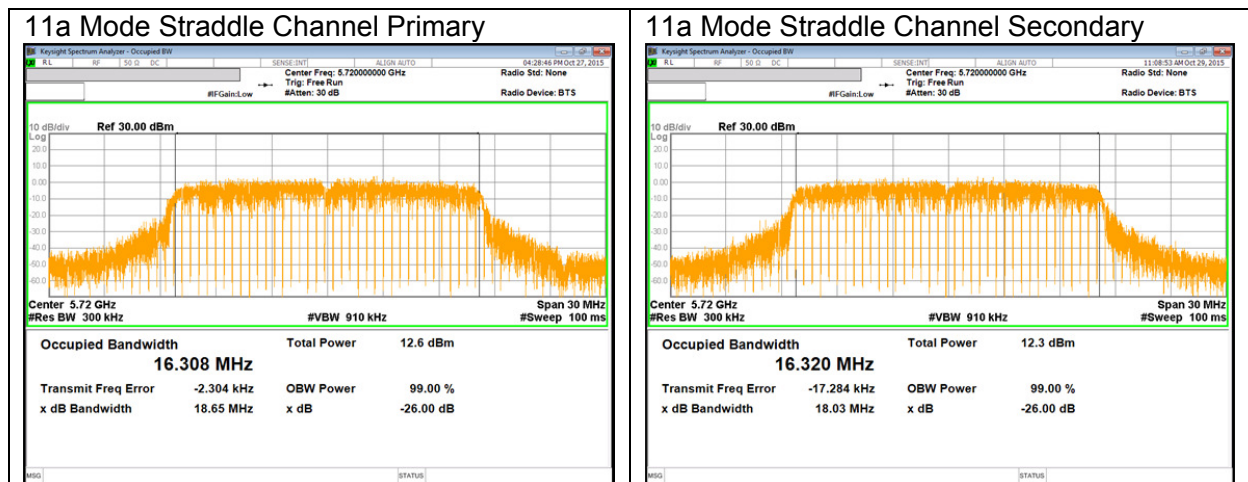
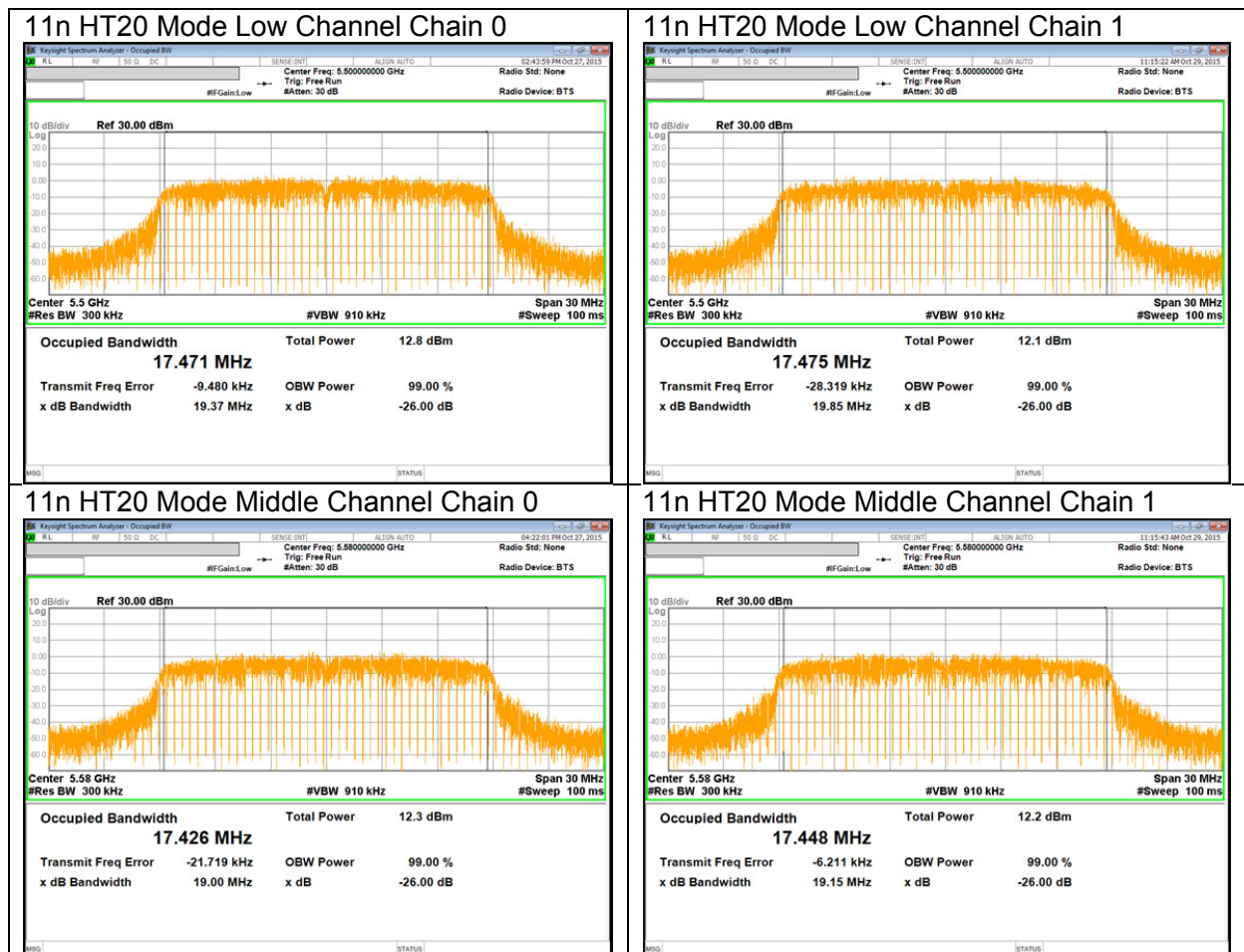
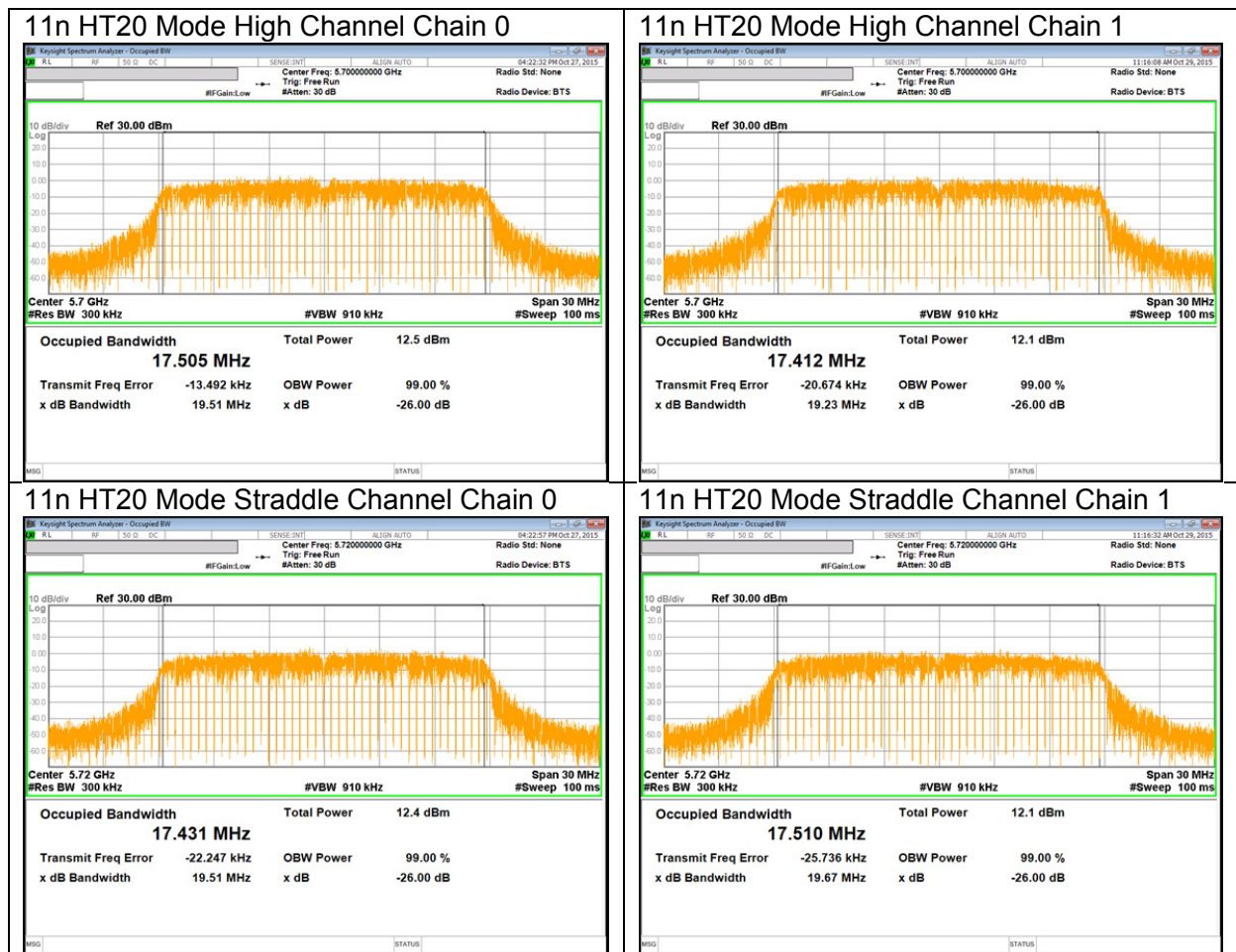


