

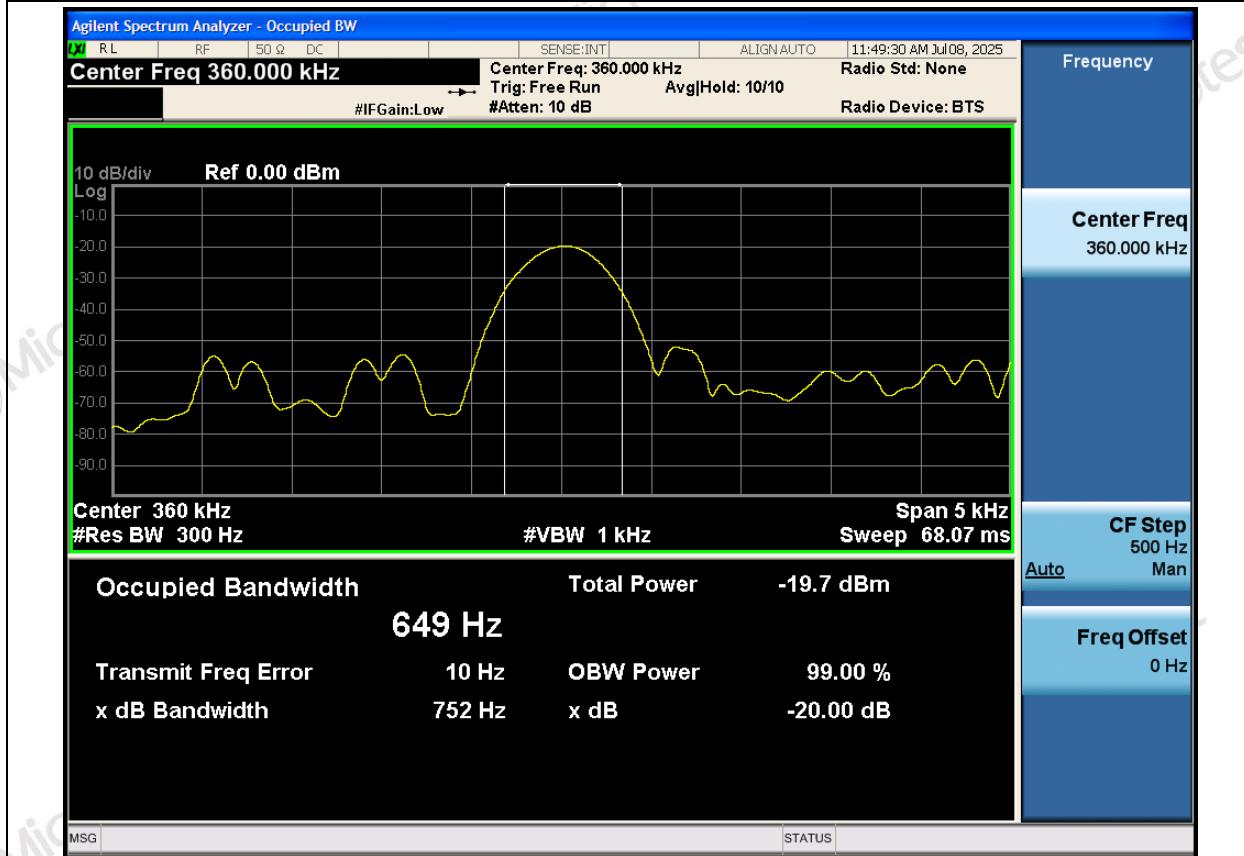
# TEST REPORT

Report No.: MTi250702005-0106E1

**Note:** Because the measured signal is CW-like, adjusting the RBW per C63.10 would not be practical since measurement bandwidth will always follow the RBW. The RBW is set to 300 Hz to perform the occupied bandwidth test.

MPP15W

| Frequency<br>kHz | 20 dB occupied bandwidth<br>Hz | 99% occupied bandwidth<br>Hz |
|------------------|--------------------------------|------------------------------|
| 360              | 752                            | 649                          |



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## 6.3 Emissions in frequency bands (below 30MHz)

|                   |                    |                                   |                               |
|-------------------|--------------------|-----------------------------------|-------------------------------|
| Test Requirement: | 47 CFR Part 15.209 |                                   |                               |
| Test Limit:       | Frequency (MHz)    | Field strength (microvolts/meter) | Measurement distance (meters) |
|                   | 0.009-0.490        | 2400/F(kHz)                       | 300                           |
|                   | 0.490-1.705        | 24000/F(kHz)                      | 30                            |
|                   | 1.705-30.0         | 30                                | 30                            |
|                   | 30-88              | 100 **                            | 3                             |
|                   | 88-216             | 150 **                            | 3                             |
|                   | 216-960            | 200 **                            | 3                             |
|                   | Above 960          | 500                               | 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.

