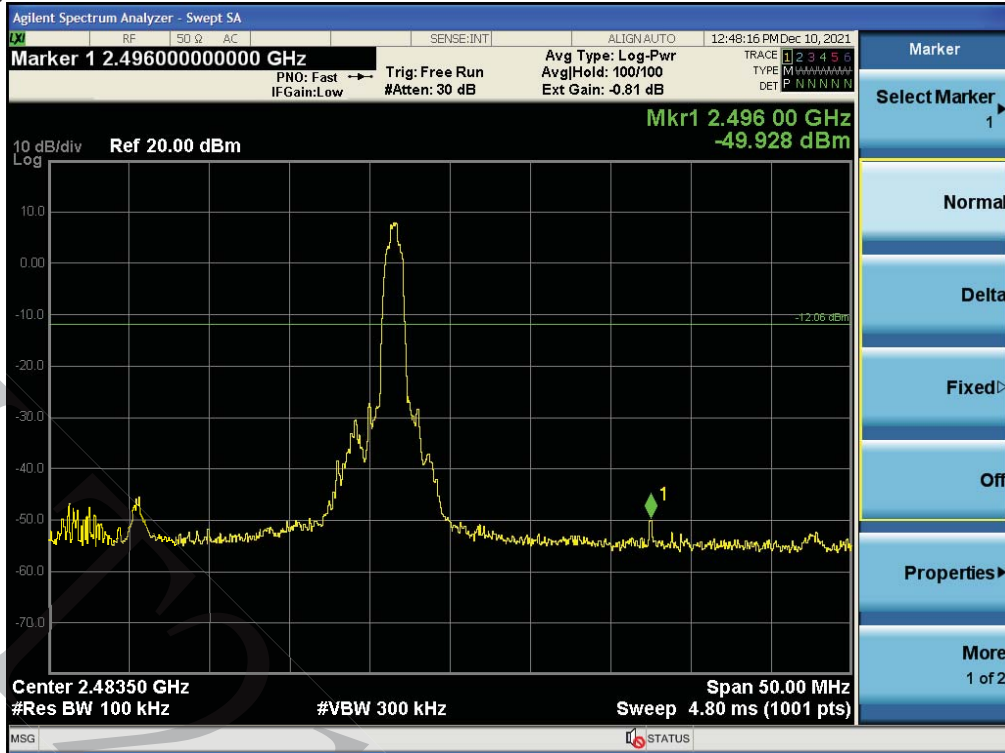
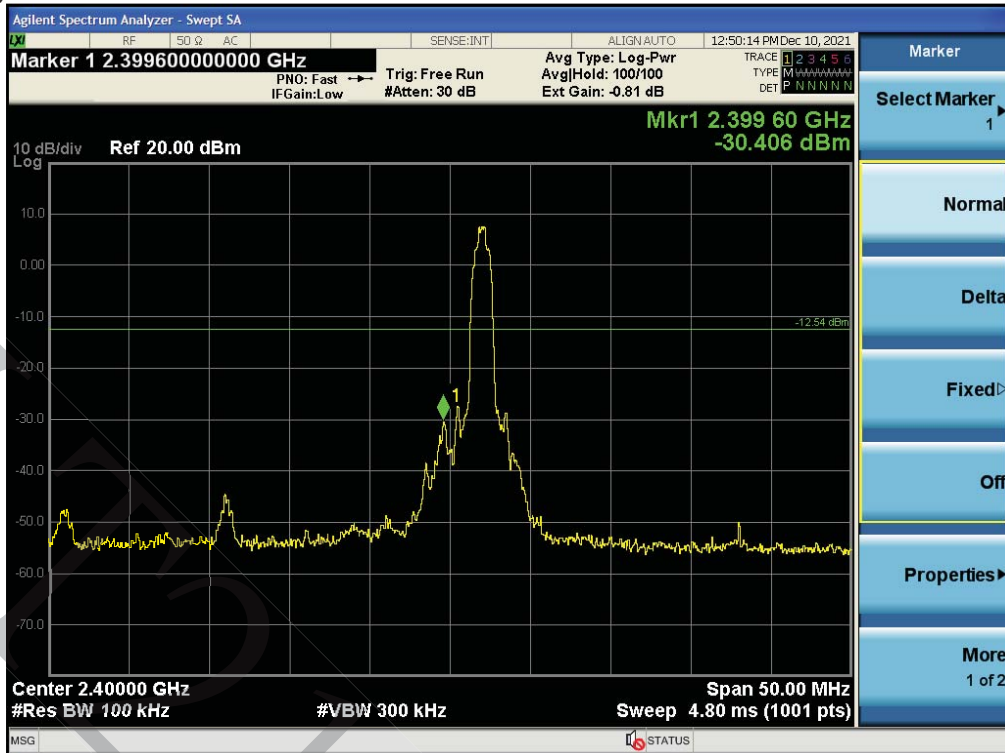


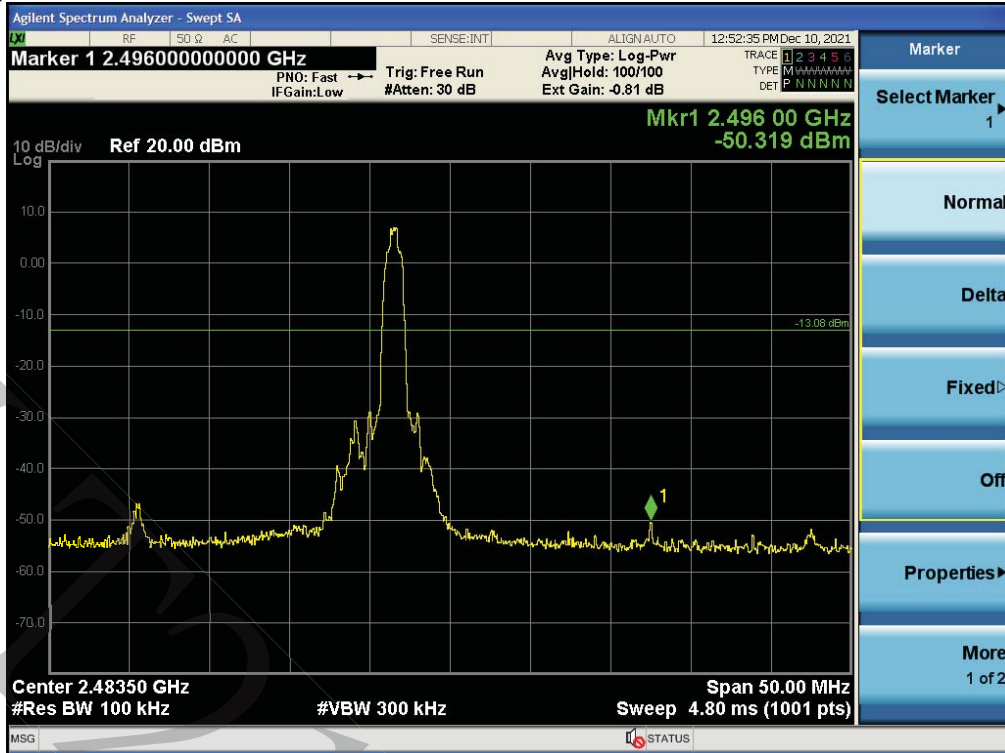
(2480MHz)



Data Rate : 3Mbps
(2402MHz)



(2480MHz)



9. Maximum Conducted Output Power Requirements

9.1 Test Condition & Setup:

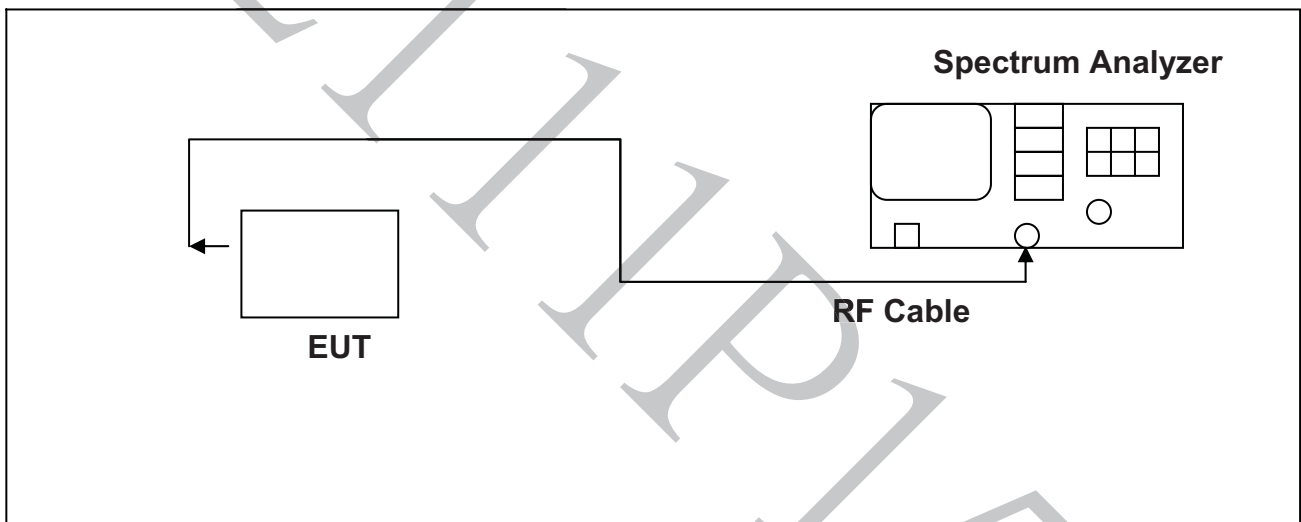
While testing, EUT was set to transmit continuously. Remove the Subjective device's antenna and connect the RF output port to spectrum analyzer. The maximum peak output power shall not exceed 1 watt.

The antenna port of the EUT was connected to the input of a power meter. Power was read directly and cable loss correction was added to the reading to obtain power at the EUT antenna terminals.

For antennas with gains of 6 dBi or less, maximum allowed transmitter output is 1 watt (+30 dBm). For antennas with gains greater than 6 dBi, transmitter output level must be decreased by an amount equal to $(\text{GAIN} - 6)/3$ dBm.

This test method according to the techniques described in Measurement procedure ANSI C63.10-2013 (7.8.5) for this testing.

