## 4.6. Radiated Emissions Measurement

### 4.6.1. Limit

For transmitters operating in the 5.15-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). For transmitters operating in the 5.470-5.725 GHz band: all emissions outside of the 5.470-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). For transmitters operating in the 5.725-5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17 dBm/MHz (78.3dBuV/m at 3m); for frequencies 10 MHz or greater above or below the band edge, emissions 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 |

### 4.6.2. Measuring Instruments and Setting

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

| Spectrum Parameter | Setting |
|---|---|
| Attenuation | Auto |
| Start Frequency | 1000 MHz |
| Stop Frequency | 40 GHz |
| RB / VB (Emission in restricted band) | 1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average |
| RB / VB (Emission in non-restricted band) | 1000KHz / 1000KHz for peak |

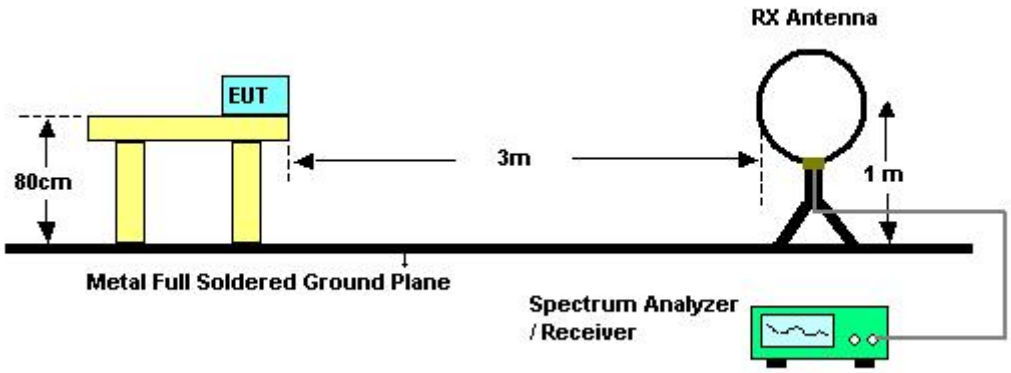
| Receiver Parameter | Setting |
|---|---|
| Attenuation | Auto |
| Start ~ Stop Frequency | 9kHz~150kHz / RB 200Hz for QP |
| Start ~ Stop Frequency | 150kHz~30MHz / RB 9kHz for QP |
| Start ~ Stop Frequency | 30MHz~1000MHz / RB 120kHz for QP |

### 4.6.3. Test Procedures

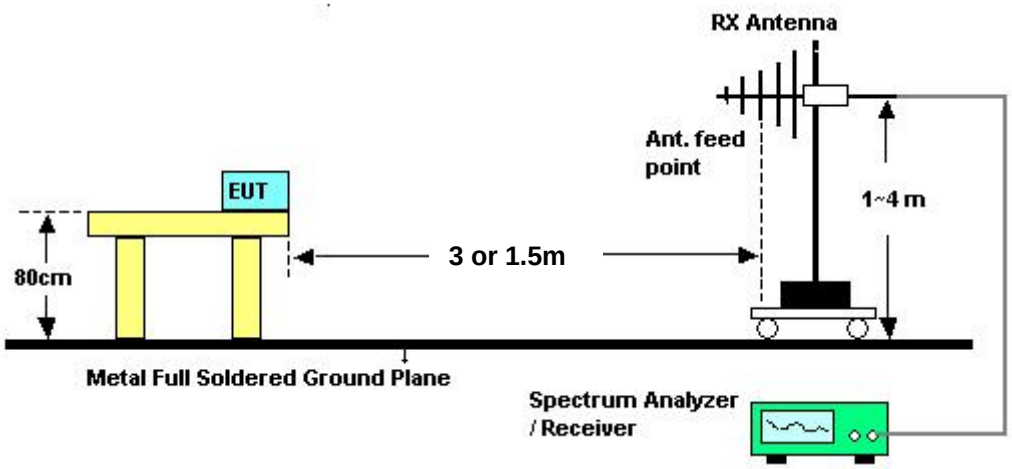
1. Configure the EUT according to ANSI C63.4. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

### 4.6.4. Test Setup Layout

**For radiated emissions below 30MHz**




**For radiated emissions above 30MHz**




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].

### 4.6.5. Test Deviation

There is no deviation with the original standard.

### 4.6.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

### 4.6.7. Results of Radiated Emissions (9kHz~30MHz)

| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Roy Huang | Configurations | Normal Link |

| Freq. (MHz) | Level (dBuV) | Over Limit (dB) | Limit Line (dBuV) | Remark |
|---|---|---|---|---|
| - | - | - | - | See Note |

Note:

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

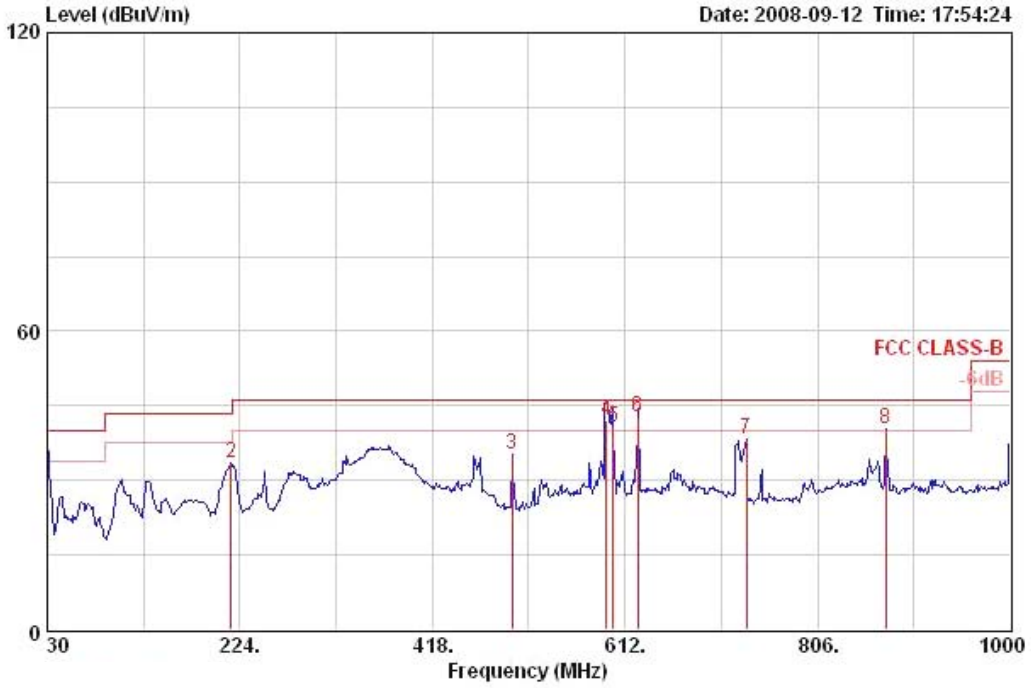
Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.

## 4.6.8. Results of Radiated Emissions (30MHz~1GHz)

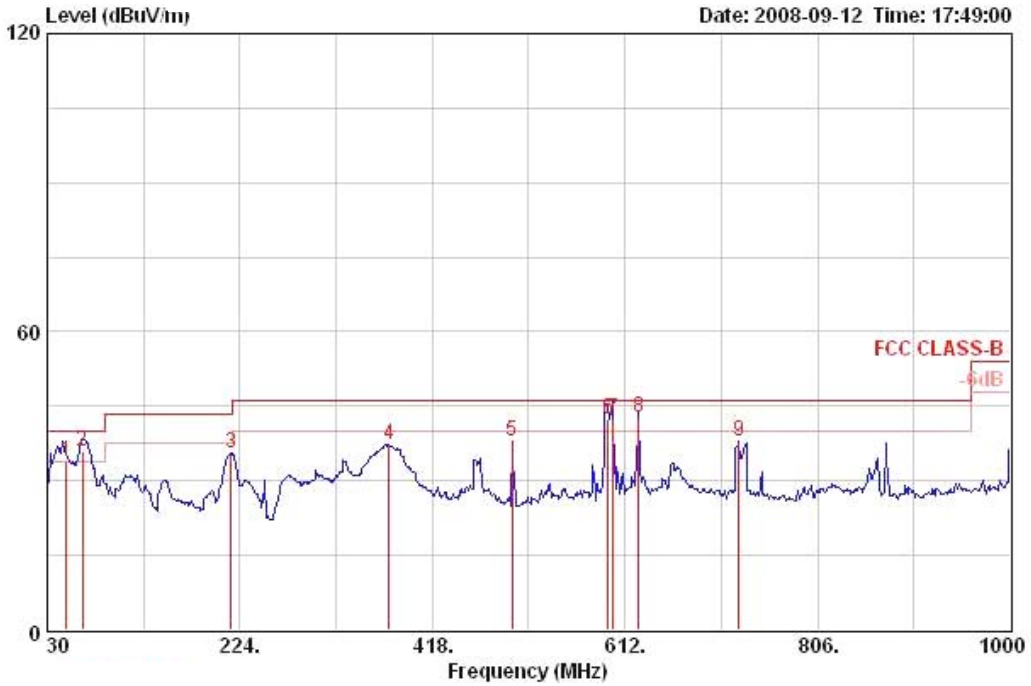
| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Roy Huang | Configurations | Mode 2 |

