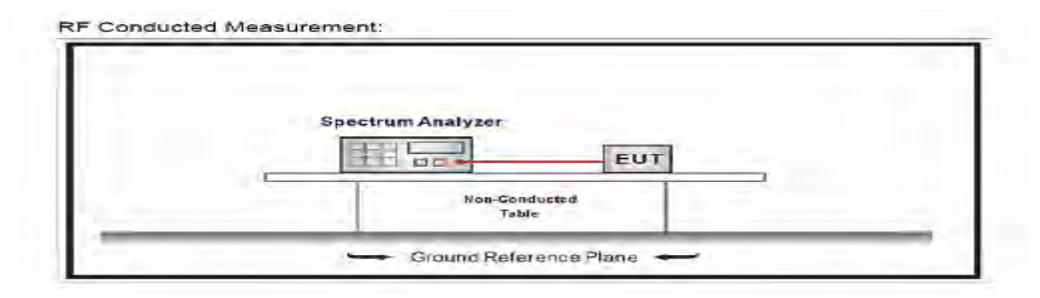


## 4.4 Band Edges Measurement

### 4.4.1 Test Limit

Below -20 dB of the highest emission level of operating band(in 100 KHz RBW).

### 4.4.2 Test Configuration



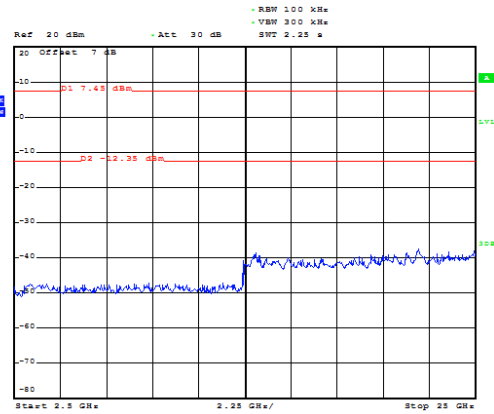
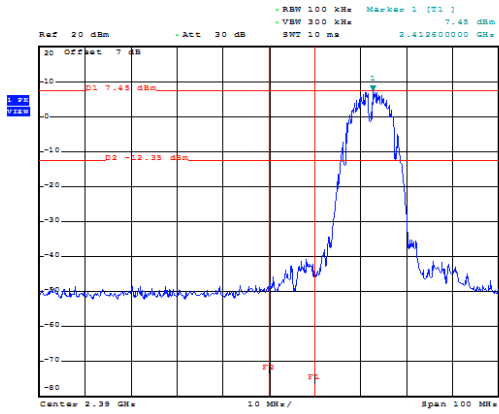
### 4.4.3 Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operation range. Set a reference level on the measuring instrument equal to the highest peak value.
3. The center frequency of the spectrum analyzer is set to the fundamental frequency and using 100 KHz RBW and VBW of  $\geq 3 \times$  RBW.
4. Measure the captured power within the band and recording the plot.
5. Repeat above procedures until all frequencies required were complete.

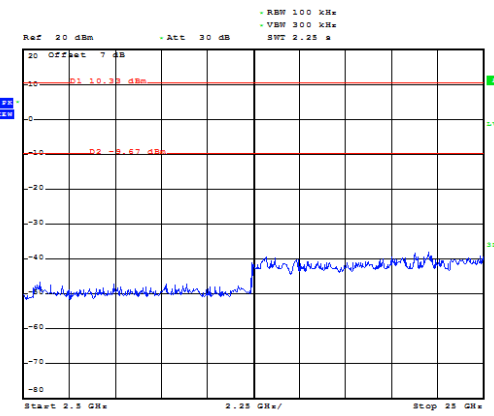
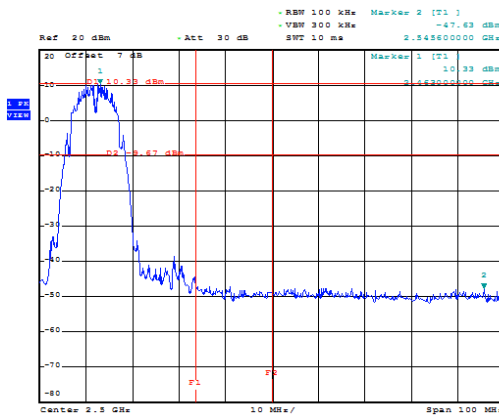
### 4.4.4 Test Data Plot

SISO(1T1R)

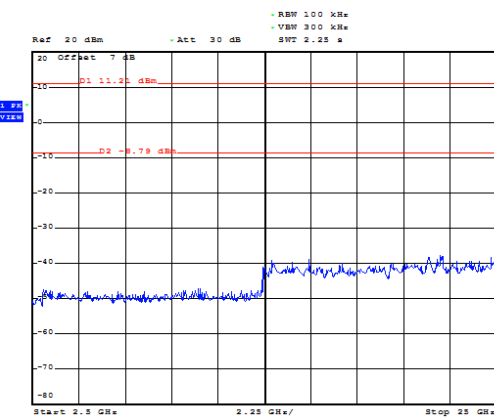
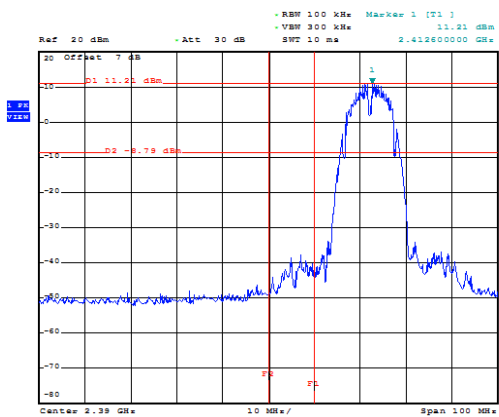
802.11b\_Ant0\_Low



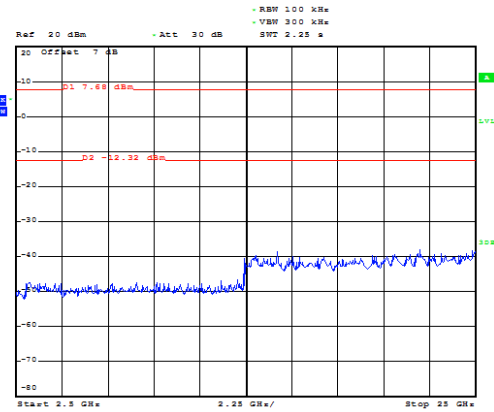
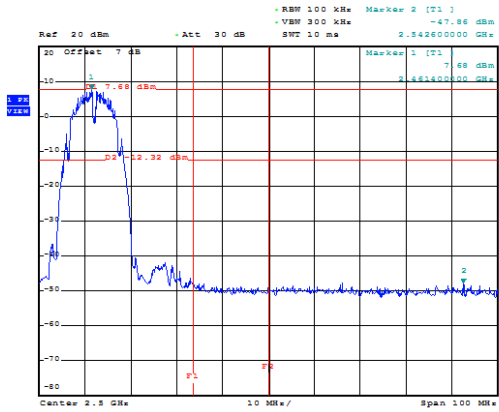
802.11b\_Ant0\_High



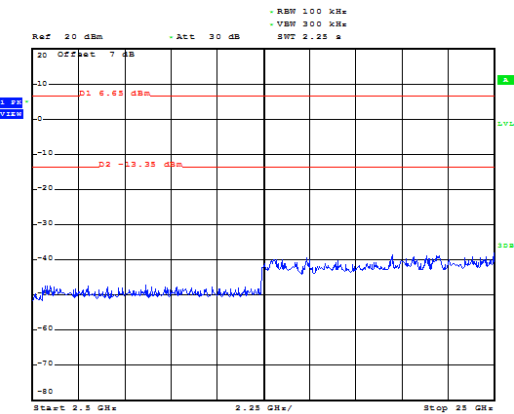
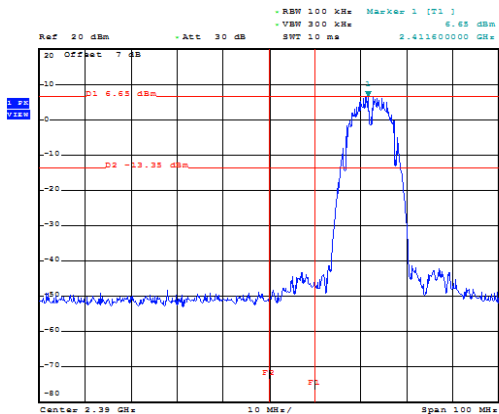
802.11b\_Ant1\_Low



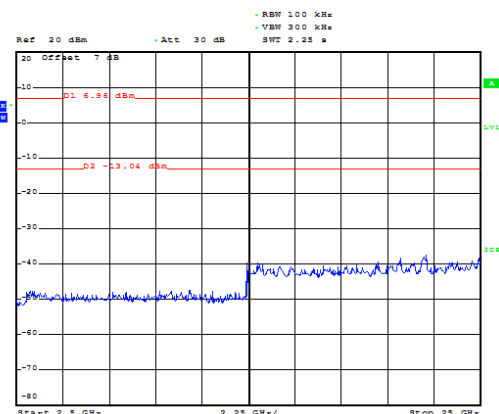
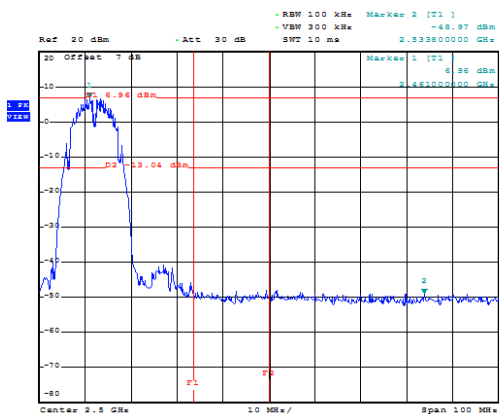
### 802.11b\_Ant1\_High



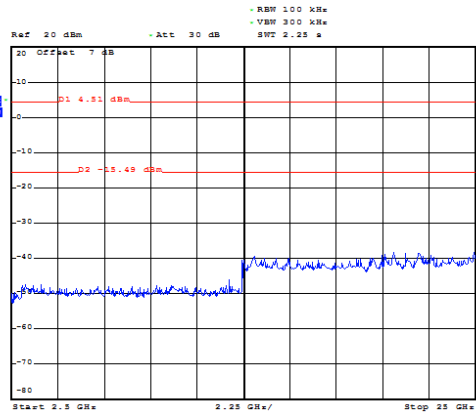
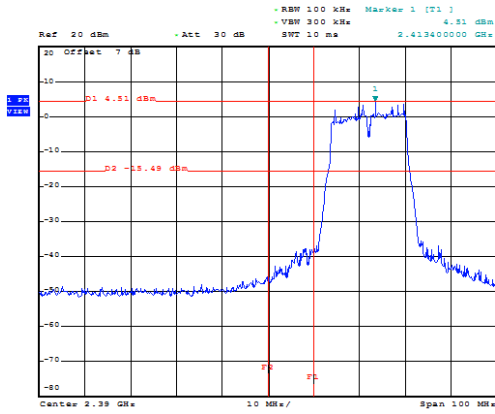
### 802.11b\_Ant2\_Low



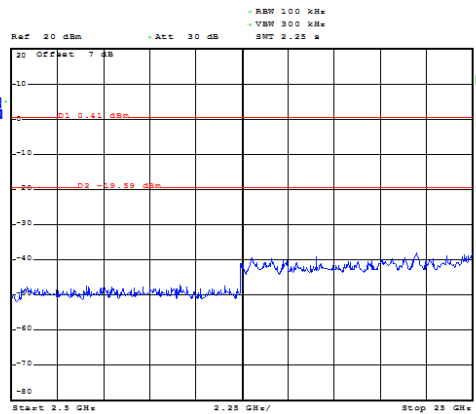
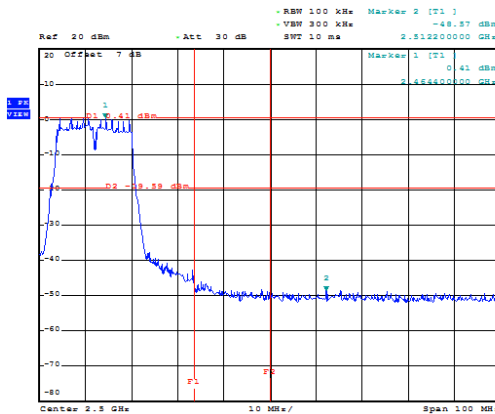
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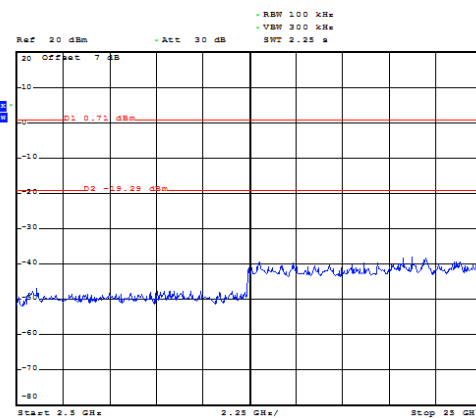
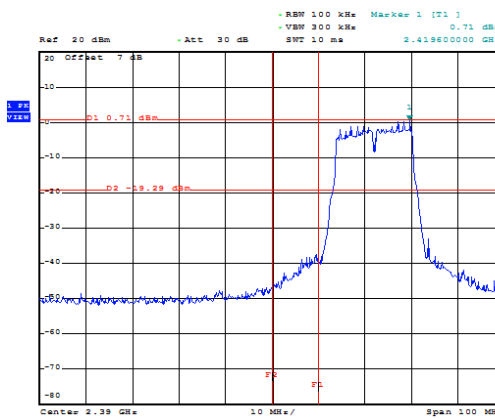
802.11g\_Ant0\_Low



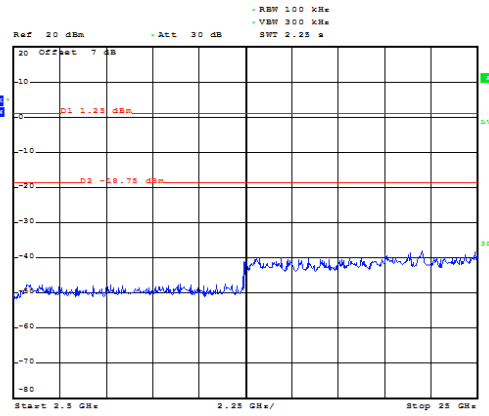
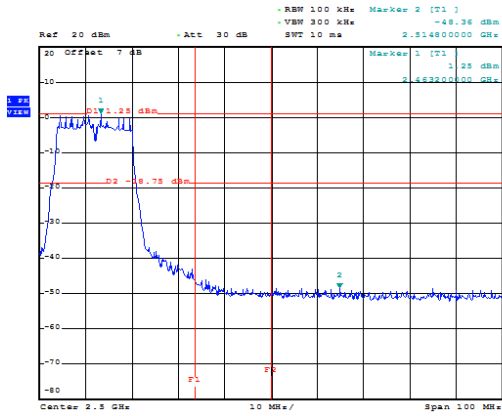
802.11g\_Ant0\_High



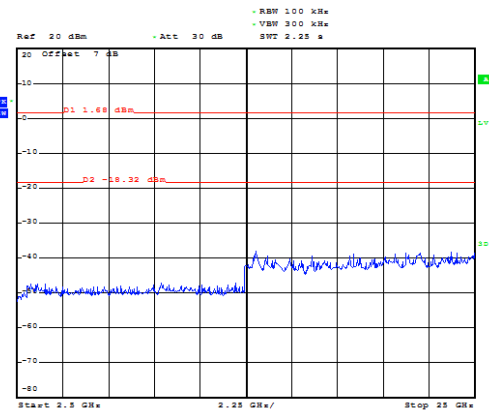
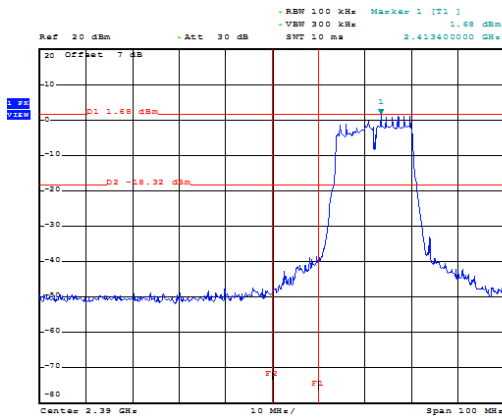
802.11g\_Ant1\_Low



