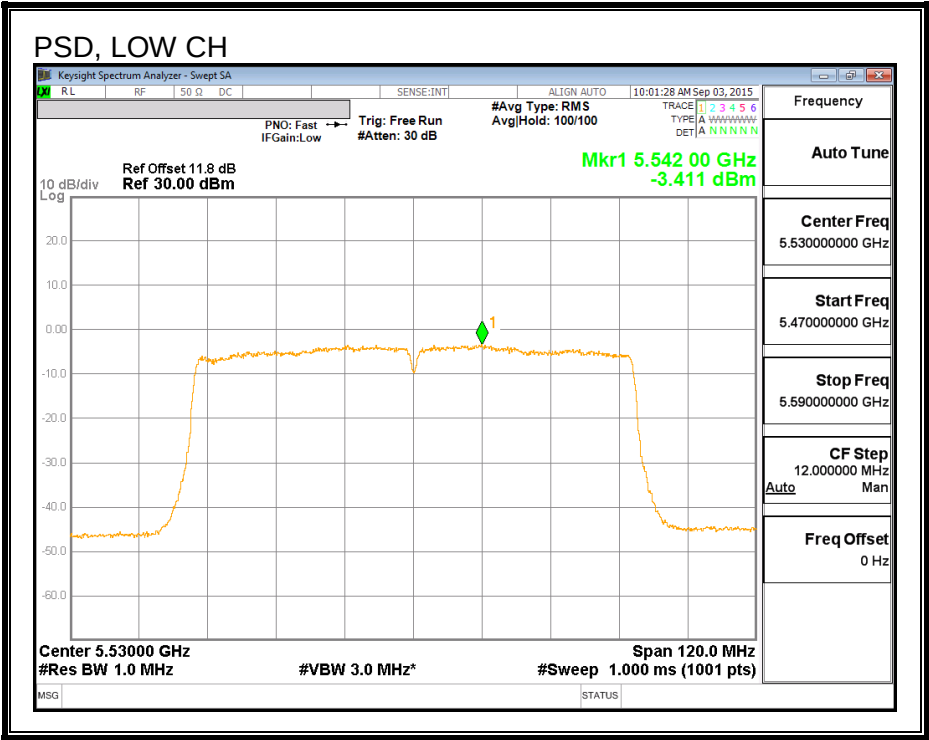
### PSD Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>PSD<br>(dBm) | Chain 1<br>Meas<br>PSD<br>(dBm) | Total<br>Corr'd<br>PSD<br>(dBm) | PSD<br>Limit<br>(dBm) | PSD<br>Margin<br>(dB) |
|---------|--------------------|---------------------------------|---------------------------------|---------------------------------|-----------------------|-----------------------|
| Low     | 5530               | -3.50                           | -3.41                           | -0.22                           | 11.00                 | -11.22                |
| High    | 5610               | -1.68                           | -1.16                           | 1.82                            | 11.00                 | -9.18                 |

PSD, Chain 0



PSD, Chain 1



## 8.45.5. STRADDLE CHANNEL 138 RESULTS

### UNII-2C BAND

#### Bandwidth, Antenna Gain, and Limits

| 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 PSD<br>(dBi) | Power<br>Limit<br>(dBm) | PSD<br>Limit<br>(dBm) |
|---------|--------------------|-----------------------------|-------------------------------------------|-----------------------------------------|-------------------------|-----------------------|
| 138     | 5690               | 75.88                       | 2.90                                      | 5.91                                    | 24.00                   | 11.00                 |

|                    |      |                                                |
|--------------------|------|------------------------------------------------|
| Duty Cycle CF (dB) | 0.22 | Included in Calculations of Corr'd Power & PSD |
|--------------------|------|------------------------------------------------|

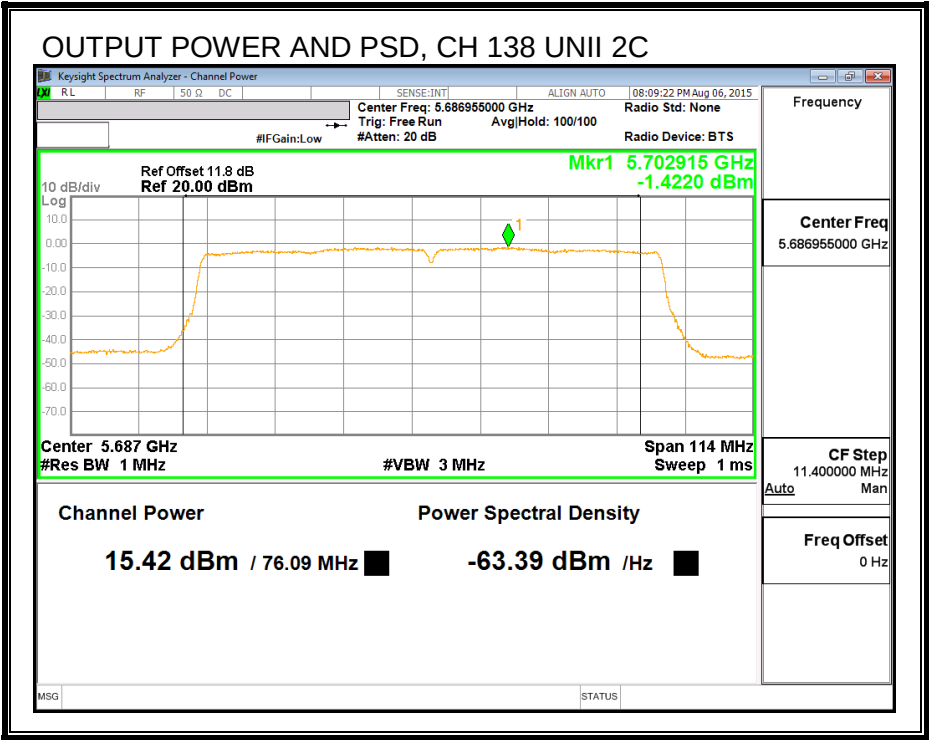
#### Output Power Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>Power<br>(dBm) | Chain 1<br>Meas<br>Power<br>(dBm) | Total<br>Corr'd<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Power<br>Margin<br>(dB) |
|---------|--------------------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| 138     | 5690               | 15.42                             | 15.86                             | 18.88                             | 24.00                   | -5.12                   |

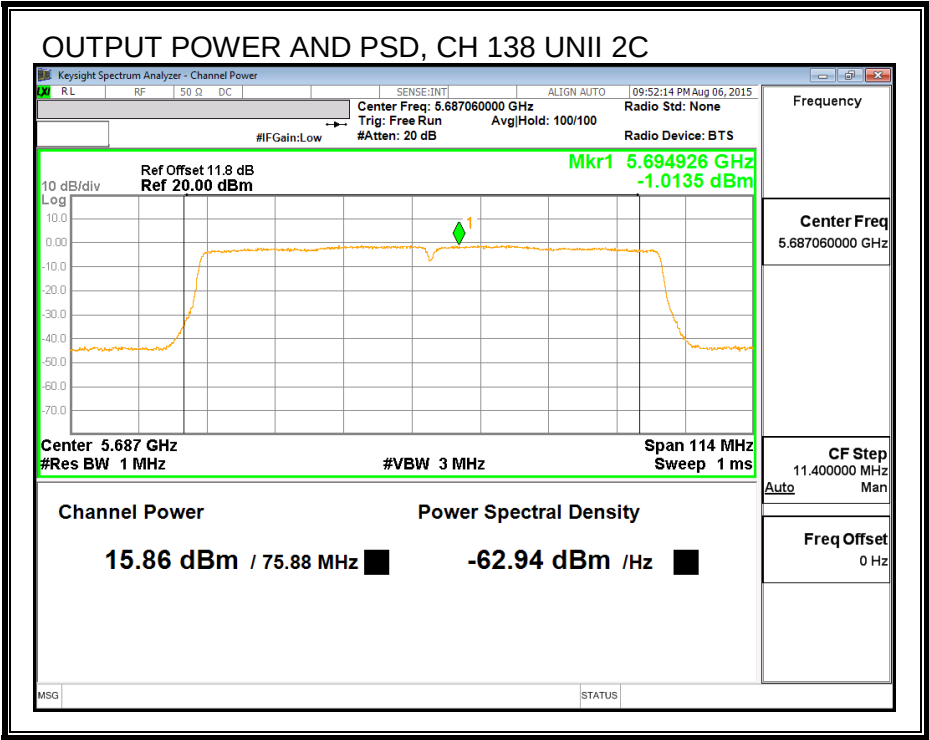
#### PSD Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>PSD<br>(dBm) | Chain 1<br>Meas<br>PSD<br>(dBm) | Total<br>Corr'd<br>PSD<br>(dBm) | PSD<br>Limit<br>(dBm) | PSD<br>Margin<br>(dB) |
|---------|--------------------|---------------------------------|---------------------------------|---------------------------------|-----------------------|-----------------------|
| 138     | 5690               | -1.42                           | -1.01                           | 2.02                            | 11.00                 | -8.98                 |

CHAIN 0



CHAIN 1



**UNII-3 BAND**

**Antenna Gain and Limit**

| Channel | Frequency<br>(MHz) | Min<br>26 dB<br>BW<br>(MHz) | Directional<br>Gain<br>(dBi) | Directional<br>Gain<br>(dBi) | Power<br>Limit<br>(dBm) | PSD<br>Limit<br>(dBm) |
|---------|--------------------|-----------------------------|------------------------------|------------------------------|-------------------------|-----------------------|
| 138     | 5690               | 5.88                        | 2.90                         | 5.91                         | 30.00                   | 30.00                 |

|                    |      |                                                |
|--------------------|------|------------------------------------------------|
| Duty Cycle CF (dB) | 0.22 | Included in Calculations of Corr'd Power & PSD |
|--------------------|------|------------------------------------------------|

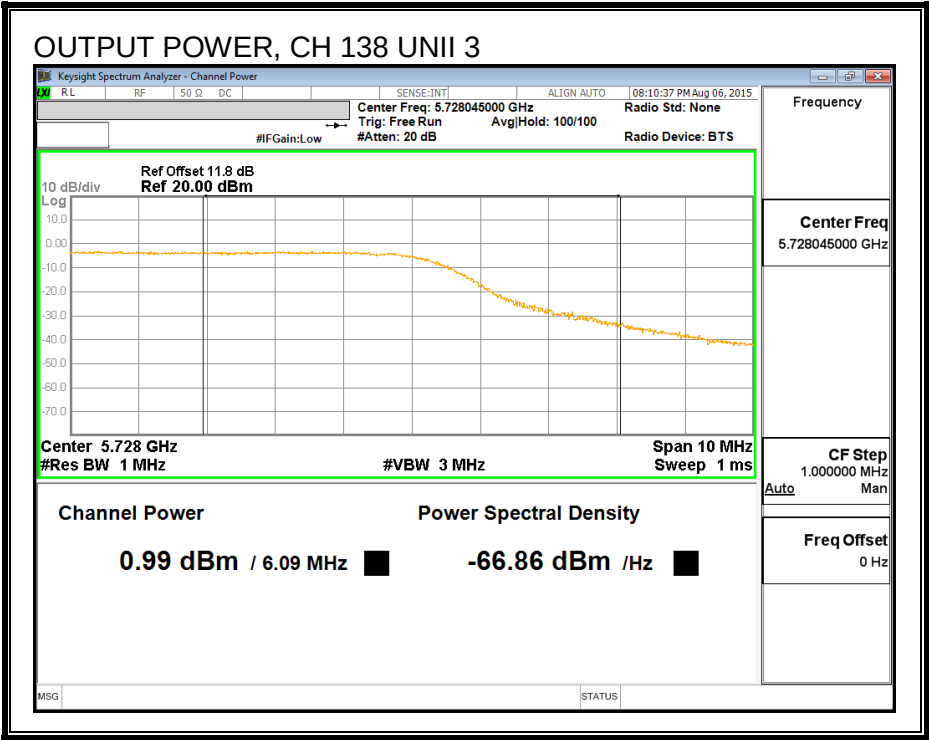
**Output Power Results**

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>Power<br>(dBm) | Chain 1<br>Meas<br>Power<br>(dBm) | Total<br>Corr'd<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Power<br>Margin<br>(dB) |
|---------|--------------------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| 138     | 5690               | 0.99                              | 1.37                              | 4.41                              | 30.00                   | -25.59                  |

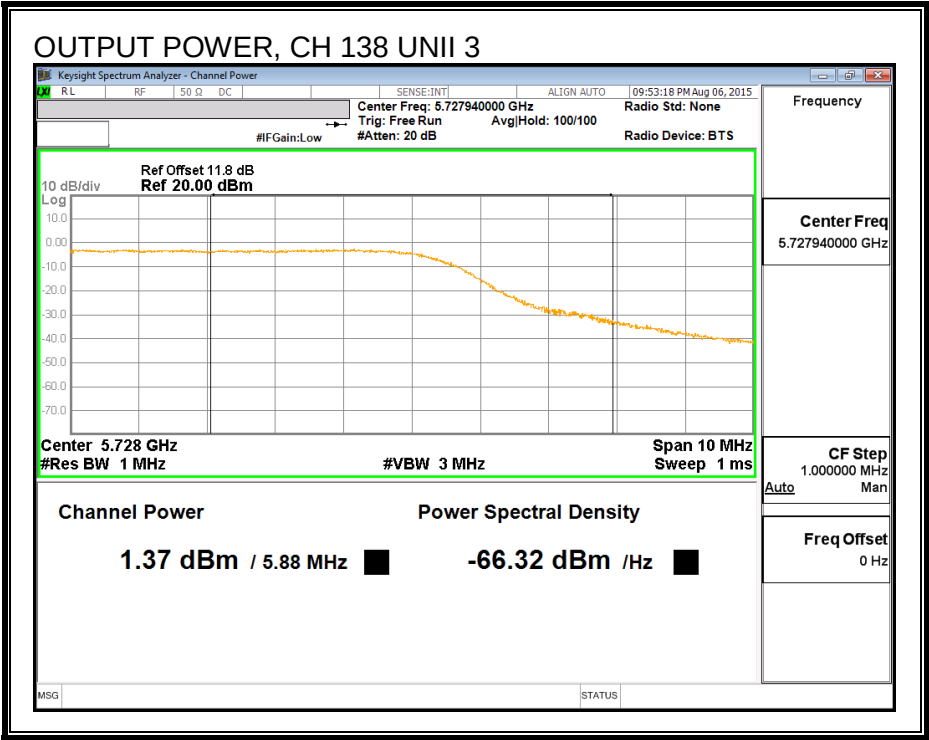
**PSD Results**

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>PSD<br>(dBm) | Chain 1<br>Meas<br>PSD<br>(dBm) | Total<br>Corr'd<br>PSD<br>(dBm) | PSD<br>Limit<br>(dBm) | PSD<br>Margin<br>(dB) |
|---------|--------------------|---------------------------------|---------------------------------|---------------------------------|-----------------------|-----------------------|
| 138     | 5690               | -6.25                           | -5.65                           | -2.70                           | 30.00                 | -32.70                |

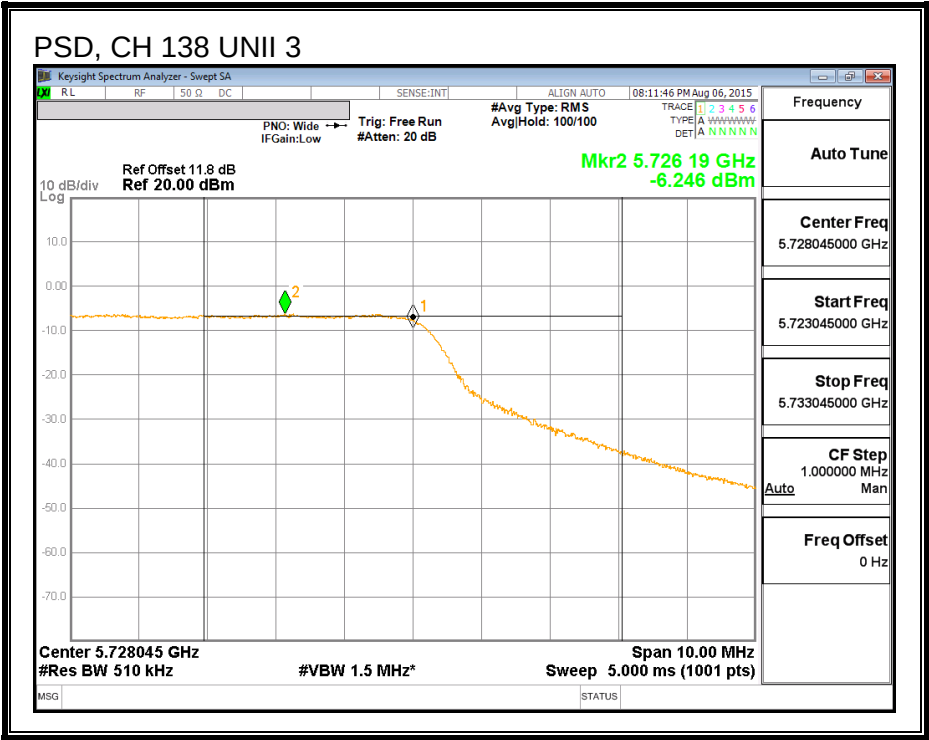
CHAIN 0



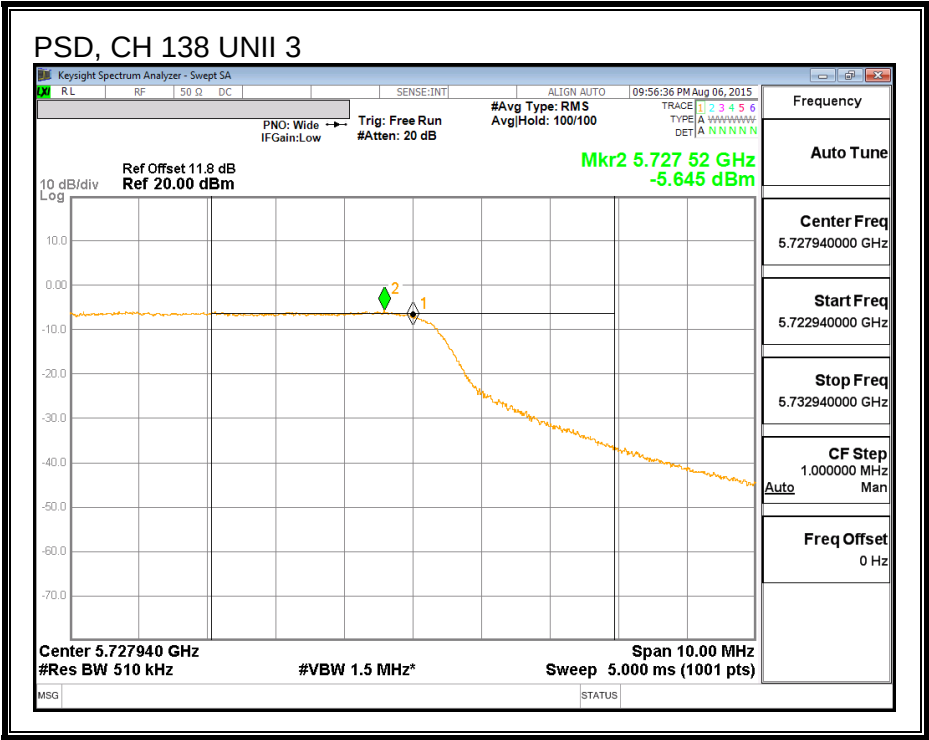
CHAIN 1



CHAIN 0



CHAIN 1



#### **8.45.6. 6 dB BANDWIDTH**

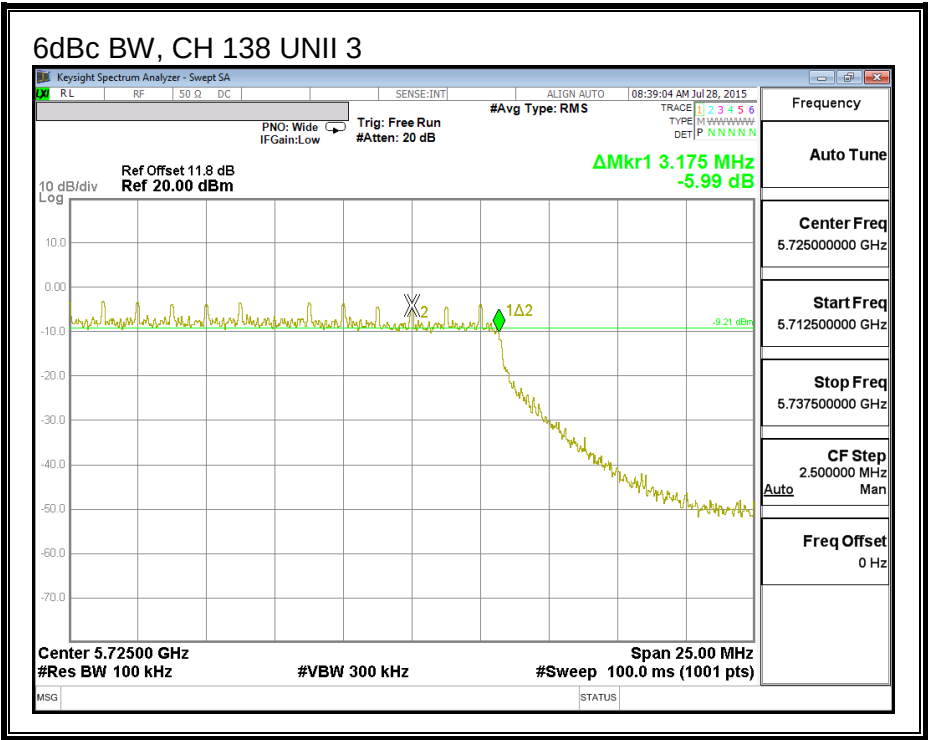
##### **LIMITS**

FCC §15.407 (e)

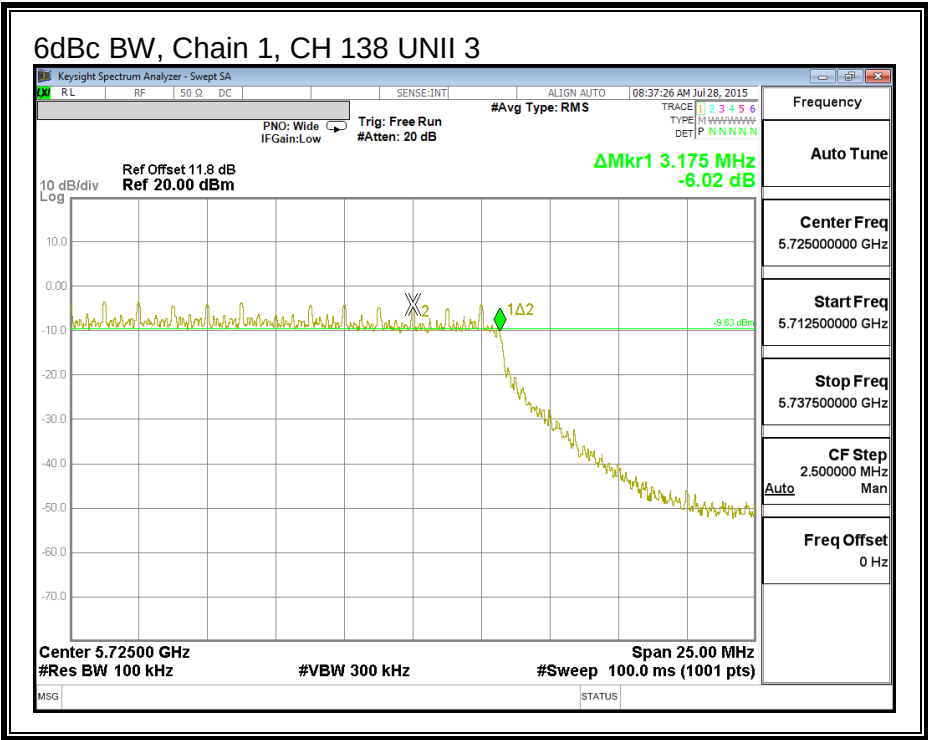
The minimum 6 dB bandwidth shall be at least 500 kHz.

##### **RESULTS**

CHAIN 0



CHAIN 1



#### **8.46. 802.11n VHT80 2Tx STBC/SDM MODE IN THE 5.6 GHz BAND**

**Note:** Covered by 802.11n HT80 2Tx CDD MODE

## **8.47. 802.11a SISO MODE IN THE 5.8 GHz BAND**

**Note:** Covered by 802.11n HT20 SISO CDD MODE

## **8.48. 802.11n HT20 CHAIN 0 MODE IN THE 5.8 GHz BAND**

### **8.48.1. 6 dB BANDWIDTH**

#### **LIMITS**

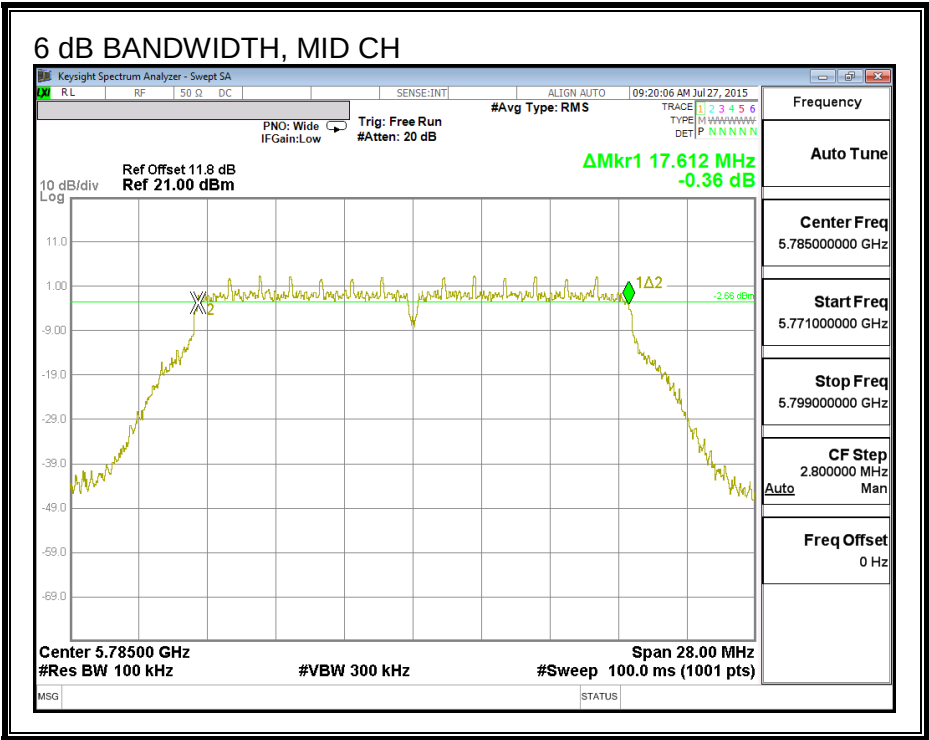
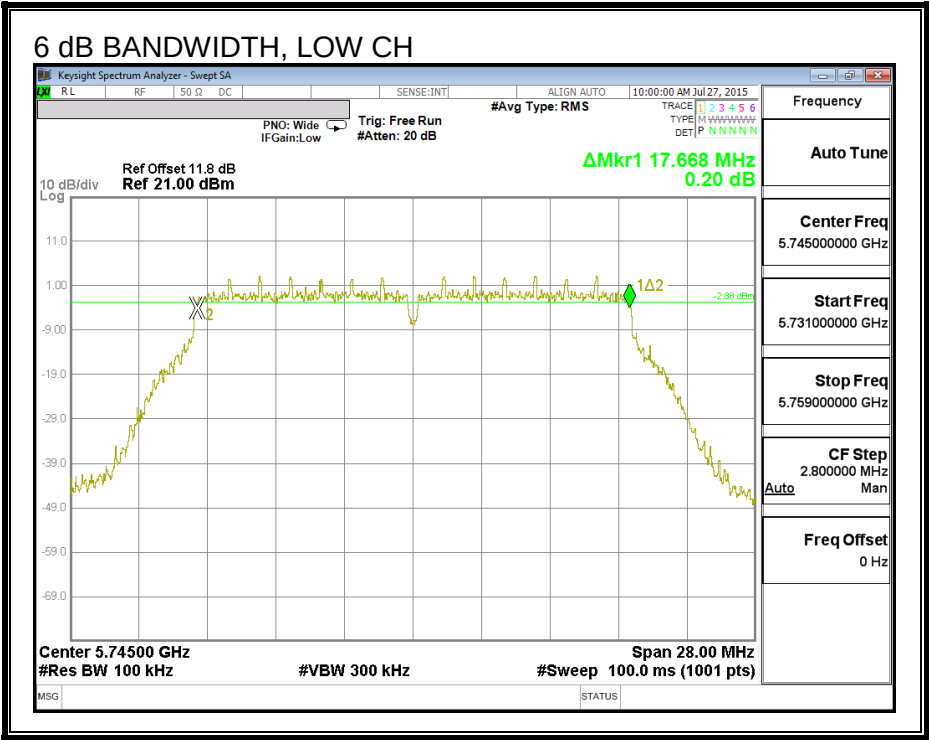
FCC §15.407 (e)

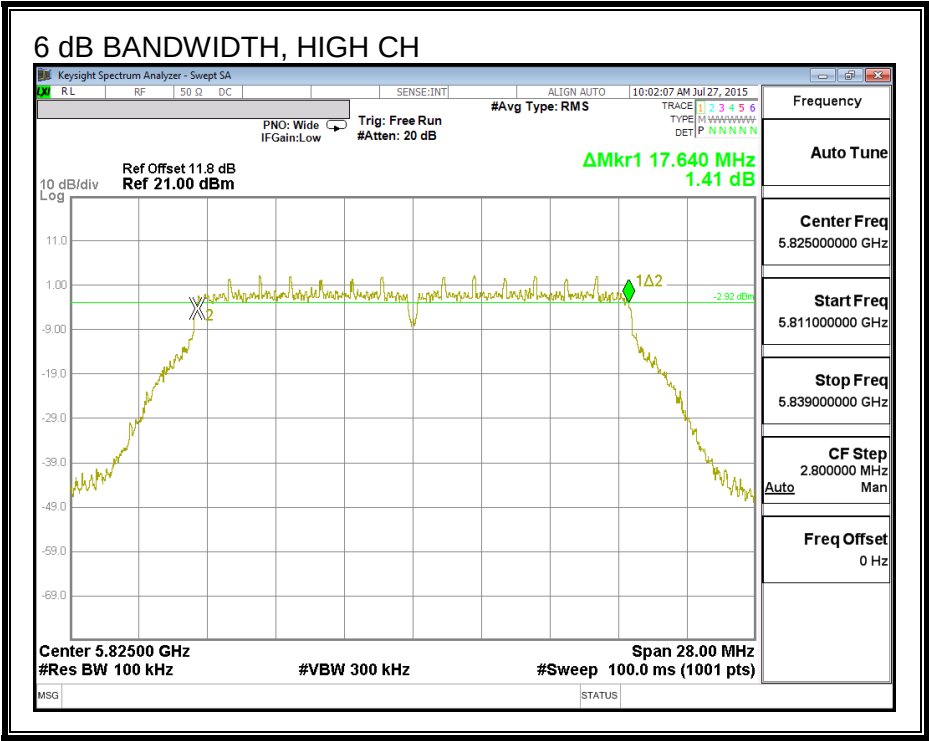
The minimum 6 dB bandwidth shall be at least 500 kHz.