***Horizontal***




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Remark | Pol/Phase | Table Pos | Ant Pos |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | | deg | cm |
| 1 | 30.000 | 30.46 | -9.54 | 40.00 | 39.00 | 18.76 | 27.80 | 0.50 | QP | HORIZONTAL | 0 | 100 |
| 2 | 215.270 | 33.37 | -10.13 | 43.50 | 48.49 | 10.19 | 27.07 | 1.76 | Peak | HORIZONTAL | 0 | 100 |
| 3 | 498.510 | 35.06 | -10.94 | 46.00 | 42.86 | 17.60 | 28.09 | 2.70 | Peak | HORIZONTAL | 0 | 100 |
| 4 ! | 593.360 | 42.18 | -3.82 | 46.00 | 48.70 | 18.69 | 28.10 | 2.89 | QP | HORIZONTAL | 0 | 157 |
| 5 ! | 599.880 | 40.67 | -5.33 | 46.00 | 47.10 | 18.77 | 28.10 | 2.90 | QP | HORIZONTAL | 12 | 165 |
| 6 @ | 624.990 | 42.82 | -3.18 | 46.00 | 49.00 | 18.85 | 28.07 | 3.05 | QP | HORIZONTAL | 163 | 141 |
| 7 | 734.220 | 38.12 | -7.88 | 46.00 | 43.23 | 19.32 | 27.86 | 3.44 | Peak | HORIZONTAL | 0 | 100 |
| 8 ! | 874.870 | 40.48 | -5.52 | 46.00 | 44.09 | 20.34 | 27.45 | 3.50 | Peak | HORIZONTAL | 0 | 100 |

*Vertical*




| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Preamp Factor | Cable Loss | Remark | Pol/Phase | Table Pos | Ant Pos |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | | deg | cm |
| 1 | 49.100 | 33.93 | -6.07 | 40.00 | 52.20 | 8.83 | 27.80 | 0.70 | QP | VERTICAL | 346 | 100 |
| 2 ! | 65.740 | 35.93 | -4.07 | 40.00 | 56.10 | 6.69 | 27.74 | 0.88 | QP | VERTICAL | 11 | 186 |
| 3 | 215.270 | 35.70 | -7.80 | 43.50 | 50.81 | 10.19 | 27.07 | 1.76 | Peak | VERTICAL | 0 | 400 |
| 4 | 374.350 | 37.21 | -8.79 | 46.00 | 47.00 | 15.38 | 27.42 | 2.25 | Peak | VERTICAL | 0 | 400 |
| 5 | 498.510 | 38.00 | -8.00 | 46.00 | 45.79 | 17.60 | 28.09 | 2.70 | Peak | VERTICAL | 0 | 400 |
| 6 ! | 595.000 | 42.39 | -3.61 | 46.00 | 48.90 | 18.70 | 28.10 | 2.89 | QP | VERTICAL | 56 | 100 |
| 7 ! | 600.200 | 42.47 | -3.53 | 46.00 | 48.90 | 18.77 | 28.10 | 2.90 | QP | VERTICAL | 0 | 100 |
| 8 ! | 625.580 | 42.79 | -3.21 | 46.00 | 48.96 | 18.85 | 28.07 | 3.05 | QP | VERTICAL | 0 | 400 |
| 9 | 726.460 | 37.92 | -8.08 | 46.00 | 43.14 | 19.27 | 27.89 | 3.41 | Peak | VERTICAL | 0 | 400 |

Note:

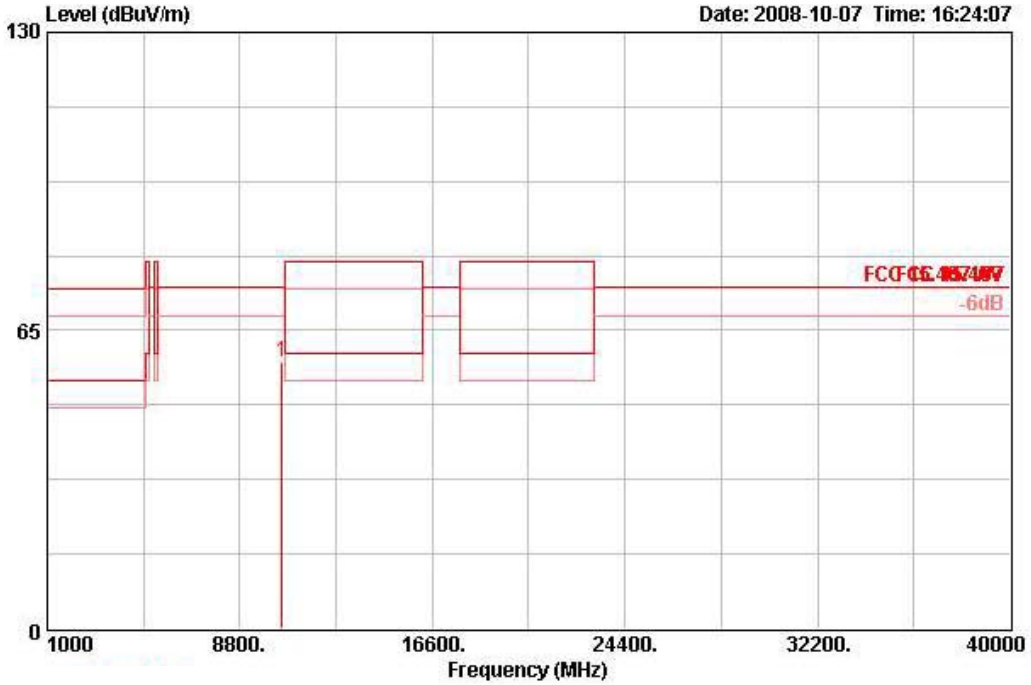
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

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

## 4.6.9. Results for Radiated Emissions (1GHz~40GHz)

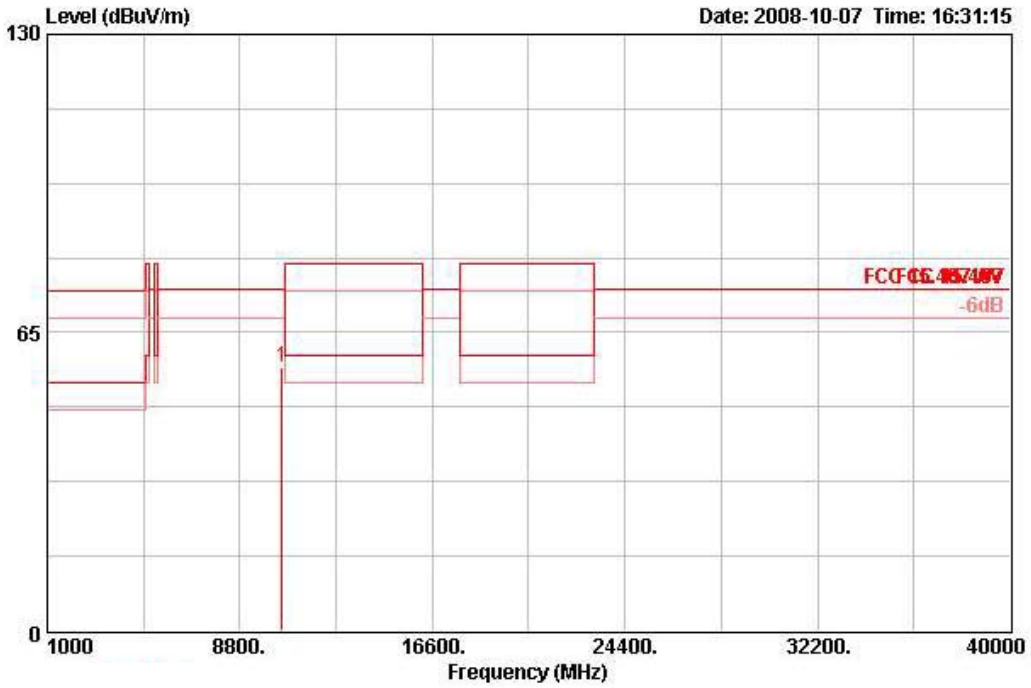
| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | Draft n MCS8 20MHz Ch 52 / Ant. A1 + Ant. A2 + Ant. A3 |

*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 | 10520.740 | 58.12 | -16.18 | 74.30 | 48.17 | 38.40 | 6.48 | 34.93 | PEAK | 104 | 10 | HORIZONTAL |

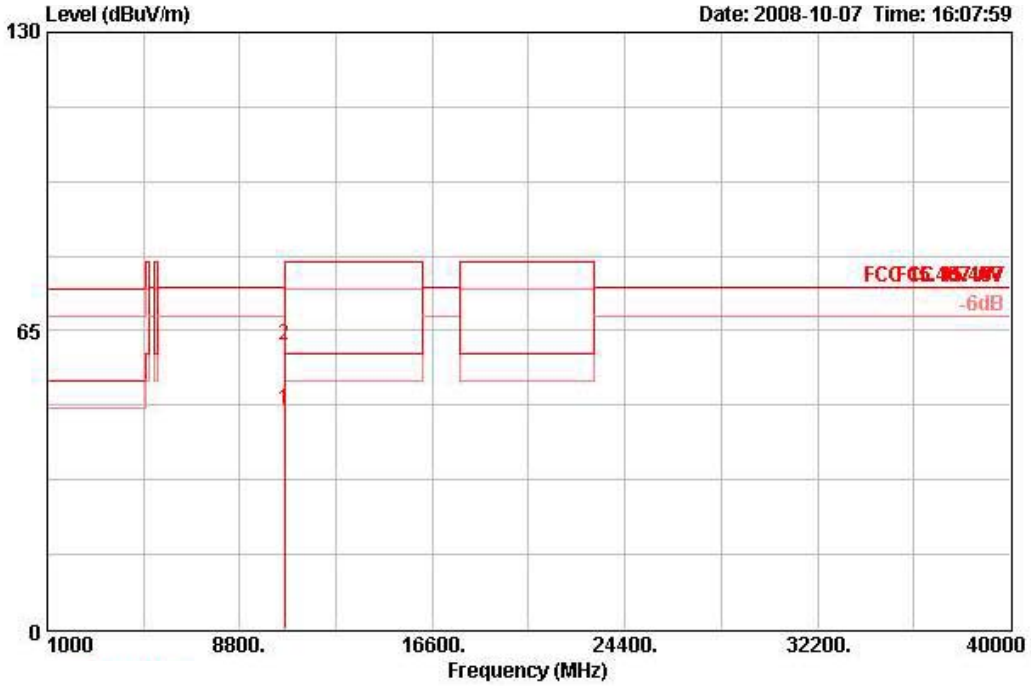
*Vertical*




| | 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 | 10520.650 | 57.38 | -16.92 | 74.30 | 47.44 | 38.39 | 6.48 | 34.93 | PEAK | 100 | 236 | VERTICAL |

