

**6. -26 DB & 6DBM EMISSION BANDWIDTH**

|                   |                                      |
|-------------------|--------------------------------------|
| Test Requirement: | Part 15 Subpart C Section 15.407 (e) |
| Test Method:      | KDB 789033 D02 v02r01                |

**6.1 APPLIED PROCEDURES / LIMIT**

| FCC Part15.407 (e) |         |                |
|--------------------|---------|----------------|
| Bandwidth          |         |                |
| Limit              | U-NII-1 | N/A            |
|                    | U-NII-3 | $\geq 500$ kHz |

**6.2 TEST PROCEDURE**

Place the EUT on the table and set it in the transmitting mode.

Remove the antenna from the EUT and then connect a low-loss RF cable from the antenna port to the spectrum analyzer.

Set the spectrum analyzers RBW = approximately 1% of the emission bandwidth, VBW >RBW, Detector = Peak, Span>26dB bandwidth, and Sweep = auto ,Trace mode = max hold.

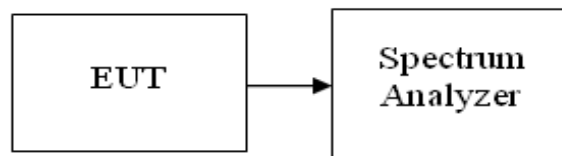
Measure the maximum width of the emission that is 26dB down from the maximum of the emission.

Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

Repeat until all the rest channels were investigated.

**6.3 DEVIATION FROM STANDARD**

No deviation.

**6.4 TEST SETUP****6.5 EUT OPERATION CONDITIONS**

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

**6.6 TEST RESULT**

|               |        |                     |       |
|---------------|--------|---------------------|-------|
| Temperature : | 26°C   | Relative Humidity : | 54%   |
| Pressure :    | 101kPa | Test Voltage :      | DC 5V |
| Test Mode :   | TX     |                     |       |

## U-NII-1

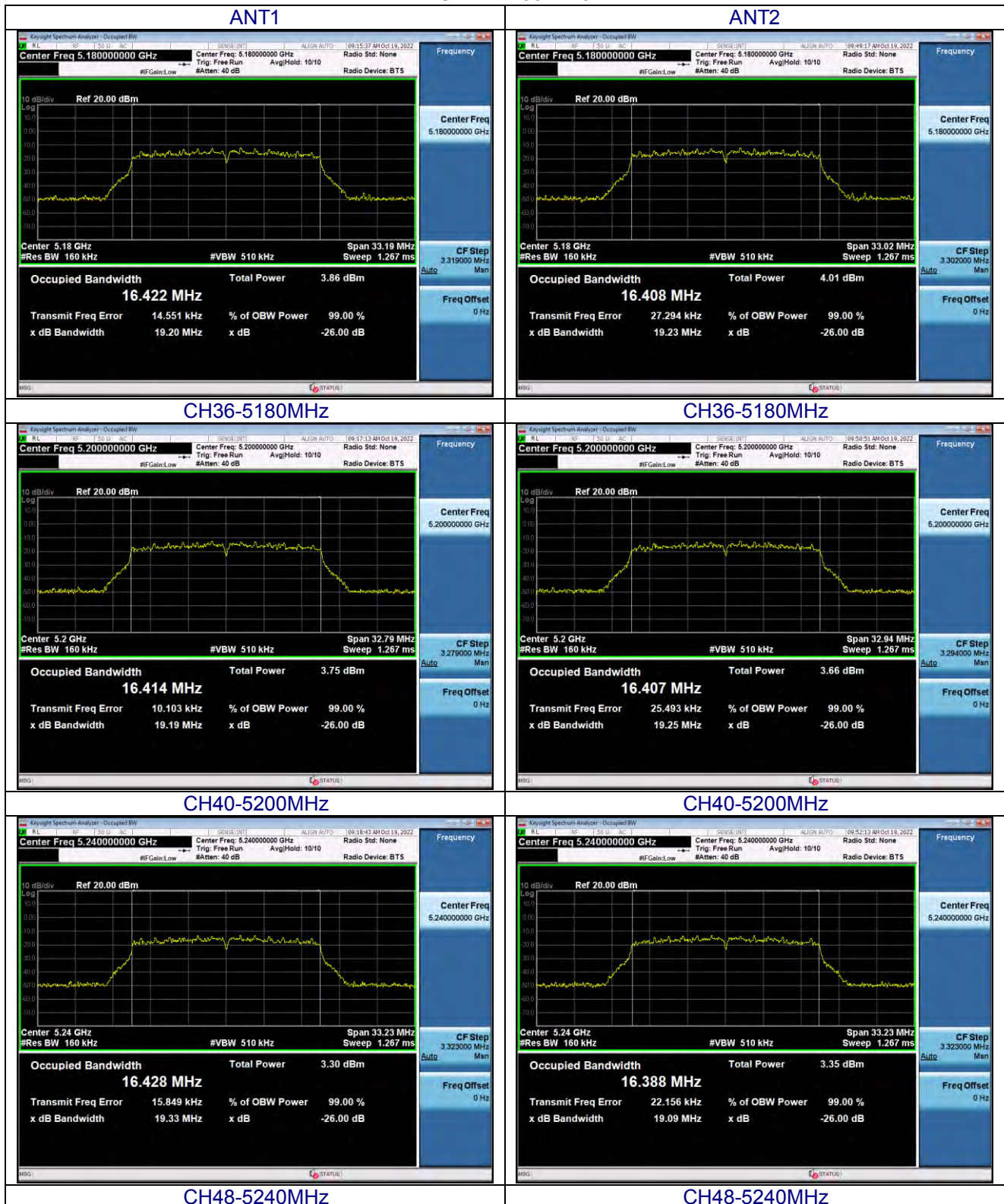
| 802.11 Mode | Channel No. | Frequency [MHz] | 26dB Bandwidth [MHz] |        |
|-------------|-------------|-----------------|----------------------|--------|
|             |             |                 | ANT1                 | ANT2   |
| a           | 36          | 5180            | 19.20                | 19.23  |
|             | 40          | 5200            | 19.19                | 19.25  |
|             | 48          | 5240            | 19.33                | 19.09  |
| n (20MHz)   | 36          | 5180            | 19.66                | 19.61  |
|             | 40          | 5200            | 19.75                | 19.59  |
|             | 48          | 5240            | 19.30                | 19.78  |
| n (40MHz)   | 38          | 5190            | 39.80                | 39.05  |
|             | 46          | 5230            | 39.38                | 39.16  |
| ac (20MHz)  | 36          | 5180            | 20.16                | 19.96  |
|             | 40          | 5200            | 19.94                | 19.89  |
|             | 48          | 5240            | 20.22                | 20.02  |
| ac(40MHz)   | 38          | 5190            | 40.12                | 40.78  |
|             | 46          | 5230            | 40.13                | 40.26  |
| ac(80MHz)   | 42          | 5210            | 130.38               | 122.23 |
| ax (20MHz)  | 36          | 5180            | 22.89                | 21.50  |
|             | 40          | 5200            | 22.36                | 24.14  |
|             | 48          | 5240            | 21.89                | 22.20  |
| ax(40MHz)   | 38          | 5190            | 39.82                | 39.43  |
|             | 46          | 5230            | 39.69                | 39.60  |
| ax(80MHz)   | 42          | 5210            | 108.97               | 79.92  |

## U-NII-3

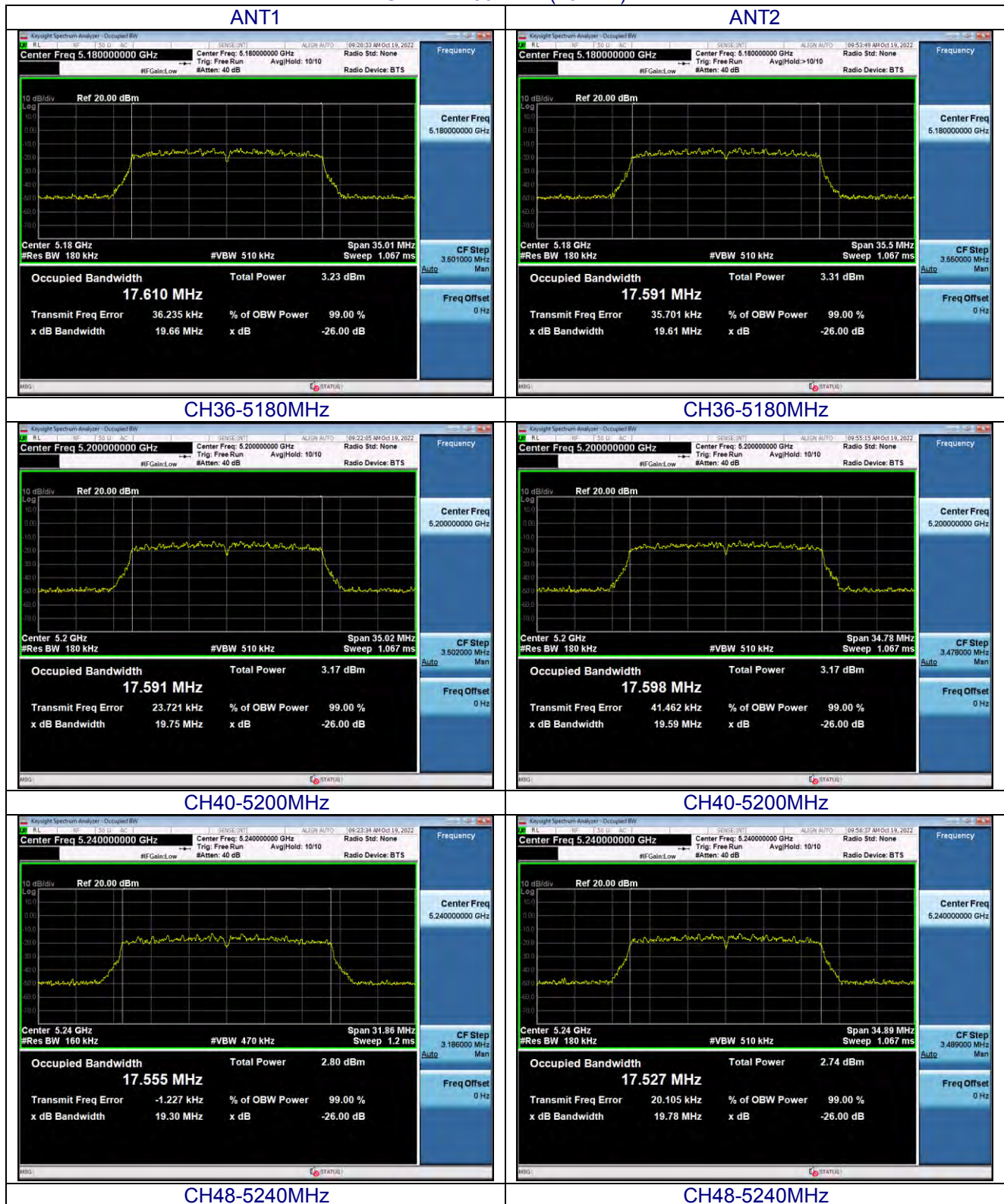
| 802.11 Mode | Channel No. | Frequency [MHz] | -6db Bandwidth [MHz] |       | Limit     |
|-------------|-------------|-----------------|----------------------|-------|-----------|
|             |             |                 | ANT1                 | ANT2  |           |
| a           | 149         | 5745            | 16.34                | 15.68 | ≥ 500 kHz |
|             | 157         | 5785            | 16.37                | 15.76 |           |
|             | 165         | 5825            | 16.25                | 15.75 |           |
| n (20MHz)   | 149         | 5745            | 16.96                | 15.96 |           |
|             | 157         | 5785            | 15.96                | 16.89 |           |
|             | 165         | 5825            | 16.97                | 16.74 |           |
| n (40MHz)   | 151         | 5755            | 17.66                | 17.64 |           |
|             | 159         | 5795            | 17.68                | 17.60 |           |
| ac (20MHz)  | 149         | 5745            | 17.65                | 17.66 |           |
|             | 157         | 5785            | 19.09                | 19.01 |           |
|             | 165         | 5825            | 19.04                | 19.10 |           |
| ac(40MHz)   | 151         | 5755            | 19.11                | 19.12 |           |
|             | 159         | 5795            | 35.09                | 35.05 |           |
| ac(80MHz)   | 155         | 5775            | 35.12                | 35.11 |           |
| ax (20MHz)  | 149         | 5745            | 35.88                | 36.23 |           |
|             | 157         | 5785            | 36.27                | 35.94 |           |
|             | 165         | 5825            | 38.10                | 38.11 |           |
| ax(40MHz)   | 151         | 5755            | 38.08                | 38.17 |           |
|             | 159         | 5795            | 76.29                | 76.35 |           |
| ax(80MHz)   | 155         | 5775            | 77.95                | 77.94 |           |

Test plot as follows:

U-NII-1- 802.11a

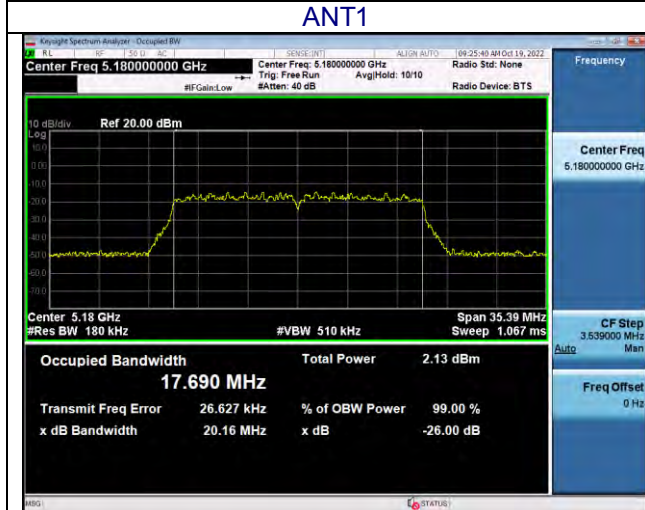


## U-NII-1 – 802.11n (20MHz)

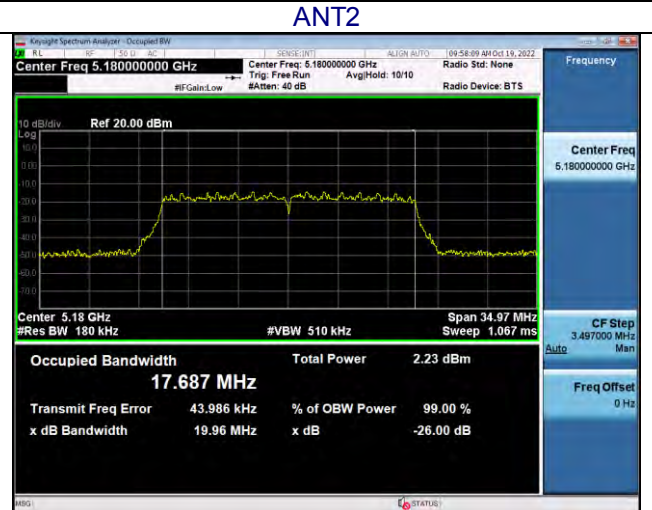


## U-NII-1 – 802.11ac 20MHz)

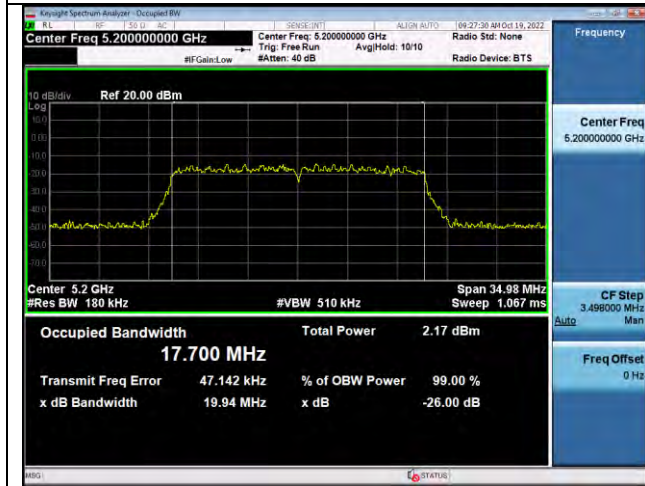
ANT1



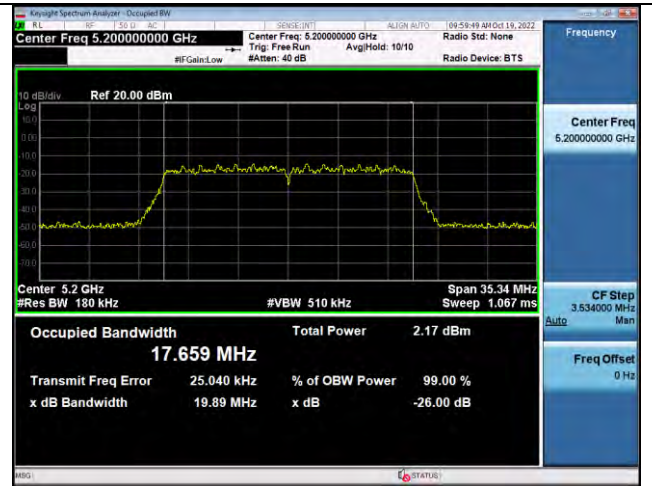
ANT2



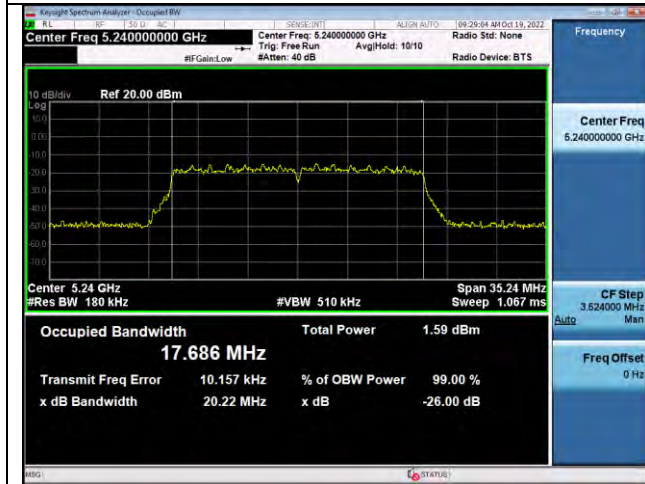
CH36-5180MHz



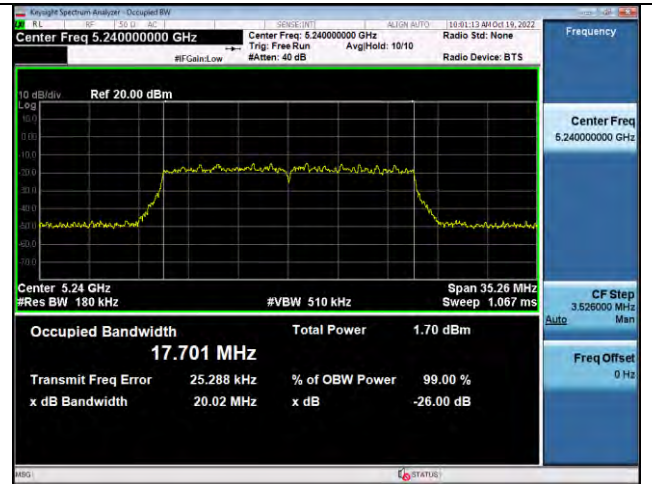
CH36-5180MHz



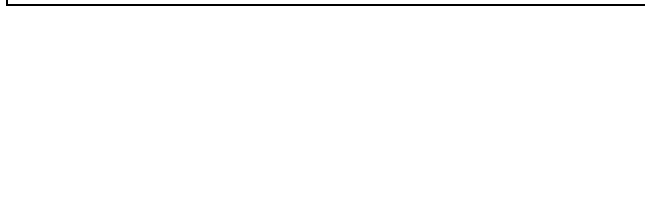
CH40-5200MHz



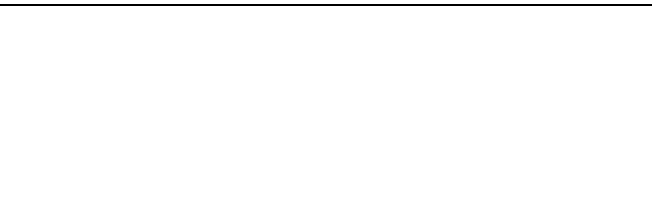
CH40-5200MHz



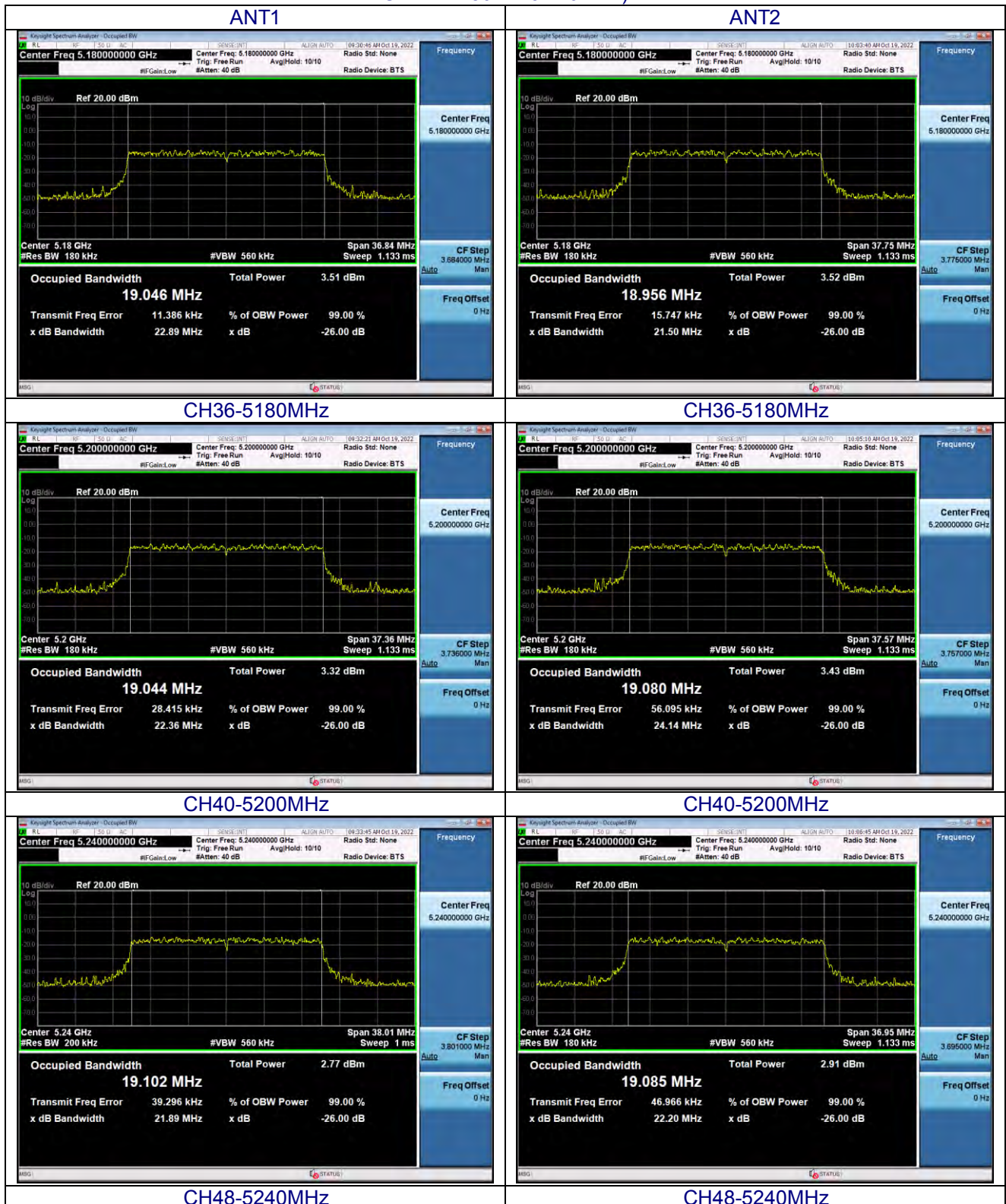
CH48-5240MHz



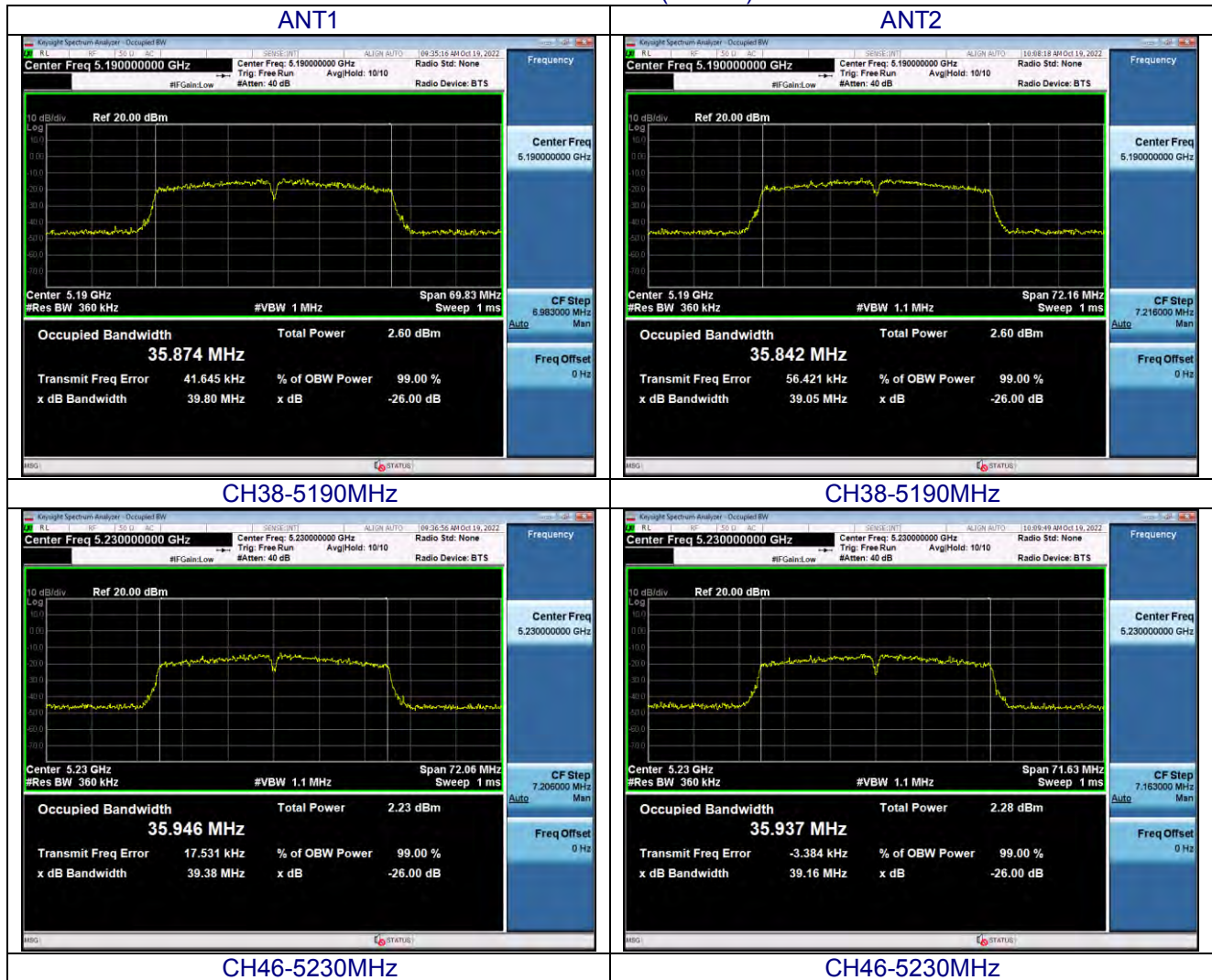
CH48-5240MHz



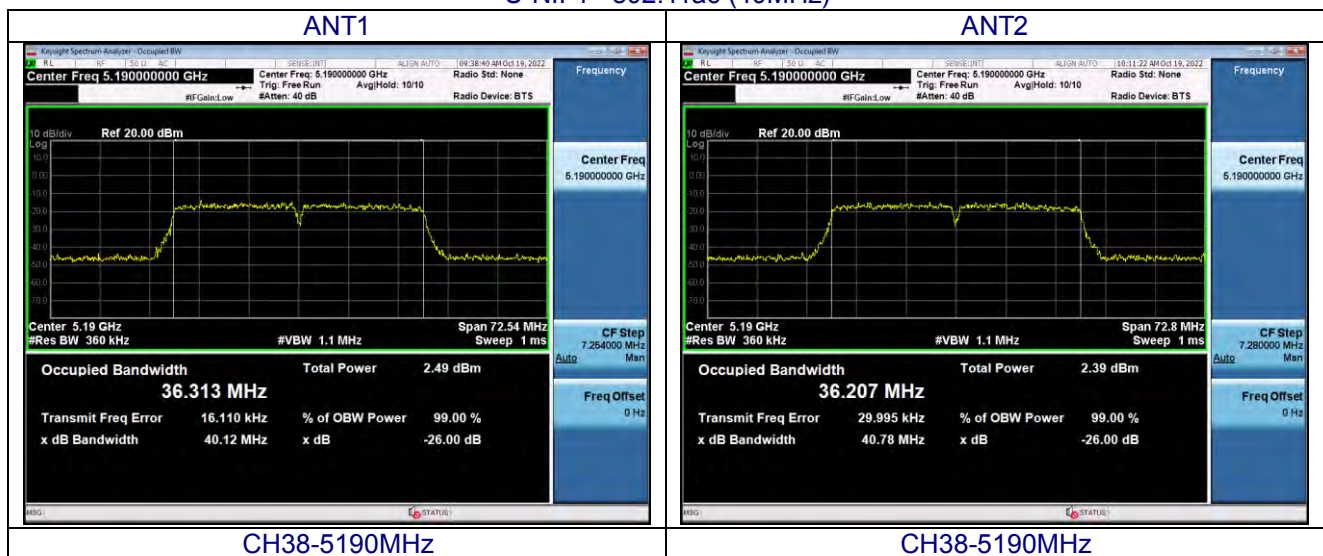
U-NII-1 – 802.11ax 20MHz)

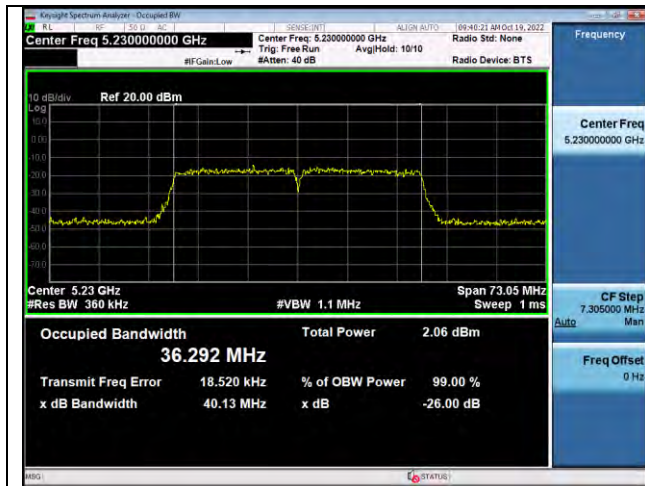


## U-NII-1- 802.11n (40MHz)

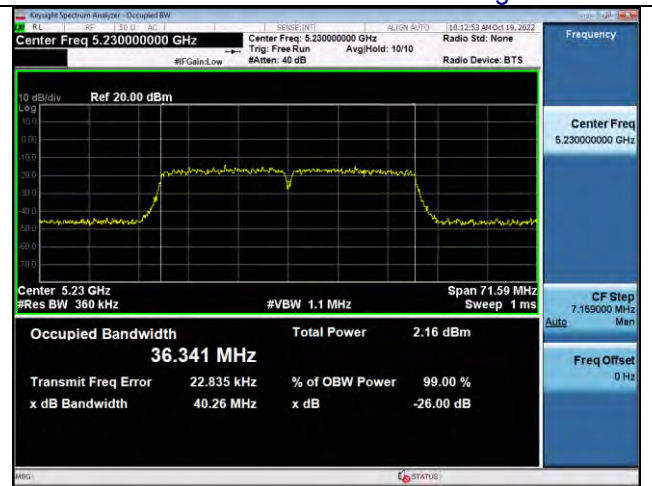


## U-NII-1- 802.11ac (40MHz)





CH46-5230MHz



CH46-5230MHz

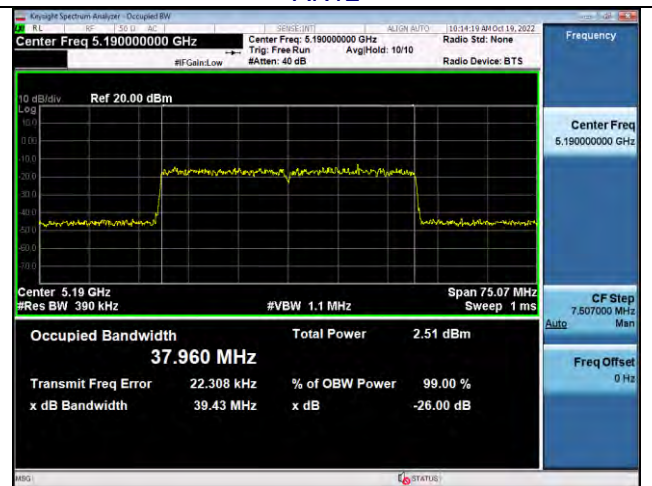
## U-NII-1 – 802.11ax (40MHz)

ANT1

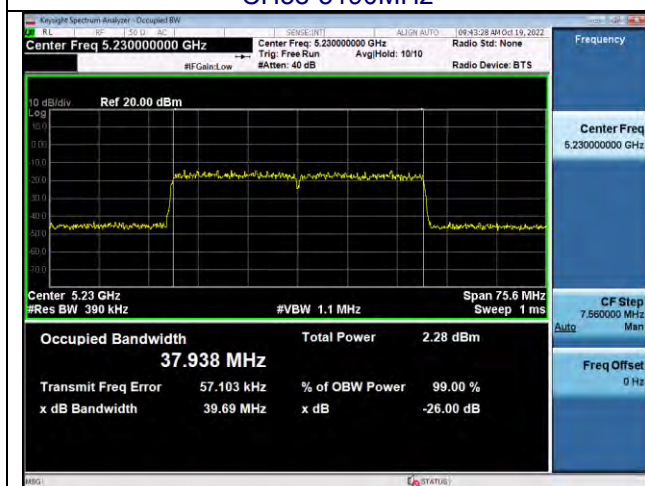


CH38-5190MHz

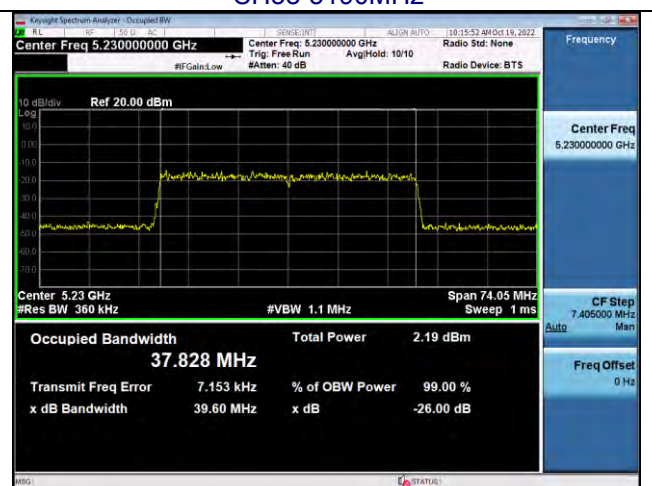
ANT2



CH38-5190MHz

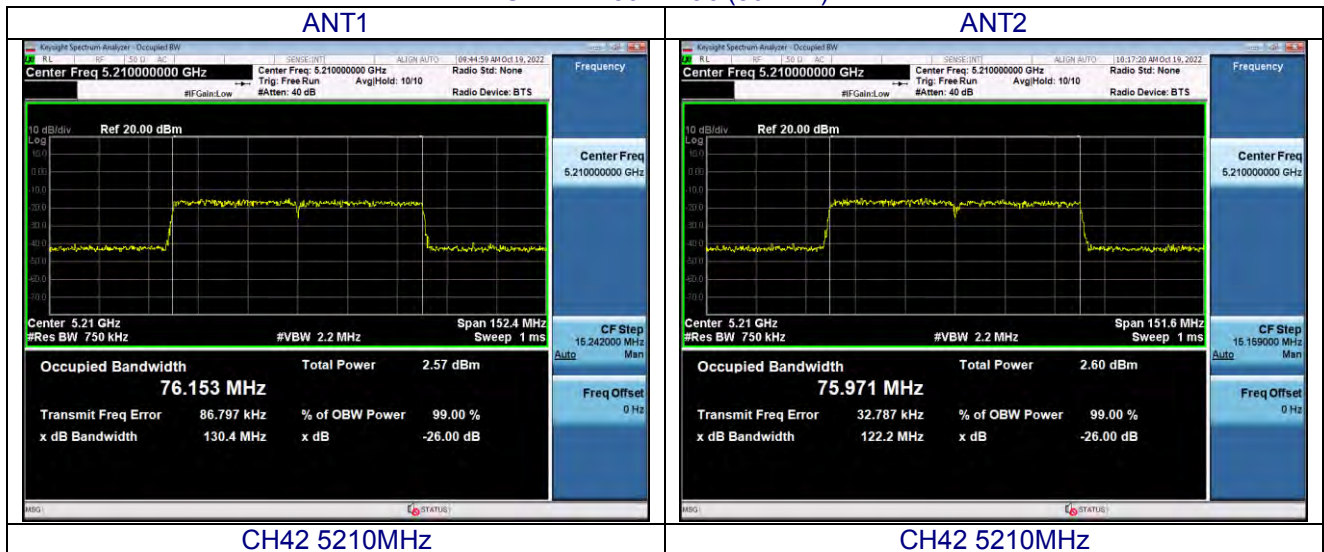


CH46-5230MHz



CH46-5230MHz

U-NII-1 –802.11ac (80MHz)

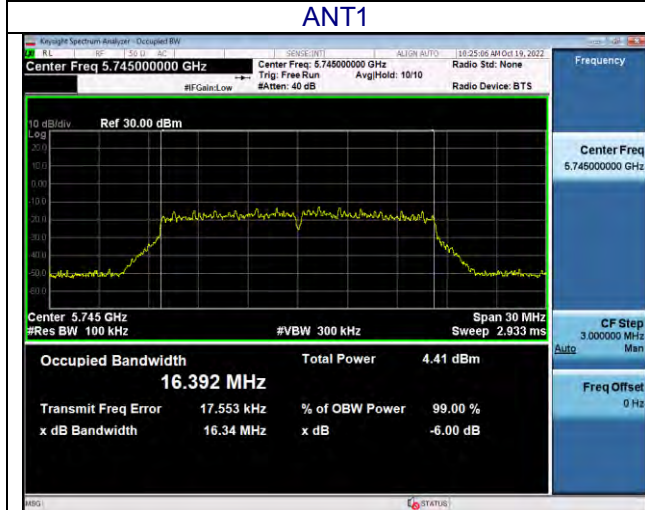


U-NII-1 –802.11ax (80MHz)

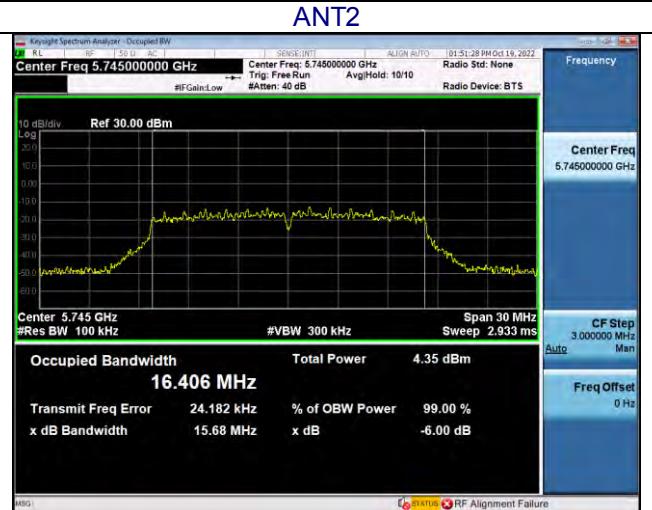


U-NII-3 -802.11a

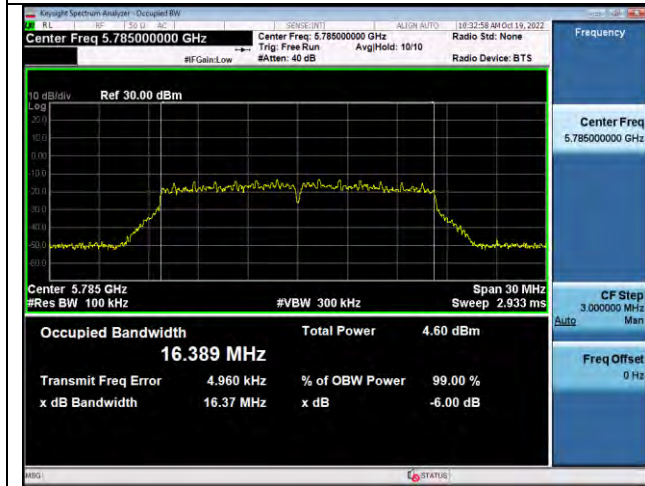
ANT1



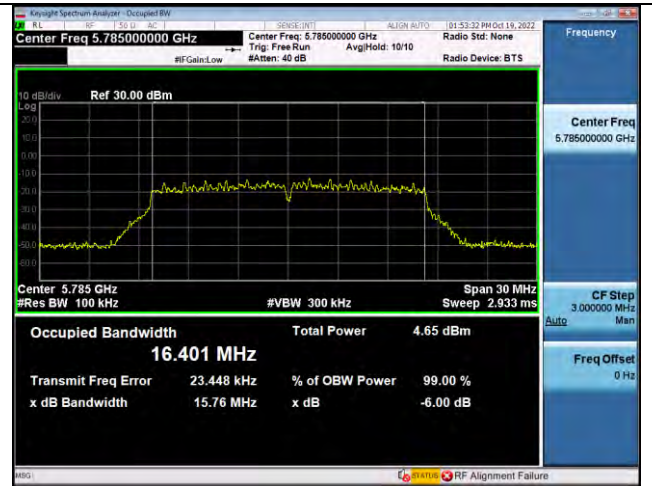
ANT2



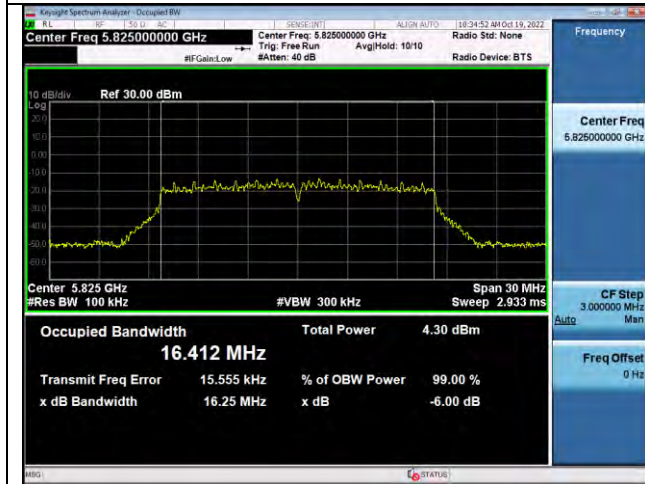
CH149 -5745MHz



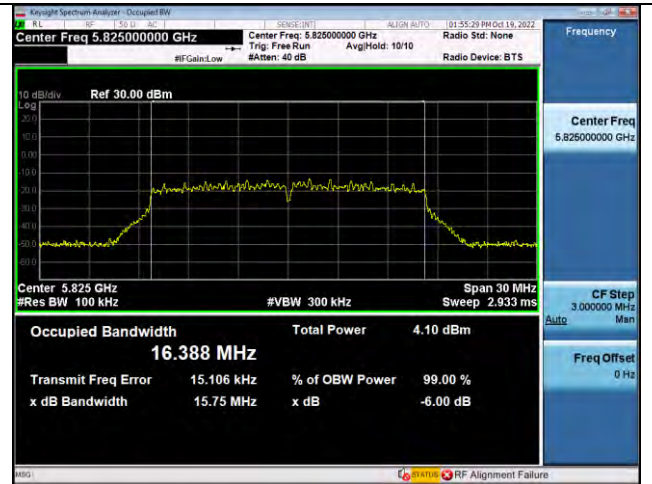
CH149 -5745MHz



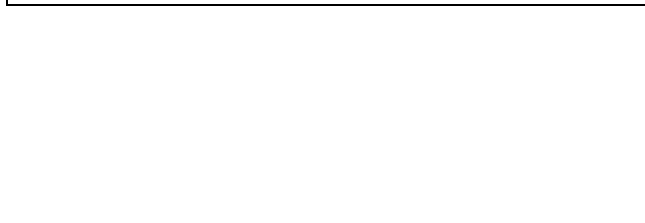
CH157 -5785MHz



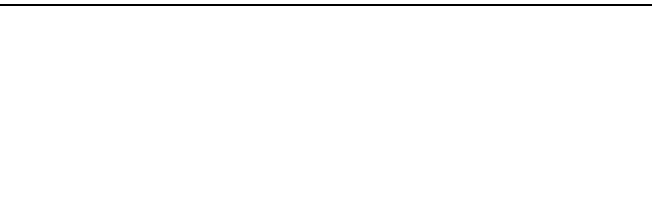
CH157 -5785MHz



CH165 -5825MHz

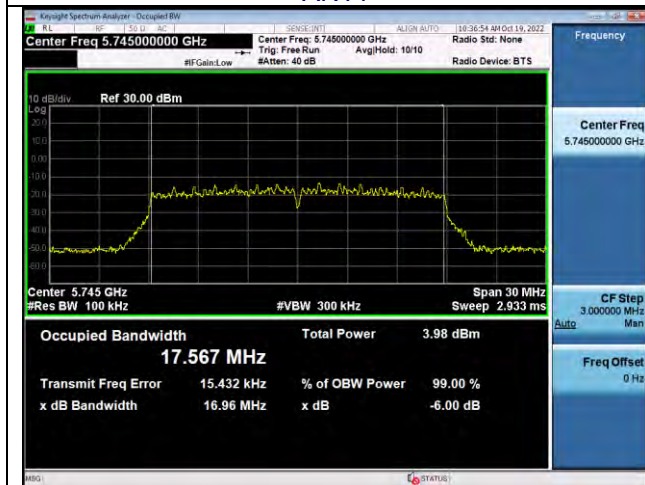


CH165 -5825MHz

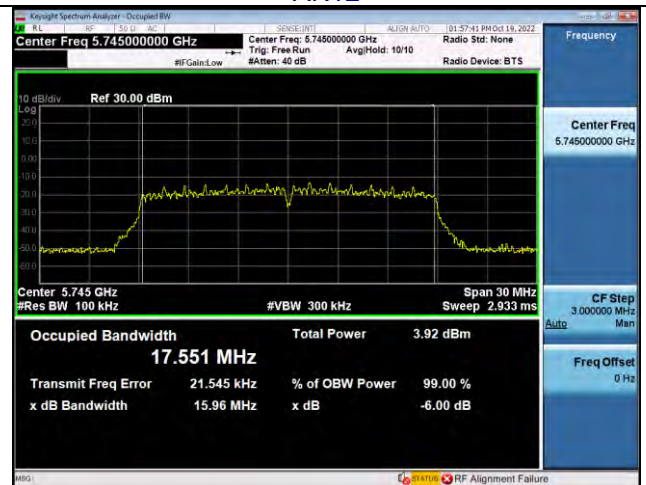


U-NII-3-802.11n (20MHz)

