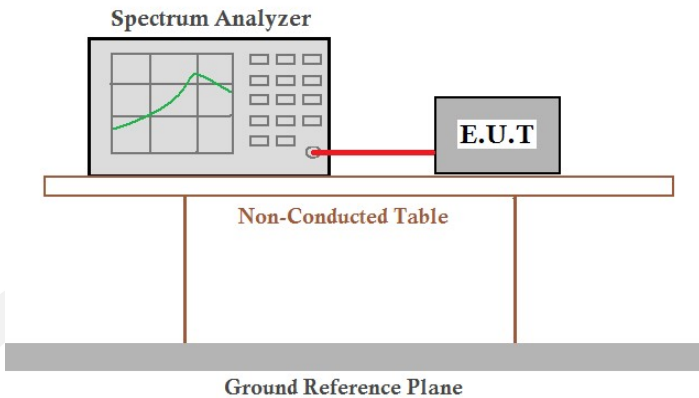


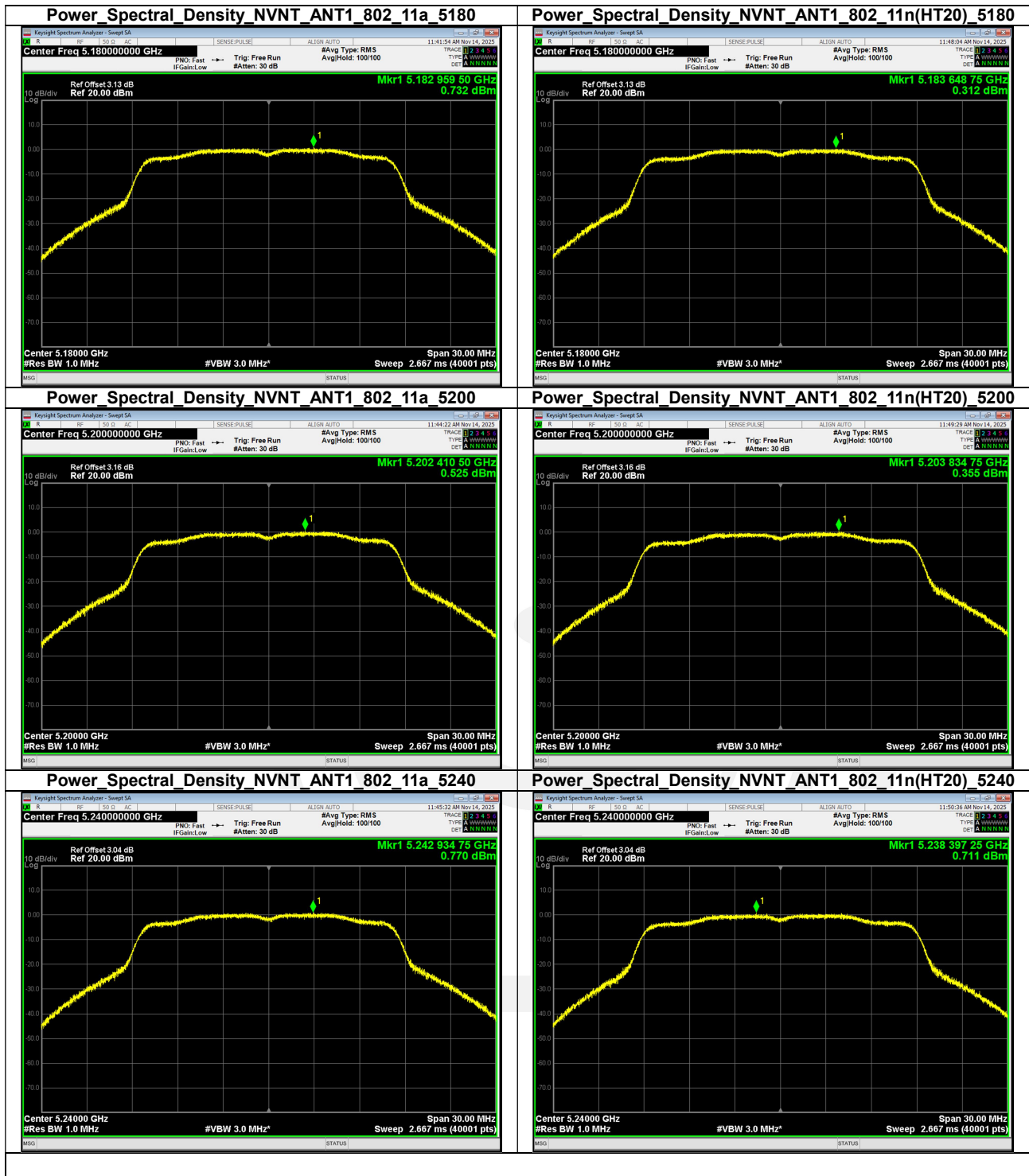
#### 4.5 Power Spectral Density

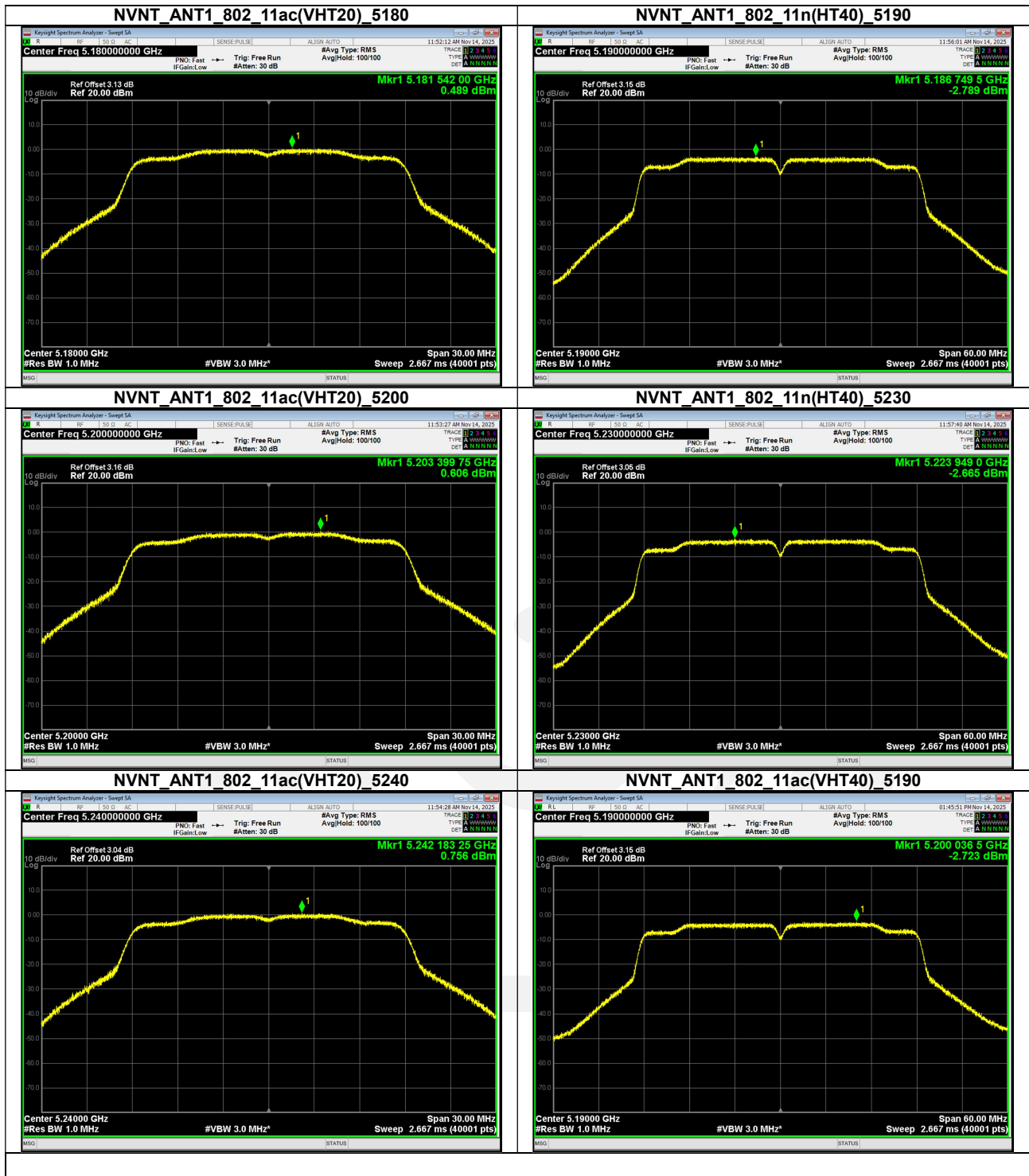
|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement: | FCC Part15 E Section 15.407                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Test Method:      | KDB 789033 D02 General UNII Test Procedures New Rules v02r01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Limit:            | $\leq 11.00\text{dBm/MHz}$ for 5150MHz-5250MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 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 the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by a Ground Reference Plane.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Test procedure:   | <ol style="list-style-type: none"> <li>1) Create an average power spectrum for the EUT operating mode being tested by following the instructions in section E)2) for measuring maximum conducted output power using a spectrum analyzer or EMI receiver: select the appropriate test method (SA-1, SA-2, SA-3, or alternatives to each) and apply it up to, but not including, the step labeled, "Compute power..."</li> <li>2) Use the peak search function on the instrument to find the peak of the spectrum.</li> <li>3) Make the following adjustments to the peak value of the spectrum, if applicable: <ol style="list-style-type: none"> <li>a) If Method SA-2 or SA-2 Alternative was used, add <math>10 \log(1/x)</math>, where <math>x</math> is the duty cycle, to the peak of the spectrum.</li> <li>b) If Method SA-3 Alternative was used and the linear mode was used in step E)2)g)(viii), add 1 dB to the final result to compensate for the difference between linear averaging and power averaging.</li> </ol> </li> <li>4) The result is the PSD.</li> </ol> |
| Test Instruments: | Refer to section 3.0 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Test mode:        | Refer to section 2.2 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Test results:     | Pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

**Measurement Data**

| Condition | Antenna | Modulation      | Frequency (MHz) | PSD (dBm/MHz) | Duty factor (dB) | Total PSD (dBm/MHz) | Limit (dBm) | Result |