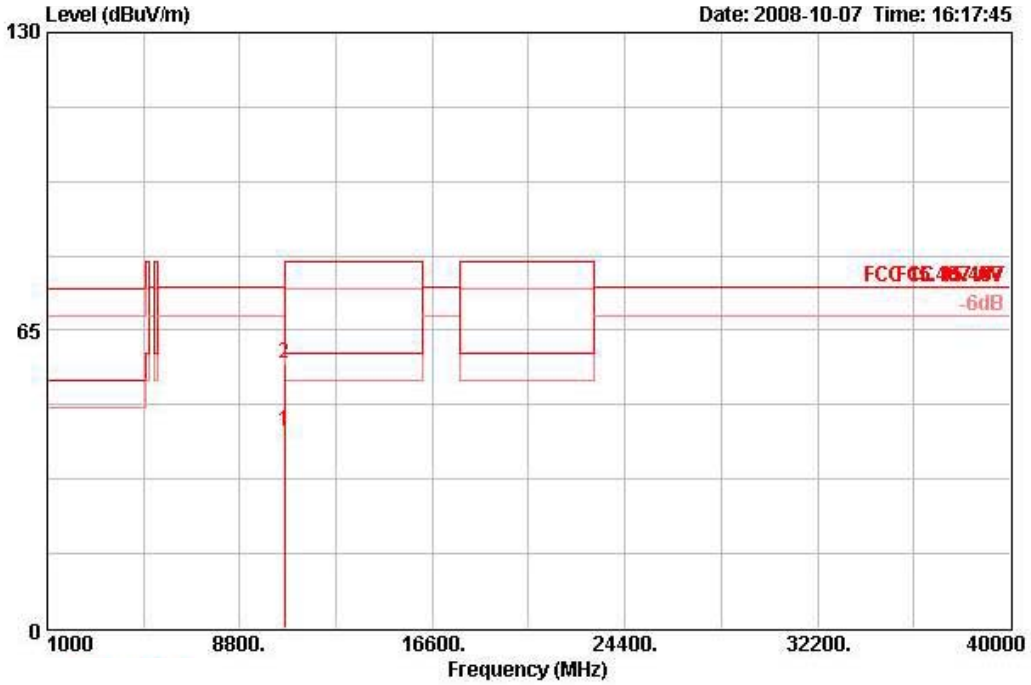
| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | Draft n MCS8 20MHz Ch 60 / Ant. A1 + Ant. A2 + Ant. A3 |

*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 | 10601.200 | 47.84 | -12.16 | 60.00 | 37.84 | 38.38 | 6.51 | 34.90 | AVERAGE | 104 | 12 | HORIZONTAL |
| 2 | 10610.200 | 61.93 | -18.07 | 80.00 | 51.92 | 38.38 | 6.52 | 34.89 | PEAK | 104 | 12 | HORIZONTAL |

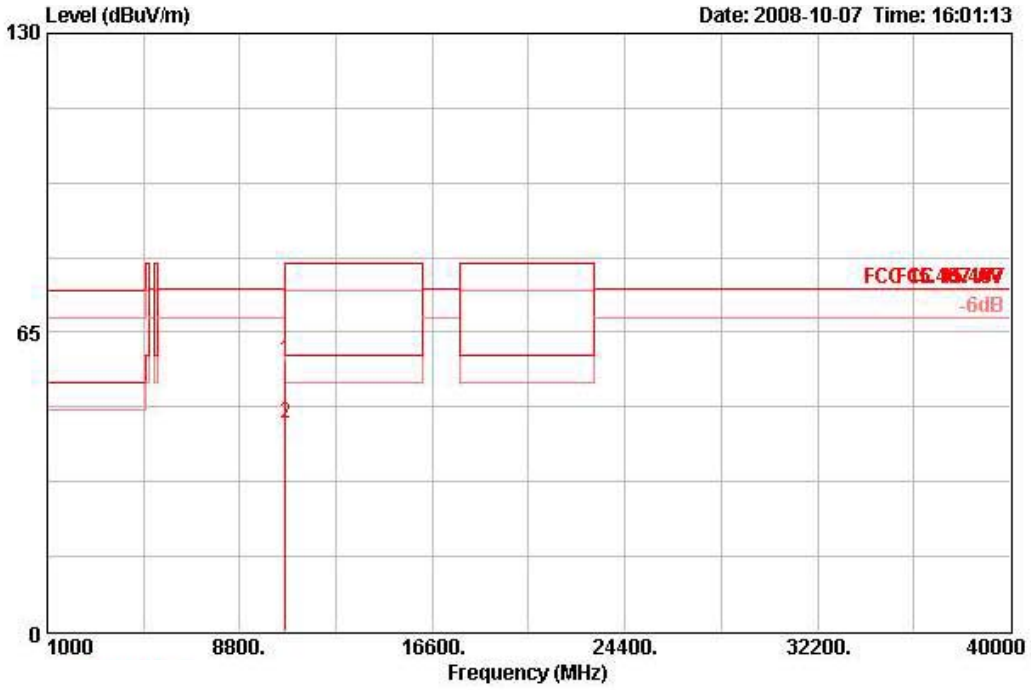
*Vertical*




| | 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 | 10600.010 | 43.15 | -16.85 | 60.00 | 33.15 | 38.38 | 6.51 | 34.90 | AVERAGE | 100 | 242 | VERTICAL |
| 2 | 10600.010 | 57.87 | -22.13 | 80.00 | 47.88 | 38.38 | 6.51 | 34.90 | PEAK | 100 | 242 | VERTICAL |

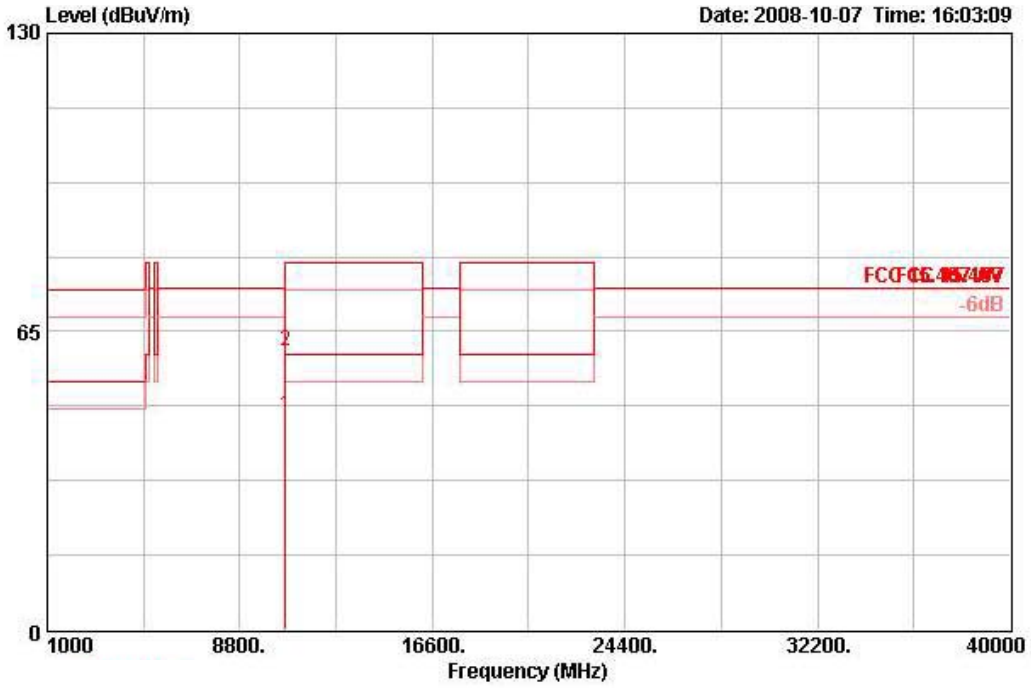
| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | Draft n MCS8 20MHz Ch 64 / Ant. A1 + Ant. A2 + Ant. A3 |

*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 | 10637.600 | 59.02 | -20.98 | 80.00 | 49.01 | 38.37 | 6.53 | 34.88 | PEAK | 100 | 266 | HORIZONTAL |
| 2 | 10640.000 | 45.07 | -14.93 | 60.00 | 35.05 | 38.37 | 6.53 | 34.88 | AVERAGE | 100 | 266 | HORIZONTAL |

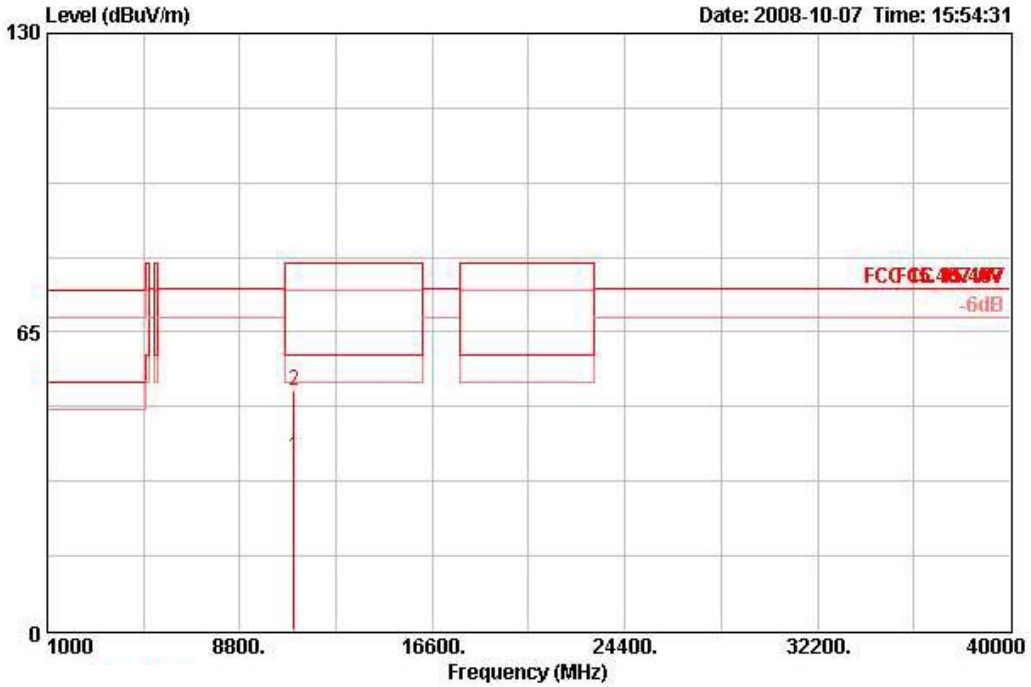
*Vertical*




| | 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 | 10640.000 | 46.56 | -13.44 | 60.00 | 36.55 | 38.37 | 6.53 | 34.88 | AVERAGE | 100 | 236 | VERTICAL |
| 2 | 10642.800 | 60.78 | -19.22 | 80.00 | 50.77 | 38.37 | 6.53 | 34.88 | PEAK | 100 | 236 | VERTICAL |

