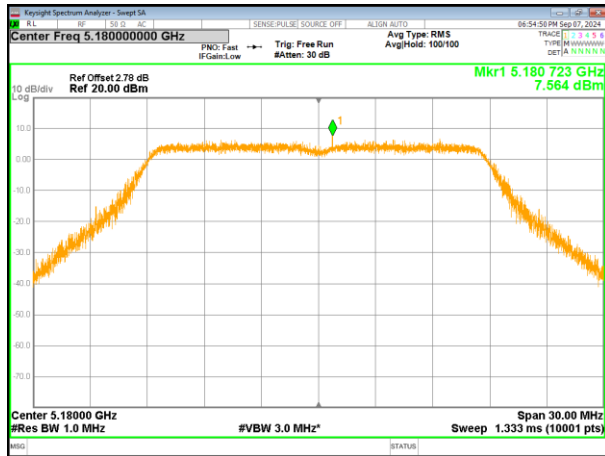
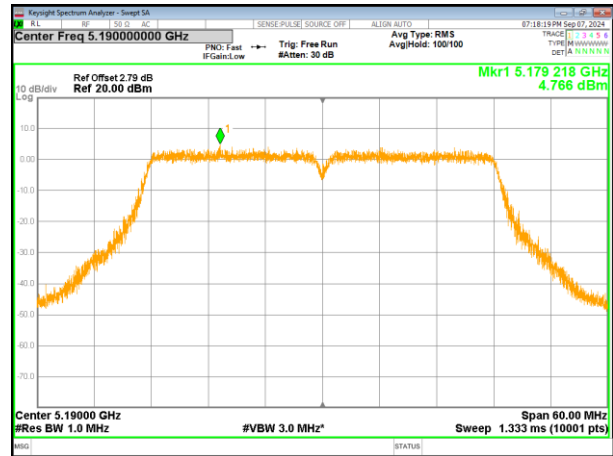


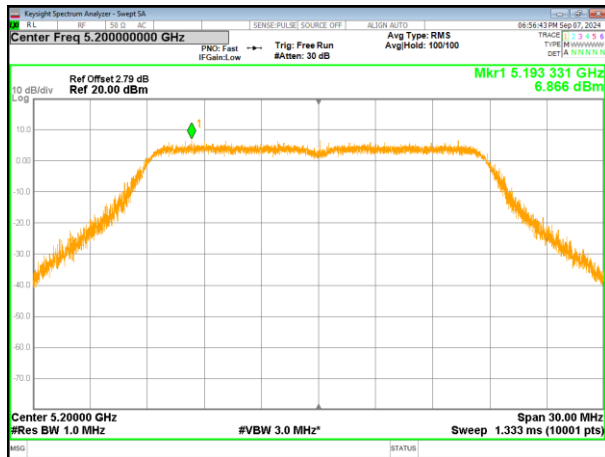
(802.11ac20) PSD plot on channel 36



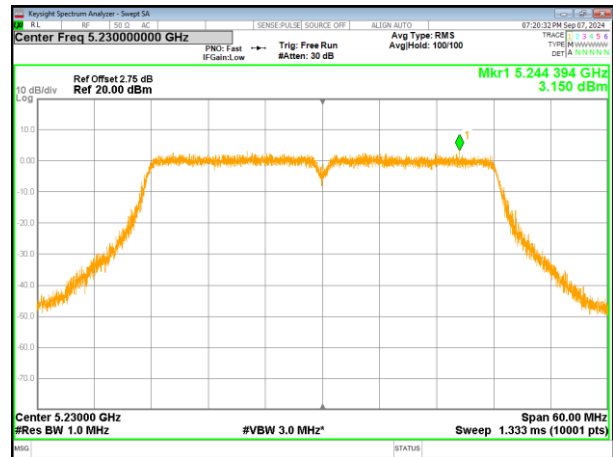
(802.11n40) PSD plot on channel 38



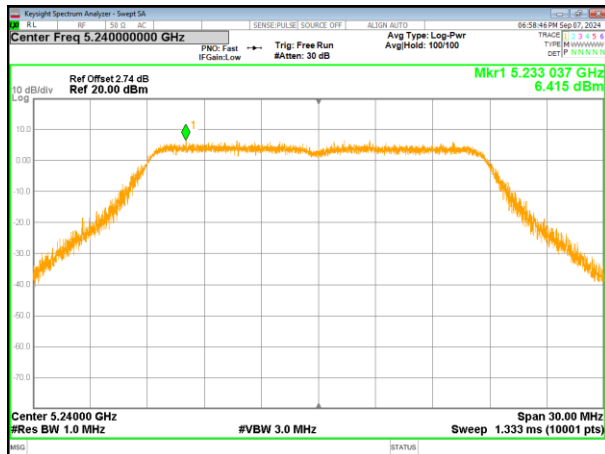
(802.11ac20) PSD plot on channel 40



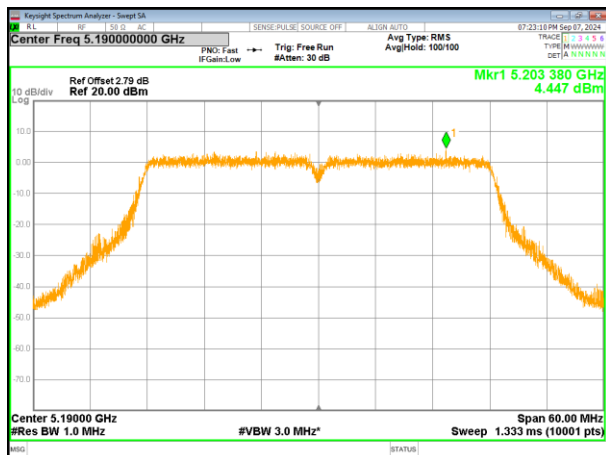
(802.11n40) PSD plot on channel 46



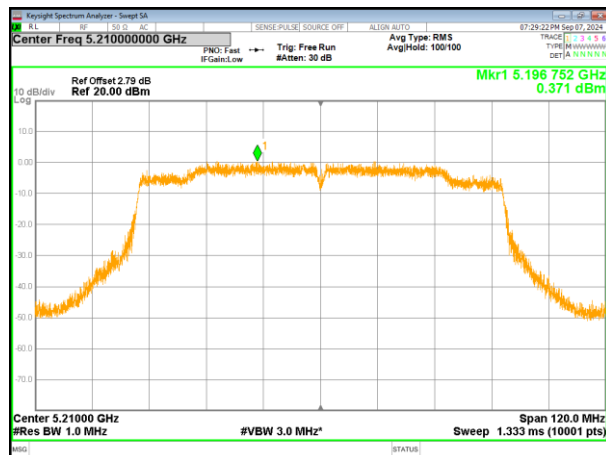
(802.11ac20) PSD plot on channel 48



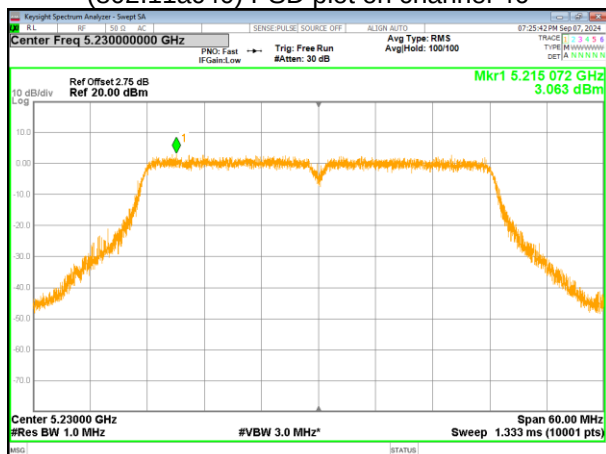
(802.11ac40) PSD plot on channel 38



(802.11ac80) PSD plot on channel 42



(802.11ac40) PSD plot on channel 46

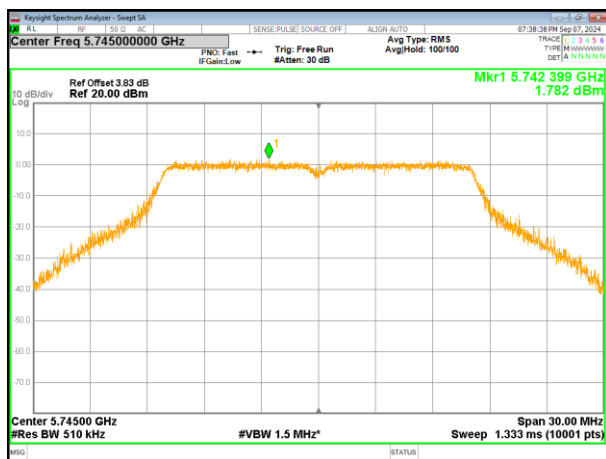


| Mode       | Frequency | Measured Power Density<br>(dBm/510KHz) | Measured Power Density<br>(dBm/500KHz) | Correction Factor (dB) | Total Measured Power Density<br>(dBm/500KHz) | Limit<br>(dBm/MHz) |
|------------|-----------|----------------------------------------|----------------------------------------|------------------------|----------------------------------------------|--------------------|
| 802.11 a   | 5745 MHz  | 1.782                                  | 1.696                                  | 0.08                   | 1.776                                        | 30                 |
|            | 5785 MHz  | 2.272                                  | 2.186                                  | 0.08                   | 2.266                                        | 30                 |
|            | 5825 MHz  | 2.720                                  | 2.634                                  | 0.08                   | 2.714                                        | 30                 |
| 802.11 n20 | 5745 MHz  | 2.889                                  | 2.803                                  | 0.17                   | 2.973                                        | 30                 |
|            | 5785 MHz  | 3.376                                  | 3.290                                  | 0.17                   | 3.46                                         | 30                 |
|            | 5825 MHz  | 3.747                                  | 3.661                                  | 0.17                   | 3.831                                        | 30                 |
| 802.11ac20 | 5745 MHz  | 3.949                                  | 3.863                                  | 0.49                   | 4.353                                        | 30                 |
|            | 5785 MHz  | 3.588                                  | 3.502                                  | 0.49                   | 3.992                                        | 30                 |
|            | 5825 MHz  | 3.795                                  | 3.709                                  | 0.49                   | 4.199                                        | 30                 |
| 802.11 n40 | 5755 MHz  | 0.738                                  | 0.652                                  | 0.51                   | 1.162                                        | 30                 |
|            | 5795 MHz  | 0.048                                  | -0.038                                 | 0.51                   | 0.472                                        | 30                 |
| 802.11ac40 | 5755 MHz  | -0.723                                 | -0.809                                 | 0.19                   | -0.619                                       | 30                 |
|            | 5795 MHz  | -1.284                                 | -1.370                                 | 0.19                   | -1.18                                        | 30                 |
| 802.11ac80 | 5775 MHz  | -4.467                                 | -4.553                                 | 0.40                   | -4.153                                       | 30                 |

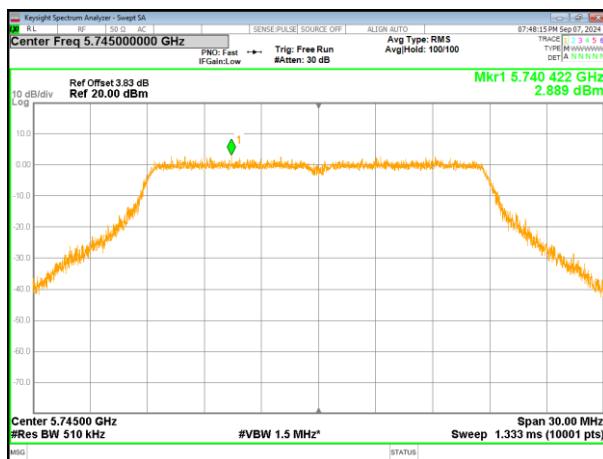
Note: 1. If the measurement is X dBm/510kHz, thus  $X \text{ dBm/510kHz} = (10^{X/10}) * (500 / 510) \text{ dBm/500kHz}$

