Series Model No.: C7 Ultra

Operation Mode: 802.11a Mode with 5.2G TX CH Low

Horizontal

| Frequency (MHz) | Meter Reading (dBμV) | Factor (dB) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 5150 | 54.19 | -2.49 | 51.7 | 74 | -22.3 | peak |
| 5150 | / | -2.49 | / | 54 | / | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency (MHz) | Meter Reading (dBμV) | Factor (dB) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 5150 | 53.29 | -2.49 | 50.8 | 74 | -23.2 | peak |
| 5150 | / | -2.49 | / | 54 | / | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

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Operation Mode: TX CH High with 5.2G

Horizontal

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 5350 | 53.19 | -2.11 | 51.08 | 74 | -22.92 | peak |
| 5350 | / | -2.11 | / | 54 | / | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 5350 | 51.04 | -2.11 | 48.93 | 74 | -25.07 | peak |
| 5350 | / | -2.11 | / | 54 | / | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

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Series Model No.: S24 Ultra

Operation Mode: 802.11a Mode with 5.2G TX CH Low

Horizontal

| Frequency (MHz) | Meter Reading (dBμV) | Factor (dB) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 5150 | 53.29 | -2.49 | 50.8 | 74 | -23.2 | peak |
| 5150 | / | -2.49 | / | 54 | / | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency (MHz) | Meter Reading (dBμV) | Factor (dB) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 5150 | 51.47 | -2.49 | 48.98 | 74 | -25.02 | peak |
| 5150 | / | -2.49 | / | 54 | / | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

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Operation Mode: TX CH High with 5.2G

Horizontal

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 5350 | 53.26 | -2.11 | 51.15 | 74 | -22.85 | peak |
| 5350 | / | -2.11 | / | 54 | / | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 5350 | 51.44 | -2.11 | 49.33 | 74 | -24.67 | peak |
| 5350 | / | -2.11 | / | 54 | / | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Remark:
1. If the PK measured levels comply with average limit, then the average level were deemed to com ply with
average limit.
2. In restricted bands of operation, the spurious emissions below the permissible value more than 2 0dB.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permiss ible value has no need to be reported.

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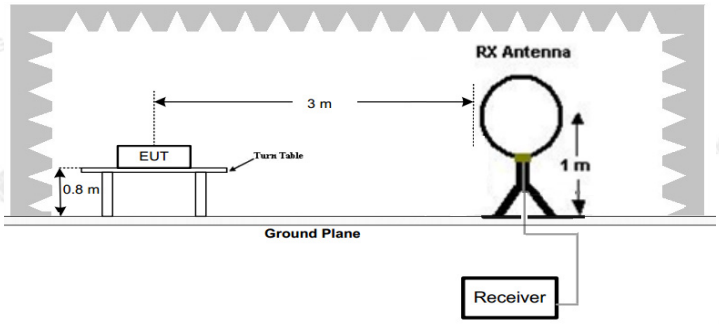
## 4.7. Spurious Emission

### 4.7.1.1. Test Specification

<table>
<tr><td>Test Requirement:</td><td>FCC CFR47 Part 15 Section 15.407</td></tr>
<tr><td>Test Method:</td><td>KDB 789033 D02 v02r01</td></tr>
<tr><td>Frequency Range:</td><td>9kHz to 40GHz</td></tr>
<tr><td>Measurement Distance:</td><td>3 m</td></tr>
<tr><td>Antenna Polarization:</td><td>Horizontal & Vertical</td></tr>
<tr><td>Operation mode:</td><td>Transmitting mode with modulation</td></tr>
<tr><td>Receiver Setup:</td><td>
<table>
<tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr>
<tr><td>9kHz- 150kHz</td><td>Quasi-peak</td><td>200Hz</td><td>1kHz</td><td>Quasi-peak Value</td></tr>
<tr><td>150kHz-30MHz</td><td>Quasi-peak</td><td>9kHz</td><td>30kHz</td><td>Quasi-peak Value</td></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>120KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.<br>(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.<br>The limit of frequency below 1GHz and which fall in rest ricted bands should complies 15.209.</td></tr>
<tr><td>Test setup:</td><td>For radiated emissions below 30MHz<br> 
</td></tr>
</table>

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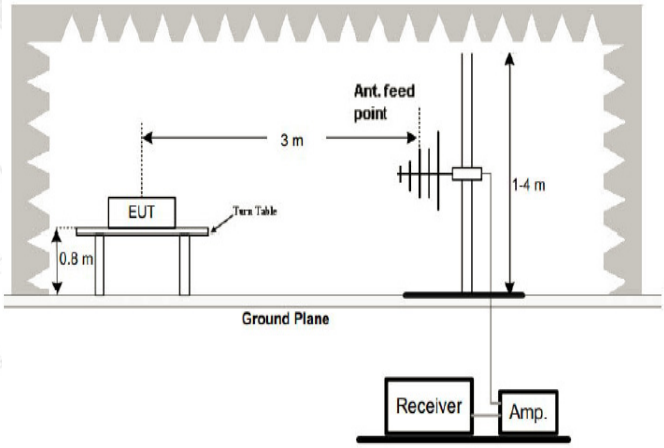
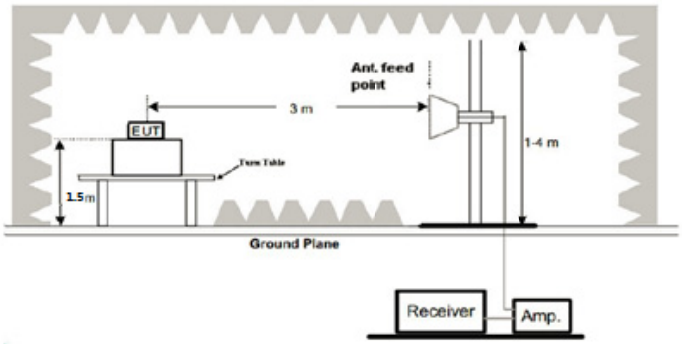
| | |
|---|---|
| | 30MHz to 1GHz<br>  <br><br>Above 1GHz<br>  <br> |
| **Test Procedure:** | 1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.<br>2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.<br>3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.<br>4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable was turned from 0 degrees to 360 degrees to find the maximum reading.<br>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. |

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| | |
|---|---|
| | 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would bere-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. |
| **Test results:** | PASS |

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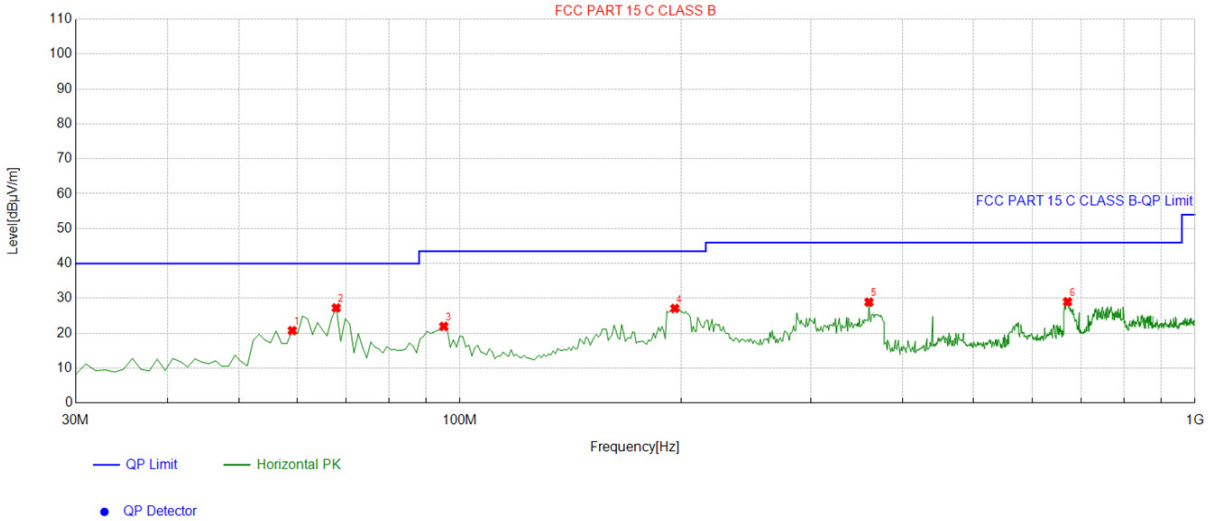
## 4.7.2. Test Data

**All the test modes completed for test. only the worst result of (802.11a at 5180MHz) was reported**
**Below 1GHz**

**Test Model No.: S25 Ultra**
**Horizontal**




| Suspected List | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Factor [dB] | Reading [dBµV/m] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 59.129129 | -13.54 | 34.30 | 20.76 | 40.00 | 19.24 | 100 | 49 | Horizontal |
| 2 | 67.867868 | -16.02 | 43.29 | 27.27 | 40.00 | 12.73 | 100 | 66 | Horizontal |
| 3 | 95.055055 | -15.40 | 37.37 | 21.97 | 43.50 | 21.53 | 100 | 338 | Horizontal |
| 4 | 196.03603 | -14.99 | 42.11 | 27.12 | 43.50 | 16.38 | 100 | 87 | Horizontal |
| 5 | 360.13013 | -9.86 | 38.77 | 28.91 | 46.00 | 17.09 | 100 | 274 | Horizontal |
| 6 | 670.84084 | -4.44 | 33.46 | 29.02 | 46.00 | 16.98 | 100 | 130 | Horizontal |