#### **RESULTS**

| Channel | Frequency<br>(MHz) | 6 dB Bandwidth<br>(MHz) | Minimum Limit<br>(MHz) |
|---------|--------------------|-------------------------|------------------------|
| Low     | 5745               | 17.67                   | 0.5                    |
| Mid     | 5785               | 17.61                   | 0.5                    |
| High    | 5825               | 17.64                   | 0.5                    |

6 dB BANDWIDTH





## 8.48.2. 26 dB BANDWIDTH

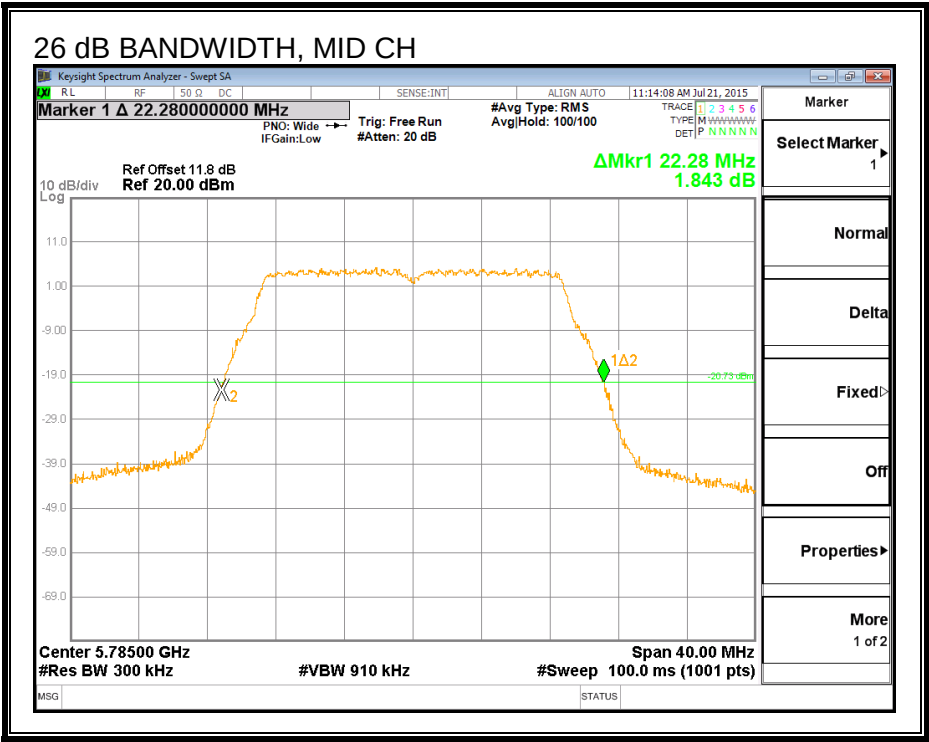
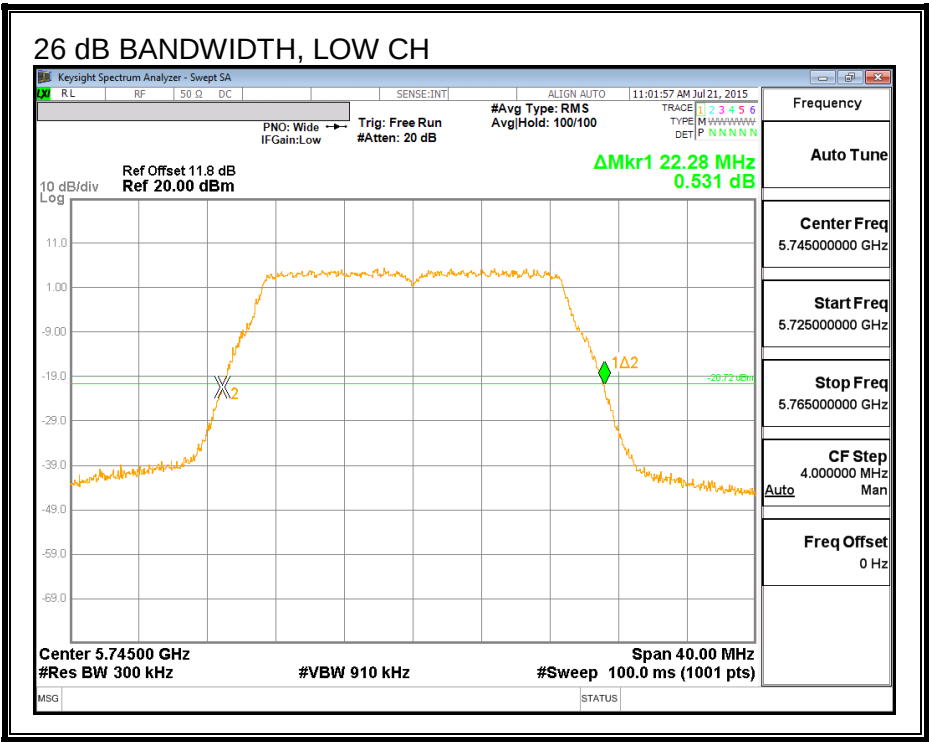
### LIMITS

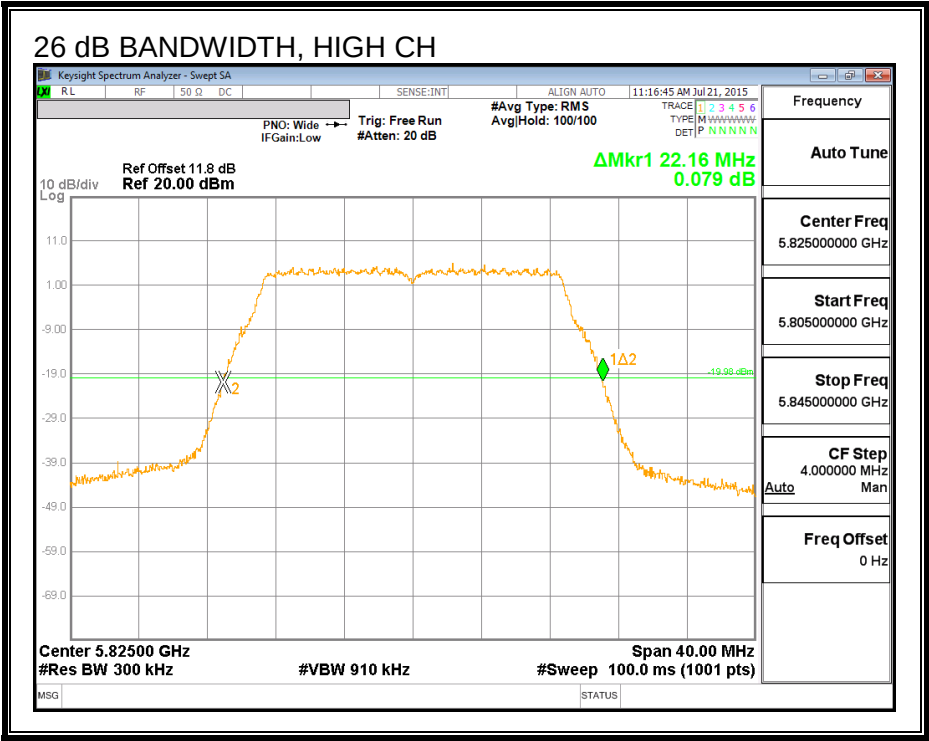
None, for reporting purposes only

### RESULTS

| Channel | Frequency<br>(MHz) | 26 dB Bandwidth<br>(MHz) |
|---------|--------------------|--------------------------|
| Low     | 5745               | 22.28                    |
| Mid     | 5785               | 22.28                    |
| High    | 5825               | 22.16                    |

26 dB BANDWIDTH





### 8.48.3. 99% BANDWIDTH

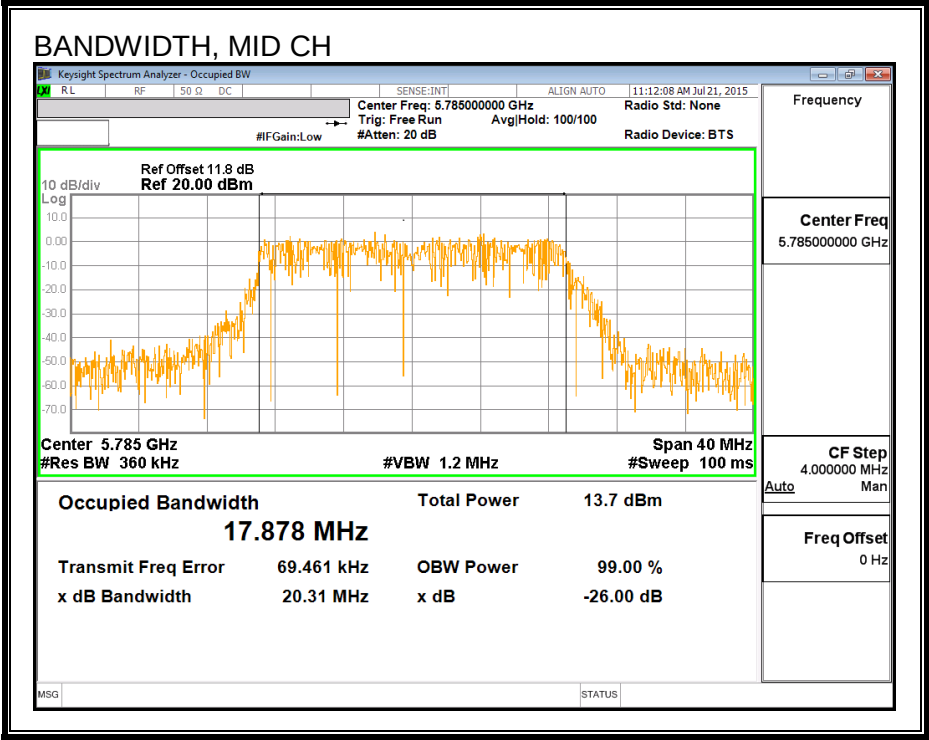
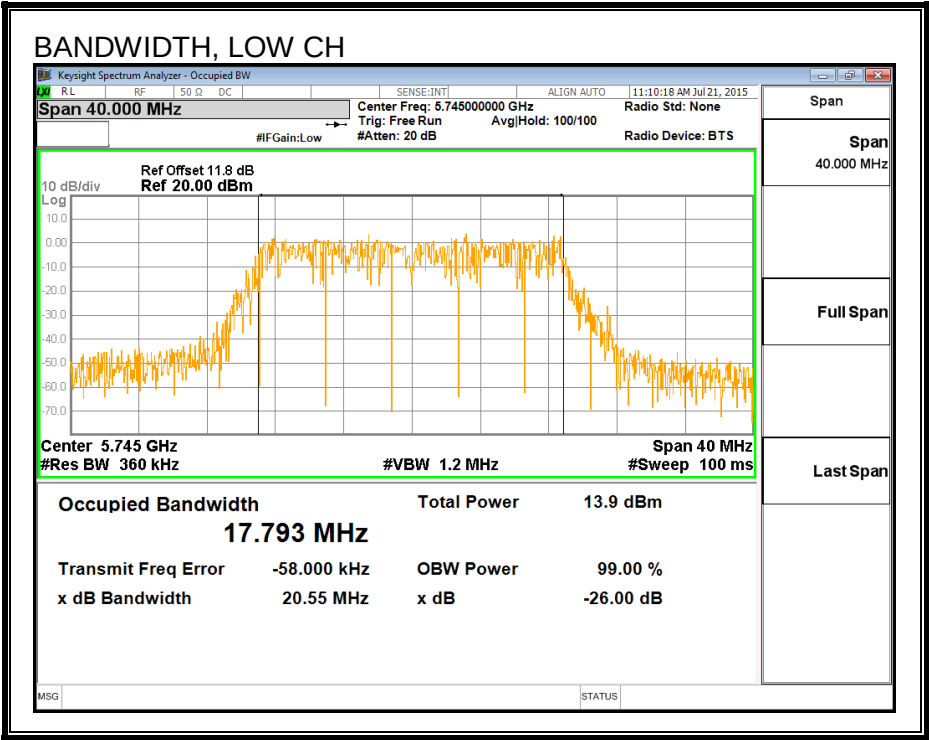
#### LIMITS

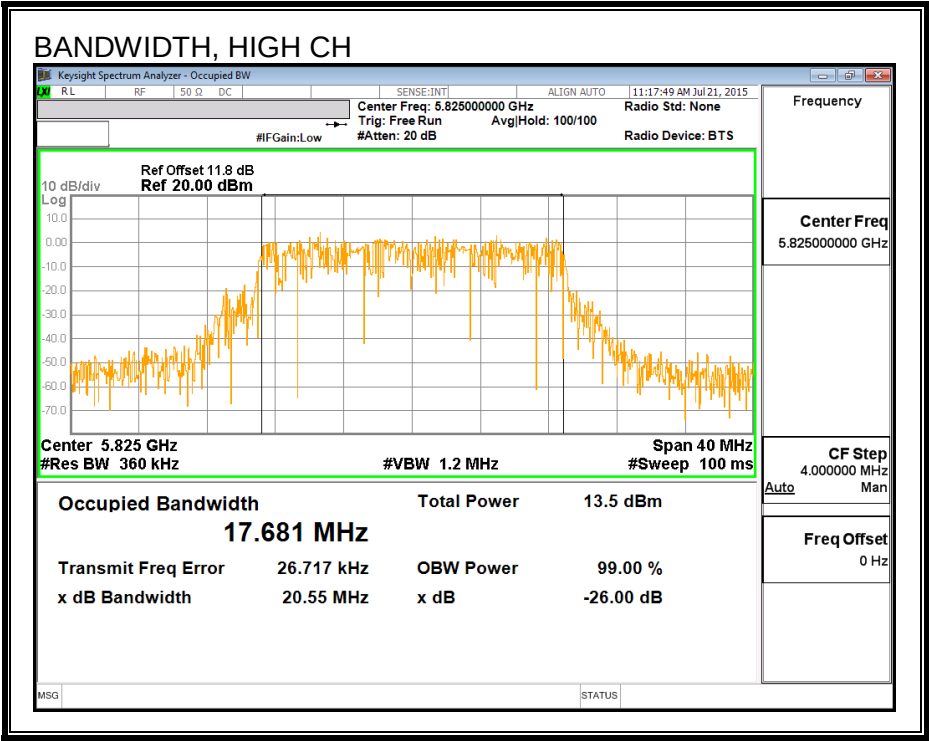
None; for reporting purposes only.

#### RESULTS

| Frequency<br>(MHz) | 99% Bandwidth<br>(MHz) |
|--------------------|------------------------|
| 5745               | 17.793                 |
| 5785               | 17.878                 |
| 5825               | 17.681                 |

99% BANDWIDTH





#### **8.48.4. AVERAGE POWER**

##### **LIMITS**

None; for reporting purposes only.

##### **RESULTS**

| Channel | Frequency<br>(MHz) | Power<br>(dBm) |
|---------|--------------------|----------------|
| Low     | 5745               | 15.37          |
| Mid     | 5785               | 15.94          |
| High    | 5825               | 15.90          |

## **8.48.5. OUTPUT POWER**

### **LIMITS**

FCC §15.407 (a) (3)

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. 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.

### **DIRECTIONAL ANTENNA GAIN**

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

## **RESULTS**

### **Antenna Gain and Limit**

| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>for Power<br>(dBi) | Power<br>Limit<br>(dBm) |
|---------|--------------------|-------------------------------------------|-------------------------|
| Low     | 5745               | 2.40                                      | 30.00                   |
| Mid     | 5785               | 2.40                                      | 30.00                   |
| High    | 5825               | 2.40                                      | 30.00                   |

|                           |      |                                                 |
|---------------------------|------|-------------------------------------------------|
| <b>Duty Cycle CF (dB)</b> | 0.00 | <b>Included in Calculations of Corr'd Power</b> |
|---------------------------|------|-------------------------------------------------|

### **Output Power Results**

| Channel | Frequency<br>(MHz) | Chain 0<br>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               | 15.37                             | 15.37                             | 30.00                   | -14.63                  |
| Mid     | 5785               | 15.94                             | 15.94                             | 30.00                   | -14.06                  |
| High    | 5825               | 15.90                             | 15.90                             | 30.00                   | -14.10                  |

## 8.48.6. PSD

### LIMITS

FCC §15.407 (a) (3)

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. 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.

### DIRECTIONAL ANTENNA GAIN

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

### RESULTS

#### Antenna Gain and Limits

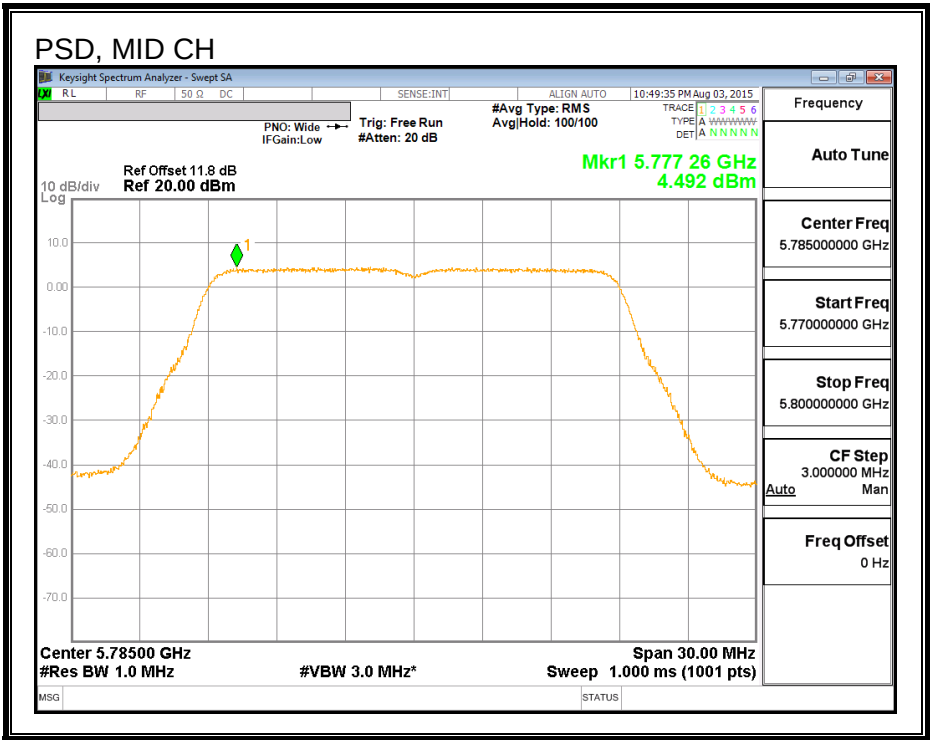
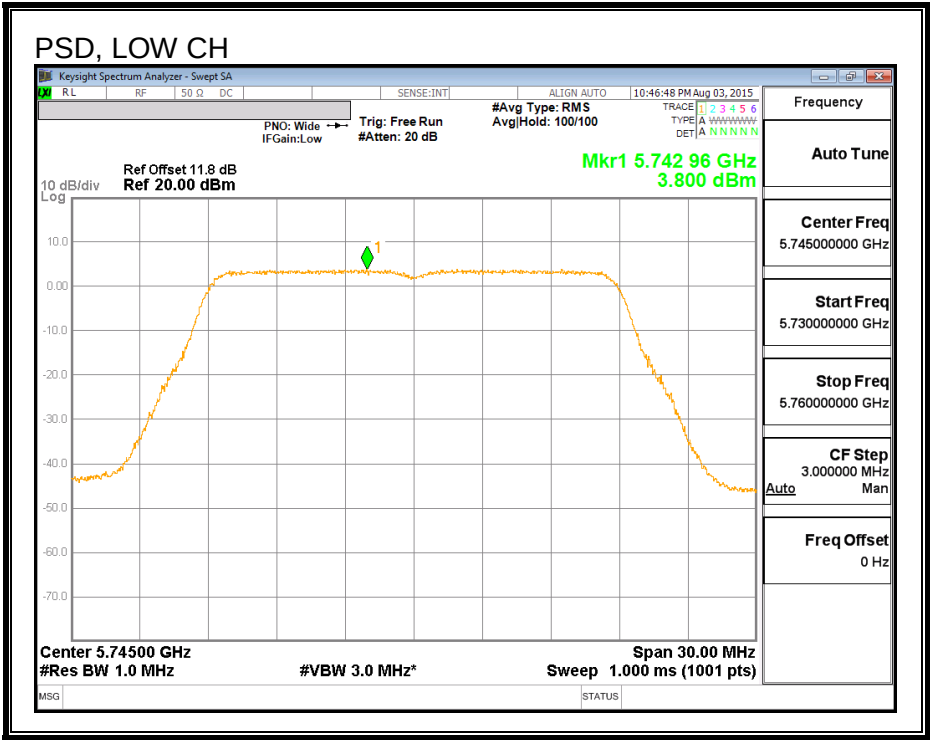
| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>(dBi) | PSD<br>Limit<br>(dBm) |
|---------|--------------------|------------------------------|-----------------------|
| Low     | 5745               | 2.40                         | 30.00                 |
| Mid     | 5785               | 2.40                         | 30.00                 |
| High    | 5825               | 2.40                         | 30.00                 |

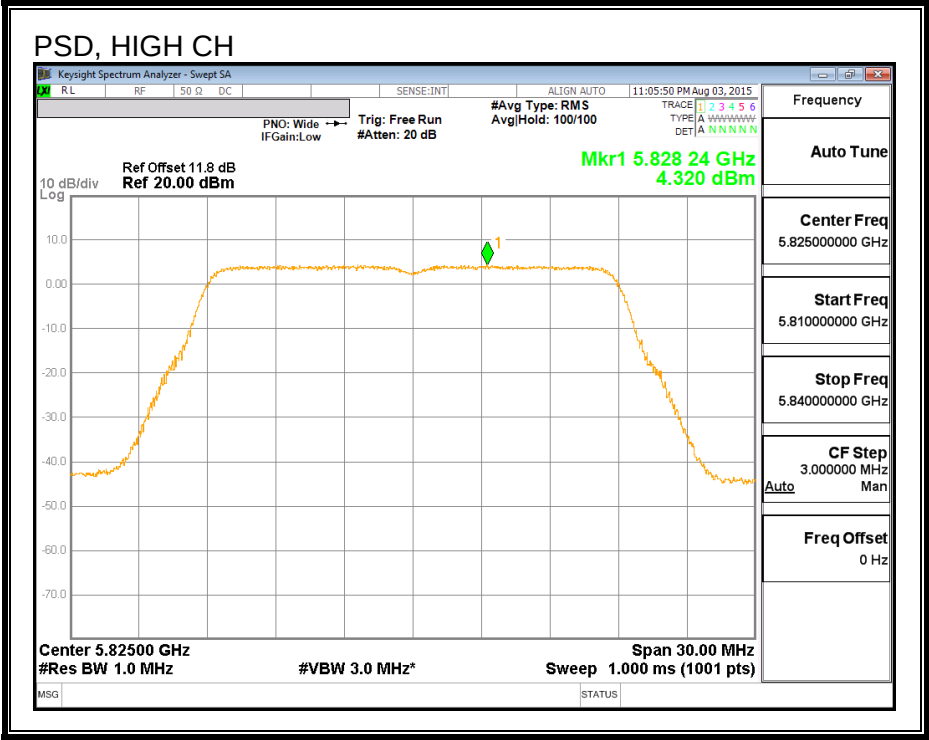
|                    |      |                                        |
|--------------------|------|----------------------------------------|
| Duty Cycle CF (dB) | 0.00 | Included in Calculations of Corr'd PSD |
|--------------------|------|----------------------------------------|

#### PSD Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>PSD<br>(dBm) | Total<br>Corr'd<br>PSD<br>(dBm) | PSD<br>Limit<br>(dBm) | PSD<br>Margin<br>(dB) |
|---------|--------------------|---------------------------------|---------------------------------|-----------------------|-----------------------|
| Low     | 5745               | 3.80                            | 3.80                            | 30.00                 | -26.20                |
| Mid     | 5785               | 4.49                            | 4.49                            | 30.00                 | -25.51                |
| High    | 5825               | 4.32                            | 4.32                            | 30.00                 | -25.68                |

PSD,





## **8.49. 802.11n HT20 CHAIN 1 MODE IN THE 5.8 GHz BAND**

### **8.49.1. 6 dB BANDWIDTH**

#### **LIMITS**

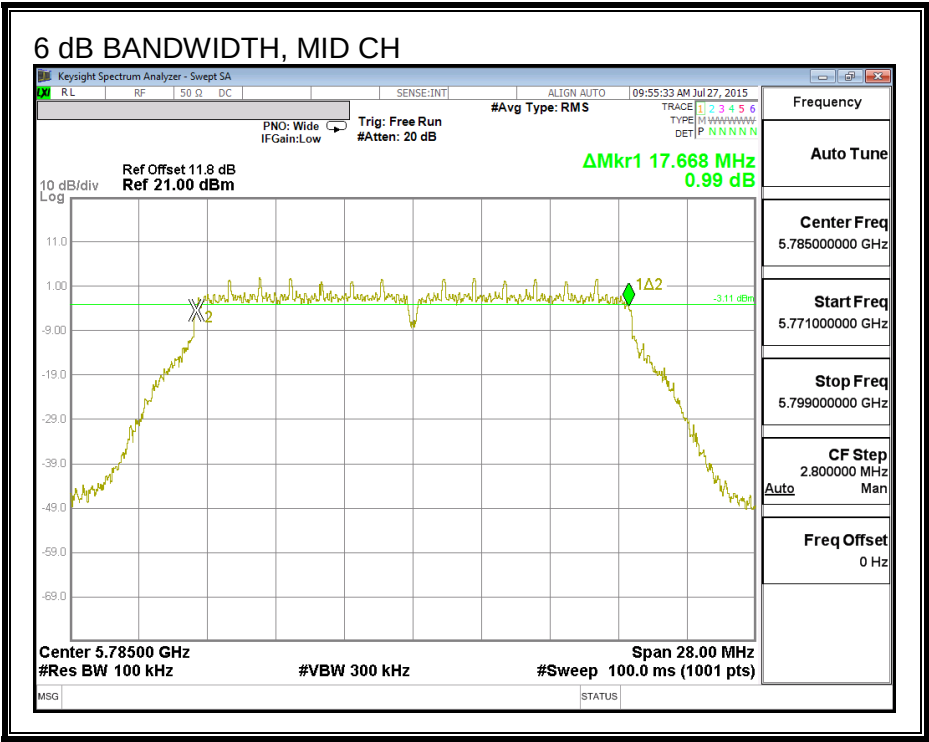
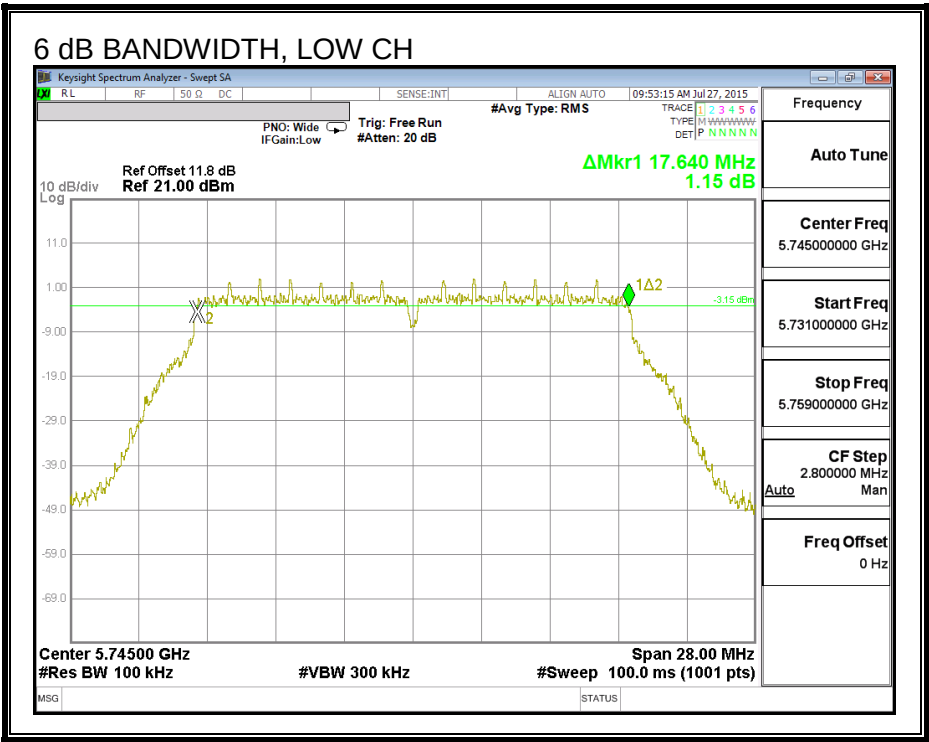
FCC §15.407 (e)

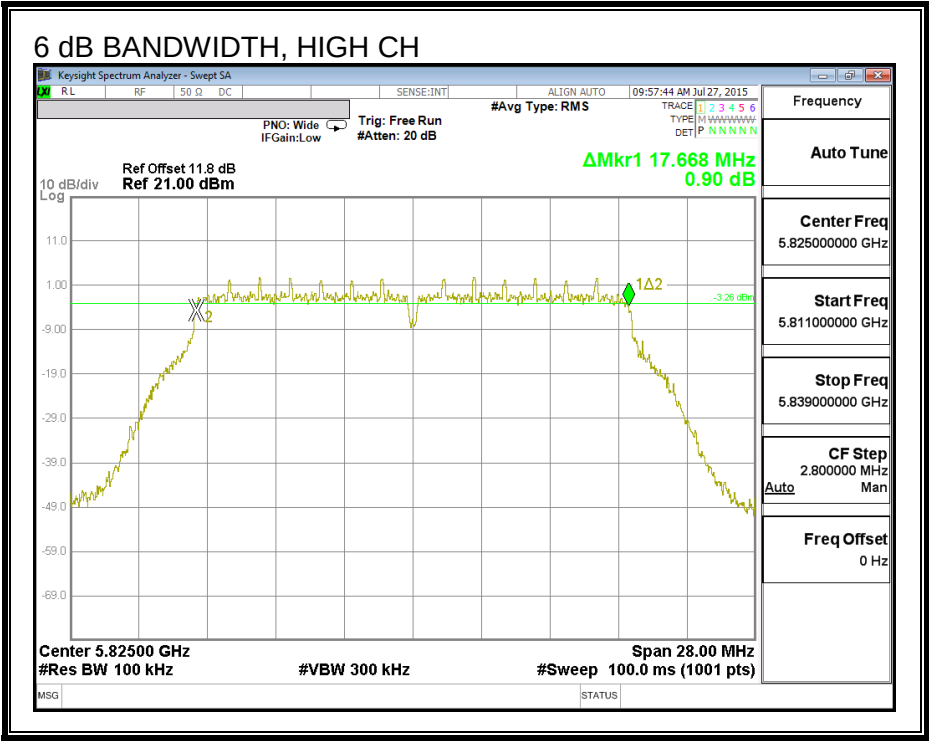
The minimum 6 dB bandwidth shall be at least 500 kHz.