9.2 Test Instruments Configuration:



9.3 Test Equipment List:

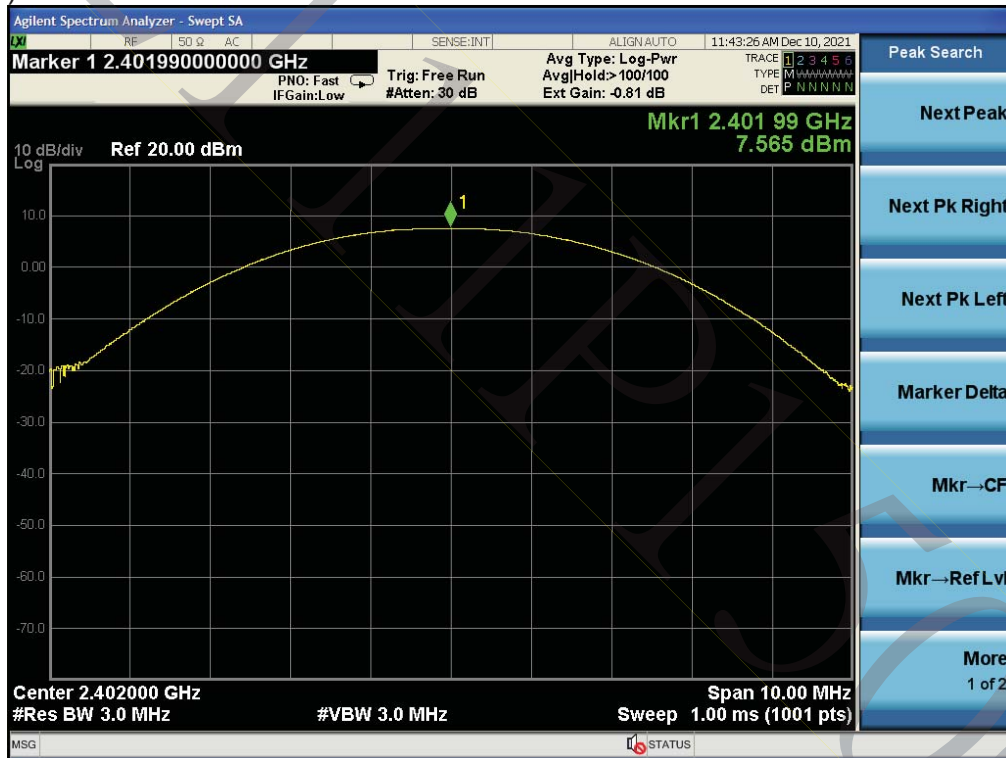
| Item | Mfr/Brand | Instruments | Serial No. | Model/Type No. | Calibrated Date | Next Cal. Date |
|------|-----------|-------------------|------------|----------------|-----------------|----------------|
| 1. | Agilent | Spectrum Analyzer | MY46471764 | N9020A | 2020/12/31 | 2021/12/31 |

9.4 Test Result:

| Channel | Frequency (MHz) | Data Rate (Mbps) | Results (dBm) | Limit (dBm) |
|---------|-----------------|------------------|---------------|-------------|
| 0 | 2402 | 1 | 7.565 | <30 |
| | | 2 | 7.831 | <30 |
| | | 3 | 8.201 | <30 |
| 39 | 2441 | 1 | 7.119 | <30 |
| | | 2 | 7.351 | <30 |
| | | 3 | 7.741 | <30 |
| 78 | 2480 | 1 | 7.375 | <30 |
| | | 2 | 8.049 | <30 |
| | | 3 | 7.805 | <30 |

Note : 1. Cable Loss = 0.5dB.
 2. Result= Instrument reading value + Cable Loss.

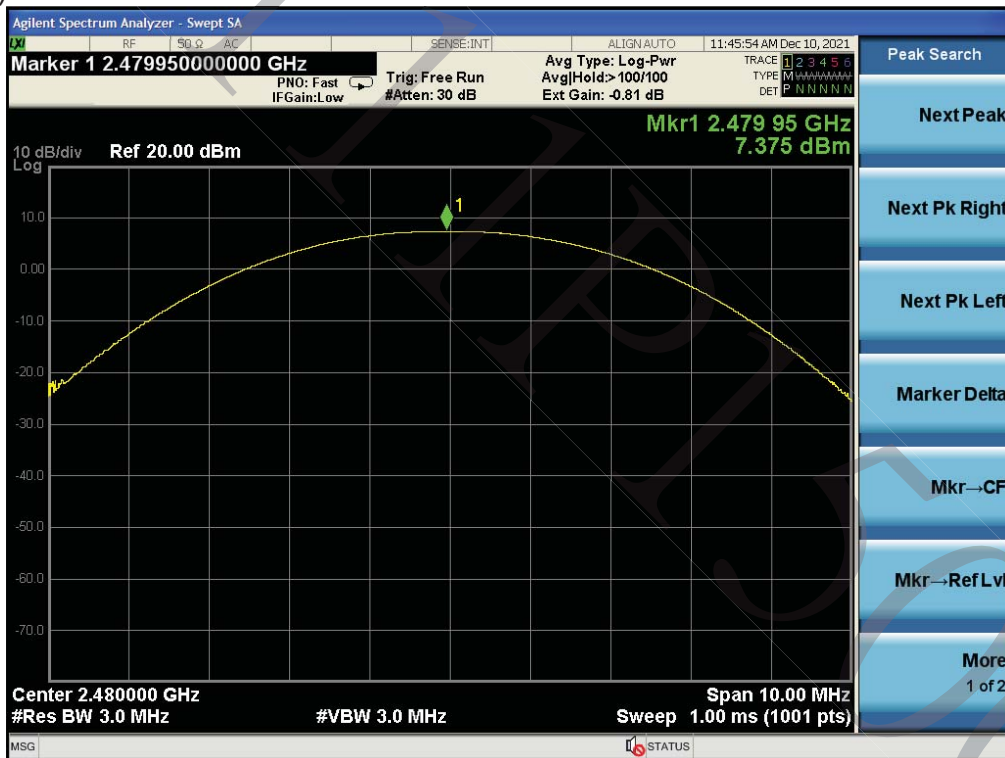
Data Rate : 1Mbps
 (2402MHz)



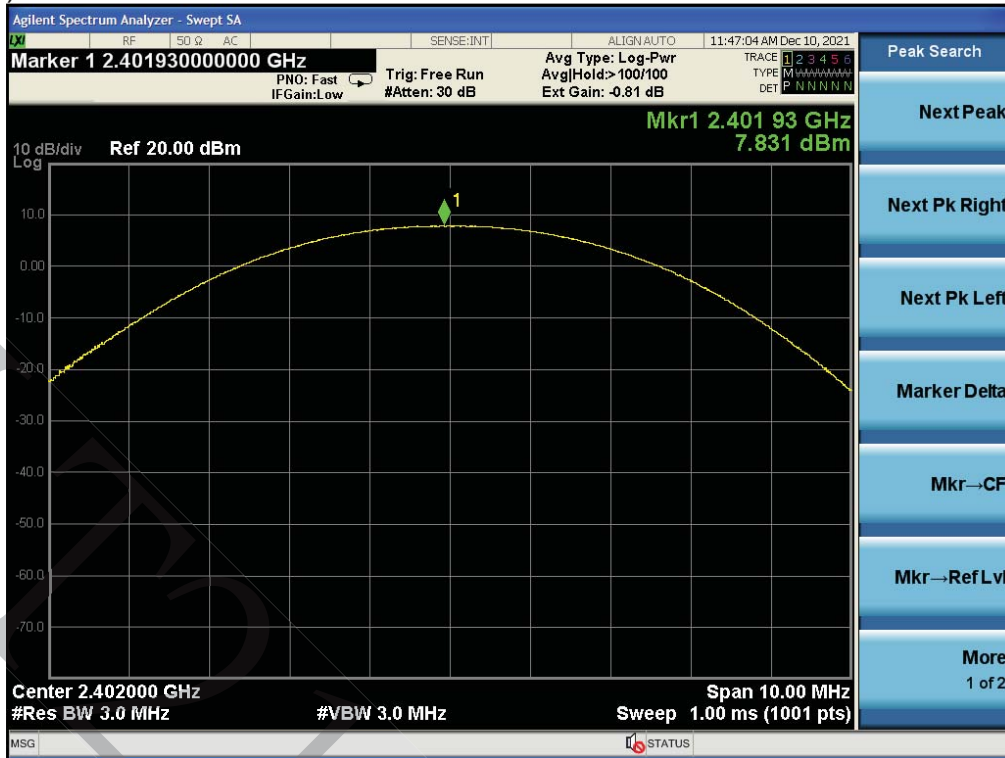
(2441MHz)



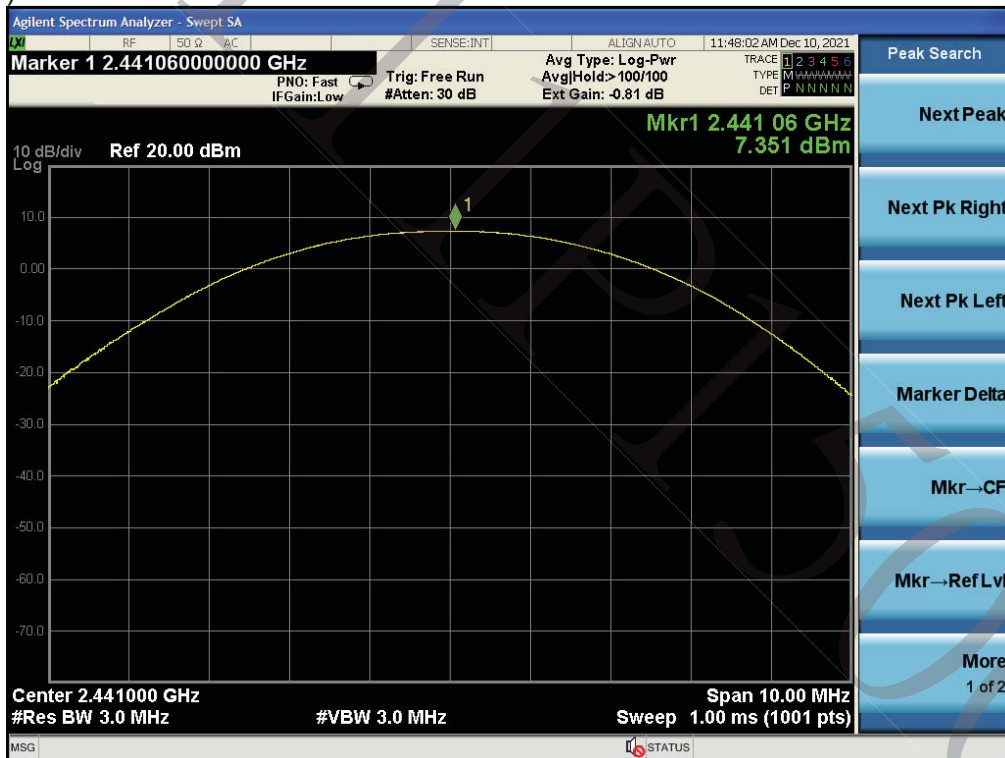
(2480MHz)