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

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**Vertical**

| Suspected List | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Factor [dB] | Reading [dBµV/m] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 47.477477 | -13.86 | 45.24 | 31.38 | 40.00 | 8.62 | 100 | 156 | Vertical |
| 2 | 70.780781 | -16.89 | 45.40 | 28.51 | 40.00 | 11.49 | 100 | 351 | Vertical |
| 3 | 154.28428 | -17.76 | 42.96 | 25.20 | 43.50 | 18.30 | 100 | 16 | Vertical |
| 4 | 198.94894 | -14.75 | 40.99 | 26.24 | 43.50 | 17.26 | 100 | 10 | Vertical |
| 5 | 288.27827 | -12.19 | 35.76 | 23.57 | 46.00 | 22.43 | 100 | 124 | Vertical |
| 6 | 799.97998 | -3.01 | 32.56 | 29.55 | 46.00 | 16.45 | 100 | 203 | Vertical |

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

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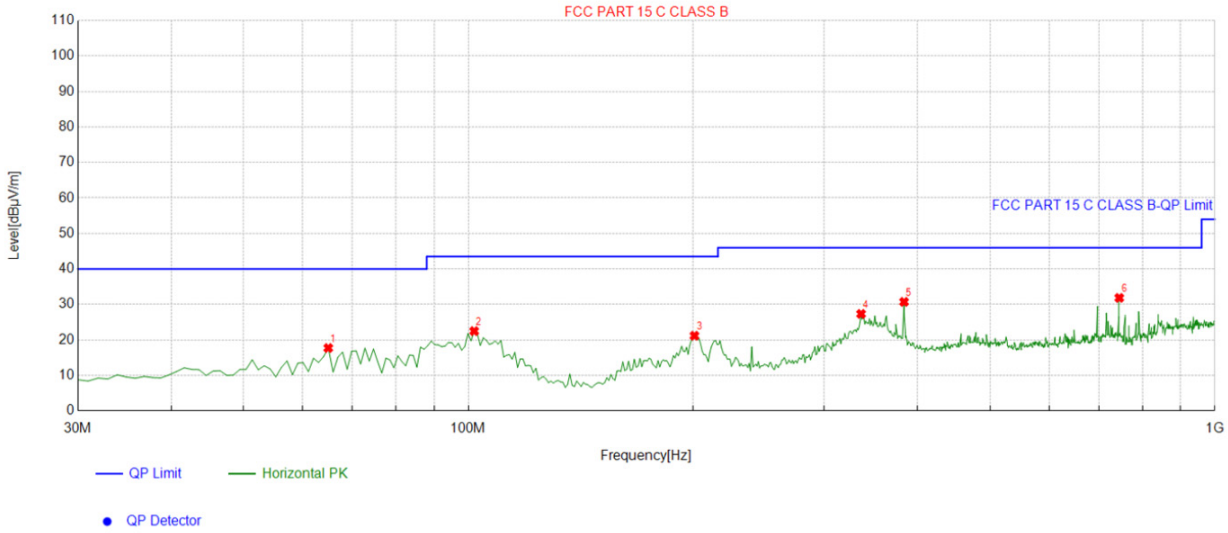
**Series Model No.: X24 Ultra**

**Horizontal**




| Suspected List | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Factor [dB] | Reading [dBµV/m] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 64.954955 | -15.33 | 33.06 | 17.73 | 40.00 | 22.27 | 100 | 150 | Horizontal |
| 2 | 101.85185 | -14.86 | 37.34 | 22.48 | 43.50 | 21.02 | 100 | 11 | Horizontal |
| 3 | 200.89089 | -15.16 | 36.34 | 21.18 | 43.50 | 22.32 | 100 | 118 | Horizontal |
| 4 | 335.85585 | -10.57 | 37.89 | 27.32 | 46.00 | 18.68 | 100 | 71 | Horizontal |
| 5 | 383.43343 | -9.11 | 39.83 | 30.72 | 46.00 | 15.28 | 100 | 232 | Horizontal |
| 6 | 744.63463 | -3.42 | 35.27 | 31.85 | 46.00 | 14.15 | 100 | 226 | Horizontal |

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

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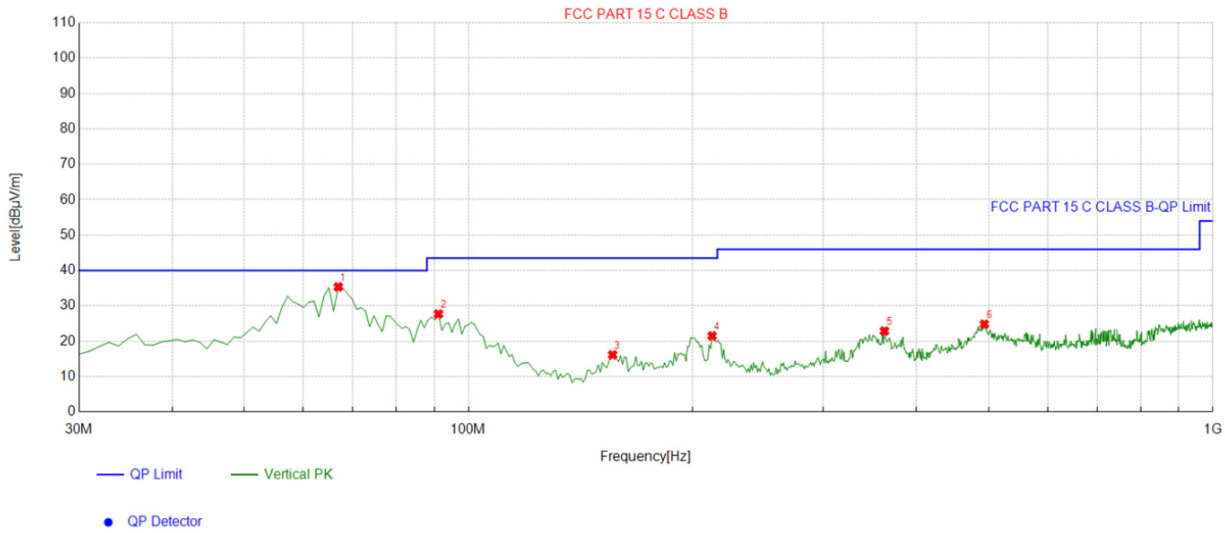
**Vertical**




| Suspected List | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Factor [dB] | Reading [dBμV/m] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 66.896897 | -16.17 | 51.53 | 35.36 | 40.00 | 4.64 | 100 | 304 | Vertical |
| 2 | 91.171171 | -16.91 | 44.62 | 27.71 | 43.50 | 15.79 | 100 | 237 | Vertical |
| 3 | 156.22622 | -17.78 | 33.94 | 16.16 | 43.50 | 27.34 | 100 | 59 | Vertical |
| 4 | 212.54254 | -14.82 | 36.34 | 21.52 | 43.50 | 21.98 | 100 | 36 | Vertical |
| 5 | 362.07207 | -9.74 | 32.61 | 22.87 | 46.00 | 23.13 | 100 | 14 | Vertical |
| 6 | 493.15315 | -7.86 | 32.69 | 24.83 | 46.00 | 21.17 | 100 | 268 | Vertical |

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

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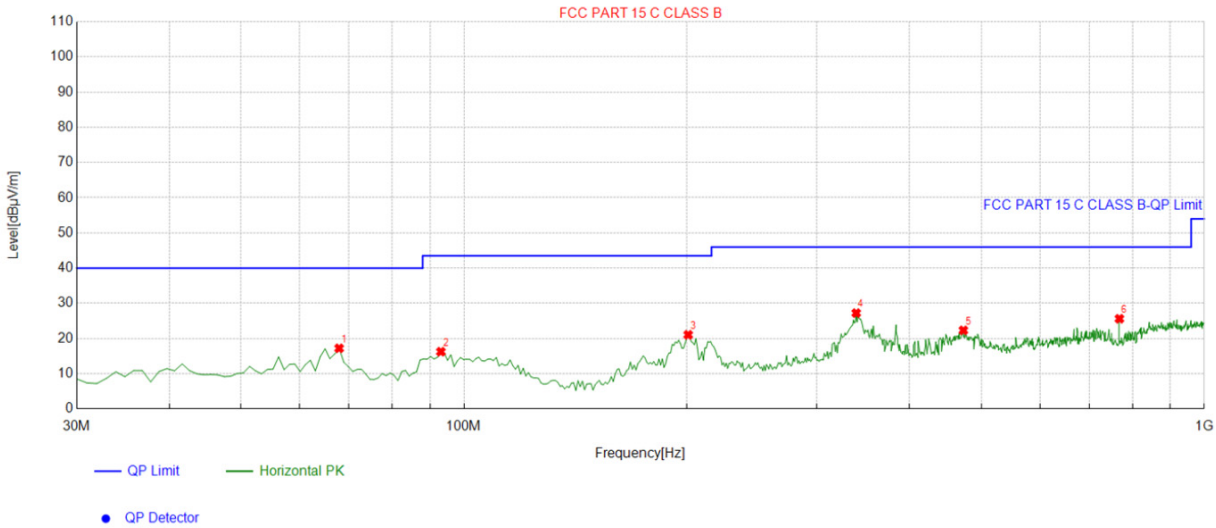
**Series Model No.: C24 Ultra**

