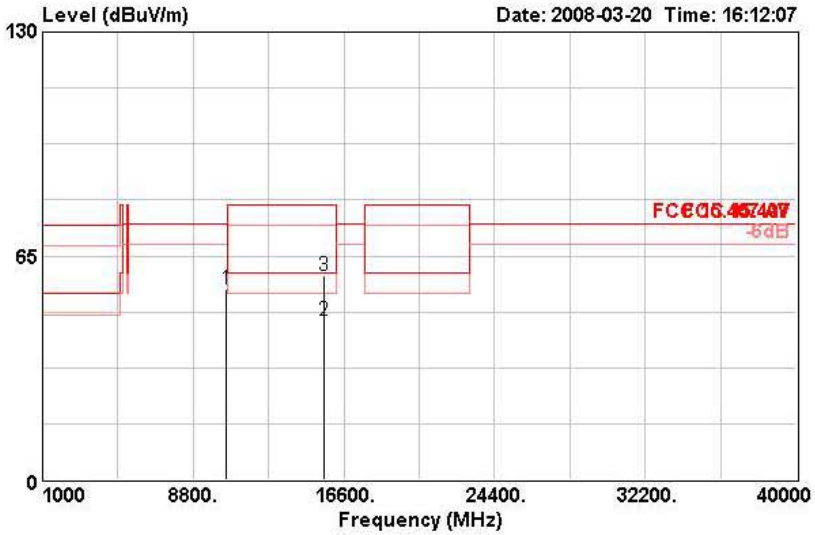
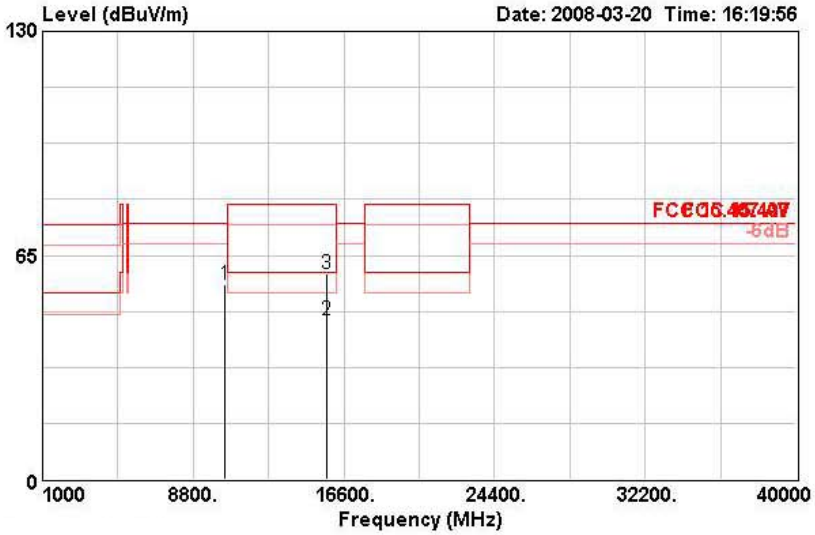
*Vertical*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 | 10488.000 | 55.47 | -18.83 | 74.30 | 42.62 | 38.40 | 9.41 | 34.96 | PEAK | 100 | 117 | VERTICAL |
| 2 @ | 15582.820 | 46.08 | -13.92 | 60.00 | 32.25 | 37.61 | 11.52 | 35.30 | AVERAGE | 118 | 228 | VERTICAL |
| 3 | 15584.980 | 59.38 | -20.62 | 80.00 | 45.55 | 37.61 | 11.52 | 35.30 | PEAK | 118 | 228 | VERTICAL |

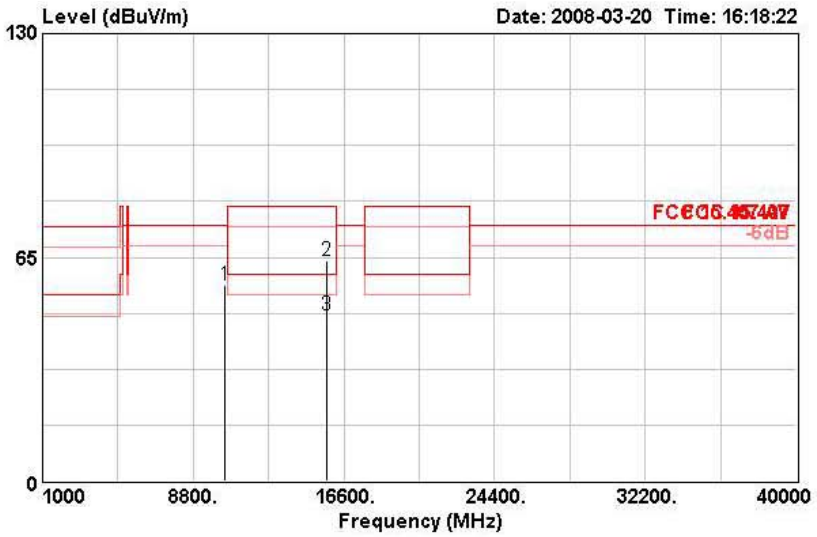
| Temperature | 23℃ | Humidity | 62% |
|---|---|---|---|
| Test Engineer | Jax Chen | Configurations | Draft n MCS8 40MHz Ch 46 / Ant. 5 |

*Horizontal*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 | 10459.340 | 56.38 | -17.92 | 74.30 | 43.59 | 38.39 | 9.39 | 34.99 | PEAK | 136 | 84 | HORIZONTAL |
| 2 @ | 15685.180 | 46.16 | -13.84 | 60.00 | 32.47 | 37.51 | 11.51 | 35.34 | AVERAGE | 120 | 134 | HORIZONTAL |
| 3 | 15689.780 | 59.54 | -20.46 | 80.00 | 45.86 | 37.51 | 11.51 | 35.34 | PEAK | 120 | 134 | HORIZONTAL |

*Vertical*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 | 10460.020 | 56.89 | -17.41 | 74.30 | 44.10 | 38.39 | 9.39 | 34.99 | PEAK | 130 | 265 | VERTICAL |
| 2 | 15685.980 | 63.86 | -16.14 | 80.00 | 50.17 | 37.51 | 11.51 | 35.34 | PEAK | 134 | 282 | VERTICAL |
| 3 @ | 15691.980 | 48.38 | -11.62 | 60.00 | 34.69 | 37.51 | 11.51 | 35.34 | AVERAGE | 134 | 282 | VERTICAL |

Note:

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

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

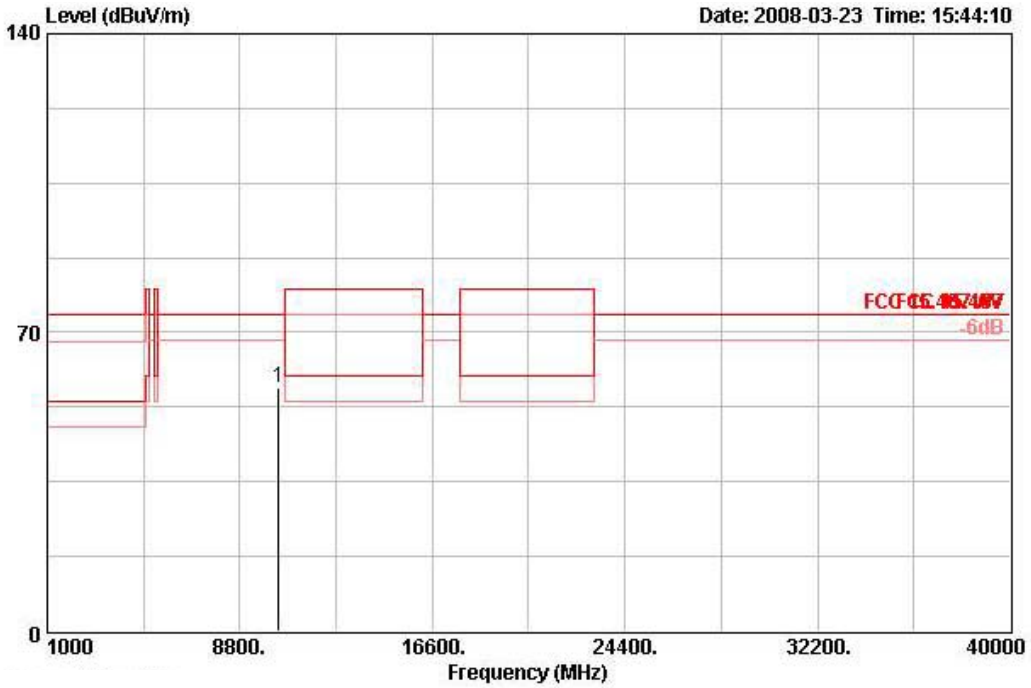
The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1.5m.

Distance extrapolation factor = 20 log (specific distance [3m] / test distance [1.5m]) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [6 dB].

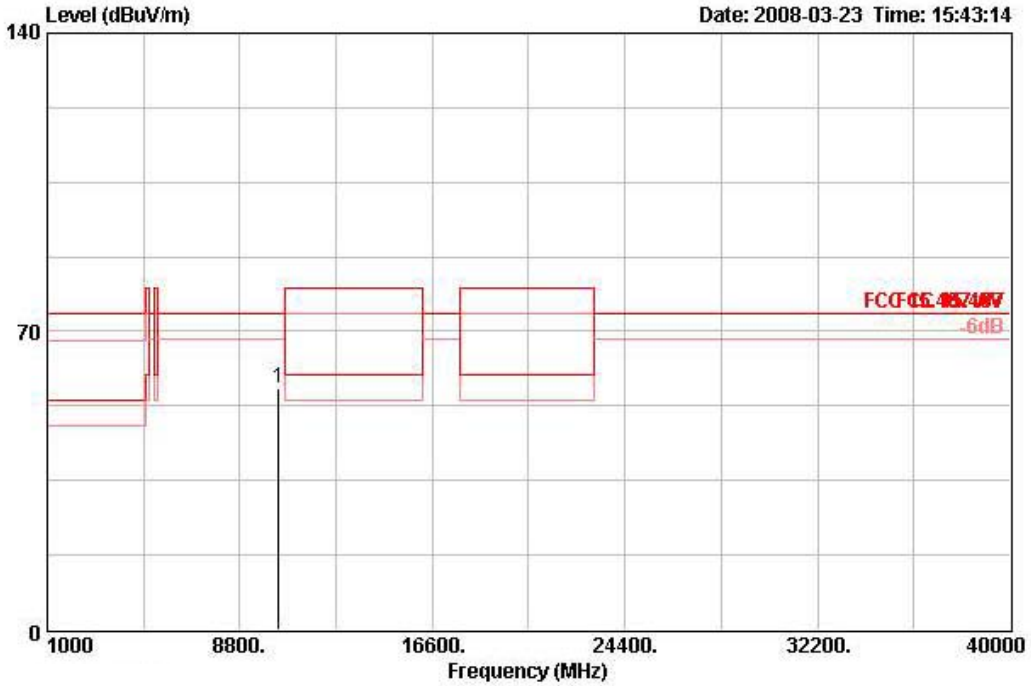
| Temperature | 23℃ | Humidity | 62% |
|---|---|---|---|
| Test Engineer | Jax Chen | Configurations | Draft n MCS8 20MHz Ch 36 / Ant. 6 |

*Horizontal*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Remark | Table Pos | Ant Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | deg | cm | |
| 1 | 10359.190 | 57.12 | -17.18 | 74.30 | 43.77 | 38.49 | 35.36 | 10.22 | PEAK | 0 | 100 | HORIZONTAL |

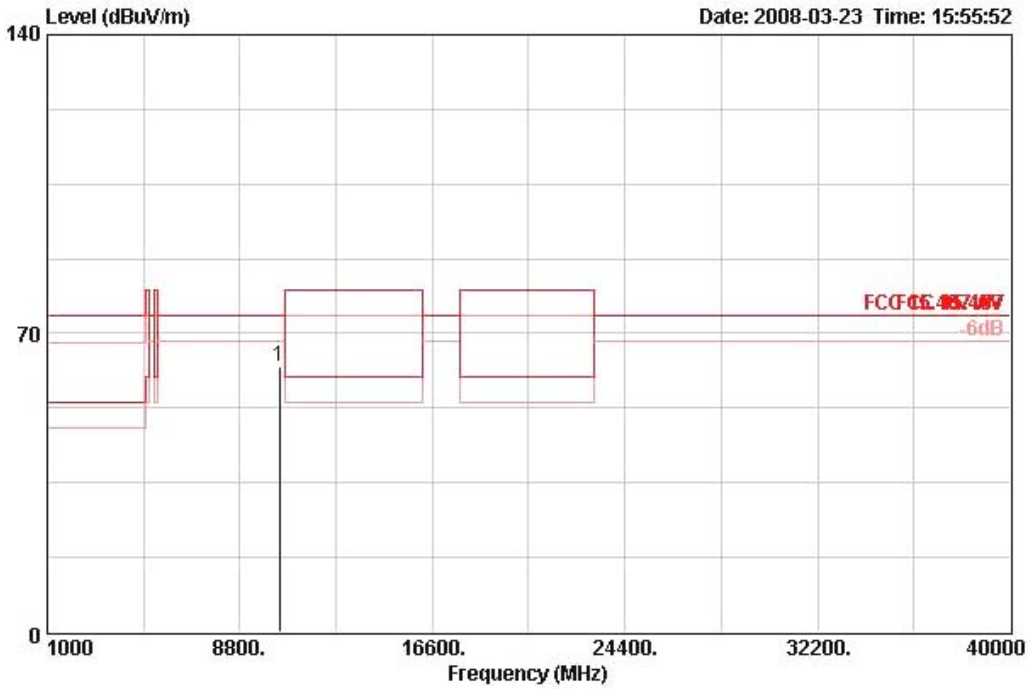
*Vertical*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Remark | Table Pos | Ant Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | deg | cm | |
| 1 | 10357.630 | 56.79 | -17.51 | 74.30 | 43.46 | 38.48 | 35.36 | 10.22 | PEAK | 172 | 100 | VERTICAL |