2. Correction Factor (dB)= duty cycle factor

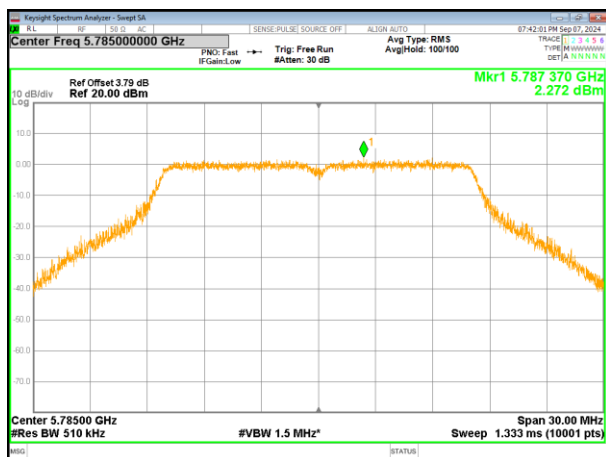
(802.11a) PSD plot on channel 149



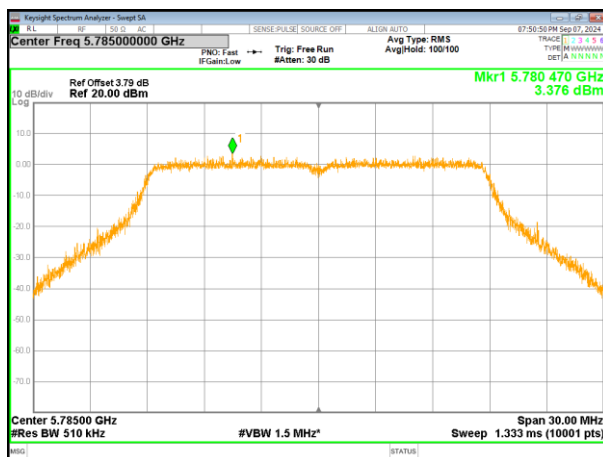
(802.11n20) PSD plot on channel 149



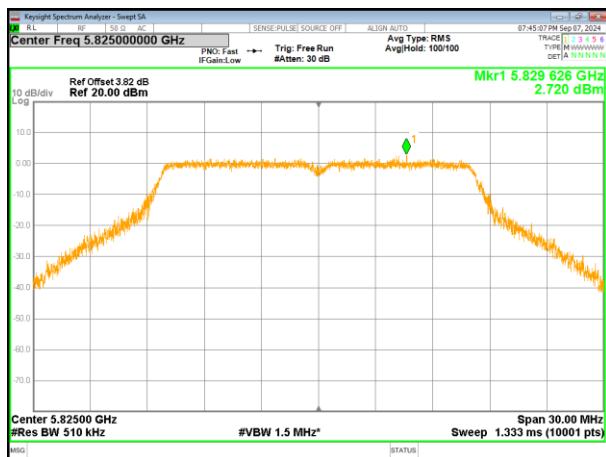
(802.11a) PSD plot on channel 157



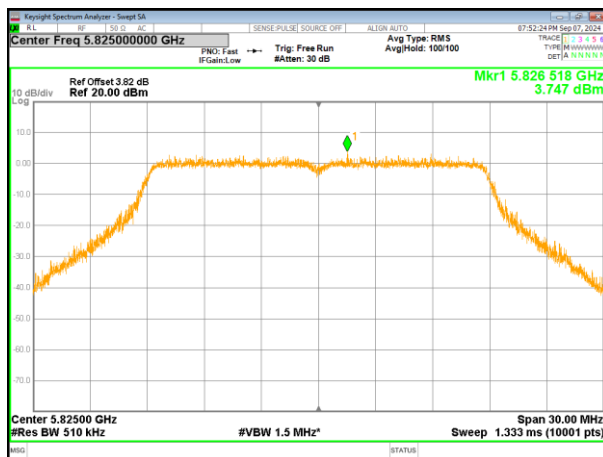
(802.11n20) PSD plot on channel 157



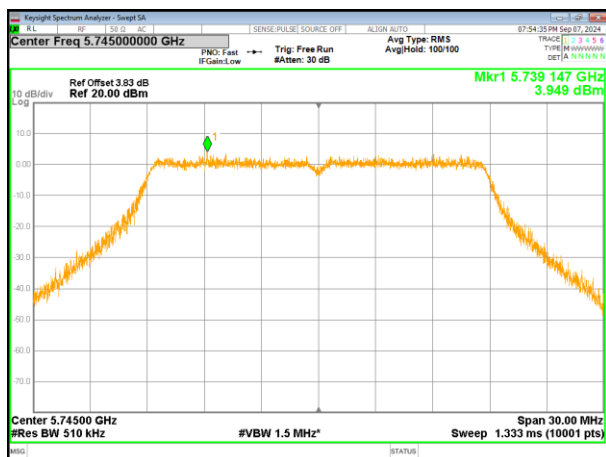
(802.11a) PSD plot on channel 165



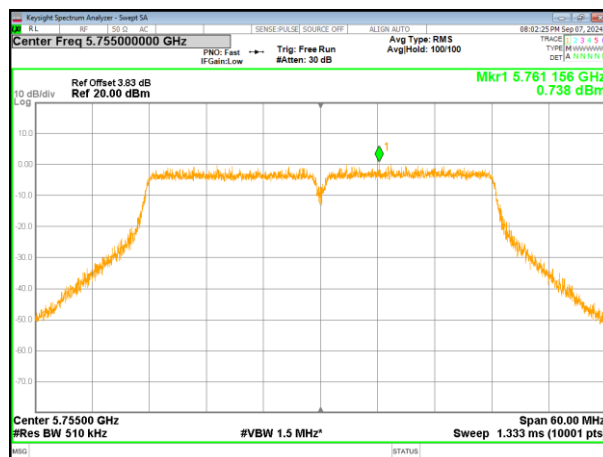
(802.11n20) PSD plot on channel 165



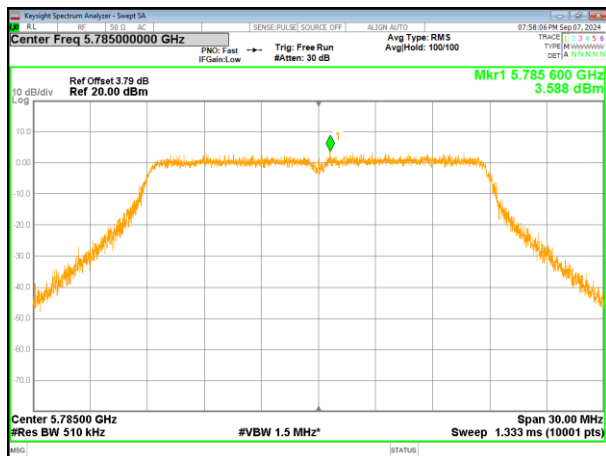
(802.11ac20) PSD plot on channel 149



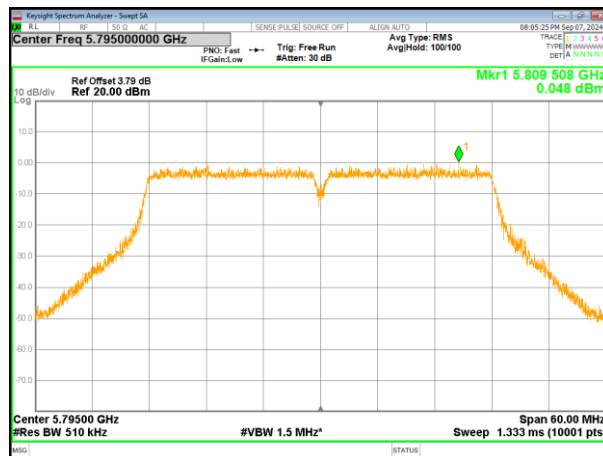
(802.11n40) PSD plot on channel 151



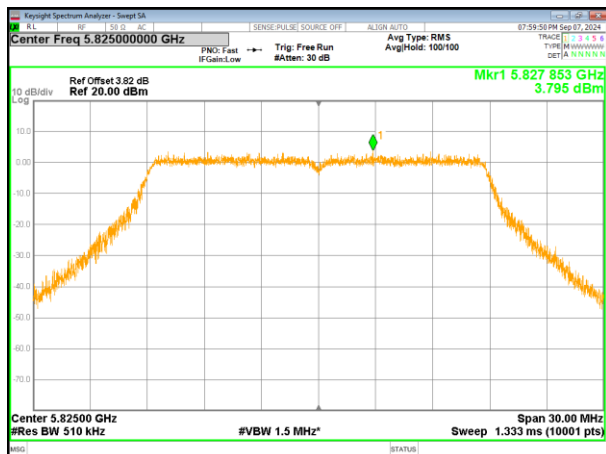
(802.11ac20) PSD plot on channel 157



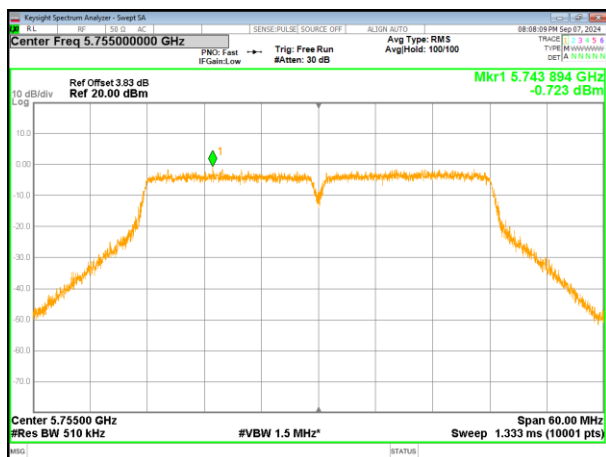
(802.11n40) PSD plot on channel 159



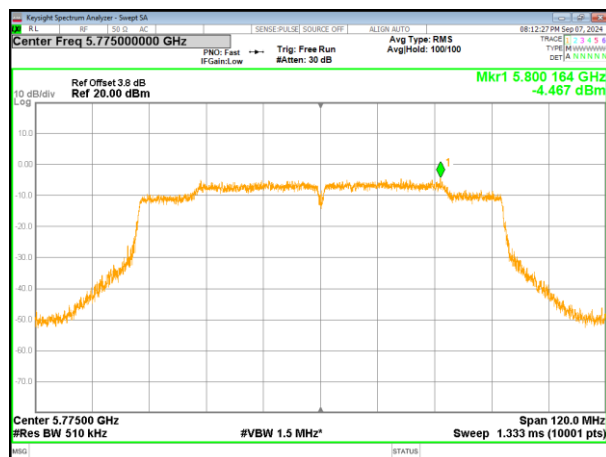
(802.11ac20) PSD plot on channel 165



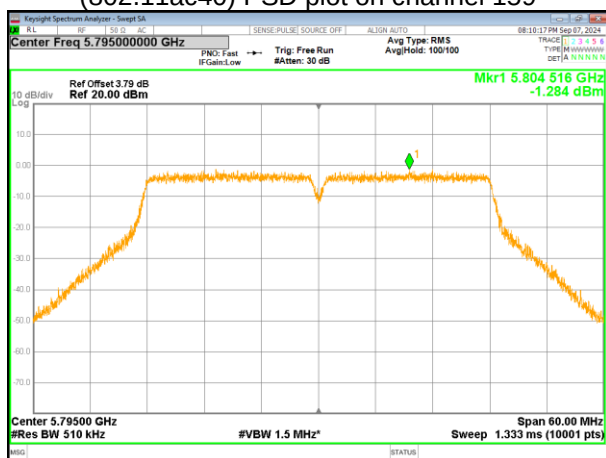
(802.11ac40) PSD plot on channel 151



(802.11ac80) PSD plot on channel 155

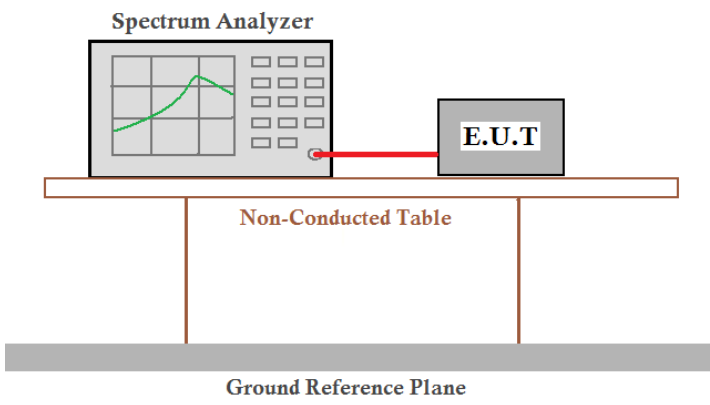


(802.11ac40) PSD plot on channel 159



## 4.7 Band edge

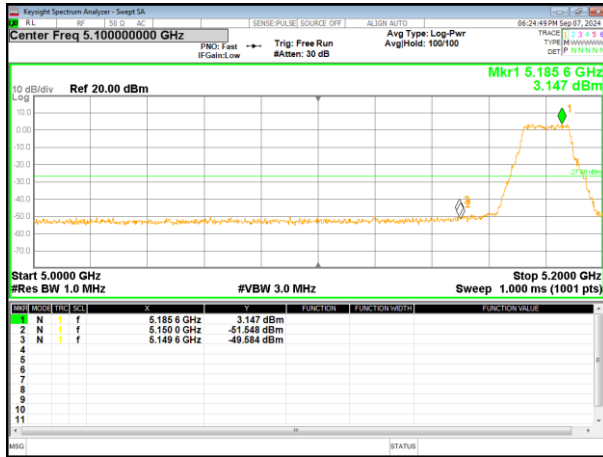
### 4.7.1 Conducted test Method

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |               |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Test Requirement: | FCC Part15 C Section 15.209 and 15.205                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |               |
| Test Method:      | ANSI C63.10: 2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |               |
| Limit:            | All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.                                                                                                                                                                                                                                                                                                                                                                                                                            |               |
| Test setup:       |  <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both are placed on a Non-Conducted Table, which is supported by a Ground Reference Plane.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |               |
| Test Procedure:   | <ol style="list-style-type: none"> <li>1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.</li> <li>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.</li> <li>3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.</li> <li>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.</li> <li>5. Repeat above procedures until all measured frequencies were complete..</li> </ol> |               |
| Test Instruments: | Refer to section 3.0 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |               |
| Test mode:        | Refer to section 2.2 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |               |
| Test environment: | Temp.: 23.2°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Humid.: 53%RH |
| Test voltage:     | DC19V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |               |
| Test results:     | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |               |

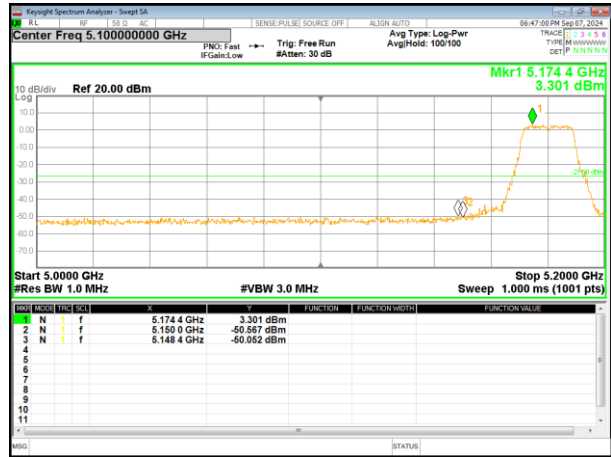
*Remark: Due to the margin value of the sideband test being greater than the antenna gain value, the test meets the requirements*

## 5.180~5.240 GHz

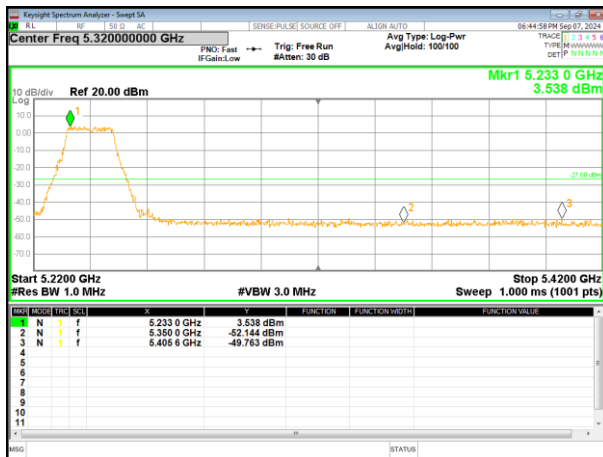
(802.11a) Band Edge, Left Side



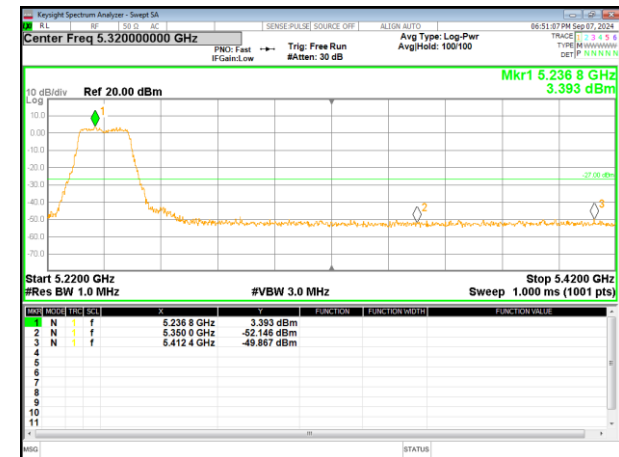
(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

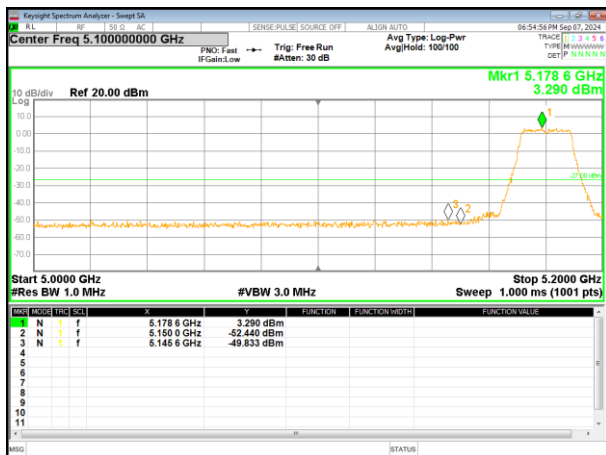


(802.11n20) Band Edge, Right Side

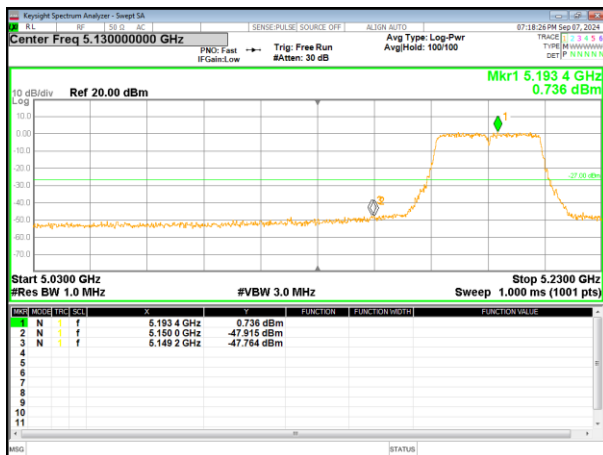


Remark: The antenna gain and cable loss were not compensated in the test data, and the margin value of the Band Edge test was greater than the sum of the antenna gain and cable loss, so the test met the requirements

