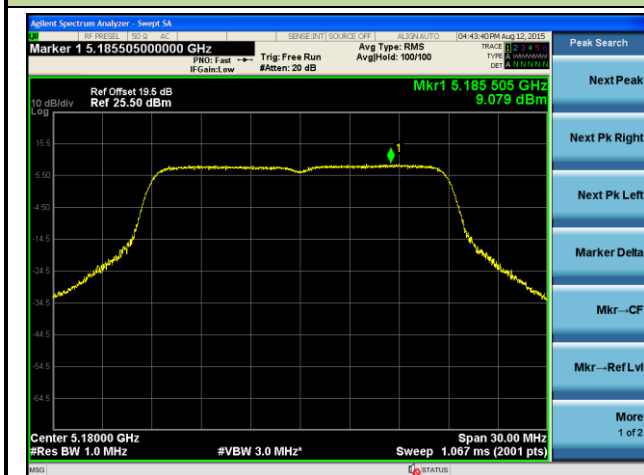
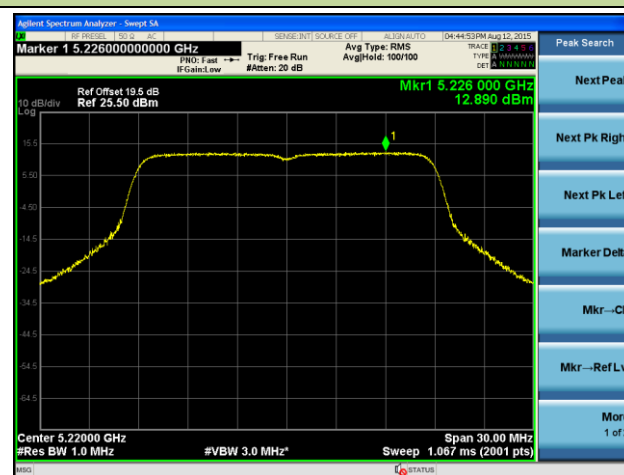


# 802.11ac-VHT20 Power Spectral Density - Ant 2

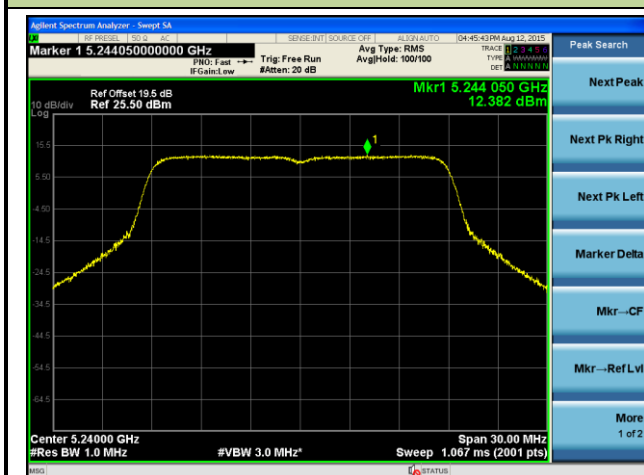
## Channel 36 (5180MHz)



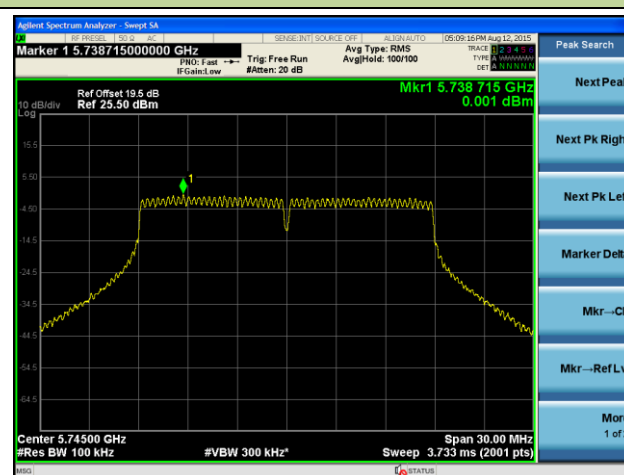
## Channel 44 (5220MHz)



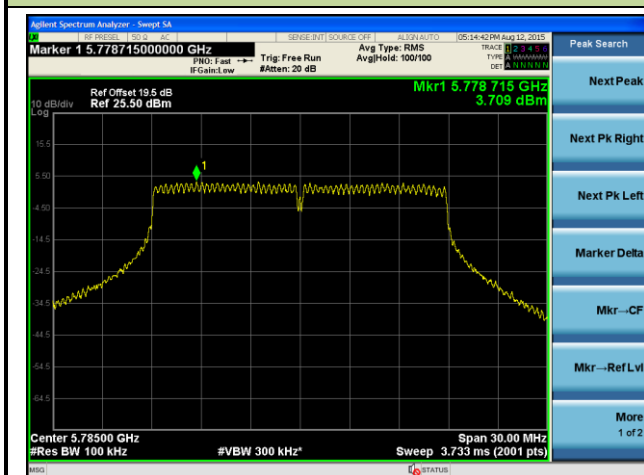
## Channel 48 (5240MHz)



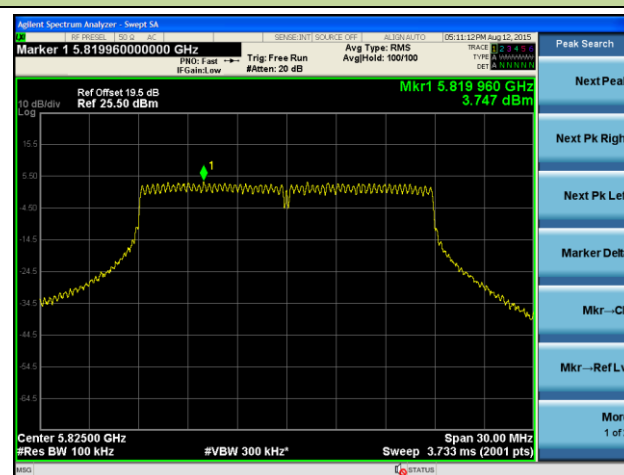
## Channel 149 (5745MHz)



## Channel 157 (5785MHz)

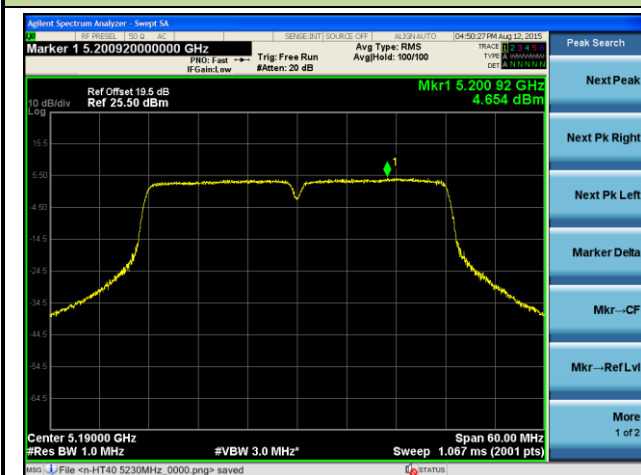


## Channel 165 (5825MHz)

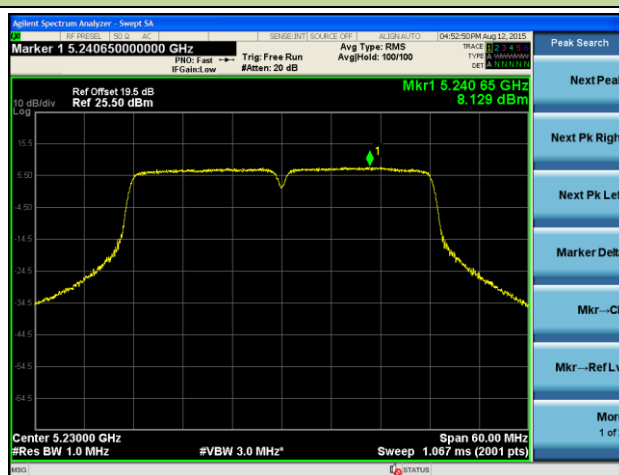


## 802.11ac-VHT40 Power Spectral Density - Ant 2

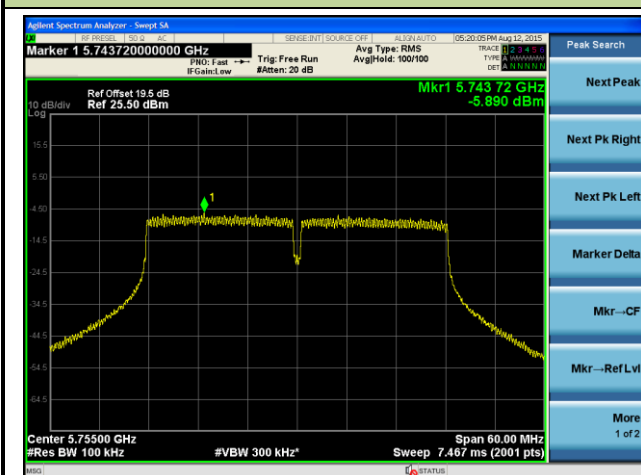
### Channel 38 (5190MHz)



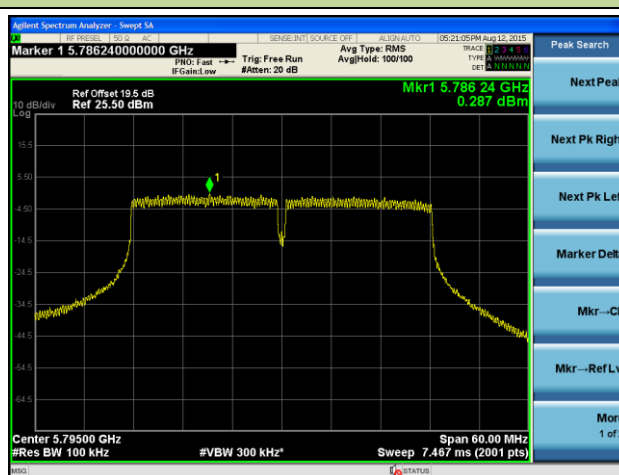
### Channel 46 (5230MHz)