**Horizontal**




| Suspected List | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Factor [dB] | Reading [dBµV/m] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 67.867868 | -16.02 | 33.24 | 17.22 | 40.00 | 22.78 | 100 | 228 | Horizontal |
| 2 | 93.113113 | -15.92 | 32.18 | 16.26 | 43.50 | 27.24 | 100 | 327 | Horizontal |
| 3 | 200.89089 | -15.16 | 36.21 | 21.05 | 43.50 | 22.45 | 100 | 55 | Horizontal |
| 4 | 338.76876 | -10.40 | 37.62 | 27.22 | 46.00 | 18.78 | 100 | 80 | Horizontal |
| 5 | 472.76276 | -8.35 | 30.67 | 22.32 | 46.00 | 23.68 | 100 | 142 | Horizontal |
| 6 | 767.93793 | -4.54 | 30.15 | 25.61 | 46.00 | 20.39 | 100 | 127 | Horizontal |

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

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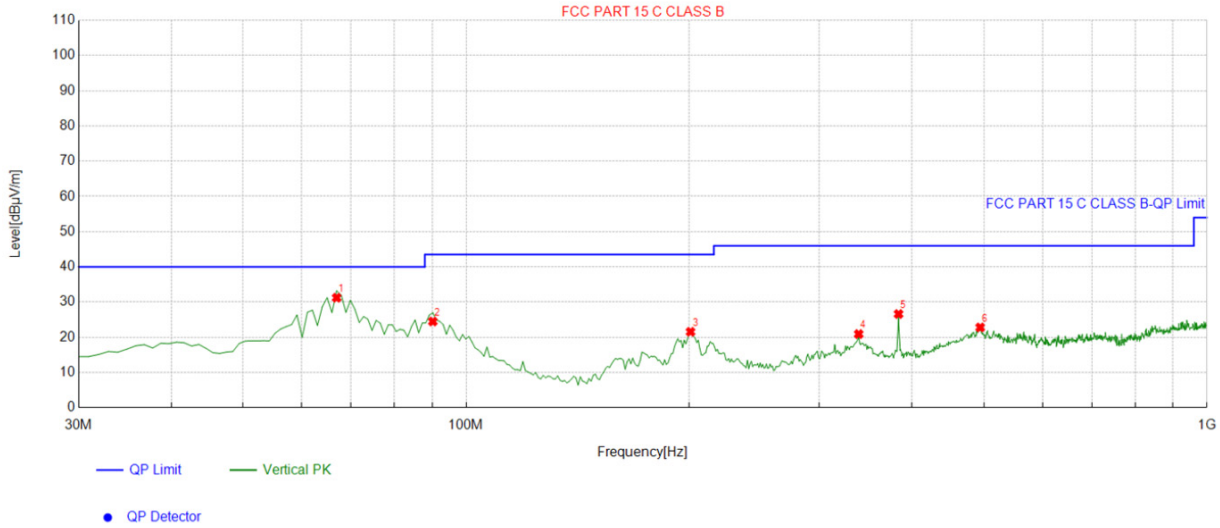
**Vertical**




| Suspected List | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Factor [dB] | Reading [dBμV/m] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 66.896897 | -16.17 | 47.40 | 31.23 | 40.00 | 8.77 | 100 | 340 | Vertical |
| 2 | 90.2002 | -16.68 | 41.15 | 24.47 | 43.50 | 19.03 | 100 | 252 | Vertical |
| 3 | 200.89089 | -15.16 | 36.72 | 21.56 | 43.50 | 21.94 | 100 | 7 | Vertical |
| 4 | 338.76876 | -10.40 | 31.32 | 20.92 | 46.00 | 25.08 | 100 | 7 | Vertical |
| 5 | 383.43343 | -9.11 | 35.71 | 26.60 | 46.00 | 19.40 | 100 | 15 | Vertical |
| 6 | 494.12412 | -7.84 | 30.64 | 22.80 | 46.00 | 23.20 | 100 | 245 | Vertical |

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

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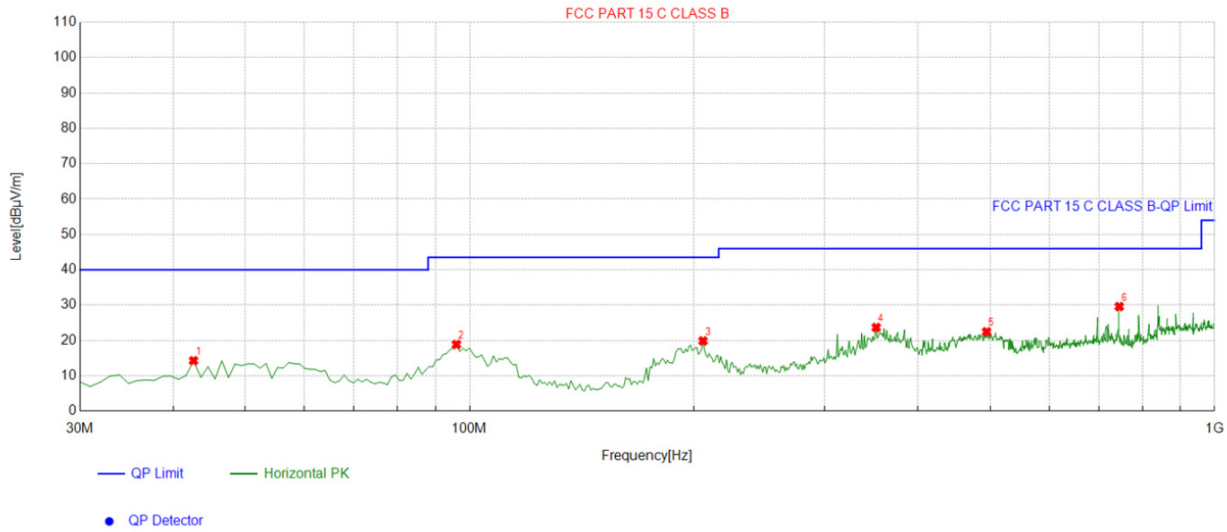
**Series Model No.: C25**

**Horizontal**




| Suspected List | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Factor [dB] | Reading [dBµV/m] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 42.622623 | -13.31 | 27.59 | 14.28 | 40.00 | 25.72 | 100 | 309 | Horizontal |
| 2 | 96.026026 | -15.55 | 34.41 | 18.86 | 43.50 | 24.64 | 100 | 354 | Horizontal |
| 3 | 205.74574 | -15.25 | 35.13 | 19.88 | 43.50 | 23.62 | 100 | 89 | Horizontal |
| 4 | 351.39139 | -10.10 | 33.77 | 23.67 | 46.00 | 22.33 | 100 | 265 | Horizontal |
| 5 | 494.12412 | -7.84 | 30.28 | 22.44 | 46.00 | 23.56 | 100 | 137 | Horizontal |
| 6 | 744.63463 | -3.42 | 33.00 | 29.58 | 46.00 | 16.42 | 100 | 69 | Horizontal |