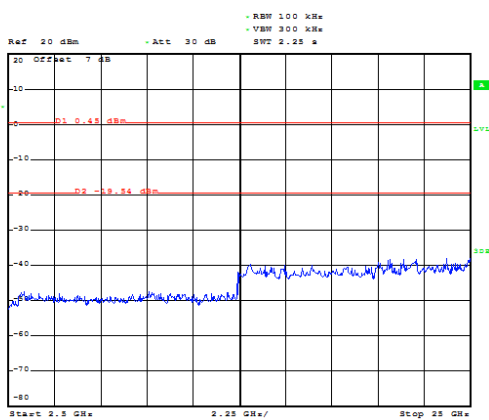
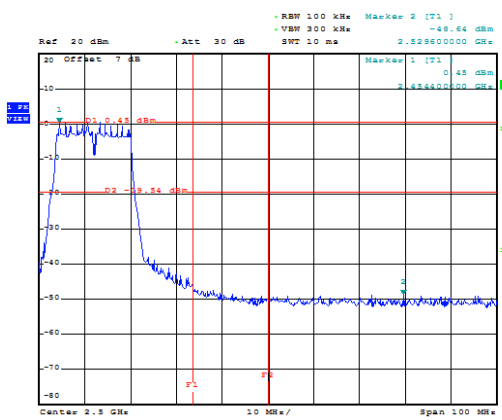
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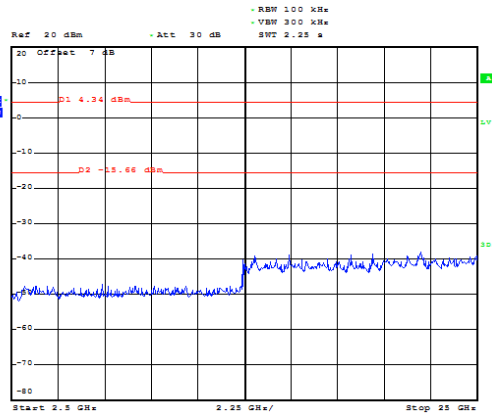
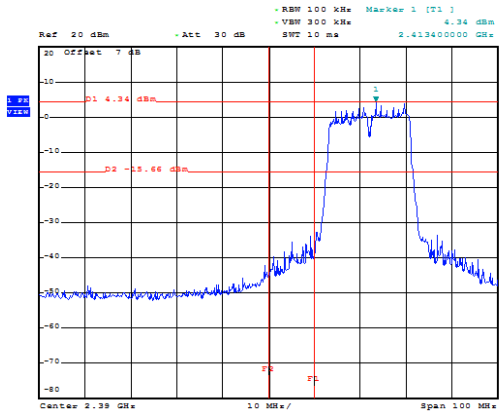
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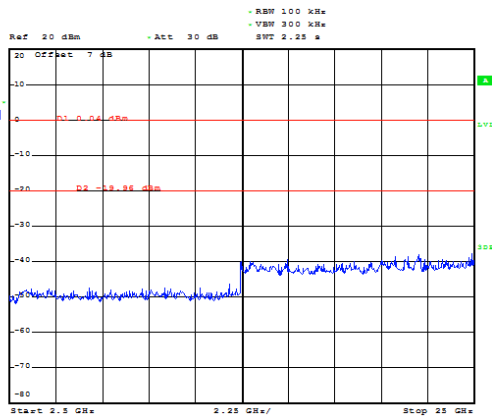
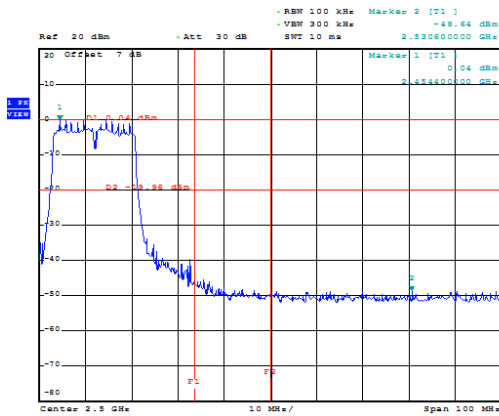
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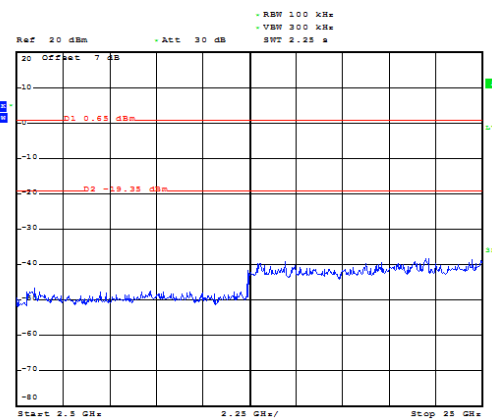
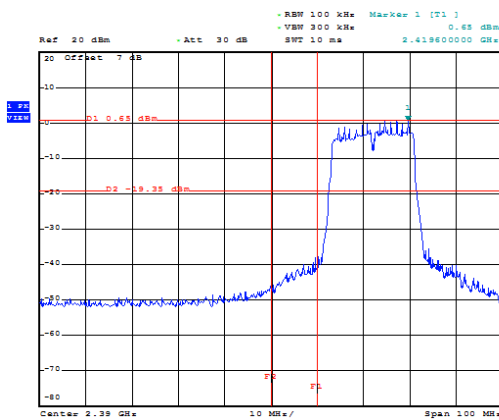
802.11n\_HT20\_Ant0\_Low



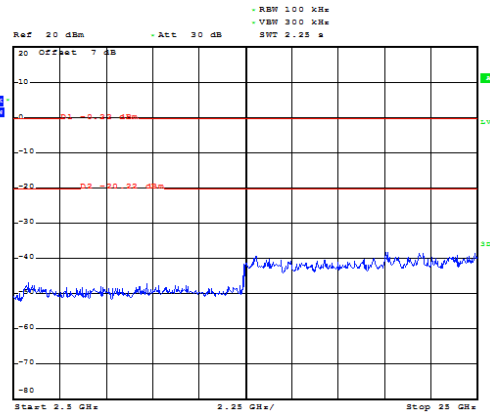
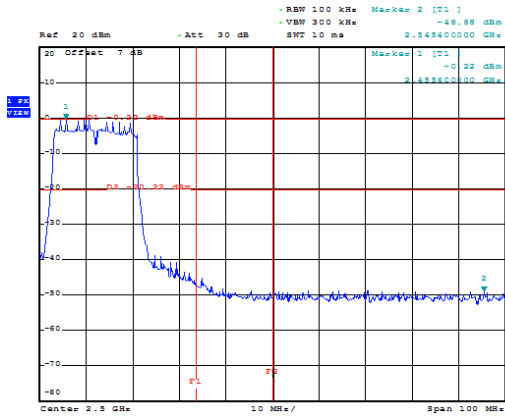
802.11n\_HT20\_Ant0\_High



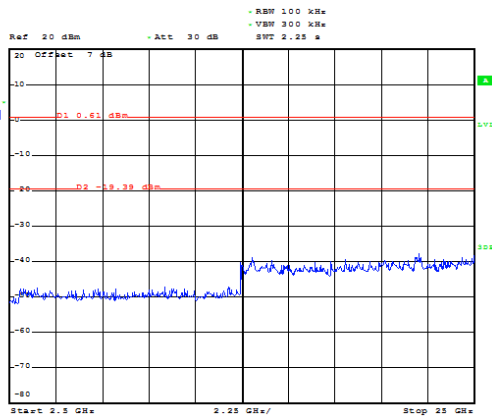
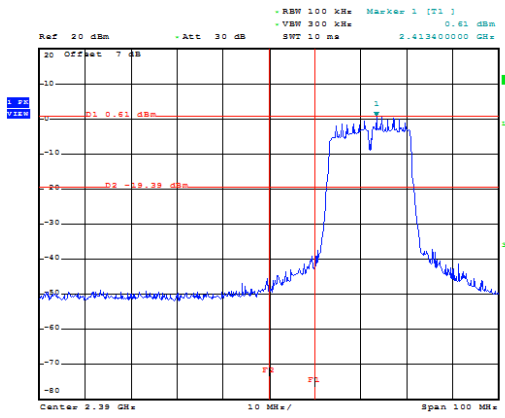
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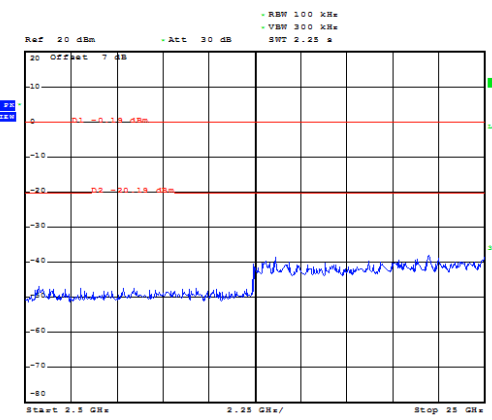
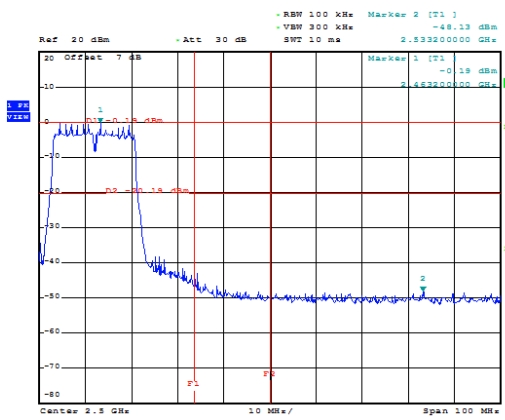
802.11n\_HT20\_Ant1\_High



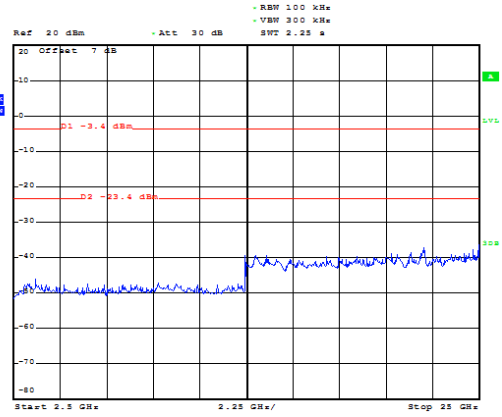
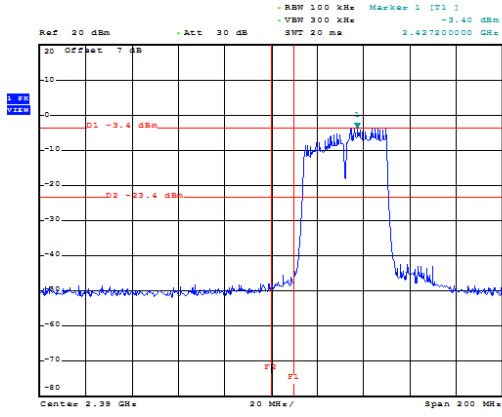
802.11n\_HT20\_Ant2\_Low



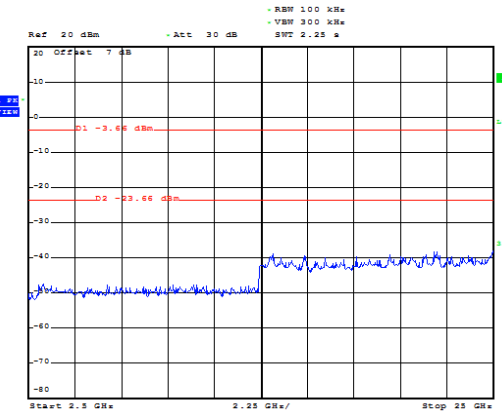
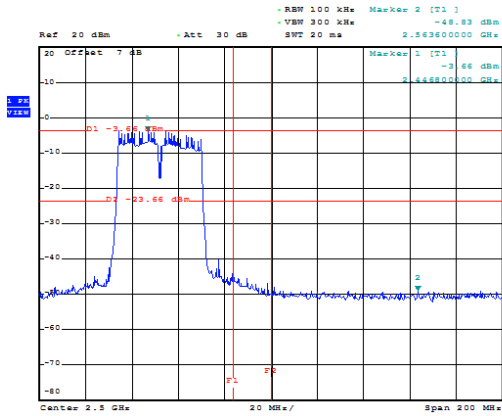
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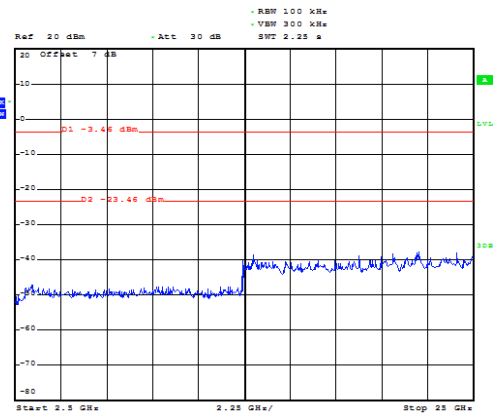
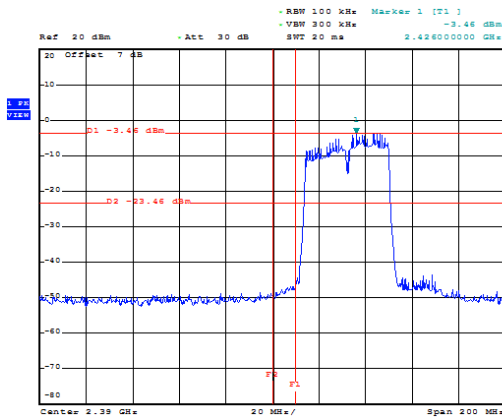
802.11n\_HT40\_Ant0\_Low



802.11n\_HT40\_Ant0\_High

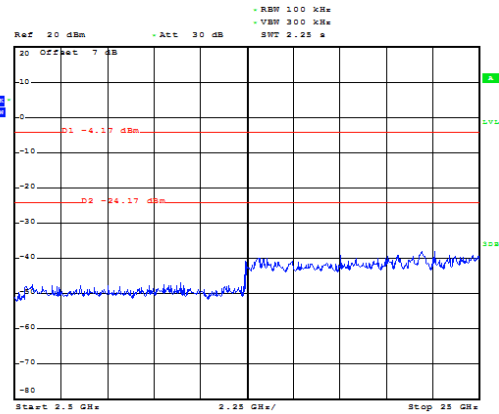
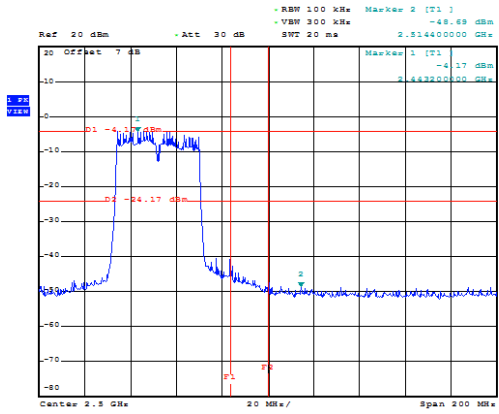


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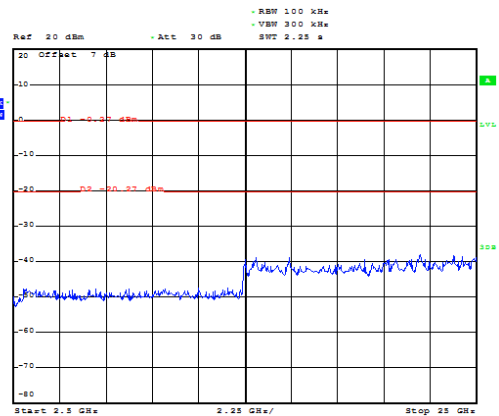
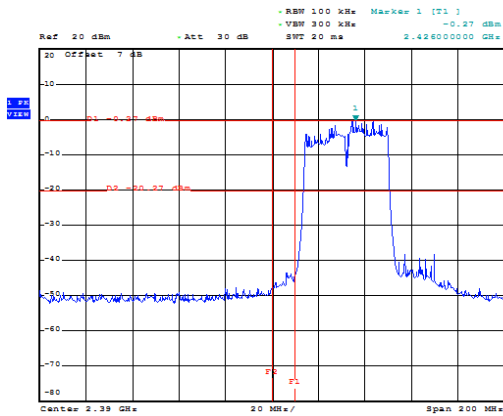




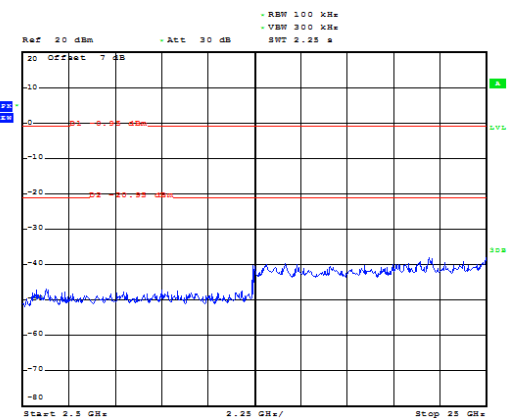
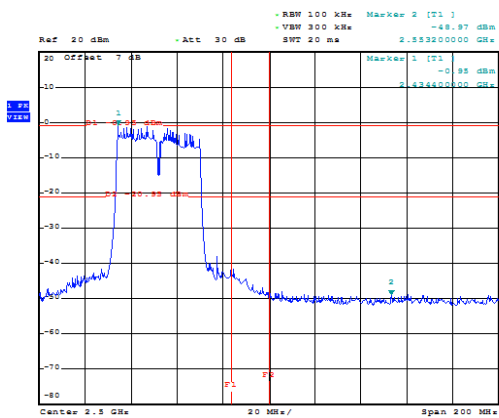
802.11n\_HT40\_Ant1\_High



802.11n\_HT40\_Ant2\_Low



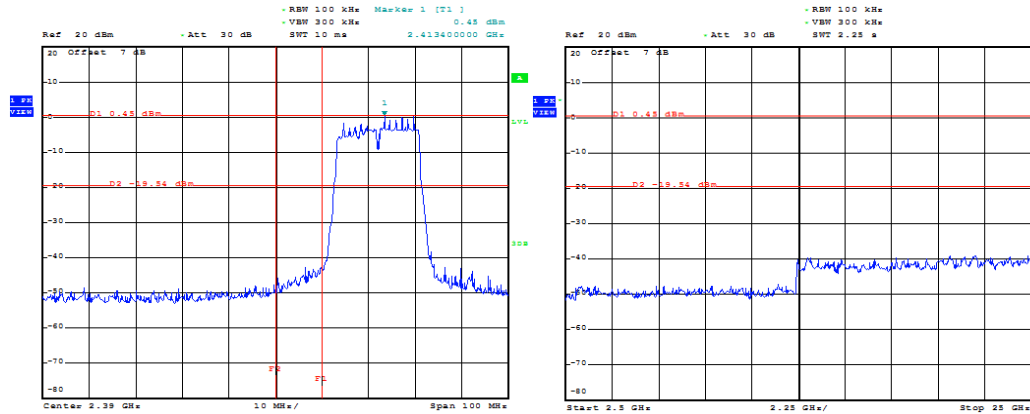
802.11n\_HT40\_Ant2\_High



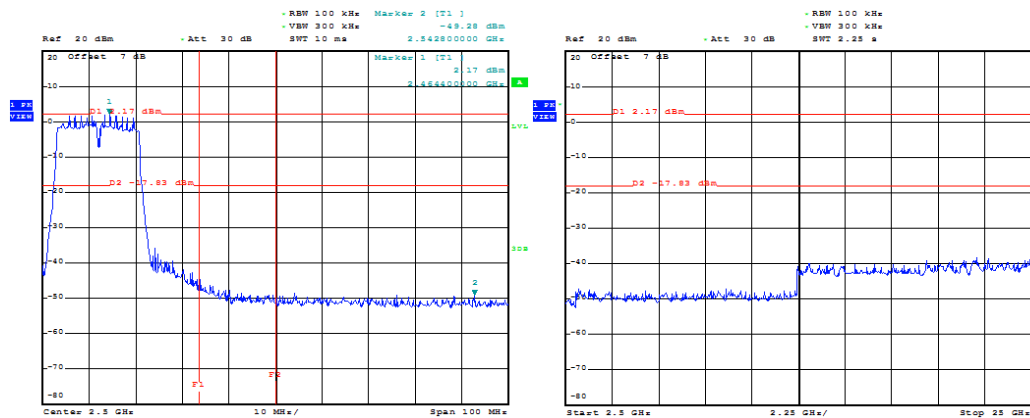
MIMO(2T2R)\_HT20

Ant0+Ant1

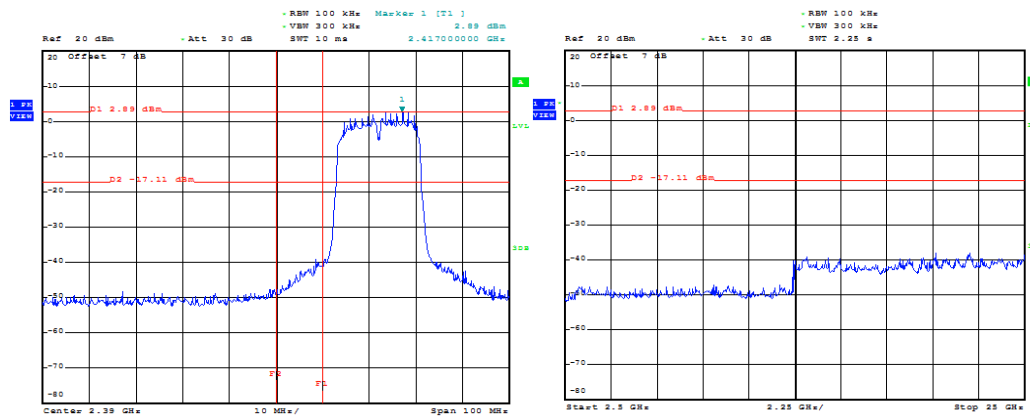
802.11n\_Ant0\_Low



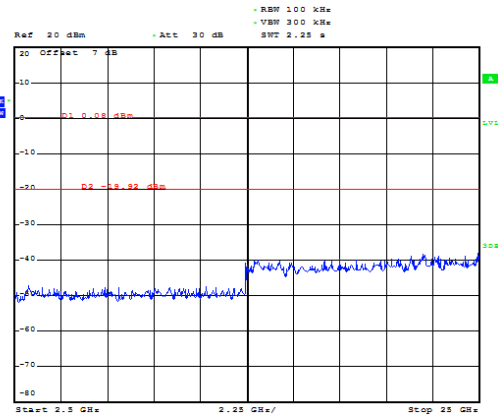
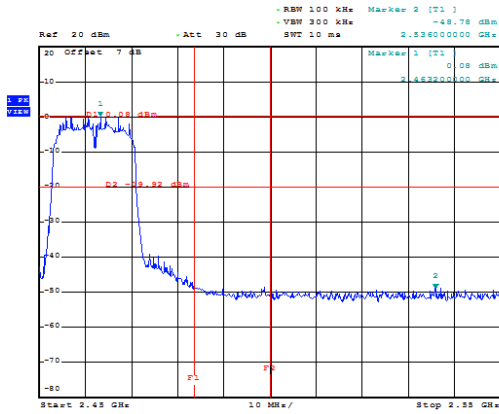
802.11n\_Ant0\_High