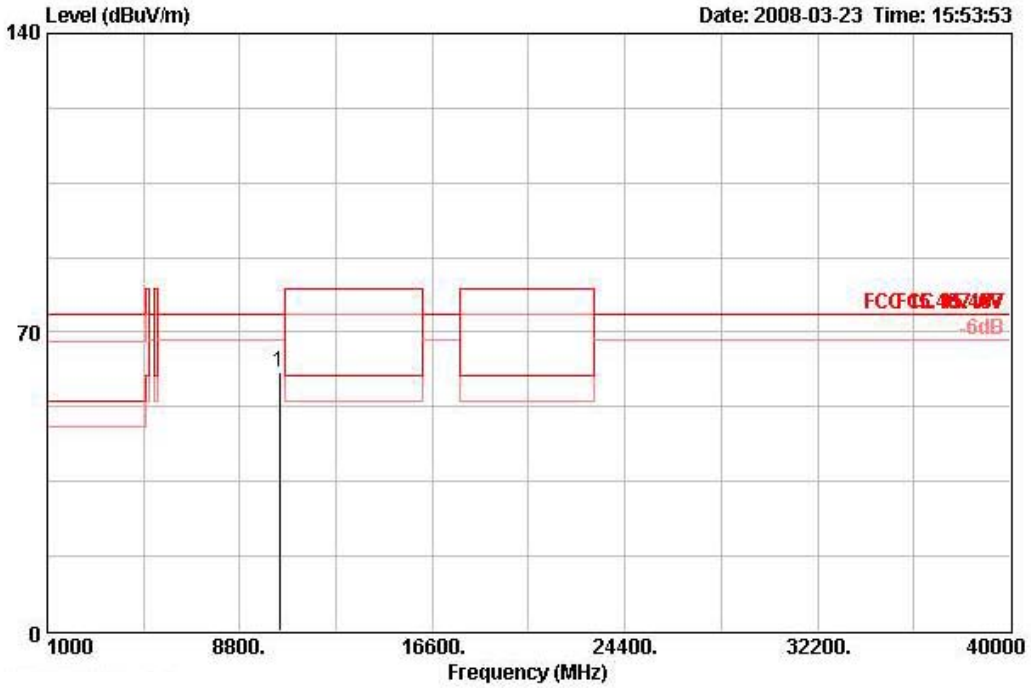
| Temperature | 23℃ | Humidity | 62% |
|---|---|---|---|
| Test Engineer | Jax Chen | Configurations | Draft n MCS8 20MHz Ch 40 / Ant. 6 |

*Horizontal*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Remark | Table Pos | Ant Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | deg | cm | |
| 1 | 10400.110 | 62.10 | -12.20 | 74.30 | 48.61 | 38.52 | 35.30 | 10.27 | PEAK | 320 | 100 | HORIZONTAL |

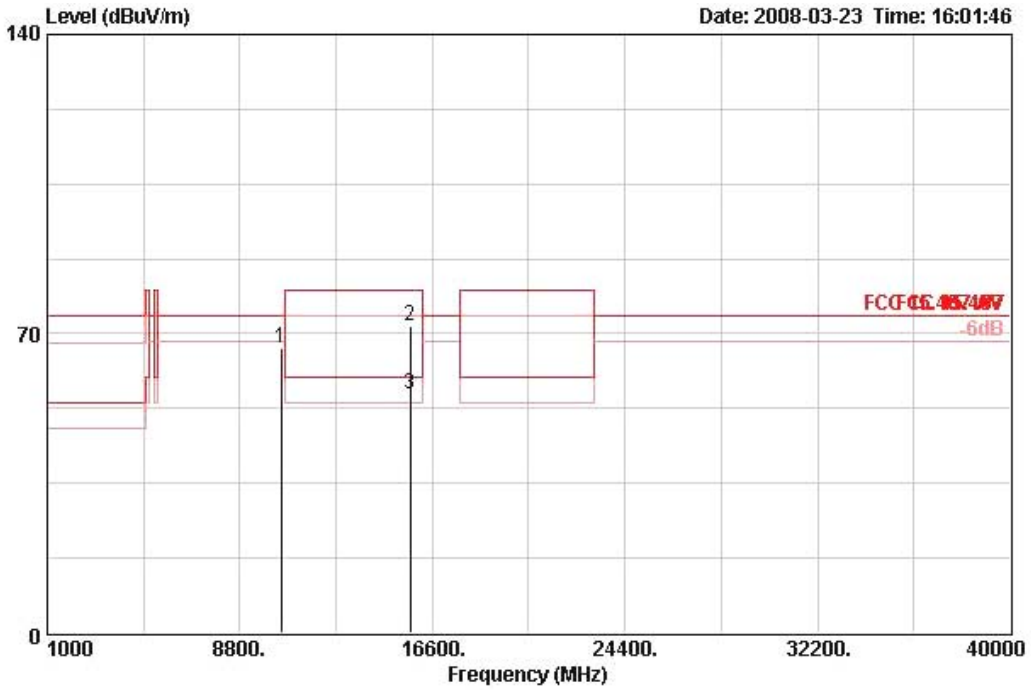
*Vertical*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Remark | Table Pos | Ant Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | deg | cm | |
| 1 | 10397.890 | 60.45 | -13.85 | 74.30 | 46.96 | 38.52 | 35.30 | 10.27 | PEAK | 350 | 109 | VERTICAL |

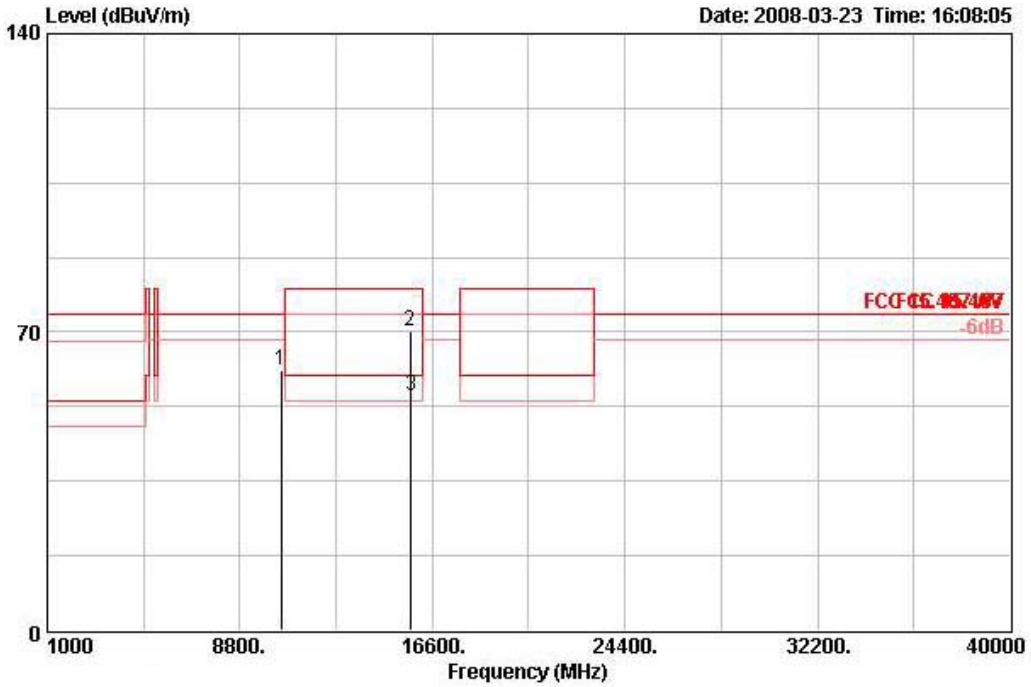
| Temperature | 23℃ | Humidity | 62% |
|---|---|---|---|
| Test Engineer | Jax Chen | Configurations | Draft n MCS8 20MHz Ch 48 / Ant. 6 |

*Horizontal*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Remark | Table Pos | Ant Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | deg | cm | |
| 1 | 10480.000 | 66.72 | -7.58 | 74.30 | 53.00 | 38.59 | 35.21 | 10.35 | PEAK | 316 | 107 | HORIZONTAL |
| 2 | 15713.700 | 71.68 | -8.32 | 80.00 | 56.39 | 38.32 | 34.86 | 11.83 | PEAK | 253 | 100 | HORIZONTAL |
| 3 ! | 15718.700 | 55.77 | -4.23 | 60.00 | 40.48 | 38.32 | 34.86 | 11.83 | AVERAGE | 253 | 40 | HORIZONTAL |

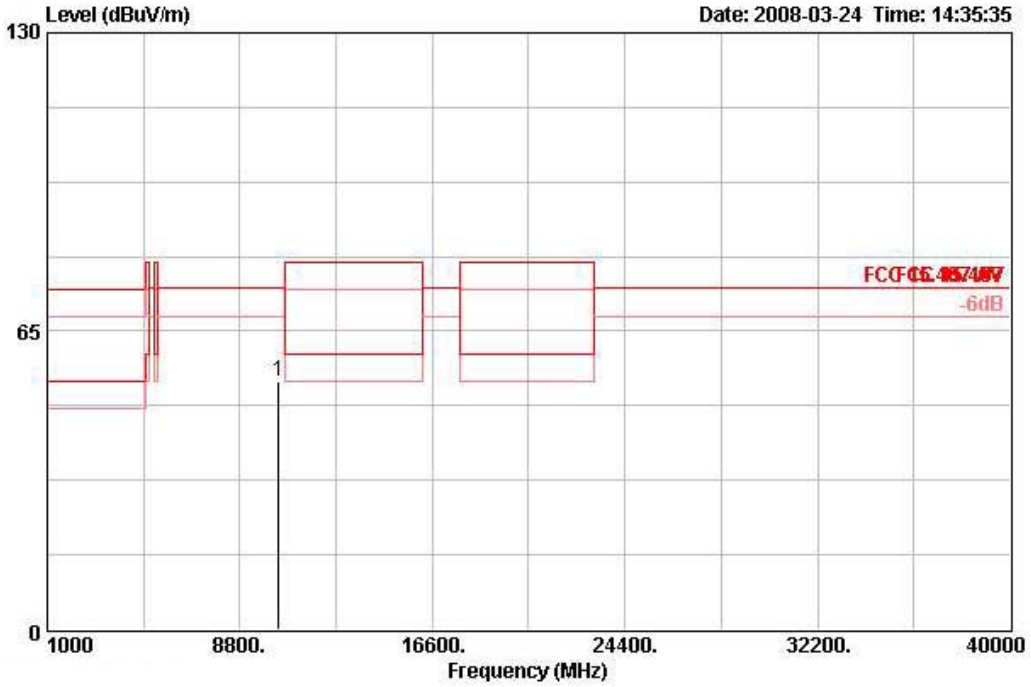
*Vertical*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Remark | Table Pos | Ant Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | deg | cm | |
| 1 | 10485.800 | 61.00 | -13.30 | 74.30 | 47.27 | 38.59 | 35.21 | 10.35 | PEAK | 310 | 100 | VERTICAL |
| 2 | 15713.900 | 70.03 | -9.97 | 80.00 | 54.74 | 38.32 | 34.86 | 11.83 | PEAK | 5 | 104 | VERTICAL |
| 3 ! | 15719.700 | 55.06 | -4.94 | 60.00 | 39.77 | 38.32 | 34.86 | 11.83 | AVERAGE | 5 | 104 | VERTICAL |

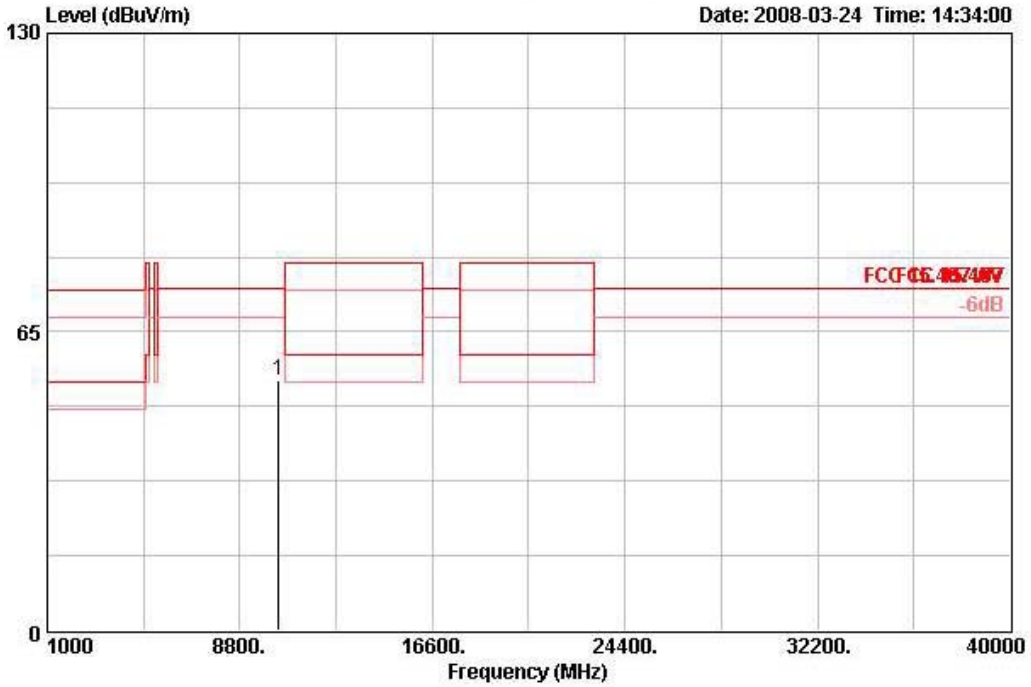
| Temperature | 23℃ | Humidity | 62% |
|---|---|---|---|
| Test Engineer | Jax Chen | Configurations | Draft n MCS8 40MHz Ch 38 / Ant. 6 |

*Horizontal*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 | 10381.050 | 54.16 | -20.14 | 74.30 | 41.54 | 38.38 | 9.34 | 35.09 | PEAK | 100 | 0 | HORIZONTAL |

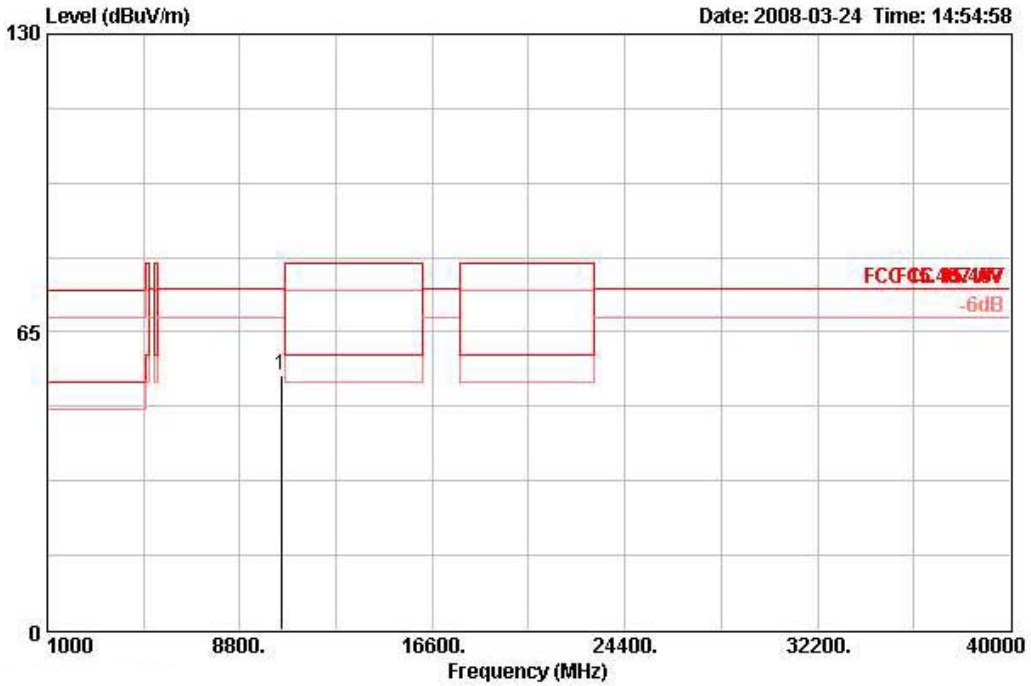
*Vertical*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 | 10381.400 | 54.44 | -19.86 | 74.30 | 41.81 | 38.38 | 9.34 | 35.09 | PEAK | 100 | 360 | VERTICAL |