### Channel 151 (5755MHz)

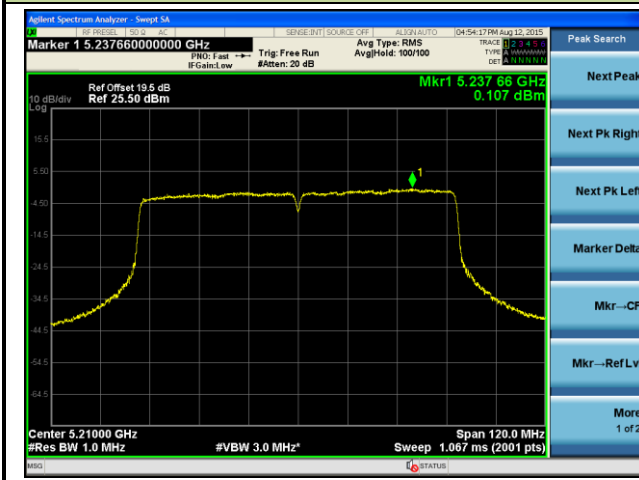


### Channel 159 (5795MHz)

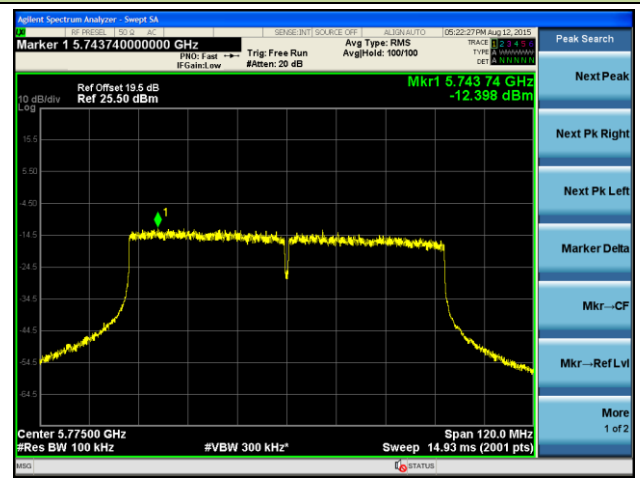


# 802.11ac-VHT80 Power Spectral Density - Ant 2

## Channel 42 (5210MHz)

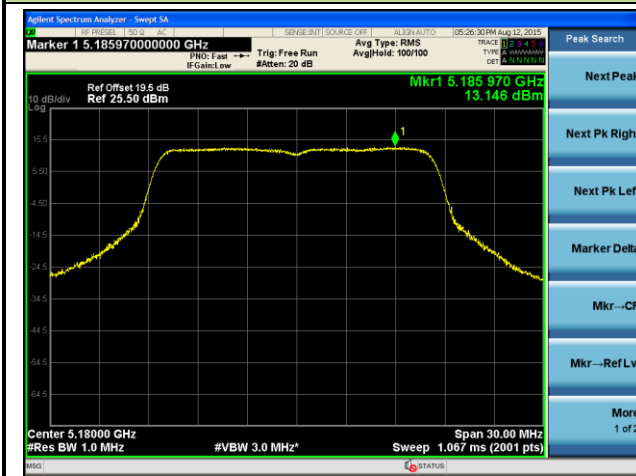


## Channel 155 (5775MHz)

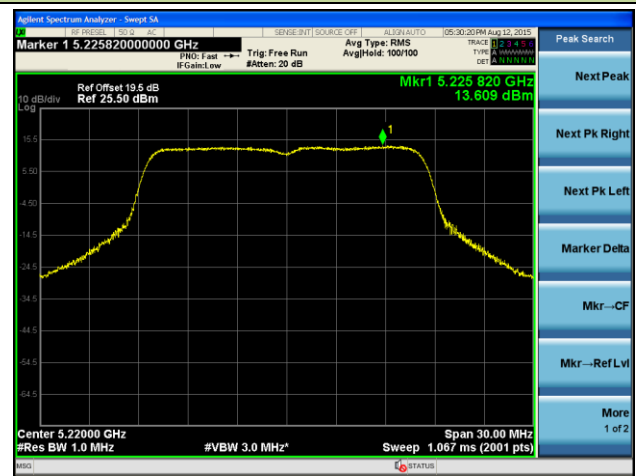


# 802.11a Power Spectral Density - Ant 1 / Ant 1 + 2

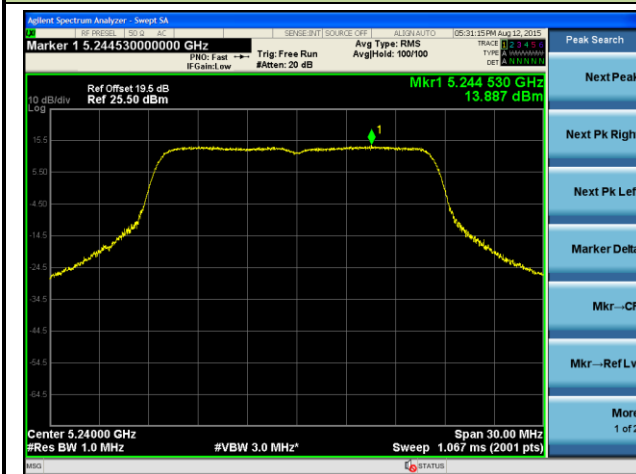
## Channel 36 (5180MHz)



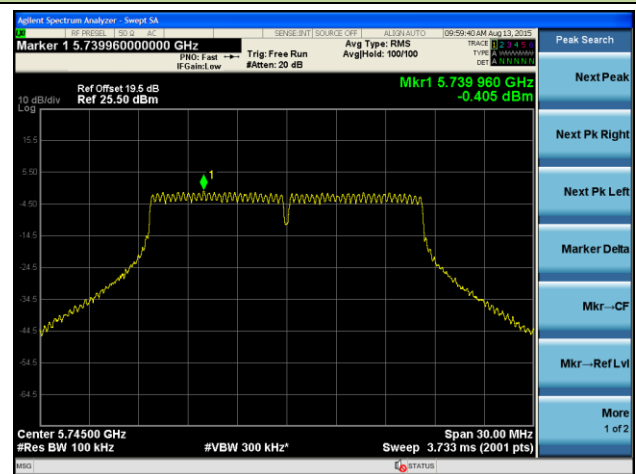
## Channel 44 (5220MHz)



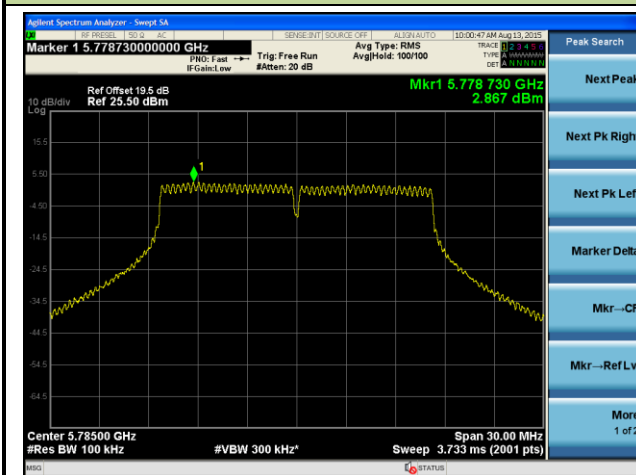
## Channel 48 (5240MHz)



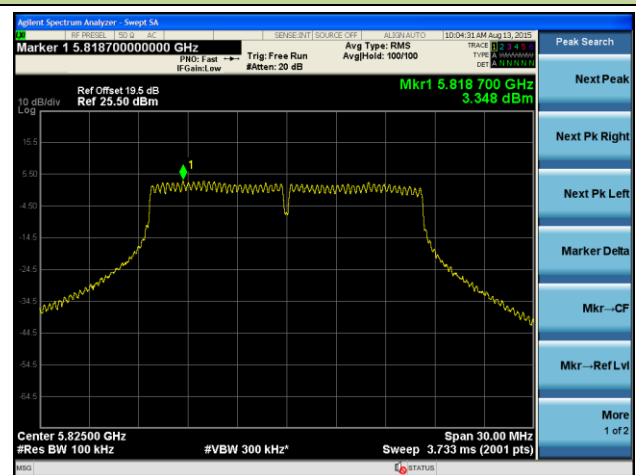
## Channel 149 (5745MHz)



## Channel 157 (5785MHz)

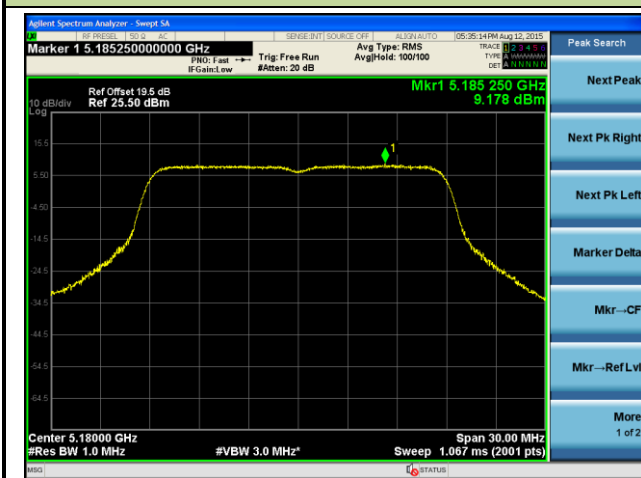


## Channel 165 (5825MHz)

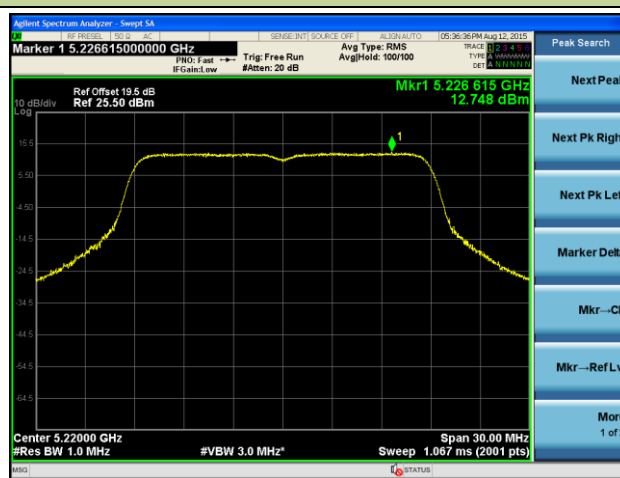


## 802.11n-HT20 Power Spectral Density - Ant 1 / Ant 1 + 2

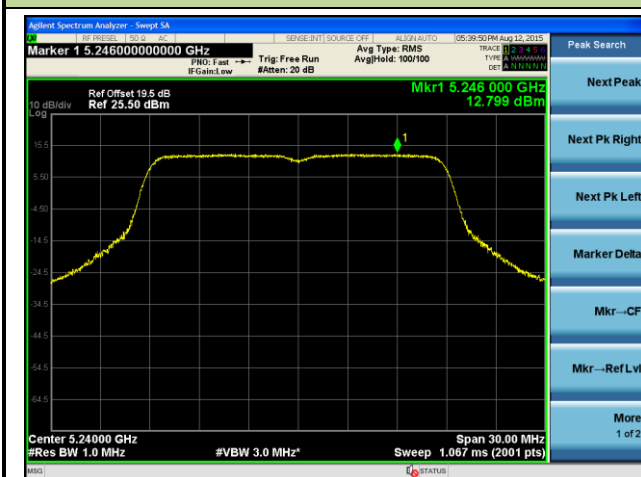
### Channel 36 (5180MHz)



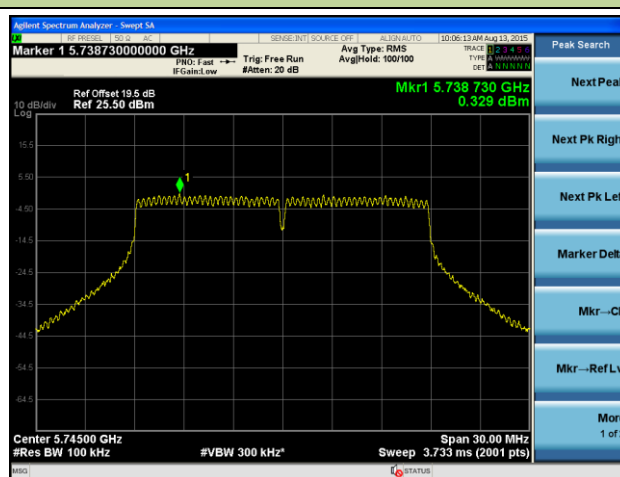
### Channel 44 (5220MHz)



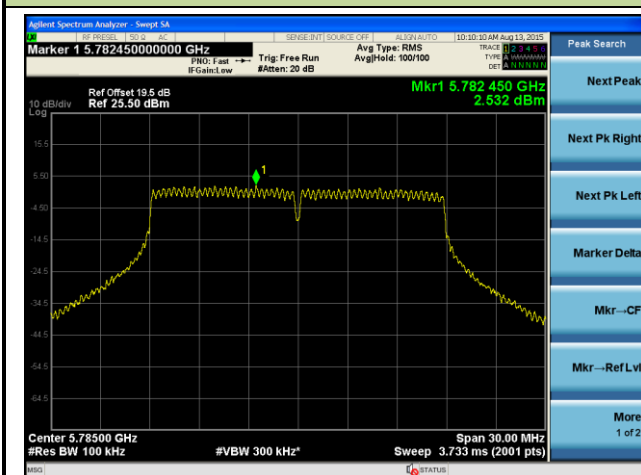
### Channel 48 (5240MHz)



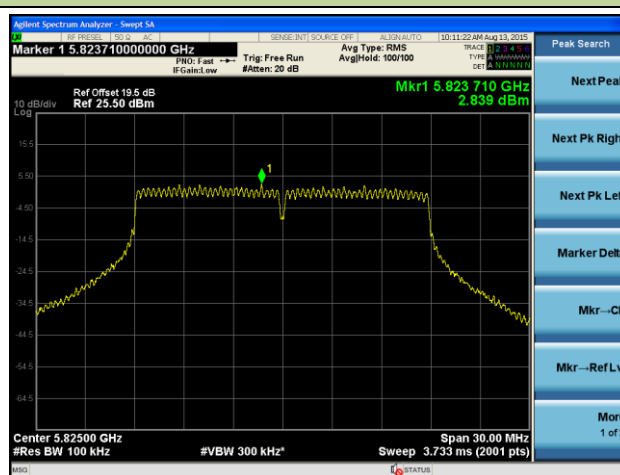
### Channel 149 (5745MHz)