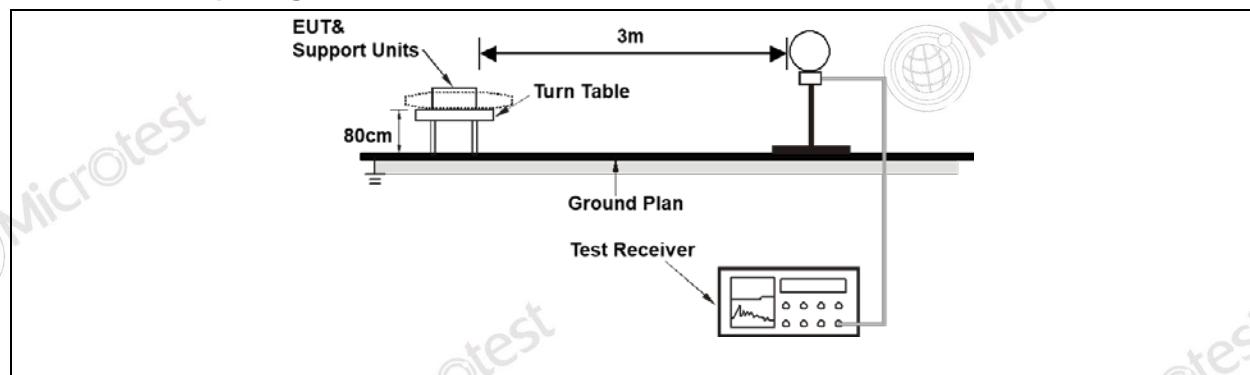
In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector. As shown in § 15.35(b), for frequencies above 1000 MHz, the field strength limits in paragraphs (a) and (b) of this section are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For point-to-point operation under paragraph (b) of this section, the peak field strength shall not exceed 2500 millivolts/meter at 3 meters along the antenna azimuth.

| Test Method: | ANSI C63.10-2013 section 6.4 |  |  |
| Procedure: | ANSI C63.10-2013 section 6.4 |  |  |

### 6.3.1 E.U.T. Operation:

|                        |   |           |      |
|------------------------|---|-----------|------|
| Operating Environment: |   |           |      |
| Temperature:           | 22 °C   | Humidity: | 63 % |
| Pre test mode:         | Mode1, Mode2, Mode3, Mode4, Mode5   |           |      |
| Final test mode:       | All of the listed pre-test mode were tested, only the data of the worst mode (Mode3, Mode4) is recorded in the report |           |      |

### 6.3.2 Test Setup Diagram:

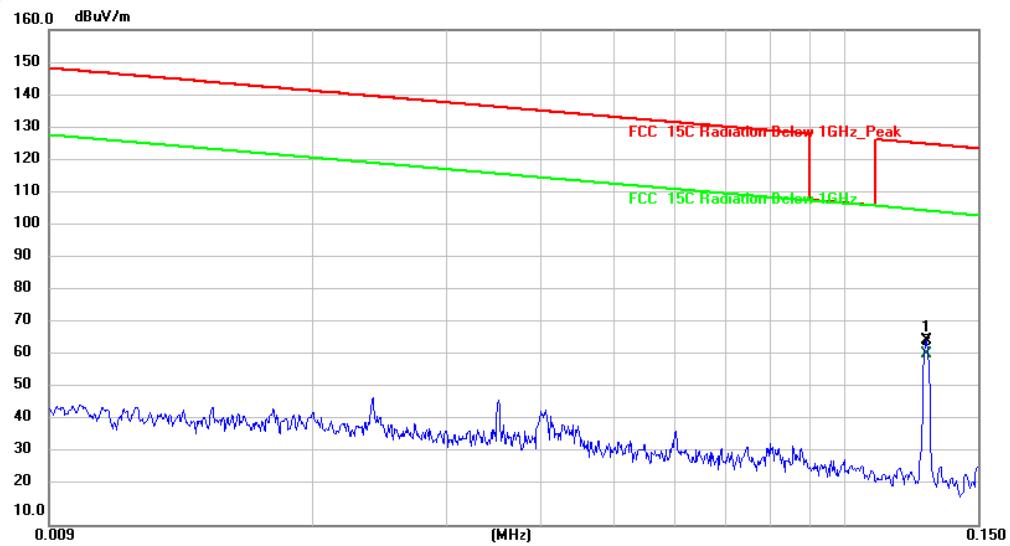


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## 6.3.3 Test Data:

Mode3 / EUT direction: X axis

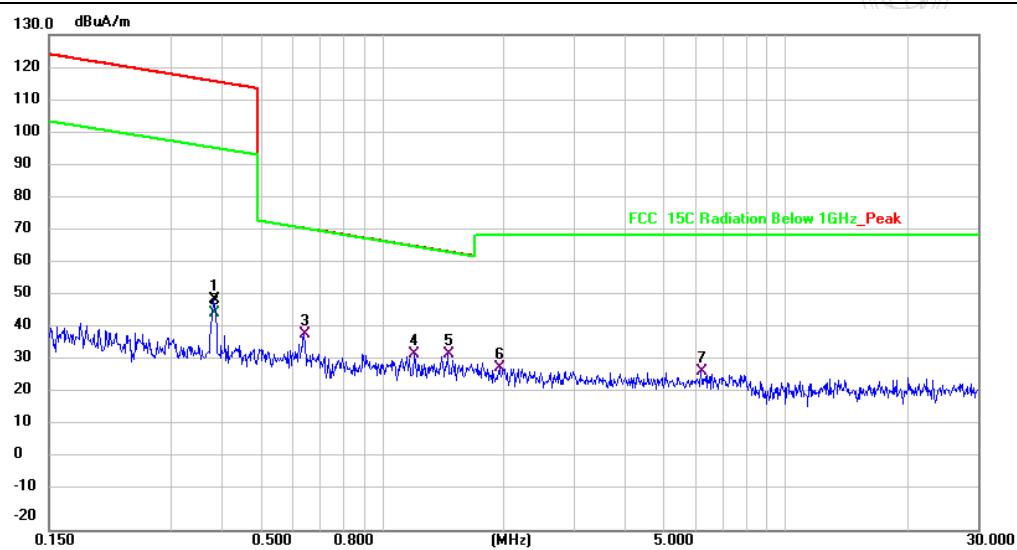


| No. | Mk. | Freq.  | Reading | Correct | Measure- | Limit  | Over   | Detector | Comment |
|-----|-----|--------|---------|---------|----------|--------|--------|----------|---------|
|     |     |        | Level   | Factor  | ment     |        |        |          |         |
|     |     | MHz    | dBuV    | dB      | dBuV/m   | dB     |        |          |         |
| 1   |     | 0.1281 | 45.73   | 20.47   | 66.20    | 125.47 | -59.27 | peak     |         |
| 2   | *   | 0.1281 | 41.63   | 20.47   | 62.10    | 105.47 | -43.37 | AVG      |         |

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Mode3 / EUT direction: X axis

