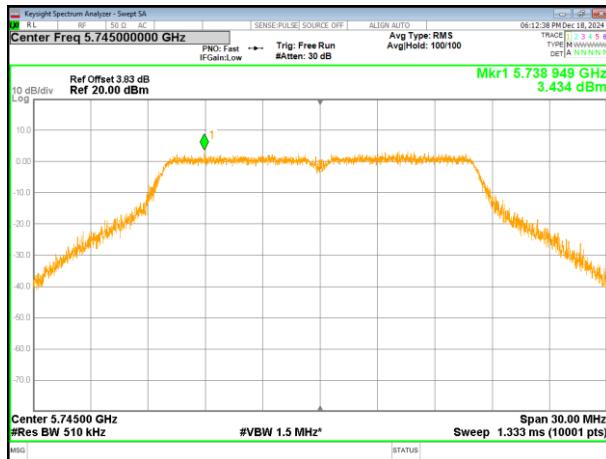
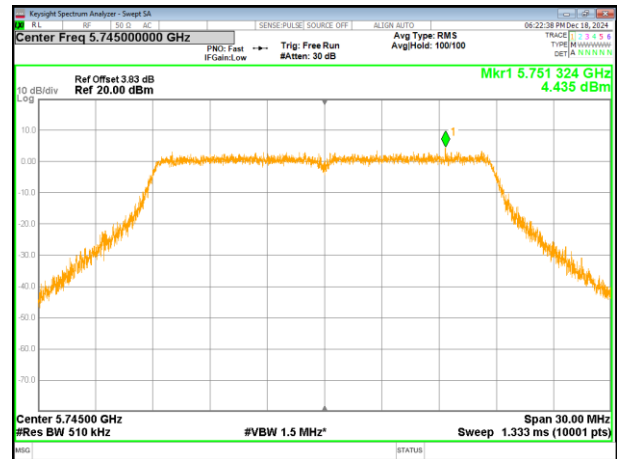


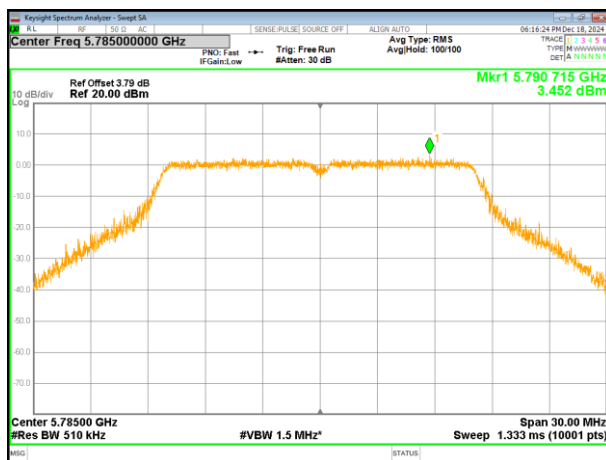
(802.11a) PSD plot on channel 149



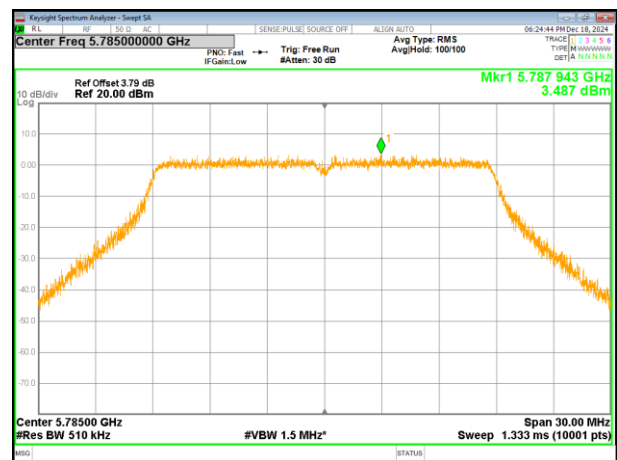
(802.11n20) PSD plot on channel 149



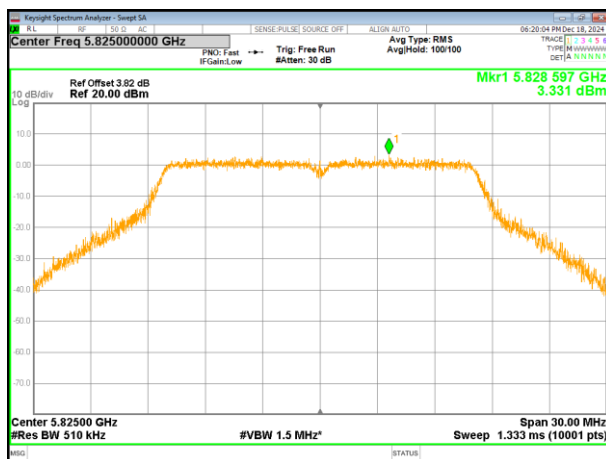
(802.11a) PSD plot on channel 157



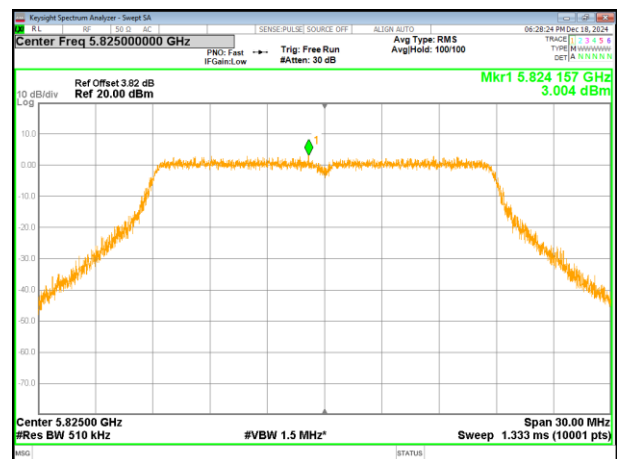
(802.11n20) PSD plot on channel 157



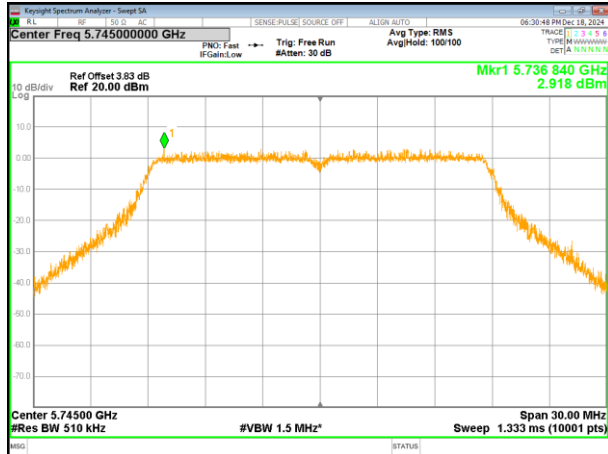
(802.11a) PSD plot on channel 165



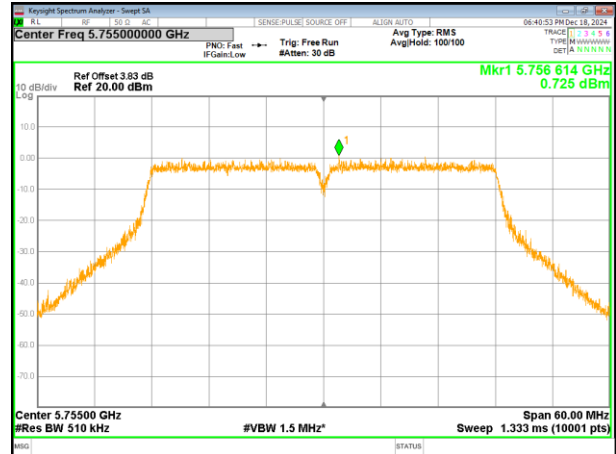
(802.11n20) PSD plot on channel 165



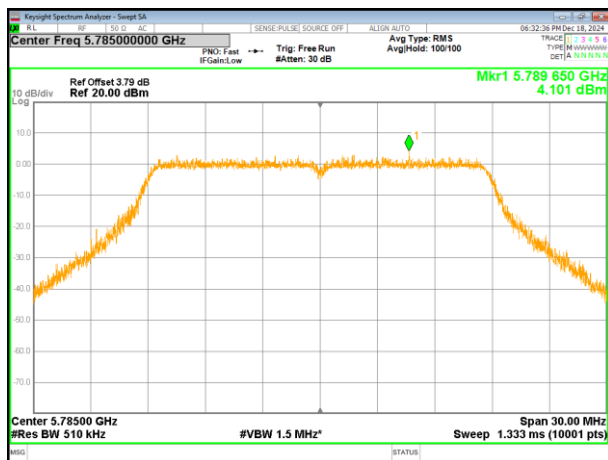
(802.11ac20) PSD plot on channel 149



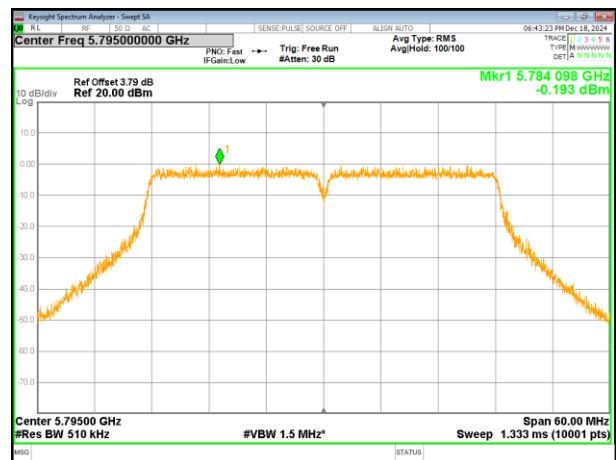
(802.11n40) PSD plot on channel 151



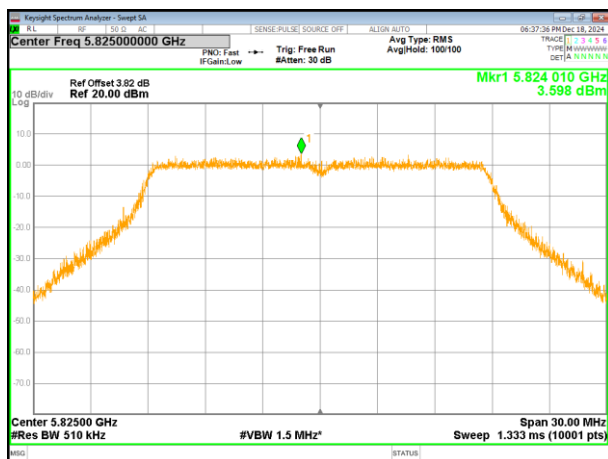
(802.11ac20) PSD plot on channel 157



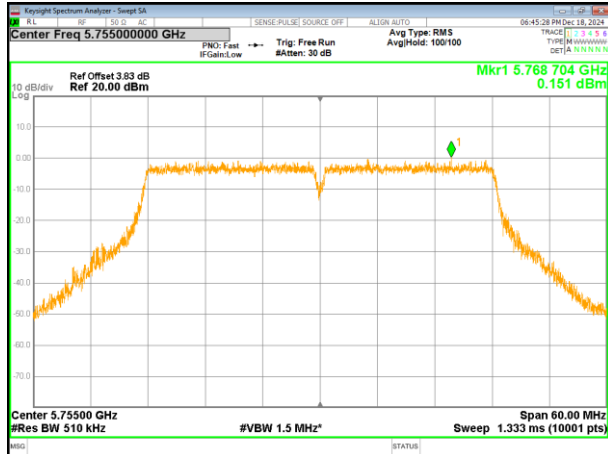
(802.11n40) PSD plot on channel 159



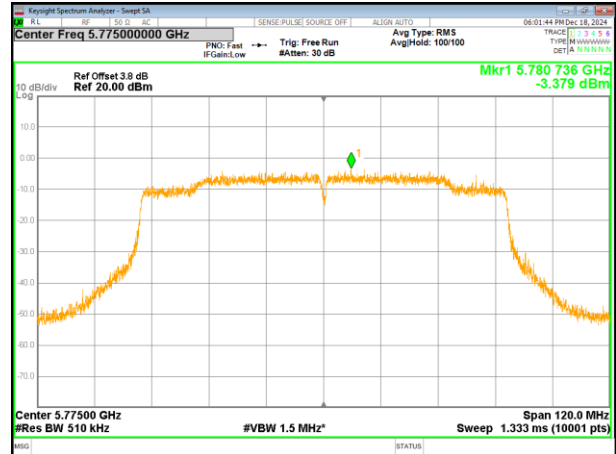
(802.11ac20) PSD plot on channel 165



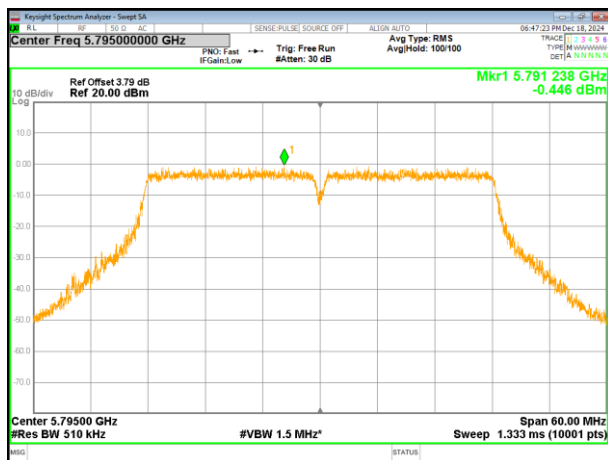
(802.11ac40) PSD plot on channel 151



(802.11ac80) PSD plot on channel 155

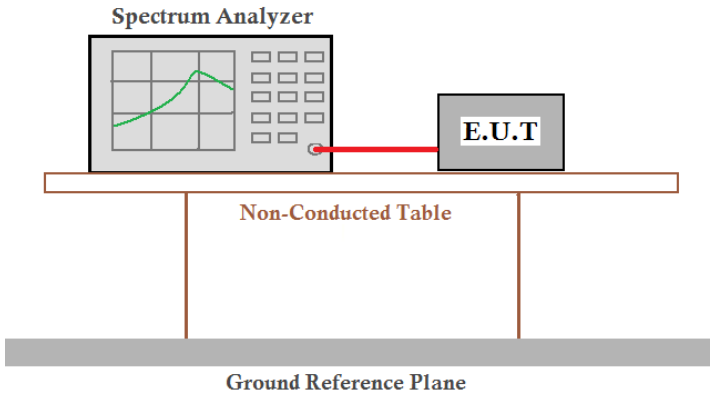


(802.11ac40) PSD plot on channel 159



## 4.7 Band edge

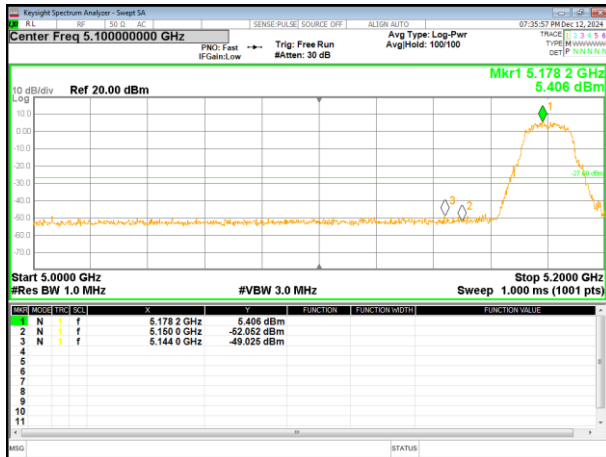
### 4.7.1 Conducted test Method

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |               |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| 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.: 23.0°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Humid.: 36%RH |
| Test voltage:     | DC 19V From Adapter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |               |
| Test results:     | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |               |