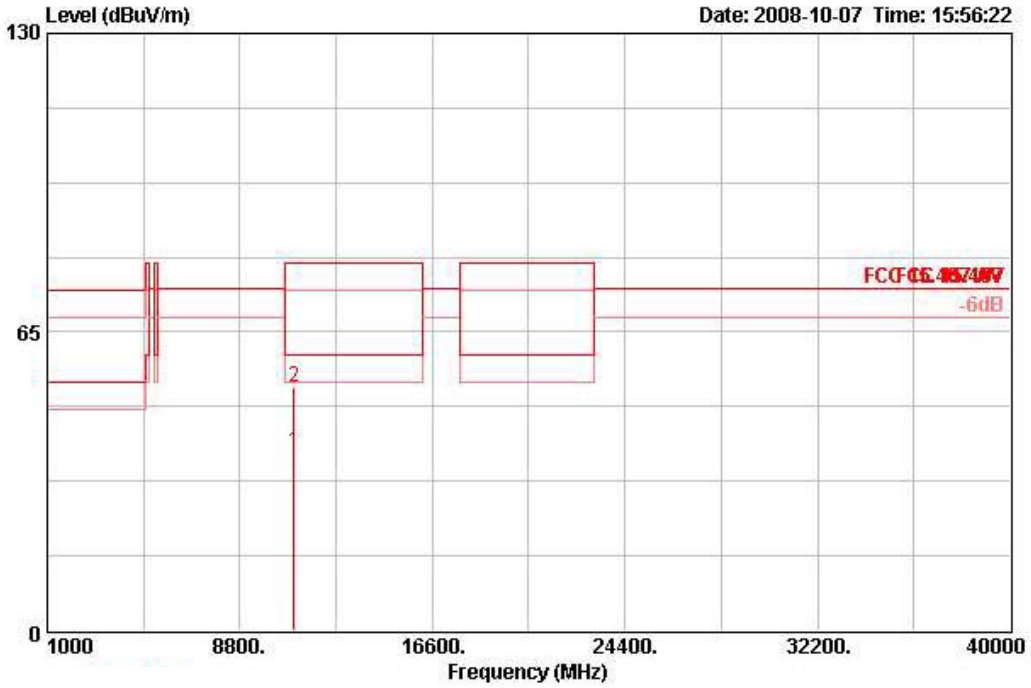
| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | Draft n MCS8 20MHz Ch 100 / Ant. A1 + Ant. A2 + Ant. A3 |

*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 | 10999.000 | 37.94 | -22.06 | 60.00 | 27.75 | 38.32 | 6.63 | 34.76 | AVERAGE | 100 | 35 | HORIZONTAL |
| 2 | 10999.420 | 52.22 | -27.78 | 80.00 | 42.03 | 38.32 | 6.63 | 34.76 | PEAK | 100 | 35 | HORIZONTAL |

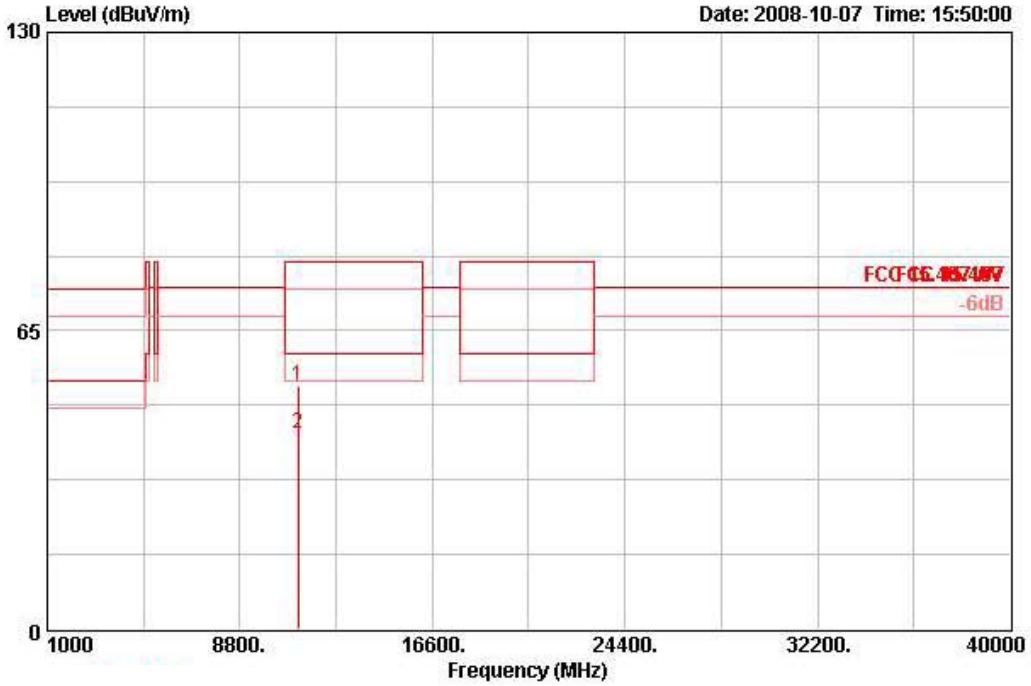
*Vertical*




| | 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 | 10999.040 | 38.92 | -21.08 | 60.00 | 28.75 | 38.30 | 6.63 | 34.76 | AVERAGE | 100 | 250 | VERTICAL |
| 2 | 11000.310 | 53.04 | -26.96 | 80.00 | 42.87 | 38.30 | 6.63 | 34.76 | PEAK | 100 | 250 | VERTICAL |

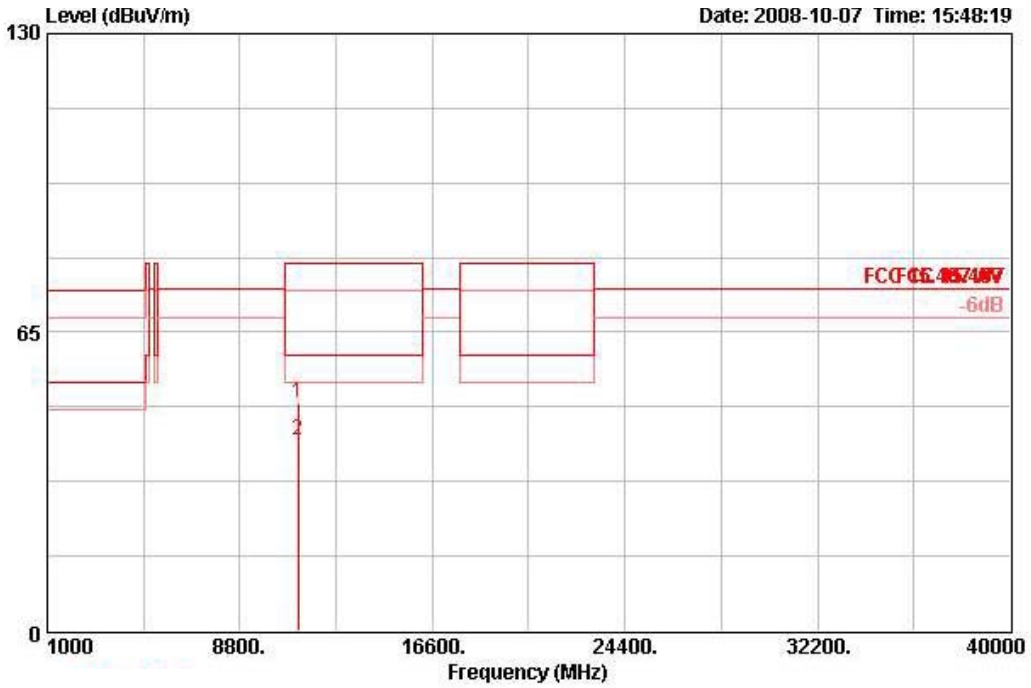
| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | Draft n MCS8 20MHz Ch 116 / Ant. A1 + Ant. A2 + Ant. A3 |

*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 | 11157.600 | 53.14 | -26.86 | 80.00 | 42.87 | 38.45 | 6.65 | 34.83 | PEAK | 100 | 360 | HORIZONTAL |
| 2 | 11159.000 | 42.48 | -17.52 | 60.00 | 32.19 | 38.47 | 6.65 | 34.83 | AVERAGE | 100 | 360 | HORIZONTAL |