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

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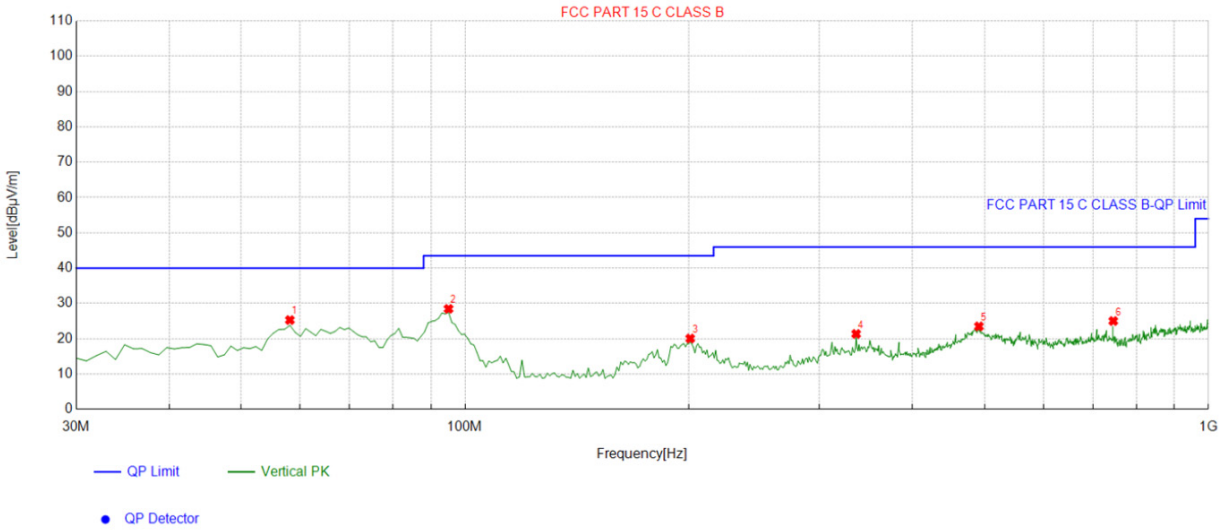
**Vertical**




| Suspected List | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Factor [dB] | Reading [dBμV/m] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 58.158158 | -14.00 | 39.29 | 25.29 | 40.00 | 14.71 | 100 | 77 | Vertical |
| 2 | 95.055055 | -15.40 | 43.86 | 28.46 | 43.50 | 15.04 | 100 | 217 | Vertical |
| 3 | 200.89089 | -15.16 | 35.23 | 20.07 | 43.50 | 23.43 | 100 | 0 | Vertical |
| 4 | 335.85585 | -10.57 | 31.94 | 21.37 | 46.00 | 24.63 | 100 | 42 | Vertical |
| 5 | 491.21121 | -7.88 | 31.37 | 23.49 | 46.00 | 22.51 | 100 | 320 | Vertical |
| 6 | 744.63463 | -3.42 | 28.44 | 25.02 | 46.00 | 20.98 | 100 | 91 | Vertical |

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

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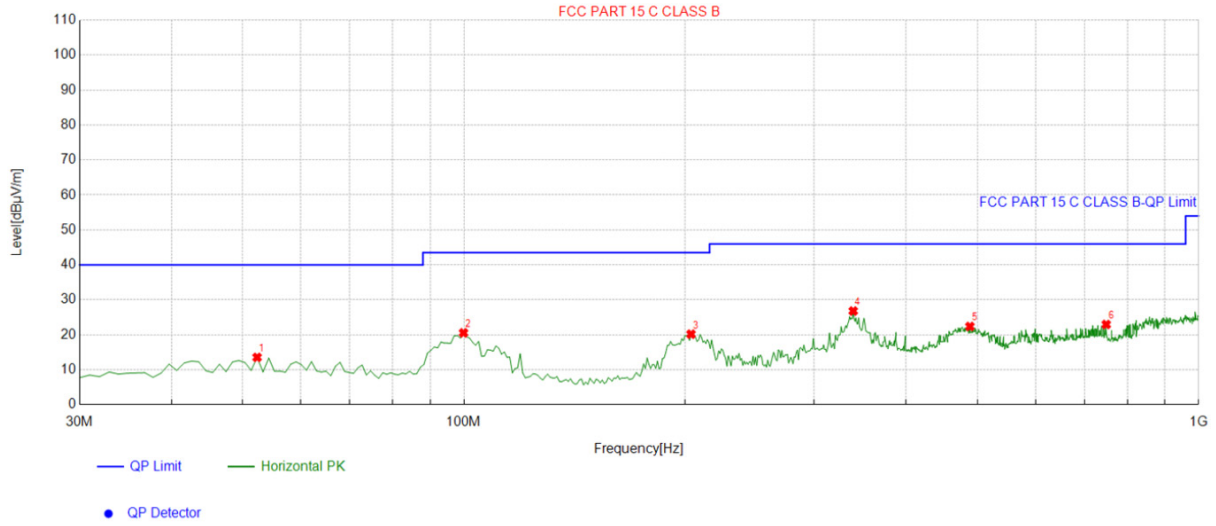
**Series Model No.: I15 Ultra**

**Horizontal**




| Suspected List | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Factor [dB] | Reading [dBμV/m] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 52.332332 | -13.35 | 26.89 | 13.54 | 40.00 | 26.46 | 100 | 197 | Horizontal |
| 2 | 99.90991 | -14.70 | 35.25 | 20.55 | 43.50 | 22.95 | 100 | 2 | Horizontal |
| 3 | 203.80380 | -15.27 | 35.45 | 20.18 | 43.50 | 23.32 | 100 | 49 | Horizontal |
| 4 | 338.76876 | -10.40 | 37.19 | 26.79 | 46.00 | 19.21 | 100 | 75 | Horizontal |
| 5 | 488.29829 | -7.91 | 30.28 | 22.37 | 46.00 | 23.63 | 100 | 127 | Horizontal |
| 6 | 748.51851 | -3.66 | 26.60 | 22.94 | 46.00 | 23.06 | 100 | 239 | Horizontal |

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

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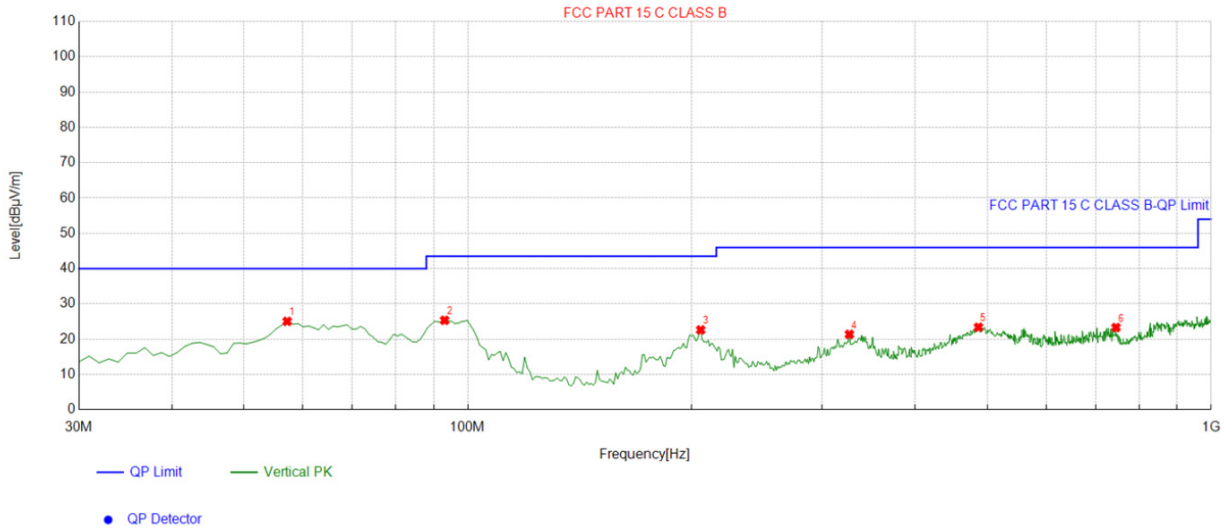
**Vertical**




| Suspected List | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Factor [dB] | Reading [dBμV/m] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 57.187187 | -13.76 | 38.80 | 25.04 | 40.00 | 14.96 | 100 | 357 | Vertical |
| 2 | 93.113113 | -15.92 | 41.26 | 25.34 | 43.50 | 18.16 | 100 | 250 | Vertical |
| 3 | 205.74574 | -15.25 | 37.87 | 22.62 | 43.50 | 20.88 | 100 | 15 | Vertical |
| 4 | 326.14614 | -10.98 | 32.35 | 21.37 | 46.00 | 24.63 | 100 | 354 | Vertical |
| 5 | 486.35635 | -7.92 | 31.31 | 23.39 | 46.00 | 22.61 | 100 | 293 | Vertical |
| 6 | 744.63463 | -3.42 | 26.72 | 23.30 | 46.00 | 22.70 | 100 | 340 | Vertical |