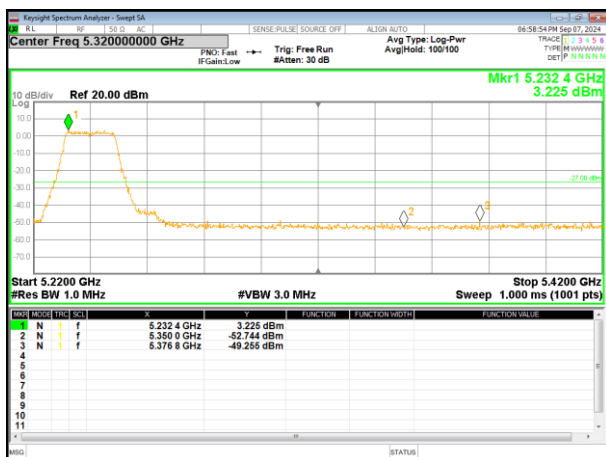
(802.11ac20) Band Edge, Left Side



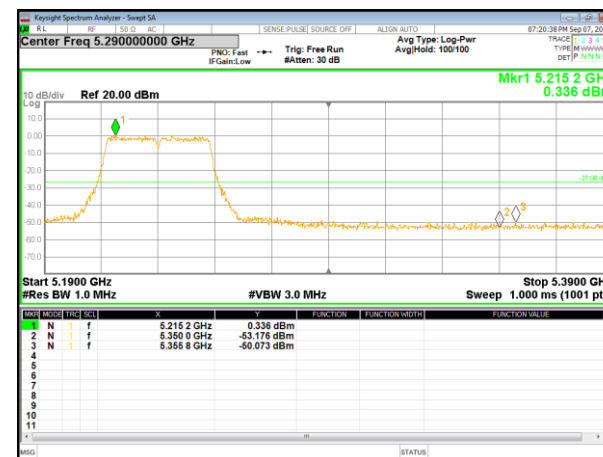
(802.11n40) Band Edge, Left Side



(802.11ac20) Band Edge, Right Side

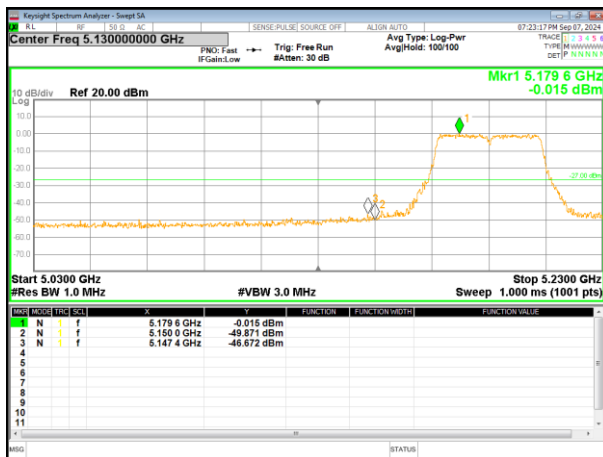


(802.11n40) Band Edge, Right Side

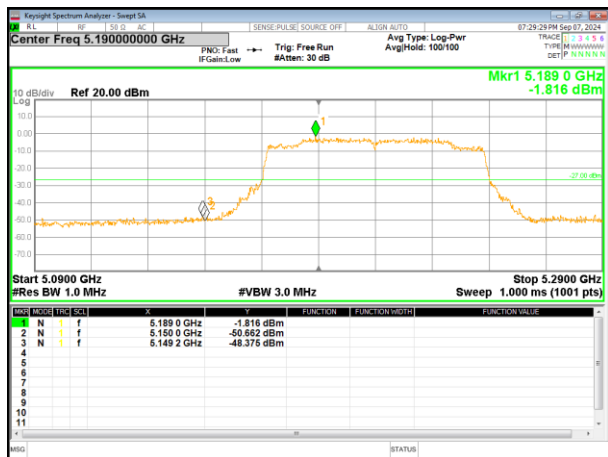


Remark: The antenna gain and cable loss were not compensated in the test data, and the margin value of the Band Edge test was greater than the sum of the antenna gain and cable loss, so the test met the requirements

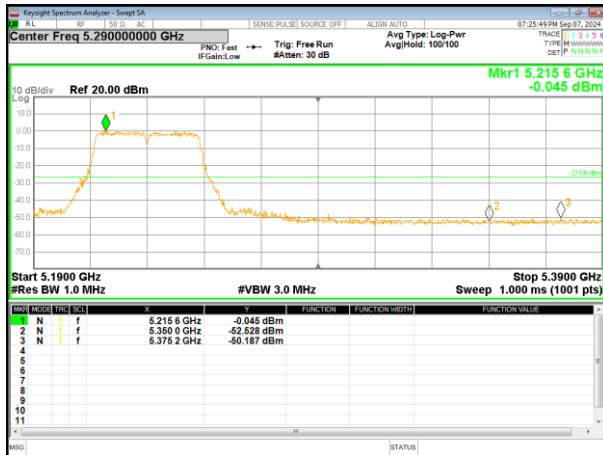
(802.11ac40) Band Edge, Left Side



(802.11ac80) Band Edge



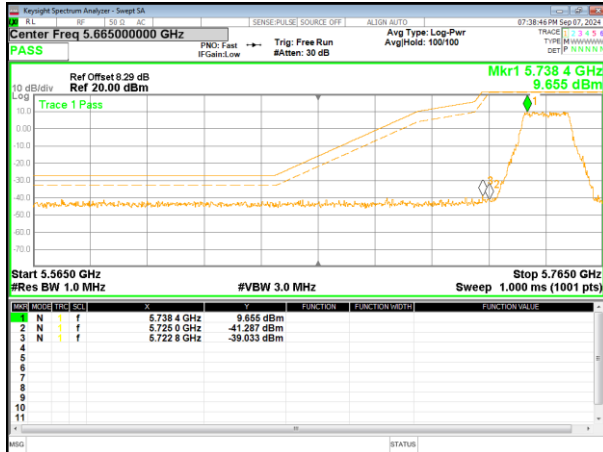
(802.11ac40) Band Edge, Right Side



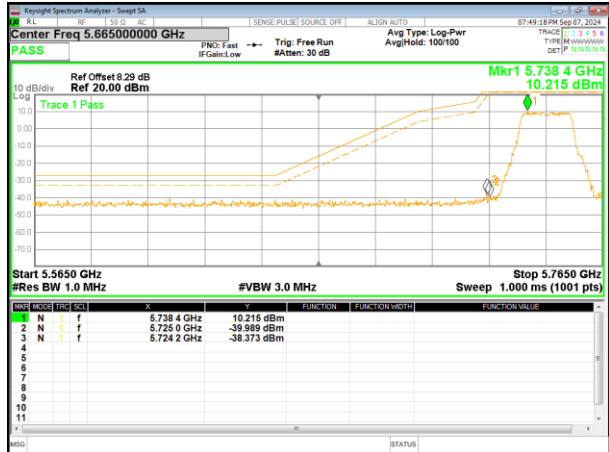
Remark: The antenna gain and cable loss were not compensated in the test data, and the margin value of the Band Edge test was greater than the sum of the antenna gain and cable loss, so the test met the requirements

## 5.745~5.825 GHz

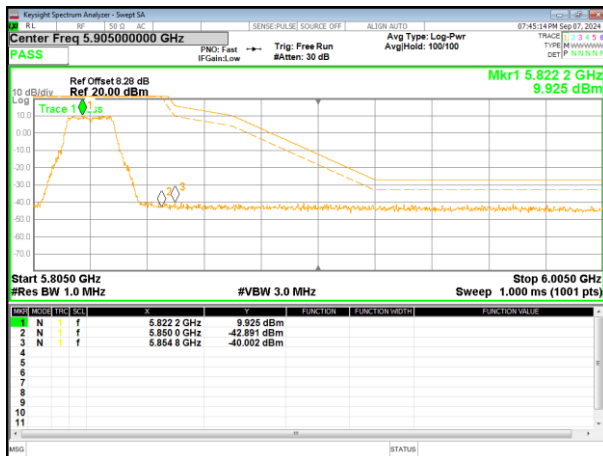
(802.11a) Band Edge, Left Side



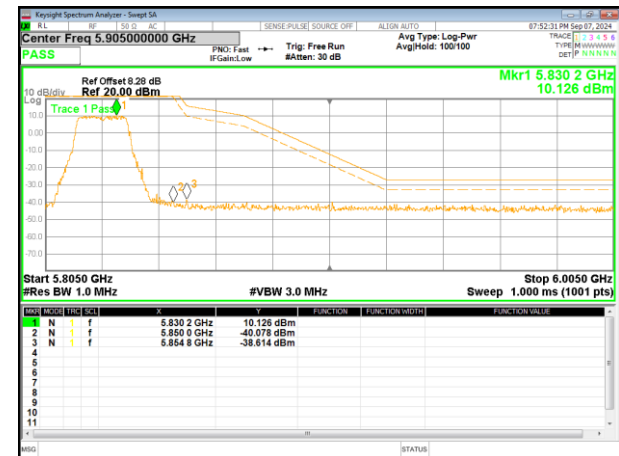
(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

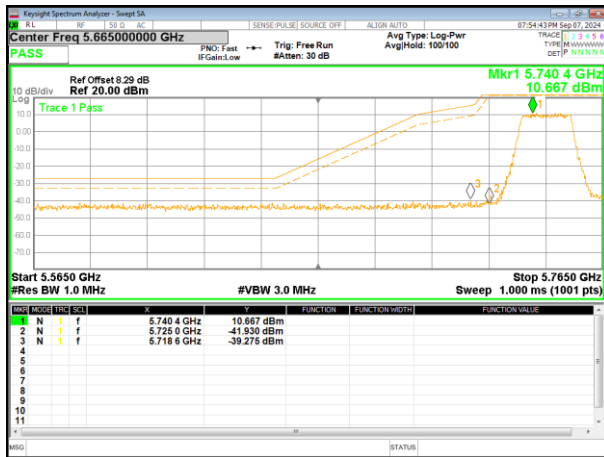


(802.11n20) Band Edge, Right Side

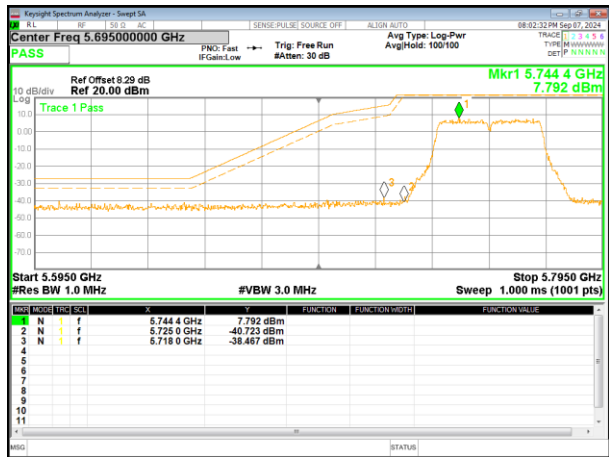


Remark: Antenna gain and cable loss data included in Offset.

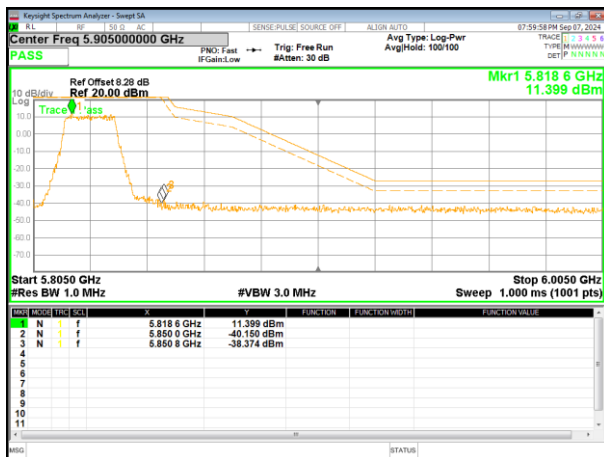
(802.11ac20) Band Edge, Left Side



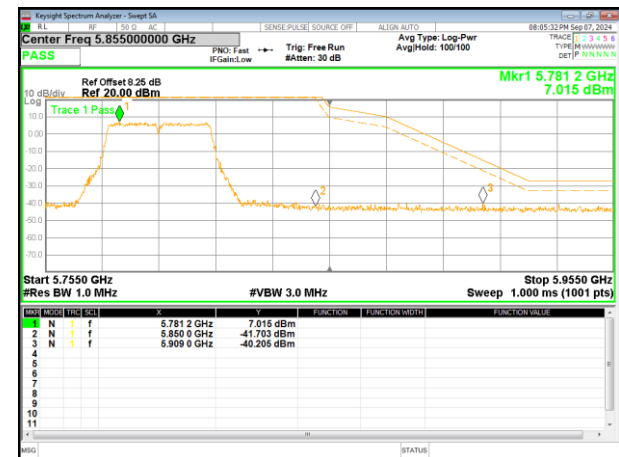
(802.11n40) Band Edge, Left Side



(802.11ac20) Band Edge, Right Side

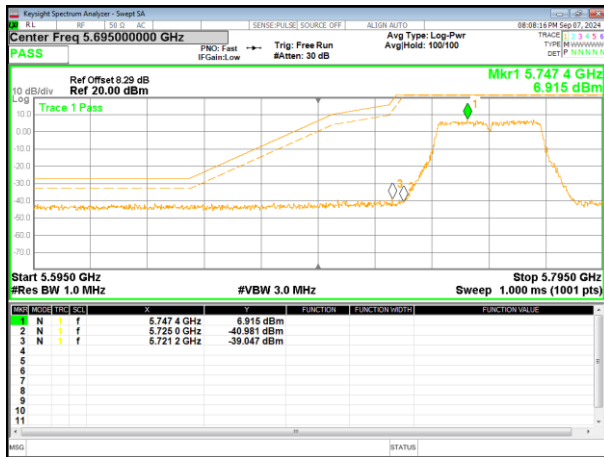


(802.11n40) Band Edge, Right Side

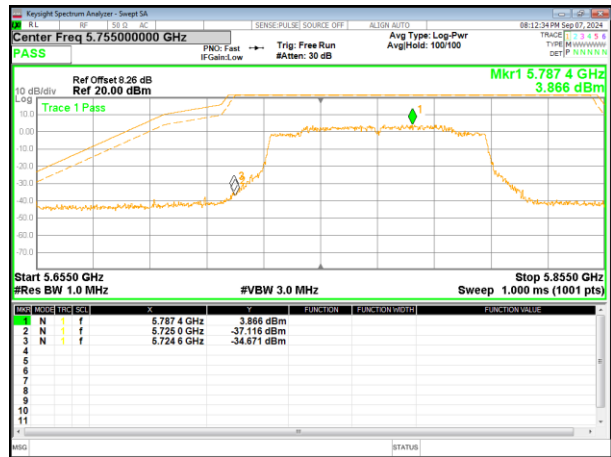


Remark: Antenna gain and cable loss data included in Offset.

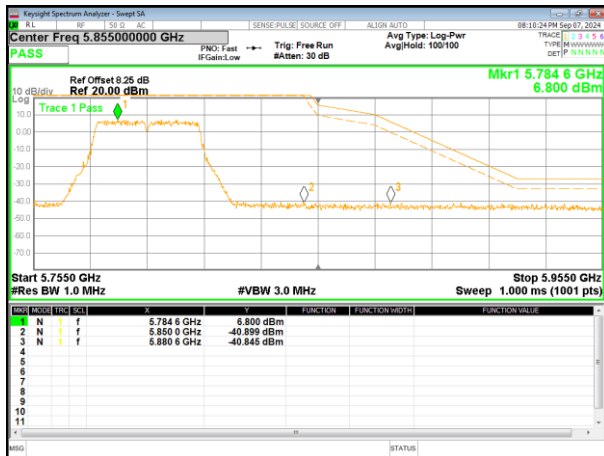
(802.11ac40) Band Edge, Left Side



(802.11ac80) Band Edge



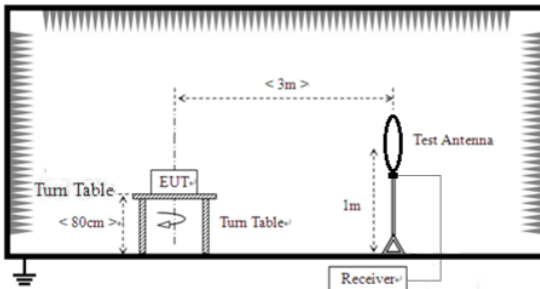
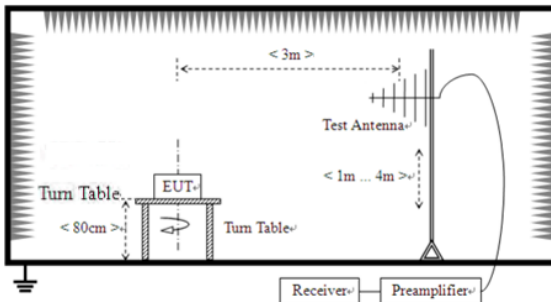
(802.11ac40) Band Edge, Right Side

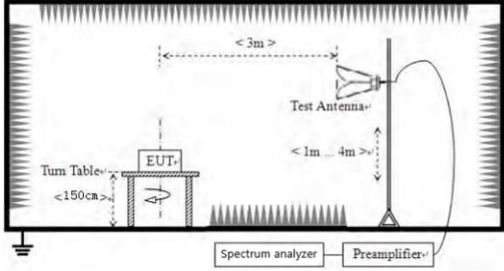


Remark: Antenna gain and cable loss data included in Offset.