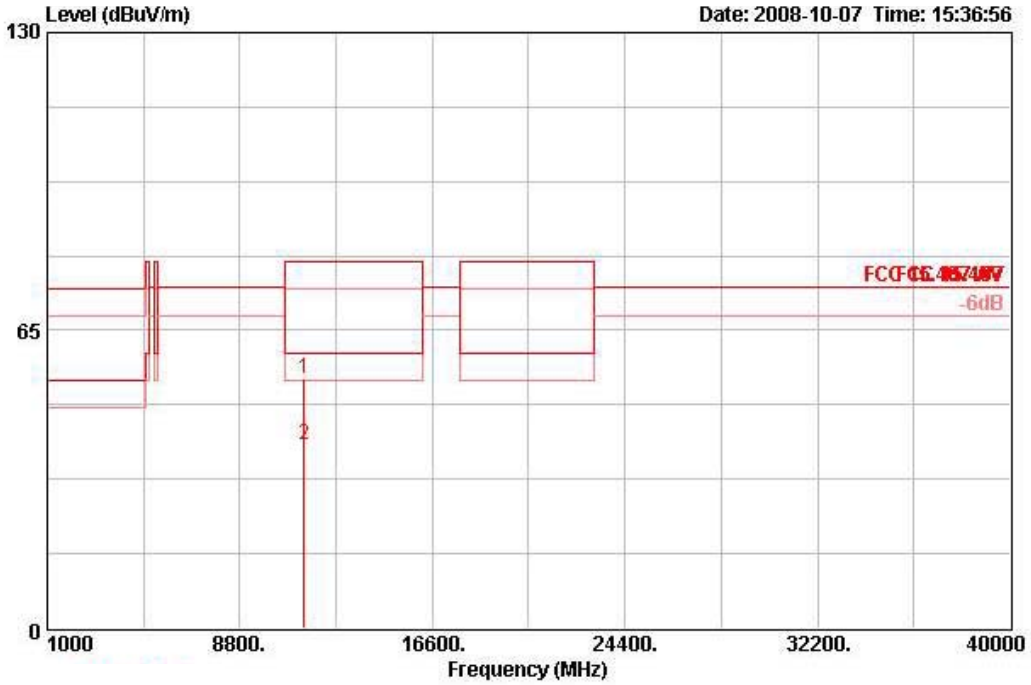
*Vertical*




| | 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 | 11155.740 | 49.55 | -30.45 | 80.00 | 39.28 | 38.45 | 6.65 | 34.83 | PEAK | 100 | 231 | VERTICAL |
| 2 | 11156.780 | 41.63 | -18.37 | 60.00 | 31.36 | 38.45 | 6.65 | 34.83 | AVERAGE | 100 | 231 | VERTICAL |

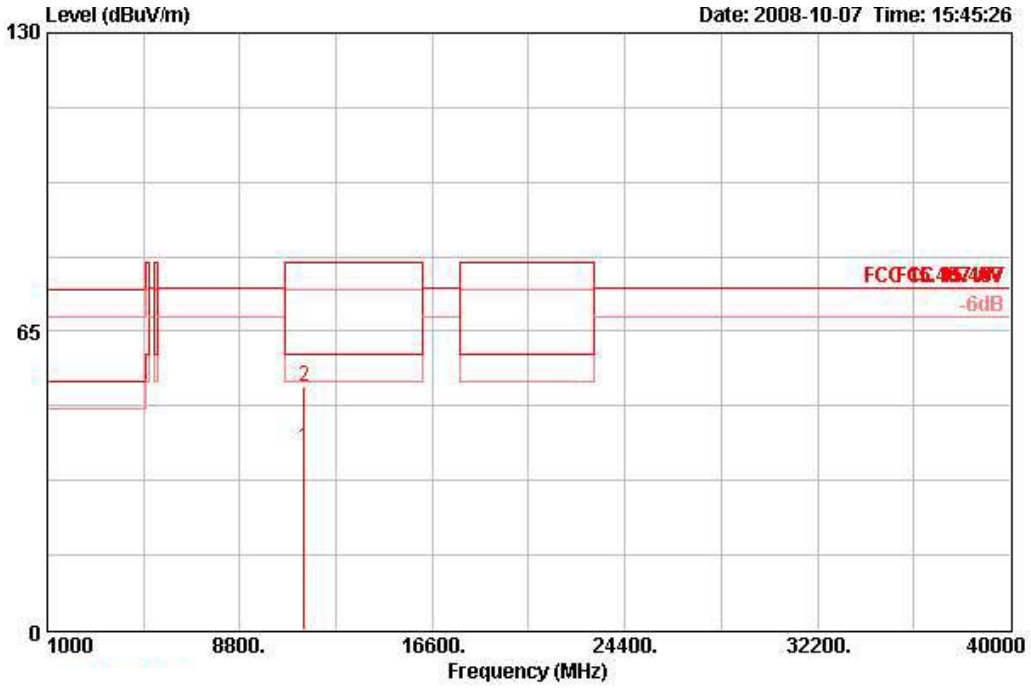
| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | Draft n MCS8 20MHz Ch 140 / Ant. A1 + Ant. A2 + Ant. A3 |

*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 | 11399.570 | 54.40 | -25.60 | 80.00 | 43.98 | 38.70 | 6.67 | 34.95 | PEAK | 100 | 308 | HORIZONTAL |
| 2 | 11400.780 | 40.12 | -19.88 | 60.00 | 29.70 | 38.70 | 6.67 | 34.95 | AVERAGE | 100 | 308 | HORIZONTAL |

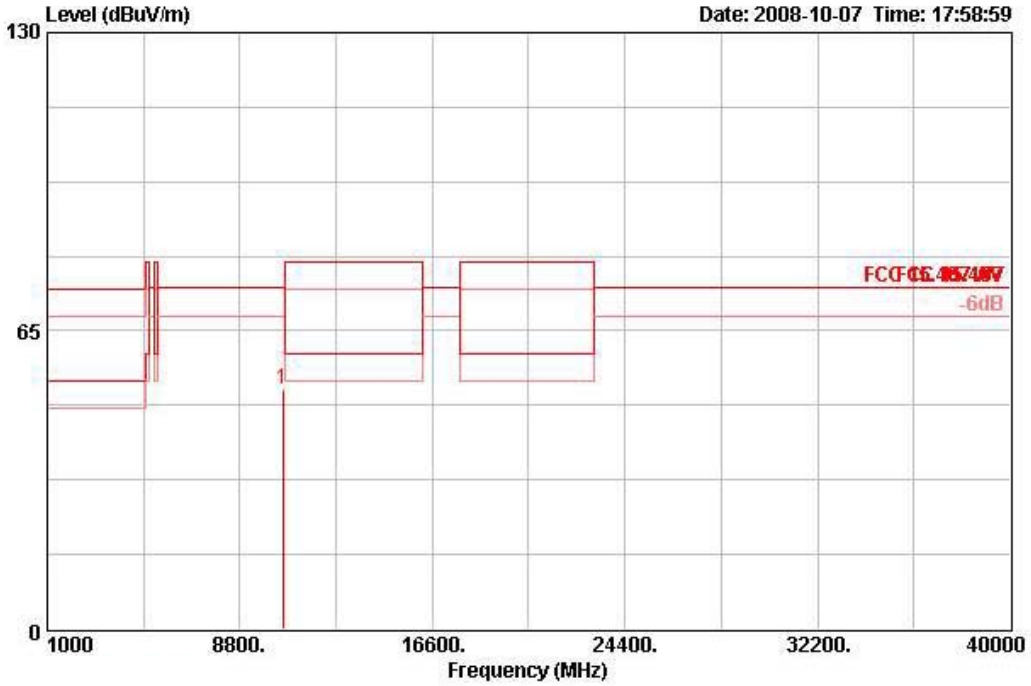
*Vertical*




| | 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 | 11393.600 | 39.49 | -20.51 | 60.00 | 29.09 | 38.68 | 6.67 | 34.95 | AVERAGE | 136 | 302 | VERTICAL |
| 2 | 11394.200 | 52.98 | -7.02 | 60.00 | 42.57 | 38.68 | 6.67 | 34.95 | AVERAGE | 136 | 302 | VERTICAL |

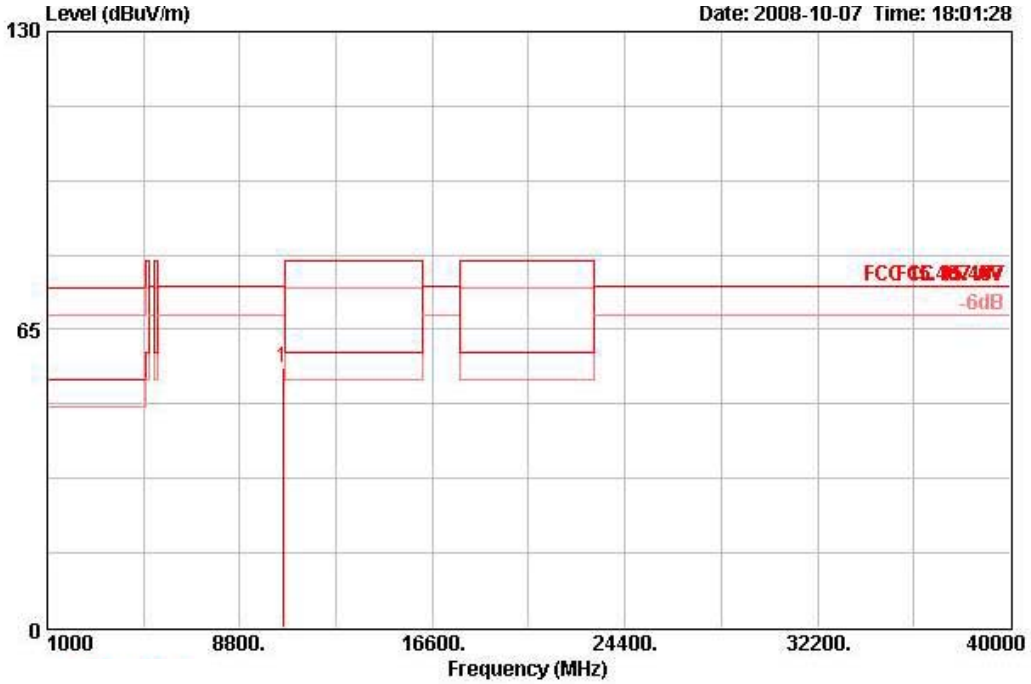
| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | Draft n MCS8 40MHz Ch 54 / Ant. A1 + Ant. A2 + Ant. A3 |