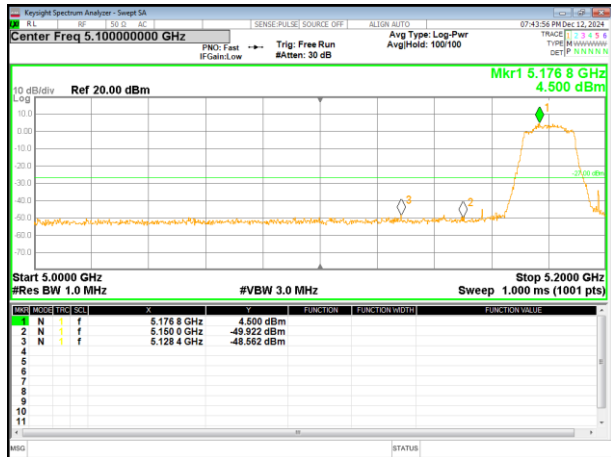
*Remark: Due to the margin value of the sideband test being greater than the antenna gain value, the test meets the requirements*

## 5.180~5.240 GHz

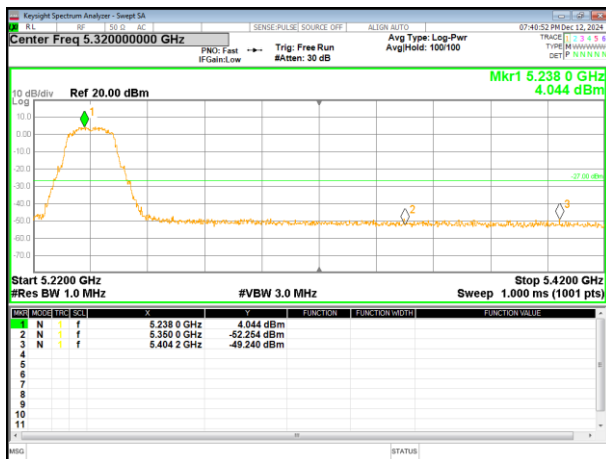
### (802.11a) Band Edge, Left Side



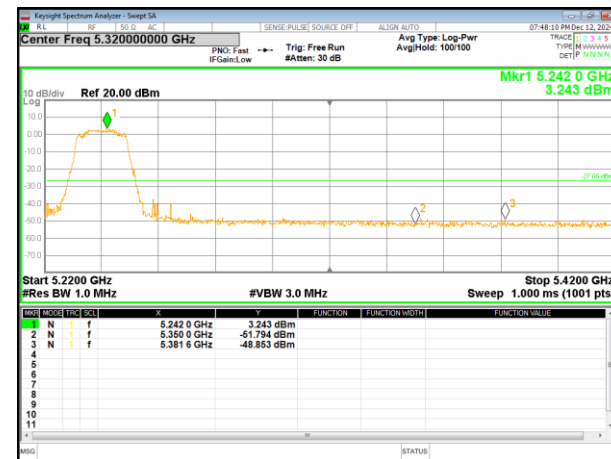
### (802.11n20) Band Edge, Left Side



### (802.11a) Band Edge, Right Side

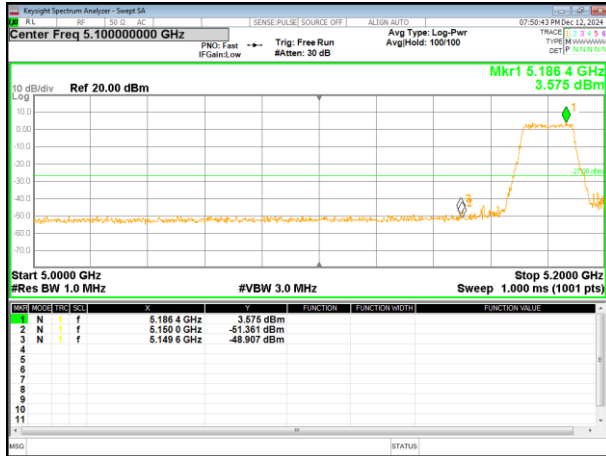


### (802.11n20) Band Edge, Right Side

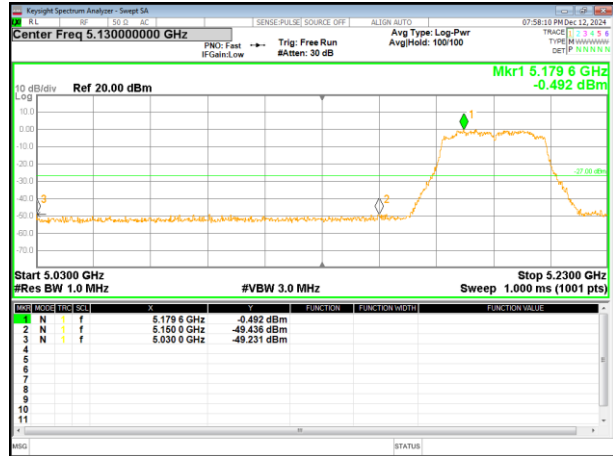


## 5.180~5.240 GHz

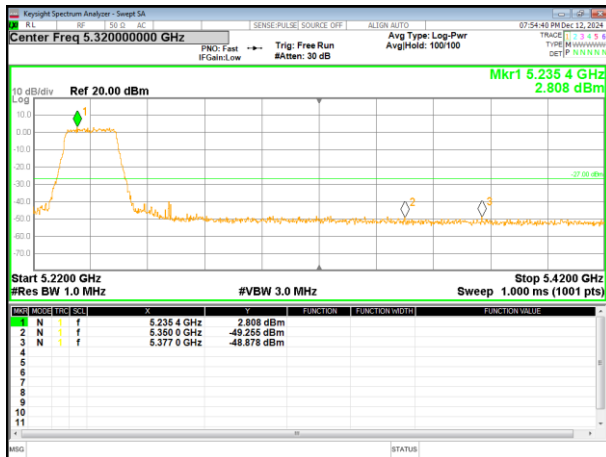
### (802.11ac20) Band Edge, Left Side



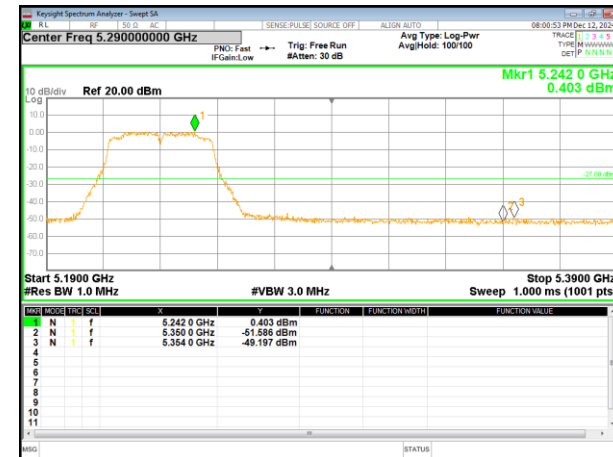
### (802.11n40) Band Edge, Left Side



### (802.11ac20) Band Edge, Right Side

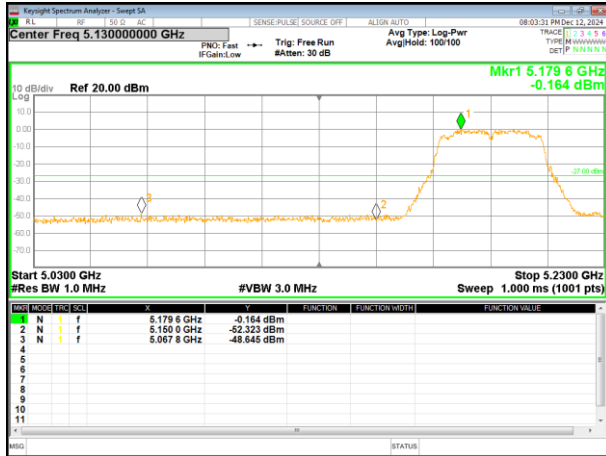


### (802.11n40) Band Edge, Right Side

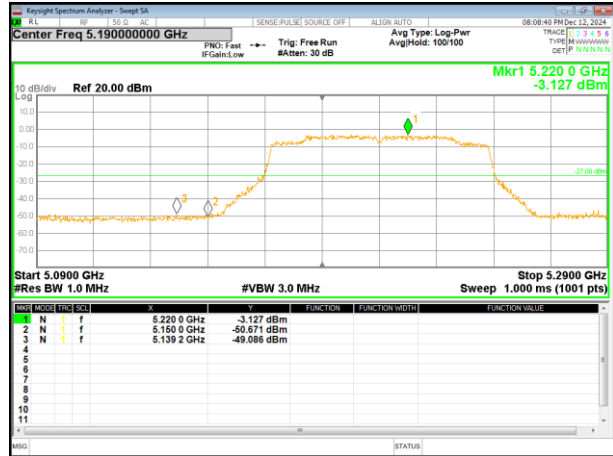


## 5.180~5.240 GHz

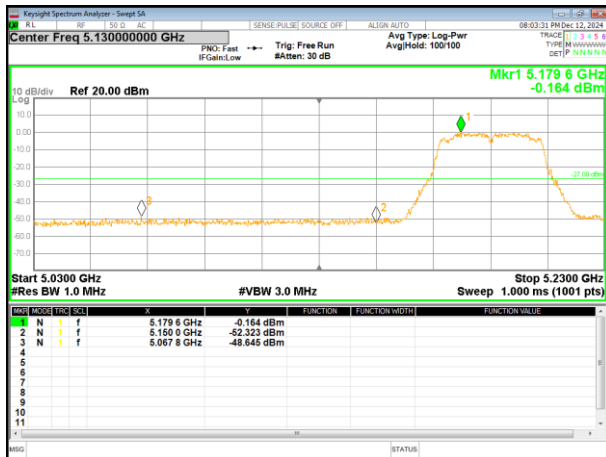
(802.11ac40) Band Edge, Left Side



(802.11ac80) Band Edge

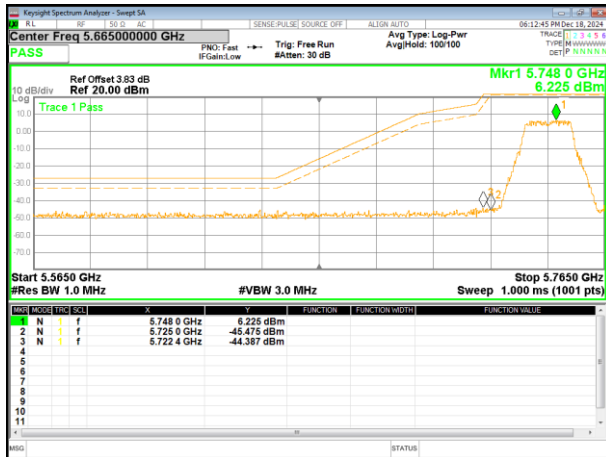


(802.11ac40) Band Edge, Right Side

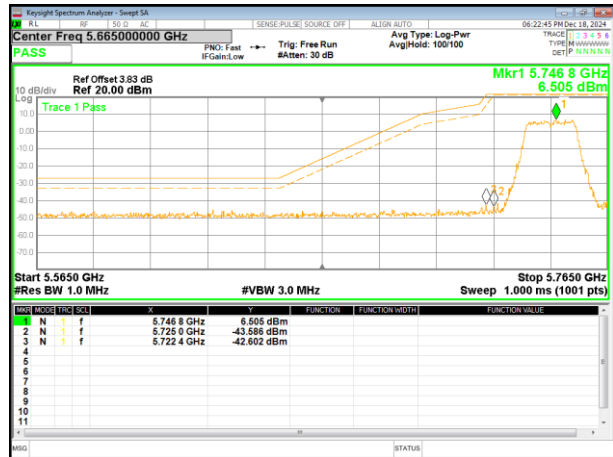


## 5.745~5.825 GHz

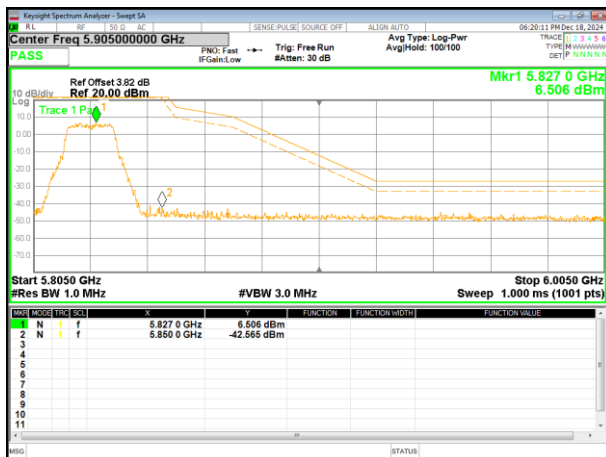