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

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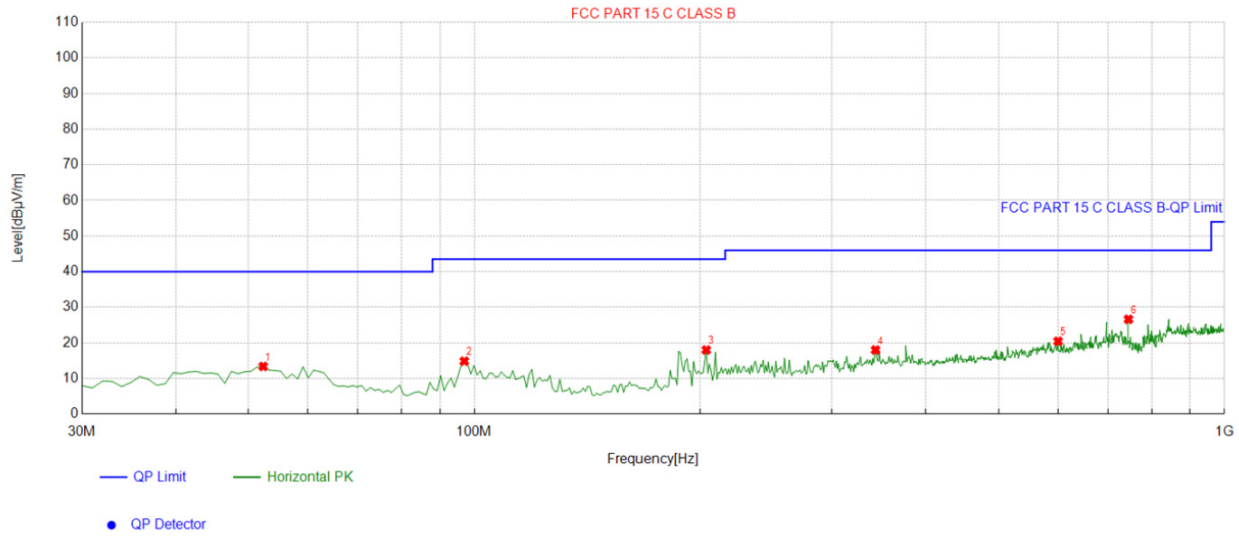
**Series Model No.: C7 Ultra**

**Horizontal**




| Suspected List | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Factor [dB] | Reading [dBμV/m] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 52.332332 | -13.35 | 26.73 | 13.38 | 40.00 | 26.62 | 100 | 350 | Horizontal |
| 2 | 96.996997 | -14.95 | 29.81 | 14.86 | 43.50 | 28.64 | 100 | 1 | Horizontal |
| 3 | 203.80380 | -15.27 | 33.28 | 18.01 | 43.50 | 25.49 | 100 | 52 | Horizontal |
| 4 | 342.65265 | -10.22 | 28.22 | 18.00 | 46.00 | 28.00 | 100 | 274 | Horizontal |
| 5 | 599.95996 | -5.33 | 25.78 | 20.45 | 46.00 | 25.55 | 100 | 70 | Horizontal |
| 6 | 744.63463 | -3.42 | 30.03 | 26.61 | 46.00 | 19.39 | 100 | 303 | Horizontal |

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

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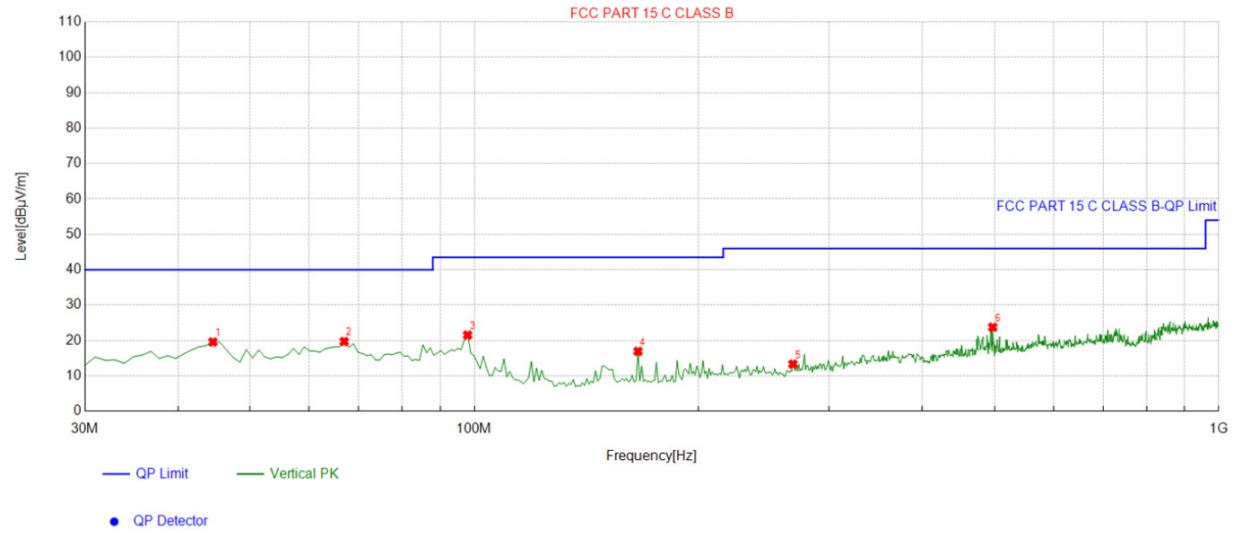
**Vertical**




| Suspected List | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Factor [dB] | Reading [dBµV/m] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 44.564565 | -13.72 | 33.30 | 19.58 | 40.00 | 20.42 | 100 | 128 | Vertical |
| 2 | 66.896897 | -16.17 | 35.89 | 19.72 | 40.00 | 20.28 | 100 | 219 | Vertical |
| 3 | 97.967968 | -15.12 | 36.66 | 21.54 | 43.50 | 21.96 | 100 | 219 | Vertical |
| 4 | 165.93593 | -17.41 | 34.36 | 16.95 | 43.50 | 26.55 | 100 | 358 | Vertical |
| 5 | 267.88788 | -12.76 | 26.08 | 13.32 | 46.00 | 32.68 | 100 | 252 | Vertical |
| 6 | 497.03703 | -7.97 | 31.72 | 23.75 | 46.00 | 22.25 | 100 | 238 | Vertical |

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

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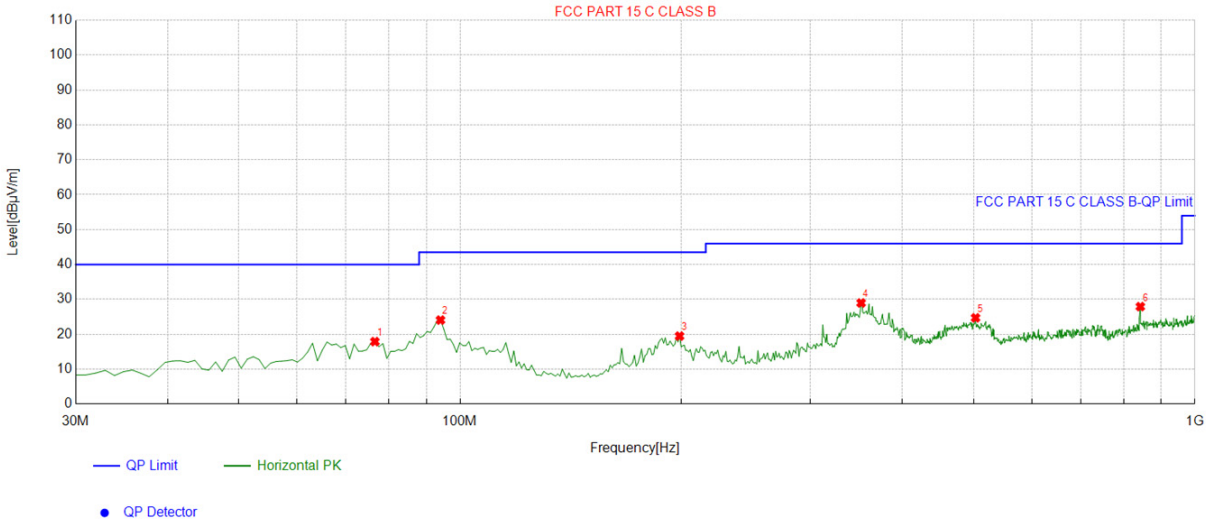
**Series Model No.: S24 Ultra**

**Horizontal**




| Suspected List | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Factor [dB] | Reading [dBµV/m] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 76.606607 | -17.96 | 35.85 | 17.89 | 40.00 | 22.11 | 100 | 29 | Horizontal |
| 2 | 94.084084 | -15.78 | 39.85 | 24.07 | 43.50 | 19.43 | 100 | 2 | Horizontal |
| 3 | 198.94894 | -14.75 | 34.23 | 19.48 | 43.50 | 24.02 | 100 | 84 | Horizontal |
| 4 | 351.39139 | -10.10 | 39.07 | 28.97 | 46.00 | 17.03 | 100 | 78 | Horizontal |
| 5 | 502.86286 | -8.20 | 32.91 | 24.71 | 46.00 | 21.29 | 100 | 121 | Horizontal |
| 6 | 842.70270 | -1.79 | 29.72 | 27.93 | 46.00 | 18.07 | 100 | 55 | Horizontal |

