



|                                                                                                                      |                                    |
|----------------------------------------------------------------------------------------------------------------------|------------------------------------|
| Power                                                                                                                | AC120V/60Hz                        |
| Test Mode                                                                                                            | Mode 6, 802.11ax HE20 CH157 UNII-3 |
| Note : Level = Reading + Factor<br>Margin = Level – Limit<br>Factor = Antenna Factor + Cable Loss – Amplifier Factor |                                    |

| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector mode (PK/AVG) | AntPol. H/V |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------------------------|-------------|
| 1   | 5650.000        | 2.39          | 48.73          | 51.12          | 68.20          | -17.08      | peak                   | H           |
| 2   | 5700.000        | 2.52          | 48.41          | 50.93          | 105.20         | -54.27      | peak                   | H           |
| 3   | 5720.000        | 2.57          | 48.81          | 51.38          | 110.80         | -59.42      | peak                   | H           |
| 4   | 5725.000        | 2.58          | 49.22          | 51.80          | 122.20         | -70.40      | peak                   | H           |
| 5   | 5850.000        | 2.89          | 48.79          | 51.68          | 122.20         | -70.52      | peak                   | H           |
| 6   | 5855.000        | 2.90          | 48.79          | 51.69          | 110.80         | -59.11      | peak                   | H           |
| 7   | 5875.000        | 2.95          | 48.49          | 51.44          | 105.20         | -53.76      | peak                   | H           |
| 8   | 5925.000        | 3.07          | 48.76          | 51.83          | 68.20          | -16.37      | peak                   | H           |
| 9   | 11570.000       | 16.00         | 38.46          | 54.46          | 74.00          | -19.54      | peak                   | H           |
| 10  | 11570.000       | 16.00         | 24.55          | 40.55          | 54.00          | -13.45      | AVG                    | H           |
| 11  | 17355.000       | 30.74         | 24.83          | 55.57          | 68.20          | -12.63      | peak                   | H           |
|     |                 |               |                |                |                |             |                        |             |
| 1   | 5650.000        | 2.39          | 49.30          | 51.69          | 68.20          | -16.51      | peak                   | V           |
| 2   | 5700.000        | 2.52          | 50.34          | 52.86          | 105.20         | -52.34      | peak                   | V           |
| 3   | 5720.000        | 2.57          | 49.92          | 52.49          | 110.80         | -58.31      | peak                   | V           |
| 4   | 5725.000        | 2.58          | 49.38          | 51.96          | 122.20         | -70.24      | peak                   | V           |
| 5   | 5850.000        | 2.89          | 50.08          | 52.97          | 122.20         | -69.23      | peak                   | V           |
| 6   | 5855.000        | 2.90          | 49.96          | 52.86          | 110.80         | -57.94      | peak                   | V           |
| 7   | 5875.000        | 2.95          | 49.62          | 52.57          | 105.20         | -52.63      | peak                   | V           |
| 8   | 5925.000        | 3.07          | 50.04          | 53.11          | 68.20          | -15.09      | peak                   | V           |
| 9   | 11570.000       | 16.00         | 39.06          | 55.06          | 74.00          | -18.94      | peak                   | V           |
| 10  | 11570.000       | 16.00         | 25.77          | 41.77          | 54.00          | -12.23      | AVG                    | V           |
| 11  | 17355.000       | 30.74         | 25.70          | 56.44          | 68.20          | -11.76      | peak                   | V           |



|                                                                                                                      |                                    |
|----------------------------------------------------------------------------------------------------------------------|------------------------------------|
| Power                                                                                                                | AC120V/60Hz                        |
| Test Mode                                                                                                            | Mode 6, 802.11ax HE20 CH165 UNII-3 |
| Note : Level = Reading + Factor<br>Margin = Level – Limit<br>Factor = Antenna Factor + Cable Loss – Amplifier Factor |                                    |

| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector mode (PK/AVG) | AntPol. H/V |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------------------------|-------------|
| 1   | 5850.000        | 2.89          | 49.78          | 52.67          | 122.20         | -69.53      | peak                   | H           |
| 2   | 5855.000        | 2.90          | 48.86          | 51.76          | 110.80         | -59.04      | peak                   | H           |
| 3   | 5875.000        | 2.95          | 49.26          | 52.21          | 105.20         | -52.99      | peak                   | H           |
| 4   | 5925.000        | 3.07          | 48.45          | 51.52          | 68.20          | -16.68      | peak                   | H           |
| 5   | 11650.000       | 16.16         | 37.60          | 53.76          | 74.00          | -20.24      | peak                   | H           |
| 6   | 11650.000       | 16.16         | 23.05          | 39.21          | 54.00          | -14.79      | AVG                    | H           |
| 7   | 17475.000       | 31.21         | 23.83          | 55.04          | 68.20          | -13.16      | peak                   | H           |
|     |                 |               |                |                |                |             |                        |             |
| 1   | 5850.000        | 2.89          | 51.98          | 54.87          | 122.20         | -67.33      | peak                   | V           |
| 2   | 5855.000        | 2.90          | 51.67          | 54.57          | 110.80         | -56.23      | peak                   | V           |
| 3   | 5875.000        | 2.95          | 49.46          | 52.41          | 105.20         | -52.79      | peak                   | V           |
| 4   | 5925.000        | 3.07          | 50.17          | 53.24          | 68.20          | -14.96      | peak                   | V           |
| 5   | 11650.000       | 16.16         | 38.02          | 54.18          | 74.00          | -19.82      | peak                   | V           |
| 6   | 11650.000       | 16.16         | 24.37          | 40.53          | 54.00          | -13.47      | AVG                    | V           |
| 7   | 17475.000       | 31.21         | 24.00          | 55.21          | 68.20          | -12.99      | peak                   | V           |



|                                                                                                                      |                                    |
|----------------------------------------------------------------------------------------------------------------------|------------------------------------|
| Power                                                                                                                | AC120V/60Hz                        |
| Test Mode                                                                                                            | Mode 7, 802.11ax HE40 CH151 UNII-3 |
| Note : Level = Reading + Factor<br>Margin = Level – Limit<br>Factor = Antenna Factor + Cable Loss – Amplifier Factor |                                    |

| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector mode (PK/AVG) | AntPol. H/V |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------------------------|-------------|
| 1   | 5650.000        | 2.39          | 49.10          | 51.49          | 68.20          | -16.71      | peak                   | H           |
| 2   | 5700.000        | 2.52          | 49.46          | 51.98          | 105.20         | -53.22      | peak                   | H           |
| 3   | 5720.000        | 2.57          | 49.30          | 51.87          | 110.80         | -58.93      | peak                   | H           |
| 4   | 5725.000        | 2.58          | 51.06          | 53.64          | 122.20         | -68.56      | peak                   | H           |
| 5   | 11510.000       | 15.88         | 37.17          | 53.05          | 74.00          | -20.95      | peak                   | H           |
| 6   | 11510.000       | 15.88         | 23.54          | 39.42          | 54.00          | -14.58      | AVG                    | H           |
| 7   | 17265.000       | 30.38         | 23.91          | 54.29          | 68.20          | -13.91      | peak                   | H           |
|     |                 |               |                |                |                |             |                        |             |
| 1   | 5650.000        | 2.39          | 50.03          | 52.42          | 68.20          | -15.78      | peak                   | V           |
| 2   | 5700.000        | 2.52          | 50.92          | 53.44          | 105.20         | -51.76      | peak                   | V           |
| 3   | 5720.000        | 2.57          | 53.39          | 55.96          | 110.80         | -54.84      | peak                   | V           |
| 4   | 5725.000        | 2.58          | 56.90          | 59.48          | 122.20         | -62.72      | peak                   | V           |
| 5   | 11510.000       | 15.88         | 38.65          | 54.53          | 74.00          | -19.47      | peak                   | V           |
| 6   | 11510.000       | 15.88         | 24.84          | 40.72          | 54.00          | -13.28      | AVG                    | V           |
| 7   | 17265.000       | 30.38         | 26.17          | 56.55          | 68.20          | -11.65      | peak                   | V           |



|                                                                                                                      |                                    |
|----------------------------------------------------------------------------------------------------------------------|------------------------------------|
| Power                                                                                                                | AC120V/60Hz                        |
| Test Mode                                                                                                            | Mode 7, 802.11ax HE40 CH159 UNII-3 |
| Note : Level = Reading + Factor<br>Margin = Level – Limit<br>Factor = Antenna Factor + Cable Loss – Amplifier Factor |                                    |

| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector mode (PK/AVG) | AntPol. H/V |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------------------------|-------------|
| 1   | 5850.000        | 2.89          | 49.25          | 52.14          | 122.20         | -70.06      | peak                   | H           |
| 2   | 5855.000        | 2.90          | 49.14          | 52.04          | 110.80         | -58.76      | peak                   | H           |
| 3   | 5875.000        | 2.95          | 48.49          | 51.44          | 105.20         | -53.76      | peak                   | H           |
| 4   | 5925.000        | 3.07          | 48.79          | 51.86          | 68.20          | -16.34      | peak                   | H           |
| 5   | 11590.000       | 16.04         | 37.11          | 53.15          | 74.00          | -20.85      | peak                   | H           |
| 6   | 11590.000       | 16.04         | 23.27          | 39.31          | 54.00          | -14.69      | AVG                    | H           |
| 7   | 17385.000       | 30.85         | 24.24          | 55.09          | 68.20          | -13.11      | peak                   | H           |
|     |                 |               |                |                |                |             |                        |             |
| 1   | 5850.000        | 2.89          | 50.74          | 53.63          | 122.20         | -68.57      | peak                   | V           |
| 2   | 5855.000        | 2.90          | 50.04          | 52.94          | 110.80         | -57.86      | peak                   | V           |
| 3   | 5875.000        | 2.95          | 49.67          | 52.62          | 105.20         | -52.58      | peak                   | V           |
| 4   | 5925.000        | 3.07          | 49.51          | 52.58          | 68.20          | -15.62      | peak                   | V           |
| 5   | 11590.000       | 16.04         | 38.40          | 54.44          | 74.00          | -19.56      | peak                   | V           |
| 6   | 11590.000       | 16.04         | 24.81          | 40.85          | 54.00          | -13.15      | AVG                    | V           |
| 7   | 17385.000       | 30.85         | 25.53          | 56.38          | 68.20          | -11.82      | peak                   | V           |



|                                                                                                                      |                                    |
|----------------------------------------------------------------------------------------------------------------------|------------------------------------|
| Power                                                                                                                | AC120V/60Hz                        |
| Test Mode                                                                                                            | Mode 8, 802.11ax HE80 CH155 UNII-3 |
| Note : Level = Reading + Factor<br>Margin = Level – Limit<br>Factor = Antenna Factor + Cable Loss – Amplifier Factor |                                    |

| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector mode (PK/AVG) | AntPol. H/V |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------------------------|-------------|
| 1   | 5650.000        | 2.39          | 48.46          | 50.85          | 68.20          | -17.35      | peak                   | H           |
| 2   | 5700.000        | 2.52          | 48.76          | 51.28          | 105.20         | -53.92      | peak                   | H           |
| 3   | 5720.000        | 2.57          | 49.45          | 52.02          | 110.80         | -58.78      | peak                   | H           |
| 4   | 5725.000        | 2.58          | 48.82          | 51.40          | 122.20         | -70.80      | peak                   | H           |
| 5   | 5850.000        | 2.89          | 48.80          | 51.69          | 122.20         | -70.51      | peak                   | H           |
| 6   | 5855.000        | 2.90          | 48.90          | 51.80          | 110.80         | -59.00      | peak                   | H           |
| 7   | 5875.000        | 2.95          | 48.34          | 51.29          | 105.20         | -53.91      | peak                   | H           |
| 8   | 5925.000        | 3.07          | 48.58          | 51.65          | 68.20          | -16.55      | peak                   | H           |
| 9   | 11550.000       | 15.96         | 37.25          | 53.21          | 74.00          | -20.79      | peak                   | H           |
| 10  | 11550.000       | 15.96         | 23.58          | 39.54          | 54.00          | -14.46      | AVG                    | H           |
| 11  | 17325.000       | 30.62         | 24.43          | 55.05          | 68.20          | -13.15      | peak                   | H           |
|     |                 |               |                |                |                |             |                        |             |
| 1   | 5650.000        | 2.39          | 49.12          | 51.51          | 68.20          | -16.69      | peak                   | V           |
| 2   | 5700.000        | 2.52          | 51.41          | 53.93          | 105.20         | -51.27      | peak                   | V           |
| 3   | 5720.000        | 2.57          | 52.43          | 55.00          | 110.80         | -55.80      | peak                   | V           |
| 4   | 5725.000        | 2.58          | 54.42          | 57.00          | 122.20         | -65.20      | peak                   | V           |
| 5   | 5850.000        | 2.89          | 50.97          | 53.86          | 122.20         | -68.34      | peak                   | V           |
| 6   | 5855.000        | 2.90          | 51.27          | 54.17          | 110.80         | -56.63      | peak                   | V           |
| 7   | 5875.000        | 2.95          | 48.77          | 51.72          | 105.20         | -53.48      | peak                   | V           |
| 8   | 5925.000        | 3.07          | 49.52          | 52.59          | 68.20          | -15.61      | peak                   | V           |
| 9   | 11550.000       | 15.96         | 38.58          | 54.54          | 74.00          | -19.46      | peak                   | V           |
| 10  | 11550.000       | 15.96         | 24.12          | 40.08          | 54.00          | -13.92      | AVG                    | V           |
| 11  | 17325.000       | 30.62         | 26.13          | 56.75          | 68.20          | -11.45      | peak                   | V           |



## 6.7. Restricted Bands of Operation

Only spurious emissions are permitted in any of the frequency bands listed below:

| MHz                 | MHz                   | MHz             | GHz             |
|---------------------|-----------------------|-----------------|-----------------|
| 0.09000 – 0.11000   | 16.42000 – 16.42300   | 399.9 – 410.0   | 4.500 – 5.150   |
| 0.49500 – 0.505**   | 16.69475 – 16.69525   | 608.0 – 614.0   | 5.350 – 5.460   |
| 2.17350 – 2.19050   | 16.80425 – 16.80475   | 960.0 – 1240.0  | 7.250 – 7.750   |
| 4.12500 – 4.12800   | 25.50000 – 25.67000   | 1300.0 – 1427.0 | 8.025 – 8.500   |
| 4.17725 – 4.17775   | 37.50000 – 38.25000   | 1435.0 – 1626.5 | 9.000 – 9.200   |
| 4.20725 – 4.20775   | 73.00000 – 74.60000   | 1645.5 – 1646.5 | 9.300 – 9.500   |
| 6.21500 – 6.21800   | 74.80000 – 75.20000   | 1660.0 – 1710.0 | 10.600 – 12.700 |
| 6.26775 – 6.26825   | 108.00000 – 121.94000 | 1718.8 – 1722.2 | 13.250 – 13.400 |
| 6.31175 – 6.31225   | 123.00000 – 138.00000 | 2200.0 – 2300.0 | 14.470 – 14.500 |
| 8.29100 – 8.29400   | 149.90000 – 150.05000 | 2310.0 – 2390.0 | 15.350 – 16.200 |
| 8.36200 – 8.36600   | 156.52475 – 156.52525 | 2483.5 – 2500.0 | 17.700 – 21.400 |
| 8.37625 – 8.38675   | 156.70000 – 156.90000 | 2655.0 – 2900.0 | 22.010 – 23.120 |
| 8.41425 – 8.41475   | 162.01250 – 167.17000 | 3260.0 – 3267.0 | 23.600 – 24.000 |
| 12.29000 – 12.29300 | 167.72000 – 173.20000 | 3332.0 – 3339.0 | 31.200 – 31.800 |
| 12.51975 – 12.52025 | 240.00000 – 285.00000 | 3345.8 – 3358.0 | 36.430 – 36.500 |
| 12.57675 – 12.57725 | 322.00000 – 335.40000 | 3600.0 – 4400.0 | Above 38.6      |
| 13.36000 – 13.41000 |                       |                 |                 |

\*\* : Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz



## 7. On Time, Duty Cycle and Measurement methods

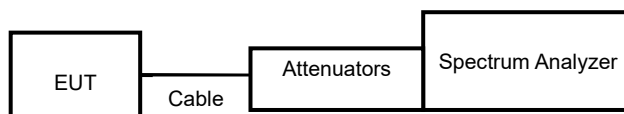
### 7.1. Test Limit

None; for reporting purposes only.

### 7.2. Test Procedure

KDB 789033 Zero-Span Spectrum Analyzer Method.

### 7.3. Test Setup Layout



### 7.4. Test Result and Data

#### SISO

| Modulation Mode | On Time (msec) | Period Time (msec) | Duty Cycle (%) |
|-----------------|----------------|--------------------|----------------|
| 802.11a         | 1.41           | 1.45               | 96.90%         |
| 802.11ac VHT20  | 0.69           | 0.74               | 93.26%         |
| 802.11ac VHT40  | 0.36           | 0.41               | 86.86%         |
| 802.11ac VHT80  | 0.19           | 0.53               | 36.02%         |
| 802.11ax HE20   | 0.55           | 0.60               | 91.64%         |
| 802.11ax HE40   | 0.31           | 0.36               | 84.96%         |
| 802.11ax HE80   | 0.18           | 0.52               | 34.17%         |

#### MIMO

| Modulation Mode | On Time (msec) | Period Time (msec) | Duty Cycle (%) |
|-----------------|----------------|--------------------|----------------|
| 802.11ac VHT20  | 0.69           | 0.75               | 91.49%         |
| 802.11ac VHT40  | 0.35           | 0.41               | 86.55%         |
| 802.11ac VHT80  | 0.19           | 0.53               | 35.58%         |
| 802.11ax HE20   | 0.55           | 0.60               | 91.00%         |
| 802.11ax HE40   | 0.30           | 0.36               | 84.40%         |
| 802.11ax HE80   | 0.18           | 0.52               | 34.23%         |

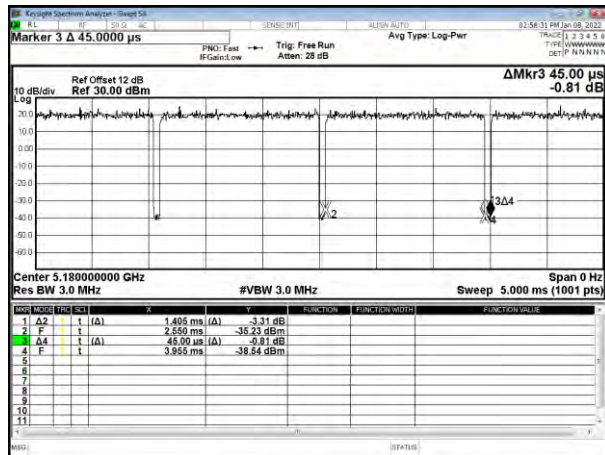
**7.5. Measurement Methods**

|                                            |                                                          |
|--------------------------------------------|----------------------------------------------------------|
| 26 dB and 6dB Emission BW                  | KDB 789033 v02r01, Section C                             |
| 99% Occupied BW                            | KDB 789033 v02r01, Section D                             |
| Conducted Output Power                     | KDB 789033 v02r01, Section E.2.d and E.3.b (Method PM-G) |
| Power Spectral Density                     | KDB 789033 v02r01, Section F                             |
| Unwanted emissions in restricted bands     | KDB 789033 v02r01, Sections G and H                      |
| Unwanted emissions in non-restricted bands | KDB 789033 v02r01, Sections G and H                      |

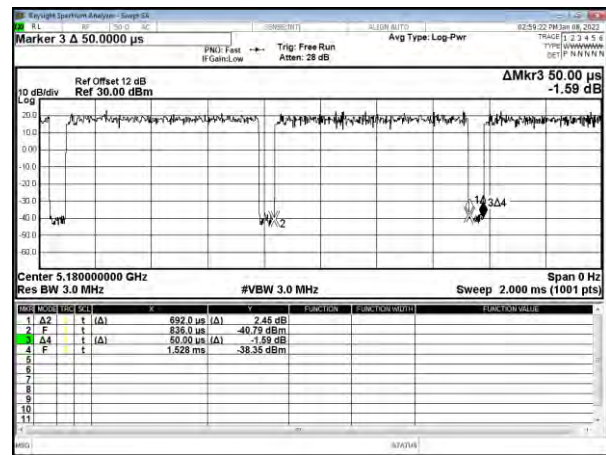


## SISO

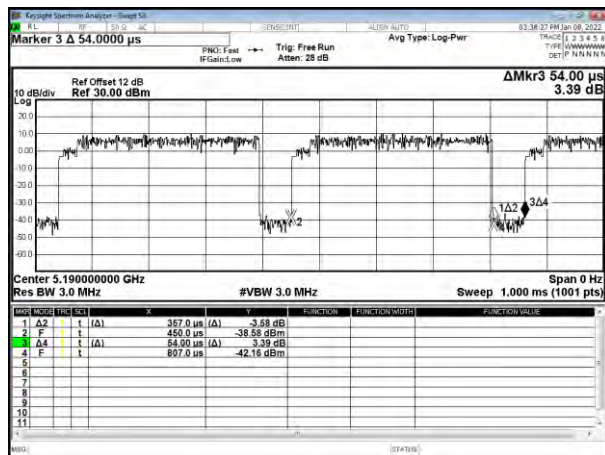
Modulation Type: 802.11a (6Mbps)



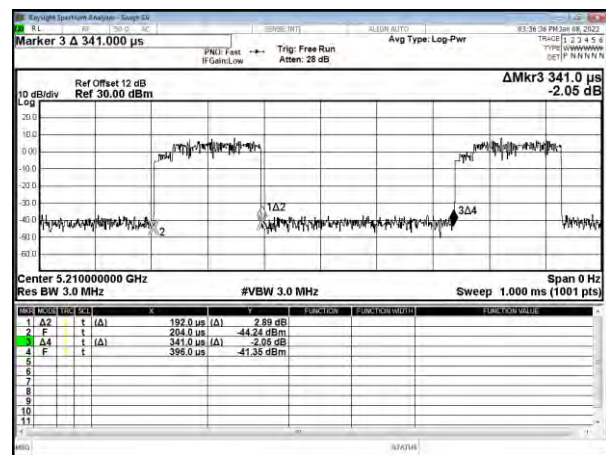
Modulation Type: 802.11ac VHT20 (6.5Mbps)



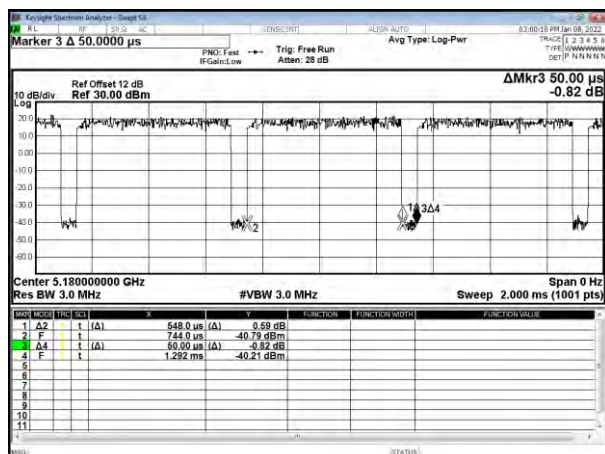
Modulation Type: 802.11ac VHT40 (13.5Mbps)



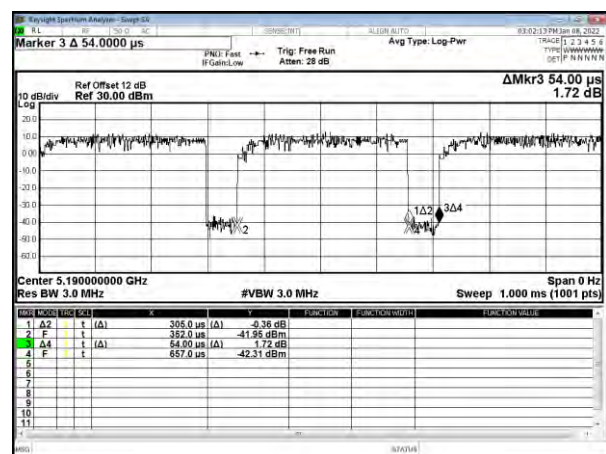
Modulation Type: 802.11ac VHT80 (29.3Mbps)



Modulation Type: 802.11ax HE20 (7.3Mbps)

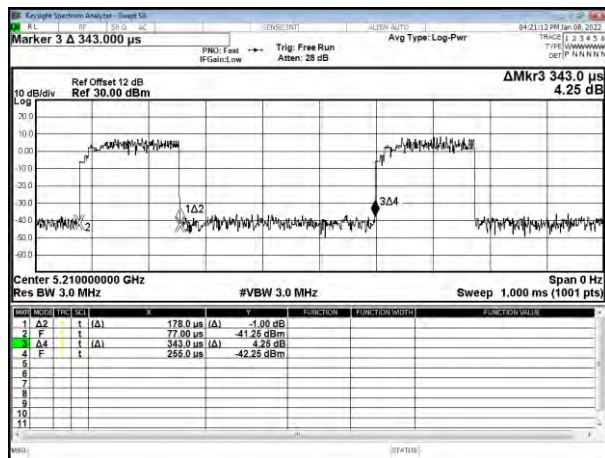


Modulation Type: 802.11ax HE40 (14.6Mbps)





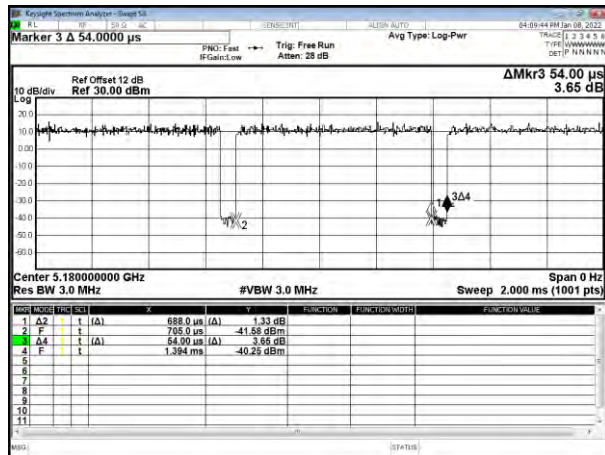
Modulation Type: 802.11ax HE80 (30.6Mbps)



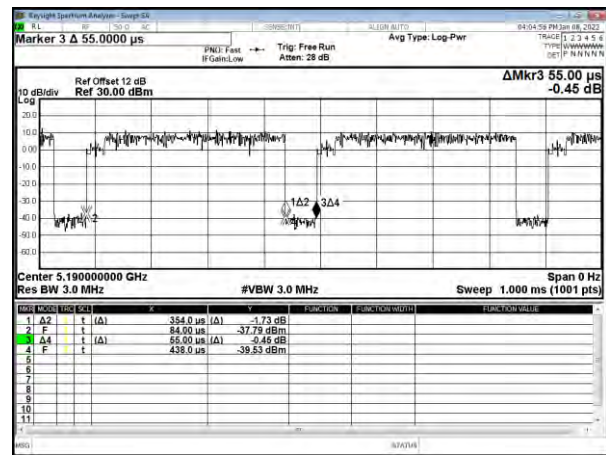


## MIMO

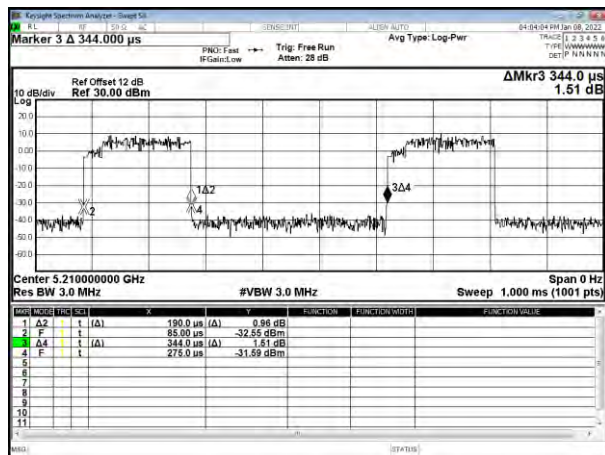
Modulation Type: 802.11ac VHT20 (13Mbps)



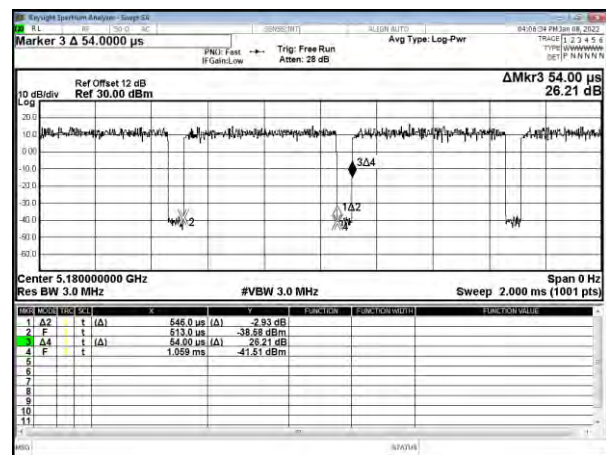
Modulation Type: 802.11ac VHT40 (27Mbps)



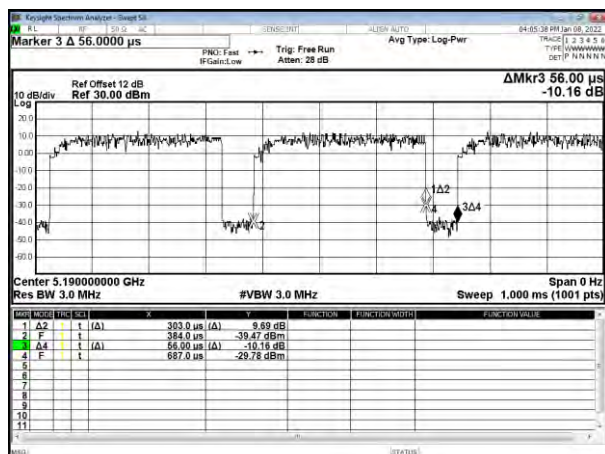
Modulation Type: 802.11ac VHT80 (58.5Mbps)



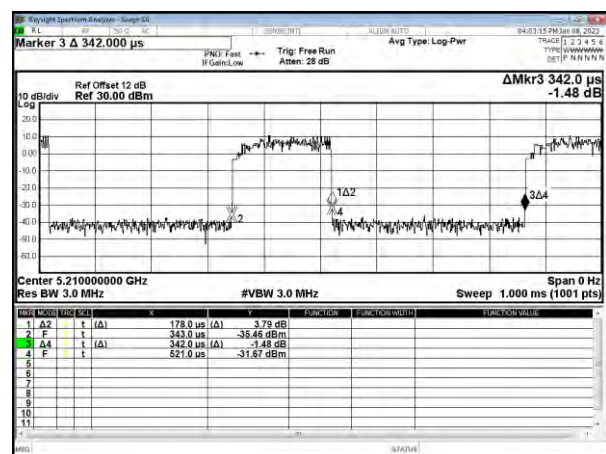
Modulation Type: 802.11ax HE20 (7.3Mbps)



Modulation Type: 802.11ax HE40 (14.6Mbps)



Modulation Type: 802.11ax HE80 (30.6Mbps)





## 8. 6dB Bandwidth & 99% Occupied Bandwidth

### 8.1. Test Limit

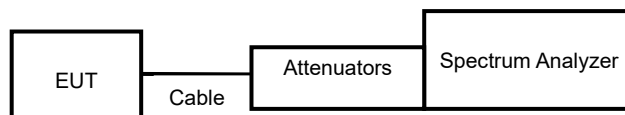
FCC §15.407

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

### 8.2. Test Procedure

Reference to 789033 v02r01 General UNII Test Procedures New Rules v01: The transmitter output is connected to a spectrum analyzer with the RBW set to 100KHz, the VBW  $\geq 3 \times$  RBW, peak detector and max hold.

### 8.3. Test Setup Layout



### 8.4. Test Result and Data (6dB Bandwidth)

In the 5.8GHz Band

SISO

| Mode           | Channel | Frequency (MHz) | 6dB Bandwidth (MHz) |       | Minimum Limit (MHz) |
|----------------|---------|-----------------|---------------------|-------|---------------------|
|                |         |                 | ANT A               | ANT B |                     |
| 802.11a        | 149     | 5745            | 15.14               | 15.82 | 0.50                |
|                | 157     | 5785            | 15.06               | 15.17 | 0.50                |
|                | 165     | 5825            | 15.42               | 15.35 | 0.50                |
| 802.11ac VHT20 | 149     | 5745            | 15.17               | 16.26 | 0.50                |
|                | 157     | 5785            | 15.34               | 15.50 | 0.50                |
|                | 165     | 5825            | 14.23               | 17.29 | 0.50                |
| 802.11ac VHT40 | 155     | 5755            | 35.11               | 35.06 | 0.50                |
|                | 159     | 5795            | 35.09               | 35.09 | 0.50                |
| 802.11ac VHT80 | 155     | 5775            | 75.12               | 75.09 | 0.50                |
| 802.11ax HE20  | 149     | 5745            | 18.71               | 18.97 | 0.50                |
|                | 157     | 5785            | 18.74               | 18.62 | 0.50                |
|                | 165     | 5825            | 18.83               | 18.73 | 0.50                |
| 802.11ax HE40  | 155     | 5755            | 35.35               | 36.36 | 0.50                |
|                | 159     | 5795            | 35.15               | 35.14 | 0.50                |
| 802.11ax HE80  | 155     | 5775            | <b>75.13</b>        | 75.12 | 0.50                |

**MIMO**

| Mode           | Channel | Frequency<br>(MHz) | 6dB Bandwidth<br>(MHz) |       | Minimum<br>Limit<br>(MHz) |
|----------------|---------|--------------------|------------------------|-------|---------------------------|
|                |         |                    | ANT A                  | ANT B |                           |
| 802.11ac VHT20 | 149     | 5745               | 17.66                  | 16.33 | 0.50                      |
|                | 157     | 5785               | 17.01                  | 16.94 | 0.50                      |
|                | 165     | 5825               | 17.23                  | 16.96 | 0.50                      |
| 802.11ac VHT40 | 155     | 5755               | 35.12                  | 35.09 | 0.50                      |
|                | 159     | 5795               | 35.11                  | 35.10 | 0.50                      |
| 802.11ac VHT80 | 155     | 5775               | 75.11                  | 75.12 | 0.50                      |
| 802.11ax HE20  | 149     | 5745               | 19.09                  | 18.76 | 0.50                      |
|                | 157     | 5785               | 19.06                  | 18.89 | 0.50                      |
|                | 165     | 5825               | 19.10                  | 18.87 | 0.50                      |
| 802.11ax HE40  | 155     | 5755               | 35.16                  | 35.87 | 0.50                      |
|                | 159     | 5795               | 36.52                  | 35.33 | 0.50                      |
| 802.11ax HE80  | 155     | 5775               | 75.54                  | 75.13 | 0.50                      |

**8.5. Test Result and Data (99% Occupied Bandwidth)**

In the 5.8GHz Band

**SISO**

| Mode           | Channel | Frequency<br>(MHz) | 99%<br>Bandwidth(MHz) |       |
|----------------|---------|--------------------|-----------------------|-------|
|                |         |                    | ANT A                 | ANT B |
| 802.11a        | 149     | 5745               | 16.48                 | 16.55 |
|                | 157     | 5785               | 16.53                 | 16.61 |
|                | 165     | 5825               | 16.52                 | 16.61 |
| 802.11ac VHT20 | 149     | 5745               | 17.61                 | 17.63 |
|                | 157     | 5785               | 17.59                 | 17.65 |
|                | 165     | 5825               | 17.62                 | 17.65 |
| 802.11ac VHT40 | 155     | 5755               | 35.89                 | 35.82 |
|                | 159     | 5795               | 35.82                 | 35.78 |
| 802.11ac VHT80 | 155     | 5775               | 75.03                 | 74.78 |
| 802.11ax HE20  | 149     | 5745               | 19.06                 | 19.22 |
|                | 157     | 5785               | 19.04                 | 19.13 |
|                | 165     | 5825               | 19.03                 | 19.04 |
| 802.11ax HE40  | 155     | 5755               | 37.48                 | 37.54 |
|                | 159     | 5795               | 37.61                 | 37.52 |
| 802.11ax HE80  | 155     | 5775               | 76.74                 | 76.55 |

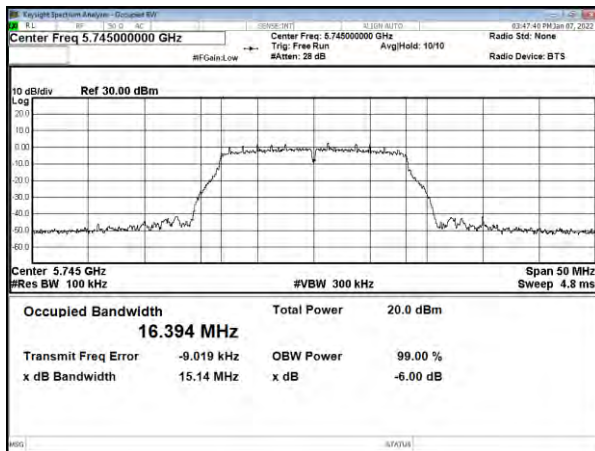
**MIMO**

| Mode           | Channel | Frequency<br>(MHz) | 99%<br>Bandwidth(MHz) |       |
|----------------|---------|--------------------|-----------------------|-------|
|                |         |                    | ANT A                 | ANT B |
| 802.11ac VHT20 | 149     | 5745               | 17.62                 | 17.64 |
|                | 157     | 5785               | 17.63                 | 17.63 |
|                | 165     | 5825               | 17.66                 | 17.64 |
| 802.11ac VHT40 | 155     | 5755               | 35.89                 | 35.76 |
|                | 159     | 5795               | 35.84                 | 35.91 |
| 802.11ac VHT80 | 155     | 5775               | 74.90                 | 74.78 |
| 802.11ax HE20  | 149     | 5745               | 19.03                 | 19.13 |
|                | 157     | 5785               | 19.16                 | 19.18 |
|                | 165     | 5825               | 19.07                 | 19.05 |
| 802.11ax HE40  | 155     | 5755               | 37.25                 | 37.49 |
|                | 159     | 5795               | 37.59                 | 37.57 |
| 802.11ax HE80  | 155     | 5775               | 76.48                 | 76.68 |

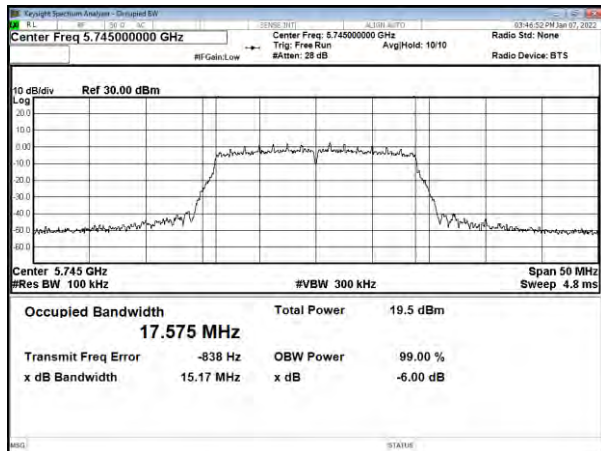


SISO (ANT A)  
6dB Bandwidth

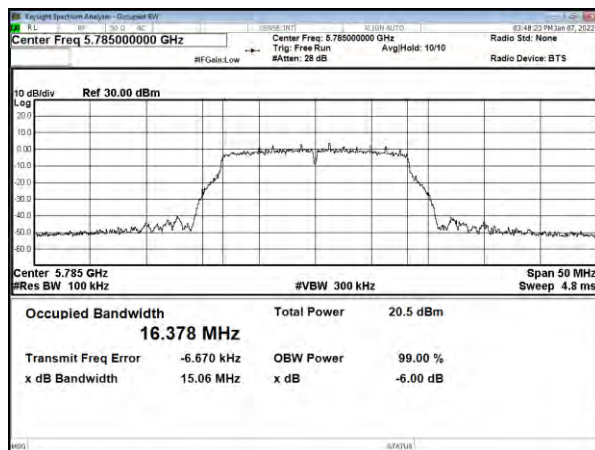
Modulation Type: 802.11a (6Mbps)  
CH149



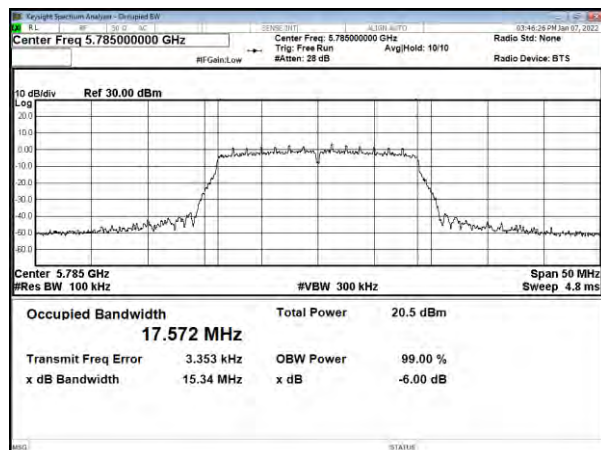
Modulation Type: 802.11ac, VHT20 (6.5Mbps)  
CH149