### (802.11a) Band Edge, Left Side



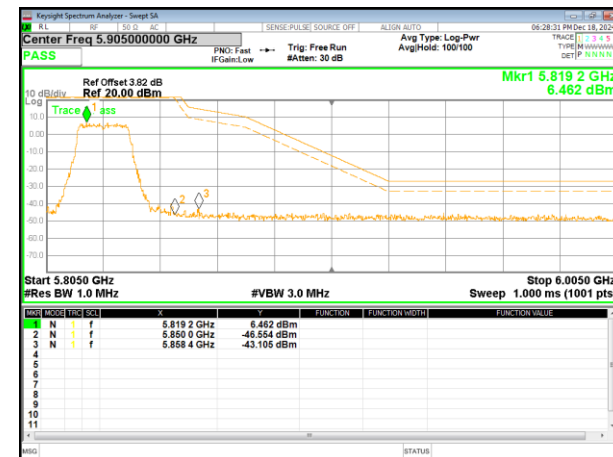
### (802.11n20) Band Edge, Left Side



### (802.11a) Band Edge, Right Side



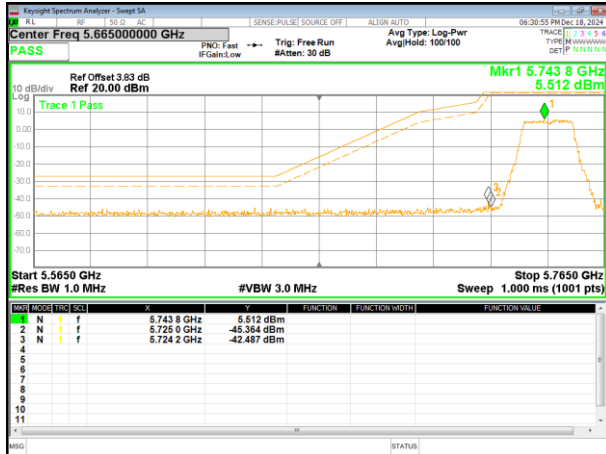
### (802.11n20) Band Edge, Right Side



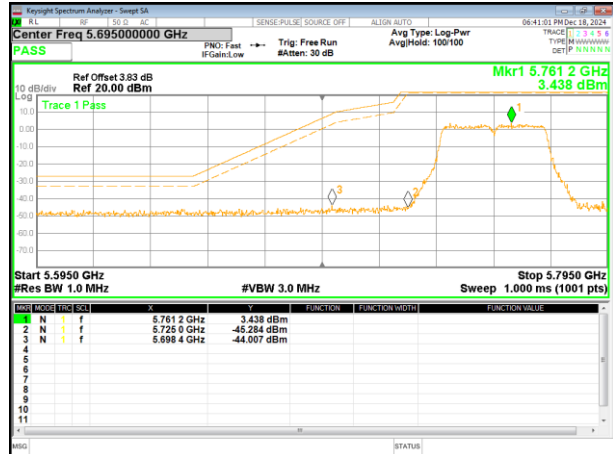


## 5.745~5.825 GHz

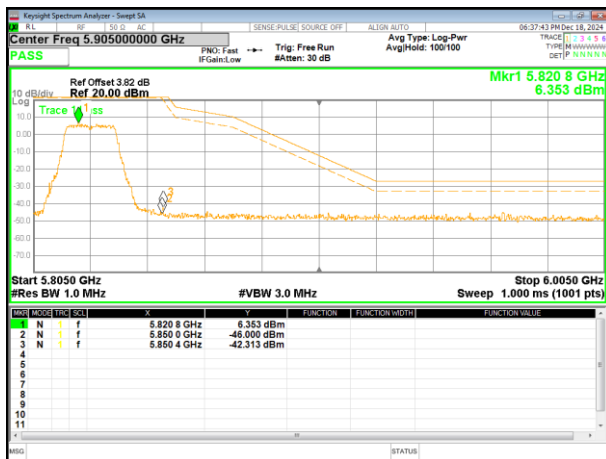
### (802.11ac20) Band Edge, Left Side



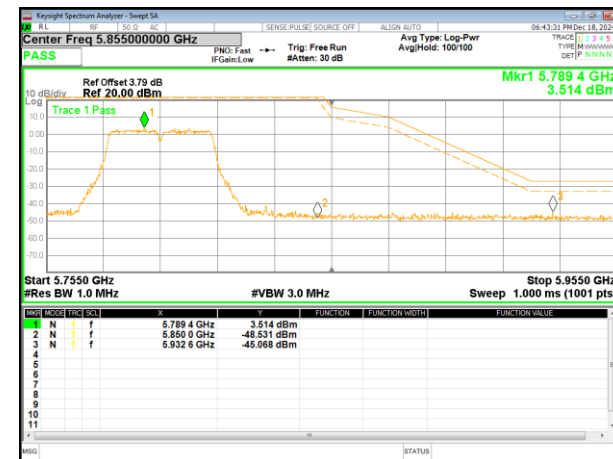
### (802.11n40) Band Edge, Left Side



### (802.11ac20) Band Edge, Right Side

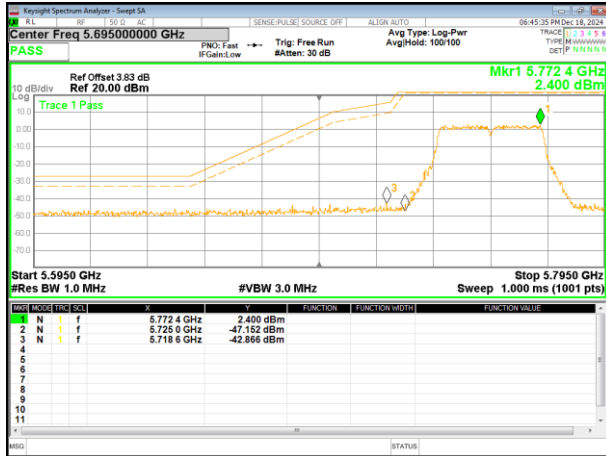


### (802.11n40) Band Edge, Right Side

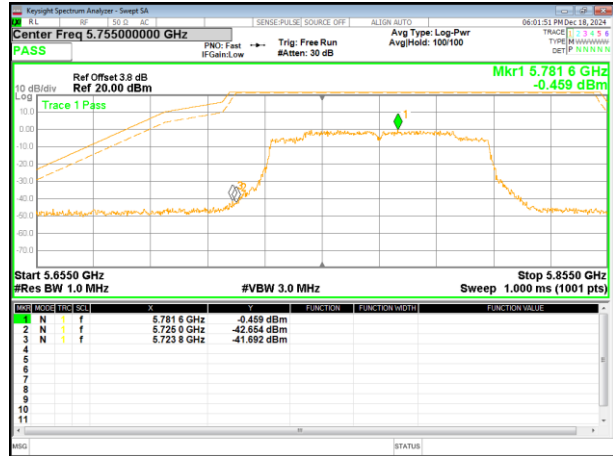


## 5.745~5.825 GHz

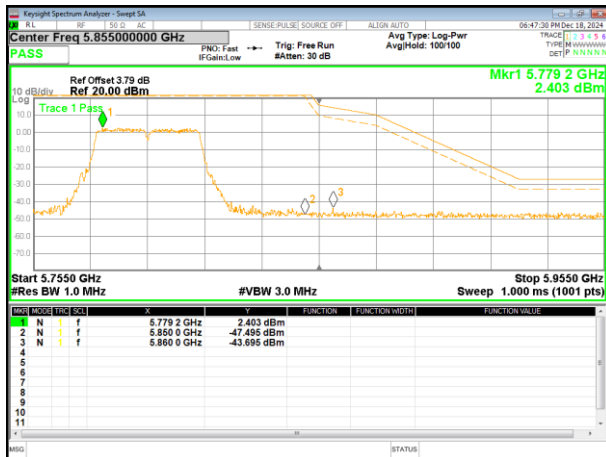
(802.11ac40) Band Edge, Left Side



(802.11ac80) Band Edge

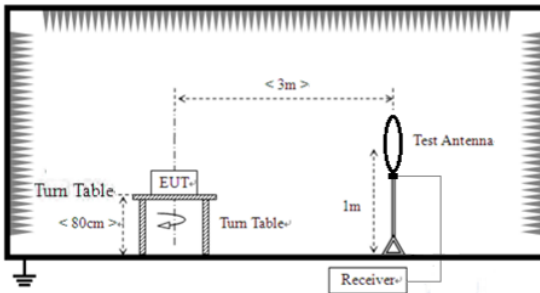
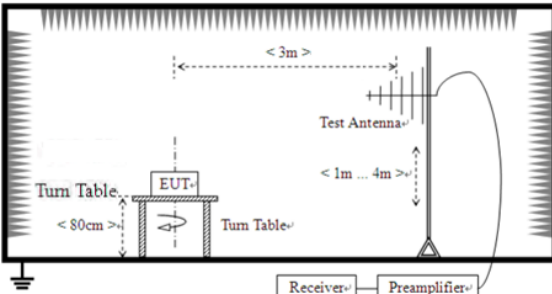


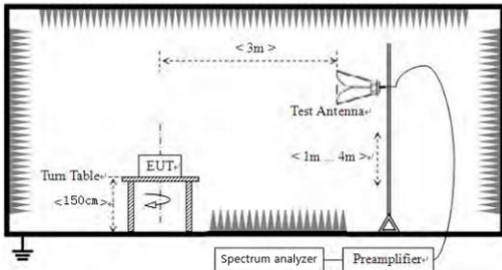
(802.11ac40) Band Edge, Right Side



## 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

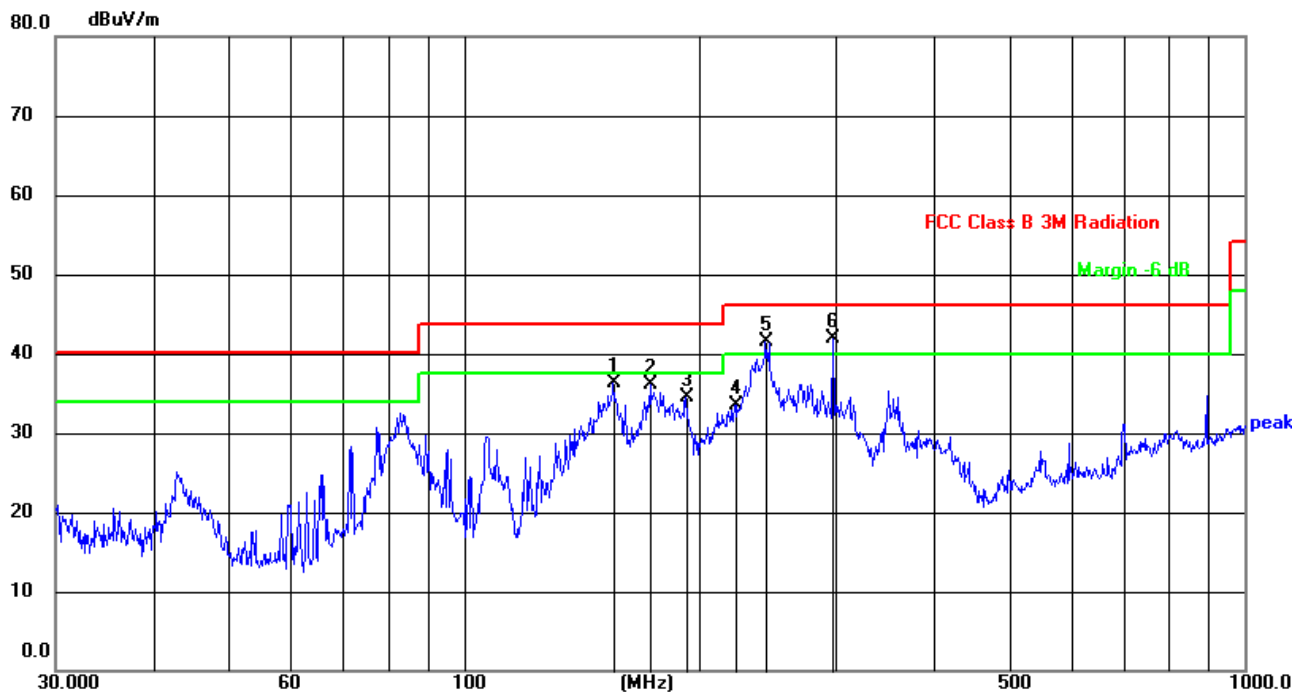
The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

## Below 1GHz

Remark: The test data shows only the worst case 802.11n20 mode.