|-----------|---------|-----------------|-----------------|---------------|------------------|---------------------|-------------|--------|
| NVNT      | ANT1    | 802.11a         | 5180.00         | 0.732         | 0                | 0.732               | 11          | Pass   |
| NVNT      | ANT1    | 802.11a         | 5200.00         | 0.525         | 0                | 0.525               | 11          | Pass   |
| NVNT      | ANT1    | 802.11a         | 5240.00         | 0.770         | 0                | 0.770               | 11          | Pass   |
| NVNT      | ANT1    | 802.11n(HT20)   | 5180.00         | 0.312         | 0                | 0.312               | 11          | Pass   |
| NVNT      | ANT1    | 802.11n(HT20)   | 5200.00         | 0.355         | 0                | 0.355               | 11          | Pass   |
| NVNT      | ANT1    | 802.11n(HT20)   | 5240.00         | 0.711         | 0                | 0.711               | 11          | Pass   |
| NVNT      | ANT1    | 802.11n(HT40)   | 5190.00         | -2.789        | 0                | -2.789              | 11          | Pass   |
| NVNT      | ANT1    | 802.11n(HT40)   | 5230.00         | -2.665        | 0                | -2.665              | 11          | Pass   |
| NVNT      | ANT1    | 802.11ac(VHT20) | 5180.00         | 0.489         | 0                | 0.489               | 11          | Pass   |
| NVNT      | ANT1    | 802.11ac(VHT20) | 5200.00         | 0.606         | 0                | 0.606               | 11          | Pass   |
| NVNT      | ANT1    | 802.11ac(VHT20) | 5240.00         | 0.756         | 0                | 0.756               | 11          | Pass   |
| NVNT      | ANT1    | 802.11ac(VHT40) | 5190.00         | -2.723        | 0                | -2.723              | 11          | Pass   |
| NVNT      | ANT1    | 802.11ac(VHT40) | 5230.00         | -2.409        | 0                | -2.409              | 11          | Pass   |
| NVNT      | ANT1    | 802.11ac(VHT80) | 5210.00         | -5.563        | 0                | -5.563              | 11          | Pass   |