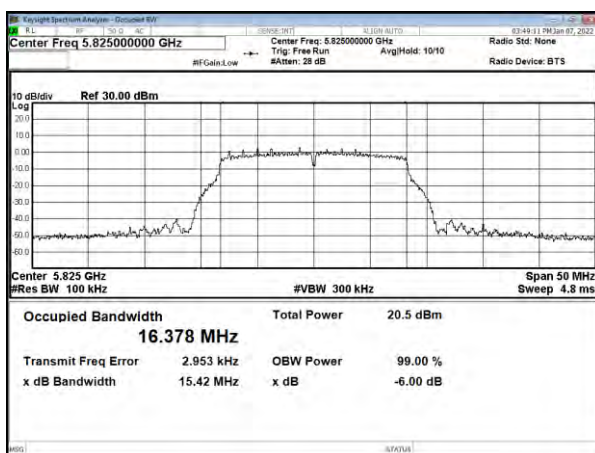
CH157



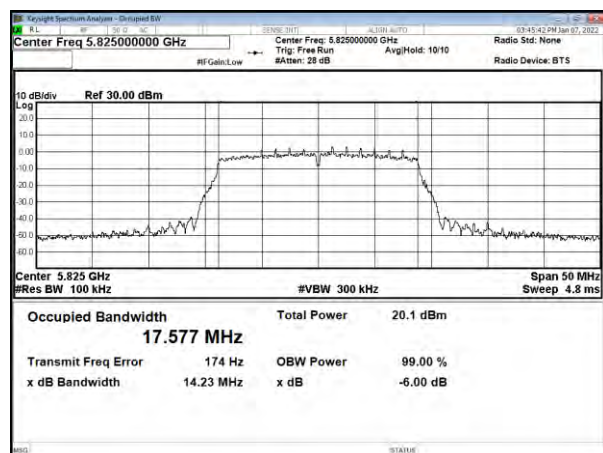
CH157



CH165



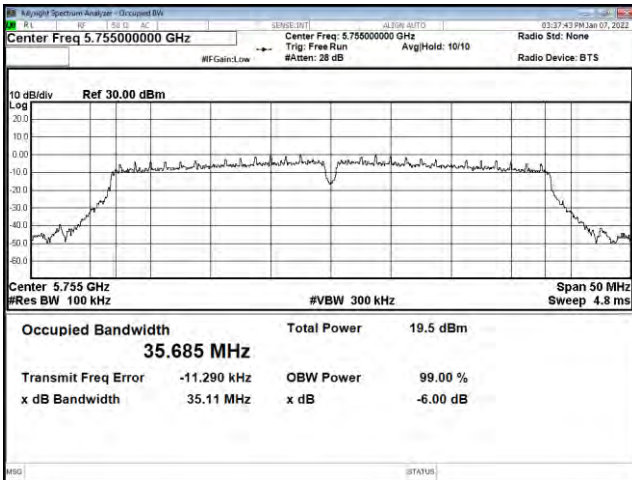
CH165



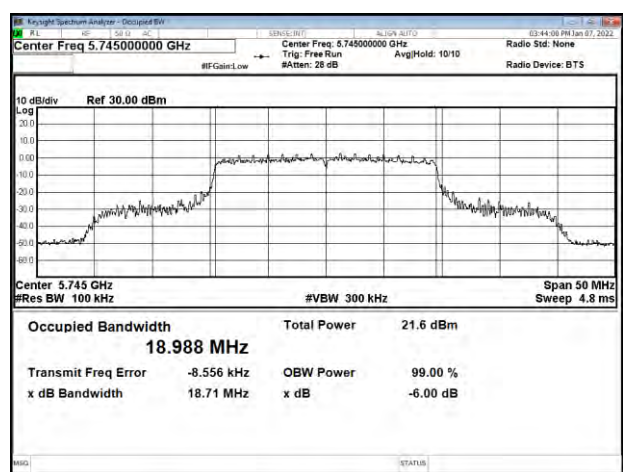


6dB Bandwidth

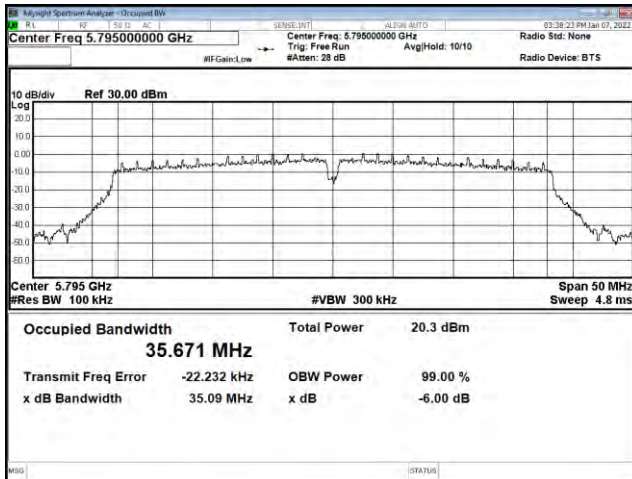
Modulation Type: 802.11ac, VHT40 (13.5Mbps)  
CH151



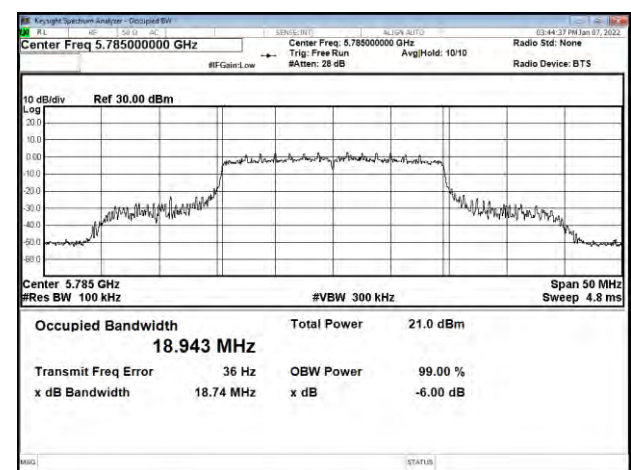
Modulation Type: 802.111ax HE20 (7.3Mbps)  
CH149



CH159

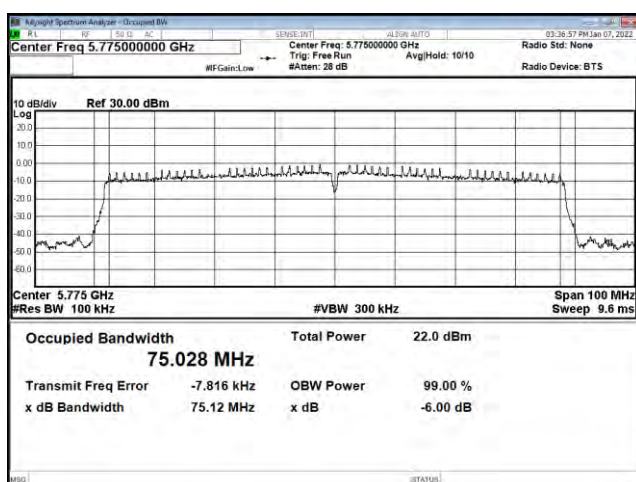


CH157

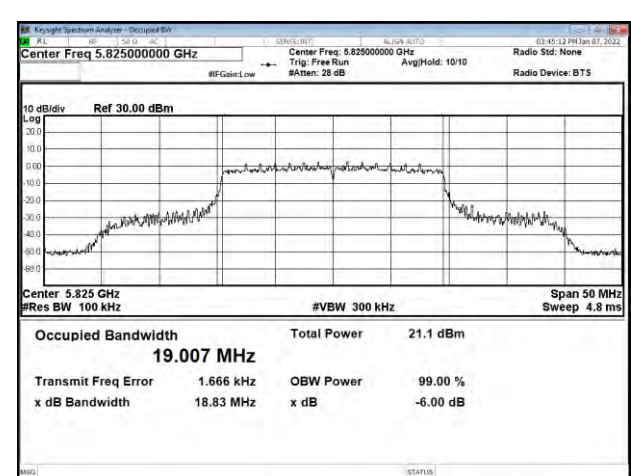


Modulation Type: 802.11ac, VHT80 (29.3Mbps)

CH155

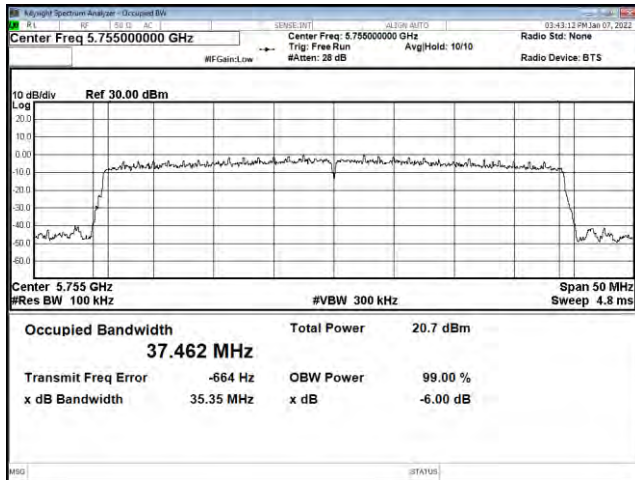


CH165

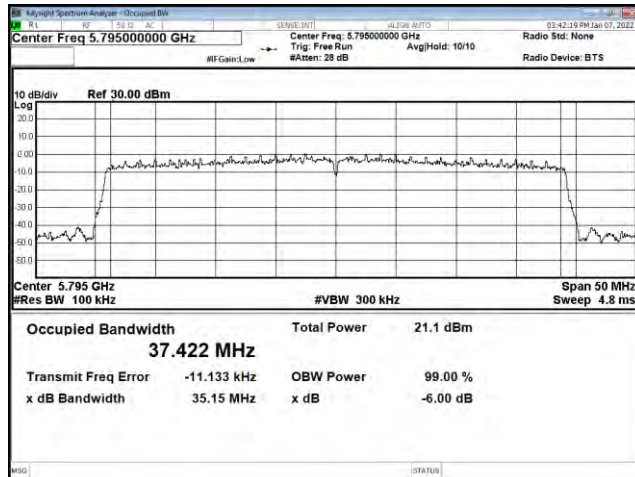




6dB Bandwidth  
Modulation Type: 802.11 ax HE40 (14.6Mbps)  
CH151

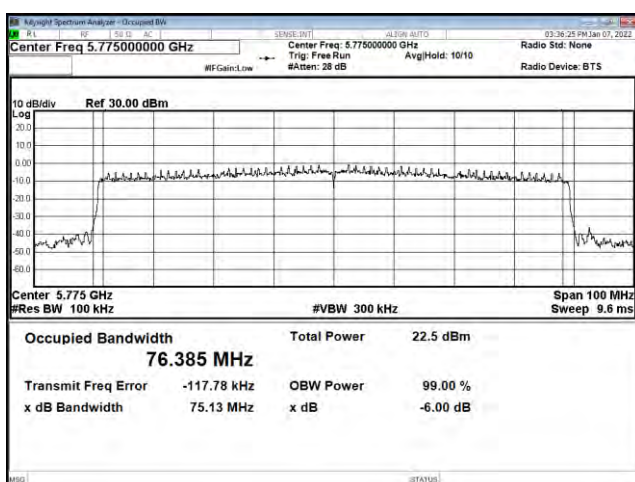


CH159



Modulation Type: 802.11ax HE80 (30.6Mbps)

CH155



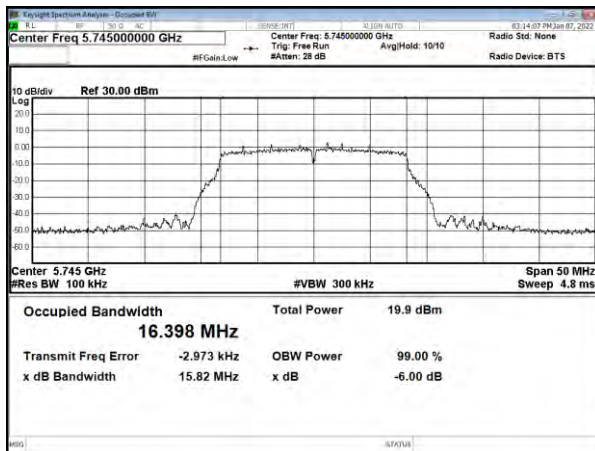


SISO (ANT B)

6dB Bandwidth

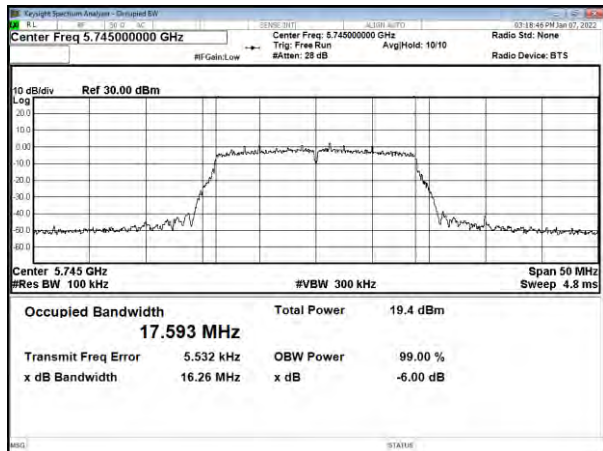
Modulation Type: 802.11a (6Mbps)

CH149

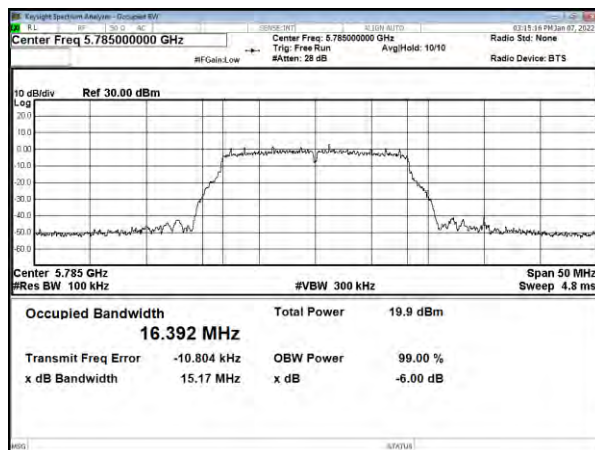


Modulation Type: 802.11ac, VHT20 (6.5Mbps)

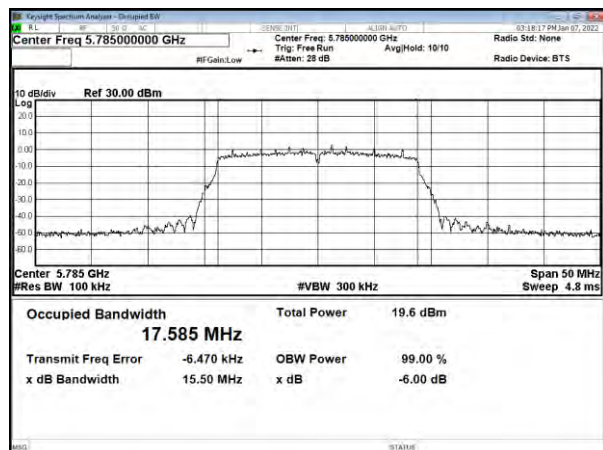
CH149



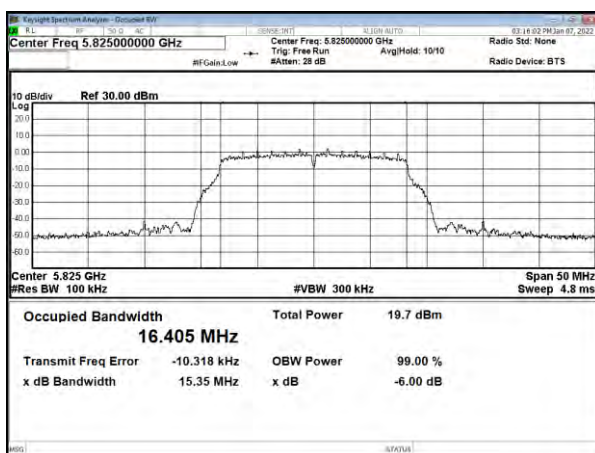
CH157



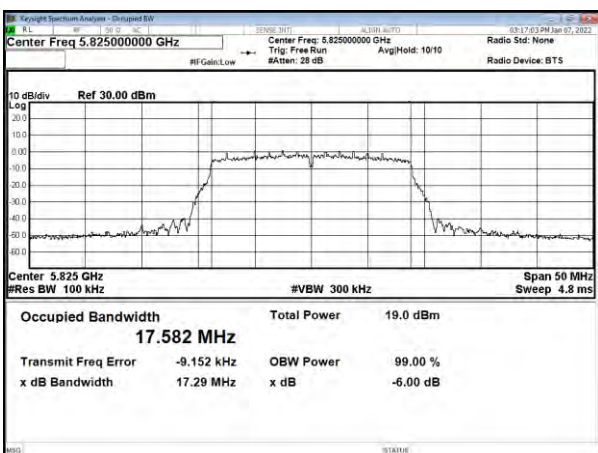
CH157



CH165

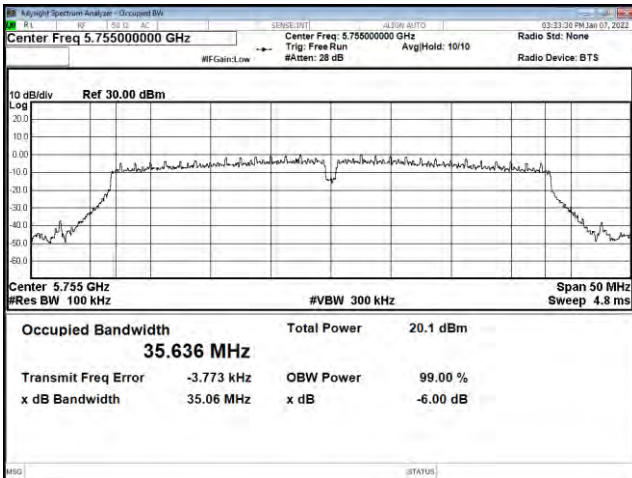
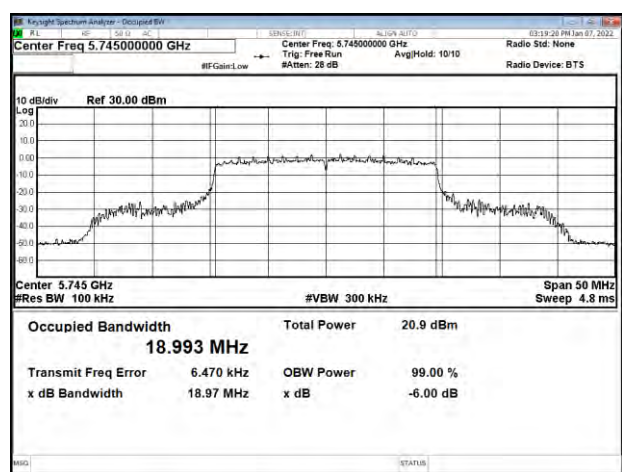


CH165

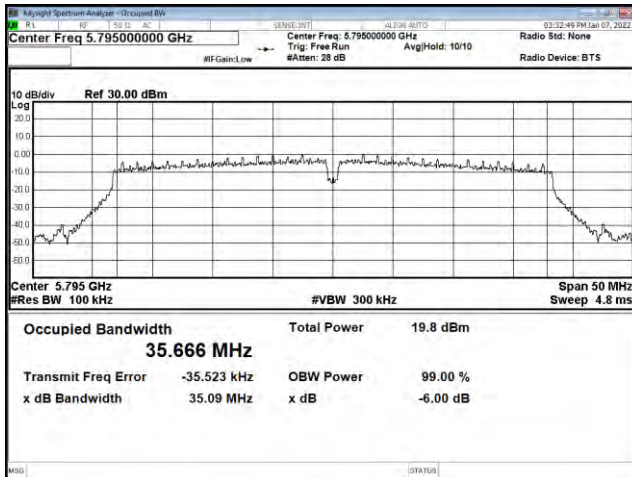




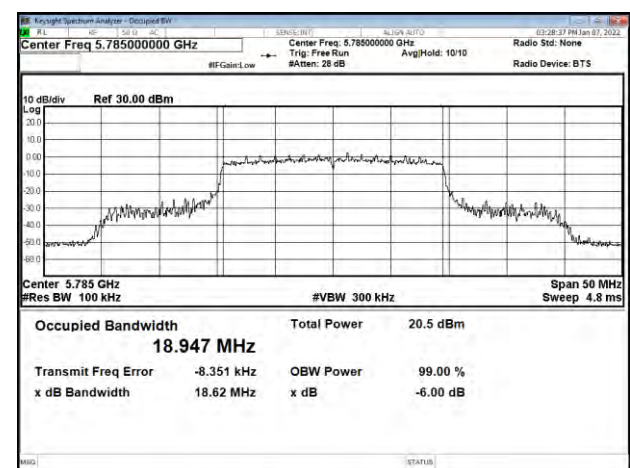
6dB Bandwidth

Modulation Type: 802.11ac, VHT40 (13.5Mbps)  
CH151Modulation Type: 802.111ax HE20 (7.3Mbps)  
CH149

CH159

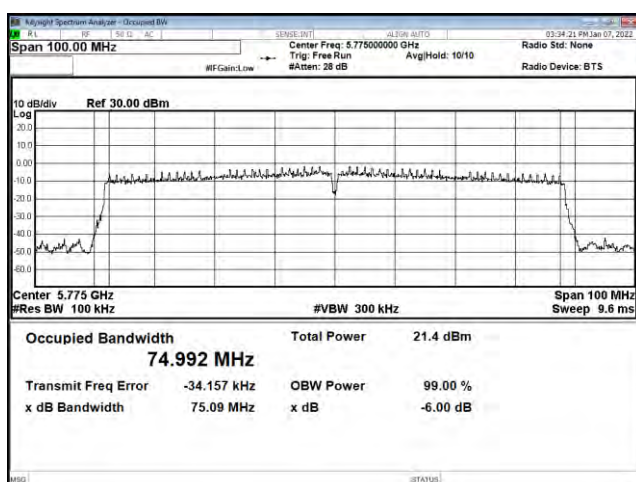


CH157

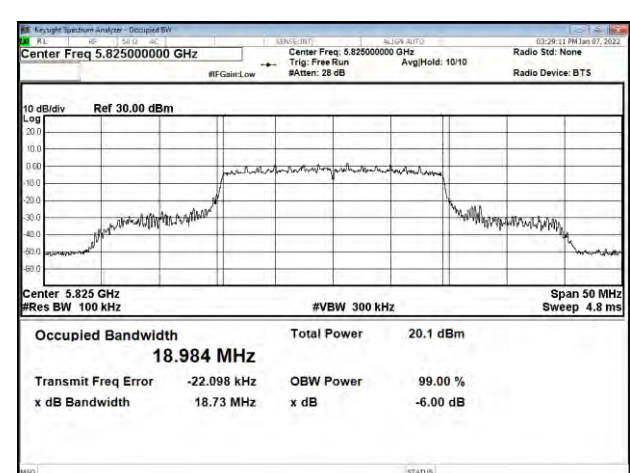


Modulation Type: 802.11ac, VHT80 (29.3Mbps)

CH155

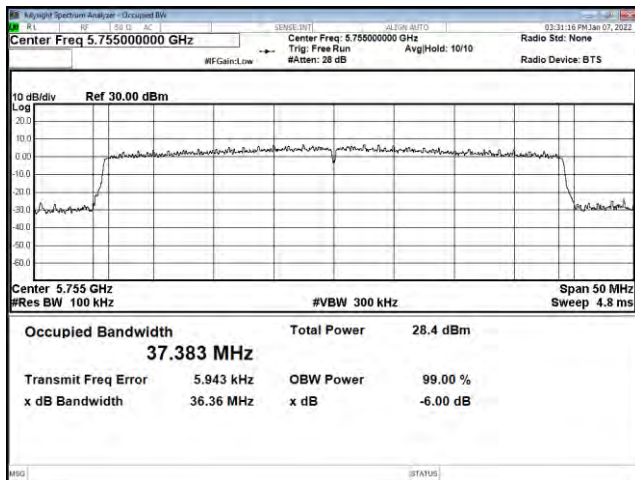


CH165

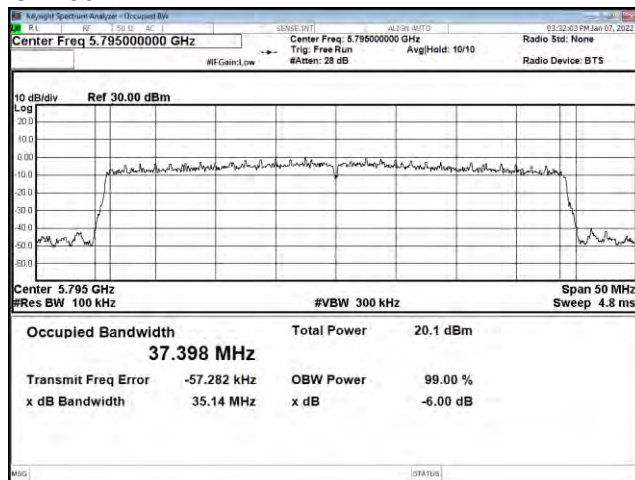




Modulation Type: 802.11 ax HE40 (14.6Mbps)  
CH151

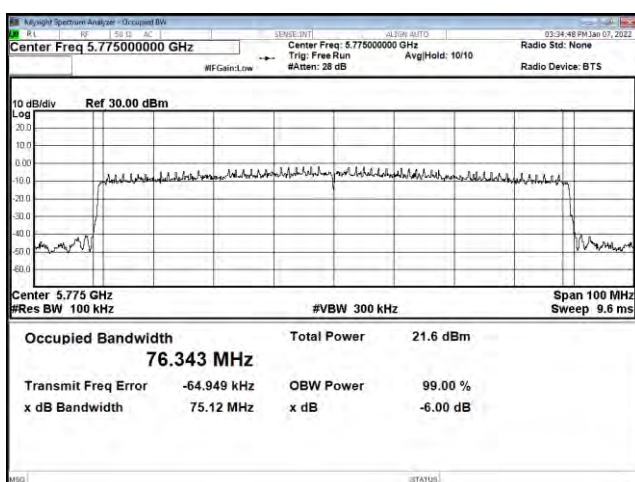


CH159



Modulation Type: 802.11ax HE80 (30.6Mbps)

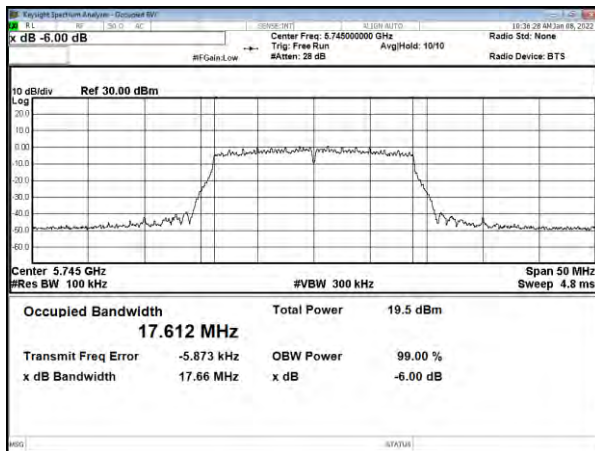
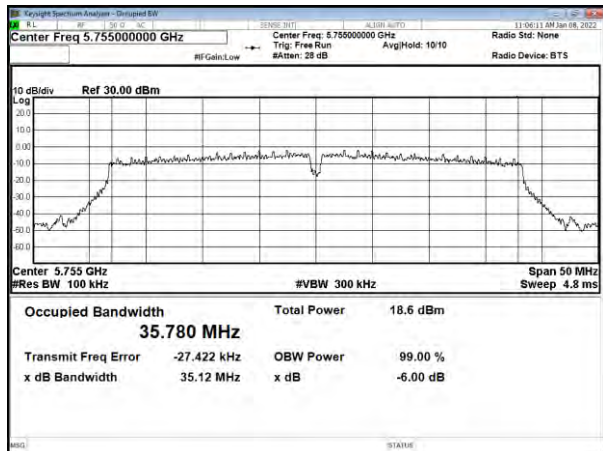
CH155



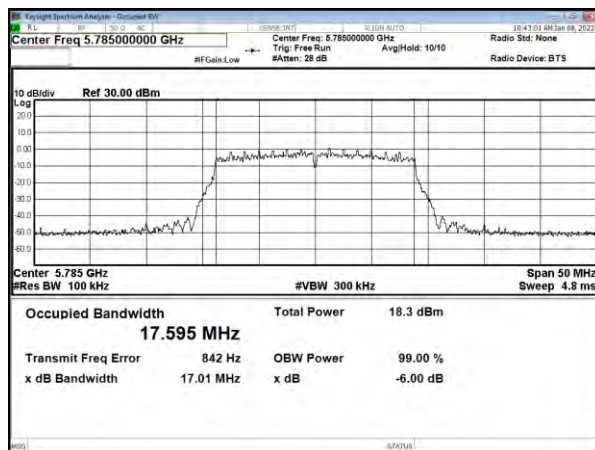


MIMO (ANT A)

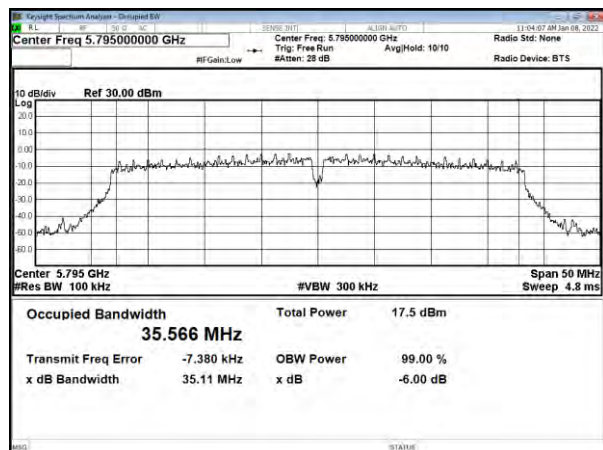
6dB Bandwidth

Modulation Type: 802.11ac, VHT20 (13Mbps)  
CH149Modulation Type: 802.11ac, VHT40 (27Mbps)  
CH151

CH157



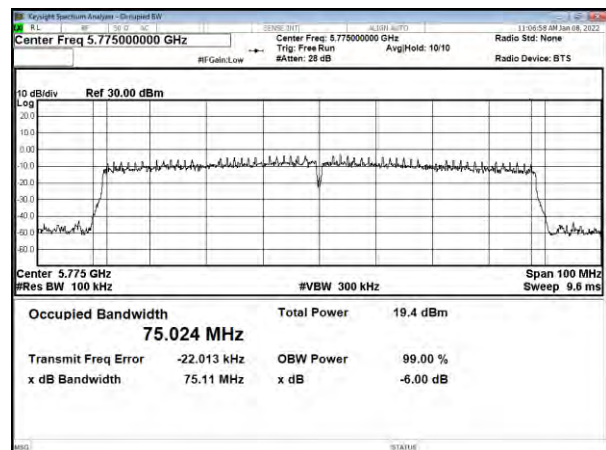
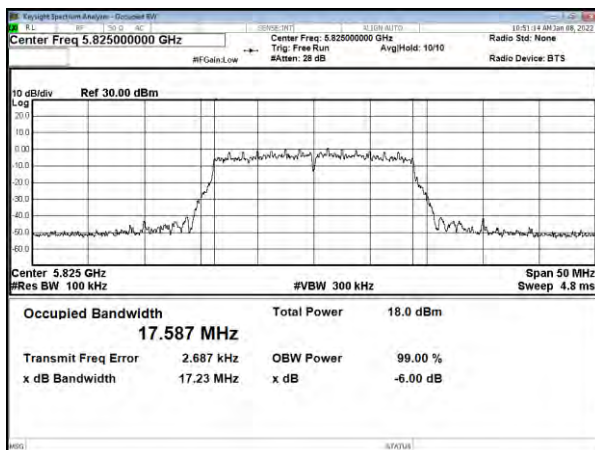
CH159



Modulation Type: 802.11ac, VHT80 (58.5Mbps)

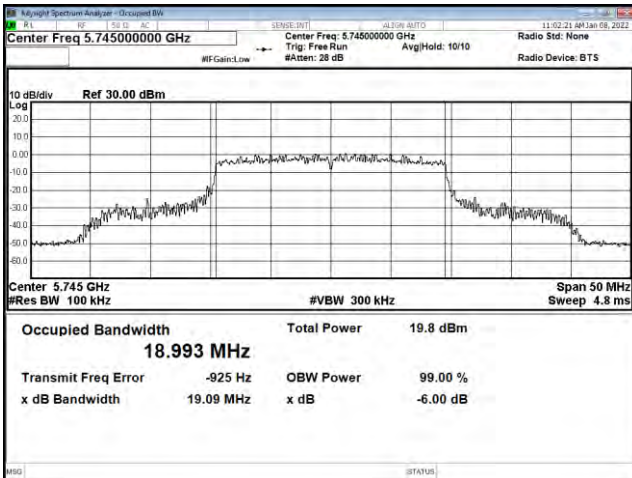
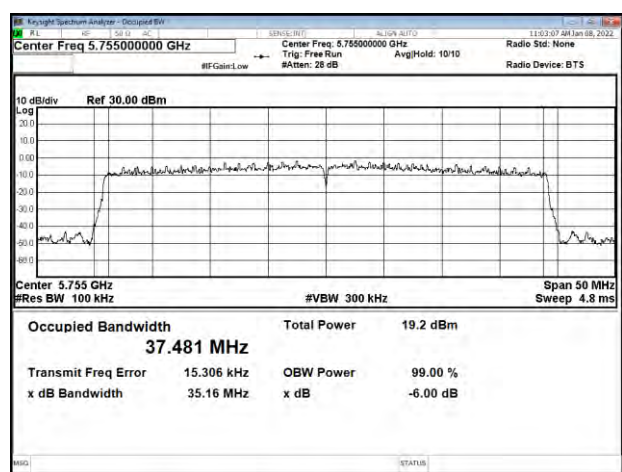
CH155

CH165

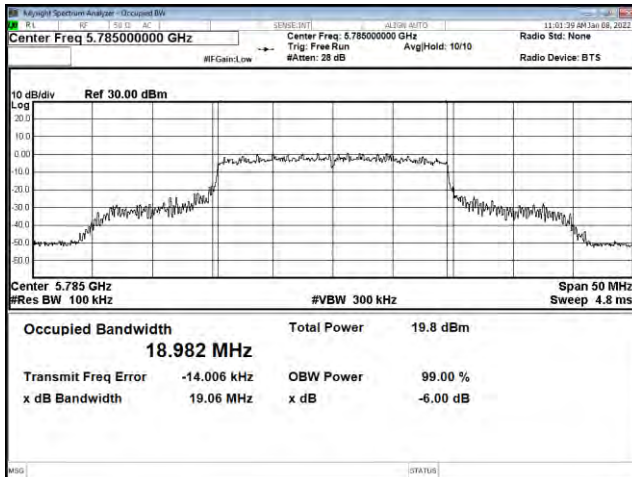




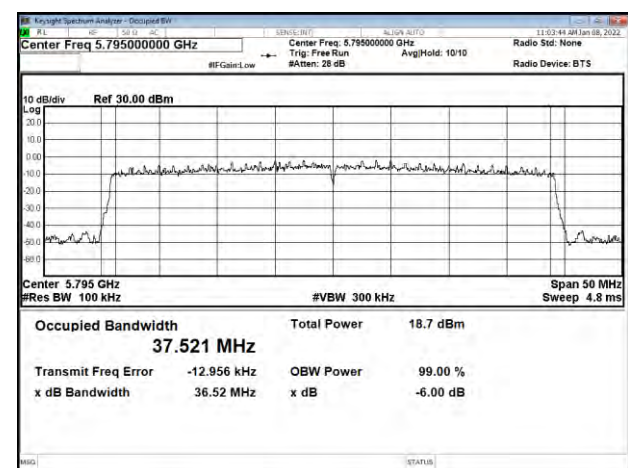
6dB Bandwidth

Modulation Type: 802.11ax HE20 (7.3Mbps)  
CH149Modulation Type: 802.11 ax HE40 (14.6Mbps)  
CH151

CH157

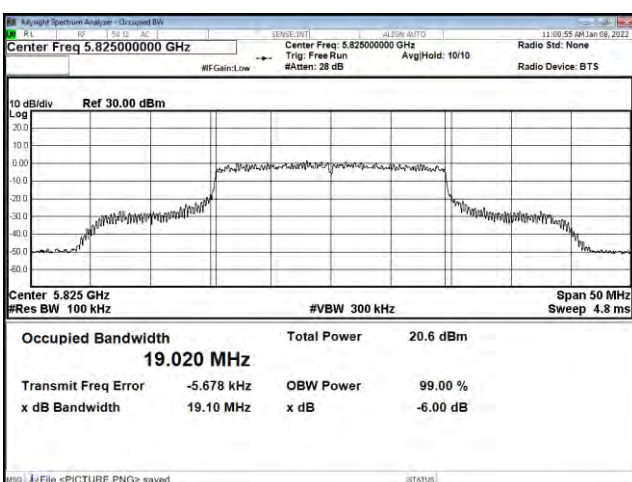


CH159

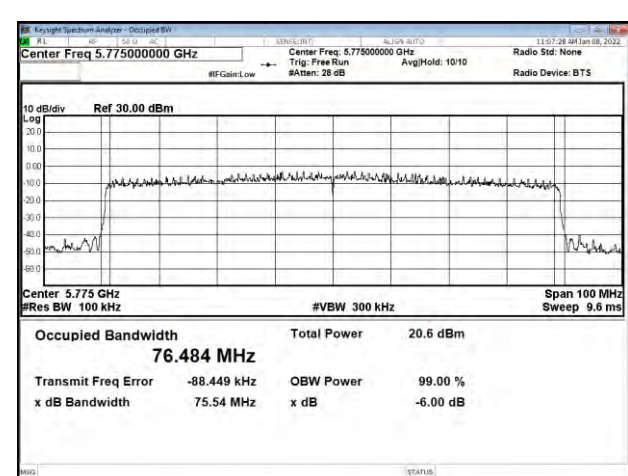


Modulation Type: 802.11ax HE80 (30.6Mbps)

CH165



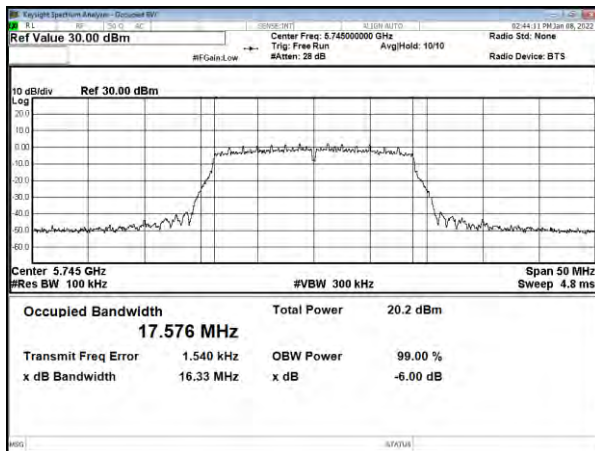
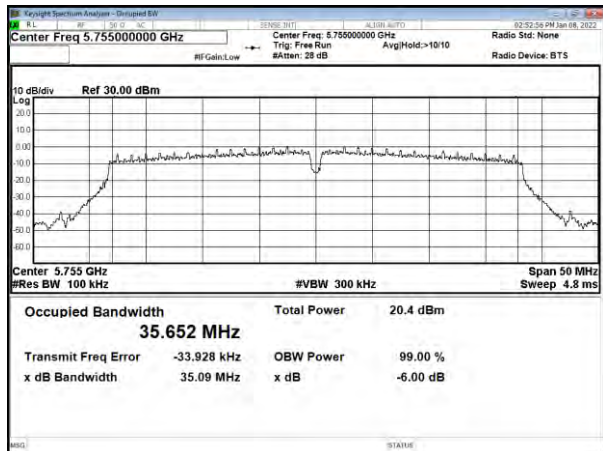
CH155



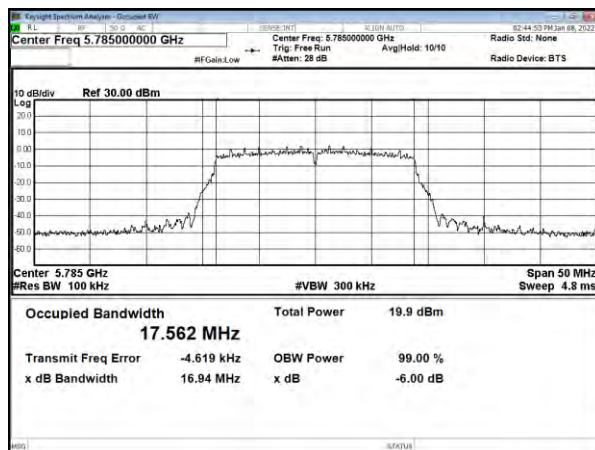


MIMO (ANT B)

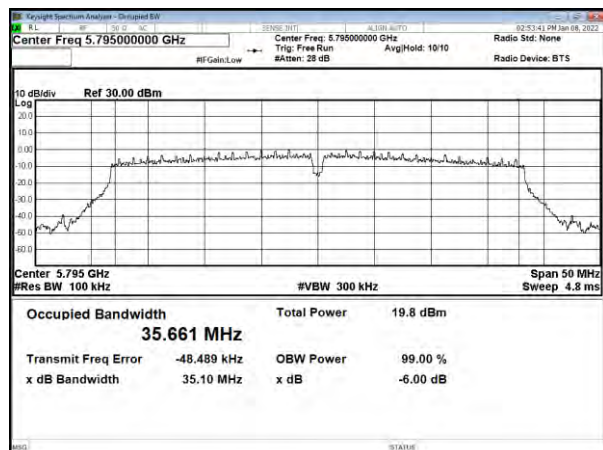
6dB Bandwidth

Modulation Type: 802.11ac, VHT20 (13Mbps)  
CH149Modulation Type: 802.11ac, VHT40 (27Mbps)  
CH151