## 4.8 Spurious Emission

### 4.8.1 Radiated Emission Method

|                       |                                                                                      |                 |            |                      |                  |
|-----------------------|--------------------------------------------------------------------------------------|-----------------|------------|----------------------|------------------|
| Test Requirement:     | FCC Part15 C Section 15.209, Part 15E Section 15.407(b)(4)                           |                 |            |                      |                  |
| Test Method:          | ANSI C63.10:2013                                                                     |                 |            |                      |                  |
| Test Frequency Range: | 9kHz to 40GHz                                                                        |                 |            |                      |                  |
| Test site:            | Measurement Distance: 3m                                                             |                 |            |                      |                  |
| Receiver setup:       | Frequency                                                                            | Detector        | RBW        | VBW                  | Value            |
|                       | 9kHz-150KHz                                                                          | Quasi-peak      | 200Hz      | 1kHz                 | Quasi-peak Value |
|                       | 150kHz-30MHz                                                                         | Quasi-peak      | 9kHz       | 30kHz                | Quasi-peak Value |
|                       | 30MHz-1GHz                                                                           | Quasi-peak      | 120KHz     | 300KHz               | Quasi-peak Value |
|                       | Above 1GHz                                                                           | Peak            | 1MHz       | 3MHz                 | Peak Value       |
|                       |                                                                                      | AV              | 1MHz       | 3MHz                 | Average Value    |
| Limit:                | Frequency                                                                            | Limit (uV/m)    | Value      | Measurement Distance |                  |
|                       | 0.009MHz-0.490MHz                                                                    | 2400/F(KHz)     | QP         | 300m                 |                  |
|                       | 0.490MHz-1.705MHz                                                                    | 24000/F(KHz)    | QP         | 300m                 |                  |
|                       | 1.705MHz-30MHz                                                                       | 30              | QP         | 30m                  |                  |
|                       | 30MHz-88MHz                                                                          | 100             | QP         | 3m                   |                  |
|                       | 88MHz-216MHz                                                                         | 150             | QP         |                      |                  |
|                       | 216MHz-960MHz                                                                        | 200             | QP         |                      |                  |
|                       | 960MHz-1GHz                                                                          | 500             | QP         |                      |                  |
|                       | Frequency                                                                            | Limit (dBm/MHz) | Remark     |                      |                  |
|                       | Above 1GHz                                                                           | -27.0           | Peak Value |                      |                  |
| Test setup:           | For radiated emissions from 9kHz to 30MHz                                            |                 |            |                      |                  |
|                       |  |                 |            |                      |                  |
|                       | For radiated emissions from 30MHz to 1GHz                                            |                 |            |                      |                  |
|                       |  |                 |            |                      |                  |
|                       | For radiated emissions above 1GHz                                                    |                 |            |                      |                  |

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Test Procedure:   | <ol style="list-style-type: none"> <li>1. The EUT was placed on the top of a rotating table (0.8m for below 1GHz and 1.5 meters for above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> <li>2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</li> <li>3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</li> <li>4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.</li> <li>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</li> </ol> <p>The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test worst case mode is recorded in the report.</p> |
| Test Instruments: | Refer to section 3.0 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Test mode:        | Refer to section 2.2 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Test results:     | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

## Remarks:

1. The report only shows the worst mode.
2. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

## Measurement Data:

## 9 kHz ~ 30 MHz

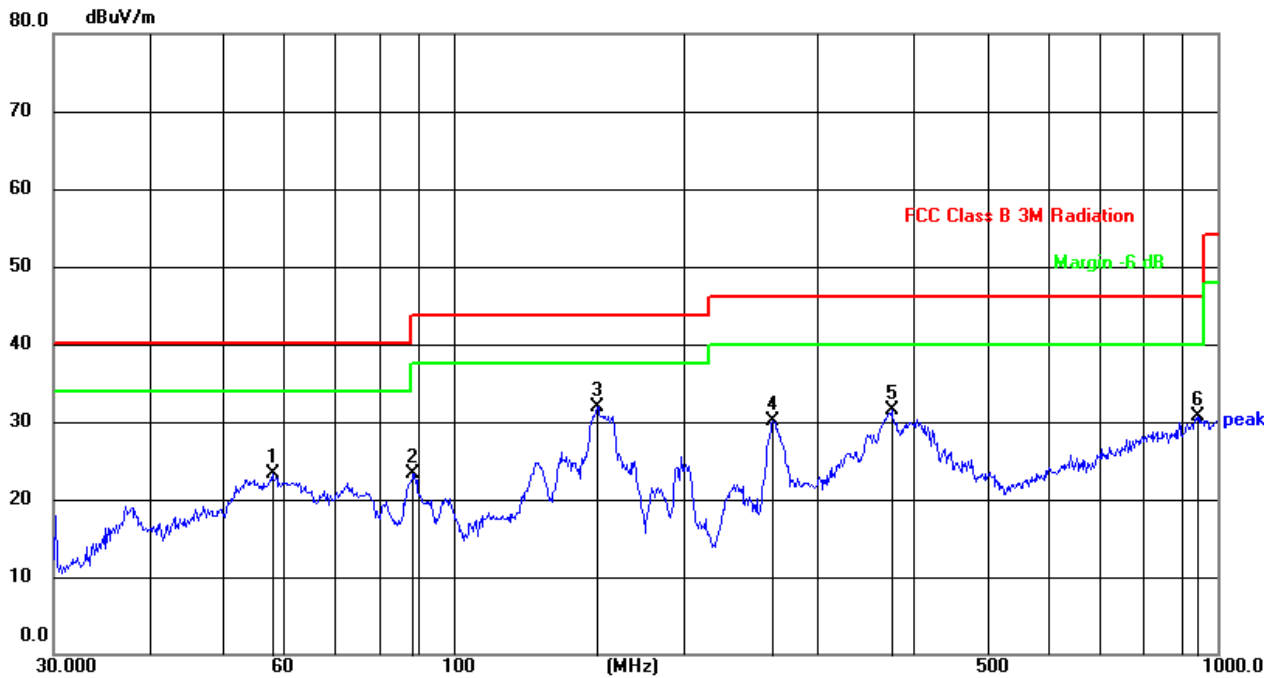
The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

## Below 1GHz

Remark: The test data shows only the worst case 802.11ac20 mode.

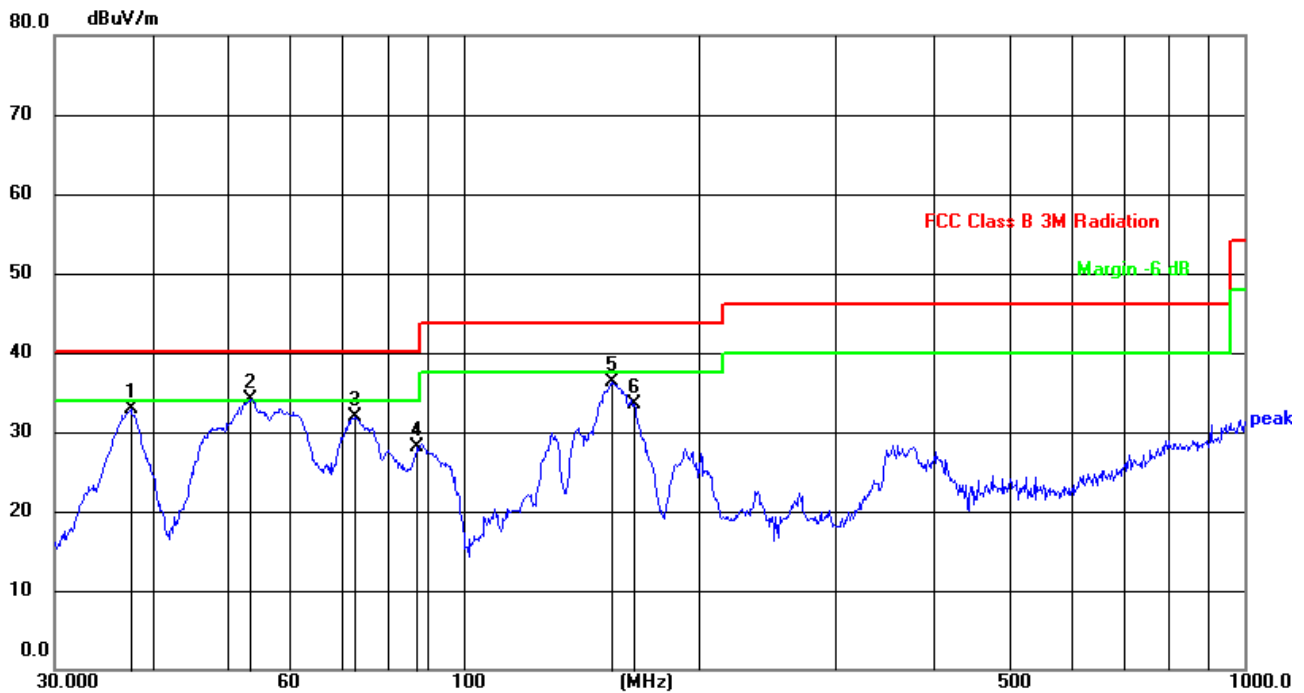
|              |                               |                    |       |
|--------------|-------------------------------|--------------------|-------|
| Temperature: | 23.2°C                        | Relative Humidity: | 53%   |
| Pressure:    | 101.2kPa                      | Test Voltage :     | DV19V |
| Test Mode :  | 5.2G TX- 802.11ac20 (5200MHz) |                    |       |

### Horizontal:



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|----------|
| 1   | 57.9992         | 45.63          | -22.40        | 23.23          | 40.00          | -16.77      | QP       |
| 2   | 88.6524         | 48.74          | -25.49        | 23.25          | 43.50          | -20.25      | QP       |
| 3   | 154.2785        | 52.49          | -20.54        | 31.95          | 43.50          | -11.55      | QP       |
| 4   | 261.9750        | 52.02          | -21.99        | 30.03          | 46.00          | -15.97      | QP       |
| 5   | 374.6225        | 49.68          | -18.18        | 31.50          | 46.00          | -14.50      | QP       |
| 6   | 942.1304        | 34.85          | -4.07         | 30.78          | 46.00          | -15.22      | QP       |

Vertical:



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|----------|
| 1   | 37.5478         | 54.25          | -21.32        | 32.93          | 40.00          | -7.07       | QP       |
| 2   | 53.5052         | 56.25          | -22.08        | 34.17          | 40.00          | -5.83       | QP       |
| 3   | 72.5913         | 56.57          | -24.66        | 31.91          | 40.00          | -8.09       | QP       |
| 4   | 87.4175         | 53.63          | -25.58        | 28.05          | 40.00          | -11.95      | QP       |
| 5   | 154.8204        | 56.83          | -20.54        | 36.29          | 43.50          | -7.21       | QP       |
| 6   | 165.4866        | 54.33          | -20.78        | 33.55          | 43.50          | -9.95       | QP       |

Remarks:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. The test data shows only the worst case 802.11ac20 mode

Above 1GHz:

Remark: The test data shows only the worst case 802.11ac20 mode.

|              |                     |                    |       |
|--------------|---------------------|--------------------|-------|
| Temperature: | 23.2°C              | Relative Humidity: | 53%   |
| Pressure:    | 101.2kPa            | Test Voltage :     | DC19V |
| Test Mode :  | 5.2G TX- 802.11ac20 |                    |       |

| Polar<br>(H/V)      | Frequency | Meter<br>Reading | Pre-<br>amplifier | Cable<br>Loss | Antenna<br>Factor | Emission<br>Level | Limits | Margin | Detect<br>or<br>Type |
|---------------------|-----------|------------------|-------------------|---------------|-------------------|-------------------|--------|--------|----------------------|
|                     | MHz       | dBuV             | dB                | dB            | dB                | dBuV/m            | dBuV/m | dB     |                      |
| Low Channel:5180MHz |           |                  |                   |               |                   |                   |        |        |                      |
| V                   | 10360.00  | 48.45            | 46.20             | 8.27          | 38.50             | 49.02             | 68.20  | -19.18 | PK                   |
| V                   | 10360.00  | 38.18            | 46.20             | 8.27          | 38.50             | 38.75             | 54.00  | -15.25 | AV                   |
| V                   | 15540.00  | 43.93            | 46.30             | 10.35         | 38.70             | 46.68             | 74.00  | -27.32 | PK                   |
| V                   | 15540.00  | 34.48            | 46.30             | 10.35         | 38.70             | 37.23             | 54.00  | -16.77 | AV                   |
| V                   | 20720.00  | 52.39            | 57.40             | 11.93         | 37.80             | 44.72             | 68.20  | -23.48 | PK                   |
| V                   | 20720.00  | 43.16            | 57.40             | 11.93         | 37.80             | 35.49             | 54.00  | -18.51 | AV                   |
| V                   | 25900.00  | 50.19            | 56.50             | 13.45         | 39.70             | 46.84             | 68.20  | -21.36 | PK                   |
| V                   | 25900.00  | 40.53            | 56.50             | 13.45         | 39.70             | 37.18             | 54.00  | -16.82 | AV                   |
| V                   | 31080.00  | 48.08            | 56.10             | 16.12         | 41.60             | 49.70             | 68.20  | -18.50 | PK                   |
| V                   | 31080.00  | 41.27            | 56.10             | 16.12         | 41.60             | 42.89             | 54.00  | -11.11 | AV                   |
| V                   | 36260.00  | 45.54            | 56.80             | 18.29         | 42.80             | 49.83             | 68.20  | -18.37 | PK                   |
| V                   | 36260.00  | 38.91            | 56.80             | 18.29         | 42.80             | 43.20             | 54.00  | -10.80 | AV                   |
| H                   | 10360.00  | 46.78            | 46.20             | 8.27          | 38.50             | 47.35             | 68.20  | -20.85 | PK                   |
| H                   | 10360.00  | 35.72            | 46.20             | 8.27          | 38.50             | 36.29             | 54.00  | -17.71 | AV                   |
| H                   | 15540.00  | 43.02            | 46.30             | 10.35         | 38.70             | 45.77             | 74.00  | -28.23 | PK                   |
| H                   | 15540.00  | 32.69            | 46.30             | 10.35         | 38.70             | 35.44             | 54.00  | -18.56 | AV                   |
| H                   | 20720.00  | 54.63            | 57.40             | 11.93         | 37.80             | 46.96             | 68.20  | -21.24 | PK                   |
| H                   | 20720.00  | 44.26            | 57.40             | 11.93         | 37.80             | 36.59             | 54.00  | -17.41 | AV                   |
| H                   | 25900.00  | 51.27            | 56.50             | 13.45         | 39.70             | 47.92             | 68.20  | -20.28 | PK                   |
| H                   | 25900.00  | 41.09            | 56.50             | 13.45         | 39.70             | 37.74             | 54.00  | -16.26 | AV                   |
| H                   | 31080.00  | 48.09            | 56.10             | 16.12         | 41.60             | 49.71             | 68.20  | -18.49 | PK                   |
| H                   | 31080.00  | 41.14            | 56.10             | 16.12         | 41.60             | 42.76             | 54.00  | -11.24 | AV                   |
| H                   | 36260.00  | 44.50            | 56.80             | 18.29         | 42.80             | 48.79             | 68.20  | -19.41 | PK                   |
| H                   | 36260.00  | 38.92            | 56.80             | 18.29         | 42.80             | 43.21             | 54.00  | -10.79 | AV                   |

| Polar<br>(H/V)         | Frequency<br>(MHz) | Meter<br>Reading<br>(dBuV) | Pre-<br>amplifier<br>(dB) | Cable<br>Loss<br>(dB) | Antenna<br>Factor<br>(dB) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Detect<br>or<br>Type |
|------------------------|--------------------|----------------------------|---------------------------|-----------------------|---------------------------|-------------------------------|--------------------|----------------|----------------------|
| Middle Channel:5200MHz |                    |                            |                           |                       |                           |                               |                    |                |                      |
| V                      | 10400.00           | 45.69                      | 46.20                     | 8.27                  | 38.50                     | 46.26                         | 68.20              | -21.94         | PK                   |
| V                      | 10400.00           | 37.11                      | 46.20                     | 8.27                  | 38.50                     | 37.68                         | 54.00              | -16.32         | AV                   |
| V                      | 15600.00           | 44.02                      | 46.30                     | 10.35                 | 38.40                     | 46.47                         | 74.00              | -27.53         | PK                   |
| V                      | 15600.00           | 35.94                      | 46.30                     | 10.35                 | 38.40                     | 38.39                         | 54.00              | -15.61         | AV                   |
| V                      | 20800.00           | 53.44                      | 57.40                     | 11.93                 | 37.80                     | 45.77                         | 68.20              | -22.43         | PK                   |
| V                      | 20800.00           | 44.48                      | 57.40                     | 11.93                 | 37.80                     | 36.81                         | 54.00              | -17.19         | AV                   |
| V                      | 26000.00           | 48.53                      | 56.50                     | 13.45                 | 39.80                     | 45.28                         | 68.20              | -22.92         | PK                   |
| V                      | 26000.00           | 41.67                      | 56.50                     | 13.45                 | 39.80                     | 38.42                         | 54.00              | -15.58         | AV                   |
| V                      | 31200.00           | 47.62                      | 56.10                     | 16.12                 | 41.60                     | 49.24                         | 68.20              | -18.96         | PK                   |
| V                      | 31200.00           | 42.00                      | 56.10                     | 16.12                 | 41.60                     | 43.62                         | 54.00              | -10.38         | AV                   |
| V                      | 36400.00           | 45.06                      | 56.80                     | 18.29                 | 42.80                     | 49.35                         | 68.20              | -18.85         | PK                   |
| V                      | 36400.00           | 37.80                      | 56.80                     | 18.29                 | 42.80                     | 42.09                         | 54.00              | -11.91         | AV                   |
| H                      | 10400.00           | 46.22                      | 46.20                     | 8.27                  | 38.50                     | 46.79                         | 68.20              | -21.41         | PK                   |
| H                      | 10400.00           | 37.56                      | 46.20                     | 8.27                  | 38.50                     | 38.13                         | 54.00              | -15.87         | AV                   |
| H                      | 15600.00           | 44.14                      | 46.30                     | 10.35                 | 38.40                     | 46.59                         | 74.00              | -27.41         | PK                   |
| H                      | 15600.00           | 36.02                      | 46.30                     | 10.35                 | 38.40                     | 38.47                         | 54.00              | -15.53         | AV                   |
| H                      | 20800.00           | 52.21                      | 57.40                     | 11.93                 | 37.80                     | 44.54                         | 68.20              | -23.66         | PK                   |
| H                      | 20800.00           | 42.29                      | 57.40                     | 11.93                 | 37.80                     | 34.62                         | 54.00              | -19.38         | AV                   |
| H                      | 26000.00           | 49.14                      | 56.50                     | 13.45                 | 39.80                     | 45.89                         | 68.20              | -22.31         | PK                   |
| H                      | 26000.00           | 40.78                      | 56.50                     | 13.45                 | 39.80                     | 37.53                         | 54.00              | -16.47         | AV                   |
| H                      | 31200.00           | 47.94                      | 56.10                     | 16.12                 | 41.60                     | 49.56                         | 68.20              | -18.64         | PK                   |
| H                      | 31200.00           | 41.07                      | 56.10                     | 16.12                 | 41.60                     | 42.69                         | 54.00              | -11.31         | AV                   |
| H                      | 36400.00           | 45.18                      | 56.80                     | 18.29                 | 42.80                     | 49.47                         | 68.20              | -18.73         | PK                   |
| H                      | 36400.00           | 39.52                      | 56.80                     | 18.29                 | 42.80                     | 43.81                         | 54.00              | -10.19         | AV                   |