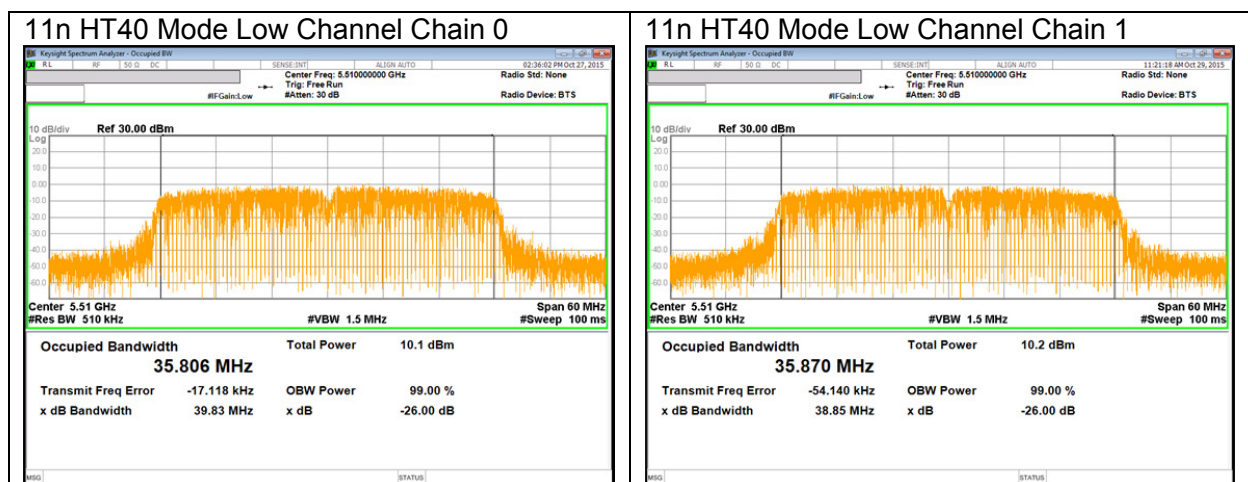


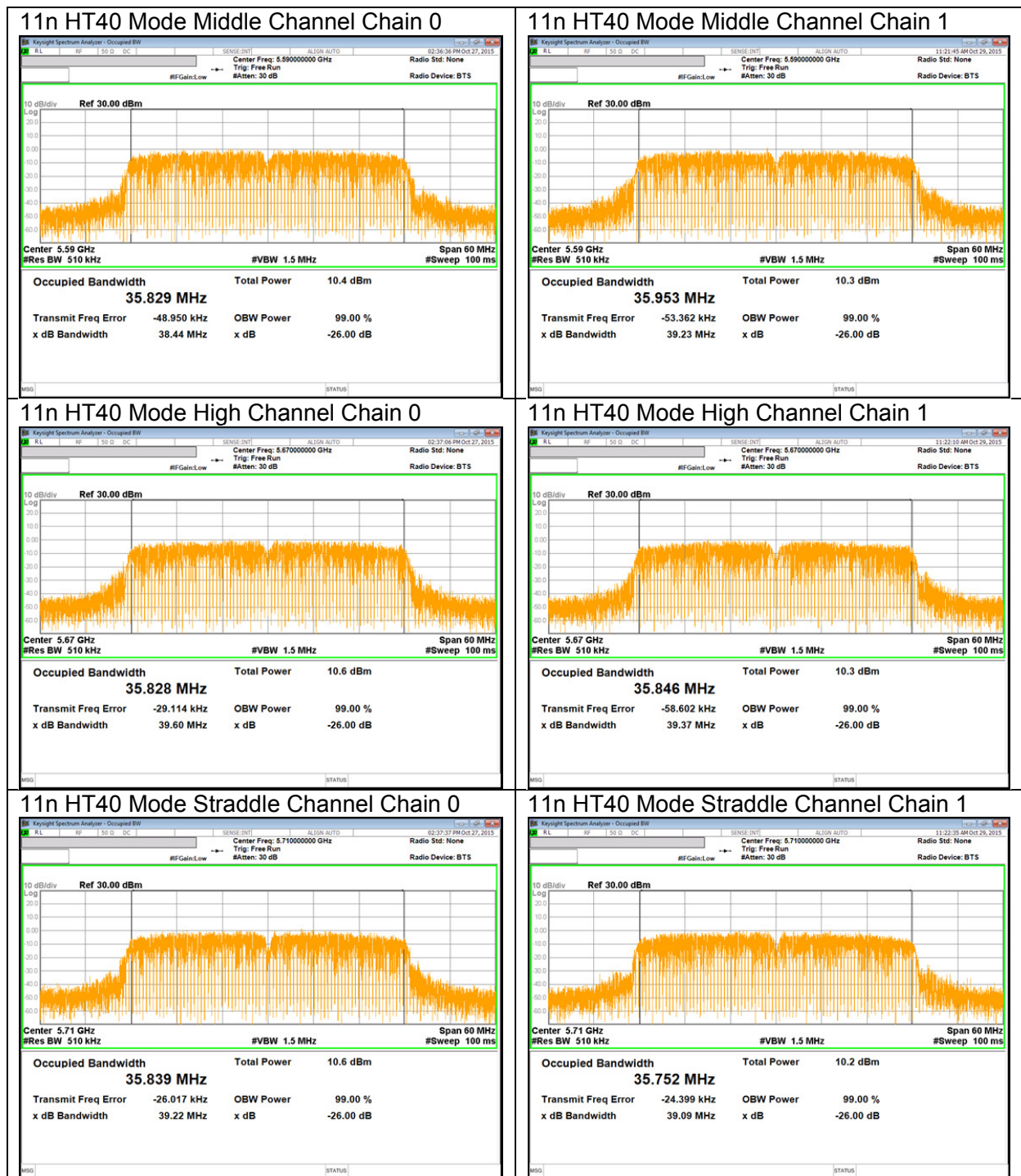
## UNII 5.5 GHz IEEE 802.11n HT20 mode



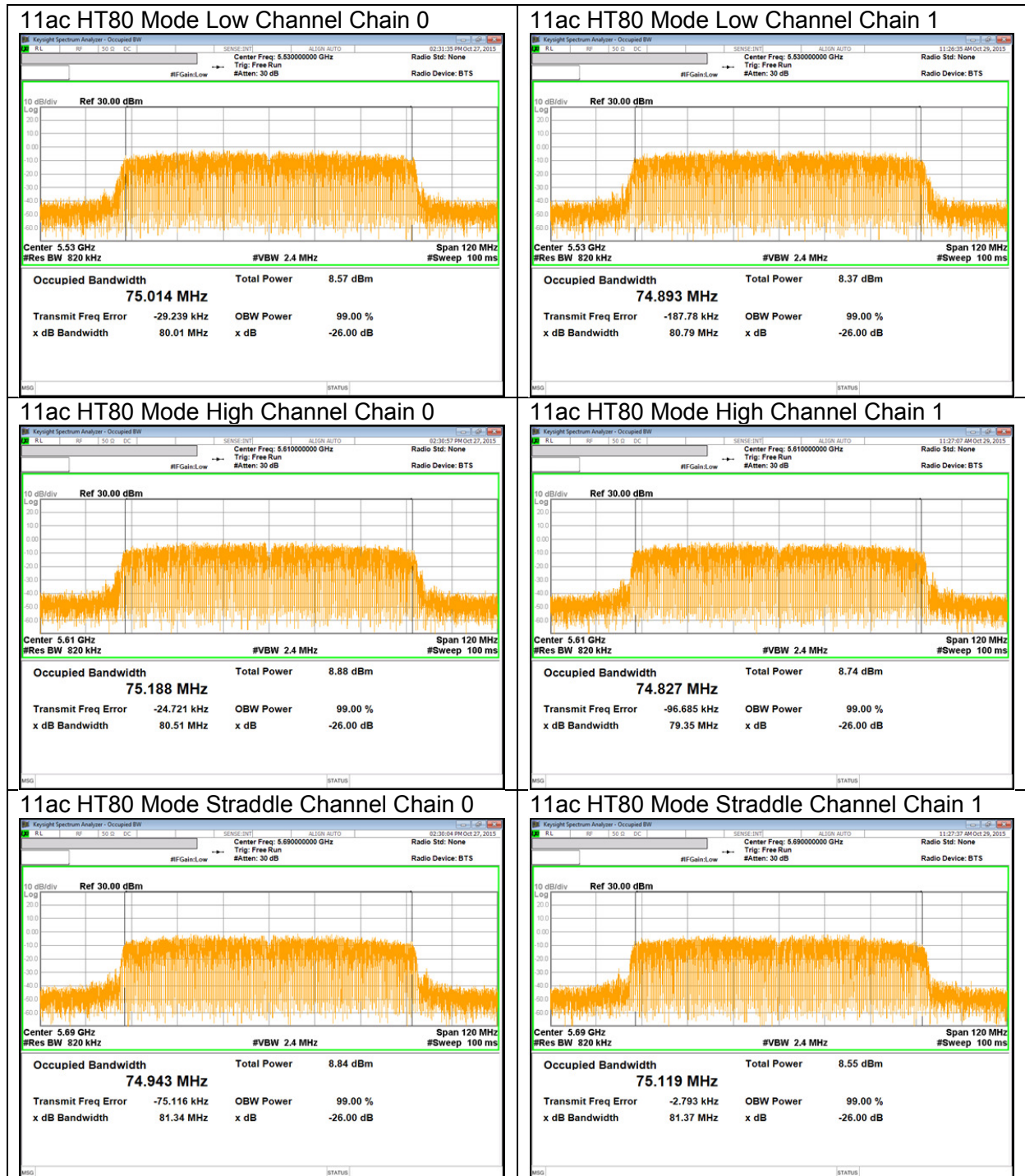