CH157

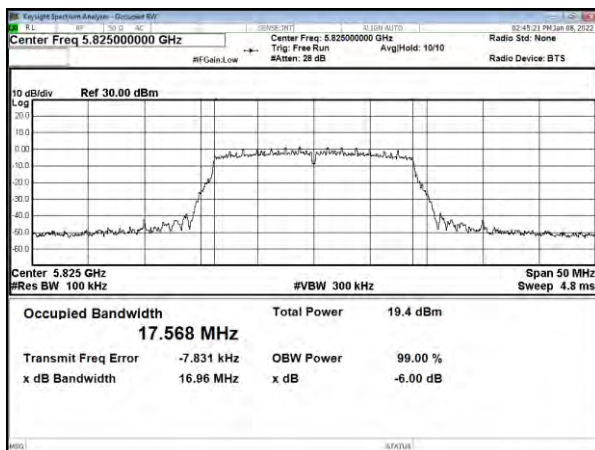


CH159

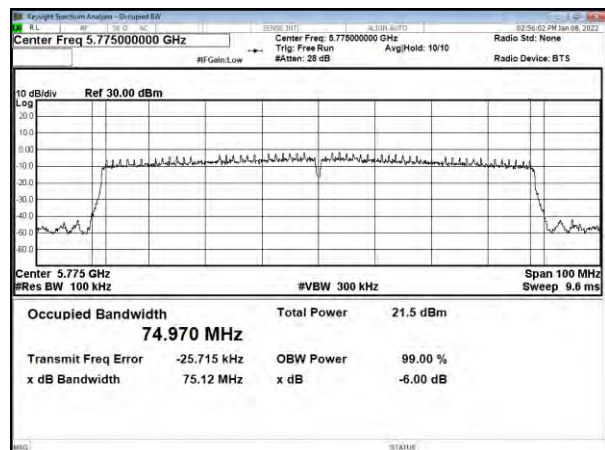


Modulation Type: 802.11ac, VHT80 (58.5Mbps)

CH165

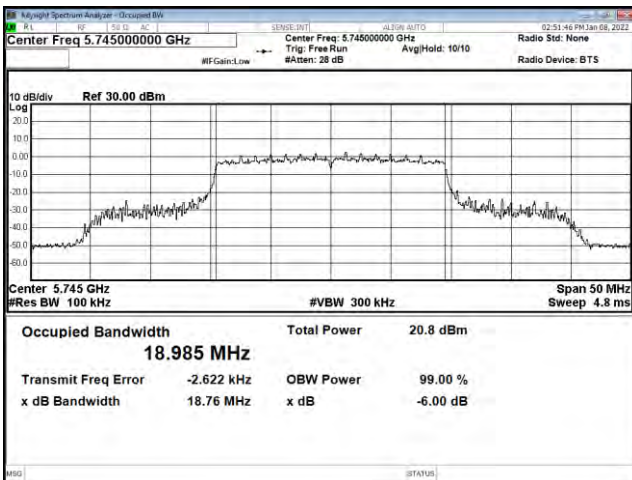
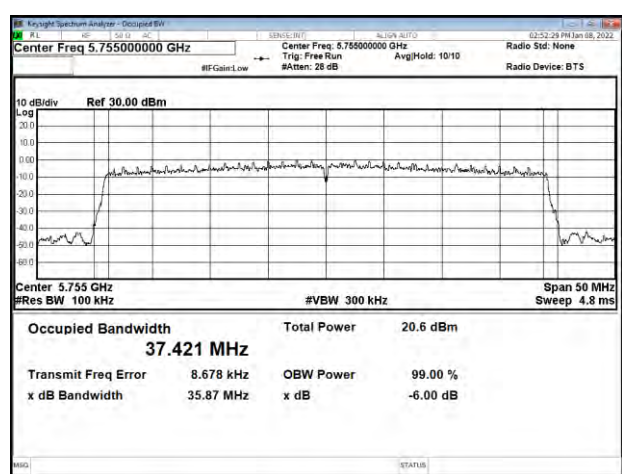


CH155

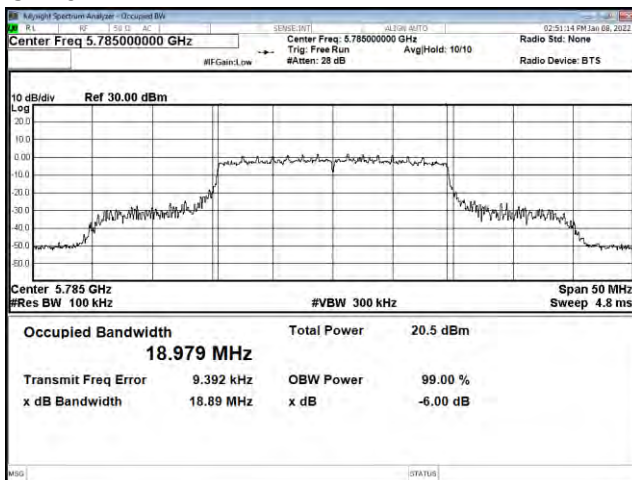




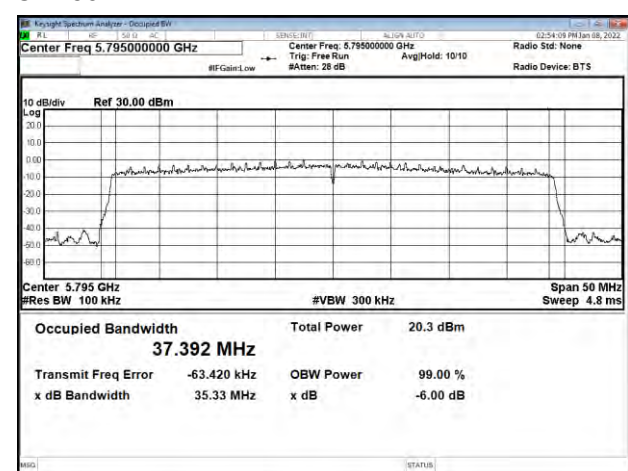
6dB Bandwidth

Modulation Type: 802.11ax HE20 (7.3Mbps)  
CH149Modulation Type: 802.11 ax HE40 (14.6Mbps)  
CH151

CH157

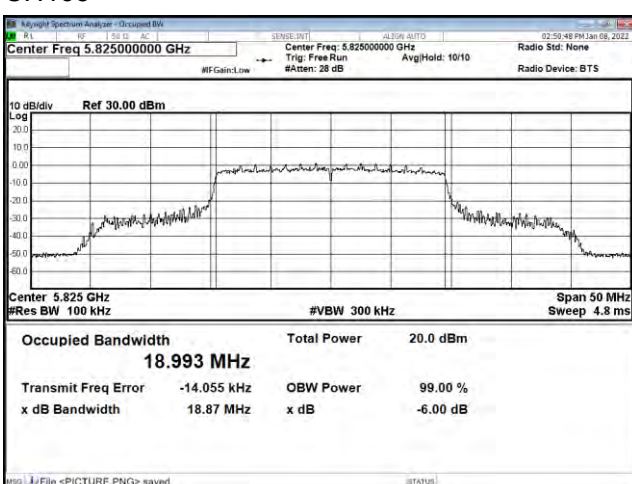


CH159

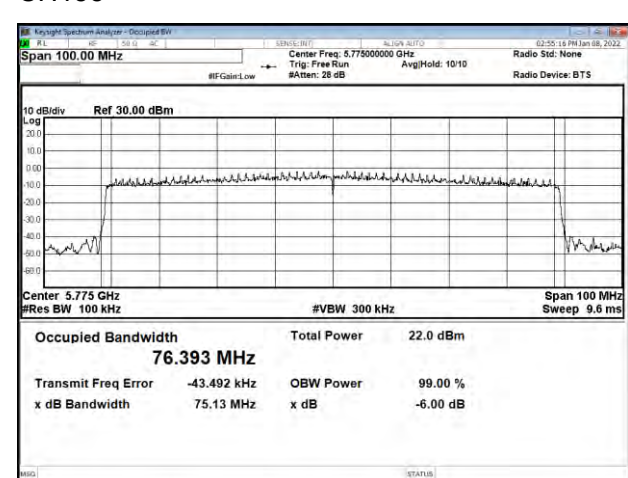


Modulation Type: 802.11ax HE80 (30.6Mbps)

CH165

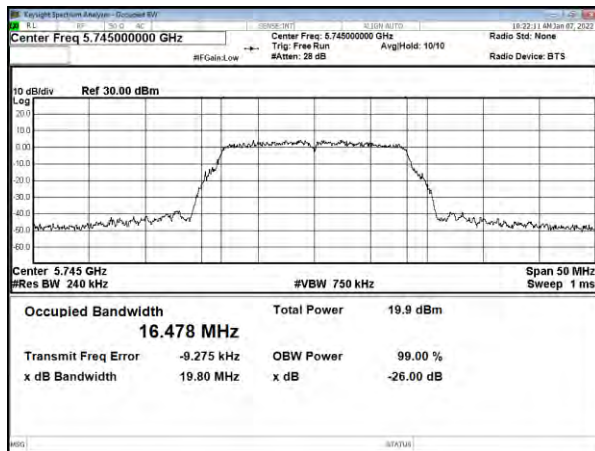


CH155

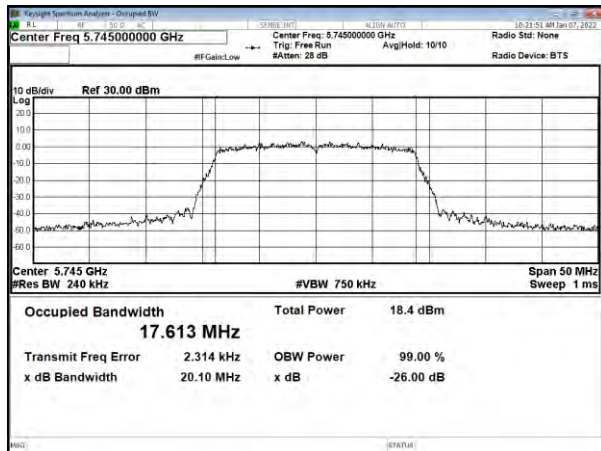




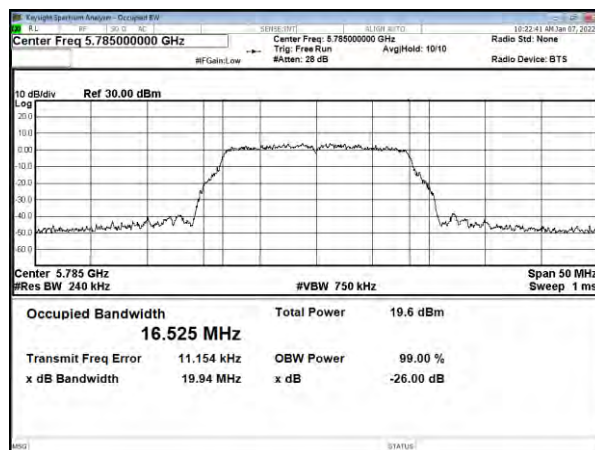
SISO (ANT A)  
99% Occupied Bandwidth  
Modulation Type: 802.11a (6Mbps)  
CH149



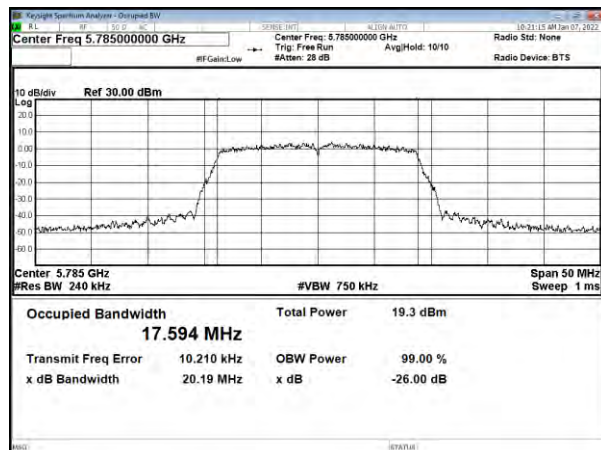
Modulation Type: 802.11ac, VHT20 (6.5Mbps)  
CH149



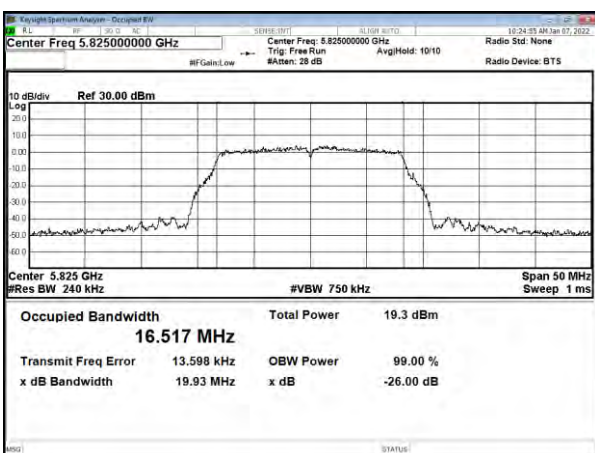
CH157



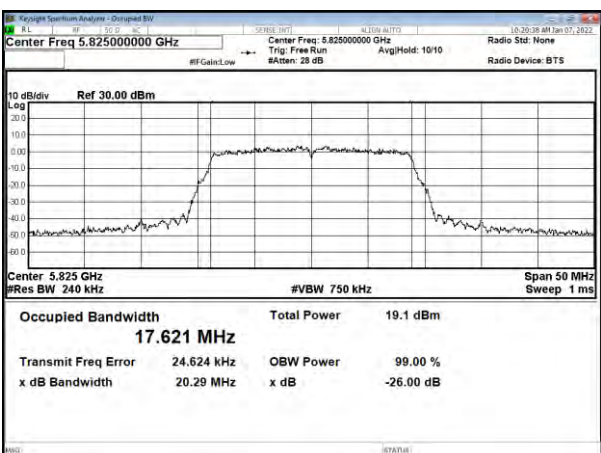
CH157



CH165

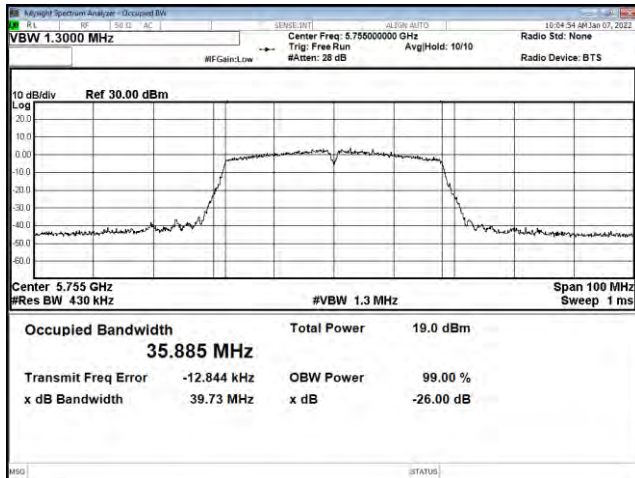


CH165

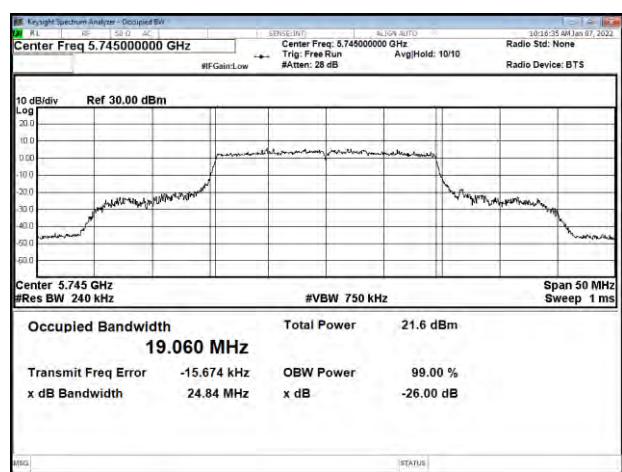




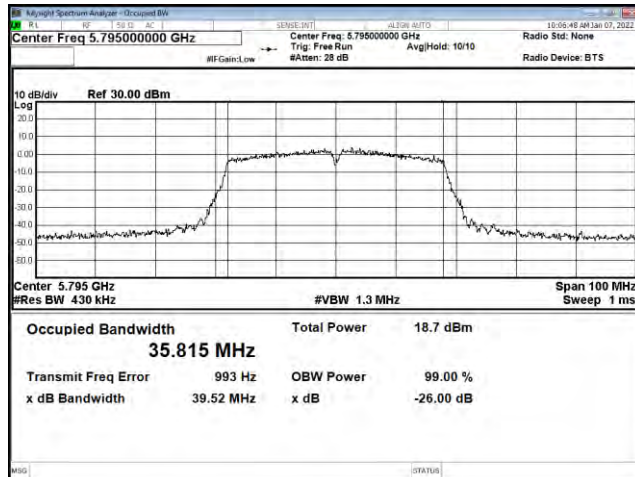
99% Occupied Bandwidth  
Modulation Type: 802.11ac, VHT40 (13.5Mbps)  
CH151



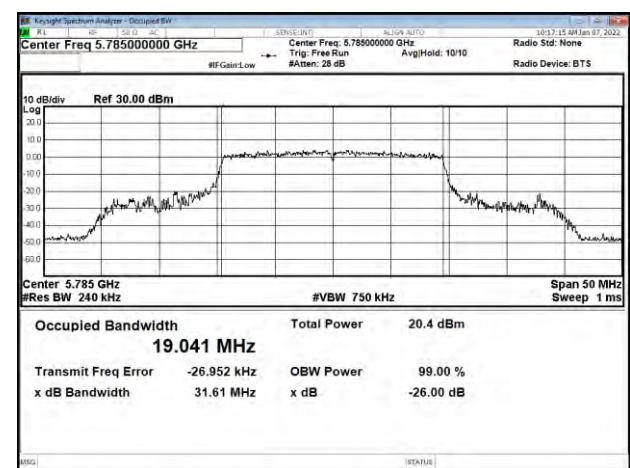
Modulation Type: 802.111ax HE20 (7.3Mbps)  
CH149



CH159

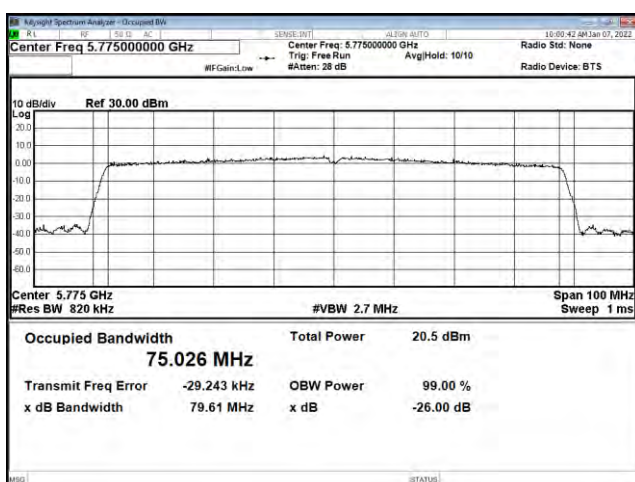


CH157

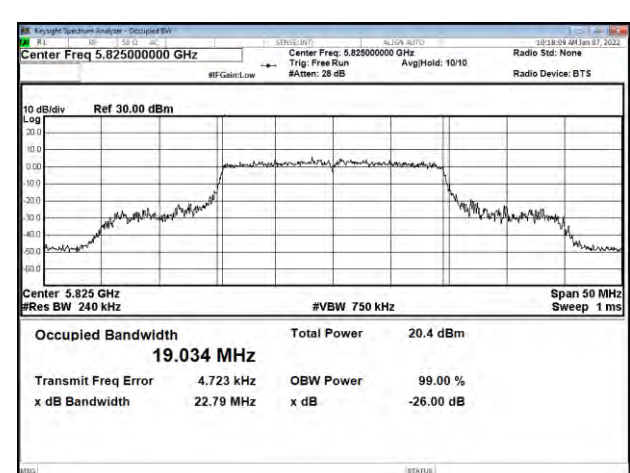


Modulation Type: 802.11ac, VHT80 (29.3Mbps)

CH155

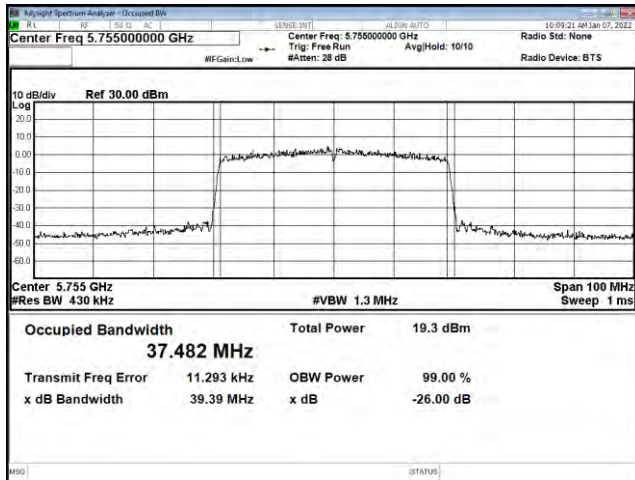


CH165

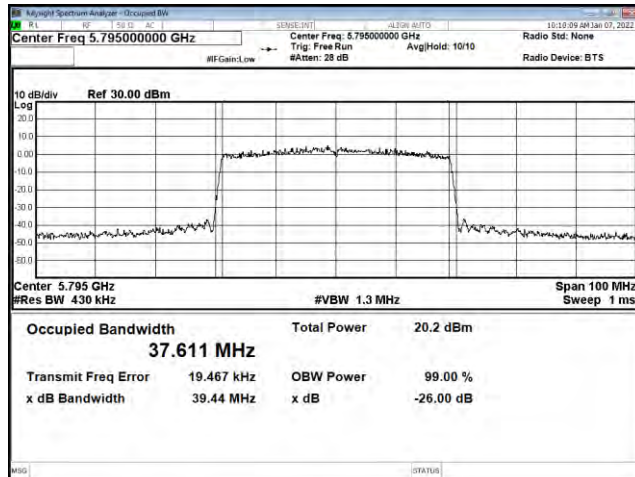




99% Occupied Bandwidth  
Modulation Type: 802.11 ax HE40 (14.6Mbps)  
CH151

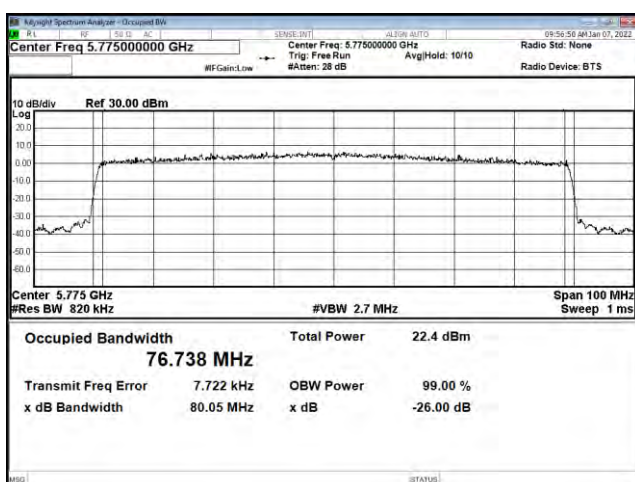


CH159



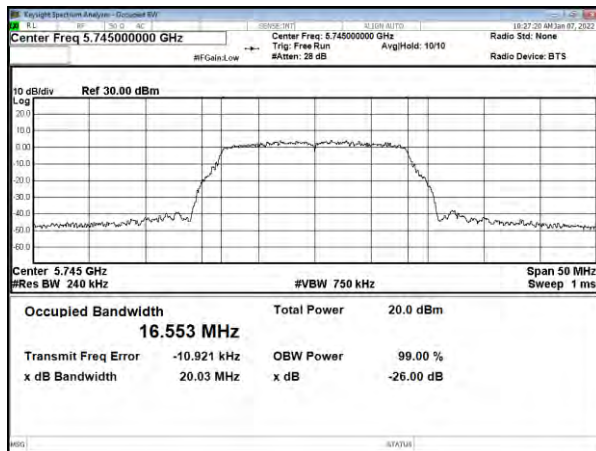
Modulation Type: 802.11ax HE80 (30.6Mbps)

CH155

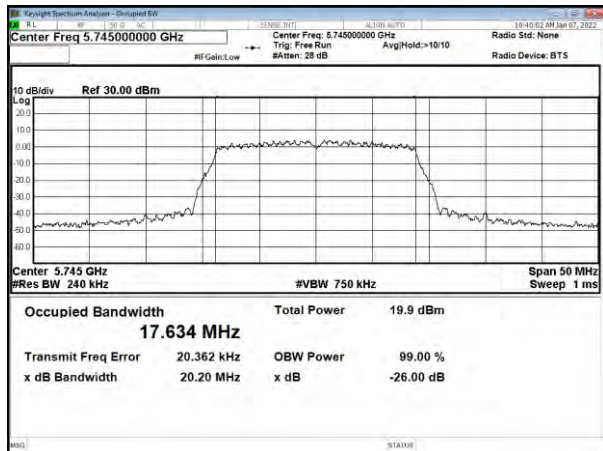




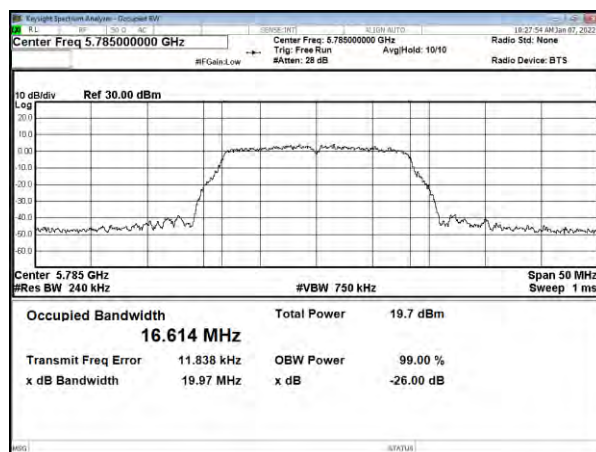
SISO (ANT B)  
99% Occupied Bandwidth  
Modulation Type: 802.11a (6Mbps)  
CH149



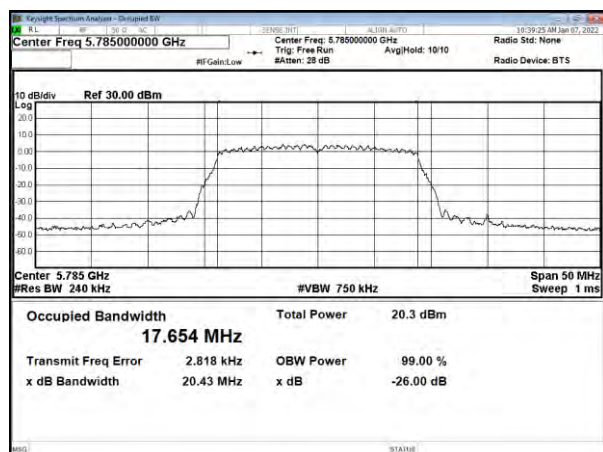
Modulation Type: 802.11ac, VHT20 (6.5Mbps)  
CH149



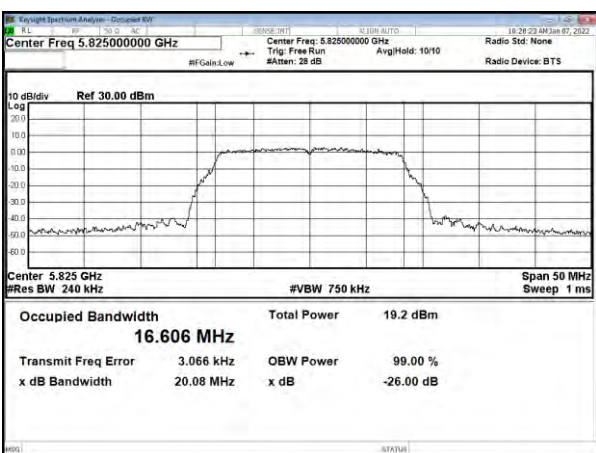
CH157



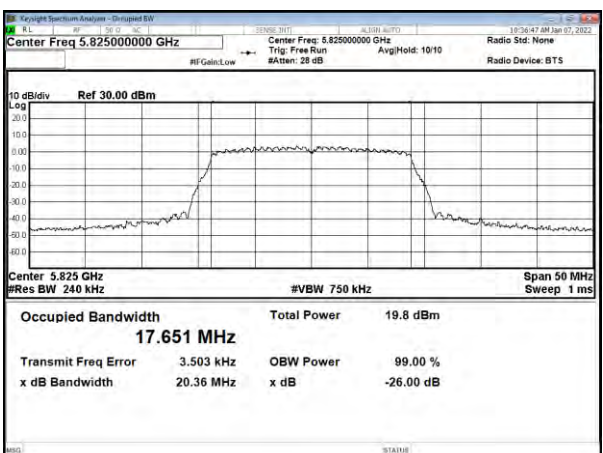
CH157



CH165

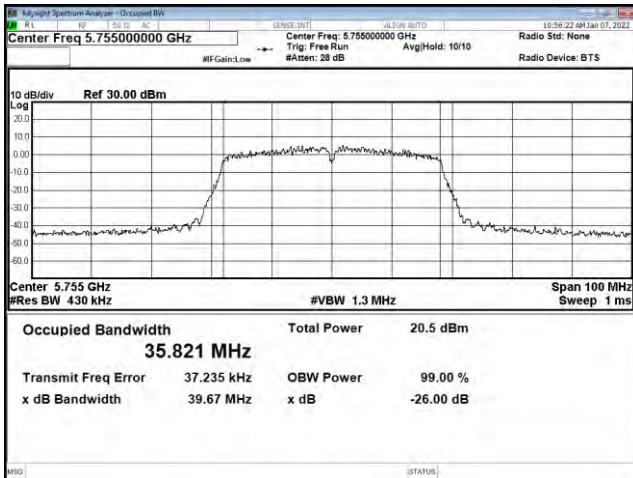


CH165

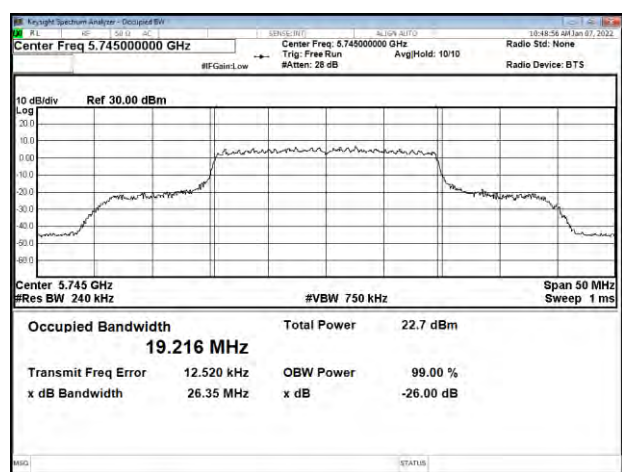




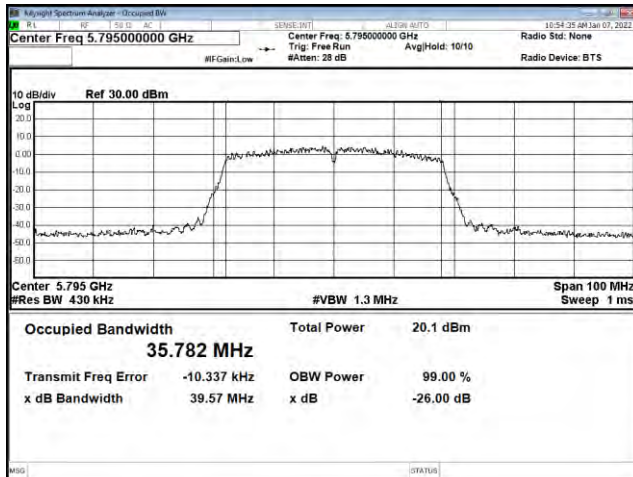
99% Occupied Bandwidth  
Modulation Type: 802.11ac, VHT40 (13.5Mbps)  
CH151



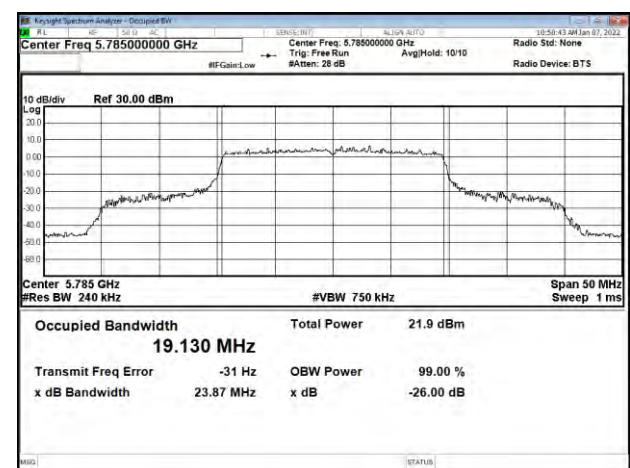
Modulation Type: 802.1111ax HE20 (7.3Mbps)  
CH149



CH159

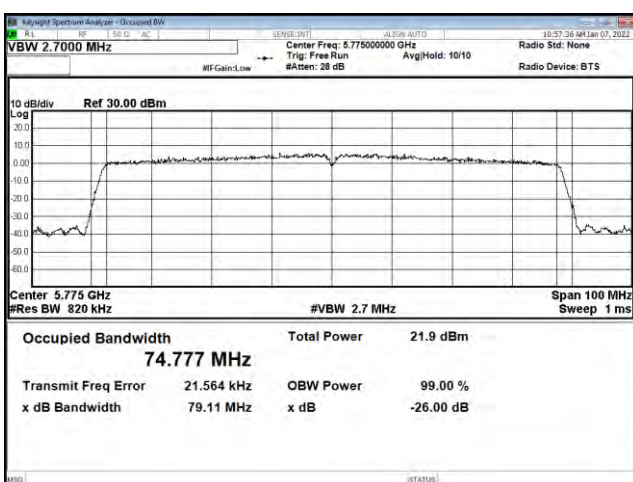


CH157

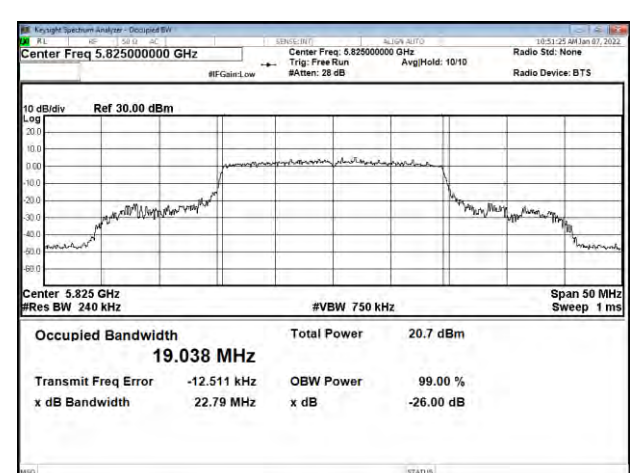


Modulation Type: 802.11ac, VHT80 (29.3Mbps)

CH155

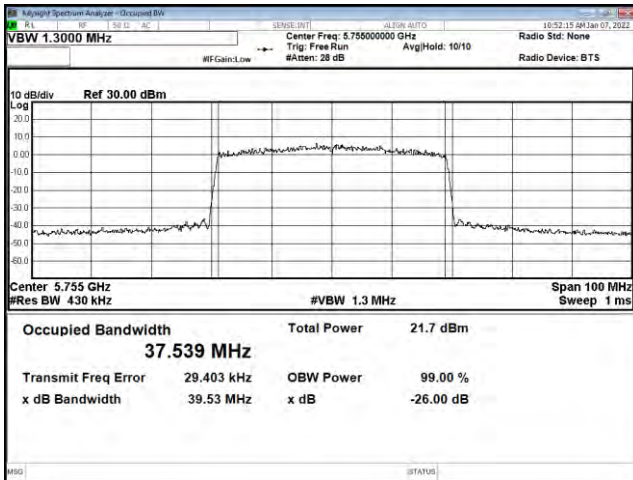


CH165

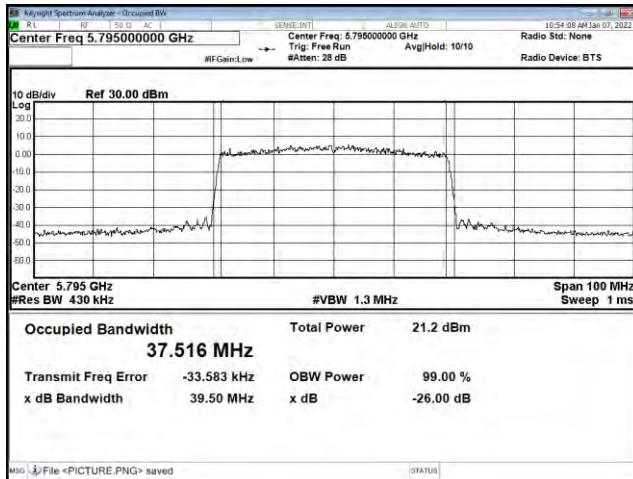




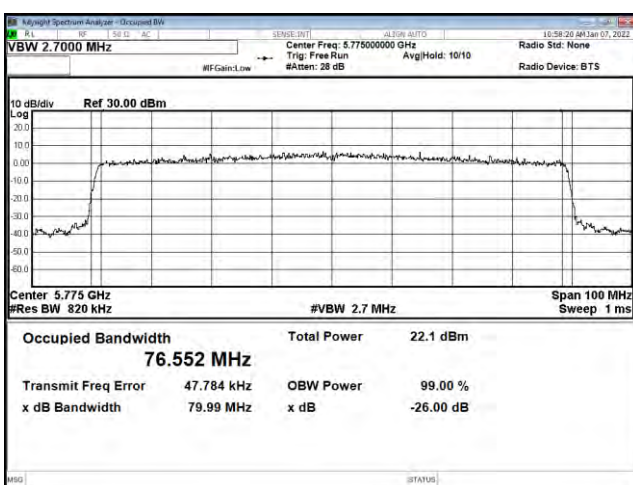
Modulation Type: 802.11 ax HE40 (14.6Mbps)  
CH151



CH159



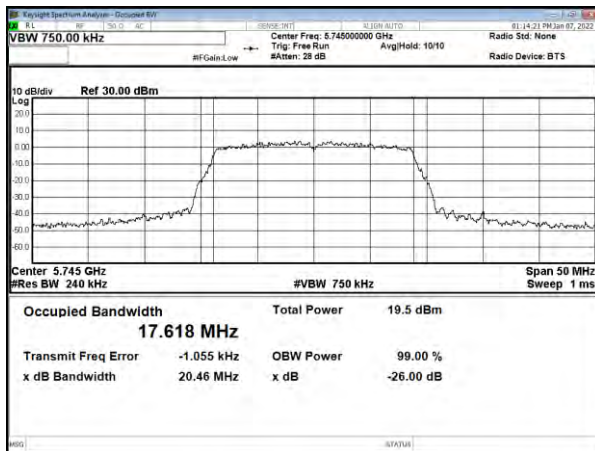
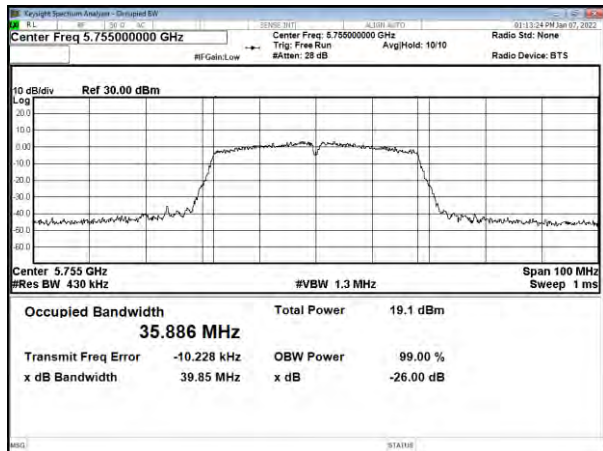
Modulation Type: 802.11ax HE80 (30.6Mbps)  
CH155



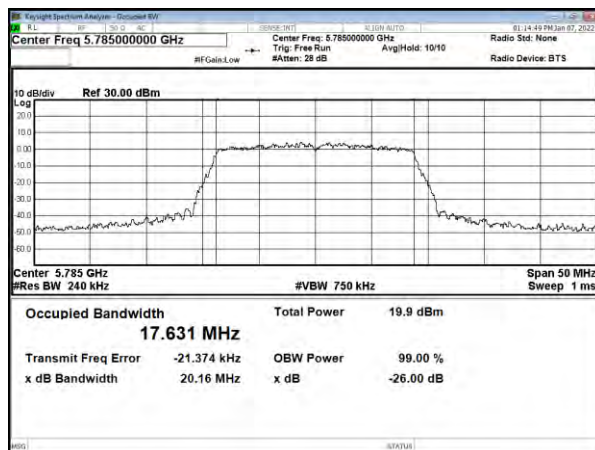


MIMO (ANT A)

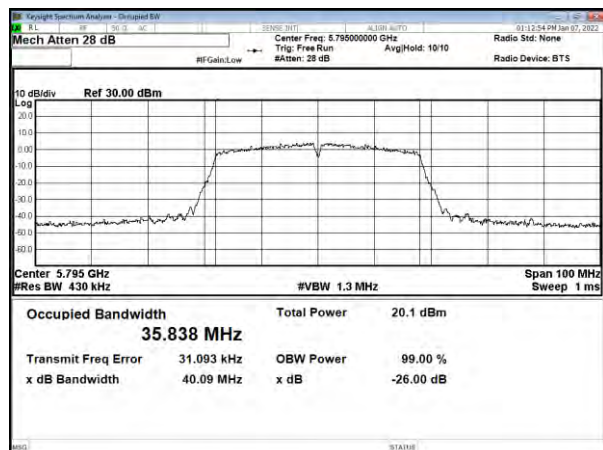
99% Occupied Bandwidth

Modulation Type: 802.11ac, VHT20 (13Mbps)  
CH149Modulation Type: 802.11ac, VHT40 (27Mbps)  
CH151