#### **RESULTS**

| Channel | Frequency<br>(MHz) | 6 dB Bandwidth<br>(MHz) | Minimum Limit<br>(MHz) |
|---------|--------------------|-------------------------|------------------------|
| Low     | 5745               | 17.64                   | 0.5                    |
| Mid     | 5785               | 17.67                   | 0.5                    |
| High    | 5825               | 17.67                   | 0.5                    |

6 dB BANDWIDTH





## 8.49.2. 26 dB BANDWIDTH

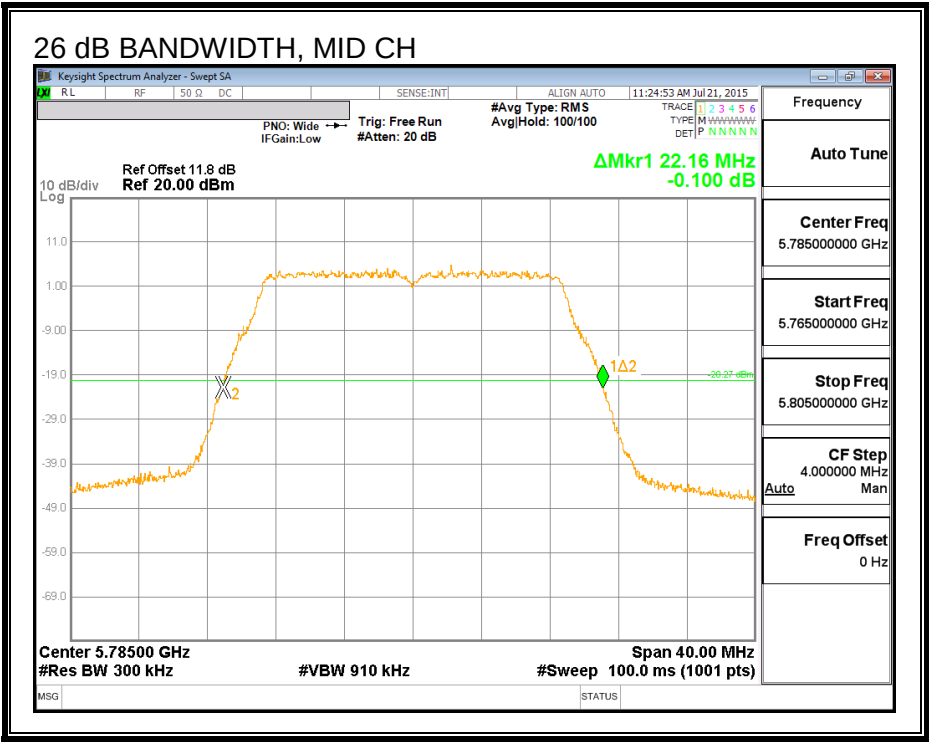
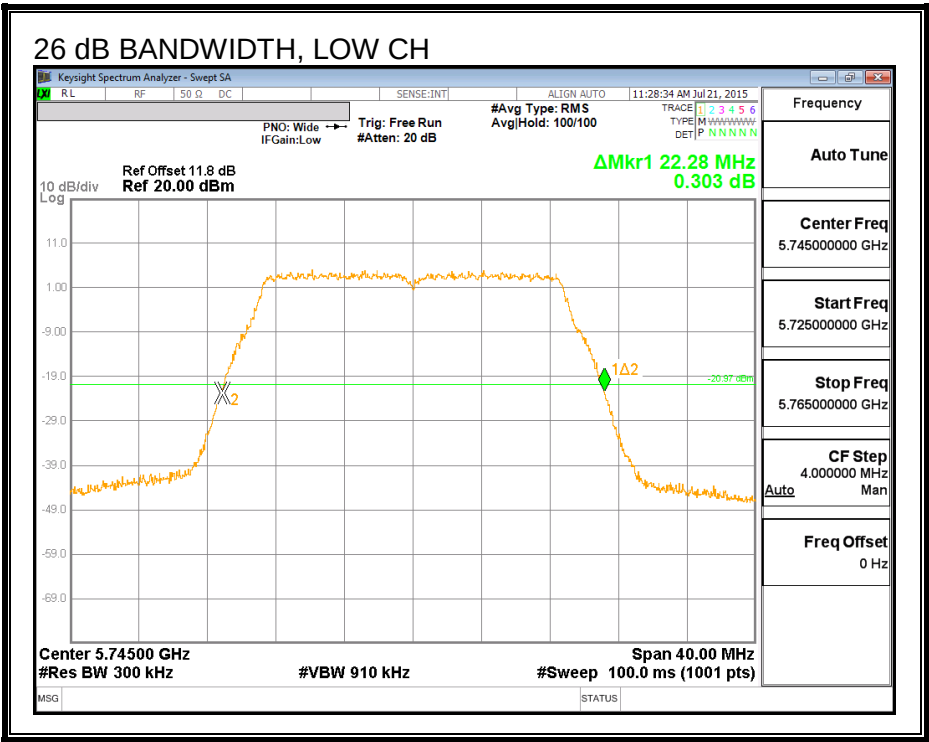
### LIMITS

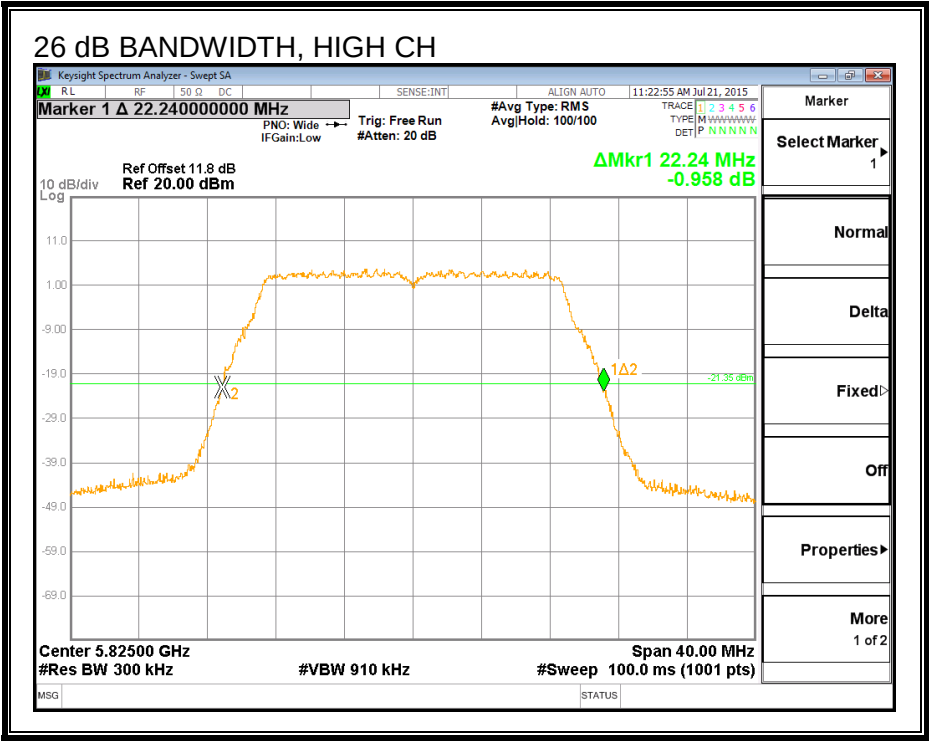
None, for reporting purposes only

### RESULTS

| Channel | Frequency<br>(MHz) | 26 dB Bandwidth<br>(MHz) |
|---------|--------------------|--------------------------|
| Low     | 5745               | 22.28                    |
| Mid     | 5785               | 22.16                    |
| High    | 5825               | 22.24                    |

26 dB BANDWIDTH





### **8.49.3. 99% BANDWIDTH**

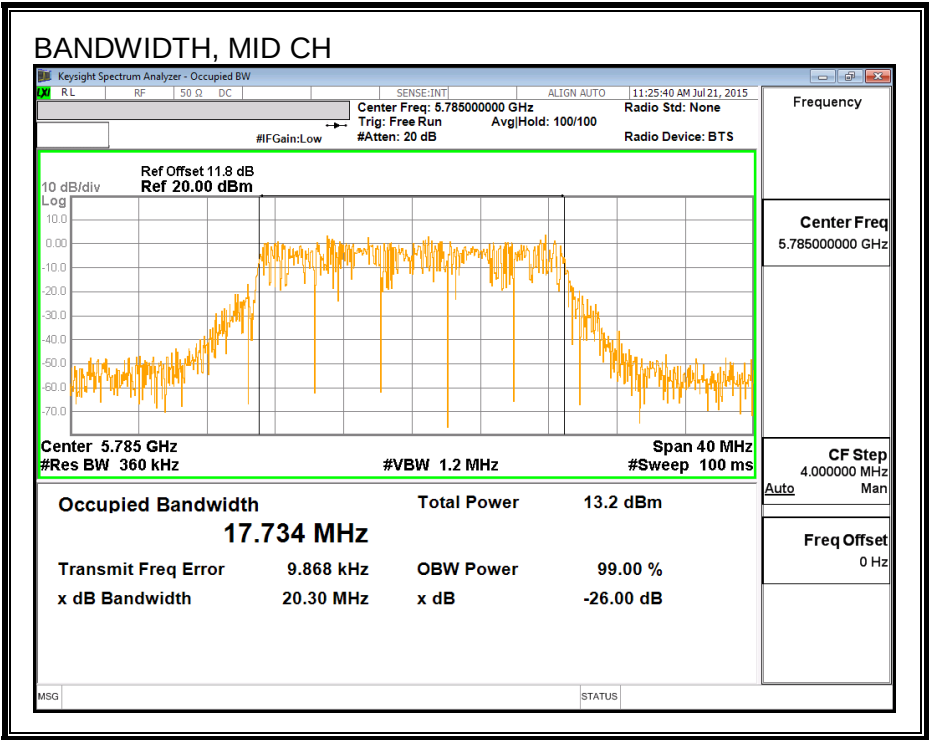
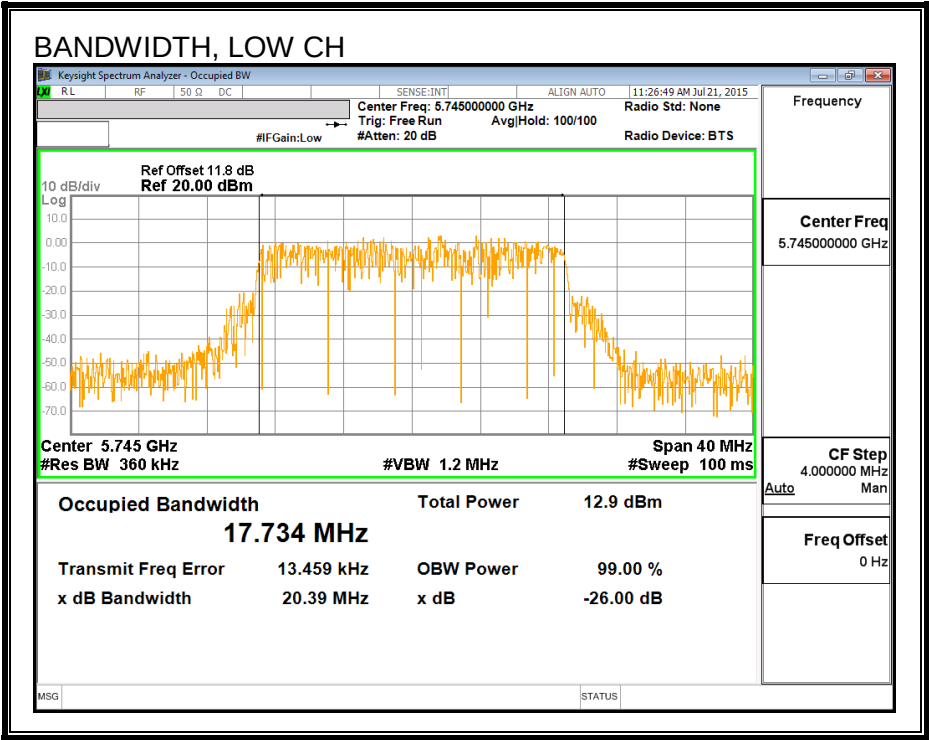
#### **LIMITS**

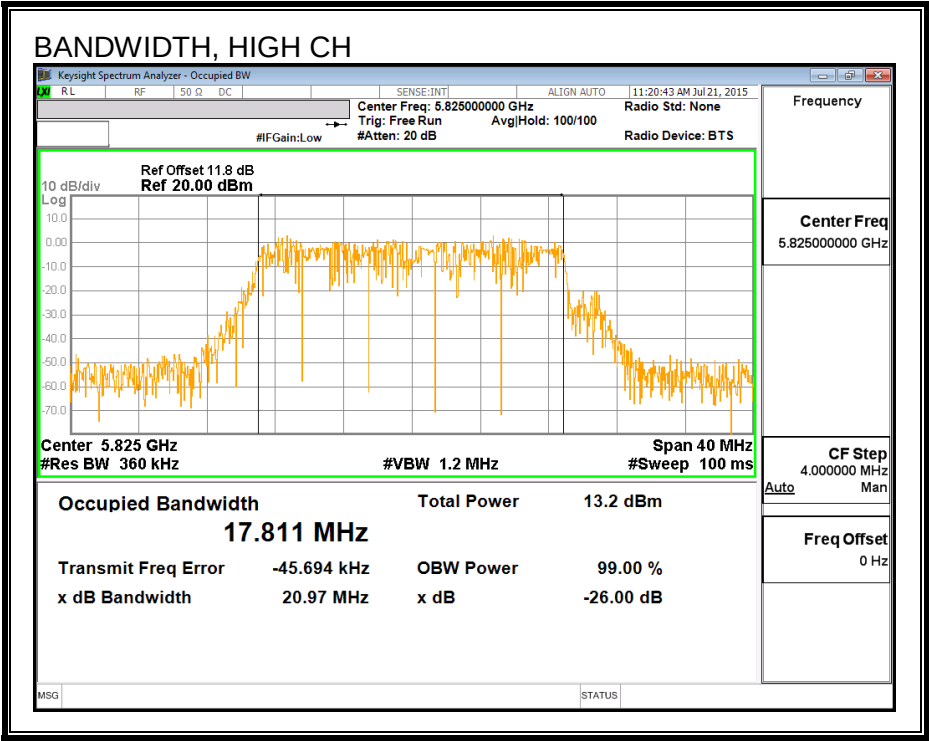
None; for reporting purposes only.

#### **RESULTS**

| Channel | Frequency<br>(MHz) | 99% Bandwidth<br>(MHz) |
|---------|--------------------|------------------------|
| Low     | 5745               | 17.734                 |
| Mid     | 5785               | 17.734                 |
| High    | 5825               | 17.811                 |

99% BANDWIDTH





#### **8.49.4. AVERAGE POWER**

##### **LIMITS**

None; for reporting purposes only.

##### **RESULTS**

| Channel | Frequency<br>(MHz) | Power<br>(dBm) |
|---------|--------------------|----------------|
| Low     | 5745               | 15.37          |
| Mid     | 5785               | 16.50          |
| High    | 5825               | 15.98          |

## **8.49.5. OUTPUT POWER**

### **LIMITS**

FCC §15.407 (a) (3)

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. 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.

### **DIRECTIONAL ANTENNA GAIN**

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

## **RESULTS**

### **Antenna Gain and Limit**

| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>for Power<br>(dBi) | Power<br>Limit<br>(dBm) |
|---------|--------------------|-------------------------------------------|-------------------------|
| Low     | 5745               | 3.10                                      | 30.00                   |
| Mid     | 5785               | 3.10                                      | 30.00                   |
| High    | 5825               | 3.10                                      | 30.00                   |

|                           |      |                                                 |
|---------------------------|------|-------------------------------------------------|
| <b>Duty Cycle CF (dB)</b> | 0.00 | <b>Included in Calculations of Corr'd Power</b> |
|---------------------------|------|-------------------------------------------------|

### **Output Power Results**

| Channel | Frequency<br>(MHz) | Chain 1<br>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               | 15.37                             | 15.37                             | 30.00                   | -14.63                  |
| Mid     | 5785               | 16.50                             | 16.50                             | 30.00                   | -13.50                  |
| High    | 5825               | 15.98                             | 15.98                             | 30.00                   | -14.02                  |

## 8.49.6. PSD

### LIMITS

FCC §15.407 (a) (3)

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. 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.

### DIRECTIONAL ANTENNA GAIN

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

### RESULTS

#### Antenna Gain and Limits

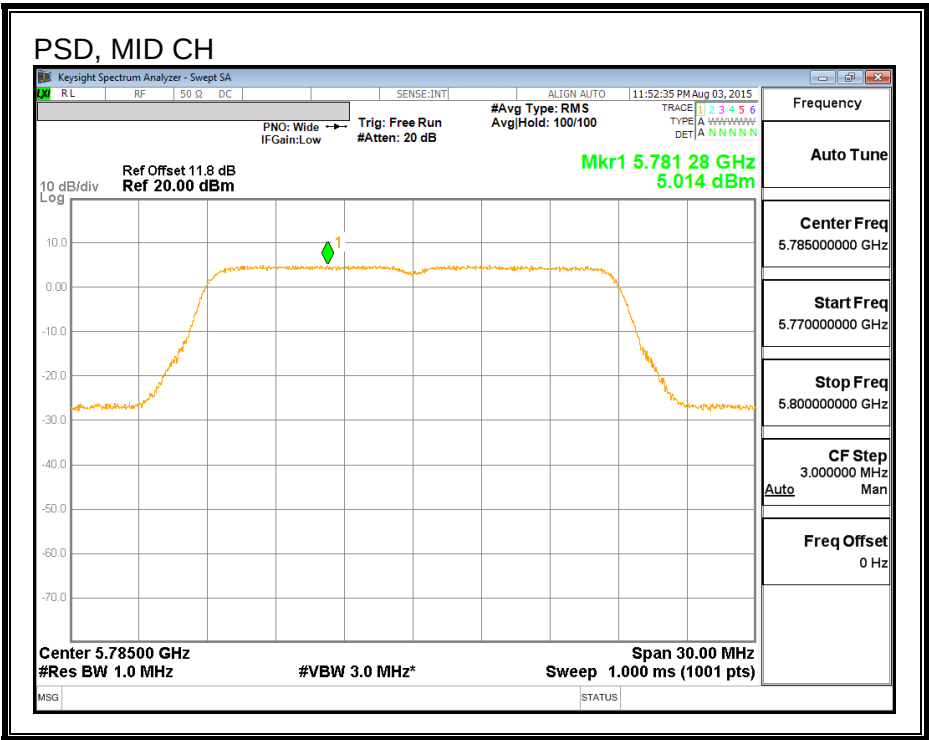
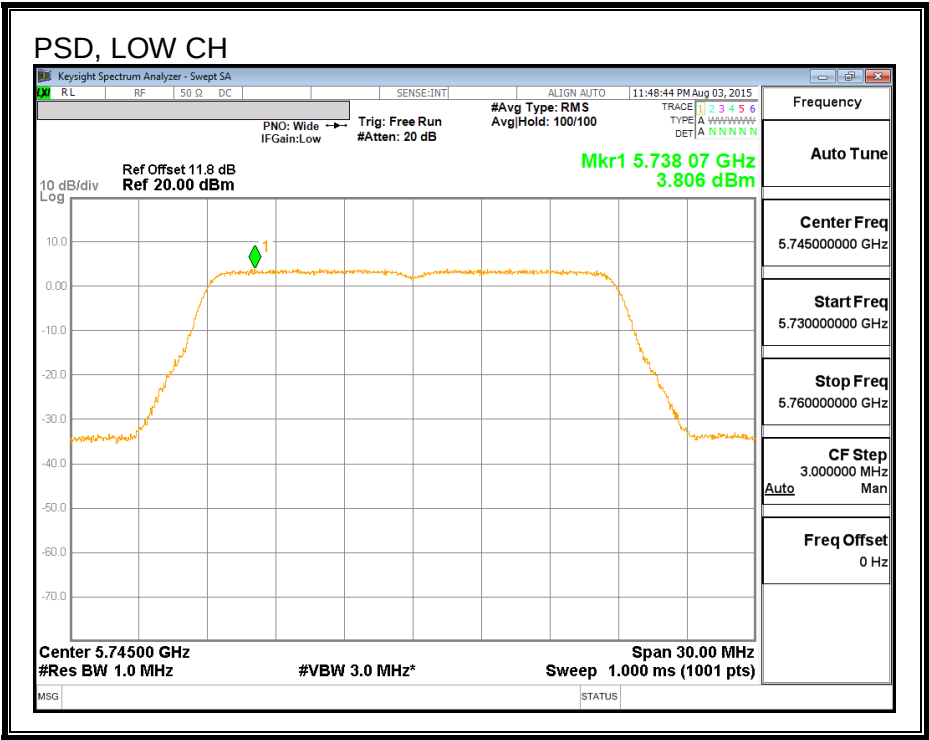
| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>(dBi) | PSD<br>Limit<br>(dBm) |
|---------|--------------------|------------------------------|-----------------------|
| Low     | 5745               | 3.10                         | 30.00                 |
| Mid     | 5785               | 3.10                         | 30.00                 |
| High    | 5825               | 3.10                         | 30.00                 |

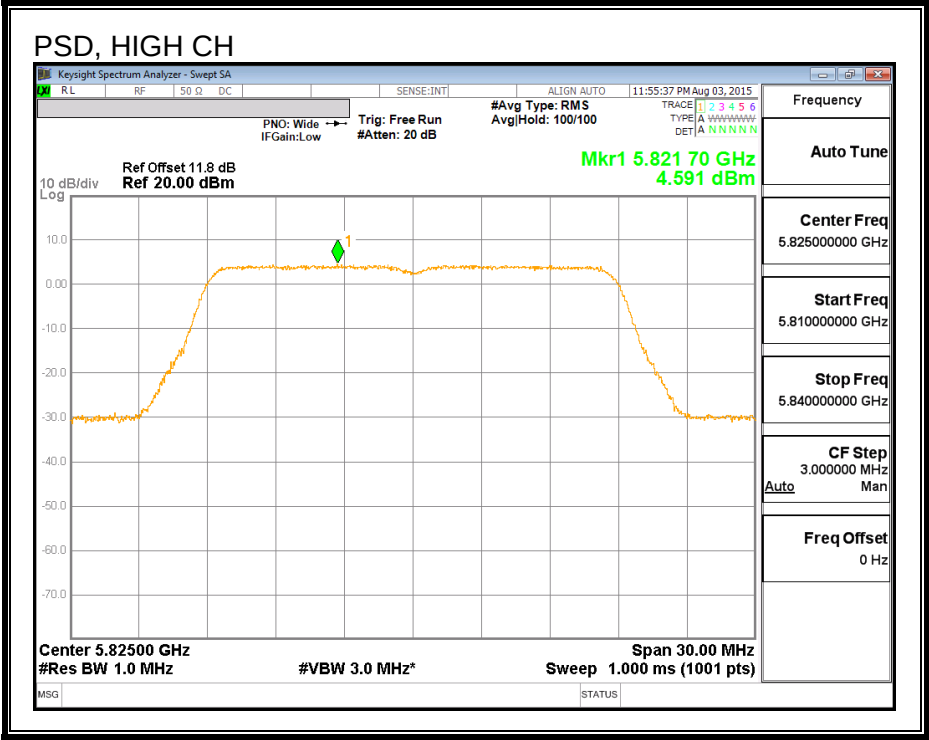
|                    |      |                                        |
|--------------------|------|----------------------------------------|
| Duty Cycle CF (dB) | 0.00 | Included in Calculations of Corr'd PSD |
|--------------------|------|----------------------------------------|

#### PSD Results

| Channel | Frequency<br>(MHz) | Chain 1<br>Meas<br>PSD<br>(dBm) | Total<br>Corr'd<br>PSD<br>(dBm) | PSD<br>Limit<br>(dBm) | PSD<br>Margin<br>(dB) |
|---------|--------------------|---------------------------------|---------------------------------|-----------------------|-----------------------|
| Low     | 5745               | 3.81                            | 3.81                            | 30.00                 | -26.19                |
| Mid     | 5785               | 5.01                            | 5.01                            | 30.00                 | -24.99                |
| High    | 5825               | 4.59                            | 4.59                            | 30.00                 | -25.41                |

PSD,





## **8.50. 802.11a CDD 2TX MODE IN THE 5.8 GHz BAND**

**Note:** Covered by 802.11n HT20 CDD 2TX MODE.

## 8.51. 802.11n HT20 2Tx CDD MODE IN THE 5.8 GHz BAND

### 8.51.1. 6 dB BANDWIDTH

#### LIMITS

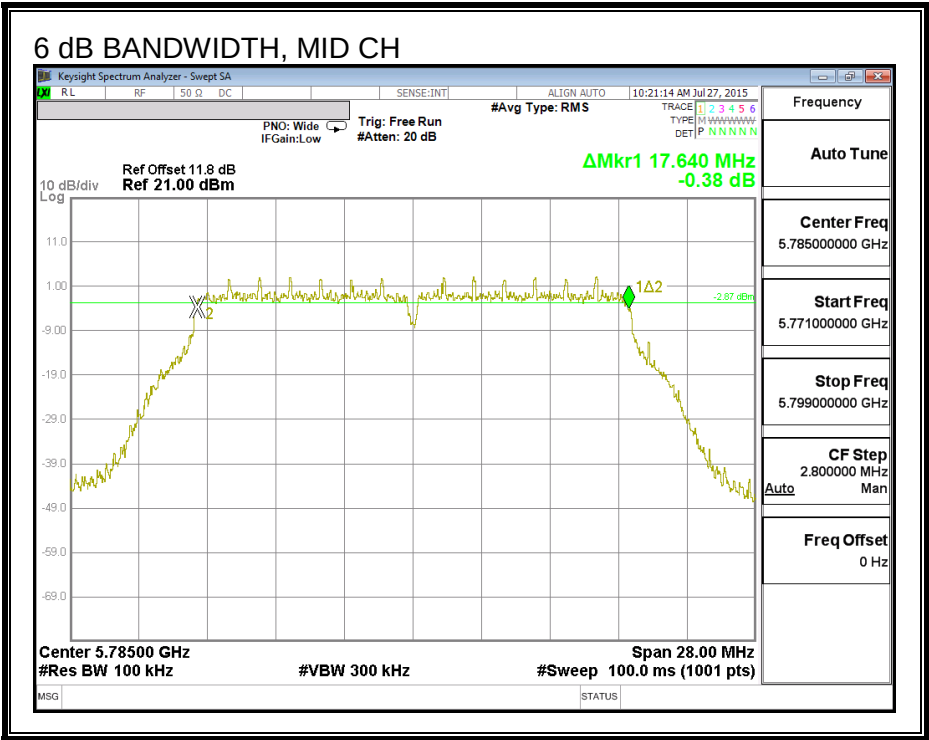
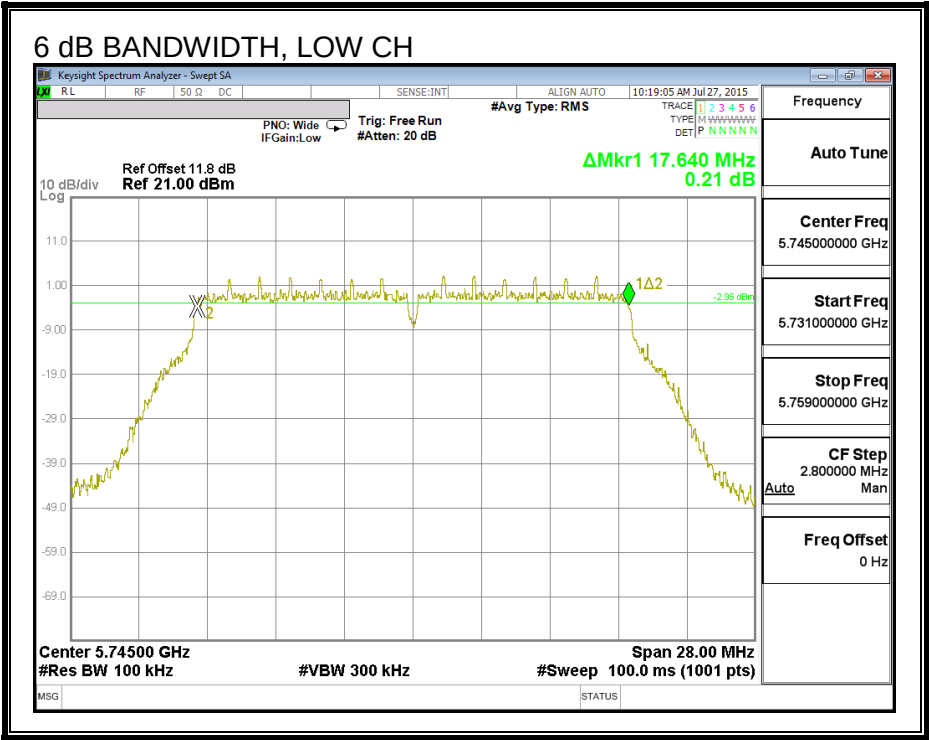
FCC §15.407 (e)

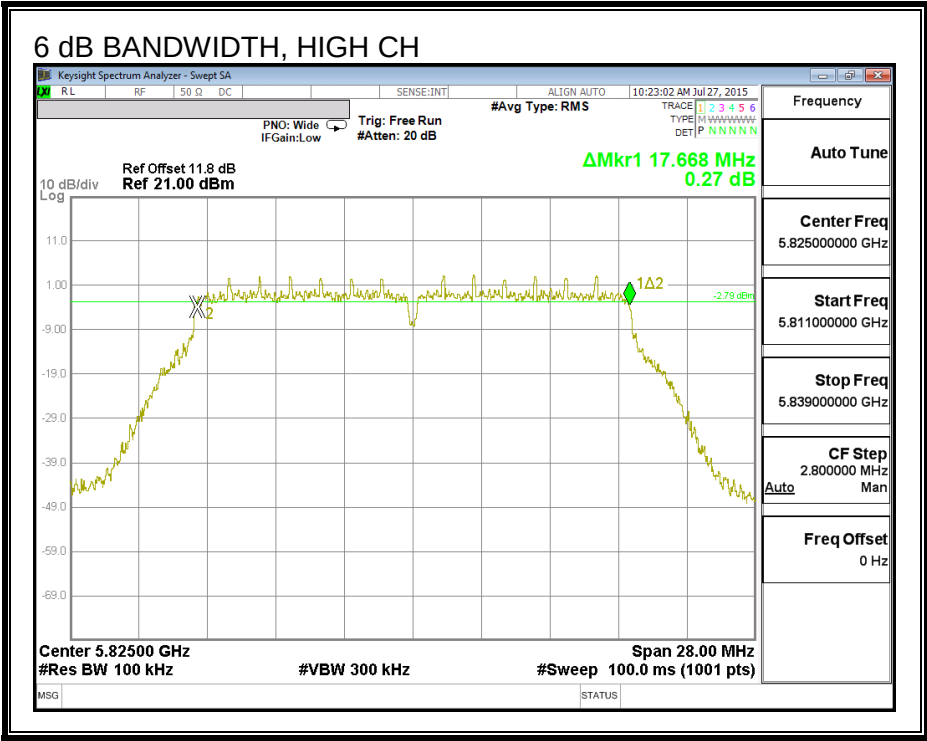
The minimum 6 dB bandwidth shall be at least 500 kHz.

#### RESULTS

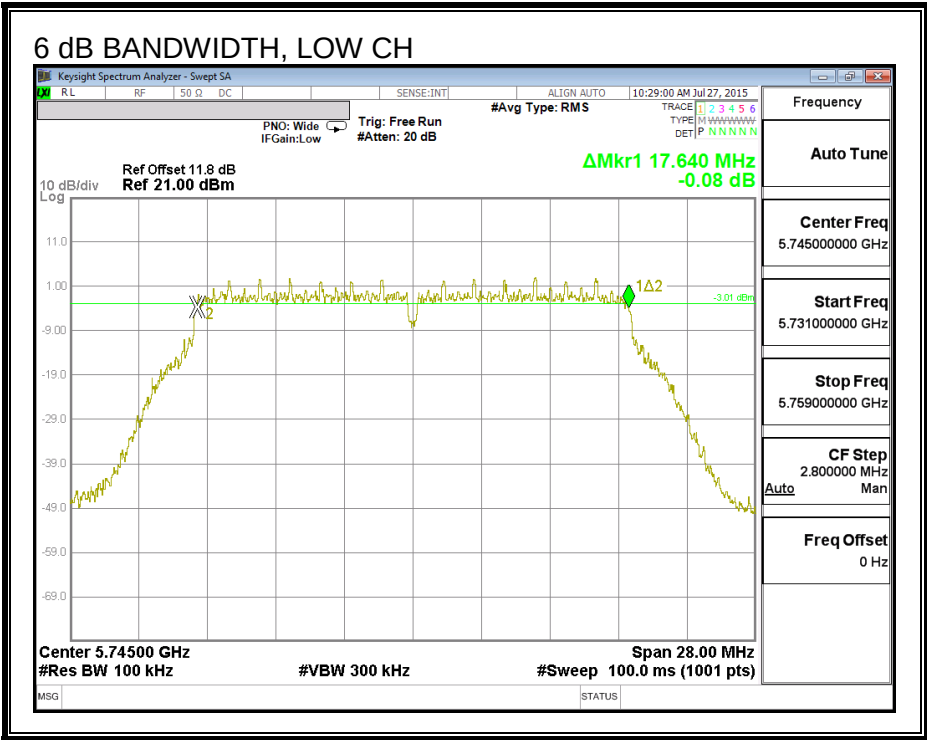
| Channel | Frequency<br>(MHz) | 6 dB BW<br>Chain 0<br>(MHz) | 6 dB BW<br>Chain 1<br>(MHz) | Minimum<br>Limit<br>(MHz) |
|---------|--------------------|-----------------------------|-----------------------------|---------------------------|
| Low     | 5745               | 17.64                       | 17.64                       | 0.5                       |
| Mid     | 5785               | 17.64                       | 17.64                       | 0.5                       |
| High    | 5825               | 17.67                       | 17.64                       | 0.5                       |

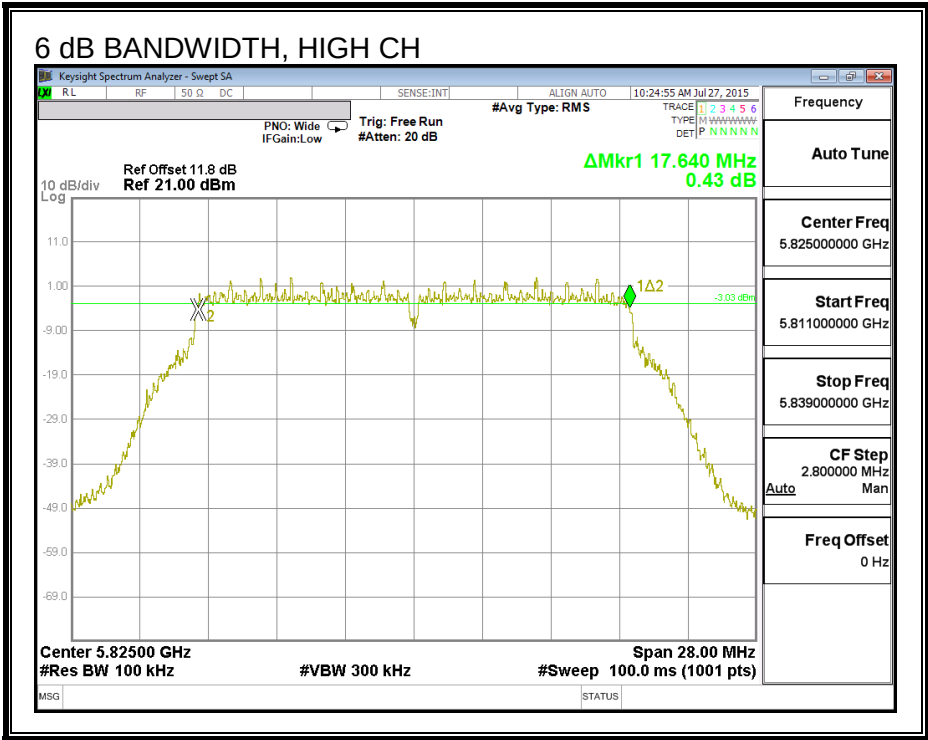
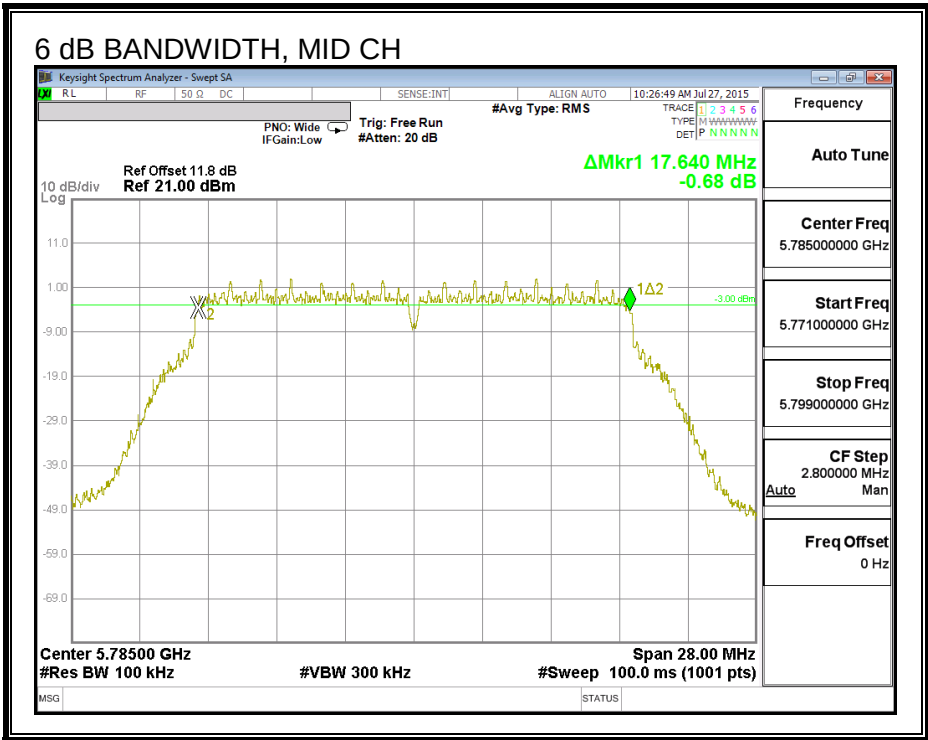
6 dB BANDWIDTH, CHAIN 0