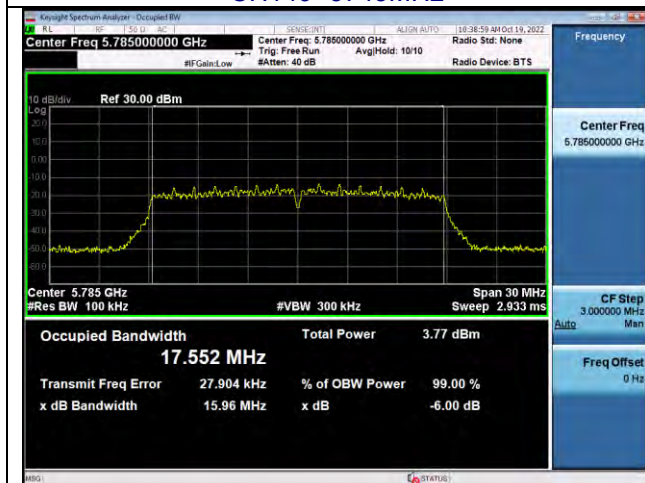
ANT1



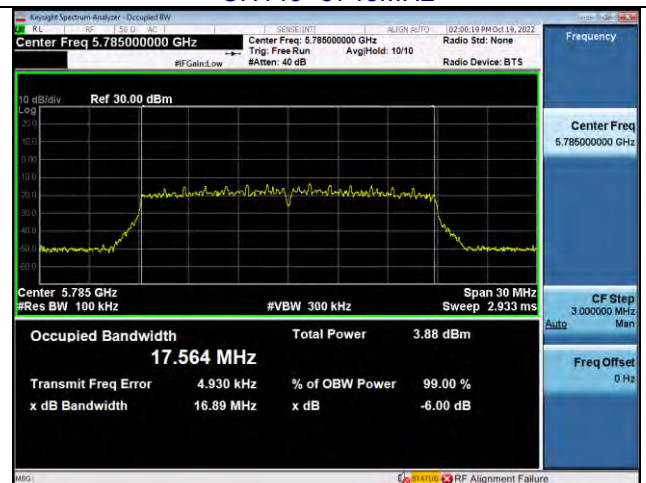
ANT2



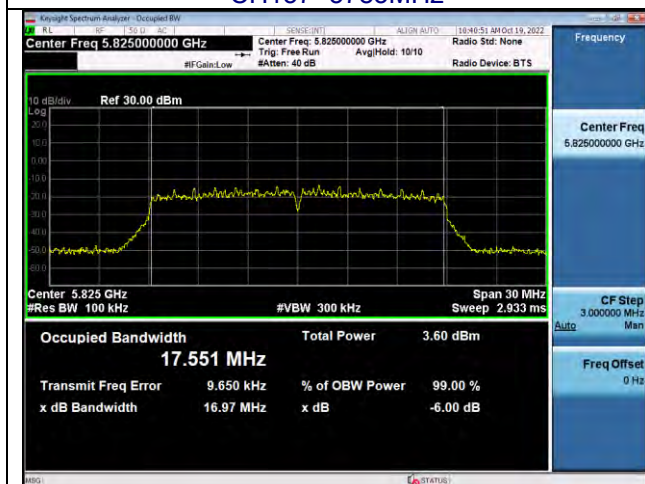
CH149 -5745MHz



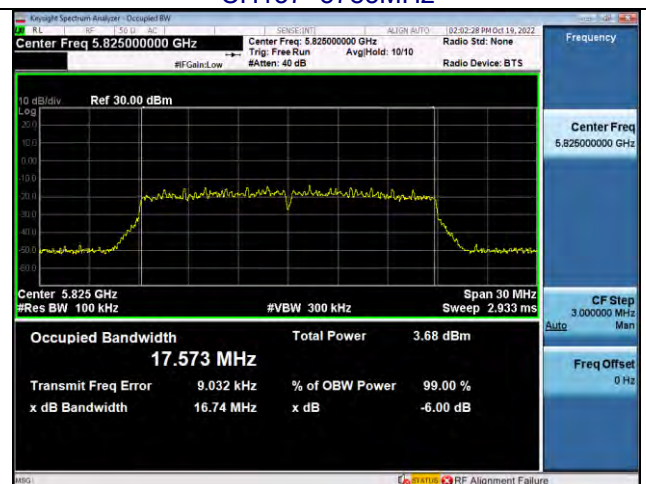
CH149 -5745MHz



CH157 -5785MHz



CH157 -5785MHz



CH165 -5825MHz

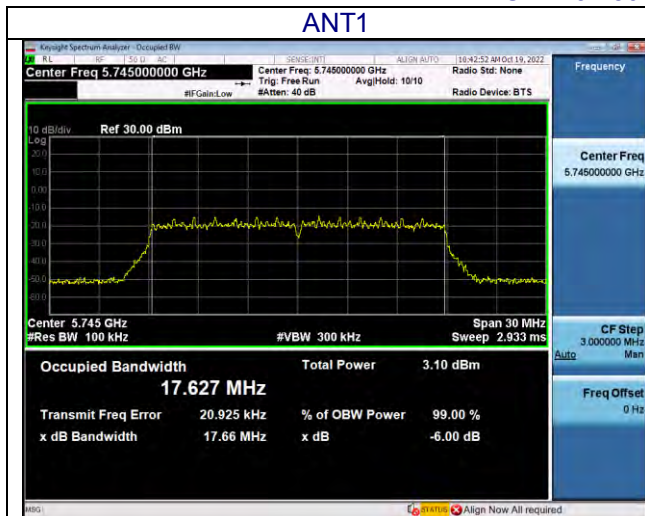


CH165 -5825MHz

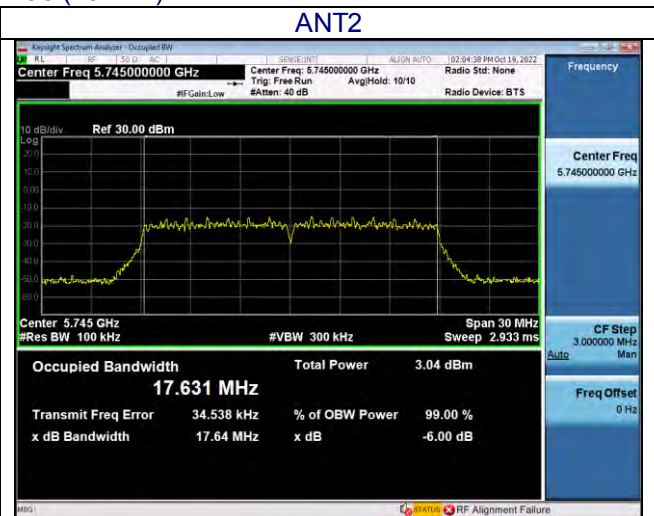


### U-NII-3 -802.11ac (20MHz)

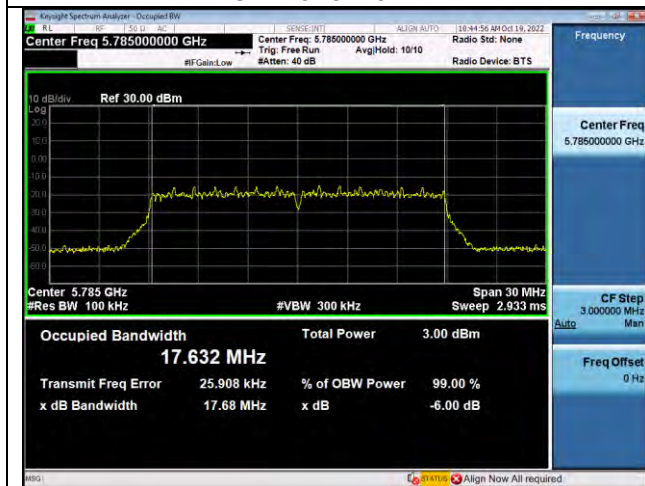
ANT1



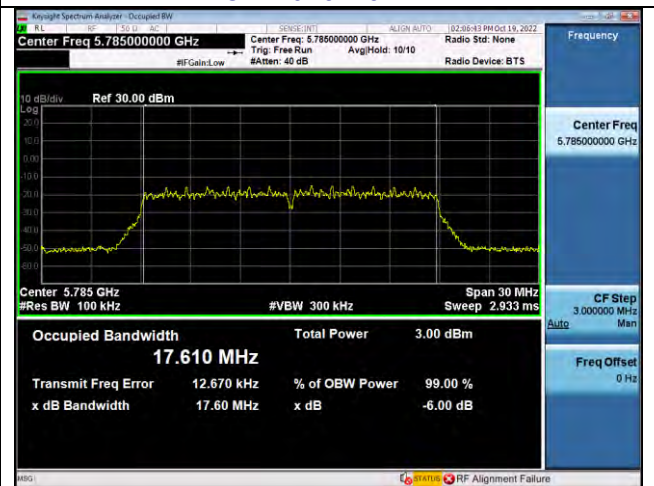
ANT2



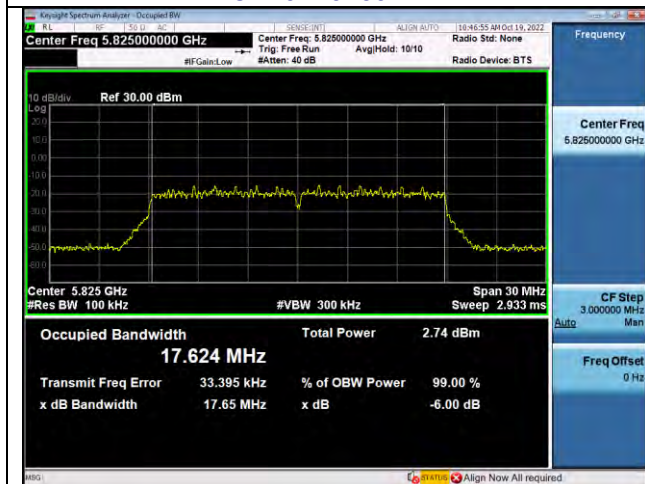
CH149 -5745MHz



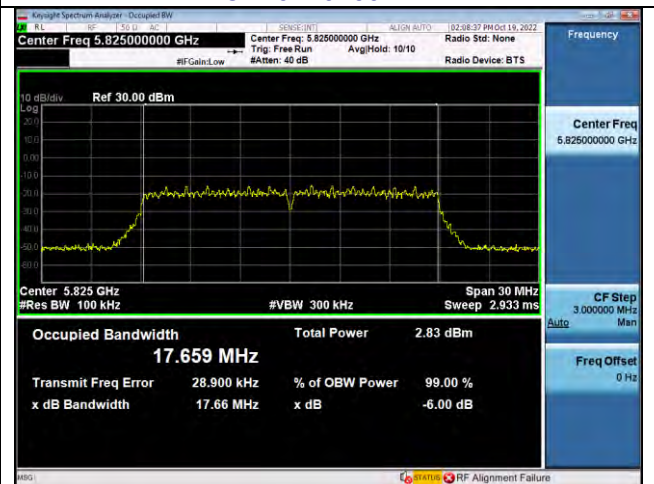
CH149 -5745MHz



CH157 -5785MHz



CH157 -5785MHz



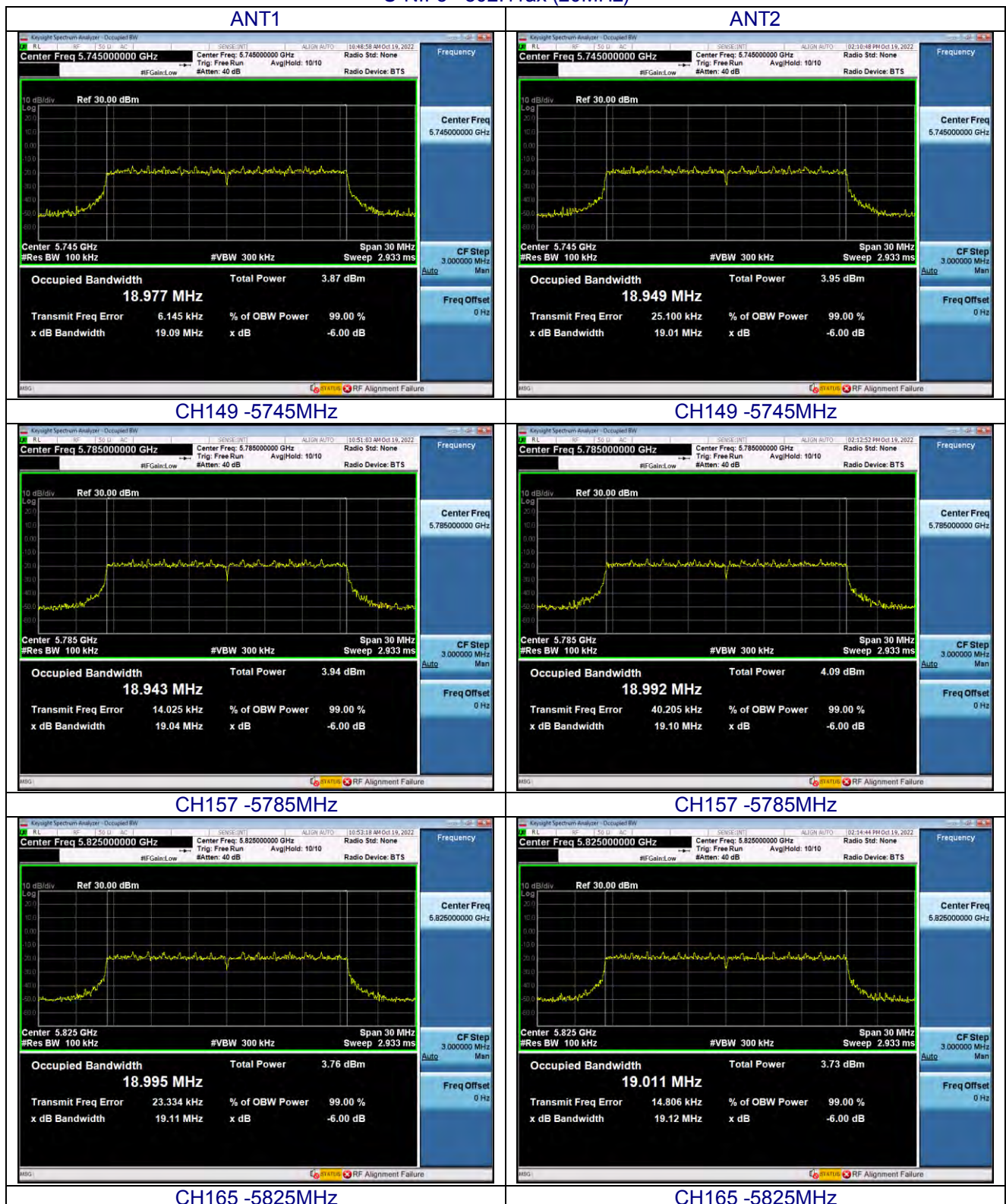
CH165 -5825MHz



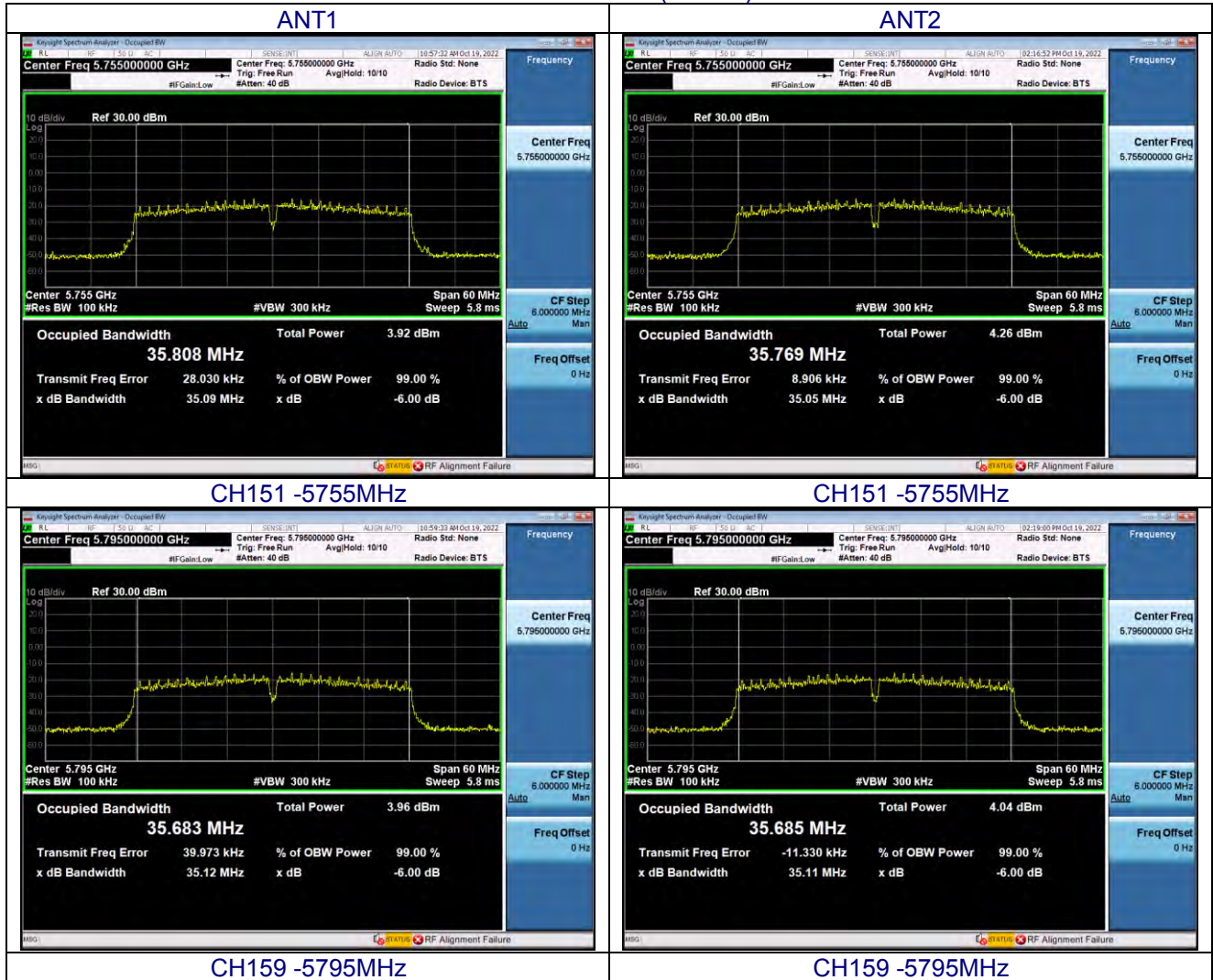
CH165 -5825MHz



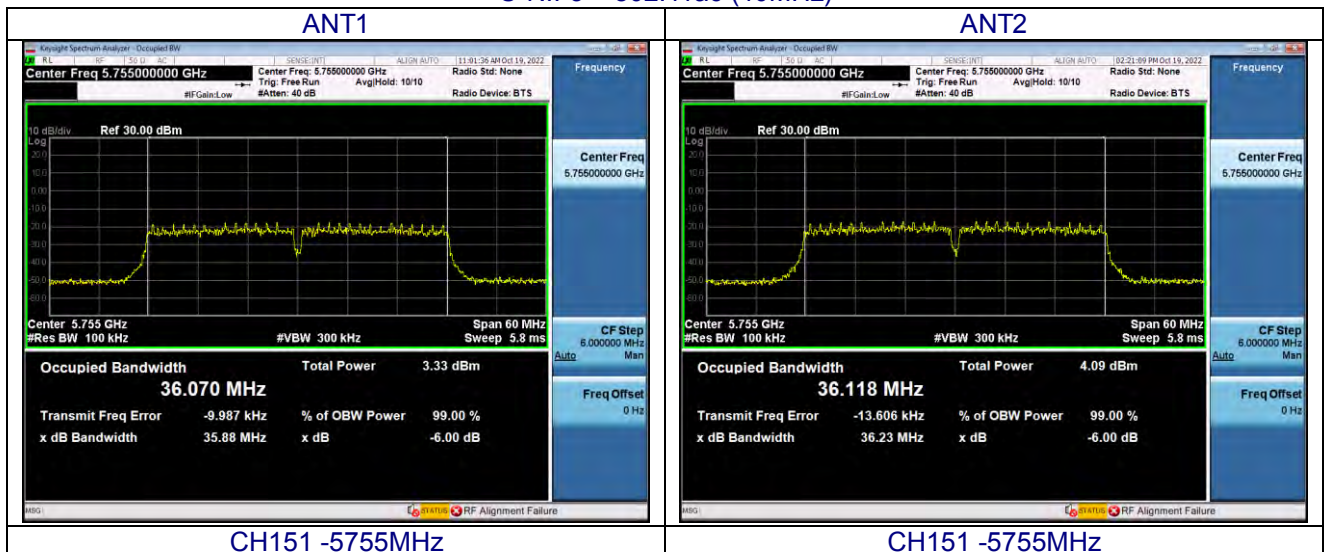
# U-NII-3 -802.11ax (20MHz)