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

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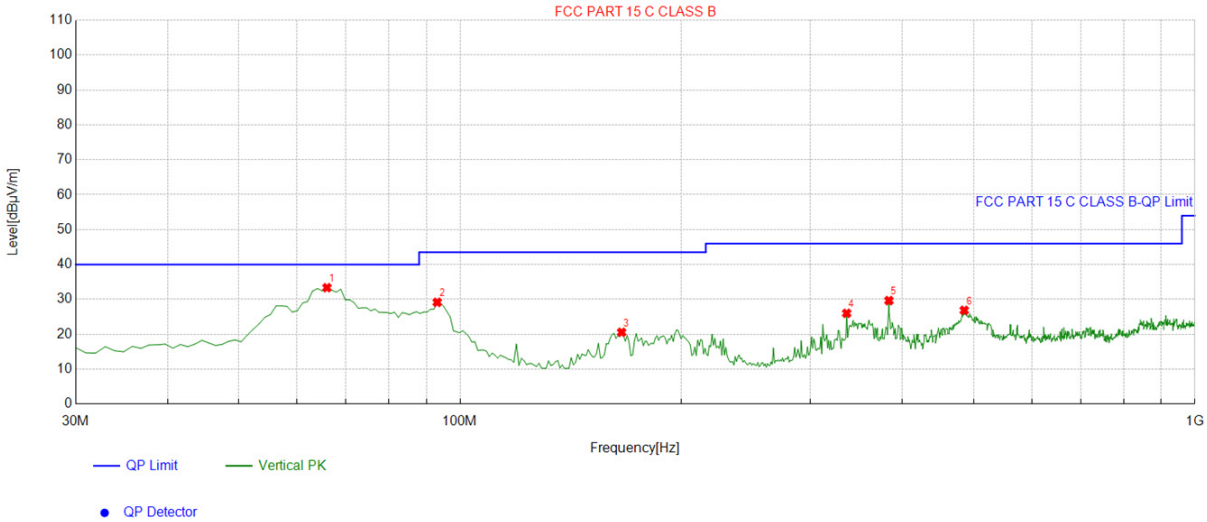
**Vertical**




| Suspected List | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Factor [dB] | Reading [dBµV/m] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Height [cm] | Angle [°] | Polarity |
| 1 | 65.925926 | -15.95 | 49.30 | 33.35 | 40.00 | 6.65 | 100 | 317 | Vertical |
| 2 | 93.113113 | -15.92 | 45.08 | 29.16 | 43.50 | 14.34 | 100 | 239 | Vertical |
| 3 | 165.93593 | -17.41 | 37.97 | 20.56 | 43.50 | 22.94 | 100 | 17 | Vertical |
| 4 | 335.85585 | -10.57 | 36.58 | 26.01 | 46.00 | 19.99 | 100 | 40 | Vertical |
| 5 | 383.43343 | -9.11 | 38.76 | 29.65 | 46.00 | 16.35 | 100 | 185 | Vertical |
| 6 | 485.38538 | -7.93 | 34.79 | 26.86 | 46.00 | 19.14 | 100 | 297 | Vertical |

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

## Harmonics and Spurious Emissions
## Frequency Range (9kHz-30MHz)

| Frequency (MHz) | Level@3m (dBµV/m) | Limit@3m (dBµV/m) |
|---|---|---|
| -- | -- | -- |
| -- | -- | -- |
| -- | -- | -- |
| -- | -- | -- |

***Note:*** *1. Emission Level=Reading+ Cable loss-Antenna factor-Amp factor.*
*2. The emission levels are 20 dB below the limit value, which are not reported. It is deemed to comply with the requirement.*

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**Above 1GHz**

LOW CH 36 (802.11 a Mode with 5.2G)/5180

Horizontal:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 55.95 | -4.59 | 51.36 | 74 | -22.64 | peak |
| 3647 | 44.74 | -4.59 | 40.15 | 54 | -13.85 | AVG |
| 10360 | 52.55 | 3.74 | 56.29 | 74 | -17.71 | peak |
| 10360 | 41.42 | 3.74 | 45.16 | 54 | -8.84 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 54.73 | -4.59 | 50.14 | 74 | -23.86 | peak |
| 3647 | 42.49 | -4.59 | 37.9 | 54 | -16.1 | AVG |
| 10360 | 51.92 | 3.74 | 55.66 | 74 | -18.34 | peak |
| 10360 | 40.23 | 3.74 | 43.97 | 54 | -10.03 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

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MID CH40 (802.11 a Mode with 5.2G)/5200

Horizontal:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 55.84 | -4.59 | 51.25 | 74 | -22.75 | peak |
| 3647 | 44.52 | -4.59 | 39.93 | 54 | -14.07 | AVG |
| 10400 | 53.25 | 3.74 | 56.99 | 74 | -17.01 | peak |
| 10400 | 42.02 | 3.74 | 45.76 | 54 | -8.24 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 54.97 | -4.59 | 50.38 | 74 | -23.62 | peak |
| 3647 | 45.16 | -4.59 | 40.57 | 54 | -13.43 | AVG |
| 10400 | 51.36 | 3.74 | 55.1 | 74 | -18.9 | peak |
| 10400 | 41.21 | 3.74 | 44.95 | 54 | -9.05 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

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HIGH CH 48 (802.11a Mode with 5.2G)/5240

Horizontal:

| Frequency (MHz) | Meter Reading (dBμV) | Factor (dB) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 3647 | 55.43 | -4.59 | 50.84 | 74 | -23.16 | peak |
| 3647 | 44.26 | -4.59 | 39.67 | 54 | -14.33 | AVG |
| 10480 | 52.29 | 3.75 | 56.04 | 74 | -17.96 | peak |
| 10480 | 41.05 | 3.75 | 44.8 | 54 | -9.2 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency (MHz) | Meter Reading (dBμV) | Factor (dB) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 3647 | 53.78 | -4.59 | 49.19 | 74 | -24.81 | peak |
| 3647 | 42.35 | -4.59 | 37.76 | 54 | -16.24 | AVG |
| 10480 | 51.15 | 3.75 | 54.9 | 74 | -19.1 | peak |
| 10480 | 40.17 | 3.75 | 43.92 | 54 | -10.08 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Remark：
(1) Measuring frequencies from 1 GHz to the 40 GHz.
(2) “F” denotes fundamental frequency; “H” denotes spurious frequency; “E” denotes band edge frequency.
(3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
(4) The emissions are attenuated more than 20dB below the permissible limits are not recorded in the report.
(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.
(7) All the test modes completed for test. only the worst result of Mode 1(802.11a Mode )

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Series Model No.: X24 Ultra

LOW CH 36 (802.11 a Mode with 5.2G)/5180

Horizontal:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 53.32 | -4.59 | 48.73 | 74 | -25.27 | peak |
| 3647 | 43.01 | -4.59 | 38.42 | 54 | -15.58 | AVG |
| 10360 | 50.29 | 3.74 | 54.03 | 74 | -19.97 | peak |
| 10360 | 39.47 | 3.74 | 43.21 | 54 | -10.79 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 53.39 | -4.59 | 48.8 | 74 | -25.2 | peak |
| 3647 | 41.77 | -4.59 | 37.18 | 54 | -16.82 | AVG |
| 10360 | 51.78 | 3.74 | 55.52 | 74 | -18.48 | peak |
| 10360 | 40.4 | 3.74 | 44.14 | 54 | -9.86 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

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MID CH40 (802.11 a Mode with 5.2G)/5200

Horizontal:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 53.17 | -4.59 | 48.58 | 74 | -25.42 | peak |
| 3647 | 42.37 | -4.59 | 37.78 | 54 | -16.22 | AVG |
| 10400 | 51.55 | 3.74 | 55.29 | 74 | -18.71 | peak |
| 10400 | 39.28 | 3.74 | 43.02 | 54 | -10.98 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 54.91 | -4.59 | 50.32 | 74 | -23.68 | peak |
| 3647 | 42.56 | -4.59 | 37.97 | 54 | -16.03 | AVG |
| 10400 | 49.87 | 3.74 | 53.61 | 74 | -20.39 | peak |
| 10400 | 40.62 | 3.74 | 44.36 | 54 | -9.64 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

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HIGH CH 48 (802.11a Mode with 5.2G)/5240

Horizontal:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 53.02 | -4.59 | 48.43 | 74 | -25.57 | peak |
| 3647 | 43.5 | -4.59 | 38.91 | 54 | -15.09 | AVG |
| 10480 | 52.12 | 3.75 | 55.87 | 74 | -18.13 | peak |
| 10480 | 41.35 | 3.75 | 45.1 | 54 | -8.9 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 54.43 | -4.59 | 49.84 | 74 | -24.16 | peak |
| 3647 | 43.41 | -4.59 | 38.82 | 54 | -15.18 | AVG |
| 10480 | 49.89 | 3.75 | 53.64 | 74 | -20.36 | peak |
| 10480 | 39.97 | 3.75 | 43.72 | 54 | -10.28 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Remark：
(1) Measuring frequencies from 1 GHz to the 40 GHz.
(2) “F” denotes fundamental frequency; “H” denotes spurious frequency; “E” denotes band edge frequency.
(3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
(4) The emissions are attenuated more than 20dB below the permissible limits are not recorded in the report.
(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.
(7) All the test modes completed for test. only the worst result of Mode 1(802.11a Mode )