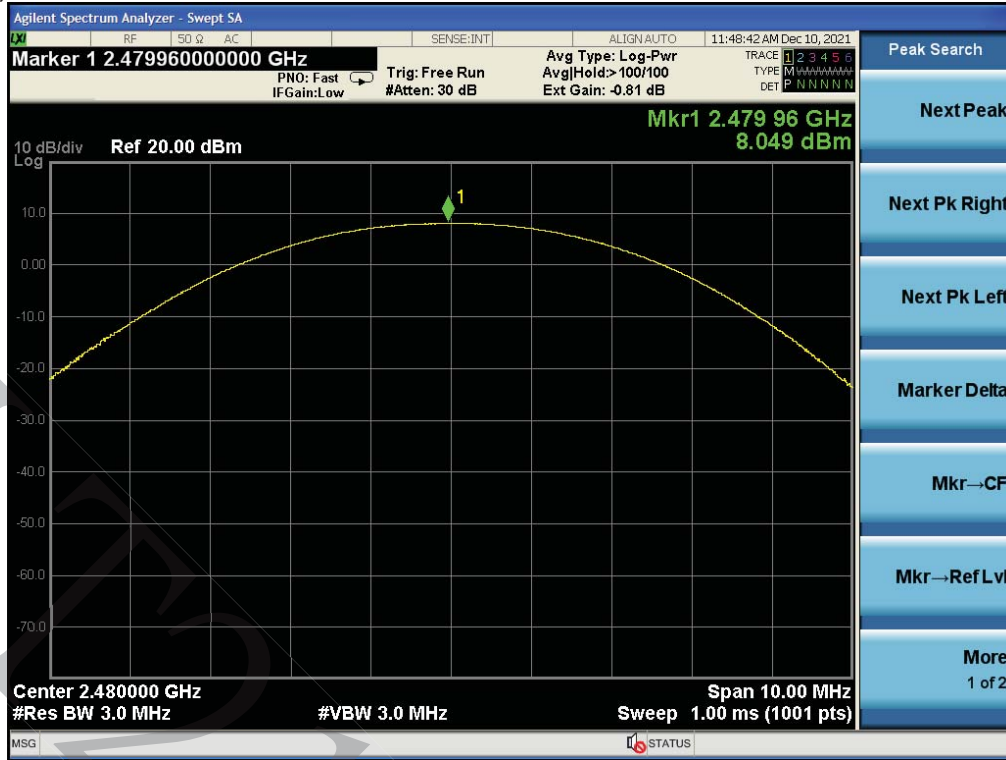
Data Rate : 2Mbps
(2402MHz)



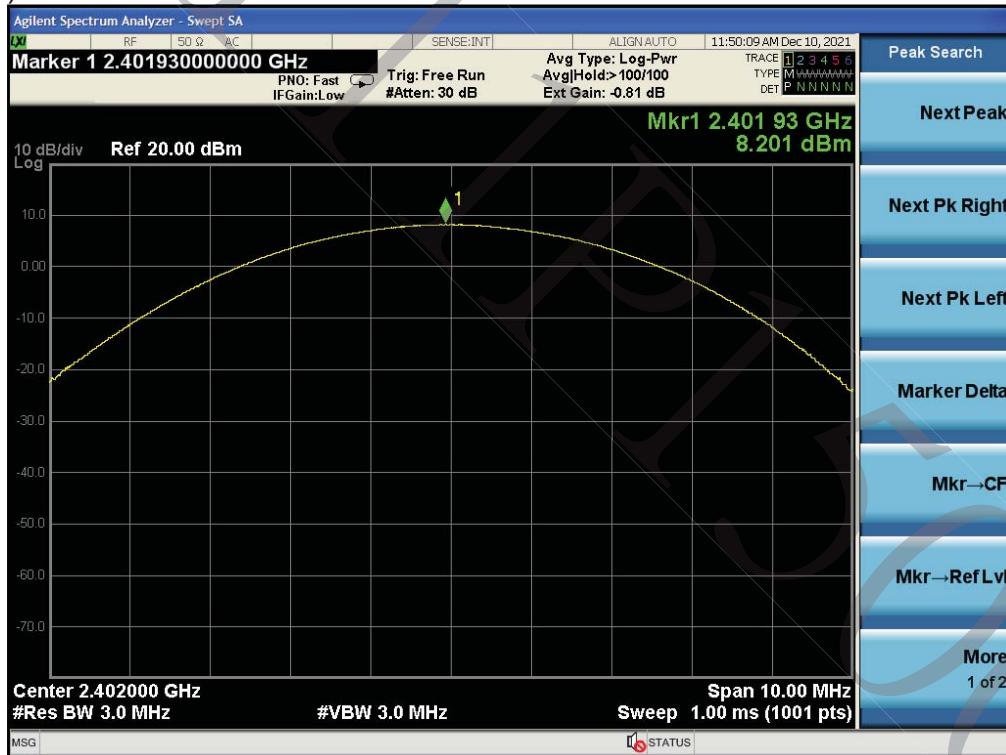
(2441MHz)



(2480MHz)



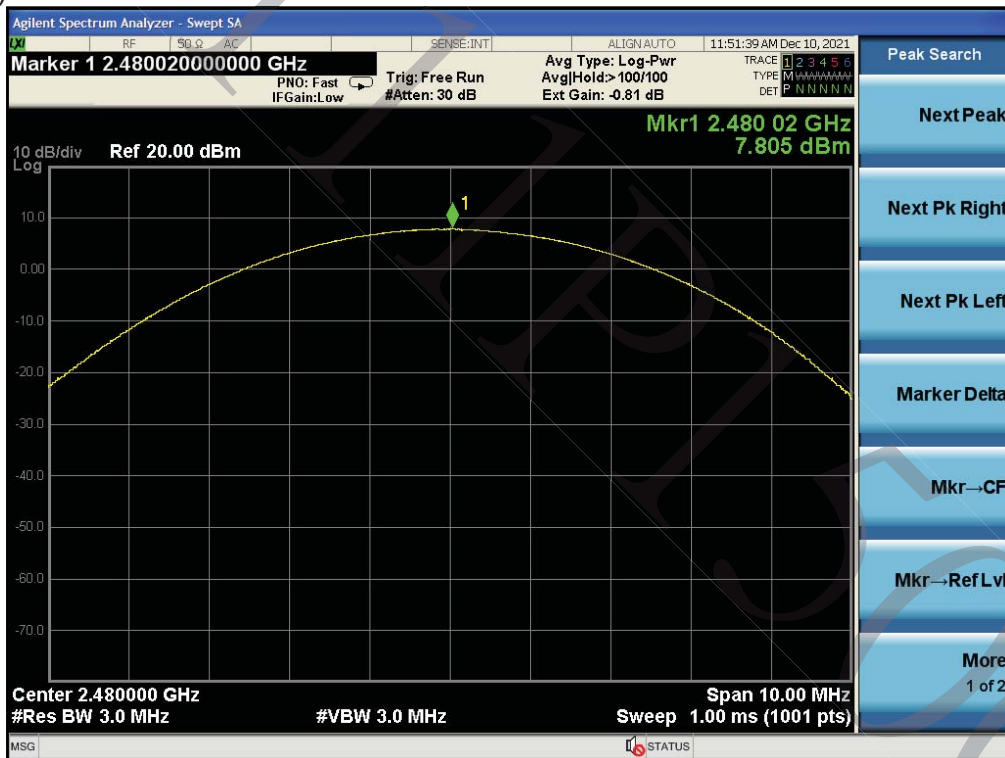
Data Rate : 3Mbps
(2402MHz)



(2441MHz)



(2480MHz)



10. Band Edge Requirements

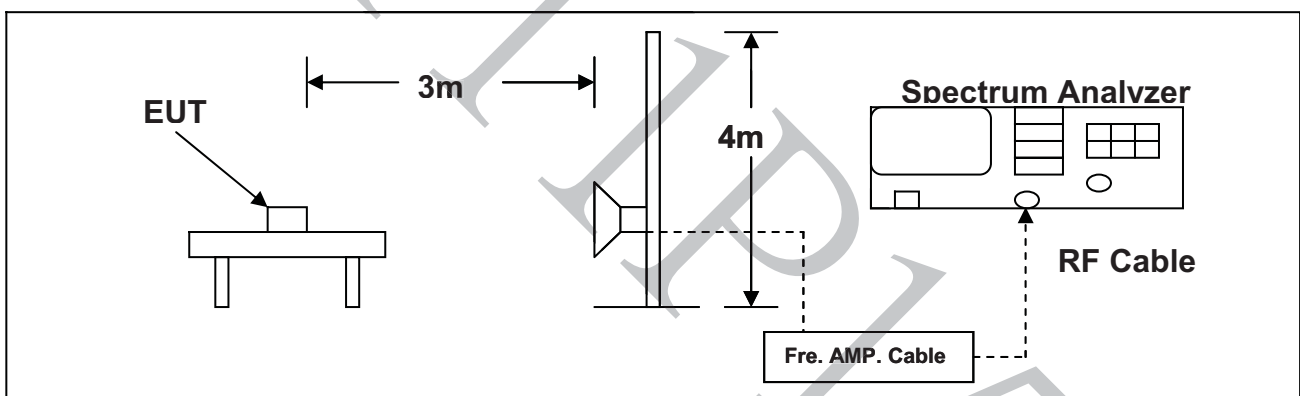
10.1 Test Condition & Setup:

The emissions on the harmonics frequencies, the limits, and the margin of compliance are presented. These tests were made when the transmitter was in full radiated power. The additional test was performed to show compliance with the requirement at the band edge frequency 2400 MHz and up to 2483.5 MHz.