802.11n\_Ant1\_Low

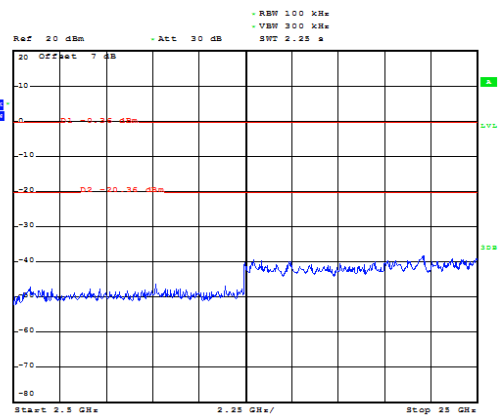
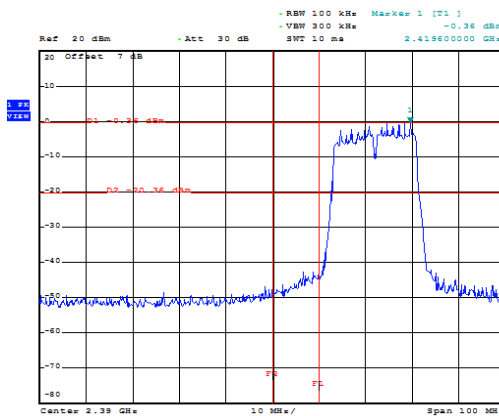


### 802.11n\_Ant1\_High

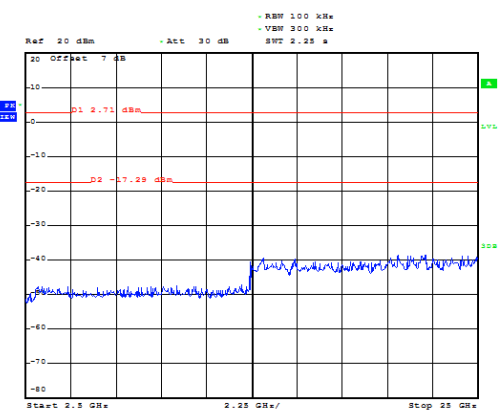
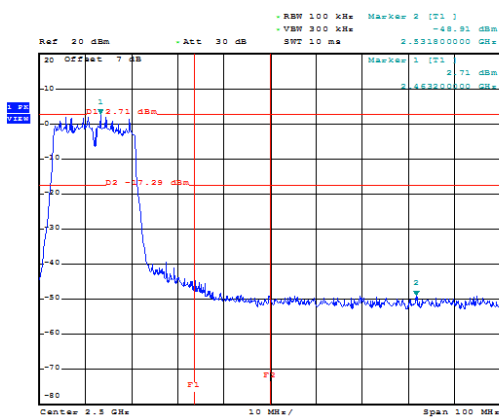


### Ant0+Ant2

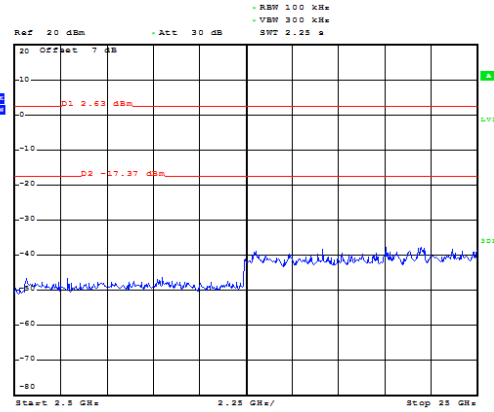
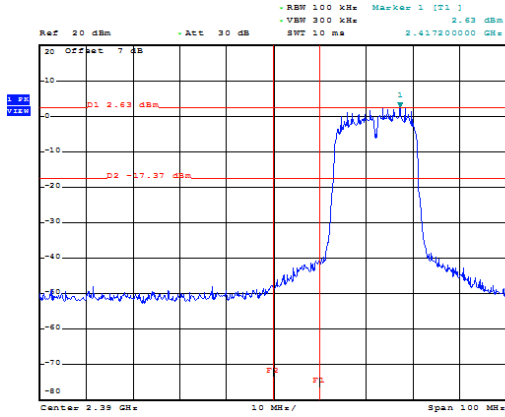
### 802.11n\_Ant0\_Low



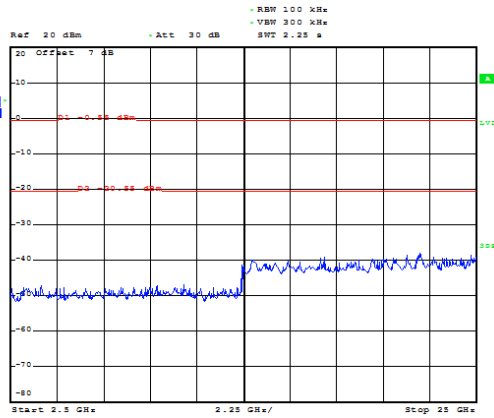
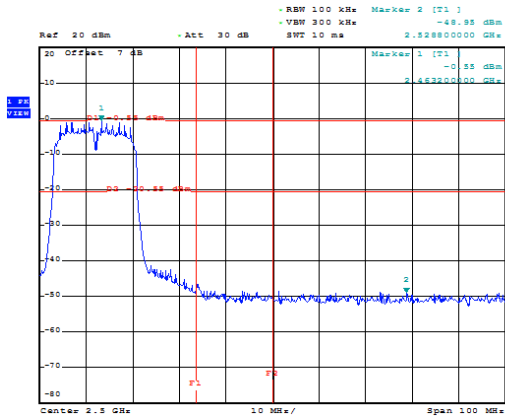
### 802.11n\_Ant0\_High



802.11n\_Ant2\_Low

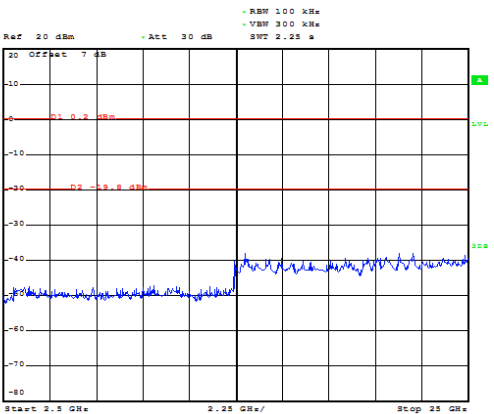
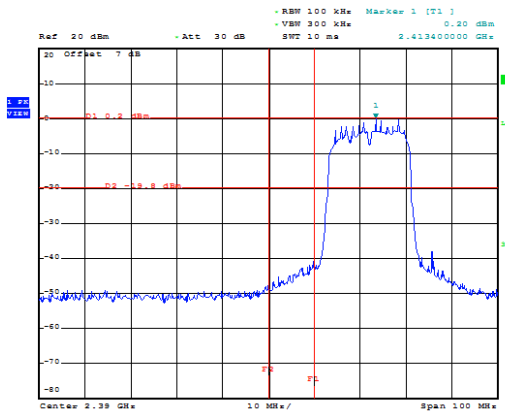


802.11n\_Ant2\_High

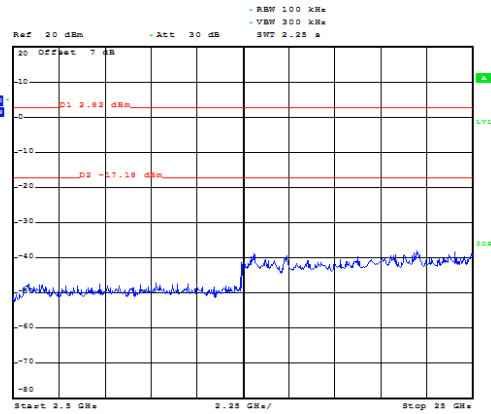
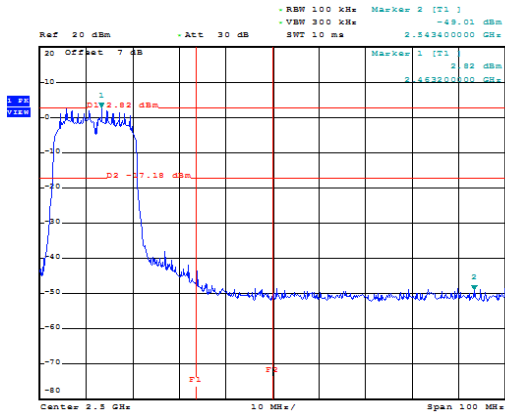


Ant1+Ant2

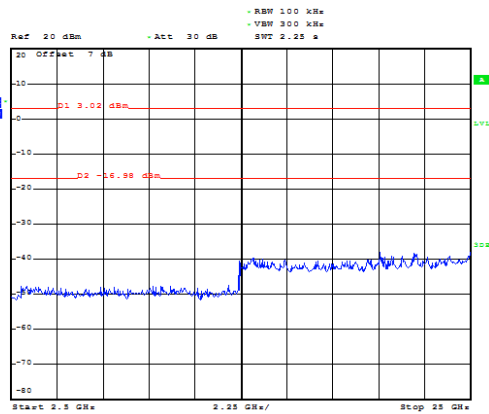
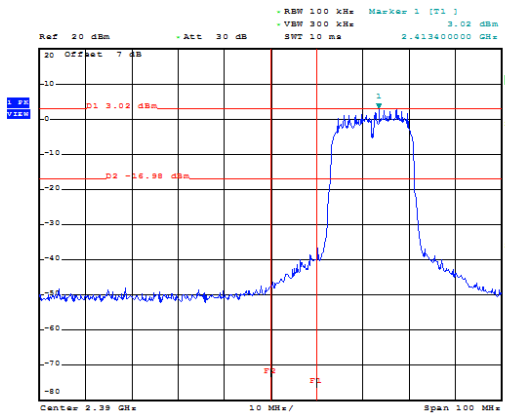
802.11n\_Ant1\_Low



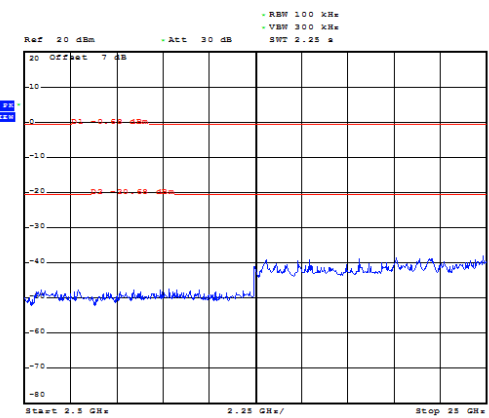
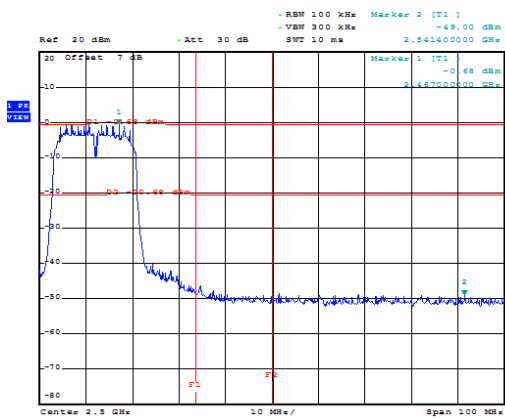
### 802.11n\_Ant1\_High



### 802.11n\_Ant2\_Low



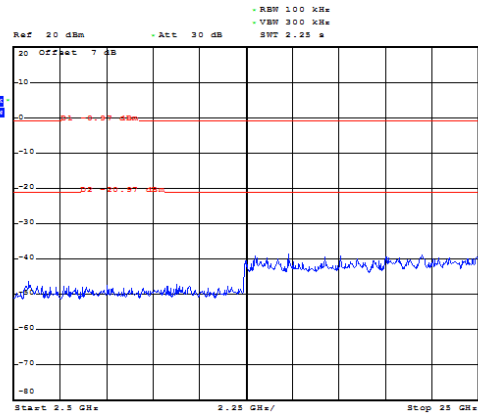
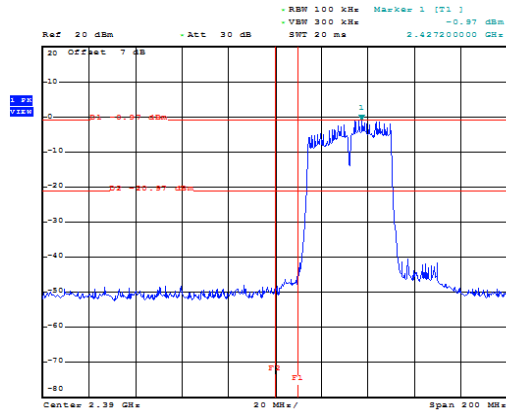
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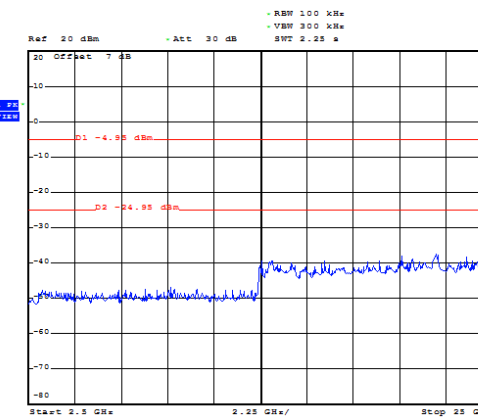
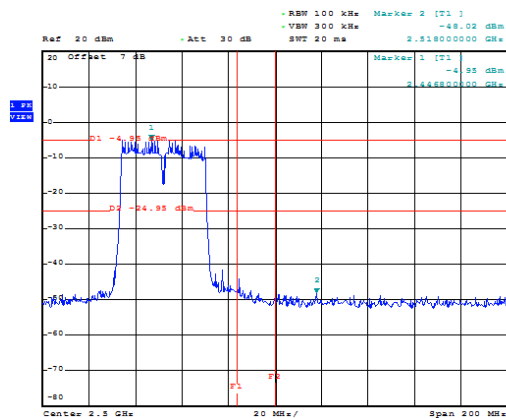
MIMO(2T2R)\_HT40

Ant0+Ant1

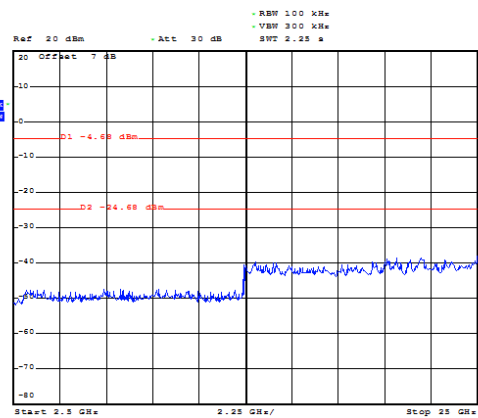
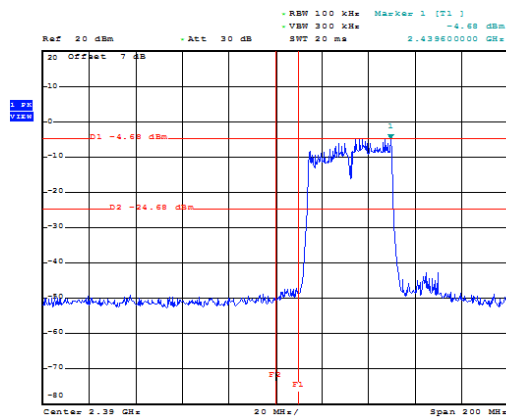
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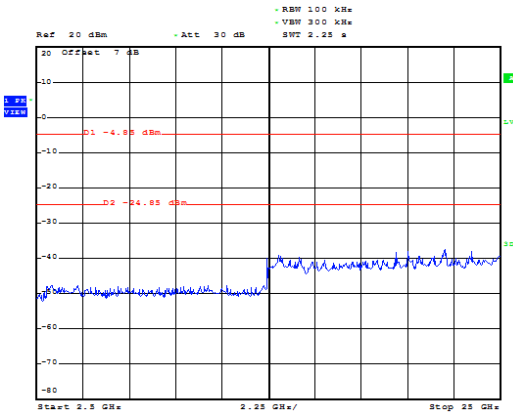
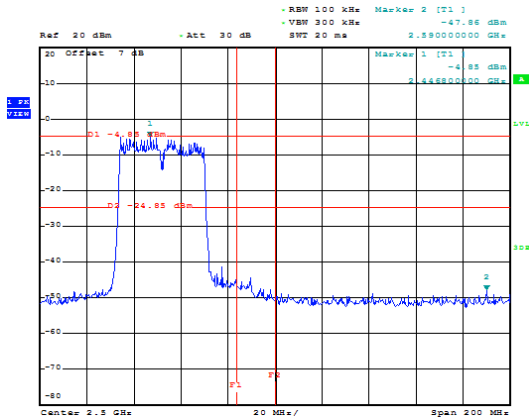
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802.11n\_Ant1\_Low