| Polar<br>(H/V)       | Frequency<br>(MHz) | Meter<br>Reading<br>(dBuV) | Pre-<br>amplifier<br>(dB) | Cable<br>Loss<br>(dB) | Antenna<br>Factor<br>(dB) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Detect<br>or<br>Type |
|----------------------|--------------------|----------------------------|---------------------------|-----------------------|---------------------------|-------------------------------|--------------------|----------------|----------------------|
| High Channel:5240MHz |                    |                            |                           |                       |                           |                               |                    |                |                      |
| V                    | 10480.00           | 43.06                      | 46.20                     | 8.27                  | 38.60                     | 43.73                         | 68.20              | -24.47         | PK                   |
| V                    | 10480.00           | 33.54                      | 46.20                     | 8.27                  | 38.60                     | 34.21                         | 54.00              | -19.79         | AV                   |
| V                    | 15720.00           | 41.51                      | 46.30                     | 10.35                 | 38.40                     | 43.96                         | 74.00              | -30.04         | PK                   |
| V                    | 15720.00           | 31.44                      | 46.30                     | 10.35                 | 38.40                     | 33.89                         | 54.00              | -20.11         | AV                   |
| V                    | 20960.00           | 49.91                      | 57.40                     | 11.93                 | 37.50                     | 41.94                         | 68.20              | -26.26         | PK                   |
| V                    | 20960.00           | 42.59                      | 57.40                     | 11.93                 | 37.50                     | 34.62                         | 54.00              | -19.38         | AV                   |
| V                    | 26200.00           | 46.28                      | 56.50                     | 13.45                 | 40.10                     | 43.33                         | 68.20              | -24.87         | PK                   |
| V                    | 26200.00           | 37.59                      | 56.50                     | 13.45                 | 40.10                     | 34.64                         | 54.00              | -19.36         | AV                   |
| V                    | 31440.00           | 48.36                      | 56.10                     | 16.12                 | 41.30                     | 49.68                         | 68.20              | -18.52         | PK                   |
| V                    | 31440.00           | 41.81                      | 56.10                     | 16.12                 | 41.30                     | 43.13                         | 54.00              | -10.87         | AV                   |
| V                    | 36680.00           | 43.97                      | 56.80                     | 18.29                 | 43.10                     | 48.56                         | 68.20              | -19.64         | PK                   |
| V                    | 36680.00           | 38.69                      | 56.80                     | 18.29                 | 43.10                     | 43.28                         | 54.00              | -10.72         | AV                   |
| H                    | 10480.00           | 42.90                      | 46.20                     | 8.27                  | 38.60                     | 43.57                         | 68.20              | -24.63         | PK                   |
| H                    | 10480.00           | 33.55                      | 46.20                     | 8.27                  | 38.60                     | 34.22                         | 54.00              | -19.78         | AV                   |
| H                    | 15720.00           | 41.03                      | 46.30                     | 10.35                 | 38.40                     | 43.48                         | 74.00              | -30.52         | PK                   |
| H                    | 15720.00           | 31.39                      | 46.30                     | 10.35                 | 38.40                     | 33.84                         | 54.00              | -20.16         | AV                   |
| H                    | 20960.00           | 50.29                      | 57.40                     | 11.93                 | 37.50                     | 42.32                         | 68.20              | -25.88         | PK                   |
| H                    | 20960.00           | 41.83                      | 57.40                     | 11.93                 | 37.50                     | 33.86                         | 54.00              | -20.14         | AV                   |
| H                    | 26200.00           | 45.63                      | 56.50                     | 13.45                 | 40.10                     | 42.68                         | 68.20              | -25.52         | PK                   |
| H                    | 26200.00           | 36.22                      | 56.50                     | 13.45                 | 40.10                     | 33.27                         | 54.00              | -20.73         | AV                   |
| H                    | 31440.00           | 47.64                      | 56.10                     | 16.12                 | 41.30                     | 48.96                         | 68.20              | -19.24         | PK                   |
| H                    | 31440.00           | 42.06                      | 56.10                     | 16.12                 | 41.30                     | 43.38                         | 54.00              | -10.62         | AV                   |
| H                    | 36680.00           | 45.04                      | 56.80                     | 18.29                 | 43.10                     | 49.63                         | 68.20              | -18.57         | PK                   |
| H                    | 36680.00           | 38.72                      | 56.80                     | 18.29                 | 43.10                     | 43.31                         | 54.00              | -10.69         | AV                   |

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,  
Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

|              |                     |                    |       |
|--------------|---------------------|--------------------|-------|
| Temperature: | 23.2°C              | Relative Humidity: | 53%   |
| Pressure:    | 101.2kPa            | Test Voltage :     | DC19V |
| Test Mode :  | 5.8G TX- 802.11ac20 |                    |       |

| Polar<br>(H/V)      | Frequency<br>(MHz) | Meter<br>Reading<br>(dBuV) | Pre-<br>amplifier<br>(dB) | Cable<br>Loss<br>(dB) | Antenn<br>Factor<br>(dB) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Detect<br>or<br>Typ |
|---------------------|--------------------|----------------------------|---------------------------|-----------------------|--------------------------|-------------------------------|--------------------|----------------|---------------------|
| Low Channel:5745MHz |                    |                            |                           |                       |                          |                               |                    |                |                     |
| V                   | 11490.00           | 46.67                      | 46.10                     | 8.77                  | 39.10                    | 48.44                         | 74.00              | -25.56         | PK                  |
| V                   | 11490.00           | 34.99                      | 46.10                     | 8.77                  | 39.10                    | 36.76                         | 54.00              | -17.24         | AV                  |
| V                   | 17235.00           | 41.72                      | 47.60                     | 11.10                 | 38.70                    | 43.92                         | 68.20              | -24.28         | PK                  |
| V                   | 17235.00           | 33.71                      | 47.60                     | 11.10                 | 38.70                    | 35.91                         | 54.00              | -18.09         | AV                  |
| V                   | 22980.00           | 54.26                      | 56.90                     | 12.73                 | 37.70                    | 47.79                         | 74.00              | -26.21         | PK                  |
| V                   | 22980.00           | 41.45                      | 56.90                     | 12.73                 | 37.70                    | 34.98                         | 54.00              | -19.02         | AV                  |
| V                   | 28725.00           | 47.92                      | 55.60                     | 14.25                 | 40.30                    | 46.87                         | 68.20              | -21.33         | PK                  |
| V                   | 28725.00           | 41.41                      | 55.60                     | 14.25                 | 40.30                    | 40.36                         | 54.00              | -13.64         | AV                  |
| V                   | 34470.00           | 47.59                      | 55.90                     | 17.26                 | 42.10                    | 51.05                         | 68.20              | -17.15         | PK                  |
| V                   | 34470.00           | 39.88                      | 55.90                     | 17.26                 | 42.10                    | 43.34                         | 54.00              | -10.66         | AV                  |
| H                   | 11490.00           | 45.87                      | 46.10                     | 8.77                  | 39.10                    | 47.64                         | 74.00              | -26.36         | PK                  |
| H                   | 11490.00           | 34.72                      | 46.10                     | 8.77                  | 39.10                    | 36.49                         | 54.00              | -17.51         | AV                  |
| H                   | 17235.00           | 40.43                      | 47.60                     | 11.10                 | 38.70                    | 42.63                         | 68.20              | -25.57         | PK                  |
| H                   | 17235.00           | 34.52                      | 47.60                     | 11.10                 | 38.70                    | 36.72                         | 54.00              | -17.28         | AV                  |
| H                   | 22980.00           | 55.83                      | 56.90                     | 12.73                 | 37.70                    | 49.36                         | 74.00              | -24.64         | PK                  |
| H                   | 22980.00           | 45.28                      | 56.90                     | 12.73                 | 37.70                    | 38.81                         | 54.00              | -15.19         | AV                  |
| H                   | 28725.00           | 47.20                      | 55.60                     | 14.25                 | 40.30                    | 46.15                         | 68.20              | -22.05         | PK                  |
| H                   | 28725.00           | 41.87                      | 55.60                     | 14.25                 | 40.30                    | 40.82                         | 54.00              | -13.18         | AV                  |
| H                   | 34470.00           | 46.25                      | 55.90                     | 17.26                 | 42.10                    | 49.71                         | 68.20              | -18.49         | PK                  |
| H                   | 34470.00           | 40.00                      | 55.90                     | 17.26                 | 42.10                    | 43.46                         | 54.00              | -10.54         | AV                  |

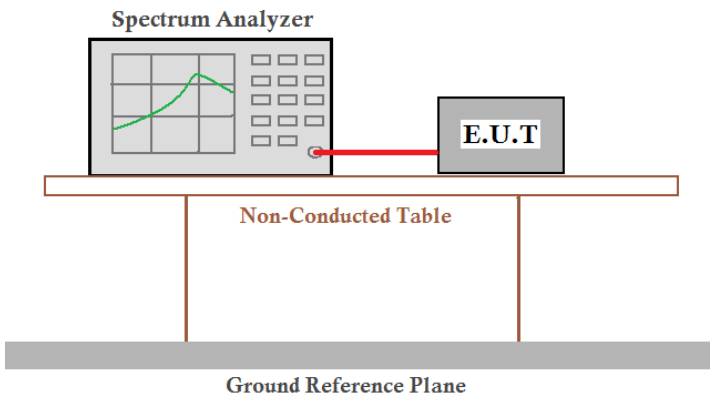
| Polar<br>(H/V)         | Frequency | Meter<br>Reading | Pre-<br>amplifier | Cable<br>Loss | Antenna<br>Factor | Emission<br>Level | Limits   | Margin | Detect<br>or<br>Type |
|------------------------|-----------|------------------|-------------------|---------------|-------------------|-------------------|----------|--------|----------------------|
|                        | (MHz)     | (dBuV)           | (dB)              | (dB)          | (dB)              | (dBuV/m)          | (dBuV/m) | (dB)   |                      |
| Middle Channel:5785MHz |           |                  |                   |               |                   |                   |          |        |                      |
| V                      | 11570.00  | 45.97            | 46.10             | 8.77          | 39.10             | 47.74             | 74.00    | -26.26 | PK                   |
| V                      | 11570.00  | 35.17            | 46.10             | 8.77          | 39.10             | 36.94             | 54.00    | -17.06 | AV                   |
| V                      | 17355.00  | 40.81            | 47.60             | 11.10         | 38.70             | 43.01             | 68.20    | -25.19 | PK                   |
| V                      | 17355.00  | 35.43            | 47.60             | 11.10         | 38.70             | 37.63             | 54.00    | -16.37 | AV                   |
| V                      | 23140.00  | 56.36            | 56.90             | 12.73         | 37.70             | 49.89             | 74.00    | -24.11 | PK                   |
| V                      | 23140.00  | 45.31            | 56.90             | 12.73         | 37.70             | 38.84             | 54.00    | -15.16 | AV                   |
| V                      | 28925.00  | 44.99            | 55.60             | 14.25         | 40.30             | 43.94             | 68.20    | -24.26 | PK                   |
| V                      | 28925.00  | 40.10            | 55.60             | 14.25         | 40.30             | 39.05             | 54.00    | -14.95 | AV                   |
| V                      | 34710.00  | 46.05            | 55.90             | 17.26         | 42.40             | 49.81             | 68.20    | -18.39 | PK                   |
| V                      | 34710.00  | 40.33            | 55.90             | 17.26         | 42.40             | 44.09             | 54.00    | -9.91  | AV                   |
| H                      | 11570.00  | 46.85            | 46.10             | 8.77          | 39.10             | 48.62             | 74.00    | -25.38 | PK                   |
| H                      | 11570.00  | 35.52            | 46.10             | 8.77          | 39.10             | 37.29             | 54.00    | -16.71 | AV                   |
| H                      | 17355.00  | 40.73            | 47.60             | 11.10         | 38.70             | 42.93             | 68.20    | -25.27 | PK                   |
| H                      | 17355.00  | 35.62            | 47.60             | 11.10         | 38.70             | 37.82             | 54.00    | -16.18 | AV                   |
| H                      | 23140.00  | 57.09            | 56.90             | 12.73         | 37.70             | 50.62             | 74.00    | -23.38 | PK                   |
| H                      | 23140.00  | 46.43            | 56.90             | 12.73         | 37.70             | 39.96             | 54.00    | -14.04 | AV                   |
| H                      | 28925.00  | 46.99            | 55.60             | 14.25         | 40.30             | 45.94             | 68.20    | -22.26 | PK                   |
| H                      | 28925.00  | 40.94            | 55.60             | 14.25         | 40.30             | 39.89             | 54.00    | -14.11 | AV                   |
| H                      | 34710.00  | 44.82            | 55.90             | 17.26         | 42.40             | 48.58             | 68.20    | -19.62 | PK                   |
| H                      | 34710.00  | 39.99            | 55.90             | 17.26         | 42.40             | 43.75             | 54.00    | -10.25 | AV                   |

| Polar<br>(H/V)       | Frequency<br>(MHz) | Meter<br>Reading<br>(dBuV) | Pre-<br>amplifier<br>(dB) | Cable<br>Loss<br>(dB) | Antenna<br>Factor<br>(dB) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Detect<br>or<br>Type |
|----------------------|--------------------|----------------------------|---------------------------|-----------------------|---------------------------|-------------------------------|--------------------|----------------|----------------------|
| High Channel:5825MHz |                    |                            |                           |                       |                           |                               |                    |                |                      |
| V                    | 11650.00           | 46.12                      | 46.10                     | 8.77                  | 39.10                     | 47.89                         | 74.00              | -26.11         | PK                   |
| V                    | 11650.00           | 34.99                      | 46.10                     | 8.77                  | 39.10                     | 36.76                         | 54.00              | -17.24         | AV                   |
| V                    | 17475.00           | 41.71                      | 47.90                     | 11.23                 | 38.90                     | 43.94                         | 68.20              | -24.26         | PK                   |
| V                    | 17475.00           | 36.41                      | 47.90                     | 11.23                 | 38.90                     | 38.64                         | 54.00              | -15.36         | AV                   |
| V                    | 23300.00           | 50.59                      | 57.10                     | 12.73                 | 37.80                     | 44.02                         | 68.20              | -24.18         | PK                   |
| V                    | 23300.00           | 45.40                      | 57.10                     | 12.73                 | 37.80                     | 38.83                         | 54.00              | -15.17         | AV                   |
| V                    | 29125.00           | 47.21                      | 55.80                     | 14.25                 | 40.50                     | 46.16                         | 68.20              | -22.04         | PK                   |
| V                    | 29125.00           | 41.88                      | 55.80                     | 14.25                 | 40.50                     | 40.83                         | 54.00              | -13.17         | AV                   |
| V                    | 34950.00           | 45.35                      | 56.30                     | 17.91                 | 42.50                     | 49.46                         | 68.20              | -18.74         | PK                   |
| V                    | 34950.00           | 40.07                      | 56.30                     | 17.91                 | 42.50                     | 44.18                         | 54.00              | -9.82          | AV                   |
| H                    | 11650.00           | 45.19                      | 46.10                     | 8.77                  | 39.10                     | 46.96                         | 74.00              | -27.04         | PK                   |
| H                    | 11650.00           | 34.12                      | 46.10                     | 8.77                  | 39.10                     | 35.89                         | 54.00              | -18.11         | AV                   |
| H                    | 17475.00           | 41.49                      | 47.90                     | 11.23                 | 38.90                     | 43.72                         | 68.20              | -24.48         | PK                   |
| H                    | 17475.00           | 35.95                      | 47.90                     | 11.23                 | 38.90                     | 38.18                         | 54.00              | -15.82         | AV                   |
| H                    | 23300.00           | 51.05                      | 57.10                     | 12.73                 | 37.80                     | 44.48                         | 68.20              | -23.72         | PK                   |
| H                    | 23300.00           | 45.92                      | 57.10                     | 12.73                 | 37.80                     | 39.35                         | 54.00              | -14.65         | AV                   |
| H                    | 29125.00           | 47.78                      | 55.80                     | 14.25                 | 40.50                     | 46.73                         | 68.20              | -21.47         | PK                   |
| H                    | 29125.00           | 41.96                      | 55.80                     | 14.25                 | 40.50                     | 40.91                         | 54.00              | -13.09         | AV                   |
| H                    | 34950.00           | 45.46                      | 56.30                     | 17.91                 | 42.50                     | 49.57                         | 68.20              | -18.63         | PK                   |
| H                    | 34950.00           | 39.47                      | 56.30                     | 17.91                 | 42.50                     | 43.58                         | 54.00              | -10.42         | AV                   |

#### Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,  
Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

#### 4.8.2 Conducted Emission Method

|                   |                                                                                    |              |
|-------------------|------------------------------------------------------------------------------------|--------------|
| Test Requirement: | FCC Part15 C Section 15.209, Part 15E Section 15.407(b)(4)                         |              |
| Test Method:      | ANSI C63.10:2013                                                                   |              |
| Limit:            | -27dBm/MHz                                                                         |              |
| Test setup:       |  |              |
| Test Instruments: | Refer to section 3.0 for details                                                   |              |
| Test mode:        | Refer to section 2.2 for details                                                   |              |
| Test environment: | Temp.: 23.2°C                                                                      | Humid.:53%RH |
| Test voltage:     | DC19V                                                                              |              |
| Test results:     | Pass                                                                               |              |

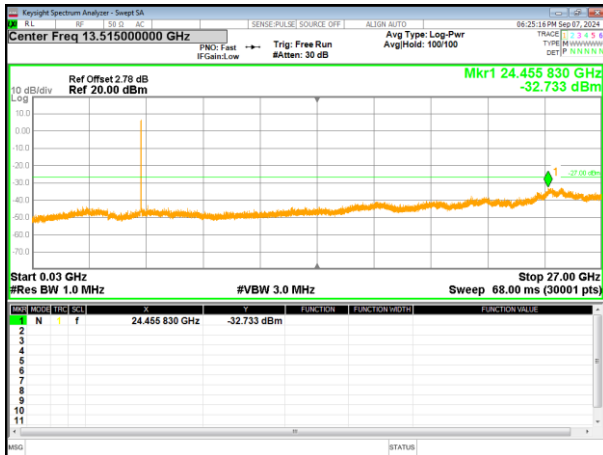
**Remark:**

1. Antenna gain and cable loss data included in Offset.
2. We tested 30MHz-40GHz frequency and found 27GHz-40GHz test data was very lower (close to the noise of the spectrum analyzer). The test report only showed data for 30MHz-27GHz.