CH157



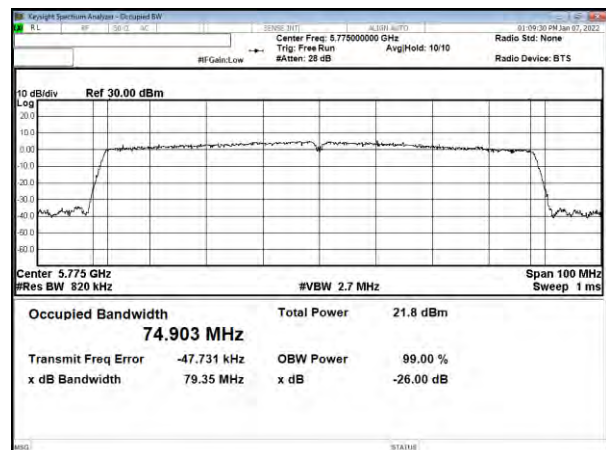
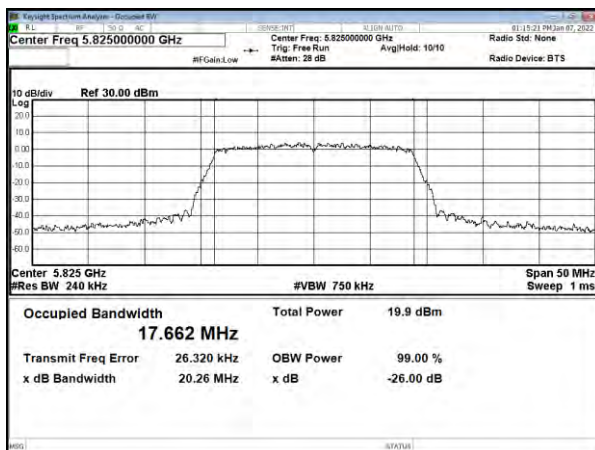
CH159



Modulation Type: 802.11ac, VHT80 (58.5Mbps)

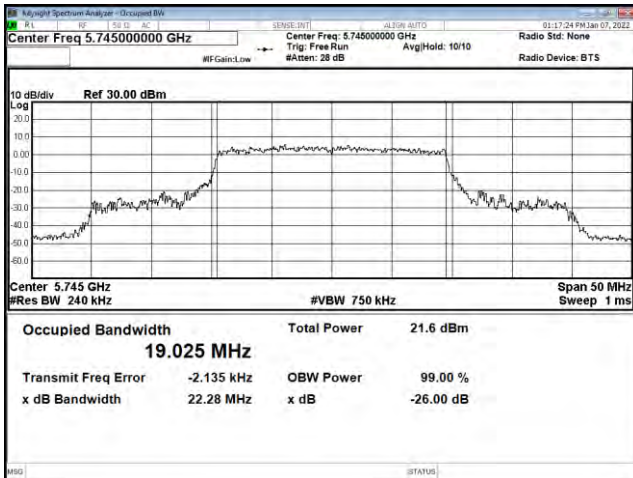
CH155

CH165

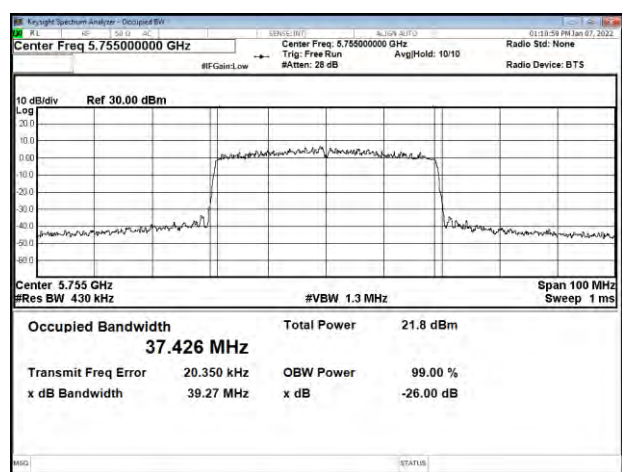




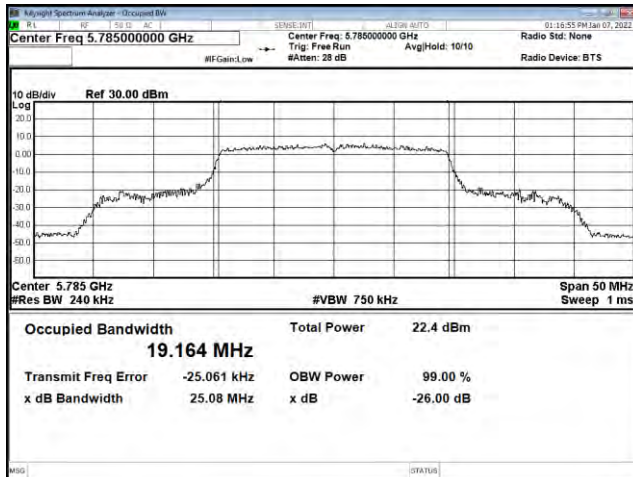
99% Occupied Bandwidth  
Modulation Type: 802.11ax HE20 (7.3Mbps)  
CH149



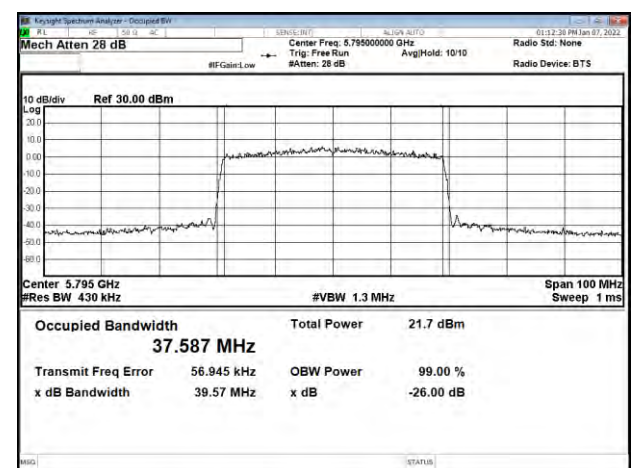
Modulation Type: 802.11 ax HE40 (14.6Mbps)  
CH151



CH157

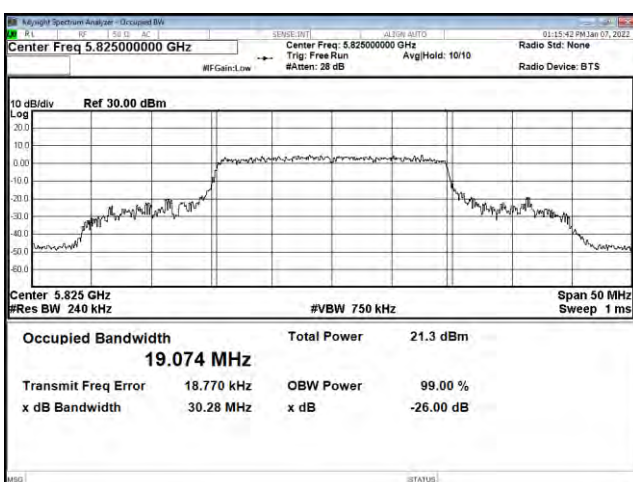


CH159

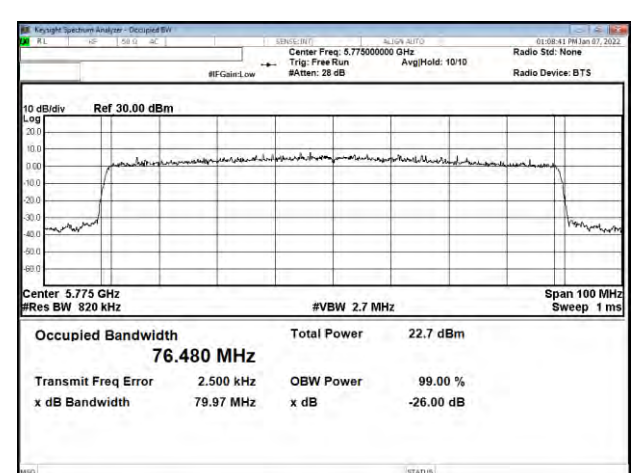


Modulation Type: 802.11ax HE80 (30.6Mbps)

CH165



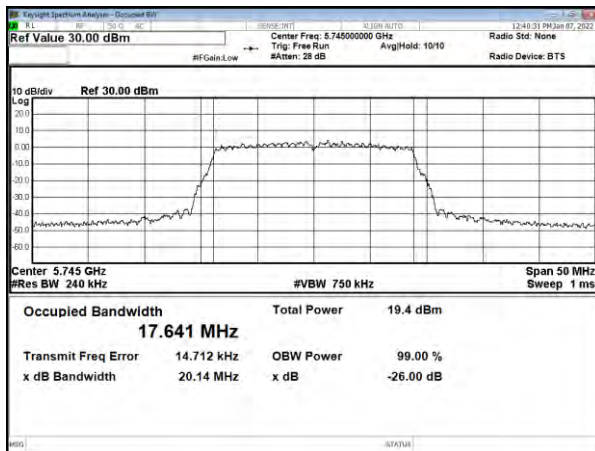
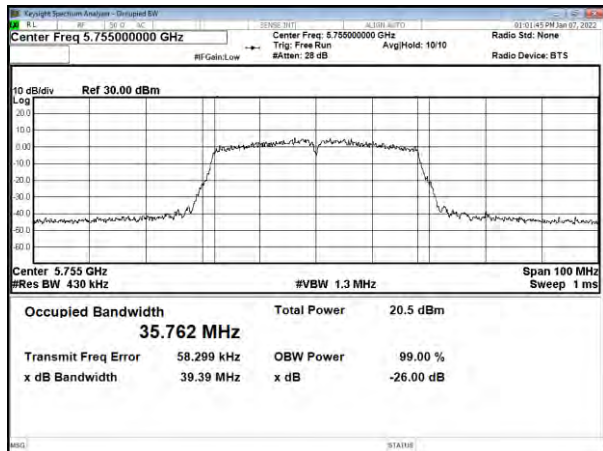
CH155



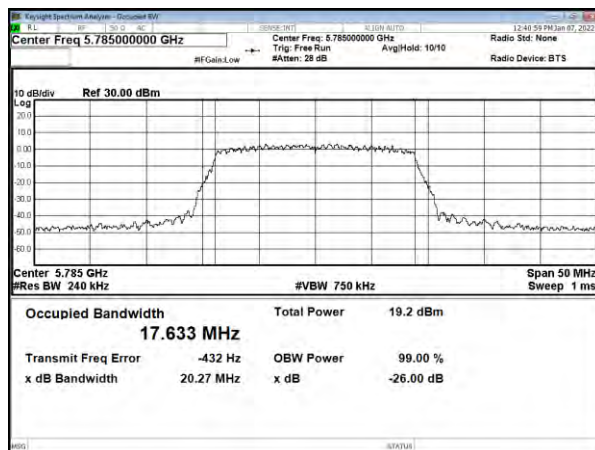


MIMO (ANT B)

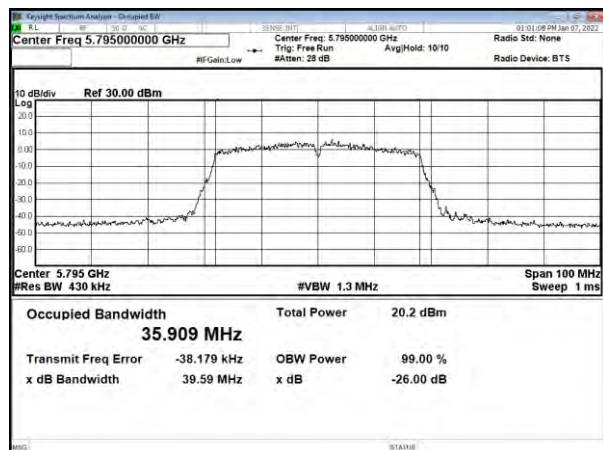
99% Occupied Bandwidth

Modulation Type: 802.11ac, VHT20 (13Mbps)  
CH149Modulation Type: 802.11ac, VHT40 (27Mbps)  
CH151

CH157



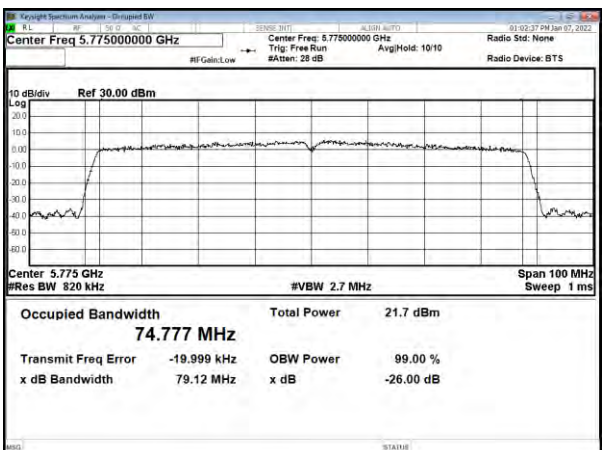
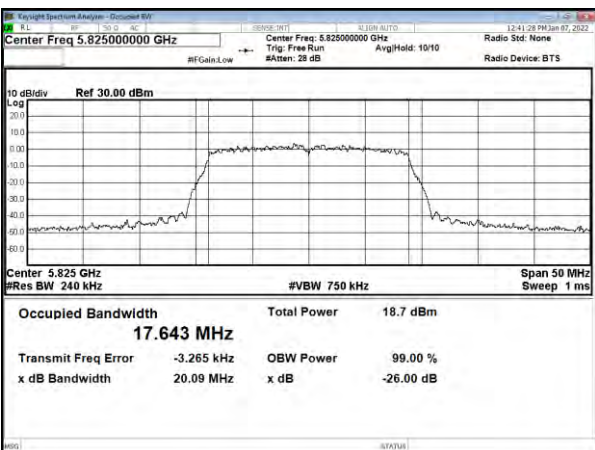
CH159



Modulation Type: 802.11ac, VHT80 (58.5Mbps)

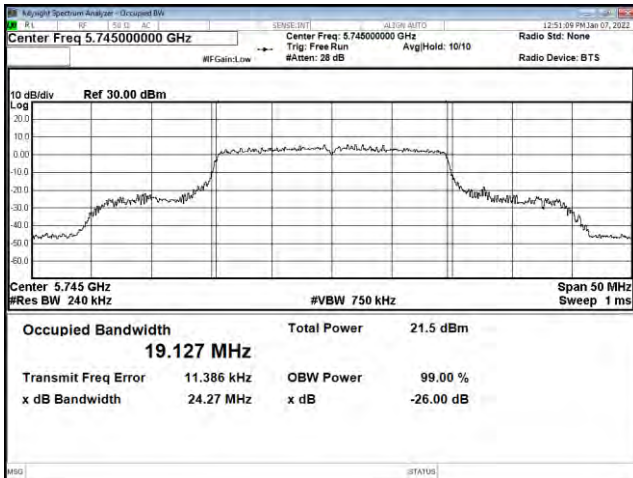
CH155

CH165

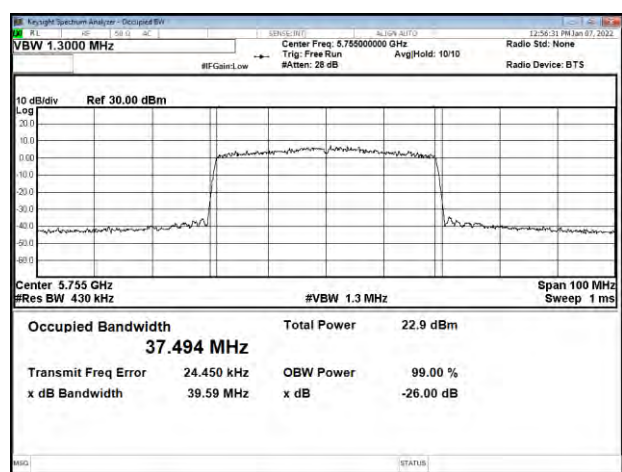




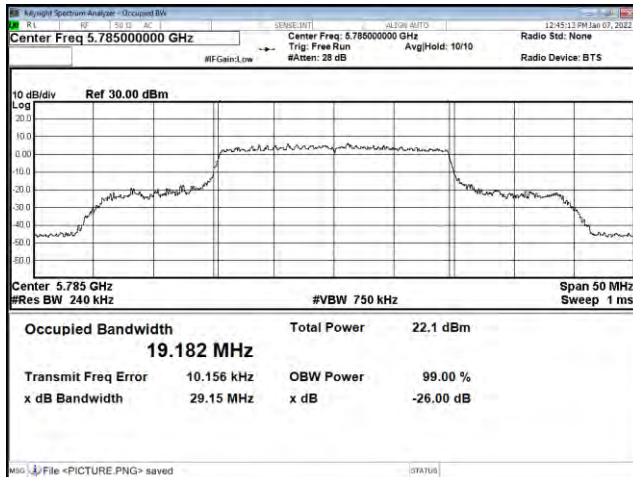
99% Occupied Bandwidth  
Modulation Type: 802.11ax HE20 (7.3Mbps)  
CH149



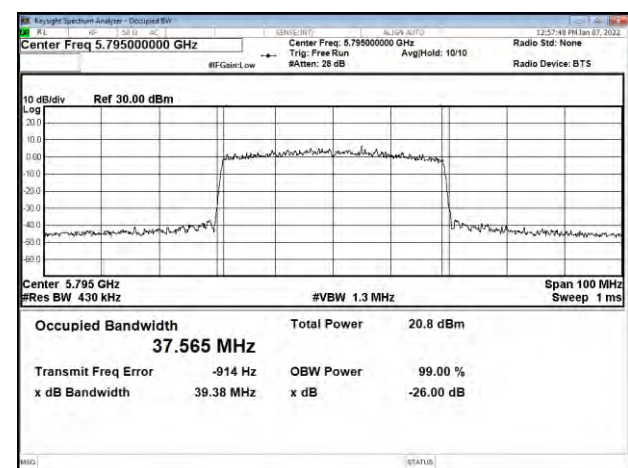
Modulation Type: 802.11 ax HE40 (14.6Mbps)  
CH151



CH157

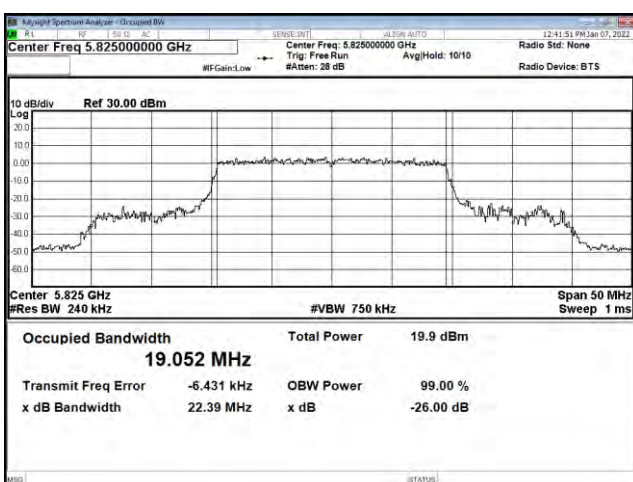


CH159

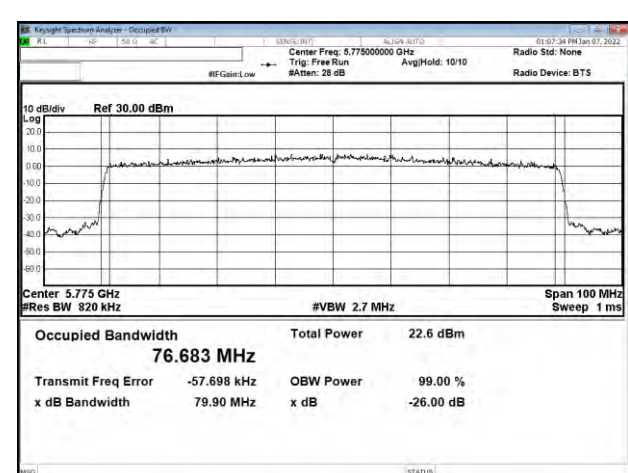


Modulation Type: 802.11ax HE80 (30.6Mbps)

CH165



CH155





## 9. 26dB Bandwidth & 99% Occupied Bandwidth

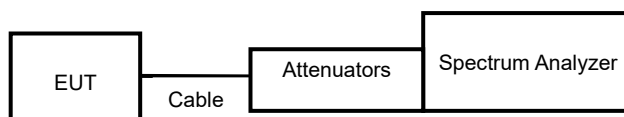
### 9.1. Test Limit

None; for reporting purposes only.

### 9.2. Test Procedure

Reference to 789033 v02r01 General UNII Test Procedures New Rules v01: The transmitter output is connected to a spectrum analyzer with the RBW = approximately 1% of the emission bandwidth, the VBW  $\geq 3 \times$  RBW, peak detector and max hold.

### 9.3. Test Setup Layout



**9.4. Test Result and Data (26dB Bandwidth)****In the 5.2G Band  
SISO**

| Mode           | Channel | Frequency<br>(MHz) | 26dB Bandwidth (MHz) |       |
|----------------|---------|--------------------|----------------------|-------|
|                |         |                    | ANT A                | ANT B |
| 802.11a        | 36      | 5180               | 20.25                | 20.18 |
|                | 44      | 5220               | 19.87                | 19.8  |
|                | 48      | 5240               | 20.09                | 19.82 |
| 802.11ac VHT20 | 36      | 5180               | 20.23                | 20.12 |
|                | 44      | 5220               | 20.14                | 20.31 |
|                | 48      | 5240               | 20.25                | 20.19 |
| 802.11ac VHT40 | 38      | 5190               | 40.21                | 39.59 |
|                | 46      | 5230               | 39.81                | 39.59 |
| 802.11ac VHT80 | 42      | 5210               | 79.38                | 79.06 |
| 802.11ax HE20  | 36      | 5180               | 21.70                | 22.38 |
|                | 44      | 5220               | 25.29                | 22.79 |
|                | 48      | 5240               | 19.95                | 19.97 |
| 802.11ax HE40  | 38      | 5190               | 39.47                | 39.45 |
|                | 46      | 5230               | 39.43                | 39.50 |
| 802.11ax HE80  | 42      | 5210               | 79.99                | 79.99 |

**MIMO**

| Mode           | Channel | Frequency<br>(MHz) | 26dB Bandwidth (MHz) |       |
|----------------|---------|--------------------|----------------------|-------|
|                |         |                    | ANT A                | ANT B |
| 802.11ac VHT20 | 36      | 5180               | 20.30                | 20.25 |
|                | 44      | 5220               | 20.20                | 20.43 |
|                | 48      | 5240               | 20.22                | 20.28 |
| 802.11ac VHT40 | 38      | 5190               | 39.39                | 39.67 |
|                | 46      | 5230               | 40.04                | 39.60 |
| 802.11ac VHT80 | 42      | 5210               | 79.24                | 78.90 |
| 802.11ax HE20  | 36      | 5180               | 21.88                | 24.20 |
|                | 44      | 5220               | 21.92                | 25.23 |
|                | 48      | 5240               | 19.99                | 19.92 |
| 802.11ax HE40  | 38      | 5190               | 39.45                | 39.50 |
|                | 46      | 5230               | 39.49                | 39.41 |
| 802.11ax HE80  | 42      | 5210               | 80.11                | 79.94 |

**9.5. Test Result and Data (99% Occupied Bandwidth)**

In the 5.2G Band

SISO

| Mode           | Channel | Frequency<br>(MHz) | 99% Occupied Bandwidth<br>(MHz) |       |
|----------------|---------|--------------------|---------------------------------|-------|
|                |         |                    | ANT A                           | ANT B |
| 802.11a        | 36      | 5180               | 16.56                           | 16.53 |
|                | 44      | 5220               | 16.56                           | 16.55 |
|                | 48      | 5240               | 16.59                           | 16.52 |
| 802.11ac VHT20 | 36      | 5180               | 17.62                           | 17.61 |
|                | 44      | 5220               | 17.64                           | 17.62 |
|                | 48      | 5240               | 17.68                           | 17.62 |
| 802.11ac VHT40 | 38      | 5190               | 35.83                           | 35.77 |
|                | 46      | 5230               | 35.91                           | 35.84 |
| 802.11ac VHT80 | 42      | 5210               | 74.97                           | 79.06 |
| 802.11ax HE20  | 36      | 5180               | 19.07                           | 18.99 |
|                | 44      | 5220               | 19.08                           | 19.01 |
|                | 48      | 5240               | 18.90                           | 18.86 |
| 802.11ax HE40  | 38      | 5190               | 37.49                           | 37.53 |
|                | 46      | 5230               | 37.55                           | 37.55 |
| 802.11ax HE80  | 42      | 5210               | 76.68                           | 76.59 |

MIMO

| Mode           | Channel | Frequency<br>(MHz) | 99% Occupied<br>Bandwidth (MHz) |       |
|----------------|---------|--------------------|---------------------------------|-------|
|                |         |                    | ANT A                           | ANT B |
| 802.11ac VHT20 | 36      | 5180               | 17.62                           | 17.62 |
|                | 44      | 5220               | 17.58                           | 17.64 |
|                | 48      | 5240               | 17.62                           | 17.64 |
| 802.11ac VHT40 | 38      | 5190               | 35.85                           | 35.89 |
|                | 46      | 5230               | 35.88                           | 35.86 |
| 802.11ac VHT80 | 42      | 5210               | 75.11                           | 75.05 |
| 802.11ax HE20  | 36      | 5180               | 18.99                           | 19.02 |
|                | 44      | 5220               | 19.00                           | 19.05 |
|                | 48      | 5240               | 18.85                           | 18.90 |
| 802.11ax HE40  | 38      | 5190               | 37.51                           | 37.54 |
|                | 46      | 5230               | 37.48                           | 37.56 |
| 802.11ax HE80  | 42      | 5210               | 76.67                           | 79.94 |

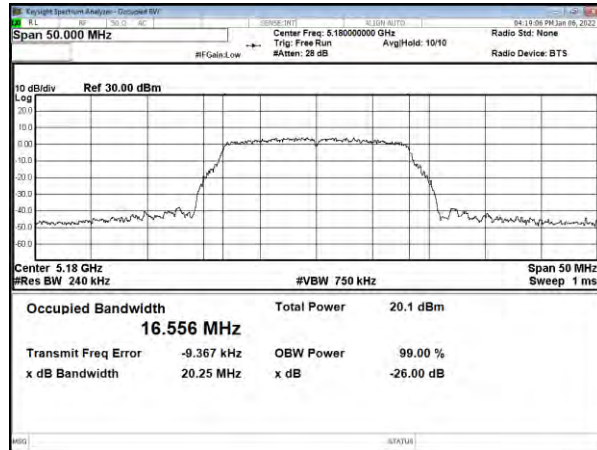


## SISO (ANT A)

26dB Bandwidth & 99% Occupied Bandwidth, UNII-1

Modulation Standard: 802.11a (6Mbps)

CH36

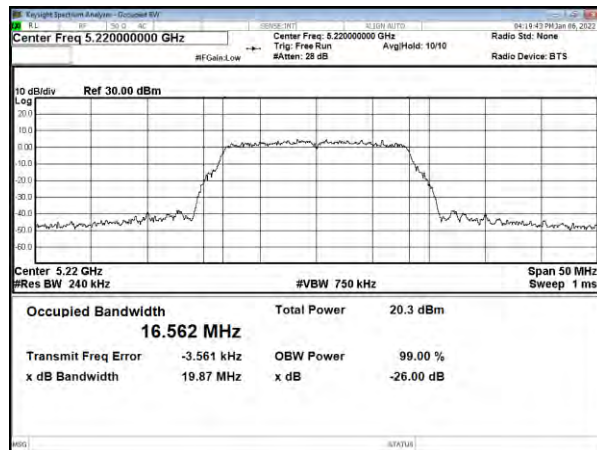


Modulation Standard: 802.11ac VHT20 (6.5Mbps)

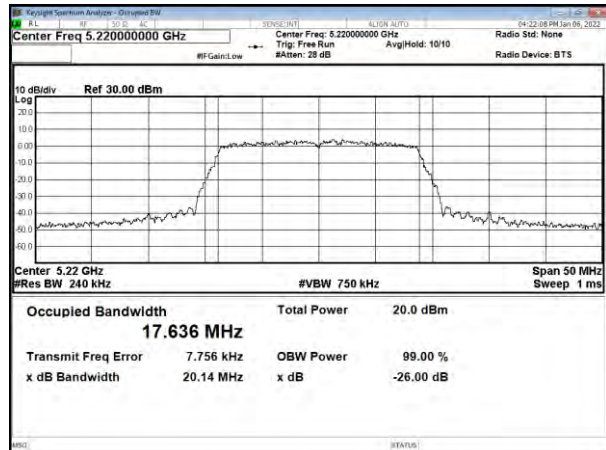
CH36



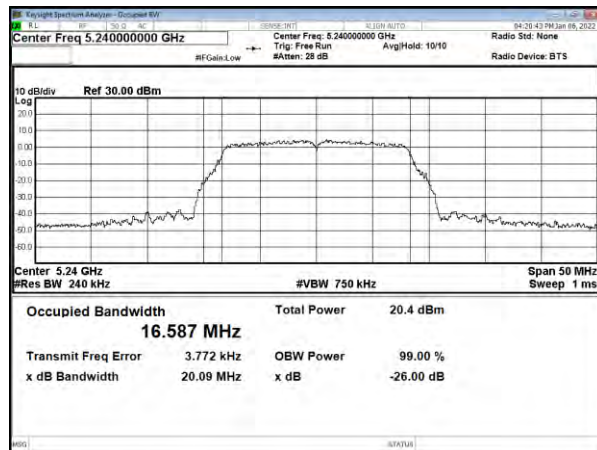
CH44



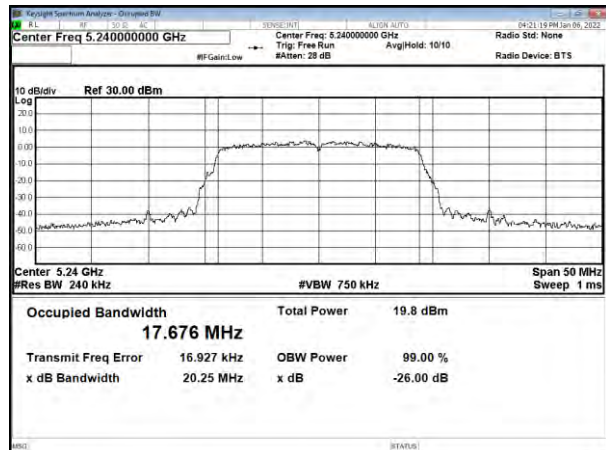
CH44



CH48



CH48

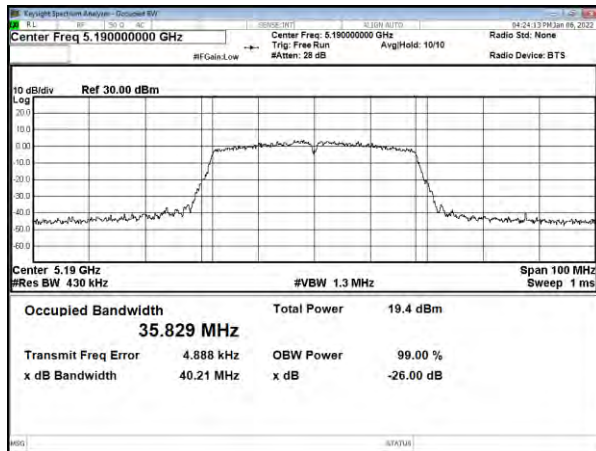




## 26dB Bandwidth & 99% Occupied Bandwidth, UNII-1

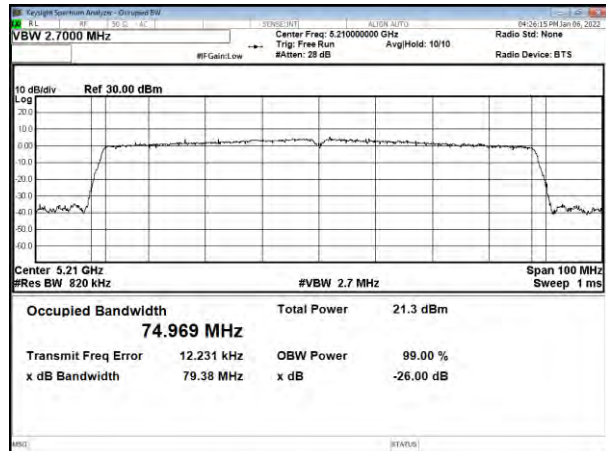
Modulation Standard: 802.11ac VHT40 (13.5Mbps)

CH38

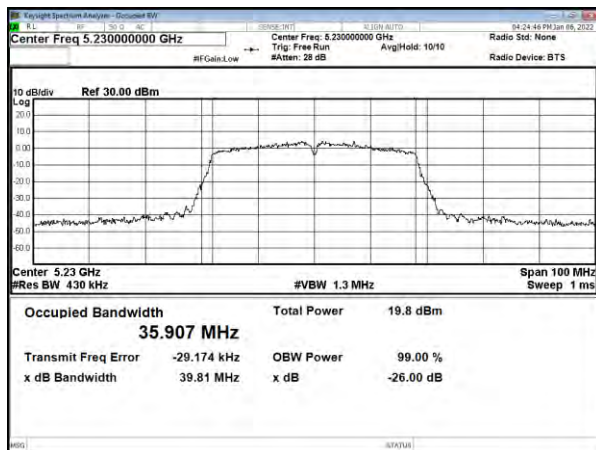


Modulation Standard: 802.11ac VHT80 (29.3Mbps)

CH42



CH46

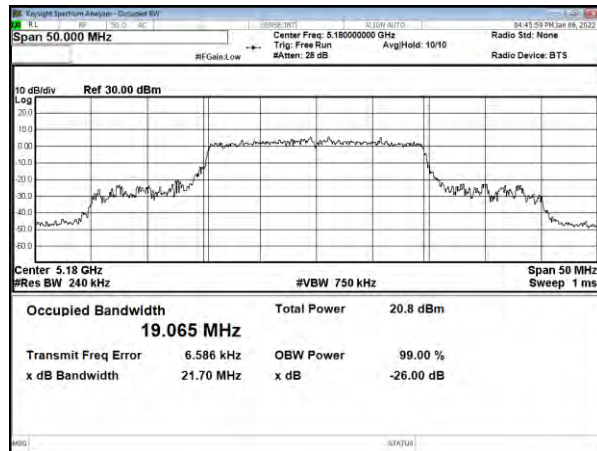




26dB Bandwidth & 99% Occupied Bandwidth, UNII-1

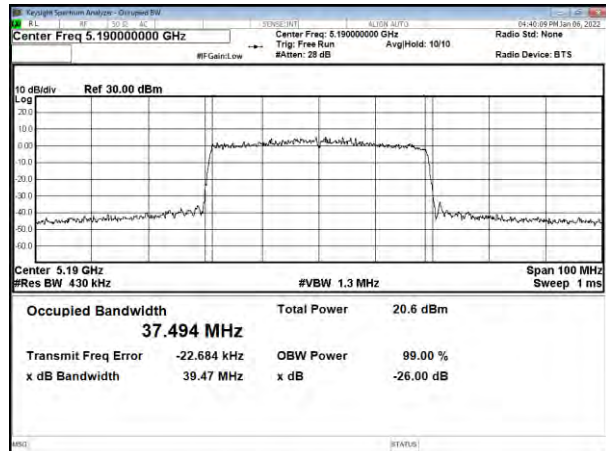
Modulation Standard: 802.11 ax HE20 (7.3Mbps)

CH36

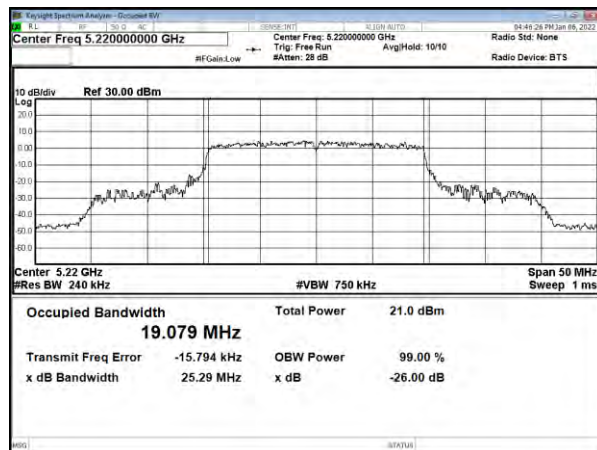


Modulation Standard: 802.11 ax HE40 (14.6Mbps)

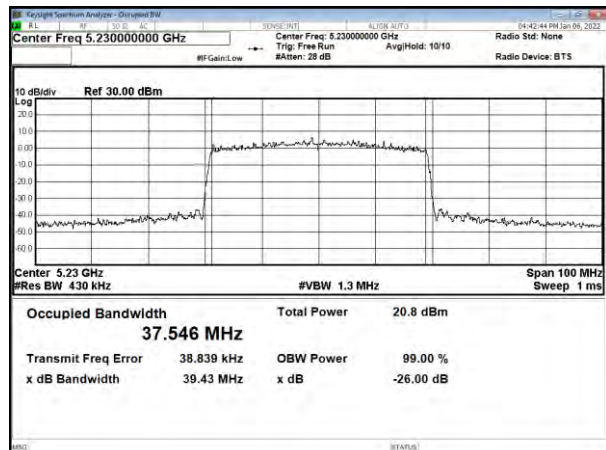
CH38



CH44

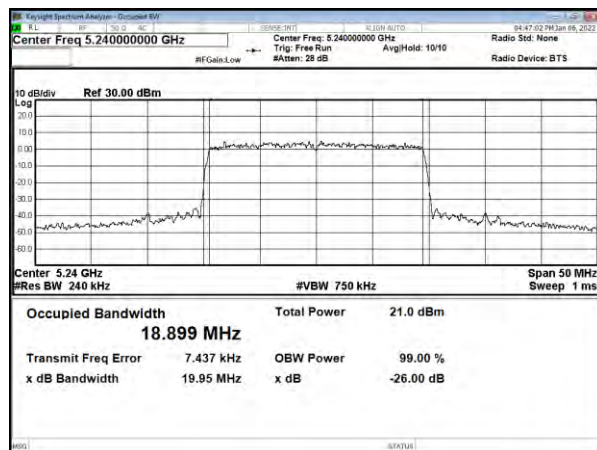


CH46

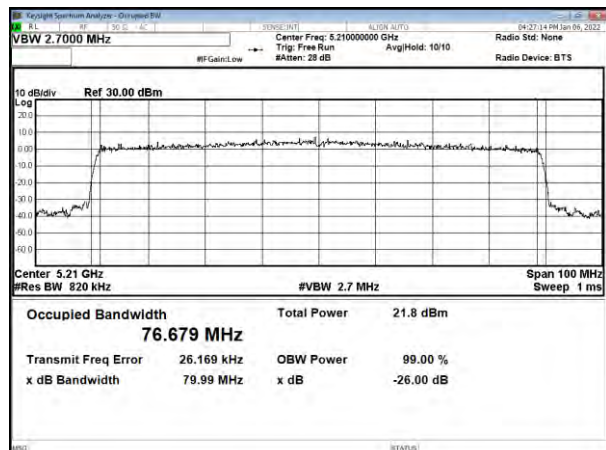


Modulation Standard: 802.11ac VHT80 (30.6Mbps)

CH48



CH42



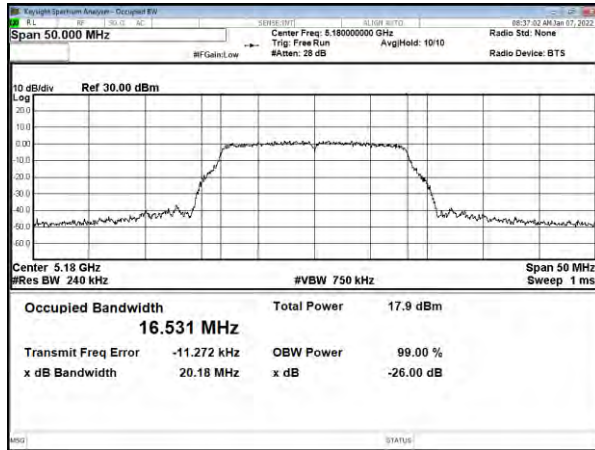


## SISO (ANT B)

26dB Bandwidth & 99% Occupied Bandwidth, UNII-1

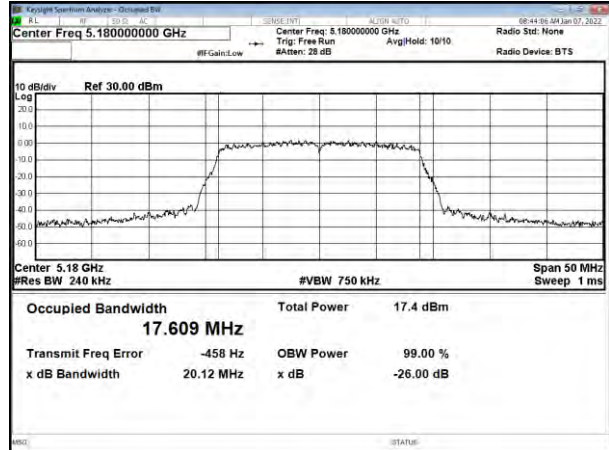
Modulation Standard: 802.11a (6Mbps)

CH36

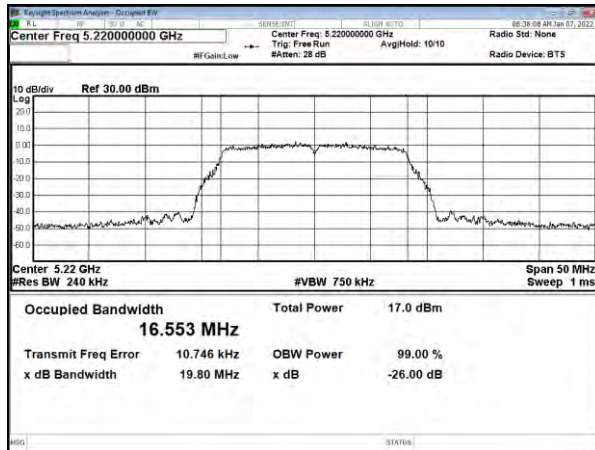


Modulation Standard: 802.11ac VHT20 (6.5Mbps)