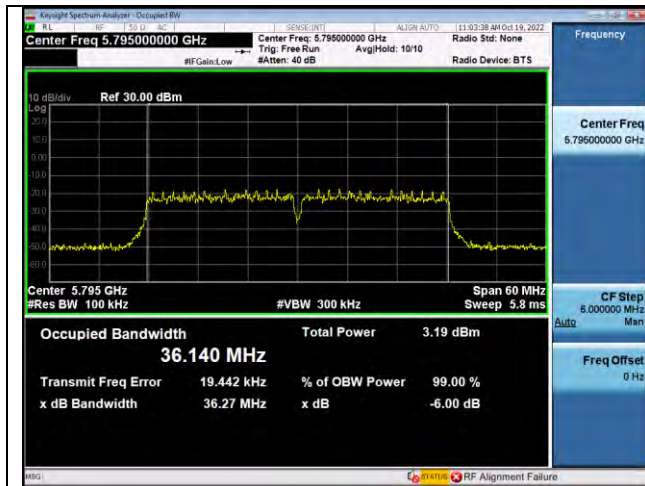


U-NII-3- 802.11n (40MHz)

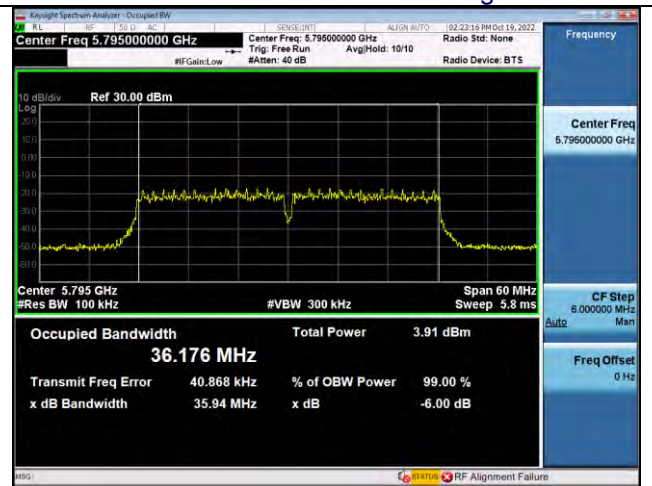


U-NII-3 - 802.11ac (40MHz)





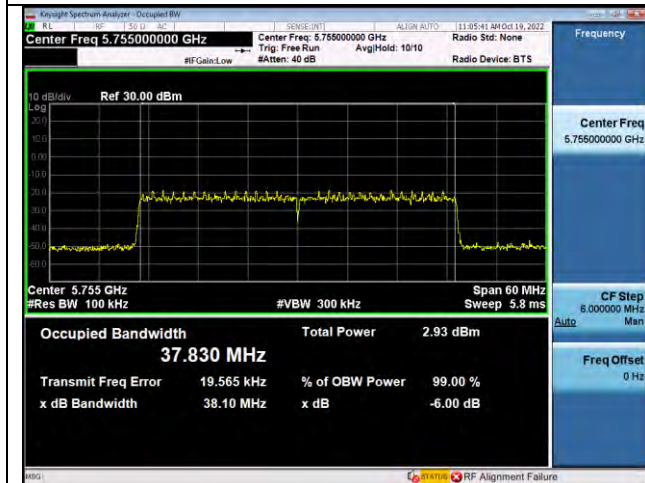
CH159 -5795MHz



CH159 -5795MHz

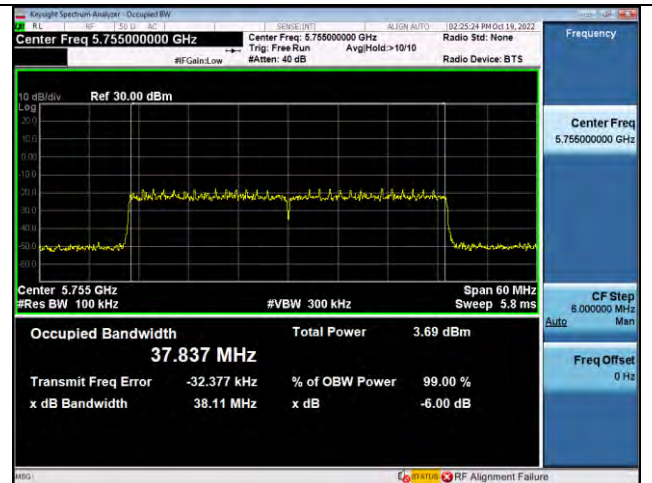
## U-NII-3 – 802.11ax (40MHz)

ANT1

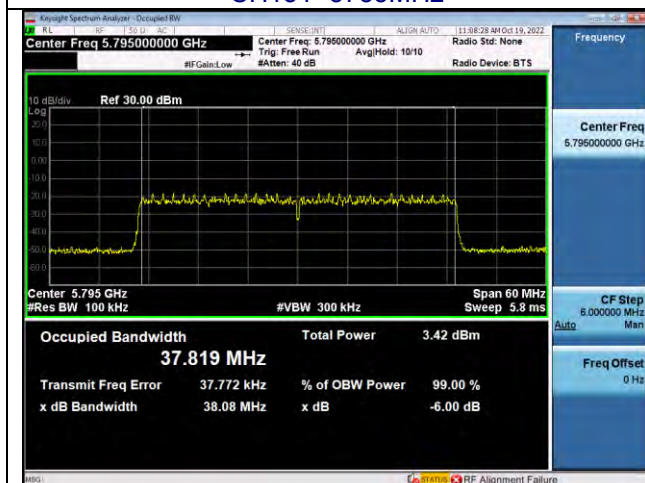


CH151 -5755MHz

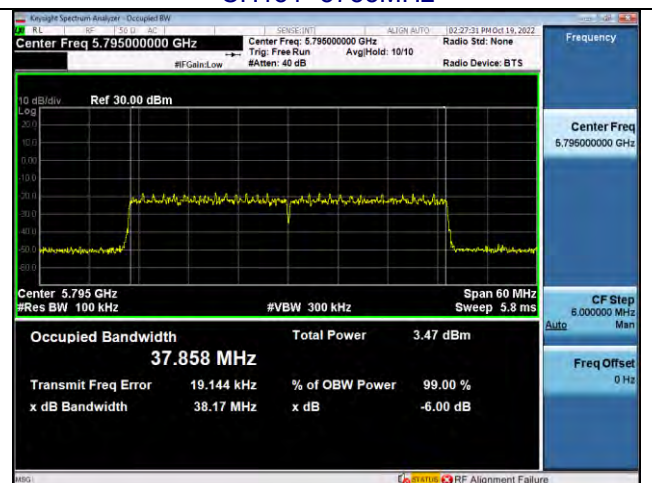
ANT2



CH151 -5755MHz

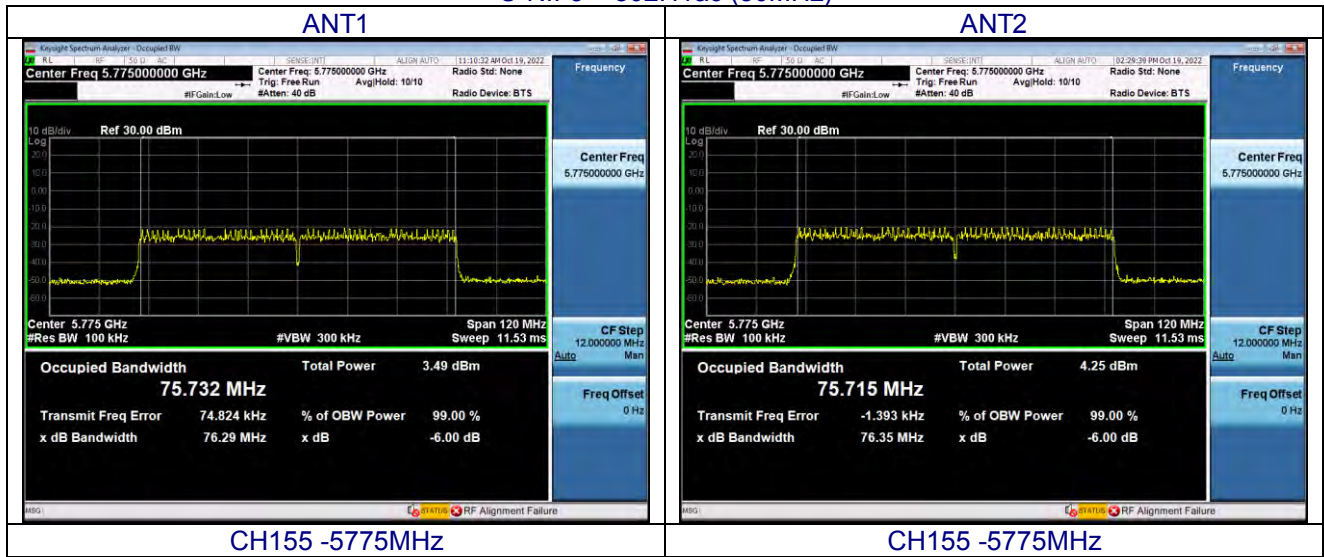


CH159 -5795MHz

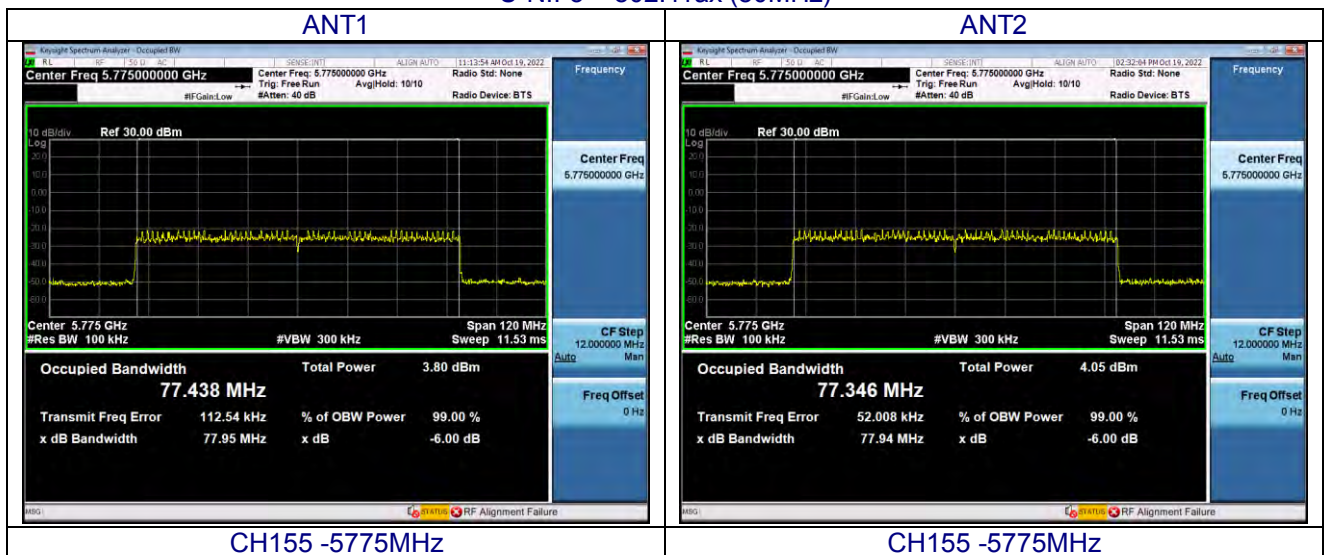


CH159 -5795MHz

U-NII-3 – 802.11ac (80MHz)



U-NII-3 – 802.11ax (80MHz)



## 7. OUTPUT POWER TEST

|                   |                       |
|-------------------|-----------------------|
| Test Requirement: | 15.407 (a)(1)(2)(3)   |
| Test Method:      | KDB 789033 D02 v02r01 |

### 7.1 APPLIED PROCEDURES/LIMIT

For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi.

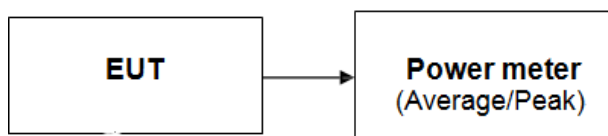
For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

| Test Item | Limit       | Result |
|-----------|-------------|--------|
| U-NII-1   | 1W / 30dbm  | Pass   |
| U-NII-3   | 1 W / 30dbm | Pass   |

### 7.2 DEVIATION FROM STANDARD

No deviation.

### 7.3 TEST SETUP



### 7.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

## 7.5 TEST RESULT

|               |        |                     |       |
|---------------|--------|---------------------|-------|
| Temperature : | 26℃    | Relative Humidity : | 54%   |
| Pressure :    | 101kPa | Test Voltage :      | DC 5V |

## U-NII-1

| 802.11 Mode | Channel No. | Frequency [MHz] | Conducted Power [dBm] |      | Limit [dBm] | MIMO [dBm] | Limit [dBm] |
|-------------|-------------|-----------------|-----------------------|------|-------------|------------|-------------|
|             |             |                 | ANT1                  | ANT2 |             |            |             |
| a           | 36          | 5180            | 2.33                  | 2.47 | 30.00       | /          | /           |
|             | 40          | 5200            | 2.30                  | 2.27 | 30.00       | /          | /           |
|             | 48          | 5240            | 1.78                  | 1.95 | 30.00       | /          | /           |
| n(20MHz)    | 36          | 5180            | 1.42                  | 1.58 | 30.00       | 4.51       | 28.04       |
|             | 40          | 5200            | 1.41                  | 1.43 | 30.00       | 4.43       | 28.04       |
|             | 48          | 5240            | 0.98                  | 1.03 | 30.00       | 4.02       | 28.04       |
| ac(20MHz)   | 36          | 5180            | 0.73                  | 0.92 | 30.00       | 3.84       | 28.04       |
|             | 40          | 5200            | 0.65                  | 0.74 | 30.00       | 3.71       | 28.04       |
|             | 48          | 5240            | 0.14                  | 0.21 | 30.00       | 3.19       | 28.04       |
| ax(20MHz)   | 36          | 5180            | 1.86                  | 1.93 | 30.00       | 4.91       | 28.04       |
|             | 40          | 5200            | 1.78                  | 1.85 | 30.00       | 4.83       | 28.04       |
|             | 48          | 5240            | 1.35                  | 1.42 | 30.00       | 4.40       | 28.04       |
| n(40MHz)    | 38          | 5190            | 1.23                  | 1.27 | 30.00       | 4.26       | 28.04       |
|             | 46          | 5230            | 0.91                  | 0.90 | 30.00       | 3.92       | 28.04       |
| ac(40MHz)   | 38          | 5190            | 1.18                  | 1.19 | 30.00       | 4.20       | 28.04       |
|             | 46          | 5230            | 0.81                  | 0.89 | 30.00       | 3.86       | 28.04       |
| ax(40MHz)   | 38          | 5190            | 1.02                  | 1.32 | 30.00       | 4.18       | 28.04       |
|             | 46          | 5230            | 0.83                  | 0.79 | 30.00       | 3.82       | 28.04       |
| ax(80MHz)   | 42          | 5210            | 0.82                  | 0.92 | 30.00       | 3.88       | 28.04       |
| ax(80MHz)   | 42          | 5210            | 0.68                  | 0.68 | 30.00       | 3.69       | 28.04       |

Note: For frequency U-NII-1, if MIMO Gain >6dBi , PSD Limit(MIMO)=17- (MIMO Gain-6dBi),  
 If MIMO Gain <6dBi , PSD Limit(MIMO)=Limit =30, in this report, MIMO Gain =7.96>6dBi,  
 So U-NII-1 PSD Limit(MIMO)=Limit =30-(7.96-6)=30-1.96=28.04dBm

## U-NII-3

| 802.11 Mode | Channel No. | Frequency [MHz] | Conducted Power [dBm] |      | Limit [dBm] | MIMO [dBm] | Limit [dBm] |
|-------------|-------------|-----------------|-----------------------|------|-------------|------------|-------------|
|             |             |                 | ANT1                  | ANT2 |             |            |             |
| a           | 149         | 5745            | 3.11                  | 2.80 | 30.00       | /          | /           |
|             | 157         | 5785            | 3.22                  | 3.00 | 30.00       | /          | /           |
|             | 165         | 5825            | 2.72                  | 2.76 | 30.00       | /          | /           |
| n (20MHz)   | 149         | 5745            | 2.31                  | 2.14 | 30.00       | 5.24       | 28.04       |
|             | 157         | 5785            | 2.09                  | 2.26 | 30.00       | 5.19       | 28.04       |
|             | 165         | 5825            | 1.69                  | 1.79 | 30.00       | 4.75       | 28.04       |
| ac (20MHz)  | 149         | 5745            | 1.67                  | 1.58 | 30.00       | 4.64       | 28.04       |
|             | 157         | 5785            | 1.57                  | 1.58 | 30.00       | 4.59       | 28.04       |
|             | 165         | 5825            | 1.17                  | 1.29 | 30.00       | 4.24       | 28.04       |
| ax(20MHz)   | 149         | 5745            | 2.80                  | 3.00 | 30.00       | 5.91       | 28.04       |
|             | 157         | 5785            | 2.74                  | 2.67 | 30.00       | 5.72       | 28.04       |
|             | 165         | 5825            | 2.23                  | 2.28 | 30.00       | 5.27       | 28.04       |
| n (40MHz)   | 151         | 5755            | 1.74                  | 2.23 | 30.00       | 5.00       | 28.04       |
|             | 159         | 5795            | 1.73                  | 2.03 | 30.00       | 4.89       | 28.04       |
| ac(40MHz)   | 151         | 5755            | 1.39                  | 2.13 | 30.00       | 4.79       | 28.04       |
|             | 159         | 5795            | 1.31                  | 1.85 | 30.00       | 4.60       | 28.04       |
| ax(40MHz)   | 151         | 5755            | 1.63                  | 2.10 | 30.00       | 4.88       | 28.04       |
|             | 159         | 5795            | 1.67                  | 2.12 | 30.00       | 4.91       | 28.04       |
| ac(80MHz)   | 155         | 5775            | 1.03                  | 1.95 | 30.00       | 4.52       | 28.04       |
| ax(80MHz)   | 155         | 5775            | 1.37                  | 1.84 | 30.00       | 4.62       | 28.04       |

For frequency U-NII-3, If MIMO Gain >6dBi , Power Limit(MIMO)=30- (MIMO Gain - 6dBi)

If MIMO Gain <6dBi , PSD Limit(MIMO)=Limit =30 dBm, in this report, MIMO Gain>6dBi ,

So Power Limit(MIMO)=Limit =30-(7.96-6)=30-1.96=28.04dBm

## 8. OUT OF BAND EDGE EMISSION

|                   |                       |
|-------------------|-----------------------|
| Test Requirement: | 15.407 (b)            |
| Test Method:      | KDB 789033 D02 v02r01 |

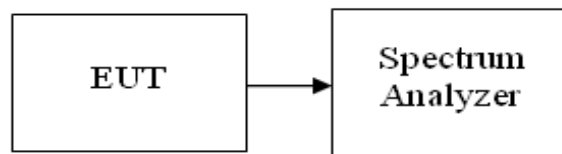
### 8.1 TEST PROCEDURE

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

### 8.2 DEVIATION FROM STANDARD

No deviation.