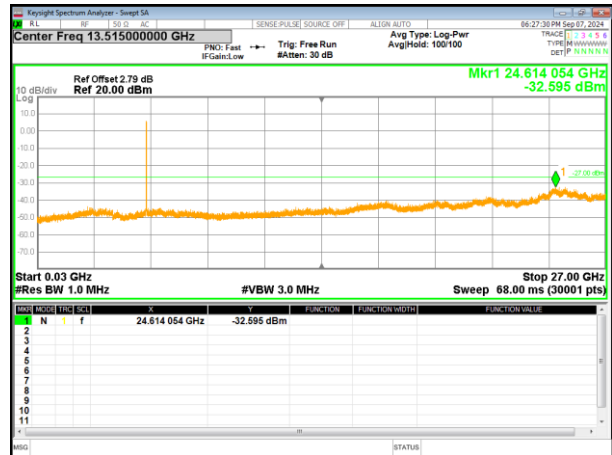
5180-5240MHz

### Test Plot

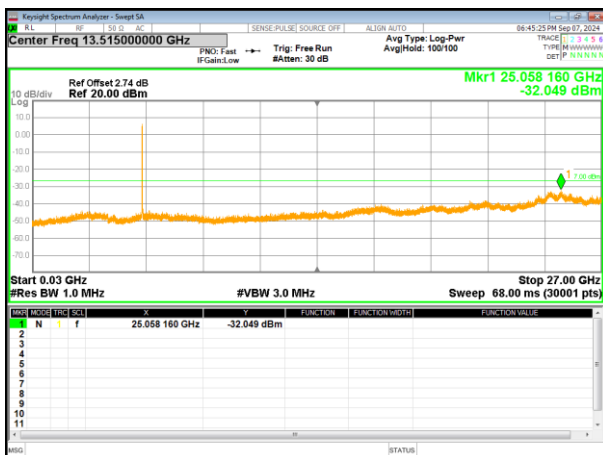
802.11a on channel 36



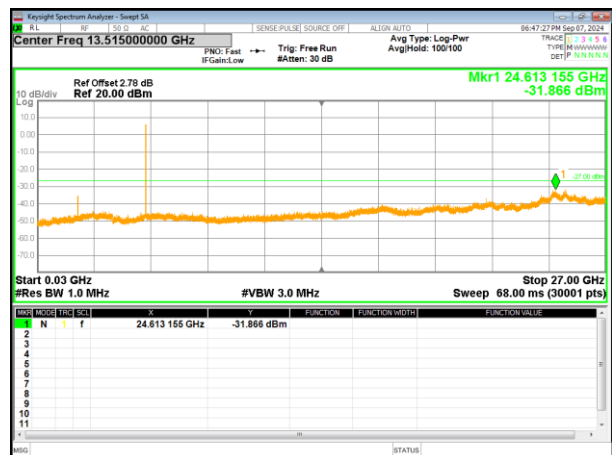
802.11a on channel 40



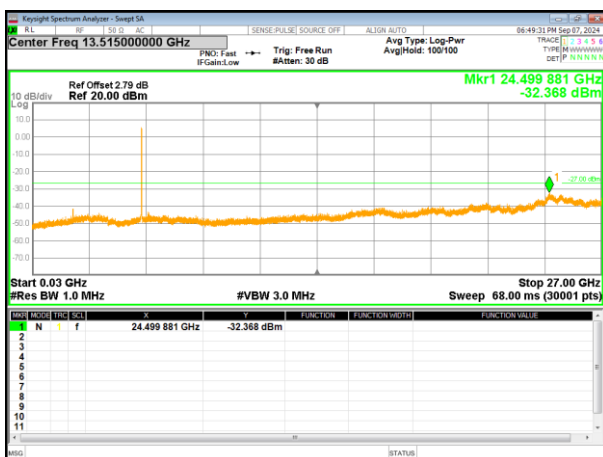
802.11a on channel 48



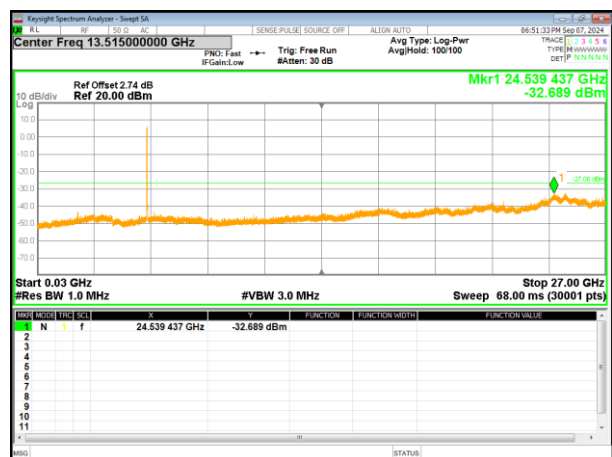
802.11n20 on channel 36



802.11n20 on channel 40

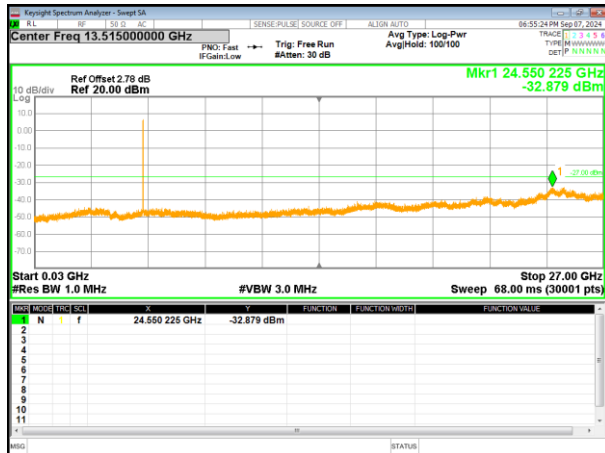


802.11n20 on channel 48

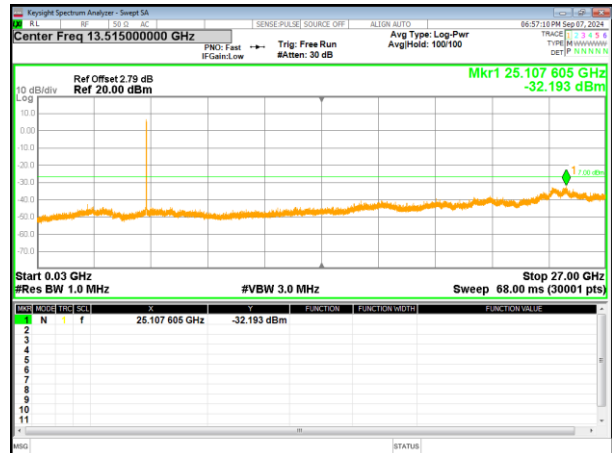


## Test Plot

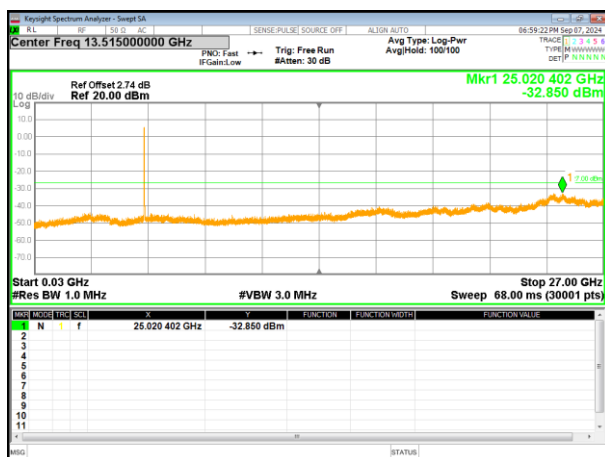
802.11ac20 on channel 36



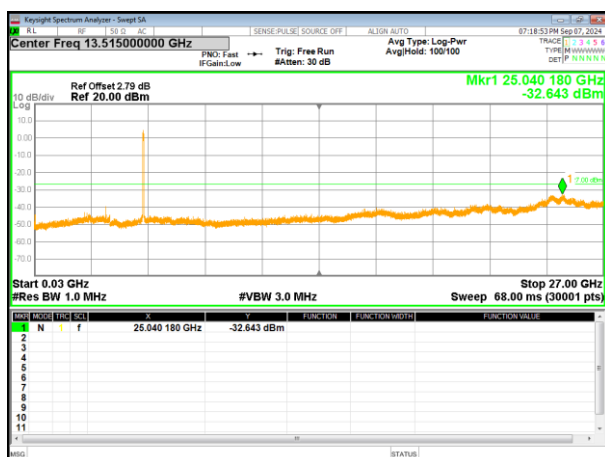
802.11ac20 on channel 40



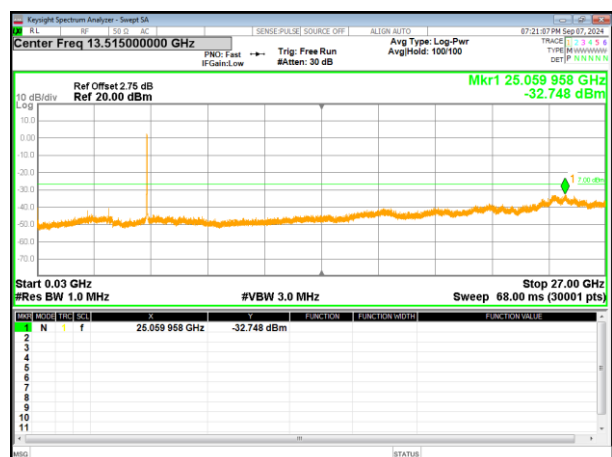
802.11ac20 on channel 48



802.11n40 on channel 38

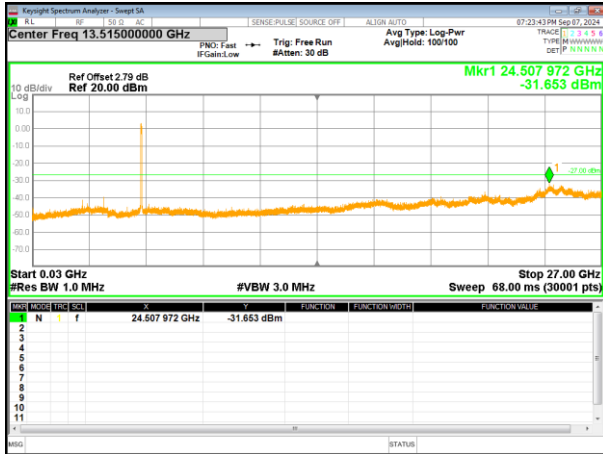


802.11n40 on channel 46

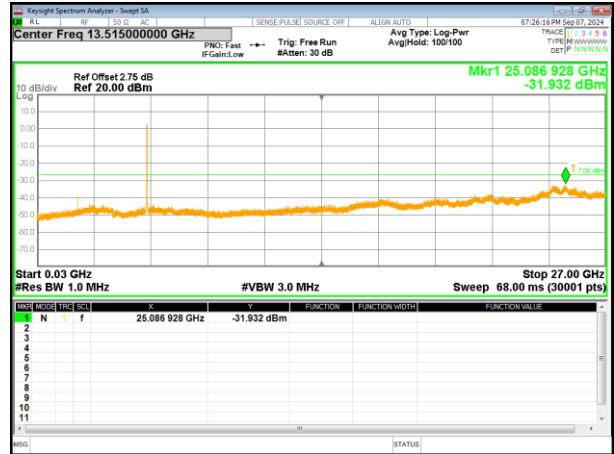


## Test Plot

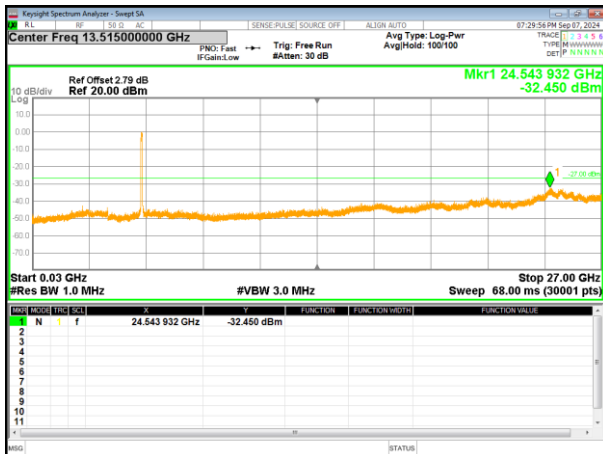
802.11ac40 on channel 38



802.11ac40 on channel 46



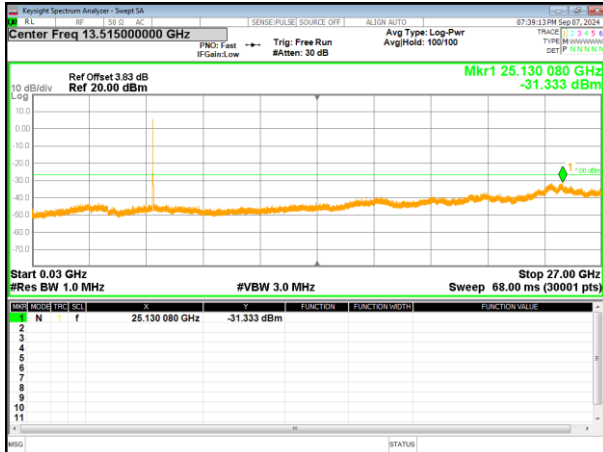
802.11ac80 on channel 42



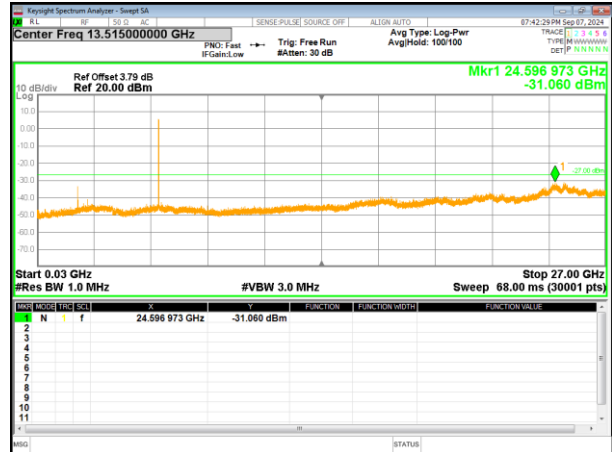
5745-5825MHz

### Test Plot

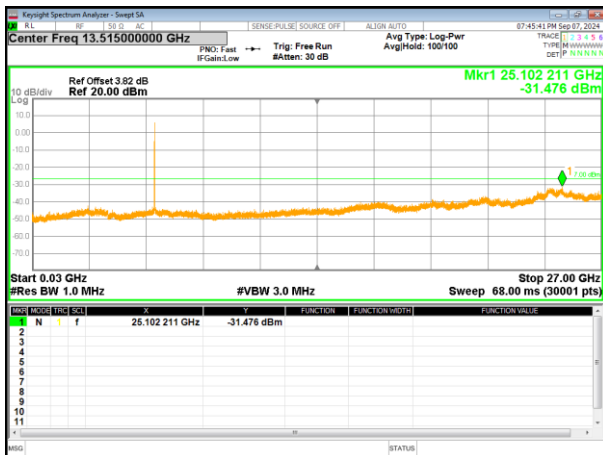
802.11a on channel 149



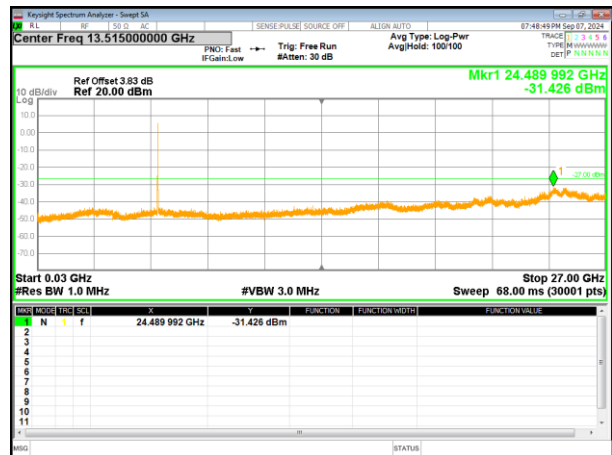
802.11a on channel 157



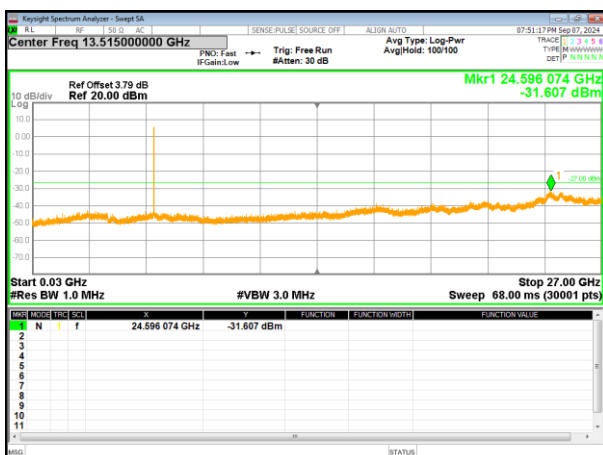
802.11a on channel 165



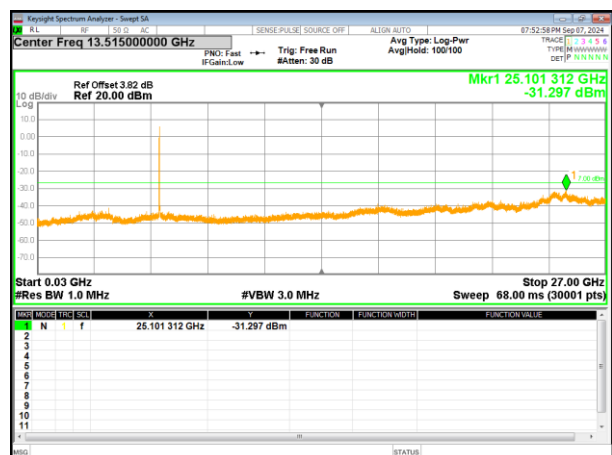
802.11n20 on channel 149



802.11n20 on channel 157

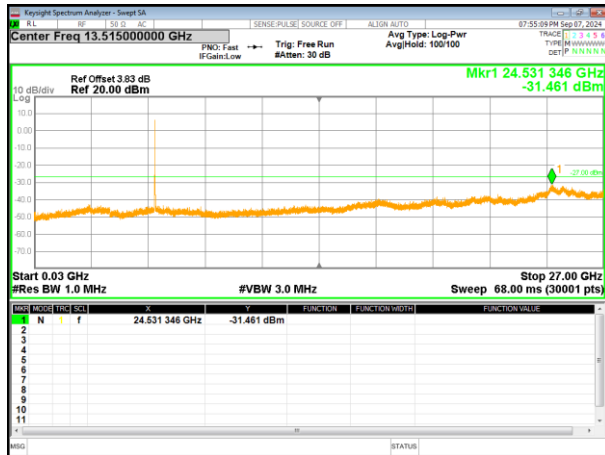


802.11n20 on channel 165

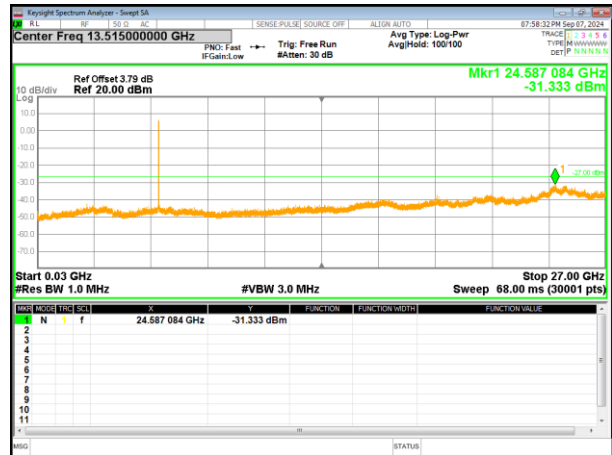


## Test Plot

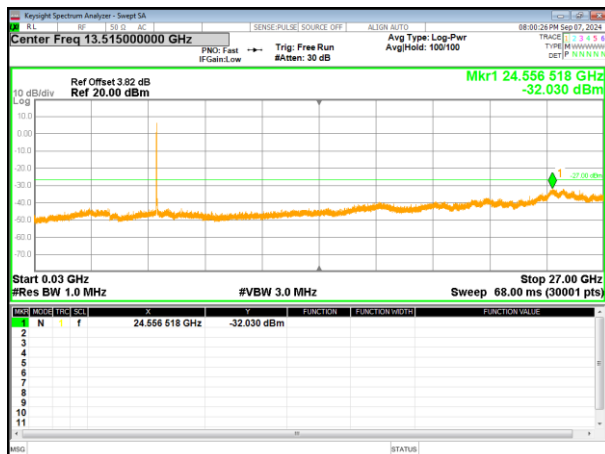
802.11ac20 on channel 149



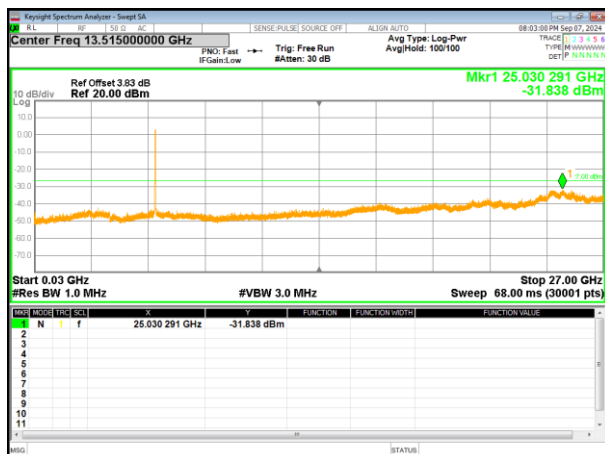
802.11ac20 on channel 157



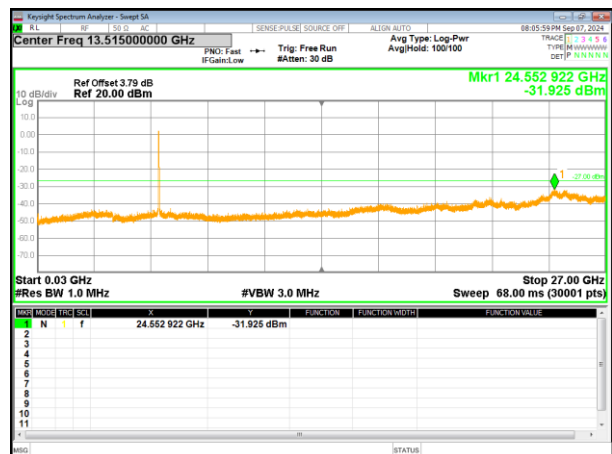
802.11ac20 on channel 165



802.11n40 on channel 151

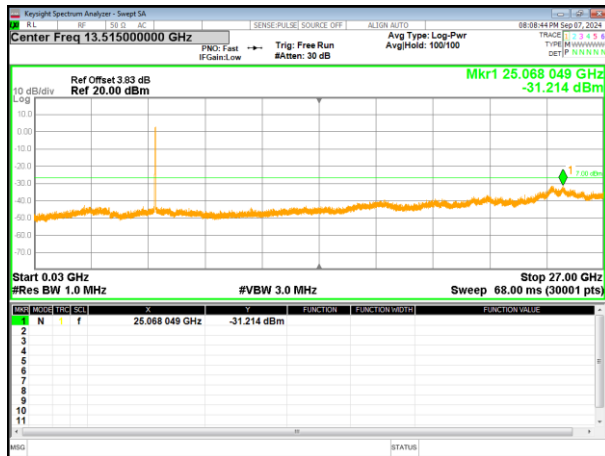


802.11n40 on channel 159

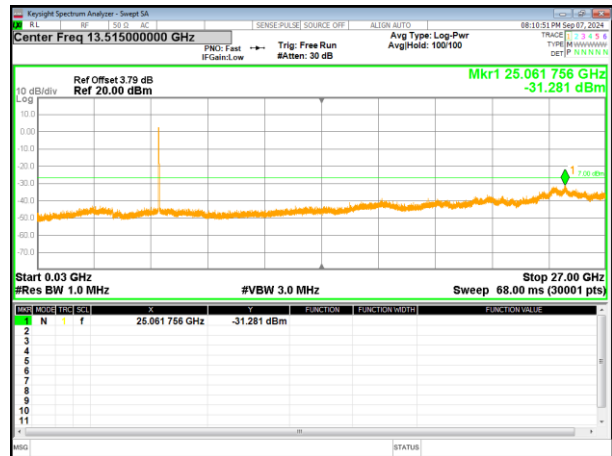


## Test Plot

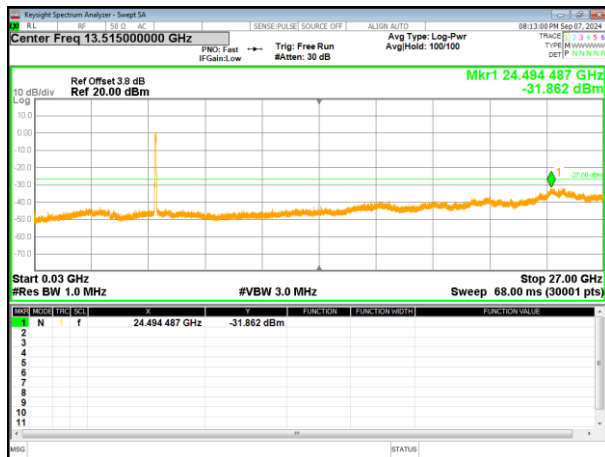
802.11ac40 on channel 151



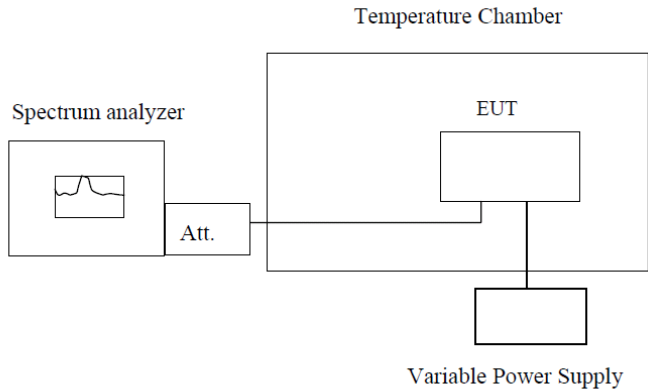
802.11ac40 on channel 159



802.11ac80 on channel 155



## 4.9 Frequency stability

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | FCC Part15 C Section 15.407(g)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Test Method:      | ANSI C63.10:2013, FCC Part 2.1055                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Limit:            | Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Test Procedure:   | <p>a. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.</p> <p>b. Turn the EUT on and couple its output to a spectrum analyzer.</p> <p>c. Turn the EUT off and set the chamber to the highest temperature specified.</p> <p>d. 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.</p> <p>e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.</p> <p>f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 Minute</p> <p>s. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.</p> |
| Test setup:       |  <p><b>Note :</b> Measurement setup for testing on Antenna connector</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Test Instruments: | Refer to section 3.0 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Test mode:        | Refer to section 2.2 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Test results:     | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

Remark: Set the EUT transmits at un-modulation mode to test frequency stability.