### Channel 157 (5785MHz)

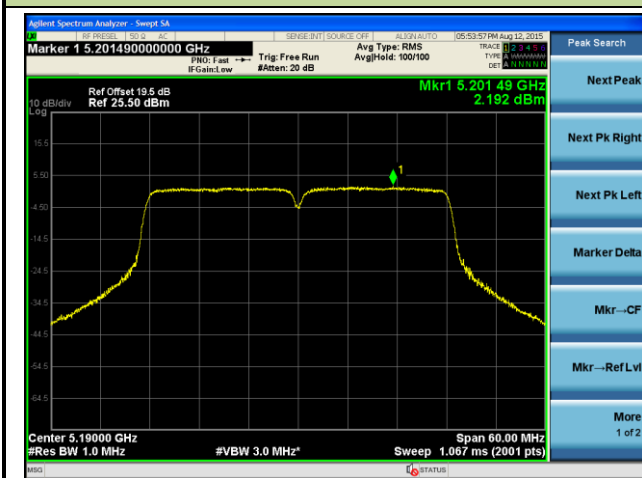


### Channel 165 (5825MHz)

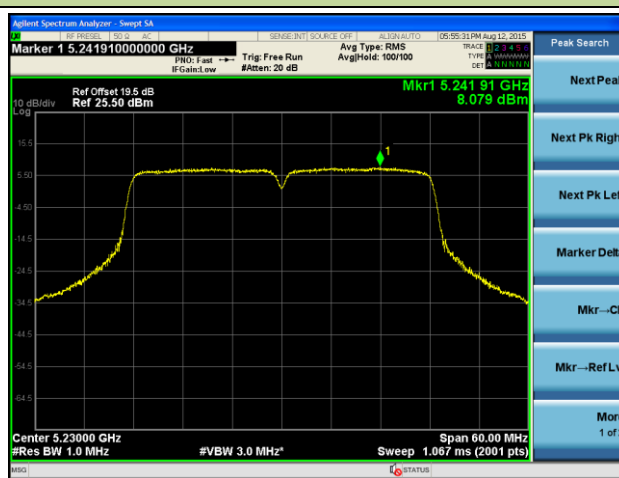


# 802.11n-HT40 Power Spectral Density - Ant 1 / Ant 1 + 2

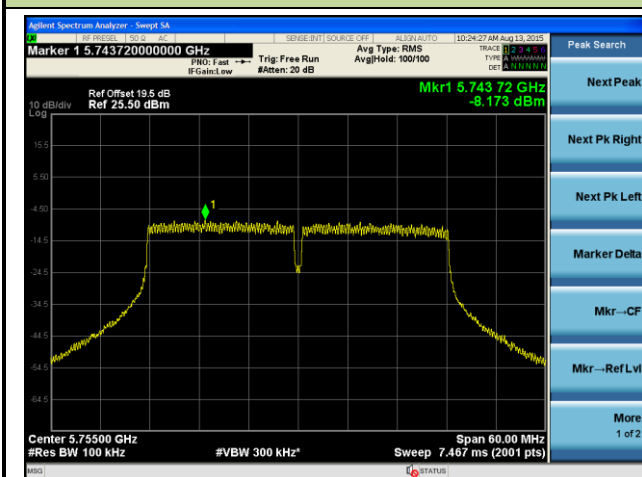
## Channel 38 (5190MHz)



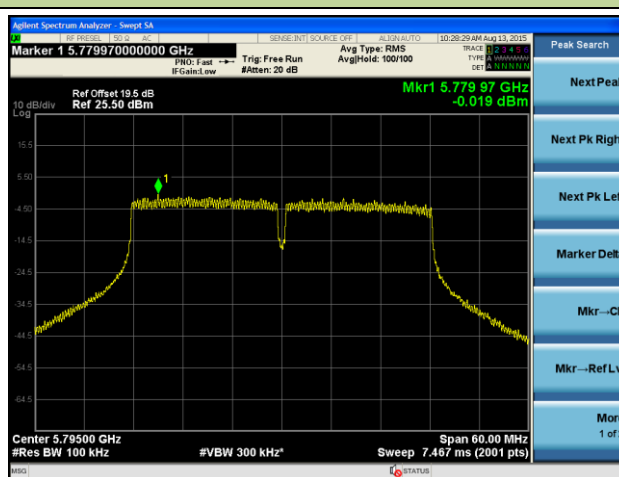
## Channel 46 (5230MHz)



## Channel 151 (5755MHz)

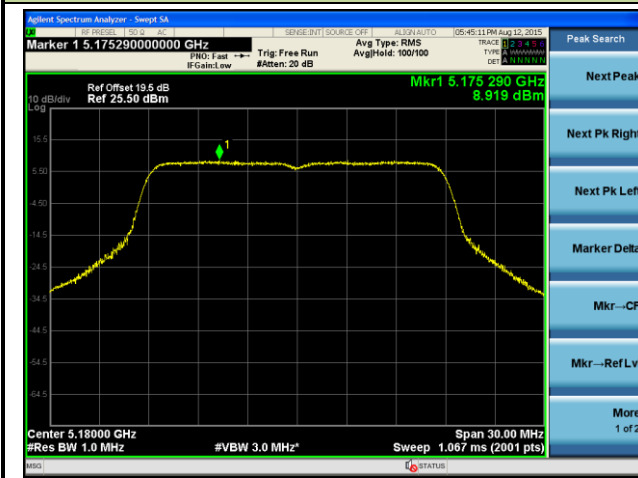


## Channel 159 (5795MHz)



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

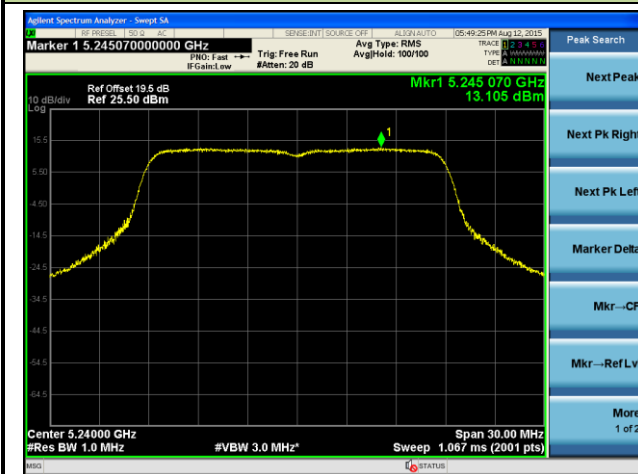
## Channel 36 (5180MHz)



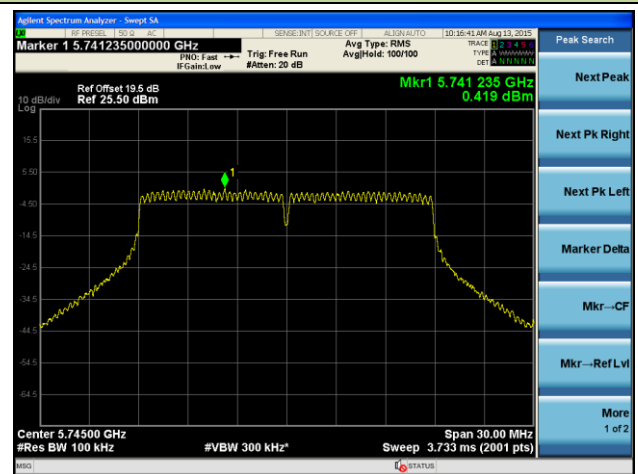
## Channel 44 (5220MHz)



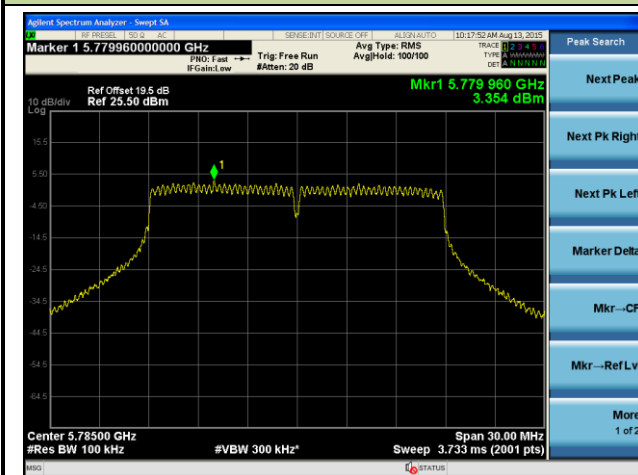
## Channel 48 (5240MHz)



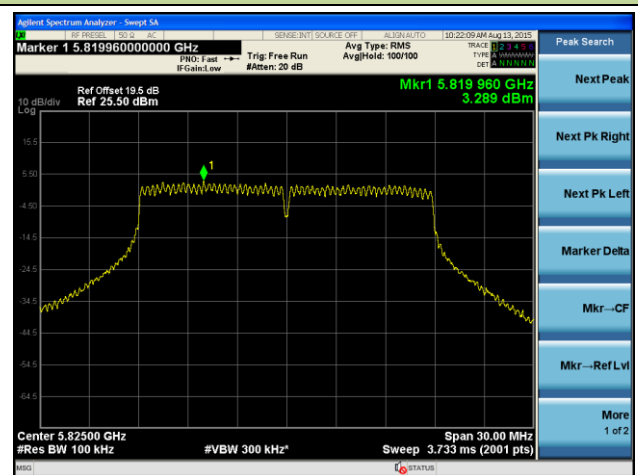
## Channel 149 (5745MHz)



## Channel 157 (5785MHz)

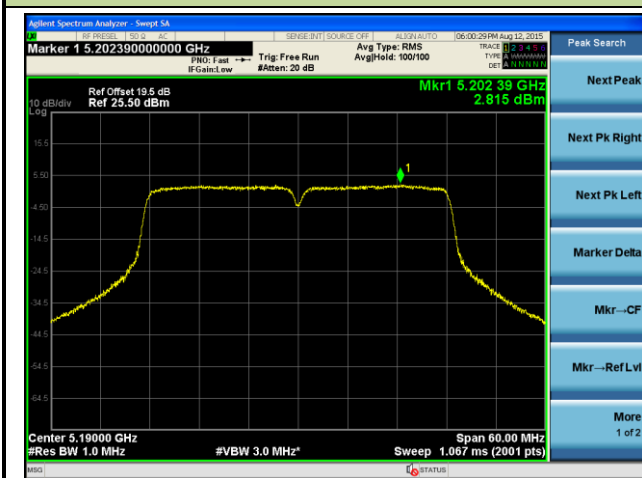


## Channel 165 (5825MHz)

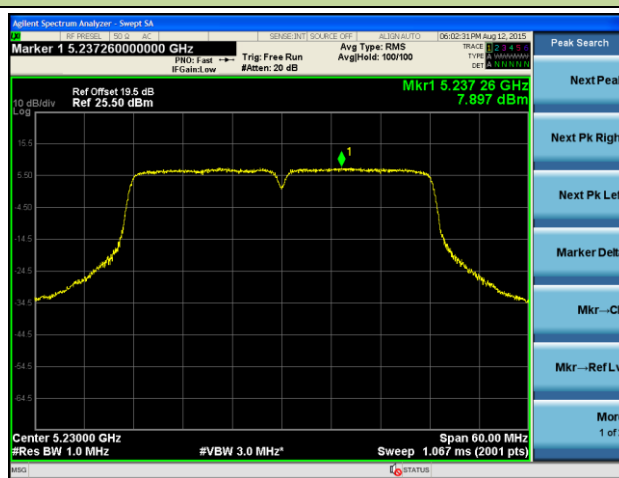


## 802.11ac-VHT40 Power Spectral Density - Ant 1 / Ant 1 + 2

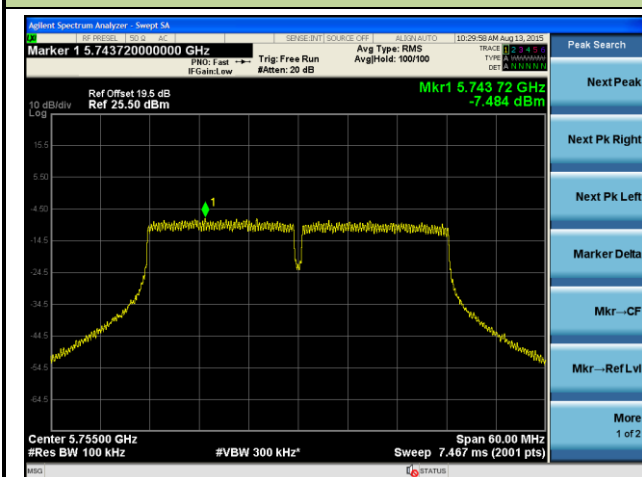
### Channel 38 (5190MHz)



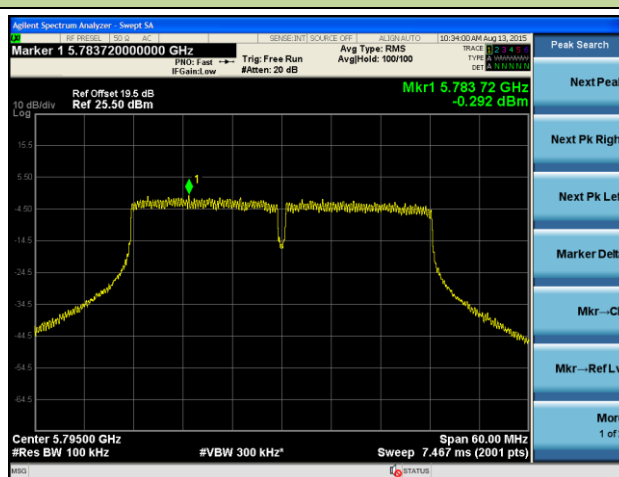
### Channel 46 (5230MHz)