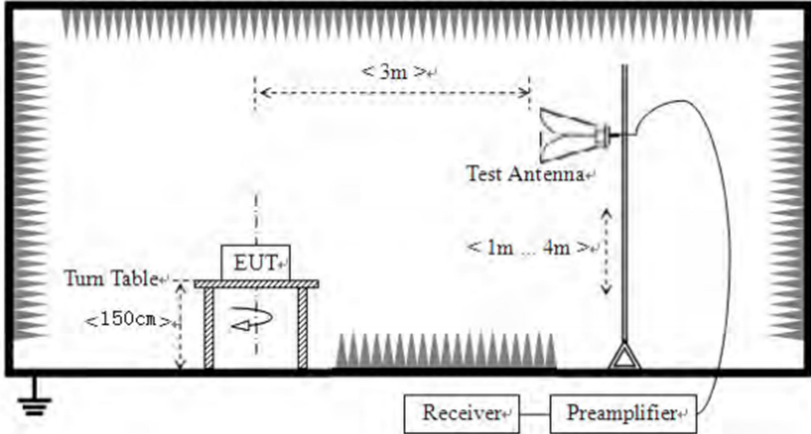






#### 4.6 Band Edge

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                  |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------|------------------|--|-----------|--------------------|--------|-------------|--------|------------------|--------------|--------|------------------|------------------|------------|------------------|-------------|------|------------------|------------|------|---------------|---------------|------------|
| Test Requirement: | FCC Part15 E Section 15.407 and 15.205                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                  |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| Test Method:      | ANSI C63.10:2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                  |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| Test site:        | Measurement Distance: 3m (Semi-Anechoic Chamber)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                  |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| Receiver setup:   | <table><tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr><tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>100KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr><tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr><tr><td>AV</td><td>1MHz</td><td>3MHz</td><td>Average Value</td></tr></table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                  |        |                  |  | Frequency | Detector           | RBW    | VBW         | Remark | 30MHz-1GHz       | Quasi-peak   | 100KHz | 300KHz           | Quasi-peak Value | Above 1GHz | Peak             | 1MHz        | 3MHz | Peak Value       | AV         | 1MHz | 3MHz          | Average Value |            |
| Frequency         | Detector                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | RBW              | VBW    | Remark           |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| 30MHz-1GHz        | Quasi-peak                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 100KHz           | 300KHz | Quasi-peak Value |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| Above 1GHz        | Peak                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1MHz             | 3MHz   | Peak Value       |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
|                   | AV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1MHz             | 3MHz   | Average Value    |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| Limit:            | <table><tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></tr><tr><td>30MHz-88MHz</td><td>40.0</td><td>Quasi-peak Value</td></tr><tr><td>88MHz-216MHz</td><td>43.5</td><td>Quasi-peak Value</td></tr><tr><td>216MHz-960MHz</td><td>46.0</td><td>Quasi-peak Value</td></tr><tr><td>960MHz-1GHz</td><td>54.0</td><td>Quasi-peak Value</td></tr><tr><td rowspan="2">Above 1GHz</td><td>54.0</td><td>Average Value</td></tr><tr><td>68.2</td><td>Peak Value</td></tr></table> <p>Undesirable emission limits:</p> <p>(1) For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  |        |                  |  | Frequency | Limit (dBuV/m @3m) | Remark | 30MHz-88MHz | 40.0   | Quasi-peak Value | 88MHz-216MHz | 43.5   | Quasi-peak Value | 216MHz-960MHz    | 46.0       | Quasi-peak Value | 960MHz-1GHz | 54.0 | Quasi-peak Value | Above 1GHz | 54.0 | Average Value | 68.2          | Peak Value |
| Frequency         | Limit (dBuV/m @3m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Remark           |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| 30MHz-88MHz       | 40.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Quasi-peak Value |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| 88MHz-216MHz      | 43.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Quasi-peak Value |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| 216MHz-960MHz     | 46.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Quasi-peak Value |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| 960MHz-1GHz       | 54.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Quasi-peak Value |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| Above 1GHz        | 54.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Average Value    |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
|                   | 68.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Peak Value       |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| Test Procedure:   | <p>a. The EUT was placed on the top of a rotating table 1.5 m above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.</p> <p>b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</p> <p>c. 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.</p> <p>d. 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 rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.</p> <p>e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</p> <p>f. 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.</p> |                  |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |
| Test setup:       | Above 1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                  |        |                  |  |           |                    |        |             |        |                  |              |        |                  |                  |            |                  |             |      |                  |            |      |               |               |            |

|                   |                                                                                    |
|-------------------|------------------------------------------------------------------------------------|
|                   |  |
| Test Instruments: | Refer to section 3.0 for details                                                   |
| Test mode:        | Refer to section 2.2 for details                                                   |
| Test results:     | Pass                                                                               |

Remark:  
According to KDB 789033 D02 v02r01 section G) 1) (d), for For measurements above 1000 MHz @ 3m distance, the limit of field strength is computed as follows:  
 $E[\text{dBuV/m}] = \text{EIRP}[\text{dBm}] + 95.2,$   
For example, if  $\text{EIRP} = -27\text{dBm}$   
 $E[\text{dBuV/m}] = -27 + 95.2 = 68.2\text{dBuV/m}.$