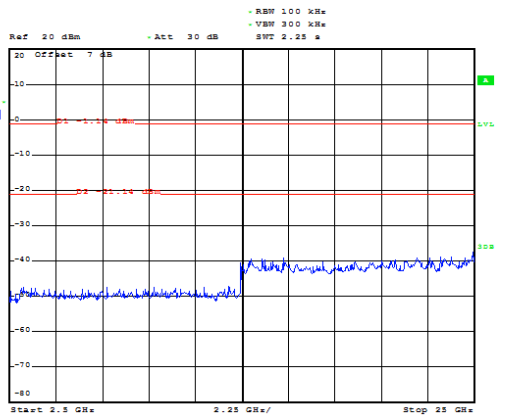
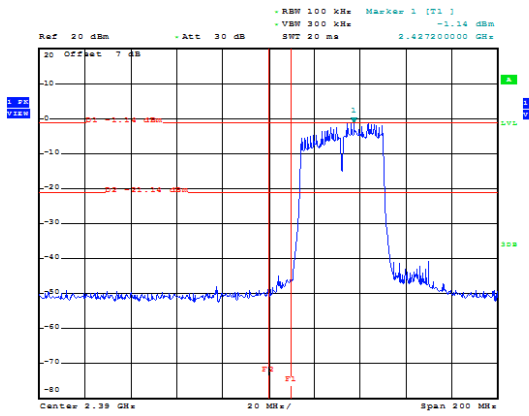


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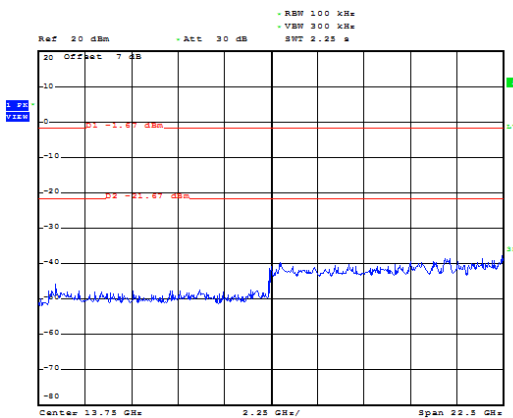
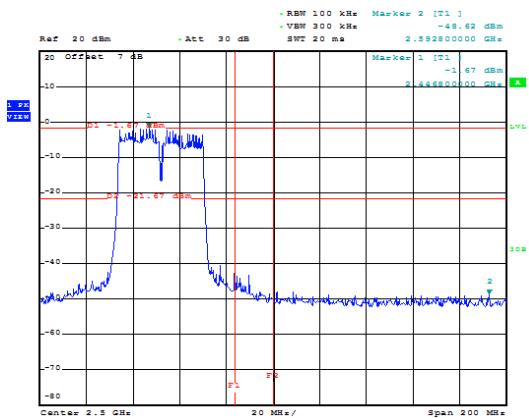


Ant0+Ant2

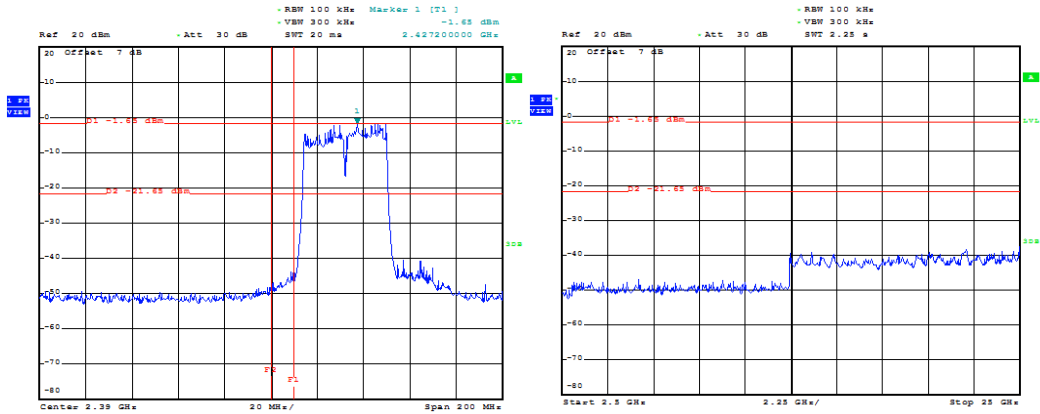
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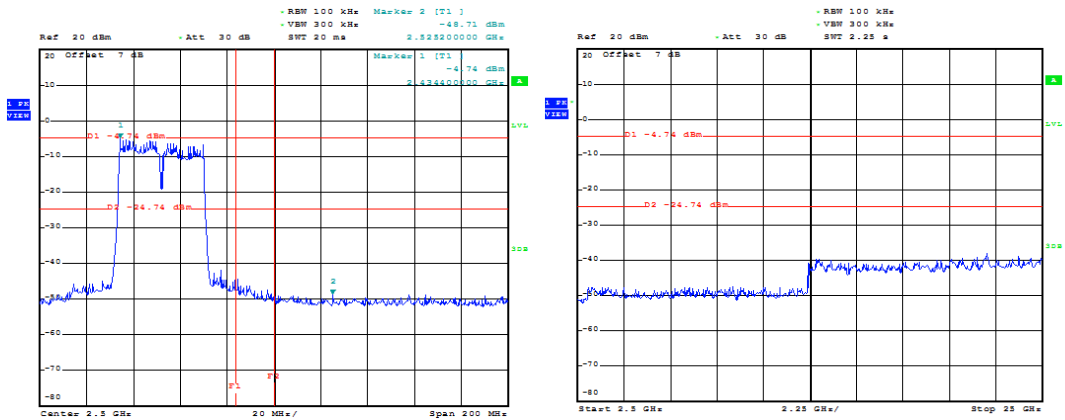
802.11n\_Ant0\_High



802.11n\_Ant2\_Low

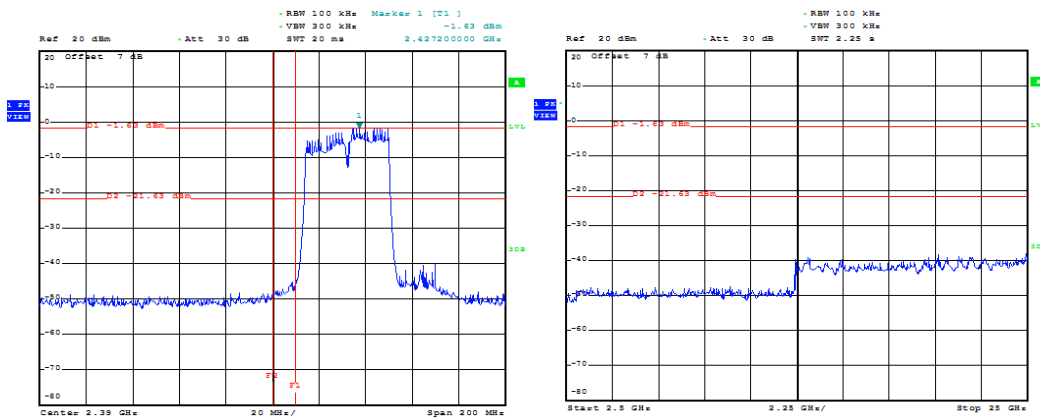


802.11n\_Ant2\_High



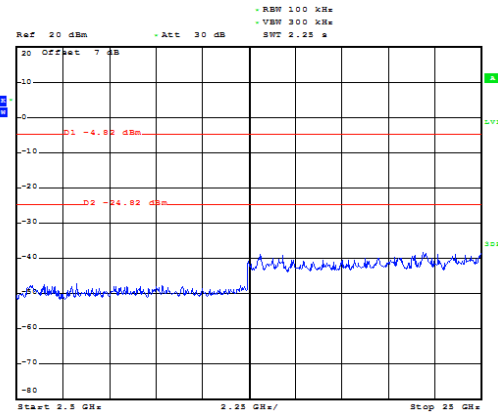
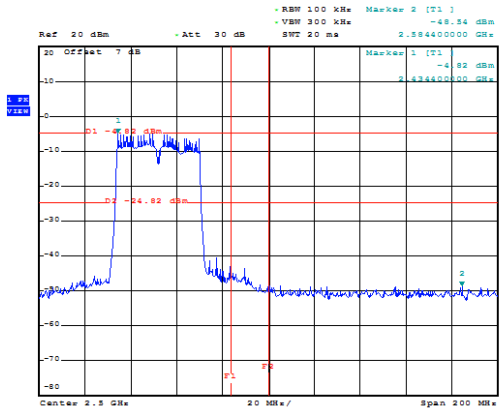
Ant1+Ant2

802.11n\_Ant1\_Low

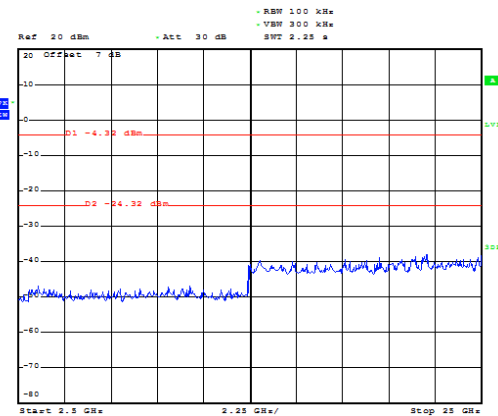
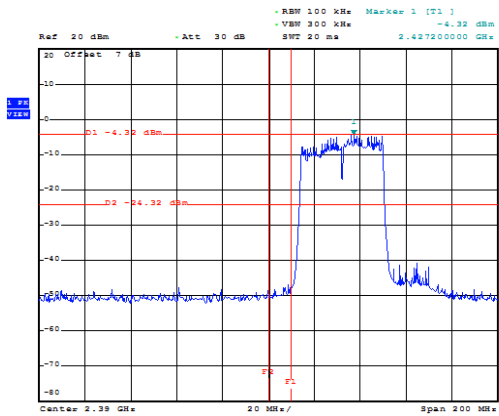




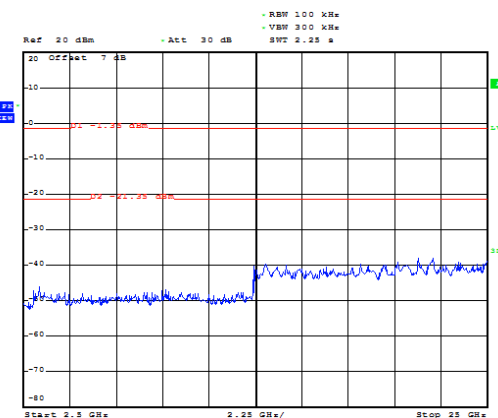
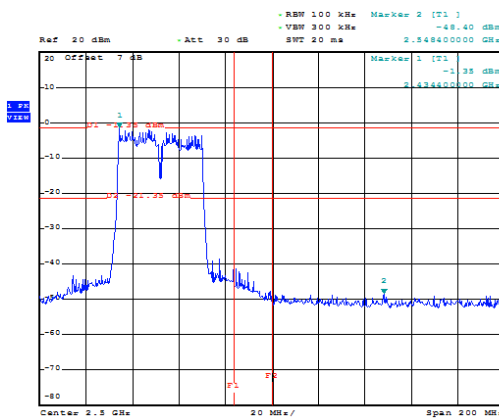
802.11n\_Ant1\_High



802.11n\_Ant2\_Low



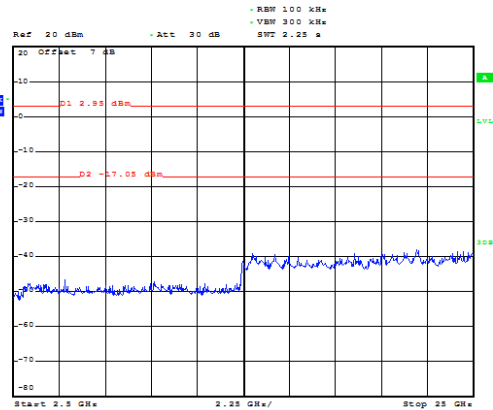
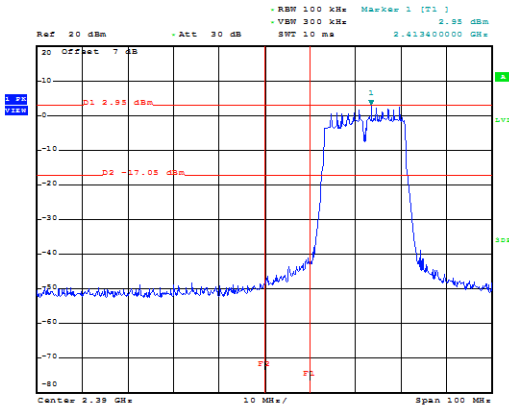
802.11n\_Ant2\_High



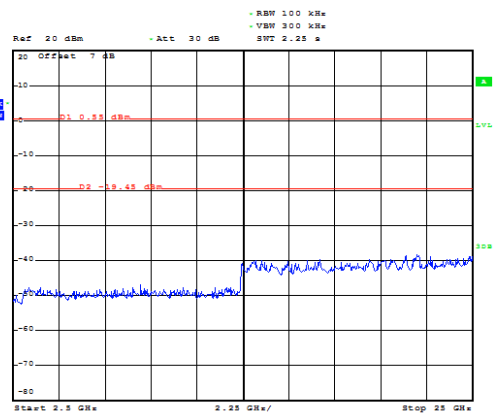
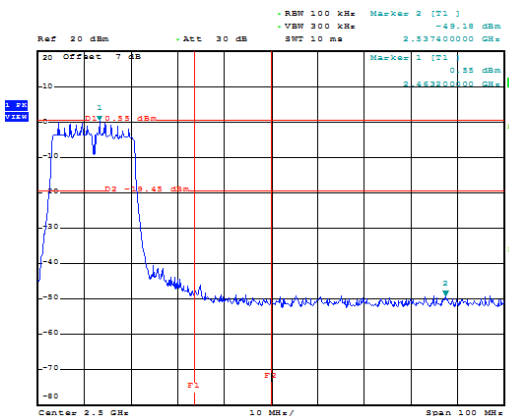
MIMO(3T3R)\_HT20

Ant0+Ant1+Ant2

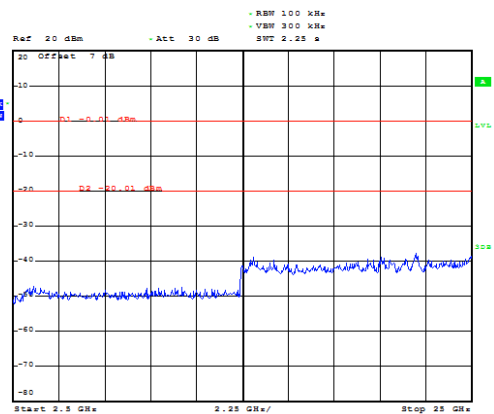
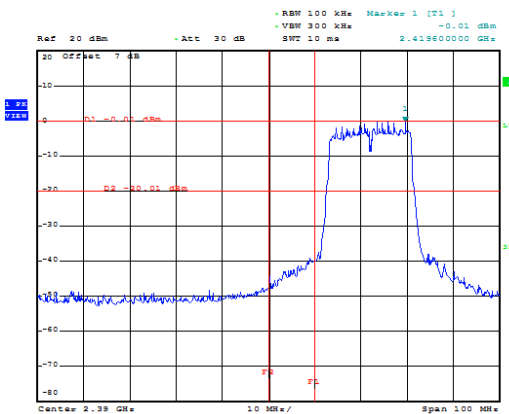
802.11n\_Ant0\_Low



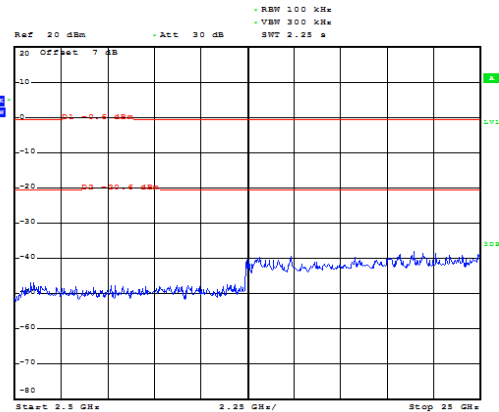
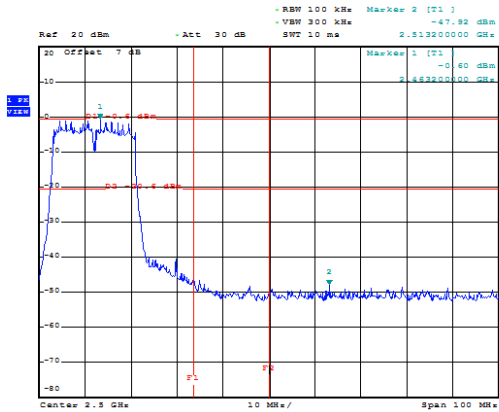
802.11n\_Ant0\_High



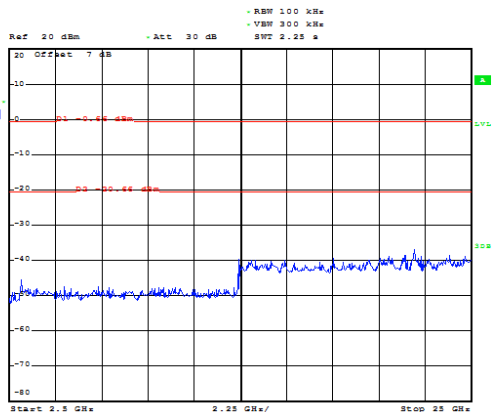
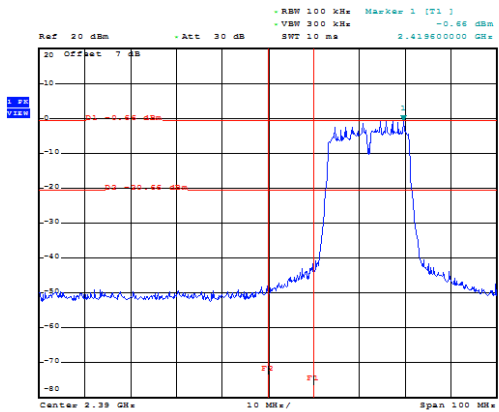
802.11n\_Ant1\_Low



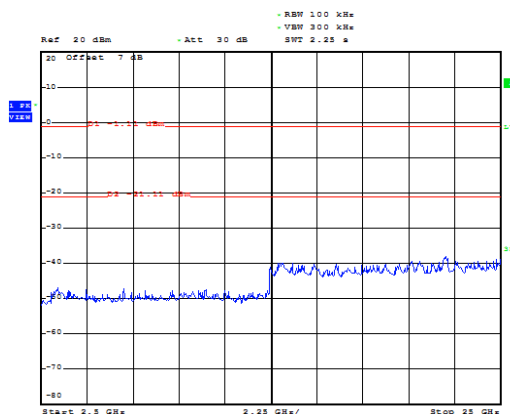
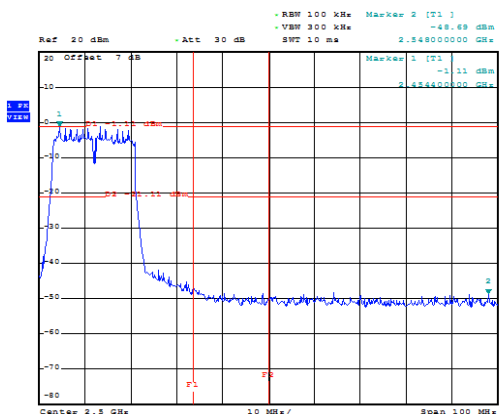
### 802.11n\_Ant1\_High