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. For measurements the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurement.

This test method according to the techniques described in Measurement procedure ANSI C63.10-2013 (6.10.5) for this testing.

10.2 Test Instruments Configuration:



10.3 Test Equipment List:

| Item | Mfr/Brand | Instruments | Serial No. | Model/Type No. | Calibrated Date | Next Cal. Date |
|------|-----------------|-------------------|------------|-----------------------|-----------------|----------------|
| 1. | Agilent | Spectrum Analyzer | US44300422 | E4446A | 2021/03/11 | 2022/03/11 |
| 2. | TA | Pre Amplifier | RF01 | 0.10~19.1GHz 60dBm | 2021/03/11 | 2022/03/11 |
| 3. | SCHWARZBE CK | Horn Antenna | 304 | BBHA 9120 D | 2021/01/26 | 2022/01/26 |
| 4. | Agilent | Spectrum Analyzer | US39240419 | E4407B | 2021/06/08 | 2022/06/08 |
| 5. | MLT | Pre Amplifier | 20110209 | PREAMP6G-01 | 2021/03/11 | 2022/03/11 |

10.4 Test Result : Worst case (Z Axis)

Data Rate : 1Mbps

| Radiated Emissions (HORIZONTAL) CH00 | | | | | | |
|--------------------------------------|--------------------|----------|----------------|-----------|----------------|-------------|
| Frequency (MHz) | Amplitude (dBuV/m) | Ant. (m) | Table (Degree) | Duty (dB) | Limit (dBuV/m) | Margin (dB) |
| 2367.35 | 39.47 (PK) | 1 | 170 | 0 | 74.0(PK) | -34.53 |
| --- | --- (AV) | --- | --- | --- | 54.0(AV) | --- |

| Radiated Emissions (VERTICAL) CH00 | | | | | | |
|------------------------------------|--------------------|----------|----------------|-----------|----------------|-------------|
| Frequency (MHz) | Amplitude (dBuV/m) | Ant. (m) | Table (Degree) | Duty (dB) | Limit (dBuV/m) | Margin (dB) |
| 2388.43 | 43.04 (PK) | 1 | 195 | 0 | 74.0(PK) | -30.96 |
| --- | --- (AV) | --- | --- | --- | 54.0(AV) | --- |

| Radiated Emissions (HORIZONTAL) CH78 | | | | | | |
|--------------------------------------|--------------------|----------|----------------|-----------|----------------|-------------|
| Frequency (MHz) | Amplitude (dBuV/m) | Ant. (m) | Table (Degree) | Duty (dB) | Limit (dBuV/m) | Margin (dB) |
| 2494.37 | 39.61 (PK) | 1 | 175 | 0 | 74.0(PK) | -34.39 |
| --- | --- (AV) | --- | --- | --- | 54.0(AV) | --- |

| Radiated Emissions (VERTICAL) CH78 | | | | | | |
|------------------------------------|--------------------|----------|----------------|-----------|----------------|-------------|
| Frequency (MHz) | Amplitude (dBuV/m) | Ant. (m) | Table (Degree) | Duty (dB) | Limit (dBuV/m) | Margin (dB) |
| 2484.25 | 39.96 (PK) | 1 | 191 | 0 | 74.0(PK) | -34.04 |
| --- | --- (AV) | --- | --- | --- | 54.0(AV) | --- |

- Notes :**
1. Margin= Amplitude - Limits
 2. Height of table for EUT placed: 0.8 Meter.
 3. ANT= Antenna height.
 4. Duty= Duty cycle correction factor.
 5. Amplitude= Reading Amplitude – Amplifier gain+ Cable loss+ Antenna factor (Auto calculate in spectrum analyzer)
 6. Peak Value =>RBW set 1MHz ; VBW set 1MHz
 7. Average Value=> RBW set 1MHz ; VBW set 10Hz
 8. Where limits are specified for both average and peak detector functions, if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.

Data Rate : 2Mbps

| Radiated Emissions (HORIZONTAL) CH00 | | | | | | |
|--------------------------------------|--------------------|----------|----------------|-----------|----------------|-------------|
| Frequency (MHz) | Amplitude (dBuV/m) | Ant. (m) | Table (Degree) | Duty (dB) | Limit (dBuV/m) | Margin (dB) |
| 2339.92 | 39.80 (PK) | 1 | 179 | 0 | 74.0(PK) | -34.20 |
| --- | --- (AV) | --- | --- | --- | 54.0(AV) | --- |

| Radiated Emissions (VERTICAL) CH00 | | | | | | |
|------------------------------------|--------------------|----------|----------------|-----------|----------------|-------------|
| Frequency (MHz) | Amplitude (dBuV/m) | Ant. (m) | Table (Degree) | Duty (dB) | Limit (dBuV/m) | Margin (dB) |
| 2376.34 | 39.93 (PK) | 1 | 186 | 0 | 74.0(PK) | -34.07 |
| --- | --- (AV) | --- | --- | --- | 54.0(AV) | --- |

| Radiated Emissions (HORIZONTAL) CH78 | | | | | | |
|--------------------------------------|--------------------|----------|----------------|-----------|----------------|-------------|
| Frequency (MHz) | Amplitude (dBuV/m) | Ant. (m) | Table (Degree) | Duty (dB) | Limit (dBuV/m) | Margin (dB) |
| 2486.21 | 39.39 (PK) | 1 | 172 | 0 | 74.0(PK) | -34.61 |
| --- | --- (AV) | --- | --- | --- | 54.0(AV) | --- |

| Radiated Emissions (VERTICAL) CH78 | | | | | | |
|------------------------------------|--------------------|----------|----------------|-----------|----------------|-------------|
| Frequency (MHz) | Amplitude (dBuV/m) | Ant. (m) | Table (Degree) | Duty (dB) | Limit (dBuV/m) | Margin (dB) |
| 2487.93 | 40.09 (PK) | 1 | 199 | 0 | 74.0(PK) | -33.91 |
| --- | --- (AV) | --- | --- | --- | 54.0(AV) | --- |

- Notes :**
1. Margin= Amplitude - Limits
 2. Height of table for EUT placed: 0.8 Meter.
 3. ANT= Antenna height.
 4. Duty= Duty cycle correction factor.
 5. Amplitude= Reading Amplitude – Amplifier gain+ Cable loss+ Antenna factor (Auto calculate in spectrum analyzer)
 6. Peak Value =>RBW set 1MHz ; VBW set 1MHz
 7. Average Value=> RBW set 1MHz ; VBW set 10Hz
 8. Where limits are specified for both average and peak detector functions, if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.

Data Rate : 3Mbps

| Radiated Emissions (HORIZONTAL) CH00 | | | | | | |
|--------------------------------------|--------------------|----------|----------------|-----------|----------------|-------------|
| Frequency (MHz) | Amplitude (dBuV/m) | Ant. (m) | Table (Degree) | Duty (dB) | Limit (dBuV/m) | Margin (dB) |
| 2326.28 | 40.01 (PK) | 1 | 170 | 0 | 74.0(PK) | -33.99 |
| -- | -- (AV) | -- | -- | -- | 54.0(AV) | -- |

| Radiated Emissions (VERTICAL) CH00 | | | | | | |
|------------------------------------|--------------------|----------|----------------|-----------|----------------|-------------|
| Frequency (MHz) | Amplitude (dBuV/m) | Ant. (m) | Table (Degree) | Duty (dB) | Limit (dBuV/m) | Margin (dB) |
| 2321.32 | 40.76 (PK) | 1 | 195 | 0 | 74.0(PK) | -33.24 |
| -- | -- (AV) | -- | -- | -- | 54.0(AV) | -- |

| Radiated Emissions (HORIZONTAL) CH78 | | | | | | |
|--------------------------------------|--------------------|----------|----------------|-----------|----------------|-------------|
| Frequency (MHz) | Amplitude (dBuV/m) | Ant. (m) | Table (Degree) | Duty (dB) | Limit (dBuV/m) | Margin (dB) |
| 2488.63 | 39.69 (PK) | 1 | 173 | 0 | 74.0(PK) | -34.31 |
| -- | -- (AV) | -- | -- | -- | 54.0(AV) | -- |

| Radiated Emissions (VERTICAL) CH78 | | | | | | |
|------------------------------------|--------------------|----------|----------------|-----------|----------------|-------------|
| Frequency (MHz) | Amplitude (dBuV/m) | Ant. (m) | Table (Degree) | Duty (dB) | Limit (dBuV/m) | Margin (dB) |
| 2493.21 | 40.77 (PK) | 1 | 191 | 0 | 74.0(PK) | -33.23 |
| -- | -- (AV) | -- | -- | -- | 54.0(AV) | -- |

- Notes :**
1. Margin= Amplitude - Limits
 2. Height of table for EUT placed: 0.8 Meter.
 3. ANT= Antenna height.
 4. Duty= Duty cycle correction factor.
 5. Amplitude= Reading Amplitude – Amplifier gain+ Cable loss+ Antenna factor (Auto calculate in spectrum analyzer)
 6. Peak Value =>RBW set 1MHz ; VBW set 1MHz
 7. Average Value=> RBW set 1MHz ; VBW set 10Hz
 8. Where limits are specified for both average and peak detector functions, if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.

11. Radiated Emissions Requirements (Above 1GHz)

11.1 General and setup:

Prior to open-field testing, the EUT was placed in a shielded enclosure and scanned at a close distance to determine its emission characteristics. The physical arrangement of the EUT was varied (within the scope of arrangements likely to be encountered in actual use) to determine the effect on the unit's emanations in amplitude, directivity, and frequency. The exact system configuration which produced the highest emissions was noted so it could be reproduced later during the open field tests. This was done to ensure that the final measurements would demonstrate the worst-case interference potential of the EUT.

Final radiation measurements were made on a three-meter, open-field test site. The EUT system was placed on a nonconductive turntable which was 1.5 meters height, top surface 1.0 x 1.5 meter. During the test, EUT was set to transmit continuously & measurements spectrum range from 30 MHz to 26.5 GHz is investigated.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

A nonconductive material surrounded the EUT to supporting the EUT for standing on three orthogonal planes. At each condition, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. No post – detector video filters were used in the test.