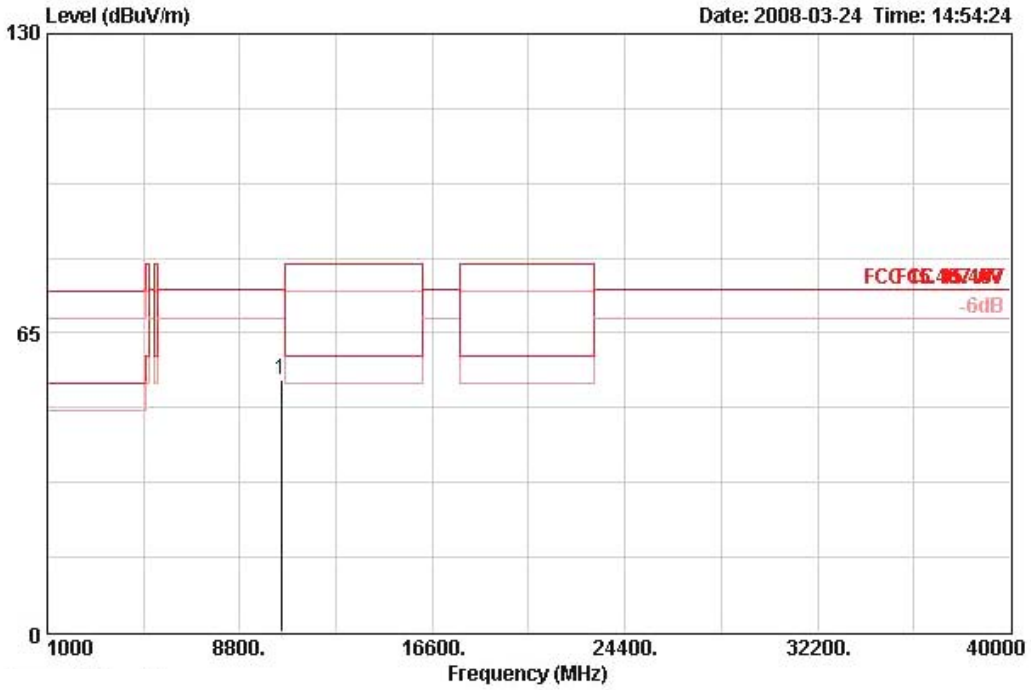
| Temperature | 23℃ | Humidity | 62% |
|---|---|---|---|
| Test Engineer | Jax Chen | Configurations | Draft n MCS8 40MHz Ch 46 / Ant. 6 |

*Horizontal*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 | 10459.340 | 55.40 | -18.90 | 74.30 | 42.60 | 38.39 | 9.39 | 34.99 | PEAK | 100 | 360 | HORIZONTAL |

*Vertical*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 | 10462.080 | 54.72 | -19.58 | 74.30 | 41.93 | 38.39 | 9.39 | 34.99 | PEAK | 100 | 251 | VERTICAL |

Note:

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

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

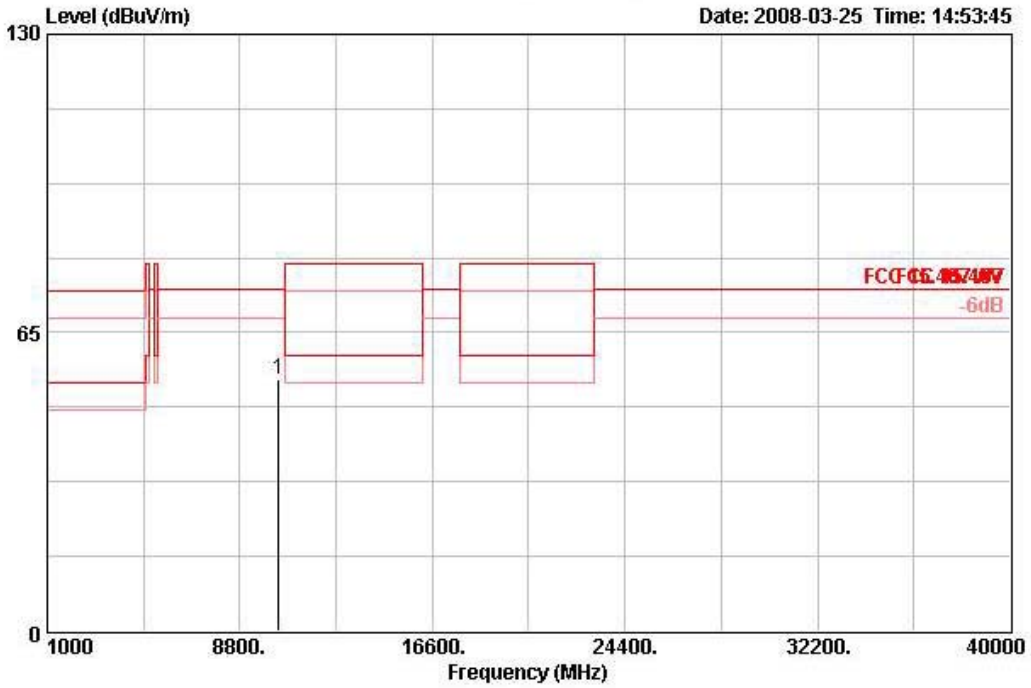
The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1.5m.

Distance extrapolation factor = 20 log (specific distance [3m] / test distance [1.5m]) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [6 dB].

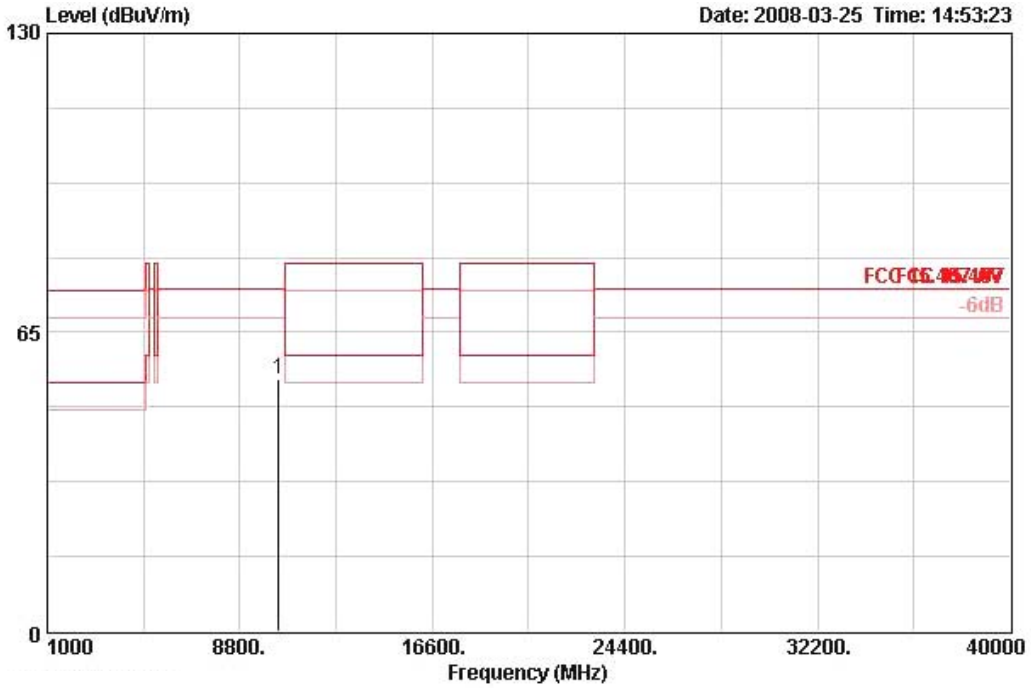
| Temperature | 23℃ | Humidity | 62% |
|---|---|---|---|
| Test Engineer | Jax Chen | Configurations | Draft n MCS8 20MHz Ch 36 / Ant. 7 |

*Horizontal*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 @ | 10359.470 | 54.92 | -19.38 | 74.30 | 42.34 | 38.37 | 9.32 | 35.12 | AVERAGE | 100 | 0 | HORIZONTAL |

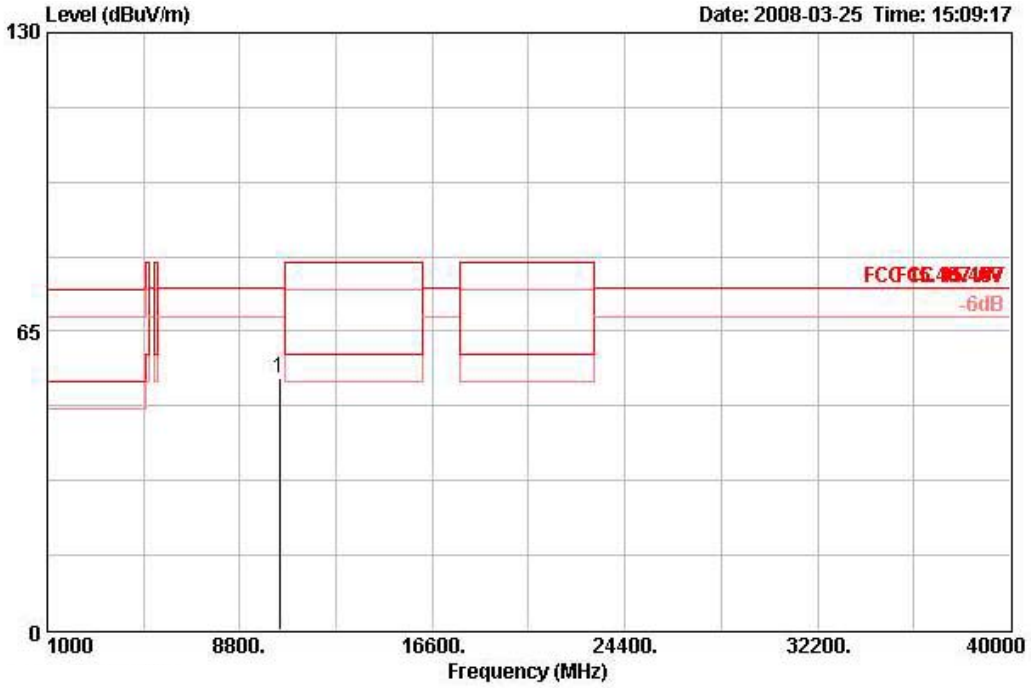
*Vertical*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 @ | 10358.420 | 54.99 | -19.32 | 74.30 | 42.41 | 38.37 | 9.32 | 35.12 | PEAK | 118 | 125 | VERTICAL |

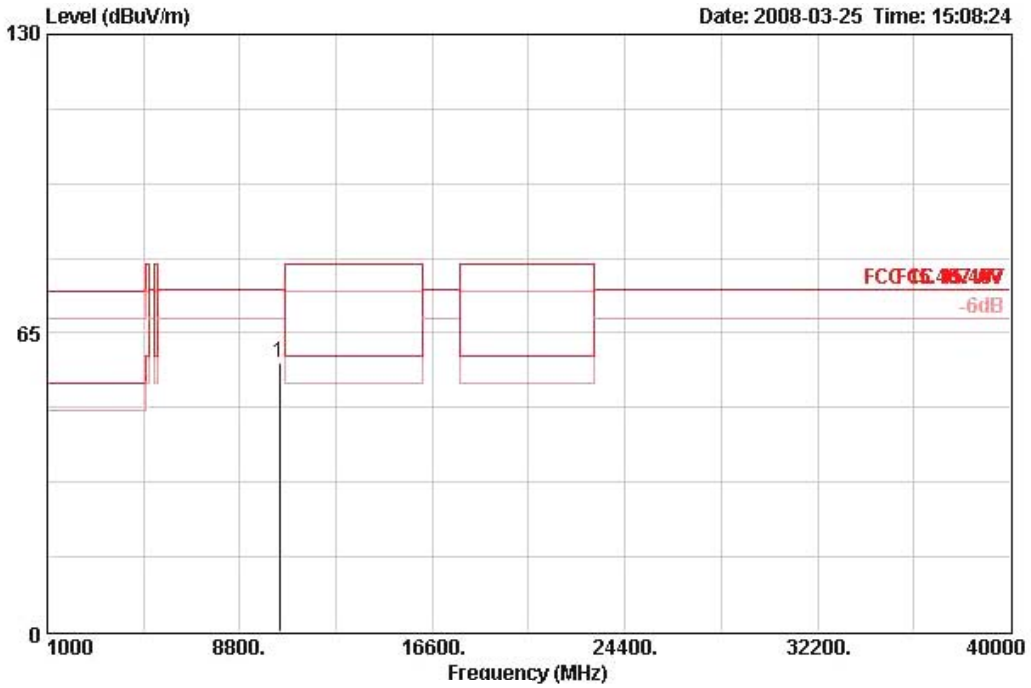
| Temperature | 23℃ | Humidity | 62% |
|---|---|---|---|
| Test Engineer | Jax Chen | Configurations | Draft n MCS8 20MHz Ch 40 / Ant. 7 |

*Horizontal*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 @ | 10397.840 | 54.80 | -19.50 | 74.30 | 42.12 | 38.38 | 9.36 | 35.05 | PEAK | 100 | 242 | HORIZONTAL |