## UNII 5.5 GHz IEEE 802.11n HT40 mode

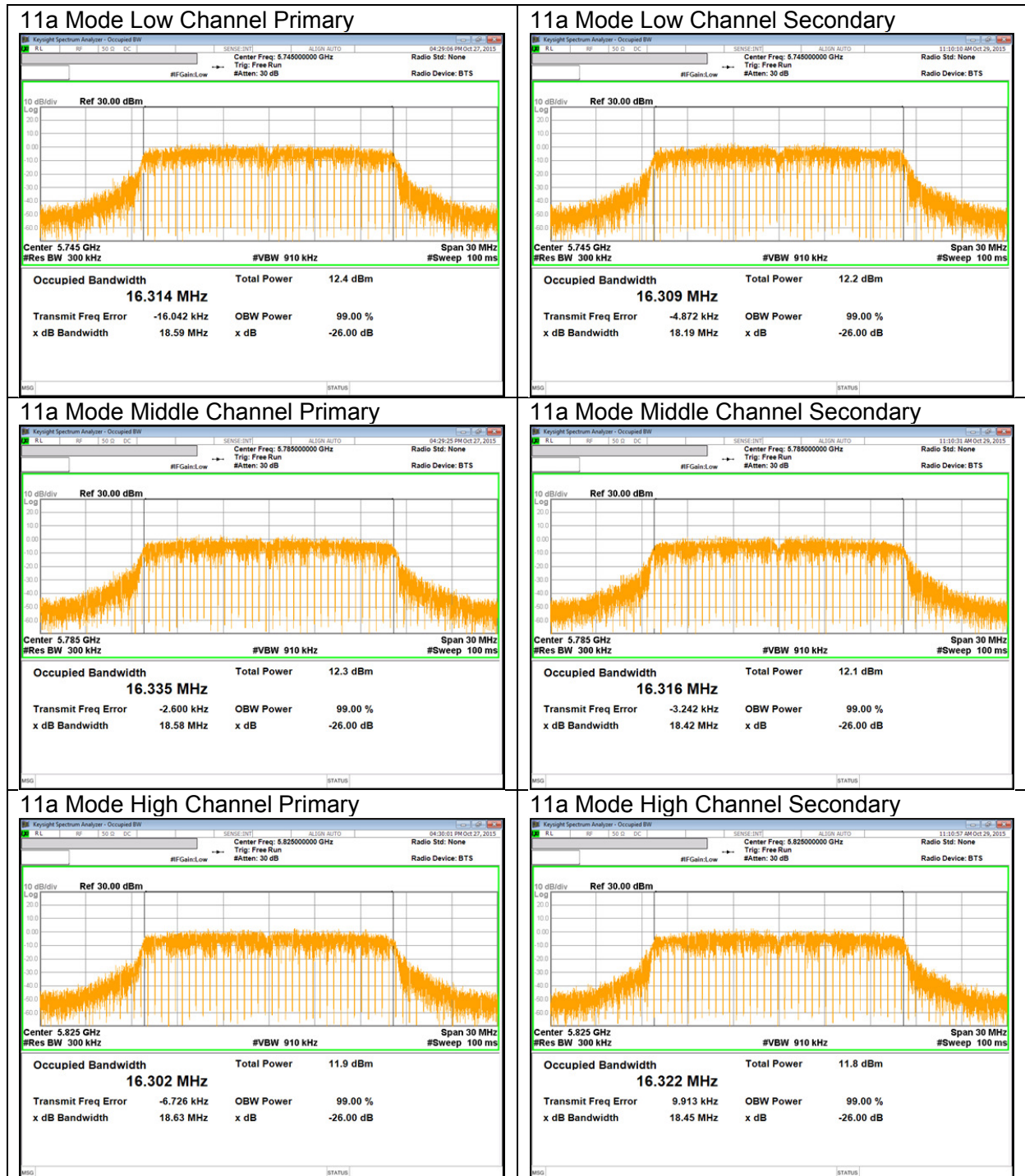




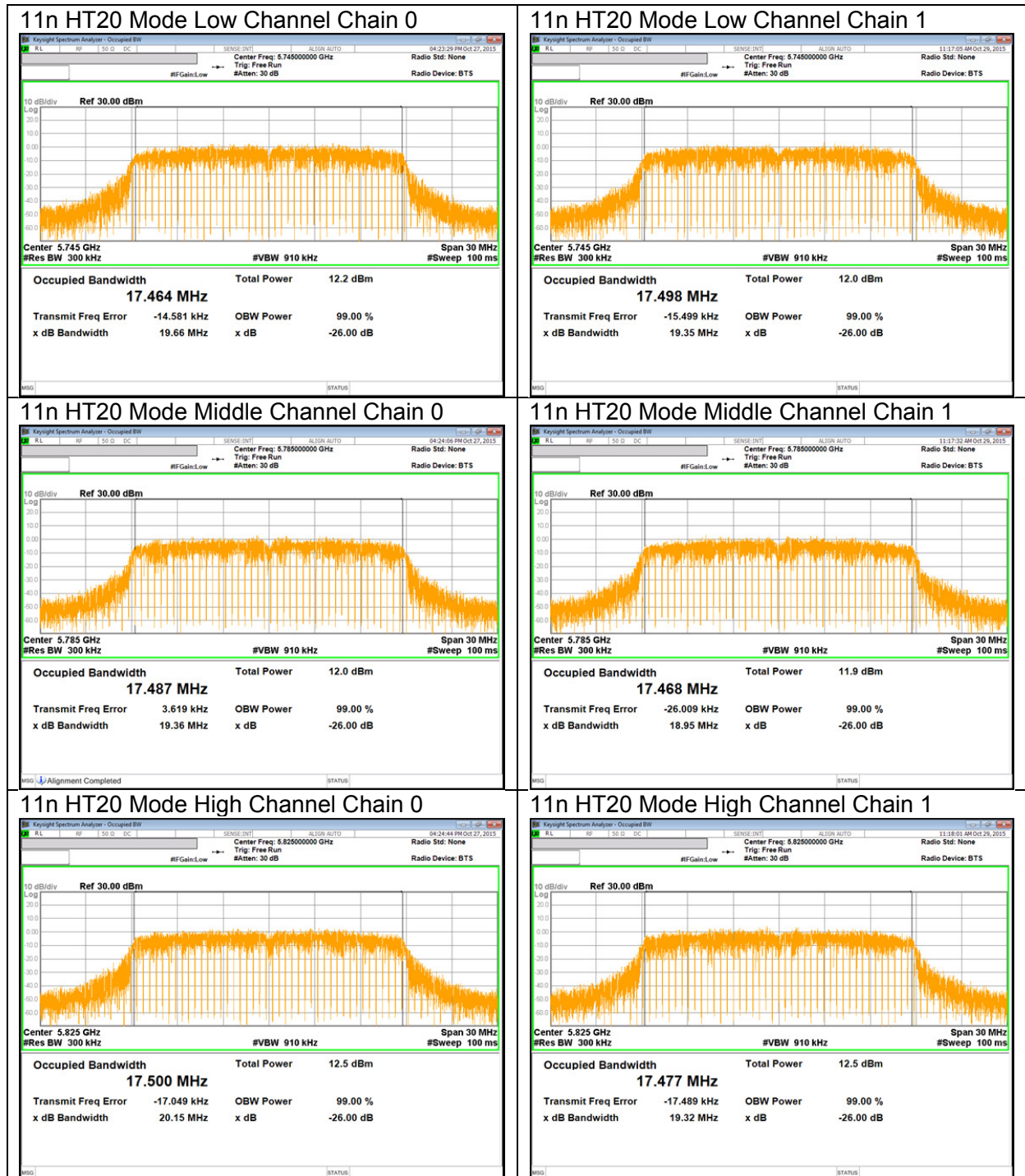
## UNII 5.5 GHz IEEE 802.11ac VHT80 mode