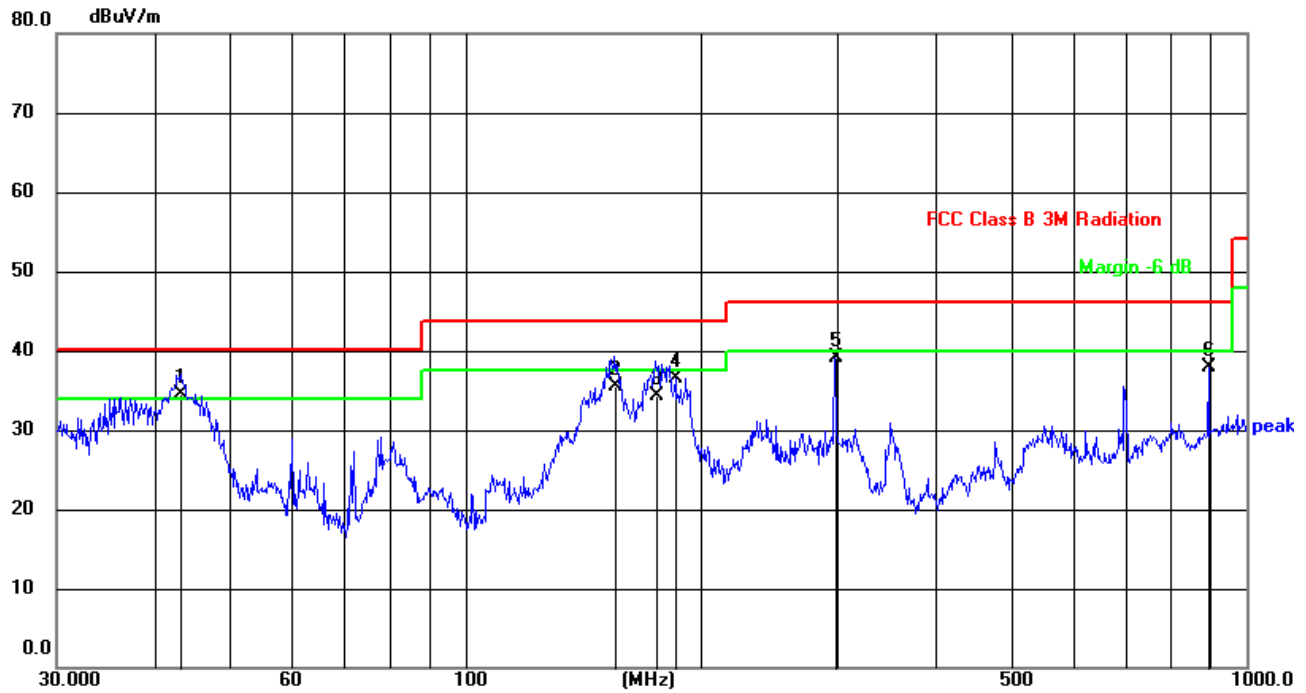
|              |                             |                    |                     |
|--------------|-----------------------------|--------------------|---------------------|
| Temperature: | 23.0°C                      | Relative Humidity: | 36%                 |
| Pressure:    | 101.2kPa                    | Test Voltage :     | DC 19V From Adapter |
| Test Mode :  | 5.8G TX- 802.11n20(5745MHz) |                    |                     |

### Horizontal:



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|----------|
| 1   | 155.3644        | 56.77          | -20.55        | 36.22          | 43.50          | -7.28       | QP       |
| 2   | 173.2051        | 57.54          | -21.45        | 36.09          | 43.50          | -7.41       | QP       |
| 3   | 192.4186        | 57.67          | -23.17        | 34.50          | 43.50          | -9.00       | QP       |
| 4   | 222.1698        | 56.97          | -23.45        | 33.52          | 46.00          | -12.48      | QP       |
| 5   | 243.3772        | 63.80          | -22.39        | 41.41          | 46.00          | -4.59       | QP       |
| 6   | 297.2238        | 62.39          | -20.40        | 41.99          | 46.00          | -4.01       | QP       |

Vertical:



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|----------|
| 1   | 43.2017         | 55.59          | -21.09        | 34.50          | 40.00          | -5.50       | QP       |
| 2   | 155.3644        | 56.15          | -20.55        | 35.60          | 43.50          | -7.90       | QP       |
| 3   | 175.0368        | 56.05          | -21.75        | 34.30          | 43.50          | -9.20       | QP       |
| 4   | 185.7882        | 59.40          | -22.86        | 36.54          | 43.50          | -6.96       | QP       |
| 5   | 297.2241        | 59.46          | -20.40        | 39.06          | 46.00          | -6.94       | QP       |
| 6   | 893.8567        | 43.45          | -5.54         | 37.91          | 46.00          | -8.09       | 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.

Above 1GHz:

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

|              |                  |                    |                     |
|--------------|------------------|--------------------|---------------------|
| Temperature: | 23.0°C           | Relative Humidity: | 36%                 |
| Pressure:    | 101.2kPa         | Test Voltage :     | DC 19V From Adapter |
| Test Mode :  | 5.2G TX- 802.11a |                    |                     |

| 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  | 51.19            | 46.20             | 8.27          | 38.50             | 51.76             | 68.20  | -16.44 | PK                   |
| V                   | 10360.00  | 40.99            | 46.20             | 8.27          | 38.50             | 41.56             | 54.00  | -12.44 | AV                   |
| V                   | 15540.00  | 48.24            | 46.30             | 10.35         | 38.70             | 50.99             | 74.00  | -23.01 | PK                   |
| V                   | 15540.00  | 38.01            | 46.30             | 10.35         | 38.70             | 40.76             | 54.00  | -13.24 | AV                   |
| V                   | 20720.00  | 57.51            | 57.40             | 11.93         | 37.80             | 49.84             | 68.20  | -18.36 | PK                   |
| V                   | 20720.00  | 47.29            | 57.40             | 11.93         | 37.80             | 39.62             | 54.00  | -14.38 | AV                   |
| V                   | 25900.00  | 55.16            | 56.50             | 13.45         | 39.70             | 51.81             | 68.20  | -16.39 | PK                   |
| V                   | 25900.00  | 44.55            | 56.50             | 13.45         | 39.70             | 41.20             | 54.00  | -12.80 | AV                   |
| V                   | 31080.00  | 49.05            | 56.10             | 16.12         | 41.60             | 50.67             | 68.20  | -17.53 | PK                   |
| V                   | 31080.00  | 42.38            | 56.10             | 16.12         | 41.60             | 44.00             | 54.00  | -10.00 | AV                   |
| V                   | 36260.00  | 46.22            | 56.80             | 18.29         | 42.80             | 50.51             | 68.20  | -17.69 | PK                   |
| V                   | 36260.00  | 38.96            | 56.80             | 18.29         | 42.80             | 43.25             | 54.00  | -10.75 | AV                   |
| H                   | 10360.00  | 51.18            | 46.20             | 8.27          | 38.50             | 51.75             | 68.20  | -16.45 | PK                   |
| H                   | 10360.00  | 39.59            | 46.20             | 8.27          | 38.50             | 40.16             | 54.00  | -13.84 | AV                   |
| H                   | 15540.00  | 47.29            | 46.30             | 10.35         | 38.70             | 50.04             | 74.00  | -23.96 | PK                   |
| H                   | 15540.00  | 35.53            | 46.30             | 10.35         | 38.70             | 38.28             | 54.00  | -15.73 | AV                   |
| H                   | 20720.00  | 59.78            | 57.40             | 11.93         | 37.80             | 52.11             | 68.20  | -16.09 | PK                   |
| H                   | 20720.00  | 48.25            | 57.40             | 11.93         | 37.80             | 40.58             | 54.00  | -13.42 | AV                   |
| H                   | 25900.00  | 56.15            | 56.50             | 13.45         | 39.70             | 52.80             | 68.20  | -15.40 | PK                   |
| H                   | 25900.00  | 44.57            | 56.50             | 13.45         | 39.70             | 41.22             | 54.00  | -12.78 | AV                   |
| H                   | 31080.00  | 49.64            | 56.10             | 16.12         | 41.60             | 51.26             | 68.20  | -16.94 | PK                   |
| H                   | 31080.00  | 42.34            | 56.10             | 16.12         | 41.60             | 43.96             | 54.00  | -10.04 | AV                   |
| H                   | 36260.00  | 45.41            | 56.80             | 18.29         | 42.80             | 49.70             | 68.20  | -18.50 | PK                   |
| H                   | 36260.00  | 39.07            | 56.80             | 18.29         | 42.80             | 43.36             | 54.00  | -10.64 | 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:5200MHz |           |                  |                   |               |                   |                   |          |        |                      |
| V                      | 10400.00  | 50.21            | 46.20             | 8.27          | 38.50             | 50.78             | 68.20    | -17.42 | PK                   |
| V                      | 10400.00  | 40.75            | 46.20             | 8.27          | 38.50             | 41.32             | 54.00    | -12.68 | AV                   |
| V                      | 15600.00  | 48.55            | 46.30             | 10.35         | 38.40             | 51.00             | 74.00    | -23.00 | PK                   |
| V                      | 15600.00  | 39.64            | 46.30             | 10.35         | 38.40             | 42.09             | 54.00    | -11.91 | AV                   |
| V                      | 20800.00  | 58.74            | 57.40             | 11.93         | 37.80             | 51.07             | 68.20    | -17.13 | PK                   |
| V                      | 20800.00  | 48.83            | 57.40             | 11.93         | 37.80             | 41.16             | 54.00    | -12.84 | AV                   |
| V                      | 26000.00  | 53.76            | 56.50             | 13.45         | 39.80             | 50.51             | 68.20    | -17.69 | PK                   |
| V                      | 26000.00  | 45.82            | 56.50             | 13.45         | 39.80             | 42.57             | 54.00    | -11.43 | AV                   |
| V                      | 31200.00  | 51.19            | 56.10             | 16.12         | 41.60             | 52.81             | 68.20    | -15.39 | PK                   |
| V                      | 31200.00  | 44.42            | 56.10             | 16.12         | 41.60             | 46.04             | 54.00    | -7.96  | AV                   |
| V                      | 36400.00  | 47.59            | 56.80             | 18.29         | 42.80             | 51.88             | 68.20    | -16.32 | PK                   |
| V                      | 36400.00  | 40.40            | 56.80             | 18.29         | 42.80             | 44.69             | 54.00    | -9.31  | AV                   |
| H                      | 10400.00  | 50.83            | 46.20             | 8.27          | 38.50             | 51.40             | 68.20    | -16.80 | PK                   |
| H                      | 10400.00  | 41.09            | 46.20             | 8.27          | 38.50             | 41.66             | 54.00    | -12.34 | AV                   |
| H                      | 15600.00  | 48.53            | 46.30             | 10.35         | 38.40             | 50.98             | 74.00    | -23.02 | PK                   |
| H                      | 15600.00  | 39.63            | 46.30             | 10.35         | 38.40             | 42.08             | 54.00    | -11.92 | AV                   |
| H                      | 20800.00  | 57.67            | 57.40             | 11.93         | 37.80             | 50.00             | 68.20    | -18.20 | PK                   |
| H                      | 20800.00  | 46.70            | 57.40             | 11.93         | 37.80             | 39.03             | 54.00    | -14.97 | AV                   |
| H                      | 26000.00  | 53.50            | 56.50             | 13.45         | 39.80             | 50.25             | 68.20    | -17.95 | PK                   |
| H                      | 26000.00  | 44.95            | 56.50             | 13.45         | 39.80             | 41.70             | 54.00    | -12.30 | AV                   |
| H                      | 31200.00  | 51.42            | 56.10             | 16.12         | 41.60             | 53.04             | 68.20    | -15.16 | PK                   |
| H                      | 31200.00  | 44.18            | 56.10             | 16.12         | 41.60             | 45.80             | 54.00    | -8.20  | AV                   |
| H                      | 36400.00  | 47.48            | 56.80             | 18.29         | 42.80             | 51.77             | 68.20    | -16.43 | PK                   |
| H                      | 36400.00  | 40.90            | 56.80             | 18.29         | 42.80             | 45.19             | 54.00    | -8.81  | 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)   |                      |
| High Channel:5240MHz |           |                  |                   |               |                   |                   |          |        |                      |
| V                    | 10480.00  | 46.97            | 46.20             | 8.27          | 38.60             | 47.64             | 68.20    | -20.56 | PK                   |
| V                    | 10480.00  | 36.75            | 46.20             | 8.27          | 38.60             | 37.42             | 54.00    | -16.58 | AV                   |
| V                    | 15720.00  | 44.55            | 46.30             | 10.35         | 38.40             | 47.00             | 74.00    | -27.00 | PK                   |
| V                    | 15720.00  | 34.45            | 46.30             | 10.35         | 38.40             | 36.90             | 54.00    | -17.10 | AV                   |
| V                    | 20960.00  | 54.84            | 57.40             | 11.93         | 37.50             | 46.87             | 68.20    | -21.33 | PK                   |
| V                    | 20960.00  | 46.12            | 57.40             | 11.93         | 37.50             | 38.15             | 54.00    | -15.85 | AV                   |
| V                    | 26200.00  | 50.75            | 56.50             | 13.45         | 40.10             | 47.80             | 68.20    | -20.40 | PK                   |
| V                    | 26200.00  | 41.09            | 56.50             | 13.45         | 40.10             | 38.14             | 54.00    | -15.86 | AV                   |
| V                    | 31440.00  | 52.40            | 56.10             | 16.12         | 41.30             | 53.72             | 68.20    | -14.48 | PK                   |
| V                    | 31440.00  | 45.25            | 56.10             | 16.12         | 41.30             | 46.57             | 54.00    | -7.43  | AV                   |
| V                    | 36680.00  | 48.07            | 56.80             | 18.29         | 43.10             | 52.66             | 68.20    | -15.54 | PK                   |
| V                    | 36680.00  | 41.03            | 56.80             | 18.29         | 43.10             | 45.62             | 54.00    | -8.38  | AV                   |
| H                    | 10480.00  | 47.19            | 46.20             | 8.27          | 38.60             | 47.86             | 68.20    | -20.34 | PK                   |
| H                    | 10480.00  | 36.80            | 46.20             | 8.27          | 38.60             | 37.47             | 54.00    | -16.53 | AV                   |
| H                    | 15720.00  | 44.87            | 46.30             | 10.35         | 38.40             | 47.32             | 74.00    | -26.68 | PK                   |
| H                    | 15720.00  | 34.59            | 46.30             | 10.35         | 38.40             | 37.04             | 54.00    | -16.96 | AV                   |
| H                    | 20960.00  | 55.06            | 57.40             | 11.93         | 37.50             | 47.09             | 68.20    | -21.11 | PK                   |
| H                    | 20960.00  | 45.94            | 57.40             | 11.93         | 37.50             | 37.97             | 54.00    | -16.03 | AV                   |
| H                    | 26200.00  | 50.45            | 56.50             | 13.45         | 40.10             | 47.50             | 68.20    | -20.70 | PK                   |
| H                    | 26200.00  | 40.44            | 56.50             | 13.45         | 40.10             | 37.49             | 54.00    | -16.51 | AV                   |
| H                    | 31440.00  | 51.74            | 56.10             | 16.12         | 41.30             | 53.06             | 68.20    | -15.14 | PK                   |
| H                    | 31440.00  | 45.67            | 56.10             | 16.12         | 41.30             | 46.99             | 54.00    | -7.01  | AV                   |
| H                    | 36680.00  | 48.27            | 56.80             | 18.29         | 43.10             | 52.86             | 68.20    | -15.34 | PK                   |
| H                    | 36680.00  | 41.26            | 56.80             | 18.29         | 43.10             | 45.85             | 54.00    | -8.15  | 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: | 23.0°C             | Relative Humidity: | 36%                 |
| Pressure:    | 101.2kPa           | Test Voltage :     | DC 19V From Adapter |
| Test Mode :  | 5.8G TX- 802.11n20 |                    |                     |