### 802.11n\_Ant2\_Low



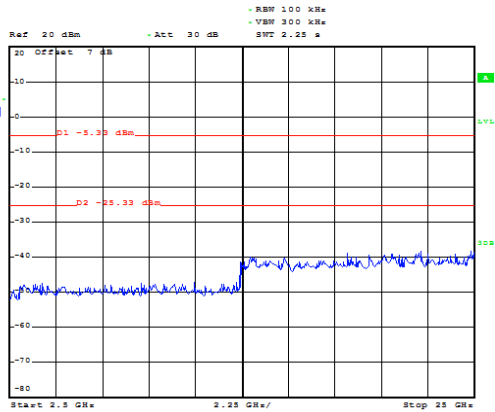
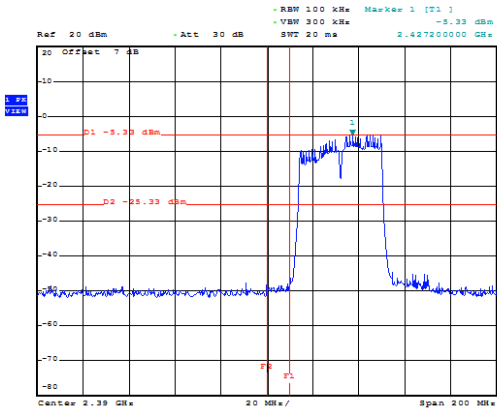
### 802.11n\_Ant2\_High



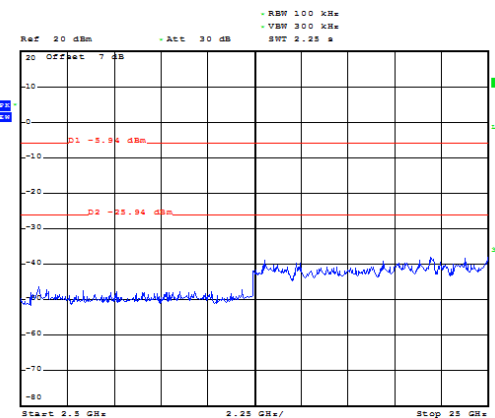
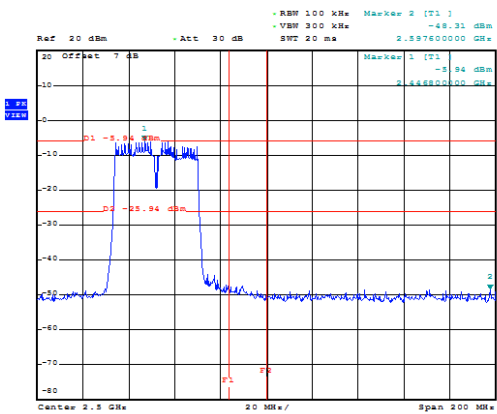
MIMO(3T3R)\_HT40

Ant0+Ant1+Ant2

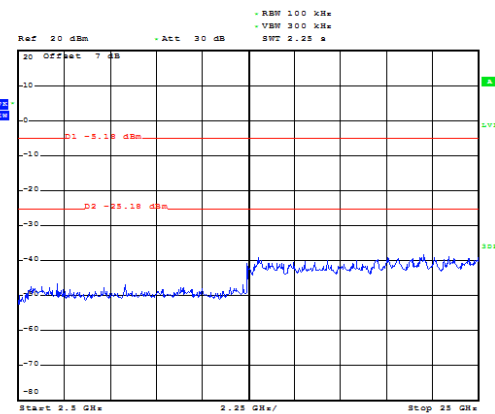
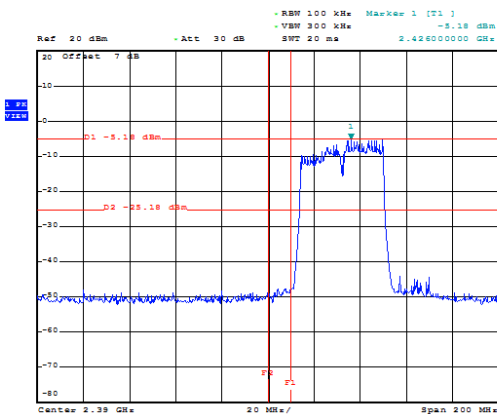
802.11n\_Ant0\_Low



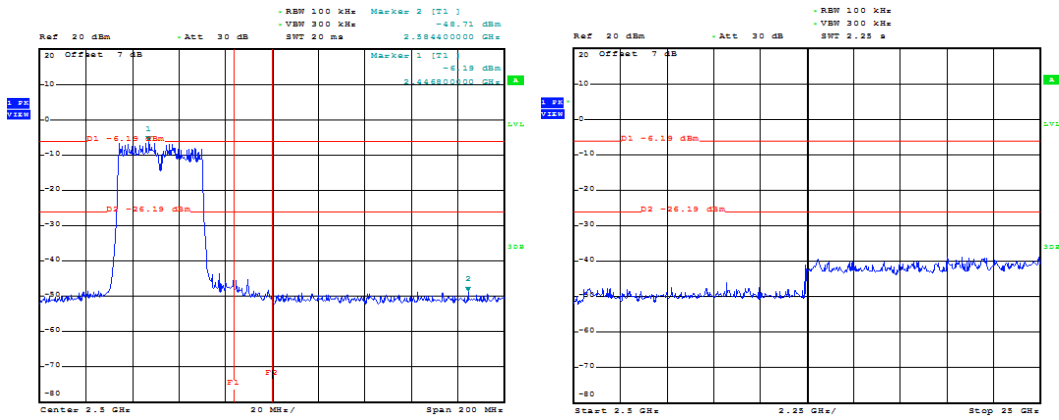
802.11n\_Ant0\_High



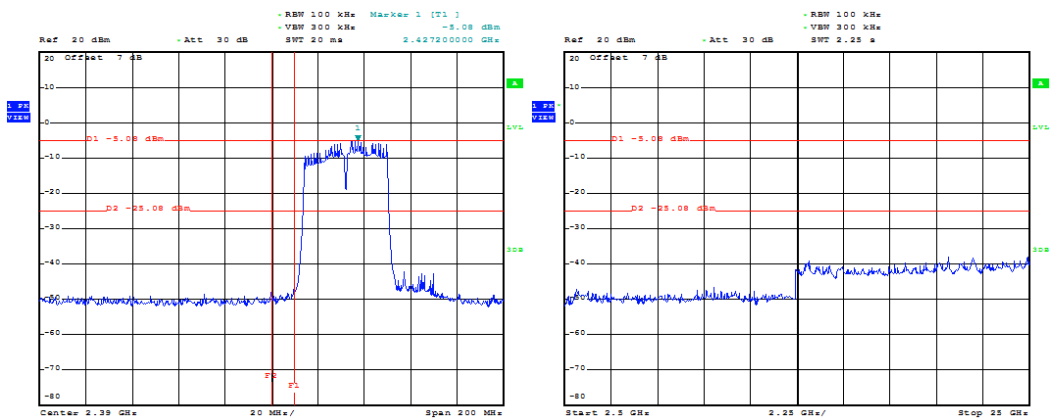
802.11n\_Ant1\_Low



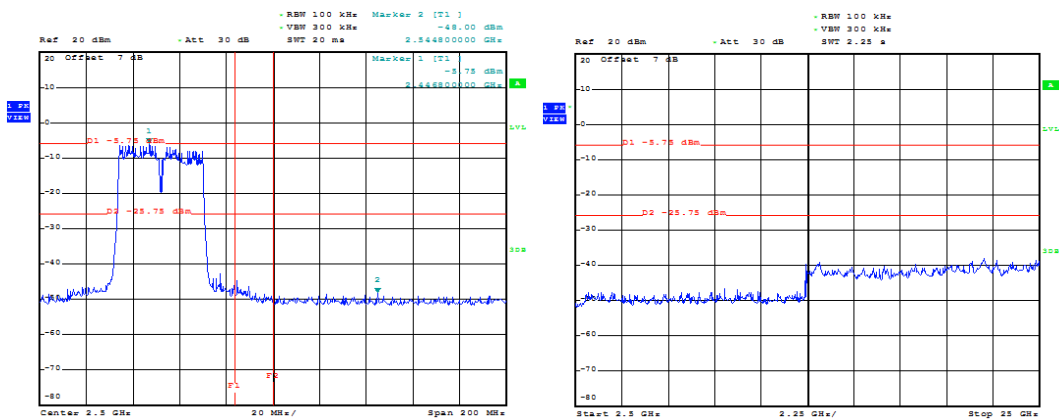
### 802.11n\_Ant1\_High



### 802.11n\_Ant2\_Low



### 802.11n\_Ant2\_High



## 4.5 Field Strength of Emission

### 4.5.1 Test Limit

According to §15.247(d), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

According to §15.209(a), Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

**- 15.209(a)**

| Frequency(MHz) | Field Strength<br>uV/m@3m | Field Strength<br>dBuV/m@3m | Deasurement<br>Distance (meters) |
|----------------|---------------------------|-----------------------------|----------------------------------|
| 0.009-0.490    | 2400/F(kHz)               | -                           | 300                              |
| 0.490-1.705    | 24000/F(kHz)              | -                           | 30                               |
| 1.705-30       | 30                        | -                           | 30                               |
| 30-88          | 100**                     | 40                          | 3                                |
| 88-216         | 150**                     | 43.5                        | 3                                |
| 216-960        | 200**                     | 46                          | 3                                |
| Above 960      | 500                       | 54                          | 3                                |

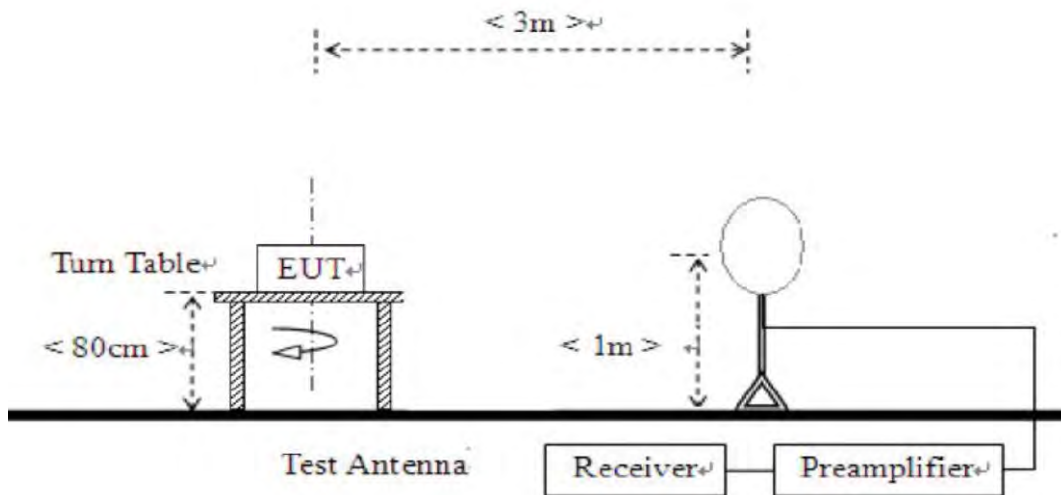
\*\*Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54–72 MHz, 76–88 MHz, 174–216 MHz or 470–806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§15.231 and 15.241.

Note :

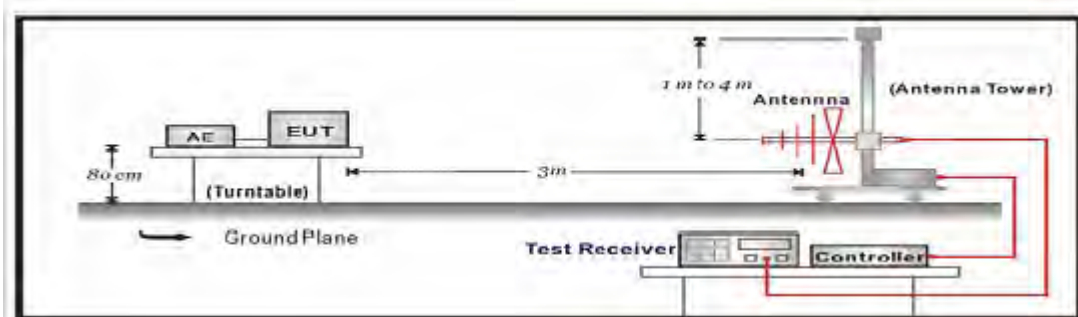
- For above 1 GHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit. The limit : 54 dBuV/m@3m(AV) and 74 dBuV/m@3m(PK).

#### 4.5.2 Test Configuration

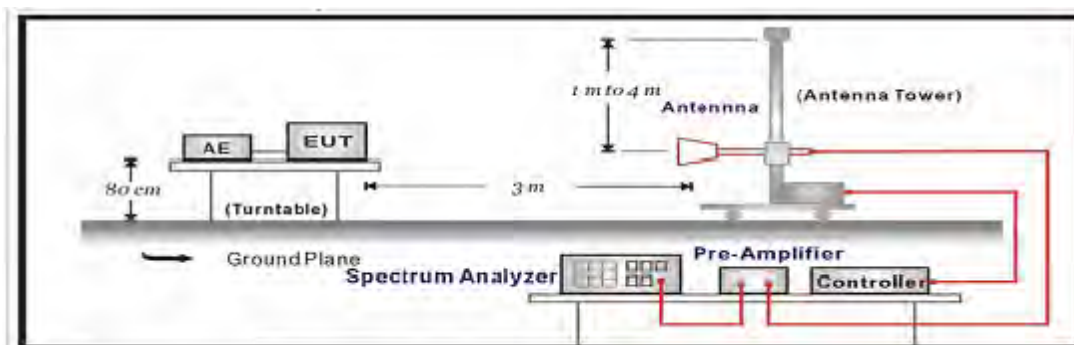
- from 9 KHz to 30 MHz



- 30 MHz to 1 GHz



- above 1 GHz



#### 4.5.3 Test Procedure

- 9 KHz to 30 MHz

1. The preliminary radiated measurements were performed to determine the frequency producing the maximum emissions at a distance of 3 meters according to Section 15.31(f)(2).
2. The EUT was placed on the top of the 0.8-meter height, 1 x 1.5 meter non-metallic table.
3. Emissions from the EUT are maximized by adjusting the orientation of the Loop antenna and rotating the EUT on the turntable. Manipulating the system cables also maximizes EUT emissions if applicable.
4. To obtain the final measurement data, each frequency found during preliminary measurements was re-examined and investigated. The test-receiver system was set up to average, peak, and quasi-peak detector with specified bandwidth.

- above 30 MHz

1. The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters. The antenna can move up and down between 1 meter and 4 meters to fine out the maximum emission level.
2. Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:2003 on radiated measurement.
3. The bandwidth below 1 GHz setting on the field strength meter is 100 kHz, above 1GHz are 1MHz.



#### 4.5.4 Test Results

|           |                                  |                   |                |
|-----------|----------------------------------|-------------------|----------------|
| Model     | C1004W                           | Frequency Range   | 9 KHz ~ 30 MHz |
| Test Mode | 802.11n_HT20_2x2<br>(Worst Case) | Detector Function | Quasi-Peak     |

| Frequency (MHz) | Measured Data (dBuV/m) | Margin (dB) | Remark   |
|-----------------|------------------------|-------------|----------|
| -               | -                      | -           | See Note |

**Note :**

The amplitude of spurious emission that are attenuated by more than 20 dB below the permissible value has no need to be reported.

Distance extrapolation factor =  $40 \log(\text{specific distance} / \text{test distance})$  (dB)

|           |                                  |                   |                |
|-----------|----------------------------------|-------------------|----------------|
| Model     | C1004W                           | Frequency Range   | 30 MHz ~ 1 GHz |
| Test Mode | 802.11n_HT20_2x2<br>(Worst Case) | Detector Function | Quasi-Peak     |

| Frequency (MHz) | Reading (dBuV) | P (H, V) | Ant. Factor (dB) | Cable Loss (dB) | AMP GAIN (dB) | Limit (dBuV) | Total (dBuV) | Margin dB |
|-----------------|----------------|----------|------------------|-----------------|---------------|--------------|--------------|-----------|
| 130.20          | 22.10          | H        | 11.28            | 2.49            | 0.0           | 43.50        | 35.87        | 7.63      |
| 223.98          | 15.20          | V        | 10.50            | 3.39            | 0.0           | 46.00        | 29.09        | 16.91     |
| 323.91          | 18.90          | V        | 14.09            | 4.23            | 0.0           | 46.00        | 37.22        | 8.78      |
| 499.39*         | 15.20          | V        | 18.08            | 5.50            | 0.0           | 46.00        | 38.78        | 7.22      |