*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 | 10540.300 | 52.24 | -22.06 | 74.30 | 42.26 | 38.39 | 6.50 | 34.92 | PEAK | 149 | 264 | HORIZONTAL |

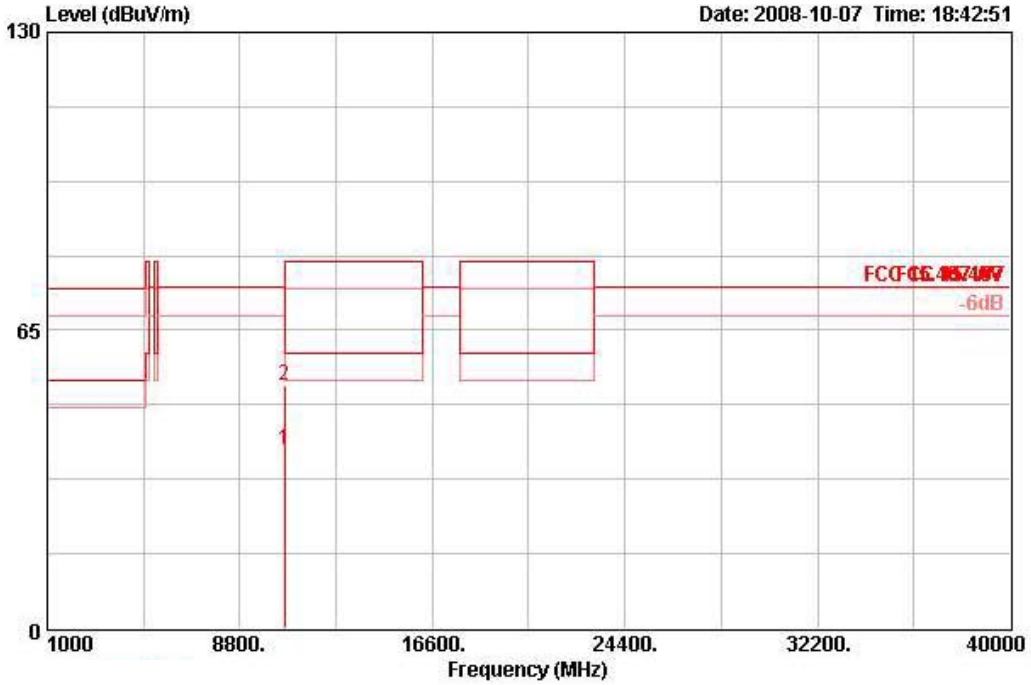
*Vertical*




| | 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 | 10539.520 | 56.74 | -17.56 | 74.30 | 46.77 | 38.39 | 6.50 | 34.92 | PEAK | 100 | 233 | VERTICAL |

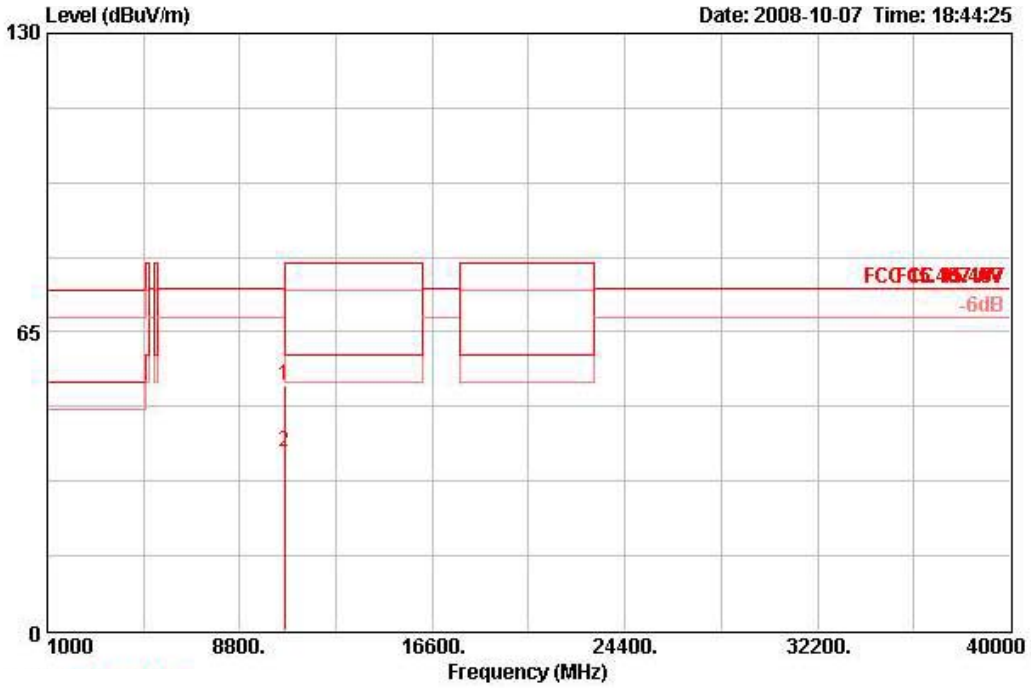
| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | Draft n MCS8 40MHz Ch 62 / Ant. A1 + Ant. A2 + Ant. A3 |

*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 | 10620.780 | 38.91 | -21.09 | 60.00 | 28.90 | 38.38 | 6.52 | 34.89 | AVERAGE | 100 | 301 | HORIZONTAL |
| 2 | 10620.810 | 52.94 | -27.06 | 80.00 | 42.94 | 38.38 | 6.52 | 34.89 | PEAK | 100 | 301 | HORIZONTAL |

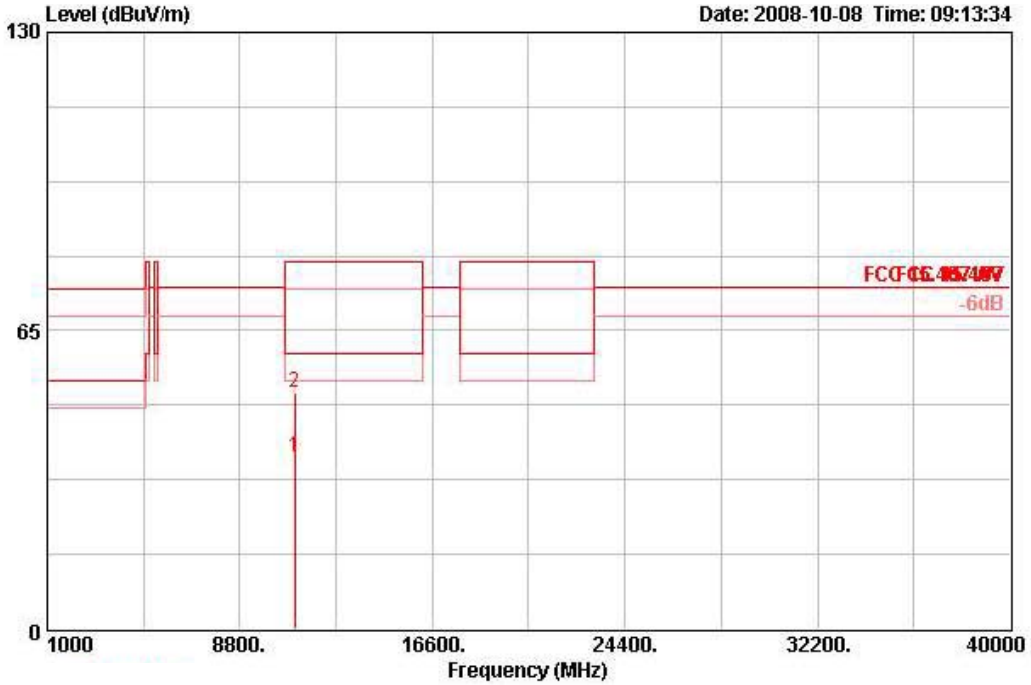
*Vertical*




| | 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 | 10619.510 | 53.38 | -26.62 | 80.00 | 43.38 | 38.38 | 6.52 | 34.89 | PEAK | 100 | 82 | VERTICAL |
| 2 | 10620.760 | 38.85 | -21.15 | 60.00 | 28.85 | 38.38 | 6.52 | 34.89 | AVERAGE | 100 | 82 | VERTICAL |

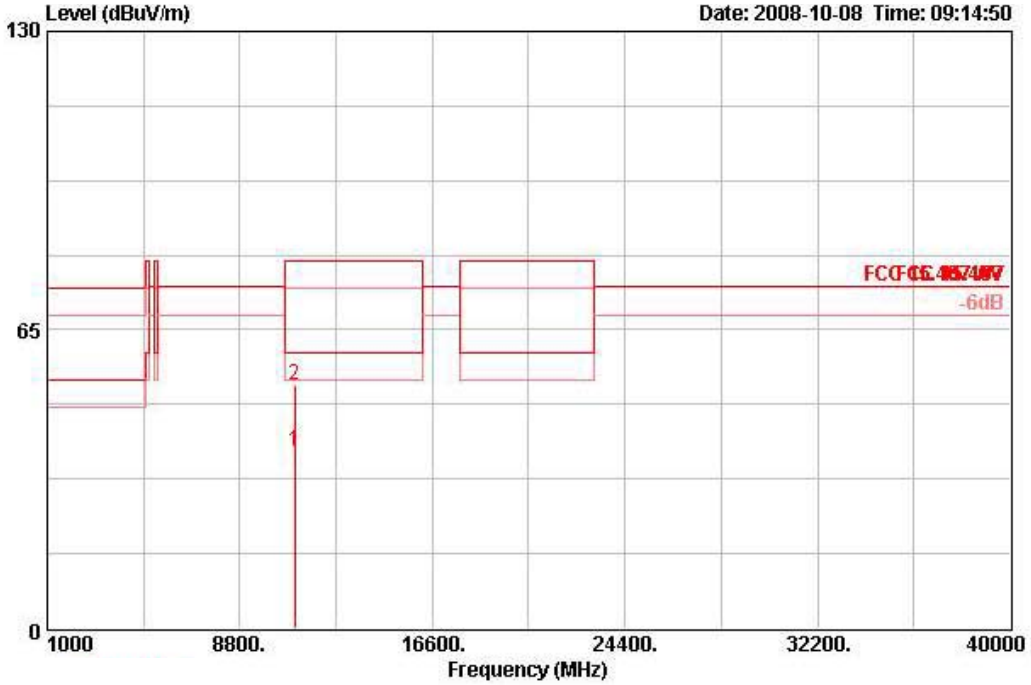
| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | Draft n MCS8 40MHz Ch 102 / Ant. A1 + Ant. A2 + Ant. A3 |