6 dB BANDWIDTH, CHAIN 1





## 8.51.2. 26 dB BANDWIDTH

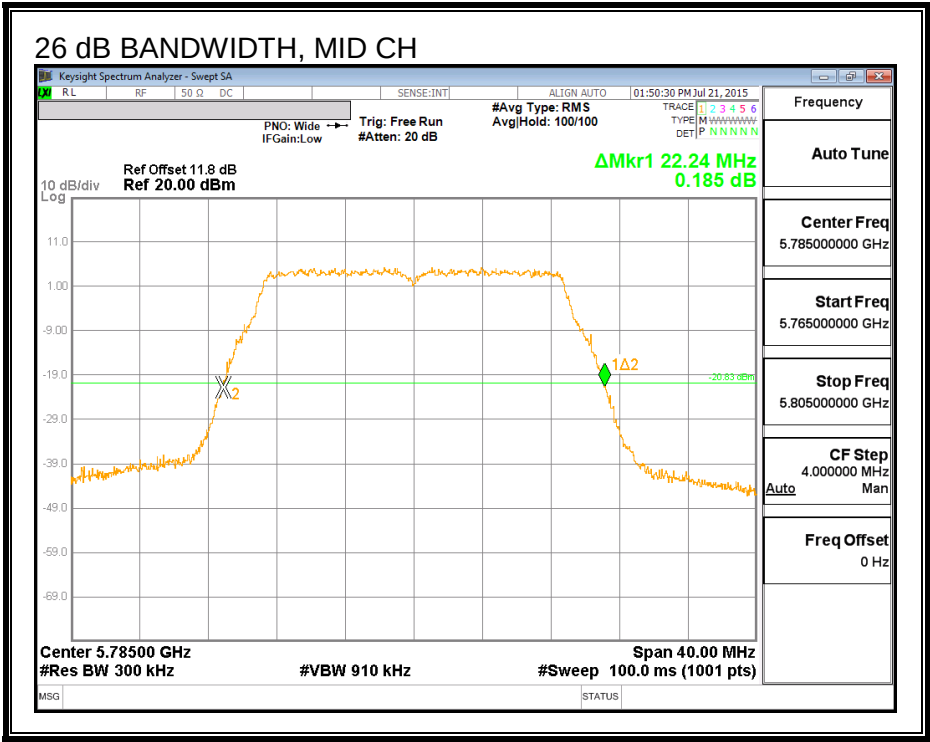
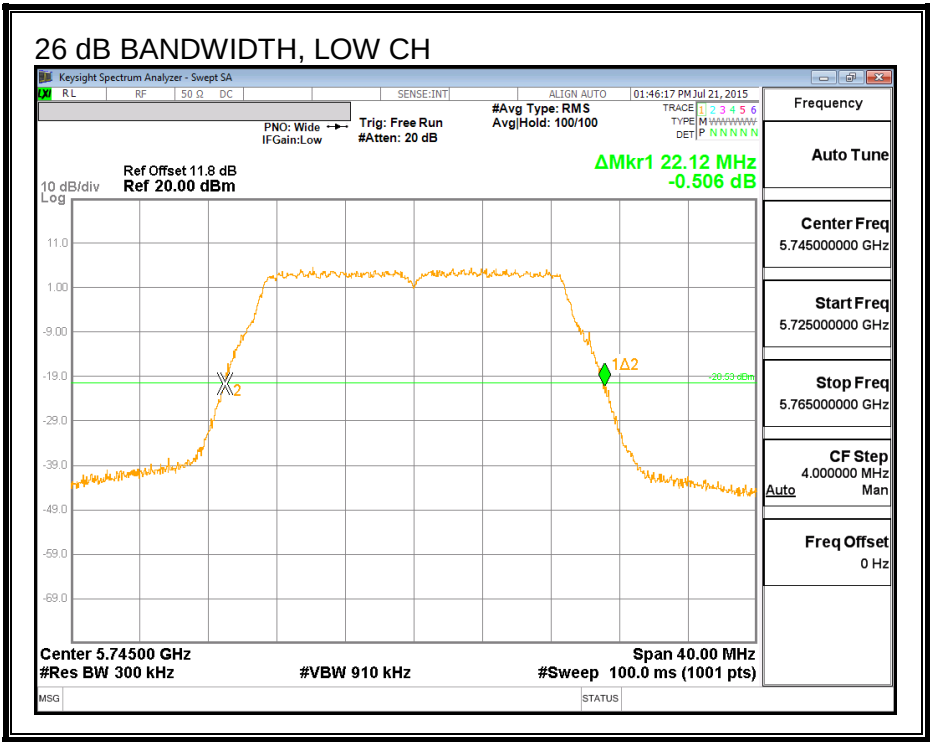
### LIMITS

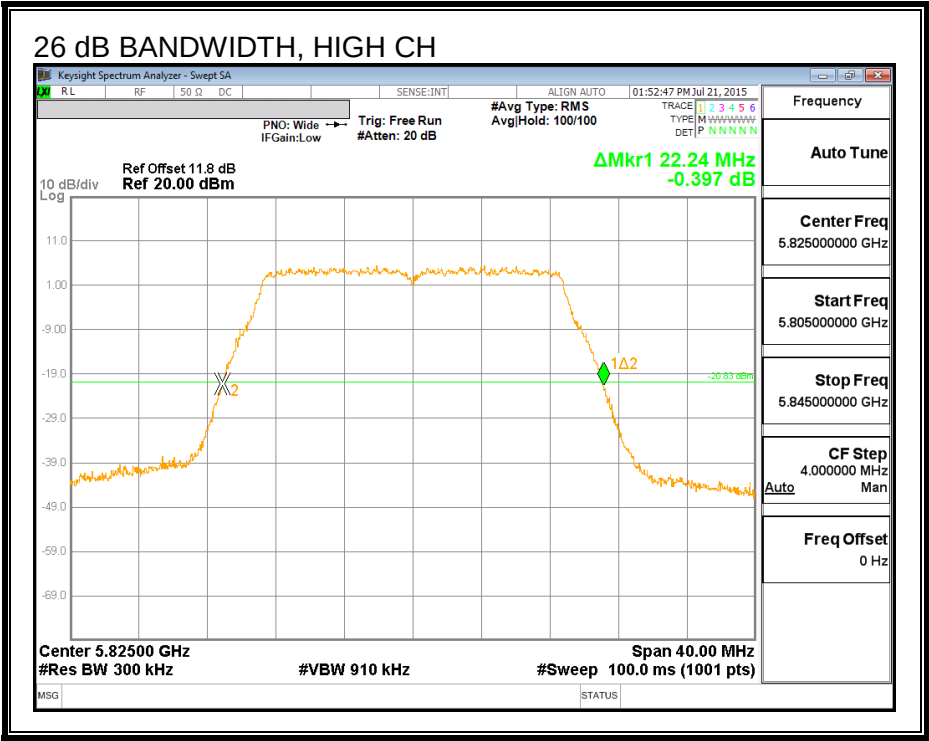
None, for reporting purposes only.

### RESULTS

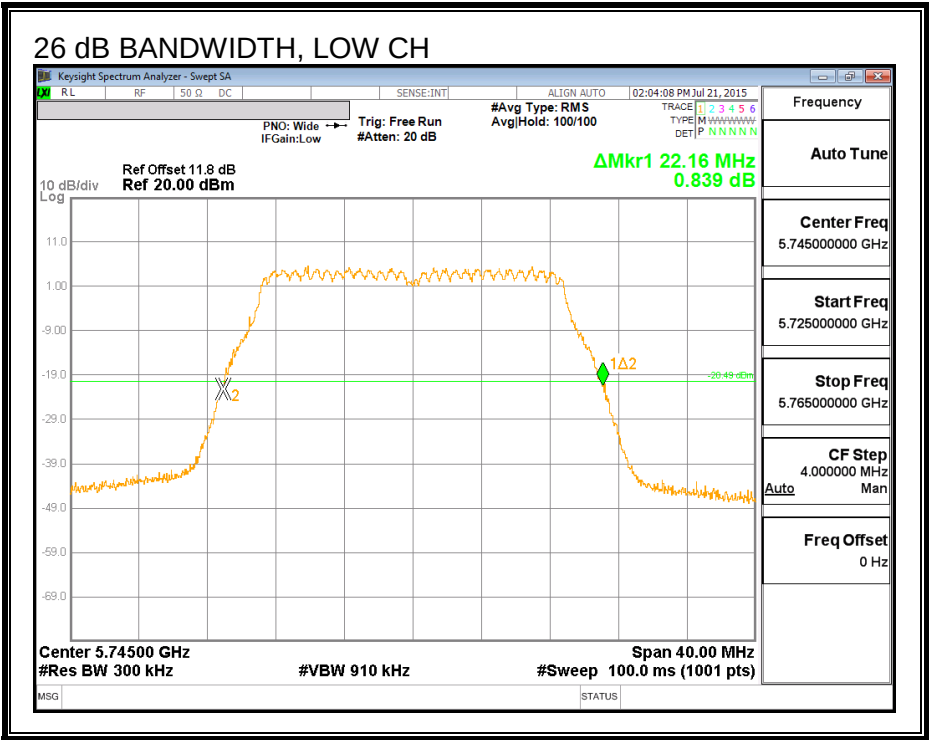
| Channel | Frequency<br>(MHz) | 26 dB BW<br>Chain 0<br>(MHz) | 26 dB BW<br>Chain 1<br>(MHz) |
|---------|--------------------|------------------------------|------------------------------|
| Low     | 5745               | 22.12                        | 22.16                        |
| Mid     | 5785               | 22.24                        | 22.12                        |
| High    | 5825               | 22.24                        | 22.12                        |

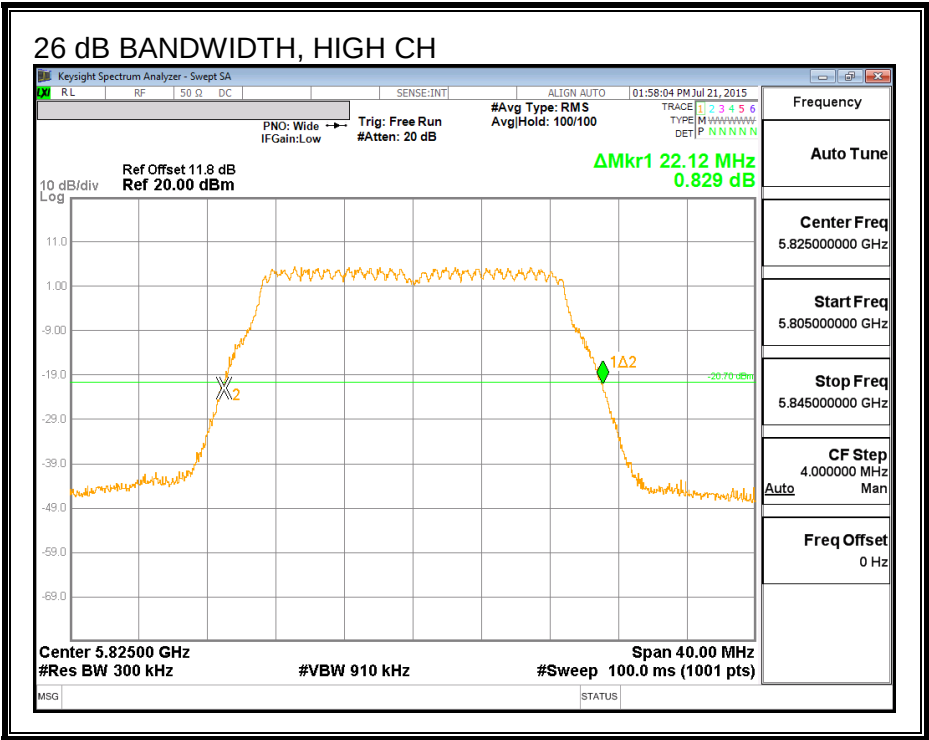
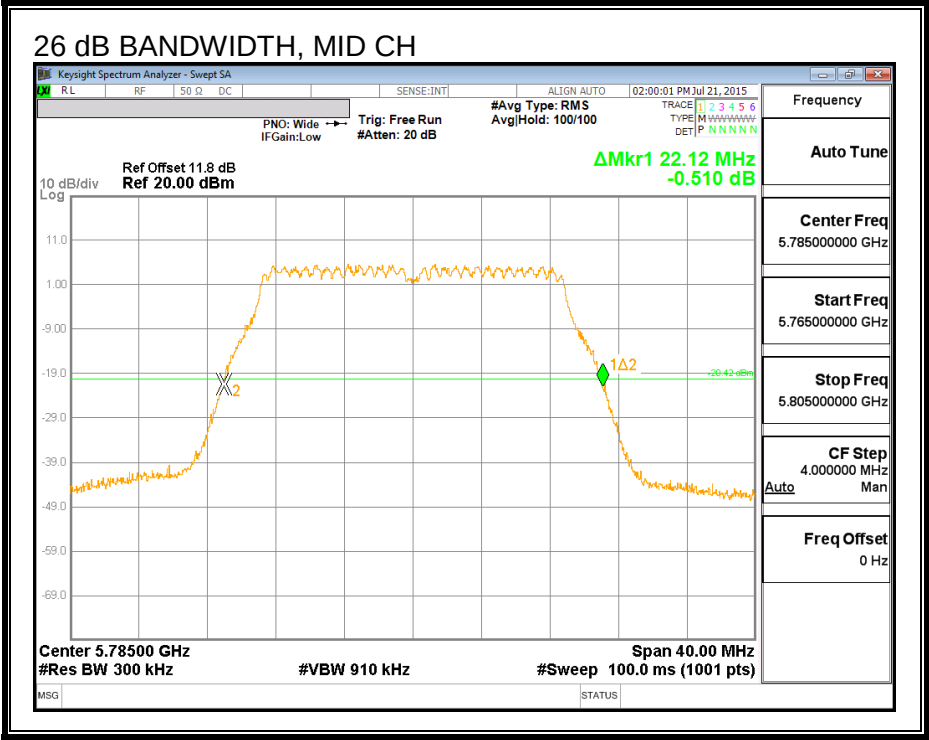
26 dB BANDWIDTH, CHAIN 0





26 dB BANDWIDTH, CHAIN 1





### 8.51.3. 99% BANDWIDTH

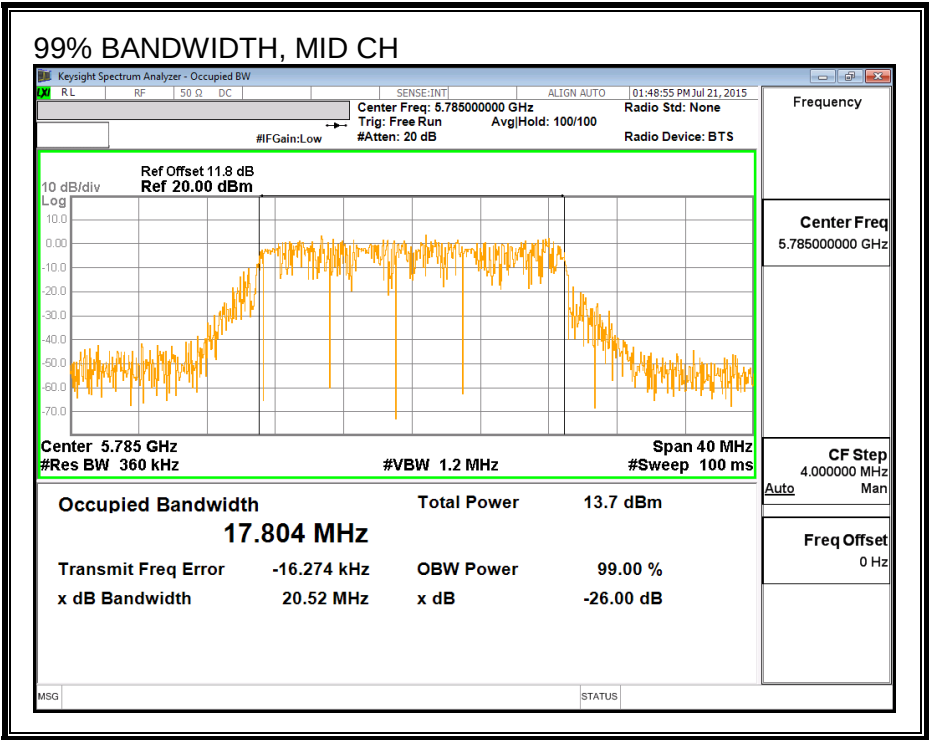
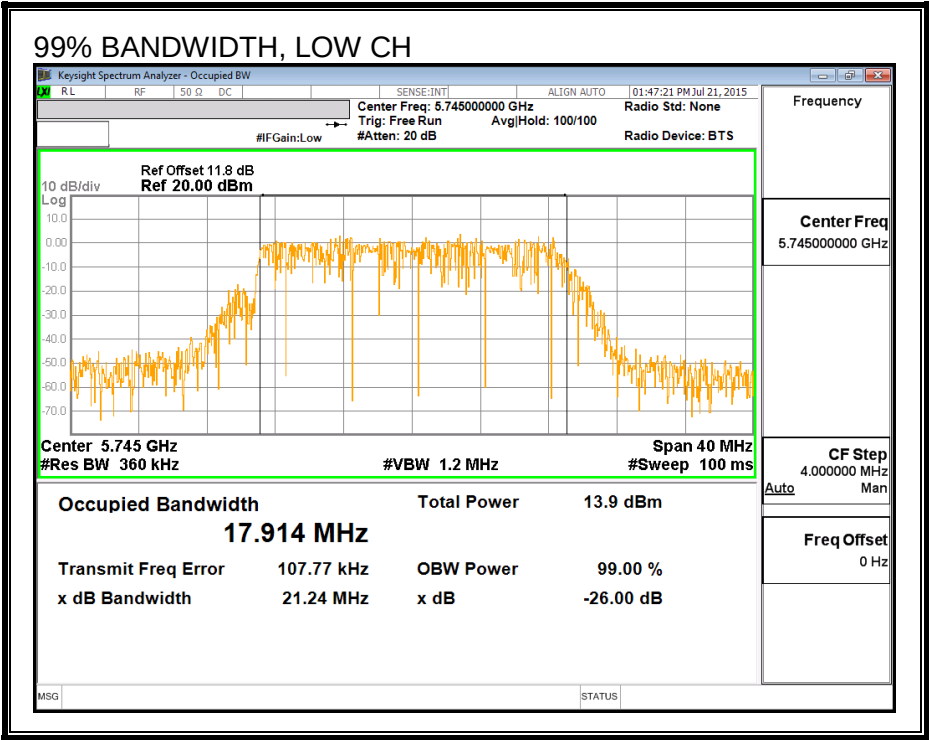
#### LIMITS

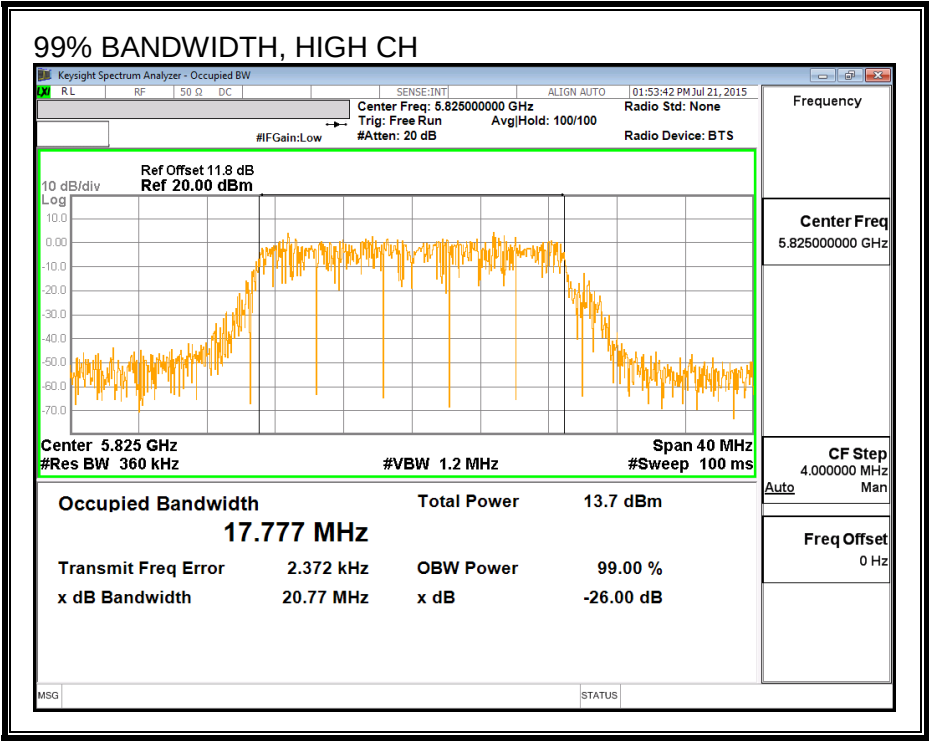
None; for reporting purposes only.

#### RESULTS

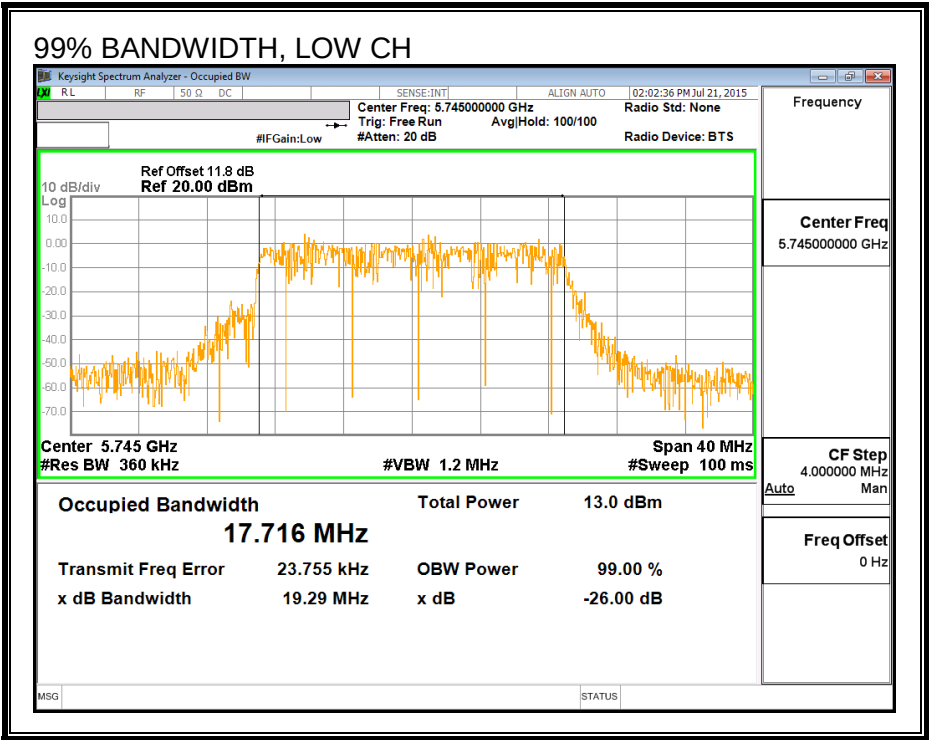
| Channel | Frequency<br>(MHz) | 99% BW<br>Chain 0<br>(MHz) | 99% BW<br>Chain 1<br>(MHz) |
|---------|--------------------|----------------------------|----------------------------|
| Low     | 5745               | 17.914                     | 17.716                     |
| Mid     | 5785               | 17.804                     | 17.791                     |
| High    | 5825               | 17.777                     | 17.724                     |

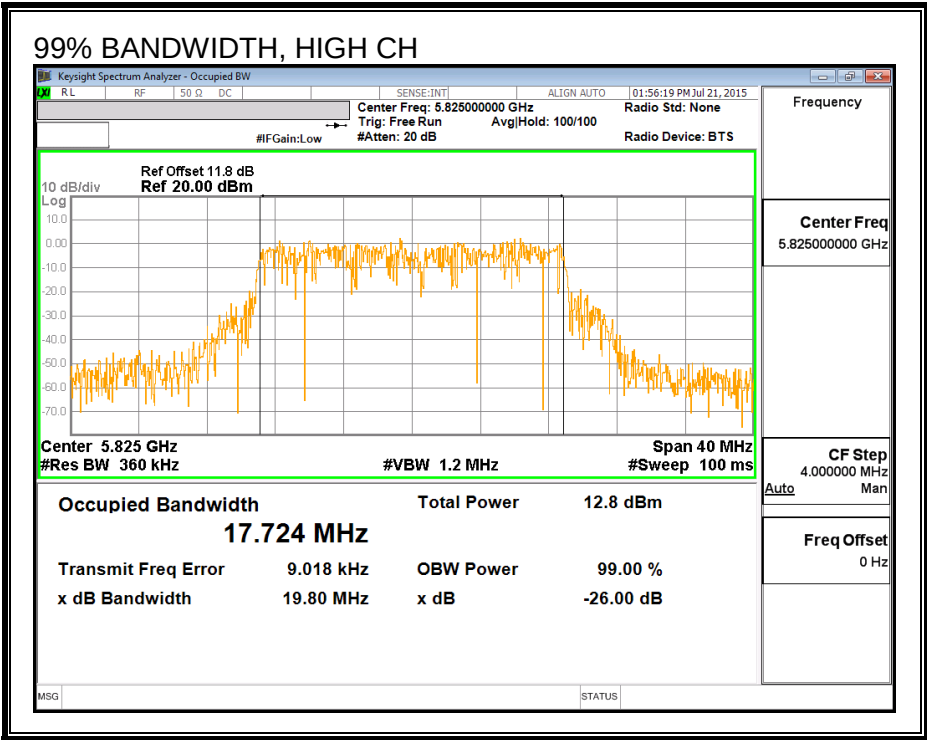
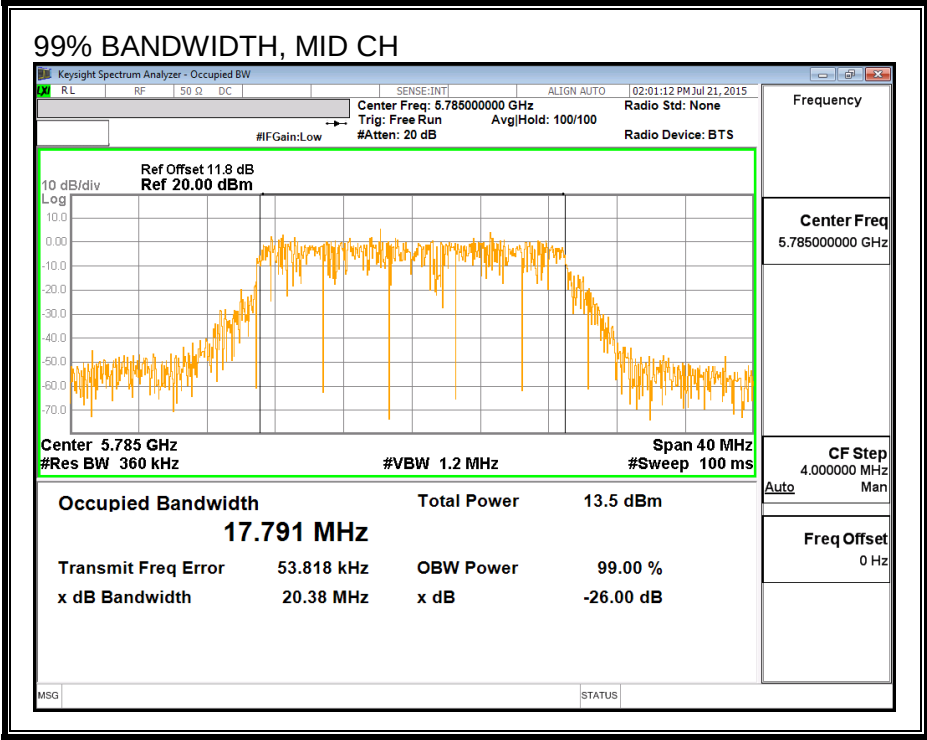
99% BANDWIDTH, CHAIN 0





99% BANDWIDTH, CHAIN 1





#### 8.51.4. AVERAGE POWER

##### LIMITS

None; for reporting purposes only.

##### RESULTS

| Channel | Frequency<br>(MHz) | Chain 0<br>Power<br>(dBm) | Chain 1<br>Power<br>(dBm) | Total<br>Power<br>(dBm) |
|---------|--------------------|---------------------------|---------------------------|-------------------------|
| Low     | 5745               | 14.98                     | 14.96                     | 17.98                   |
| Mid     | 5785               | 16.00                     | 15.44                     | 18.74                   |
| High    | 5825               | 15.39                     | 15.45                     | 18.43                   |

## 8.51.5. OUTPUT POWER

### LIMITS

FCC §15.407 (a) (3)

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. 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.

### DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

| Chain 0<br>Antenna<br>Gain<br>(dBi) | Chain 1<br>Antenna<br>Gain<br>(dBi) | Uncorrelated Chains<br>Directional<br>Gain<br>(dBi) |
|-------------------------------------|-------------------------------------|-----------------------------------------------------|
| 2.40                                | 3.10                                | 2.76                                                |

## **RESULTS**

### **Antenna Gain and Limit**

| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>for Power<br>(dBi) | Power<br>Limit<br>(dBm) |
|---------|--------------------|-------------------------------------------|-------------------------|
| Low     | 5745               | 2.76                                      | 30.00                   |
| Mid     | 5785               | 2.76                                      | 30.00                   |
| High    | 5825               | 2.76                                      | 30.00                   |

|                           |      |                                                 |
|---------------------------|------|-------------------------------------------------|
| <b>Duty Cycle CF (dB)</b> | 0.00 | <b>Included in Calculations of Corr'd Power</b> |
|---------------------------|------|-------------------------------------------------|

### **Output Power Results**

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>Power<br>(dBm) | Chain 1<br>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                             | 14.96                             | 17.98                             | 30.00                   | -12.02                  |
| Mid     | 5785               | 16.00                             | 15.44                             | 18.74                             | 30.00                   | -11.26                  |
| High    | 5825               | 15.39                             | 15.45                             | 18.43                             | 30.00                   | -11.57                  |

## 8.51.6. PSD

### LIMITS

FCC §15.407 (a) (3)

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. 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.