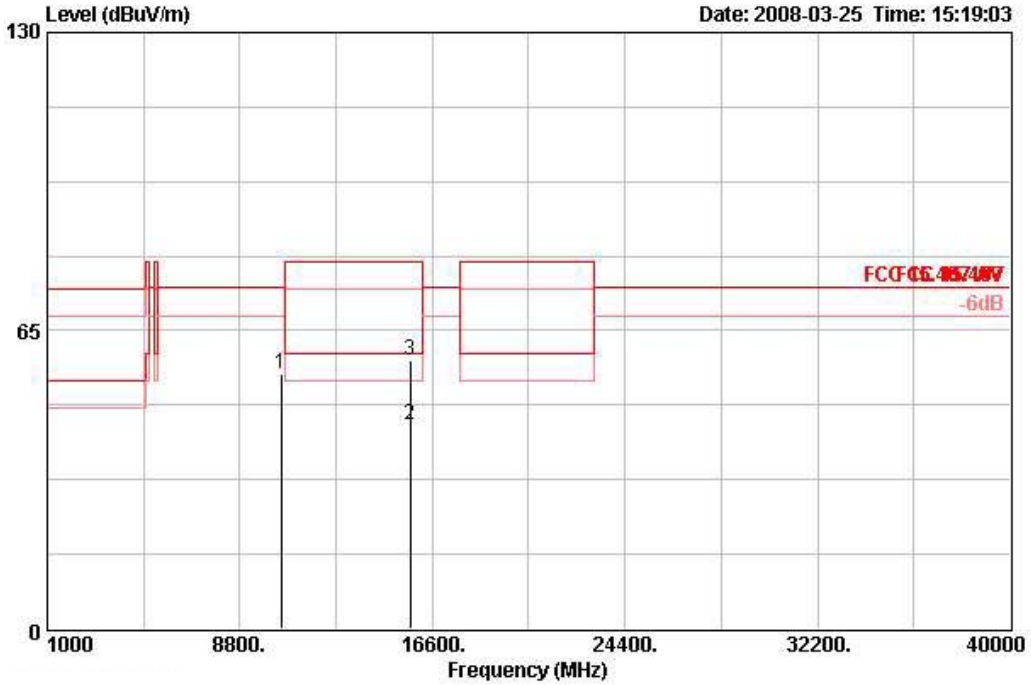
*Vertical*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 @ | 10399.840 | 58.58 | -15.72 | 74.30 | 45.90 | 38.38 | 9.36 | 35.05 | PEAK | 131 | 130 | VERTICAL |

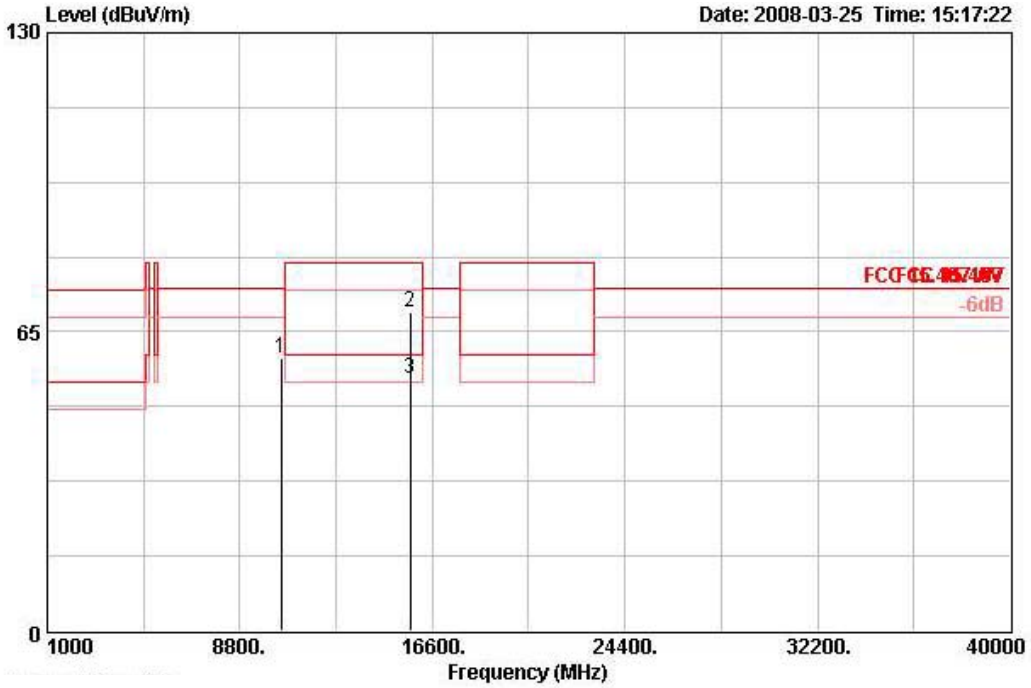
| Temperature | 23℃ | Humidity | 62% |
|---|---|---|---|
| Test Engineer | Jax Chen | Configurations | Draft n MCS8 20MHz Ch 48 / Ant. 7 |

*Horizontal*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 @ | 10484.160 | 55.51 | -18.79 | 74.30 | 42.67 | 38.40 | 9.41 | 34.96 | PEAK | 100 | 328 | HORIZONTAL |
| 2 @ | 15718.240 | 44.36 | -15.64 | 60.00 | 30.72 | 37.48 | 11.51 | 35.35 | AVERAGE | 159 | 229 | HORIZONTAL |
| 3 | 15718.320 | 58.50 | -21.50 | 80.00 | 44.86 | 37.48 | 11.51 | 35.35 | PEAK | 159 | 229 | HORIZONTAL |

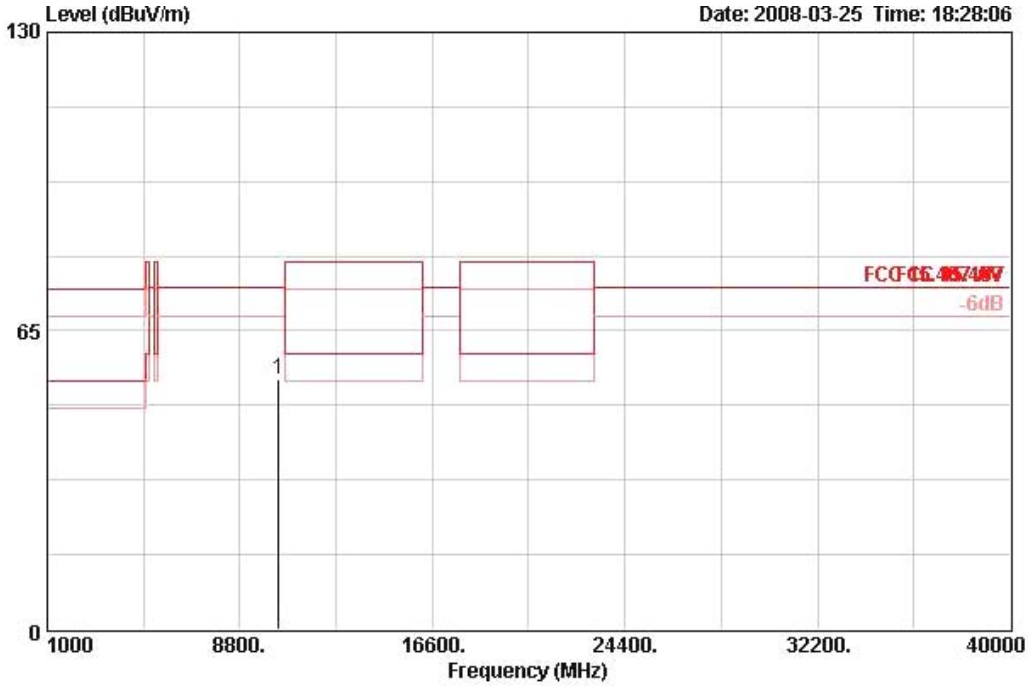
*Vertical*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 @ | 10479.840 | 59.28 | -15.02 | 74.30 | 46.44 | 38.40 | 9.41 | 34.96 | PEAK | 122 | 167 | VERTICAL |
| 2 @ | 15716.000 | 69.39 | -10.61 | 80.00 | 55.75 | 37.48 | 11.51 | 35.35 | PEAK | 124 | 111 | VERTICAL |
| 3 @ | 15718.360 | 54.83 | -5.17 | 60.00 | 41.19 | 37.48 | 11.51 | 35.35 | AVERAGE | 124 | 111 | VERTICAL |

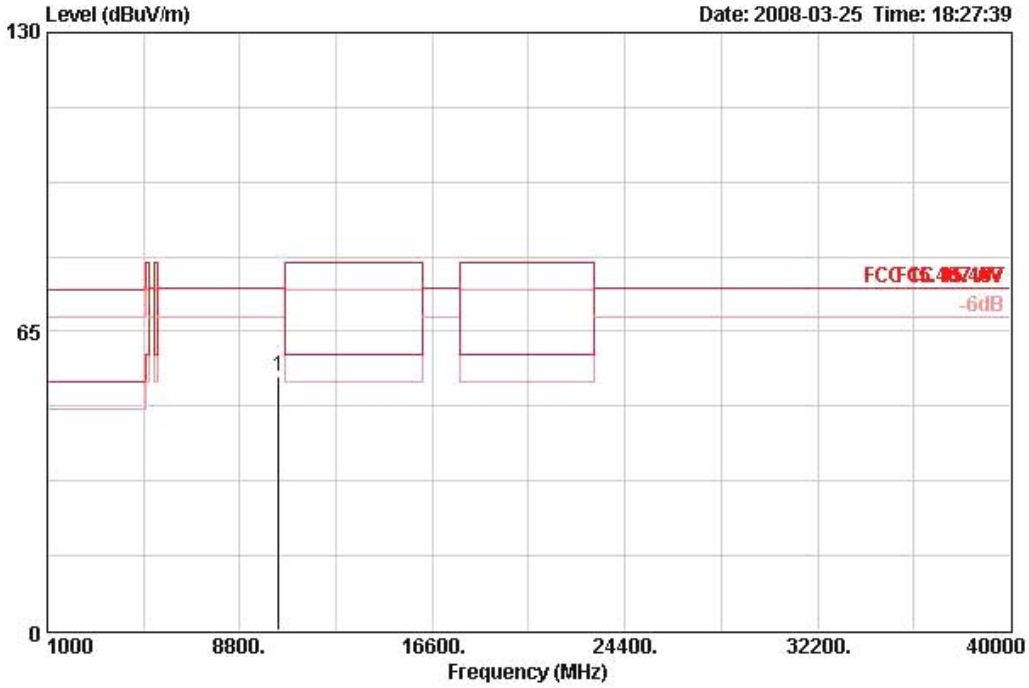
| Temperature | 23℃ | Humidity | 62% |
|---|---|---|---|
| Test Engineer | Jax Chen | Configurations | Draft n MCS8 40MHz Ch 38 / Ant. 7 |

*Horizontal*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 @ | 10381.980 | 54.61 | -19.69 | 74.30 | 41.98 | 38.38 | 9.34 | 35.09 | PEAK | 100 | 129 | HORIZONTAL |

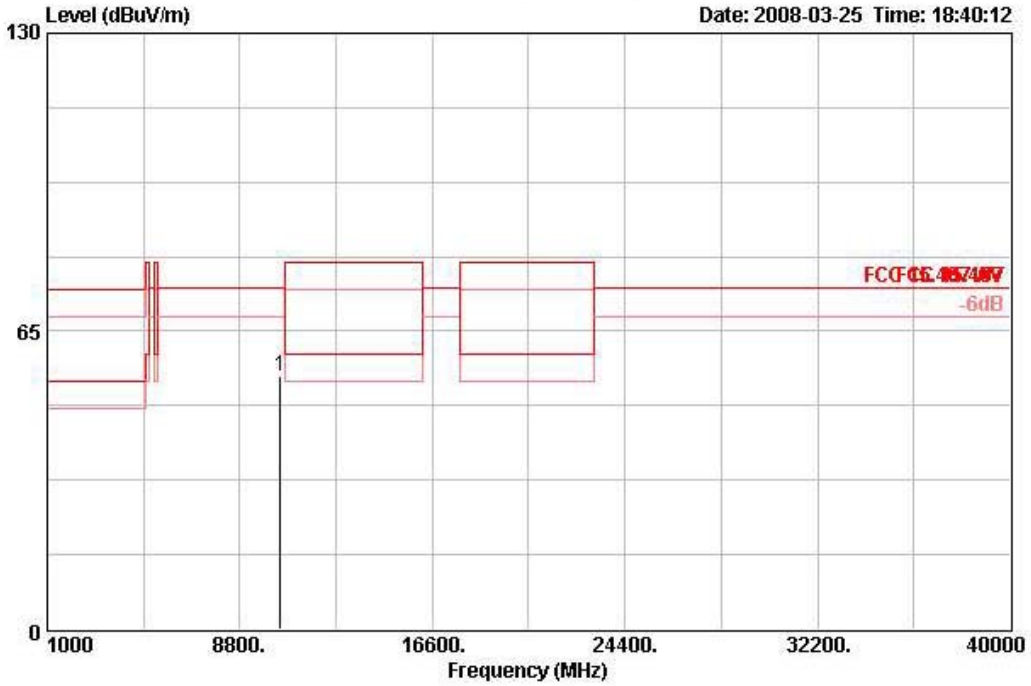
*Vertical*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 @ | 10379.480 | 55.26 | -19.04 | 74.30 | 42.63 | 38.38 | 9.34 | 35.09 | PEAK | 100 | 43 | VERTICAL |

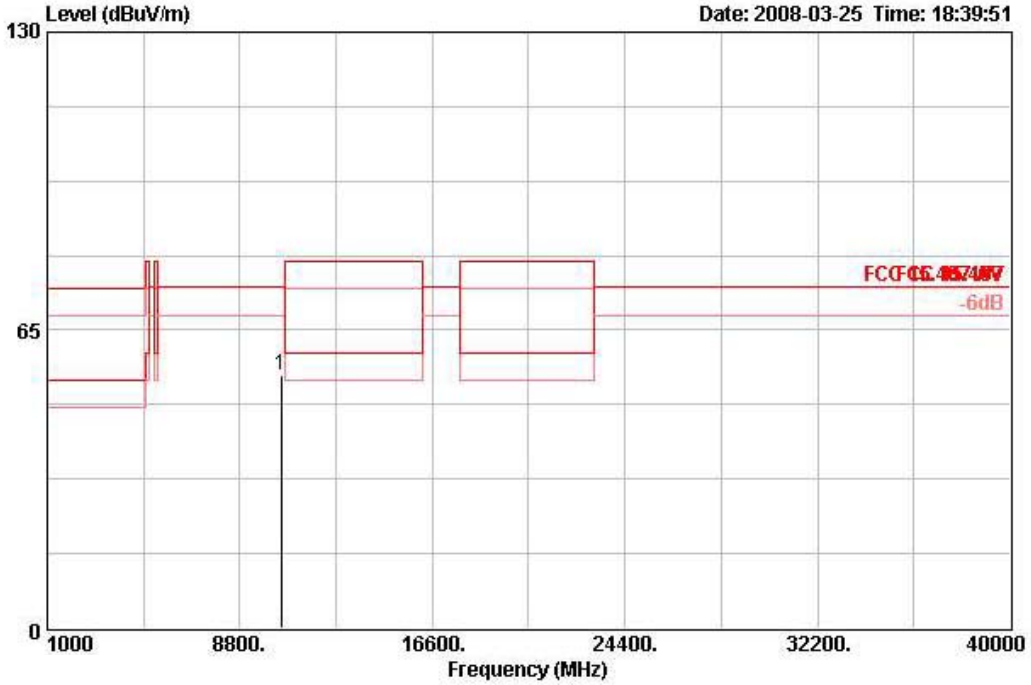
| Temperature | 23℃ | Humidity | 62% |
|---|---|---|---|
| Test Engineer | Jax Chen | Configurations | Draft n MCS8 40MHz Ch 46 / Ant. 7 |

*Horizontal*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 @ | 10453.320 | 55.18 | -19.12 | 74.30 | 42.38 | 38.39 | 9.39 | 34.99 | PEAK | 100 | 134 | HORIZONTAL |

*Vertical*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 @ | 10460.240 | 55.14 | -19.16 | 74.30 | 42.34 | 38.39 | 9.39 | 34.99 | PEAK | 100 | 0 | VERTICAL |

Note:

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

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1.5m.