**Note :**

1. Remark "\*" means that the data is the worst emission level.
2. All reading levels are Quasi-peak value.
3. Measurement level = reading level + correct factor

|           |                      |                   |                |
|-----------|----------------------|-------------------|----------------|
| Test Mode | 802.11b_Ant0_Low Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                      | Detector Function | Peak / Average |

| Test Data                      |                |       |   |                  |                 |               |              |      |              |       |             |       |
|--------------------------------|----------------|-------|---|------------------|-----------------|---------------|--------------|------|--------------|-------|-------------|-------|
| Frequency (MHz)                | Reading (dBuV) |       | P | Ant. Factor (dB) | Cable Loss (dB) | AMP GAIN (dB) | Limit (dBuV) |      | Total (dBuV) |       | Margin (dB) |       |
|                                | Peak           | AV    |   |                  |                 |               | Peak         | AV   | Peak         | AV    | Peak        | AV    |
|                                | 4824.00        | 58.10 |   |                  |                 |               | 40.29        | H    | 32.25        | 7.25  | 44.65       | 74.0  |
| Restricted Band Edge Test Data |                |       |   |                  |                 |               |              |      |              |       |             |       |
| 2390.00                        | 68.44          | 55.86 | H | 27.97            | 7.25            | 45.19         | 74.0         | 54.0 | 55.83        | 43.25 | 18.17       | 10.75 |

|           |                         |                   |                |
|-----------|-------------------------|-------------------|----------------|
| Test Mode | 802.11b_Ant0_Middle Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                         | Detector Function | Peak / Average |

| Test Data       |                |       |   |                  |                 |               |              |    |              |      |             |      |
|-----------------|----------------|-------|---|------------------|-----------------|---------------|--------------|----|--------------|------|-------------|------|
| Frequency (MHz) | Reading (dBuV) |       | P | Ant. Factor (dB) | Cable Loss (dB) | AMP GAIN (dB) | Limit (dBuV) |    | Total (dBuV) |      | Margin (dB) |      |
|                 | Peak           | AV    |   |                  |                 |               | Peak         | AV | Peak         | AV   | Peak        | AV   |
|                 | 4882.00        | 56.19 |   |                  |                 |               | 44.84        | H  | 23.33        | 7.24 | 44.74       | 74.0 |

|           |                       |                   |                |
|-----------|-----------------------|-------------------|----------------|
| Test Mode | 802.11b_Ant0_High Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                       | Detector Function | Peak / Average |

| Test Data                      |                |       |   |                  |                 |               |              |      |              |       |             |       |
|--------------------------------|----------------|-------|---|------------------|-----------------|---------------|--------------|------|--------------|-------|-------------|-------|
| Frequency (MHz)                | Reading (dBuV) |       | P | Ant. Factor (dB) | Cable Loss (dB) | AMP GAIN (dB) | Limit (dBuV) |      | Total (dBuV) |       | Margin (dB) |       |
|                                | Peak           | AV    |   |                  |                 |               | Peak         | AV   | Peak         | AV    | Peak        | AV    |
|                                | 4925.00        | 55.89 |   |                  |                 |               | 46.43        | H    | 32.38        | 7.24  | 44.79       | 74.0  |
| Restricted Band Edge Test Data |                |       |   |                  |                 |               |              |      |              |       |             |       |
| 2483.50                        | 62.84          | 50.82 | H | 27.83            | 4.72            | 45.11         | 74.0         | 54.0 | 50.29        | 28.27 | 23.71       | 15.73 |

|           |                      |                   |                |
|-----------|----------------------|-------------------|----------------|
| Test Mode | 802.11b_Ant1_Low Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                      | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4824.00                        | 56.66             | 46.43 | H | 32.25                  | 7.25                  | 44.65               | 74.0   | 54.0 | 51.51  | 41.28 | 22.49  | 12.72 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2390.00                        | 65.90             | 55.00 | H | 27.97                  | 4.61                  | 45.19               | 74.0   | 54.0 | 53.29  | 42.39 | 20.71  | 11.61 |

|           |                         |                   |                |
|-----------|-------------------------|-------------------|----------------|
| Test Mode | 802.11b_Ant1_Middle Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                         | Detector Function | Peak / Average |

| Test Data          |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz) | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                    | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                    |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4883.00            | 55.02             | 45.75 | H | 32.33                  | 72.4                  | 44.81               | 74.0   | 54.0 | 49.85  | 40.55 | 24.15  | 13.45 |

|           |                       |                   |                |
|-----------|-----------------------|-------------------|----------------|
| Test Mode | 802.11b_Ant1_High Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                       | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4934.00                        | 54.17             | 48.05 | H | 32.39                  | 7.24                  | 44.81               | 74.0   | 54.0 | 48.99  | 42.87 | 25.01  | 11.13 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2483.50                        | 64.72             | 52.82 | H | 27.83                  | 4.72                  | 45.11               | 74.0   | 54.0 | 52.17  | 40.27 | 21.83  | 13.73 |

|           |                      |                   |                |
|-----------|----------------------|-------------------|----------------|
| Test Mode | 802.11b_Ant2_Low Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                      | Detector Function | Peak / Average |

| Test Data                      |                |       |   |                  |                 |               |              |      |              |       |             |       |
|--------------------------------|----------------|-------|---|------------------|-----------------|---------------|--------------|------|--------------|-------|-------------|-------|
| Frequency (MHz)                | Reading (dBuV) |       | P | Ant. Factor (dB) | Cable Loss (dB) | AMP GAIN (dB) | Limit (dBuV) |      | Total (dBuV) |       | Margin (dB) |       |
|                                | Peak           | AV    |   |                  |                 |               | Peak         | AV   | Peak         | AV    | Peak        | AV    |
|                                | 4824.00        | 56.97 |   |                  |                 |               | 46.26        | H    | 32.25        | 7.25  | 44.65       | 74.0  |
| Restricted Band Edge Test Data |                |       |   |                  |                 |               |              |      |              |       |             |       |
| 2390.00                        | 65.57          | 53.13 | H | 27.97            | 4.61            | 45.19         | 74.0         | 54.0 | 52.96        | 40.52 | 21.04       | 13.48 |

|           |                         |                   |                |
|-----------|-------------------------|-------------------|----------------|
| Test Mode | 802.11b_Ant2_Middle Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                         | Detector Function | Peak / Average |

| Test Data       |                |       |   |                  |                 |               |              |    |              |      |             |      |
|-----------------|----------------|-------|---|------------------|-----------------|---------------|--------------|----|--------------|------|-------------|------|
| Frequency (MHz) | Reading (dBuV) |       | P | Ant. Factor (dB) | Cable Loss (dB) | AMP GAIN (dB) | Limit (dBuV) |    | Total (dBuV) |      | Margin (dB) |      |
|                 | Peak           | AV    |   |                  |                 |               | Peak         | AV | Peak         | AV   | Peak        | AV   |
|                 | 4883.00        | 55.39 |   |                  |                 |               | 44.09        | H  | 32.33        | 7.24 | 44.74       | 74.0 |

|           |                       |                   |                |
|-----------|-----------------------|-------------------|----------------|
| Test Mode | 802.11b_Ant2_High Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                       | Detector Function | Peak / Average |

| Test Data                      |                |       |   |                  |                 |               |              |      |              |       |             |       |
|--------------------------------|----------------|-------|---|------------------|-----------------|---------------|--------------|------|--------------|-------|-------------|-------|
| Frequency (MHz)                | Reading (dBuV) |       | P | Ant. Factor (dB) | Cable Loss (dB) | AMP GAIN (dB) | Limit (dBuV) |      | Total (dBuV) |       | Margin (dB) |       |
|                                | Peak           | AV    |   |                  |                 |               | Peak         | AV   | Peak         | AV    | Peak        | AV    |
|                                | 4934.00        | 53.43 |   |                  |                 |               | 43.14        | H    | 32.39        | 7.24  | 44.81       | 74.0  |
| Restricted Band Edge Test Data |                |       |   |                  |                 |               |              |      |              |       |             |       |
| 2483.50                        | 62.13          | 49.79 | H | 27.83            | 4.72            | 45.11         | 74.0         | 54.0 | 49.58        | 37.24 | 24.42       | 16.76 |

|           |                      |                   |                |
|-----------|----------------------|-------------------|----------------|
| Test Mode | 802.11g_Ant0_Low Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                      | Detector Function | Peak / Average |

| Test Data                      |                |       |   |                  |                 |               |              |      |              |       |             |      |
|--------------------------------|----------------|-------|---|------------------|-----------------|---------------|--------------|------|--------------|-------|-------------|------|
| Frequency (MHz)                | Reading (dBuV) |       | P | Ant. Factor (dB) | Cable Loss (dB) | AMP GAIN (dB) | Limit (dBuV) |      | Total (dBuV) |       | Margin (dB) |      |
|                                | Peak           | AV    |   |                  |                 |               | Peak         | AV   | Peak         | AV    | Peak        | AV   |
|                                | 4824.00        | 59.78 |   |                  |                 |               | 48.41        | H    | 32.25        | 7.24  | 44.65       | 74.0 |
| Restricted Band Edge Test Data |                |       |   |                  |                 |               |              |      |              |       |             |      |
| 2390.0                         | 70.90          | 58.19 | H | 27.97            | 4.61            | 45.19         | 74.0         | 54.0 | 58.29        | 45.58 | 15.71       | 8.42 |

|           |                         |                   |                |
|-----------|-------------------------|-------------------|----------------|
| Test Mode | 802.11g_Ant0_Middle Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                         | Detector Function | Peak / Average |

| Test Data       |                |       |   |                  |                 |               |              |    |              |      |             |      |
|-----------------|----------------|-------|---|------------------|-----------------|---------------|--------------|----|--------------|------|-------------|------|
| Frequency (MHz) | Reading (dBuV) |       | P | Ant. Factor (dB) | Cable Loss (dB) | AMP GAIN (dB) | Limit (dBuV) |    | Total (dBuV) |      | Margin (dB) |      |
|                 | Peak           | AV    |   |                  |                 |               | Peak         | AV | Peak         | AV   | Peak        | AV   |
|                 | 4884.00        | 59.18 |   |                  |                 |               | 46.81        | H  | 32.33        | 7.24 | 44.74       | 74.0 |

|           |                       |                   |                |
|-----------|-----------------------|-------------------|----------------|
| Test Mode | 802.11g_Ant0_High Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                       | Detector Function | Peak / Average |

| Test Data                      |                |       |   |                  |                 |               |              |      |              |       |             |       |
|--------------------------------|----------------|-------|---|------------------|-----------------|---------------|--------------|------|--------------|-------|-------------|-------|
| Frequency (MHz)                | Reading (dBuV) |       | P | Ant. Factor (dB) | Cable Loss (dB) | AMP GAIN (dB) | Limit (dBuV) |      | Total (dBuV) |       | Margin (dB) |       |
|                                | Peak           | AV    |   |                  |                 |               | Peak         | AV   | Peak         | AV    | Peak        | AV    |
|                                | 4934.00        | 60.05 |   |                  |                 |               | 49.06        | H    | 32.39        | 7.24  | 44.81       | 74.0  |
| Restricted Band Edge Test Data |                |       |   |                  |                 |               |              |      |              |       |             |       |
| 2483.50                        | 64.79          | 56.03 | H | 27.83            | 4.72            | 45.11         | 74.0         | 54.0 | 52.24        | 43.48 | 21.76       | 10.52 |

|           |                      |                   |                |
|-----------|----------------------|-------------------|----------------|
| Test Mode | 802.11g_Ant1_Low Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                      | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4824.00                        | 59.37             | 47.84 | H | 32.25                  | 7.25                  | 44.65               | 74.0   | 54.0 | 54.22  | 42.96 | 19.78  | 11.31 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2390.00                        | 69.70             | 58.58 | H | 27.97                  | 4.61                  | 45.19               | 74.0   | 54.0 | 57.09  | 45.97 | 16.91  | 8.03  |

|           |                         |                   |                |
|-----------|-------------------------|-------------------|----------------|
| Test Mode | 802.11g_Ant1_Middle Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                         | Detector Function | Peak / Average |

| Test Data          |                   |       |   |                        |                       |                     |        |      |        |       |        |      |
|--------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|------|
| Frequency<br>(MHz) | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |      |
|                    | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |      |
|                    |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV   |
| 4883.00            | 59.40             | 50.13 | H | 32.33                  | 7.24                  | 44.74               | 74.0   | 54.0 | 54.23  | 44.96 | 19.77  | 9.04 |

|           |                       |                   |                |
|-----------|-----------------------|-------------------|----------------|
| Test Mode | 802.11g_Ant1_High Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                       | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 2934.00                        | 58.03             | 47.48 | H | 32.39                  | 7.24                  | 44.81               | 74.0   | 54.0 | 52.85  | 42.30 | 21.15  | 11.70 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2483.50                        | 64.50             | 54.66 | H | 27.83                  | 4.72                  | 45.11               | 74.0   | 54.0 | 51.95  | 42.11 | 22.05  | 11.89 |

|           |                      |                   |                |
|-----------|----------------------|-------------------|----------------|
| Test Mode | 802.11g_Ant2_Low Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                      | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4824.00                        | 59.14             | 47.33 | H | 32.25                  | 7.25                  | 44.65               | 74.0   | 54.0 | 53.99  | 42.18 | 20.01  | 11.82 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2390.00                        | 71.08             | 56.25 | H | 27.97                  | 4.61                  | 45.19               | 74.0   | 54.0 | 58.47  | 43.64 | 15.53  | 10.36 |

|           |                         |                   |                |
|-----------|-------------------------|-------------------|----------------|
| Test Mode | 802.11g_Ant2_Middle Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                         | Detector Function | Peak / Average |

| Test Data          |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz) | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                    | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                    |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4883.00            | 57.64             | 48.45 | H | 32.33                  | 7.24                  | 44.74               | 74.0   | 54.0 | 52.47  | 43.28 | 21.53  | 10.72 |

|           |                       |                   |                |
|-----------|-----------------------|-------------------|----------------|
| Test Mode | 802.11g_Ant2_High Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                       | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4934.00                        | 55.57             | 47.05 | H | 32.39                  | 7.24                  | 44.81               | 74.0   | 54.0 | 50.39  | 41.87 | 23.53  | 12.13 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2483.500                       | 63.02             | 53.37 | H | 27.83                  | 4.72                  | 45.11               | 74.0   | 54.0 | 50.47  | 40.82 | 23.53  | 13.18 |

|           |                              |                   |                |
|-----------|------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT20<br>Ant0_Low Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                              | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4824.00                        | 58.35             | 47.97 | H | 32.25                  | 7.25                  | 44.65               | 74.0   | 54.0 | 53.20  | 42.82 | 20.80  | 11.18 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2390.0                         | 71.43             | 60.20 | H | 27.97                  | 4.61                  | 45.19               | 74.0   | 54.0 | 58.28  | 47.59 | 15.18  | 6.41  |

|           |                                 |                   |                |
|-----------|---------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT20<br>Ant0_Middle Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                 | Detector Function | Peak / Average |

| Test Data          |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz) | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                    | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                    |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4884.00            | 57.28             | 48.04 | H | 32.33                  | 7.24                  | 44.74               | 74.0   | 54.0 | 52.11  | 42.87 | 21.89  | 11.13 |

|           |                               |                   |                |
|-----------|-------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT20<br>Ant0_High Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                               | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4934.00                        | 55.43             | 46.56 | H | 32.39                  | 7.24                  | 44.81               | 74.0   | 54.0 | 50.25  | 41.38 | 23.75  | 12.62 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2483.50                        | 71.38             | 60.65 | H | 27.83                  | 4.72                  | 45.11               | 74.0   | 54.0 | 58.83  | 48.10 | 15.17  | 5.90  |



|           |                              |                   |                |
|-----------|------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT20<br>Ant1_Low Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                              | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4824.00                        | 56.69             | 56.26 | H | 32.25                  | 7.25                  | 44.65               | 74.0   | 54.0 | 51.54  | 41.11 | 22.46  | 12.89 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2390.00                        | 66.86             | 56.91 | H | 27.97                  | 4.61                  | 45.19               | 74.0   | 54.0 | 54.25  | 53.29 | 19.75  | 9.70  |

|           |                                 |                   |                |
|-----------|---------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT20<br>Ant1_Middle Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                 | Detector Function | Peak / Average |

| Test Data          |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz) | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                    | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                    |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4884.00            | 54.97             | 45.45 | H | 32.33                  | 7.24                  | 44.74               | 74.0   | 54.0 | 49.80  | 40.28 | 24.20  | 13.72 |

|           |                               |                   |                |
|-----------|-------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT20<br>Ant1_High Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                               | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4934.00                        | 55.92             | 44.52 | H | 32.39                  | 7.24                  | 44.81               | 74.0   | 54.0 | 50.74  | 39.34 | 23.26  | 14.66 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2483.50                        | 68.96             | 58.78 | H | 27.83                  | 4.72                  | 45.11               | 74.0   | 54.0 | 56.41  | 46.23 | 17.59  | 7.77  |

|           |                              |                   |                |
|-----------|------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT20<br>Ant2_Low Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                              | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4824.00                        | 57.50             | 48.67 | H | 32.25                  | 7.25                  | 44.65               | 74.0   | 54.0 | 52.35  | 43.52 | 21.65  | 10.48 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2390.00                        | 66.73             | 57.58 | H | 27.97                  | 4.61                  | 45.19               | 74.0   | 54.0 | 54.12  | 44.97 | 19.88  | 9.03  |

|           |                                 |                   |                |
|-----------|---------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT20<br>Ant2_Middle Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                 | Detector Function | Peak / Average |

| Test Data          |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz) | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                    | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                    |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4883.00            | 55.55             | 46.81 | H | 32.33                  | 7.24                  | 44.74               | 74.0   | 54.0 | 50.38  | 41.64 | 23.62  | 12.36 |

|           |                               |                   |                |
|-----------|-------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT20<br>Ant2_High Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                               | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4934.00                        | 54.75             | 45.51 | H | 32.39                  | 7.24                  | 44.81               | 74.0   | 54.0 | 49.57  | 40.33 | 24.43  | 13.67 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2483.50                        | 66.54             | 56.92 | H | 27.83                  | 4.72                  | 45.11               | 74.0   | 54.0 | 53.99  | 44.37 | 20.01  | 9.63  |

|           |                              |                   |                |
|-----------|------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT40<br>Ant0_Low Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                              | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4844.00                        | 61.03             | 48.41 | H | 32.28                  | 7.25                  | 44.68               | 74.0   | 54.0 | 55.88  | 43.26 | 18.12  | 10.74 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2390.00                        | 71.88             | 61.00 | H | 27.97                  | 4.61                  | 45.19               | 74.0   | 54.0 | 59.27  | 48.39 | 14.73  | 5.61  |

|           |                                 |                   |                |
|-----------|---------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT40<br>Ant0_Middle Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                 | Detector Function | Peak / Average |

| Test Data          |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz) | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                    | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                    |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4874.00            | 59.39             | 47.39 | H | 32.32                  | 7.24                  | 44.72               | 74.0   | 54.0 | 54.23  | 42.22 | 19.77  | 11.78 |

|           |                               |                   |                |
|-----------|-------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT40<br>Ant0_High Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                               | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4902.00                        | 58.04             | 47.35 | H | 32.39                  | 7.24                  | 44.81               | 74.0   | 54.0 | 52.87  | 42.18 | 21.13  | 11.82 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2483.50                        | 69.80             | 59.75 | H | 27.83                  | 4.72                  | 45.11               | 74.0   | 54.0 | 57.25  | 47.20 | 16.75  | 6.80  |

|           |                              |                   |                |
|-----------|------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT40<br>Ant1_Low Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                              | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |      |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |      |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |      |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV   |
| 4854.00                        | 59.43             | 50.15 | H | 32.29                  | 7.24                  | 44.69               | 74.0   | 54.0 | 54.27  | 44.99 | 19.73  | 9.01 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |      |
| 2390.00                        | 69.44             | 59.86 | H | 27.97                  | 4.61                  | 45.19               | 74.0   | 54.0 | 56.83  | 47.25 | 17.17  | 6.75 |

|           |                                 |                   |                |
|-----------|---------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT40<br>Ant1_Middle Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                 | Detector Function | Peak / Average |

| Test Data          |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz) | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                    | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                    |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4874.00            | 55.44             | 45.85 | H | 32.32                  | 7.24                  | 44.72               | 74.0   | 54.0 | 50.28  | 40.69 | 23.72  | 13.31 |

|           |                               |                   |                |
|-----------|-------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT40<br>Ant1_High Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                               | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4902.00                        | 56.88             | 46.28 | H | 32.35                  | 7.24                  | 44.76               | 74.0   | 54.0 | 51.71  | 41.11 | 22.29  | 12.89 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2483.50                        | 68.43             | 58.83 | H | 27.83                  | 4.72                  | 45.11               | 74.0   | 54.0 | 55.88  | 46.28 | 18.12  | 7.72  |