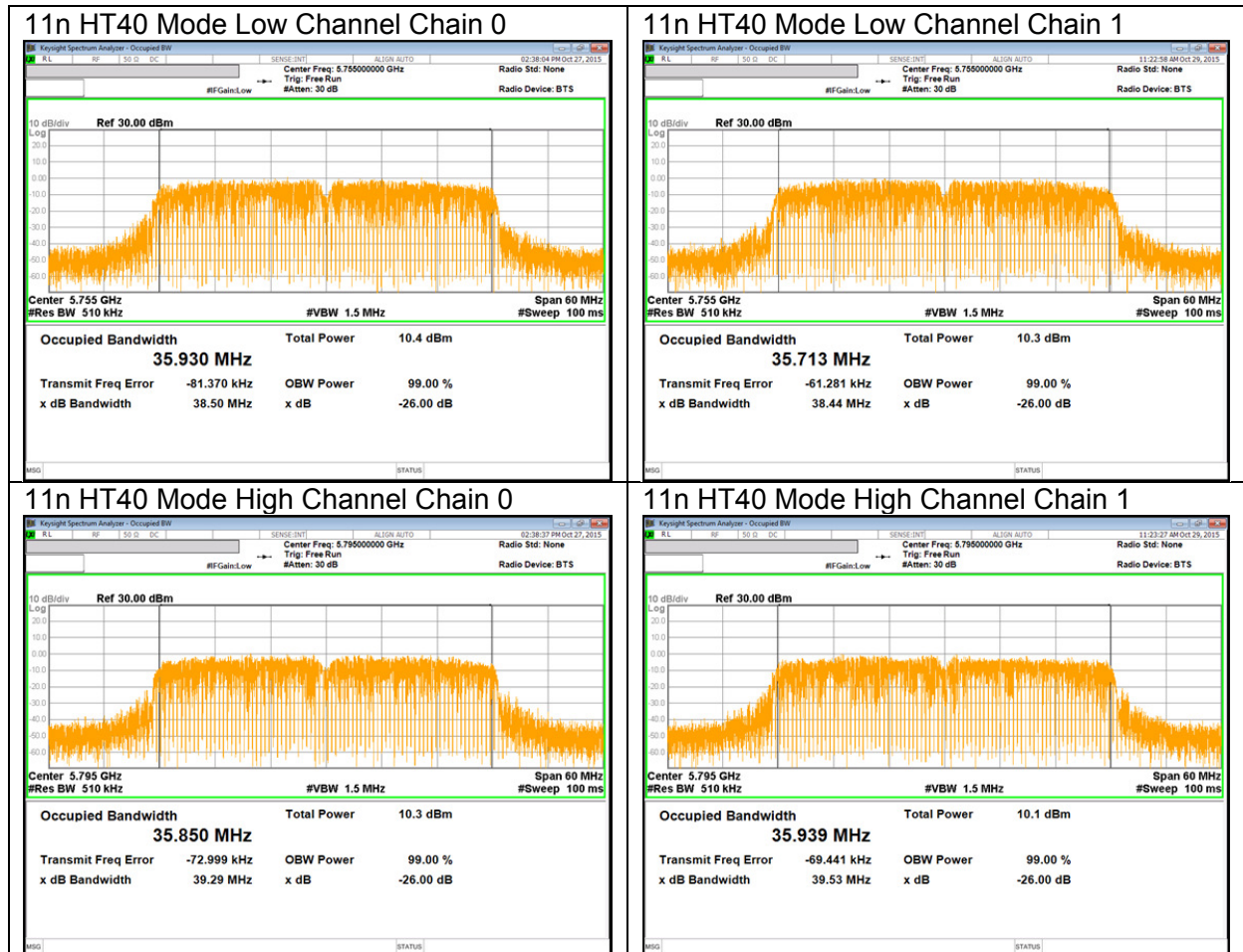
## UNII 5.8 GHz IEEE 802.11a mode



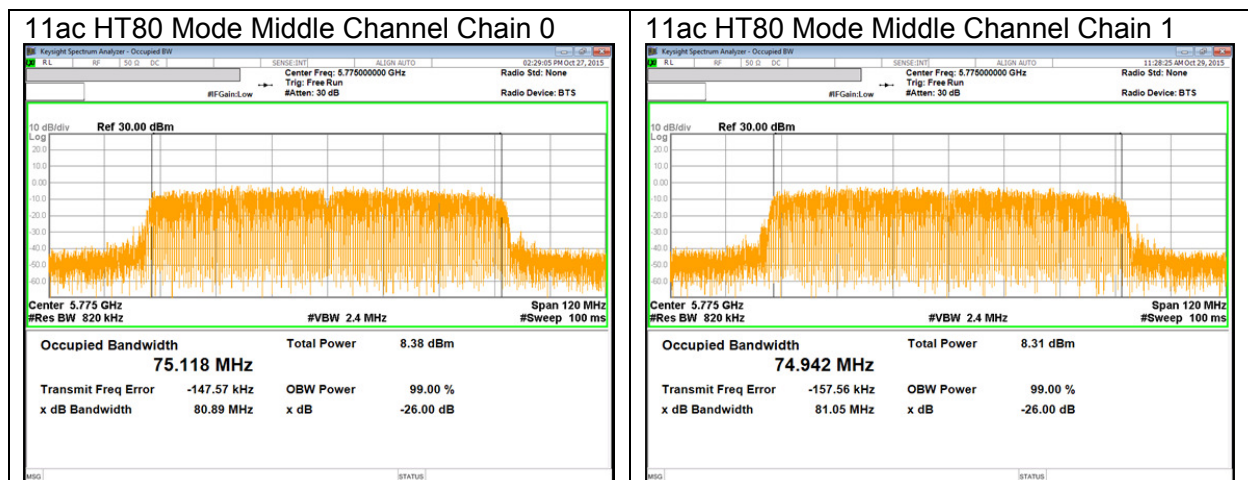
## UNII 5.8 GHz IEEE 802.11n HT20 mode



## UNII 5.8 GHz IEEE 802.11n HT40 mode



## UNII 5.8 GHz IEEE 802.11ac VHT80 mode



## 10.4. 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 the lesser of 250 mW or  $11 \text{ dBm} + 10 \log B$ , where B is the 26-dB emission bandwidth in MHz. In addition, the peak 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.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or  $11 \text{ dBm} + 10 \log B$ , where B is the 26 dB emission bandwidth in megahertz. 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.

### DIRECTIONAL ANTENNA GAIN

For Power: The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

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

5 GHz

| Frequency Band<br>[MHz] | Chain 0<br>Antenna<br>Gain<br>[dBi] | Chain 1<br>Antenna<br>Gain<br>[dBi] | Uncorrelated<br>Directional<br>Gain<br>[dBi] | Correlated<br>Directional<br>Gain<br>[dBi] |
|-------------------------|-------------------------------------|-------------------------------------|----------------------------------------------|--------------------------------------------|
| 5150 - 5250             | 0.13                                | -4.65                               | -1.63                                        | 1.08                                       |
| 5250 - 5350             | -1.23                               | -2.95                               | -2.01                                        | 0.96                                       |
| 5470 - 5725             | -0.07                               | -4.45                               | -1.73                                        | 1.02                                       |
| 5725 - 5850             | -1.05                               | -1.94                               | -1.47                                        | 1.53                                       |

## RESULTS

### 10.4.1. 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] | Min<br>99%<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5180               | 18.57                       | 16.32                     | -1.63                                     | 1.08                                     |
| Mid     | 5200               | 18.53                       | 16.32                     | -1.63                                     | 1.08                                     |
| High    | 5240               | 18.44                       | 16.33                     | -1.63                                     | 1.08                                     |

#### Limits

| Channel | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | FCC<br>PPSD<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------------|
| Low     | 5180               | 23.69                          | 11.00                         |
| Mid     | 5200               | 23.68                          | 11.00                         |
| High    | 5240               | 23.66                          | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.31 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

#### Output Power Results

| Channel | Frequency<br>[MHz] | Primary<br>Antenna 1<br>Power<br>[dBm] | Secondary<br>Antenna 2<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|----------------------------------------|------------------------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5180               | 12.60                                  | 12.14                                    | 15.70                             | 23.69                   | -7.99                   |
| Mid     | 5200               | 12.64                                  | 12.19                                    | 15.74                             | 23.68                   | -7.94                   |
| High    | 5240               | 12.07                                  | 12.34                                    | 15.53                             | 23.66                   | -8.13                   |

#### PPSD Results

| Channel | Frequency<br>[MHz] | Primary<br>Antenna 1<br>PPSD<br>[dBm] | Secondary<br>Antenna 2<br>PPSD<br>[dBm] | Total<br>Corr'd<br>PPSD<br>[dBm] | PPSD<br>Limit<br>[dBm] | PPSD<br>Margin<br>[dB] |
|---------|--------------------|---------------------------------------|-----------------------------------------|----------------------------------|------------------------|------------------------|
| Low     | 5180               | 2.64                                  | 2.11                                    | 5.71                             | 11.00                  | -5.29                  |
| Mid     | 5200               | 2.68                                  | 2.26                                    | 5.79                             | 11.00                  | -5.21                  |
| High    | 5240               | 1.90                                  | 2.26                                    | 5.40                             | 11.00                  | -5.60                  |

## 10.4.2. 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] | Min<br>99%<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5180               | 19.56                       | 17.47                     | -1.63                                     | 1.08                                     |
| Mid     | 5200               | 19.65                       | 17.49                     | -1.63                                     | 1.08                                     |
| High    | 5240               | 19.55                       | 17.50                     | -1.63                                     | 1.08                                     |

### Limits

| Channel | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | FCC<br>PPSD<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------------|
| Low     | 5180               | 23.91                          | 11.00                         |
| Mid     | 5200               | 23.93                          | 11.00                         |
| High    | 5240               | 23.91                          | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.33 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

### 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     | 5180               | 12.28                             | 12.86                             | 15.91                             | 23.91                   | -8.00                   |
| Mid     | 5200               | 12.42                             | 12.92                             | 16.01                             | 23.93                   | -7.92                   |
| High    | 5240               | 12.82                             | 12.06                             | 15.79                             | 23.91                   | -8.12                   |

### PPSD Results

| Channel | Frequency<br>[MHz] | Chain 0<br>Meas<br>PPSD<br>[dBm] | Chain 1<br>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               | 2.51                             | 2.80                             | 5.99                             | 11.00                  | -5.01                  |
| Mid     | 5200               | 2.49                             | 2.79                             | 5.98                             | 11.00                  | -5.02                  |
| High    | 5240               | 2.83                             | 1.95                             | 5.75                             | 11.00                  | -5.25                  |

### 10.4.3. 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] | Min<br>99%<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5190               | 40.53                       | 35.94                     | -1.63                                     | 1.08                                     |
| High    | 5230               | 39.95                       | 35.91                     | -1.63                                     | 1.08                                     |

#### Limits

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

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.63 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

#### 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     | 5190               | 10.76                             | 10.81                             | 14.43                             | 24.00                   | -9.57                   |
| High    | 5230               | 9.98                              | 10.47                             | 13.87                             | 24.00                   | -10.13                  |

#### PPSD Results

| Channel | Frequency<br>[MHz] | Chain 0<br>Meas<br>PPSD<br>[dBm] | Chain 1<br>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               | -2.50                            | -2.31                            | 1.24                             | 11.00                  | -9.76                  |
| High    | 5230               | -3.11                            | -2.67                            | 0.76                             | 11.00                  | -10.24                 |

#### 10.4.4. 802.11ac HT80 MODE IN THE 5.2 GHz BAND

##### Bandwidth and Antenna Gain

| 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 PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Middle  | 5210               | 81.99                       | 75.04                     | -1.63                                     | 1.08                                     |

##### Limits

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

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 1.20 | Included in Calculations of Corr'd Power & PPSP |
|--------------------|------|-------------------------------------------------|

##### 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] |
|---------|--------------------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| Middle  | 5210               | 8.91                              | 8.60                              | 12.97                             | 24.00                   | -11.03                  |

##### PPSD Results

| Channel | Frequency<br>[MHz] | Chain 0<br>Meas<br>PPSD<br>[dBm] | Chain 1<br>Meas<br>PPSD<br>[dBm] | Total<br>Corr'd<br>PPSD<br>[dBm] | PPSD<br>Limit<br>[dBm] | PPSD<br>Margin<br>[dB] |
|---------|--------------------|----------------------------------|----------------------------------|----------------------------------|------------------------|------------------------|
| Middle  | 5210               | -6.99                            | -7.65                            | -3.10                            | 11.00                  | -14.10                 |