The spectrum analyzer's 6 dB bandwidth was set to 1 MHz, and the analyzer was operated in the peak detection mode, for frequencies both below and up 1 GHz. The average levels were obtained by subtracting the duty cycle correction factor from the peak readings.

The following procedures were used to convert the emission levels measured in decibels referenced to 1 microvolt (dBuV) into field intensity in microvolts pre meter(uV/m).

This test method according to the techniques described in Measurement procedure ANSI C63.10-2013 (6.6) for this testing.

The actual field is intensity in decibels referenced to 1 microvolt per meter (dBuV/m) is determined by algebraically adding the measured reading in dBuV, the antenna factor (dB), and cable loss (dB) and Subtracting the gain of preamplifier (dB) is auto calculate in spectrum analyzer.

$$\text{Amplitude (dBuV/m)} = \text{FI(dBuV)} + \text{AF(dBuV)} + \text{CL(dBuV)} - \text{Gain(dB)}$$

FI= Reading of the field intensity.

AF= Antenna factor.

CL= Cable loss.

P.S Amplitude is auto calculate in spectrum analyzer.

The FCC specified emission limits were calculated according the EUT operating frequency and by following linear interpolation equations:

(1) For fundamental frequency : Transmitter Output < +30dBm

(2) For spurious frequency : Spurious emission limits = fundamental emission limit /10

11.2 Test Equipment List:

| Item | Mfr/Brand | Instruments | Serial No. | Model/Type No. | Calibrated Date | Next Cal. Date |
|------|-------------|-------------------|--------------|-----------------------|-----------------|----------------|
| 1. | Agilent | Spectrum Analyzer | US44300422 | E4446A | 2021/03/11 | 2022/03/11 |
| 2. | TA | Pre Amplifier | RF01 | 0.10~19.1GHz 60dBm | 2021/03/11 | 2022/03/11 |
| 3. | Herotek | Pre Amplifier | 30690 | A402-417 | 2020/12/25 | 2021/12/25 |
| 4. | SCHWARZBECK | Horn Antenna | 181 | BBHA 9170 | 2021/11/18 | 2022/11/18 |
| 5. | SCHWARZBECK | Horn Antenna | 304 | BBHA 9120 D | 2021/01/26 | 2022/01/26 |
| 6. | Agilent | Spectrum Analyzer | US39240419 | E4407B | 2021/06/08 | 2021/06/08 |
| 7. | MLT | Pre Amplifier | TA010-190-30 | RF03 | 2021/07/21 | 2022/07/22 |

11.3 Test Condition:

EUT tested in accordance with the specifications given by the manufacturer, and exercised in the most unfavorable manner.

Peak Measurement RBW set to 1MHz , VBW set to 1MHz

Average Measurement RBW set to 1MHz , VBW set to 10Hz

The X axial at Pre-test procedure is the worst case, the final result shown on this report is based on this condition.

11.4 Radiated Emissions Limits:

| Frequency range (MHz) | Peak (dBuV/m) | Average (dBuV/m) |
|-----------------------|---------------|------------------|
| Above 1000 | 74 | 54 |

11.5 Measurement Data Of Radiated Emissions:

11.5.1 Open Field Radiated Emissions (Subpart C)

The highest peak values of radiated emissions from the EUT at various antenna heights, antenna polarization, EUT orientation, etc. are recorded on the following

Test Mode : **Worst case (Z Axis)(Rate:1M) 2402MHz**

| Radiated Emissions (VERTICAL) | | | | | | | | | |
|-------------------------------|---------------|----|--------|--------------------|----|-----------------|----|-------------|----|
| Frequency (MHz) | Read (dBuV/m) | | Factor | Amplitude (dBuV/m) | | Limits (dBuV/m) | | Margin (dB) | |
| | PK | AV | | PK | AV | PK | AV | PK | AV |
| 3892.50 | 60.05 | -- | -23.71 | 36.34 | -- | 74 | 54 | -37.66 | -- |
| 4802.50 | 65.02 | -- | -22.09 | 42.93 | -- | 74 | 54 | -31.07 | -- |
| 6254.17 | 55.43 | -- | -17.56 | 37.87 | -- | 74 | 54 | -36.13 | -- |
| 7207.50 | 61.91 | -- | -15.27 | 46.64 | -- | 74 | 54 | -27.36 | -- |
| 10895.00 | 51.34 | -- | -6.42 | 44.92 | -- | 74 | 54 | -29.08 | -- |
| 14377.50 | 50.16 | -- | -5.06 | 45.10 | -- | 74 | 54 | -28.90 | -- |

| Radiated Emissions (HORIZONTAL) | | | | | | | | | |
|---------------------------------|---------------|----|--------|--------------------|----|-----------------|----|-------------|----|
| Frequency (MHz) | Read (dBuV/m) | | Factor | Amplitude (dBuV/m) | | Limits (dBuV/m) | | Margin (dB) | |
| | PK | AV | | PK | AV | PK | AV | PK | AV |
| 4000.83 | 60.45 | -- | -23.73 | 36.72 | -- | 74 | 54 | -37.28 | -- |
| 4802.50 | 59.06 | -- | -22.09 | 36.97 | -- | 74 | 54 | -37.03 | -- |
| 6286.67 | 54.71 | -- | -17.38 | 37.33 | -- | 74 | 54 | -36.67 | -- |
| 7207.50 | 54.34 | -- | -15.27 | 39.07 | -- | 74 | 54 | -34.93 | -- |
| 10912.50 | 51.46 | -- | -6.65 | 44.81 | -- | 74 | 54 | -29.19 | -- |
| 14202.50 | 49.41 | -- | -4.80 | 44.61 | -- | 74 | 54 | -29.39 | -- |

- Notes :**
1. Margin= Amplitude - Limits
 2. Distance of Measurement : 3 Meter
 3. Height of table for EUT placed: 1.5 Meter.
 4. Amplitude= Reading Amplitude – Amplifier gain + Cable loss + Antenna factor
(Auto calculate in spectrum analyzer)
 5. The other emission levels were very low against the limit.
 6. Pre Amplifier (RF01) Gain :63dB to 69dB
 7. Pre Amplifier (30690) Gain :38dB to 50dB
 8. Where limits are specified for both average and peak detector functions, if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.

11.5.2 Open Field Radiated Emissions (Subpart C)

The highest peak values of radiated emissions from the EUT at various antenna heights, antenna polarization, EUT orientation, etc. are recorded on the following

Test Mode : (Rate:1M) 2441MHz

| Radiated Emissions (VERTICAL) | | | | | | | | | |
|-------------------------------|---------------|----|--------|--------------------|----|-----------------|----|-------------|----|
| Frequency (MHz) | Read (dBuV/m) | | Factor | Amplitude (dBuV/m) | | Limits (dBuV/m) | | Margin (dB) | |
| | PK | AV | | PK | AV | PK | AV | PK | AV |
| 4520.83 | 59.94 | -- | -22.33 | 37.61 | -- | 74 | 54 | -36.39 | -- |
| 4878.33 | 65.28 | -- | -22.13 | 43.15 | -- | 74 | 54 | -30.85 | -- |
| 6113.33 | 56.78 | -- | -17.65 | 39.13 | -- | 74 | 54 | -34.87 | -- |
| 7326.67 | 65.64 | -- | -15.39 | 50.25 | -- | 74 | 54 | -23.75 | -- |
| 10877.50 | 50.35 | -- | -6.40 | 43.95 | -- | 74 | 54 | -30.05 | -- |
| 14360.00 | 49.83 | -- | -5.05 | 44.78 | -- | 74 | 54 | -29.22 | -- |

| Radiated Emissions (HORIZONTAL) | | | | | | | | | |
|---------------------------------|---------------|----|--------|--------------------|----|-----------------|----|-------------|----|
| Frequency (MHz) | Read (dBuV/m) | | Factor | Amplitude (dBuV/m) | | Limits (dBuV/m) | | Margin (dB) | |
| | PK | AV | | PK | AV | PK | AV | PK | AV |
| 4477.50 | 57.46 | -- | -22.51 | 34.95 | -- | 74 | 54 | -39.05 | -- |
| 4878.33 | 64.00 | -- | -22.13 | 41.87 | -- | 74 | 54 | -32.13 | -- |
| 5820.83 | 56.37 | -- | -18.55 | 37.82 | -- | 74 | 54 | -36.18 | -- |
| 7326.67 | 57.48 | -- | -15.39 | 42.09 | -- | 74 | 54 | -31.91 | -- |
| 10965.00 | 50.65 | -- | -6.59 | 44.06 | -- | 74 | 54 | -29.94 | -- |
| 14325.00 | 50.68 | -- | -4.95 | 45.73 | -- | 74 | 54 | -28.27 | -- |

- Notes :**
1. Margin= Amplitude - Limits
 2. Distance of Measurement : 3 Meter
 3. Height of table for EUT placed: 1.5 Meter.
 4. Amplitude= Reading Amplitude – Amplifier gain + Cable loss + Antenna factor
(Auto calculate in spectrum analyzer)
 5. The other emission levels were very low against the limit.
 6. Pre Amplifier (RF01) Gain :63dB to 69dB
 7. Pre Amplifier (30690) Gain :38dB to 50dB
 8. Where limits are specified for both average and peak detector functions, if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.