*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 | 11019.020 | 37.33 | -22.67 | 60.00 | 27.13 | 38.33 | 6.63 | 34.77 | AVERAGE | 100 | 75 | HORIZONTAL |
| 2 | 11019.600 | 51.52 | -28.48 | 80.00 | 41.33 | 38.33 | 6.63 | 34.77 | PEAK | 100 | 75 | HORIZONTAL |

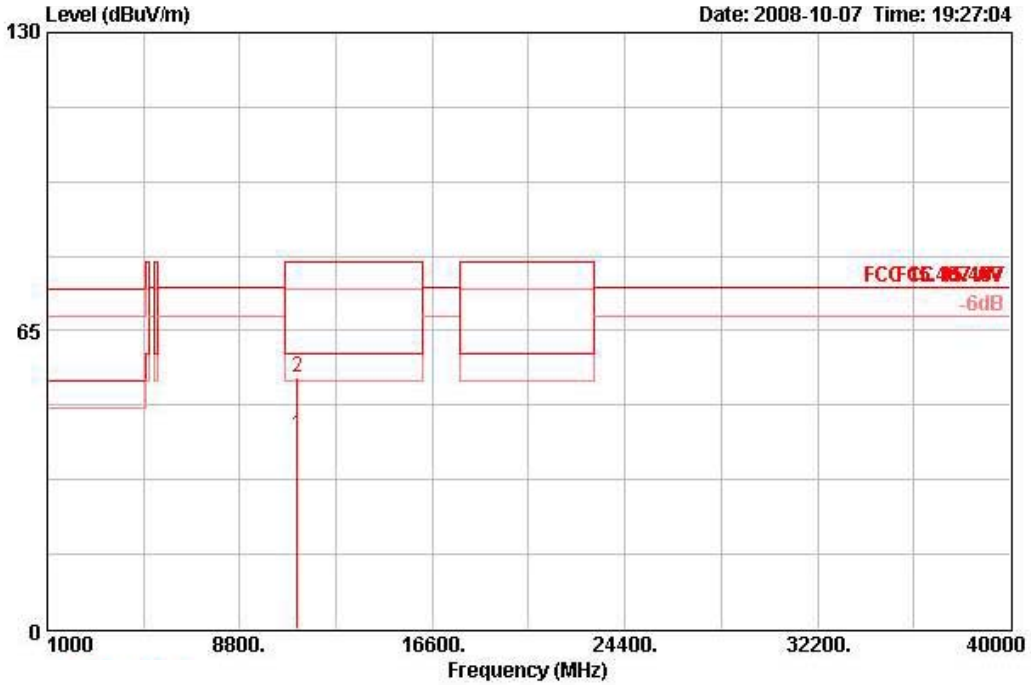
*Vertical*




| | 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 | 11019.000 | 38.57 | -21.43 | 60.00 | 28.38 | 38.32 | 6.63 | 34.77 | AVERAGE | 100 | 258 | VERTICAL |
| 2 | 11019.260 | 53.13 | -26.87 | 80.00 | 42.95 | 38.32 | 6.63 | 34.77 | PEAK | 100 | 258 | VERTICAL |

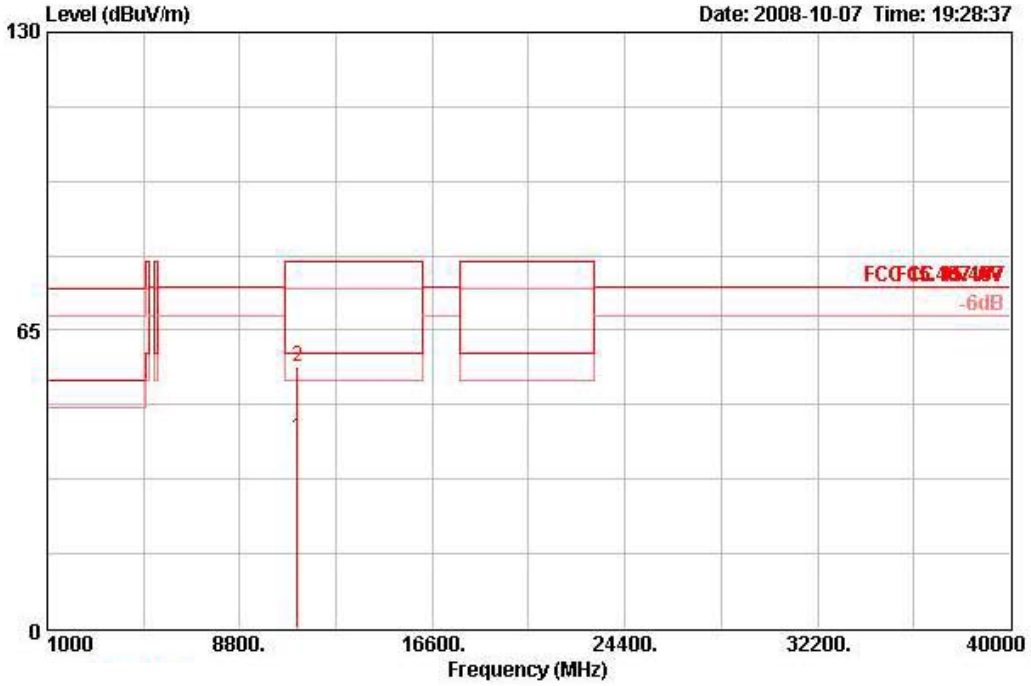
| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | Draft n MCS8 40MHz Ch 110 / Ant. A1 + Ant. A2 + Ant. A3 |

*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 | 11119.930 | 42.07 | -17.93 | 60.00 | 31.83 | 38.42 | 6.64 | 34.82 | AVERAGE | 100 | 96 | HORIZONTAL |
| 2 | 11120.310 | 54.63 | -25.37 | 80.00 | 44.39 | 38.42 | 6.64 | 34.82 | PEAK | 100 | 96 | HORIZONTAL |

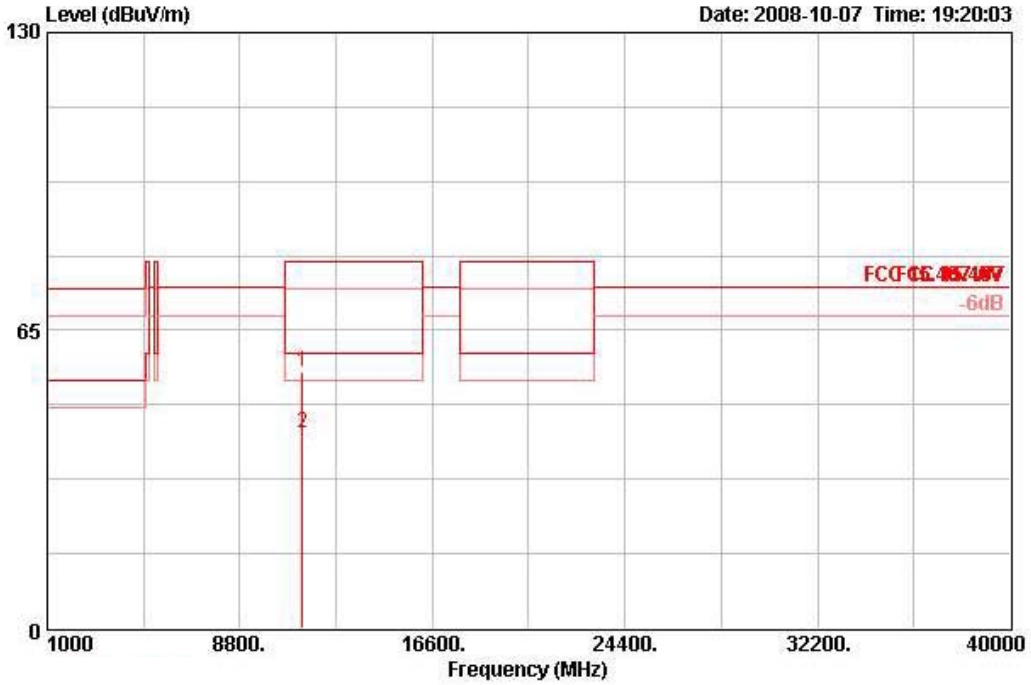
*Vertical*




| | 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 | 11119.860 | 41.46 | -18.54 | 60.00 | 31.22 | 38.42 | 6.64 | 34.82 | AVERAGE | 100 | 320 | VERTICAL |
| 2 | 11121.150 | 56.87 | -23.13 | 80.00 | 46.63 | 38.42 | 6.64 | 34.82 | PEAK | 100 | 320 | VERTICAL |