### Channel 151 (5755MHz)



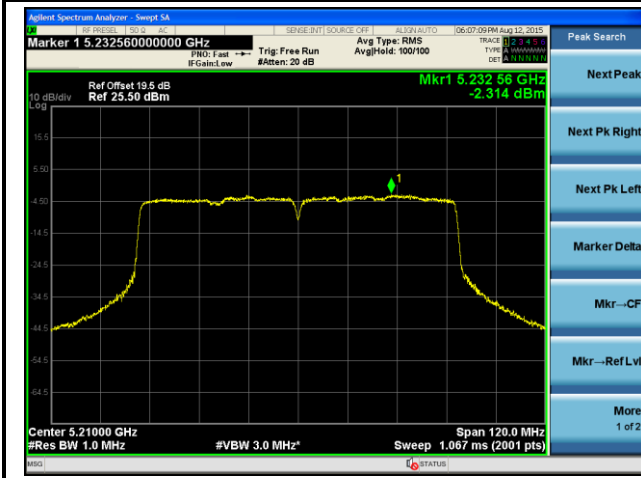
### Channel 159 (5795MHz)



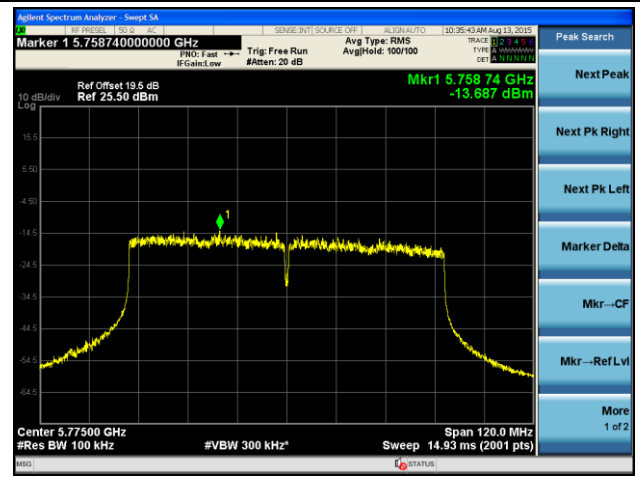


# 802.11ac-VHT80 Power Spectral Density - Ant 1 / Ant 1 + 2

## Channel 42 (5210MHz)

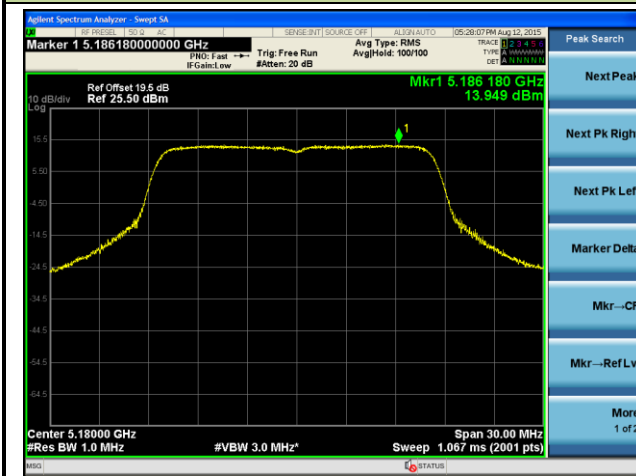


## Channel 155 (5775MHz)

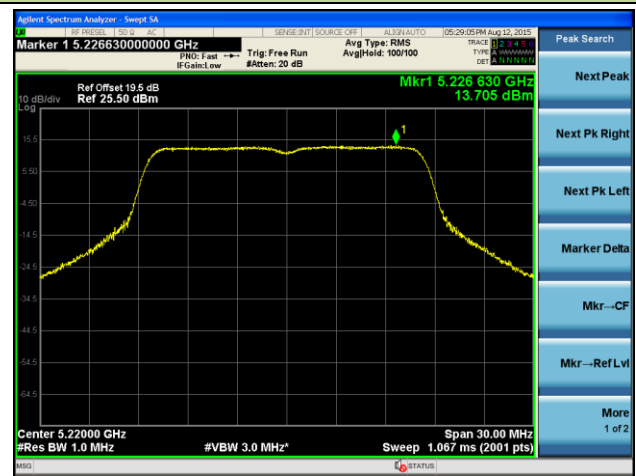


# 802.11a Power Spectral Density - Ant 2 / Ant 1 + 2

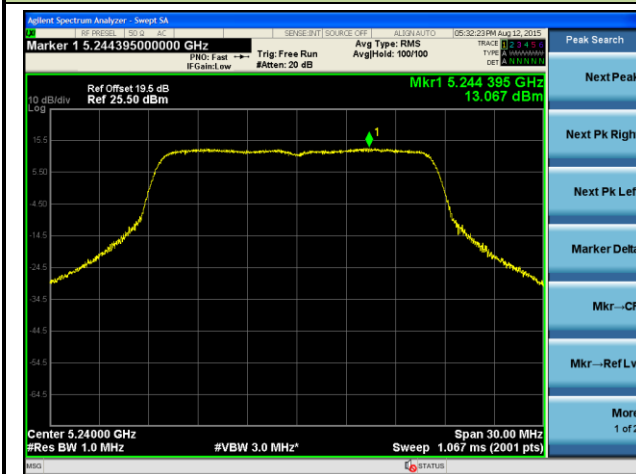
## Channel 36 (5180MHz)



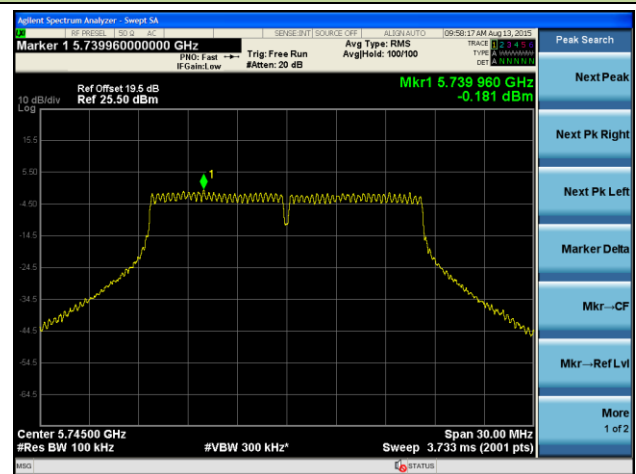
## Channel 44 (5220MHz)



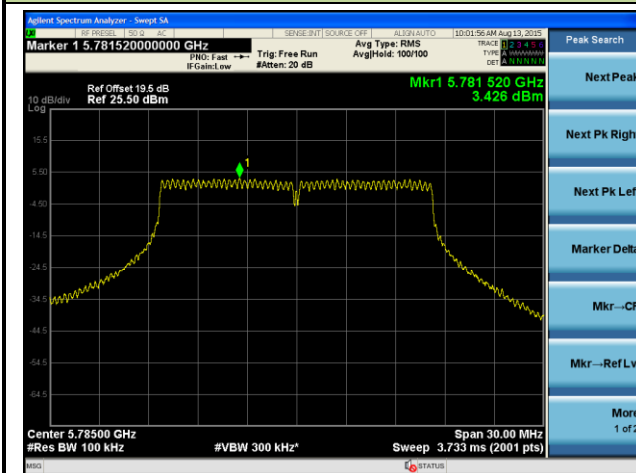
## Channel 48 (5240MHz)



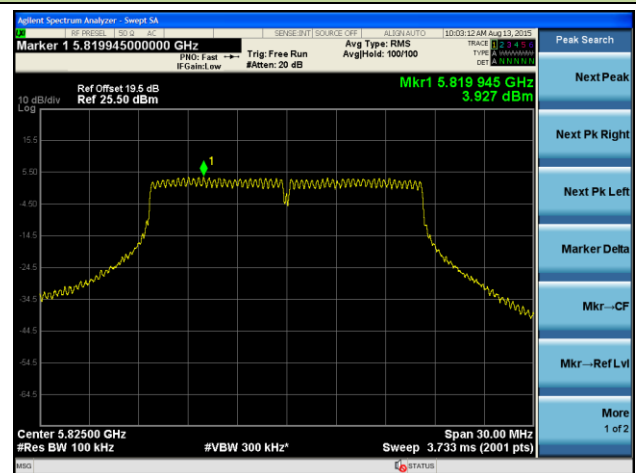
## Channel 149 (5745MHz)



## Channel 157 (5785MHz)

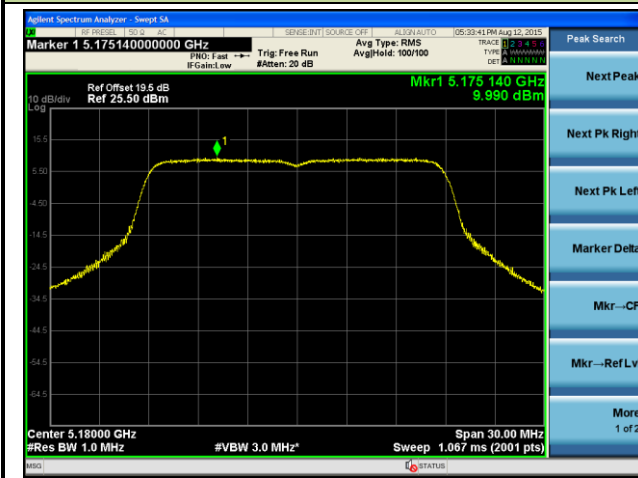


## Channel 165 (5825MHz)



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

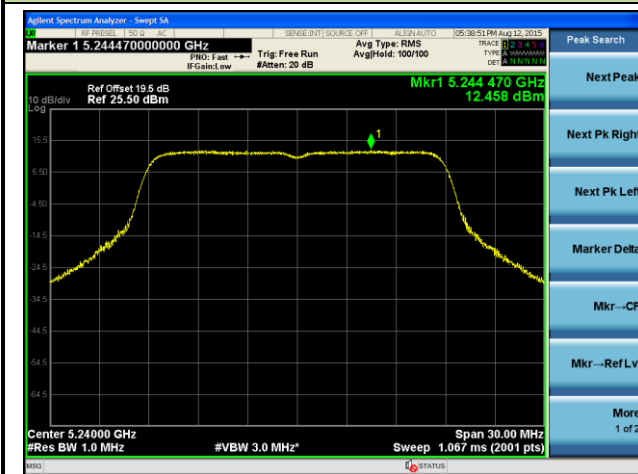
## Channel 36 (5180MHz)



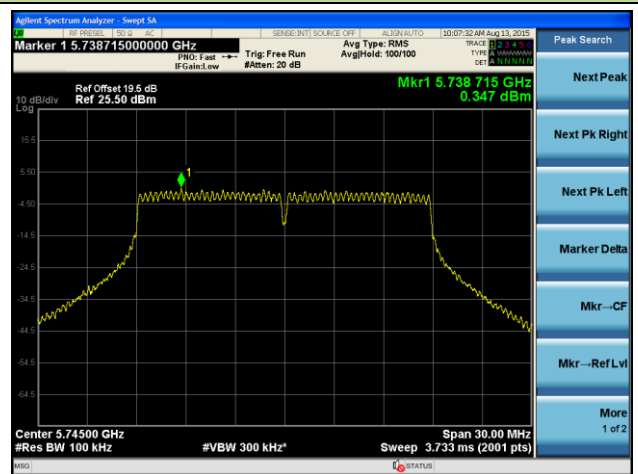
## Channel 44 (5220MHz)



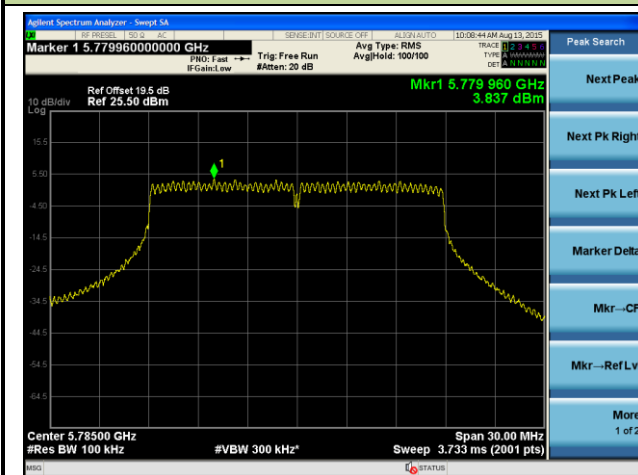
## Channel 48 (5240MHz)