### 10.4.5. 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] | Min<br>99%<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5260               | 18.71                       | 16.31                     | -2.01                                     | 0.96                                     |
| Mid     | 5300               | 18.26                       | 16.34                     | -2.01                                     | 0.96                                     |
| High    | 5320               | 18.46                       | 16.31                     | -2.01                                     | 0.96                                     |

#### Limits

| Channel | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | FCC<br>PPSD<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------------|
| Low     | 5260               | 23.72                          | 11.00                         |
| Mid     | 5300               | 23.62                          | 11.00                         |
| High    | 5320               | 23.66                          | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.31 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

#### Output Power Results

| Channel | Frequency<br>[MHz] | Primary<br>Antenna 1<br>Power<br>[dBm] | Secondary<br>Antenna 2<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|----------------------------------------|------------------------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5260               | 12.91                                  | 12.38                                    | 15.97                             | 23.72                   | -7.75                   |
| Mid     | 5300               | 12.96                                  | 12.24                                    | 15.94                             | 23.62                   | -7.68                   |
| High    | 5320               | 12.88                                  | 12.25                                    | 15.90                             | 23.66                   | -7.76                   |

#### PPSD Results

| Channel | Frequency<br>[MHz] | Primary<br>Antenna 1<br>PPSD<br>[dBm] | Secondary<br>Antenna 2<br>PPSD<br>[dBm] | Total<br>Corr'd<br>PPSD<br>[dBm] | PPSD<br>Limit<br>[dBm] | PPSD<br>Margin<br>[dB] |
|---------|--------------------|---------------------------------------|-----------------------------------------|----------------------------------|------------------------|------------------------|
| Low     | 5260               | 2.86                                  | 2.36                                    | 5.94                             | 11.00                  | -5.06                  |
| Mid     | 5300               | 2.78                                  | 2.11                                    | 5.78                             | 11.00                  | -5.22                  |
| High    | 5320               | 2.74                                  | 2.36                                    | 5.88                             | 11.00                  | -5.12                  |

## 10.4.6. 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] | Min<br>99%<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5260               | 19.48                       | 17.51                     | -2.01                                     | 0.96                                     |
| Mid     | 5300               | 19.54                       | 17.45                     | -2.01                                     | 0.96                                     |
| High    | 5320               | 19.49                       | 17.50                     | -2.01                                     | 0.96                                     |

### Limits

| Channel | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | FCC<br>PPSD<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------------|
| Low     | 5260               | 23.90                          | 11.00                         |
| Mid     | 5300               | 23.91                          | 11.00                         |
| High    | 5320               | 23.90                          | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.33 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

### 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     | 5260               | 12.79                             | 12.13                             | 15.81                             | 23.90                   | -8.09                   |
| Mid     | 5300               | 12.81                             | 13.08                             | 16.29                             | 23.91                   | -7.62                   |
| High    | 5320               | 12.72                             | 13.05                             | 16.22                             | 23.90                   | -7.67                   |

### PPSD Results

| Channel | Frequency<br>[MHz] | Chain 0<br>Meas<br>PPSD<br>[dBm] | Chain 1<br>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               | 2.52                             | 1.93                             | 5.57                             | 11.00                  | -5.43                  |
| Mid     | 5300               | 2.63                             | 2.81                             | 6.06                             | 11.00                  | -4.94                  |
| High    | 5320               | 2.77                             | 2.95                             | 6.19                             | 11.00                  | -4.81                  |

## 10.4.7. 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] | Min<br>99%<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5270               | 39.91                       | 35.88                     | -2.01                                     | 0.96                                     |
| High    | 5310               | 40.16                       | 35.84                     | -2.01                                     | 0.96                                     |

### Limits

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

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.63 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

### 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     | 5270               | 9.89                              | 10.38                             | 13.79                             | 24.00                   | -10.21                  |
| High    | 5310               | 9.84                              | 10.10                             | 13.61                             | 24.00                   | -10.39                  |

### PPSD Results

| Channel | Frequency<br>[MHz] | Chain 0<br>Meas<br>PPSD<br>[dBm] | Chain 1<br>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               | -3.29                            | -2.95                            | 0.53                             | 11.00                  | -10.47                 |
| High    | 5310               | -3.47                            | -3.17                            | 0.32                             | 11.00                  | -10.68                 |

## 10.4.8. 802.11ac HT80 MODE IN THE 5.3 GHz BAND

### Bandwidth and Antenna Gain

| 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 PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Middle  | 5290               | 81.73                       | 75.10                     | -2.01                                     | 0.96                                     |

### Limits

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

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 1.20 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

### 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] |
|---------|--------------------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| Middle  | 5290               | 9.13                              | 8.49                              | 13.03                             | 24.00                   | -10.97                  |

### PPSD Results

| Channel | Frequency<br>[MHz] | Chain 0<br>Meas<br>PPSD<br>[dBm] | Chain 1<br>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               | -7.11                            | -7.61                            | -3.15                            | 11.00                  | -14.15                 |

## 10.4.9. 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] | Min<br>99%<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5500               | 18.46                       | 16.33                     | -1.73                                     | 1.02                                     |
| Mid     | 5580               | 18.34                       | 16.32                     | -1.73                                     | 1.02                                     |
| High    | 5700               | 18.52                       | 16.31                     | -1.73                                     | 1.02                                     |

### Limits

| Channel | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | FCC<br>PPSD<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------------|
| Low     | 5500               | 23.66                          | 11.00                         |
| Mid     | 5580               | 23.63                          | 11.00                         |
| High    | 5700               | 23.68                          | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.31 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

### Output Power Results

| Channel | Frequency<br>[MHz] | Primary<br>Antenna 1<br>Power<br>[dBm] | Secondary<br>Antenna 2<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|----------------------------------------|------------------------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5500               | 12.17                                  | 12.61                                    | 15.71                             | 23.66                   | -7.95                   |
| Mid     | 5580               | 12.39                                  | 12.66                                    | 15.85                             | 23.63                   | -7.78                   |
| High    | 5700               | 12.47                                  | 12.39                                    | 15.75                             | 23.68                   | -7.93                   |

### PPSD Results

| Channel | Frequency<br>[MHz] | Primary<br>Antenna 1<br>PPSD<br>[dBm] | Secondary<br>Antenna 2<br>PPSD<br>[dBm] | Total<br>Corr'd<br>PPSD<br>[dBm] | PPSD<br>Limit<br>[dBm] | PPSD<br>Margin<br>[dB] |
|---------|--------------------|---------------------------------------|-----------------------------------------|----------------------------------|------------------------|------------------------|
| Low     | 5500               | 2.30                                  | 2.51                                    | 5.73                             | 11.00                  | -5.27                  |
| Mid     | 5580               | 2.43                                  | 2.85                                    | 5.97                             | 11.00                  | -5.03                  |
| High    | 5700               | 2.53                                  | 2.57                                    | 5.87                             | 11.00                  | -5.13                  |

## 10.4.10. 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] | Min<br>99%<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5500               | 19.46                       | 17.48                     | -1.73                                     | 1.02                                     |
| Mid     | 5580               | 19.44                       | 17.45                     | -1.73                                     | 1.02                                     |
| High    | 5700               | 19.66                       | 17.51                     | -1.73                                     | 1.02                                     |

### Limits

| Channel | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | FCC<br>PPSD<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------------|
| Low     | 5500               | 23.89                          | 11.00                         |
| Mid     | 5580               | 23.89                          | 11.00                         |
| High    | 5700               | 23.94                          | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.33 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

### 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     | 5500               | 13.00                             | 12.43                             | 16.06                             | 23.89                   | -7.83                   |
| Mid     | 5580               | 12.11                             | 12.44                             | 15.61                             | 23.89                   | -8.27                   |
| High    | 5700               | 12.39                             | 12.33                             | 15.70                             | 23.94                   | -8.24                   |

### PPSD Results

| Channel | Frequency<br>[MHz] | Chain 0<br>Meas<br>PPSD<br>[dBm] | Chain 1<br>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               | 2.92                             | 2.29                             | 5.95                             | 11.00                  | -5.05                  |
| Mid     | 5580               | 2.05                             | 2.15                             | 5.43                             | 11.00                  | -5.57                  |
| High    | 5700               | 2.24                             | 2.28                             | 5.60                             | 11.00                  | -5.40                  |

### 10.4.11. 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] | Min<br>99%<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5510               | 39.79                       | 35.87                     | -1.73                                     | 1.02                                     |
| Mid     | 5550               | 40.22                       | 35.95                     | -1.73                                     | 1.02                                     |
| High    | 5670               | 39.93                       | 35.85                     | -1.73                                     | 1.02                                     |

#### Limits

| Channel | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | FCC<br>PPSD<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------------|
| Low     | 5510               | 24.00                          | 11.00                         |
| Mid     | 5550               | 24.00                          | 11.00                         |
| High    | 5670               | 24.00                          | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.63 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

#### 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     | 5510               | 9.62                              | 10.11                             | 13.52                             | 24.00                   | -10.48                  |
| Mid     | 5550               | 10.36                             | 10.53                             | 14.09                             | 24.00                   | -9.91                   |
| High    | 5670               | 10.77                             | 10.76                             | 14.40                             | 24.00                   | -9.60                   |

#### PPSD Results

| Channel | Frequency<br>[MHz] | Chain 0<br>Meas<br>PPSD<br>[dBm] | Chain 1<br>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               | -3.57                            | -2.62                            | 0.57                             | 11.00                  | -10.43                 |
| Mid     | 5550               | -2.87                            | -2.61                            | 0.90                             | 11.00                  | -10.10                 |
| High    | 5670               | -2.62                            | -2.24                            | 1.22                             | 11.00                  | -9.78                  |

## 10.4.12. 802.11ac HT80 MODE IN THE 5.5 GHz BAND

### Bandwidth and Antenna Gain

| 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 PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5530               | 82.38                       | 75.01                     | -1.73                                     | 1.02                                     |
| High    | 5610               | 81.97                       | 75.19                     | -1.73                                     | 1.02                                     |

### Limits

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

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 1.20 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