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Series Model No.: C24 Ultra

LOW CH 36 (802.11 a Mode with 5.2G)/5180

Horizontal:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 54.55 | -4.59 | 49.96 | 74 | -24.04 | peak |
| 3647 | 44.59 | -4.59 | 40 | 54 | -14 | AVG |
| 10360 | 49.67 | 3.74 | 53.41 | 74 | -20.59 | peak |
| 10360 | 40.57 | 3.74 | 44.31 | 54 | -9.69 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 54.14 | -4.59 | 49.55 | 74 | -24.45 | peak |
| 3647 | 42.09 | -4.59 | 37.5 | 54 | -16.5 | AVG |
| 10360 | 52.02 | 3.74 | 55.76 | 74 | -18.24 | peak |
| 10360 | 39.77 | 3.74 | 43.51 | 54 | -10.49 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

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MID CH40 (802.11 a Mode with 5.2G)/5200

Horizontal:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 53.08 | -4.59 | 48.49 | 74 | -25.51 | peak |
| 3647 | 42.79 | -4.59 | 38.2 | 54 | -15.8 | AVG |
| 10400 | 50.72 | 3.74 | 54.46 | 74 | -19.54 | peak |
| 10400 | 39.44 | 3.74 | 43.18 | 54 | -10.82 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 54.57 | -4.59 | 49.98 | 74 | -24.02 | peak |
| 3647 | 44.69 | -4.59 | 40.1 | 54 | -13.9 | AVG |
| 10400 | 51.26 | 3.74 | 55 | 74 | -19 | peak |
| 10400 | 38.57 | 3.74 | 42.31 | 54 | -11.69 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

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HIGH CH 48 (802.11a Mode with 5.2G)/5240

Horizontal:

| Frequency (MHz) | Meter Reading (dBμV) | Factor (dB) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 3647 | 54.26 | -4.59 | 49.67 | 74 | -24.33 | peak |
| 3647 | 43.66 | -4.59 | 39.07 | 54 | -14.93 | AVG |
| 10480 | 51.48 | 3.75 | 55.23 | 74 | -18.77 | peak |
| 10480 | 40.22 | 3.75 | 43.97 | 54 | -10.03 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency (MHz) | Meter Reading (dBμV) | Factor (dB) | Emission Level (dBμV/m) | Limits (dBμV/m) | Margin (dB) | Detector Type |
|---|---|---|---|---|---|---|
| 3647 | 53.44 | -4.59 | 48.85 | 74 | -25.15 | peak |
| 3647 | 42.18 | -4.59 | 37.59 | 54 | -16.41 | AVG |
| 10480 | 48.66 | 3.75 | 52.41 | 74 | -21.59 | peak |
| 10480 | 38.42 | 3.75 | 42.17 | 54 | -11.83 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Remark：
(1) Measuring frequencies from 1 GHz to the 40 GHz.
(2) “F” denotes fundamental frequency; “H” denotes spurious frequency; “E” denotes band edge frequency.
(3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
(4) The emissions are attenuated more than 20dB below the permissible limits are not recorded in the report.
(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.
(7) All the test modes completed for test. only the worst result of Mode 1(802.11a Mode )

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Series Model No.: C25

LOW CH 36 (802.11 a Mode with 5.2G)/5180

Horizontal:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 55.61 | -4.59 | 51.02 | 74 | -22.98 | peak |
| 3647 | 43.35 | -4.59 | 38.76 | 54 | -15.24 | AVG |
| 10360 | 50.95 | 3.74 | 54.69 | 74 | -19.31 | peak |
| 10360 | 40 | 3.74 | 43.74 | 54 | -10.26 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 53.76 | -4.59 | 49.17 | 74 | -24.83 | peak |
| 3647 | 41.79 | -4.59 | 37.2 | 54 | -16.8 | AVG |
| 10360 | 49.93 | 3.74 | 53.67 | 74 | -20.33 | peak |
| 10360 | 40.06 | 3.74 | 43.8 | 54 | -10.2 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

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MID CH40 (802.11 a Mode with 5.2G)/5200

Horizontal:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 54.24 | -4.59 | 49.65 | 74 | -24.35 | peak |
| 3647 | 42.81 | -4.59 | 38.22 | 54 | -15.78 | AVG |
| 10400 | 50.93 | 3.74 | 54.67 | 74 | -19.33 | peak |
| 10400 | 38.91 | 3.74 | 42.65 | 54 | -11.35 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 55.92 | -4.59 | 51.33 | 74 | -22.67 | peak |
| 3647 | 42.34 | -4.59 | 37.75 | 54 | -16.25 | AVG |
| 10400 | 50.58 | 3.74 | 54.32 | 74 | -19.68 | peak |
| 10400 | 38.86 | 3.74 | 42.6 | 54 | -11.4 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

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HIGH CH 48 (802.11a Mode with 5.2G)/5240

Horizontal:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 54.93 | -4.59 | 50.34 | 74 | -23.66 | peak |
| 3647 | 43.61 | -4.59 | 39.02 | 54 | -14.98 | AVG |
| 10480 | 51.67 | 3.75 | 55.42 | 74 | -18.58 | peak |
| 10480 | 39.63 | 3.75 | 43.38 | 54 | -10.62 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 53.81 | -4.59 | 49.22 | 74 | -24.78 | peak |
| 3647 | 44.37 | -4.59 | 39.78 | 54 | -14.22 | AVG |
| 10480 | 51.68 | 3.75 | 55.43 | 74 | -18.57 | peak |
| 10480 | 41.14 | 3.75 | 44.89 | 54 | -9.11 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Remark：
(1) Measuring frequencies from 1 GHz to the 40 GHz.
(2) “F” denotes fundamental frequency; “H” denotes spurious frequency; “E” denotes band edge frequency.
(3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
(4) The emissions are attenuated more than 20dB below the permissible limits are not recorded in the report.
(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.
(7) All the test modes completed for test. only the worst result of Mode 1(802.11a Mode )

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Series Model No.: I15 Ultra

LOW CH 36 (802.11 a Mode with 5.2G)/5180

Horizontal:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 53.02 | -4.59 | 48.43 | 74 | -25.57 | peak |
| 3647 | 43.66 | -4.59 | 39.07 | 54 | -14.93 | AVG |
| 10360 | 50 | 3.74 | 53.74 | 74 | -20.26 | peak |
| 10360 | 38.44 | 3.74 | 42.18 | 54 | -11.82 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 53 | -4.59 | 48.41 | 74 | -25.59 | peak |
| 3647 | 44.08 | -4.59 | 39.49 | 54 | -14.51 | AVG |
| 10360 | 52.43 | 3.74 | 56.17 | 74 | -17.83 | peak |
| 10360 | 41.12 | 3.74 | 44.86 | 54 | -9.14 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

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MID CH40 (802.11 a Mode with 5.2G)/5200

Horizontal:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 54.93 | -4.59 | 50.34 | 74 | -23.66 | peak |
| 3647 | 43.05 | -4.59 | 38.46 | 54 | -15.54 | AVG |
| 10400 | 50.21 | 3.74 | 53.95 | 74 | -20.05 | peak |
| 10400 | 40.65 | 3.74 | 44.39 | 54 | -9.61 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 53.2 | -4.59 | 48.61 | 74 | -25.39 | peak |
| 3647 | 43.95 | -4.59 | 39.36 | 54 | -14.64 | AVG |
| 10400 | 51.82 | 3.74 | 55.56 | 74 | -18.44 | peak |
| 10400 | 38.8 | 3.74 | 42.54 | 54 | -11.46 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

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HIGH CH 48 (802.11a Mode with 5.2G)/5240

Horizontal:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 53.77 | -4.59 | 49.18 | 74 | -24.82 | peak |
| 3647 | 44.52 | -4.59 | 39.93 | 54 | -14.07 | AVG |
| 10480 | 51.17 | 3.75 | 54.92 | 74 | -19.08 | peak |
| 10480 | 40.08 | 3.75 | 43.83 | 54 | -10.17 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 55.18 | -4.59 | 50.59 | 74 | -23.41 | peak |
| 3647 | 42.87 | -4.59 | 38.28 | 54 | -15.72 | AVG |
| 10480 | 51.66 | 3.75 | 55.41 | 74 | -18.59 | peak |
| 10480 | 40.66 | 3.75 | 44.41 | 54 | -9.59 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Remark：
(1) Measuring frequencies from 1 GHz to the 40 GHz.
(2) “F” denotes fundamental frequency; “H” denotes spurious frequency; “E” denotes band edge frequency.
(3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
(4) The emissions are attenuated more than 20dB below the permissible limits are not recorded in the report.
(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.
(7) All the test modes completed for test. only the worst result of Mode 1(802.11a Mode )