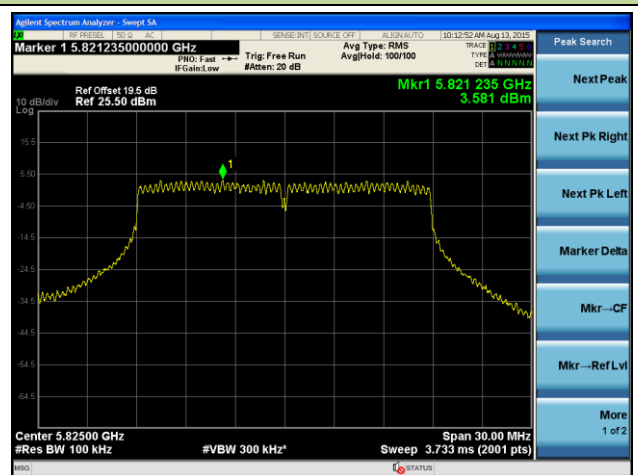
## Channel 149 (5745MHz)



## Channel 157 (5785MHz)

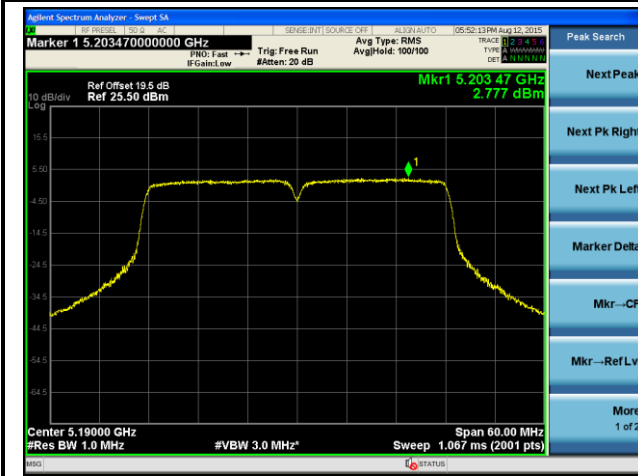


## Channel 165 (5825MHz)

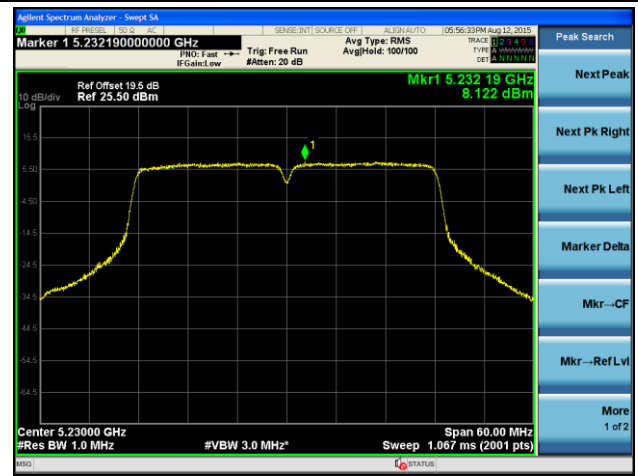


## 802.11n-HT40 Power Spectral Density - Ant 2 / Ant 1 + 2

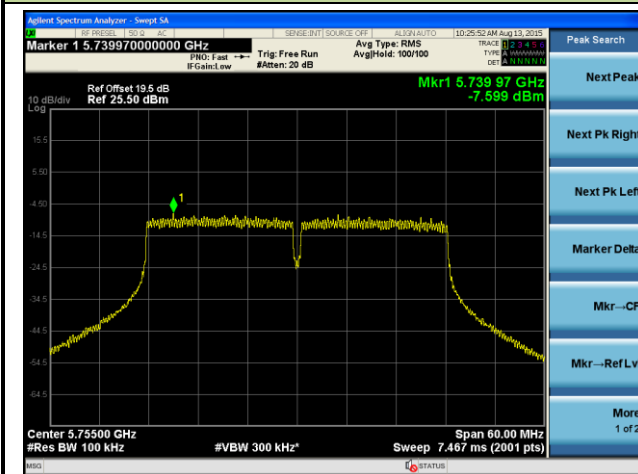
### Channel 38 (5190MHz)



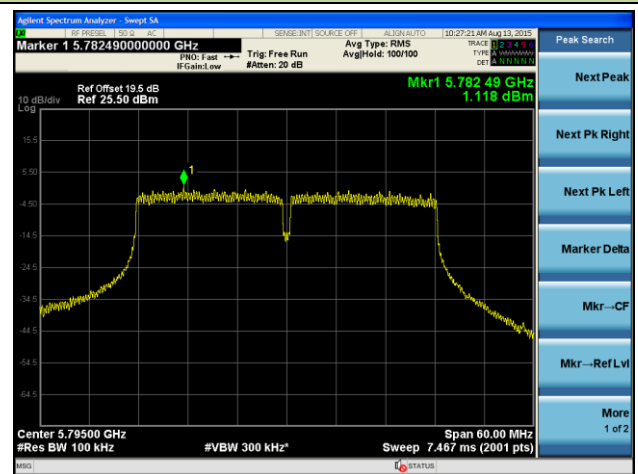
### Channel 46 (5230MHz)



### Channel 151 (5755MHz)

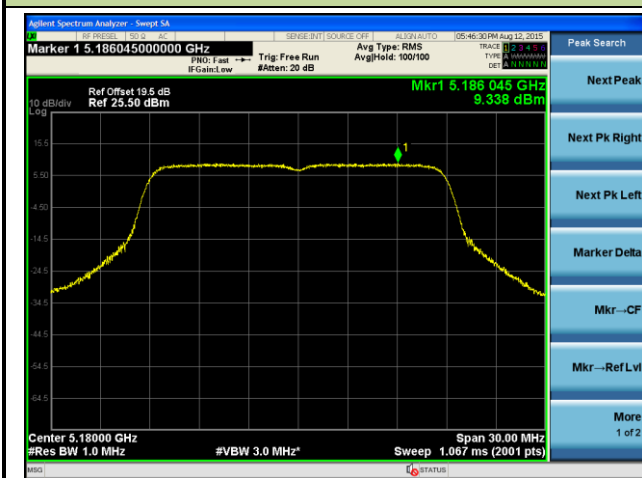


### Channel 159 (5795MHz)

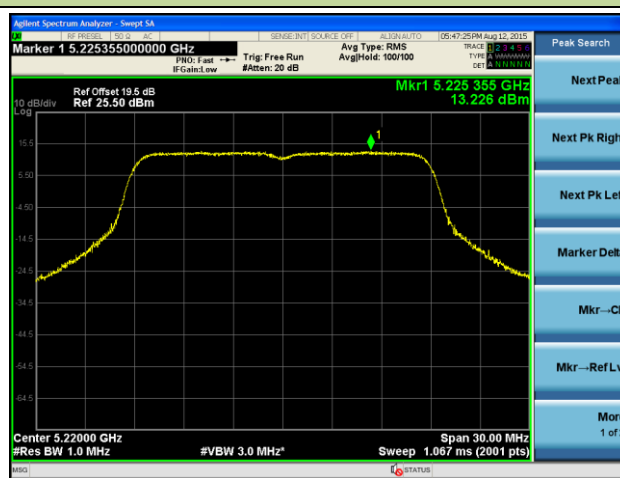


# 802.11ac-VHT20 Power Spectral Density - Ant 2 / Ant 1 + 2

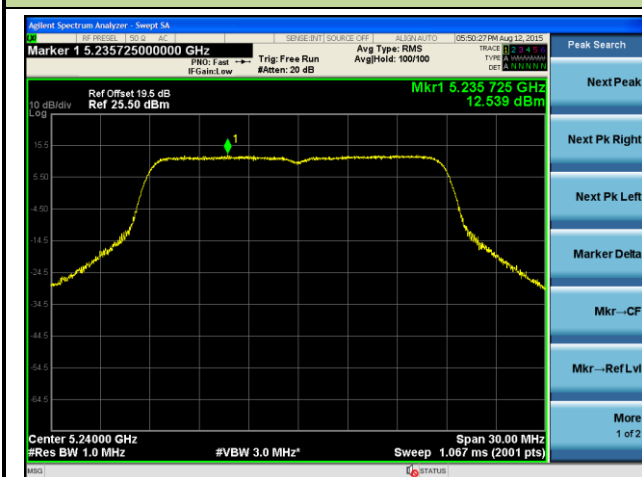
## Channel 36 (5180MHz)



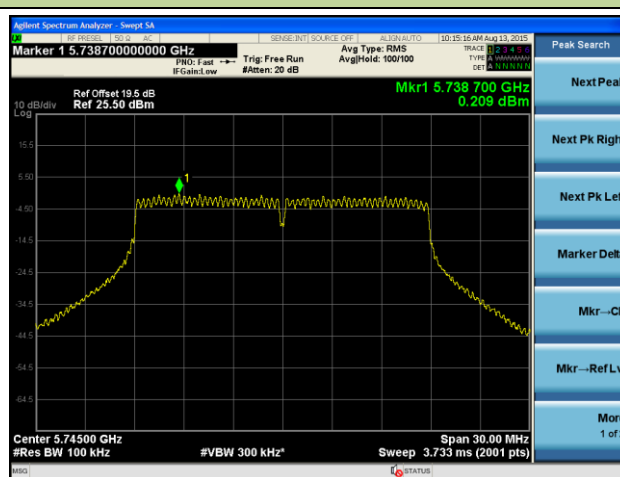
## Channel 44 (5220MHz)



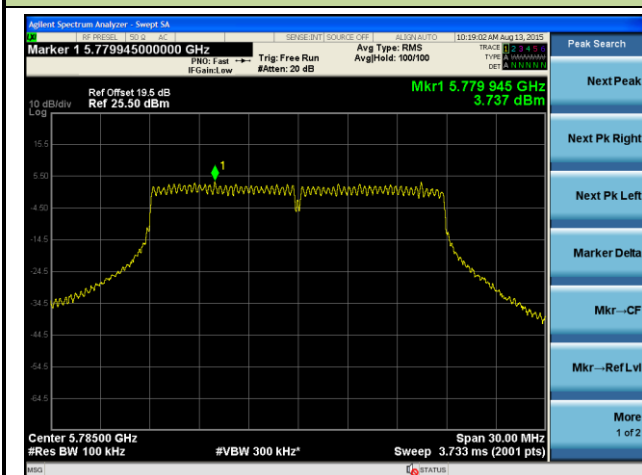
## Channel 48 (5240MHz)



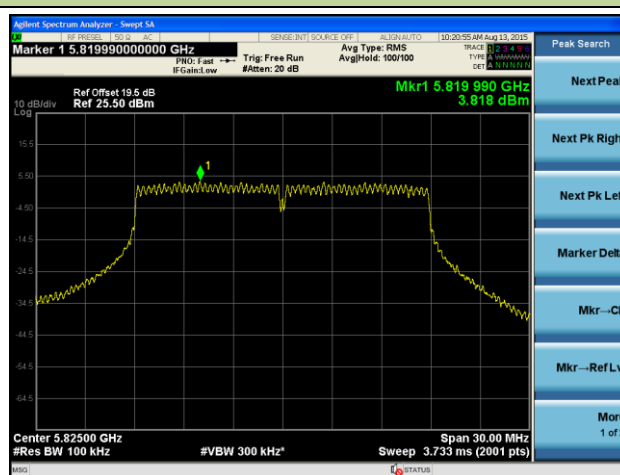
## Channel 149 (5745MHz)