**Measurement Data:**

| Mode:        |                 | 802.11a              |               | Frequency:             |                | 5180MHz        |          |
|--------------|-----------------|----------------------|---------------|------------------------|----------------|----------------|----------|
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5150.00         | 57.79                | -13.16        | 44.63                  | 68.20          | -23.57         | PK       |
| V            | 5150.00         | 58.45                | -13.16        | 45.29                  | 68.20          | -22.91         | PK       |
|              |                 |                      |               |                        |                |                |          |
| Mode:        |                 | 802.11a              |               | Frequency:             |                | 5180MHz        |          |
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5150.00         | 47.55                | -13.16        | 34.39                  | 54.00          | -19.61         | AV       |
| V            | 5150.00         | 46.40                | -13.16        | 33.24                  | 54.00          | -20.76         | AV       |
|              |                 |                      |               |                        |                |                |          |
| Mode:        |                 | 802.11a              |               | Frequency:             |                | 5240MHz        |          |
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5350.00         | 56.00                | -12.62        | 43.38                  | 68.20          | -24.82         | PK       |
| V            | 5350.00         | 56.07                | -12.62        | 43.45                  | 68.20          | -24.75         | PK       |
|              |                 |                      |               |                        |                |                |          |
| Mode:        |                 | 802.11a              |               | Frequency:             |                | 5240MHz        |          |
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5350.00         | 44.09                | -12.62        | 31.47                  | 54.00          | -22.53         | AV       |
| V            | 5350.00         | 49.00                | -12.62        | 36.38                  | 54.00          | -17.62         | AV       |

| Mode:        |                 | 802.11n(HT20)        |               | Frequency:             |                | 5180MHz        |          |
|--------------|-----------------|----------------------|---------------|------------------------|----------------|----------------|----------|
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5150.00         | 53.41                | -13.16        | 40.25                  | 68.20          | -27.95         | PK       |
| V            | 5150.00         | 57.15                | -13.16        | 43.99                  | 68.20          | -24.21         | PK       |
|              |                 |                      |               |                        |                |                |          |
| Mode:        |                 | 802.11n(HT20)        |               | Frequency:             |                | 5180MHz        |          |
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5150.00         | 47.36                | -13.16        | 34.20                  | 54.00          | -19.80         | AV       |
| V            | 5150.00         | 45.40                | -13.16        | 32.24                  | 54.00          | -21.76         | AV       |
|              |                 |                      |               |                        |                |                |          |
| Mode:        |                 | 802.11n(HT20)        |               | Frequency:             |                | 5240MHz        |          |
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5350.00         | 55.00                | -12.62        | 42.38                  | 68.20          | -25.82         | PK       |
| V            | 5350.00         | 57.17                | -12.62        | 44.55                  | 68.20          | -23.65         | PK       |
|              |                 |                      |               |                        |                |                |          |
| Mode:        |                 | 802.11n(HT20)        |               | Frequency:             |                | 5240MHz        |          |
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5350.00         | 46.96                | -12.62        | 34.34                  | 54.00          | -19.66         | AV       |
| V            | 5350.00         | 49.39                | -12.62        | 36.77                  | 54.00          | -17.23         | AV       |

| Mode:        |                 | 802.11ac(HT20)       |               | Frequency:             |                | 5180MHz        |          |
|--------------|-----------------|----------------------|---------------|------------------------|----------------|----------------|----------|
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5150.00         | 56.97                | -13.16        | 43.81                  | 68.20          | -24.39         | PK       |
| V            | 5150.00         | 58.14                | -13.16        | 44.98                  | 68.20          | -23.22         | PK       |
|              |                 |                      |               |                        |                |                |          |
| Mode:        |                 | 802.11ac(HT20)       |               | Frequency:             |                | 5180MHz        |          |
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5150.00         | 45.30                | -13.16        | 32.14                  | 54.00          | -21.86         | AV       |
| V            | 5150.00         | 45.09                | -13.16        | 31.93                  | 54.00          | -22.07         | AV       |
|              |                 |                      |               |                        |                |                |          |
| Mode:        |                 | 802.11ac(HT20)       |               | Frequency:             |                | 5240MHz        |          |
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5350.00         | 57.28                | -12.62        | 44.66                  | 68.20          | -23.54         | PK       |
| V            | 5350.00         | 57.97                | -12.62        | 45.35                  | 68.20          | -22.85         | PK       |
|              |                 |                      |               |                        |                |                |          |
| Mode:        |                 | 802.11ac(HT20)       |               | Frequency:             |                | 5240MHz        |          |
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5350.00         | 48.63                | -12.62        | 36.01                  | 54.00          | -17.99         | AV       |
| V            | 5350.00         | 48.47                | -12.62        | 35.85                  | 54.00          | -18.15         | AV       |

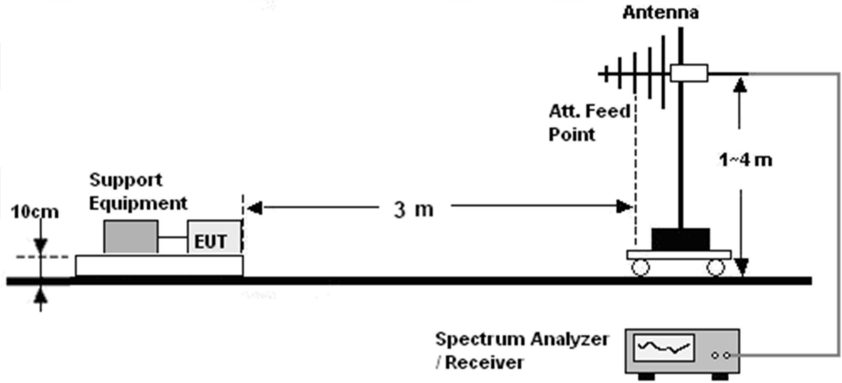
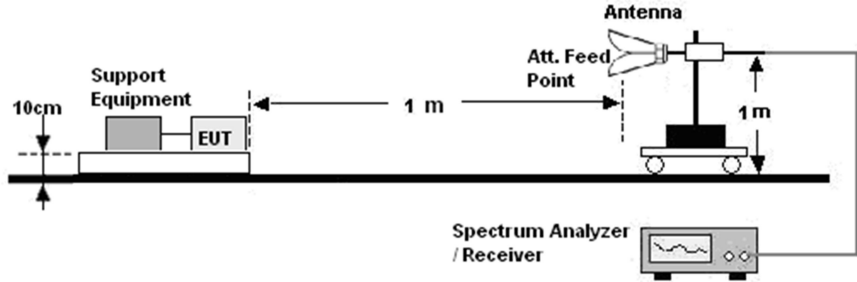
| Mode:        |                 | 802.11n(HT40)        |               | Frequency:             |                | 5190MHz        |          |
|--------------|-----------------|----------------------|---------------|------------------------|----------------|----------------|----------|
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5150.00         | 55.47                | -13.16        | 42.31                  | 68.20          | -25.89         | PK       |
| V            | 5150.00         | 57.26                | -13.16        | 44.10                  | 68.20          | -24.10         | PK       |
|              |                 |                      |               |                        |                |                |          |
| Mode:        |                 | 802.11n(HT40)        |               | Frequency:             |                | 5190MHz        |          |
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5150.00         | 45.70                | -13.16        | 32.54                  | 54.00          | -21.46         | AV       |
| V            | 5150.00         | 49.04                | -13.16        | 35.88                  | 54.00          | -18.12         | AV       |
|              |                 |                      |               |                        |                |                |          |
| Mode:        |                 | 802.11n(HT40)        |               | Frequency:             |                | 5230MHz        |          |
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5350.00         | 56.00                | -12.62        | 43.38                  | 68.20          | -24.82         | PK       |
| V            | 5350.00         | 55.86                | -12.62        | 43.24                  | 68.20          | -24.96         | PK       |
|              |                 |                      |               |                        |                |                |          |
| Mode:        |                 | 802.11n(HT40)        |               | Frequency:             |                | 5230MHz        |          |
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5350.00         | 46.90                | -12.62        | 34.28                  | 54.00          | -19.72         | AV       |
| V            | 5350.00         | 46.68                | -12.62        | 34.06                  | 54.00          | -19.94         | AV       |