Distance extrapolation factor = 20 log (specific distance [3m] / test distance [1.5m]) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [6 dB].

## 4.7. Band Edge Emissions Measurement

### 4.7.1. Limit

For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.25 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). In addition, In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

| Frequencies (MHz) | Field Strength (micorvolts/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 |

### 4.7.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

| Spectrum Parameter | Setting |
|---|---|
| Attenuation | Auto |
| Span Frequency | 100 MHz |
| RB / VB (Emission in restricted band) | 1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average |
| RB / VB (Emission in non-restricted band) | 1 MHz /1 MHz for Peak |

### 4.7.3. Test Procedures

11. The test procedure is the same as section 4.6.3, only the frequency range investigated is limited to 100MHz around bandedges.
12. In case the emission is fail due to the used RB/VB is too wide, marker-delta method of FCC Public Notice DA00-705 will be followed.

### 4.7.4. Test Setup Layout

This test setup layout is the same as that shown in section 4.6.4.

### 4.7.5. Test Deviation

There is no deviation with the original standard.

### 4.7.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

### 4.7.7. Test Result of Band Edge and Fundamental Emissions

| Temperature | 23℃ | Humidity | 62% |
|---|---|---|---|
| Test Engineer | Jax Chen | Configurations | Draft n MCS8 20MHz Ch 36, 40 Ant. 1 |

**Channel** 36

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 ! | 5149.800 | 75.40 | -4.60 | 80.00 | 35.19 | 33.67 | 6.54 | 0.00 | PEAK | 116 | 225 | VERTICAL |
| 2 ! | 5150.000 | 59.67 | -0.33 | 60.00 | 19.46 | 33.67 | 6.54 | 0.00 | AVERAGE | 116 | 225 | VERTICAL |
| 3 | 5174.800 | 122.96 | | | 82.67 | 33.73 | 6.55 | 0.00 | PEAK | 116 | 225 | VERTICAL |
| 4 | 5177.800 | 110.47 | | | 70.18 | 33.73 | 6.55 | 0.00 | AVERAGE | 116 | 225 | VERTICAL |

Item 3, 4 are the fundamental frequency at 5180 MHz.

**Channel** 40

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 ! | 5150.000 | 59.77 | -0.23 | 60.00 | 19.56 | 33.67 | 6.54 | 0.00 | AVERAGE | 116 | 306 | VERTICAL |
| 2 ! | 5150.000 | 76.13 | -3.87 | 80.00 | 35.92 | 33.67 | 6.54 | 0.00 | PEAK | 116 | 306 | VERTICAL |
| 3 | 5198.200 | 115.78 | | | 75.45 | 33.76 | 6.57 | 0.00 | AVERAGE | 116 | 306 | VERTICAL |
| 4 | 5201.600 | 128.86 | | | 88.53 | 33.76 | 6.57 | 0.00 | PEAK | 116 | 306 | VERTICAL |

Item 3, 4 are the fundamental frequency at 5200 MHz.

| Temperature | 23℃ | Humidity | 62% |
|---|---|---|---|
| Test Engineer | Jax Chen | Configurations | Draft n MCS8 40MHz Ch 38, 46 Ant. 1 |

**Channel** 38

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 @ | 5150.000 | 59.86 | -0.14 | 60.00 | 19.65 | 33.67 | 6.54 | 0.00 | AVERAGE | 113 | 245 | VERTICAL |
| 2 @ | 5150.000 | 73.01 | -6.99 | 80.00 | 32.80 | 33.67 | 6.54 | 0.00 | PEAK | 113 | 245 | VERTICAL |
| 3 @ | 5178.400 | 112.76 | | | 72.47 | 33.73 | 6.55 | 0.00 | PEAK | 113 | 245 | VERTICAL |
| 4 @ | 5187.600 | 100.97 | | | 60.69 | 33.73 | 6.55 | 0.00 | AVERAGE | 113 | 245 | VERTICAL |

Item 3, 4 are the fundamental frequency at 5190 MHz.

**Channel** 46

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 @ | 5150.000 | 59.56 | -0.44 | 60.00 | 19.35 | 33.67 | 6.54 | 0.00 | AVERAGE | 113 | 308 | VERTICAL |
| 2 @ | 5150.000 | 74.48 | -5.52 | 80.00 | 34.27 | 33.67 | 6.54 | 0.00 | PEAK | 113 | 308 | VERTICAL |
| 3 @ | 5226.800 | 118.77 | | | 78.37 | 33.82 | 6.58 | 0.00 | PEAK | 113 | 308 | VERTICAL |
| 4 @ | 5236.800 | 110.59 | | | 70.19 | 33.82 | 6.58 | 0.00 | AVERAGE | 113 | 308 | VERTICAL |

Item 3, 4 are the fundamental frequency at 5230 MHz.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m)

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1.5m.

Distance extrapolation factor = 20 log (specific distance [3m] / test distance [1.5m]) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [6 dB].

| Temperature | 23℃ | Humidity | 62% |
|---|---|---|---|
| Test Engineer | Jax Chen | Configurations | Draft n MCS8 20MHz Ch 36, 40 Ant. 5 |

**Channel** 36

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 @ | 5150.000 | 59.41 | -0.59 | 60.00 | 19.19 | 33.67 | 6.54 | 0.00 | AVERAGE | 138 | 186 | VERTICAL |
| 2 @ | 5150.000 | 74.68 | -5.32 | 80.00 | 34.46 | 33.67 | 6.54 | 0.00 | PEAK | 138 | 186 | VERTICAL |
| 3 @ | 5181.600 | 120.47 | | | 80.18 | 33.73 | 6.55 | 0.00 | PEAK | 138 | 186 | VERTICAL |
| 4 @ | 5182.000 | 108.34 | | | 68.06 | 33.73 | 6.55 | 0.00 | AVERAGE | 138 | 186 | VERTICAL |

Item 3, 4 are the fundamental frequency at 5180 MHz.

**Channel** 40

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 @ | 5144.000 | 72.17 | -7.83 | 80.00 | 31.96 | 33.67 | 6.54 | 0.00 | PEAK | 146 | 187 | VERTICAL |
| 2 @ | 5150.000 | 58.09 | -1.91 | 60.00 | 17.87 | 33.67 | 6.54 | 0.00 | AVERAGE | 146 | 187 | VERTICAL |
| 3 @ | 5203.200 | 110.46 | | | 70.13 | 33.76 | 6.57 | 0.00 | AVERAGE | 146 | 187 | VERTICAL |
| 4 @ | 5204.000 | 123.85 | | | 83.52 | 33.76 | 6.57 | 0.00 | PEAK | 146 | 187 | VERTICAL |

Item 3, 4 are the fundamental frequency at 5200 MHz.

| Temperature | 23℃ | Humidity | 62% |
|---|---|---|---|
| Test Engineer | Jax Chen | Configurations | Draft n MCS8 40MHz Ch 38, 46 Ant. 5 |

**Channel** 38

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 @ | 5148.000 | 72.44 | -7.56 | 80.00 | 32.23 | 33.67 | 6.54 | 0.00 | PEAK | 137 | 191 | VERTICAL |
| 2 @ | 5150.000 | 59.90 | -0.10 | 60.00 | 19.69 | 33.67 | 6.54 | 0.00 | AVERAGE | 137 | 191 | VERTICAL |
| 3 @ | 5176.400 | 100.66 | | | 60.38 | 33.73 | 6.55 | 0.00 | AVERAGE | 137 | 191 | VERTICAL |
| 4 @ | 5176.800 | 112.08 | | | 71.79 | 33.73 | 6.55 | 0.00 | PEAK | 137 | 191 | VERTICAL |

Item 3, 4 are the fundamental frequency at 5190 MHz.

**Channel** 46

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 @ | 5150.000 | 59.73 | -0.27 | 60.00 | 19.52 | 33.67 | 6.54 | 0.00 | AVERAGE | 139 | 191 | VERTICAL |
| 2 @ | 5150.000 | 73.32 | -6.68 | 80.00 | 33.11 | 33.67 | 6.54 | 0.00 | PEAK | 139 | 191 | VERTICAL |
| 3 @ | 5234.400 | 105.87 | | | 65.47 | 33.82 | 6.58 | 0.00 | AVERAGE | 139 | 191 | VERTICAL |
| 4 @ | 5237.600 | 118.06 | | | 77.67 | 33.82 | 6.58 | 0.00 | PEAK | 139 | 191 | VERTICAL |

Item 3, 4 are the fundamental frequency at 5230 MHz.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m)

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1.5m.

Distance extrapolation factor = 20 log (specific distance [3m] / test distance [1.5m]) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [6 dB].

| Temperature | 23℃ | Humidity | 62% |
|---|---|---|---|
| Test Engineer | Jax Chen | Configurations | Draft n MCS8 20MHz Ch 36, 40 Ant. 6 |

**Channel** 36

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Remark | Table Pos | Ant Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | deg | cm | |
| 1 ! | 5148.200 | 78.48 | -1.52 | 80.00 | 41.00 | 33.04 | 0.00 | 4.44 | PEAK | 0 | 100 | VERTICAL |
| 2 ! | 5150.000 | 59.37 | -0.63 | 60.00 | 21.89 | 33.04 | 0.00 | 4.44 | AVERAGE | 0 | 100 | VERTICAL |
| 3 @ | 5181.400 | 114.36 | | | 76.84 | 33.09 | 0.00 | 4.43 | AVERAGE | 0 | 100 | VERTICAL |
| 4 @ | 5182.400 | 127.66 | | | 90.13 | 33.09 | 0.00 | 4.43 | PEAK | 0 | 100 | VERTICAL |

Item 3, 4 are the fundamental frequency at 5180 MHz.

**Channel** 40

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Remark | Table Pos | Ant Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | deg | cm | |
| 1 @ | 5257.000 | 134.38 | | | 96.77 | 33.20 | 0.00 | 4.41 | PEAK | 0 | 100 | VERTICAL |
| 2 @ | 5257.800 | 120.71 | | | 83.09 | 33.20 | 0.00 | 4.41 | AVERAGE | 0 | 100 | VERTICAL |

Item 1, 2 are the fundamental frequency at 5200 MHz.

| Temperature | 23℃ | Humidity | 62% |
|---|---|---|---|
| Test Engineer | Jax Chen | Configurations | Draft n MCS8 40MHz Ch 38, 46 Ant. 6 |

**Channel** 38

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 | 5149.200 | 71.71 | -8.29 | 80.00 | 31.50 | 33.67 | 6.54 | 0.00 | PEAK | 119 | 93 | VERTICAL |
| 2 ! | 5150.000 | 59.72 | -0.28 | 60.00 | 19.51 | 33.67 | 6.54 | 0.00 | AVERAGE | 119 | 93 | VERTICAL |
| 3 @ | 5194.800 | 118.14 | | | 77.82 | 33.76 | 6.57 | 0.00 | PEAK | 119 | 93 | VERTICAL |
| 4 @ | 5202.800 | 103.77 | | | 63.44 | 33.76 | 6.57 | 0.00 | AVERAGE | 119 | 93 | VERTICAL |

Item 3, 4 are the fundamental frequency at 5190 MHz.

**Channel** 46

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 ! | 5150.000 | 59.57 | -0.43 | 60.00 | 19.36 | 33.67 | 6.54 | 0.00 | AVERAGE | 138 | 99 | VERTICAL |
| 2 | 5150.000 | 73.04 | -6.96 | 80.00 | 32.83 | 33.67 | 6.54 | 0.00 | PEAK | 138 | 99 | VERTICAL |
| 3 @ | 5215.600 | 111.31 | | | 70.96 | 33.79 | 6.57 | 0.00 | AVERAGE | 138 | 99 | VERTICAL |
| 4 @ | 5228.400 | 123.28 | | | 82.88 | 33.82 | 6.58 | 0.00 | PEAK | 138 | 99 | VERTICAL |

Item 3, 4 are the fundamental frequency at 5230 MHz.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m)

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1.5m.

Distance extrapolation factor = 20 log (specific distance [3m] / test distance [1.5m]) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [6 dB].

| Temperature | 23℃ | Humidity | 62% |
|---|---|---|---|
| Test Engineer | Jax Chen | Configurations | Draft n MCS8 20MHz Ch 36, 40 Ant. 7 |

**Channel** 36

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 @ | 5150.000 | 59.78 | -0.22 | 60.00 | 19.57 | 33.67 | 6.54 | 0.00 | AVERAGE | 100 | 267 | VERTICAL |
| 2 @ | 5150.000 | 74.75 | -5.25 | 80.00 | 34.54 | 33.67 | 6.54 | 0.00 | PEAK | 100 | 267 | VERTICAL |
| 3 @ | 5181.200 | 108.32 | | | 68.03 | 33.73 | 6.55 | 0.00 | AVERAGE | 100 | 267 | VERTICAL |
| 4 @ | 5184.600 | 121.15 | | | 80.87 | 33.73 | 6.55 | 0.00 | PEAK | 100 | 267 | VERTICAL |

Item 3, 4 are the fundamental frequency at 5180 MHz.

**Channel** 40

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 @ | 5150.000 | 59.68 | -0.32 | 60.00 | 19.47 | 33.67 | 6.54 | 0.00 | AVERAGE | 125 | 83 | VERTICAL |
| 2 @ | 5150.000 | 75.03 | -4.97 | 80.00 | 34.82 | 33.67 | 6.54 | 0.00 | PEAK | 125 | 83 | VERTICAL |
| 3 @ | 5198.000 | 114.03 | | | 73.70 | 33.76 | 6.57 | 0.00 | AVERAGE | 125 | 83 | VERTICAL |
| 4 @ | 5198.400 | 126.55 | | | 86.23 | 33.76 | 6.57 | 0.00 | PEAK | 125 | 83 | VERTICAL |

Item 3, 4 are the fundamental frequency at 5200 MHz.

| Temperature | 23℃ | Humidity | 62% |
|---|---|---|---|
| Test Engineer | Jax Chen | Configurations | Draft n MCS8 40MHz Ch 38, 46 Ant. 7 |

**Channel** 38

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 @ | 5150.000 | 59.82 | -0.18 | 60.00 | 19.61 | 33.67 | 6.54 | 0.00 | AVERAGE | 100 | 278 | VERTICAL |
| 2 @ | 5150.000 | 72.75 | -7.25 | 80.00 | 32.54 | 33.67 | 6.54 | 0.00 | PEAK | 100 | 278 | VERTICAL |
| 3 @ | 5194.800 | 102.36 | | | 62.03 | 33.76 | 6.57 | 0.00 | AVERAGE | 100 | 278 | VERTICAL |
| 4 @ | 5198.000 | 114.91 | | | 74.58 | 33.76 | 6.57 | 0.00 | PEAK | 100 | 278 | VERTICAL |

Item 3, 4 are the fundamental frequency at 5190 MHz.