## Channel 157 (5785MHz)

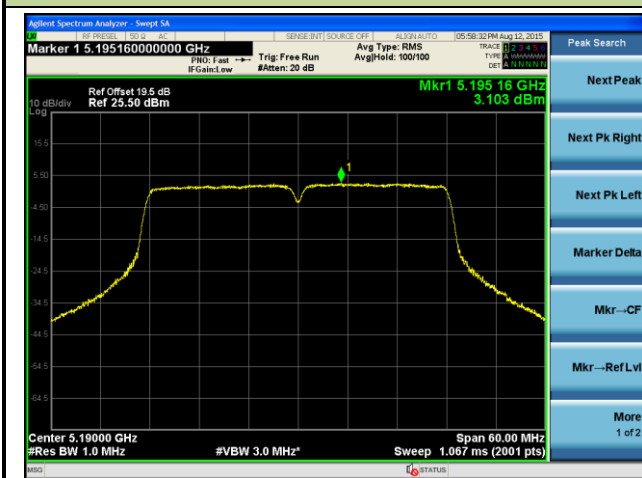


## Channel 165 (5825MHz)

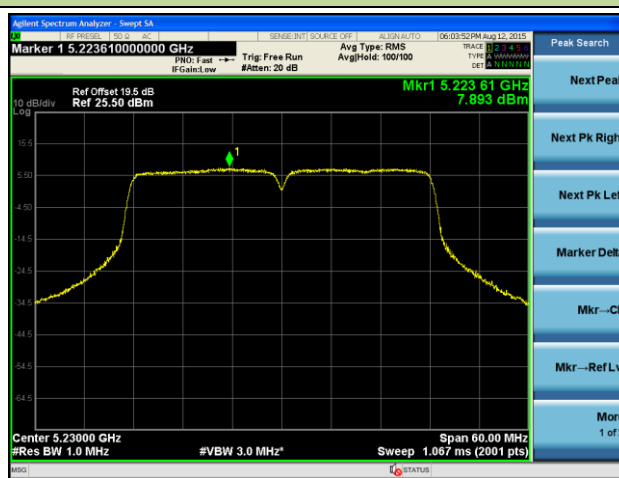


## 802.11ac-VHT40 Power Spectral Density - Ant 2 / Ant 1 + 2

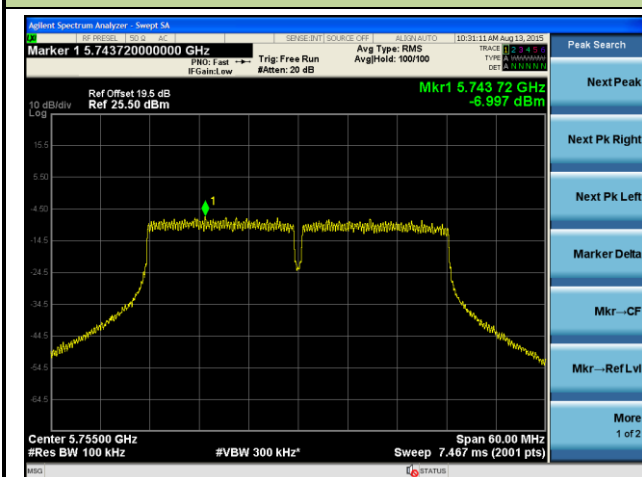
### Channel 38 (5190MHz)



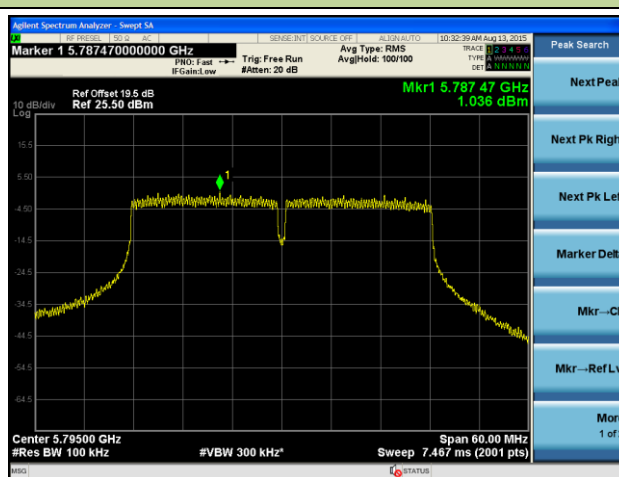
### Channel 46 (5230MHz)



### Channel 151 (5755MHz)

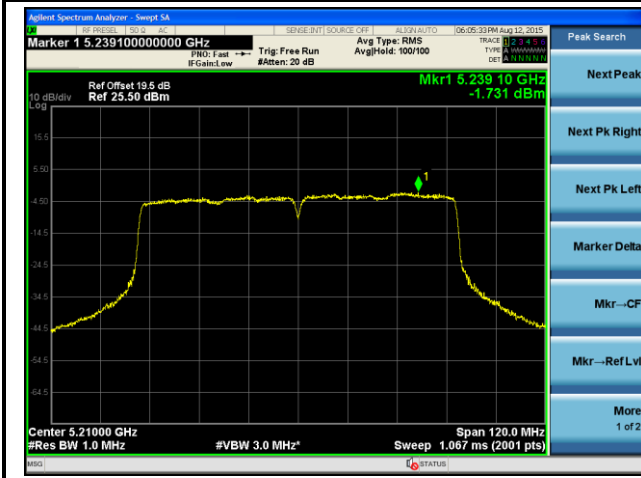


### Channel 159 (5795MHz)

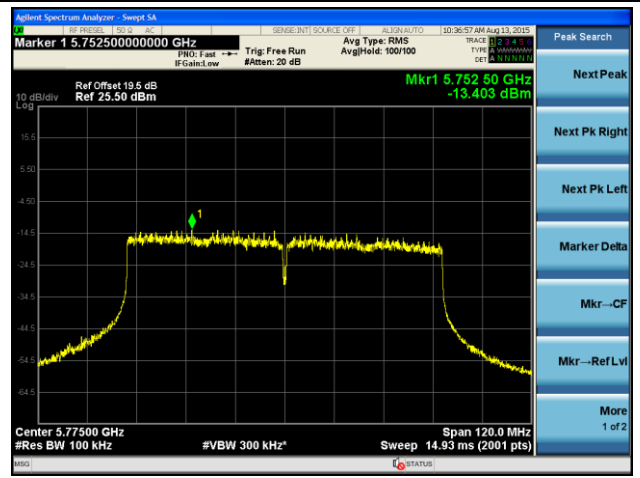


# 802.11ac-VHT80 Power Spectral Density - Ant 2 / Ant 1 + 2

## Channel 42 (5210MHz)



## Channel 155 (5775MHz)



## 7.7. Frequency Stability Measurement

### 7.7.1. Test Limit

Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

### 7.7.2. Test Procedure Used

#### Frequency Stability Under Temperature Variations:

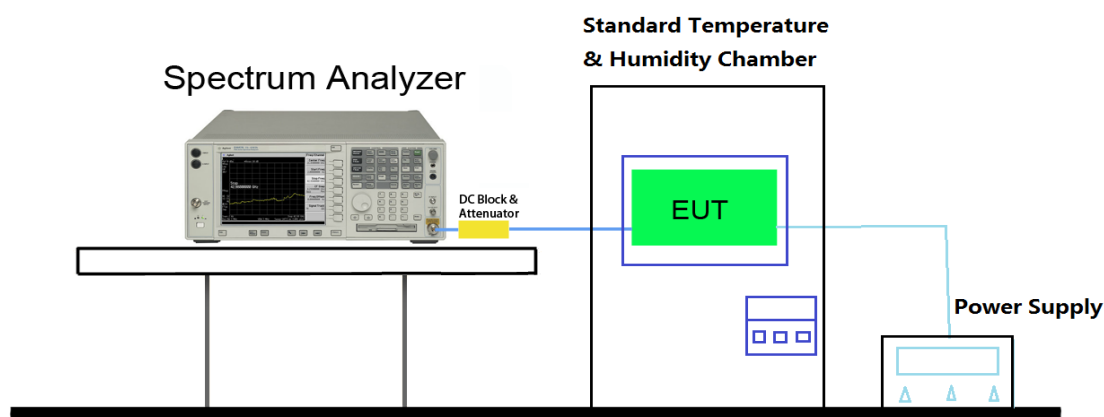
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to highest. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C decreased per stage until the lowest temperature reached.

#### Frequency Stability Under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation ( $\pm 15\%$ ) and endpoint, record the maximum frequency change.

### 7.7.3. Test Setup





#### 7.7.4. Test Result

| Voltage (%) | Power (VAC) | Temp (°C)  | Frequency Tolerance (ppm) |           |           |            |
|-------------|-------------|------------|---------------------------|-----------|-----------|------------|
|             |             |            | 0 minutes                 | 2 minutes | 5 minutes | 10 minutes |
| 100%        | 120         | -30        | 2.25                      | 2.33      | 2.42      | 2.51       |
|             |             | - 20       | 2.12                      | 2.14      | 2.36      | 2.45       |
|             |             | - 10       | 2.03                      | 2.09      | 2.15      | 2.23       |
|             |             | 0          | 1.96                      | 1.89      | 2.01      | 2.22       |
|             |             | + 10       | 1.86                      | 1.95      | 2.11      | 2.34       |
|             |             | + 20 (Ref) | 1.79                      | 2.03      | 2.01      | 2.31       |
|             |             | + 30       | 1.95                      | 2.02      | 2.17      | 2.36       |
|             |             | + 40       | 2.07                      | 2.14      | 2.35      | 2.42       |
|             |             | + 50       | 2.14                      | 2.17      | 2.22      | 2.39       |
| 115%        | 138         | + 20       | 2.23                      | 2.19      | 2.42      | 2.50       |
| 85%         | 102         | + 20       | 2.43                      | 2.54      | 2.57      | 2.58       |

Note: Frequency Tolerance (ppm) = {[Measured Frequency (Hz) - Declared Frequency (Hz)] / Declared Frequency (Hz)} \* 10<sup>6</sup>.

## 7.8. Radiated Spurious Emission Measurement

### 7.8.1. Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

| FCC Part 15 Subpart C Paragraph 15.209 |                      |                            |
|--|----------------------|----------------------------|
| Frequency [MHz]                        | Field Strength [V/m] | Measured Distance [Meters] |
| 0.009 - 0.490                          | 2400/F (kHz)         | 300                        |
| 0.490 - 1.705                          | 24000/F (kHz)        | 30                         |
| 1.705 - 30                             | 30                   | 30                         |
| 30 - 88                                | 100                  | 3                          |
| 88 - 216                               | 150                  | 3                          |
| 216 - 960                              | 200                  | 3                          |
| Above 960                              | 500                  | 3                          |

### 7.8.2. Test Procedure Used

KDB 789033 D02v01 - Section G

### 7.8.3. Test Setting

#### Peak Measurements above 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

### **Quasi-Peak Measurements below 1GHz**

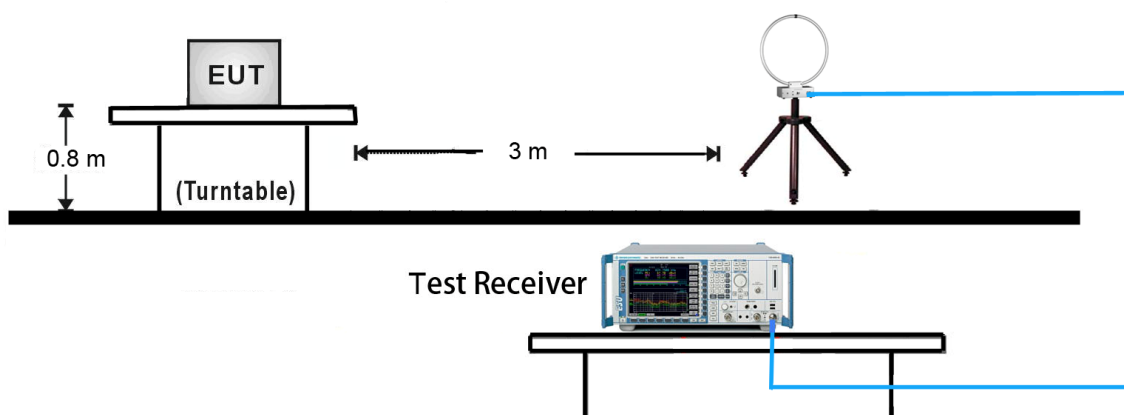
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = 120 kHz
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

### **Average Measurements above 1GHz (Method AD)**

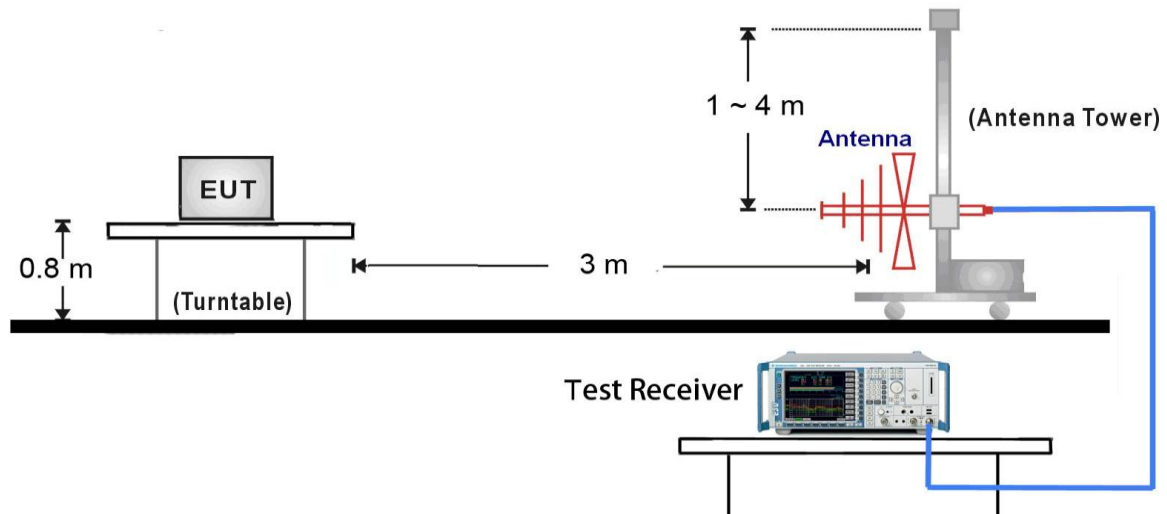
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = power average (RMS)
5. Number of measurement points = 1001 (Number of points must be  $> 2 \times \text{span}/\text{RBW}$ )
6. Sweep time = auto
7. Trace was averaged over at 100 sweeps