11.5.3 Open Field Radiated Emissions (Subpart C)

The highest peak values of radiated emissions from the EUT at various antenna heights, antenna polarization, EUT orientation, etc. are recorded on the following

Test Mode : (Rate:1M) 2480MHz

| Radiated Emissions (VERTICAL) | | | | | | | | | |
|-------------------------------|---------------|----|--------|--------------------|----|-----------------|----|-------------|----|
| Frequency (MHz) | Read (dBuV/m) | | Factor | Amplitude (dBuV/m) | | Limits (dBuV/m) | | Margin (dB) | |
| | PK | AV | | PK | AV | PK | AV | PK | AV |
| 3979.17 | 61.46 | -- | -23.79 | 37.67 | -- | 74 | 54 | -36.33 | -- |
| 4965.00 | 68.98 | -- | -22.07 | 46.91 | -- | 74 | 54 | -27.09 | -- |
| 5950.83 | 55.14 | -- | -17.48 | 37.66 | -- | 74 | 54 | -36.34 | -- |
| 7435.00 | 67.84 | -- | -14.88 | 52.96 | -- | 74 | 54 | -21.04 | -- |
| 10877.50 | 50.66 | -- | -6.40 | 44.26 | -- | 74 | 54 | -29.74 | -- |
| 14220.00 | 49.50 | -- | -4.54 | 44.96 | -- | 74 | 54 | -29.04 | -- |

| Radiated Emissions (HORIZONTAL) | | | | | | | | | |
|---------------------------------|---------------|----|--------|--------------------|----|-----------------|----|-------------|----|
| Frequency (MHz) | Read (dBuV/m) | | Factor | Amplitude (dBuV/m) | | Limits (dBuV/m) | | Margin (dB) | |
| | PK | AV | | PK | AV | PK | AV | PK | AV |
| 4380.00 | 58.07 | -- | -22.69 | 35.38 | -- | 74 | 54 | -38.62 | -- |
| 4965.00 | 67.13 | -- | -22.07 | 45.06 | -- | 74 | 54 | -28.94 | -- |
| 5972.50 | 54.86 | -- | -17.35 | 37.51 | -- | 74 | 54 | -36.49 | -- |
| 7435.00 | 60.52 | -- | -14.88 | 45.64 | -- | 74 | 54 | -28.36 | -- |
| 10527.50 | 51.20 | -- | -6.21 | 44.99 | -- | 74 | 54 | -29.01 | -- |
| 14220.00 | 49.73 | -- | -4.54 | 45.19 | -- | 74 | 54 | -28.81 | -- |

- Notes :**
1. Margin= Amplitude - Limits
 2. Distance of Measurement : 3 Meter
 3. Height of table for EUT placed: 1.5 Meter.
 4. Amplitude= Reading Amplitude – Amplifier gain + Cable loss + Antenna factor
(Auto calculate in spectrum analyzer)
 5. The other emission levels were very low against the limit.
 6. Pre Amplifier (RF01) Gain :63dB to 69dB
 7. Pre Amplifier (30690) Gain :38dB to 50dB
 8. Where limits are specified for both average and peak detector functions, if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.

11.5.4 Open Field Radiated Emissions (Subpart C)

The highest peak values of radiated emissions from the EUT at various antenna heights, antenna polarization, EUT orientation, etc. are recorded on the following

Test Mode : **Worst case (Z Axis)(Rate:2M) 2402MHz**

| Radiated Emissions (VERTICAL) | | | | | | | | | |
|-------------------------------|---------------|----|--------|--------------------|----|-----------------|----|-------------|----|
| Frequency (MHz) | Read (dBuV/m) | | Factor | Amplitude (dBuV/m) | | Limits (dBuV/m) | | Margin (dB) | |
| | PK | AV | | PK | AV | PK | AV | PK | AV |
| 3990.00 | 62.75 | -- | -23.77 | 38.98 | -- | 74 | 54 | -35.02 | -- |
| 4802.50 | 59.87 | -- | -22.09 | 37.78 | -- | 74 | 54 | -36.22 | -- |
| 5950.83 | 55.03 | -- | -17.48 | 37.55 | -- | 74 | 54 | -36.45 | -- |
| 7207.50 | 56.21 | -- | -15.27 | 40.94 | -- | 74 | 54 | -33.06 | -- |
| 11035.00 | 50.40 | -- | -6.62 | 43.78 | -- | 74 | 54 | -30.22 | -- |
| 14237.50 | 49.43 | -- | -4.66 | 44.77 | -- | 74 | 54 | -29.23 | -- |

| Radiated Emissions (HORIZONTAL) | | | | | | | | | |
|---------------------------------|---------------|----|--------|--------------------|----|-----------------|----|-------------|----|
| Frequency (MHz) | Read (dBuV/m) | | Factor | Amplitude (dBuV/m) | | Limits (dBuV/m) | | Margin (dB) | |
| | PK | AV | | PK | AV | PK | AV | PK | AV |
| 4011.67 | 58.80 | -- | -23.69 | 35.11 | -- | 74 | 54 | -38.89 | -- |
| 4802.50 | 56.68 | -- | -22.09 | 34.59 | -- | 74 | 54 | -39.41 | -- |
| 6070.00 | 55.27 | -- | -17.50 | 37.77 | -- | 74 | 54 | -36.23 | -- |
| 7207.50 | 52.55 | -- | -15.27 | 37.28 | -- | 74 | 54 | -36.72 | -- |
| 10982.50 | 51.12 | -- | -6.64 | 44.48 | -- | 74 | 54 | -29.52 | -- |
| 14325.00 | 49.58 | -- | -4.95 | 44.63 | -- | 74 | 54 | -29.37 | -- |

- Notes :**
1. Margin= Amplitude - Limits
 2. Distance of Measurement : 3 Meter
 3. Height of table for EUT placed: 1.5 Meter.
 4. Amplitude= Reading Amplitude – Amplifier gain + Cable loss + Antenna factor
(Auto calculate in spectrum analyzer)
 5. The other emission levels were very low against the limit.
 6. Pre Amplifier (RF01) Gain :63dB to 69dB
 7. Pre Amplifier (30690) Gain :38dB to 50dB
 8. Where limits are specified for both average and peak detector functions, if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.

11.5.5 Open Field Radiated Emissions (Subpart C)

The highest peak values of radiated emissions from the EUT at various antenna heights, antenna polarization, EUT orientation, etc. are recorded on the following

Test Mode : (Rate:2M) 2441MHz

| Radiated Emissions (VERTICAL) | | | | | | | | | |
|-------------------------------|---------------|----|--------|--------------------|----|-----------------|----|-------------|----|
| Frequency (MHz) | Read (dBuV/m) | | Factor | Amplitude (dBuV/m) | | Limits (dBuV/m) | | Margin (dB) | |
| | PK | AV | | PK | AV | PK | AV | PK | AV |
| 3979.17 | 60.40 | -- | -23.79 | 36.61 | -- | 74 | 54 | -37.39 | -- |
| 4878.33 | 63.47 | -- | -22.13 | 41.34 | -- | 74 | 54 | -32.66 | -- |
| 6395.00 | 55.21 | -- | -17.13 | 38.08 | -- | 74 | 54 | -35.92 | -- |
| 7326.67 | 61.98 | -- | -15.39 | 46.59 | -- | 74 | 54 | -27.41 | -- |
| 10965.00 | 51.71 | -- | -6.59 | 45.12 | -- | 74 | 54 | -28.88 | -- |
| 14325.00 | 50.59 | -- | -4.95 | 45.64 | -- | 74 | 54 | -28.36 | -- |

| Radiated Emissions (HORIZONTAL) | | | | | | | | | |
|---------------------------------|---------------|----|--------|--------------------|----|-----------------|----|-------------|----|
| Frequency (MHz) | Read (dBuV/m) | | Factor | Amplitude (dBuV/m) | | Limits (dBuV/m) | | Margin (dB) | |
| | PK | AV | | PK | AV | PK | AV | PK | AV |
| 4542.50 | 57.44 | -- | -22.25 | 35.19 | -- | 74 | 54 | -38.81 | -- |
| 4878.33 | 59.96 | -- | -22.13 | 37.83 | -- | 74 | 54 | -36.17 | -- |
| 6015.83 | 55.39 | -- | -17.43 | 37.96 | -- | 74 | 54 | -36.04 | -- |
| 7326.67 | 53.75 | -- | -15.39 | 38.36 | -- | 74 | 54 | -35.64 | -- |
| 10527.50 | 53.68 | -- | -6.21 | 47.47 | -- | 74 | 54 | -26.53 | -- |
| 14220.00 | 48.88 | -- | -4.54 | 44.34 | -- | 74 | 54 | -29.66 | -- |

- Notes :**
1. Margin= Amplitude - Limits
 2. Distance of Measurement : 3 Meter
 3. Height of table for EUT placed: 1.5 Meter.
 4. Amplitude= Reading Amplitude – Amplifier gain + Cable loss + Antenna factor
(Auto calculate in spectrum analyzer)
 5. The other emission levels were very low against the limit.
 6. Pre Amplifier (RF01) Gain :63dB to 69dB
 7. Pre Amplifier (30690) Gain :38dB to 50dB
 8. Where limits are specified for both average and peak detector functions, if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.

11.5.6 Open Field Radiated Emissions (Subpart C)

The highest peak values of radiated emissions from the EUT at various antenna heights, antenna polarization, EUT orientation, etc. are recorded on the following

Test Mode : (Rate:2M) 2480MHz

| Radiated Emissions (VERTICAL) | | | | | | | | | |
|-------------------------------|---------------|----|--------|--------------------|----|-----------------|----|-------------|----|
| Frequency (MHz) | Read (dBuV/m) | | Factor | Amplitude (dBuV/m) | | Limits (dBuV/m) | | Margin (dB) | |
| | PK | AV | | PK | AV | PK | AV | PK | AV |
| 4109.17 | 59.37 | -- | -23.39 | 35.98 | -- | 74 | 54 | -38.02 | -- |
| 4965.00 | 66.59 | -- | -22.07 | 44.52 | -- | 74 | 54 | -29.48 | -- |
| 5810.00 | 56.60 | -- | -18.61 | 37.99 | -- | 74 | 54 | -36.01 | -- |
| 7435.00 | 66.66 | -- | -14.88 | 51.78 | -- | 74 | 54 | -22.22 | -- |
| 10895.00 | 50.10 | -- | -6.42 | 43.68 | -- | 74 | 54 | -30.32 | -- |
| 14360.00 | 49.80 | -- | -5.05 | 44.75 | -- | 74 | 54 | -29.25 | -- |

| Radiated Emissions (HORIZONTAL) | | | | | | | | | |
|---------------------------------|---------------|----|--------|--------------------|----|-----------------|----|-------------|----|
| Frequency (MHz) | Read (dBuV/m) | | Factor | Amplitude (dBuV/m) | | Limits (dBuV/m) | | Margin (dB) | |
| | PK | AV | | PK | AV | PK | AV | PK | AV |
| 4228.33 | 57.64 | -- | -23.02 | 34.62 | -- | 74 | 54 | -39.38 | -- |
| 4965.00 | 65.00 | -- | -22.07 | 42.93 | -- | 74 | 54 | -31.07 | -- |
| 5972.50 | 54.59 | -- | -17.35 | 37.24 | -- | 74 | 54 | -36.76 | -- |
| 7435.00 | 59.39 | -- | -14.88 | 44.51 | -- | 74 | 54 | -29.49 | -- |
| 10877.50 | 49.76 | -- | -6.40 | 43.36 | -- | 74 | 54 | -30.64 | -- |
| 14202.50 | 51.59 | -- | -4.80 | 46.79 | -- | 74 | 54 | -27.21 | -- |

- Notes :**
1. Margin= Amplitude - Limits
 2. Distance of Measurement : 3 Meter
 3. Height of table for EUT placed: 1.5 Meter.
 4. Amplitude= Reading Amplitude – Amplifier gain + Cable loss + Antenna factor
(Auto calculate in spectrum analyzer)
 5. The other emission levels were very low against the limit.
 6. Pre Amplifier (RF01) Gain :63dB to 69dB
 7. Pre Amplifier (30690) Gain :38dB to 50dB
 8. Where limits are specified for both average and peak detector functions, if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.