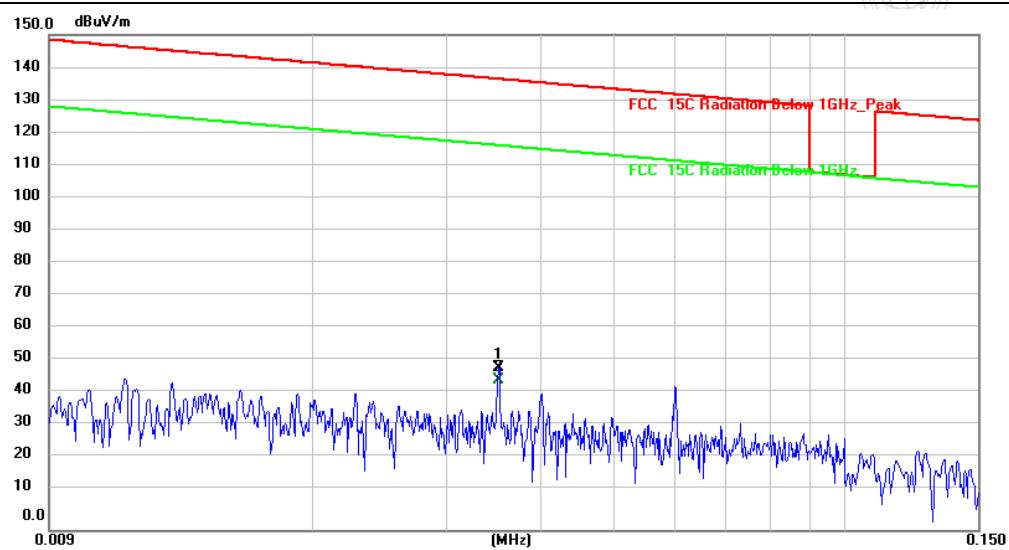


| No. | Mk. | Freq.<br>MHz | Reading<br>Level | Correct<br>Factor | Measure-<br>ment | Limit  | Over   | Detector | Comment |
|-----|-----|--------------|------------------|-------------------|------------------|--------|--------|----------|---------|
|     |     |              | dBuV             | dB                | dBuA/m           | dBuA/m | dB     |          |         |
| 1   |     | 0.3832       | 28.83            | 21.13             | 49.96            | 115.94 | -65.98 | peak     |         |
| 2   |     | 0.3832       | 24.67            | 21.13             | 45.80            | 95.94  | -50.14 | AVG      |         |
| 3   |     | 0.6406       | 17.82            | 21.74             | 39.56            | 71.48  | -31.92 | QP       |         |
| 4   |     | 1.1970       | 10.48            | 23.01             | 33.49            | 66.06  | -32.57 | QP       |         |
| 5 * |     | 1.4562       | 9.86             | 23.54             | 33.40            | 64.37  | -30.97 | QP       |         |
| 6   |     | 1.9489       | 4.67             | 24.55             | 29.22            | 69.50  | -40.28 | QP       |         |
| 7   |     | 6.1860       | 7.39             | 20.73             | 28.12            | 69.50  | -41.38 | QP       |         |

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Mode4 / EUT direction: X axis

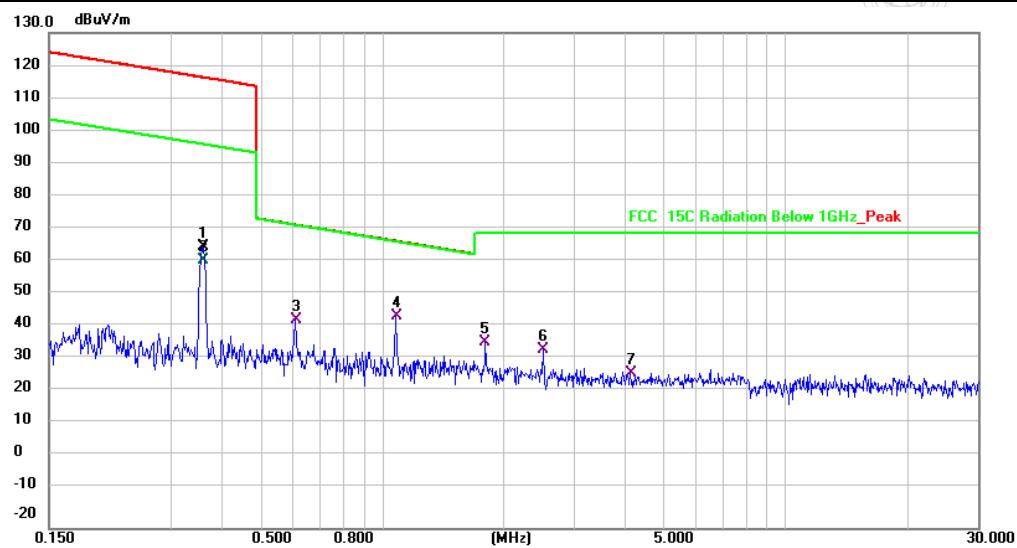


| No. | Mk. | Freq.  | Reading | Correct | Measure- | Limit  | Over   | Detector | Comment |
|-----|-----|--------|---------|---------|----------|--------|--------|----------|---------|
|     |     |        | Level   | Factor  | ment     |        |        |          |         |
|     |     | MHz    | dBuV    | dB      | dBuV/m   | dB     |        |          |         |
| 1   |     | 0.0350 | 28.43   | 20.95   | 49.38    | 136.62 | -87.24 | peak     |         |
| 2   | *   | 0.0350 | 24.65   | 20.95   | 45.60    | 116.62 | -71.02 | AVG      |         |