#### **7.8.4. Test Setup**

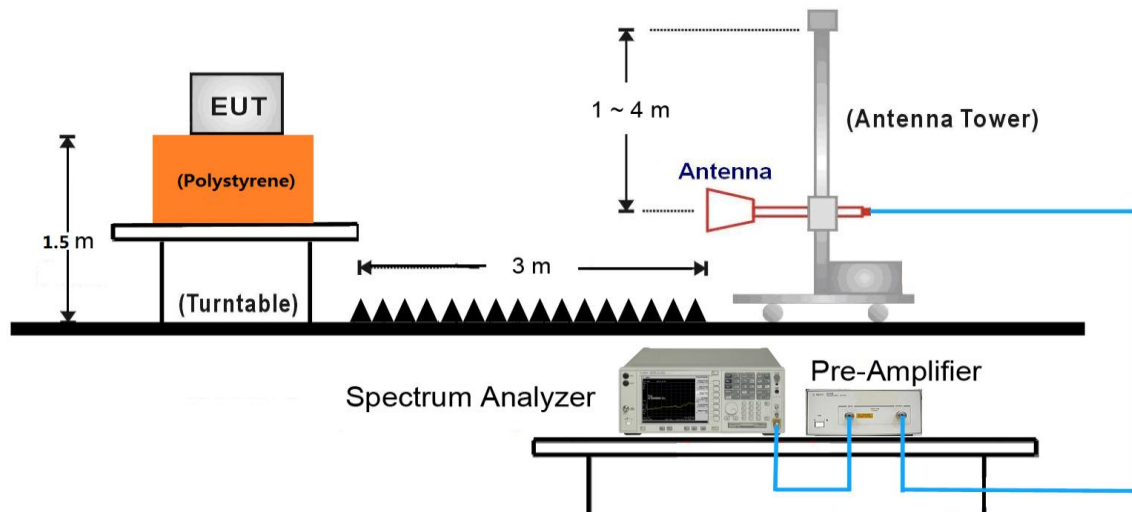
##### **9kHz ~ 30MHz Test Setup:**



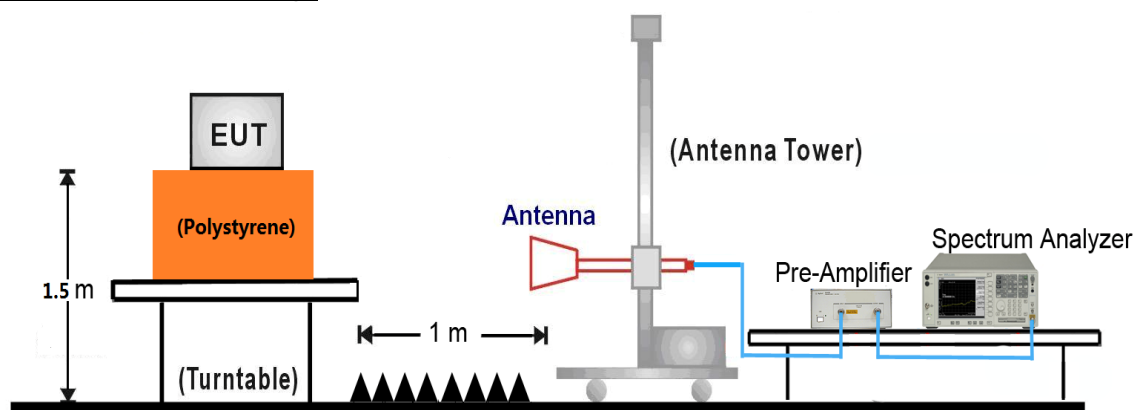
### 30MHz ~ 1GHz Test Setup:



### 1GHz ~ 18GHz Test Setup:



### 18GHz ~ 40GHz Test Setup:



### 7.8.5. Test Result

|               |   |                |           |
|---------------|---|----------------|-----------|
| Test Mode:    | 802.11a - Ant 1   | Test Site:     | AC1       |
| Test Channel: | 36  | Test Engineer: | Roy Cheng |
| Remark:       | 1. Average measurement was not performed if peak level lower than average limit.<br>2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. |                |           |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| *    | 7919.0          | 37.7                 | 8.4         | 46.1                   | 68.2           | -22.1       | Peak     | Horizontal   |
| *    | 8888.0          | 36.7                 | 9.2         | 45.9                   | 68.2           | -22.3       | Peak     | Horizontal   |
|      | 9304.5          | 35.7                 | 10.4        | 46.1                   | 74.0           | -27.9       | Peak     | Horizontal   |
|      | 11455.0         | 36.3                 | 12.7        | 49.0                   | 74.0           | -25.0       | Peak     | Horizontal   |
| *    | 7953.0          | 37.0                 | 8.6         | 45.6                   | 68.2           | -22.6       | Peak     | Vertical     |
| *    | 8769.0          | 36.3                 | 8.9         | 45.2                   | 68.2           | -23.0       | Peak     | Vertical     |
|      | 9355.5          | 35.4                 | 10.5        | 45.9                   | 74.0           | -28.1       | Peak     | Vertical     |
|      | 11455.0         | 36.2                 | 12.7        | 48.9                   | 74.0           | -25.1       | Peak     | Vertical     |

Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

|               |   |                |           |
|---------------|---|----------------|-----------|
| Test Mode:    | 802.11a - Ant 1   | Test Site:     | AC1       |
| Test Channel: | 44  | Test Engineer: | Roy Cheng |
| Remark:       | 1. Average measurement was not performed if peak level lower than average limit.<br>2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. |                |           |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| *    | 7978.5          | 36.9                 | 8.7         | 45.6                   | 68.2           | -22.6       | Peak     | Horizontal   |
| *    | 8828.5          | 36.5                 | 9.1         | 45.6                   | 68.2           | -22.6       | Peak     | Horizontal   |
|      | 9355.5          | 36.6                 | 10.5        | 47.1                   | 74.0           | -26.9       | Peak     | Horizontal   |
|      | 11276.5         | 35.5                 | 12.4        | 47.9                   | 74.0           | -26.1       | Peak     | Horizontal   |
| *    | 7774.5          | 36.8                 | 8.2         | 45.0                   | 68.2           | -23.2       | Peak     | Vertical     |
| *    | 8658.5          | 37.0                 | 8.8         | 45.8                   | 68.2           | -22.4       | Peak     | Vertical     |
|      | 9415.0          | 35.8                 | 10.6        | 46.4                   | 74.0           | -27.6       | Peak     | Vertical     |
|      | 11506.0         | 37.3                 | 12.8        | 50.1                   | 74.0           | -23.9       | Peak     | Vertical     |

Note 1: “\*” is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

|               |   |                |           |
|---------------|---|----------------|-----------|
| Test Mode:    | 802.11a - Ant 1   | Test Site:     | AC1       |
| Test Channel: | 48  | Test Engineer: | Roy Cheng |
| Remark:       | 1. Average measurement was not performed if peak level lower than average limit.<br>2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. |                |           |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| *    | 7987.0          | 37.3                 | 8.7         | 46.0                   | 68.2           | -22.2       | Peak     | Horizontal   |
| *    | 8718.0          | 36.6                 | 9.0         | 45.6                   | 68.2           | -22.6       | Peak     | Horizontal   |
|      | 9347.0          | 35.4                 | 10.5        | 45.9                   | 74.0           | -28.1       | Peak     | Horizontal   |
|      | 11174.5         | 36.2                 | 12.6        | 48.8                   | 74.0           | -25.2       | Peak     | Horizontal   |
| *    | 7808.5          | 36.9                 | 8.4         | 45.3                   | 68.2           | -22.9       | Peak     | Vertical     |
| *    | 8743.5          | 36.3                 | 9.0         | 45.3                   | 68.2           | -22.9       | Peak     | Vertical     |
|      | 9423.5          | 34.1                 | 10.6        | 44.7                   | 74.0           | -29.3       | Peak     | Vertical     |
|      | 11531.5         | 36.1                 | 12.7        | 48.8                   | 74.0           | -25.2       | Peak     | Vertical     |

Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

|               |   |                |           |
|---------------|---|----------------|-----------|
| Test Mode:    | 802.11a - Ant 1   | Test Site:     | AC1       |
| Test Channel: | 149   | Test Engineer: | Roy Cheng |
| Remark:       | 1. Average measurement was not performed if peak level lower than average limit.<br>2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. |                |           |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| *    | 8004.0          | 37.0                 | 8.7         | 45.7                   | 68.2           | -22.5       | Peak     | Horizontal   |
| *    | 8760.5          | 36.5                 | 9.0         | 45.5                   | 68.2           | -22.7       | Peak     | Horizontal   |
|      | 9364.0          | 36.3                 | 10.5        | 46.8                   | 74.0           | -27.2       | Peak     | Horizontal   |
|      | 11489.0         | 36.9                 | 12.8        | 49.7                   | 74.0           | -24.3       | Peak     | Horizontal   |
| *    | 7987.0          | 36.7                 | 8.7         | 45.4                   | 68.2           | -22.8       | Peak     | Vertical     |
| *    | 8769.0          | 37.2                 | 8.9         | 46.1                   | 68.2           | -22.1       | Peak     | Vertical     |
|      | 9423.5          | 35.3                 | 10.6        | 45.9                   | 74.0           | -28.1       | Peak     | Vertical     |
|      | 11574.0         | 36.6                 | 12.6        | 49.2                   | 74.0           | -24.8       | Peak     | Vertical     |

Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)



|               |   |                |           |
|---------------|---|----------------|-----------|
| Test Mode:    | 802.11a - Ant 1   | Test Site:     | AC1       |
| Test Channel: | 157   | Test Engineer: | Roy Cheng |
| Remark:       | 1. Average measurement was not performed if peak level lower than average limit.<br>2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. |                |           |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| *    | 7970.0          | 36.8                 | 8.6         | 45.4                   | 68.2           | -22.8       | Peak     | Horizontal   |
| *    | 8777.5          | 36.3                 | 8.9         | 45.2                   | 68.2           | -23.0       | Peak     | Horizontal   |
|      | 9355.5          | 35.9                 | 10.5        | 46.4                   | 74.0           | -27.6       | Peak     | Horizontal   |
|      | 11565.5         | 37.7                 | 12.7        | 50.4                   | 74.0           | -23.6       | Peak     | Horizontal   |
| *    | 7774.5          | 37.2                 | 8.2         | 45.4                   | 68.2           | -22.8       | Peak     | Vertical     |
| *    | 8811.5          | 36.0                 | 9.0         | 45.0                   | 68.2           | -23.2       | Peak     | Vertical     |
|      | 9449.0          | 36.1                 | 10.5        | 46.6                   | 74.0           | -27.4       | Peak     | Vertical     |
|      | 11565.5         | 37.7                 | 12.7        | 50.4                   | 74.0           | -23.6       | Peak     | Vertical     |

Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

|               |   |                |           |
|---------------|---|----------------|-----------|
| Test Mode:    | 802.11a - Ant 1   | Test Site:     | AC1       |
| Test Channel: | 165   | Test Engineer: | Roy Cheng |
| Remark:       | 1. Average measurement was not performed if peak level lower than average limit.<br>2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. |                |           |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| *    | 7944.5          | 37.3                 | 8.5         | 45.8                   | 68.2           | -22.4       | Peak     | Horizontal   |
| *    | 8675.5          | 36.7                 | 8.9         | 45.6                   | 68.2           | -22.6       | Peak     | Horizontal   |
|      | 9338.5          | 35.3                 | 10.4        | 45.7                   | 74.0           | -28.3       | Peak     | Horizontal   |
|      | 11650.5         | 38.5                 | 12.3        | 50.8                   | 74.0           | -23.2       | Peak     | Horizontal   |
| *    | 7885.0          | 36.5                 | 8.3         | 44.8                   | 68.2           | -23.4       | Peak     | Vertical     |
| *    | 8735.0          | 36.5                 | 8.9         | 45.4                   | 68.2           | -22.8       | Peak     | Vertical     |
|      | 9338.5          | 34.5                 | 10.4        | 44.9                   | 74.0           | -29.1       | Peak     | Vertical     |
|      | 11565.5         | 36.2                 | 12.7        | 48.9                   | 74.0           | -25.1       | Peak     | Vertical     |

Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

|               |   |                |           |
|---------------|---|----------------|-----------|
| Test Mode:    | 802.11n-HT20 - Ant 1  | Test Site:     | AC1       |
| Test Channel: | 36  | Test Engineer: | Roy Cheng |
| Remark:       | 1. Average measurement was not performed if peak level lower than average limit.<br>2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. |                |           |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| *    | 7876.5          | 35.6                 | 8.4         | 44.0                   | 68.2           | -24.2       | Peak     | Horizontal   |
| *    | 8684.0          | 36.6                 | 9.0         | 45.6                   | 68.2           | -22.6       | Peak     | Horizontal   |
|      | 9457.5          | 34.8                 | 10.5        | 45.3                   | 74.0           | -28.7       | Peak     | Horizontal   |
|      | 11463.5         | 36.0                 | 12.7        | 48.7                   | 74.0           | -25.3       | Peak     | Horizontal   |
| *    | 7893.5          | 36.8                 | 8.3         | 45.1                   | 68.2           | -23.1       | Peak     | Vertical     |
| *    | 8701.0          | 36.2                 | 9.0         | 45.2                   | 68.2           | -23.0       | Peak     | Vertical     |
|      | 9117.5          | 35.4                 | 9.5         | 44.9                   | 74.0           | -29.1       | Peak     | Vertical     |
|      | 11514.5         | 36.4                 | 12.8        | 49.2                   | 74.0           | -24.8       | Peak     | Vertical     |

Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

|               |   |                |           |
|---------------|---|----------------|-----------|
| Test Mode:    | 802.11n-HT20 - Ant 1  | Test Site:     | AC1       |
| Test Channel: | 44  | Test Engineer: | Roy Cheng |
| Remark:       | 1. Average measurement was not performed if peak level lower than average limit.<br>2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. |                |           |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| *    | 7961.5          | 37.2                 | 8.6         | 45.8                   | 68.2           | -22.4       | Peak     | Horizontal   |
| *    | 8667.0          | 36.5                 | 8.9         | 45.4                   | 68.2           | -22.8       | Peak     | Horizontal   |
|      | 9423.5          | 35.1                 | 10.6        | 45.7                   | 74.0           | -28.3       | Peak     | Horizontal   |
|      | 11497.5         | 35.8                 | 12.8        | 48.6                   | 74.0           | -25.4       | Peak     | Horizontal   |
| *    | 7995.5          | 37.1                 | 8.7         | 45.8                   | 68.2           | -22.4       | Peak     | Vertical     |
| *    | 8794.5          | 36.2                 | 8.9         | 45.1                   | 68.2           | -23.1       | Peak     | Vertical     |
|      | 9338.5          | 34.9                 | 10.4        | 45.3                   | 74.0           | -28.7       | Peak     | Vertical     |
|      | 11497.5         | 36.0                 | 12.8        | 48.8                   | 74.0           | -25.2       | Peak     | Vertical     |

Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

|               |   |                |           |
|---------------|---|----------------|-----------|
| Test Mode:    | 802.11n-HT20 - Ant 1  | Test Site:     | AC1       |
| Test Channel: | 48  | Test Engineer: | Roy Cheng |
| Remark:       | 1. Average measurement was not performed if peak level lower than average limit.<br>2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. |                |           |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| *    | 7757.5          | 36.9                 | 8.1         | 45.0                   | 68.2           | -23.2       | Peak     | Horizontal   |
| *    | 8888.0          | 36.5                 | 9.2         | 45.7                   | 68.2           | -22.5       | Peak     | Horizontal   |
|      | 9304.5          | 35.0                 | 10.4        | 45.4                   | 74.0           | -28.6       | Peak     | Horizontal   |
|      | 10826.0         | 35.8                 | 12.7        | 48.5                   | 74.0           | -25.5       | Peak     | Horizontal   |
| *    | 7987.0          | 37.7                 | 8.7         | 46.4                   | 68.2           | -21.8       | Peak     | Vertical     |
| *    | 8667.0          | 36.0                 | 8.9         | 44.9                   | 68.2           | -23.3       | Peak     | Vertical     |
|      | 9330.0          | 35.6                 | 10.4        | 46.0                   | 74.0           | -28.0       | Peak     | Vertical     |
|      | 11625.0         | 35.6                 | 12.5        | 48.1                   | 74.0           | -25.9       | Peak     | Vertical     |

Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

|               |   |                |           |
|---------------|---|----------------|-----------|
| Test Mode:    | 802.11n-HT20 - Ant 1  | Test Site:     | AC1       |
| Test Channel: | 149   | Test Engineer: | Roy Cheng |
| Remark:       | 1. Average measurement was not performed if peak level lower than average limit.<br>2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. |                |           |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| *    | 7876.5          | 35.2                 | 8.4         | 43.6                   | 68.2           | -24.6       | Peak     | Horizontal   |
| *    | 8828.5          | 36.9                 | 9.1         | 46.0                   | 68.2           | -22.2       | Peak     | Horizontal   |
|      | 9347.0          | 35.9                 | 10.5        | 46.4                   | 74.0           | -27.6       | Peak     | Horizontal   |
|      | 11489.0         | 36.1                 | 12.8        | 48.9                   | 74.0           | -25.1       | Peak     | Horizontal   |
| *    | 7953.0          | 36.6                 | 8.6         | 45.2                   | 68.2           | -23.0       | Peak     | Vertical     |
| *    | 8692.5          | 36.3                 | 9.0         | 45.3                   | 68.2           | -22.9       | Peak     | Vertical     |
|      | 9058.0          | 36.4                 | 9.0         | 45.4                   | 74.0           | -28.6       | Peak     | Vertical     |
|      | 11489.0         | 36.1                 | 12.8        | 48.9                   | 74.0           | -25.1       | Peak     | Vertical     |

Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

|               |   |                |           |
|---------------|---|----------------|-----------|
| Test Mode:    | 802.11n-HT20 - Ant 1  | Test Site:     | AC1       |
| Test Channel: | 157   | Test Engineer: | Roy Cheng |
| Remark:       | 1. Average measurement was not performed if peak level lower than average limit.<br>2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. |                |           |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| *    | 7970.0          | 36.8                 | 8.6         | 45.4                   | 68.2           | -22.8       | Peak     | Horizontal   |
| *    | 8658.5          | 35.7                 | 8.8         | 44.5                   | 68.2           | -23.7       | Peak     | Horizontal   |
|      | 9330.0          | 35.2                 | 10.4        | 45.6                   | 74.0           | -28.4       | Peak     | Horizontal   |
|      | 11013.0         | 35.4                 | 13.0        | 48.4                   | 74.0           | -25.6       | Peak     | Horizontal   |
| *    | 7995.5          | 36.9                 | 8.7         | 45.6                   | 68.2           | -22.6       | Peak     | Vertical     |
| *    | 8837.0          | 35.7                 | 9.1         | 44.8                   | 68.2           | -23.4       | Peak     | Vertical     |
|      | 9432.0          | 35.8                 | 10.5        | 46.3                   | 74.0           | -27.7       | Peak     | Vertical     |
|      | 11446.5         | 35.6                 | 12.7        | 48.3                   | 74.0           | -25.7       | Peak     | Vertical     |

Note 1: “\*” is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

|               |   |                |           |
|---------------|---|----------------|-----------|
| Test Mode:    | 802.11n-HT20 - Ant 1  | Test Site:     | AC1       |
| Test Channel: | 165   | Test Engineer: | Roy Cheng |
| Remark:       | 1. Average measurement was not performed if peak level lower than average limit.<br>2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. |                |           |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| *    | 7987.0          | 36.9                 | 8.7         | 45.6                   | 68.2           | -22.6       | Peak     | Horizontal   |
| *    | 8752.0          | 35.9                 | 9.0         | 44.9                   | 68.2           | -23.3       | Peak     | Horizontal   |
|      | 9347.0          | 35.0                 | 10.5        | 45.5                   | 74.0           | -28.5       | Peak     | Horizontal   |
|      | 11642.0         | 37.2                 | 12.4        | 49.6                   | 74.0           | -24.4       | Peak     | Horizontal   |
| *    | 7927.5          | 36.1                 | 8.5         | 44.6                   | 68.2           | -23.6       | Peak     | Vertical     |
| *    | 8760.5          | 36.2                 | 9.0         | 45.2                   | 68.2           | -23.0       | Peak     | Vertical     |
|      | 9330.0          | 35.9                 | 10.4        | 46.3                   | 74.0           | -27.7       | Peak     | Vertical     |
|      | 11531.5         | 35.5                 | 12.7        | 48.2                   | 74.0           | -25.8       | Peak     | Vertical     |

Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)



|               |   |                |           |
|---------------|---|----------------|-----------|
| Test Mode:    | 802.11n-HT40 - Ant 1  | Test Site:     | AC1       |
| Test Channel: | 38  | Test Engineer: | Roy Cheng |
| Remark:       | 1. Average measurement was not performed if peak level lower than average limit.<br>2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. |                |           |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| *    | 7953.0          | 36.6                 | 8.6         | 45.2                   | 68.2           | -23.0       | Peak     | Horizontal   |
| *    | 8684.0          | 35.7                 | 9.0         | 44.7                   | 68.2           | -23.5       | Peak     | Horizontal   |
|      | 9457.5          | 34.6                 | 10.5        | 45.1                   | 74.0           | -28.9       | Peak     | Horizontal   |
|      | 11616.5         | 36.3                 | 12.5        | 48.8                   | 74.0           | -25.2       | Peak     | Horizontal   |
| *    | 7970.0          | 36.6                 | 8.6         | 45.2                   | 68.2           | -23.0       | Peak     | Vertical     |
| *    | 8701.0          | 36.4                 | 9.0         | 45.4                   | 68.2           | -22.8       | Peak     | Vertical     |
|      | 9338.5          | 33.8                 | 10.4        | 44.2                   | 74.0           | -29.8       | Peak     | Vertical     |
|      | 11616.5         | 36.3                 | 12.5        | 48.8                   | 74.0           | -25.2       | Peak     | Vertical     |

Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

|               |   |                |           |
|---------------|---|----------------|-----------|
| Test Mode:    | 802.11n-HT40 - Ant 1  | Test Site:     | AC1       |
| Test Channel: | 46  | Test Engineer: | Roy Cheng |
| Remark:       | 1. Average measurement was not performed if peak level lower than average limit.<br>2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. |                |           |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| *    | 7995.5          | 36.6                 | 8.7         | 45.3                   | 68.2           | -22.9       | Peak     | Horizontal   |
| *    | 8522.5          | 37.5                 | 8.4         | 45.9                   | 68.2           | -22.3       | Peak     | Horizontal   |
|      | 9313.0          | 34.5                 | 10.4        | 44.9                   | 74.0           | -29.1       | Peak     | Horizontal   |
|      | 10520.0         | 35.9                 | 12.4        | 48.3                   | 74.0           | -25.7       | Peak     | Horizontal   |
| *    | 7953.0          | 36.3                 | 8.6         | 44.9                   | 68.2           | -23.3       | Peak     | Vertical     |
| *    | 8735.0          | 34.8                 | 8.9         | 43.7                   | 68.2           | -24.5       | Peak     | Vertical     |
|      | 9474.5          | 35.4                 | 10.6        | 46.0                   | 74.0           | -28.0       | Peak     | Vertical     |
|      | 10928.0         | 32.8                 | 13.0        | 45.8                   | 74.0           | -28.2       | Peak     | Vertical     |

Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

|               |   |                |           |
|---------------|---|----------------|-----------|
| Test Mode:    | 802.11n-HT40 - Ant 1  | Test Site:     | AC1       |
| Test Channel: | 151   | Test Engineer: | Roy Cheng |
| Remark:       | 1. Average measurement was not performed if peak level lower than average limit.<br>2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report. |                |           |

| Mark | Frequency (MHz) | Reading Level (dBμV) | Factor (dB) | Measure Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Polarization |
|------|-----------------|----------------------|-------------|------------------------|----------------|-------------|----------|--------------|
| *    | 7953.0          | 37.5                 | 8.6         | 46.1                   | 68.2           | -22.1       | Peak     | Horizontal   |
| *    | 8616.0          | 36.3                 | 8.8         | 45.1                   | 68.2           | -23.1       | Peak     | Horizontal   |
|      | 9355.5          | 35.7                 | 10.5        | 46.2                   | 74.0           | -27.8       | Peak     | Horizontal   |
|      | 11174.5         | 35.7                 | 12.6        | 48.3                   | 74.0           | -25.7       | Peak     | Horizontal   |
| *    | 7987.0          | 37.1                 | 8.7         | 45.8                   | 68.2           | -22.4       | Peak     | Vertical     |
| *    | 8709.5          | 36.4                 | 9.0         | 45.4                   | 68.2           | -22.8       | Peak     | Vertical     |
|      | 9372.5          | 34.8                 | 10.5        | 45.3                   | 74.0           | -28.7       | Peak     | Vertical     |
|      | 11506.0         | 36.4                 | 12.8        | 49.2                   | 74.0           | -24.8       | Peak     | Vertical     |

Note 1: "\*" is not in restricted band, its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)