| Mode:        |                 | 802.11ac(HT40)       |               | Frequency:             |                | 5190MHz        |          |
|--------------|-----------------|----------------------|---------------|------------------------|----------------|----------------|----------|
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5150.00         | 56.66                | -13.16        | 43.50                  | 68.20          | -24.70         | PK       |
| V            | 5150.00         | 56.49                | -13.16        | 43.33                  | 68.20          | -24.87         | PK       |
|              |                 |                      |               |                        |                |                |          |
| Mode:        |                 | 802.11ac(HT40)       |               | Frequency:             |                | 5190MHz        |          |
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5150.00         | 47.63                | -13.16        | 34.47                  | 54.00          | -19.53         | AV       |
| V            | 5150.00         | 47.27                | -13.16        | 34.11                  | 54.00          | -19.89         | AV       |
|              |                 |                      |               |                        |                |                |          |
| Mode:        |                 | 802.11ac(HT40)       |               | Frequency:             |                | 5230MHz        |          |
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5350.00         | 55.97                | -12.62        | 43.35                  | 68.20          | -24.85         | PK       |
| V            | 5350.00         | 58.13                | -12.62        | 45.51                  | 68.20          | -22.69         | PK       |
|              |                 |                      |               |                        |                |                |          |
| Mode:        |                 | 802.11ac(HT40)       |               | Frequency:             |                | 5230MHz        |          |
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5350.00         | 48.40                | -12.62        | 35.78                  | 54.00          | -18.22         | AV       |
| V            | 5350.00         | 44.96                | -12.62        | 32.34                  | 54.00          | -21.66         | AV       |

|              |                 |                      |               |                        |                |                |          |
|--------------|-----------------|----------------------|---------------|------------------------|----------------|----------------|----------|
| Mode:        |                 | 802.11ac(HT80)       |               | Frequency:             |                | 5210MHz        |          |
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5150.00         | 56.47                | -13.16        | 43.31                  | 68.20          | -24.89         | PK       |
| V            | 5150.00         | 57.01                | -13.16        | 43.85                  | 68.20          | -24.35         | PK       |
|              |                 |                      |               |                        |                |                |          |
| Mode:        |                 | 802.11ac(HT80)       |               | Frequency:             |                | 5210MHz        |          |
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5150.00         | 44.97                | -13.16        | 31.81                  | 54.00          | -22.19         | AV       |
| V            | 5150.00         | 46.62                | -13.16        | 33.46                  | 54.00          | -20.54         | AV       |
|              |                 |                      |               |                        |                |                |          |
| Mode:        |                 | 802.11ac(HT80)       |               | Frequency:             |                | 5210MHz        |          |
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5350.00         | 55.73                | -12.62        | 43.11                  | 68.20          | -25.09         | PK       |
| V            | 5350.00         | 54.75                | -12.62        | 42.13                  | 68.20          | -26.07         | PK       |
|              |                 |                      |               |                        |                |                |          |
| Mode:        |                 | 802.11ac(HT80)       |               | Frequency:             |                | 5210MHz        |          |
| Antenna Pol. | Frequency (MHz) | Reading Level (dBuV) | Factor (dB/m) | Measure Level (dBuV/m) | Limit (dBuV/m) | Over limit(dB) | Detector |
| H            | 5350.00         | 45.23                | -12.62        | 32.61                  | 54.00          | -21.39         | AV       |
| V            | 5350.00         | 49.14                | -12.62        | 36.52                  | 54.00          | -17.48         | AV       |