| 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           | 46.34                      | 46.10                     | 8.77                  | 39.10                    | 48.11                         | 74.00              | -25.89         | PK                  |
| V                   | 11490.00           | 38.24                      | 46.10                     | 8.77                  | 39.10                    | 40.01                         | 54.00              | -13.99         | AV                  |
| V                   | 17235.00           | 43.89                      | 47.60                     | 11.10                 | 38.70                    | 46.09                         | 68.20              | -22.11         | PK                  |
| V                   | 17235.00           | 36.69                      | 47.60                     | 11.10                 | 38.70                    | 38.89                         | 54.00              | -15.11         | AV                  |
| V                   | 22980.00           | 52.55                      | 56.90                     | 12.73                 | 37.70                    | 46.08                         | 74.00              | -27.92         | PK                  |
| V                   | 22980.00           | 44.66                      | 56.90                     | 12.73                 | 37.70                    | 38.19                         | 54.00              | -15.81         | AV                  |
| V                   | 28725.00           | 49.36                      | 55.60                     | 14.25                 | 40.30                    | 48.31                         | 68.20              | -19.89         | PK                  |
| V                   | 28725.00           | 41.01                      | 55.60                     | 14.25                 | 40.30                    | 39.96                         | 54.00              | -14.04         | AV                  |
| V                   | 34470.00           | 48.06                      | 55.90                     | 17.26                 | 42.10                    | 51.52                         | 68.20              | -16.68         | PK                  |
| V                   | 34470.00           | 41.84                      | 55.90                     | 17.26                 | 42.10                    | 45.30                         | 54.00              | -8.70          | AV                  |
| H                   | 11490.00           | 46.74                      | 46.10                     | 8.77                  | 39.10                    | 48.51                         | 74.00              | -25.49         | PK                  |
| H                   | 11490.00           | 38.06                      | 46.10                     | 8.77                  | 39.10                    | 39.83                         | 54.00              | -14.17         | AV                  |
| H                   | 17235.00           | 44.99                      | 47.60                     | 11.10                 | 38.70                    | 47.19                         | 68.20              | -21.01         | PK                  |
| H                   | 17235.00           | 37.09                      | 47.60                     | 11.10                 | 38.70                    | 39.29                         | 54.00              | -14.71         | AV                  |
| H                   | 22980.00           | 54.71                      | 56.90                     | 12.73                 | 37.70                    | 48.24                         | 74.00              | -25.76         | PK                  |
| H                   | 22980.00           | 44.45                      | 56.90                     | 12.73                 | 37.70                    | 37.98                         | 54.00              | -16.02         | AV                  |
| H                   | 28725.00           | 51.37                      | 55.60                     | 14.25                 | 40.30                    | 50.32                         | 68.20              | -17.88         | PK                  |
| H                   | 28725.00           | 41.59                      | 55.60                     | 14.25                 | 40.30                    | 40.54                         | 54.00              | -13.46         | AV                  |
| H                   | 34470.00           | 47.17                      | 55.90                     | 17.26                 | 42.10                    | 50.63                         | 68.20              | -17.57         | PK                  |
| H                   | 34470.00           | 41.01                      | 55.90                     | 17.26                 | 42.10                    | 44.47                         | 54.00              | -9.53          | AV                  |

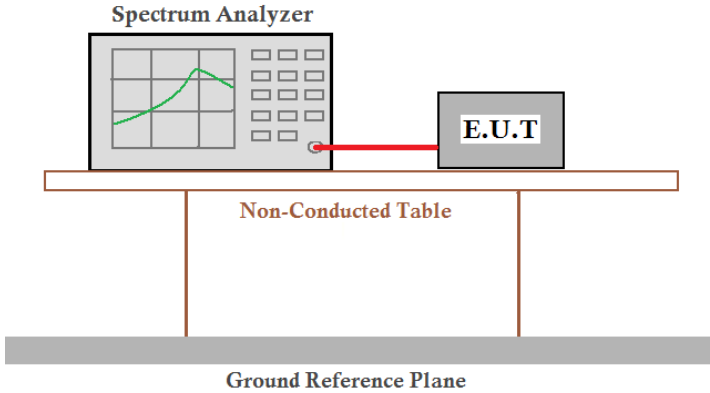
| Polar<br>(H/V)         | Frequency | Meter<br>Reading | Pre-<br>amplifier | Cable<br>Loss | Antenna<br>Factor | Emission<br>Level | Limits   | Margin | Detect<br>or<br>Type |
|------------------------|-----------|------------------|-------------------|---------------|-------------------|-------------------|----------|--------|----------------------|
|                        | (MHz)     | (dBuV)           | (dB)              | (dB)          | (dB)              | (dBuV/m)          | (dBuV/m) | (dB)   |                      |
| Middle Channel:5785MHz |           |                  |                   |               |                   |                   |          |        |                      |
| V                      | 11570.00  | 46.14            | 46.10             | 8.77          | 39.10             | 47.91             | 74.00    | -26.09 | PK                   |
| V                      | 11570.00  | 38.05            | 46.10             | 8.77          | 39.10             | 39.82             | 54.00    | -14.18 | AV                   |
| V                      | 17355.00  | 43.73            | 47.60             | 11.10         | 38.70             | 45.93             | 68.20    | -22.27 | PK                   |
| V                      | 17355.00  | 36.48            | 47.60             | 11.10         | 38.70             | 38.68             | 54.00    | -15.32 | AV                   |
| V                      | 23140.00  | 52.33            | 56.90             | 12.73         | 37.70             | 45.86             | 74.00    | -28.14 | PK                   |
| V                      | 23140.00  | 44.42            | 56.90             | 12.73         | 37.70             | 37.95             | 54.00    | -16.05 | AV                   |
| V                      | 28925.00  | 49.16            | 55.60             | 14.25         | 40.30             | 48.11             | 68.20    | -20.09 | PK                   |
| V                      | 28925.00  | 40.75            | 55.60             | 14.25         | 40.30             | 39.70             | 54.00    | -14.30 | AV                   |
| V                      | 34710.00  | 46.94            | 55.90             | 17.26         | 42.40             | 50.70             | 68.20    | -17.50 | PK                   |
| V                      | 34710.00  | 41.41            | 55.90             | 17.26         | 42.40             | 45.17             | 54.00    | -8.83  | AV                   |
| H                      | 11570.00  | 46.55            | 46.10             | 8.77          | 39.10             | 48.32             | 74.00    | -25.68 | PK                   |
| H                      | 11570.00  | 37.86            | 46.10             | 8.77          | 39.10             | 39.63             | 54.00    | -14.37 | AV                   |
| H                      | 17355.00  | 44.74            | 47.60             | 11.10         | 38.70             | 46.94             | 68.20    | -21.26 | PK                   |
| H                      | 17355.00  | 36.91            | 47.60             | 11.10         | 38.70             | 39.11             | 54.00    | -14.89 | AV                   |
| H                      | 23140.00  | 54.51            | 56.90             | 12.73         | 37.70             | 48.04             | 74.00    | -25.96 | PK                   |
| H                      | 23140.00  | 44.21            | 56.90             | 12.73         | 37.70             | 37.74             | 54.00    | -16.26 | AV                   |
| H                      | 28925.00  | 51.14            | 55.60             | 14.25         | 40.30             | 50.09             | 68.20    | -18.11 | PK                   |
| H                      | 28925.00  | 41.41            | 55.60             | 14.25         | 40.30             | 40.36             | 54.00    | -13.65 | AV                   |
| H                      | 34710.00  | 46.39            | 55.90             | 17.26         | 42.40             | 50.15             | 68.20    | -18.05 | PK                   |
| H                      | 34710.00  | 40.75            | 55.90             | 17.26         | 42.40             | 44.51             | 54.00    | -9.49  | 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)   |                      |
| High Channel:5825MHz |           |                  |                   |               |                   |                   |          |        |                      |
| V                    | 11650.00  | 47.17            | 46.10             | 8.77          | 39.10             | 48.94             | 74.00    | -25.06 | PK                   |
| V                    | 11650.00  | 38.24            | 46.10             | 8.77          | 39.10             | 40.01             | 54.00    | -13.99 | AV                   |
| V                    | 17475.00  | 45.06            | 47.90             | 11.23         | 38.90             | 47.29             | 68.20    | -20.91 | PK                   |
| V                    | 17475.00  | 37.52            | 47.90             | 11.23         | 38.90             | 39.75             | 54.00    | -14.25 | AV                   |
| V                    | 23300.00  | 54.61            | 57.10             | 12.73         | 37.80             | 48.04             | 68.20    | -20.16 | PK                   |
| V                    | 23300.00  | 45.39            | 57.10             | 12.73         | 37.80             | 38.82             | 54.00    | -15.18 | AV                   |
| V                    | 29125.00  | 51.40            | 55.80             | 14.25         | 40.50             | 50.35             | 68.20    | -17.85 | PK                   |
| V                    | 29125.00  | 42.66            | 55.80             | 14.25         | 40.50             | 41.61             | 54.00    | -12.39 | AV                   |
| V                    | 34950.00  | 46.83            | 56.30             | 17.91         | 42.50             | 50.94             | 68.20    | -17.26 | PK                   |
| V                    | 34950.00  | 40.71            | 56.30             | 17.91         | 42.50             | 44.82             | 54.00    | -9.18  | AV                   |
| H                    | 11650.00  | 49.15            | 46.10             | 8.77          | 39.10             | 50.92             | 74.00    | -23.08 | PK                   |
| H                    | 11650.00  | 40.58            | 46.10             | 8.77          | 39.10             | 42.35             | 54.00    | -11.65 | AV                   |
| H                    | 17475.00  | 46.33            | 47.90             | 11.23         | 38.90             | 48.56             | 68.20    | -19.64 | PK                   |
| H                    | 17475.00  | 38.76            | 47.90             | 11.23         | 38.90             | 40.99             | 54.00    | -13.01 | AV                   |
| H                    | 23300.00  | 56.00            | 57.10             | 12.73         | 37.80             | 49.43             | 68.20    | -18.77 | PK                   |
| H                    | 23300.00  | 46.77            | 57.10             | 12.73         | 37.80             | 40.20             | 54.00    | -13.80 | AV                   |
| H                    | 29125.00  | 52.45            | 55.80             | 14.25         | 40.50             | 51.40             | 68.20    | -16.80 | PK                   |
| H                    | 29125.00  | 47.17            | 55.80             | 14.25         | 40.50             | 46.12             | 54.00    | -7.88  | AV                   |
| H                    | 34950.00  | 46.75            | 56.30             | 17.91         | 42.50             | 50.86             | 68.20    | -17.34 | PK                   |
| H                    | 34950.00  | 40.70            | 56.30             | 17.91         | 42.50             | 44.81             | 54.00    | -9.19  | 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.: 23.0°C                                                                      | Humid.: 36%RH |
| Test voltage:     | DC 19V From Adapter                                                                |               |
| Test results:     | Pass                                                                               |               |