11.5.7 Open Field Radiated Emissions (Subpart C)

The highest peak values of radiated emissions from the EUT at various antenna heights, antenna polarization, EUT orientation, etc. are recorded on the following

Test Mode : **Worst case (Z Axis)(Rate:3M) 2402MHz**

| Radiated Emissions (VERTICAL) | | | | | | | | | |
|-------------------------------|---------------|----|--------|--------------------|----|-----------------|----|-------------|----|
| Frequency (MHz) | Read (dBuV/m) | | Factor | Amplitude (dBuV/m) | | Limits (dBuV/m) | | Margin (dB) | |
| | PK | AV | | PK | AV | PK | AV | PK | AV |
| 4076.67 | 60.79 | -- | -23.17 | 37.62 | -- | 74 | 54 | -36.38 | -- |
| 4802.50 | 59.01 | -- | -22.09 | 36.92 | -- | 74 | 54 | -37.08 | -- |
| 5896.67 | 56.77 | -- | -17.59 | 39.18 | -- | 74 | 54 | -34.82 | -- |
| 7207.50 | 57.11 | -- | -15.27 | 41.84 | -- | 74 | 54 | -32.16 | -- |
| 11052.50 | 51.80 | -- | -6.80 | 45.00 | -- | 74 | 54 | -29.00 | -- |
| 14342.50 | 51.32 | -- | -5.07 | 46.25 | -- | 74 | 54 | -27.75 | -- |

| Radiated Emissions (HORIZONTAL) | | | | | | | | | |
|---------------------------------|---------------|----|--------|--------------------|----|-----------------|----|-------------|----|
| Frequency (MHz) | Read (dBuV/m) | | Factor | Amplitude (dBuV/m) | | Limits (dBuV/m) | | Margin (dB) | |
| | PK | AV | | PK | AV | PK | AV | PK | AV |
| 4022.50 | 58.47 | -- | -23.64 | 34.83 | -- | 74 | 54 | -39.17 | -- |
| 4802.50 | 55.97 | -- | -22.09 | 33.88 | -- | 74 | 54 | -40.12 | -- |
| 5961.67 | 55.43 | -- | -17.37 | 38.06 | -- | 74 | 54 | -35.94 | -- |
| 7207.50 | 52.92 | -- | -15.27 | 37.65 | -- | 74 | 54 | -36.35 | -- |
| 10527.50 | 53.03 | -- | -6.21 | 46.82 | -- | 74 | 54 | -27.18 | -- |
| 14412.50 | 50.18 | -- | -5.17 | 45.01 | -- | 74 | 54 | -28.99 | -- |

- Notes :**
1. Margin= Amplitude - Limits
 2. Distance of Measurement : 3 Meter
 3. Height of table for EUT placed: 1.5 Meter.
 4. Amplitude= Reading Amplitude – Amplifier gain + Cable loss + Antenna factor
(Auto calculate in spectrum analyzer)
 5. The other emission levels were very low against the limit.
 6. Pre Amplifier (RF01) Gain :63dB to 69dB
 7. Pre Amplifier (30690) Gain :38dB to 50dB
 8. Where limits are specified for both average and peak detector functions, if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.

11.5.8 Open Field Radiated Emissions (Subpart C)

The highest peak values of radiated emissions from the EUT at various antenna heights, antenna polarization, EUT orientation, etc. are recorded on the following

Test Mode : (Rate:3M) 2441MHz

| Radiated Emissions (VERTICAL) | | | | | | | | | |
|-------------------------------|---------------|----|--------|--------------------|----|-----------------|----|-------------|----|
| Frequency (MHz) | Read (dBuV/m) | | Factor | Amplitude (dBuV/m) | | Limits (dBuV/m) | | Margin (dB) | |
| | PK | AV | | PK | AV | PK | AV | PK | AV |
| 3990.00 | 61.66 | -- | -23.77 | 37.89 | -- | 74 | 54 | -36.11 | -- |
| 4878.33 | 64.96 | -- | -22.13 | 42.83 | -- | 74 | 54 | -31.17 | -- |
| 5994.17 | 55.34 | -- | -17.38 | 37.96 | -- | 74 | 54 | -36.04 | -- |
| 7326.67 | 63.51 | -- | -15.39 | 48.12 | -- | 74 | 54 | -25.88 | -- |
| 11017.50 | 50.85 | -- | -6.69 | 44.16 | -- | 74 | 54 | -29.84 | -- |
| 14325.00 | 50.67 | -- | -4.95 | 45.72 | -- | 74 | 54 | -28.28 | -- |

| Radiated Emissions (HORIZONTAL) | | | | | | | | | |
|---------------------------------|---------------|----|--------|--------------------|----|-----------------|----|-------------|----|
| Frequency (MHz) | Read (dBuV/m) | | Factor | Amplitude (dBuV/m) | | Limits (dBuV/m) | | Margin (dB) | |
| | PK | AV | | PK | AV | PK | AV | PK | AV |
| 4087.50 | 57.42 | -- | -23.26 | 34.16 | -- | 74 | 54 | -39.84 | -- |
| 4878.33 | 60.35 | -- | -22.13 | 38.22 | -- | 74 | 54 | -35.78 | -- |
| 5972.50 | 55.22 | -- | -17.35 | 37.87 | -- | 74 | 54 | -36.13 | -- |
| 7326.67 | 55.94 | -- | -15.39 | 40.55 | -- | 74 | 54 | -33.45 | -- |
| 10527.50 | 54.60 | -- | -6.21 | 48.39 | -- | 74 | 54 | -25.61 | -- |
| 14220.00 | 49.55 | -- | -4.54 | 45.01 | -- | 74 | 54 | -28.99 | -- |

- Notes :**
1. Margin= Amplitude - Limits
 2. Distance of Measurement : 3 Meter
 3. Height of table for EUT placed: 1.5 Meter.
 4. Amplitude= Reading Amplitude – Amplifier gain + Cable loss + Antenna factor
(Auto calculate in spectrum analyzer)
 5. The other emission levels were very low against the limit.
 6. Pre Amplifier (RF01) Gain :63dB to 69dB
 7. Pre Amplifier (30690) Gain :38dB to 50dB
 8. Where limits are specified for both average and peak detector functions, if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.

11.5.9 Open Field Radiated Emissions (Subpart C)

The highest peak values of radiated emissions from the EUT at various antenna heights, antenna polarization, EUT orientation, etc. are recorded on the following

Test Mode : (Rate:3M) 2480MHz

| Radiated Emissions (VERTICAL) | | | | | | | | | |
|-------------------------------|---------------|----|--------|--------------------|----|-----------------|----|-------------|----|
| Frequency (MHz) | Read (dBuV/m) | | Factor | Amplitude (dBuV/m) | | Limits (dBuV/m) | | Margin (dB) | |
| | PK | AV | | PK | AV | PK | AV | PK | AV |
| 4000.83 | 61.09 | -- | -23.73 | 37.36 | -- | 74 | 54 | -36.64 | -- |
| 4965.00 | 67.83 | -- | -22.07 | 45.76 | -- | 74 | 54 | -28.24 | -- |
| 5907.50 | 55.16 | -- | -17.54 | 37.62 | -- | 74 | 54 | -36.38 | -- |
| 7435.00 | 66.00 | -- | -14.88 | 51.12 | -- | 74 | 54 | -22.88 | -- |
| 10877.50 | 50.10 | -- | -6.40 | 43.70 | -- | 74 | 54 | -30.30 | -- |
| 14430.00 | 50.52 | -- | -5.29 | 45.23 | -- | 74 | 54 | -28.77 | -- |

| Radiated Emissions (HORIZONTAL) | | | | | | | | | |
|---------------------------------|---------------|----|--------|--------------------|----|-----------------|----|-------------|----|
| Frequency (MHz) | Read (dBuV/m) | | Factor | Amplitude (dBuV/m) | | Limits (dBuV/m) | | Margin (dB) | |
| | PK | AV | | PK | AV | PK | AV | PK | AV |
| 3990.00 | 58.54 | -- | -23.77 | 34.77 | -- | 74 | 54 | -39.23 | -- |
| 4965.00 | 63.30 | -- | -22.07 | 41.23 | -- | 74 | 54 | -32.77 | -- |
| 5950.83 | 55.65 | -- | -17.48 | 38.17 | -- | 74 | 54 | -35.83 | -- |
| 7435.00 | 59.60 | -- | -14.88 | 44.72 | -- | 74 | 54 | -29.28 | -- |
| 10527.50 | 52.26 | -- | -6.21 | 46.05 | -- | 74 | 54 | -27.95 | -- |
| 14220.00 | 49.62 | -- | -4.54 | 45.08 | -- | 74 | 54 | -28.92 | -- |

- Notes :**
1. Margin= Amplitude - Limits
 2. Distance of Measurement : 3 Meter
 3. Height of table for EUT placed: 1.5 Meter.
 4. Amplitude= Reading Amplitude – Amplifier gain + Cable loss + Antenna factor
(Auto calculate in spectrum analyzer)
 5. The other emission levels were very low against the limit.
 6. Pre Amplifier (RF01) Gain :63dB to 69dB
 7. Pre Amplifier (30690) Gain :38dB to 50dB
 8. Where limits are specified for both average and peak detector functions, if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.