#### 4.7 Radiated Emission

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |                    |        |                  |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|--------|------------------|
| Test Requirement:     | FCC Part15 C Section 15.209 and 15.205                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |                    |        |                  |
| Test Method:          | ANSI C63.10:2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |                    |        |                  |
| Test Frequency Range: | 30MHz to 40GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |                    |        |                  |
| Test site:            | Measurement Distance: 3m (Semi-Anechoic Chamber)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |                    |        |                  |
| Receiver setup:       | Frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Detector   | RBW                | VBW    | Value            |
|                       | 30MHz-1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Quasi-peak | 100KHz             | 300KHz | Quasi-peak Value |
|                       | Above 1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Peak       | 1MHz               | 3MHz   | Peak Value       |
|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | AV         | 1MHz               | 3MHz   | Average Value    |
| Limit:                | Frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |            | Limit (dBuV/m @3m) |        | Remark           |
|                       | 30MHz-88MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            | 40.0               |        | Quasi-peak Value |
|                       | 88MHz-216MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            | 43.5               |        | Quasi-peak Value |
|                       | 216MHz-960MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            | 46.0               |        | Quasi-peak Value |
|                       | 960MHz-1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            | 54.0               |        | Quasi-peak Value |
|                       | Above 1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            | 74.0               |        | Peak Value       |
| 54.0                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            | Average Value      |        |                  |
| Test Procedure:       | Substitution method was performed to determine the actual ERP emission levels of the EUT.<br>The following test procedure as below:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |                    |        |                  |
|                       | 1>.Below 1GHz test procedure:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |                    |        |                  |
|                       | <div>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.</div> <div>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.</div> <div>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.</div> <div>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 rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.</div> <div>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</div> <div>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.</div> |            |                    |        |                  |
|                       | 2>.Above 1GHz test procedure:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |                    |        |                  |
|                       | <div>1. On the test site as test setup graph above,the EUT shall be placed at the 1.5m support on the turntable and in the position closest to normal use as declared by the provider.</div> <div>2. The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter.The output of the test antenna shall be connected to the measuring receiver.</div> <div>3. The transmitter shall be switched on, if possible, without modulation and the measuring receiver shall be tuned to the frequency of the</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            |                    |        |                  |

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | <p>transmitter under test.</p> <ol style="list-style-type: none"> <li>The test antenna shall be raised and lowered from 1m to 4m until a maximum signal level is detected by the measuring receiver. Then the turntable should be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.</li> <li>Repeat step 4 for test frequency with the test antenna polarized horizontally.</li> <li>Remove the transmitter and replace it with a substitution antenna</li> <li>Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a nonradiating cable. With the antennas at both ends vertically polarized, and with the signal generator tuned to a particular test frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output.</li> <li>Repeat step 7 with both antennas horizontally polarized for each test frequency.</li> <li>Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps 7 and 8 by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna by the following formula:<br/> <math display="block">\text{EIRP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBi)}</math>           where:<br/>           Pg is the generator output power into the substitution antenna.</li> </ol> |
| Test setup:       | <p>Below 1GHz</p>  <p>Above 1GHz</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Test Instruments: | Refer to section 3.0 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Test mode:        | Refer to section 2.2 for details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

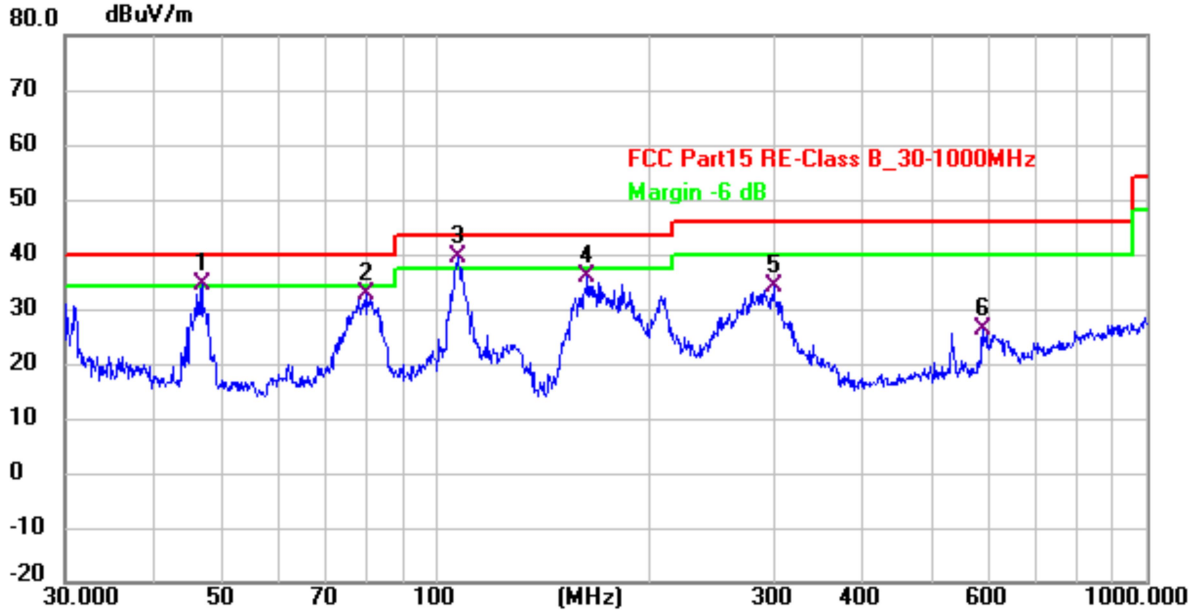
Test results:

Pass

**Measurement Data:****Below 1GHz****Polarization: Horizontal**

| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|----------|
| 1 ! | 46.995          | 48.79          | -13.92        | 34.87          | 40.00          | -5.13       | QP       |
| 2   | 76.781          | 46.49          | -17.55        | 28.94          | 40.00          | -11.06      | QP       |
| 3 * | 107.888         | 55.70          | -16.85        | 38.85          | 43.50          | -4.65       | QP       |
| 4   | 181.283         | 49.09          | -14.47        | 34.62          | 43.50          | -8.88       | QP       |
| 5   | 285.978         | 46.75          | -12.53        | 34.22          | 46.00          | -11.78      | QP       |
| 6   | 651.942         | 32.90          | -4.08         | 28.82          | 46.00          | -17.18      | QP       |

$$\text{Level} = \text{Reading} + \text{Factor Margin} = \text{Level} - \text{Limit}$$

**Polarization: Vertical**

| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|----------|
| 1 ! | 46.830          | 48.55          | -13.97        | 34.58          | 40.00          | -5.42       | QP       |
| 2   | 79.800          | 50.80          | -17.95        | 32.85          | 40.00          | -7.15       | QP       |
| 3 * | 107.134         | 56.34          | -16.86        | 39.48          | 43.50          | -4.02       | QP       |
| 4   | 163.182         | 47.99          | -12.27        | 35.72          | 43.50          | -7.78       | QP       |
| 5   | 299.316         | 46.09          | -11.90        | 34.19          | 46.00          | -11.81      | QP       |
| 6   | 588.905         | 32.01          | -5.85         | 26.16          | 46.00          | -19.84      | QP       |