**Channel** 46

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | Ant Pos | Table Pos | Pol/Phase |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | |
| 1 @ | 5150.000 | 59.28 | -0.72 | 60.00 | 19.07 | 33.67 | 6.54 | 0.00 | AVERAGE | 132 | 54 | VERTICAL |
| 2 @ | 5150.000 | 73.78 | -6.22 | 80.00 | 33.56 | 33.67 | 6.54 | 0.00 | PEAK | 132 | 54 | VERTICAL |
| 3 @ | 5234.400 | 108.48 | | | 68.08 | 33.82 | 6.58 | 0.00 | AVERAGE | 132 | 54 | VERTICAL |
| 4 @ | 5236.000 | 121.34 | | | 80.95 | 33.82 | 6.58 | 0.00 | PEAK | 132 | 54 | VERTICAL |

Item 3, 4 are the fundamental frequency at 5230 MHz.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m)

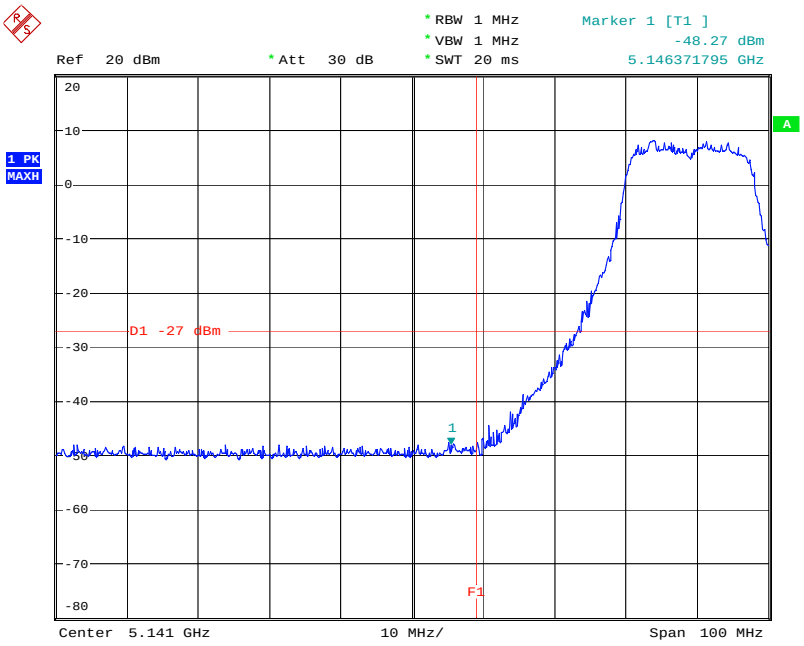
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1.5m.

Distance extrapolation factor = 20 log (specific distance [3m] / test distance [1.5m]) (dB);

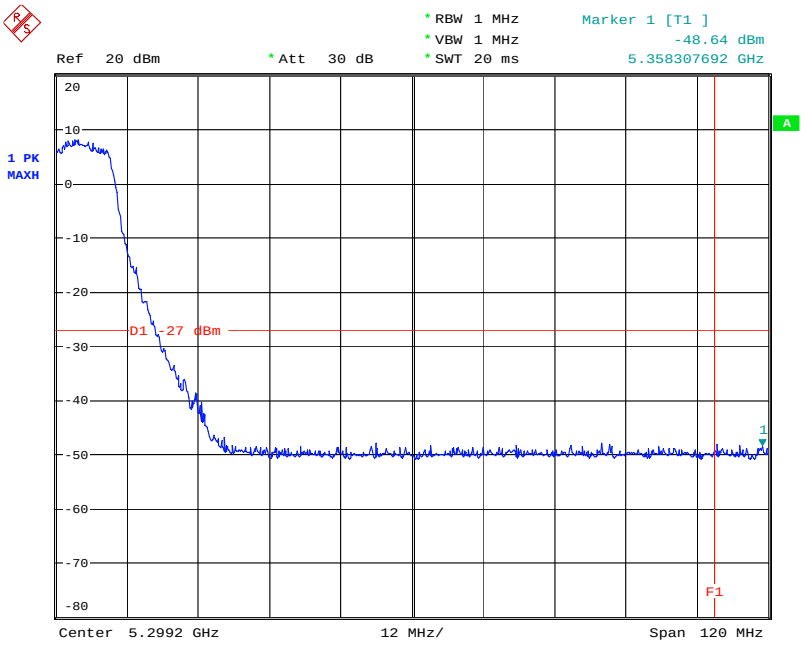
Limit line = specific limits (dBuV) + distance extrapolation factor [6 dB].