|           |                              |                   |                |
|-----------|------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT40<br>Ant2_Low Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                              | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4844.00                        | 59.16             | 48.89 | H | 32.28                  | 7.25                  | 44.68               | 74.0   | 54.0 | 54.01  | 43.74 | 19.99  | 10.26 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2390.00                        | 67.89             | 55.86 | H | 27.97                  | 4.61                  | 45.19               | 74.0   | 54.0 | 55.28  | 43.25 | 18.72  | 10.75 |

|           |                                 |                   |                |
|-----------|---------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT40<br>Ant2_Middle Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                 | Detector Function | Peak / Average |

| Test Data          |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz) | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                    | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                    |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4884.00            | 56.41             | 45.29 | H | 32.33                  | 7.24                  | 44.74               | 74.0   | 54.0 | 51.24  | 40.12 | 22.76  | 13.88 |

|           |                               |                   |                |
|-----------|-------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT40<br>Ant2_High Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                               | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4902.00                        | 55.06             | 44.83 | H | 32.35                  | 7.24                  | 44.76               | 74.0   | 54.0 | 49.89  | 39.66 | 24.11  | 14.34 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2483.50                        | 68.57             | 58.37 | H | 27.83                  | 4.72                  | 45.11               | 74.0   | 54.0 | 56.02  | 45.82 | 17.98  | 8.18  |

|           |                                   |                   |                |
|-----------|-----------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT20<br>Ant0+Ant1_Low Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                   | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4824.00                        | 60.40             | 47.54 | H | 32.25                  | 7.25                  | 44.65               | 74.0   | 54.0 | 55.25  | 42.39 | 18.75  | 11.61 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2390.00                        | 65.79             | 55.89 | H | 27.97                  | 4.61                  | 45.19               | 74.0   | 54.0 | 53.18  | 43.28 | 20.82  | 10.72 |

|           |                                      |                   |                |
|-----------|--------------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT20<br>Ant0+Ant1_Middle Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                      | Detector Function | Peak / Average |

| Test Data          |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz) | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                    | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                    |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4874.00            | 52.52             | 43.41 | H | 32.32                  | 7.24                  | 44.72               | 74.0   | 54.0 | 47.36  | 38.25 | 26.64  | 15.75 |

|           |                                    |                   |                |
|-----------|------------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT20<br>Ant0+Ant1_High Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                    | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4933.00                        | 57.42             | 46.26 | H | 32.39                  | 7.24                  | 44.81               | 74.0   | 54.0 | 52.24  | 41.08 | 21.76  | 12.92 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2483.50                        | 67.94             | 57.12 | H | 27.38                  | 4.72                  | 45.11               | 74.0   | 54.0 | 55.39  | 44.57 | 18.61  | 9.43  |

|           |                                   |                   |                |
|-----------|-----------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT20<br>Ant0+Ant2_Low Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                   | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4824.00                        | 59.54             | 48.43 | H | 32.25                  | 7.25                  | 44.65               | 74.0   | 54.0 | 54.39  | 43.28 | 19.61  | 10.72 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 3900.00                        | 64.61             | 53.90 | H | 27.97                  | 4.61                  | 45.19               | 74.0   | 54.0 | 52.00  | 41.29 | 22.00  | 12.71 |

|           |                                      |                   |                |
|-----------|--------------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT20<br>Ant0+Ant2_Middle Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                      | Detector Function | Peak / Average |

| Test Data          |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz) | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                    | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                    |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4884               | 59.01             | 48.27 | H | 32.33                  | 7.24                  | 44.74               | 74.0   | 54.0 | 48.29  | 37.55 | 25.71  | 16.45 |

|           |                                    |                   |                |
|-----------|------------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT20<br>Ant0+Ant2_High Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                    | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4933.00                        | 55.57             | 47.32 | H | 32.39                  | 7.24                  | 44.74               | 74.0   | 54.0 | 50.39  | 42.14 | 23.61  | 11.86 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2483.50                        | 68.92             | 58.53 | H | 27.83                  | 4.72                  | 45.11               | 74.0   | 54.0 | 56.37  | 45.98 | 17.63  | 8.02  |

|           |                                   |                   |                |
|-----------|-----------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT20<br>Ant1+Ant2_Low Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                   | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4824.00                        | 58.40             | 49.12 | H | 32.25                  | 7.25                  | 44.65               | 74.0   | 54.0 | 53.25  | 43.97 | 20.75  | 10.03 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2390.00                        | 64.70             | 56.88 | H | 27.97                  | 4.61                  | 45.19               | 74.0   | 54.0 | 52.09  | 44.27 | 21.91  | 9.73  |

|           |                                      |                   |                |
|-----------|--------------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT20<br>Ant1+Ant2_Middle Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                      | Detector Function | Peak / Average |

| Test Data          |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz) | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                    | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                    |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4884.00            | 55.12             | 46.09 | H | 32.33                  | 7.24                  | 44.74               | 74.0   | 54.0 | 49.95  | 40.92 | 24.05  | 13.08 |

|           |                                    |                   |                |
|-----------|------------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT20<br>Ant1+Ant2_High Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                    | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4933.00                        | 56.55             | 47.51 | H | 32.39                  | 7.24                  | 44.81               | 74.0   | 54.0 | 51.37  | 42.33 | 22.63  | 11.67 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2483.50                        | 70.10             | 59.02 | H | 27.83                  | 4.72                  | 45.11               | 74.0   | 54.0 | 57.55  | 46.47 | 16.45  | 7.53  |



|           |                                   |                   |                |
|-----------|-----------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT40<br>Ant0+Ant1_Low Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                   | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4860.00                        | 60.27             | 48.63 | H | 32.30                  | 7.24                  | 44.71               | 74.0   | 54.0 | 55.11  | 43.47 | 18.89  | 10.53 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2390.00                        | 71.50             | 58.00 | H | 27.97                  | 4.61                  | 45.19               | 74.0   | 54.0 | 58.89  | 45.39 | 15.11  | 8.61  |

|           |                                      |                   |                |
|-----------|--------------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT40<br>Ant0+Ant1_Middle Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                      | Detector Function | Peak / Average |

| Test Data          |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz) | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                    | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                    |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4885.00            | 58.37             | 47.45 | H | 32.33                  | 7.24                  | 44.74               | 74.0   | 54.0 | 53.20  | 42.28 | 20.80  | 11.72 |

|           |                                    |                   |                |
|-----------|------------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT40<br>Ant0+Ant1_High Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                    | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4910.00                        | 54.75             | 45.80 | H | 32.37                  | 7.24                  | 44.78               | 74.0   | 54.0 | 49.58  | 40.63 | 24.42  | 13.37 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2483.50                        | 70.51             | 59.37 | H | 27.83                  | 4.72                  | 45.11               | 74.0   | 54.0 | 57.96  | 46.82 | 16.04  | 7.18  |

|           |                                   |  |                   |                |
|-----------|-----------------------------------|--|-------------------|----------------|
| Test Mode | 802.11n_HT40<br>Ant0+Ant2_Low Ch. |  | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                   |  | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4860.00                        | 69.14             | 47.85 | H | 32.30                  | 7.24                  | 44.71               | 74.0   | 54.0 | 53.98  | 4269  | 20.02  | 11.31 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2390.00                        | 68.50             | 57.46 | H | 27.97                  | 4.61                  | 45.19               | 74.0   | 54.0 | 55.89  | 44.85 | 18.11  | 9.15  |

|           |                                      |  |                   |                |
|-----------|--------------------------------------|--|-------------------|----------------|
| Test Mode | 802.11n_HT40<br>Ant0+Ant2_Middle Ch. |  | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                      |  | Detector Function | Peak / Average |

| Test Data          |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz) | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                    | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                    |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4885.00            | 60.14             | 47.17 | H | 32.33                  | 7.24                  | 44.74               | 74.0   | 54.0 | 56.97  | 42.00 | 19.03  | 12.00 |

|           |                                    |  |                   |                |
|-----------|------------------------------------|--|-------------------|----------------|
| Test Mode | 802.11n_HT40<br>Ant0+Ant2_High Ch. |  | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                    |  | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4910.00                        | 58.83             | 49.14 | H | 32.37                  | 7.24                  | 44.78               | 74.0   | 54.0 | 53.66  | 43.97 | 20.34  | 10.03 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2483.50                        | 70.66             | 58.80 | H | 27.83                  | 4.72                  | 45.11               | 74.0   | 54.0 | 58.11  | 46.25 | 18.89  | 7.75  |

|           |                                   |                   |                |
|-----------|-----------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT40<br>Ant1+Ant2_Low Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                   | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4860.00                        | 58.15             | 47.19 | H | 32.30                  | 7.24                  | 44.71               | 74.0   | 54.0 | 52.99  | 42.01 | 21.01  | 11.97 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2390.00                        | 67.00             | 58.54 | H | 27.97                  | 4.61                  | 45.19               | 74.0   | 54.0 | 54.39  | 45.93 | 19.61  | 8.07  |

|           |                                      |                   |                |
|-----------|--------------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT40<br>Ant1+Ant2_Middle Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                      | Detector Function | Peak / Average |

| Test Data          |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz) | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                    | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                    |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4885.00            | 61.01             | 46.45 | H | 32.33                  | 7.24                  | 44.74               | 74.0   | 54.0 | 55.84  | 41.28 | 18.16  | 12.72 |

|           |                                    |                   |                |
|-----------|------------------------------------|-------------------|----------------|
| Test Mode | 802.11n_HT40<br>Ant1+Ant2_High Ch. | Frequency Range   | 1 GHz ~ 25 GHz |
|           |                                    | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4910.00                        | 61.09             | 43.38 | H | 32.37                  | 7.24                  | 44.78               | 74.0   | 54.0 | 55.92  | 43.21 | 18.08  | 10.79 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2483.50                        | 70.53             | 58.00 | H | 27.83                  | 4.72                  | 45.11               | 74.0   | 54.0 | 57.98  | 45.45 | 16.02  | 8.55  |

|           |  |  |                   |                |
|-----------|--|--|-------------------|----------------|
| Test Mode | 802.11n_HT20<br>Ant0+Ant1+Ant2_Low Ch. |  | Frequency Range   | 1 GHz ~ 25 GHz |
|           |  |  | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4824.00                        | 56.43             | 47.83 | H | 32.25                  | 7.25                  | 44.65               | 74.0   | 54.0 | 51.28  | 42.68 | 22.72  | 11.32 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2390.00                        | 63.43             | 55.81 | H | 27.97                  | 4.61                  | 45.19               | 74.0   | 54.0 | 50.82  | 43.20 | 23.18  | 10.80 |

|           |   |  |                   |                |
|-----------|---|--|-------------------|----------------|
| Test Mode | 802.11n_HT20<br>Ant0+Ant1+Ant2_Middle Ch. |  | Frequency Range   | 1 GHz ~ 25 GHz |
|           |   |  | Detector Function | Peak / Average |

| Test Data          |                   |       |   |                        |                       |                     |        |      |        |       |        |      |
|--------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|------|
| Frequency<br>(MHz) | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |      |
|                    | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |      |
|                    |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV   |
| 4885.00            | 58.42             | 50.09 | H | 32.33                  | 7.24                  | 44.74               | 74.0   | 54.0 | 53.25  | 44.92 | 20.75  | 9.08 |

|           |   |  |                   |                |
|-----------|---|--|-------------------|----------------|
| Test Mode | 802.11n_HT20<br>Ant0+Ant1+Ant2_High Ch. |  | Frequency Range   | 1 GHz ~ 25 GHz |
|           |   |  | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4934.00                        | 57.34             | 46.52 | H | 32.39                  | 7.24                  | 44.81               | 74.0   | 54.0 | 52.16  | 41.34 | 21.84  | 12.66 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2483.50                        | 70.79             | 59.72 | H | 27.83                  | 4.72                  | 45.11               | 74.0   | 54.0 | 58.24  | 47.17 | 15.76  | 6.83  |

|           |  |  |                   |                |
|-----------|--|--|-------------------|----------------|
| Test Mode | 802.11n_HT40<br>Ant0+Ant1+Ant2_Low Ch. |  | Frequency Range   | 1 GHz ~ 25 GHz |
|           |  |  | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4860.00                        | 59.43             | 48.24 | H | 32.30                  | 7.24                  | 44.71               | 74.0   | 54.0 | 54.27  | 43.08 | 19.73  | 10.92 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
| 2390.00                        | 68.00             | 58.54 | H | 27.97                  | 4.61                  | 45.19               | 74.0   | 54.0 | 55.39  | 45.93 | 18.61  | 8.07  |

|           |   |  |                   |                |
|-----------|---|--|-------------------|----------------|
| Test Mode | 802.11n_HT40<br>Ant0+Ant1+Ant2_Middle Ch. |  | Frequency Range   | 1 GHz ~ 25 GHz |
|           |   |  | Detector Function | Peak / Average |

| Test Data          |                   |       |   |                        |                       |                     |        |      |        |       |        |       |
|--------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|-------|
| Frequency<br>(MHz) | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |       |
|                    | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |       |
|                    |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV    |
| 4886.00            | 59.45             | 48.37 | H | 32.33                  | 7.24                  | 44.74               | 74.0   | 54.0 | 54.28  | 43.20 | 19.72  | 10.80 |

|           |   |  |                   |                |
|-----------|---|--|-------------------|----------------|
| Test Mode | 802.11n_HT40<br>Ant0+Ant1+Ant2_High Ch. |  | Frequency Range   | 1 GHz ~ 25 GHz |
|           |   |  | Detector Function | Peak / Average |

| Test Data                      |                   |       |   |                        |                       |                     |        |      |        |       |        |      |
|--------------------------------|-------------------|-------|---|------------------------|-----------------------|---------------------|--------|------|--------|-------|--------|------|
| Frequency<br>(MHz)             | Reading<br>(dBuV) |       | P | Ant.<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | AMP<br>GAIN<br>(dB) | Limit  |      | Total  |       | Margin |      |
|                                | Peak              | AV    |   |                        |                       |                     | (dBuV) |      | (dBuV) |       | (dB)   |      |
|                                |                   |       |   |                        |                       |                     | Peak   | AV   | Peak   | AV    | Peak   | AV   |
| 4905.00                        | 70.85             | 60.26 | H | 32.35                  | 7.24                  | 44.76               | 74.0   | 54.0 | 56.34  | 44.07 | 17.66  | 9.93 |
| Restricted Band Edge Test Data |                   |       |   |                        |                       |                     |        |      |        |       |        |      |
| 2483.50                        | 70.85             | 60.26 | H | 27.83                  | 4.72                  | 45.11               | 74.0   | 54.0 | 58.30  | 47.71 | 15.70  | 6.29 |

## 5.6 Conducted Emission

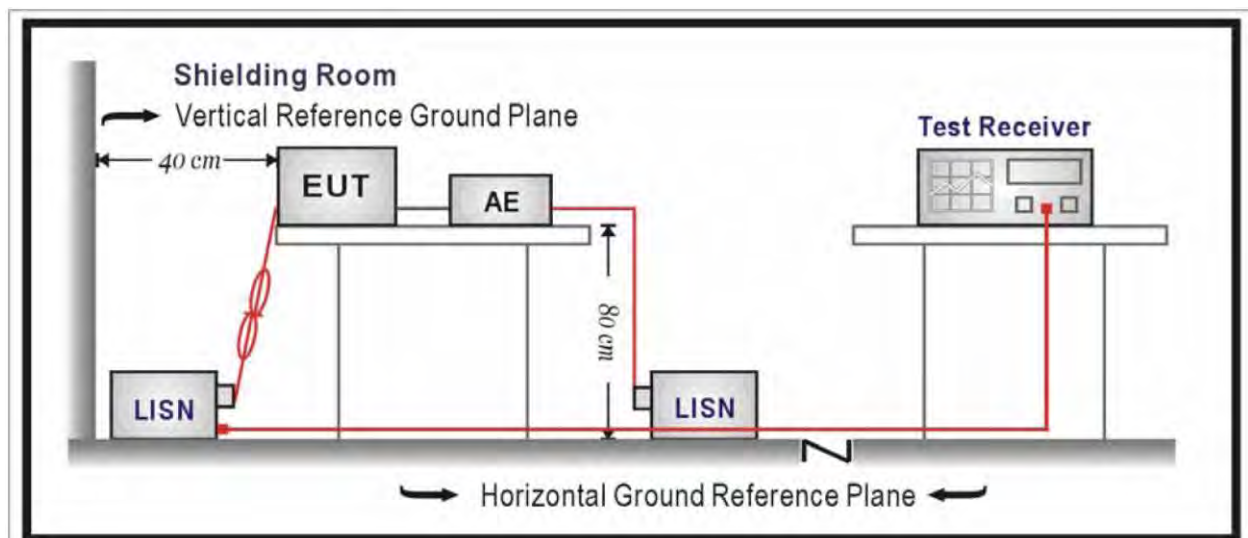
### 5.6.1 Test Limit

According to §15.207(a), for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50  $\mu$ H/50  $\Omega$  line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

| Frequency of emission<br>(MHz) | Conducted limit (dB $\mu$ V) |            |
|--------------------------------|------------------------------|------------|
|                                | Quasi-peak                   | Average    |
| 0.15 – 0.5                     | 66 to 56 *                   | 56 to 46 * |
| 0.5 – 5                        | 56                           | 46         |
| 5 – 30                         | 60                           | 50         |

\* Decreases with the logarithm of the frequency.

### 5.6.2 Test configuration



### 5.6.3 Measurement Procedure

- 1) The EUT was placed on a wooden table of size, 1 m by 1.5 m, raised 80 cm in which is located 40 cm away from the vertical wall and 1.5m away from the side wall of the shielded room.
- 2) Each current-carrying conductor of the EUT power cord was individually connected through a 50Ω/50μH LISN, which is an input transducer to a Spectrum Analyzer or an EMI/Field Intensity Meter, to the input power source.
- 3) Exploratory measurements were made to identify the frequency of the emission that had the highest amplitude relative to the limit by operating the EUT in a range of typical modes of operation, cable position, and with a typical system equipment configuration and arrangement. Based on the exploratory tests of the EUT, the one EUT cable configuration and arrangement and mode of operation that had produced the emission with the highest amplitude relative to the limit was selected for the final measurement.
- 4) The final test on all current-carrying conductors of all of the power cords to the equipment that comprises the EUT (but not the cords associated with other non-EUT equipment is the system) was then performed over the frequency range of 0.15 MHz to 30 MHz.
- 5) The measurements were made with the detector set to PEAK amplitude within a bandwidth of 10 kHz or to QUASI-PEAK and AVERAGE within a bandwidth of 9 kHz. The EUT was in transmitting mode during the measurements.