**Measurement data:**

| Frequency stability versus Temp. |                           |                                   |                                   |                                   |                                    |
|----------------------------------|---------------------------|-----------------------------------|-----------------------------------|-----------------------------------|------------------------------------|
| Power Supply: DC19V              |                           |                                   |                                   |                                   |                                    |
| Temp. (°C)                       | Operating Frequency (MHz) | 0 minute Measured Frequency (MHz) | 2 minute Measured Frequency (MHz) | 5 minute Measured Frequency (MHz) | 10 minute Measured Frequency (MHz) |
| -30                              | 5180                      | 5179.986                          | 5179.976                          | 5179.977                          | 5179.938                           |
|                                  | 5190                      | 5189.982                          | 5189.977                          | 5189.968                          | 5189.968                           |
|                                  | 5200                      | 5199.977                          | 5199.968                          | 5199.976                          | 5199.993                           |
|                                  | 5210                      | 5209.983                          | 5299.976                          | 5209.968                          | 5209.977                           |
|                                  | 5220                      | 5219.978                          | 5219.968                          | 5219.989                          | 5219.968                           |
|                                  | 5230                      | 5229.976                          | 5229.989                          | 5229.967                          | 5229.996                           |
|                                  | 5240                      | 5239.949                          | 5239.967                          | 5239.985                          | 5239.984                           |
| -20                              | 5180                      | 5179.763                          | 5179.965                          | 5179.977                          | 5179.976                           |
|                                  | 5190                      | 5199.935                          | 5189.976                          | 5189.968                          | 5189.977                           |
|                                  | 5200                      | 5199.933                          | 5199.967                          | 5199.976                          | 5199.968                           |
|                                  | 5210                      | 5209.988                          | 5209.968                          | 5209.968                          | 5299.976                           |
|                                  | 5220                      | 5219.977                          | 5219.975                          | 5219.989                          | 5219.968                           |
|                                  | 5230                      | 5229.964                          | 5229.993                          | 5229.967                          | 5229.989                           |
|                                  | 5240                      | 5239.981                          | 5239.965                          | 5239.985                          | 5239.967                           |
| -10                              | 5180                      | 5179.986                          | 5179.976                          | 5179.977                          | 5179.938                           |
|                                  | 5190                      | 5189.982                          | 5189.977                          | 5189.968                          | 5189.968                           |
|                                  | 5200                      | 5199.977                          | 5199.968                          | 5199.976                          | 5199.993                           |
|                                  | 5210                      | 5209.983                          | 5299.976                          | 5209.968                          | 5209.977                           |
|                                  | 5220                      | 5219.978                          | 5219.968                          | 5219.989                          | 5219.968                           |
|                                  | 5230                      | 5229.976                          | 5229.989                          | 5229.967                          | 5229.996                           |
|                                  | 5240                      | 5239.949                          | 5239.967                          | 5239.985                          | 5239.984                           |
| 0                                | 5180                      | 5179.977                          | 5179.995                          | 5179.976                          | 5179.986                           |
|                                  | 5190                      | 5189.968                          | 5180.101                          | 5189.977                          | 5189.985                           |
|                                  | 5200                      | 5199.976                          | 5199.976                          | 5199.968                          | 5199.979                           |
|                                  | 5210                      | 5209.968                          | 5210.001                          | 5299.976                          | 5209.969                           |
|                                  | 5220                      | 5219.989                          | 5219.979                          | 5219.968                          | 5219.979                           |
|                                  | 5230                      | 5229.967                          | 5229.994                          | 5229.989                          | 5299.977                           |
|                                  | 5240                      | 5239.985                          | 5239.987                          | 5239.967                          | 5239.981                           |
| 10                               | 5180                      | 5179.965                          | 5179.977                          | 5179.977                          | 5179.986                           |
|                                  | 5190                      | 5189.976                          | 5189.968                          | 5189.968                          | 5179.986                           |
|                                  | 5200                      | 5199.967                          | 5199.976                          | 5199.976                          | 5189.982                           |
|                                  | 5210                      | 5209.968                          | 5209.968                          | 5209.968                          | 5199.977                           |

|    |      |          |          |          |          |
|----|------|----------|----------|----------|----------|
|    | 5220 | 5219.975 | 5219.989 | 5219.989 | 5209.983 |
|    | 5230 | 5229.993 | 5229.967 | 5229.967 | 5219.978 |
|    | 5240 | 5239.965 | 5239.985 | 5239.985 | 5229.976 |
| 20 | 5180 | 5179.986 | 5179.986 | 5179.965 | 5179.965 |
|    | 5190 | 5189.982 | 5189.982 | 5189.976 | 5189.976 |
|    | 5200 | 5199.977 | 5199.977 | 5199.967 | 5199.967 |
|    | 5210 | 5209.983 | 5209.983 | 5209.968 | 5209.968 |
|    | 5220 | 5219.978 | 5219.978 | 5219.975 | 5219.975 |
|    | 5230 | 5229.976 | 5229.976 | 5229.993 | 5229.993 |
|    | 5240 | 5239.949 | 5239.949 | 5239.965 | 5239.965 |
| 30 | 5180 | 5179.986 | 5179.976 | 5179.977 | 5179.938 |
|    | 5190 | 5189.982 | 5189.977 | 5189.968 | 5189.968 |
|    | 5200 | 5199.977 | 5199.968 | 5199.976 | 5199.993 |
|    | 5210 | 5209.983 | 5209.976 | 5209.968 | 5209.977 |
|    | 5220 | 5219.978 | 5219.968 | 5219.989 | 5219.968 |
|    | 5230 | 5229.976 | 5229.989 | 5229.967 | 5229.996 |
|    | 5240 | 5239.949 | 5239.967 | 5239.985 | 5239.984 |
| 40 | 5180 | 5179.763 | 5179.965 | 5179.977 | 5179.976 |
|    | 5190 | 5199.935 | 5189.976 | 5189.968 | 5189.977 |
|    | 5200 | 5199.933 | 5199.967 | 5199.976 | 5199.968 |
|    | 5210 | 5209.988 | 5209.968 | 5209.968 | 5209.976 |
|    | 5220 | 5219.977 | 5219.975 | 5219.989 | 5219.968 |
|    | 5230 | 5229.964 | 5229.993 | 5229.967 | 5229.989 |
|    | 5240 | 5239.981 | 5239.965 | 5239.985 | 5239.967 |
| 50 | 5180 | 5179.938 | 5179.976 | 5179.965 | 5180.101 |
|    | 5190 | 5189.968 | 5189.977 | 5189.976 | 5199.976 |
|    | 5200 | 5199.993 | 5199.968 | 5199.967 | 5200.001 |
|    | 5210 | 5209.977 | 5209.976 | 5209.968 | 5209.979 |
|    | 5220 | 5219.968 | 5219.968 | 5219.975 | 5219.994 |
|    | 5230 | 5229.996 | 5229.989 | 5229.993 | 5229.987 |
|    | 5240 | 5239.984 | 5239.967 | 5239.965 | 5239.995 |

| Frequency stability versus Voltage |                           |                                      |                                      |                                      |                                       |
|------------------------------------|---------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---------------------------------------|
| Temperature: 25°C                  |                           |                                      |                                      |                                      |                                       |
| Power Supply (VDC)                 | Operating Frequency (MHz) | 0 minute<br>Measured Frequency (MHz) | 2 minute<br>Measured Frequency (MHz) | 5 minute<br>Measured Frequency (MHz) | 10 minute<br>Measured Frequency (MHz) |
| 16.2                               | 5180                      | 5179.971                             | 5179.965                             | 5179.986                             | 5179.982                              |
|                                    | 5190                      | 5189.965                             | 5189.976                             | 5189.982                             | 5189.968                              |
|                                    | 5200                      | 5199.978                             | 5199.967                             | 5199.977                             | 5199.969                              |
|                                    | 5210                      | 5209.982                             | 5209.968                             | 5209.983                             | 5209.991                              |
|                                    | 5220                      | 5219.968                             | 5219.975                             | 5219.978                             | 5219.977                              |
|                                    | 5230                      | 5229.961                             | 5229.993                             | 5229.976                             | 5229.987                              |
|                                    | 5240                      | 5180.101                             | 5179.981                             | 5179.977                             | 5179.965                              |
| 19                                 | 5180                      | 5199.976                             | 5189.975                             | 5189.968                             | 5189.976                              |
|                                    | 5190                      | 5200.001                             | 5199.975                             | 5199.976                             | 5199.967                              |
|                                    | 5200                      | 5209.979                             | 5209.987                             | 5209.968                             | 5209.968                              |
|                                    | 5210                      | 5219.994                             | 5219.978                             | 5219.989                             | 5219.975                              |
|                                    | 5220                      | 5229.987                             | 5299.981                             | 5229.967                             | 5229.993                              |
|                                    | 5230                      | 5239.995                             | 5239.978                             | 5239.985                             | 5239.978                              |
|                                    | 5240                      | 5180.101                             | 5179.981                             | 5179.977                             | 5179.965                              |
| 21.9                               | 5180                      | 5179.976                             | 5179.977                             | 5179.976                             | 5179.976                              |
|                                    | 5190                      | 5189.977                             | 5189.968                             | 5189.977                             | 5189.977                              |
|                                    | 5200                      | 5199.968                             | 5199.976                             | 5199.968                             | 5199.968                              |
|                                    | 5210                      | 5299.976                             | 5209.968                             | 5299.976                             | 5299.976                              |
|                                    | 5220                      | 5219.968                             | 5219.989                             | 5219.968                             | 5219.968                              |
|                                    | 5230                      | 5229.989                             | 5229.967                             | 5229.989                             | 5229.989                              |
|                                    | 5240                      | 5239.967                             | 5239.985                             | 5239.967                             | 5239.967                              |

| Frequency stability versus Temp. |                                 |                                         |                                         |                                         |                                          |
|----------------------------------|---------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|------------------------------------------|
| Power Supply: DC19V              |                                 |                                         |                                         |                                         |                                          |
| Temp.<br>(°C)                    | Operating<br>Frequency<br>(MHz) | 0 minute<br>Measured<br>Frequency (MHz) | 2 minute<br>Measured<br>Frequency (MHz) | 5 minute<br>Measured<br>Frequency (MHz) | 10 minute<br>Measured<br>Frequency (MHz) |
| -30                              | 5745                            | 5744.958                                | 5744.968                                | 5744.968                                | 5744.963                                 |
|                                  | 5755                            | 5754.974                                | 5754.975                                | 5754.985                                | 5754.988                                 |
|                                  | 5775                            | 5774.973                                | 5774.967                                | 5774.986                                | 5774.969                                 |
|                                  | 5785                            | 5784.976                                | 5784.959                                | 5784.968                                | 5784.978                                 |
|                                  | 5795                            | 5794.987                                | 5794.966                                | 5794.985                                | 5794.976                                 |
|                                  | 5825                            | 5824.968                                | 5824.895                                | 5824.983                                | 5824.986                                 |
| -20                              | 5745                            | 5744.963                                | 5744.958                                | 5744.979                                | 5744.969                                 |
|                                  | 5755                            | 5754.988                                | 5754.974                                | 5754.981                                | 5754.995                                 |
|                                  | 5775                            | 5774.969                                | 5774.973                                | 5774.984                                | 5774.991                                 |
|                                  | 5785                            | 5784.978                                | 5784.976                                | 5784.976                                | 5784.975                                 |
|                                  | 5795                            | 5794.976                                | 5794.987                                | 5794.967                                | 5794.964                                 |
|                                  | 5825                            | 5824.986                                | 5824.968                                | 5824.976                                | 5824.899                                 |
| -10                              | 5745                            | 5744.968                                | 5744.969                                | 5744.963                                | 5745.033                                 |
|                                  | 5755                            | 5754.975                                | 5754.976                                | 5754.988                                | 5744.598                                 |
|                                  | 5775                            | 5774.967                                | 5774.993                                | 5774.969                                | 5754.982                                 |
|                                  | 5785                            | 5784.959                                | 5784.969                                | 5784.978                                | 5774.983                                 |
|                                  | 5795                            | 5794.966                                | 5794.965                                | 5794.976                                | 5784.986                                 |
|                                  | 5825                            | 5824.895                                | 5824.968                                | 5824.986                                | 5794.969                                 |
| 0                                | 5745                            | 5744.963                                | 5744.968                                | 5744.968                                | 5744.969                                 |
|                                  | 5755                            | 5754.988                                | 5754.985                                | 5754.975                                | 5754.976                                 |
|                                  | 5775                            | 5774.969                                | 5774.986                                | 5774.967                                | 5774.993                                 |
|                                  | 5785                            | 5784.978                                | 5784.968                                | 5784.959                                | 5784.969                                 |
|                                  | 5795                            | 5794.976                                | 5794.985                                | 5794.966                                | 5794.965                                 |
|                                  | 5825                            | 5824.986                                | 5824.983                                | 5824.895                                | 5824.968                                 |
| 10                               | 5745                            | 5744.969                                | 5744.968                                | 5744.969                                | 5744.968                                 |
|                                  | 5755                            | 5754.976                                | 5754.975                                | 5754.976                                | 5754.957                                 |
|                                  | 5775                            | 5774.993                                | 5774.967                                | 5774.993                                | 5774.968                                 |
|                                  | 5785                            | 5784.969                                | 5784.959                                | 5784.969                                | 5784.975                                 |
|                                  | 5795                            | 5794.965                                | 5794.966                                | 5794.965                                | 5794.993                                 |
|                                  | 5825                            | 5824.968                                | 5824.895                                | 5824.968                                | 5824.985                                 |
| 20                               | 5745                            | 5744.979                                | 5744.993                                | 5744.979                                | 5744.968                                 |
|                                  | 5755                            | 5754.993                                | 5754.965                                | 5754.993                                | 5754.987                                 |
|                                  | 5775                            | 5774.978                                | 5774.988                                | 5774.978                                | 5774.967                                 |
|                                  | 5785                            | 5784.965                                | 5784.988                                | 5784.965                                | 5784.994                                 |
|                                  | 5795                            | 5794.959                                | 5794.979                                | 5794.959                                | 5794.986                                 |
|                                  | 5825                            | 5824.993                                | 5824.994                                | 5824.993                                | 5824.995                                 |
| 30                               | 5745                            | 5744.958                                | 5744.979                                | 5744.963                                | 5744.979                                 |
|                                  | 5755                            | 5754.974                                | 5754.981                                | 5754.988                                | 5754.993                                 |
|                                  | 5775                            | 5774.973                                | 5774.984                                | 5774.969                                | 5774.978                                 |
|                                  | 5785                            | 5784.976                                | 5784.976                                | 5784.978                                | 5784.965                                 |
|                                  | 5795                            | 5794.987                                | 5794.967                                | 5794.976                                | 5794.959                                 |
|                                  | 5825                            | 5824.968                                | 5824.976                                | 5824.986                                | 5824.993                                 |
| 40                               | 5745                            | 5744.979                                | 5744.968                                | 5744.963                                | 5744.963                                 |
|                                  | 5755                            | 5754.981                                | 5754.985                                | 5754.988                                | 5754.988                                 |
|                                  | 5775                            | 5774.984                                | 5774.986                                | 5774.969                                | 5774.969                                 |
|                                  | 5785                            | 5784.976                                | 5784.968                                | 5784.978                                | 5784.978                                 |

|    |      |          |          |          |          |
|----|------|----------|----------|----------|----------|
| 50 | 5795 | 5794.967 | 5794.985 | 5794.976 | 5794.976 |
|    | 5825 | 5824.976 | 5824.983 | 5824.986 | 5824.986 |
|    | 5745 | 5744.998 | 5744.958 | 5744.598 | 5744.946 |
|    | 5755 | 5744.946 | 5754.974 | 5754.982 | 5754.968 |
|    | 5775 | 5754.968 | 5774.973 | 5774.983 | 5774.977 |
|    | 5785 | 5774.977 | 5784.976 | 5784.986 | 5784.968 |
|    | 5795 | 5784.968 | 5794.987 | 5794.969 | 5794.979 |
|    | 5825 | 5794.979 | 5824.968 | 5824.965 | 5824.982 |

| Frequency stability versus Voltage |                           |                                   |                                   |                                   |                                    |
|------------------------------------|---------------------------|-----------------------------------|-----------------------------------|-----------------------------------|------------------------------------|
| Temperature: 25°C                  |                           |                                   |                                   |                                   |                                    |
| Power Supply (VDC)                 | Operating Frequency (MHz) | 0 minute Measured Frequency (MHz) | 2 minute Measured Frequency (MHz) | 5 minute Measured Frequency (MHz) | 10 minute Measured Frequency (MHz) |
| 16.2V                              | 5745                      | 57444.969                         | 5744.969                          | 5744.979                          | 5744.5988                          |
|                                    | 5755                      | 5754.995                          | 5754.976                          | 5754.981                          | 5754.982                           |
|                                    | 5775                      | 5774.991                          | 5774.993                          | 5774.984                          | 5774.983                           |
|                                    | 5785                      | 5784.975                          | 5784.969                          | 5784.976                          | 5784.986                           |
|                                    | 5795                      | 5794.964                          | 5794.965                          | 5794.967                          | 5794.969                           |
|                                    | 5825                      | 5824.899                          | 5824.968                          | 5824.976                          | 5824.965                           |
| 19V                                | 5745                      | 5744.969                          | 5744.979                          | 5744.968                          | 5744.993                           |
|                                    | 5755                      | 5754.976                          | 5754.981                          | 5754.985                          | 5754.965                           |
|                                    | 5775                      | 5774.993                          | 5774.984                          | 5774.986                          | 5774.988                           |
|                                    | 5785                      | 5784.969                          | 5784.976                          | 5784.968                          | 5784.988                           |
|                                    | 5795                      | 5794.965                          | 5794.967                          | 5794.985                          | 5794.979                           |
|                                    | 5825                      | 5824.968                          | 5824.976                          | 5824.983                          | 5824.994                           |
| 21.9                               | 5745                      | 5744.974                          | 5744.947                          | 5744.946                          | 5744.5988                          |
|                                    | 5755                      | 5754.967                          | 5754.918                          | 5754.968                          | 5754.982                           |
|                                    | 5775                      | 5774.971                          | 5774.942                          | 5774.977                          | 5774.983                           |
|                                    | 5785                      | 5784.957                          | 5784.943                          | 5784.968                          | 5784.986                           |
|                                    | 5795                      | 5794.951                          | 5794.933                          | 5794.979                          | 5794.969                           |
|                                    | 5825                      | 5824.983                          | 5824.954                          | 5824.982                          | 5824.965                           |

## 5 Test Setup Photo

Reference to the **appendix I** for details.

## 6 EUT Constructional Details

Reference to the **appendix II** for details.

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