### 8.3 TEST SETUP



### 8.4 EUT OPERATION CONDITIONS

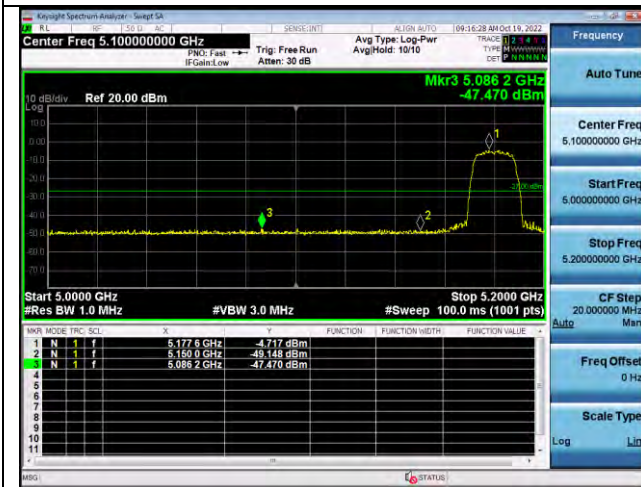
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

### 8.5 TEST RESULTS

Test plot as follows:

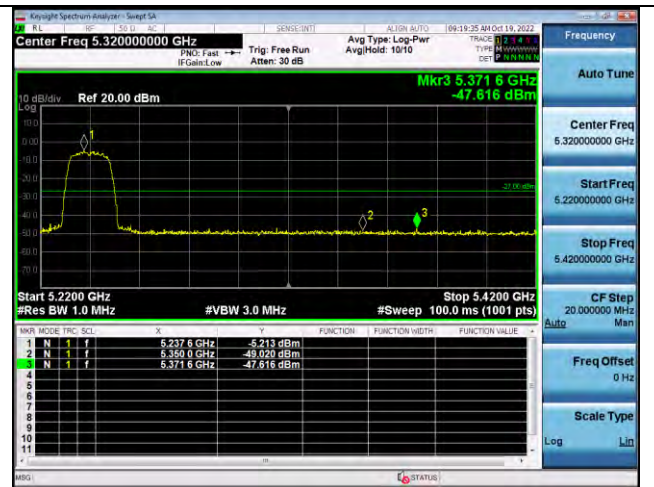
## ANT1- U-NII-1

Test mode:



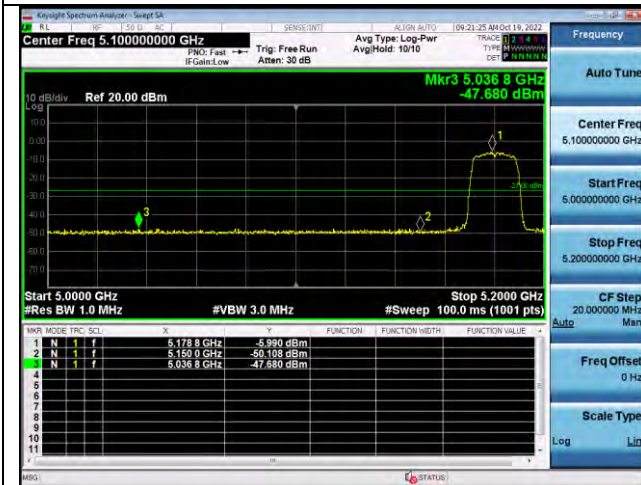
Lowest channel

802.11a



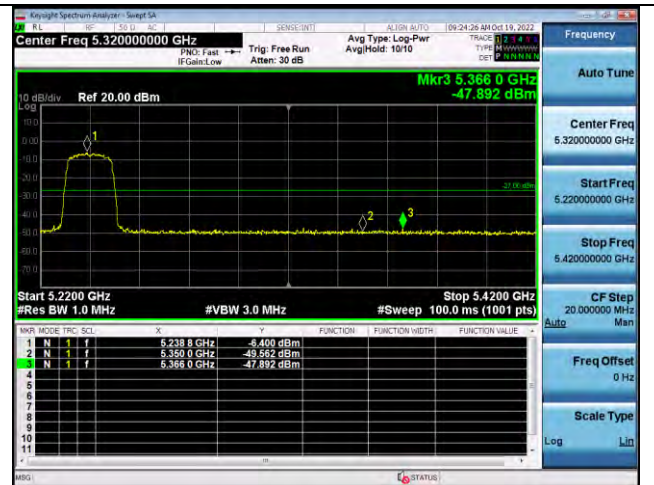
Highest channel

Test mode:



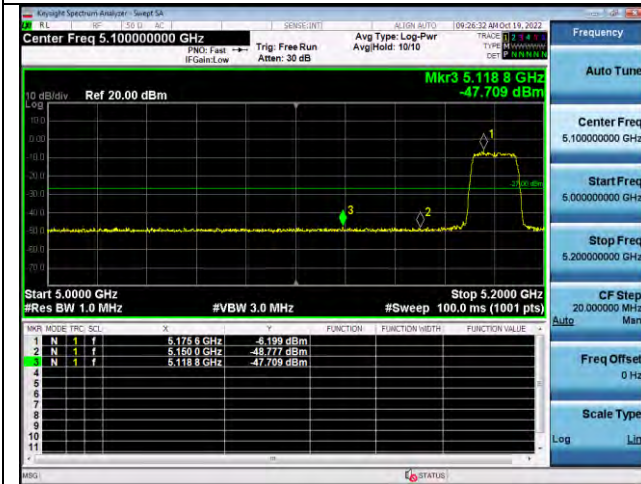
Lowest channel

802.11n20



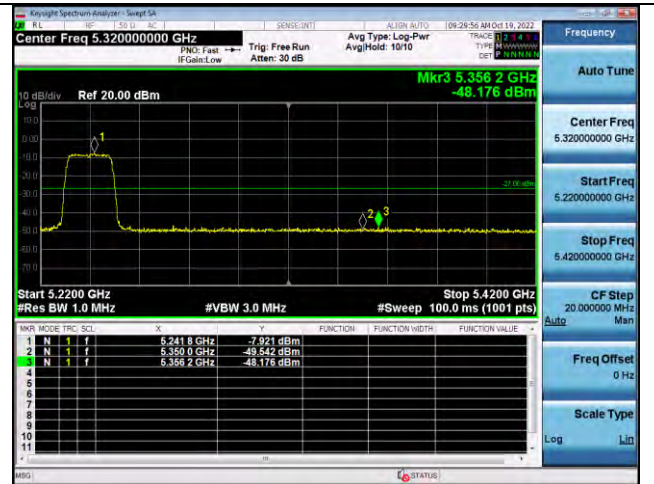
Highest channel

Test mode:



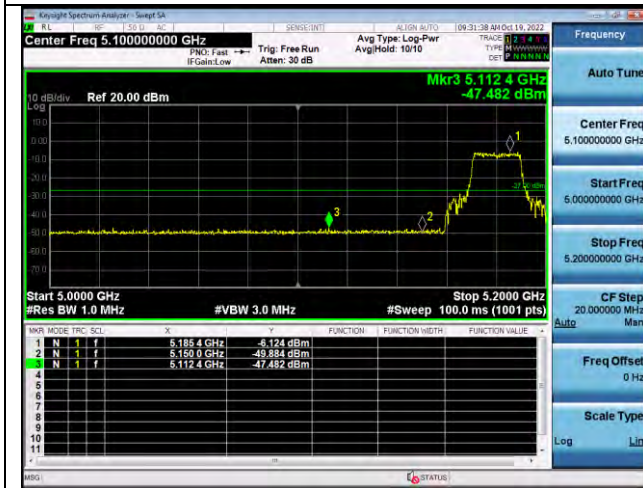
Lowest channel

802.11ac20



Highest channel

Test mode:



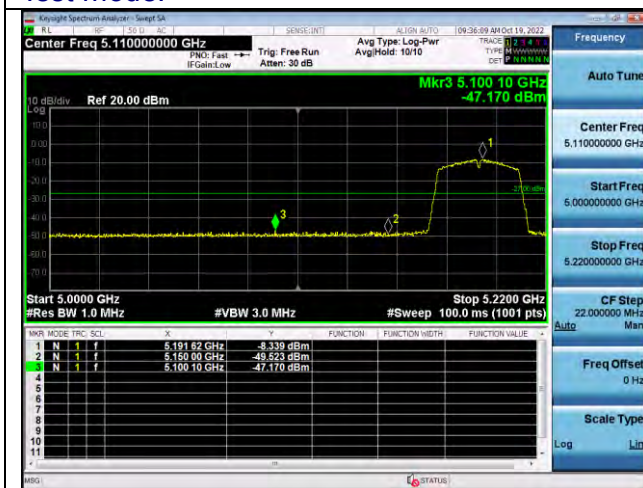
Lowest channel

802.11ax20



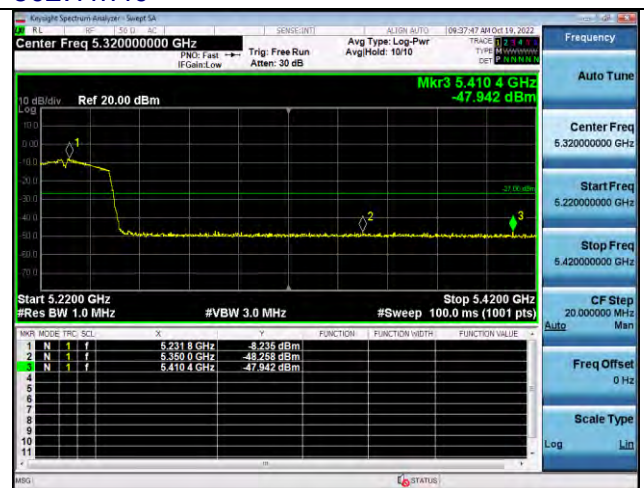
Highest channel

Test mode:



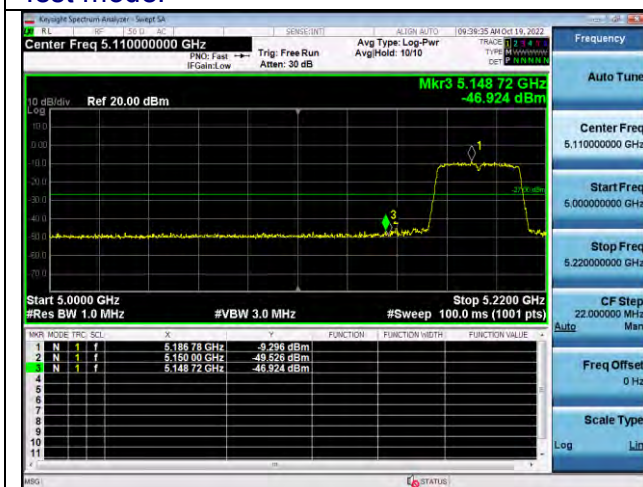
Lowest channel

802.11n40



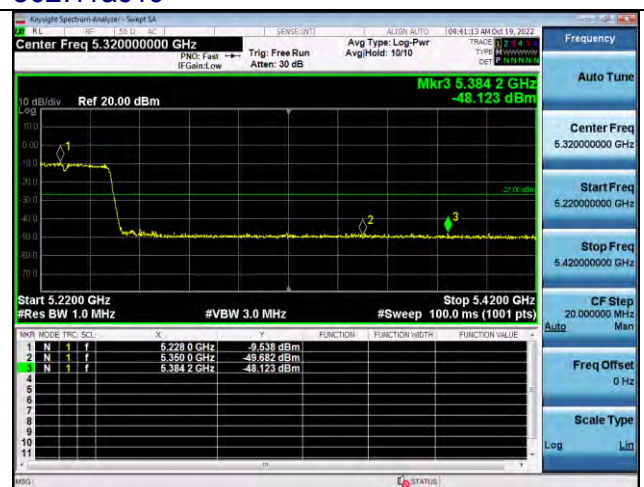
Highest channel

Test mode:



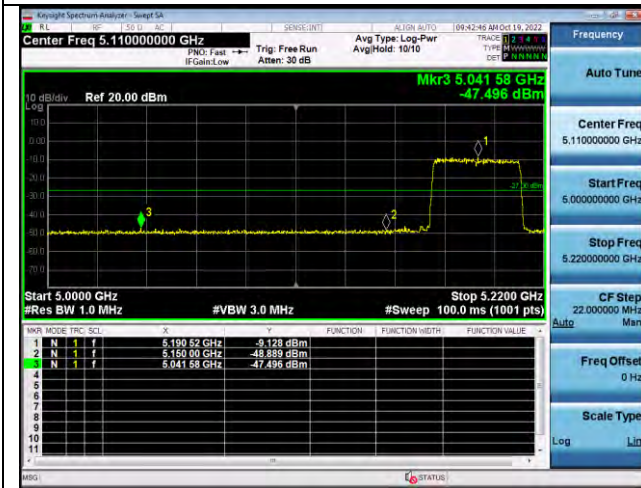
Lowest channel

802.11ac40



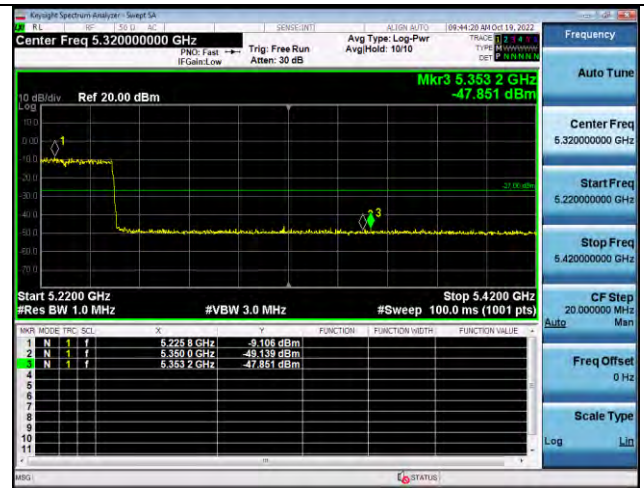
Highest channel

Test mode:



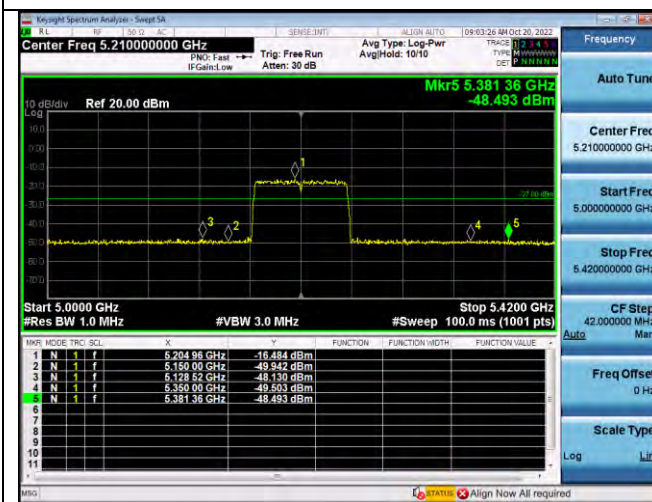
Lowest channel

802.11ax40



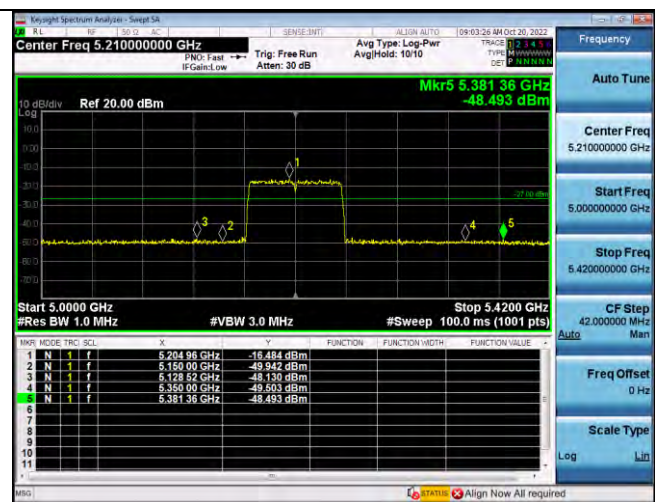
Highest channel

Test mode:



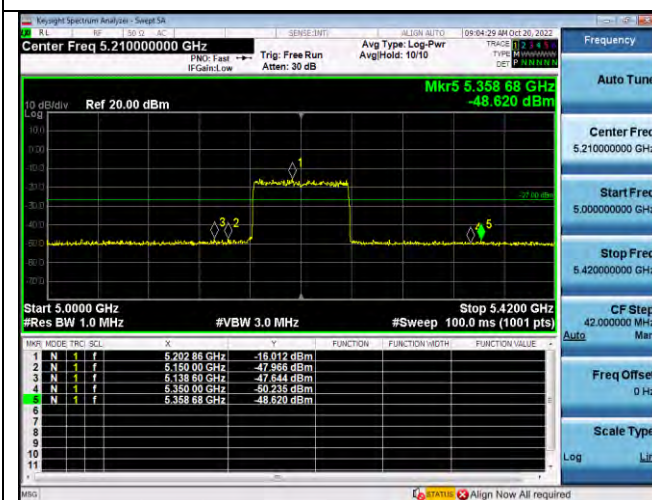
Lowest channel

802.11ac80



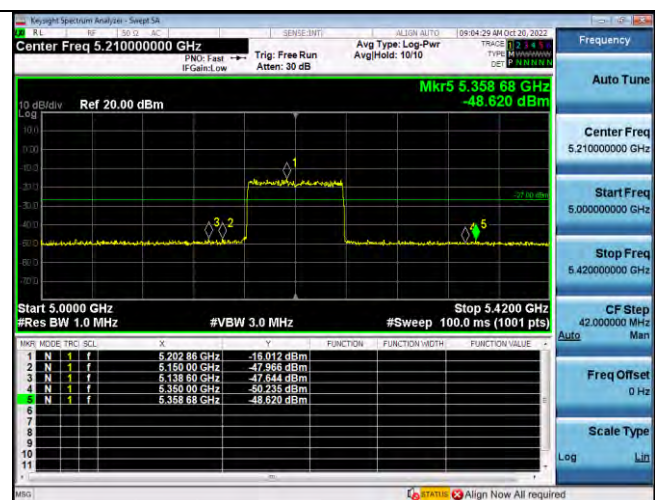
Highest channel

Test mode:



Lowest channel

802.11ax80

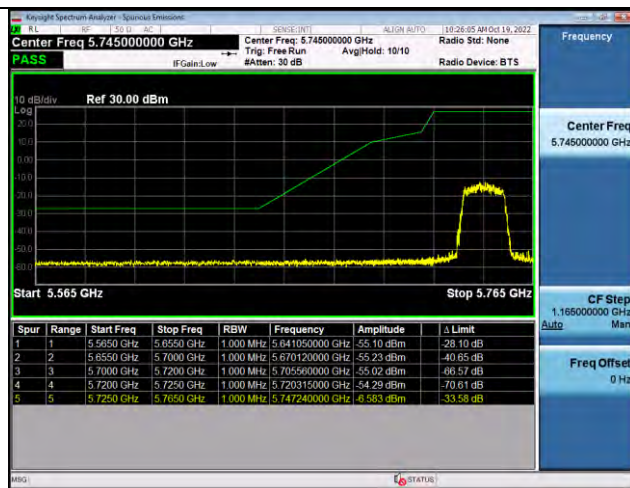


Highest channel

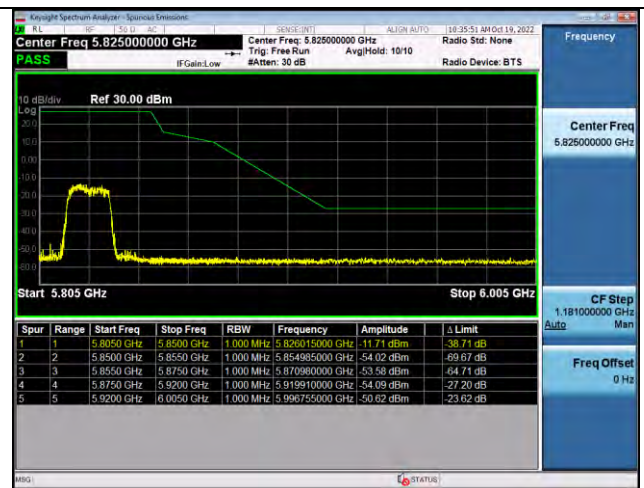
# ANT1- U-NII-3

Test mode:

802.11a



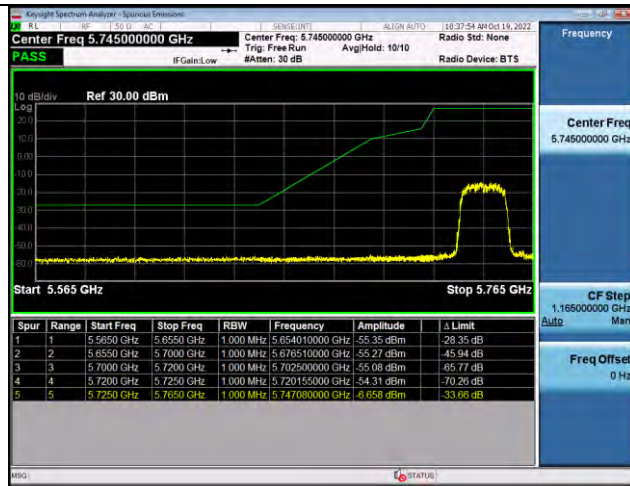
Lowest channel



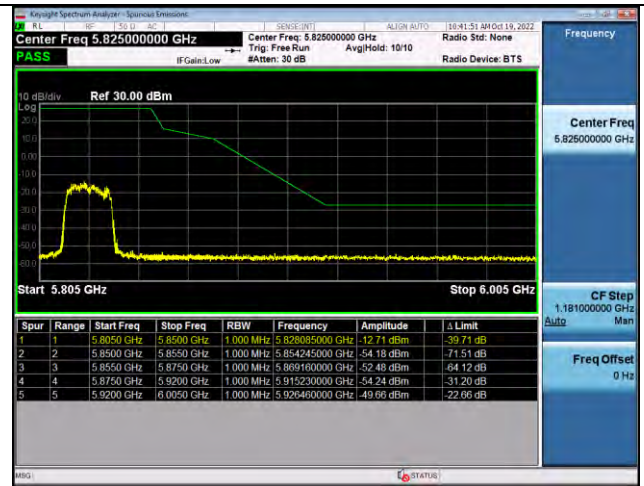
Highest channel

Test mode:

802.11n20



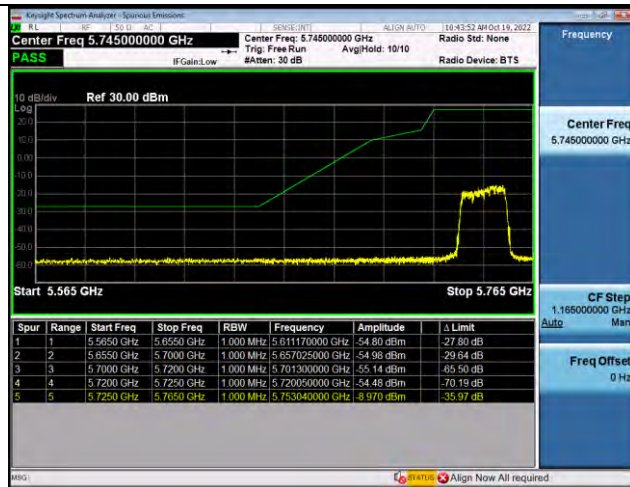
Lowest channel



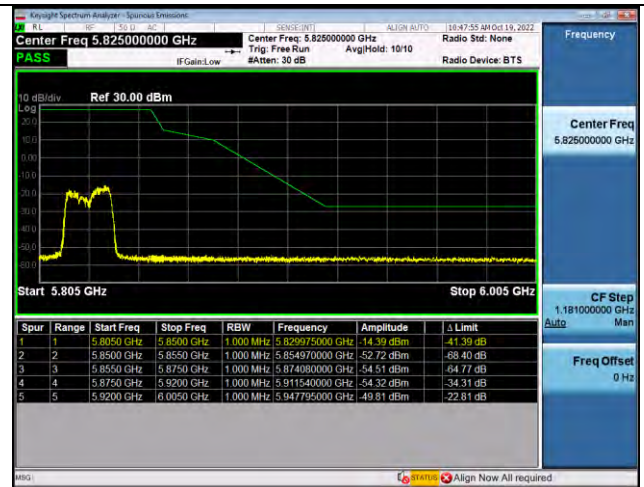
Highest channel

Test mode:

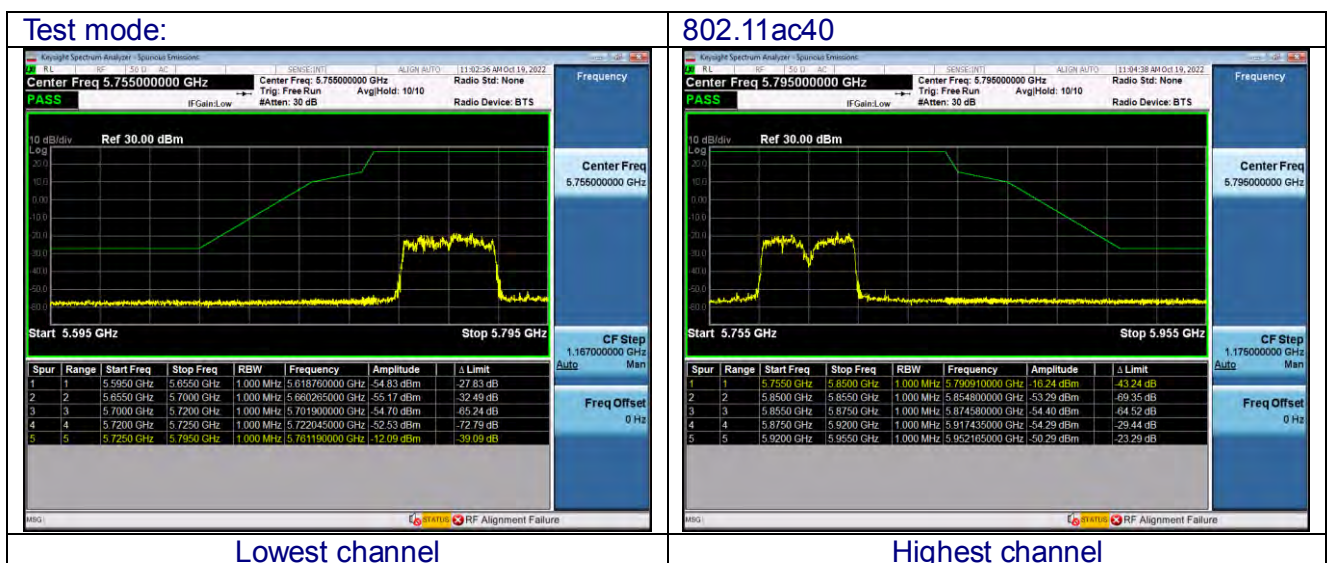
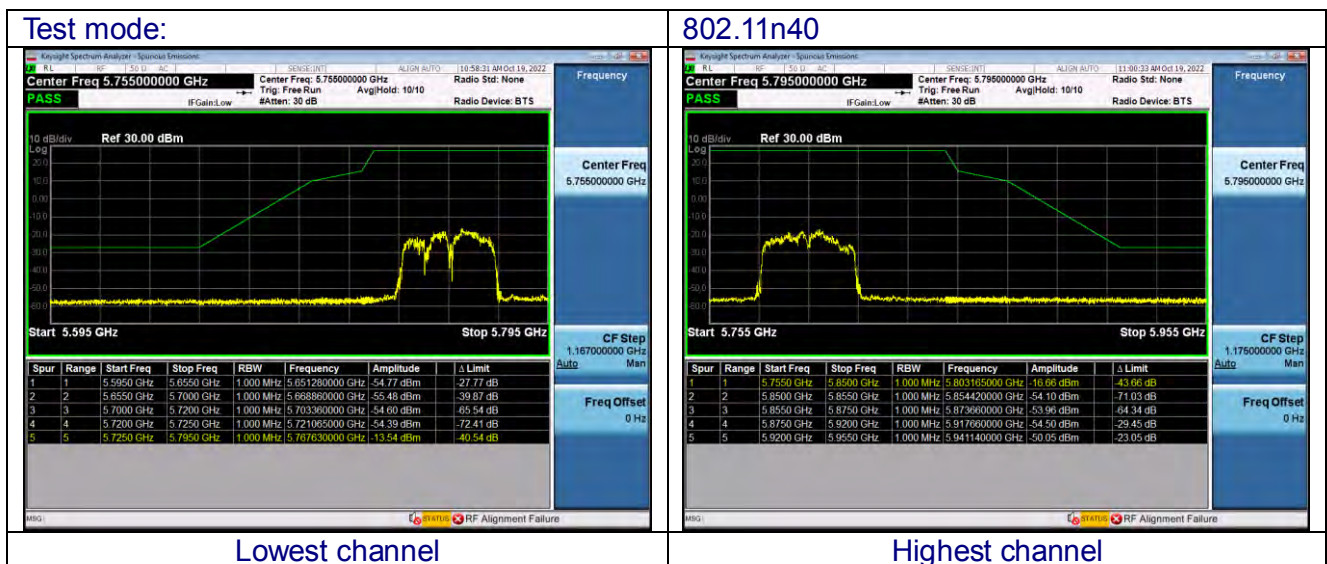
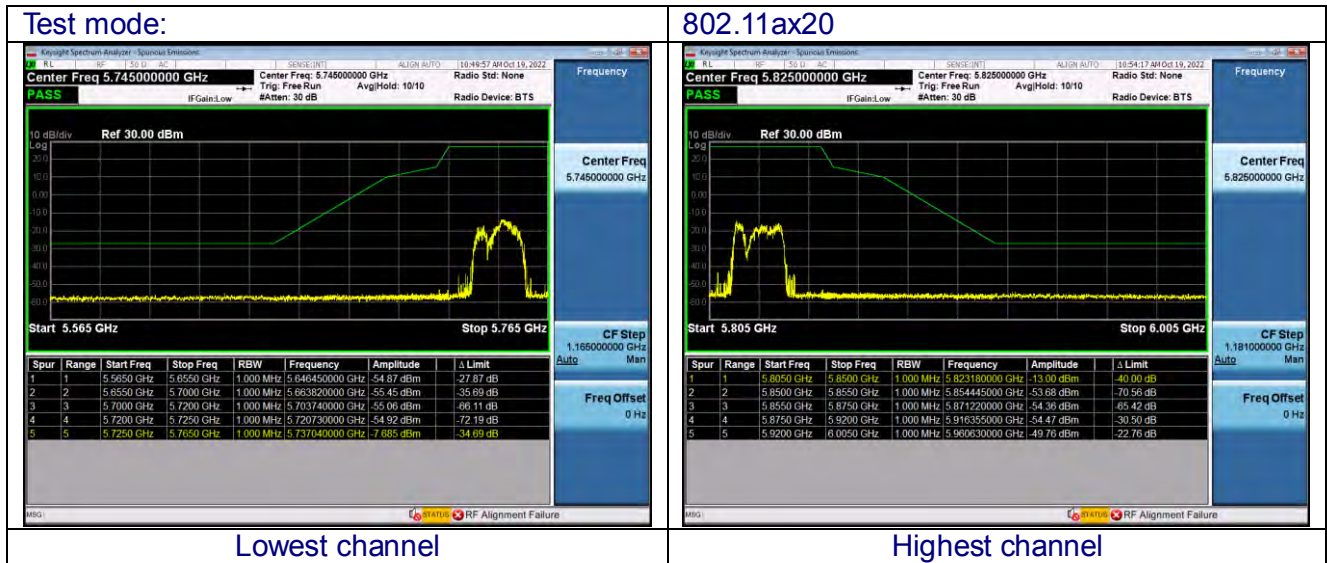
802.11ac20



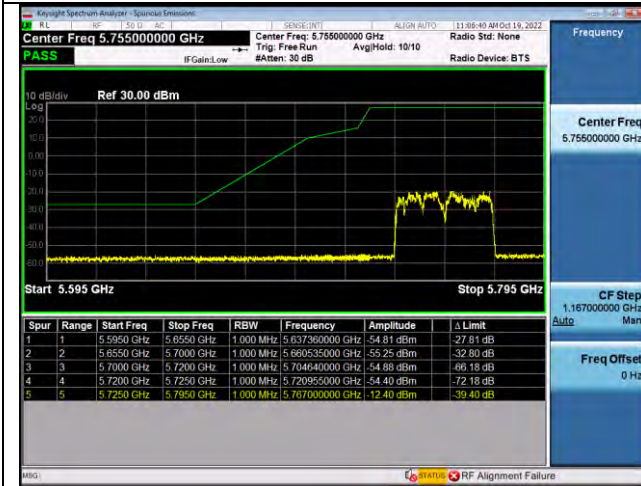
Lowest channel



Highest channel

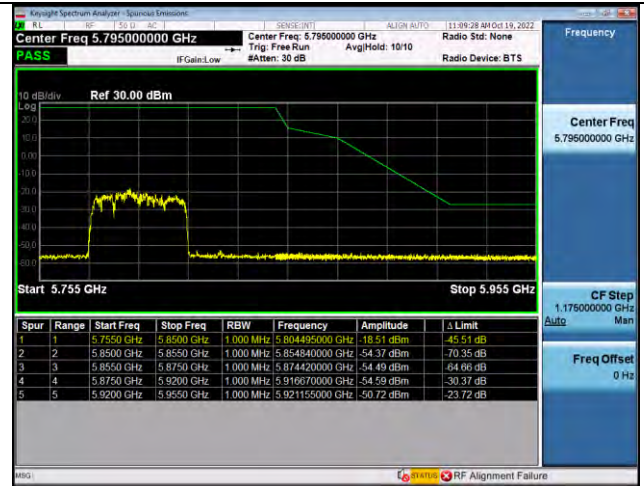


Test mode:



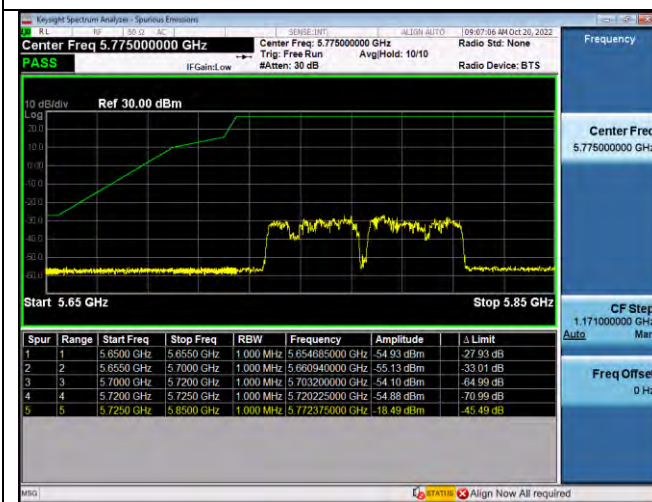
Lowest channel

802.11ax40



Highest channel

Test mode:



Lowest channel

802.11ac80



Highest channel

Test mode:



Lowest channel

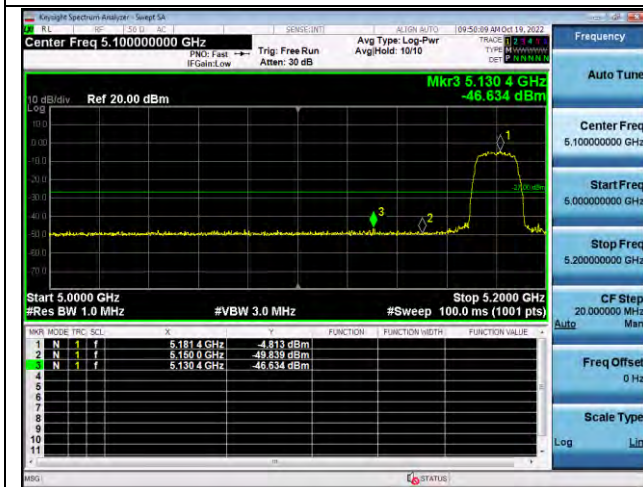
802.11ax80



Highest channel

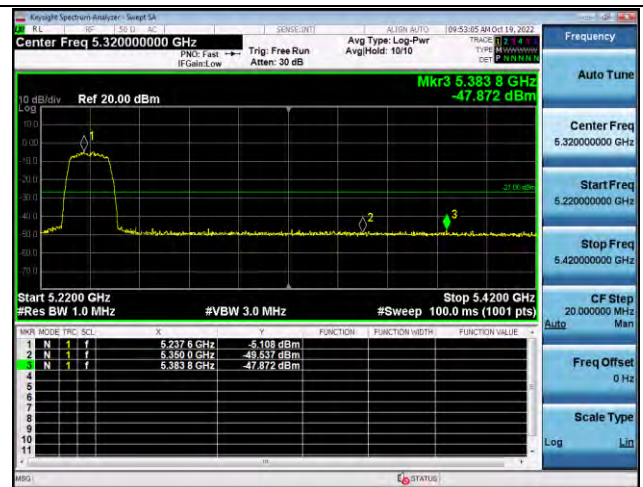
# ANT2- U-NII-1

Test mode:



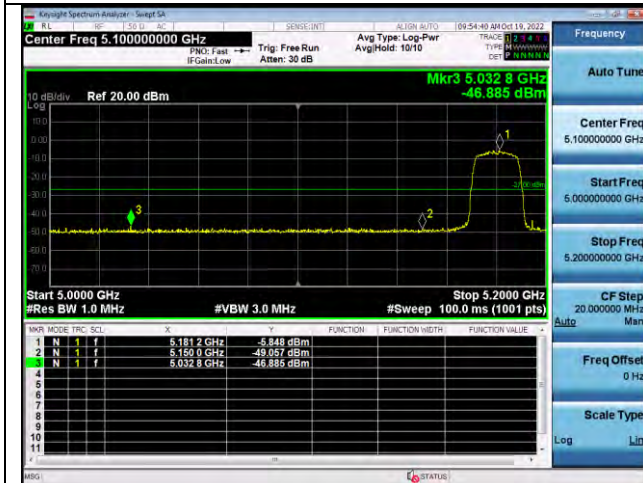
Lowest channel

802.11a



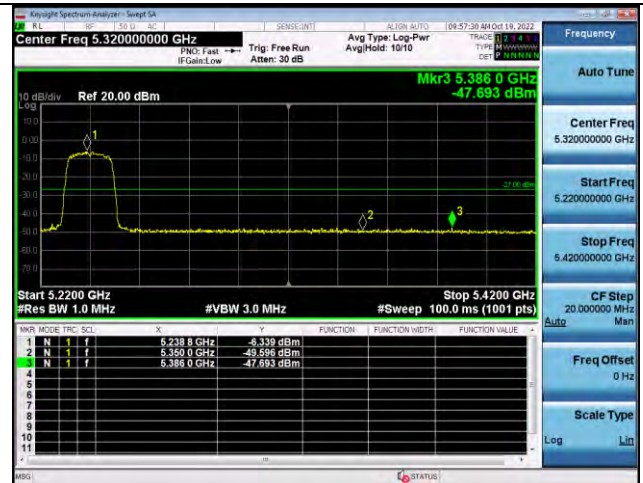
Highest channel

Test mode:



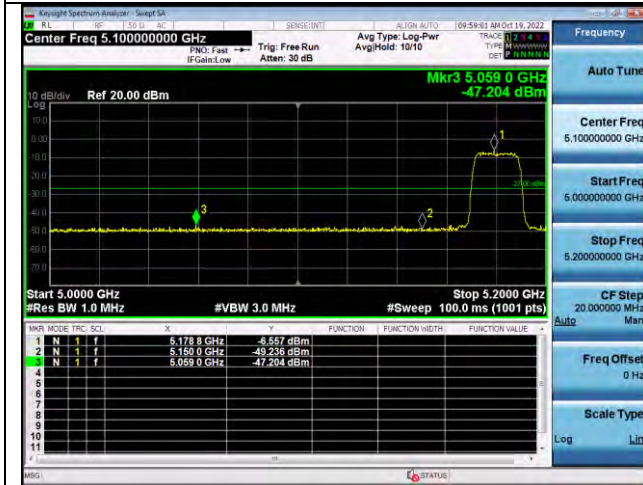
Lowest channel

802.11n20



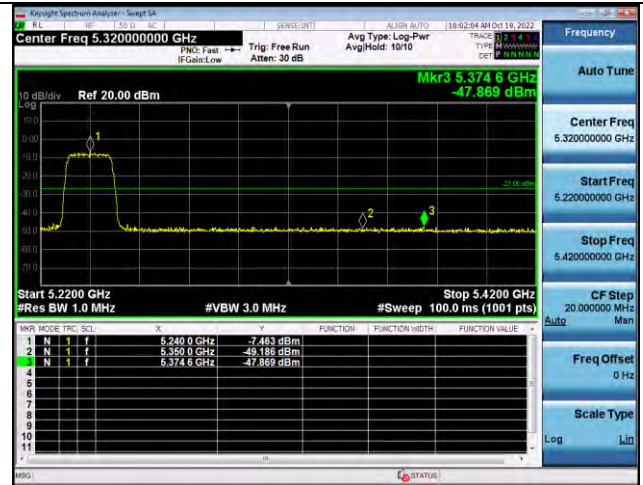
Highest channel

Test mode:

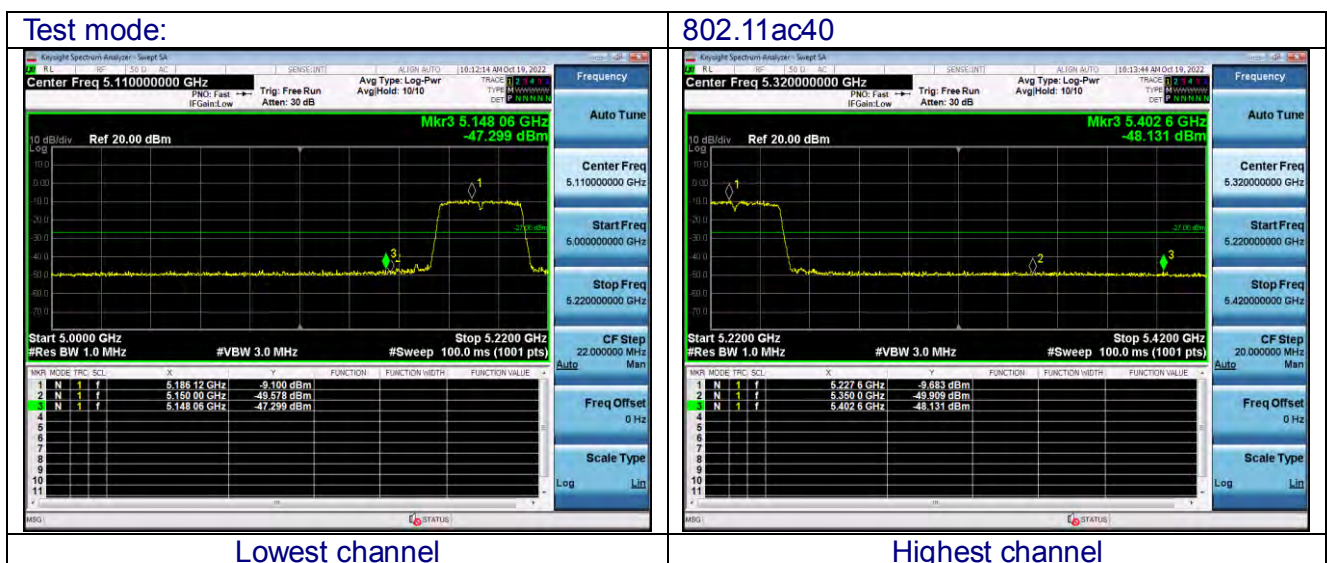
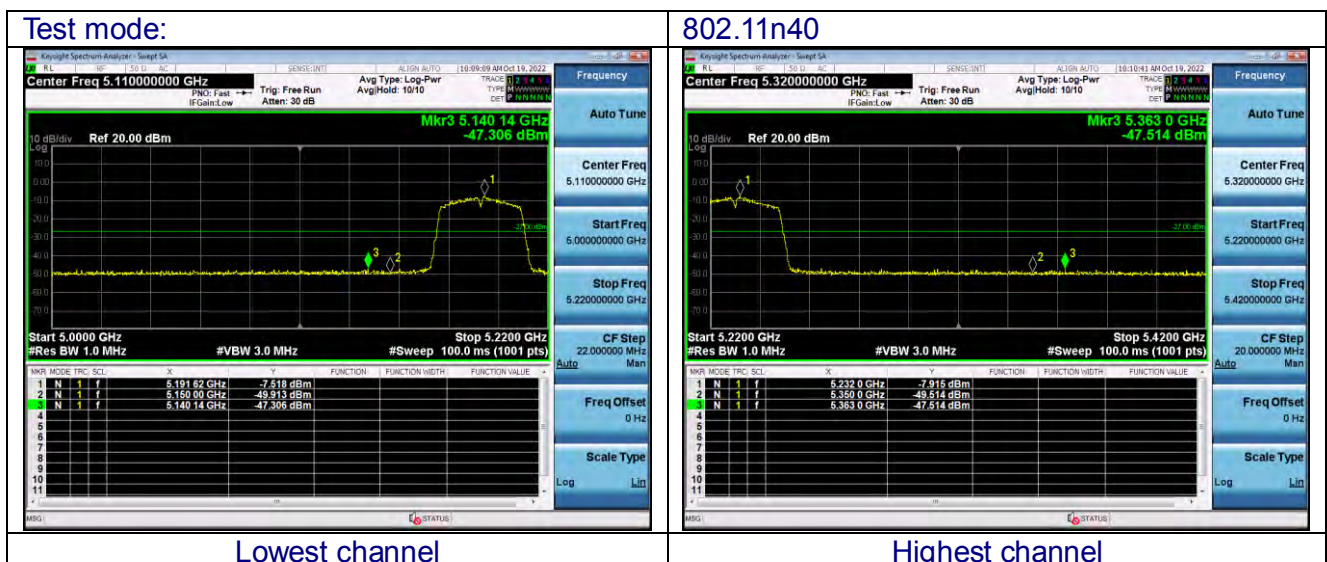
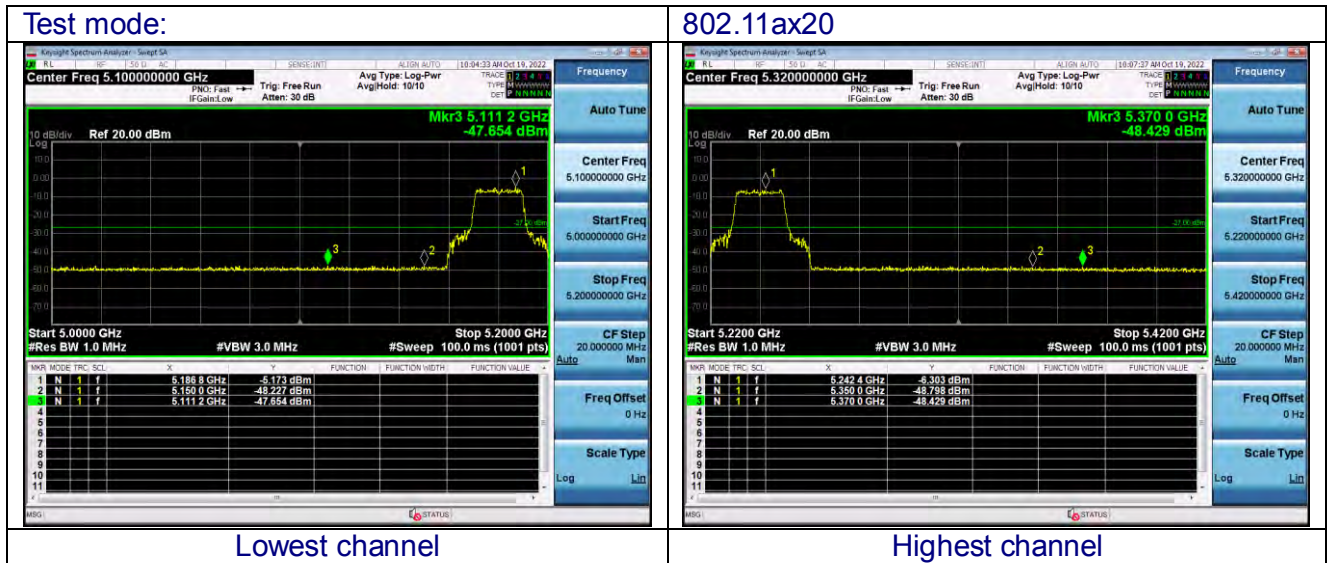