### DIRECTIONAL ANTENNA GAIN

The TX chains are correlated and the antenna gain is unequal among the chains. The directional gain is:

| Chain 0<br>Antenna<br>Gain<br>(dBi) | Chain 1<br>Antenna<br>Gain<br>(dBi) | Correlated Chains<br>Directional<br>Gain<br>(dBi) |
|-------------------------------------|-------------------------------------|---------------------------------------------------|
| 2.40                                | 3.10                                | 5.77                                              |

## **RESULTS**

### **Antenna Gain and Limits**

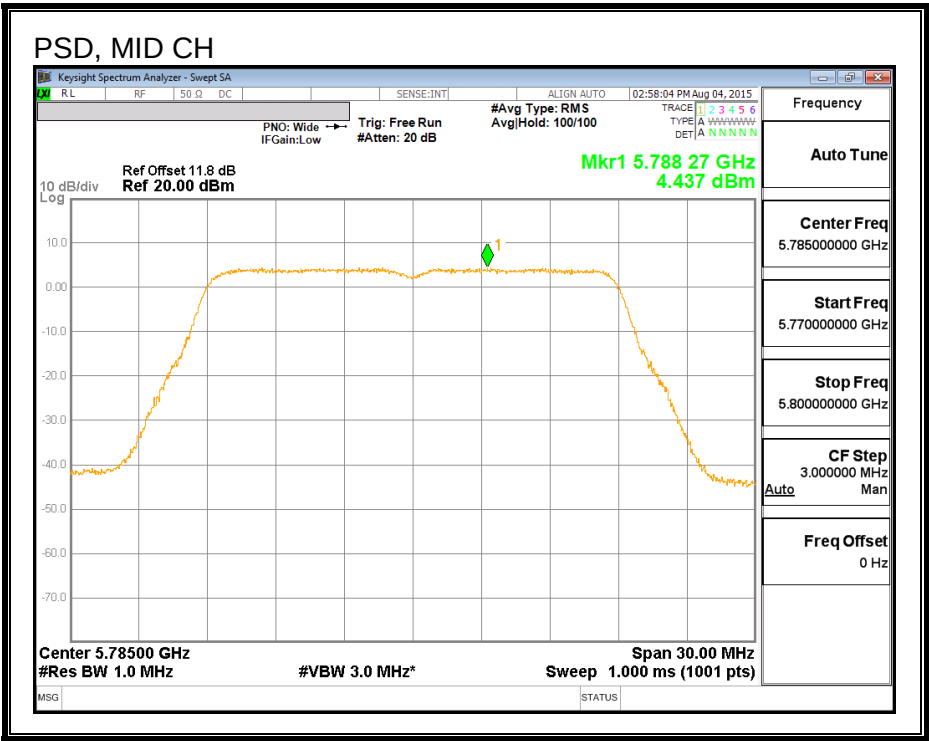
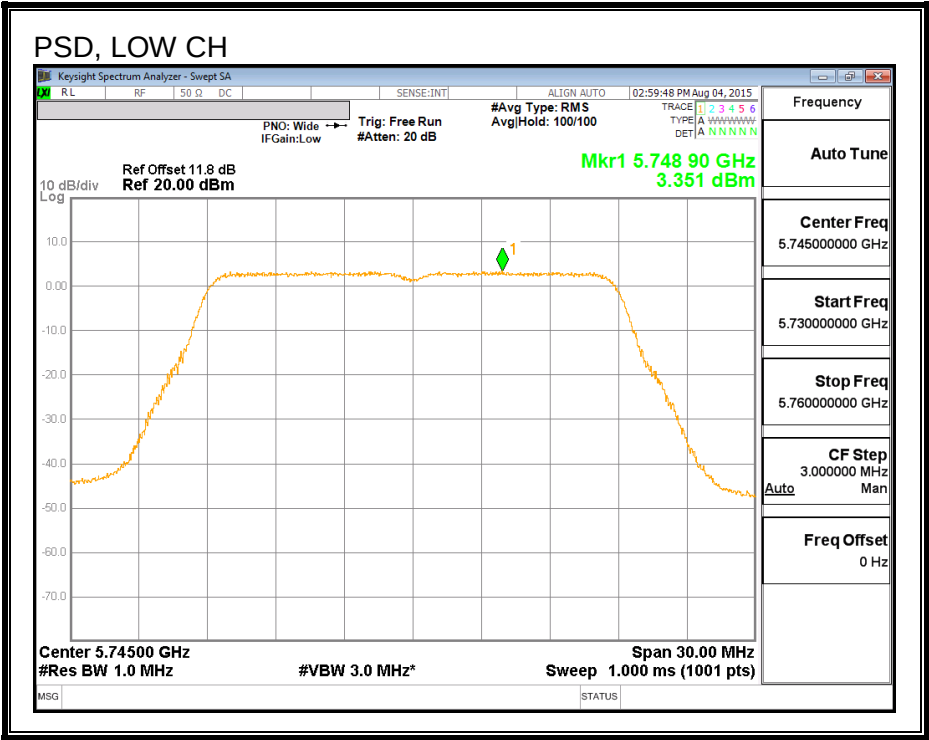
| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>(dBi) | PSD<br>Limit<br>(dBm) |
|---------|--------------------|------------------------------|-----------------------|
| Low     | 5745               | 5.77                         | 30.00                 |
| Mid     | 5785               | 5.77                         | 30.00                 |
| High    | 5825               | 5.77                         | 30.00                 |

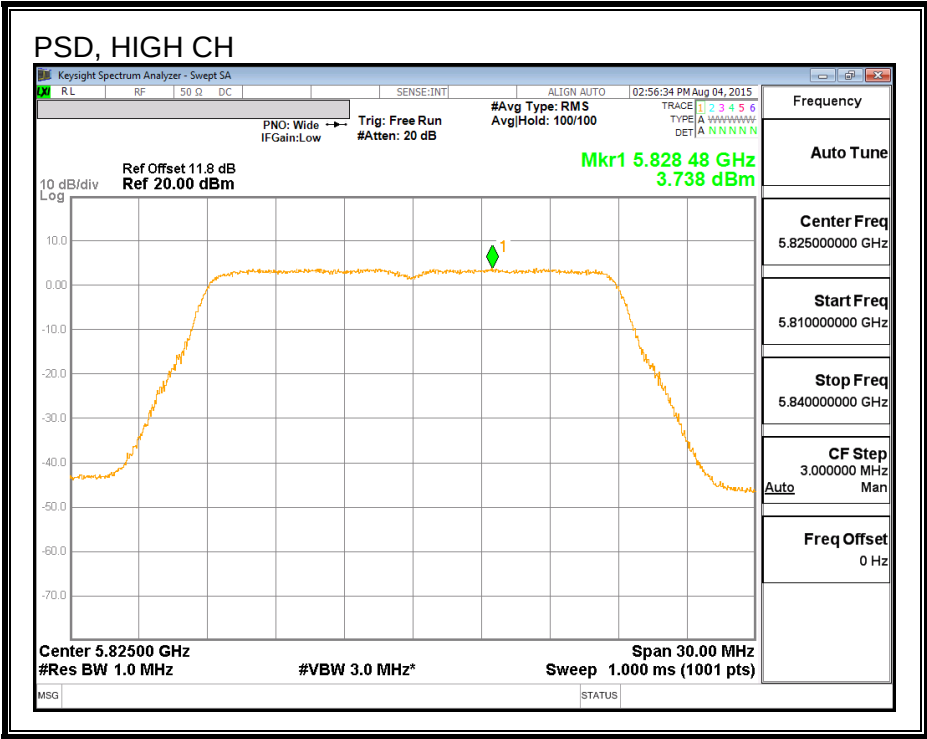
|                           |      |                                               |
|---------------------------|------|-----------------------------------------------|
| <b>Duty Cycle CF (dB)</b> | 0.00 | <b>Included in Calculations of Corr'd PSD</b> |
|---------------------------|------|-----------------------------------------------|

### **PSD Results**

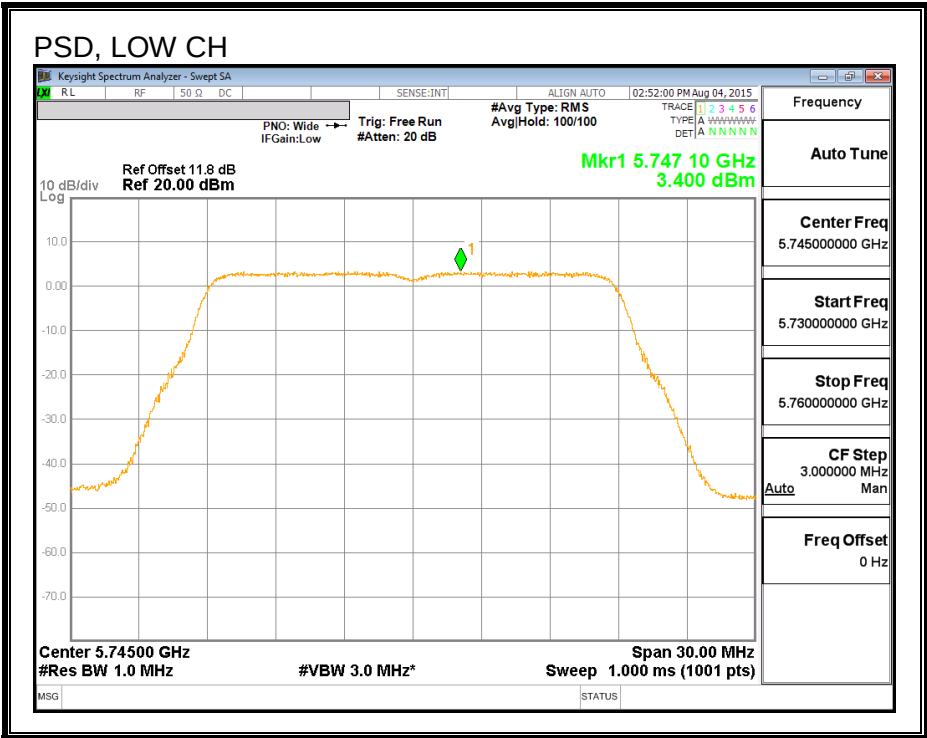
| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>PSD<br>(dBm) | Chain 1<br>Meas<br>PSD<br>(dBm) | Total<br>Corr'd<br>PSD<br>(dBm) | PSD<br>Limit<br>(dBm) | PSD<br>Margin<br>(dB) |
|---------|--------------------|---------------------------------|---------------------------------|---------------------------------|-----------------------|-----------------------|
| Low     | 5745               | 3.35                            | 3.40                            | 6.39                            | 30.00                 | -23.61                |
| Mid     | 5785               | 4.44                            | 3.93                            | 7.20                            | 30.00                 | -22.80                |
| High    | 5825               | 3.74                            | 3.74                            | 6.75                            | 30.00                 | -23.25                |

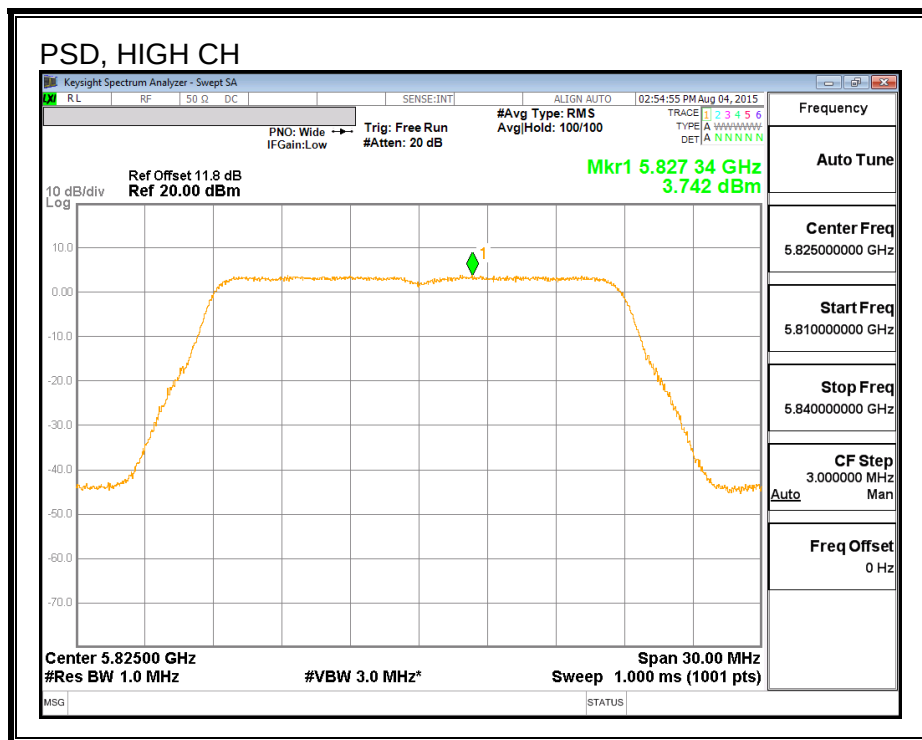
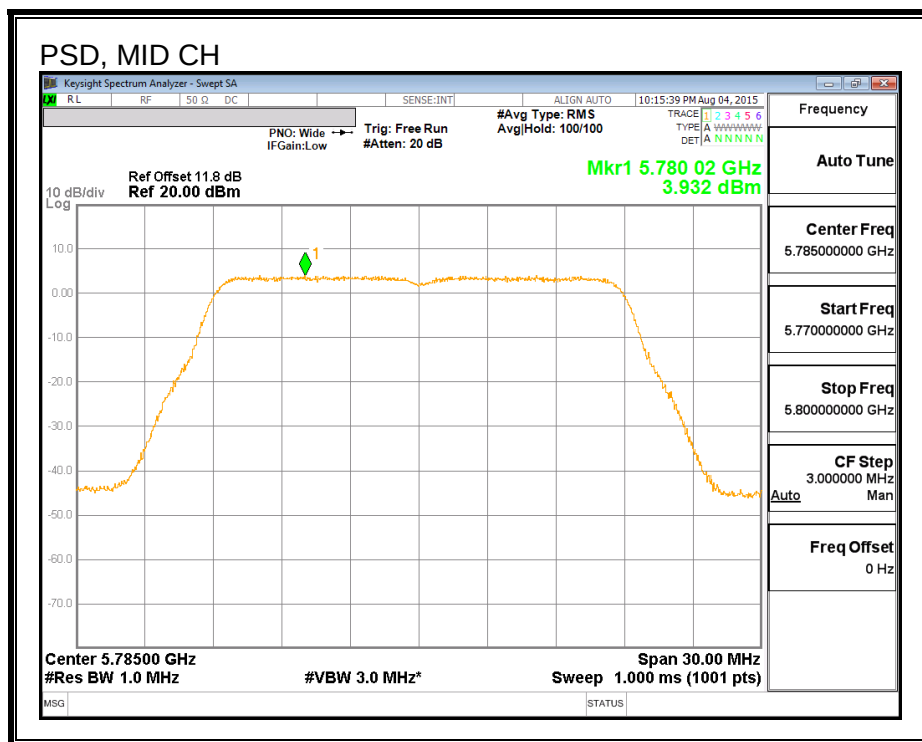
PSD, CHAIN 0





PSD, CHAIN 1





## **8.52. 802.11n HT20 2Tx STBC/SDM MODE IN THE 5.8 GHz BAND**

**Note:** Covered by 802.11n HT20 2Tx CDD MODE

## **8.53. 802.11n HT40 CHAIN 0 MODE IN THE 5.8 GHz BAND**

### **8.53.1. 6 dB BANDWIDTH**

#### **LIMITS**

FCC §15.407 (e)

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

#### **RESULTS**

| Channel | Frequency<br>(MHz) | 6 dB Bandwidth<br>(MHz) | Minimum Limit<br>(MHz) |
|---------|--------------------|-------------------------|------------------------|
| Low     | 5755               | 36.30                   | 0.5                    |
| High    | 5795               | 36.30                   | 0.5                    |



### 8.53.2. 26 dB BANDWIDTH

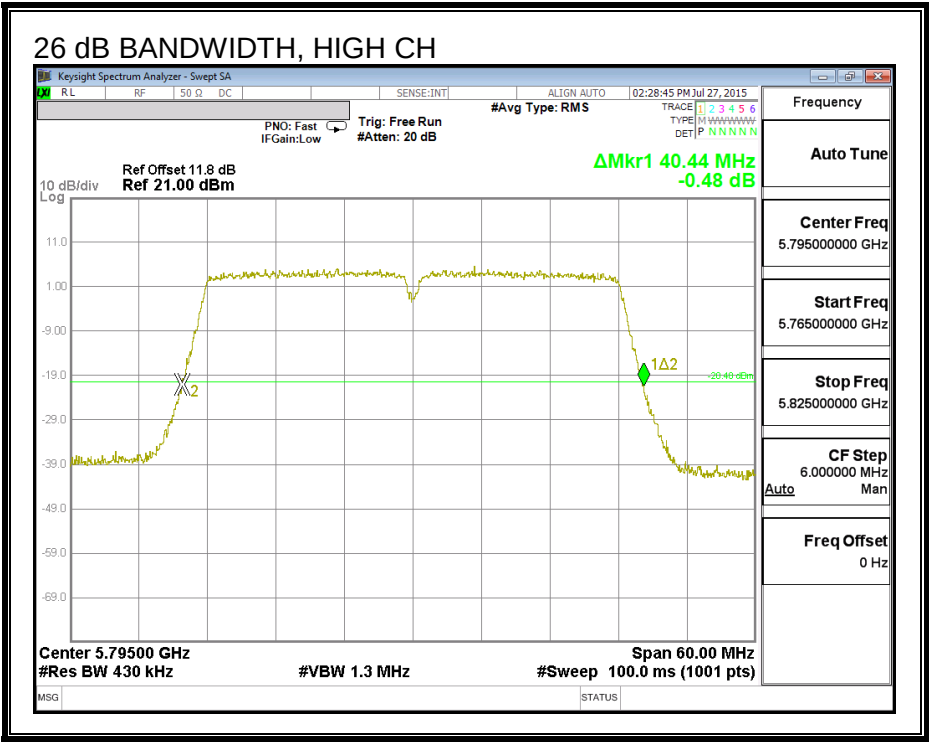
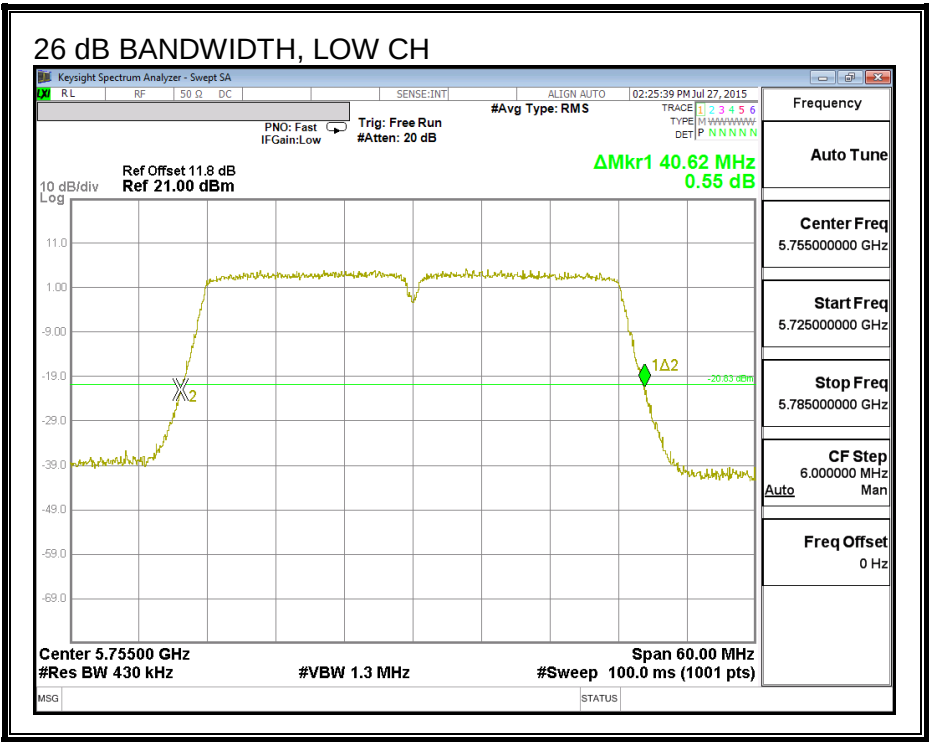
#### LIMITS

None, for reporting purposes only.

#### RESULTS

| Channel | Frequency<br>(MHz) | 26 dB Bandwidth<br>(MHz) |
|---------|--------------------|--------------------------|
| Low     | 5755               | 40.62                    |
| High    | 5795               | 40.44                    |

26 dB BANDWIDTH



### 8.53.3. 99% BANDWIDTH

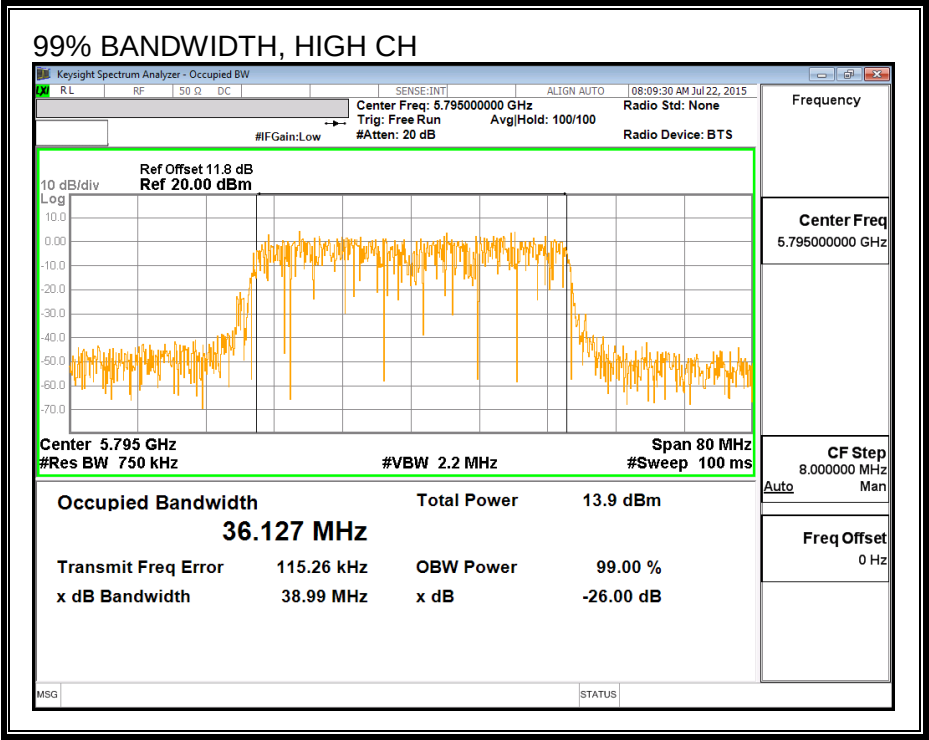
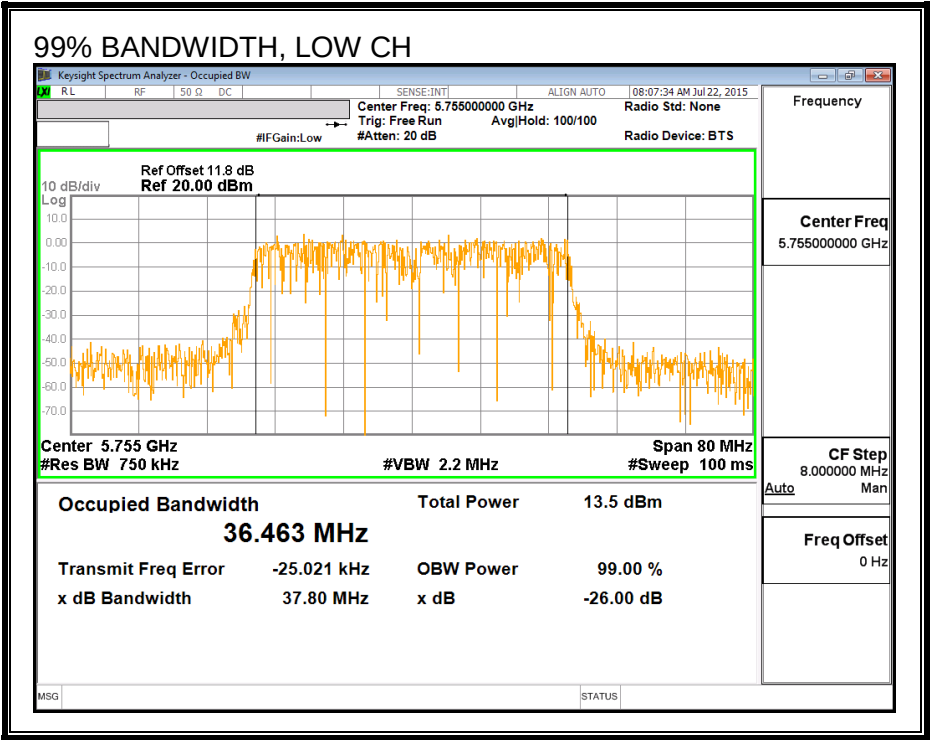
#### LIMITS

None; for reporting purposes only.

#### RESULTS

| Channel | Frequency<br>(MHz) | 99% Bandwidth<br>(MHz) |
|---------|--------------------|------------------------|
| Low     | 5755               | 36.463                 |
| High    | 5795               | 36.127                 |

99% BANDWIDTH



#### **8.53.4. AVERAGE POWER**

##### **LIMITS**

None; for reporting purposes only.

##### **RESULTS**

| Channel | Frequency<br>(MHz) | Power<br>(dBm) |
|---------|--------------------|----------------|
| Low     | 5755               | 15.00          |
| High    | 5795               | 15.93          |

### **8.53.5. OUTPUT POWER**

#### **LIMITS**

FCC §15.407 (a) (3)

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. 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.

#### **DIRECTIONAL ANTENNA GAIN**

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

## **RESULTS**

### **Antenna Gain and Limit**

| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>(dBi) | Power<br>Limit<br>(dBm) |
|---------|--------------------|------------------------------|-------------------------|
| Low     | 5755               | 2.40                         | 30.00                   |
| High    | 5795               | 2.40                         | 30.00                   |

|                           |      |                                                 |
|---------------------------|------|-------------------------------------------------|
| <b>Duty Cycle CF (dB)</b> | 0.00 | <b>Included in Calculations of Corr'd Power</b> |
|---------------------------|------|-------------------------------------------------|

### **Output Power Results**

| Channel | Frequency<br>(MHz) | Chain 0<br>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               | 15.00                             | 15.00                             | 30.00                   | -15.00                  |
| High    | 5795               | 15.93                             | 15.93                             | 30.00                   | -14.07                  |

### **8.53.6. PSD**

#### **LIMITS**

FCC §15.407 (a) (3)

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. 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.

#### **DIRECTIONAL ANTENNA GAIN**

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

## **RESULTS**

### **Antenna Gain and Limits**

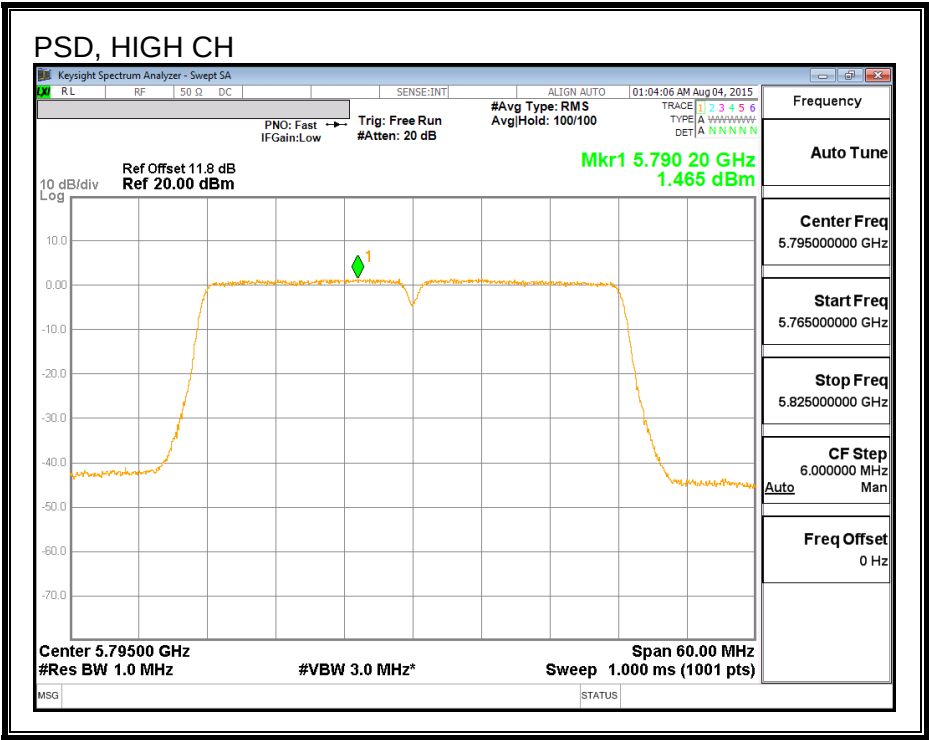
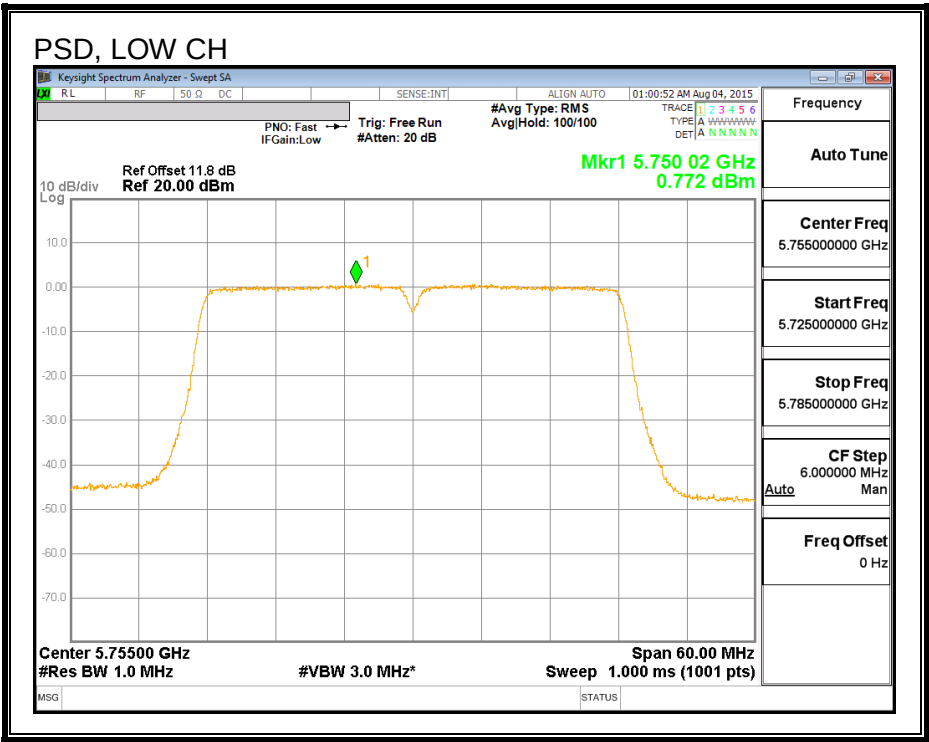
| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>(dBi) | PSD<br>Limit<br>(dBm) |
|---------|--------------------|------------------------------|-----------------------|
| Low     | 5755               | 2.40                         | 30.00                 |
| High    | 5795               | 2.40                         | 30.00                 |

|                           |      |                                               |
|---------------------------|------|-----------------------------------------------|
| <b>Duty Cycle CF (dB)</b> | 0.00 | <b>Included in Calculations of Corr'd PSD</b> |
|---------------------------|------|-----------------------------------------------|

### **PSD Results**

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>PSD<br>(dBm) | Total<br>Corr'd<br>PSD<br>(dBm) | PSD<br>Limit<br>(dBm) | PSD<br>Margin<br>(dB) |
|---------|--------------------|---------------------------------|---------------------------------|-----------------------|-----------------------|
| Low     | 5755               | 0.77                            | 0.77                            | 30.00                 | -29.23                |
| High    | 5795               | 1.47                            | 1.47                            | 30.00                 | -28.54                |

PSD,



## **8.54. 802.11n HT40 CHAIN 1 MODE IN THE 5.8 GHz BAND**

### **8.54.1. 6 dB BANDWIDTH**

#### **LIMITS**

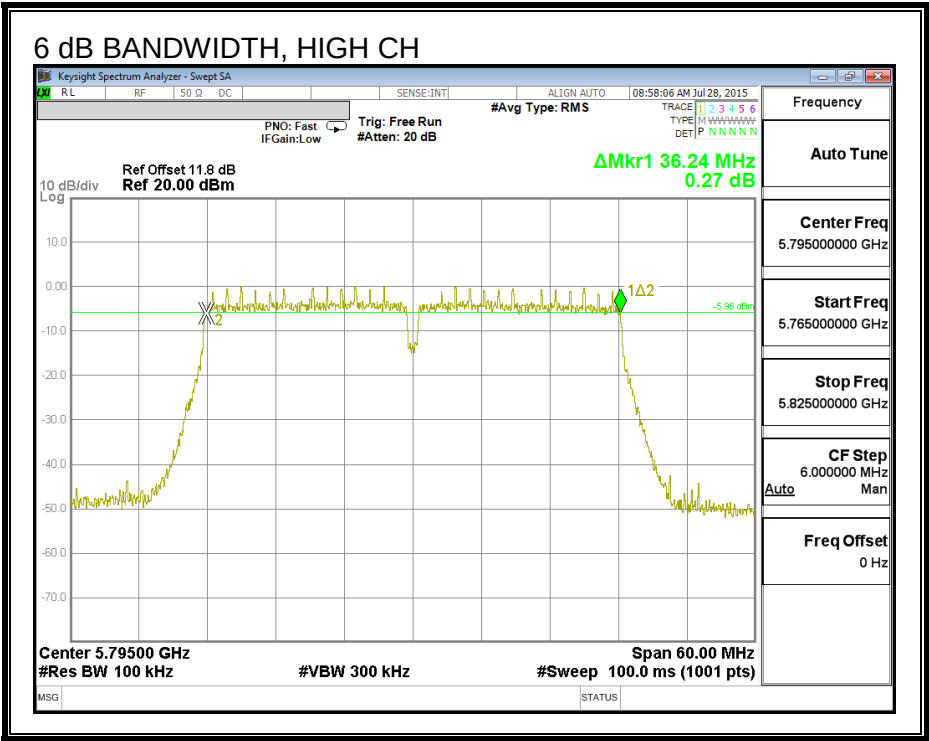
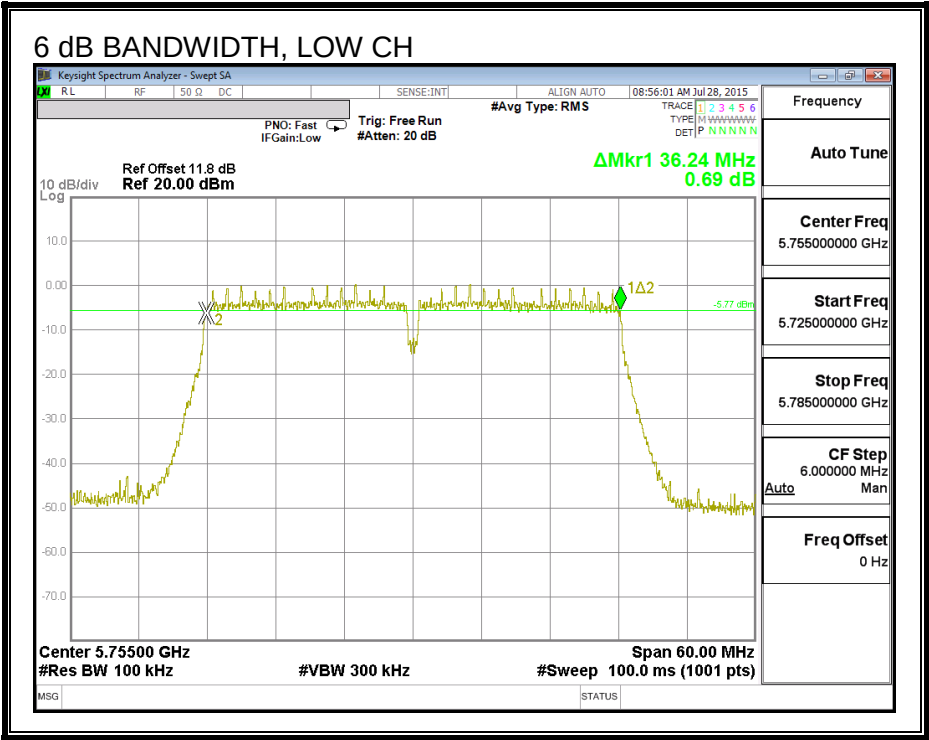
FCC §15.407 (e)