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Series Model No.: C7 Ultra

LOW CH 36 (802.11 a Mode with 5.2G)/5180

Horizontal:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 54.17 | -4.59 | 49.58 | 74 | -24.42 | peak |
| 3647 | 43.73 | -4.59 | 39.14 | 54 | -14.86 | AVG |
| 10360 | 51.08 | 3.74 | 54.82 | 74 | -19.18 | peak |
| 10360 | 40.52 | 3.74 | 44.26 | 54 | -9.74 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 55.15 | -4.59 | 50.56 | 74 | -23.44 | peak |
| 3647 | 44.34 | -4.59 | 39.75 | 54 | -14.25 | AVG |
| 10360 | 50.7 | 3.74 | 54.44 | 74 | -19.56 | peak |
| 10360 | 38.77 | 3.74 | 42.51 | 54 | -11.49 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

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MID CH40 (802.11 a Mode with 5.2G)/5200

Horizontal:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 54.08 | -4.59 | 49.49 | 74 | -24.51 | peak |
| 3647 | 42.84 | -4.59 | 38.25 | 54 | -15.75 | AVG |
| 10400 | 51.29 | 3.74 | 55.03 | 74 | -18.97 | peak |
| 10400 | 38.54 | 3.74 | 42.28 | 54 | -11.72 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 55.64 | -4.59 | 51.05 | 74 | -22.95 | peak |
| 3647 | 42.75 | -4.59 | 38.16 | 54 | -15.84 | AVG |
| 10400 | 50.39 | 3.74 | 54.13 | 74 | -19.87 | peak |
| 10400 | 38.56 | 3.74 | 42.3 | 54 | -11.7 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

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HIGH CH 48 (802.11a Mode with 5.2G)/5240

Horizontal:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 55.16 | -4.59 | 50.57 | 74 | -23.43 | peak |
| 3647 | 44.02 | -4.59 | 39.43 | 54 | -14.57 | AVG |
| 10480 | 50.64 | 3.75 | 54.39 | 74 | -19.61 | peak |
| 10480 | 40.45 | 3.75 | 44.2 | 54 | -9.8 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 53.26 | -4.59 | 48.67 | 74 | -25.33 | peak |
| 3647 | 42.88 | -4.59 | 38.29 | 54 | -15.71 | AVG |
| 10480 | 50.94 | 3.75 | 54.69 | 74 | -19.31 | peak |
| 10480 | 41.13 | 3.75 | 44.88 | 54 | -9.12 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Remark：
(1) Measuring frequencies from 1 GHz to the 40 GHz.
(2) “F” denotes fundamental frequency; “H” denotes spurious frequency; “E” denotes band edge frequency.
(3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
(4) The emissions are attenuated more than 20dB below the permissible limits are not recorded in the report.
(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.
(7) All the test modes completed for test. only the worst result of Mode 1(802.11a Mode )

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Series Model No.: S24 Ultra

LOW CH 36 (802.11 a Mode with 5.2G)/5180

Horizontal:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 54.16 | -4.59 | 49.57 | 74 | -24.43 | peak |
| 3647 | 44.31 | -4.59 | 39.72 | 54 | -14.28 | AVG |
| 10360 | 51.84 | 3.74 | 55.58 | 74 | -18.42 | peak |
| 10360 | 39.26 | 3.74 | 43 | 54 | -11 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 54.19 | -4.59 | 49.6 | 74 | -24.4 | peak |
| 3647 | 43.65 | -4.59 | 39.06 | 54 | -14.94 | AVG |
| 10360 | 50.57 | 3.74 | 54.31 | 74 | -19.69 | peak |
| 10360 | 40.59 | 3.74 | 44.33 | 54 | -9.67 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

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MID CH40 (802.11 a Mode with 5.2G)/5200

Horizontal:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 54.58 | -4.59 | 49.99 | 74 | -24.01 | peak |
| 3647 | 43.91 | -4.59 | 39.32 | 54 | -14.68 | AVG |
| 10400 | 51.66 | 3.74 | 55.4 | 74 | -18.6 | peak |
| 10400 | 38.63 | 3.74 | 42.37 | 54 | -11.63 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 54.59 | -4.59 | 50 | 74 | -24 | peak |
| 3647 | 41.96 | -4.59 | 37.37 | 54 | -16.63 | AVG |
| 10400 | 51.78 | 3.74 | 55.52 | 74 | -18.48 | peak |
| 10400 | 38.72 | 3.74 | 42.46 | 54 | -11.54 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

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HIGH CH 48 (802.11a Mode with 5.2G)/5240

Horizontal:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 54.95 | -4.59 | 50.36 | 74 | -23.64 | peak |
| 3647 | 41.99 | -4.59 | 37.4 | 54 | -16.6 | AVG |
| 10480 | 50.59 | 3.75 | 54.34 | 74 | -19.66 | peak |
| 10480 | 40.49 | 3.75 | 44.24 | 54 | -9.76 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Vertical:

| Frequency | Meter Reading | Factor | Emission Level | Limits | Margin | Detector Type |
|---|---|---|---|---|---|---|
| (MHz) | (dBμV) | (dB) | (dBμV/m) | (dBμV/m) | (dB) | |
| 3647 | 53.81 | -4.59 | 49.22 | 74 | -24.78 | peak |
| 3647 | 43.82 | -4.59 | 39.23 | 54 | -14.77 | AVG |
| 10480 | 50.4 | 3.75 | 54.15 | 74 | -19.85 | peak |
| 10480 | 39.58 | 3.75 | 43.33 | 54 | -10.67 | AVG |
| Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Level-Limit. | | | | | | |

Remark：
(1) Measuring frequencies from 1 GHz to the 40 GHz.
(2) “F” denotes fundamental frequency; “H” denotes spurious frequency; “E” denotes band edge frequency.
(3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
(4) The emissions are attenuated more than 20dB below the permissible limits are not recorded in the report.
(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.
(7) All the test modes completed for test. only the worst result of Mode 1(802.11a Mode )

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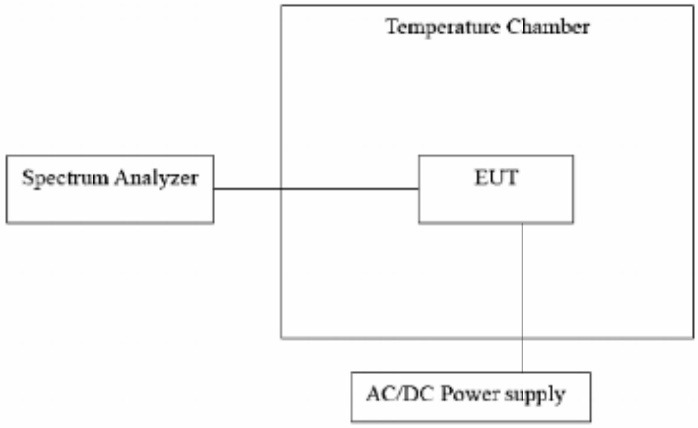
## 4.8. Frequency Stability Measurement

### 4.8.1. Test Specification

| | |
|---|---|
| **Test Requirement:** | FCC Part15 Section 15.407(g) |
| **Test Method:** | ANSI C63.10: 2013 |
| **Limit:** | The frequency tolerance shall be maintained within the band of operation frequency over a temperature variation of 0 degrees to 35 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. |
| **Test Setup:** |  |
| **Test Procedure:** | The EUT was placed inside the environmental test chamber and powered by nominal AC/DC voltage. b. Turn the EUT on and couple its output to a spectrum analyzer. c. Turn the EUT off and set the chamber to the highest temperature specified. d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize. e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature. f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record. |
| **Test Result:** | PASS |
| **Remark:** | N/A |

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**Test Result as follows:**

| Mode | Voltage (V) | FHL (5180MHz) | Deviation (KHz) | FHH (5240MHz) | Deviation (KHz) |
|---|---|---|---|---|---|
| 5.2G Band | 4.25V | 5179.992 | -8 | 5239.982 | -18 |
| | 5.0V | 5180.014 | 14 | 5240.011 | 11 |
| | 5.75V | 5180.009 | 9 | 5239.987 | -13 |

| Mode | Temperature (℃) | FHL (5180MHz) | Deviation (KHz) | FHH (5240MHz) | Deviation (KHz) |
|---|---|---|---|---|---|
| 5.2G Band | -30 | 5179.979 | -21 | 5239.992 | -8 |
| | -20 | 5180.016 | 16 | 5240.006 | 6 |
| | -10 | 5179.966 | -34 | 5239.967 | -33 |
| | 0 | 5180.012 | 12 | 5239.979 | -21 |
| | 10 | 5179.981 | -19 | 5239.985 | -15 |
| | 20 | 5179.977 | -23 | 5240.016 | 16 |
| | 30 | 5180.013 | 13 | 5239.981 | -19 |
| | 40 | 5179.969 | -31 | 5239.962 | -38 |
| | 50 | 5179.971 | -29 | 5240.011 | 11 |

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## 4.9. Antenna Requirement

**Standard Applicable**
For intentional device, according to FCC 47 CFR Section 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.

**Refer to statement below for compliance.**
The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

**Antenna Connected Construction**
The antenna used in this product is a FPC Antenna, need professional installation, not easy to remove. It conforms to the standard requirements. The directional gains of antenna used for transmitting is 1.2dBi.

WIFI Antenna

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