Lowest channel

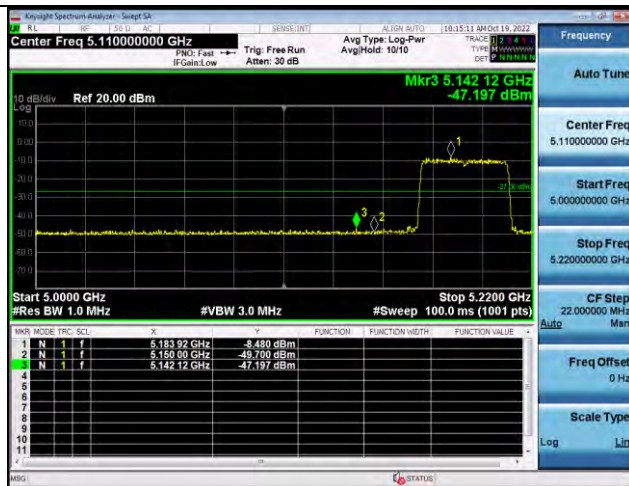
802.11ac20



Highest channel

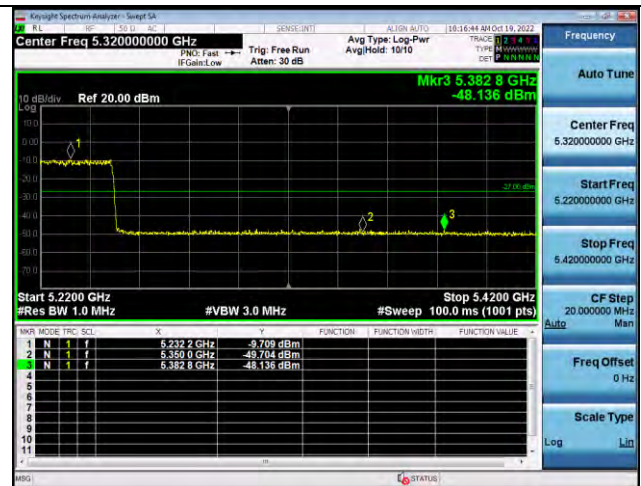


## Test mode:



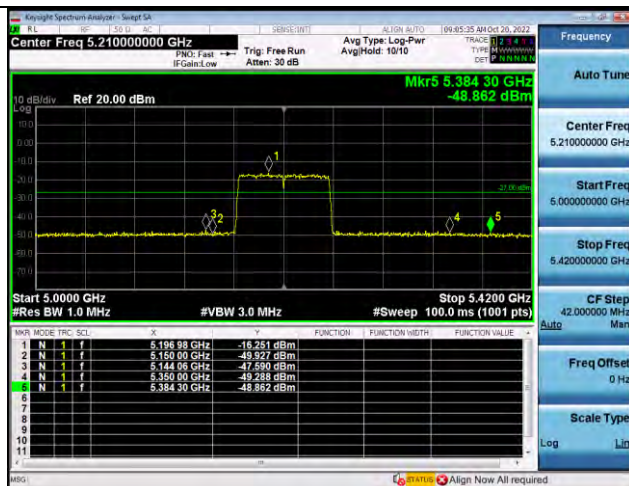
Lowest channel

## 802.11ax40



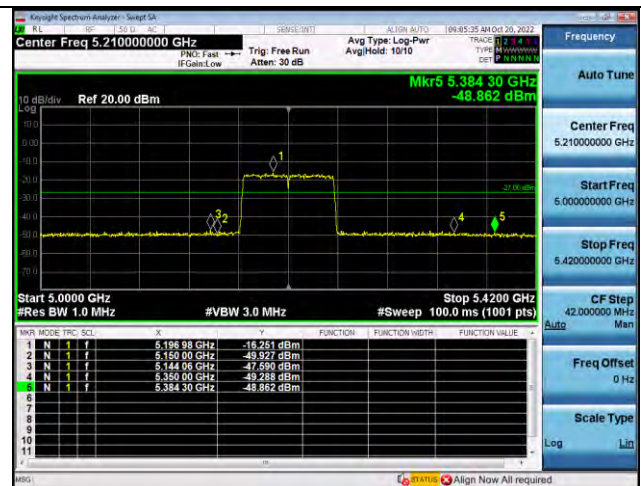
Highest channel

Test mode:



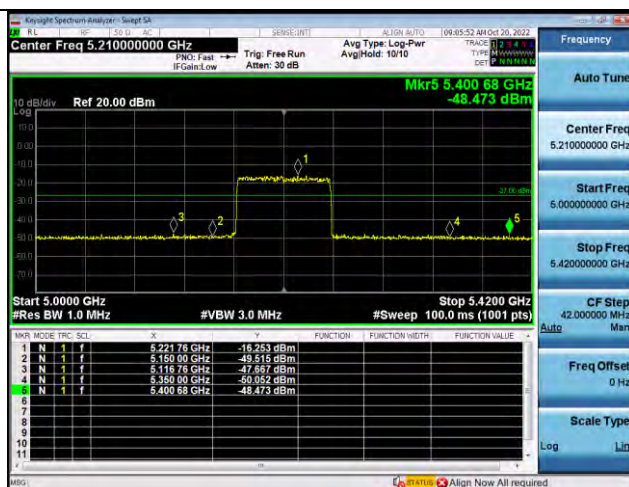
Lowest channel

## 802.11ac80



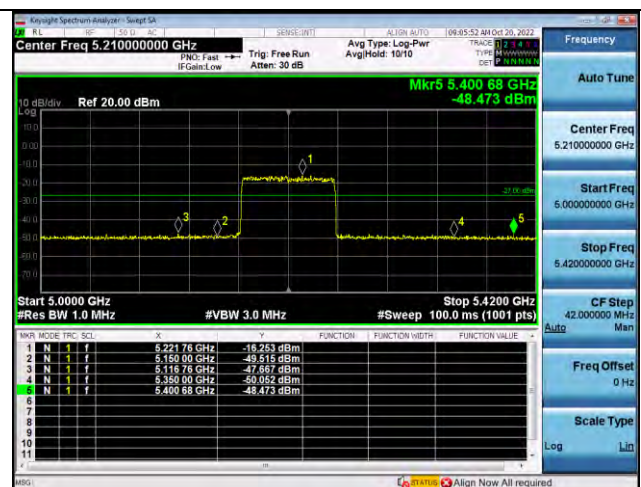
Highest channel

Test mode:



Lowest channel

## 802.11ax80

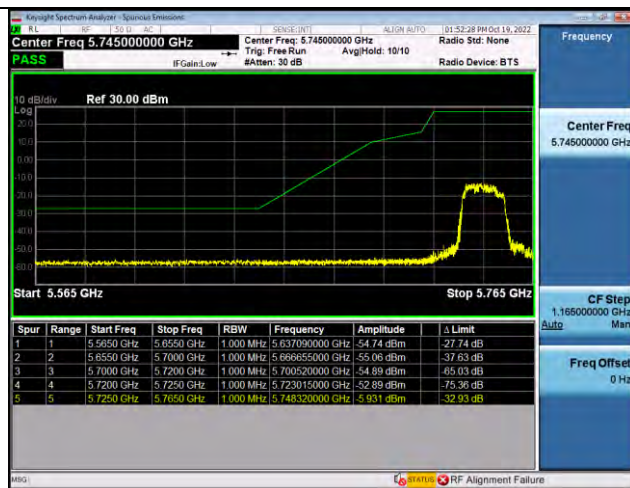


Highest channel

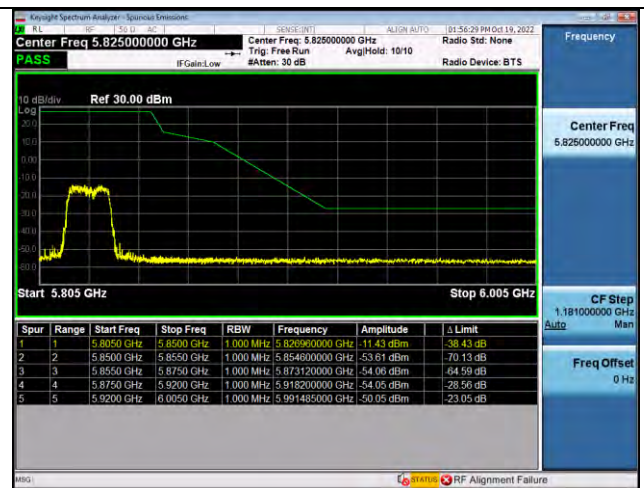
# ANT2-U-NII-3

Test mode:

802.11a



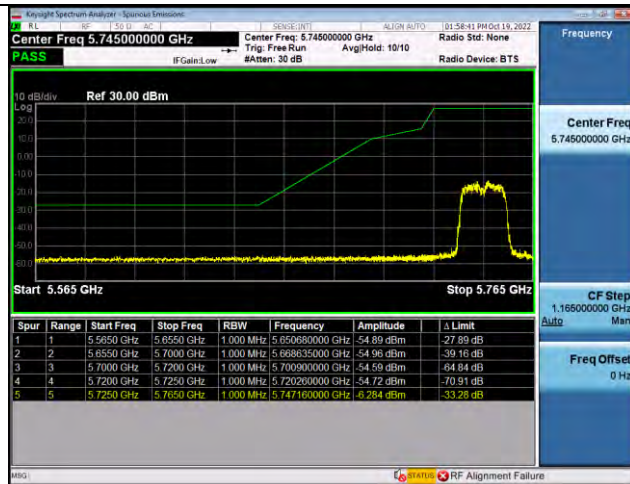
Lowest channel



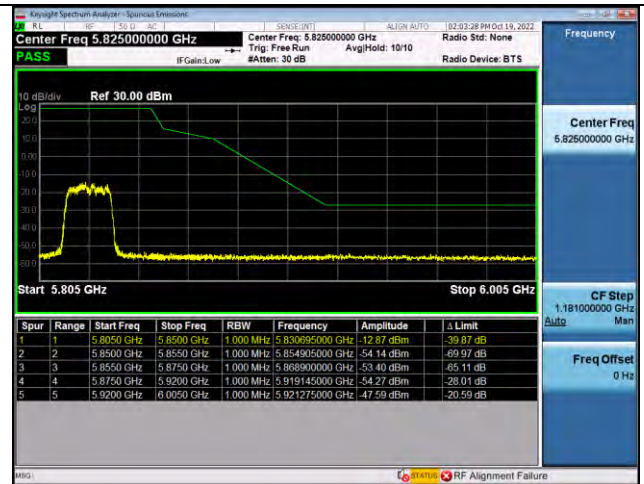
Highest channel

Test mode:

802.11n20



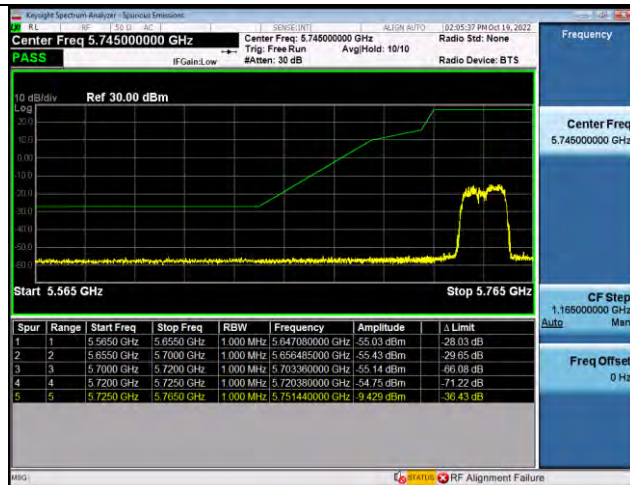
Lowest channel



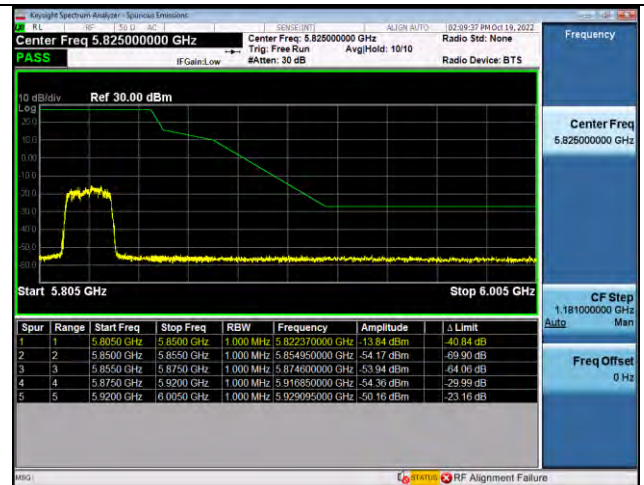
Highest channel

Test mode:

802.11ac20

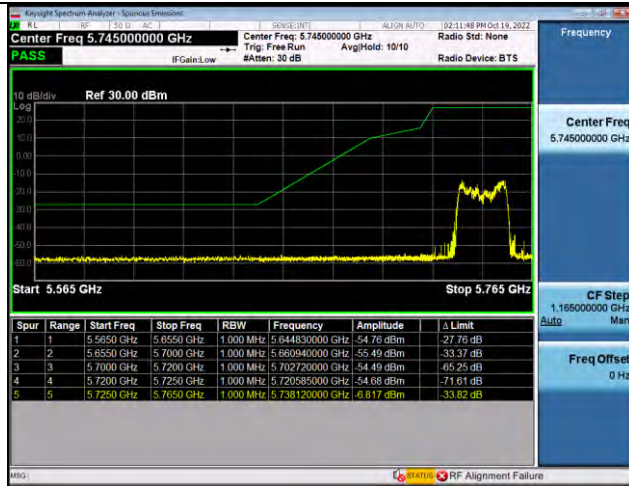


Lowest channel



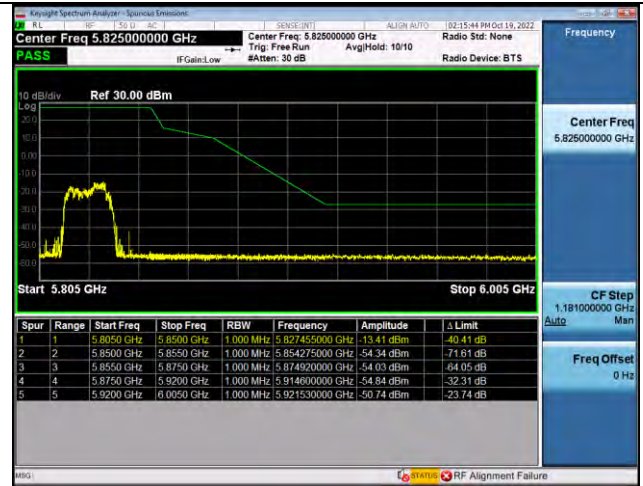
Highest channel

Test mode:



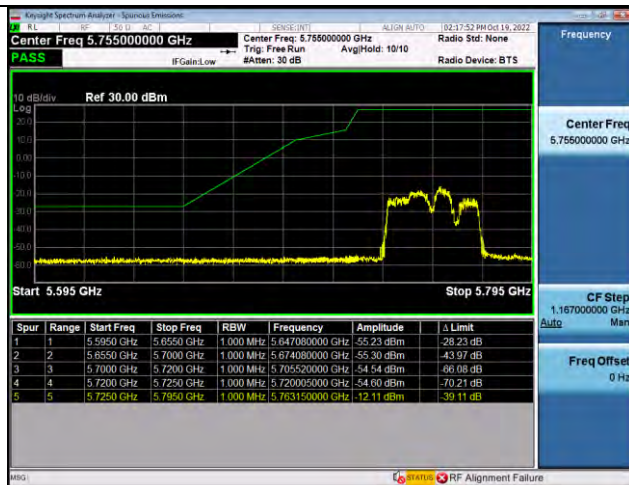
Lowest channel

802.11ax20



Highest channel

Test mode:



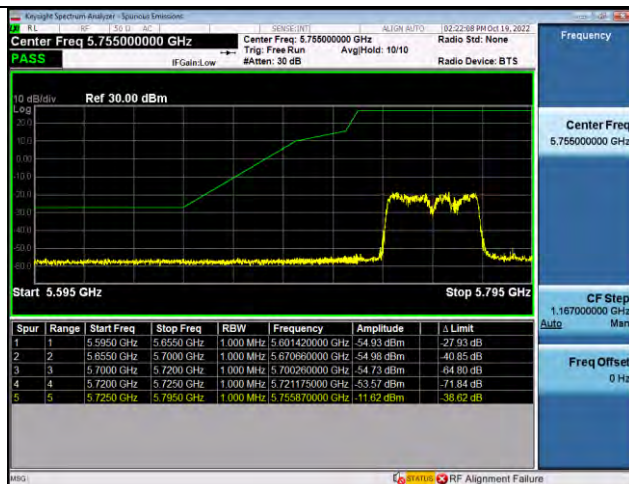
Lowest channel

802.11n40



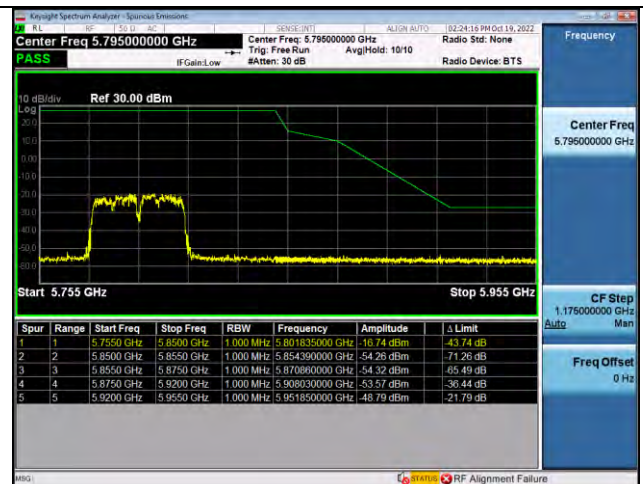
Highest channel

Test mode:

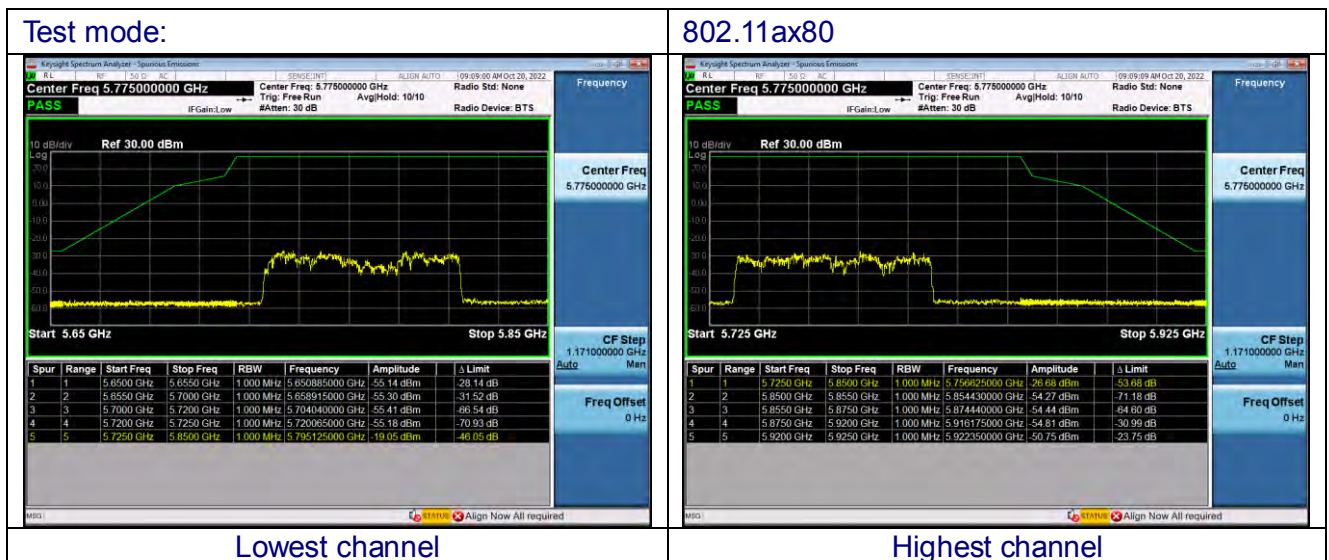
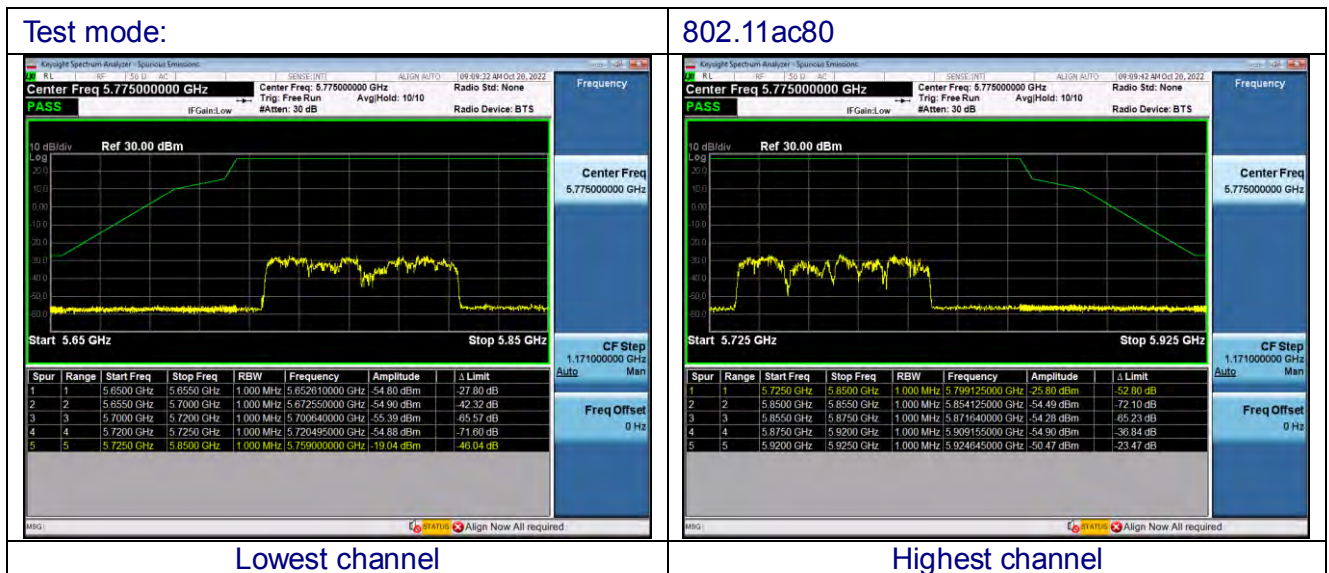
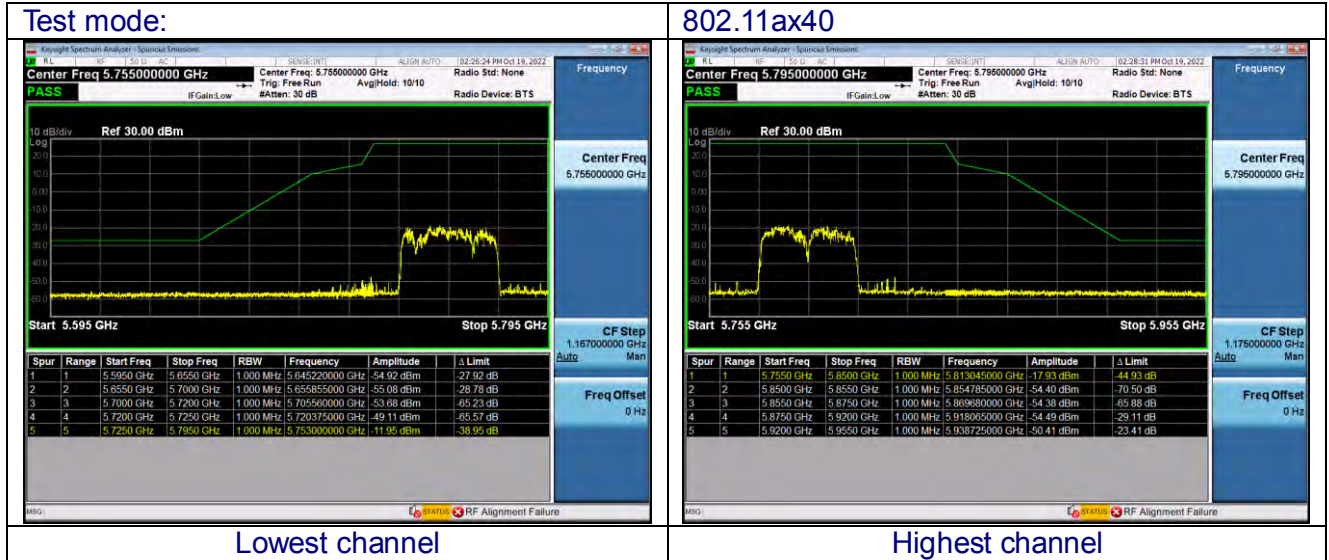


Lowest channel

802.11ac40



Highest channel



## 9. FREQUENCY STABILITY MEASUREMENT

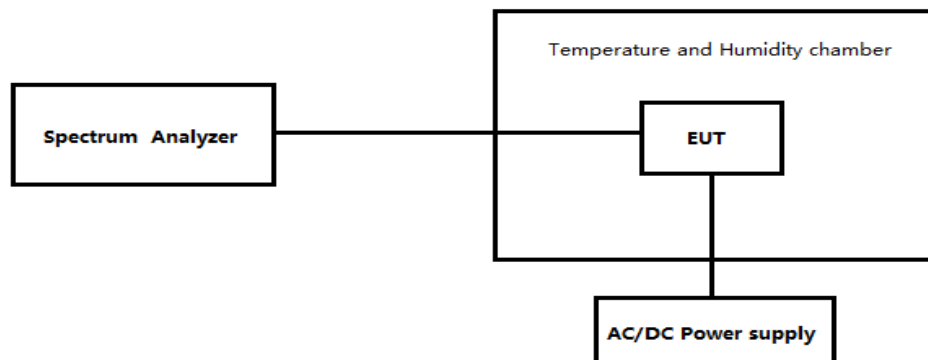
### 9.1 LIMIT

According to §15.407(g), 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.