### 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               | 8.36                              | 8.47                              | 12.62                             | 24.00                   | -11.38                  |
| High    | 5610               | 8.57                              | 8.87                              | 12.93                             | 24.00                   | -11.07                  |

### PPSD Results

| Channel | Frequency<br>[MHz] | Chain 0<br>Meas<br>PPSD<br>[dBm] | Chain 1<br>Meas<br>PPSD<br>[dBm] | Total<br>Corr'd<br>PPSD<br>[dBm] | PPSD<br>Limit<br>[dBm] | PPSD<br>Margin<br>[dB] |
|---------|--------------------|----------------------------------|----------------------------------|----------------------------------|------------------------|------------------------|
| Low     | 5530               | -7.75                            | -7.82                            | -3.58                            | 11.00                  | -14.58                 |
| High    | 5610               | -7.58                            | -7.20                            | -3.18                            | 11.00                  | -14.18                 |

### 10.4.13. 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] | Min<br>99%<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5745               | 18.46                       | 16.31                     | -1.47                                     | 1.53                                     |
| Mid     | 5785               | 18.60                       | 16.34                     | -1.47                                     | 1.53                                     |
| High    | 5825               | 18.53                       | 16.32                     | -1.47                                     | 1.53                                     |

#### Limits

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

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.31 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

#### Output Power Results

| Channel | Frequency<br>[MHz] | Primary<br>Antenna 1<br>Power<br>[dBm] | Secondary<br>Antenna 2<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|----------------------------------------|------------------------------------------|-----------------------------------|-------------------------|-------------------------|
| Low     | 5745               | 12.45                                  | 12.57                                    | 15.83                             | 30.00                   | -14.17                  |
| Mid     | 5785               | 12.53                                  | 12.63                                    | 15.90                             | 30.00                   | -14.10                  |
| High    | 5825               | 12.18                                  | 12.38                                    | 15.60                             | 30.00                   | -14.40                  |

#### PPSD Results

| Channel | Frequency<br>[MHz] | Primary<br>Antenna 1<br>PPSD<br>[dBm] | Secondary<br>Antenna 2<br>PPSD<br>[dBm] | Total<br>Corr'd<br>PPSD<br>[dBm] | PPSD<br>Limit<br>[dBm] | PPSD<br>Margin<br>[dB] |
|---------|--------------------|---------------------------------------|-----------------------------------------|----------------------------------|------------------------|------------------------|
| Low     | 5745               | -0.84                                 | -0.41                                   | 2.71                             | 30.00                  | -27.29                 |
| Mid     | 5785               | -0.53                                 | -0.23                                   | 2.94                             | 30.00                  | -27.06                 |
| High    | 5825               | -0.85                                 | -0.88                                   | 2.46                             | 30.00                  | -27.54                 |

#### 10.4.14. 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] | Min<br>99%<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5745               | 19.61                       | 17.50                     | -1.47                                     | 1.53                                     |
| Mid     | 5785               | 19.60                       | 17.49                     | -1.47                                     | 1.53                                     |
| High    | 5825               | 19.54                       | 17.50                     | -1.47                                     | 1.53                                     |

##### Limits

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

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.33 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

##### 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               | 12.33                             | 12.49                             | 15.75                             | 30.00                   | -14.25                  |
| Mid     | 5785               | 12.43                             | 12.60                             | 15.85                             | 30.00                   | -14.15                  |
| High    | 5825               | 12.53                             | 12.67                             | 15.94                             | 30.00                   | -14.06                  |

##### PPSD Results

| Channel | Frequency<br>[MHz] | Chain 0<br>Meas<br>PPSD<br>[dBm] | Chain 1<br>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               | -1.23                            | -0.48                            | 2.50                             | 30.00                  | -27.50                 |
| Mid     | 5785               | -0.96                            | -0.67                            | 2.52                             | 30.00                  | -27.48                 |
| High    | 5825               | -0.54                            | -0.44                            | 2.84                             | 30.00                  | -27.16                 |

## 10.4.15. 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] | Min<br>99%<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Low     | 5755               | 39.76                       | 35.93                     | -1.47                                     | 1.53                                     |
| High    | 5795               | 39.87                       | 35.94                     | -1.47                                     | 1.53                                     |

### Limits

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

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.63 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

### 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               | 10.73                             | 10.82                             | 14.42                             | 30.00                   | -15.58                  |
| High    | 5795               | 10.75                             | 10.79                             | 14.41                             | 30.00                   | -15.59                  |

### PPSD Results

| Channel | Frequency<br>[MHz] | Chain 0<br>Meas<br>PPSD<br>[dBm] | Chain 1<br>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               | -5.57                            | -5.69                            | -1.99                            | 30.00                  | -31.99                 |
| High    | 5795               | -5.68                            | -5.47                            | -1.93                            | 30.00                  | -31.93                 |

## 10.4.16. 802.11ac HT80 MODE IN THE 5.8 GHz BAND

### Bandwidth and Antenna Gain

| 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 PPSD<br>[dBi] |
|---------|--------------------|-----------------------------|---------------------------|-------------------------------------------|------------------------------------------|
| Middle  | 5775               | 81.77                       | 75.12                     | -1.47                                     | 1.53                                     |

### Limits

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

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 1.20 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

### 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] |
|---------|--------------------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| Middle  | 5775               | 8.82                              | 9.28                              | 13.26                             | 30.00                   | -16.74                  |

### PPSD Results

| Channel | Frequency<br>[MHz] | Chain 0<br>Meas<br>PPSD<br>[dBm] | Chain 1<br>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               | -10.41                           | -10.10                           | -6.05                            | 30.00                  | -36.05                 |

## 10.4.17. 802.11a MODE AT STRADDLE CHANNEL

### Bandwidth and Antenna Gain

| Portion | Frequency<br>[MHz] | Antenna 1<br>26 dB<br>BW<br>[MHz] | Antenna 2<br>26 dB<br>BW<br>[MHz] | Antenna 1<br>99%<br>BW<br>[MHz] | Antenna 2<br>99%<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSP<br>[dBi] |
|---------|--------------------|-----------------------------------|-----------------------------------|---------------------------------|---------------------------------|-------------------------------------------|------------------------------------------|
| UNII-2C | 5720               | 14.20                             | 14.21                             | 13.15                           | 13.16                           | -1.73                                     | 1.02                                     |
| UNII-3  | 5720               | 4.20                              | 4.21                              | 3.15                            | 3.16                            | -1.73                                     | 1.02                                     |
| Whole   | 5720               | 18.40                             | 18.42                             | 16.31                           | 16.32                           | -1.73                                     | 1.02                                     |

### Limits

| Portion | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | FCC<br>PPSP<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------------|
| UNII-2C | 5720               | 22.52                          | 11.00                         |
| UNII-3  | 5720               | 17.23                          | 11.00                         |
| Whole   | 5720               | 23.65                          | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.31 | Included in Calculations of Corr'd Power & PPSP |
|--------------------|------|-------------------------------------------------|

### Output Power Results

| Portion | Frequency<br>[MHz] | Primary<br>Antenna 1<br>Power<br>[dBm] | Secondary<br>Antenna 2<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               | 11.76                                  | 11.93                                    | 15.17                             | 22.52                   | -7.36                   |
| UNII-3  | 5720               | 4.47                                   | 4.55                                     | 7.83                              | 17.23                   | -9.40                   |
| Whole   | 5720               | 12.50                                  | 12.66                                    | 15.90                             | 23.65                   | -7.74                   |

### PPSP Results

| Channel | Frequency<br>[MHz] | Primary<br>Antenna 1<br>PPSP<br>[dBm] | Secondary<br>Antenna 2<br>PPSP<br>[dBm] | Total<br>Corr'd<br>PPSP<br>[dBm] | PPSP<br>Limit<br>[dBm] | PPSP<br>Margin<br>[dB] |
|---------|--------------------|---------------------------------------|-----------------------------------------|----------------------------------|------------------------|------------------------|
| 144     | 5720               | 2.49                                  | 2.62                                    | 5.88                             | 11.00                  | -5.12                  |

## 10.4.18. 802.11n HT20 MODE AT STRADDLE CHANNEL

### Bandwidth and Antenna Gain

| Portion | Frequency<br>[MHz] | Chain 0<br>26 dB<br>BW<br>[MHz] | Chain 1<br>26 dB<br>BW<br>[MHz] | Chain 0<br>99%<br>BW<br>[MHz] | Chain 1<br>99%<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|---------------------------------|---------------------------------|-------------------------------|-------------------------------|-------------------------------------------|------------------------------------------|
| UNII-2C | 5720               | 14.72                           | 14.70                           | 13.72                         | 13.76                         | -1.73                                     | 1.02                                     |
| UNII-3  | 5720               | 4.72                            | 4.70                            | 3.72                          | 3.76                          | -1.73                                     | 1.02                                     |
| Whole   | 5720               | 19.44                           | 19.40                           | 17.43                         | 17.51                         | -1.73                                     | 1.02                                     |

### Limits

| Portion | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | FCC<br>PPSD<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------------|
| UNII-2C | 5720               | 22.68                          | 11.00                         |
| UNII-3  | 5720               | 17.74                          | 11.00                         |
| Whole   | 5720               | 23.89                          | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.33 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

### Output Power Results

| Portion | 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] |
|---------|--------------------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| UNII-2C | 5720               | 11.54                             | 11.71                             | 14.96                             | 22.68                   | -7.72                   |
| UNII-3  | 5720               | 4.56                              | 4.63                              | 7.93                              | 17.74                   | -9.81                   |
| Whole   | 5720               | 12.34                             | 12.49                             | 15.75                             | 23.89                   | -8.14                   |

### PPSD Results

| Channel | Frequency<br>[MHz] | Chain 0<br>Meas<br>PPSD<br>[dBm] | Chain 1<br>Meas<br>PPSD<br>[dBm] | Total<br>Corr'd<br>PPSD<br>[dBm] | PPSD<br>Limit<br>[dBm] | PPSD<br>Margin<br>[dB] |
|---------|--------------------|----------------------------------|----------------------------------|----------------------------------|------------------------|------------------------|
| 144     | 5720               | 2.26                             | 2.31                             | 5.62                             | 11.00                  | -5.38                  |