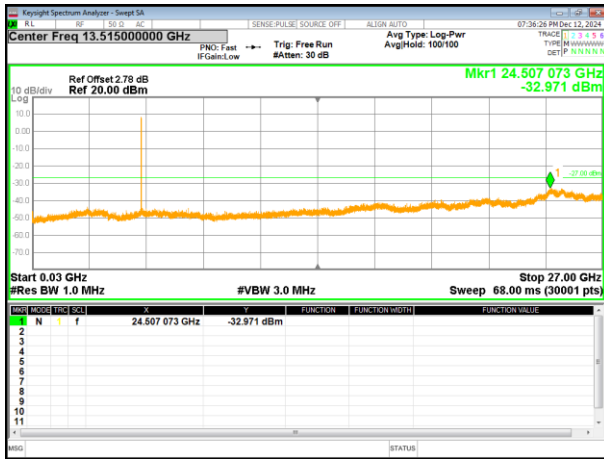
**Remark:**

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

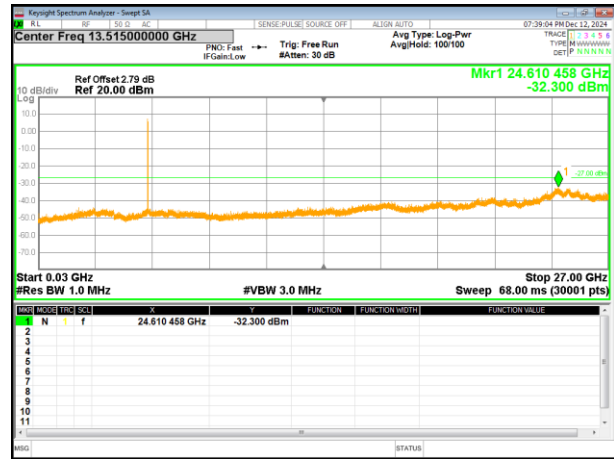
5180-5240MHz

### Test Plot

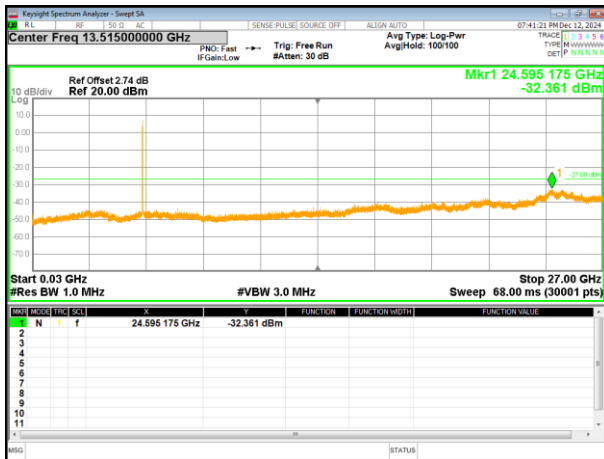
802.11a on channel 36



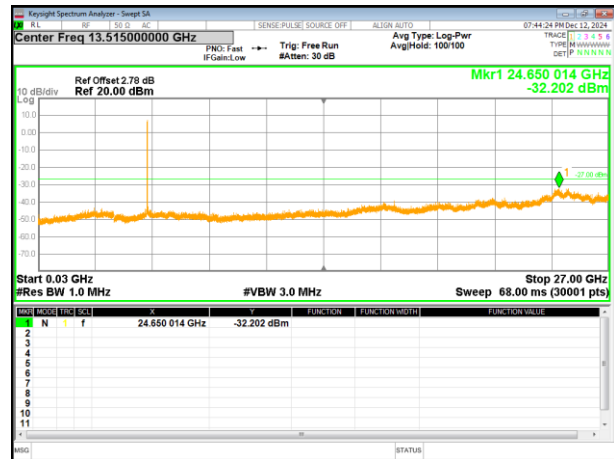
802.11a on channel 40



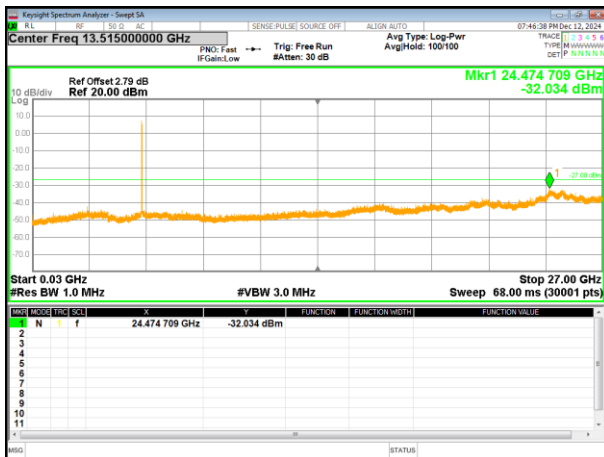
802.11a on channel 48



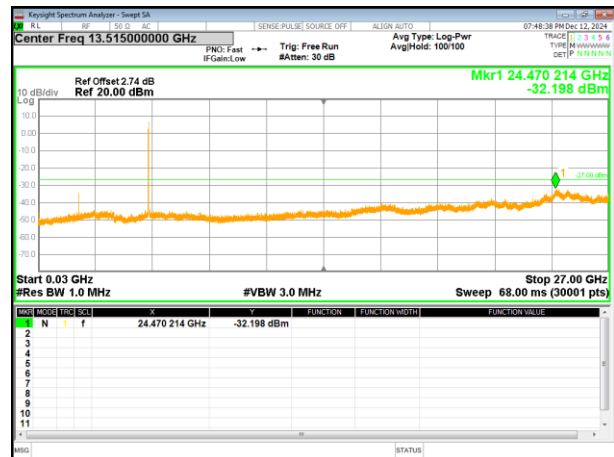
802.11n20 on channel 36



802.11n20 on channel 40

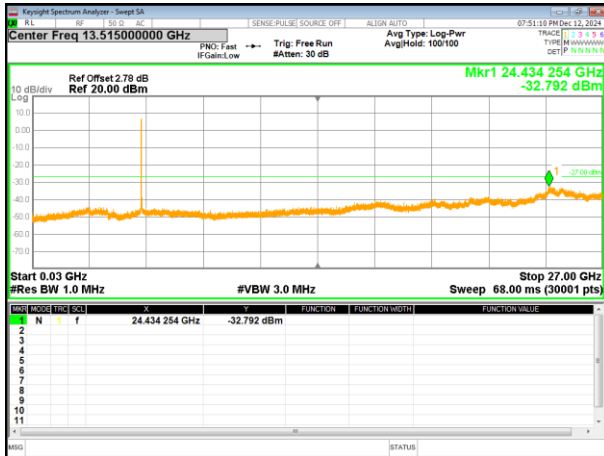


802.11n20 on channel 48

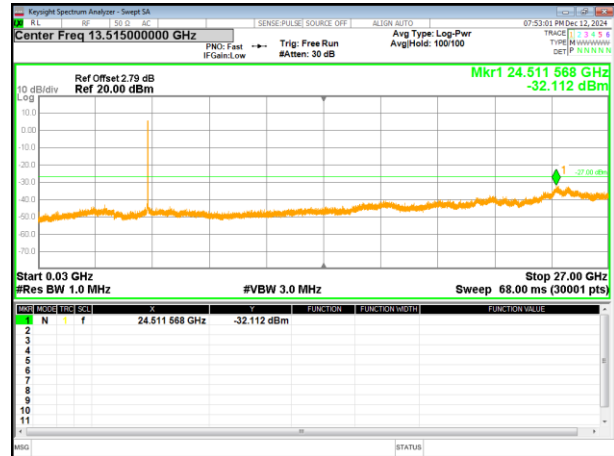


## Test Plot

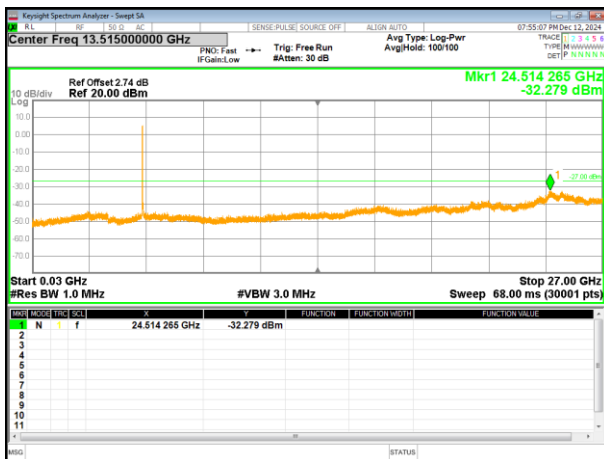
802.11ac20 on channel 36



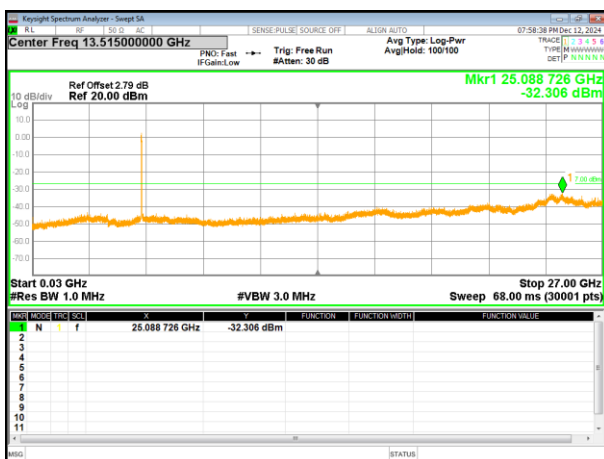
802.11ac20 on channel 40



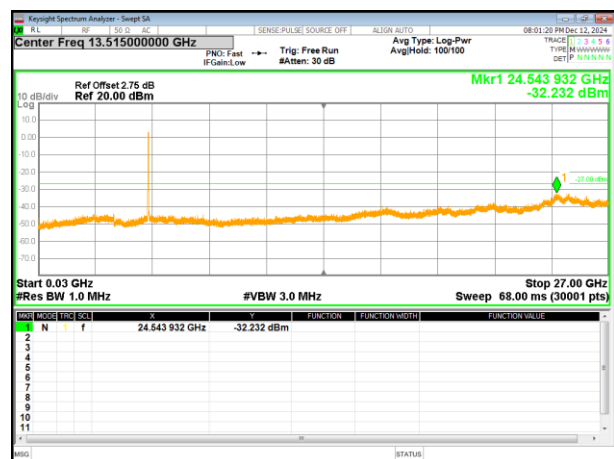
802.11ac20 on channel 48



802.11n40 on channel 38

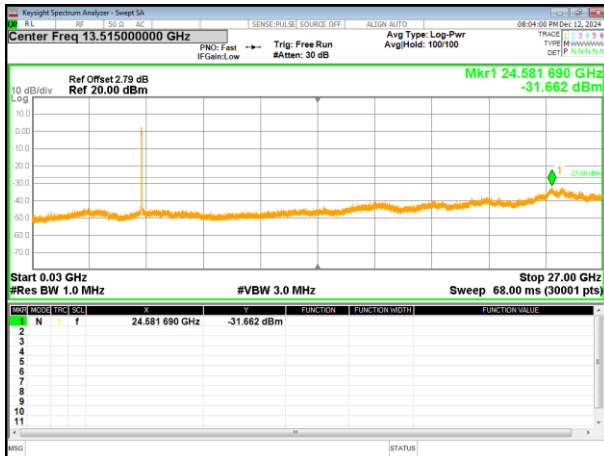


802.11n40 on channel 46

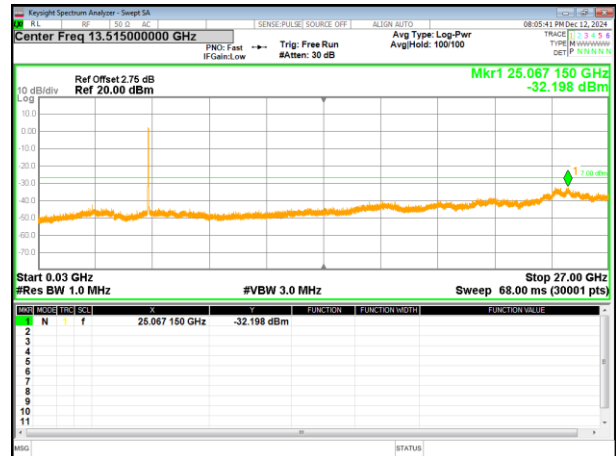


## Test Plot

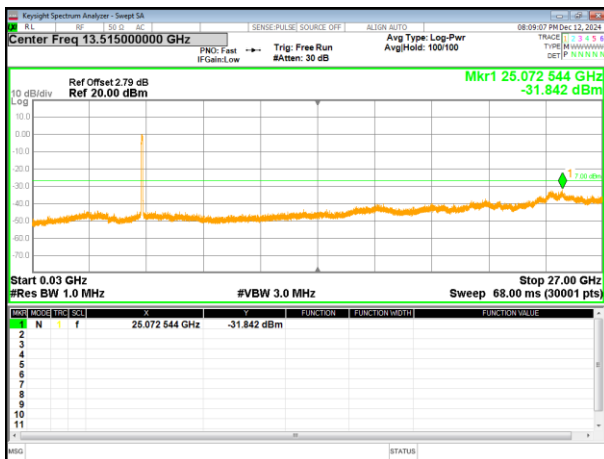
802.11ac40 on channel 38



802.11ac40 on channel 46



802.11ac80 on channel 42

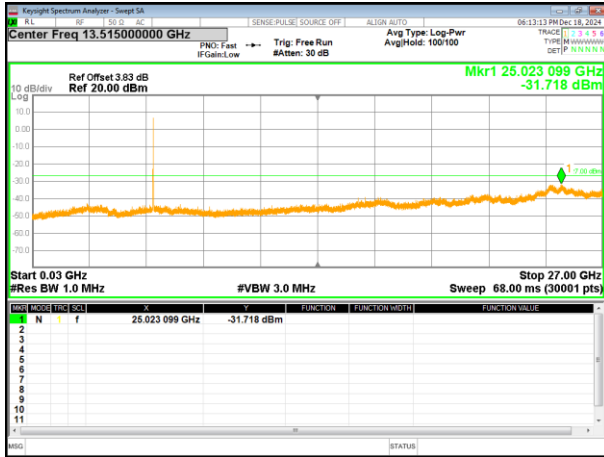




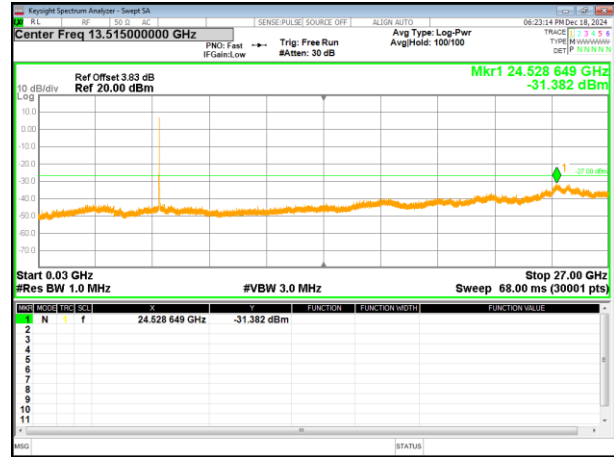
5745-5825MHz

### Test Plot

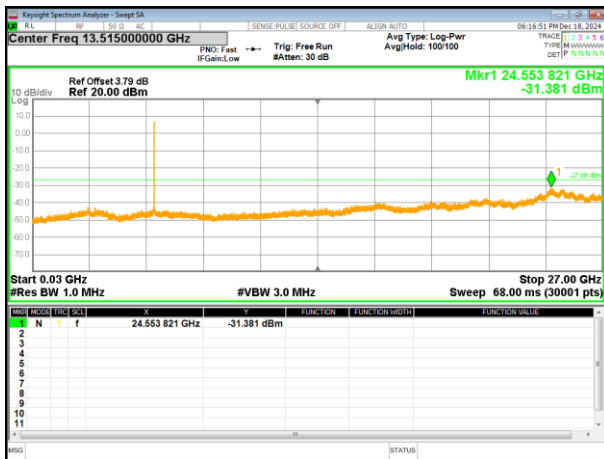
802.11a on channel 149



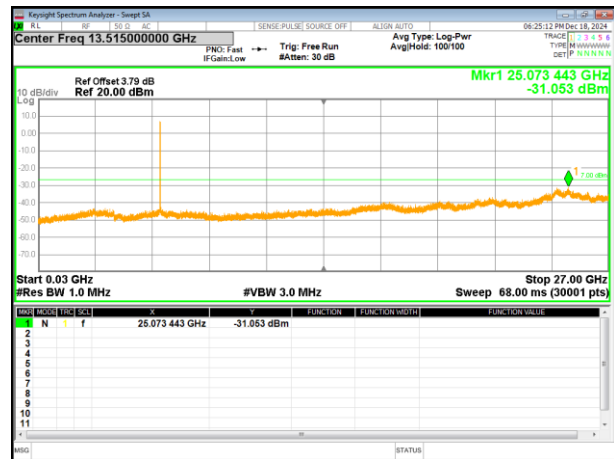
802.11a on channel 157



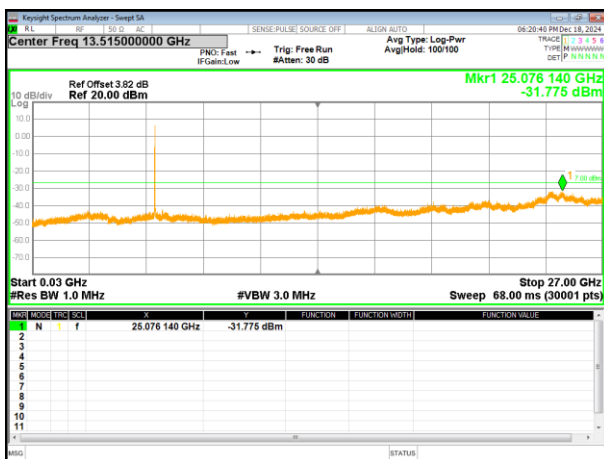
802.11a on channel 165



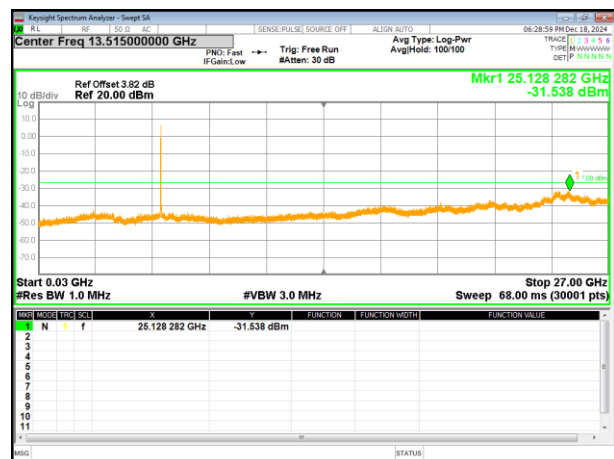
802.11n20 on channel 149



802.11n20 on channel 157

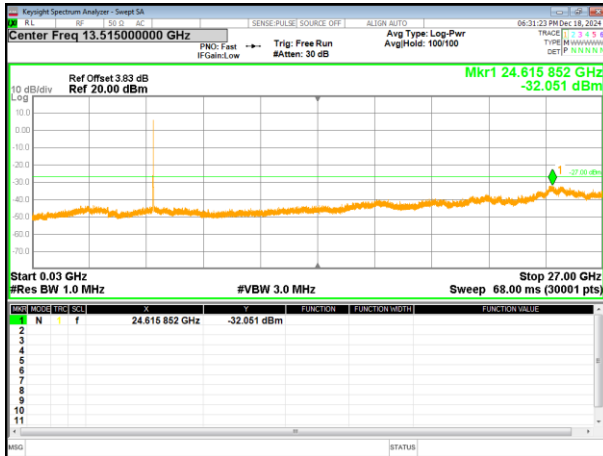


802.11n20 on channel 165

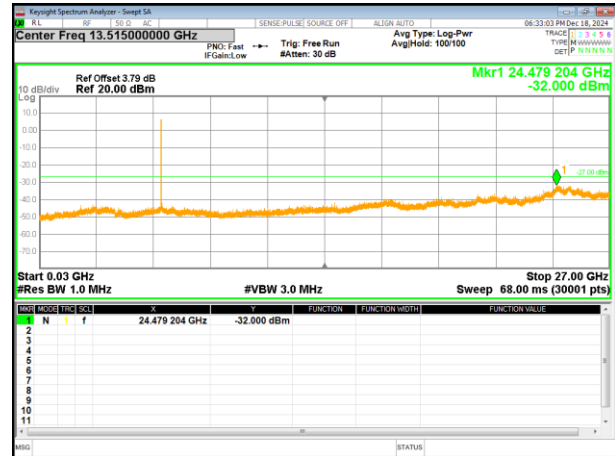


## Test Plot

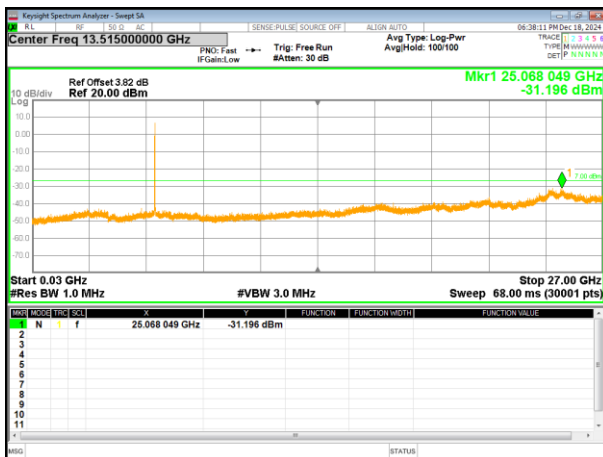
802.11ac20 on channel 149



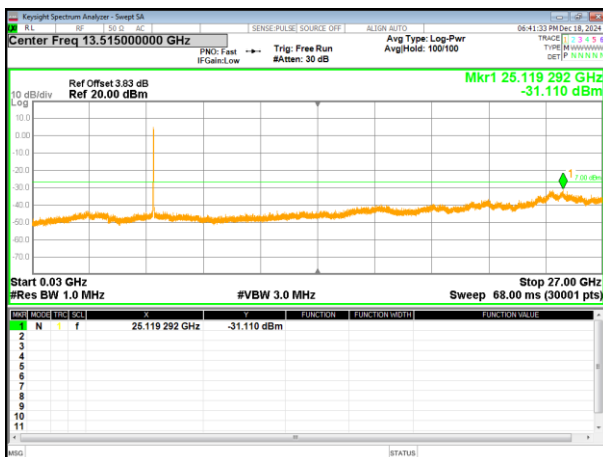
802.11ac20 on channel 157



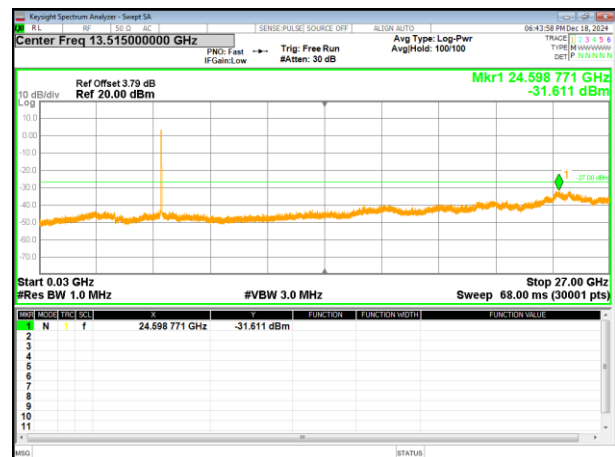
802.11ac20 on channel 165



802.11n40 on channel 151

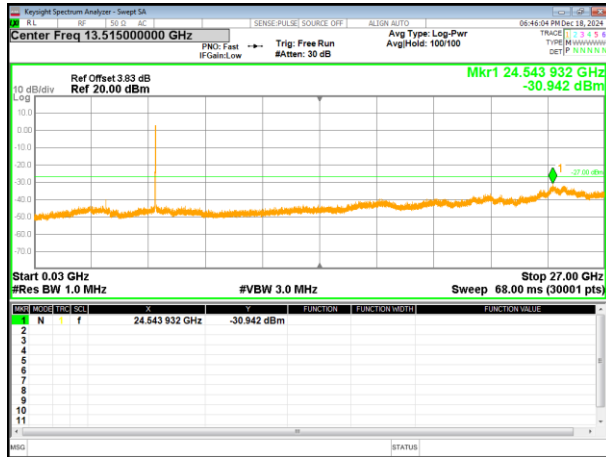


802.11n40 on channel 159

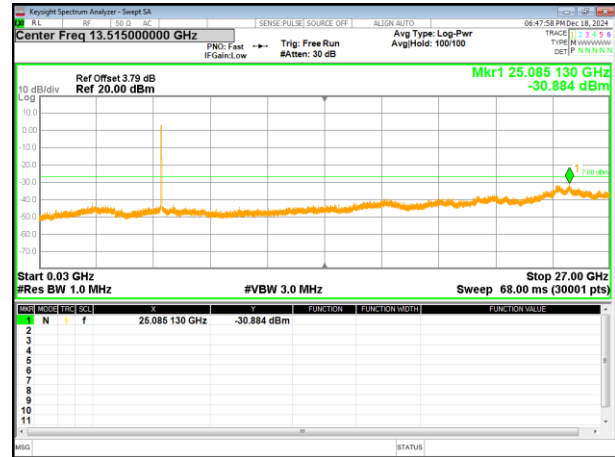


## Test Plot

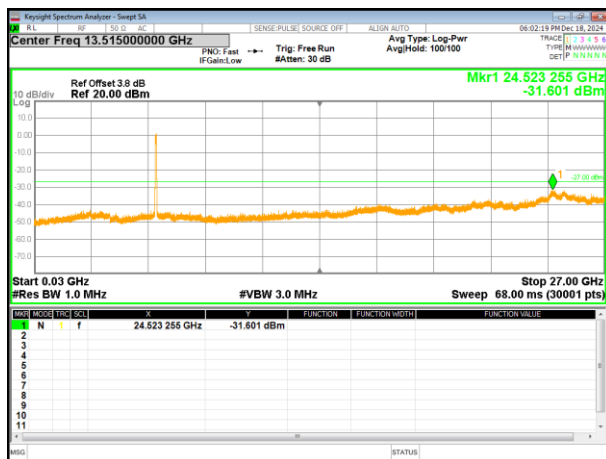
802.11ac40 on channel 151



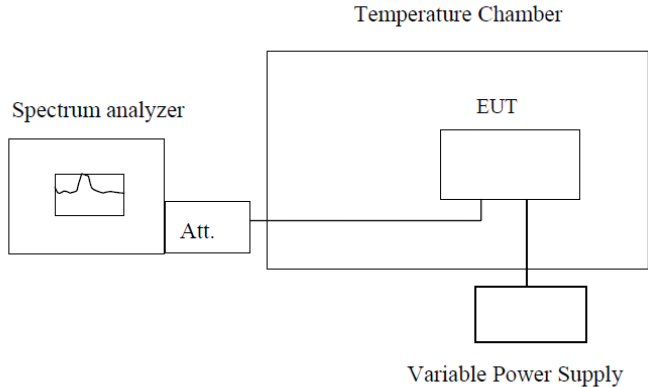
802.11ac40 on channel 159



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: DC 19V             |                           |                                      |                                      |                                      |                                       |
| Temp. (°C)                       | 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) |
| -30                              | 5180                      | 5180.05                              | 5179.96                              | 5180.03                              | 5180.75                               |
|                                  | 5190                      | 5190.04                              | 5189.98                              | 5190.90                              | 5190.77                               |
|                                  | 5200                      | 5200.04                              | 5199.96                              | 5199.93                              | 5200.76                               |
|                                  | 5210                      | 5210.04                              | 5209.94                              | 5209.90                              | 5210.76                               |
|                                  | 5220                      | 5220.04                              | 5219.96                              | 5219.92                              | 5220.77                               |
|                                  | 5230                      | 5230.04                              | 5229.95                              | 5229.91                              | 5230.79                               |
|                                  | 5240                      | 5240.01                              | 5239.96                              | 5239.92                              | 5240.78                               |
| -20                              | 5180                      | 5180.04                              | 5179.94                              | 5179.91                              | 5180.77                               |
|                                  | 5190                      | 5190.03                              | 5189.93                              | 5189.91                              | 5190.77                               |
|                                  | 5200                      | 5200.04                              | 5199.94                              | 5199.90                              | 5200.77                               |
|                                  | 5210                      | 5210.03                              | 5209.93                              | 5209.89                              | 5210.78                               |
|                                  | 5220                      | 5220.05                              | 5219.95                              | 5219.90                              | 5220.77                               |
|                                  | 5230                      | 5230.03                              | 5229.93                              | 5229.90                              | 5230.77                               |