### 9.2 TEST PROCEDURE

1. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
2. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.
3. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

### 9.3 TEST CONFIGURATION



### 9.4 TEST RESULT

|               |        |                     |       |
|---------------|--------|---------------------|-------|
| Temperature : | 26°C   | Relative Humidity : | 54%   |
| Pressure :    | 101kPa | Test Voltage :      | DC 5V |

Note: Only the test results of the worst channel are displayed

#### ANT1-802.11a- CH36

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.011                               | 2.132 |
| 40               | 5.0            | 0.008                               | 1.624 |
| 30               | 5.0            | 0.016                               | 3.123 |
| 20               | 5.0            | 0.013                               | 2.559 |

|     |     |       |       |
|-----|-----|-------|-------|
| 10  | 5.0 | 0.015 | 2.970 |
| 0   | 5.0 | 0.011 | 2.132 |
| -10 | 5.0 | 0.001 | 0.252 |
| -20 | 5.0 | 0.011 | 2.132 |
| -30 | 5.0 | 0.001 | 0.252 |

ANT1-802.11a- CH48

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.015                               | 2.919 |
| 40               | 5.0            | 0.014                               | 2.600 |
| 30               | 5.0            | 0.015                               | 2.919 |
| 20               | 5.0            | 0.007                               | 1.245 |
| 10               | 5.0            | 0.013                               | 2.434 |
| 0                | 5.0            | 0.001                               | 0.156 |
| -10              | 5.0            | 0.002                               | 0.413 |
| -20              | 5.0            | 0.006                               | 1.188 |
| -30              | 5.0            | 0.017                               | 3.314 |

ANT1-802.11a- CH149

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.009                               | 1.556 |
| 40               | 5.0            | 0.013                               | 2.345 |
| 30               | 5.0            | 0.011                               | 1.992 |
| 20               | 5.0            | 0.016                               | 2.722 |
| 10               | 5.0            | 0.011                               | 1.928 |
| 0                | 5.0            | 0.014                               | 2.398 |
| -10              | 5.0            | 0.016                               | 2.722 |
| -20              | 5.0            | 0.012                               | 2.110 |
| -30              | 5.0            | 0.004                               | 0.679 |

ANT1-802.11a- CH165

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.010                               | 1.635 |
| 40               | 5.0            | 0.016                               | 2.706 |
| 30               | 5.0            | 0.004                               | 0.721 |
| 20               | 5.0            | 0.011                               | 1.925 |
| 10               | 5.0            | 0.004                               | 0.721 |
| 0                | 5.0            | 0.014                               | 2.350 |
| -10              | 5.0            | 0.009                               | 1.614 |
| -20              | 5.0            | 0.015                               | 2.646 |
| -30              | 5.0            | 0.011                               | 1.878 |

ANT1-802.11n20- CH36

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.011                               | 2.132 |
| 40               | 5.0            | 0.002                               | 0.478 |
| 30               | 5.0            | 0.017                               | 3.233 |
| 20               | 5.0            | 0.004                               | 0.846 |
| 10               | 5.0            | 0.009                               | 1.816 |
| 0                | 5.0            | 0.010                               | 1.911 |
| -10              | 5.0            | 0.002                               | 0.416 |
| -20              | 5.0            | 0.011                               | 2.123 |
| -30              | -20            | 0.007                               | 1.345 |

ANT1-802.11n20- CH48

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.006                               | 1.158 |
| 40               | 5.0            | 0.009                               | 1.629 |
| 30               | 5.0            | 0.018                               | 3.358 |
| 20               | 5.0            | 0.012                               | 2.291 |
| 10               | 5.0            | 0.004                               | 0.713 |
| 0                | 5.0            | 0.005                               | 0.908 |
| -10              | 5.0            | 0.010                               | 2.002 |
| -20              | 5.0            | 0.010                               | 2.002 |
| -30              | 5.0            | 0.010                               | 2.002 |

ANT1-802.11n20- CH149

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.006                               | 1.061 |
| 40               | 5.0            | 0.005                               | 0.909 |
| 30               | 5.0            | 0.002                               | 0.335 |
| 20               | 5.0            | 0.012                               | 2.126 |
| 10               | 5.0            | 0.005                               | 0.909 |
| 0                | 5.0            | 0.009                               | 1.512 |
| -10              | 5.0            | 0.003                               | 0.463 |
| -20              | 5.0            | 0.010                               | 1.815 |
| -30              |                | 0.017                               | 3.042 |

ANT1-802.11n20- CH165

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.017                               | 2.996 |
| 40               | 5.0            | 0.010                               | 1.683 |
| 30               | 5.0            | 0.010                               | 1.683 |
| 20               | 5.0            | 0.014                               | 2.406 |
| 10               | 5.0            | 0.010                               | 1.683 |
| 0                | 5.0            | 0.016                               | 2.666 |
| -10              | 5.0            | 0.009                               | 1.621 |
| -20              | 5.0            | 0.010                               | 1.683 |
| -30              | 5.0            | 0.014                               | 2.406 |

ANT1-802.11n40- CH38

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.013                               | 2.466 |
| 40               | 5.0            | 0.015                               | 2.856 |
| 30               | 5.0            | 0.004                               | 0.697 |
| 20               | 5.0            | 0.012                               | 2.219 |
| 10               | 5.0            | 0.007                               | 1.440 |
| 0                | 5.0            | 0.006                               | 1.183 |
| -10              | 5.0            | 0.010                               | 1.834 |
| -20              | 5.0            | 0.010                               | 1.834 |
| -30              | 5.0            | 0.012                               | 2.219 |

ANT1-802.11n40- CH46

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.006                               | 1.077 |
| 40               | 5.0            | 0.010                               | 1.944 |
| 30               | 5.0            | 0.005                               | 1.005 |
| 20               | 5.0            | 0.015                               | 2.948 |
| 10               | 5.0            | 0.010                               | 1.944 |
| 0                | 5.0            | 0.001                               | 0.170 |
| -10              | 5.0            | 0.005                               | 1.047 |
| -20              | 5.0            | 0.009                               | 1.655 |
| -30              | 5.0            | 0.011                               | 2.081 |

ANT1-802.11n40- CH151

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.012                               | 2.148 |
| 40               | 5.0            | 0.014                               | 2.494 |
| 30               | 5.0            | 0.017                               | 2.926 |
| 20               | 5.0            | 0.004                               | 0.676 |
| 10               | 5.0            | 0.013                               | 2.324 |
| 0                | 5.0            | 0.010                               | 1.668 |
| -10              | 5.0            | 0.005                               | 0.848 |
| -20              | 5.0            | 0.009                               | 1.520 |
| -30              | 5.0            | 0.001                               | 0.217 |

ANT1-802.11n40- CH159

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.008                               | 1.440 |
| 40               | 5.0            | 0.016                               | 2.811 |
| 30               | 5.0            | 0.006                               | 0.973 |
| 20               | 5.0            | 0.013                               | 2.222 |
| 10               | 5.0            | 0.017                               | 2.982 |
| 0                | 5.0            | 0.012                               | 2.057 |
| -10              | 5.0            | 0.007                               | 1.216 |
| -20              | 5.0            | 0.017                               | 2.982 |
| -30              | 5.0            | 0.002                               | 0.347 |

ANT1-802.11ac20- CH36

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.014                               | 2.769 |
| 40               | 5.0            | 0.018                               | 3.442 |
| 30               | 5.0            | 0.011                               | 2.123 |
| 20               | 5.0            | 0.004                               | 0.811 |
| 10               | 5.0            | 0.001                               | 0.202 |
| 0                | 5.0            | 0.018                               | 3.397 |
| -10              | 5.0            | 0.013                               | 2.522 |
| -20              | 5.0            | 0.018                               | 3.442 |
| -30              | 5.0            | 0.012                               | 2.300 |

ANT1-802.11ac20- CH48

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.013                               | 2.560 |
| 40               | 5.0            | 0.005                               | 0.863 |
| 30               | 5.0            | 0.016                               | 3.012 |

|     |     |       |       |
|-----|-----|-------|-------|
| 20  | 5.0 | 0.013 | 2.560 |
| 10  | 5.0 | 0.016 | 3.012 |
| 0   | 5.0 | 0.004 | 0.852 |
| -10 | 5.0 | 0.015 | 2.803 |
| -20 | 5.0 | 0.013 | 2.560 |
| -30 | 5.0 | 0.015 | 2.803 |

ANT1-802.11ac20- CH149

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.007                               | 1.219 |
| 40               | 5.0            | 0.011                               | 1.916 |
| 30               | 5.0            | 0.003                               | 0.542 |
| 20               | 5.0            | 0.012                               | 2.131 |
| 10               | 5.0            | 0.001                               | 0.091 |
| 0                | 5.0            | 0.012                               | 2.130 |
| -10              | 5.0            | 0.007                               | 1.219 |
| -20              | 5.0            | 0.005                               | 0.819 |
| -30              | 5.0            | 0.014                               | 2.381 |

ANT1-802.11ac20- CH165

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.003                               | 0.464 |
| 40               | 5.0            | 0.002                               | 0.285 |
| 30               | 5.0            | 0.004                               | 0.690 |
| 20               | 5.0            | 0.010                               | 1.801 |
| 10               | 5.0            | 0.004                               | 0.690 |
| 0                | 5.0            | 0.007                               | 1.245 |
| -10              | 5.0            | 0.002                               | 0.285 |
| -20              | 5.0            | 0.008                               | 1.317 |
| -30              | 5.0            | 0.011                               | 1.891 |

ANT1-802.11ac40- CH38

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.018                               | 3.417 |
| 40               | 5.0            | 0.007                               | 1.359 |
| 30               | 5.0            | 0.017                               | 3.227 |
| 20               | 5.0            | 0.007                               | 1.359 |
| 10               | 5.0            | 0.012                               | 2.343 |
| 0                | 5.0            | 0.008                               | 1.608 |
| -10              | 5.0            | 0.007                               | 1.359 |
| -20              | 5.0            | 0.005                               | 0.976 |
| -30              | 5.0            | 0.009                               | 1.818 |

ANT1-802.11ac40- CH46

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.013                               | 2.553 |
| 40               | 5.0            | 0.011                               | 2.183 |
| 30               | 5.0            | 0.007                               | 1.377 |
| 20               | 5.0            | 0.002                               | 0.450 |
| 10               | 5.0            | 0.014                               | 2.651 |
| 0                | 5.0            | 0.016                               | 3.018 |
| -10              | 5.0            | 0.002                               | 0.450 |
| -20              | 5.0            | 0.003                               | 0.652 |
| -30              | 5.0            | 0.002                               | 0.450 |

ANT1-802.11ac40- CH151

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.002                               | 0.364 |
| 40               | 5.0            | 0.008                               | 1.442 |
| 30               | 5.0            | 0.010                               | 1.742 |
| 20               | 5.0            | 0.008                               | 1.331 |
| 10               | 5.0            | 0.013                               | 2.322 |
| 0                | 5.0            | 0.009                               | 1.631 |
| -10              | 5.0            | 0.016                               | 2.801 |
| -20              | 5.0            | 0.016                               | 2.801 |
| -30              | 5.0            | 0.006                               | 1.057 |

ANT1-802.11ac40- CH159

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.018                               | 3.092 |
| 40               | 5.0            | 0.004                               | 0.763 |
| 30               | 5.0            | 0.005                               | 0.800 |
| 20               | 5.0            | 0.010                               | 1.780 |
| 10               | 5.0            | 0.013                               | 2.189 |
| 0                | 5.0            | 0.008                               | 1.384 |
| -10              | 5.0            | 0.007                               | 1.247 |
| -20              | 5.0            | 0.014                               | 2.389 |
| -30              | 5.0            | 0.004                               | 0.763 |

ANT1-802.11ac80- CH42

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.013                               | 2.466 |
| 40               | 5.0            | 0.010                               | 2.009 |
| 30               | 5.0            | 0.001                               | 0.162 |
| 20               | 5.0            | 0.010                               | 2.009 |

|     |     |       |       |
|-----|-----|-------|-------|
| 10  | 5.0 | 0.015 | 2.909 |
| 0   | 5.0 | 0.012 | 2.212 |
| -10 | 5.0 | 0.006 | 1.132 |
| -20 | 5.0 | 0.008 | 1.447 |
| -30 | 5.0 | 0.004 | 0.832 |

ANT1-802.11ac80- CH155

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.013                               | 2.179 |
| 40               | 5.0            | 0.006                               | 1.028 |
| 30               | 5.0            | 0.016                               | 2.793 |
| 20               | 5.0            | 0.015                               | 2.593 |
| 10               | 5.0            | 0.010                               | 1.813 |
| 0                | 5.0            | 0.015                               | 2.683 |
| -10              | 5.0            | 0.002                               | 0.297 |
| -20              | 5.0            | 0.011                               | 1.962 |
| -30              | 5.0            | 0.016                               | 2.793 |

ANT1-802.11ax20- CH36

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.017                               | 3.311 |
| 40               | 5.0            | 0.004                               | 0.720 |
| 30               | 5.0            | 0.002                               | 0.341 |
| 20               | 5.0            | 0.016                               | 3.016 |
| 10               | 5.0            | 0.010                               | 1.909 |
| 0                | 5.0            | 0.003                               | 0.593 |
| -10              | 5.0            | 0.001                               | 0.242 |
| -20              | 5.0            | 0.014                               | 2.696 |
| -30              | 5.0            | 0.014                               | 2.696 |

ANT1-802.11ax20- CH48

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.007                               | 1.256 |
| 40               | 5.0            | 0.002                               | 0.407 |
| 30               | 5.0            | 0.006                               | 1.157 |
| 20               | 5.0            | 0.009                               | 1.654 |
| 10               | 5.0            | 0.001                               | 0.125 |
| 0                | 5.0            | 0.017                               | 3.220 |
| -10              | 5.0            | 0.011                               | 2.153 |
| -20              | 5.0            | 0.016                               | 3.012 |
| -30              | 5.0            | 0.013                               | 2.529 |

ANT1-802.11ax20- CH149

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.001                               | 0.118 |
| 40               | 5.0            | 0.003                               | 0.594 |
| 30               | 5.0            | 0.012                               | 2.076 |
| 20               | 5.0            | 0.006                               | 1.006 |
| 10               | 5.0            | 0.008                               | 1.307 |
| 0                | 5.0            | 0.010                               | 1.735 |
| -10              | 5.0            | 0.003                               | 0.594 |
| -20              | 5.0            | 0.007                               | 1.166 |
| -30              | 5.0            | 0.012                               | 2.076 |

ANT1-802.11ax20- CH165

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.016                               | 2.710 |
| 40               | 5.0            | 0.009                               | 1.530 |
| 30               | 5.0            | 0.006                               | 1.026 |
| 20               | 5.0            | 0.008                               | 1.448 |
| 10               | 5.0            | 0.008                               | 1.448 |
| 0                | 5.0            | 0.005                               | 0.841 |
| -10              | 5.0            | 0.005                               | 0.841 |
| -20              | 5.0            | 0.012                               | 2.108 |
| -30              | 5.0            | 0.009                               | 1.545 |

ANT1-802.11ax40- CH38

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.016                               | 3.173 |
| 40               | 5.0            | 0.011                               | 2.194 |
| 30               | 5.0            | 0.017                               | 3.237 |
| 20               | 5.0            | 0.014                               | 2.713 |
| 10               | 5.0            | 0.004                               | 0.861 |
| 0                | 5.0            | 0.014                               | 2.713 |
| -10              | 5.0            | 0.013                               | 2.466 |
| -20              | 5.0            | 0.018                               | 3.382 |
| -30              | 5.0            | 0.015                               | 2.936 |

ANT1-802.11ax40- CH46

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.016                               | 3.067 |
| 40               | 5.0            | 0.016                               | 3.067 |
| 30               | 5.0            | 0.001                               | 0.207 |

|     |     |       |       |
|-----|-----|-------|-------|
| 20  | 5.0 | 0.010 | 1.839 |
| 10  | 5.0 | 0.010 | 1.839 |
| 0   | 5.0 | 0.014 | 2.661 |
| -10 | 5.0 | 0.015 | 2.795 |
| -20 | 5.0 | 0.015 | 2.795 |
| -30 | 5.0 | 0.009 | 1.798 |

ANT1-802.11ax40- CH151

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.009                               | 1.615 |
| 40               | 5.0            | 0.007                               | 1.225 |
| 30               | 5.0            | 0.015                               | 2.553 |
| 20               | 5.0            | 0.016                               | 2.854 |
| 10               | 5.0            | 0.012                               | 2.130 |
| 0                | 5.0            | 0.017                               | 3.003 |
| -10              | 5.0            | 0.003                               | 0.593 |
| -20              | 5.0            | 0.004                               | 0.639 |
| -30              | 5.0            | 0.007                               | 1.178 |

ANT1-802.11ax40- CH159

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.010                               | 1.692 |
| 40               | 5.0            | 0.014                               | 2.360 |
| 30               | 5.0            | 0.009                               | 1.494 |
| 20               | 5.0            | 0.010                               | 1.678 |
| 10               | 5.0            | 0.010                               | 1.678 |
| 0                | 5.0            | 0.002                               | 0.333 |
| -10              | 5.0            | 0.005                               | 0.834 |
| -20              | 5.0            | 0.009                               | 1.494 |
| -30              | 5.0            | 0.005                               | 0.834 |

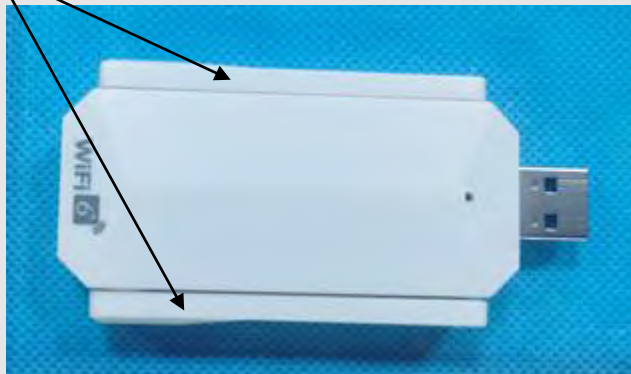
ANT1-802.11ax80- CH42

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.010                               | 1.895 |
| 40               | 5.0            | 0.005                               | 1.026 |
| 30               | 5.0            | 0.014                               | 2.657 |
| 20               | 5.0            | 0.007                               | 1.275 |
| 10               | 5.0            | 0.014                               | 2.657 |
| 0                | 5.0            | 0.009                               | 1.734 |
| -10              | 5.0            | 0.006                               | 1.177 |
| -20              | 5.0            | 0.016                               | 3.131 |
| -30              | 5.0            | 0.016                               | 3.131 |

## ANT1-802.11ax80- CH155

| Temperature (°C) | Voltage (DC:V) | Frequency Measure with time Elapsed |       |
|------------------|----------------|-------------------------------------|-------|
|                  |                | MCF                                 | (ppm) |
| 50               | 5.0            | 0.005                               | 0.790 |
| 40               | 5.0            | 0.005                               | 0.790 |
| 30               | 5.0            | 0.011                               | 1.844 |
| 20               | 5.0            | 0.013                               | 2.173 |
| 10               | 5.0            | 0.015                               | 2.649 |
| 0                | 5.0            | 0.010                               | 1.754 |
| -10              | 5.0            | 0.007                               | 1.287 |
| -20              | 5.0            | 0.014                               | 2.484 |
| -30              | 5.0            | 0.008                               | 1.434 |

## 10.ANTENNA REQUIREMENT

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Standard requirement:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | FCC Part15 C Section 15.203 /247(c) |
| <p>For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247, if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.</p> <p>Refer to statement below for compliance.</p> <p>The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.</p> <p>Antenna Connected Construction</p> <p>The antenna used in this product is a Glue stick antenna, and the best case gain of the antenna is antenna port 1:4.95dBi and Antenna port 2:4.95dBi.</p> |                                     |
| <p>EUT Antenna:</p> <p>2.4G&amp;5GWIFI ANT</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                     |

#### **10. TEST SETUP PHOTO**

Reference to the test setup file for details.

#### **11. EUT CONSTRUCTIONAL DETAILS**

Reference to the external photos file and internal photos file for details.

**\*\*\*\*\* END OF REPORT \*\*\*\*\***