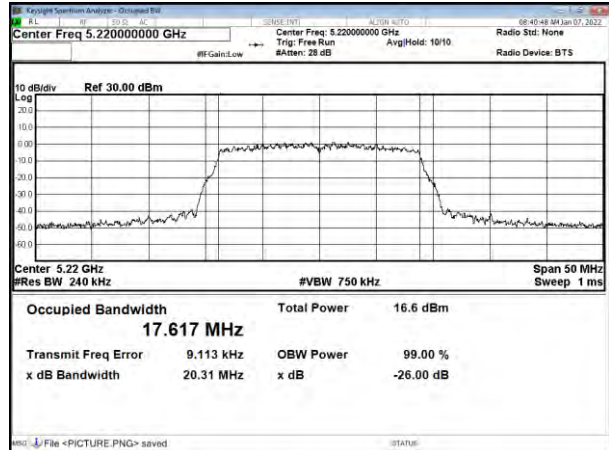
CH36



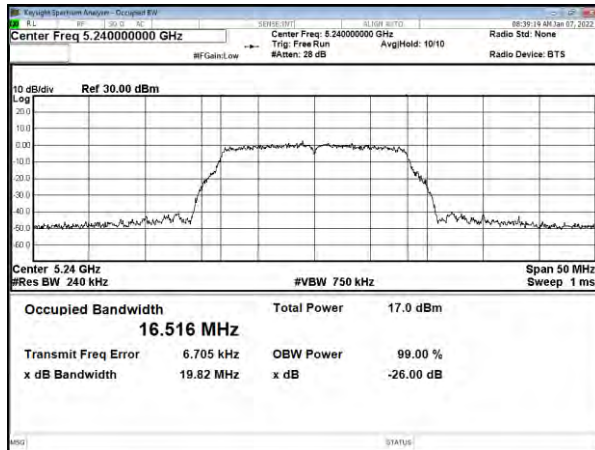
CH44



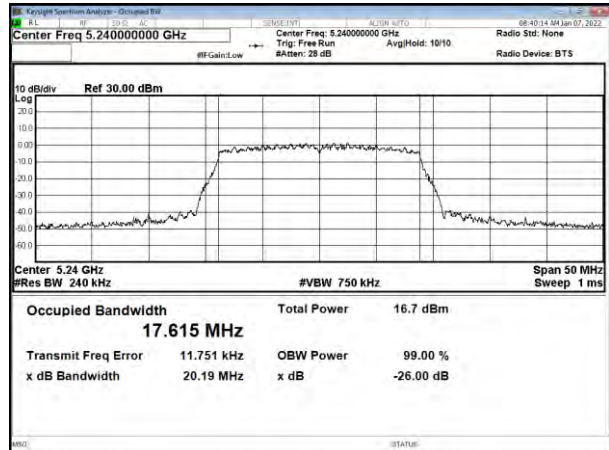
CH44



CH48



CH48

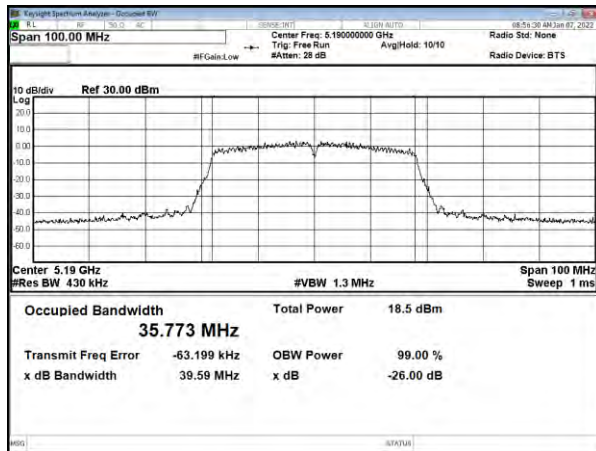




## 26dB Bandwidth &99% Occupied Bandwidth, UNII-1

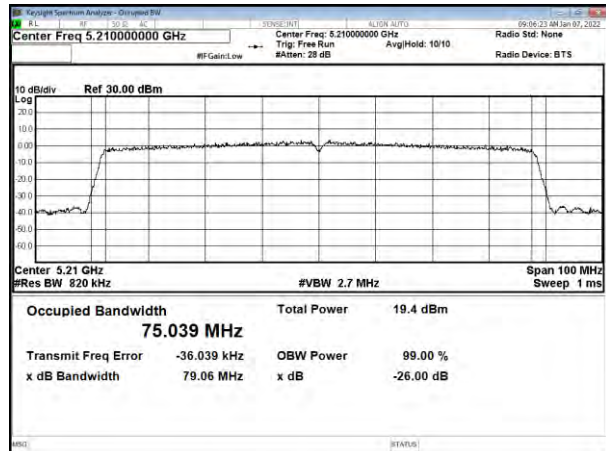
Modulation Standard: 802.11ac VHT40 (13.5Mbps)

CH38

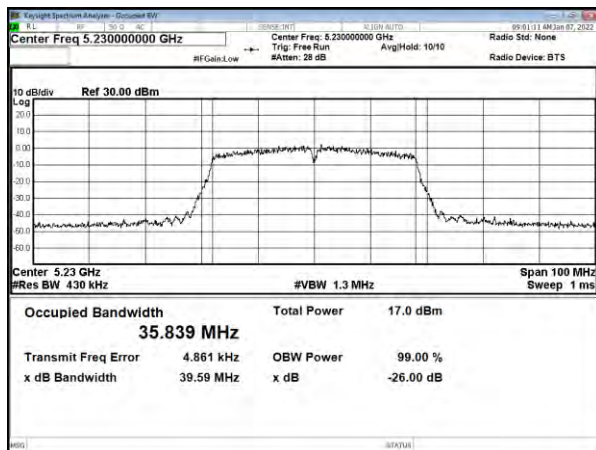


Modulation Standard: 802.11ac VHT80 (29.3Mbps)

CH42



CH46

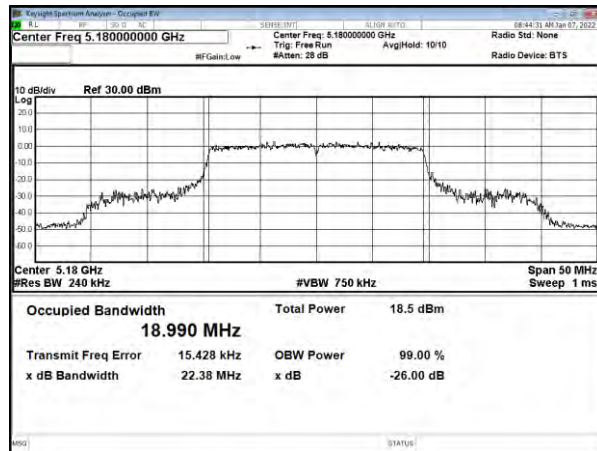




26dB Bandwidth &99% Occupied Bandwidth, UNII-1

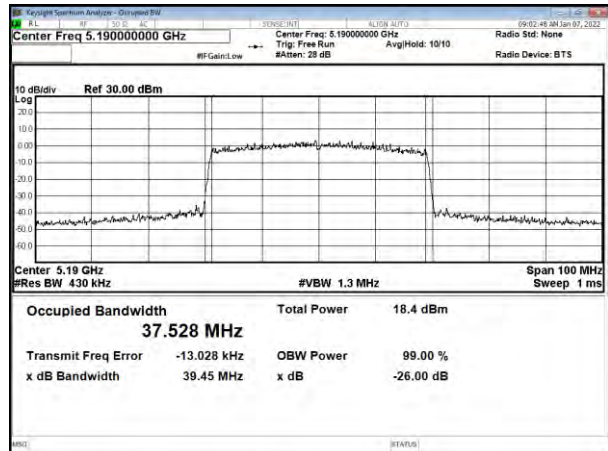
Modulation Standard: 802.11 ax HE20 (7.3Mbps)

CH36

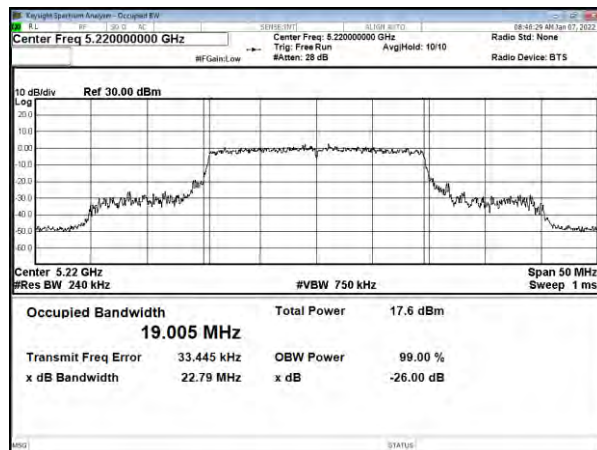


Modulation Standard: 802.11 ax HE40 (14.6Mbps)

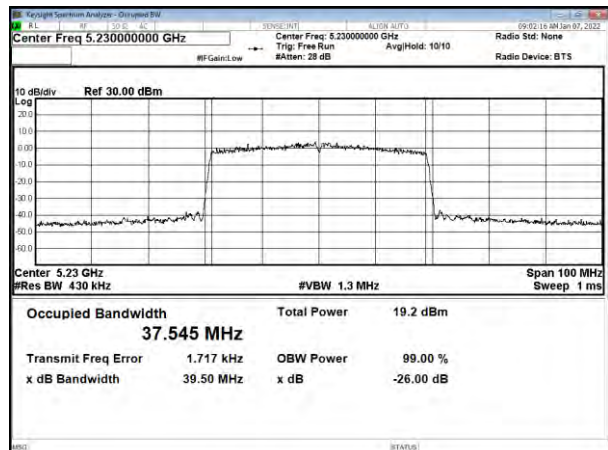
CH38



CH44

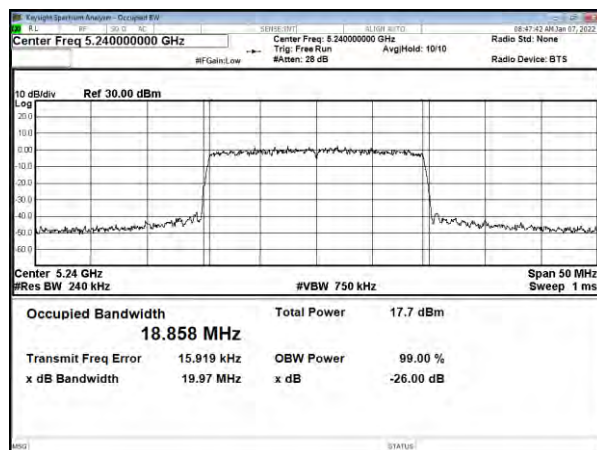


CH46

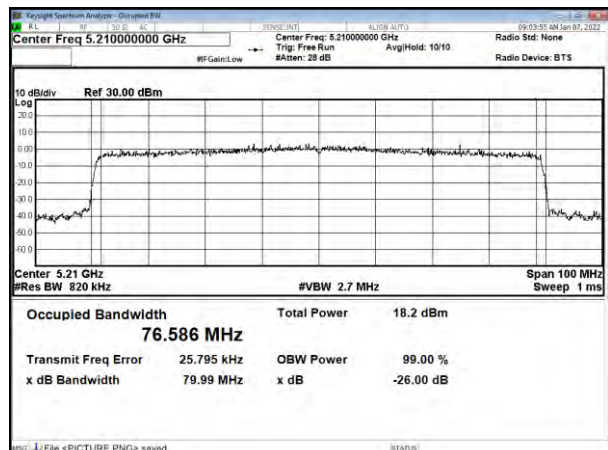


Modulation Standard: 802.11ac VHT80 (30.6Mbps)

CH48



CH42



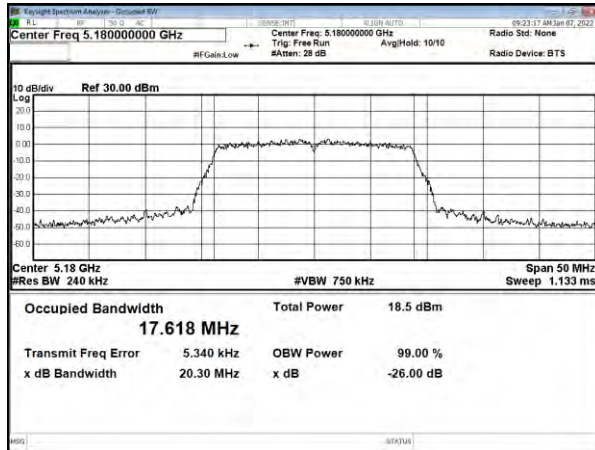


## MIMO (ANT A)

26dB Bandwidth & 99% Occupied Bandwidth, UNII-1

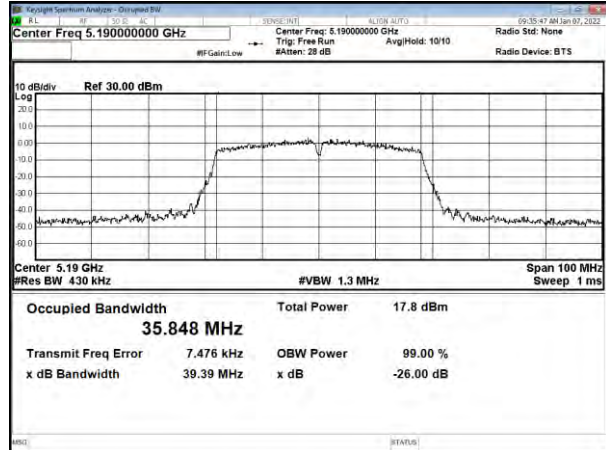
Modulation Standard: 802.11ac VHT20 (13Mbps)

CH36

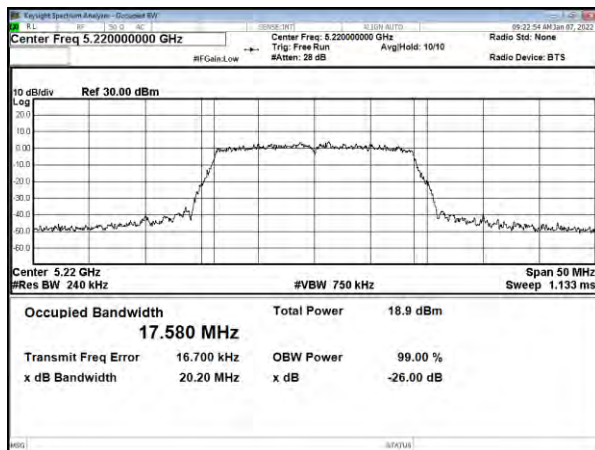


Modulation Standard: 802.11ac VHT40 (27Mbps)

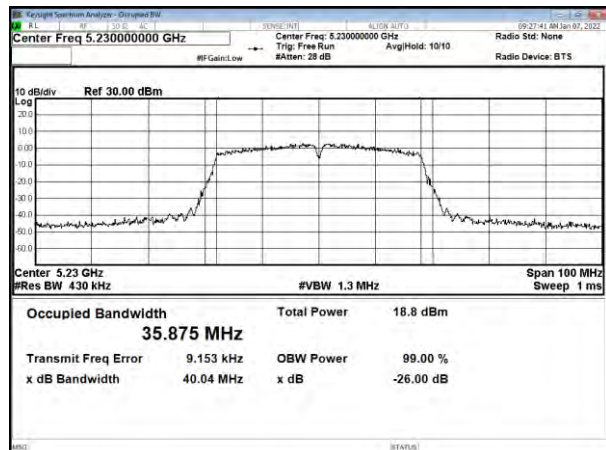
CH38



CH44

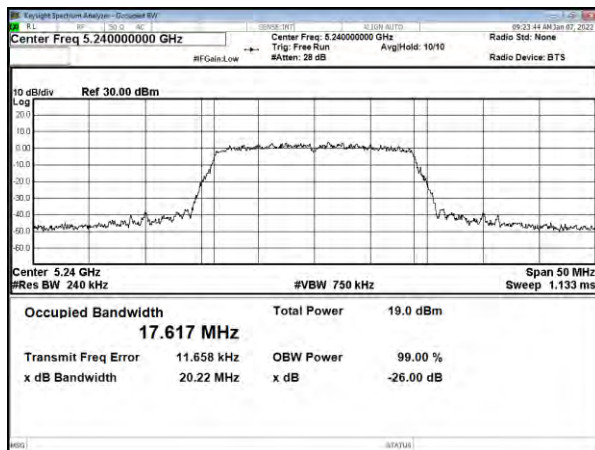


CH46

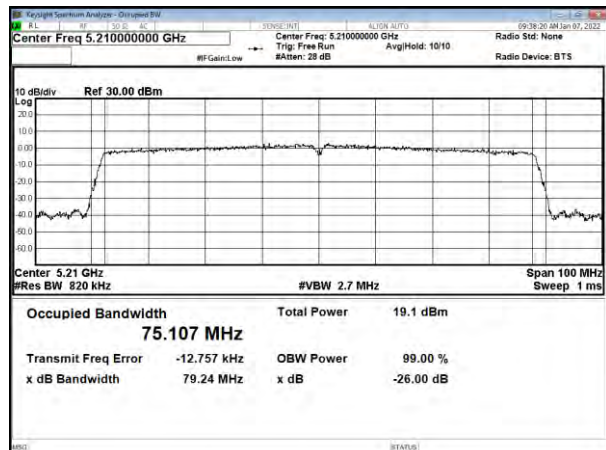


Modulation Standard: 802.11ac VHT80 (58.5Mbps)

CH48



CH42

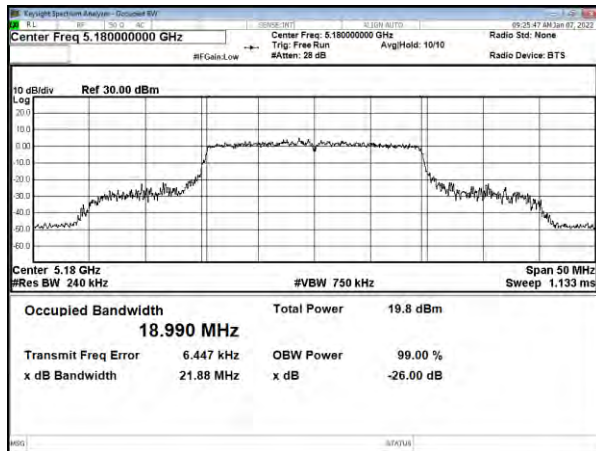




26dB Bandwidth & 99% Occupied Bandwidth, UNII-1

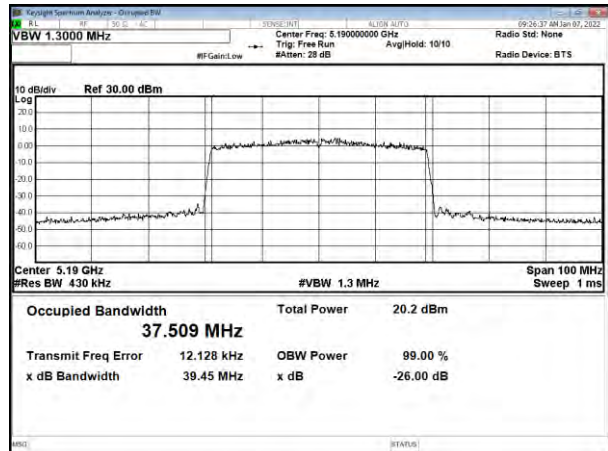
Modulation Standard: 802.11 ax HE20 (7.3Mbps)

CH36

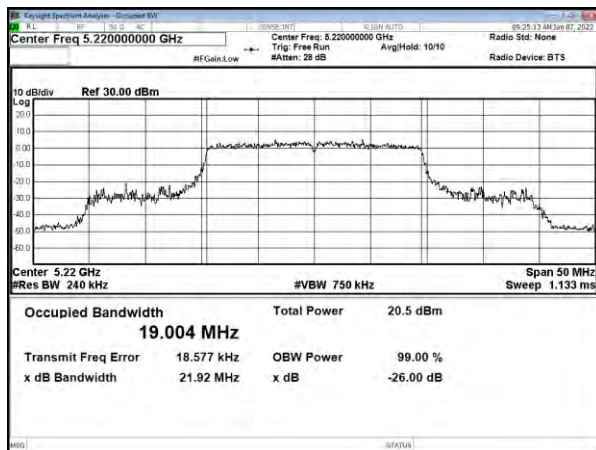


Modulation Standard: 802.11 ax HE40 (14.6Mbps)

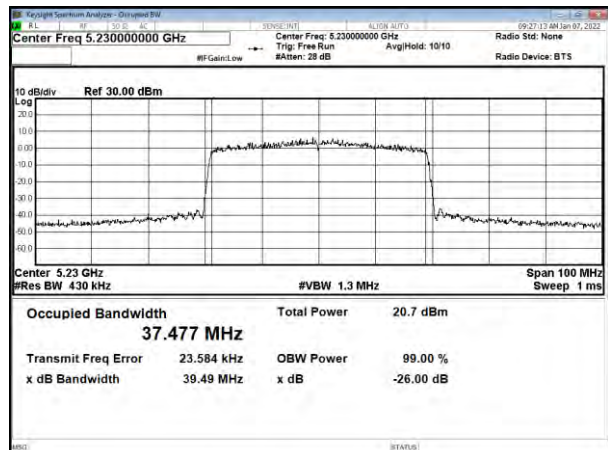
CH38



CH44

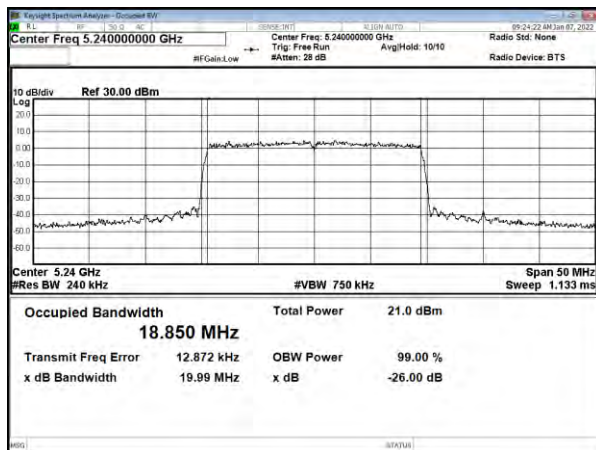


CH46

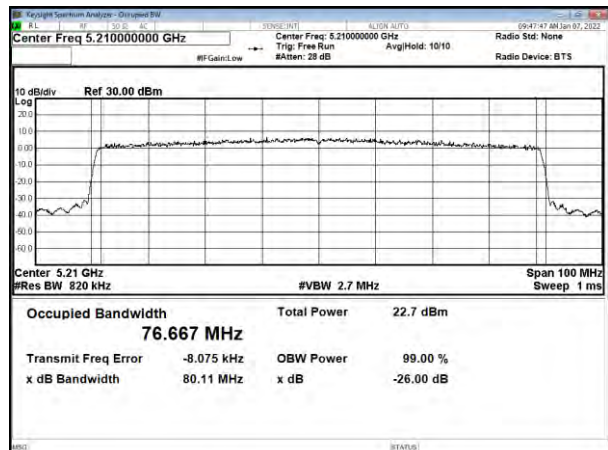


Modulation Standard: 802.11ac VHT80 (30.6Mbps)

CH48



CH42

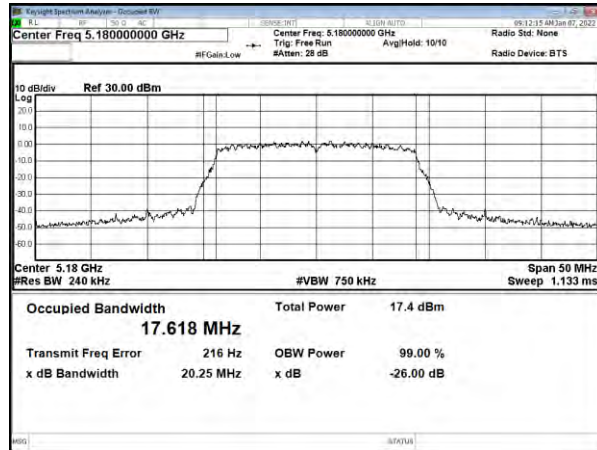


**MIMO (ANT B)**

26dB Bandwidth &amp;99% Occupied Bandwidth, UNII-1

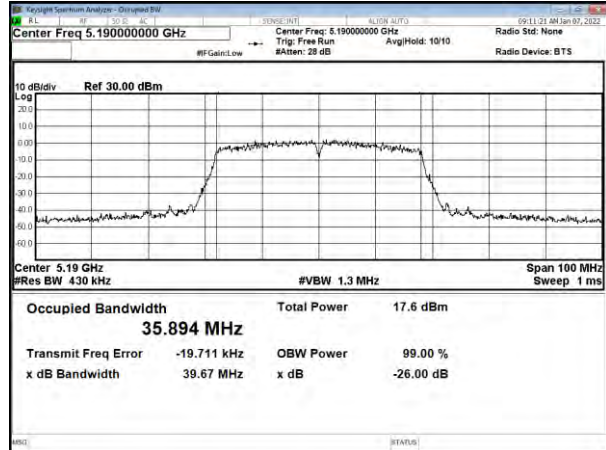
Modulation Standard: 802.11ac VHT20 (13Mbps)

CH36

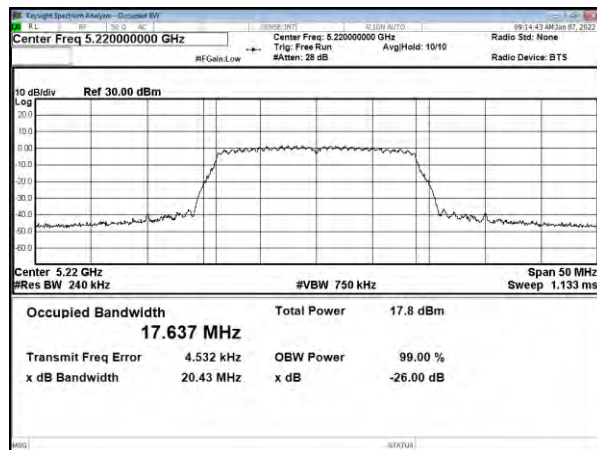


Modulation Standard: 802.11ac VHT40 (27Mbps)

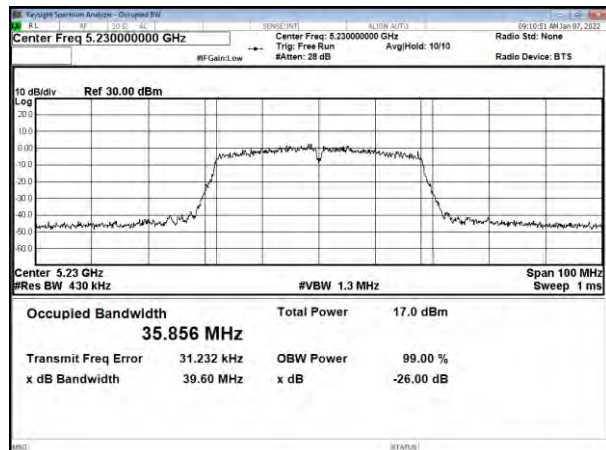
CH38



CH44

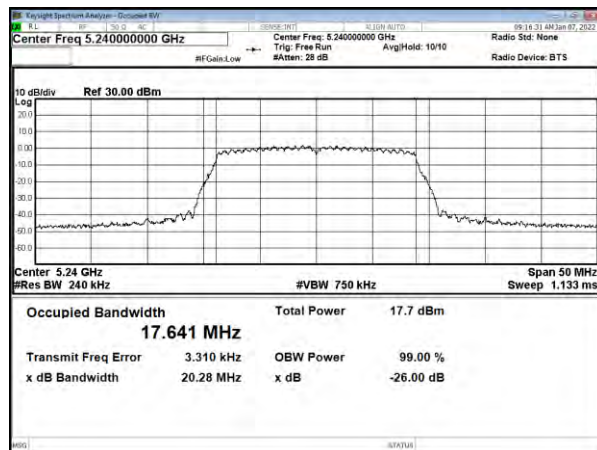


CH46

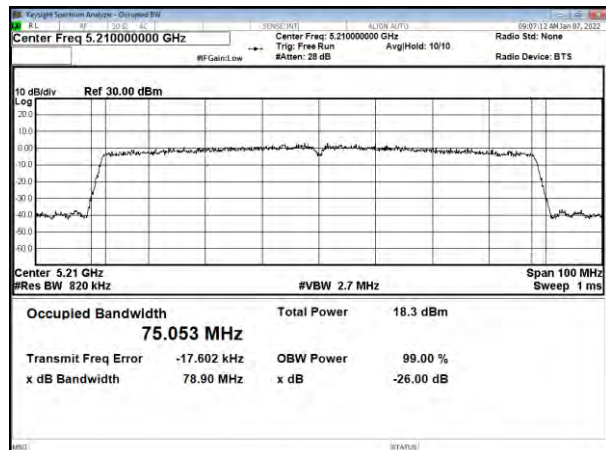


Modulation Standard: 802.11ac VHT80 (58.5Mbps)

CH48



CH42





26dB Bandwidth &99% Occupied Bandwidth, UNII-1

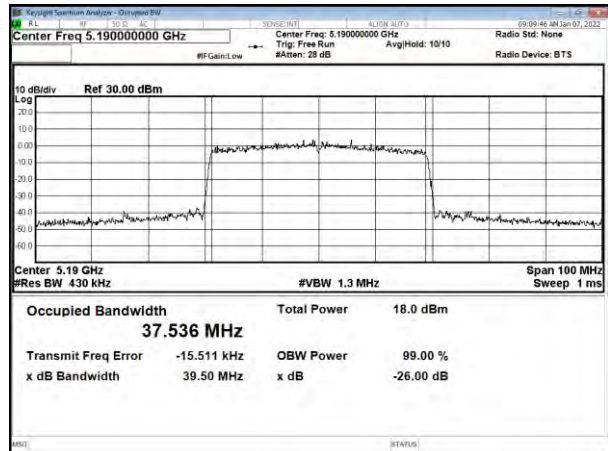
Modulation Standard: 802.11 ax HE20 (7.3Mbps)

CH36

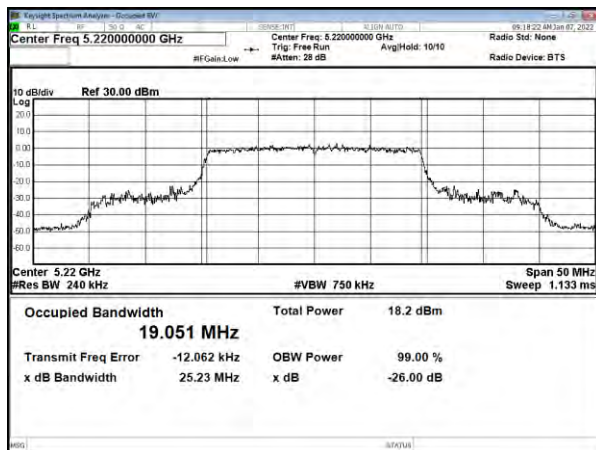


Modulation Standard: 802.11 ax HE40 (14.6Mbps)

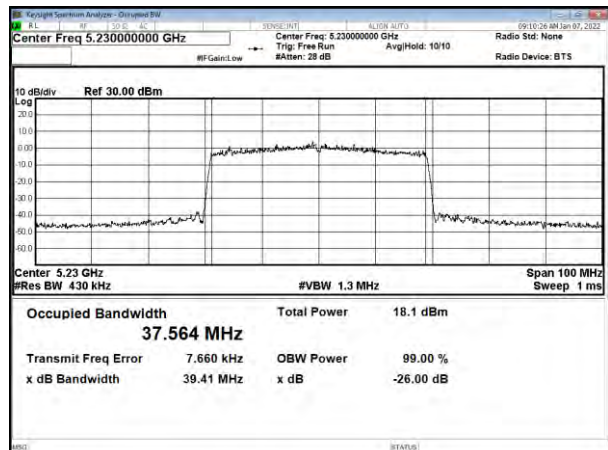
CH38



CH44

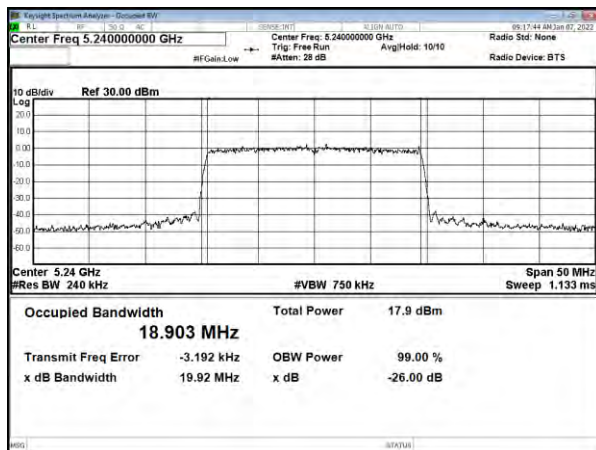


CH46

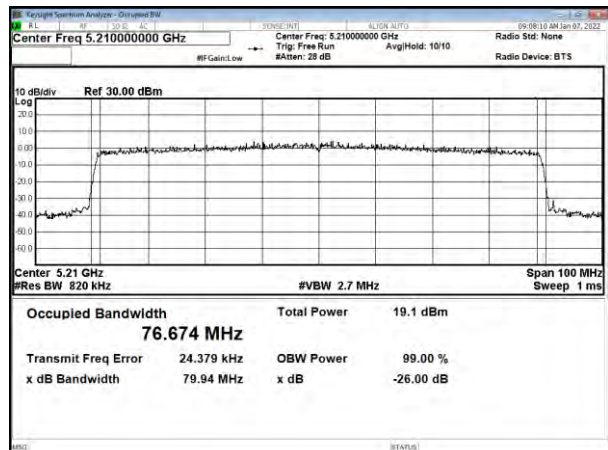


Modulation Standard: 802.11ac VHT80 (30.6Mbps)

CH48



CH42





## 10. Average Power

### 10.1. Test Limit

#### Output Power:

| Frequency Band                      |                                    | Limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | 5.15~5.25GHz                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                                     | Operating Mode                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <input type="checkbox"/>            | Outdoor access point               | The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm) provided the maximum antenna gain does not exceed 6 dBi. 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. The maximum e.i.r.p. at any elevation angle above 30degrees as measured from the horizon must not exceed 125 mW (21 dBm).                       |
| <input type="checkbox"/>            | Indoor access point                | The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm) provided the maximum antenna gain does not exceed 6 dBi. 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.                                                                                                                                                 |
| <input type="checkbox"/>            | Fixed point-to-point access points | The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm). Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. |
| <input checked="" type="checkbox"/> | client devices                     | The maximum conducted output power over the frequency band of operation shall not exceed 250 mW (24dBm) provided the maximum antenna gain does not exceed 6 dBi. 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.                                                                                                                                              |



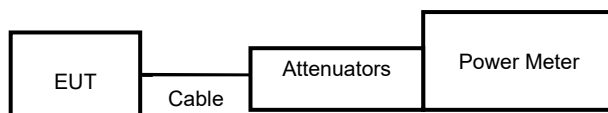
| Frequency Band                      |                 | Limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/>            | 5.25-5.35 GHz   | The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW (24dBm) or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz. 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.                                                                                                                       |
| <input type="checkbox"/>            | 5.470-5.725 GHz |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <input checked="" type="checkbox"/> | 5.725~5.85 GHz  | The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm). 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. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. |

## 10.2. Test Procedure

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 11 dB (including 10 dB pad and 1 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

## 10.3. Test Setup Layout



**10.4. Test Result and Data****In the 5.2G Band****SISO**

| Modulation Type | Data Rate | Setting | Channel | Frequency (MHz) | Avg Power Output (dBm) |       | Avg Power Output(mW) |       | Power Limit (dBm) |
|-----------------|-----------|---------|---------|-----------------|------------------------|-------|----------------------|-------|-------------------|
|                 |           |         |         |                 | ANT A                  | ANT B | ANT A                | ANT B |                   |
| 11a             | 6 Mbps    | 13      | 36      | 5180            | 13.47                  | 12.42 | 22.22                | 17.45 | 24.00             |
| 11a             | 6 Mbps    | 13      | 44      | 5220            | 14.06                  | 11.76 | 25.45                | 14.99 | 24.00             |
| 11a             | 6 Mbps    | 13      | 48      | 5240            | 13.95                  | 11.80 | 24.81                | 15.12 | 24.00             |
| 11n HT20        | MCS 0     | 13      | 36      | 5180            | 12.96                  | 11.82 | 19.77                | 15.21 | 24.00             |
| 11n HT20        | MCS 0     | 13      | 44      | 5220            | 13.54                  | 11.19 | 22.61                | 13.16 | 24.00             |
| 11n HT20        | MCS 0     | 13      | 48      | 5240            | 13.43                  | 11.21 | 22.04                | 13.22 | 24.00             |
| 11n HT40        | MCS 0     | 13      | 38      | 5190            | 13.10                  | 11.49 | 20.43                | 14.10 | 24.00             |
| 11n HT40        | MCS 0     | 13      | 46      | 5230            | 13.68                  | 11.08 | 23.34                | 12.83 | 24.00             |
| 11ac VHT20      | MCS 0     | 13      | 36      | 5180            | 13.08                  | 11.83 | 20.32                | 15.24 | 24.00             |
| 11ac VHT20      | MCS 0     | 13      | 44      | 5220            | 13.61                  | 11.26 | 22.98                | 13.38 | 24.00             |
| 11ac VHT20      | MCS 0     | 13      | 48      | 5240            | 13.45                  | 11.27 | 22.15                | 13.41 | 24.00             |
| 11ac VHT40      | MCS 0     | 13      | 38      | 5190            | 13.13                  | 11.59 | 20.57                | 14.43 | 24.00             |
| 11ac VHT40      | MCS 0     | 13      | 46      | 5230            | 13.72                  | 11.12 | 23.56                | 12.95 | 24.00             |
| 11ac VHT80      | MCS 0     | 15      | 42      | 5210            | 14.23                  | 12.55 | 26.51                | 18.01 | 24.00             |
| 802.11ax HE20   | MCS 0     | 13      | 36      | 5180            | 13.33                  | 12.16 | 21.52                | 16.44 | 24.00             |
| 802.11ax HE20   | MCS 0     | 13      | 44      | 5220            | 13.74                  | 11.49 | 23.65                | 14.09 | 24.00             |
| 802.11ax HE20   | MCS 0     | 13      | 48      | 5240            | 13.58                  | 11.41 | 22.80                | 13.83 | 24.00             |
| 802.11ax HE40   | MCS 0     | 13      | 38      | 5190            | 13.12                  | 11.77 | 20.50                | 15.02 | 24.00             |
| 802.11ax HE40   | MCS 0     | 13      | 46      | 5230            | 13.63                  | 11.33 | 23.06                | 13.58 | 24.00             |
| 802.11ax HE80   | MCS 0     | 15      | 42      | 5210            | 14.47                  | 12.82 | 28.02                | 19.16 | 24.00             |

**MIMO**

| Modulation Type | Data Rate | Setting | Channel | Frequency (MHz) | Avg Power Output (dBm) |       | Total Power (dBm) | Total Power (Mw) | Power Limit (dBm) |
|-----------------|-----------|---------|---------|-----------------|------------------------|-------|-------------------|------------------|-------------------|
|                 |           |         |         |                 | ANT A                  | ANT B | A+B               | A+B              |                   |
| 11n HT20        | MCS 0     | 13      | 36      | 5180            | 12.87                  | 11.72 | 15.34             | 34.224           | 23.17             |
| 11n HT20        | MCS 0     | 13      | 44      | 5220            | 13.44                  | 11.06 | 15.42             | 34.868           | 23.17             |
| 11n HT20        | MCS 0     | 13      | 48      | 5240            | 13.31                  | 11.14 | 15.37             | 34.454           | 23.17             |
| 11n HT40        | MCS 0     | 13      | 38      | 5190            | 12.78                  | 11.28 | 15.11             | 32.408           | 23.17             |
| 11n HT40        | MCS 0     | 13      | 46      | 5230            | 13.23                  | 10.94 | 15.25             | 33.468           | 23.17             |
| 11ac VHT20      | MCS 0     | 13      | 36      | 5180            | 12.98                  | 11.74 | 15.41             | 34.789           | 23.17             |
| 11ac VHT20      | MCS 0     | 13      | 44      | 5220            | 13.47                  | 11.12 | 15.47             | 35.199           | 23.17             |
| 11ac VHT20      | MCS 0     | 13      | 48      | 5240            | 13.35                  | 11.15 | 15.40             | 34.683           | 23.17             |
| 11ac VHT40      | MCS 0     | 13      | 38      | 5190            | 12.90                  | 11.34 | 15.20             | 33.126           | 23.17             |
| 11ac VHT40      | MCS 0     | 13      | 46      | 5230            | 13.25                  | 11.07 | 15.31             | 33.942           | 23.17             |
| 11ac VHT80      | MCS 0     | 15      | 42      | 5210            | 14.11                  | 12.51 | 16.40             | 43.630           | 23.17             |
| 802.11ax HE20   | MCS 0     | 13      | 36      | 5180            | 13.25                  | 12.22 | 15.77             | 37.800           | 23.17             |
| 802.11ax HE20   | MCS 0     | 13      | 44      | 5220            | 13.65                  | 11.57 | 15.74             | 37.522           | 23.17             |
| 802.11ax HE20   | MCS 0     | 13      | 48      | 5240            | 13.97                  | 11.50 | 15.92             | 39.064           | 23.17             |
| 802.11ax HE40   | MCS 0     | 13      | 38      | 5190            | 13.04                  | 11.81 | 15.48             | 35.291           | 23.17             |
| 802.11ax HE40   | MCS 0     | 13      | 46      | 5230            | 13.52                  | 11.40 | 15.60             | 36.277           | 23.17             |
| 802.11ax HE80   | MCS 0     | 15      | 42      | 5210            | 14.42                  | 12.81 | 16.70             | 46.813           | 23.17             |