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

#### **RESULTS**

| Channel | Frequency<br>(MHz) | 6 dB Bandwidth<br>(MHz) | Minimum Limit<br>(MHz) |
|---------|--------------------|-------------------------|------------------------|
| Low     | 5755               | 36.24                   | 0.5                    |
| High    | 5795               | 36.24                   | 0.5                    |

6 dB BANDWIDTH



## 8.54.2. 26 dB BANDWIDTH

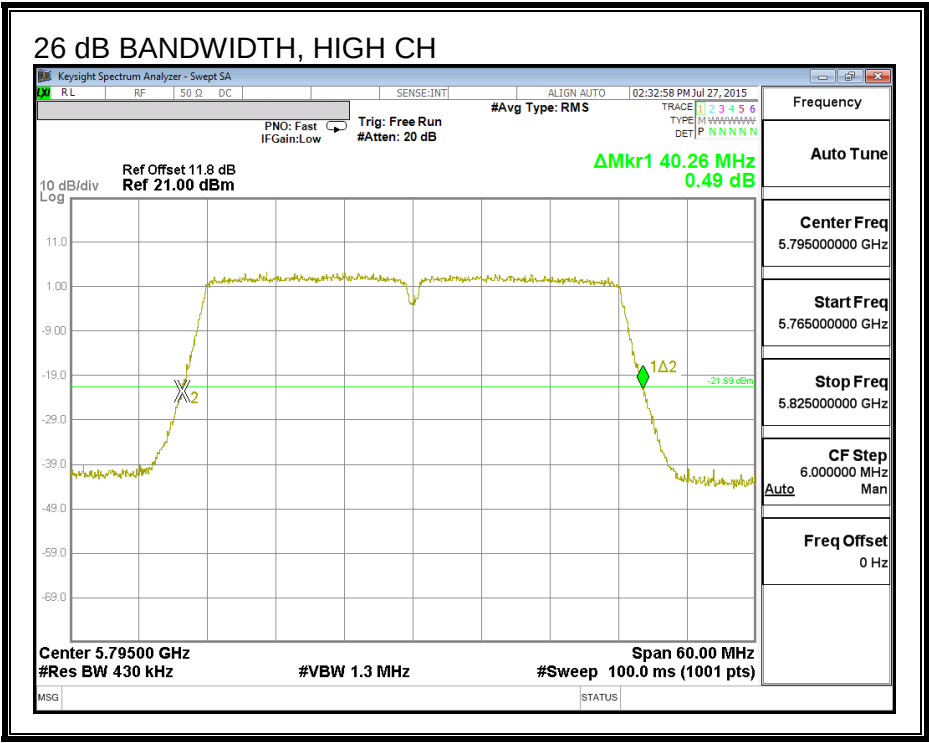
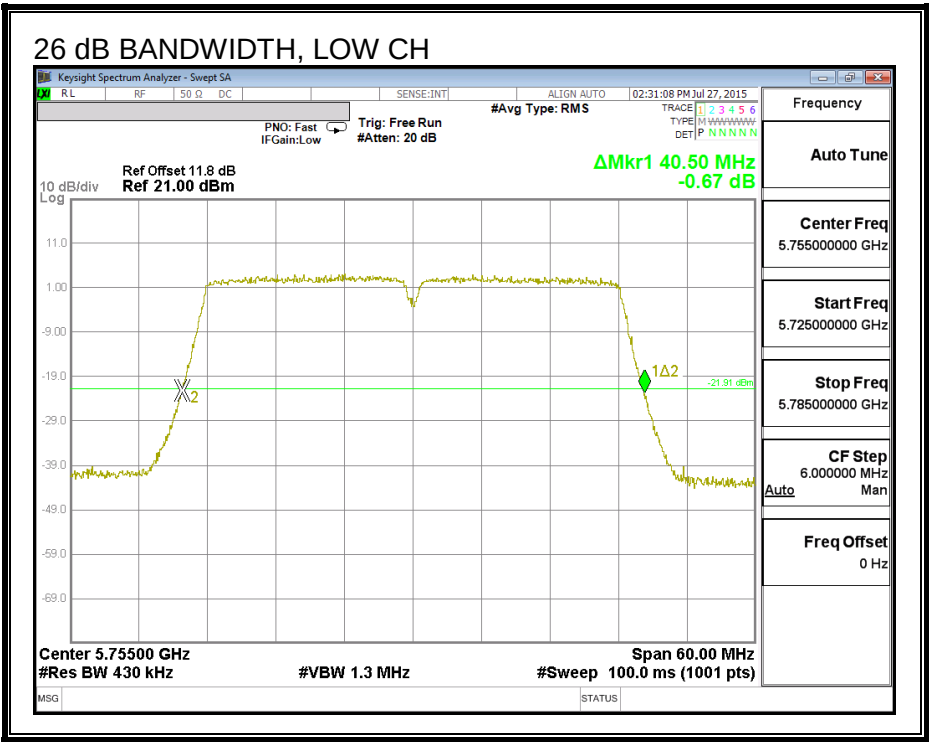
### LIMITS

None, for reporting purposes only.

### RESULTS

| Channel | Frequency<br>(MHz) | 26 dB Bandwidth<br>(MHz) |
|---------|--------------------|--------------------------|
| Low     | 5755               | 40.50                    |
| High    | 5795               | 40.26                    |

26 dB BANDWIDTH



**8.54.3. 99% BANDWIDTH**

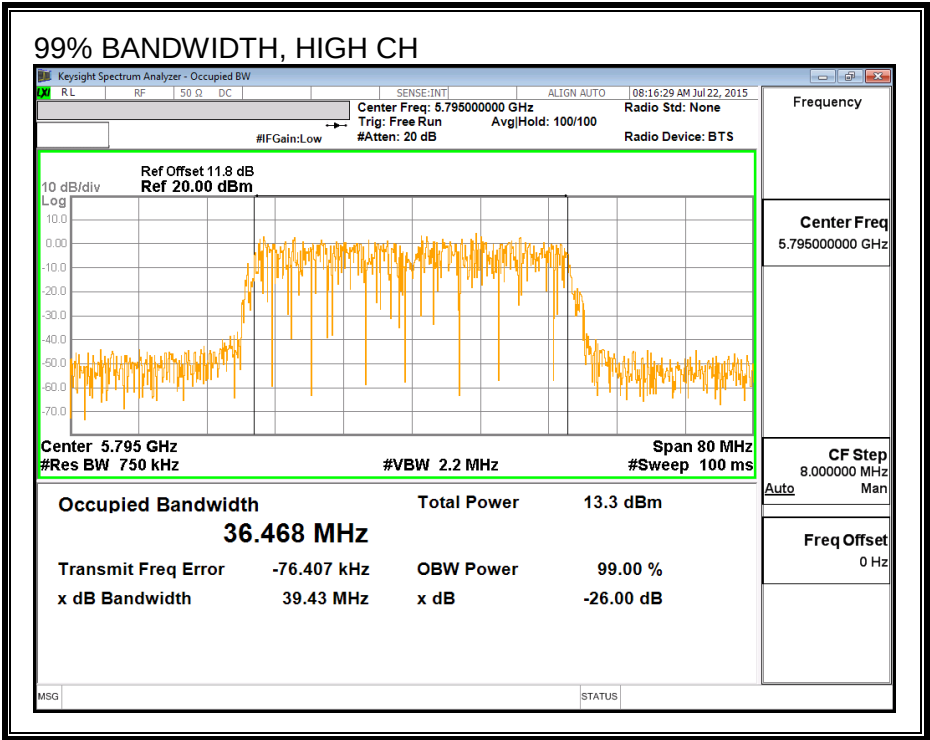
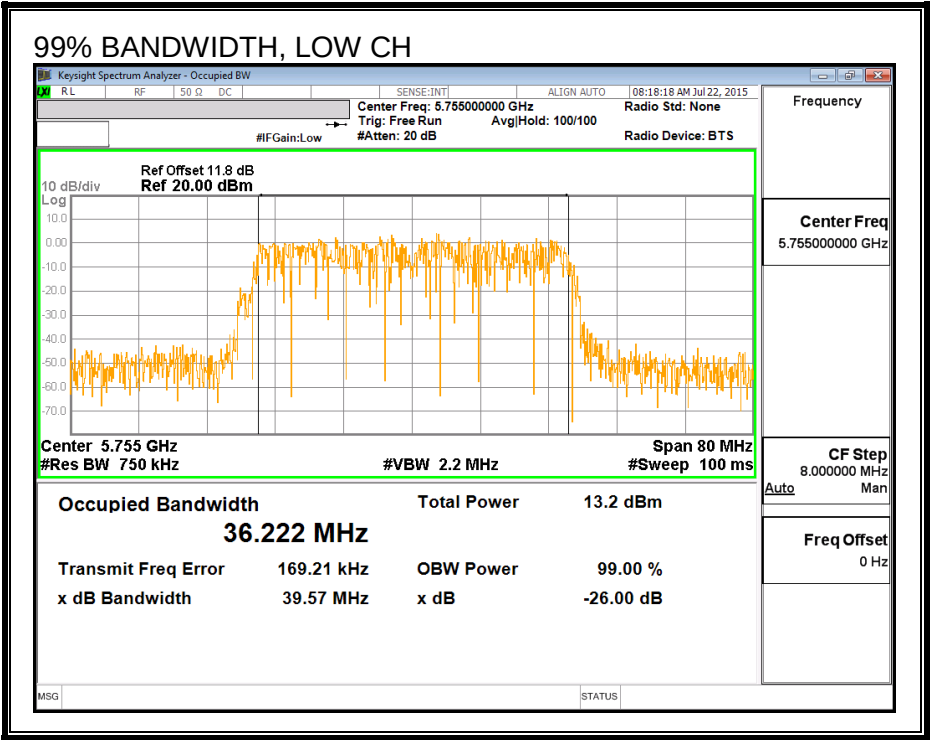
**LIMITS**

None; for reporting purposes only.

**RESULTS**

| Channel | Frequency<br>(MHz) | 99% Bandwidth<br>(MHz) |
|---------|--------------------|------------------------|
| Low     | 5755               | 36.222                 |
| High    | 5795               | 36.468                 |

99% BANDWIDTH



#### **8.54.4. AVERAGE POWER**

##### **LIMITS**

None; for reporting purposes only.

##### **RESULTS**

| Channel | Frequency<br>(MHz) | Power<br>(dBm) |
|---------|--------------------|----------------|
| Low     | 5755               | 15.00          |
| High    | 5795               | 15.85          |

## **8.54.5. OUTPUT POWER**

### **LIMITS**

FCC §15.407 (a) (3)

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. 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.

### **DIRECTIONAL ANTENNA GAIN**

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

## **RESULTS**

### **Antenna Gain and Limit**

| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>(dBi) | Power<br>Limit<br>(dBm) |
|---------|--------------------|------------------------------|-------------------------|
| Low     | 5755               | 3.10                         | 30.00                   |
| High    | 5795               | 3.10                         | 30.00                   |

|                    |      |                                          |
|--------------------|------|------------------------------------------|
| Duty Cycle CF (dB) | 0.00 | Included in Calculations of Corr'd Power |
|--------------------|------|------------------------------------------|

### **Output Power Results**

| Channel | Frequency<br>(MHz) | Chain 0<br>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               | 15.00                             | 15.00                             | 30.00                   | -15.00                  |
| High    | 5795               | 15.85                             | 15.85                             | 30.00                   | -14.15                  |

## **8.54.6. PSD**

### **LIMITS**

FCC §15.407 (a) (3)

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. 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.

### **DIRECTIONAL ANTENNA GAIN**

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

## **RESULTS**

### **Antenna Gain and Limits**

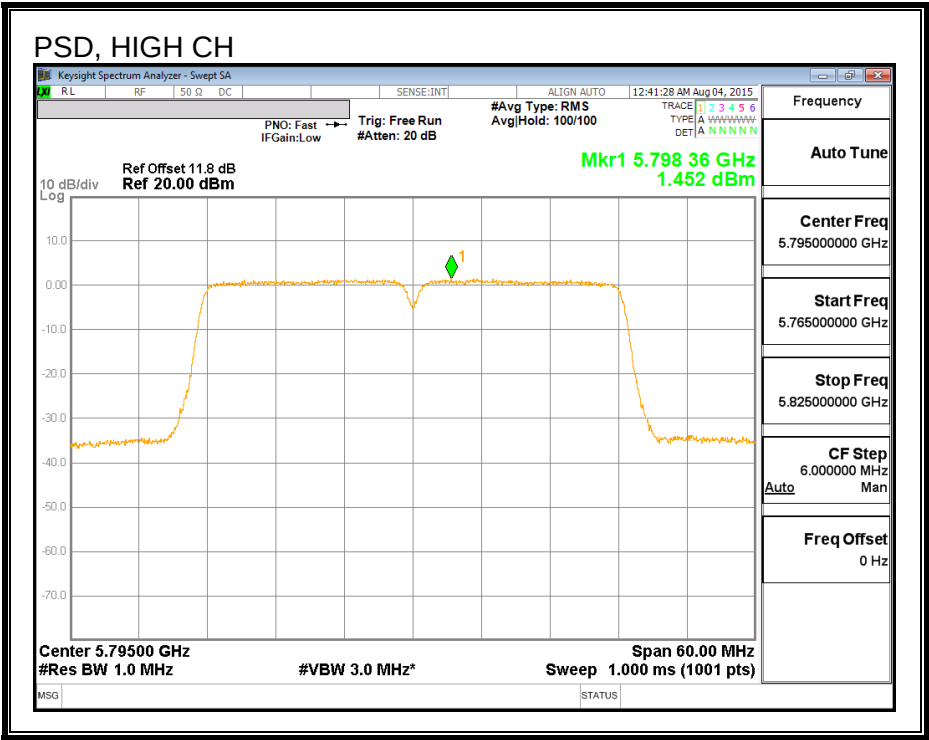
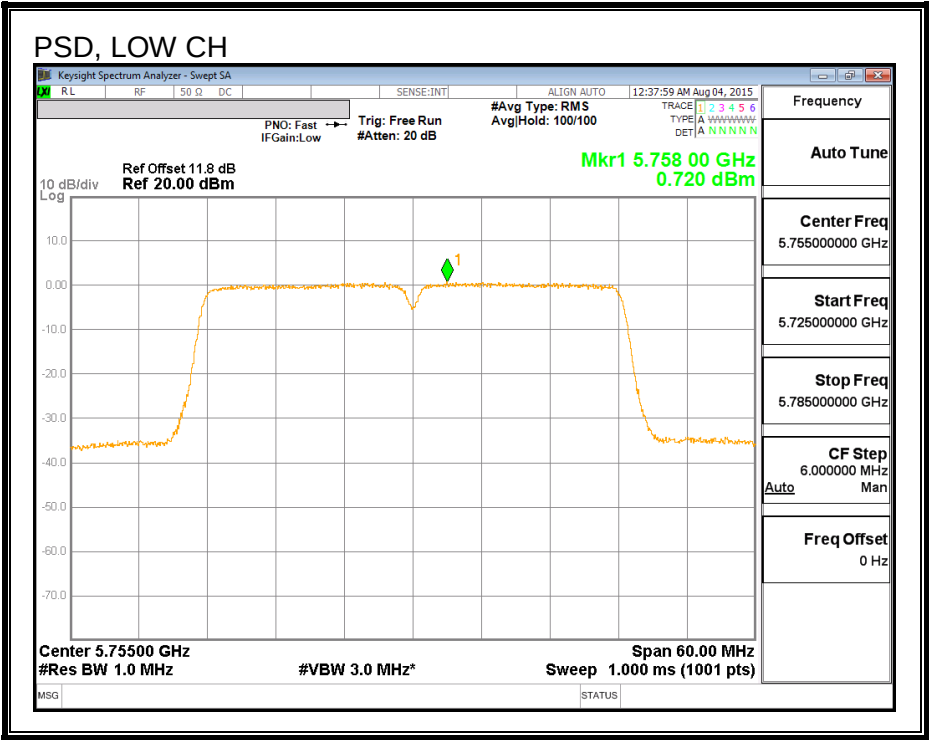
| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>(dBi) | PSD<br>Limit<br>(dBm) |
|---------|--------------------|------------------------------|-----------------------|
| Low     | 5755               | 3.10                         | 30.00                 |
| High    | 5795               | 3.10                         | 30.00                 |

|                           |      |                                               |
|---------------------------|------|-----------------------------------------------|
| <b>Duty Cycle CF (dB)</b> | 0.00 | <b>Included in Calculations of Corr'd PSD</b> |
|---------------------------|------|-----------------------------------------------|

### **PSD Results**

| Channel | Frequency<br>(MHz) | Chain 1<br>Meas<br>PSD<br>(dBm) | Total<br>Corr'd<br>PSD<br>(dBm) | PSD<br>Limit<br>(dBm) | PSD<br>Margin<br>(dB) |
|---------|--------------------|---------------------------------|---------------------------------|-----------------------|-----------------------|
| Low     | 5755               | 0.72                            | 0.72                            | 30.00                 | -29.28                |
| High    | 5795               | 1.45                            | 1.45                            | 30.00                 | -28.55                |

PSD,



## **8.55. 802.11n HT40 2Tx CDD MODE IN THE 5.8 GHz BAND**

### **8.55.1. 6 dB BANDWIDTH**

#### **LIMITS**

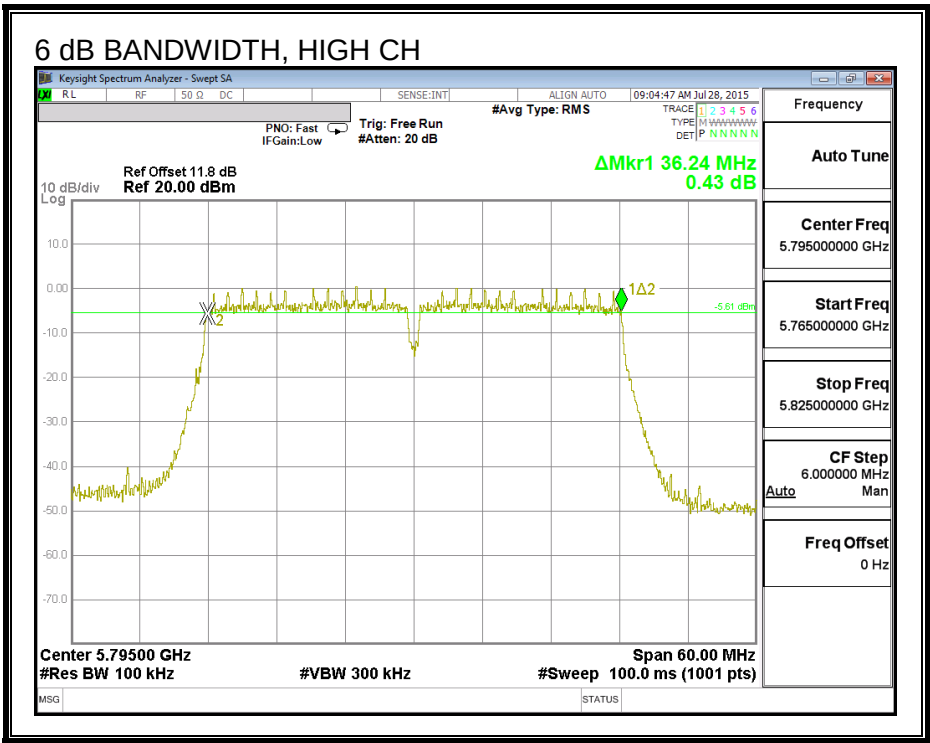
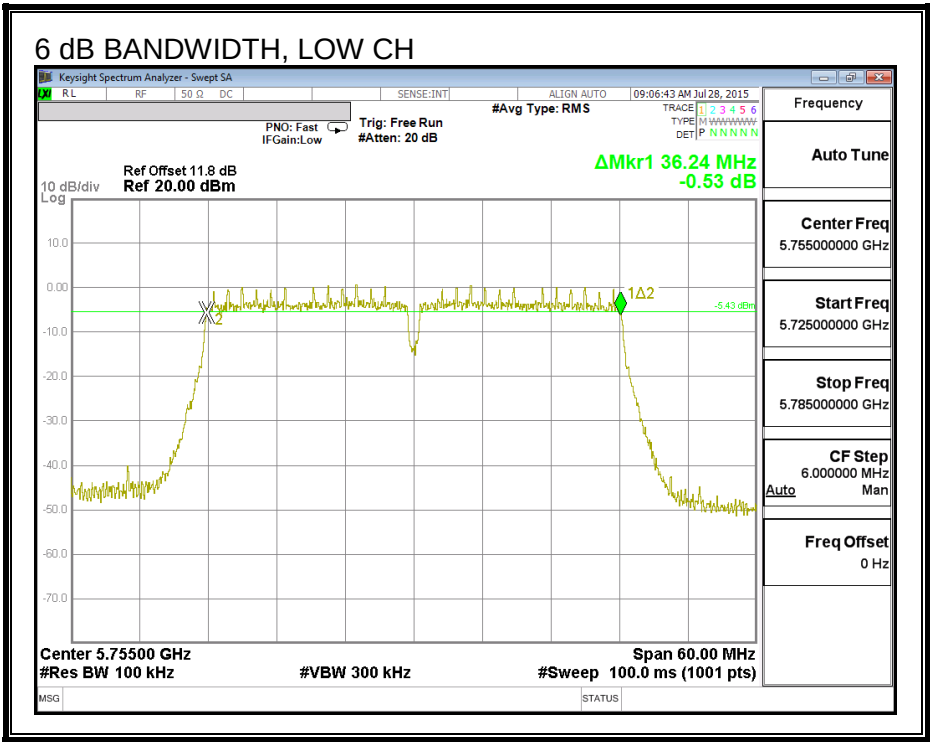
FCC §15.407 (e)

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

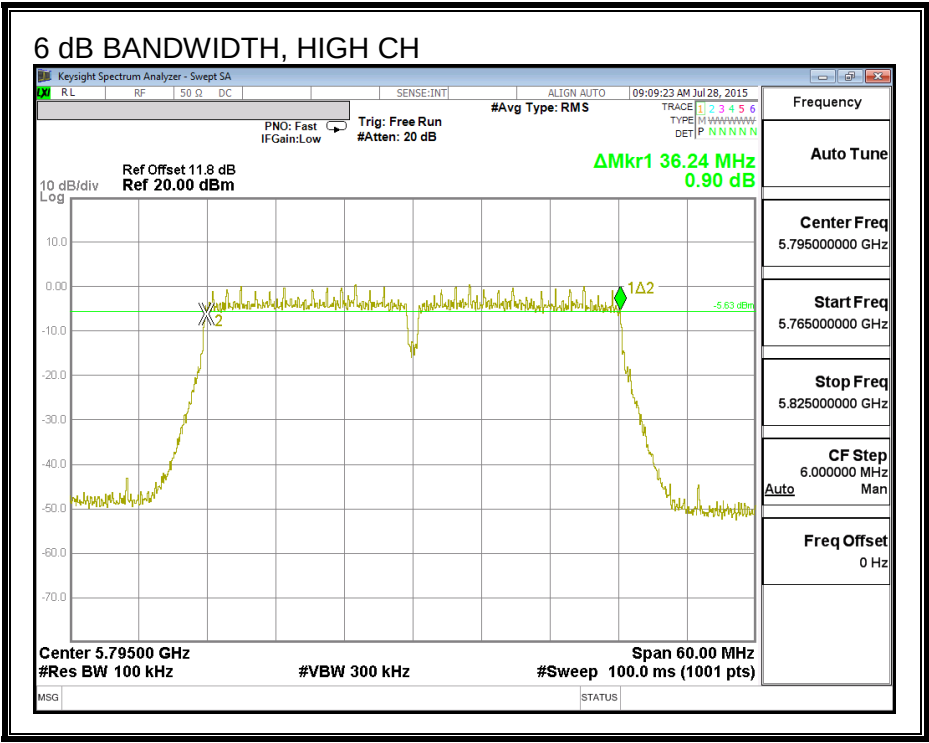
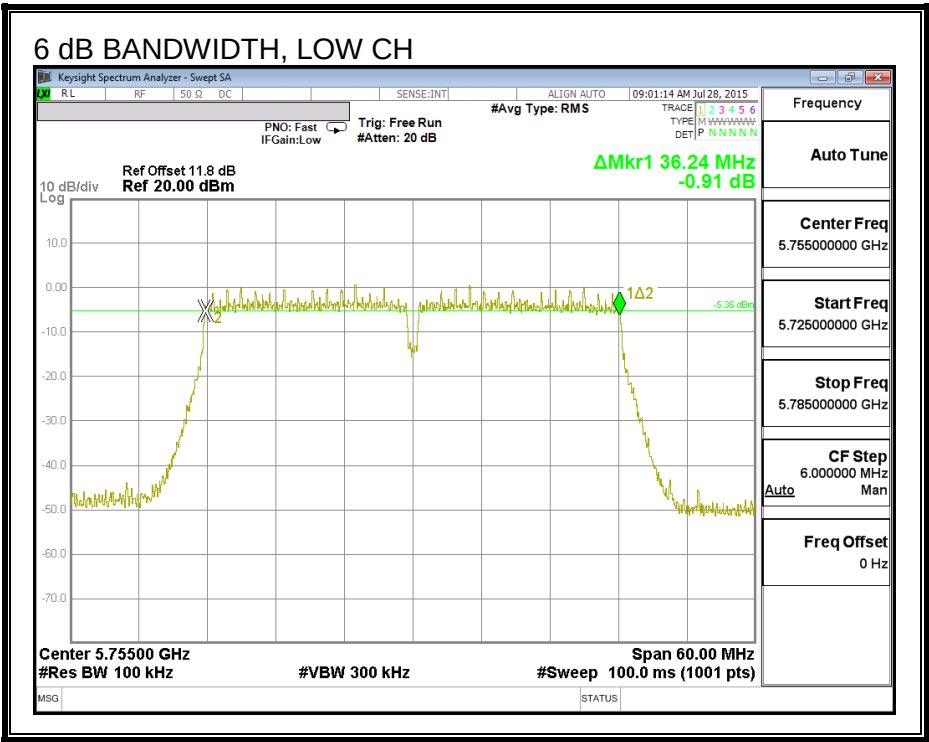
#### **RESULTS**

| Channel | Frequency<br>(MHz) | 6 dB BW<br>Chain 0<br>(MHz) | 6 dB BW<br>Chain 1<br>(MHz) | Minimum<br>Limit<br>(MHz) |
|---------|--------------------|-----------------------------|-----------------------------|---------------------------|
| Low     | 5755               | 36.24                       | 36.24                       | 0.5                       |
| High    | 5795               | 36.24                       | 36.24                       | 0.5                       |

6 dB BANDWIDTH, CHAIN 0



6 dB BANDWIDTH, CHAIN 1



## 8.55.2. 26 dB BANDWIDTH

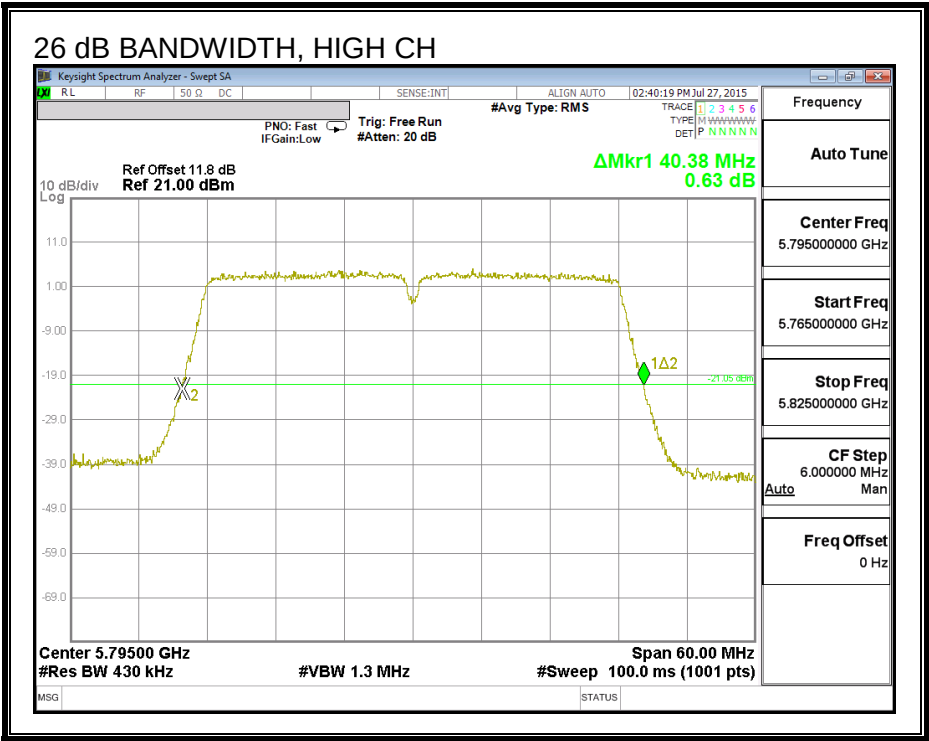
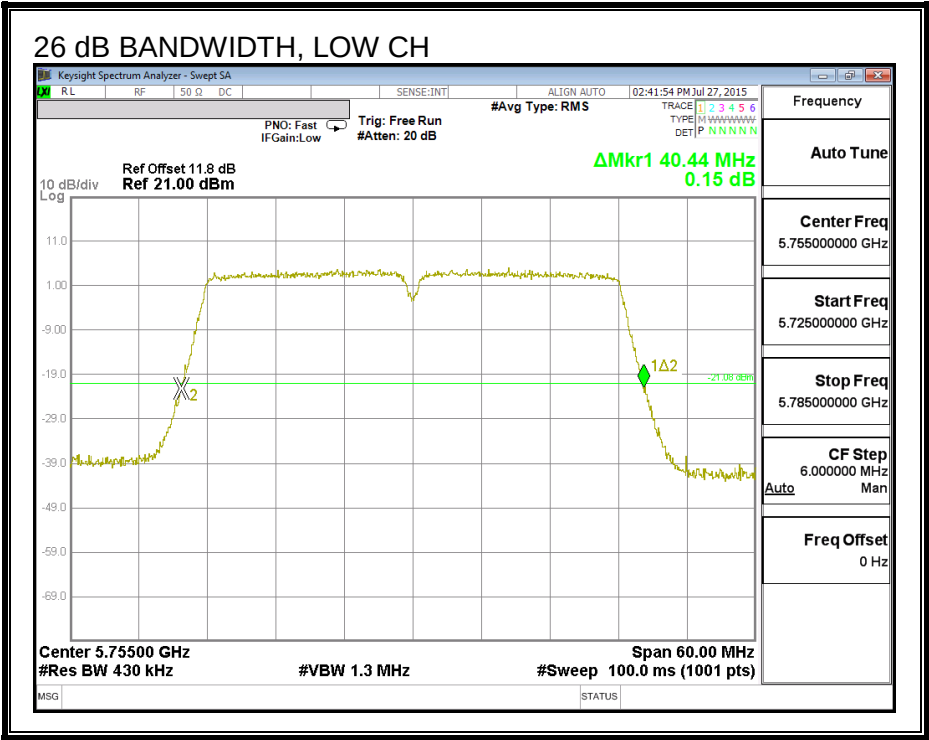
### LIMITS

None, for reporting purposes only.