## EIRP Emission in Band on Configuration Draft n MCS8 20MHz Ant. 1 / 5180 MHz



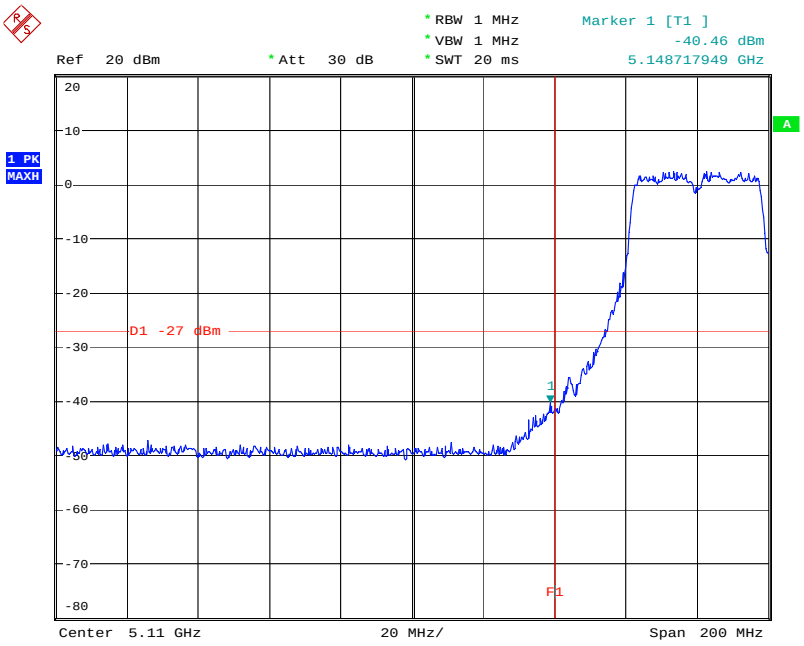

Date: 20.MAR.2008 20:02:02

## EIRP Emission in Band on Configuration Draft n MCS8 20MHz Ant. 1 / 5240 MHz



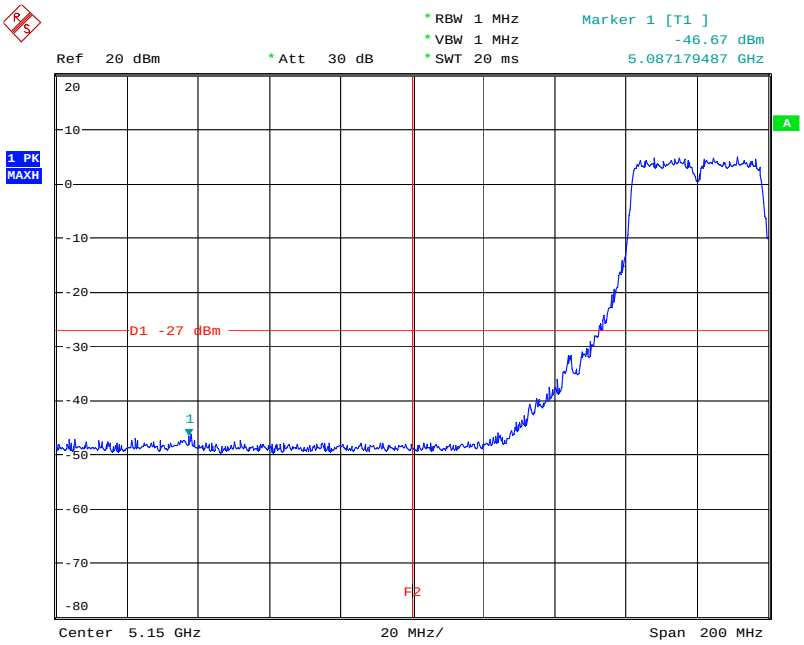

Date: 20.MAR.2008 20:00:21

## EIRP Emission in Band on Configuration Draft n MCS8 40MHz Ant. 1 / 5190 MHz



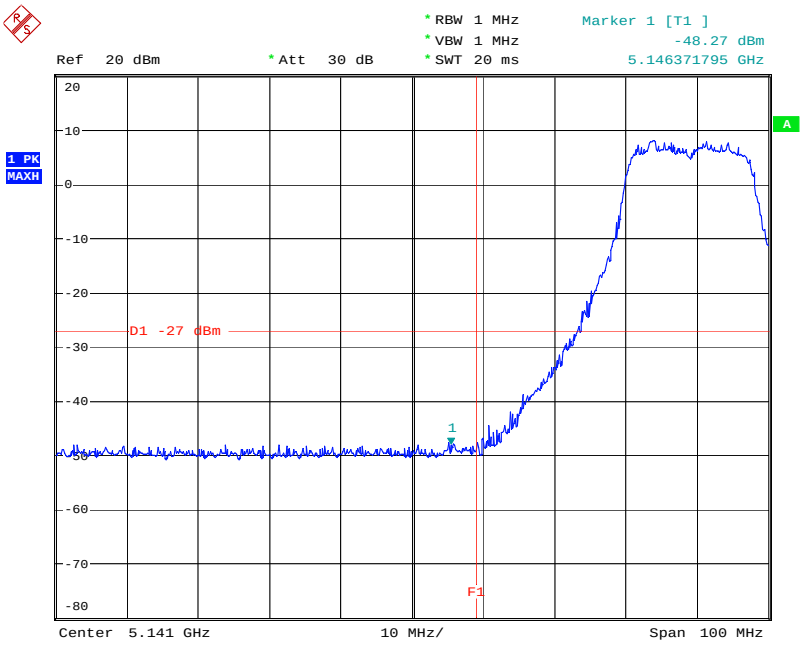

Date: 20.MAR.2008 19:37:18

## EIRP Emission in Band on Configuration Draft n MCS8 40MHz Ant. 1 / 5230 MHz



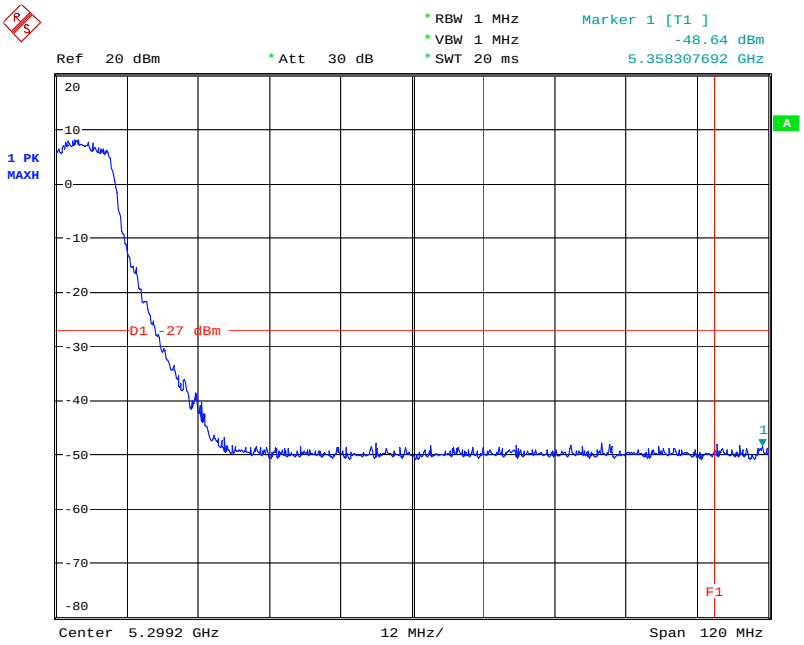

Date: 20.MAR.2008 19:33:50

## EIRP Emission in Band on Configuration Draft n MCS8 20MHz Ant. 5 / 5180 MHz



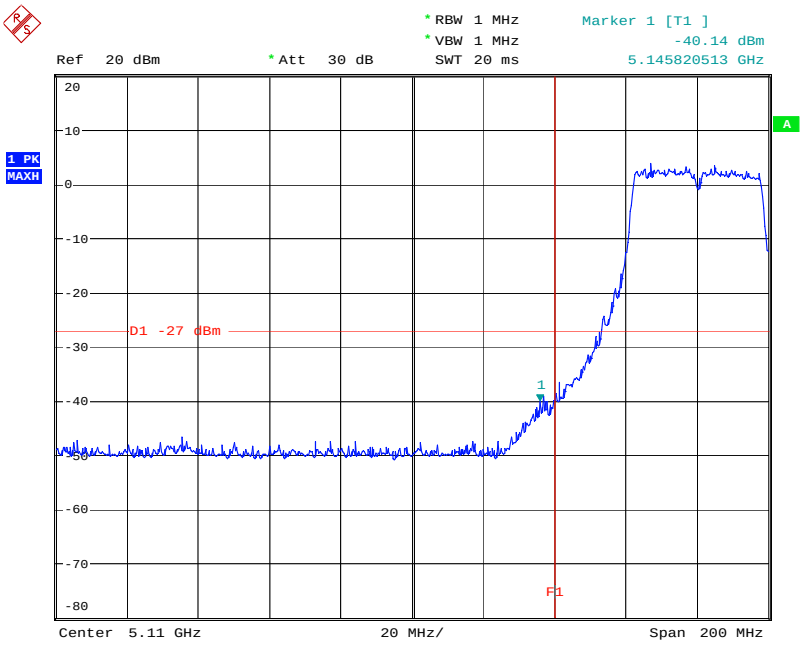

Date: 20.MAR.2008 20:02:02

## EIRP Emission in Band on Configuration Draft n MCS8 20MHz Ant. 5 / 5240 MHz



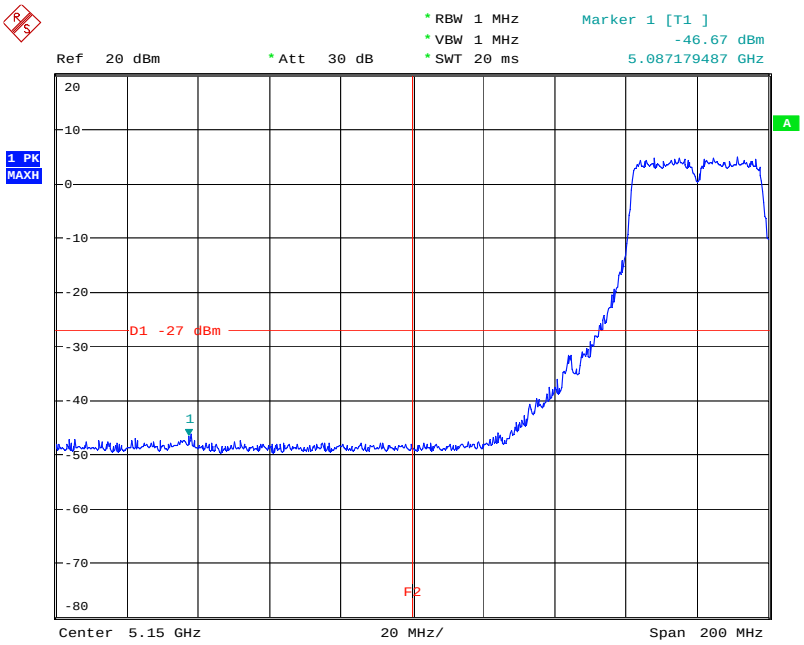

Date: 20.MAR.2008 20:00:21

## EIRP Emission in Band on Configuration Draft n MCS8 40MHz Ant. 5 / 5190 MHz



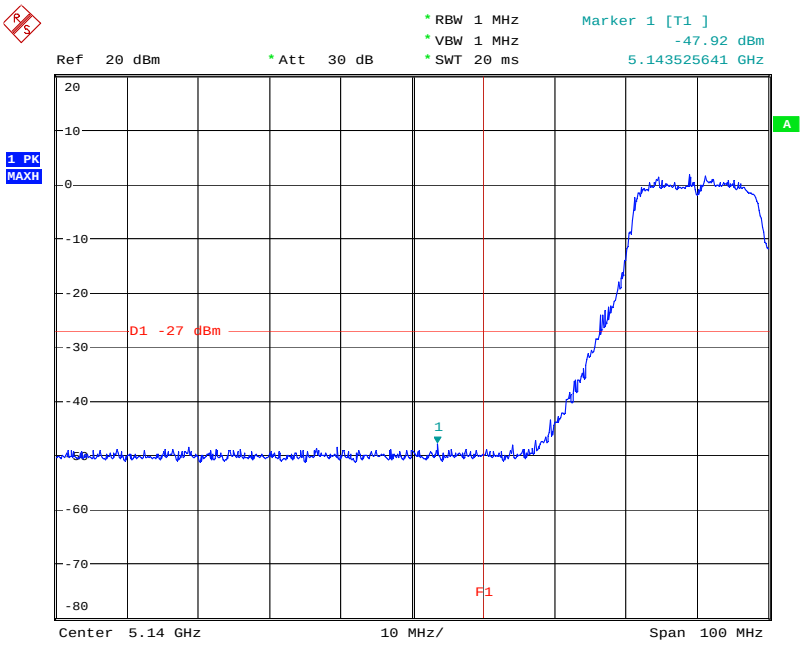

Date: 21.MAR.2008 14:18:46

## EIRP Emission in Band on Configuration Draft n MCS8 40MHz Ant. 5 / 5230 MHz



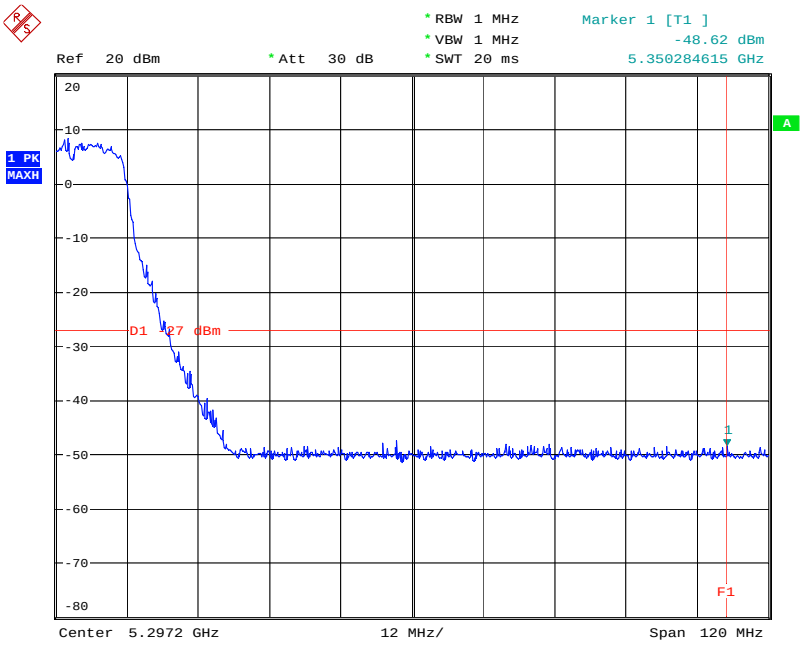

Date: 20.MAR.2008 19:33:50

## EIRP Emission in Band on Configuration Draft n MCS8 20MHz Ant. 6 / 5180 MHz



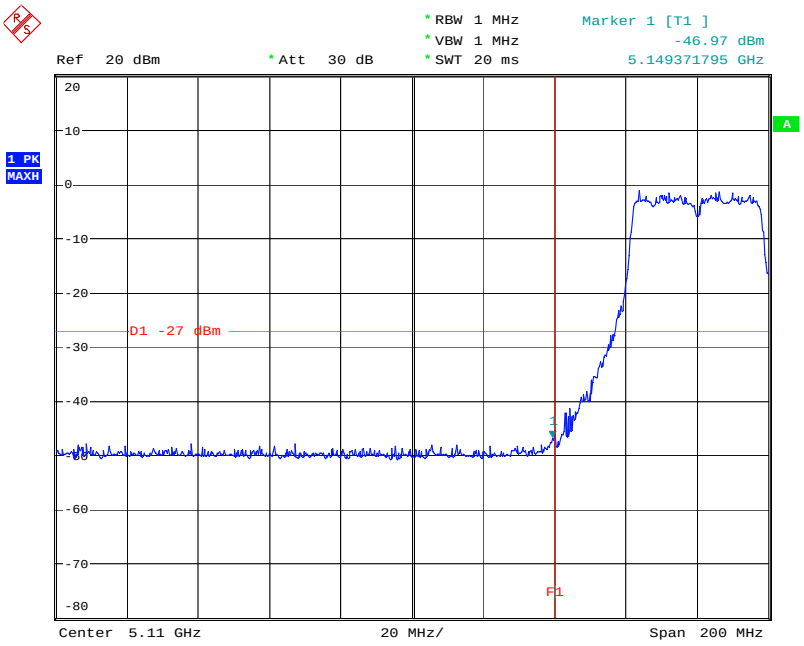

Date: 25.MAR.2008 14:57:29

## EIRP Emission in Band on Configuration Draft n MCS8 20MHz Ant. 6 / 5240 MHz



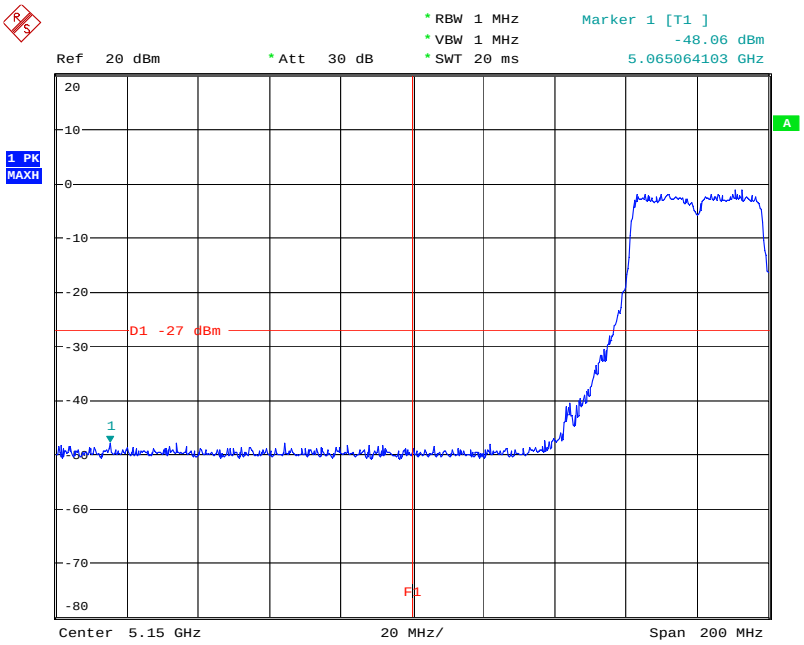

Date: 25.MAR.2008 15:00:17

## EIRP Emission in Band on Configuration Draft n MCS8 40MHz Ant. 6 / 5190 MHz



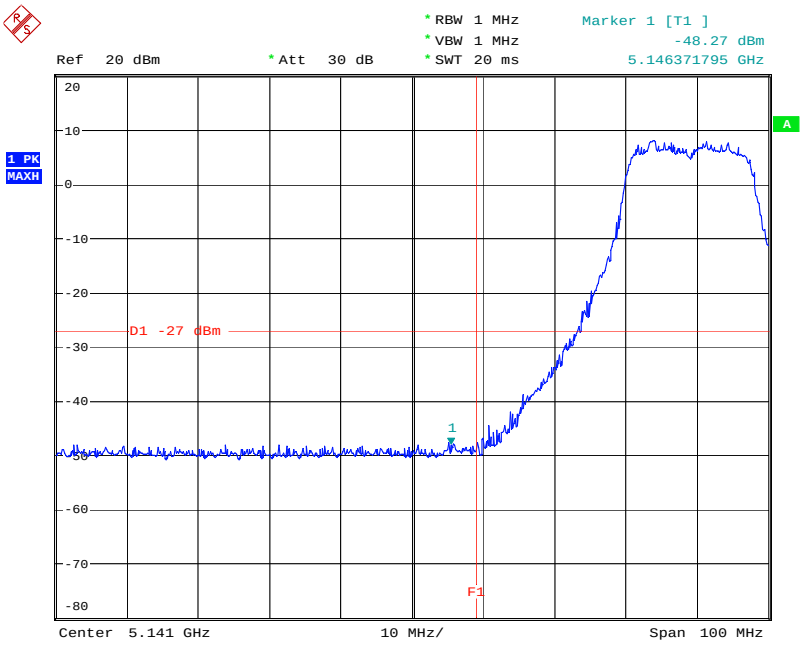

Date: 25.MAR.2008 14:56:24

## EIRP Emission in Band on Configuration Draft n MCS8 40MHz Ant. 6 / 5230 MHz



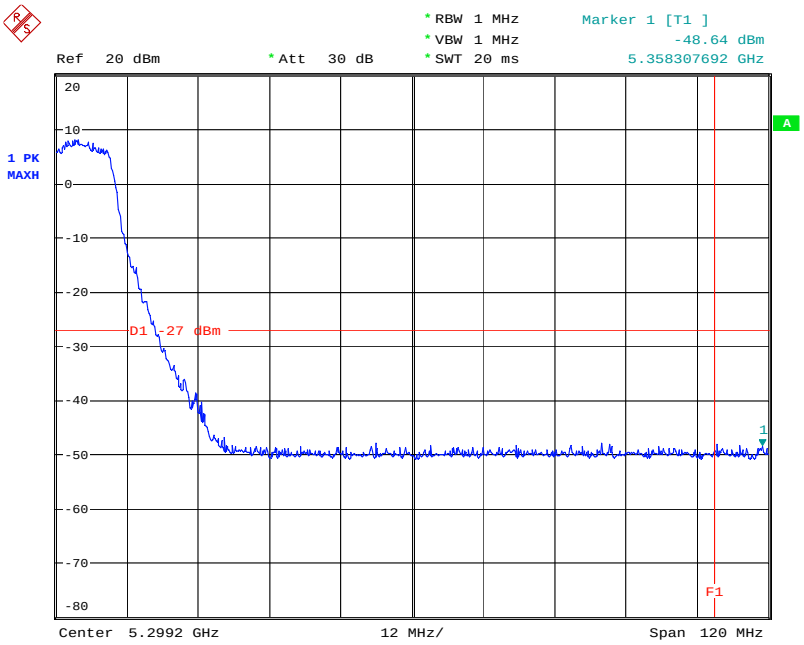

Date: 25.MAR.2008 14:55:05

## EIRP Emission in Band on Configuration Draft n MCS8 20MHz Ant. 7 / 5180 MHz



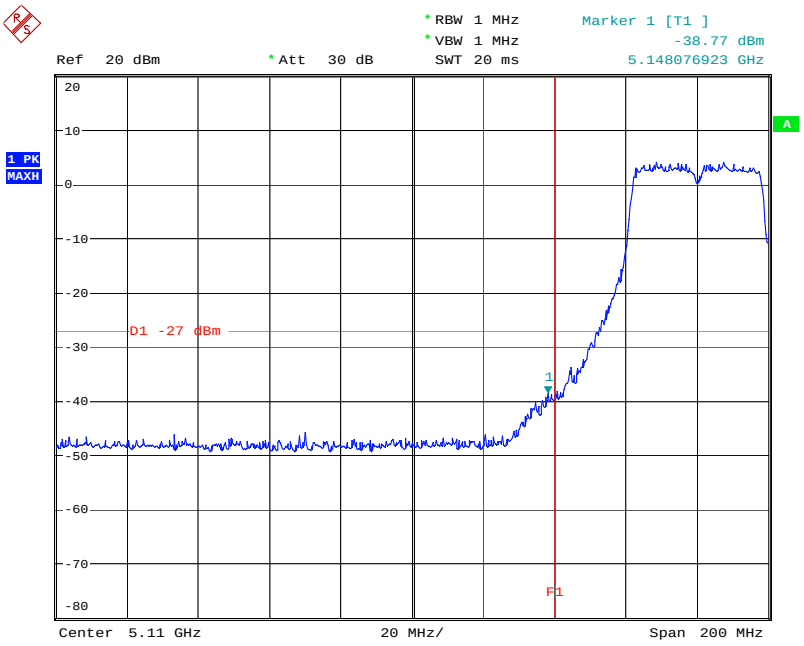

Date: 20.MAR.2008 20:02:02

## EIRP Emission in Band on Configuration Draft n MCS8 20MHz Ant. 7 / 5240 MHz



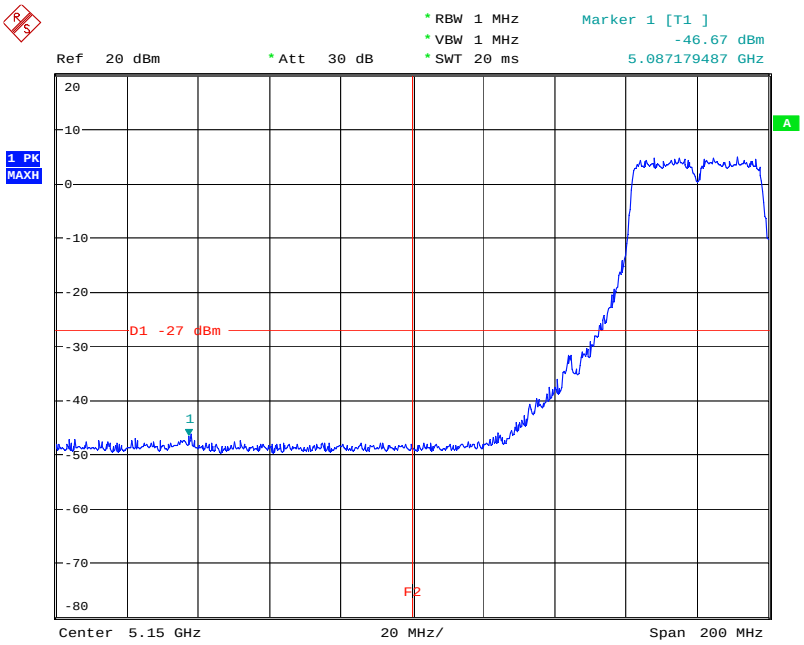

Date: 20.MAR.2008 20:00:21

## EIRP Emission in Band on Configuration Draft n MCS8 40MHz Ant. 7 / 5190 MHz




Date: 26.MAR.2008 16:59:34

## EIRP Emission in Band on Configuration Draft n MCS8 40MHz Ant. 7 / 5230 MHz




Date: 20.MAR.2008 19:33:50

## 4.8. Frequency Stability Measurement

### 4.8.1. Limit

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emissions is maintained within the band of operation under all conditions of normal operation as specified in the user's manual or ±20ppm (Draft n specification).