**In the 5.8G Band  
SISO**

| Modulation Type | Data Rate | Setting | Channel | Frequency (MHz) | Avg Power Output (dBm) |       | Avg Power Output(Mw) |       | Power Limit (dBm) |
|-----------------|-----------|---------|---------|-----------------|------------------------|-------|----------------------|-------|-------------------|
|                 |           |         |         |                 | ANT A                  | ANT B | ANT A                | ANT B |                   |
| 11a             | MCS8      | 13      | 149     | 5745            | 13.32                  | 13.48 | 21.46                | 22.27 | 30.00             |
| 11a             | MCS8      | 13      | 157     | 5785            | 13.72                  | 13.51 | 23.53                | 22.42 | 30.00             |
| 11a             | MCS8      | 13      | 165     | 5825            | 13.90                  | 12.95 | 24.53                | 19.71 | 30.00             |
| 11n HT20        | MCS8      | 13      | 149     | 5745            | 12.89                  | 13.34 | 19.45                | 21.58 | 30.00             |
| 11n HT20        | MCS8      | 13      | 157     | 5785            | 13.36                  | 13.15 | 21.69                | 20.67 | 30.00             |
| 11n HT20        | MCS8      | 13      | 165     | 5825            | 13.31                  | 12.54 | 21.44                | 17.96 | 30.00             |
| 11n HT40        | MCS8      | 13      | 151     | 5755            | 12.43                  | 13.04 | 17.51                | 20.15 | 30.00             |
| 11n HT40        | MCS8      | 13      | 159     | 5795            | 13.30                  | 12.76 | 21.39                | 18.89 | 30.00             |
| 11ac VHT20      | MCS8      | 13      | 149     | 5745            | 12.98                  | 13.36 | 19.86                | 21.68 | 30.00             |
| 11ac VHT20      | MCS8      | 13      | 157     | 5785            | 13.42                  | 13.18 | 21.99                | 20.81 | 30.00             |
| 11ac VHT20      | MCS8      | 13      | 165     | 5825            | 13.36                  | 12.59 | 21.69                | 18.17 | 30.00             |
| 11ac VHT40      | MCS0      | 13      | 151     | 5755            | 12.58                  | 13.09 | 18.12                | 20.38 | 30.00             |
| 11ac VHT40      | MCS0      | 13      | 159     | 5795            | 13.33                  | 12.80 | 21.54                | 19.06 | 30.00             |
| 11ac VHT80      | MCS0      | 13      | 155     | 5775            | 14.78                  | 14.16 | 30.09                | 26.09 | 30.00             |
| 802.11ax HE20   | MCS0      | 13      | 149     | 5745            | 13.29                  | 13.51 | 21.33                | 22.43 | 30.00             |
| 802.11ax HE20   | MCS0      | 13      | 157     | 5785            | 13.67                  | 13.35 | 23.28                | 21.62 | 30.00             |
| 802.11ax HE20   | MCS0      | 13      | 165     | 5825            | 13.71                  | 12.82 | 23.49                | 19.14 | 30.00             |
| 802.11ax HE40   | MCS8      | 13      | 151     | 5755            | 12.96                  | 13.21 | 19.76                | 20.93 | 30.00             |
| 802.11ax HE40   | MCS8      | 13      | 159     | 5795            | 13.67                  | 12.99 | 23.27                | 19.90 | 30.00             |
| 802.11ax HE80   | MCS8      | 13      | 155     | 5775            | 15.18                  | 14.35 | 32.99                | 27.25 | 30.00             |

**MIMO**

| Modulation Type | Data Rate | Setting | Channel | Frequency (MHz) | Avg Power Output (dBm) |       | Total Power (dBm) | Total Power (mW) | Power Limit (dBm) |
|-----------------|-----------|---------|---------|-----------------|------------------------|-------|-------------------|------------------|-------------------|
|                 |           |         |         |                 | ANT A                  | ANT B | A+B               | A+B              |                   |
| 11n HT20        | MCS8      | 13      | 149     | 5745            | 12.76                  | 13.24 | 16.02             | 39.966           | 29.18             |
| 11n HT20        | MCS8      | 13      | 157     | 5785            | 13.25                  | 13.11 | 16.19             | 41.628           | 29.18             |
| 11n HT20        | MCS8      | 13      | 165     | 5825            | 13.19                  | 12.38 | 15.82             | 38.169           | 29.18             |
| 11n HT40        | MCS8      | 13      | 151     | 5755            | 13.42                  | 12.93 | 16.19             | 41.629           | 29.18             |
| 11n HT40        | MCS8      | 13      | 159     | 5795            | 13.27                  | 12.77 | 16.04             | 40.172           | 29.18             |
| 11ac VHT20      | MCS8      | 13      | 149     | 5745            | 12.89                  | 13.31 | 16.12             | 40.883           | 29.18             |
| 11ac VHT20      | MCS8      | 13      | 157     | 5785            | 13.28                  | 13.14 | 16.22             | 41.916           | 29.18             |
| 11ac VHT20      | MCS8      | 13      | 165     | 5825            | 13.27                  | 12.47 | 15.90             | 38.920           | 29.18             |
| 11ac VHT40      | MCS0      | 13      | 151     | 5755            | 13.49                  | 12.95 | 16.24             | 42.077           | 29.18             |
| 11ac VHT40      | MCS0      | 13      | 159     | 5795            | 13.30                  | 12.81 | 16.07             | 40.494           | 29.18             |
| 11ac VHT80      | MCS0      | 13      | 155     | 5775            | 14.77                  | 14.20 | 17.51             | 56.350           | 29.18             |
| 802.11ax HE20   | MCS0      | 13      | 149     | 5745            | 13.22                  | 13.42 | 16.33             | 42.960           | 29.18             |
| 802.11ax HE20   | MCS0      | 13      | 157     | 5785            | 13.72                  | 13.20 | 16.48             | 44.435           | 29.18             |
| 802.11ax HE20   | MCS0      | 13      | 165     | 5825            | 13.79                  | 12.62 | 16.25             | 42.206           | 29.18             |
| 802.11ax HE40   | MCS8      | 13      | 151     | 5755            | 12.88                  | 13.08 | 15.99             | 39.714           | 29.18             |
| 802.11ax HE40   | MCS8      | 13      | 159     | 5795            | 13.66                  | 12.94 | 16.32             | 42.886           | 29.18             |
| 802.11ax HE80   | MCS8      | 13      | 155     | 5775            | 15.18                  | 14.40 | 17.82             | 60.561           | 29.18             |



## 11. Maximum Power Spectral Density

### 11.1. Test Limit

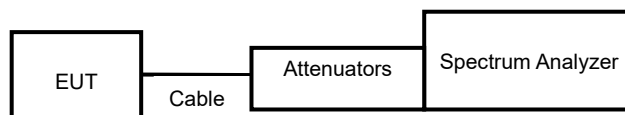
PSD:

| Frequency Band                      |                                    | Limit         |
|-------------------------------------|------------------------------------|---------------|
| <input checked="" type="checkbox"/> | 5.15~5.25GHz                       |               |
|                                     | Operating Mode                     |               |
| <input type="checkbox"/>            | Outdoor access point               | 17 dBm/MHz    |
| <input type="checkbox"/>            | Indoor access point                | 17 dBm/MHz    |
| <input type="checkbox"/>            | Fixed point-to-point access points | 17 dBm/MHz    |
| <input checked="" type="checkbox"/> | client devices                     | 11 dBm/MHz    |
| <input type="checkbox"/>            | 5.250~5.350 GHz                    | 11 dBm/MHz    |
| <input type="checkbox"/>            | 5.470~5.725 GHz                    | 11 dBm/MHz    |
| <input checked="" type="checkbox"/> | 5.725~5.85 GHz                     | 30 dBm/500kHz |

### 11.2. Test Procedure

Reference to KDB789033 v02r01 General UNII Test Procedures New Rules.

### 11.3. Test Setup Layout



**11.4. Test Result and Data****In the 5.2G Band****SISO**

| Modulation Type | CH | Freq. (MHz) | Meas PPSSD (dBm/MHz) |       | Duty Cycle CF(dB) | Total Corr'd PPSSD(dBm/MHz) |       | PPSSD Limit (dBm/MHz) |
|-----------------|----|-------------|----------------------|-------|-------------------|-----------------------------|-------|-----------------------|
|                 |    |             | ANT A                | ANT B |                   | ANT A                       | ANT B |                       |
| 11a             | 36 | 5180        | 2.79                 | 1.66  | 0.14              | 2.93                        | 1.80  | 11.00                 |
| 11a             | 44 | 5220        | 3.26                 | 1.07  | 0.14              | 3.40                        | 1.21  | 11.00                 |
| 11a             | 48 | 5240        | 3.19                 | 1.01  | 0.14              | 3.33                        | 1.15  | 11.00                 |
| 11ac VHT20      | 36 | 5180        | 2.01                 | 0.77  | 0.30              | 2.31                        | 1.07  | 11.00                 |
| 11ac VHT20      | 44 | 5220        | 2.53                 | 0.17  | 0.30              | 2.83                        | 0.47  | 11.00                 |
| 11ac VHT20      | 48 | 5240        | 2.37                 | 0.16  | 0.30              | 2.67                        | 0.46  | 11.00                 |
| 11ac VHT40      | 38 | 5190        | 0.64                 | -2.03 | 0.61              | 1.25                        | -1.42 | 11.00                 |
| 11ac VHT40      | 46 | 5230        | -0.12                | -2.34 | 0.61              | 0.50                        | -1.73 | 11.00                 |
| 11ac VHT80      | 42 | 5210        | -6.34                | -7.90 | 4.43              | -1.91                       | -3.47 | 11.00                 |
| 802.11ax HE20   | 36 | 5180        | 1.52                 | 0.50  | 0.38              | 1.90                        | 0.88  | 11.00                 |
| 802.11ax HE20   | 44 | 5220        | 2.10                 | -0.09 | 0.38              | 2.48                        | 0.29  | 11.00                 |
| 802.11ax HE20   | 48 | 5240        | 1.99                 | -0.18 | 0.38              | 2.37                        | 0.20  | 11.00                 |
| 802.11ax HE40   | 38 | 5190        | -1.11                | -2.38 | 0.71              | -0.40                       | -1.67 | 11.00                 |
| 802.11ax HE40   | 46 | 5230        | -0.58                | -2.80 | 0.71              | 0.13                        | -2.09 | 11.00                 |
| 802.11ax HE80   | 42 | 5210        | -6.33                | -8.20 | 4.66              | -1.67                       | -3.53 | 11.00                 |

**MIMO**

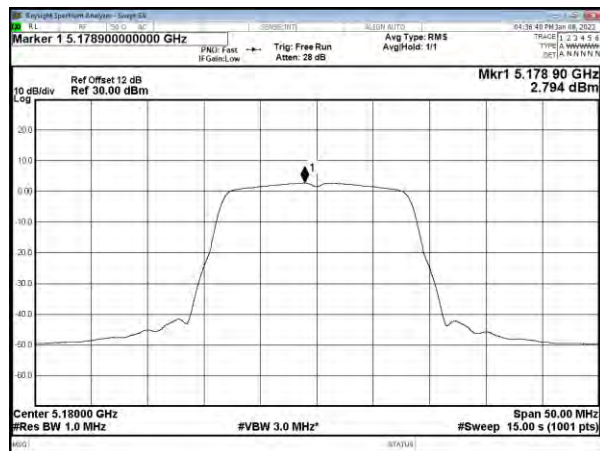
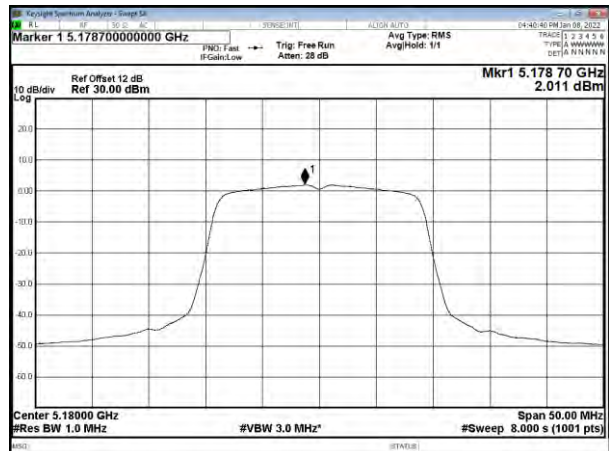
| Modulation Type | CH | Freq. (MHz) | Meas PPSSD (dBm/MHz) |       | Sum chain (dBm) | Duty Cycle CF(dB) | Total Corr'd PPSSD (dBm/MHz) | PPSSD Limit (dBm/MHz) |
|-----------------|----|-------------|----------------------|-------|-----------------|-------------------|------------------------------|-----------------------|
|                 |    |             | ANT A                | ANT B |                 |                   |                              |                       |
| 11ac VHT20      | 36 | 5180        | 1.61                 | 0.53  | 4.11            | 0.39              | 4.50                         | 10.17                 |
| 11ac VHT20      | 44 | 5220        | 2.10                 | -0.20 | 4.11            | 0.39              | 4.50                         | 10.17                 |
| 11ac VHT20      | 48 | 5240        | 1.92                 | -0.17 | 4.01            | 0.39              | 4.40                         | 10.17                 |
| 11ac VHT40      | 38 | 5190        | -1.19                | -2.28 | 1.31            | 0.63              | 1.94                         | 10.17                 |
| 11ac VHT40      | 46 | 5230        | -0.66                | -2.77 | 1.42            | 0.63              | 2.05                         | 10.17                 |
| 11ac VHT80      | 42 | 5210        | -6.77                | -8.24 | -4.43           | 4.49              | 0.06                         | 10.17                 |
| 802.11ax HE20   | 36 | 5180        | 1.16                 | 0.09  | 3.67            | 0.41              | 4.08                         | 10.17                 |
| 802.11ax HE20   | 44 | 5220        | 1.58                 | -0.49 | 3.68            | 0.41              | 4.09                         | 10.17                 |
| 802.11ax HE20   | 48 | 5240        | 1.56                 | -0.55 | 3.64            | 0.41              | 4.05                         | 10.17                 |
| 802.11ax HE40   | 38 | 5190        | -1.60                | -2.71 | 0.89            | 0.74              | 1.63                         | 10.17                 |
| 802.11ax HE40   | 46 | 5230        | -1.03                | -3.16 | 1.04            | 0.74              | 1.78                         | 10.17                 |
| 802.11ax HE80   | 42 | 5210        | -6.76                | -8.39 | -4.49           | 4.66              | 0.17                         | 10.17                 |

**In the 5.8G Band  
SISO**

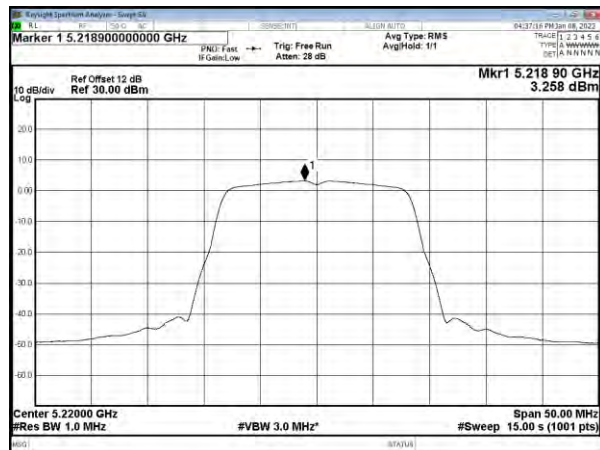
| Modulation Type | CH  | Freq.<br>(MHz) | Meas PPSD<br>(dBm/MHz) |       | Duty Cycle<br>CF(dB) | 10log(500<br>KHz/RBW)<br>CF (dB) | Total Corr'd<br>PPSD(dBm/500kHz) |       | PPSD<br>Limit<br>(dBm/500kHz) |
|-----------------|-----|----------------|------------------------|-------|----------------------|----------------------------------|----------------------------------|-------|-------------------------------|
|                 |     |                | ANT A                  | ANT B |                      |                                  | ANT A                            | ANT B |                               |
| 11a             | 149 | 5745           | 3.28                   | 2.58  | 0.14                 | -3.01                            | 0.41                             | -0.29 | 30.00                         |
| 11a             | 157 | 5785           | 2.80                   | 2.43  | 0.14                 | -3.01                            | -0.07                            | -0.44 | 30.00                         |
| 11a             | 165 | 5825           | 2.85                   | 1.82  | 0.14                 | -3.01                            | -0.02                            | -1.05 | 30.00                         |
| 11ac VHT20      | 149 | 5745           | 1.76                   | 1.79  | 0.30                 | -3.01                            | -0.95                            | -0.93 | 30.00                         |
| 11ac VHT20      | 157 | 5785           | 2.28                   | 1.77  | 0.30                 | -3.01                            | -0.43                            | -0.94 | 30.00                         |
| 11ac VHT20      | 165 | 5825           | 2.26                   | 1.02  | 0.30                 | -3.01                            | -0.45                            | -1.69 | 30.00                         |
| 11ac VHT40      | 151 | 5755           | -1.09                  | -0.85 | 0.61                 | -3.01                            | -3.49                            | -3.25 | 30.00                         |
| 11ac VHT40      | 159 | 5795           | -0.42                  | -1.22 | 0.61                 | -3.01                            | -2.82                            | -3.62 | 30.00                         |
| 11ac VHT80      | 155 | 5775           | -5.94                  | -6.60 | 4.43                 | -3.01                            | -4.52                            | -5.18 | 30.00                         |
| 802.11ax HE20   | 149 | 5745           | 1.32                   | 1.54  | 0.38                 | -3.01                            | -1.31                            | -1.10 | 30.00                         |
| 802.11ax HE20   | 157 | 5785           | 1.88                   | 1.34  | 0.38                 | -3.01                            | -0.75                            | -1.29 | 30.00                         |
| 802.11ax HE20   | 165 | 5825           | 1.85                   | 0.63  | 0.38                 | -3.01                            | -0.78                            | -2.01 | 30.00                         |
| 802.11ax HE40   | 151 | 5755           | -1.49                  | -1.38 | 0.71                 | -3.01                            | -3.79                            | -3.69 | 30.00                         |
| 802.11ax HE40   | 159 | 5795           | -0.78                  | -1.51 | 0.71                 | -3.01                            | -3.08                            | -3.81 | 30.00                         |
| 802.11ax HE80   | 155 | 5775           | -5.86                  | -6.89 | 4.66                 | -3.01                            | -4.21                            | -5.23 | 30.00                         |

**MIMO**

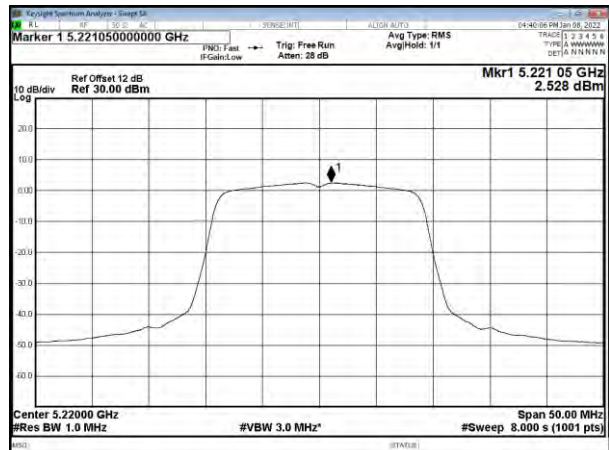
| Modulation Type | CH  | Freq.<br>(MHz) | Meas PPSD<br>(dBm/MHz) |       | Sum chain<br>(dBm) | Duty Cycle<br>CF(dB) | 10log(500K<br>Hz/RBW)<br>CF (dB) | Total Corr'd<br>PPSD<br>(dBm/500kHz) | PPSD<br>Limit<br>(dBm/500kHz) |
|-----------------|-----|----------------|------------------------|-------|--------------------|----------------------|----------------------------------|--------------------------------------|-------------------------------|
|                 |     |                | ANT A                  | ANT B |                    |                      |                                  |                                      |                               |
| 11ac VHT20      | 149 | 5745           | -1.33                  | 1.98  | 3.65               | 0.39                 | -3.01                            | 1.03                                 | 29.18                         |
| 11ac VHT20      | 157 | 5785           | 2.25                   | 1.78  | 5.03               | 0.39                 | -3.01                            | 2.41                                 | 29.18                         |
| 11ac VHT20      | 165 | 5825           | 2.20                   | 1.10  | 4.69               | 0.39                 | -3.01                            | 2.07                                 | 29.18                         |
| 11ac VHT40      | 151 | 5755           | -1.02                  | -0.85 | 2.08               | 0.63                 | -3.01                            | -0.30                                | 29.18                         |
| 11ac VHT40      | 159 | 5795           | -0.35                  | -1.14 | 2.28               | 0.63                 | -3.01                            | -0.10                                | 29.18                         |
| 11ac VHT80      | 155 | 5775           | -5.85                  | -6.56 | -3.18              | 4.49                 | -3.01                            | -1.70                                | 29.18                         |
| 802.11ax HE20   | 149 | 5745           | 1.38                   | 1.55  | 4.47               | 0.41                 | -3.01                            | 1.87                                 | 29.18                         |
| 802.11ax HE20   | 157 | 5785           | 1.83                   | 1.44  | 4.65               | 0.41                 | -3.01                            | 2.05                                 | 29.18                         |
| 802.11ax HE20   | 165 | 5825           | 1.83                   | 0.65  | 4.29               | 0.41                 | -3.01                            | 1.69                                 | 29.18                         |
| 802.11ax HE40   | 151 | 5755           | -1.47                  | -1.21 | 1.67               | 0.74                 | -3.01                            | -0.60                                | 29.18                         |
| 802.11ax HE40   | 159 | 5795           | -0.77                  | -1.57 | 1.86               | 0.74                 | -3.01                            | -0.41                                | 29.18                         |
| 802.11ax HE80   | 155 | 5775           | -5.93                  | -6.73 | -3.30              | 4.66                 | -3.01                            | -1.65                                | 29.18                         |

**5.2G, UNII-1  
SISO (ANT A)**Modulation Standard: 802.11a (6Mbps)  
CH36Modulation Standard: 802.11ac VHT20 (6.5Mbps)  
CH36

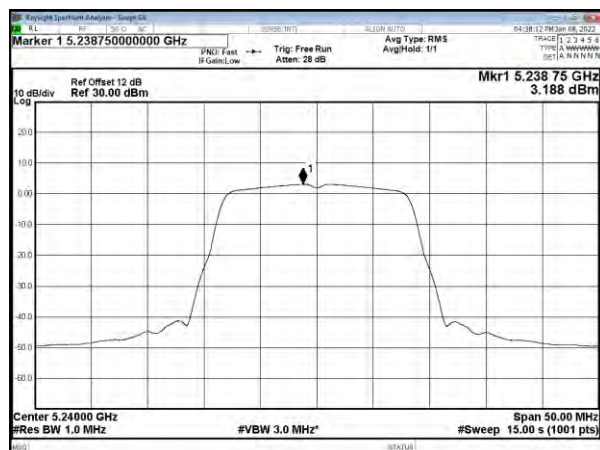
CH44



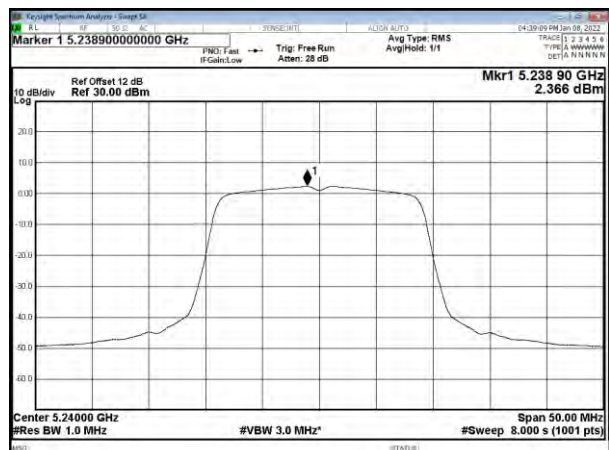
CH44



CH48



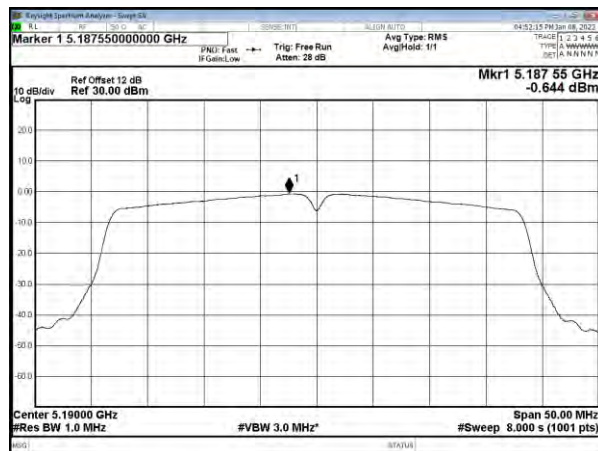
CH48





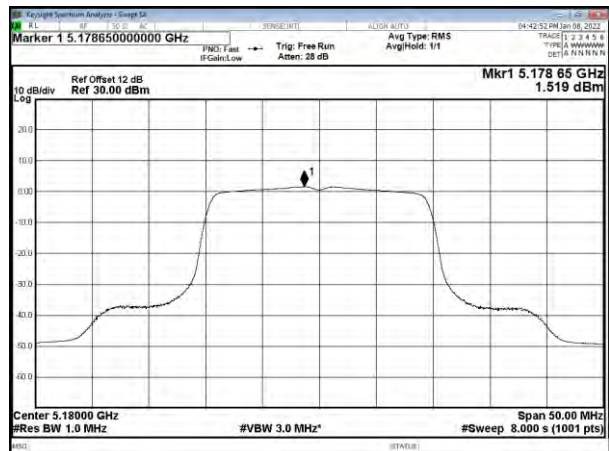
Modulation Standard: 802.11ac VHT40 (13.5Mbps)

CH38

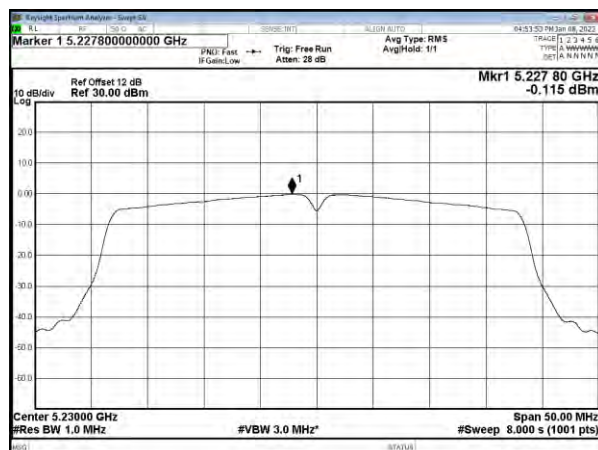


Modulation Standard: 802.11 ax HE20 (7.3Mbps)

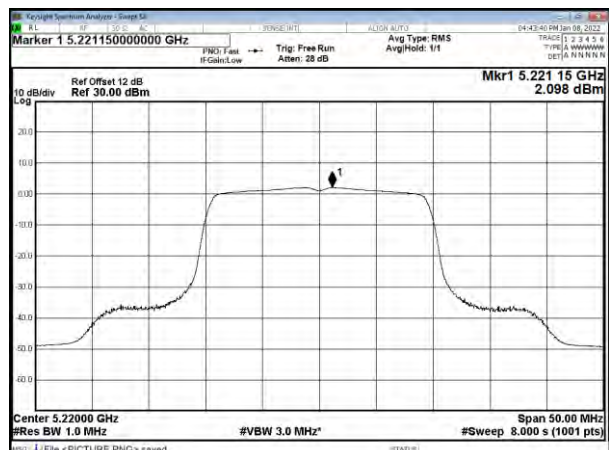
CH36



CH46

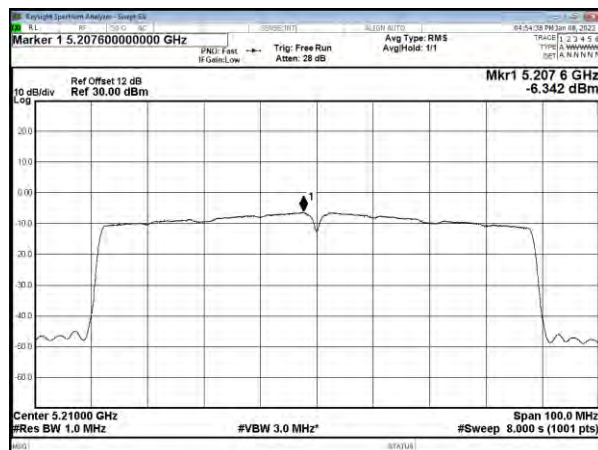


CH44

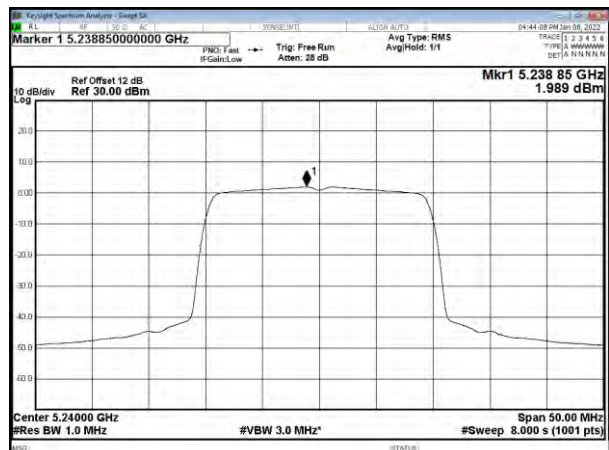


Modulation Standard: 802.11ac VHT80 (29.3Mbps)

CH42



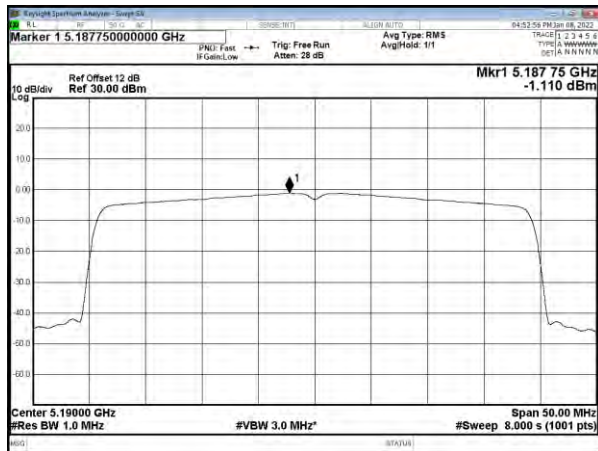
CH48



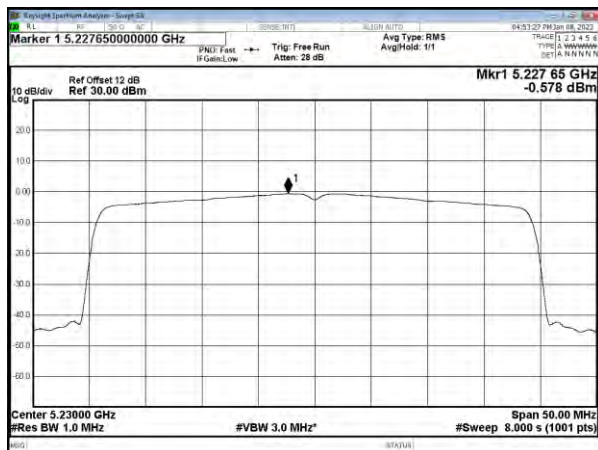


Modulation Standard: 802.11 ax HE40 (14.6Mbps)

CH38

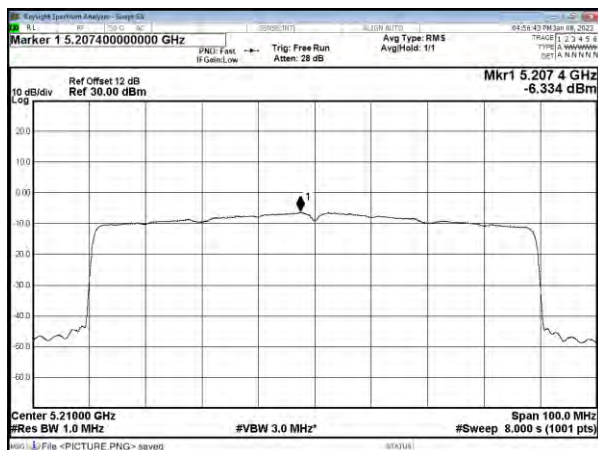


CH46



Modulation Standard: 802.11 ax HE80 (30.6Mbps)

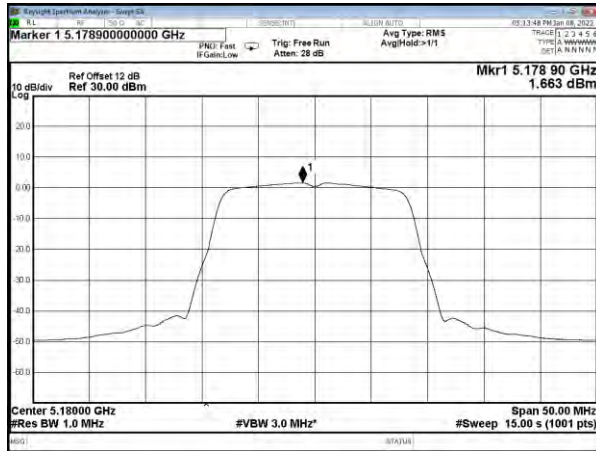
CH42



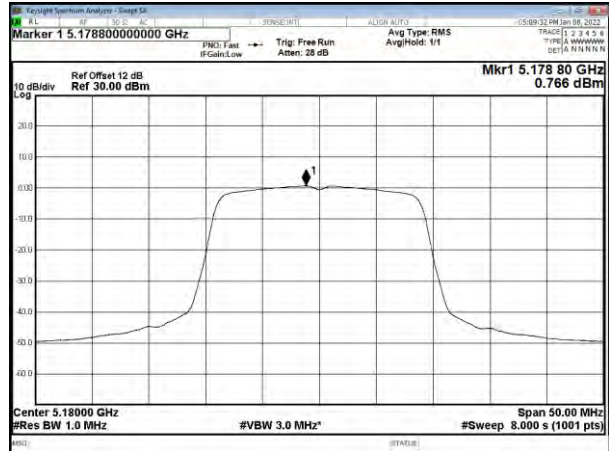


### SISO (ANT B)

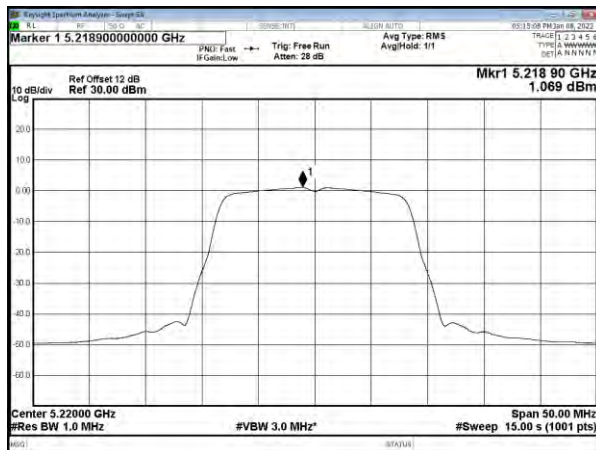
Modulation Standard: 802.11a (6Mbps)  
CH36



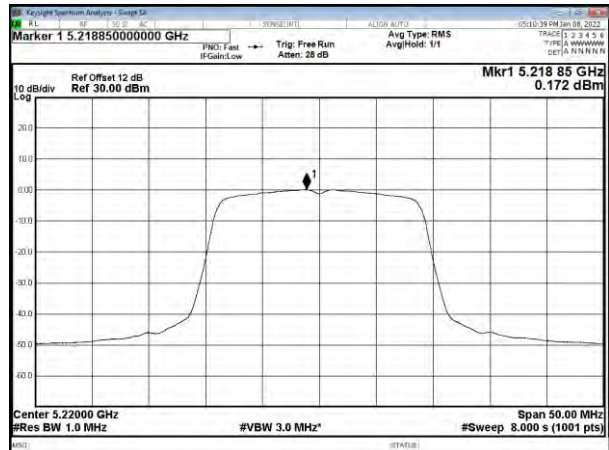
Modulation Standard: 802.11ac VHT20 (6.5Mbps)  
CH36



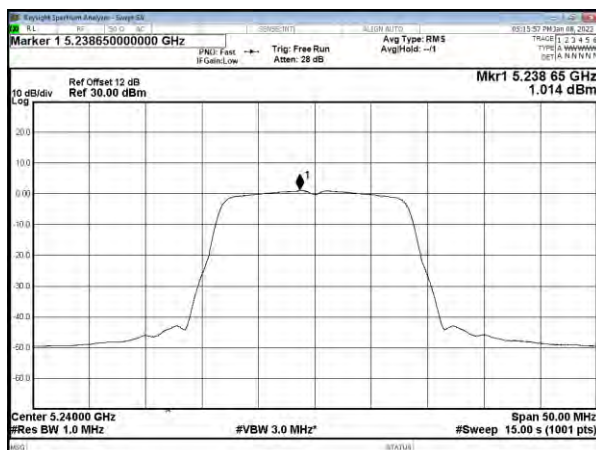
### CH44



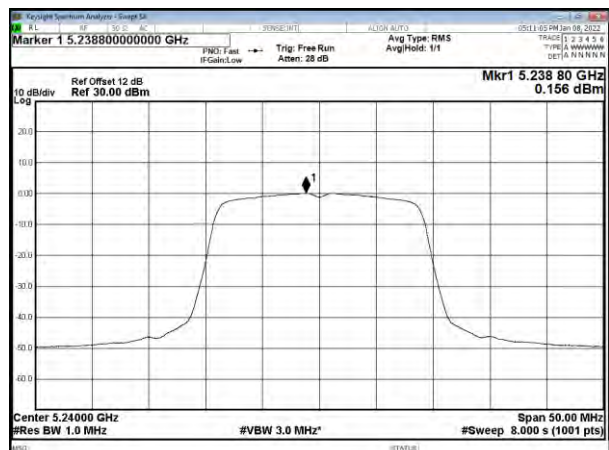
### CH44



### CH48



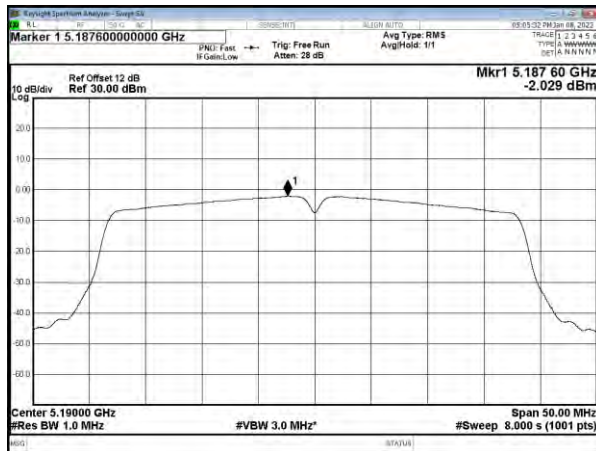
### CH48





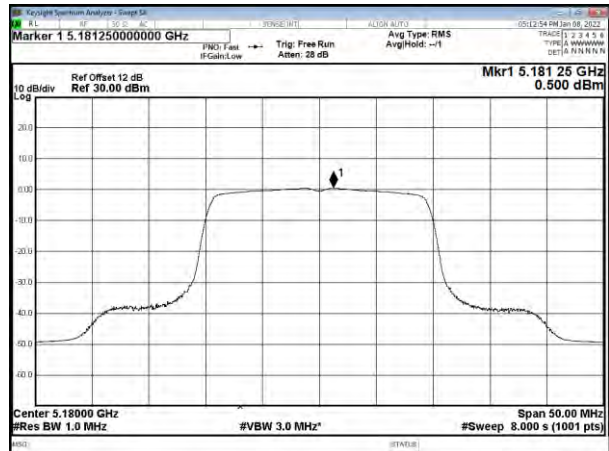
Modulation Standard: 802.11ac VHT40 (13.5Mbps)

CH38

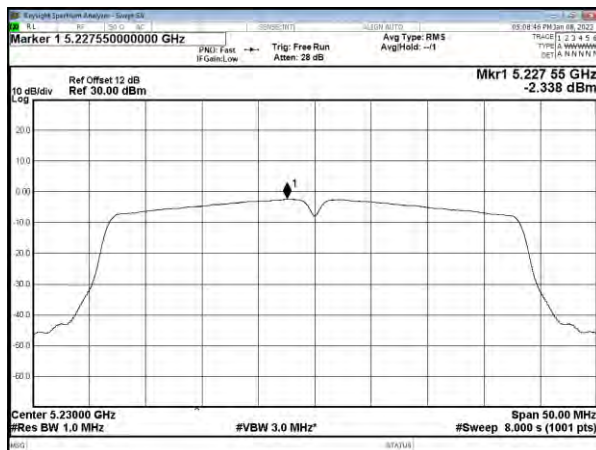


Modulation Standard: 802.11 ax HE20 (7.3Mbps)