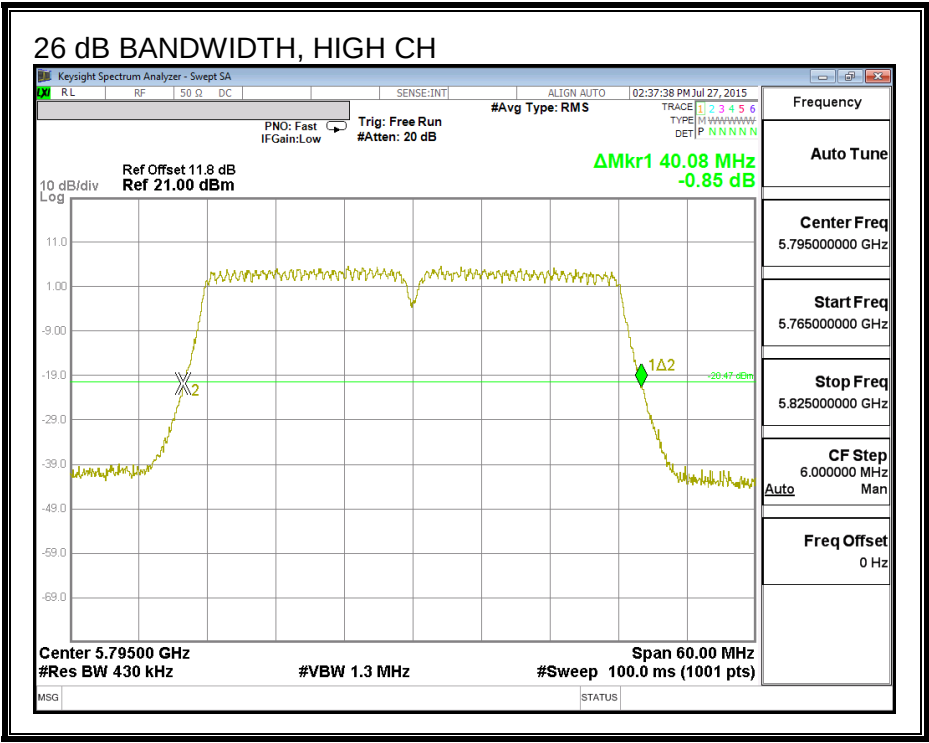
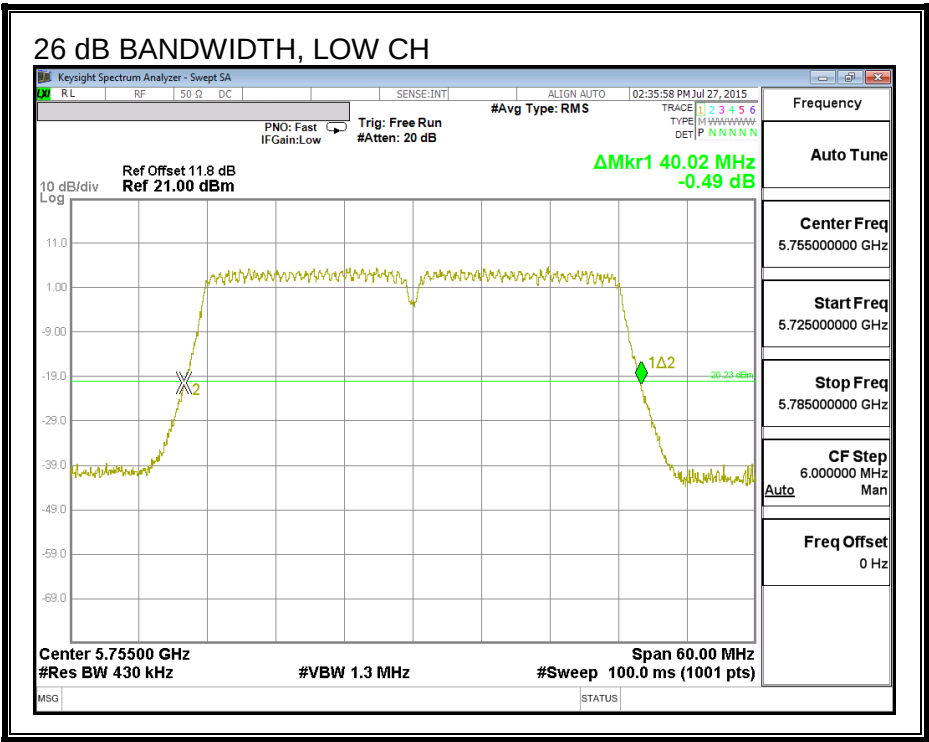
### RESULTS

| Channel | Frequency<br>(MHz) | 26 dB BW<br>Chain 0<br>(MHz) | 26 dB BW<br>Chain 1<br>(MHz) |
|---------|--------------------|------------------------------|------------------------------|
| Low     | 5755               | 40.44                        | 40.02                        |
| High    | 5795               | 40.38                        | 40.08                        |

26 dB BANDWIDTH, CHAIN 0



26 dB BANDWIDTH, CHAIN 1



### 8.55.3. 99% BANDWIDTH

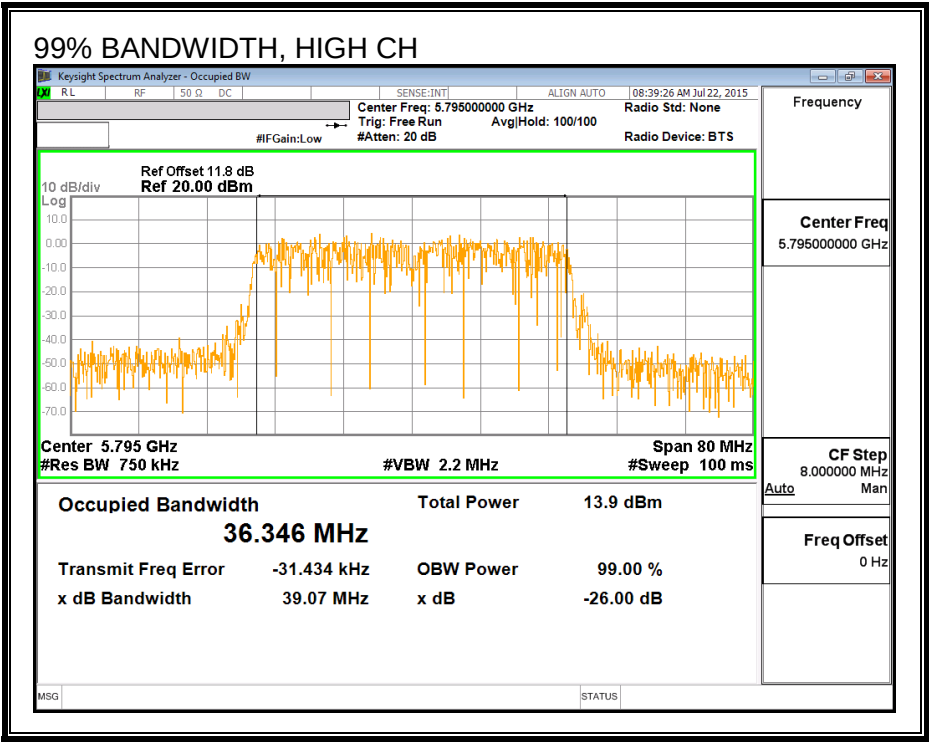
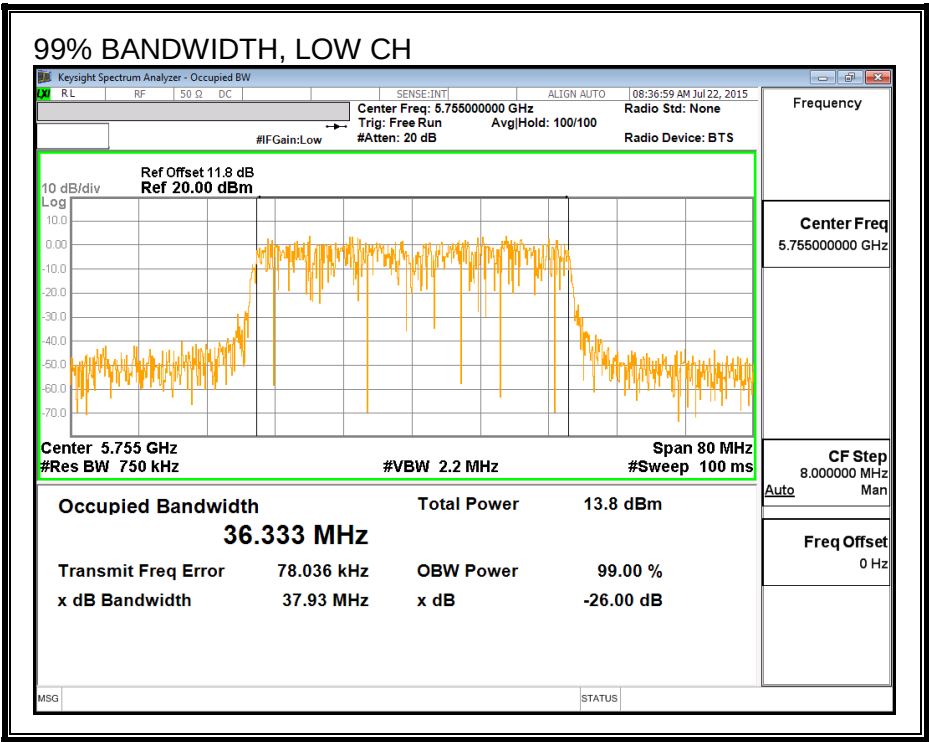
#### LIMITS

None; for reporting purposes only.

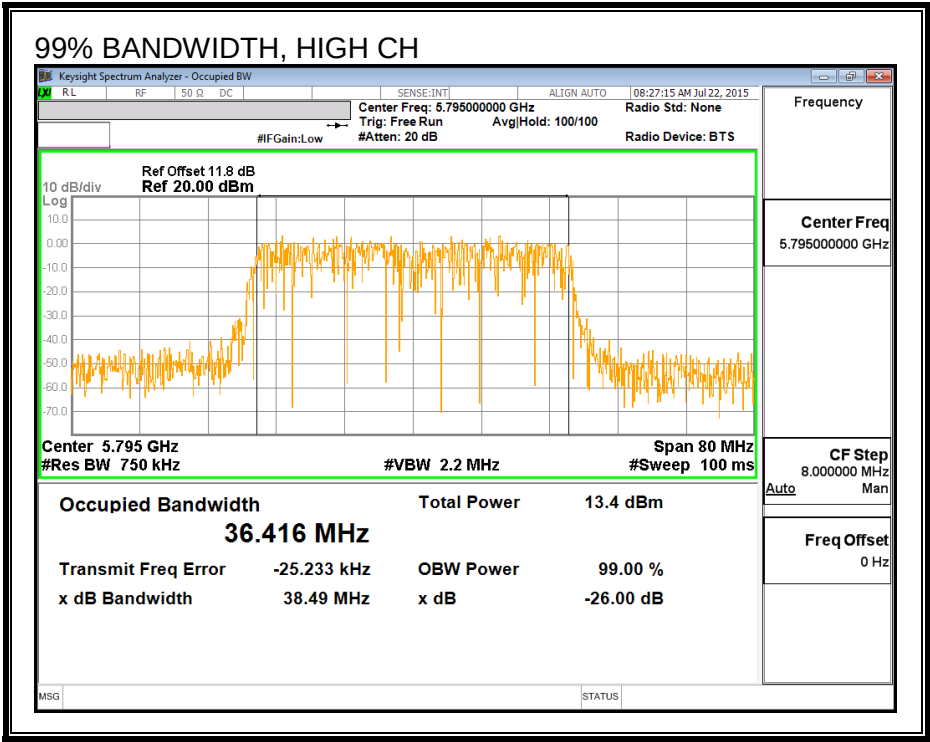
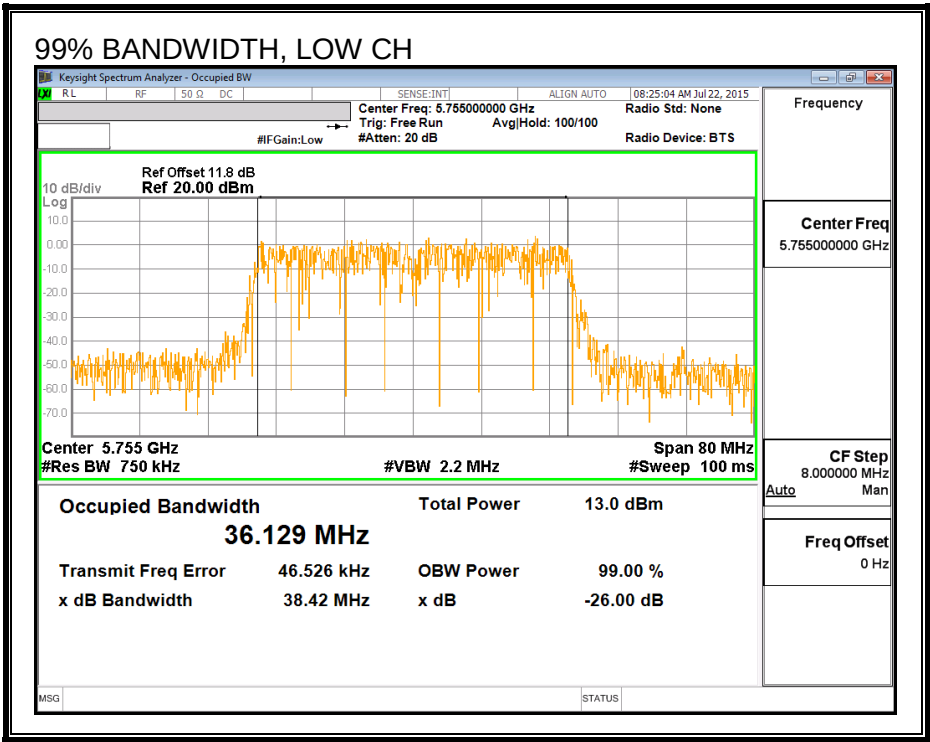
#### RESULTS

| Channel | Frequency<br>(MHz) | 99% BW<br>Chain 0<br>(MHz) | 99% BW<br>Chain 1<br>(MHz) |
|---------|--------------------|----------------------------|----------------------------|
| Low     | 5755               | 36.333                     | 36.129                     |
| High    | 5795               | 36.346                     | 36.416                     |

99% BANDWIDTH, CHAIN 0



99% BANDWIDTH, CHAIN 1



#### 8.55.4. AVERAGE POWER

##### LIMITS

None; for reporting purposes only.

##### RESULTS

| Channel | Frequency<br>(MHz) | Chain 0<br>Power<br>(dBm) | Chain 1<br>Power<br>(dBm) | Total<br>Power<br>(dBm) |
|---------|--------------------|---------------------------|---------------------------|-------------------------|
| Low     | 5755               | 14.45                     | 14.40                     | 17.44                   |
| High    | 5795               | 15.45                     | 15.49                     | 18.48                   |

## 8.55.5. OUTPUT POWER

### LIMITS

FCC §15.407 (a) (3)

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. 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.

### DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

| Chain 0<br>Antenna<br>Gain<br>(dBi) | Chain 1<br>Antenna<br>Gain<br>(dBi) | Uncorrelated Chains<br>Directional<br>Gain<br>(dBi) |
|-------------------------------------|-------------------------------------|-----------------------------------------------------|
| 2.40                                | 3.10                                | 2.76                                                |

## **RESULTS**

### **Antenna Gain and Limit**

| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>(dBi) | Power<br>Limit<br>(dBm) |
|---------|--------------------|------------------------------|-------------------------|
| Low     | 5755               | 2.76                         | 30.00                   |
| High    | 5795               | 2.76                         | 30.00                   |

|                           |      |                                                 |
|---------------------------|------|-------------------------------------------------|
| <b>Duty Cycle CF (dB)</b> | 0.00 | <b>Included in Calculations of Corr'd Power</b> |
|---------------------------|------|-------------------------------------------------|

### **Output Power Results**

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>Power<br>(dBm) | Chain 1<br>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               | 14.45                             | 14.40                             | 17.44                             | 30.00                   | -12.56                  |
| High    | 5795               | 15.45                             | 15.49                             | 18.48                             | 30.00                   | -11.52                  |

## 8.55.6. PSD

### LIMITS

FCC §15.407 (a) (3)

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. 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.

### DIRECTIONAL ANTENNA GAIN

The TX chains are correlated and the antenna gain is unequal among the chains. The directional gain is:

| Chain 0<br>Antenna<br>Gain<br>(dBi) | Chain 1<br>Antenna<br>Gain<br>(dBi) | Correlated Chains<br>Directional<br>Gain<br>(dBi) |
|-------------------------------------|-------------------------------------|---------------------------------------------------|
| 2.40                                | 3.10                                | 5.77                                              |

## **RESULTS**

### **Antenna Gain and Limit**

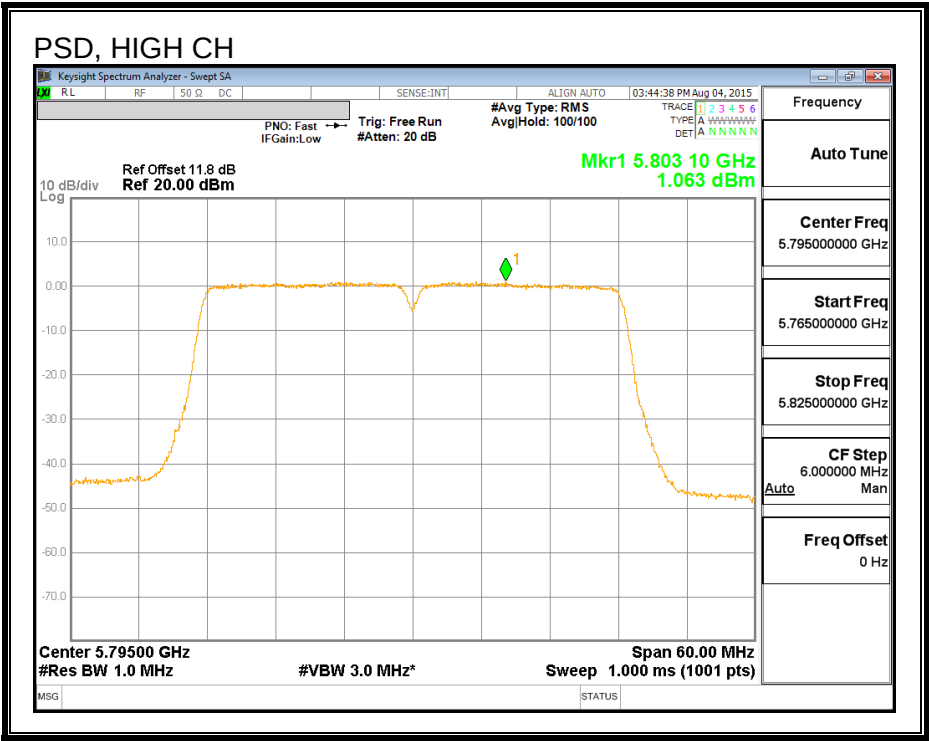
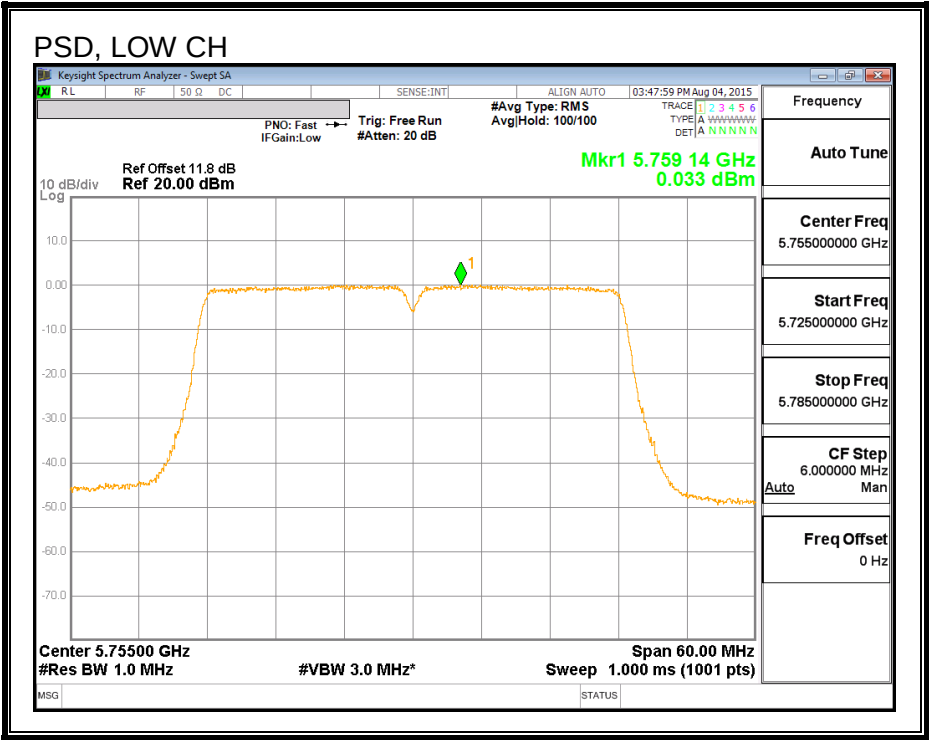
| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>(dBi) | PSD<br>Limit<br>(dBm) |
|---------|--------------------|------------------------------|-----------------------|
| Low     | 5755               | 5.77                         | 30.00                 |
| High    | 5795               | 5.77                         | 30.00                 |

|                           |      |                                               |
|---------------------------|------|-----------------------------------------------|
| <b>Duty Cycle CF (dB)</b> | 0.00 | <b>Included in Calculations of Corr'd PSD</b> |
|---------------------------|------|-----------------------------------------------|

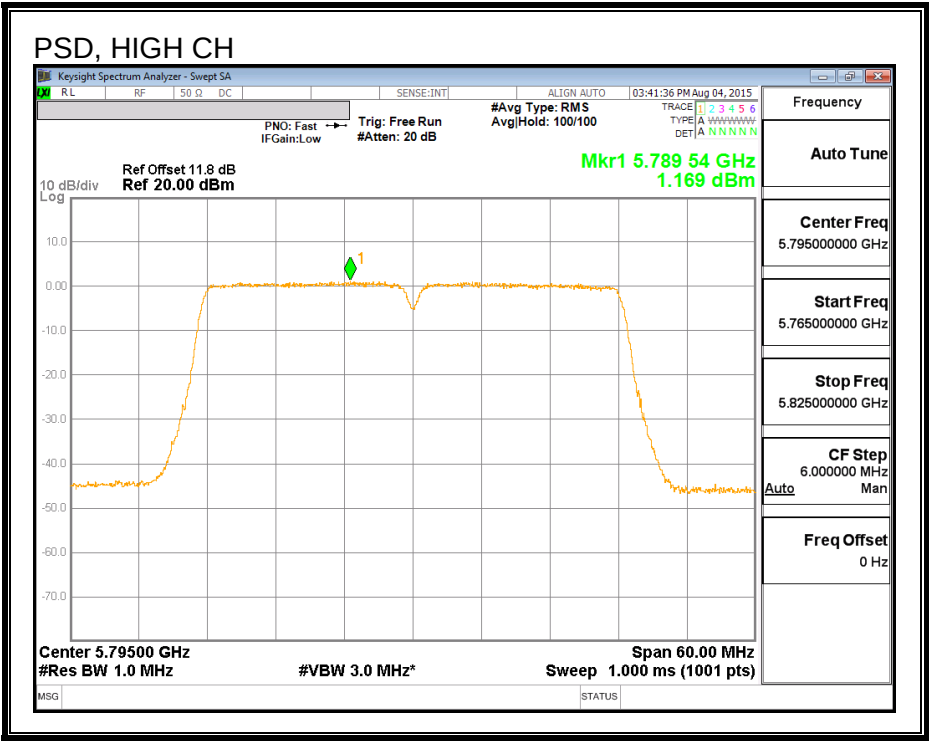
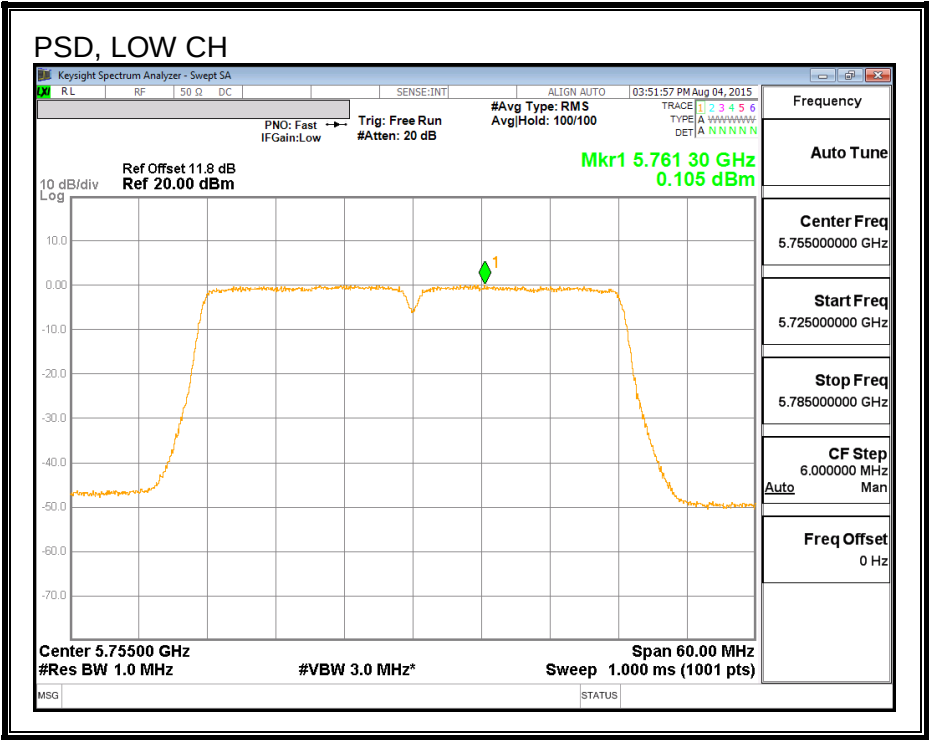
### **PSD Results**

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>PSD<br>(dBm) | Chain 1<br>Meas<br>PSD<br>(dBm) | Total<br>Corr'd<br>PSD<br>(dBm) | PSD<br>Limit<br>(dBm) | PSD<br>Margin<br>(dB) |
|---------|--------------------|---------------------------------|---------------------------------|---------------------------------|-----------------------|-----------------------|
| Low     | 5755               | 0.03                            | 0.11                            | 3.08                            | 30.00                 | -26.92                |
| High    | 5795               | 1.06                            | 1.17                            | 4.13                            | 30.00                 | -25.87                |

PSD, CHAIN 0



PSD, CHAIN 1



## **8.56. 802.11n HT40 2Tx STBC/SDM MODE IN THE 5.8 GHz BAND**

**Note:** Covered by 802.11n HT40 2Tx CDD MODE

8.57. 802.11ac VHT80 CHAIN 0 MODE IN THE 5.8 GHz BAND

8.57.1. 6 dB BANDWIDTH

LIMITS

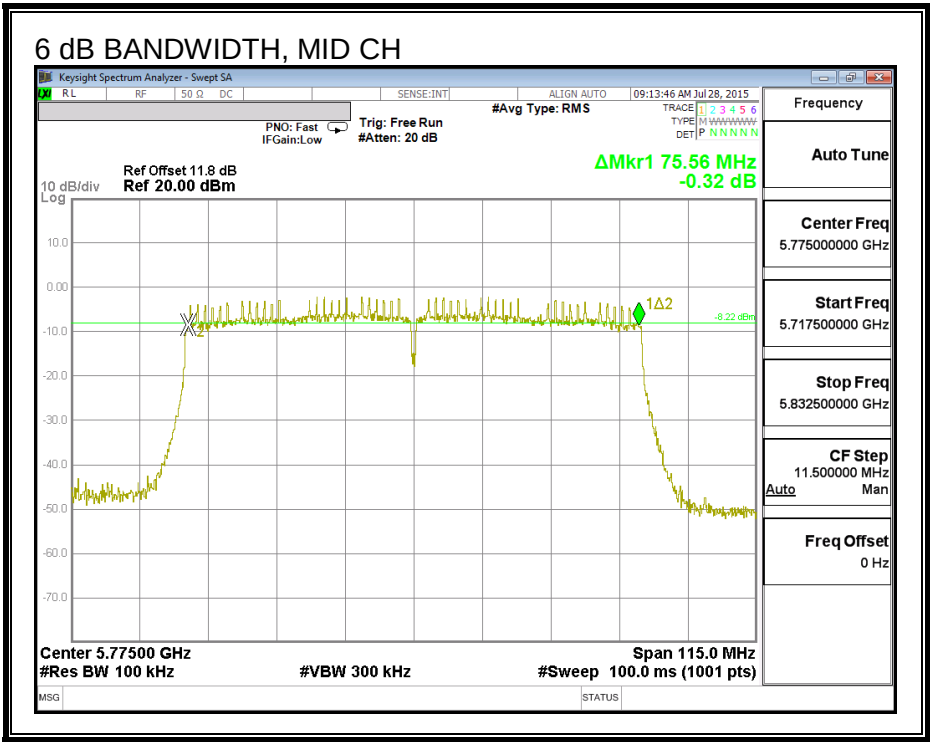
FCC §15.407 (e)

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

RESULTS

| Channel | Frequency<br>(MHz) | 6 dB Bandwidth<br>(MHz) | Minimum Limit<br>(MHz) |
|---------|--------------------|-------------------------|------------------------|
| Mid     | 5775               | 75.56                   | 0.5                    |

6 dB BANDWIDTH





### 8.57.3. 99% BANDWIDTH

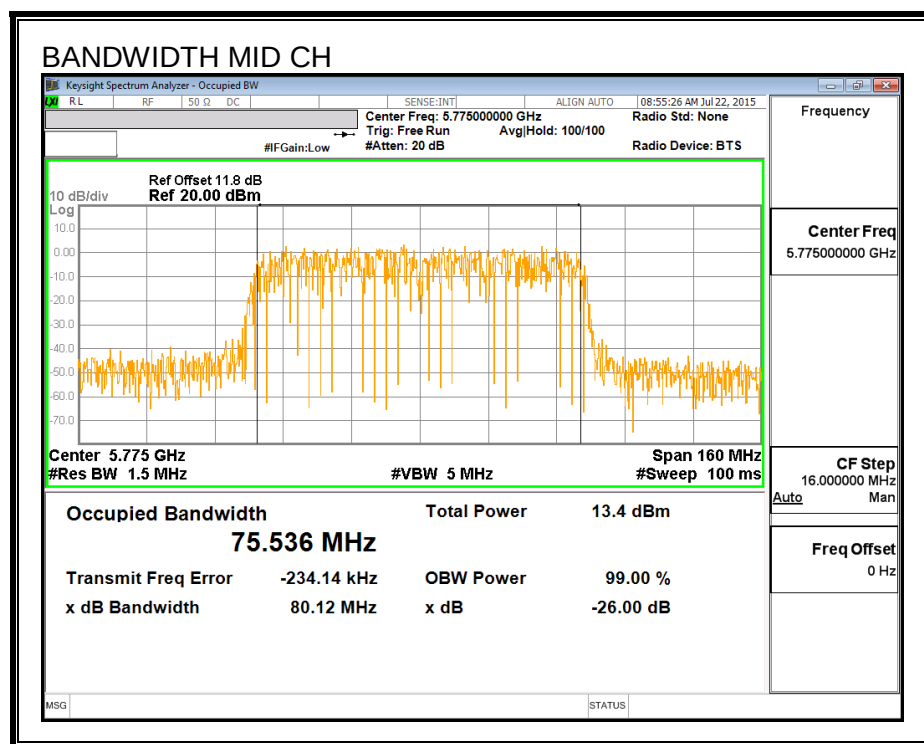
#### LIMITS

None; for reporting purposes only.

#### RESULTS

| Channel | Frequency<br>(MHz) | 99% Bandwidth<br>(MHz) |
|---------|--------------------|------------------------|
| Mid     | 5775               | 75.536                 |

#### 99% BANDWIDTH



#### **8.57.4. AVERAGE POWER**

##### **LIMITS**

None; for reporting purposes only.

##### **RESULTS**

| Channel | Frequency<br>(MHz) | Power<br>(dBm) |
|---------|--------------------|----------------|
| Mid     | 5775               | 14.34          |

## **8.57.5. OUTPUT POWER**

### **LIMITS**

FCC §15.407 (a) (3)

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. 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.

### **DIRECTIONAL ANTENNA GAIN**

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

## **RESULTS**

### **Antenna Gain and Limit**

| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>(dBi) | Power<br>Limit<br>(dBm) |
|---------|--------------------|------------------------------|-------------------------|
| Mid     | 5775               | 2.40                         | 30.00                   |

|                    |      |                                          |
|--------------------|------|------------------------------------------|
| Duty Cycle CF (dB) | 0.19 | Included in Calculations of Corr'd Power |
|--------------------|------|------------------------------------------|

### **Output Power Results**

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>Power<br>(dBm) | Total<br>Corr'd<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Power<br>Margin<br>(dB) |
|---------|--------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| Mid     | 5775               | 14.15                             | 14.34                             | 30.00                   | -15.66                  |

## 8.57.6. PSD

### LIMITS

FCC §15.407 (a) (3)

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. 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.