## 10.4.19. 802.11n HT40 MODE AT STRADDLE CHANNEL

### Bandwidth and Antenna Gain

| Portion | Frequency<br>[MHz] | Chain 0<br>26 dB<br>BW<br>[MHz] | Chain 1<br>26 dB<br>BW<br>[MHz] | Chain 0<br>99%<br>BW<br>[MHz] | Chain 1<br>99%<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|---------------------------------|---------------------------------|-------------------------------|-------------------------------|-------------------------------------------|------------------------------------------|
| UNII-2C | 5710               | 34.89                           | 34.86                           | 32.92                         | 32.88                         | -1.73                                     | 1.02                                     |
| UNII-3  | 5710               | 4.89                            | 4.86                            | 2.92                          | 2.88                          | -1.73                                     | 1.02                                     |
| Whole   | 5710               | 39.77                           | 39.72                           | 35.84                         | 35.75                         | -1.73                                     | 1.02                                     |

### Limits

| Portion | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | FCC<br>PPSD<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------------|
| UNII-2C | 5710               | 24.00                          | 11.00                         |
| UNII-3  | 5710               | 17.89                          | 11.00                         |
| Whole   | 5710               | 24.00                          | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 0.63 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

### Output Power Results

| Portion | 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] |
|---------|--------------------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| UNII-2C | 5710               | 10.58                             | 10.60                             | 14.23                             | 24.00                   | -9.77                   |
| UNII-3  | 5710               | -1.98                             | -1.96                             | 1.67                              | 17.89                   | -16.22                  |
| Whole   | 5710               | 10.81                             | 10.84                             | 14.47                             | 24.00                   | -9.53                   |

### PPSD Results

| Channel | Frequency<br>[MHz] | Chain 0<br>Meas<br>PPSD<br>[dBm] | Chain 1<br>Meas<br>PPSD<br>[dBm] | Total<br>Corr'd<br>PPSD<br>[dBm] | PPSD<br>Limit<br>[dBm] | PPSD<br>Margin<br>[dB] |
|---------|--------------------|----------------------------------|----------------------------------|----------------------------------|------------------------|------------------------|
| 142     | 5710               | -2.42                            | -2.44                            | 1.21                             | 11.00                  | -9.79                  |

## 10.4.20. 802.11ac VHT80 MODE AT STRADDLE CHANNEL

### Bandwidth and Antenna Gain

| Portion | Frequency<br>[MHz] | Chain 0<br>26 dB<br>BW<br>[MHz] | Chain 1<br>26 dB<br>BW<br>[MHz] | Chain 0<br>99%<br>BW<br>[MHz] | Chain 1<br>99%<br>BW<br>[MHz] | Directional<br>Gain<br>for Power<br>[dBi] | Directional<br>Gain<br>for PPSD<br>[dBi] |
|---------|--------------------|---------------------------------|---------------------------------|-------------------------------|-------------------------------|-------------------------------------------|------------------------------------------|
| UNII-2C | 5690               | 75.89                           | 75.89                           | 72.47                         | 72.56                         | -1.73                                     | 1.02                                     |
| UNII-3  | 5690               | 5.89                            | 5.89                            | 2.47                          | 2.56                          | -1.73                                     | 1.02                                     |
| Whole   | 5690               | 81.77                           | 81.77                           | 74.94                         | 75.12                         | -1.73                                     | 1.02                                     |

### Limits

| Portion | Frequency<br>[MHz] | FCC<br>Power<br>Limit<br>[dBm] | FCC<br>PPSD<br>Limit<br>[dBm] |
|---------|--------------------|--------------------------------|-------------------------------|
| UNII-2C | 5690               | 24.00                          | 11.00                         |
| UNII-3  | 5690               | 18.70                          | 11.00                         |
| Whole   | 5690               | 24.00                          | 11.00                         |

|                    |      |                                                 |
|--------------------|------|-------------------------------------------------|
| Duty Cycle CF [dB] | 1.20 | Included in Calculations of Corr'd Power & PPSD |
|--------------------|------|-------------------------------------------------|

### Output Power Results

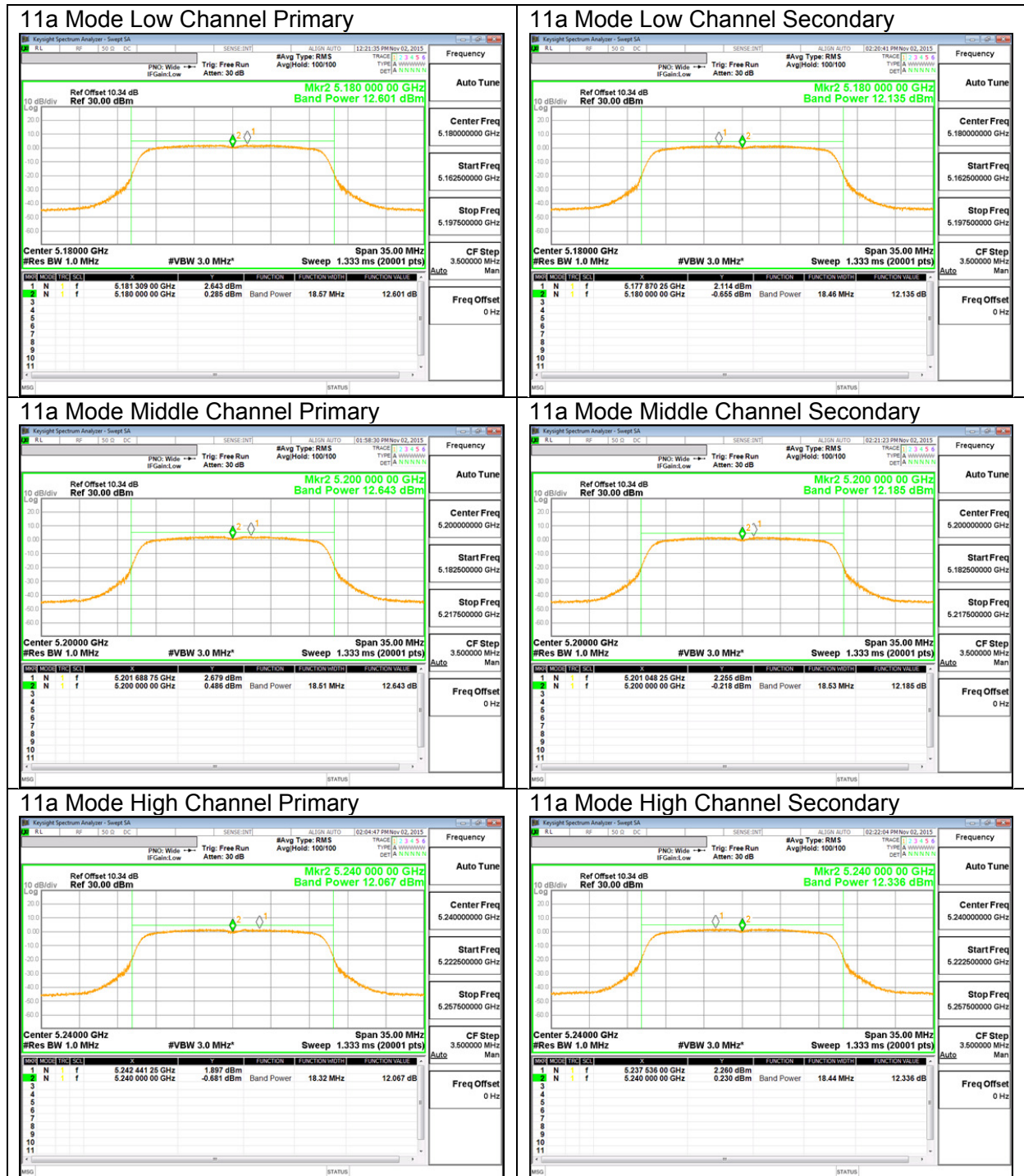
| Portion | Frequency<br>[MHz] | Chain 0<br>Meas<br>Power<br>[dBm] | Chain 1<br>Meas<br>Power<br>[dBm] | Total<br>Corr'd<br>Power<br>[dBm] | Power<br>Limit<br>[dBm] | Power<br>Margin<br>[dB] |
|---------|--------------------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------|-------------------------|
| UNII-2C | 5690               | 8.89                              | 9.06                              | 13.19                             | 24.00                   | -10.81                  |
| UNII-3  | 5690               | -8.13                             | -7.93                             | -3.82                             | 18.70                   | -22.52                  |
| Whole   | 5690               | 8.98                              | 9.15                              | 13.27                             | 24.00                   | -10.73                  |

### PPSD Results

| Channel | Frequency<br>[MHz] | Chain 0<br>Meas<br>PPSD<br>[dBm] | Chain 1<br>Meas<br>PPSD<br>[dBm] | Total<br>Corr'd<br>PPSD<br>[dBm] | PPSD<br>Limit<br>[dBm] | PPSD<br>Margin<br>[dB] |
|---------|--------------------|----------------------------------|----------------------------------|----------------------------------|------------------------|------------------------|
| 138     | 5690               | -7.14                            | -7.02                            | -2.87                            | 11.00                  | -13.87                 |