|                                  | 5240                      | 5240.04                              | 5239.95                              | 5239.90                              | 5240.75                               |
| -10                              | 5180                      | 5180.05                              | 5179.95                              | 5179.89                              | 5180.75                               |
|                                  | 5190                      | 5190.04                              | 5189.94                              | 5189.90                              | 5190.77                               |
|                                  | 5200                      | 5200.04                              | 5199.94                              | 5199.89                              | 5200.76                               |
|                                  | 5210                      | 5210.04                              | 5209.95                              | 5209.89                              | 5210.76                               |
|                                  | 5220                      | 5220.04                              | 5219.94                              | 5219.90                              | 5220.77                               |
|                                  | 5230                      | 5230.04                              | 5229.94                              | 5229.92                              | 5230.79                               |
|                                  | 5240                      | 5240.01                              | 5239.91                              | 5239.89                              | 5240.76                               |
| 0                                | 5180                      | 5179.82                              | 5179.93                              | 5179.90                              | 5180.76                               |
|                                  | 5190                      | 5200.00                              | 5189.94                              | 5189.89                              | 5190.77                               |
|                                  | 5200                      | 5199.99                              | 5199.93                              | 5199.90                              | 5200.76                               |
|                                  | 5210                      | 5210.05                              | 5209.93                              | 5209.89                              | 5300.79                               |
|                                  | 5220                      | 5220.04                              | 5219.94                              | 5219.91                              | 5220.76                               |
|                                  | 5230                      | 5230.02                              | 5229.96                              | 5229.89                              | 5230.79                               |
|                                  | 5240                      | 5240.04                              | 5239.93                              | 5239.91                              | 5240.77                               |
| 10                               | 5180                      | 5180.03                              | 5179.94                              | 5179.91                              | 5180.76                               |
|                                  | 5190                      | 5190.04                              | 5189.93                              | 5189.91                              | 5190.76                               |
|                                  | 5200                      | 5200.03                              | 5199.94                              | 5199.90                              | 5200.77                               |
|                                  | 5210                      | 5210.03                              | 5209.93                              | 5209.91                              | 5210.76                               |
|                                  | 5220                      | 5220.03                              | 5219.95                              | 5219.90                              | 5220.78                               |
|                                  | 5230                      | 5230.05                              | 5229.93                              | 5229.90                              | 5230.76                               |
|                                  | 5240                      | 5240.04                              | 5239.95                              | 5239.87                              | 5240.78                               |
| 20                               | 5180                      | 5180.10                              | 5179.19                              | 5180.16                              | 5180.53                               |
|                                  | 5190                      | 5190.05                              | 5189.98                              | 5190.20                              | 5190.79                               |