### DIRECTIONAL ANTENNA GAIN

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

### RESULTS

#### Antenna Gain and Limits

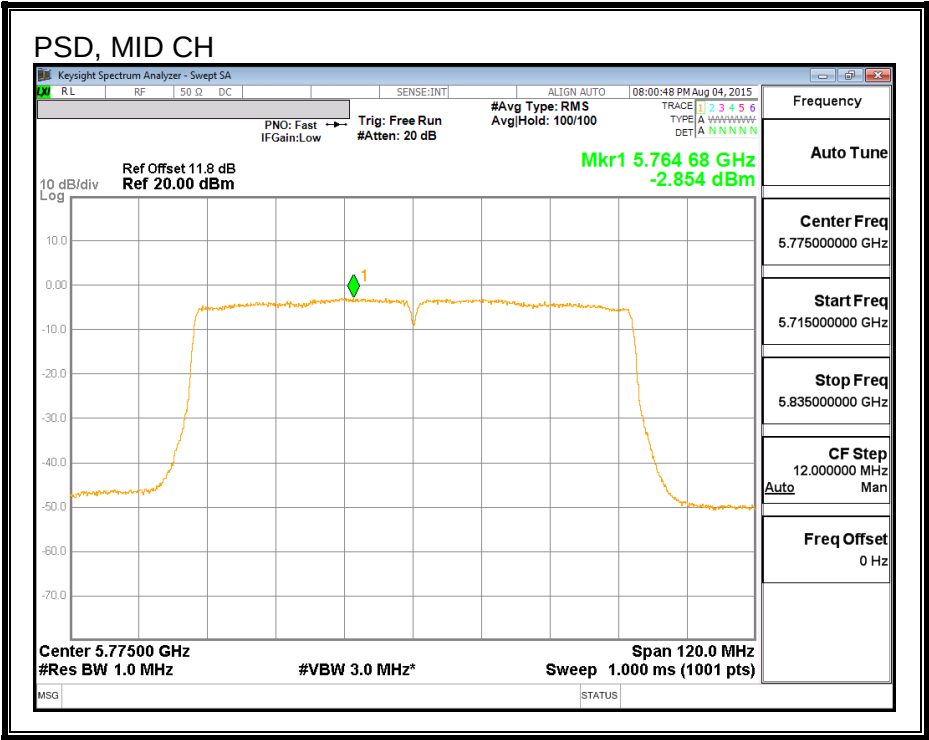
| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>(dBi) | PSD<br>Limit<br>(dBm) |
|---------|--------------------|------------------------------|-----------------------|
| Mid     | 5775               | 2.40                         | 30.00                 |

|                    |      |                                        |
|--------------------|------|----------------------------------------|
| Duty Cycle CF (dB) | 0.19 | Included in Calculations of Corr'd PSD |
|--------------------|------|----------------------------------------|

#### PSD Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>PSD<br>(dBm) | Total<br>Corr'd<br>PSD<br>(dBm) | PSD<br>Limit<br>(dBm) | PSD<br>Margin<br>(dB) |
|---------|--------------------|---------------------------------|---------------------------------|-----------------------|-----------------------|
| Mid     | 5775               | -2.854                          | -2.66                           | 30.00                 | -32.66                |

PSD,





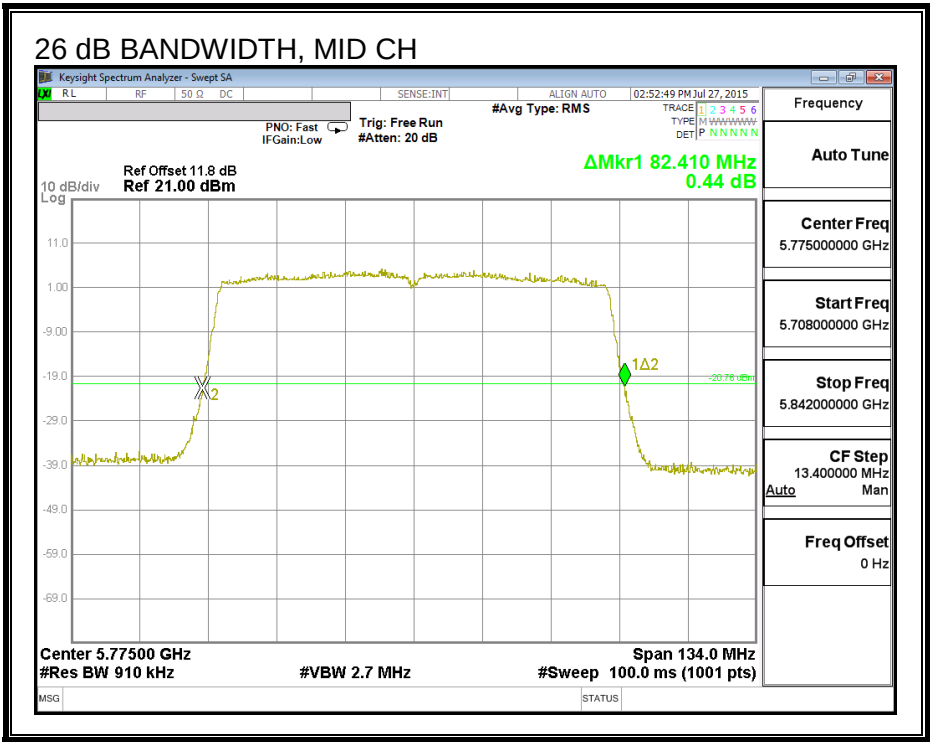
8.58.2. 26 dB BANDWIDTH

**LIMITS**  
None, for reporting purposes only.

**RESULTS**

| Channel | Frequency<br>(MHz) | 26 dB Bandwidth<br>(MHz) |
|---------|--------------------|--------------------------|
| Mid     | 5775               | 82.41                    |

**26 dB BANDWIDTH**



### 8.58.3. 99% BANDWIDTH

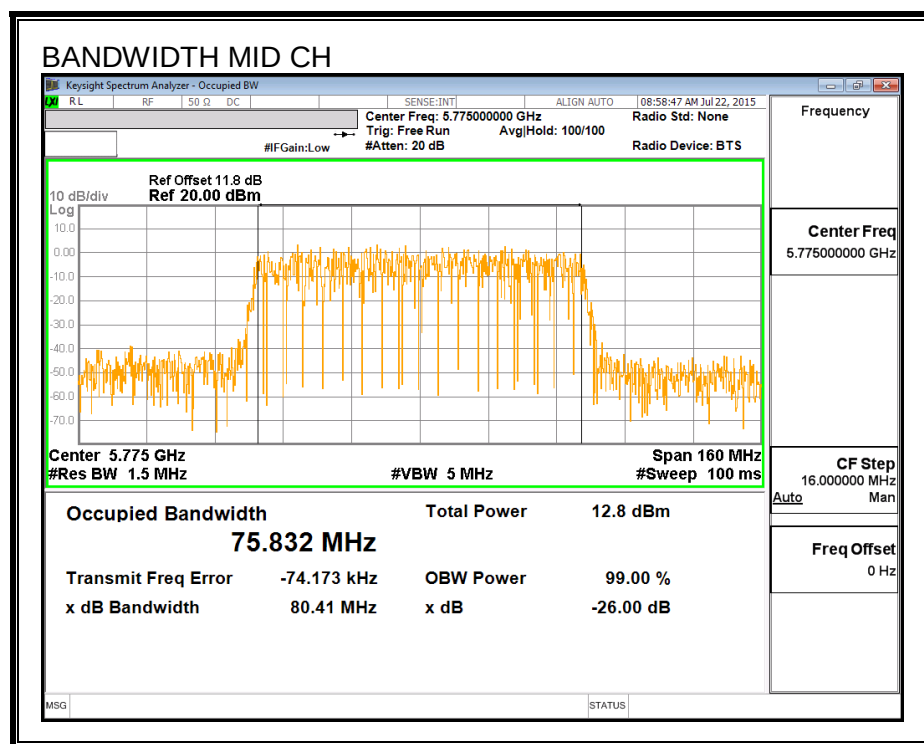
#### LIMITS

None; for reporting purposes only.

#### RESULTS

| Channel | Frequency (MHz) | 99% Bandwidth (MHz) |
|---------|-----------------|---------------------|
| Mid     | 5775            | 75.832              |

#### 99% BANDWIDTH



#### **8.58.4. AVERAGE POWER**

##### **LIMITS**

None; for reporting purposes only.

##### **RESULTS**

| Channel | Frequency<br>(MHz) | Power<br>(dBm) |
|---------|--------------------|----------------|
| Mid     | 5775               | 14.45          |

## 8.58.5. OUTPUT POWER

### LIMITS

FCC §15.407 (a) (3)

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. 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.

### DIRECTIONAL ANTENNA GAIN

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

### RESULTS

#### Antenna Gain and Limit

| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>(dBi) | Power<br>Limit<br>(dBm) |
|---------|--------------------|------------------------------|-------------------------|
| Mid     | 5775               | 3.10                         | 30.00                   |

|                    |      |                                          |
|--------------------|------|------------------------------------------|
| Duty Cycle CF (dB) | 0.19 | Included in Calculations of Corr'd Power |
|--------------------|------|------------------------------------------|

#### Output Power Results

| Channel | Frequency<br>(MHz) | Chain 1<br>Meas<br>Power<br>(dBm) | Total<br>Corr'd<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Power<br>Margin<br>(dB) |
|---------|--------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| Mid     | 5775               | 14.26                             | 14.45                             | 30.00                   | -15.55                  |

## 8.58.6. PSD

### LIMITS

FCC §15.407 (a) (3)

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. 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.

### DIRECTIONAL ANTENNA GAIN

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

### RESULTS

#### Antenna Gain and Limits

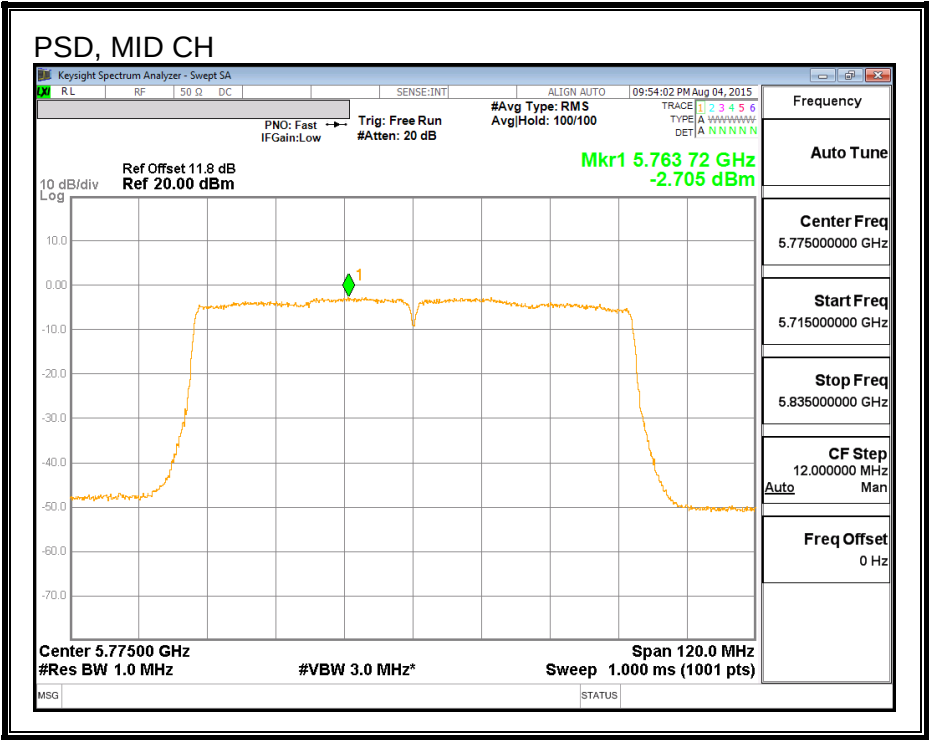
| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>(dBi) | PSD<br>Limit<br>(dBm) |
|---------|--------------------|------------------------------|-----------------------|
| Mid     | 5775               | 3.10                         | 30.00                 |

|                    |      |                                        |
|--------------------|------|----------------------------------------|
| Duty Cycle CF (dB) | 0.19 | Included in Calculations of Corr'd PSD |
|--------------------|------|----------------------------------------|

#### PSD Results

| Channel | Frequency<br>(MHz) | Chain 1<br>Meas<br>PSD<br>(dBm) | Total<br>Corr'd<br>PSD<br>(dBm) | PSD<br>Limit<br>(dBm) | PSD<br>Margin<br>(dB) |
|---------|--------------------|---------------------------------|---------------------------------|-----------------------|-----------------------|
| Mid     | 5775               | -2.705                          | -2.52                           | 30.00                 | -32.52                |

PSD,



## 8.59. 802.11ac VHT80 2Tx CDD MODE IN THE 5.8 GHz BAND

### 8.59.1. 6 dB BANDWIDTH

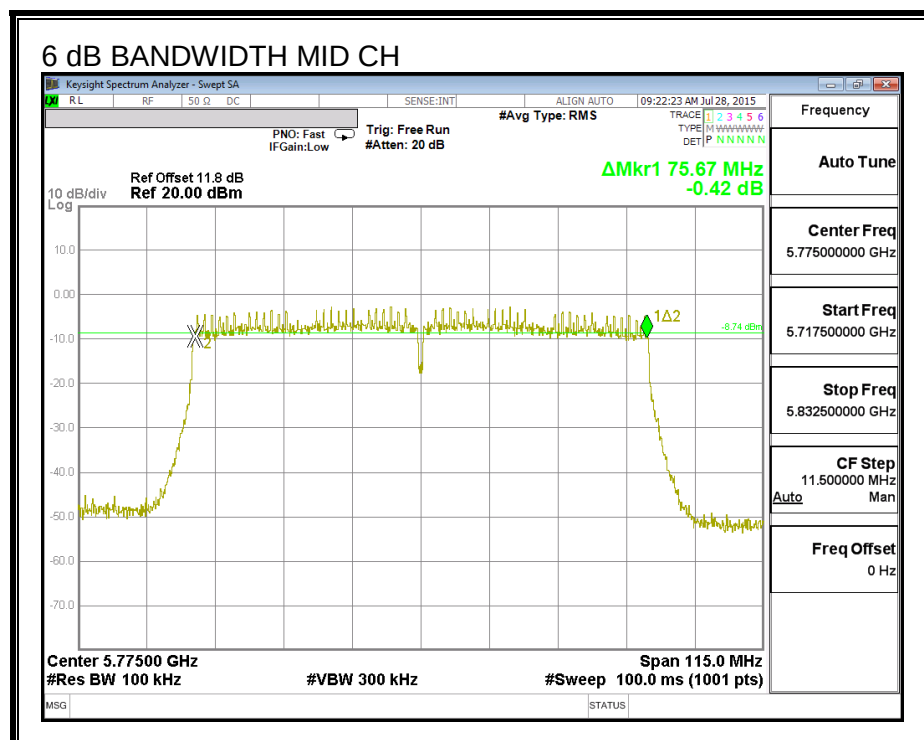
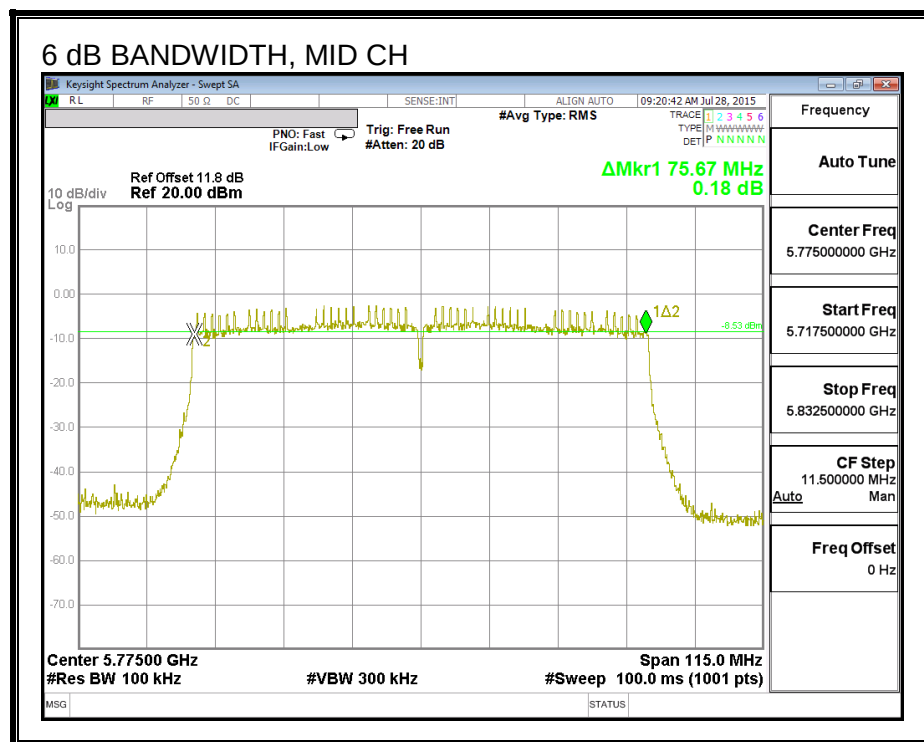
#### LIMITS

FCC §15.407 (e)

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

#### RESULTS

| Channel | Frequency<br>(MHz) | 6 dB BW<br>Chain 0<br>(MHz) | 6 dB BW<br>Chain 1<br>(MHz) | Minimum<br>Limit<br>(MHz) |
|---------|--------------------|-----------------------------|-----------------------------|---------------------------|
| Mid     | 5775               | 75.67                       | 75.67                       | 0.5                       |



**8.59.2. 26 dB BANDWIDTH**

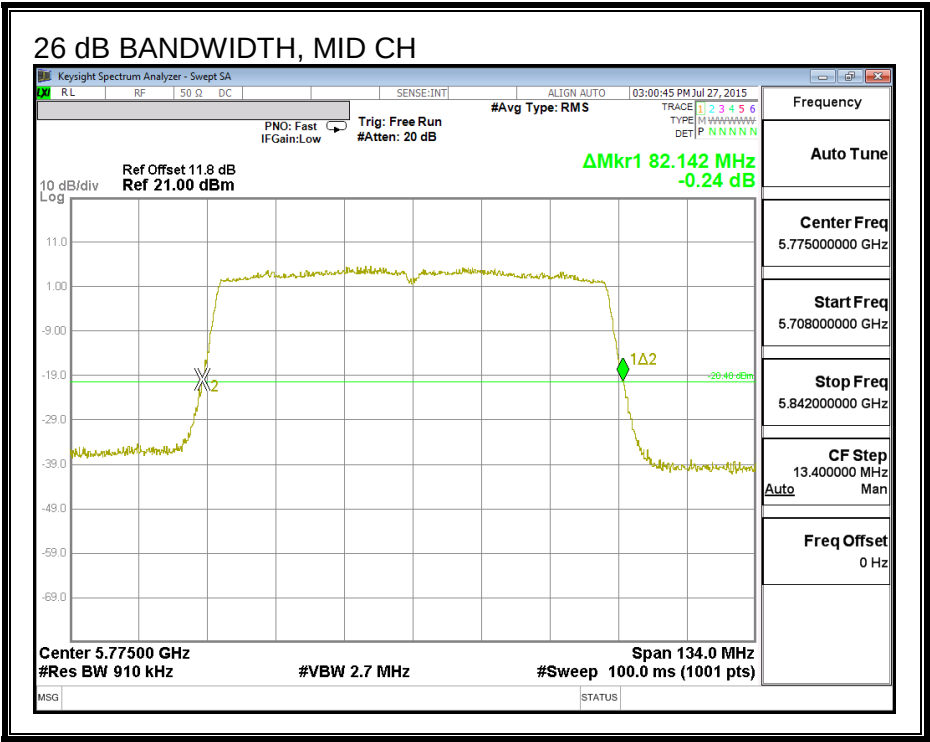
**LIMITS**

None, for reporting purposes only.

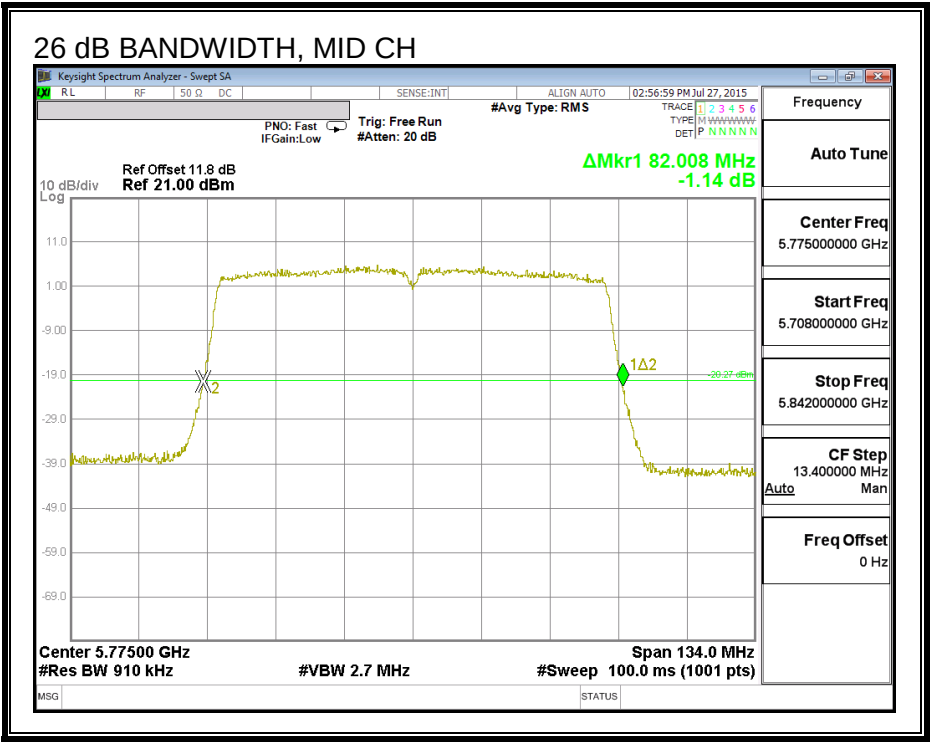
**RESULTS**

| Channel | Frequency<br>(MHz) | 26 dB BW<br>Chain 0<br>(MHz) | 26 dB BW<br>Chain 1<br>(MHz) |
|---------|--------------------|------------------------------|------------------------------|
| Mid     | 5775               | 82.14                        | 82.01                        |

26 dB BANDWIDTH, CHAIN 0



26 dB BANDWIDTH, CHAIN 1



**8.59.3. 99% BANDWIDTH**

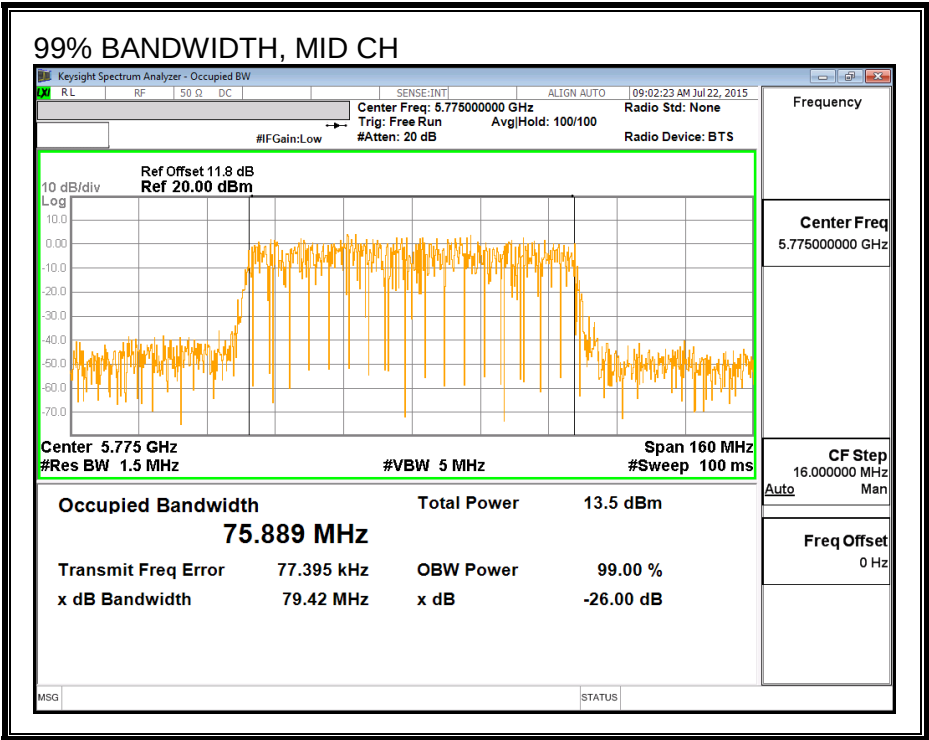
**LIMITS**

None; for reporting purposes only.

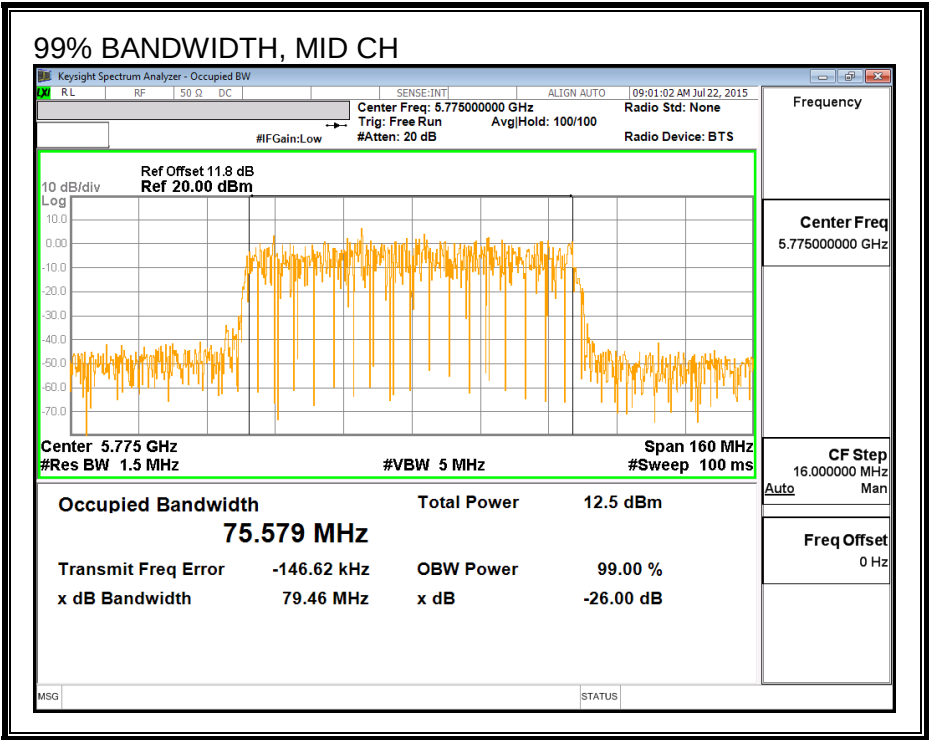
**RESULTS**

| Channel | Frequency<br>(MHz) | 99% BW<br>Chain 0<br>(MHz) | 99% BW<br>Chain 1<br>(MHz) |
|---------|--------------------|----------------------------|----------------------------|
| Mid     | 5775               | 75.889                     | 75.579                     |

99% BANDWIDTH, CHAIN 0



99% BANDWIDTH, CHAIN 1



#### **8.59.4. AVERAGE POWER**

##### **LIMITS**

None; for reporting purposes only.

##### **RESULTS**

| <b>Channel</b> | <b>Frequency<br/>(MHz)</b> | <b>Chain 0<br/>Power<br/>(dBm)</b> | <b>Chain 1<br/>Power<br/>(dBm)</b> | <b>Total<br/>Power<br/>(dBm)</b> |
|----------------|----------------------------|------------------------------------|------------------------------------|----------------------------------|
| Mid            | 5775                       | 13.84                              | 13.99                              | 16.93                            |

## 8.59.5. OUTPUT POWER

### LIMITS

FCC §15.407 (a) (3)

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. 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.

### DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is unequal among the chains. The directional gain is:

| Chain 0<br>Antenna<br>Gain<br>(dBi) | Chain 1<br>Antenna<br>Gain<br>(dBi) | Uncorrelated Chains<br>Directional<br>Gain<br>(dBi) |
|-------------------------------------|-------------------------------------|-----------------------------------------------------|
| 2.40                                | 3.10                                | 2.76                                                |

### RESULTS

#### Antenna Gain and Limit

| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>(dBi) | Power<br>Limit<br>(dBm) |
|---------|--------------------|------------------------------|-------------------------|
| Mid     | 5775               | 2.76                         | 30.00                   |

|                    |      |                                          |
|--------------------|------|------------------------------------------|
| Duty Cycle CF (dB) | 0.22 | Included in Calculations of Corr'd Power |
|--------------------|------|------------------------------------------|

#### Output Power Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>Power<br>(dBm) | Chain 1<br>Meas<br>Power<br>(dBm) | Total<br>Corr'd<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | Power<br>Margin<br>(dB) |
|---------|--------------------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| Mid     | 5775               | 13.62                             | 13.77                             | 16.93                             | 30.00                   | -13.07                  |

## 8.59.6. PSD

### LIMITS

FCC §15.407 (a) (3)

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. 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.

### DIRECTIONAL ANTENNA GAIN

The TX chains are correlated and the antenna gain is unequal among the chains. The directional gain is:

| Chain 0<br>Antenna<br>Gain<br>(dBi) | Chain 1<br>Antenna<br>Gain<br>(dBi) | Correlated Chains<br>Directional<br>Gain<br>(dBi) |
|-------------------------------------|-------------------------------------|---------------------------------------------------|
| 2.40                                | 3.10                                | 5.77                                              |

### RESULTS

#### Antenna Gain and Limit

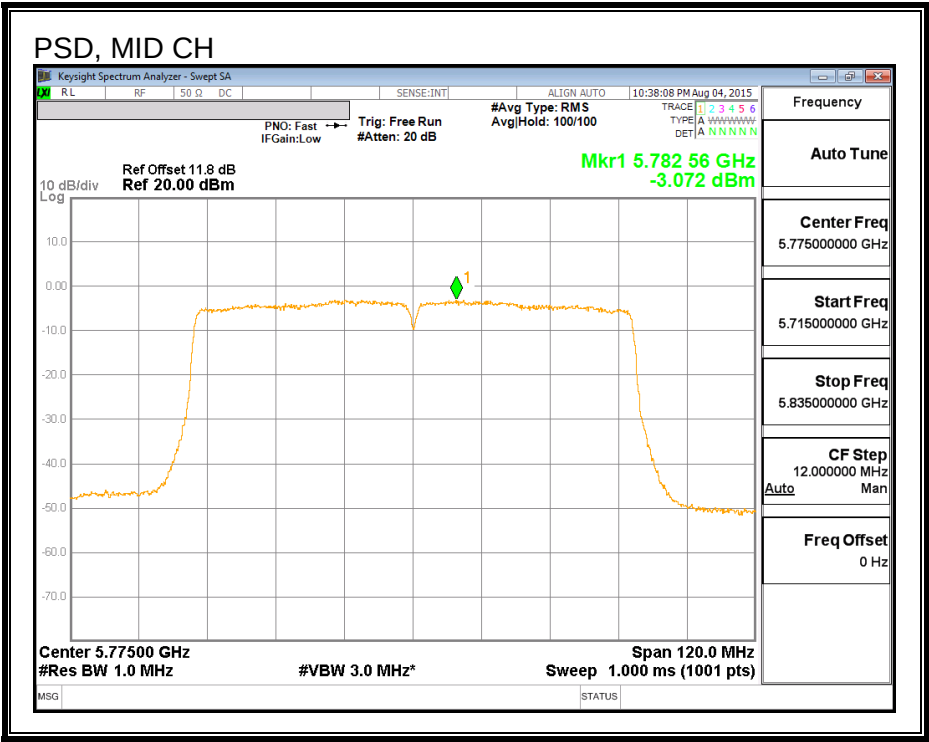
| Channel | Frequency<br>(MHz) | Directional<br>Gain<br>(dBi) | PSD<br>Limit<br>(dBm) |
|---------|--------------------|------------------------------|-----------------------|
| Mid     | 5775               | 5.77                         | 30.00                 |

|                    |      |                                        |
|--------------------|------|----------------------------------------|
| Duty Cycle CF (dB) | 0.22 | Included in Calculations of Corr'd PSD |
|--------------------|------|----------------------------------------|

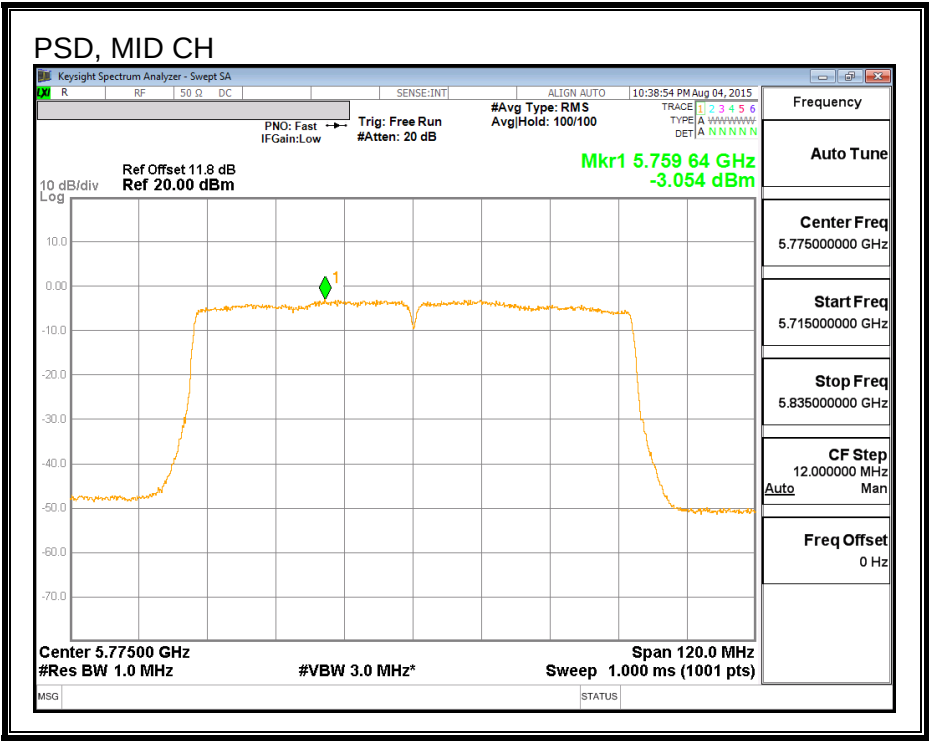
#### PSD Results

| Channel | Frequency<br>(MHz) | Chain 0<br>Meas<br>PSD<br>(dBm) | Chain 1<br>Meas<br>PSD<br>(dBm) | Total<br>Corr'd<br>PSD<br>(dBm) | PSD<br>Limit<br>(dBm) | PSD<br>Margin<br>(dB) |
|---------|--------------------|---------------------------------|---------------------------------|---------------------------------|-----------------------|-----------------------|
| Mid     | 5775               | -3.07                           | -3.05                           | 0.17                            | 30.00                 | -29.83                |

PSD, CHAIN 0



PSD, CHAIN 1



## **8.60. 802.11n VHT80 2Tx STBC/SDM MODE IN THE 5.8 GHz BAND**

**Note:** Covered by 802.11n HT80 2Tx CDD MODE