Level = Reading + Factor Margin = Level - Limit

**Above 1GHz:****802.11a 5180MHz**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Detector | ANT pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|----------|----------|
| 10360.94        | 50.36             | 11.54                 | 14.97           | 32.78              | 44.09          | 68.20               | -24.11          | PK       | V        |
| 15540.50        | 51.91             | 12.30                 | 17.82           | 34.54              | 47.49          | 74.00               | -26.51          | PK       | V        |
| 10360.68        | 51.87             | 9.47                  | 14.71           | 33.04              | 43.01          | 68.20               | -25.19          | PK       | H        |
| 15540.86        | 53.53             | 8.98                  | 18.14           | 34.61              | 46.04          | 74.00               | -27.96          | PK       | H        |

**802.11a 5200MHz**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Detector | ANT pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|----------|----------|
| 10360.91        | 50.48             | 11.70                 | 14.83           | 33.03              | 43.98          | 68.20               | -24.22          | PK       | V        |
| 15540.58        | 51.92             | 12.28                 | 17.89           | 34.89              | 47.20          | 74.00               | -26.80          | PK       | V        |
| 10360.04        | 53.64             | 9.64                  | 14.79           | 32.82              | 45.25          | 68.20               | -22.95          | PK       | H        |
| 15540.90        | 54.05             | 8.57                  | 18.11           | 34.57              | 46.16          | 74.00               | -27.84          | PK       | H        |

**802.11a 5240MHz**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Detector | ANT pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|----------|----------|
| 10360.54        | 49.91             | 11.43                 | 14.99           | 33.15              | 43.18          | 68.20               | -25.02          | PK       | V        |
| 15540.06        | 51.07             | 12.17                 | 18.04           | 34.93              | 46.35          | 74.00               | -27.65          | PK       | V        |
| 10360.16        | 52.52             | 9.51                  | 14.72           | 32.95              | 43.80          | 68.20               | -24.40          | PK       | H        |
| 15540.89        | 53.38             | 8.55                  | 17.93           | 34.47              | 45.39          | 74.00               | -28.61          | PK       | H        |

**802.11n(HT20) 5180MHz**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Detector | ANT pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|----------|----------|
| 10360.81        | 49.93             | 11.52                 | 14.81           | 33.06              | 43.20          | 68.20               | -25.00          | PK       | V        |
| 15540.69        | 51.65             | 12.17                 | 17.83           | 34.58              | 47.07          | 74.00               | -26.93          | PK       | V        |
| 10360.74        | 51.52             | 9.41                  | 14.91           | 32.92              | 42.92          | 68.20               | -25.28          | PK       | H        |
| 15540.02        | 53.34             | 8.82                  | 17.99           | 34.69              | 45.46          | 74.00               | -28.54          | PK       | H        |

**802.11n(HT20) 5200MHz**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Detector | ANT pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|----------|----------|
| 10360.32        | 50.02             | 11.69                 | 15.05           | 32.93              | 43.83          | 68.20               | -24.37          | PK       | V        |
| 15540.15        | 51.93             | 11.98                 | 17.71           | 34.78              | 46.84          | 74.00               | -27.16          | PK       | V        |
| 10360.86        | 51.79             | 9.68                  | 14.73           | 32.87              | 43.33          | 68.20               | -24.87          | PK       | H        |
| 15540.34        | 53.61             | 8.59                  | 17.71           | 34.90              | 45.01          | 74.00               | -28.99          | PK       | H        |

## 802.11n(HT20) 5240MHz

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Detect or | ANT pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|-----------|----------|
| 10360.32        | 50.38             | 11.72                 | 15.08           | 32.98              | 44.20          | 68.20               | -24.00          | PK        | V        |
| 15540.73        | 51.36             | 12.12                 | 17.88           | 34.67              | 46.69          | 74.00               | -27.31          | PK        | V        |
| 10360.46        | 52.79             | 9.63                  | 14.84           | 32.78              | 44.48          | 68.20               | -23.72          | PK        | H        |
| 15540.15        | 53.29             | 8.60                  | 17.99           | 34.75              | 45.13          | 74.00               | -28.87          | PK        | H        |

## 802.11ac(HT20) 5180MHz

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Detect or | ANT pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|-----------|----------|
| 10360.69        | 49.79             | 11.63                 | 14.87           | 33.08              | 43.21          | 68.20               | -24.99          | PK        | V        |
| 15540.83        | 51.01             | 12.37                 | 17.66           | 34.95              | 46.09          | 74.00               | -27.91          | PK        | V        |
| 10360.11        | 51.84             | 9.88                  | 14.77           | 33.05              | 43.44          | 68.20               | -24.76          | PK        | H        |
| 15540.74        | 52.36             | 8.60                  | 18.14           | 34.72              | 44.38          | 74.00               | -29.62          | PK        | H        |

## 802.11ac(HT20) 5200MHz

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Detect or | ANT pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|-----------|----------|
| 10360.12        | 50.17             | 11.52                 | 14.86           | 32.86              | 43.69          | 68.20               | -24.51          | PK        | V        |
| 15540.73        | 51.05             | 12.13                 | 17.81           | 34.80              | 46.19          | 74.00               | -27.81          | PK        | V        |
| 10360.04        | 51.82             | 9.67                  | 15.12           | 33.09              | 43.52          | 68.20               | -24.68          | PK        | H        |
| 15540.80        | 53.46             | 8.80                  | 18.03           | 34.96              | 45.33          | 74.00               | -28.67          | PK        | H        |