|    |      |         |         |         |         |
|----|------|---------|---------|---------|---------|
|    | 5200 | 5200.04 | 5199.97 | 5200.21 | 5200.82 |
|    | 5210 | 5210.05 | 5209.99 | 5210.20 | 5210.81 |
|    | 5220 | 5220.04 | 5219.97 | 5220.23 | 5220.80 |
|    | 5230 | 5230.04 | 5229.99 | 5230.20 | 5230.83 |
|    | 5240 | 5240.01 | 5239.97 | 5240.22 | 5240.82 |
| 30 | 5180 | 5180.03 | 5179.98 | 5180.21 | 5180.81 |
|    | 5190 | 5190.04 | 5189.97 | 5190.20 | 5190.81 |
|    | 5200 | 5200.03 | 5199.98 | 5200.21 | 5200.81 |
|    | 5210 | 5210.03 | 5209.97 | 5210.20 | 5200.80 |
|    | 5220 | 5220.04 | 5219.99 | 5220.23 | 5220.82 |
|    | 5230 | 5230.06 | 5229.97 | 5230.20 | 5230.81 |
|    | 5240 | 5240.03 | 5239.99 | 5240.22 | 5240.81 |
| 40 | 5180 | 5180.04 | 5179.98 | 5180.00 | 5180.79 |
|    | 5190 | 5190.03 | 5189.98 | 5190.17 | 5190.80 |
|    | 5200 | 5200.04 | 5199.97 | 5200.17 | 5200.79 |
|    | 5210 | 5210.03 | 5209.99 | 5210.22 | 5210.80 |
|    | 5220 | 5220.05 | 5219.97 | 5220.21 | 5220.81 |
|    | 5230 | 5230.03 | 5229.99 | 5230.20 | 5230.83 |
|    | 5240 | 5240.05 | 5239.97 | 5240.22 | 5240.80 |
| 50 | 5180 | 5180.04 | 5179.98 | 5180.21 | 5180.76 |
|    | 5190 | 5190.03 | 5189.97 | 5190.20 | 5190.79 |
|    | 5200 | 5200.04 | 5199.98 | 5200.21 | 5200.82 |
|    | 5210 | 5210.03 | 5209.97 | 5210.20 | 5210.81 |
|    | 5220 | 5220.05 | 5219.99 | 5220.23 | 5220.80 |
|    | 5230 | 5230.03 | 5229.97 | 5230.20 | 5230.83 |
|    | 5240 | 5240.05 | 5239.99 | 5240.22 | 5240.82 |

| Frequency stability versus Voltage |                           |                                      |                                      |                                      |                                       |
|------------------------------------|---------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---------------------------------------|
| Temperature: 25°C                  |                           |                                      |                                      |                                      |                                       |
| Power Supply (VAC)                 | 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) |
| DC 16.15V                          | 5180                      | 5179.95                              | 5179.98                              | 5180.23                              | 5180.93                               |
|                                    | 5190                      | 5189.94                              | 5199.98                              | 5190.22                              | 5200.81                               |
|                                    | 5200                      | 5199.94                              | 5200.01                              | 5200.23                              | 5200.83                               |
|                                    | 5210                      | 5209.94                              | 5209.98                              | 5210.22                              | 5210.81                               |
|                                    | 5220                      | 5219.94                              | 5220.00                              | 5220.25                              | 5220.83                               |
|                                    | 5230                      | 5229.93                              | 5229.99                              | 5230.22                              | 5230.83                               |
|                                    | 5240                      | 5239.91                              | 5240.00                              | 5240.24                              | 5240.84                               |
| DC 19V                             | 5180                      | 5179.93                              | 5180.00                              | 5180.23                              | 5180.81                               |
|                                    | 5190                      | 5189.93                              | 5180.10                              | 5190.23                              | 5190.82                               |
|                                    | 5200                      | 5199.94                              | 5199.98                              | 5200.22                              | 5200.81                               |
|                                    | 5210                      | 5209.93                              | 5210.01                              | 5210.23                              | 5210.80                               |
|                                    | 5220                      | 5219.95                              | 5219.98                              | 5220.22                              | 5220.82                               |
|                                    | 5230                      | 5229.93                              | 5230.00                              | 5230.24                              | 5230.82                               |
|                                    | 5240                      | 5239.94                              | 5239.99                              | 5240.22                              | 5240.82                               |
| DC 21.85V                          | 5180                      | 5179.95                              | 5179.99                              | 5180.22                              | 5180.79                               |
|                                    | 5190                      | 5189.94                              | 5189.99                              | 5190.23                              | 5190.81                               |
|                                    | 5200                      | 5199.94                              | 5199.98                              | 5200.22                              | 5200.80                               |
|                                    | 5210                      | 5209.94                              | 5209.99                              | 5210.22                              | 5210.80                               |
|                                    | 5220                      | 5219.94                              | 5219.98                              | 5220.23                              | 5220.81                               |
|                                    | 5230                      | 5229.93                              | 5229.98                              | 5230.25                              | 5230.84                               |
|                                    | 5240                      | 5239.91                              | 5239.96                              | 5240.22                              | 5240.81                               |

| Frequency stability versus Temp. |                                 |                                         |                                         |                                         |                                          |
|----------------------------------|---------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|------------------------------------------|
| Power Supply: DC 19V             |                                 |                                         |                                         |                                         |                                          |
| 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                            | 5744.88                                 | 5745.01                                 | 5745.22                                 | 5745.92                                  |
|                                  | 5755                            | 5754.89                                 | 5755.01                                 | 5755.23                                 | 5755.91                                  |
|                                  | 5775                            | 5774.91                                 | 5775.01                                 | 5775.25                                 | 5775.92                                  |
|                                  | 5785                            | 5784.89                                 | 5785.00                                 | 5785.22                                 | 5785.93                                  |
|                                  | 5795                            | 5794.88                                 | 5795.01                                 | 5795.22                                 | 5795.95                                  |
|                                  | 5825                            | 5824.88                                 | 5824.94                                 | 5825.22                                 | 5825.95                                  |
| -20                              | 5745                            | 5744.88                                 | 5745.02                                 | 5745.22                                 | 5745.93                                  |
|                                  | 5755                            | 5754.90                                 | 5755.02                                 | 5755.24                                 | 5755.94                                  |
|                                  | 5775                            | 5774.89                                 | 5775.02                                 | 5775.22                                 | 5775.93                                  |
|                                  | 5785                            | 5784.90                                 | 5785.02                                 | 5785.23                                 | 5785.92                                  |
|                                  | 5795                            | 5794.90                                 | 5795.01                                 | 5795.23                                 | 5795.92                                  |
|                                  | 5825                            | 5824.88                                 | 5825.02                                 | 5825.24                                 | 5825.96                                  |
| -10                              | 5745                            | 5744.89                                 | 5745.01                                 | 5745.23                                 | 5745.55                                  |
|                                  | 5755                            | 5754.92                                 | 5755.01                                 | 5755.24                                 | 5755.93                                  |
|                                  | 5775                            | 5774.91                                 | 5775.03                                 | 5775.24                                 | 5775.94                                  |
|                                  | 5785                            | 5784.89                                 | 5785.01                                 | 5785.23                                 | 5785.94                                  |
|                                  | 5795                            | 5794.88                                 | 5795.01                                 | 5795.22                                 | 5795.93                                  |
|                                  | 5825                            | 5824.82                                 | 5825.01                                 | 5825.23                                 | 5825.93                                  |
| 0                                | 5745                            | 5744.89                                 | 5745.00                                 | 5745.23                                 | 5745.92                                  |
|                                  | 5755                            | 5754.91                                 | 5755.01                                 | 5755.24                                 | 5755.94                                  |
|                                  | 5775                            | 5774.89                                 | 5775.01                                 | 5775.24                                 | 5775.95                                  |
|                                  | 5785                            | 5784.90                                 | 5785.02                                 | 5785.23                                 | 5785.93                                  |
|                                  | 5795                            | 5794.89                                 | 5795.03                                 | 5795.22                                 | 5795.92                                  |
|                                  | 5825                            | 5824.90                                 | 5825.01                                 | 5825.23                                 | 5825.86                                  |
| 10                               | 5745                            | 5744.89                                 | 5745.01                                 | 5745.22                                 | 5745.91                                  |
|                                  | 5755                            | 5754.91                                 | 5755.02                                 | 5755.23                                 | 5755.93                                  |
|                                  | 5775                            | 5774.89                                 | 5775.03                                 | 5775.22                                 | 5775.95                                  |
|                                  | 5785                            | 5784.90                                 | 5785.01                                 | 5785.21                                 | 5785.92                                  |
|                                  | 5795                            | 5794.89                                 | 5795.03                                 | 5795.22                                 | 5795.92                                  |
|                                  | 5825                            | 5824.90                                 | 5825.03                                 | 5825.15                                 | 5825.93                                  |
| 20                               | 5745                            | 5744.90                                 | 5745.03                                 | 5745.23                                 | 5745.92                                  |
|                                  | 5755                            | 5754.91                                 | 5755.00                                 | 5755.25                                 | 5755.94                                  |
|                                  | 5775                            | 5774.90                                 | 5775.03                                 | 5775.23                                 | 5775.92                                  |
|                                  | 5785                            | 5784.88                                 | 5785.03                                 | 5785.22                                 | 5785.95                                  |
|                                  | 5795                            | 5794.88                                 | 5795.02                                 | 5795.21                                 | 5795.94                                  |
|                                  | 5825                            | 5824.91                                 | 5825.04                                 | 5825.25                                 | 5825.96                                  |
| 30                               | 5745                            | 5744.89                                 | 5745.02                                 | 5745.22                                 | 5745.94                                  |
|                                  | 5755                            | 5754.90                                 | 5755.02                                 | 5755.24                                 | 5755.91                                  |
|                                  | 5775                            | 5774.91                                 | 5775.02                                 | 5775.24                                 | 5775.94                                  |
|                                  | 5785                            | 5784.89                                 | 5785.02                                 | 5785.22                                 | 5785.94                                  |
|                                  | 5795                            | 5794.88                                 | 5795.01                                 | 5795.24                                 | 5795.94                                  |
|                                  | 5825                            | 5824.88                                 | 5825.02                                 | 5825.24                                 | 5825.96                                  |
| 40                               | 5745                            | 5744.90                                 | 5745.00                                 | 5745.23                                 | 5745.91                                  |
|                                  | 5755                            | 5754.91                                 | 5755.03                                 | 5755.24                                 | 5755.94                                  |



|    |      |         |         |         |         |
|----|------|---------|---------|---------|---------|
|    | 5775 | 5774.90 | 5775.01 | 5775.24 | 5775.95 |
|    | 5785 | 5784.88 | 5785.02 | 5785.23 | 5785.93 |
|    | 5795 | 5794.88 | 5795.02 | 5795.22 | 5795.92 |
|    | 5825 | 5824.91 | 5825.03 | 5825.23 | 5825.86 |
| 50 | 5745 | 5744.90 | 5745.03 | 5745.23 | 5745.92 |
|    | 5755 | 5754.89 | 5755.00 | 5755.25 | 5755.94 |
|    | 5775 | 5774.90 | 5775.03 | 5775.23 | 5775.92 |
|    | 5785 | 5784.88 | 5785.03 | 5785.22 | 5785.95 |
|    | 5795 | 5794.88 | 5795.02 | 5795.21 | 5795.94 |
|    | 5825 | 5824.91 | 5825.04 | 5825.25 | 5825.96 |

| Frequency stability versus Voltage |                           |                                   |                                   |                                   |                                    |
|------------------------------------|---------------------------|-----------------------------------|-----------------------------------|-----------------------------------|------------------------------------|
| Temperature: 25°C                  |                           |                                   |                                   |                                   |                                    |
| Power Supply (VAC)                 | Operating Frequency (MHz) | 0 minute Measured Frequency (MHz) | 2 minute Measured Frequency (MHz) | 5 minute Measured Frequency (MHz) | 10 minute Measured Frequency (MHz) |
| DC 16.15V                          | 5745                      | 5745.00                           | 5745.01                           | 5745.20                           | 5745.91                            |
|                                    | 5755                      | 5755.01                           | 5755.01                           | 5755.22                           | 5755.93                            |
|                                    | 5775                      | 5775.01                           | 5775.01                           | 5775.22                           | 5775.92                            |
|                                    | 5785                      | 5785.01                           | 5785.00                           | 5785.20                           | 5785.93                            |
|                                    | 5795                      | 5795.02                           | 5795.01                           | 5795.22                           | 5795.93                            |
|                                    | 5825                      | 5825.00                           | 5824.94                           | 5825.22                           | 5825.94                            |
| DC 19V                             | 5745                      | 5745.00                           | 5745.02                           | 5745.20                           | 5745.92                            |
|                                    | 5755                      | 5755.01                           | 5755.02                           | 5755.22                           | 5755.94                            |
|                                    | 5775                      | 5775.01                           | 5775.02                           | 5775.20                           | 5775.93                            |
|                                    | 5785                      | 5785.01                           | 5785.02                           | 5785.21                           | 5785.91                            |
|                                    | 5795                      | 5795.02                           | 5795.01                           | 5795.21                           | 5795.91                            |
|                                    | 5825                      | 5825.00                           | 5825.02                           | 5825.22                           | 5825.95                            |
| DC 21.85V                          | 5745                      | 5745.02                           | 5745.03                           | 5745.21                           | 5745.91                            |
|                                    | 5755                      | 5755.03                           | 5755.00                           | 5755.23                           | 5755.93                            |
|                                    | 5775                      | 5775.01                           | 5775.03                           | 5775.21                           | 5775.92                            |
|                                    | 5785                      | 5785.00                           | 5785.03                           | 5785.20                           | 5785.94                            |
|                                    | 5795                      | 5794.99                           | 5795.02                           | 5795.19                           | 5795.94                            |
|                                    | 5825                      | 5825.03                           | 5825.04                           | 5825.23                           | 5825.95                            |

## 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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