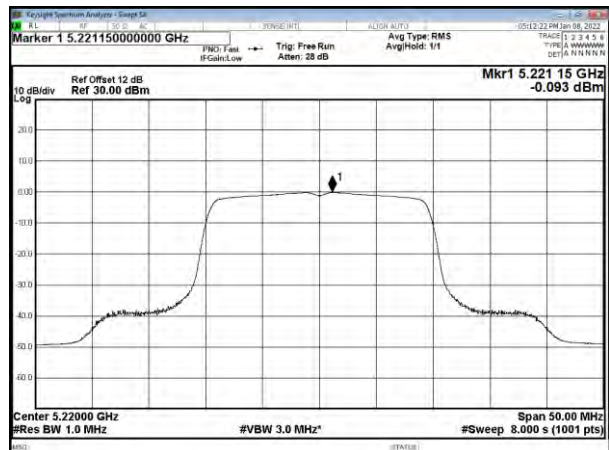
CH36



CH46

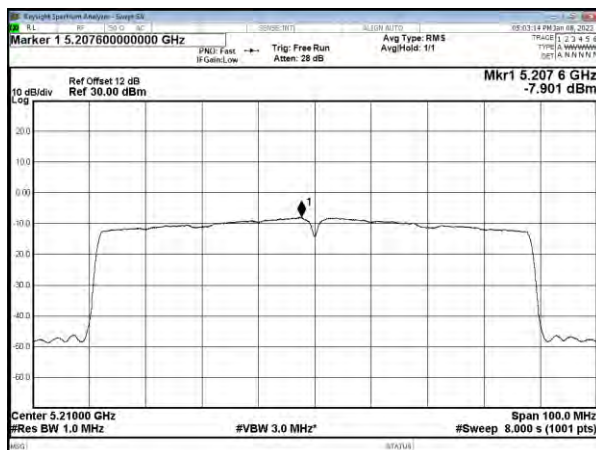


CH44

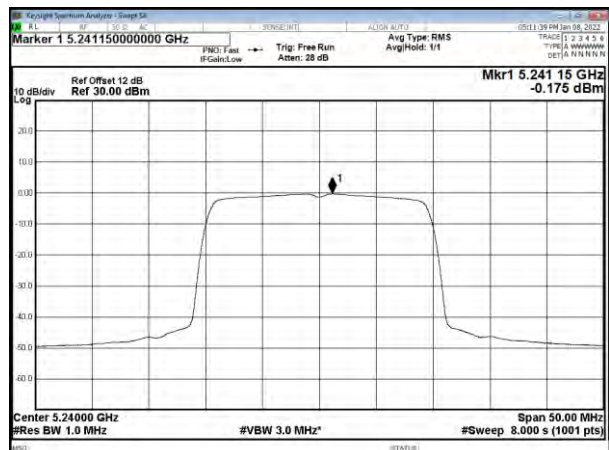


Modulation Standard: 802.11ac VHT80 (29.3Mbps)

CH42



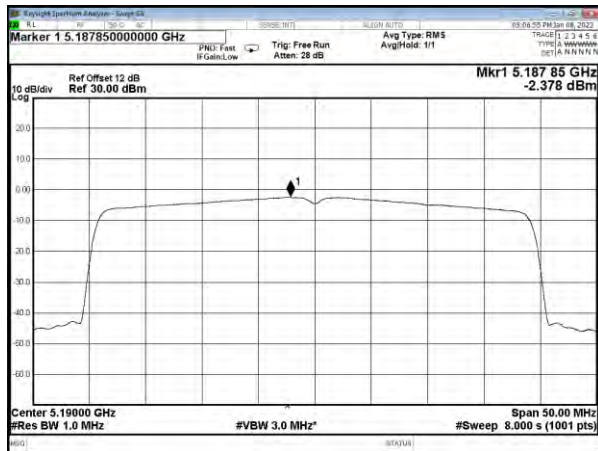
CH48



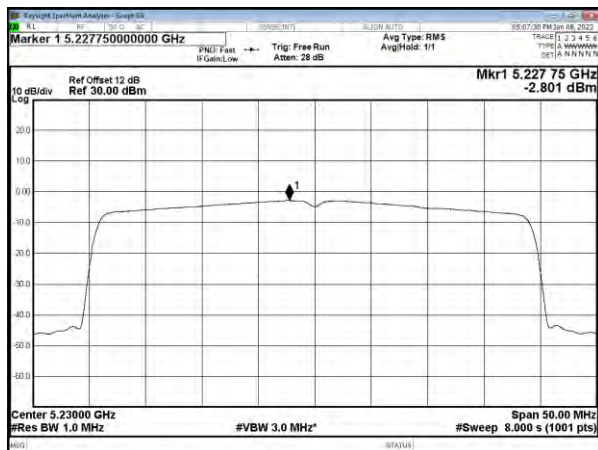


Modulation Standard: 802.11 ax HE40 (14.6Mbps)

CH38

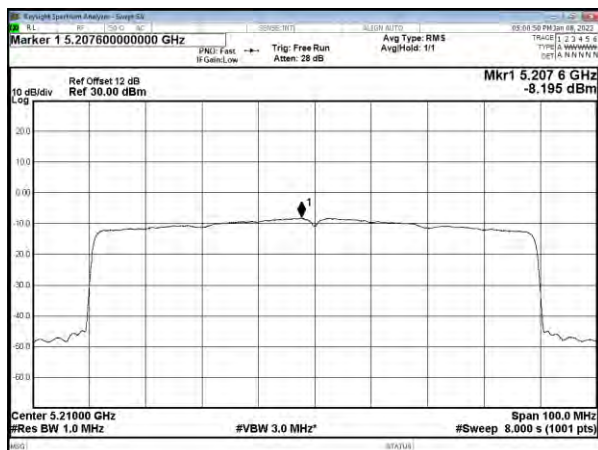


CH46



Modulation Standard: 802.11 ax HE80 (30.6Mbps)

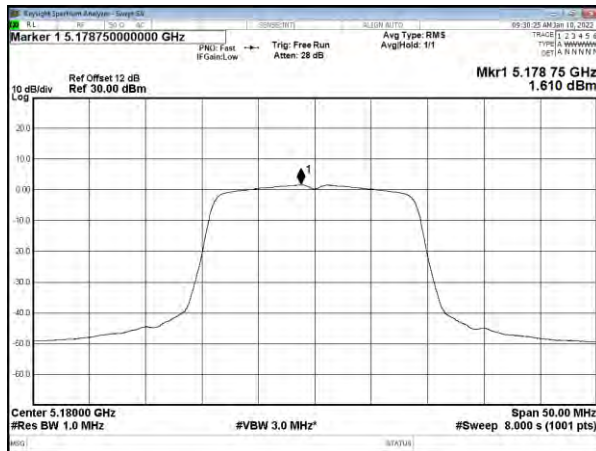
CH42



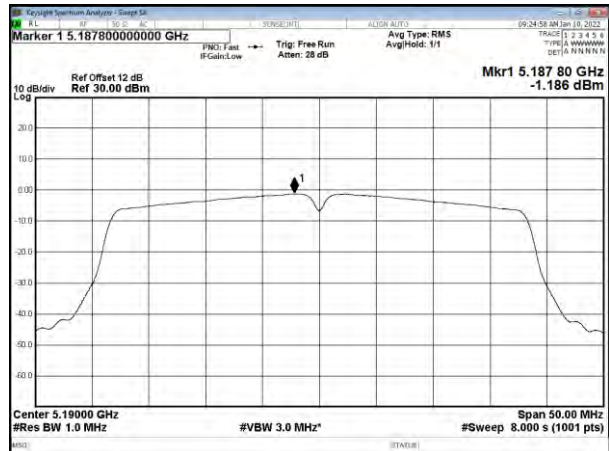


### MIMO (ANT A)

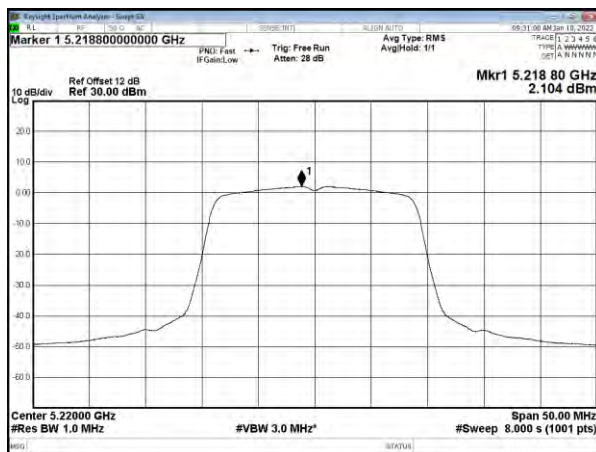
Modulation Standard: 802.11ac VHT20 (13Mbps)  
CH36



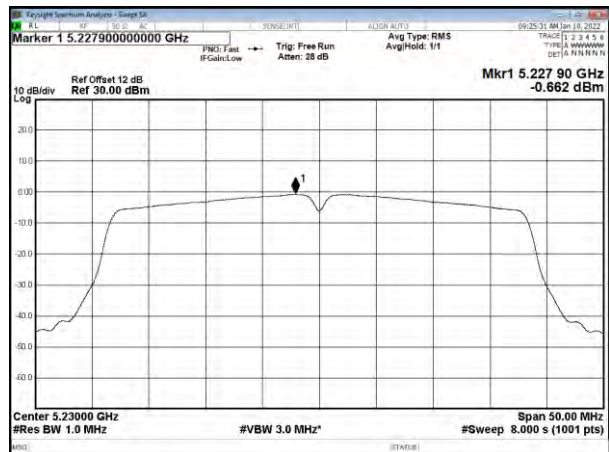
Modulation Standard: 802.11ac VHT40 (27Mbps)  
CH38



CH44

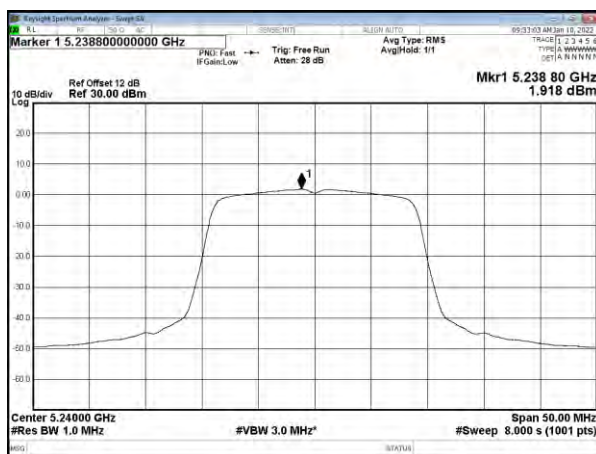


CH46

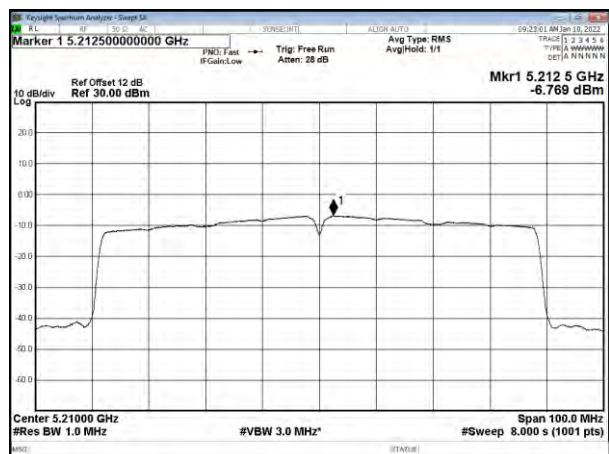


Modulation Standard: 802.11ac VHT80 (58.5Mbps)

CH48



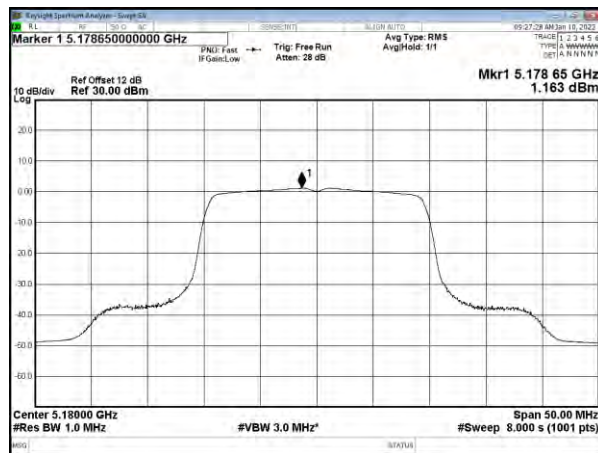
CH42





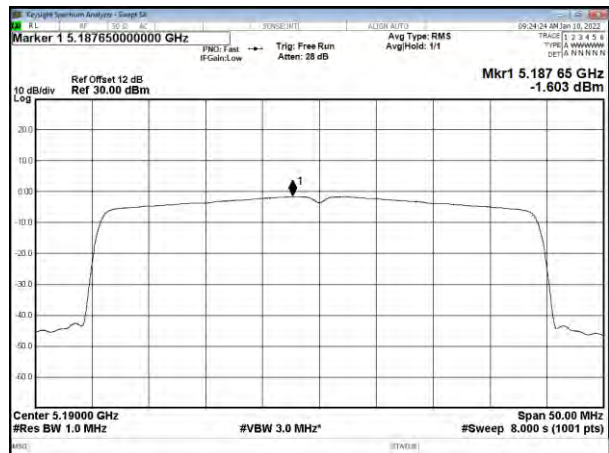
Modulation Standard: 802.11 ax HE20 (7.3Mbps)

CH36

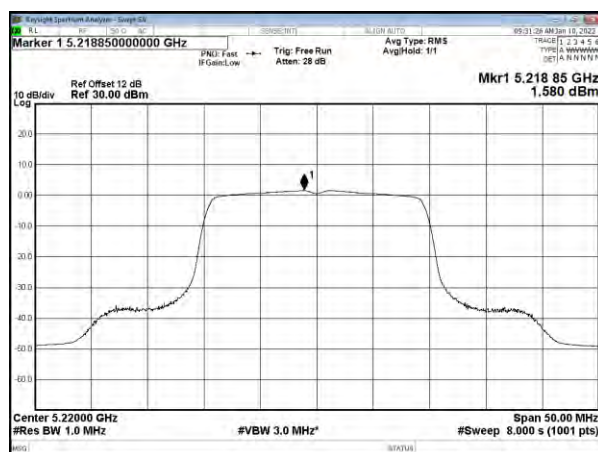


Modulation Standard: 802.11 ax HE40 (14.6Mbps)

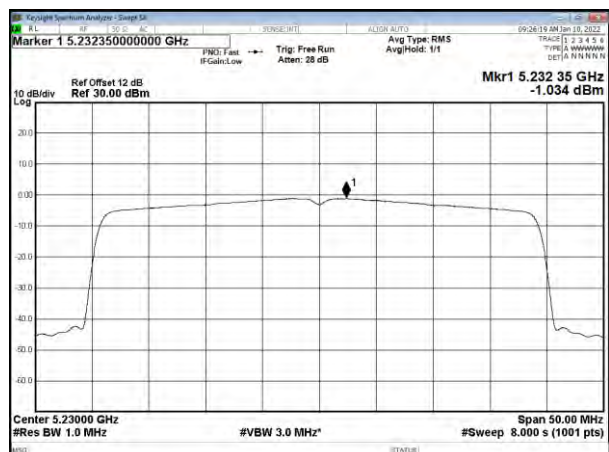
CH38



CH44

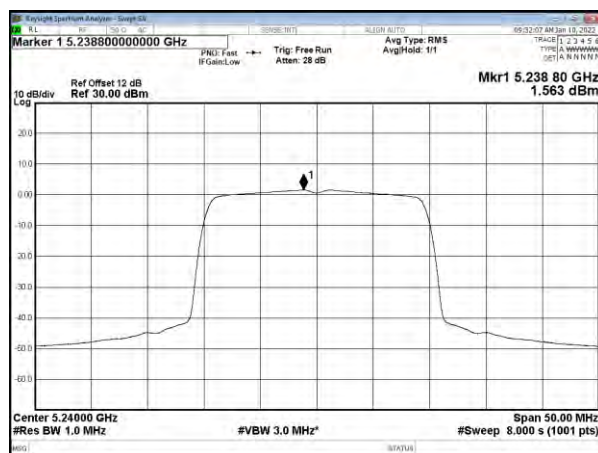


CH46

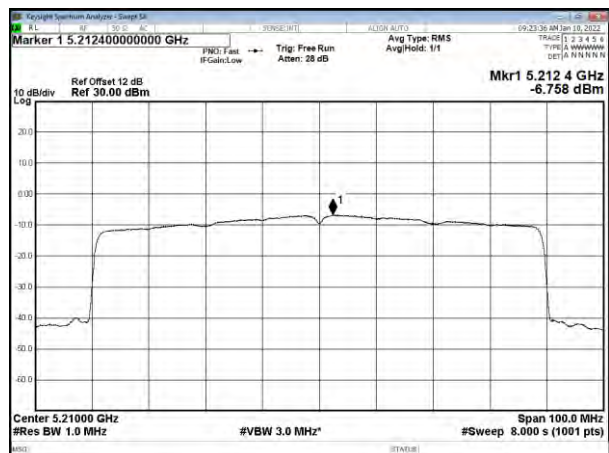


Modulation Standard: 802.11 ax HE80 (30.6Mbps)

CH48



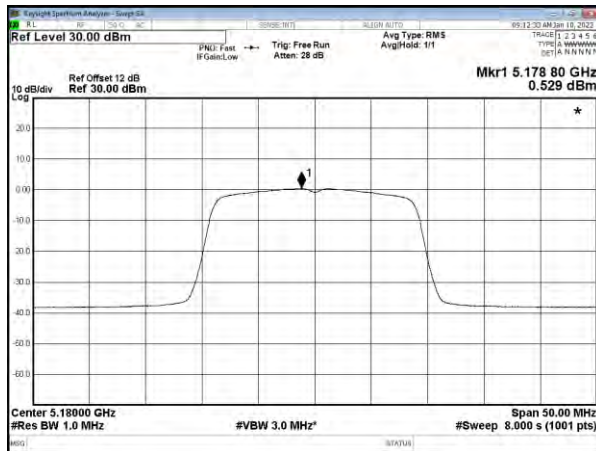
CH42



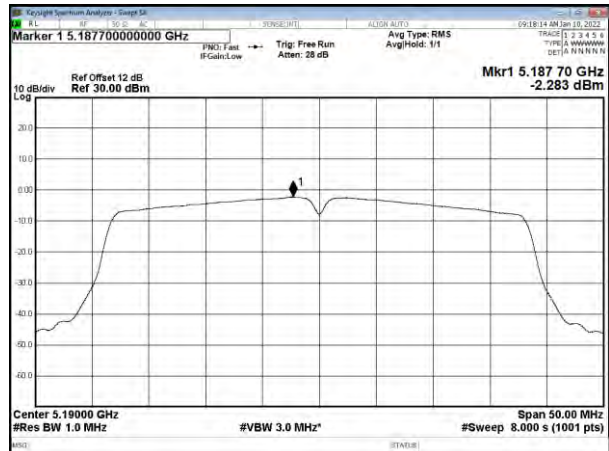


### MIMO (ANT B)

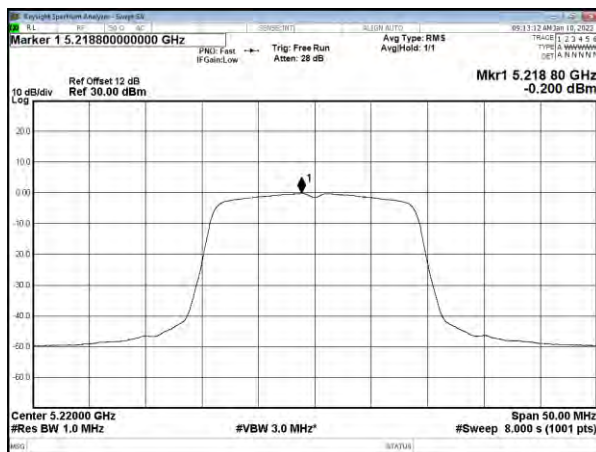
Modulation Standard: 802.11ac VHT20 (13Mbps)  
CH38



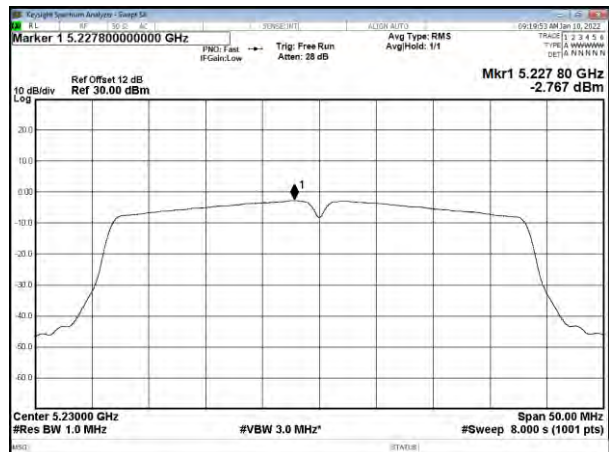
Modulation Standard: 802.11ac VHT40 (27Mbps)  
CH38



CH44

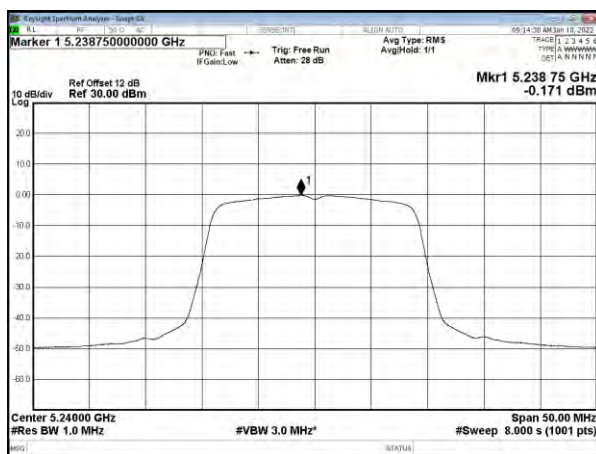


CH46

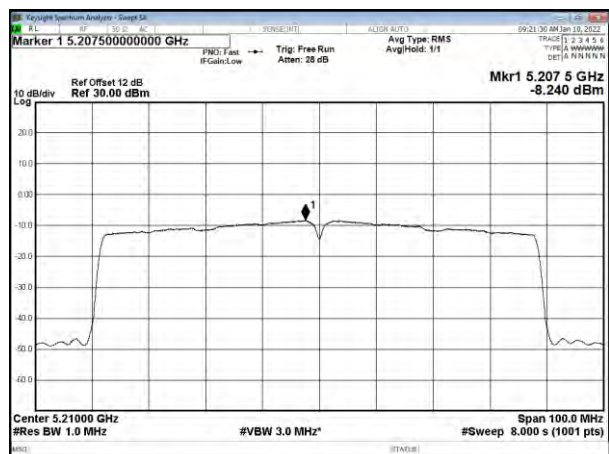


Modulation Standard: 802.11ac VHT80 (58.5Mbps)

CH48



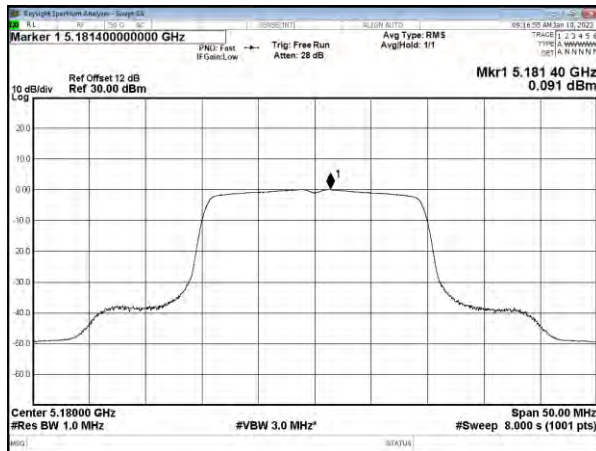
CH42





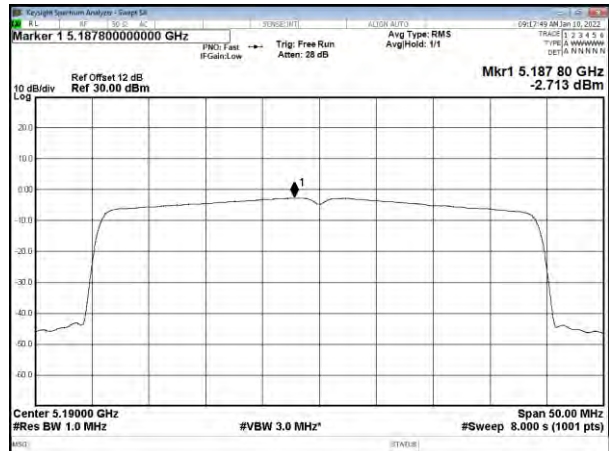
Modulation Standard: 802.11 ax HE20 (7.3Mbps)

CH36

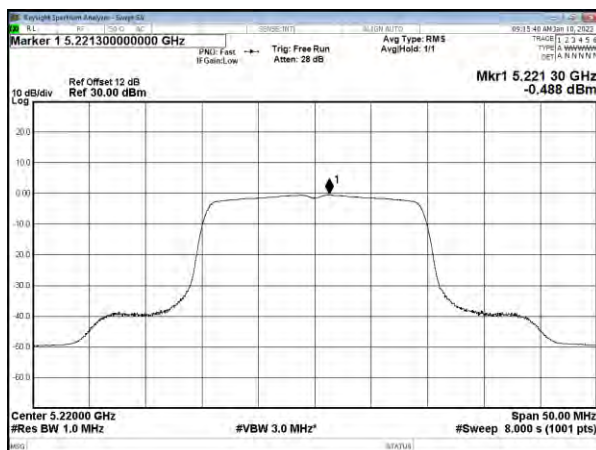


Modulation Standard: 802.11 ax HE40 (14.6Mbps)

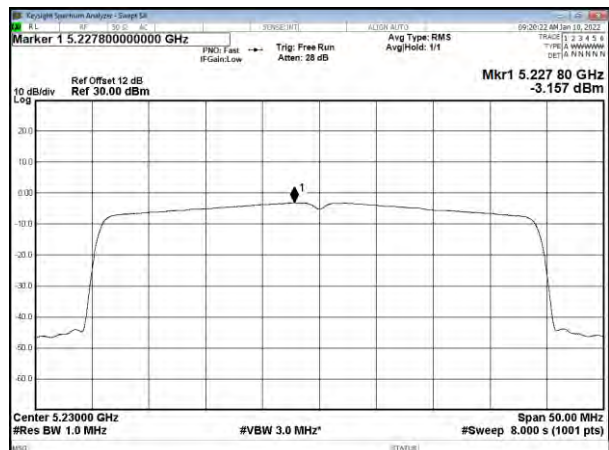
CH38



CH44

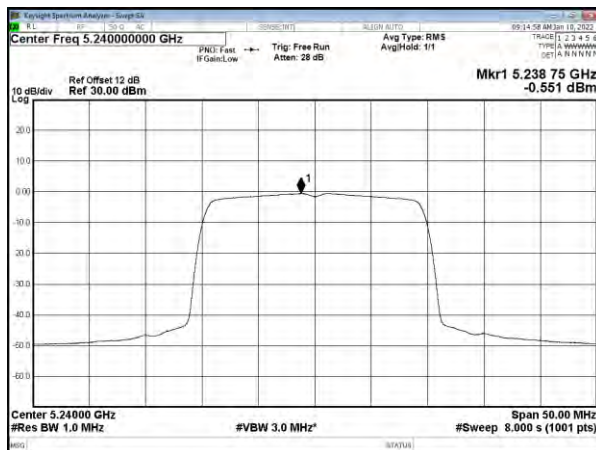


CH46

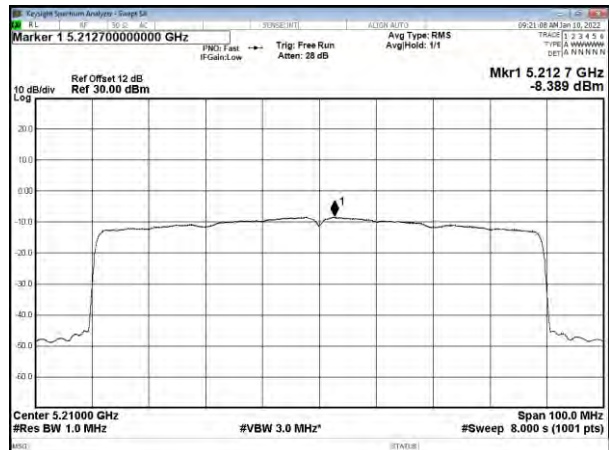


Modulation Standard: 802.11 ax HE80 (30.6Mbps)

CH48



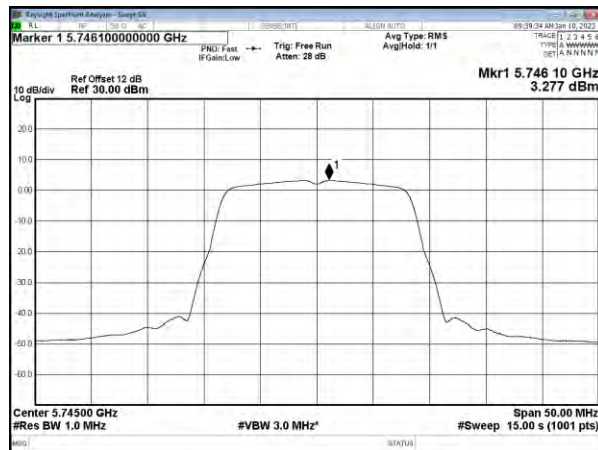
CH42



**5.8G, UNII-3  
SISO (ANT A)**

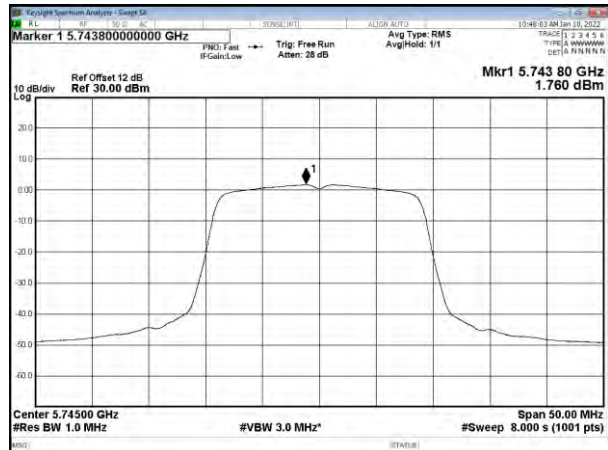
Modulation Standard: 802.11a (6Mbps)

CH149

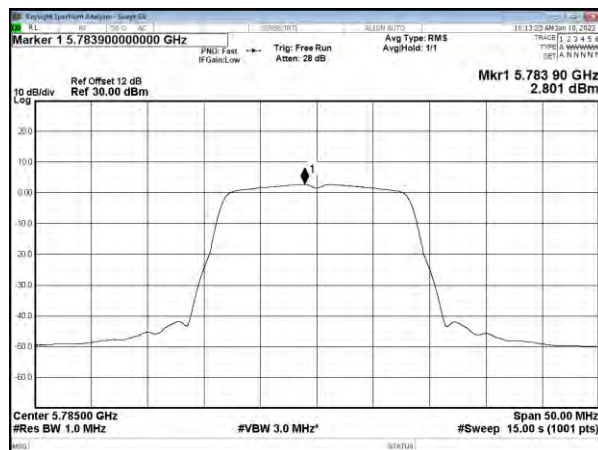


Modulation Standard: 802.11ac VHT20 (6.5Mbps)

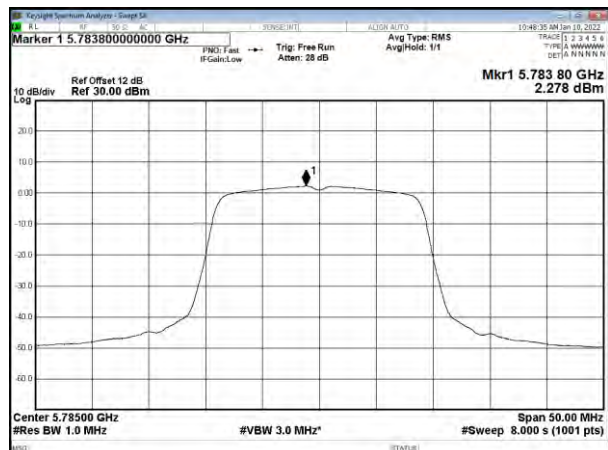
CH149



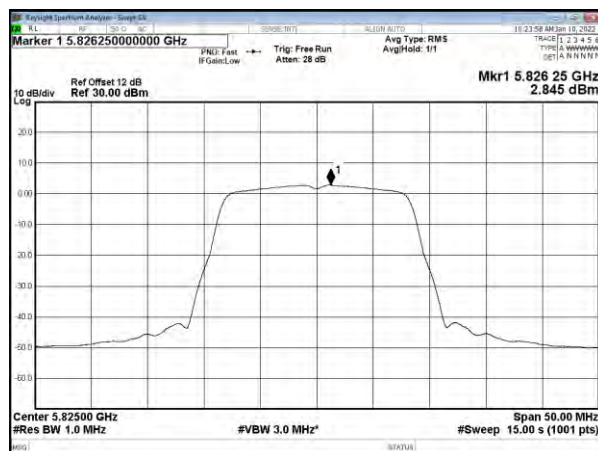
CH157



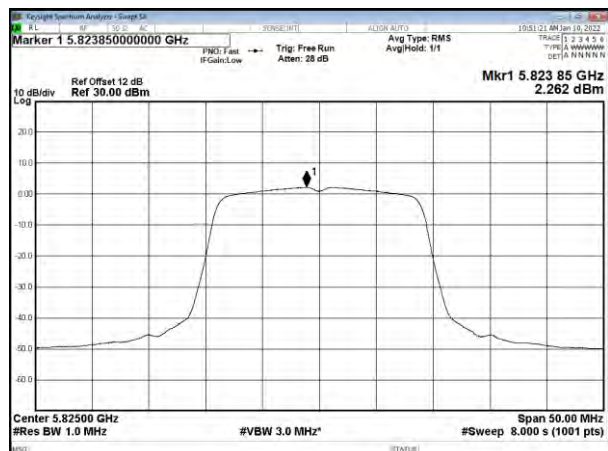
CH157



CH165



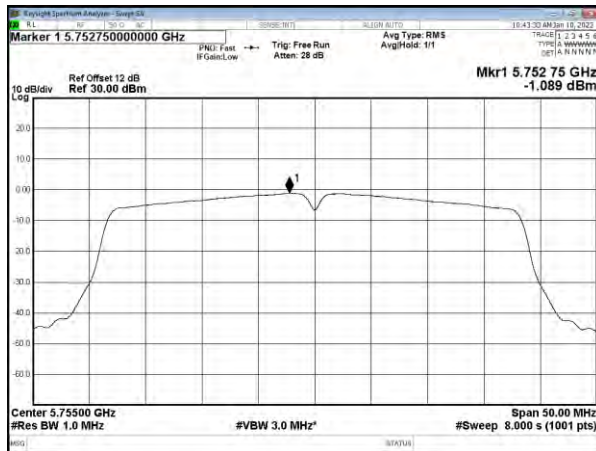
CH165





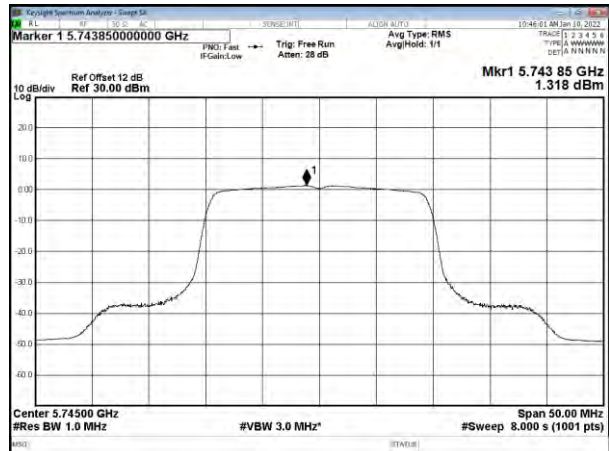
Modulation Standard: 802.11ac VHT40 (13.5Mbps)

CH151

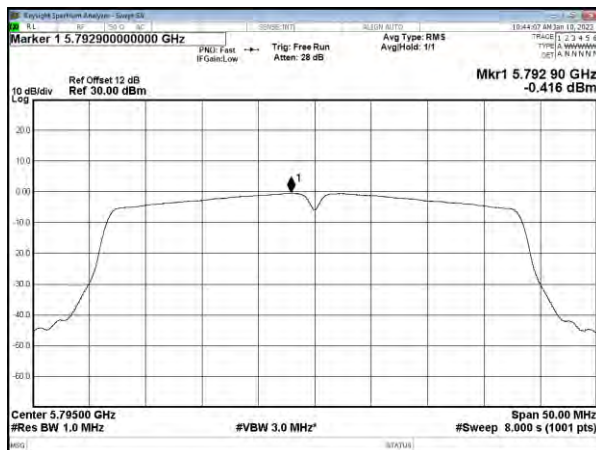


Modulation Type: 802.1111ax HE20 (7.3Mbps)

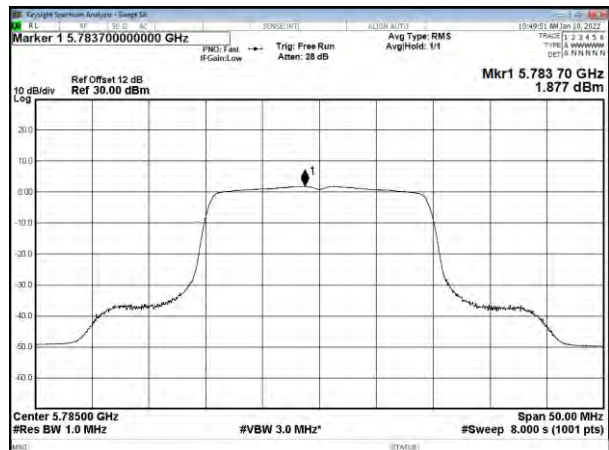
CH149



CH159

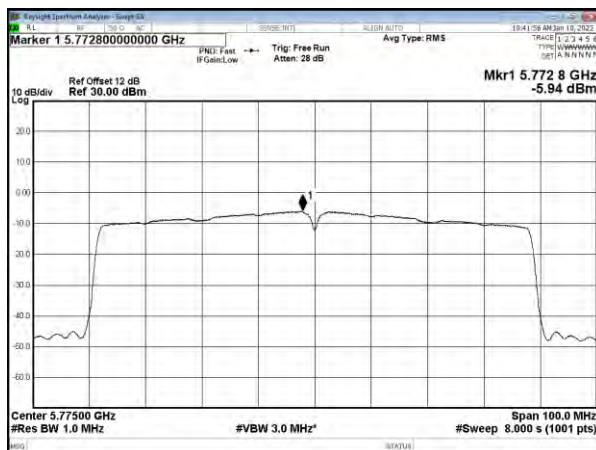


CH157

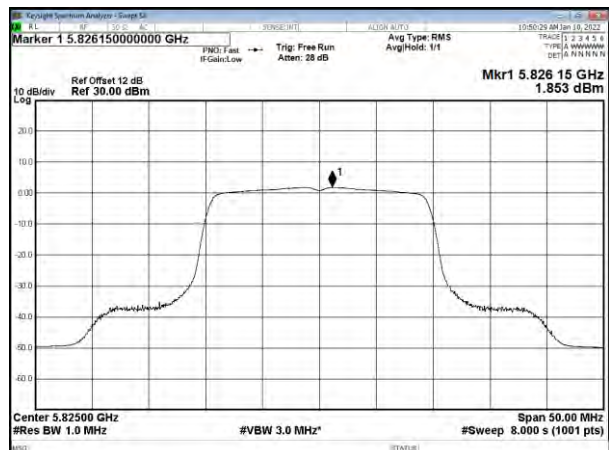


Modulation Standard: 802.11ac VHT80 (29.3Mbps)

CH155



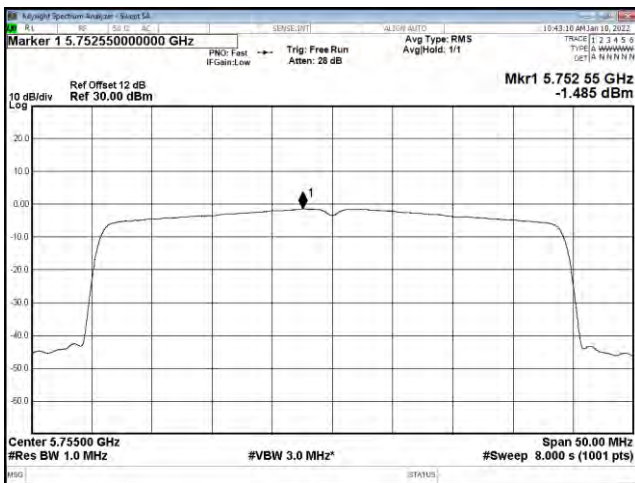
CH165



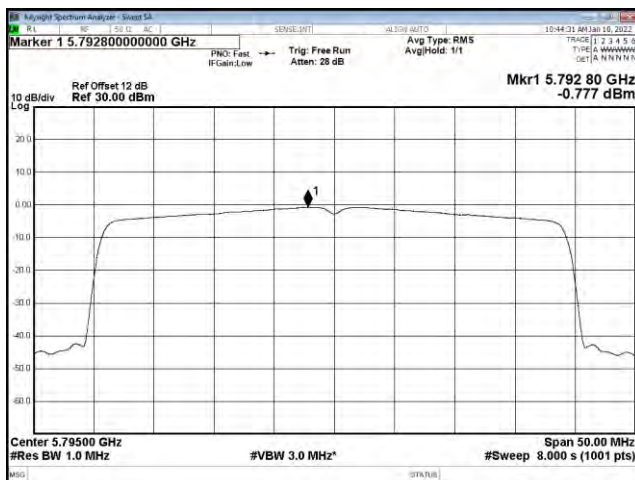


Modulation Type: 802.11 ax HE40 (14.6Mbps)

CH151

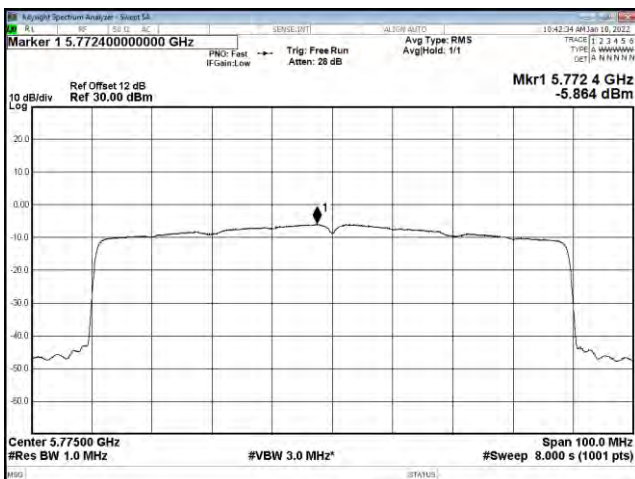


CH159



Modulation Type: 802.11ax HE80 (30.6Mbps)