## 802.11ac(HT20) 5240MHz

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Detect or | ANT pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|-----------|----------|
| 10360.62        | 50.10             | 11.42                 | 14.92           | 33.01              | 43.43          | 68.20               | -24.77          | PK        | V        |
| 15540.86        | 51.91             | 12.19                 | 18.09           | 34.67              | 47.52          | 74.00               | -26.48          | PK        | V        |
| 10360.70        | 52.54             | 9.51                  | 15.08           | 32.97              | 44.16          | 68.20               | -24.04          | PK        | H        |
| 15540.13        | 53.28             | 8.53                  | 17.81           | 34.59              | 45.03          | 74.00               | -28.97          | PK        | H        |

## 802.11n(HT40) 5190MHz

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Detect or | ANT pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|-----------|----------|
| 10360.77        | 50.08             | 11.52                 | 15.00           | 32.75              | 43.85          | 68.20               | -24.35          | PK        | V        |
| 15540.62        | 50.66             | 11.97                 | 17.84           | 34.91              | 45.56          | 74.00               | -28.44          | PK        | V        |
| 10360.65        | 52.43             | 9.62                  | 14.65           | 32.68              | 44.02          | 68.20               | -24.18          | PK        | H        |
| 15540.98        | 53.79             | 8.56                  | 18.15           | 34.88              | 45.62          | 74.00               | -28.38          | PK        | H        |

## 802.11n(HT40) 5230MHz

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Detect or | ANT pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|-----------|----------|
| 10360.38        | 50.81             | 11.36                 | 14.78           | 33.08              | 43.87          | 68.20               | -24.33          | PK        | V        |
| 15540.58        | 51.67             | 12.03                 | 18.06           | 34.90              | 46.86          | 74.00               | -27.14          | PK        | V        |
| 10360.11        | 52.90             | 9.61                  | 15.09           | 32.73              | 44.87          | 68.20               | -23.33          | PK        | H        |
| 15540.61        | 53.82             | 8.57                  | 18.08           | 34.94              | 45.53          | 74.00               | -28.47          | PK        | H        |

## 802.11ac(HT40) 5190MHz

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Detect or | ANT pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|-----------|----------|
| 10360.08        | 49.86             | 11.52                 | 15.04           | 33.10              | 43.32          | 68.20               | -24.88          | PK        | V        |
| 15540.22        | 51.01             | 12.09                 | 17.89           | 34.82              | 46.17          | 74.00               | -27.83          | PK        | V        |
| 10360.38        | 51.32             | 9.71                  | 14.65           | 32.82              | 42.86          | 68.20               | -25.34          | PK        | H        |
| 15540.38        | 52.31             | 8.73                  | 17.71           | 34.74              | 44.01          | 74.00               | -29.99          | PK        | H        |

## 802.11ac(HT40) 5230MHz

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Detect or | ANT pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|-----------|----------|
| 10360.88        | 50.19             | 11.73                 | 14.77           | 32.92              | 43.77          | 68.20               | -24.43          | PK        | V        |
| 15540.08        | 50.87             | 12.29                 | 17.99           | 34.78              | 46.37          | 74.00               | -27.63          | PK        | V        |
| 10360.84        | 51.41             | 9.83                  | 15.08           | 33.15              | 43.17          | 68.20               | -25.03          | PK        | H        |
| 15540.44        | 52.98             | 8.76                  | 17.67           | 34.68              | 44.73          | 74.00               | -29.27          | PK        | H        |

## 802.11ac(HT80) 5210MHz

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Detect or | ANT pol. |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|-----------|----------|
| 10360.55        | 50.67             | 11.50                 | 15.04           | 32.98              | 44.23          | 68.20               | -23.97          | PK        | V        |
| 15540.08        | 52.16             | 12.36                 | 17.89           | 34.75              | 47.66          | 74.00               | -26.34          | PK        | V        |
| 10360.54        | 53.55             | 9.88                  | 14.95           | 32.96              | 45.42          | 68.20               | -22.78          | PK        | H        |
| 15540.57        | 54.20             | 8.66                  | 17.76           | 34.48              | 46.14          | 74.00               | -27.86          | PK        | H        |

## Note:

1. Level = Read Level + Antenna Factor+ Cable loss- Preamp Factor.
2. The test trace is same as the ambient noise (the test frequency range: 18GHz~40GHz), therefore no data appear in the report.
3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.
4. This Report only show the test plots of the worst case (U-NII-1).

#### 4.8 Frequency stability

|               |                                                                                                                                                                                                                              |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Standard | 15.407(f)                                                                                                                                                                                                                    |
| Test limit    | Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual. |
| Test results: | Pass                                                                                                                                                                                                                         |

##### Measurement Data:

| Mode                   | Voltage (V) | FHL (5180MHz) | Deviation (KHz) | FHH (5240MHz) | Deviation (KHz) |
|------------------------|-------------|---------------|-----------------|---------------|-----------------|
| Band 1 (5150-5250 MHz) | AC108V      | 5179.996      | 4               | 5239.998      | 5               |
|                        | AC120V      | 5179.995      | 5               | 5239.994      | 6               |
|                        | AC132V      | 5179.994      | 6               | 5239.999      | 1               |
| Mode                   | Voltage (V) | FHL (5260MHz) | Deviation (KHz) | FHH (5320MHz) | Deviation (KHz) |

| Mode                   | Temperature (°C) | FHL (5180MHz) | Deviation (KHz) | FHH (5240MHz) | Deviation (KHz) |
|------------------------|------------------|---------------|-----------------|---------------|-----------------|
| Band 1 (5150-5250 MHz) | -10°C            | 5179.996      | 4               | 5239.998      | 2               |
|                        | 0°C              | 5179.995      | 5               | 5239.997      | 3               |
|                        | +10°C            | 5179.992      | 8               | 5239.995      | 5               |
|                        | +20°C            | 5179.993      | 7               | 5239.994      | 6               |
|                        | +30°C            | 5179.996      | 4               | 5239.992      | 8               |
|                        | +40°C            | 5179.995      | 5               | 5239.996      | 4               |
|                        | +50°C            | 5179.993      | 7               | 5239.997      | 3               |

## 5 Photos Of Test Setup

Reference to the **appendix I Test Setup Photo** for details.

## 6 Photos Of EUT

Reference to the **appendix II external photos** and **appendix III internal photos** for details.

-----END OF REPORT-----