### 4.8.2. Measuring Instruments and Setting

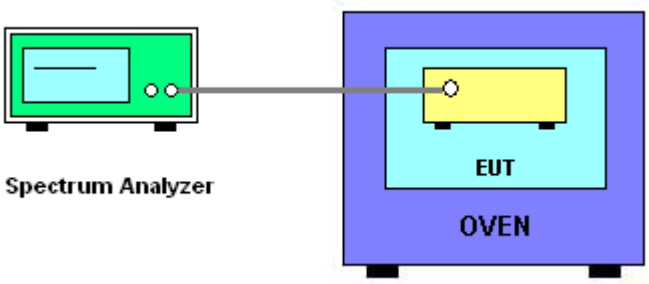
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

| Spectrum Parameter | Setting |
|---|---|
| Attenuation | Auto |
| Span Frequency | Entire absence of modulation emissions bandwidth |
| RB | 10 kHz |
| VB | 10 kHz |
| Sweep Time | Auto |

### 4.8.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyser.
2. EUT have transmitted absence of modulation signal and fixed channelize.
3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
4. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.
5. fc is declaring of channel frequency. Then the frequency error formula is (fc-f)/fc × $10^6$ ppm and the limit is less than ±20ppm (Draft n specification).
6. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
7. Extreme temperature rule is -30°C~50°C.
8. Measuring multiple antennas, the connector is required to link with spectrum analyzer through a combiner.

### 4.8.4. Test Setup Layout



### 4.8.5. Test Deviation

There is no deviation with the original standard.

### 4.8.6. EUT Operation during Test

The EUT was programmed to be in continuously un-modulation transmitting mode.

### 4.8.7. Test Result of Frequency Stability

For Antenna 1

**Voltage vs. Frequency Stability**

| Voltage | Measurement Frequency (MHz) |
|---|---|
| (V) | 5200 MHz |
| 126.50 | 5200.0451 |
| 110.00 | 5200.0322 |
| 93.50 | 5200.0211 |
| Max. Deviation (MHz) | **0.045100** |
| Max. Deviation (ppm) | **8.67** |

**Temperature vs. Frequency Stability**

| Temperature | Measurement Frequency (MHz) |
|---|---|
| (℃) | 5200 MHz |
| -30 | 5200.0512 |
| -20 | 5200.0412 |
| -10 | 5200.0315 |
| 0 | 5200.0211 |
| 10 | 5200.0101 |
| 20 | 5200.0001 |
| 30 | 5199.9981 |
| 40 | 5199.9885 |
| 50 | 5199.9648 |
| Max. Deviation (MHz) | **0.051200** |
| Max. Deviation (ppm) | **9.85** |

For Antenna 5

**Voltage vs. Frequency Stability**

| Voltage | Measurement Frequency (MHz) |
|---|---|
| (V) | 5200 MHz |
| 126.50 | 5200.0451 |
| 110.00 | 5200.0322 |
| 93.50 | 5200.0211 |
| Max. Deviation (MHz) | **0.045100** |
| Max. Deviation (ppm) | **8.67** |

**Temperature vs. Frequency Stability**

| Temperature | Measurement Frequency (MHz) |
|---|---|
| (℃) | 5200 MHz |
| -30 | 5200.0512 |
| -20 | 5200.0412 |
| -10 | 5200.0315 |
| 0 | 5200.0211 |
| 10 | 5200.0101 |
| 20 | 5200.0001 |
| 30 | 5199.9981 |
| 40 | 5199.9885 |
| 50 | 5199.9648 |
| Max. Deviation (MHz) | **0.051200** |
| Max. Deviation (ppm) | **9.85** |

For Antenna 6

**Voltage vs. Frequency Stability**

| Voltage | Measurement Frequency (MHz) |
|---|---|
| (V) | 5200 MHz |
| 126.50 | 5200.0451 |
| 110.00 | 5200.0322 |
| 93.50 | 5200.0211 |
| Max. Deviation (MHz) | **0.045100** |
| Max. Deviation (ppm) | **8.67** |

**Temperature vs. Frequency Stability**

| Temperature | Measurement Frequency (MHz) |
|---|---|
| (℃) | 5200 MHz |
| -30 | 5200.0275 |
| -20 | 5200.0269 |
| -10 | 5200.0254 |
| 0 | 5200.0153 |
| 10 | 5200.0043 |
| 20 | 5199.9984 |
| 30 | 5199.9778 |
| 40 | 5199.9674 |
| 50 | 5199.9668 |
| Max. Deviation (MHz) | **0.033200** |
| Max. Deviation (ppm) | **6.38** |

For Antenna 7

**Voltage vs. Frequency Stability**

| Voltage | Measurement Frequency (MHz) |
|---|---|
| (V) | 5200 MHz |
| 126.50 | 5200.0451 |
| 110.00 | 5200.0322 |
| 93.50 | 5200.0211 |
| Max. Deviation (MHz) | **0.045100** |
| Max. Deviation (ppm) | **8.67** |

**Temperature vs. Frequency Stability**

| Temperature | Measurement Frequency (MHz) |
|---|---|
| (℃) | 5200 MHz |
| -30 | 5200.0512 |
| -20 | 5200.0412 |
| -10 | 5200.0315 |
| 0 | 5200.0211 |
| 10 | 5200.0101 |
| 20 | 5200.0001 |
| 30 | 5199.9981 |
| 40 | 5199.9885 |
| 50 | 5199.9648 |
| Max. Deviation (MHz) | **0.051200** |
| Max. Deviation (ppm) | **9.85** |

## 4.9. Antenna Requirements

### 4.9.1. Limit

Except for special regulations, the Low-power Radio-frequency Devices must not be equipped with any jacket for installing an antenna with extension cable. 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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. 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.

### 4.9.2. Antenna Connector Construction

Please refer to section 3.3 in this test report; antenna connector complied with the requirements.

# 5. LIST OF MEASURING EQUIPMENTS

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Remark |
|---|---|---|---|---|---|---|
| EMC Receiver | R&S | ESCS 30 | 100174 | 9kHz – 2.75GHz | Mar. 03, 2008 | Conduction (CO04-HY) |
| LISN | MessTec | NNB-2/16Z | 99079 | 9kHz – 30MHz | Mar. 31, 2008 | Conduction (CO04-HY) |
| LISN (Support Unit) | EMCO | 3810/2NM | 9703-1839 | 9kHz – 30MHz | Mar. 22, 2008 | Conduction (CO04-HY) |
| RF Cable-CON | UTIFLEX | 3102-26886-4 | CB049 | 9kHz – 30MHz | Apr. 20, 2007 | Conduction (CO04-HY) |
| ISN | SCHAFFNER | ISN T400 | 21653 | 9kHz –30MHz | Mar. 27, 2008 | Conduction (CO04-HY) |
| EMI Filter | LINDGREN | LRE-2030 | 2651 | < 450 Hz | N/A | Conduction (CO04-HY) |
| 3m Semi Anechoic Chamber | SIDT FRANKONIA | SAC-3M | 03CH03-HY | 30 MHz - 1 GHz 3m | Jun. 14, 2007 | Radiation (03CH03-HY) |
| Amplifier | SCHAFFNER | COA9231A | 18667 | 9 kHz - 2 GHz | Jan. 14, 2008 | Radiation (03CH03-HY) |
| Amplifier | Agilent | 8449B | 3008A02120 | 1 GHz - 26.5 GHz | Jun. 07, 2007 | Radiation (03CH03-HY) |
| Amplifier | MITEQ | AMF-6F-260400 | 9121372 | 26.5 GHz - 40 GHz | Jan. 22, 2007* | Radiation (03CH03-HY) |
| Spectrum Analyzer | R&S | FSP40 | 100305 | 9 kHz - 40 GHz | Sep. 27, 2007 | Radiation (03CH03-HY) |
| Loop Antenna | R&S | HFH2-Z2 | 860004/001 | 9 kHz - 30 MHz | May 23, 2006* | Radiation (03CH03-HY) |
| Bilog Antenna | SCHAFFNER | CBL 6112D | 22237 | 30 MHz – 1 GHz | Jul. 21, 2007 | Radiation (03CH03-HY) |
| Horn Antenna | EMCO | 3115 | 6741 | 1GHz ~ 18GHz | May 04, 2007 | Radiation (03CH03-HY) |
| Horn Antenna | SCHWARZBECK | BBHA9170 | BBHA9170154 | 15 GHz - 40 GHz | Jan.18, 2008 | Radiation (03CH03-HY) |
| RF Cable-R03m | Jye Bao | RG142 | CB021 | 30 MHz - 1 GHz | Dec. 03, 2007 | Radiation (03CH03-HY) |
| RF Cable-HIGH | SUHNER | SUCOFLEX 106 | 03CH03-HY | 1 GHz - 40 GHz | Dec. 03, 2007 | Radiation (03CH03-HY) |
| Turn Table | HD | DS 420 | 420/650/00 | 0 – 360 degree | N/A | Radiation (03CH03-HY) |
| Antenna Mast | HD | MA 240 | 240/560/00 | 1 m - 4 m | N/A | Radiation (03CH03-HY) |
| Spectrum Analyzer | R&S | FSP30 | 100023 | 9kHz ~ 30GHz | Jan. 10, 2008 | Conducted (TH01-HY) |
| Power Meter | R&S | NRVS | 100444 | DC ~ 40GHz | Jun. 27, 2007 | Conducted (TH01-HY) |
| Power Sensor | R&S | NRV-Z51 | 100458 | DC ~ 30GHz | Jun. 27, 2007 | Conducted (TH01-HY) |
| Power Sensor | R&S | NRV-Z32 | 100057 | 30MHz ~ 6GHz | Jun. 27, 2007 | Conducted (TH01-HY) |
| AC Power Source | HPC | HPA-500W | HPA-9100024 | AC 0 ~ 300V | May 04, 2007* | Conducted (TH01-HY) |
| DC Power Source | G.W. | GPC-6030D | C671845 | DC 1V ~ 60V | Mar. 13, 2008 | Conducted (TH01-HY) |
| Temp. and Humidity Chamber | KSON | THS-C3L | 612 | N/A | Oct. 01, 2007 | Conducted (TH01-HY) |
| RF CABLE-1m | Jye Bao | RG142 | CB034-1m | 20MHz ~ 7GHz | Dec. 01, 2007 | Conducted (TH01-HY) |
| RF CABLE-2m | Jye Bao | RG142 | CB035-2m | 20MHz ~ 1GHz | Dec. 01, 2007 | Conducted (TH01-HY) |
| Vector Signal Generator | R&S | SMU200A | 102098 | 100kHz ~ 6GHz | Nov. 14, 2007 | Conducted (TH01-HY) |
| Signal Generator | R&S | SMR40 | 100116 | 10MHz ~ 40GHz | Mar. 10, 2008 | Conducted (TH01-HY) |

Note: Calibration Interval of instruments listed above is one year.

Note: *Calibration Interval of instruments listed above is two year.

# 6. TEST LOCATION

| | | | |
|---|---|---|---|
| SHIJR | ADD | : | 6Fl., No. 106, Sec. 1, Shintai 5th Rd., Shijr City, Taipei, Taiwan 221, R.O.C. |
| | TEL | : | 886-2-2696-2468 |
| | FAX | : | 886-2-2696-2255 |
| HWA YA | ADD | : | No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. |
| | TEL | : | 886-3-327-3456 |
| | FAX | : | 886-3-318-0055 |
| LINKOU | ADD | : | No. 30-2, Dingfu Tsuen, Linkou Shiang, Taipei, Taiwan 244, R.O.C |
| | TEL | : | 886-2-2601-1640 |
| | FAX | : | 886-2-2601-1695 |
| DUNGHU | ADD | : | No. 3, Lane 238, Kangle St., Neihu Chiu, Taipei, Taiwan 114, R.O.C. |
| | TEL | : | 886-2-2631-4739 |
| | FAX | : | 886-2-2631-9740 |
| JUNGHE | ADD | : | 7Fl., No. 758, Jungjeng Rd., Junghe City, Taipei, Taiwan 235, R.O.C. |
| | TEL | : | 886-2-8227-2020 |
| | FAX | : | 886-2-8227-2626 |
| NEIHU | ADD | : | 4Fl., No. 339, Hsin Hu 2nd Rd., Taipei 114, Taiwan, R.O.C. |
| | TEL | : | 886-2-2794-8886 |
| | FAX | : | 886-2-2794-9777 |
| JHUBEI | ADD | : | No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. |
| | TEL | : | 886-3-656-9065 |
| | FAX | : | 886-3-656-9085 |

# 7. TAF CERTIFICATE OF ACCREDITATION

Certificate No. : L1190-070110

財團法人全國認證基金會
Taiwan Accreditation Foundation

## Certificate of Accreditation

This is to certify that

**Sporton International Inc.**
**EMC & Wireless Communications Laboratory**
No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

**is accredited in respect of laboratory**

| | | |
|---|---|---|
| **Accreditation Criteria** | : | ISO/IEC 17025:2005 |
| **Accreditation Number** | : | 1190 |
| **Originally Accredited** | : | December 15, 2003 |
| **Effective Period** | : | January 10, 2007 to January 09, 2010 |
| **Accredited Scope** | : | Testing Field, see described in the Appendix |
| **Specific Accreditation Program** | : | Accreditation Program for Designated Testing Laboratory for Commodities Inspection<br>Accreditation Program for Telecommunication Equipment Testing Laboratory |

Jay-San Chen
President, Taiwan Accreditation Foundation
Date : January 10, 2007

P1, total 9 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when used without the Appendix.