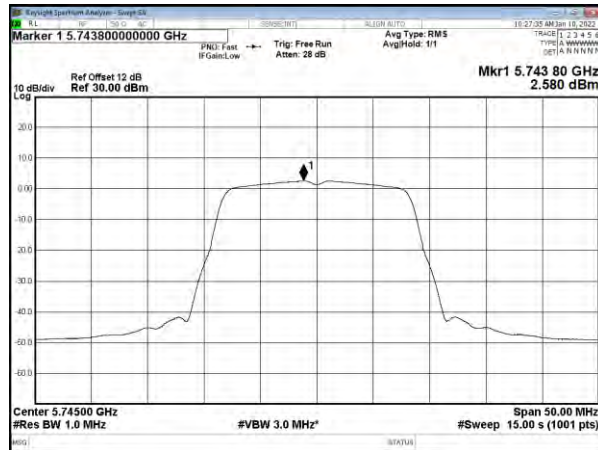
CH155



**SISO (ANT B)**

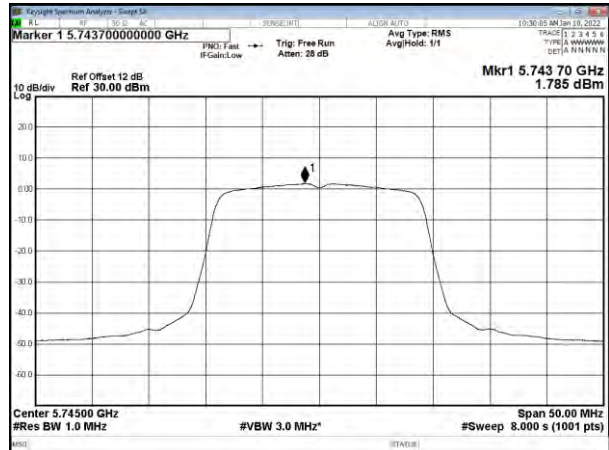
Modulation Standard: 802.11a (6Mbps)

CH149

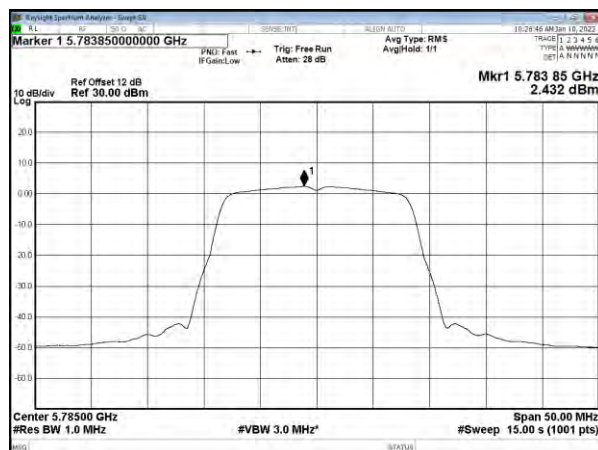


Modulation Standard: 802.11ac VHT20 (6.5Mbps)

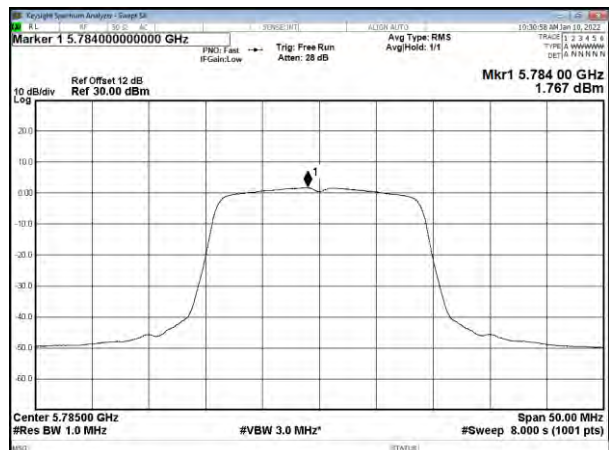
CH149



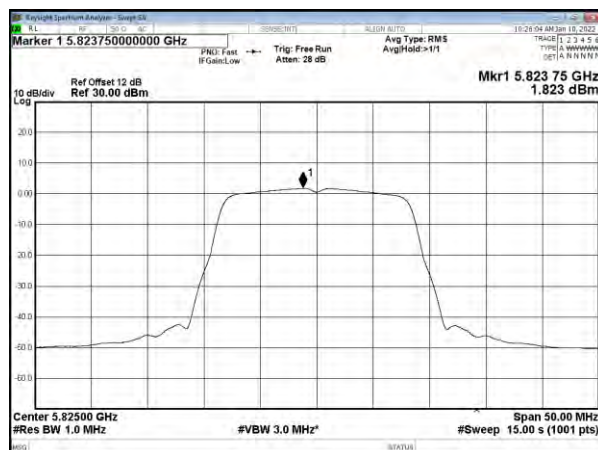
CH157



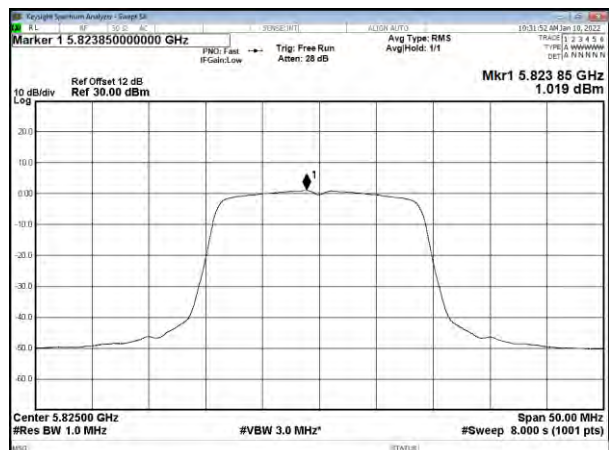
CH157



CH165



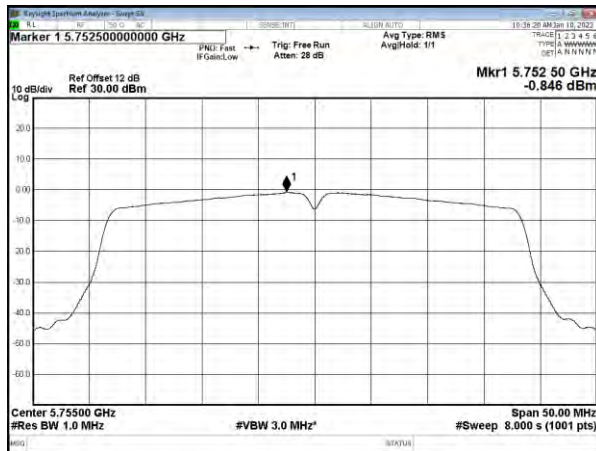
CH165





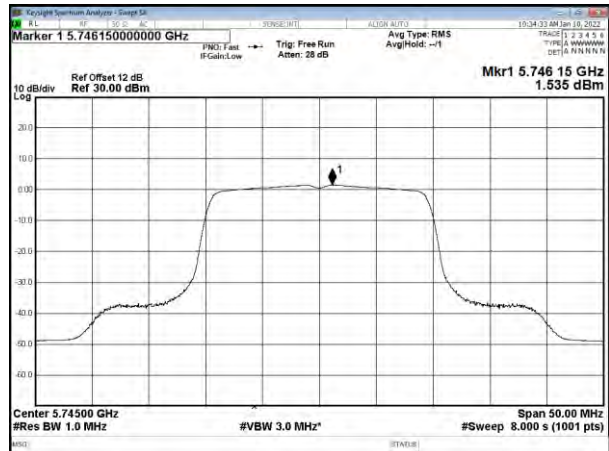
Modulation Standard: 802.11ac VHT40 (13.5Mbps)

CH151

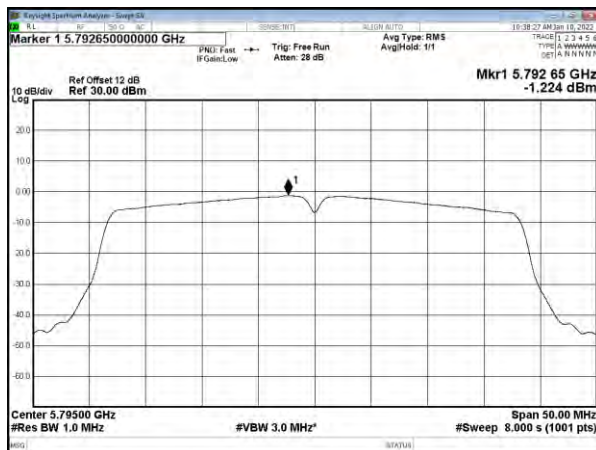


Modulation Type: 802.1111ax HE20 (7.3Mbps)

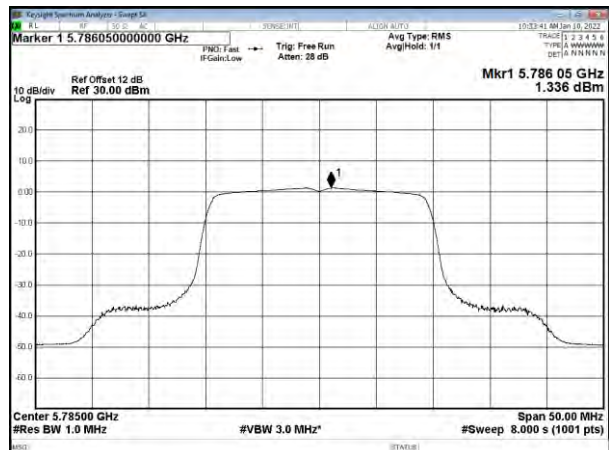
CH149



CH159

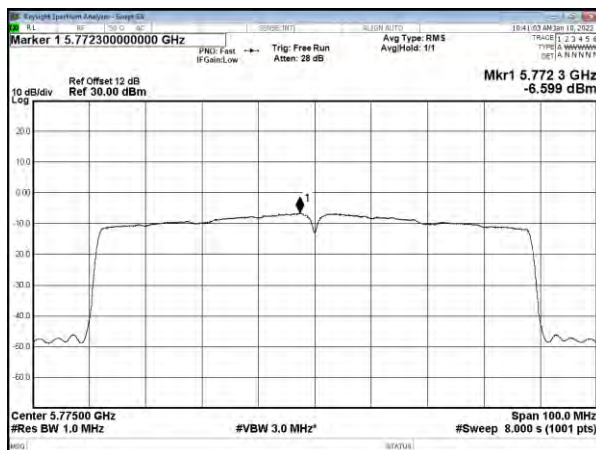


CH157

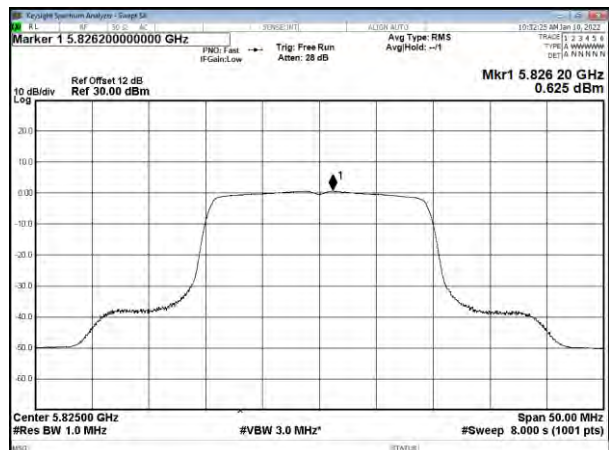


Modulation Standard: 802.11ac VHT80 (29.3Mbps)

CH155



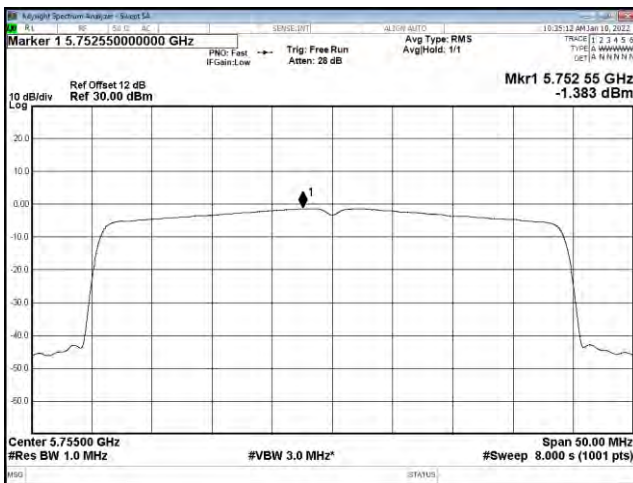
CH165



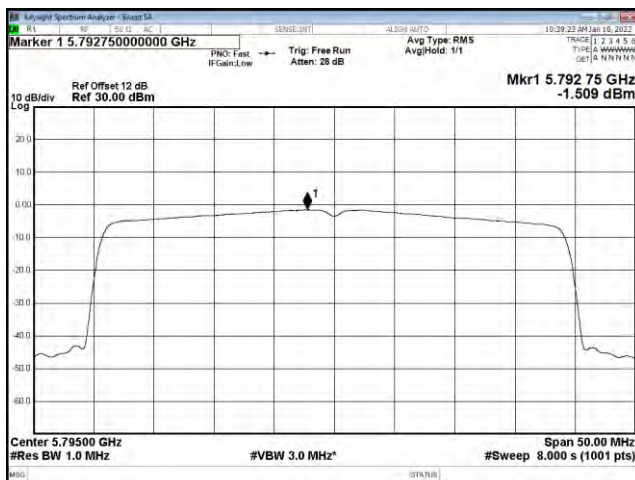


Modulation Type: 802.11 ax HE40 (14.6Mbps)

CH151

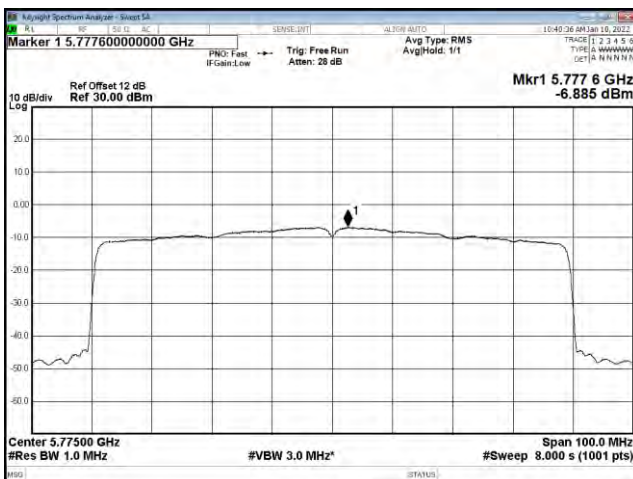


CH159



Modulation Type: 802.11ax HE80 (30.6Mbps)

CH155

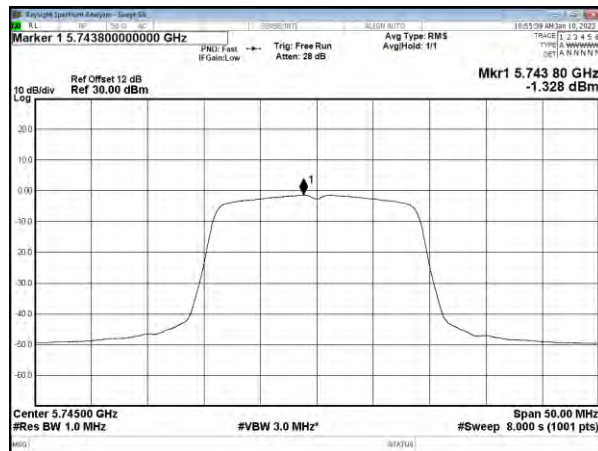




## MIMO (ANT A)

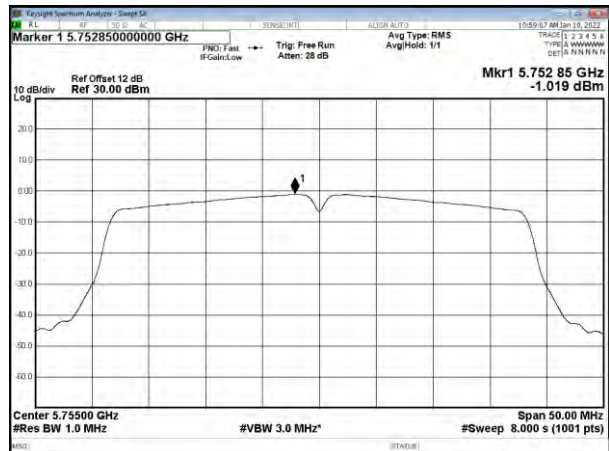
Modulation Standard: 802.11ac VHT20 (13Mbps)

CH149

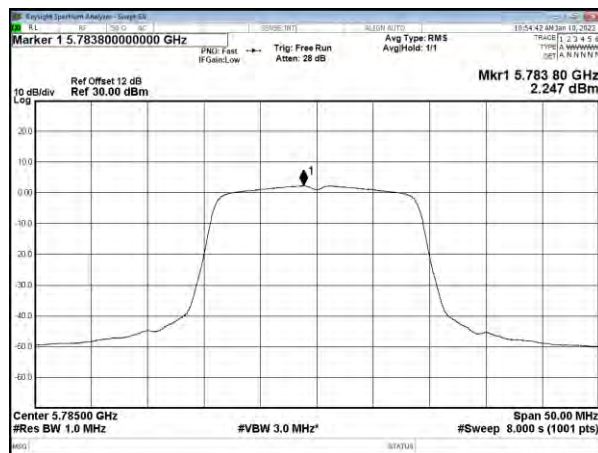


Modulation Standard: 802.11ac VHT40 (27Mbps)

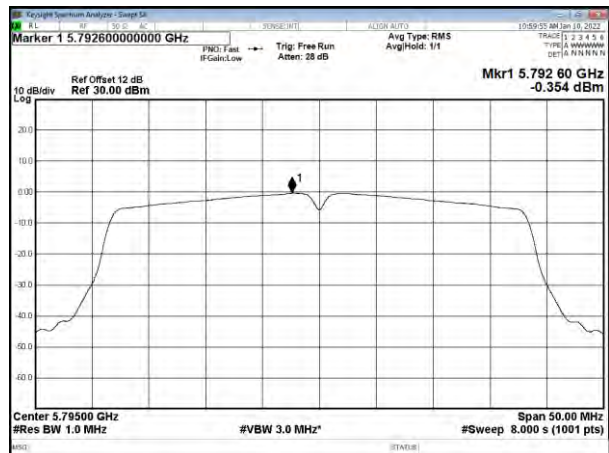
CH151



CH157

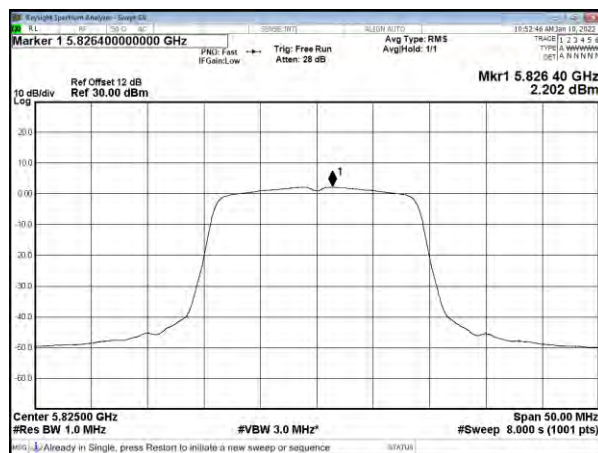


CH159

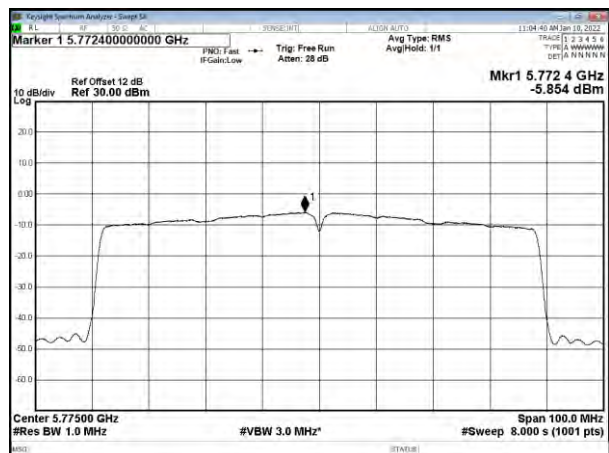


Modulation Standard: 802.11ac VHT80 (58.5Mbps)

CH165



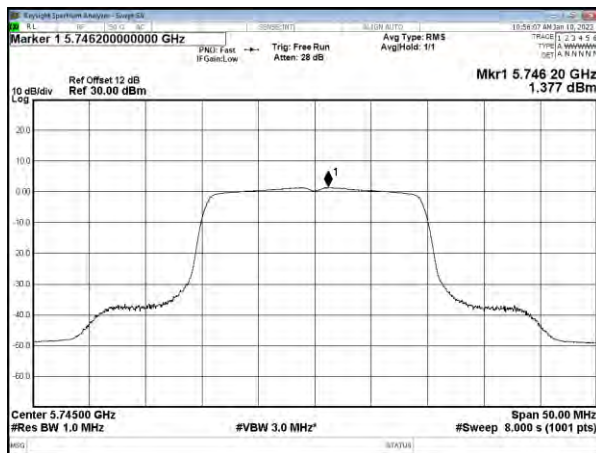
CH155





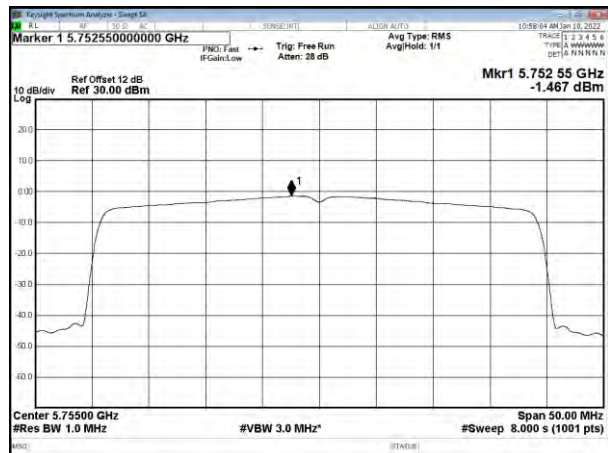
Modulation Type: 802.11ax HE20 (7.3Mbps)

CH149

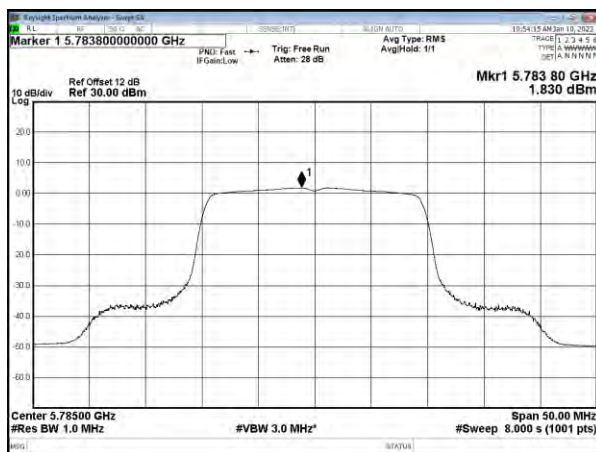


Modulation Type: 802.11 ax HE40 (14.6Mbps)

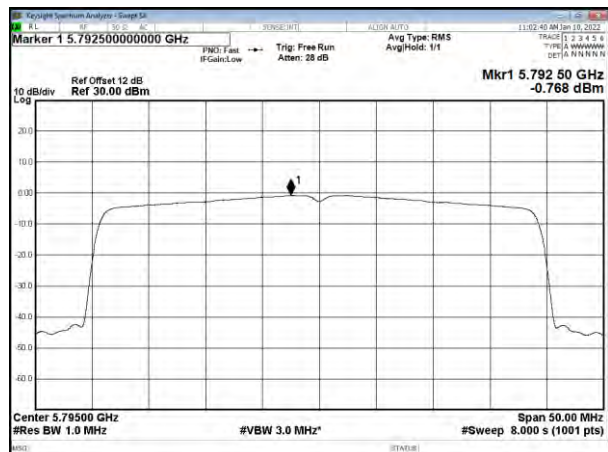
CH151



CH157

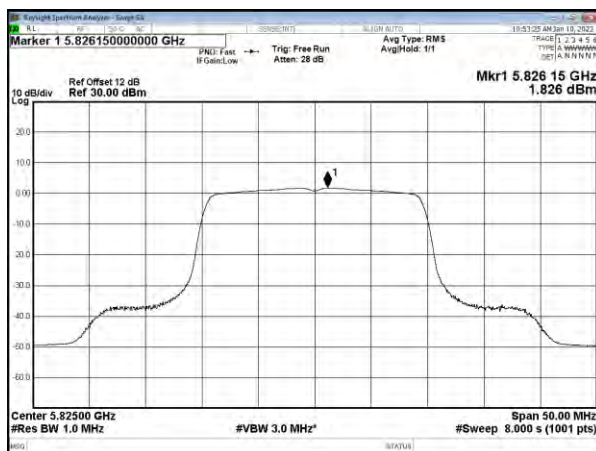


CH159

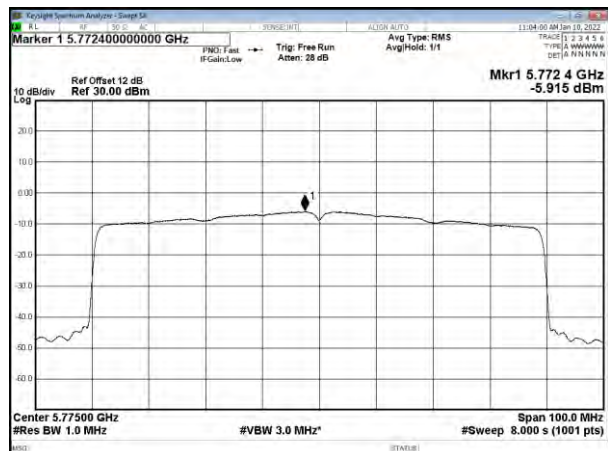


Modulation Type: 802.11ax HE80 (30.6Mbps)

CH165



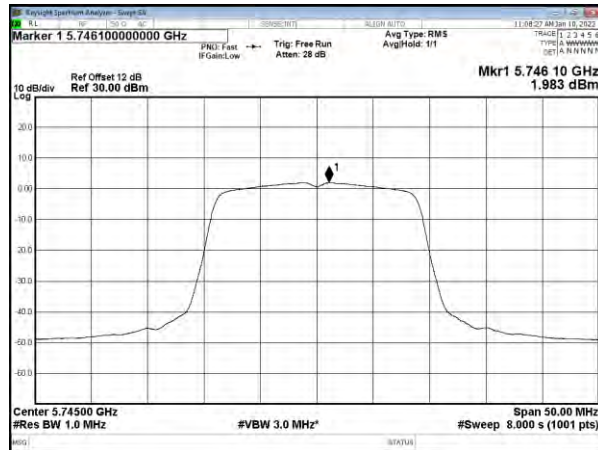
CH155



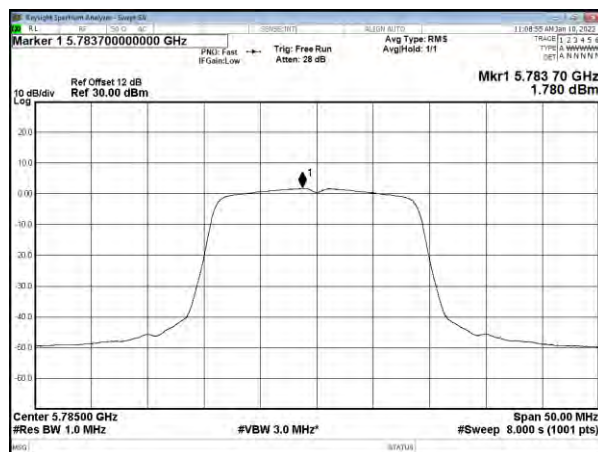
**MIMO (ANT B)**

Modulation Standard: 802.11ac VHT20 (13Mbps)

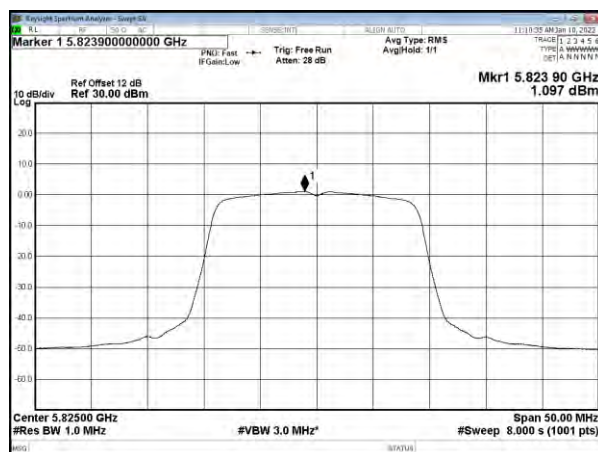
CH149



CH157

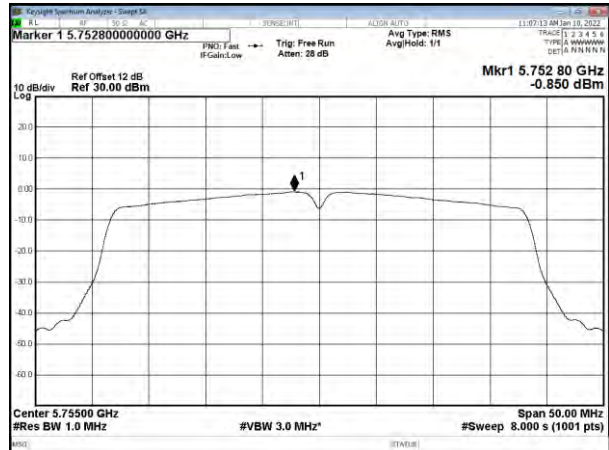


CH165

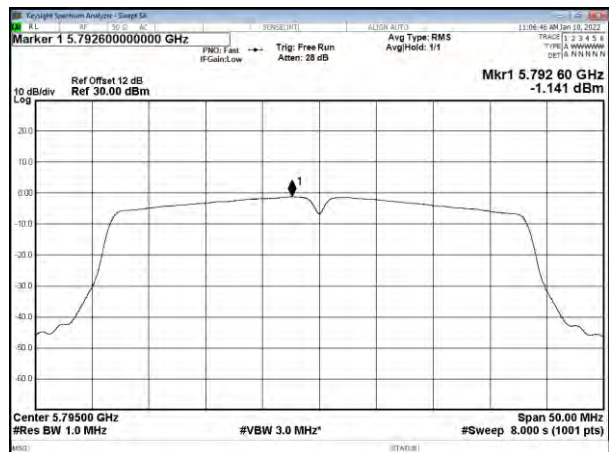


Modulation Standard: 802.11ac VHT40 (27Mbps)

CH151

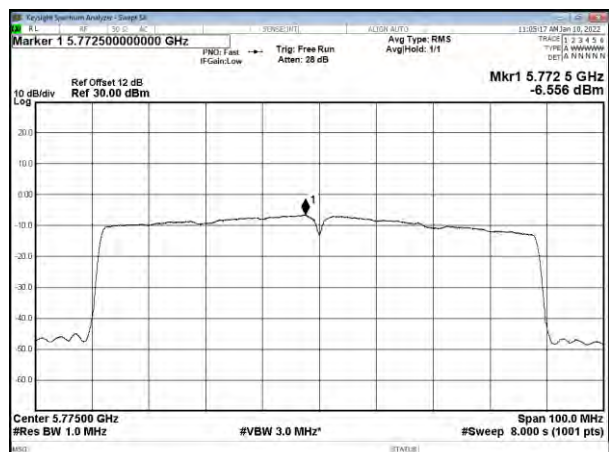


CH159



Modulation Standard: 802.11ac VHT80 (58.5Mbps)

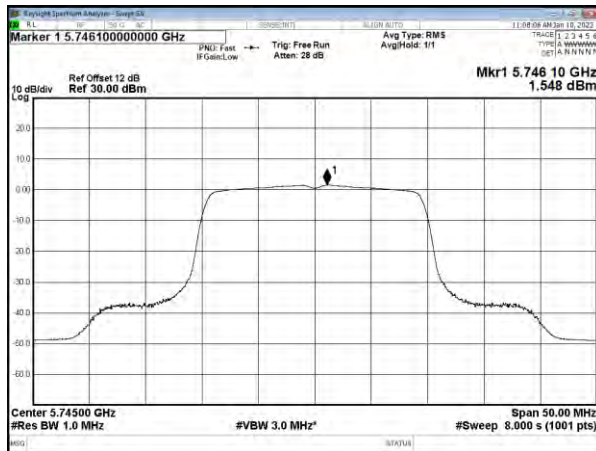
CH155





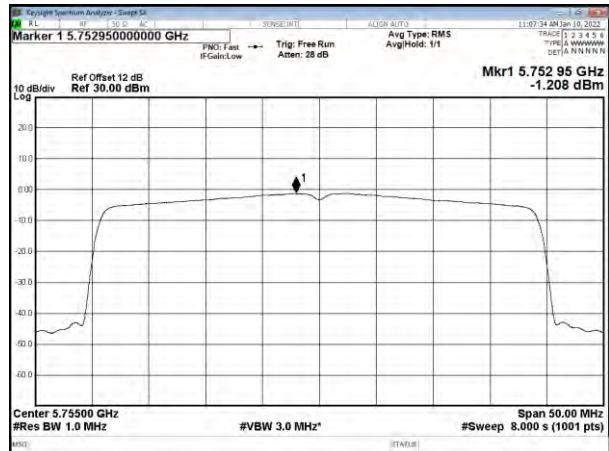
Modulation Type: 802.11ax HE20 (7.3Mbps)

CH149

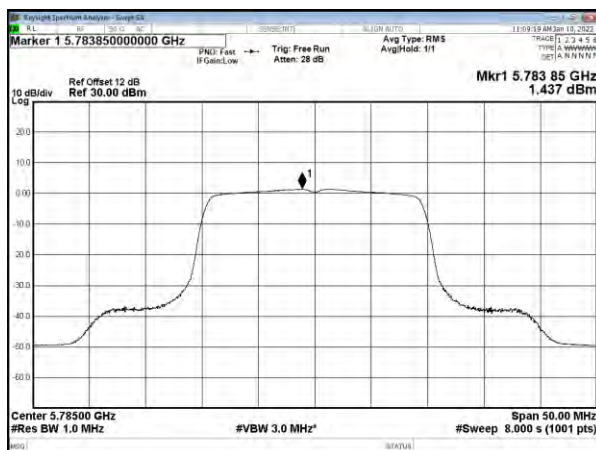


Modulation Type: 802.11 ax HE40 (14.6Mbps)

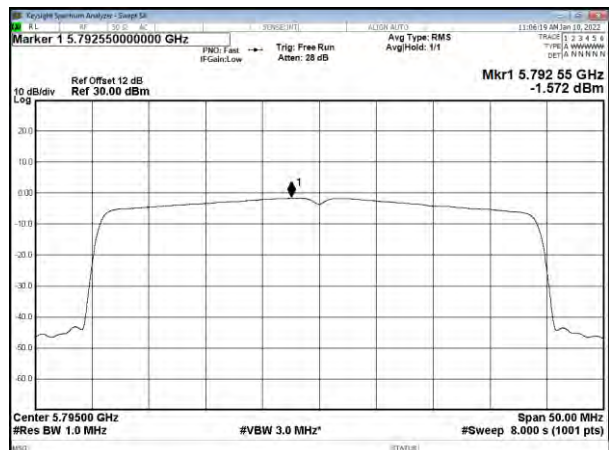
CH151



CH157

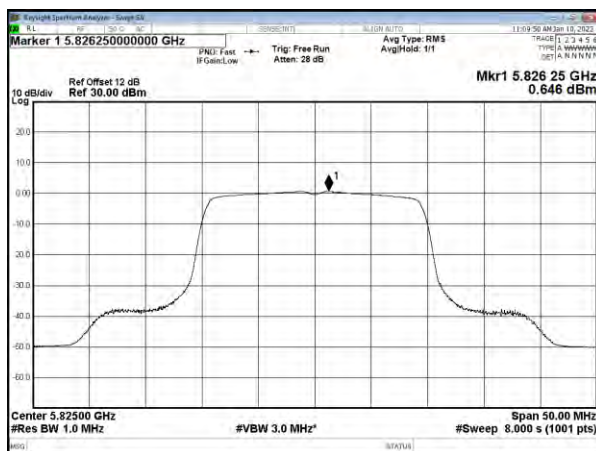


CH159

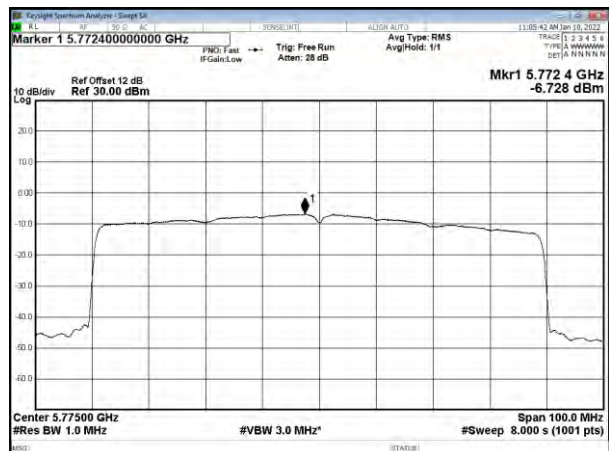


Modulation Type: 802.11ax HE80 (30.6Mbps)

CH165



CH155



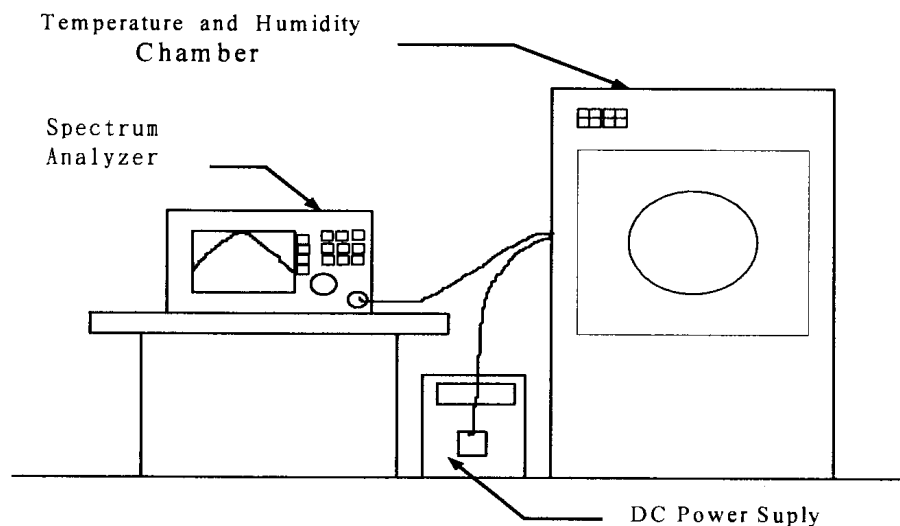


## 12. Frequency Stability

### 12.1. Test Procedure

1. The EUT was placed inside the Temperature and Humidity chamber.
2. The transmitter output was connected to spectrum analyzer.
3. Turn the EUT on and couple its output to a spectrum analyzer.
4. Turn the EUT off and set the chamber to the highest temperature specified.
5. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
6. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
7. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

### 12.2. Test Setup Layout



**12.3. Test Result and Data**

| Operating frequency: 5180 MHz |              |           |           |           |           |           |           |
|-------------------------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Temp                          | Power supply | 2 minute  |           | 5 minute  |           | 10 minute |           |
| (°C)                          | (V)          | (MHz)     | (%)       | (MHz)     | (%)       | (MHz)     | (%)       |
| 45                            | 13.8         | 5179.9802 | -0.000382 | 5179.9792 | -0.000402 | 5179.9772 | -0.000440 |
|                               | 12           | 5179.9811 | -0.000365 | 5179.9805 | -0.000376 | 5179.9791 | -0.000403 |
|                               | 10.2         | 5179.9817 | -0.000353 | 5179.9812 | -0.000363 | 5179.9805 | -0.000376 |
| 30                            | 13.8         | 5179.9799 | -0.000388 | 5179.9803 | -0.000380 | 5179.9784 | -0.000417 |
|                               | 12           | 5179.9808 | -0.000371 | 5179.9819 | -0.000349 | 5179.9816 | -0.000355 |
|                               | 10.2         | 5179.9778 | -0.000429 | 5179.9831 | -0.000326 | 5179.9765 | -0.000454 |
| 20                            | 13.8         | 5179.9842 | -0.000305 | 5179.9815 | -0.000357 | 5179.9813 | -0.000361 |
|                               | 12           | 5179.9765 | -0.000454 | 5179.9788 | -0.000409 | 5179.9802 | -0.000382 |
|                               | 10.2         | 5179.9784 | -0.000417 | 5179.9796 | -0.000394 | 5179.9758 | -0.000467 |
| 10                            | 13.8         | 5179.9791 | -0.000403 | 5179.9778 | -0.000429 | 5179.9795 | -0.000396 |
|                               | 12           | 5179.9806 | -0.000375 | 5179.9795 | -0.000396 | 5179.9768 | -0.000448 |
|                               | 10.2         | 5179.9811 | -0.000365 | 5179.9804 | -0.000378 | 5179.9725 | -0.000531 |
| 0                             | 13.8         | 5179.9851 | -0.000288 | 5179.9845 | -0.000299 | 5179.9781 | -0.000423 |
|                               | 12           | 5179.9796 | -0.000394 | 5179.9817 | -0.000353 | 5179.9769 | -0.000446 |
|                               | 10.2         | 5179.9783 | -0.000419 | 5179.9769 | -0.000446 | 5179.9807 | -0.000373 |

Limit:

Manufacturers 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.

-----End of the report -----