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Mode4 / EUT direction: X axis



| No. | Mk.    | Freq.<br>MHz | Reading<br>Level | Correct<br>Factor | Measure-<br>ment | Limit  | Over | Detector | Comment |
|-----|--------|--------------|------------------|-------------------|------------------|--------|------|----------|---------|
|     |        |              | dBuV             | dB                | dBuV/m           | dBuV/m | dB   |          |         |
| 1   | 0.3596 | 44.42        | 21.08            | 65.50             | 116.49           | -50.99 | peak |          |         |
| 2   | 0.3596 | 40.22        | 21.08            | 61.30             | 96.49            | -35.19 | AVG  |          |         |
| 3   | 0.6108 | 21.57        | 21.66            | 43.23             | 71.89            | -28.66 | QP   |          |         |
| 4 * | 1.0824 | 21.68        | 22.76            | 44.44             | 66.94            | -22.50 | QP   |          |         |
| 5   | 1.8000 | 12.17        | 24.24            | 36.41             | 69.50            | -33.09 | QP   |          |         |
| 6   | 2.5266 | 8.31         | 25.75            | 34.06             | 69.50            | -35.44 | QP   |          |         |
| 7   | 4.1356 | 6.36         | 20.83            | 27.19             | 69.50            | -42.31 | QP   |          |         |

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## 6.4 Emissions in frequency bands (30MHz - 1GHz)

|  |                              |                                   |                                |  |  |
|--|------------------------------|-----------------------------------|--------------------------------|--|--|
| Test Requirement:  | 47 CFR Part 15.209           |                                   |                                |  |  |
| Test Limit:  | Frequency (MHz)              | Field strength (microvolts/meter) | Measuremen t distance (meters) |  |  |
|  | 0.009-0.490                  | 2400/F(kHz)                       | 300                            |  |  |
|  | 0.490-1.705                  | 24000/F(kHz)                      | 30                             |  |  |
|  | 1.705-30.0                   | 30                                | 30                             |  |  |
|  | 30-88                        | 100 **                            | 3                              |  |  |
|  | 88-216                       | 150 **                            | 3                              |  |  |
|  | 216-960                      | 200 **                            | 3                              |  |  |
|  | Above 960                    | 500                               | 3                              |  |  |
| <p>** 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.</p> <p>In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector. As shown in § 15.35(b), for frequencies above 1000 MHz, the field strength limits in paragraphs (a) and (b) of this section are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For point-to-point operation under paragraph (b) of this section, the peak field strength shall not exceed 2500 millivolts/meter at 3 meters along the antenna azimuth.</p> |                              |                                   |                                |  |  |
| Test Method:   | ANSI C63.10-2013 section 6.5 |                                   |                                |  |  |
| Procedure:   | ANSI C63.10-2013 section 6.5 |                                   |                                |  |  |

### 6.4.1 E.U.T. Operation:

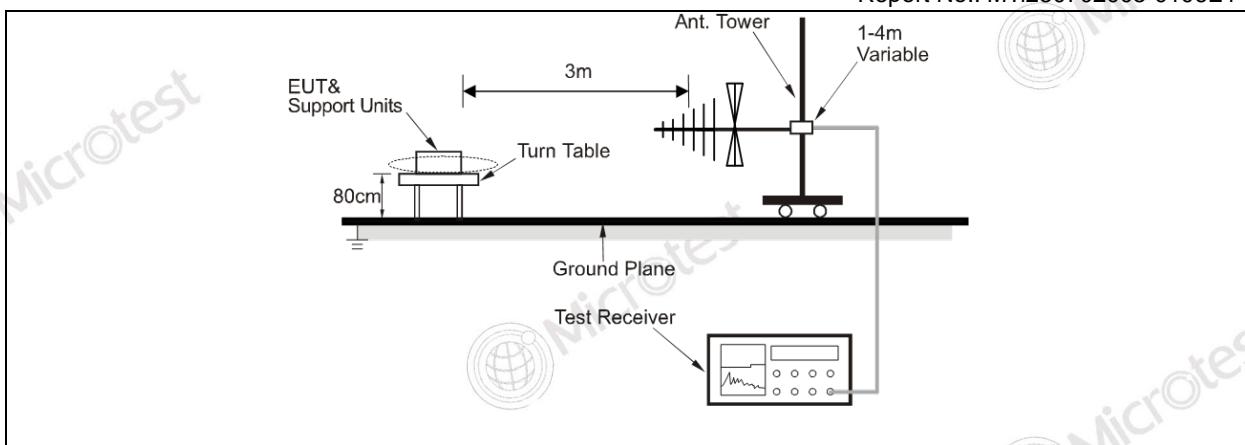
|                        |  |           |      |                       |
|------------------------|--|-----------|------|-----------------------|
| Operating Environment: |  |           |      |                       |
| Temperature:           | 26 °C  | Humidity: | 54 % | Atmospheric Pressure: |
| Pre test mode:         | Mode1, Mode2, Mode3, Mode4, Mode5  |           |      |                       |
| Final test mode:       | All of the listed pre-test mode were tested, only the data of the worst mode (Mode4) is recorded in the report |           |      |                       |