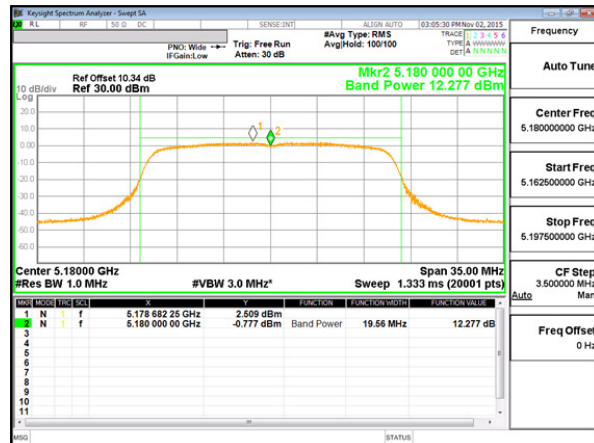
## 10.4.21. OUTPUT POWER AND PSD PLOTS

### UNII 5.2 GHz IEEE 802.11a mode

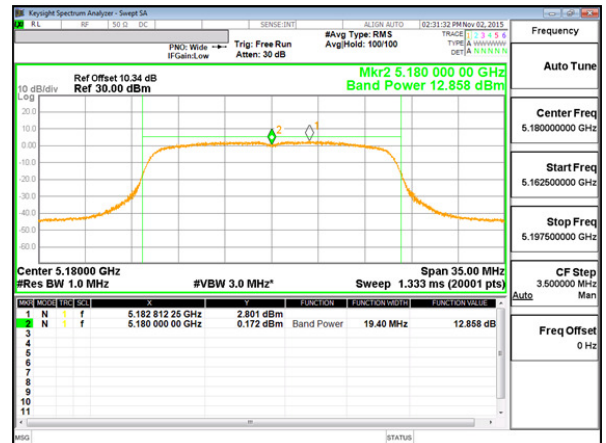


# **UNII 5.2 GHz IEEE 802.11n HT20 mode**

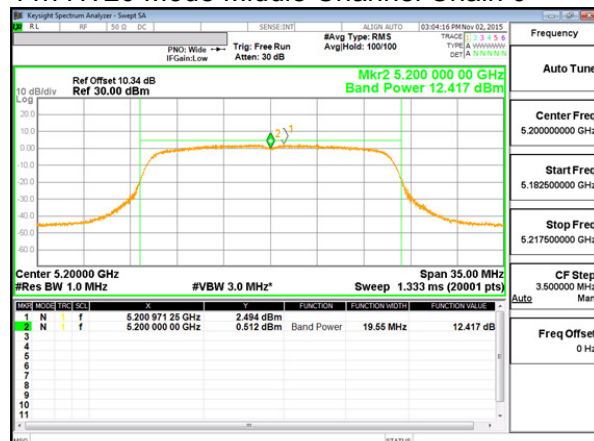
11n HT20 Mode Low Channel Chain 0



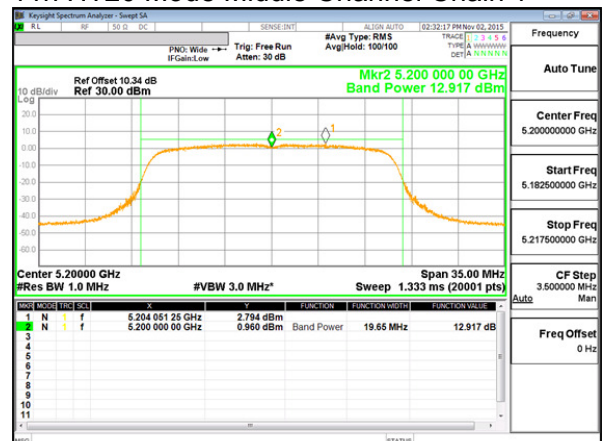
11n HT20 Mode Low Channel Chain 1



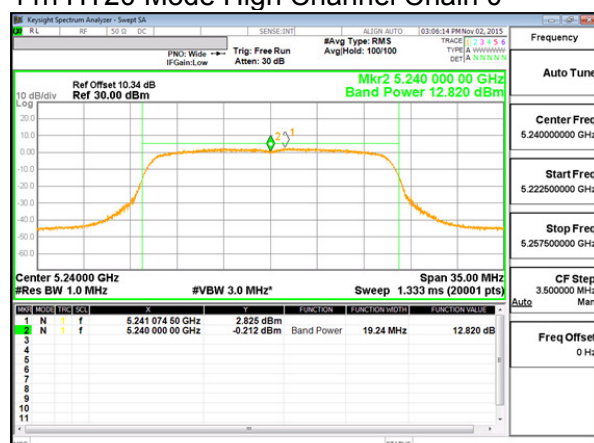
11n HT20 Mode Middle Channel Chain 0



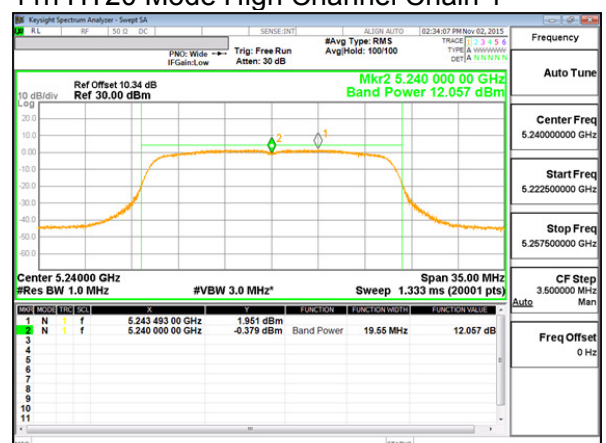
11n HT20 Mode Middle Channel Chain 1



11n HT20 Mode High Channel Chain 0

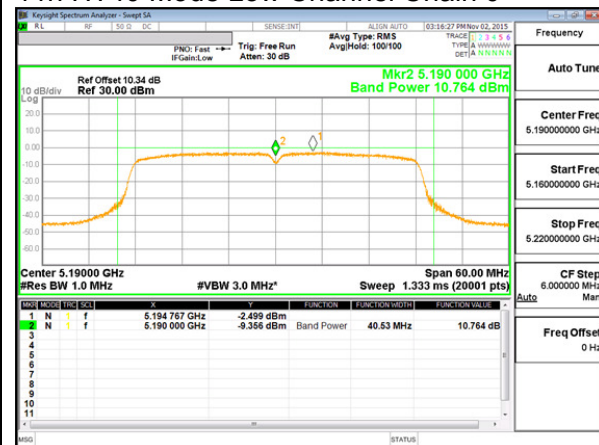


11n HT20 Mode High Channel Chain 1

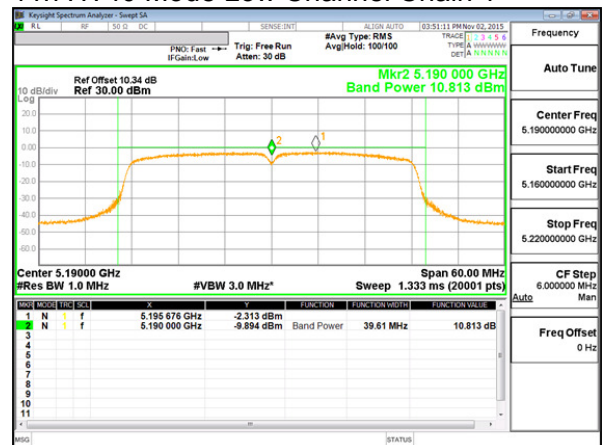


## UNII 5.2 GHz IEEE 802.11n HT40 mode

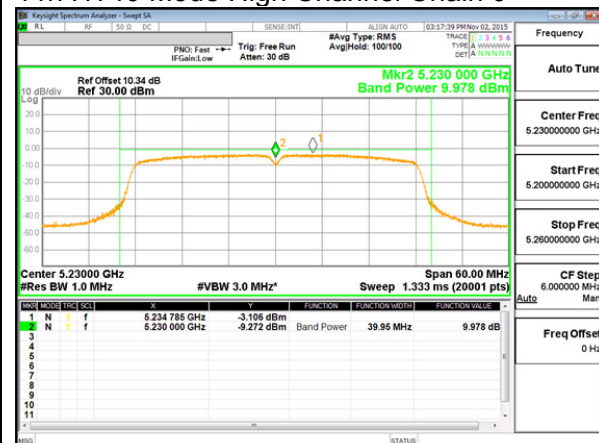
### 11n HT40 Mode Low Channel Chain 0



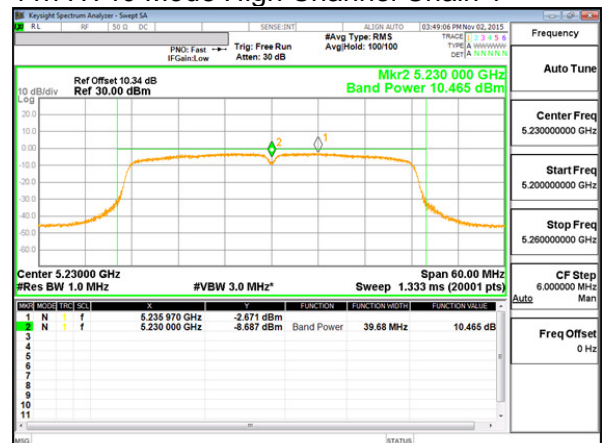
### 11n HT40 Mode Low Channel Chain 1



### 11n HT40 Mode High Channel Chain 0

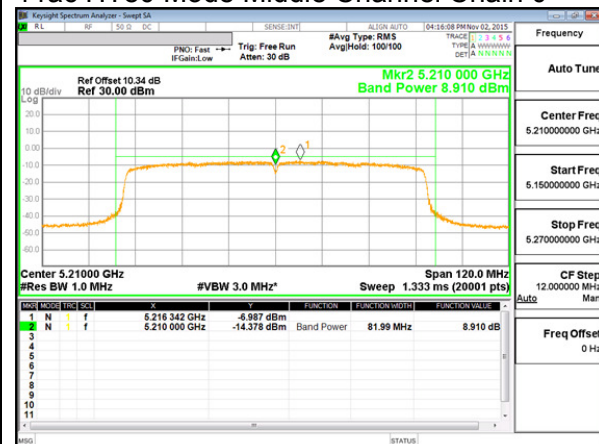


### 11n HT40 Mode High Channel Chain 1



## UNII 5.2 GHz IEEE 802.11ac VHT80 mode

### 11ac HT80 Mode Middle Channel Chain 0



### 11ac HT80 Mode Middle Channel Chain 1