12. Antenna Requirements

12.1 Standard Applicable:

For intentional device, according to 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

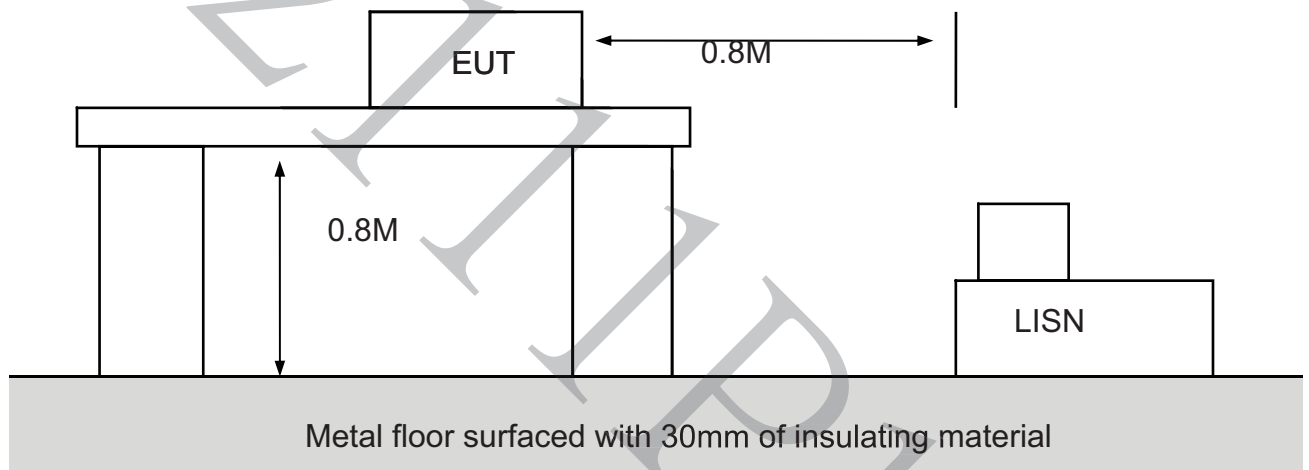
And According to 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

12.2 Antenna Construction:

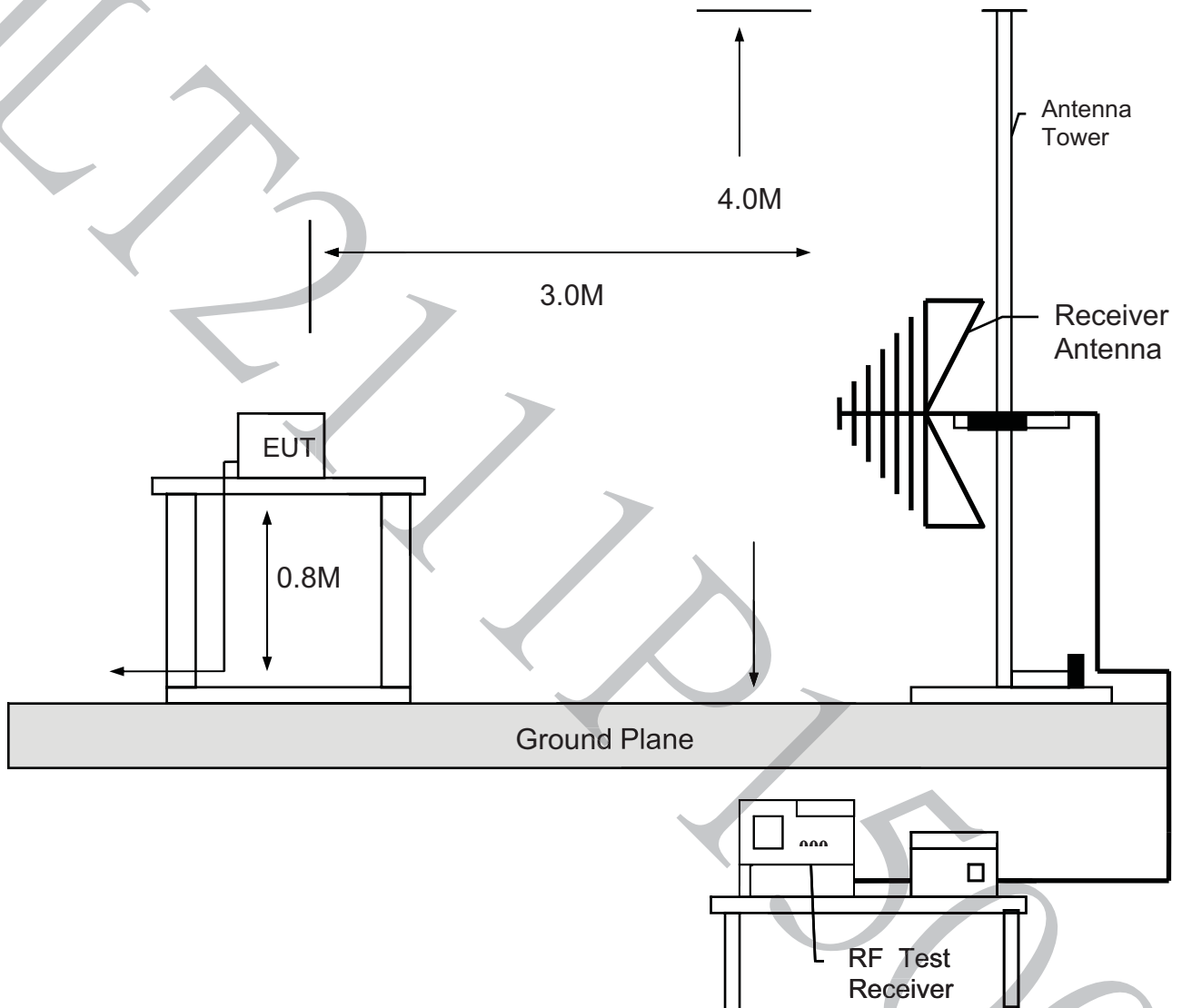
| Ant. TYPE | Gain | type of connector |
|--------------|---------|-------------------|
| Chip antenna | 1.3 dBi | Chip |

Appendix I - EUT Test Setup

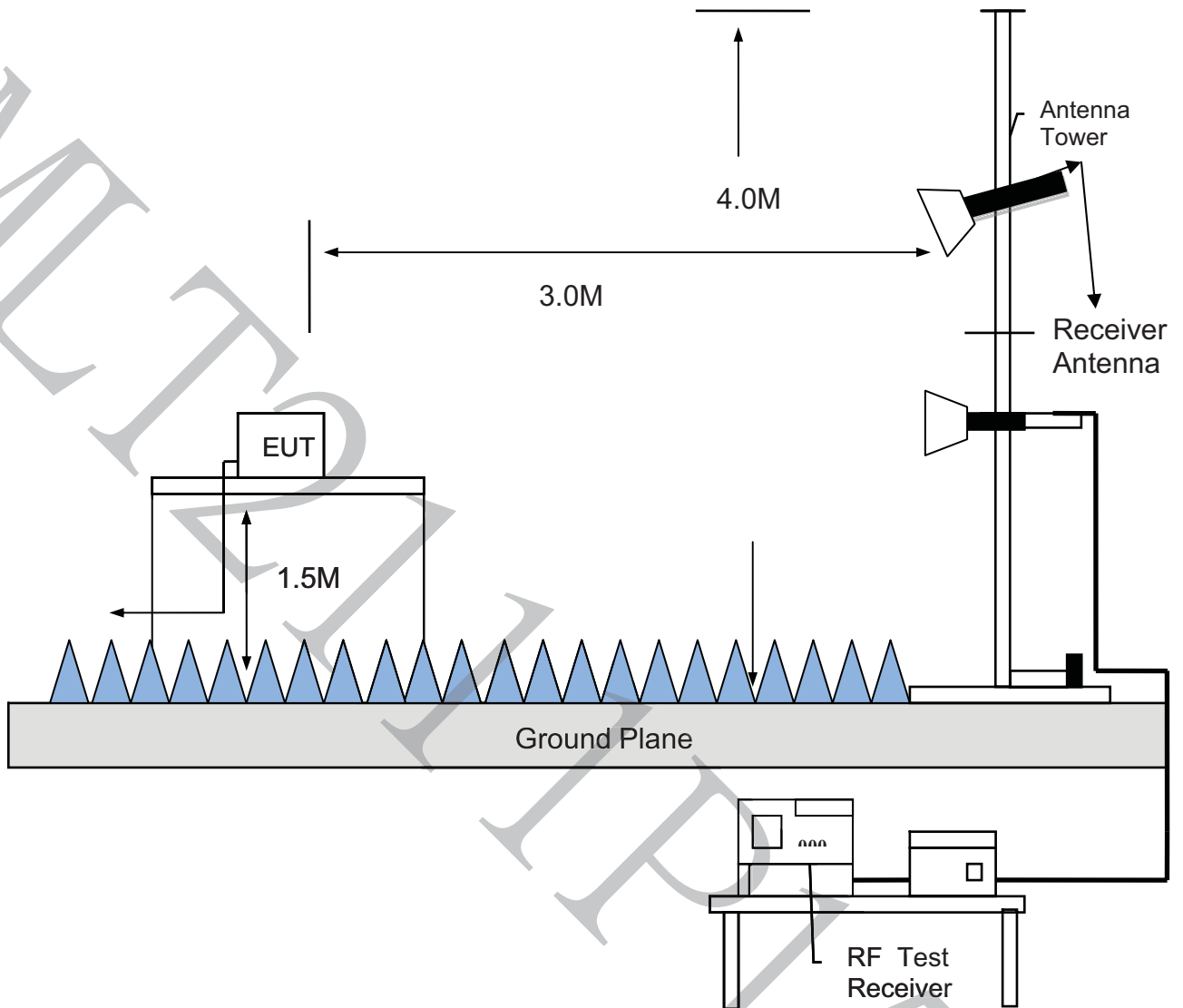
MEASUREMENT OF POWER LINE CONDUCTED RFI VOLTAGE



MEASUREMENT OF RADIATED EMISSION (Below 1GHz)



MEASUREMENT OF RADIATED EMISSION (above > 1GHz)



Appendix II - Brand / Trade Name & Model No. Multiple Listee

| Model No. | Trade Name |
|-----------|------------|
| N/A | N/A |

MLT2111P15001