### 6.4.2 Test Setup Diagram:



# TEST REPORT

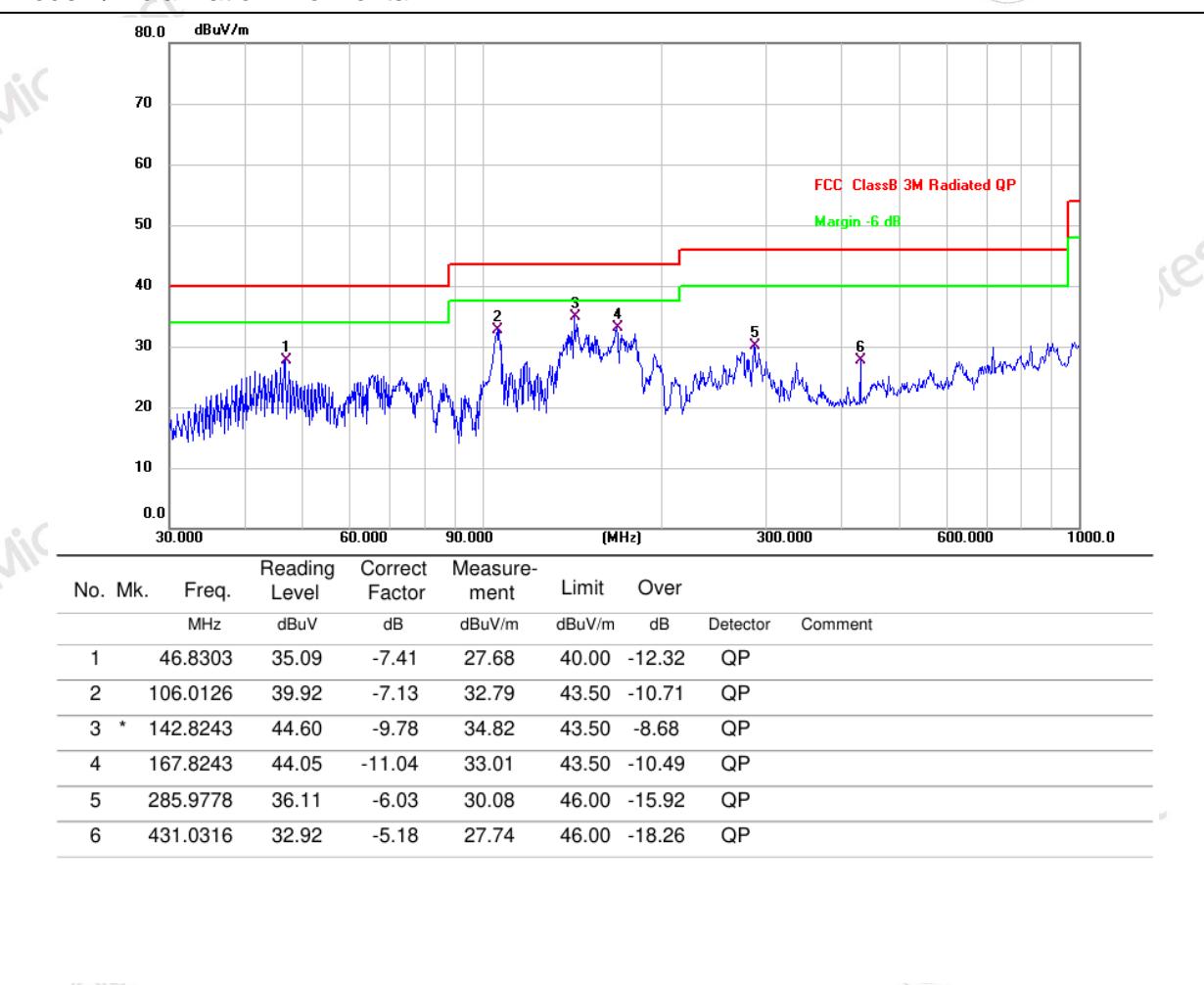
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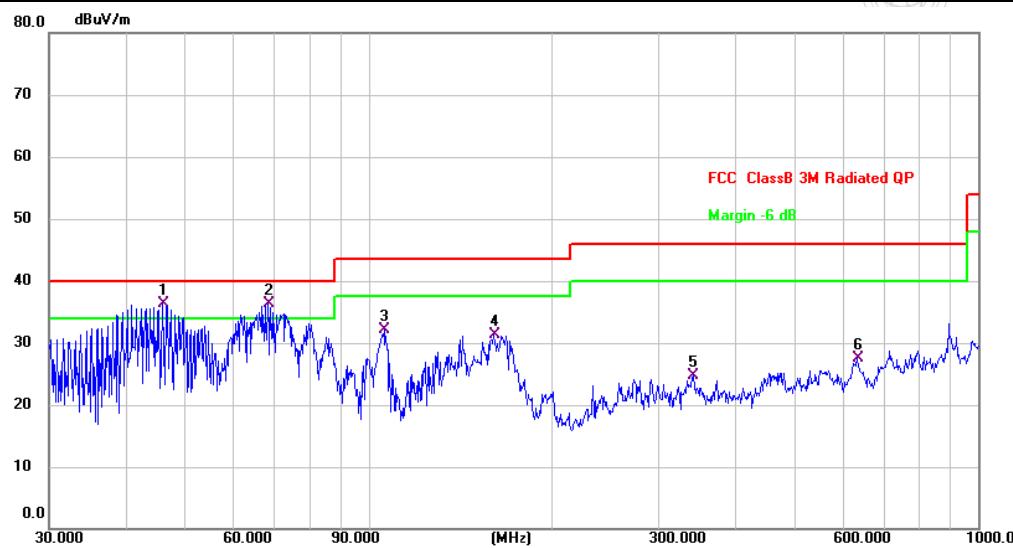
## 6.4.3 Test Data:

**Mode4 / Polarization: Horizontal**


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Mode4 / Polarization: Vertical



| No. | Mk. | Freq.    | Reading | Correct | Measure- | Limit | Over   | Detector | Comment |
|-----|-----|----------|---------|---------|----------|-------|--------|----------|---------|
|     |     |          | Level   | Factor  | ment     |       |        |          |         |
|     |     | MHz      | dBuV    | dB      | dBuV/m   | dB    |        |          |         |
| 1   | *   | 46.0164  | 43.58   | -7.24   | 36.34    | 40.00 | -3.66  | QP       |         |
| 2   | !   | 68.3908  | 47.21   | -10.92  | 36.29    | 40.00 | -3.71  | QP       |         |
| 3   |     | 106.0126 | 39.14   | -7.13   | 32.01    | 43.50 | -11.49 | QP       |         |
| 4   |     | 160.3456 | 42.20   | -10.85  | 31.35    | 43.50 | -12.15 | QP       |         |
| 5   |     | 341.9786 | 28.60   | -3.85   | 24.75    | 46.00 | -21.25 | QP       |         |
| 6   |     | 633.9073 | 27.41   | 0.01    | 27.42    | 46.00 | -18.58 | QP       |         |



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## Photographs of the test setup

## Refer to Appendix - Test Setup Photos



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## Photographs of the EUT

## Refer to Appendix - EUT Photos

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## Statement

1. This report is invalid without the seal and signature of the laboratory.
2. The test results of this report are only responsible for the samples submitted. Client shall be responsible for representativeness of the sample and authenticity of the material.
3. The report shall not be partially reproduced without the written consent of the Laboratory.
4. This report is invalid if transferred, altered or tampered with in any form without authorization.
5. The observations or tests with special mark fall outside the scope of accreditation, and are only used for purpose of commission, research, training, internal quality control etc.
6. Any objection to this report shall be submitted to the laboratory within 15 days from the date of receipt of the report.

\*\*\*\*\* END OF REPORT \*\*\*\*\*