### 5.6.4 Test result

[Live]

#### Conducted Emission

#### GE-PON ONT

EUT: C1004W  
 Manuf: CommScope, Inc. of North Carolina  
 Op Cond: L  
 Operator: GSTL  
 Test Spec: FCC, Class B  
 Comment: TA-1411039

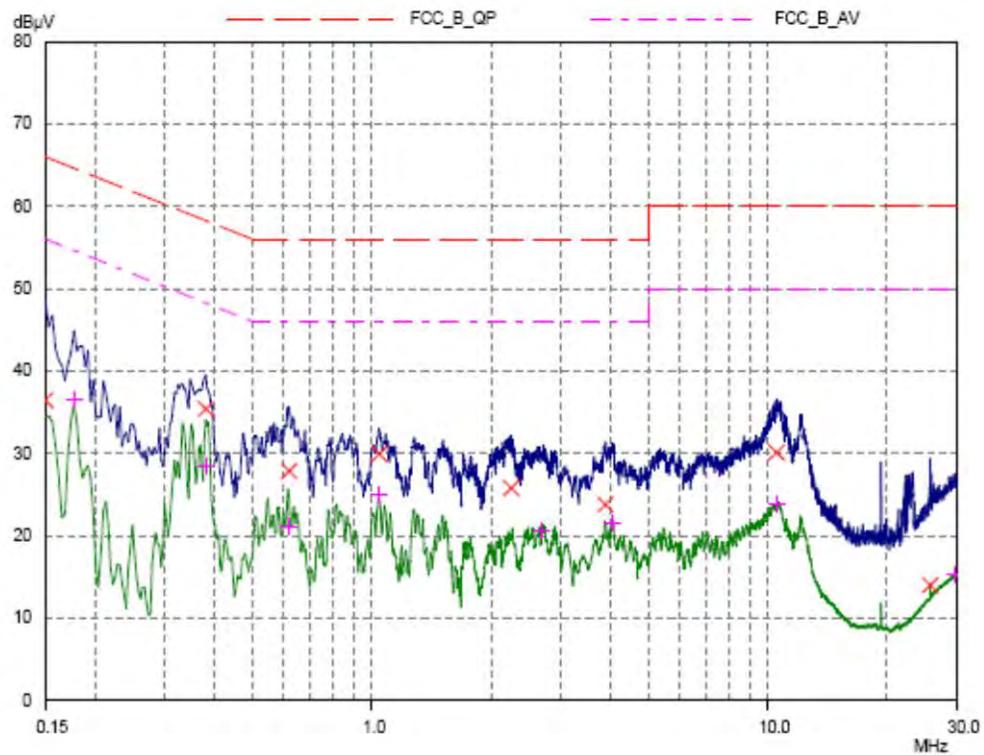
| Scan Settings (2 Ranges) |       |      |       | Receiver Settings |         |       |        |       |
|--------------------------|-------|------|-------|-------------------|---------|-------|--------|-------|
| Start                    | Stop  | Step | IF BW | Detector          | M-Time  | Atten | Preamp | OpRge |
| 150kHz                   | 3MHz  | 3kHz | 9kHz  | PK+AV             | 100msec | Auto  | OFF    | 60dB  |
| 3MHz                     | 30MHz | 9kHz | 9kHz  | PK+AV             | 100msec | Auto  | OFF    | 60dB  |

| Transducer | No. | Start  | Stop  | Name            |
|------------|-----|--------|-------|-----------------|
| 1          | 11  | 150kHz | 30MHz | ENV216_L_Filter |
|            | 21  | 9kHz   | 30MHz | CableLoss       |

Final Measurement: Detectors: X QP / + AV  
 Meas Time: 1sec  
 Subranges: 8  
 Acc Margin: 50 dB





**Conducted Emission**  
**GE-PON ONT**

EUT: C1004W  
Manuf: CommScope, Inc. of North Carolina  
Op Cond: L  
Operator: GSTL  
Test Spec: FCC, Class B  
Comment: TA-1411039

| Scan Settings |       |      | (2 Ranges) |          | Receiver Settings |       |        |       |  |
|---------------|-------|------|------------|----------|-------------------|-------|--------|-------|--|
| Start         | Stop  | Step | IF BW      | Detector | M-Time            | Atten | Preamp | OpRge |  |
| 150kHz        | 3MHz  | 3kHz | 9kHz       | PK+AV    | 100msec           | Auto  | OFF    | 60dB  |  |
| 3MHz          | 30MHz | 9kHz | 9kHz       | PK+AV    | 100msec           | Auto  | OFF    | 60dB  |  |

| Transducer | No. | Start  | Stop  | Name            |
|------------|-----|--------|-------|-----------------|
| 1          | 11  | 150kHz | 30MHz | ENV216_L_Filter |
|            | 21  | 9kHz   | 30MHz | CableLoss       |

Final Measurement: Detectors: X QP / + AV  
Meas Time: 1sec  
Subranges: 8  
Acc Margin: 50 dB

**Final Measurement Results**

| Frequency MHz | QP Level dBµV | QP Limit dBµV | QP Delta dB |
|---------------|---------------|---------------|-------------|
| 0.15          | 36.45         | 66.00         | 29.55       |
| 0.381         | 35.38         | 58.26         | 22.88       |
| 0.618         | 27.83         | 56.00         | 28.17       |
| 1.044         | 29.93         | 56.00         | 26.07       |
| 2.25          | 25.77         | 56.00         | 30.23       |
| 3.891         | 23.76         | 56.00         | 32.24       |
| 10.524        | 30.10         | 60.00         | 29.90       |
| 25.689        | 13.95         | 60.00         | 46.05       |

| Frequency MHz | AV Level dBµV | AV Limit dBµV | AV Delta dB |
|---------------|---------------|---------------|-------------|
| 0.177         | 36.45         | 54.63         | 18.18       |
| 0.381         | 28.41         | 48.26         | 19.85       |
| 0.615         | 21.01         | 46.00         | 24.99       |
| 1.044         | 25.04         | 46.00         | 20.96       |
| 2.694         | 20.56         | 46.00         | 25.44       |
| 4.07099       | 21.46         | 46.00         | 24.54       |
| 10.542        | 23.86         | 50.00         | 26.14       |
| 29.829        | 15.30         | 50.00         | 34.70       |

[Neutral]

Conducted Emission  
GE-PON ONT

EUT: C1004W  
Manuf: CommScope, Inc. of North Carolina  
Op Cond: N  
Operator: GSTL  
Test Spec: FCC, Class B  
Comment: TA-1411039

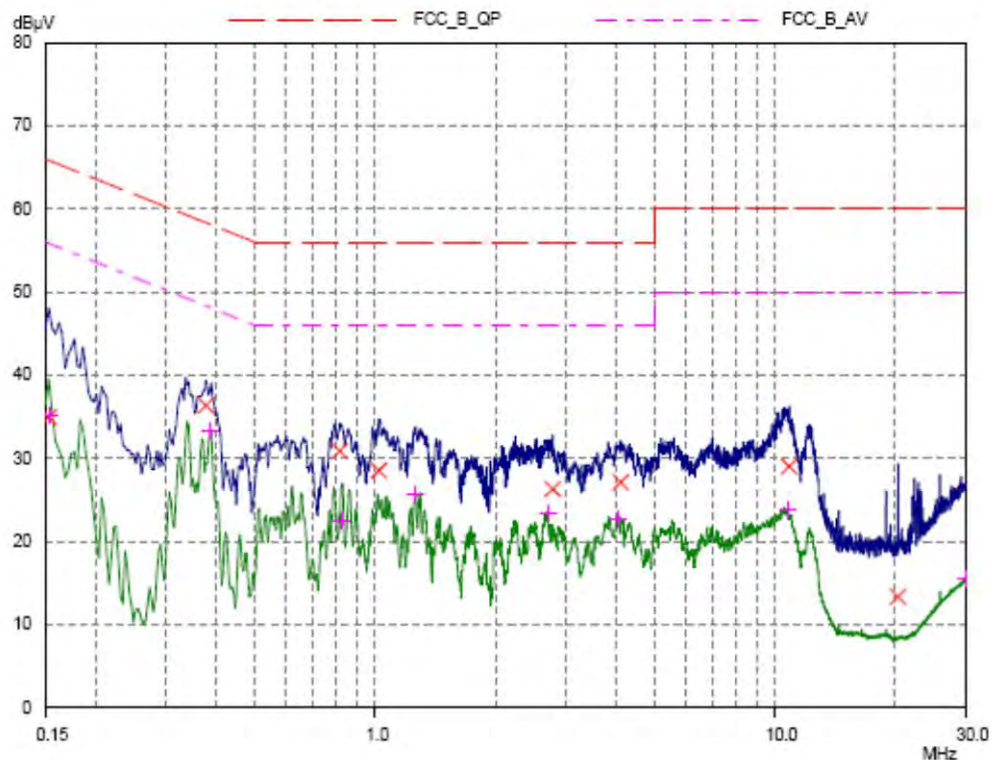
| Scan Settings |       |      | (2 Ranges) |          | Receiver Settings |       |        |       |  |
|---------------|-------|------|------------|----------|-------------------|-------|--------|-------|--|
| Start         | Stop  | Step | IF BW      | Detector | M-Time            | Atten | Preamp | OpRge |  |
| 150kHz        | 3MHz  | 3kHz | 9kHz       | PK+AV    | 100msec           | Auto  | OFF    | 60dB  |  |
| 3MHz          | 30MHz | 9kHz | 9kHz       | PK+AV    | 100msec           | Auto  | OFF    | 60dB  |  |

| Transducer | No. | Start  | Stop  | Name            |
|------------|-----|--------|-------|-----------------|
| 1          | 12  | 150kHz | 30MHz | ENV216_N_Filter |
|            | 21  | 9kHz   | 30MHz | CableLoss       |

Final Measurement: Detectors: X QP / + AV  
Meas Time: 1sec  
Subranges: 8  
Acc Margin: 50 dB



Conducted Emission

GE-PON ONT

EUT: C1004W  
 Manuf: CommScope, Inc. of North Carolina  
 Op Cond: N  
 Operator: GSTL  
 Test Spec: FCC, Class B  
 Comment: TA-1411039

| Scan Settings |       |      | (2 Ranges) |          | Receiver Settings |       |        |       |  |
|---------------|-------|------|------------|----------|-------------------|-------|--------|-------|--|
| Start         | Stop  | Step | IF BW      | Detector | M-Time            | Atten | Preamp | OpRge |  |
| 150kHz        | 3MHz  | 3kHz | 9kHz       | PK+AV    | 100msec           | Auto  | OFF    | 60dB  |  |
| 3MHz          | 30MHz | 9kHz | 9kHz       | PK+AV    | 100msec           | Auto  | OFF    | 60dB  |  |

| Transducer | No. | Start  | Stop  | Name            |
|------------|-----|--------|-------|-----------------|
| 1          | 12  | 150kHz | 30MHz | ENV216_N_Filter |
|            | 21  | 9kHz   | 30MHz | CableLoss       |

Final Measurement: Detectors: X QP / + AV  
 Meas Time: 1sec  
 Subranges: 8  
 Acc Margin: 50 dB

Final Measurement Results

| Frequency MHz | QP Level dBµV | QP Limit dBµV | QP Delta dB |
|---------------|---------------|---------------|-------------|
| 0.153         | 34.93         | 65.84         | 30.91       |
| 0.378         | 36.33         | 58.32         | 21.99       |
| 0.816         | 30.85         | 56.00         | 25.15       |
| 1.02290       | 28.52         | 56.00         | 27.48       |
| 2.784         | 26.29         | 56.00         | 29.71       |
| 4.11590       | 27.10         | 56.00         | 28.90       |
| 10.866        | 29.00         | 60.00         | 31.00       |
| 20.307        | 13.33         | 60.00         | 46.67       |

| Frequency MHz | AV Level dBµV | AV Limit dBµV | AV Delta dB |
|---------------|---------------|---------------|-------------|
| 0.153         | 35.11         | 55.84         | 20.73       |
| 0.367         | 33.26         | 48.13         | 14.87       |
| 0.828         | 22.51         | 46.00         | 23.49       |
| 1.26          | 25.66         | 46.00         | 20.34       |
| 2.7           | 23.32         | 46.00         | 22.68       |
| 4.062         | 22.63         | 46.00         | 23.37       |
| 10.749        | 23.87         | 50.00         | 26.13       |
| 29.964        | 15.44         | 50.00         | 34.56       |

## 5.7 Antenna Requirements

According to FCC 47 CFR 15.203

“an intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached or an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section”

And according to §15.247(c)

Operation with directional antenna gains greater than 6 dBi. the peak power spectral density shall be reduced by the amount in 1.329 dB for and 3.090 dB for 3Tx that the directional gain of the antenna exceeds 6 dBi

|       | 2 400 ~ 2 483.5 MHz |
|-------|---------------------|
| ANT 1 | 4.263 dBi           |
| ANT 2 | 4.319 dBi           |
| ANT 3 | 4.274 dBi           |

1. The antenna connector is U.FL.
2. The antenna of this EUT is permanently attached.
3. The total directional peak gain of the antenna exceeds 6.0 dBi except 1Tx mode.

According to KDB 662911 D01 Multiple Transmitter Output v02r01

- Directional gain =  $G_{ANT} + \text{Array Gain}$ , where Array Gain is as follows.

For power spectral density (PSD) measurements on all devices,

Array Gain =  $10 \log(N_{ANT}/N_{SS}) \text{ dB}$ .

2Tx mimo Total gain = 7.329 dBi (individual gain(4.319 dBi) + Array gain(3.01 dBi) )

3Tx mimo Total gain = 9.090 dBi (individual gain(4.319 dBi) + Array gain(4.77 dBi) )

- It was calculated by the most highest antenna gain.

For power measurements on IEEE 802.11 devices

Array Gain = 0 dB (i.e., no array gain) for NANT  $\leq$  4;

Array Gain = 0 dB (i.e., no array gain) for channel widths  $\geq$  40 MHz for any NANT;

Array Gain =  $5 \log(\text{NANT}/\text{NSS})$  dB or 3 dB, whichever is less, for 20-MHz channel widths with NANT  $\geq$  5.

2Tx mimo Total gain = 4.319 dBi (individual gain(4.319 dBi) + Array gain(0 dBi) )

3Tx mimo Total gain = 4.319 dBi (individual gain(4.319 dBi) + Array gain(0 dBi) )

- It was calculated by the most highest antenna gain.

## 6.0 Test Instruments

| Description                          | Model        | Manufacturer  | S/N         | Calibration Due Date |
|--------------------------------------|--------------|---------------|-------------|----------------------|
| ESA-E Spectrum Analyzer              | E4407B       | Agilent       | US39010161  | 2015.03.28           |
| Spectrum Analyzer                    | R3273        | ADVANTEST     | 12100578    | 2015.03.28           |
| Spectrum Analyzer                    | FSP40        | R&S           | 100208      | 2014.12.26           |
| Spectrum Analyzer                    | ESU26        | ROHDE&SCHWARZ | 100304      | 2015.02.26           |
| 6GHZ SIGNAL GENERATOR                | E4438C       | AGILENT       | MY44270255  | 2015.03.28           |
| SYNTHESIZED SWEEPER                  | 83752A       | AGILENT       | 3610AA01480 | 2015.03.28           |
| MODULATION ANALYZER                  | 8901B        | AGILENT       | 3438A05222  | 2015.03.28           |
| AUDIO ANALYZER                       | 8903B        | AGILENT       | 3514A15367  | 2015.03.28           |
| FREQUENCY COUNTER                    | 5351B        | H.P           | 3049A01558  | 2015.03.28           |
| POWER METER                          | E4416A       | AGILENT       | GB41050492  | 2015.03.28           |
| POWER SENSOR                         | E9327A       | AGILENT       | US40441493  | 2015.03.28           |
| WIDEBAND POWER SENSOR                | NRP-Z81      | R&S           | 102398      | 15.11.27             |
| FUNCTION/ARBITRARY WAVEFORM GENRATOR | 33250A       | AGILENT       | US40000357  | 2015.03.28           |
| DC POWER SUPPLY                      | E3632A       | H.P           | KR75305602  | 2015.03.28           |
| DC POWER SUPPLY                      | NONE         | JiTech        | NONE        | 2015.03.28           |
| DUAL DIRECTIONAL COUPLER             | 778D-012     | H.P           | 15438       | 2015.03.28           |
| DUAL DIRECTIONAL COUPLER             | 11692D       | H.P           | 1212A02230  | 2015.03.28           |
| POWER DIVIDER                        | 11636B       | AGILENT       | 54379       | 2015.03.28           |
| ATTENUATOR                           | 8494B        | AGILENT       | MY41110957  | 2015.03.28           |
| ATTENUATOR                           | 8496B        | AGILENT       | US00340476  | 2015.03.28           |
| ATTENUATOR                           | PE7019-30    | PASTERNAK     | NONE        | 2015.03.28           |
| TERMINATION                          | 2001-6005-00 | OMNISPECTRA   | NONE        | 2015.03.28           |
| Amplifier                            | 8447D        | H.P           | 2944A10704  | 2015.10.01           |
| Pre-Amplifier                        | TS-PA8       | TESTEK        | 1020007     | 2015.10.02           |
| Pre-Amplifier                        | 3117-PA      | ETS-Lindgren  | 00151748    | 2015.04.09           |
| Temperature and Humidity Chamber     | EN-TH-150    | Enex          | EN-090402   | 2015.03.28           |
| Vibration Tester                     | EN-VT-400    | Enex          | EN-90330-02 | 2014.04.01           |
| Shield Box                           | ETC-150F     | Elena         | 88647       | -                    |

| Description           | Model      | Manufacturer | S/N        | Calibration Due Date |
|-----------------------|------------|--------------|------------|----------------------|
| Test Receiver         | PMM 9010   | Narda        | 595WX20210 | 2015.03.03           |
| Test Receiver         | ESVD       | R&S          | 836108/101 | 2015.03.03           |
| Test Receiver         | ESCS30     | R&S          | 834115/019 | 2015.03.03           |
| Test Receiver         | ESCI       | R&S          | 101396     | 2015.03.03           |
| Log-Broadband Antenna | VULB 9168  | SCHWARZBECK  | 9168-570   | 2016.04.17           |
| Loop Antenna          | HLA6120    | Schaffner    | 1076       | 2015.09.27           |
| Horn Antenna          | 3115       | ETS-Lindgren | 102292     | 2016.04.25           |
| Horn Antenna          | EM-AH-0818 | emec         | AH09012    | 2015.10.29           |
| TWO-LINE V-NETWORK    | ENV216     | R&S          | 101408     | 2015.10.01           |
| TWO-LINE V-NETWORK    | ENV216     | R&S          | 101742     | 2015.02.18           |
| TWO-LINE V-NETWORK    | ENV216     | R&S          | 101743     | 2015.02.18           |
| LISN                  | 3825/2     | EMCO         | 9010       | 2015.04.23           |
| LISN                  | LN2-20-25  | EMCIS        | LN13001    | 2015.10.01           |

**NOTE:**

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to RRA, KRISS, Hankook Cal-Lab and HCT.
2. The calibration interval of horn , trilog and loop antenna are 24 months