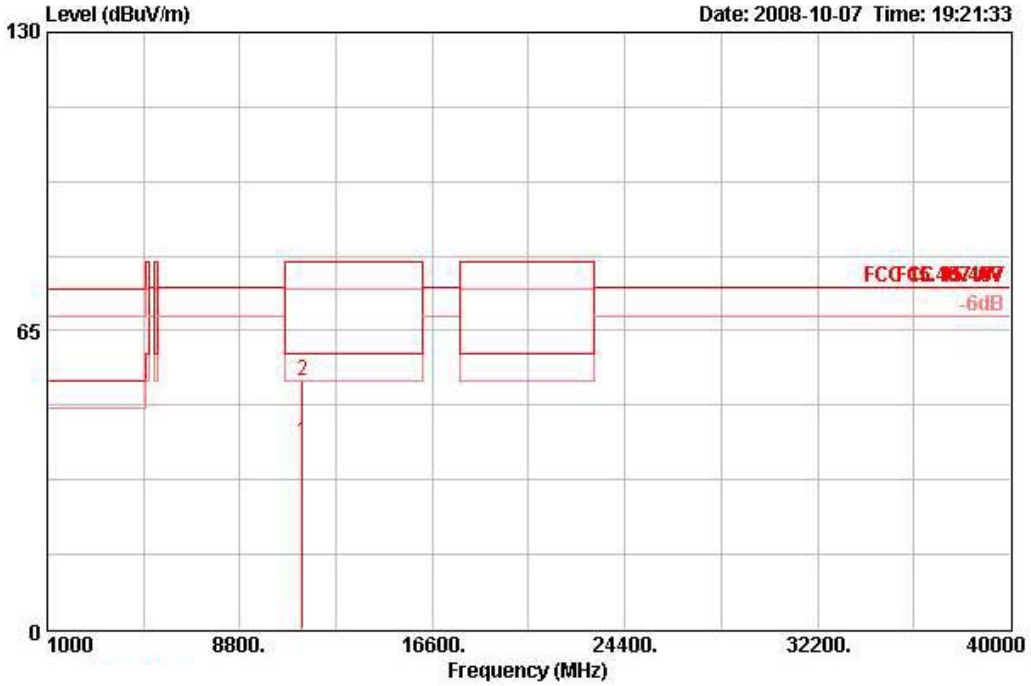
| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | Draft n MCS8 40MHz Ch 134 / Ant. A1 + Ant. A2 + Ant. A3 |

*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 | 11339.080 | 55.86 | -24.14 | 80.00 | 45.48 | 38.63 | 6.66 | 34.91 | PEAK | 100 | 242 | HORIZONTAL |
| 2 | 11339.440 | 42.77 | -17.23 | 60.00 | 32.39 | 38.63 | 6.66 | 34.91 | AVERAGE | 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 | 11339.520 | 40.82 | -19.18 | 60.00 | 30.44 | 38.63 | 6.66 | 34.91 | AVERAGE | 100 | 0 | VERTICAL |
| 2 | 11340.140 | 54.24 | -25.76 | 80.00 | 43.85 | 38.63 | 6.66 | 34.91 | 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.

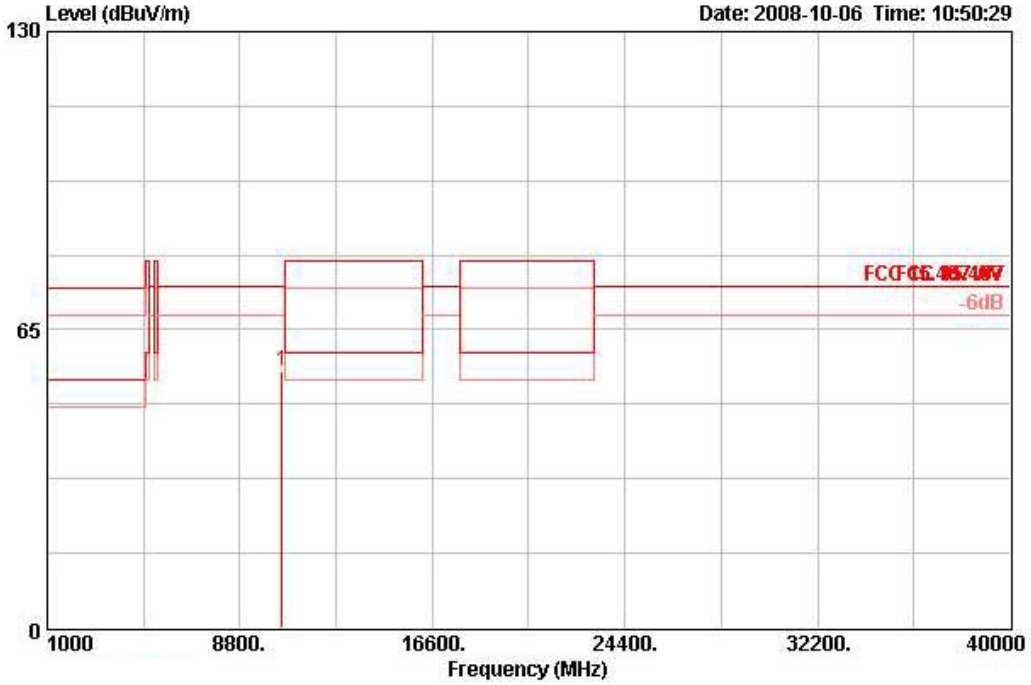
The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1.5m.

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

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

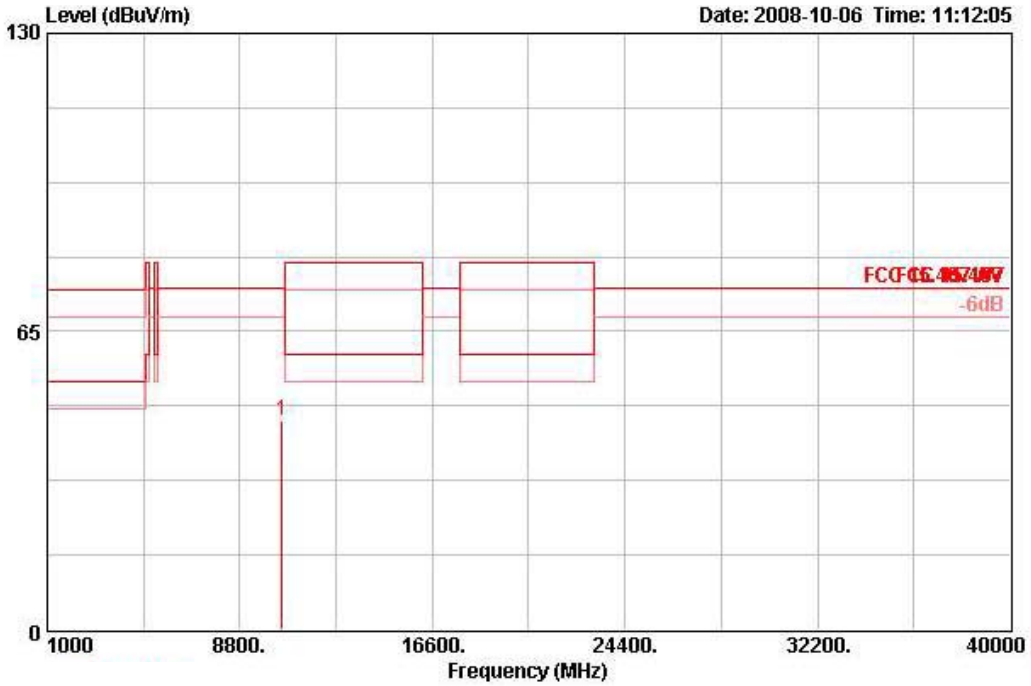
| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | 802.11a Ch 52 / Ant. A1 + Ant. A2 + Ant. A3 |

*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 | 10517.560 | 55.95 | -18.35 | 74.30 | 46.00 | 38.40 | 6.48 | 34.93 | PEAK | 100 | 262 | HORIZONTAL |

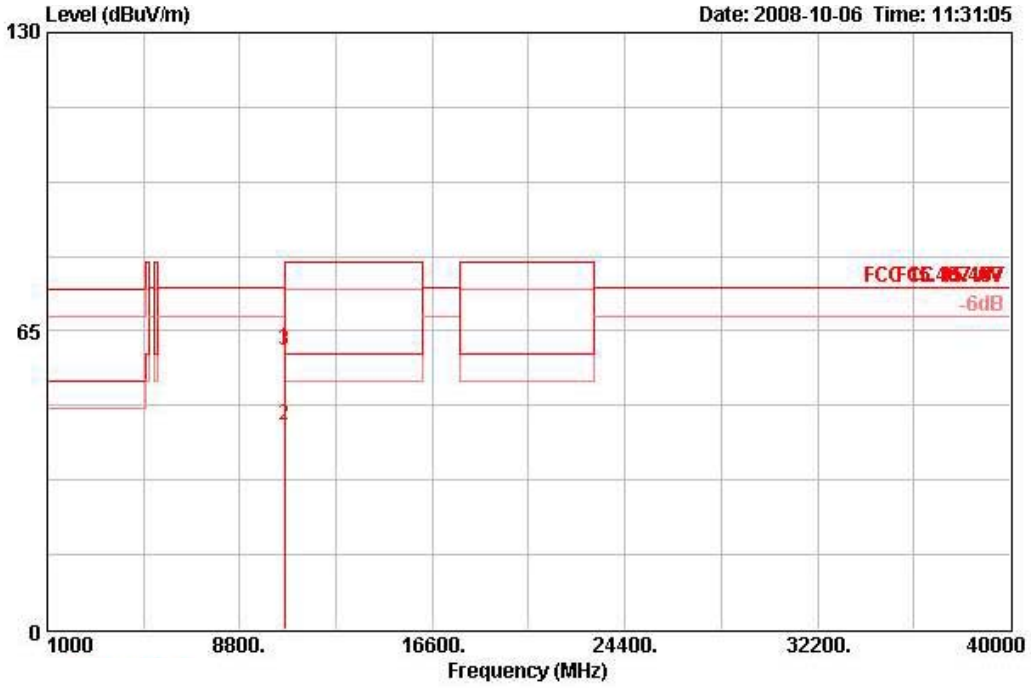
*Vertical*




| | 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 | 10517.880 | 45.44 | -28.86 | 74.30 | 35.49 | 38.39 | 6.48 | 34.93 | PEAK | 100 | 232 | VERTICAL |

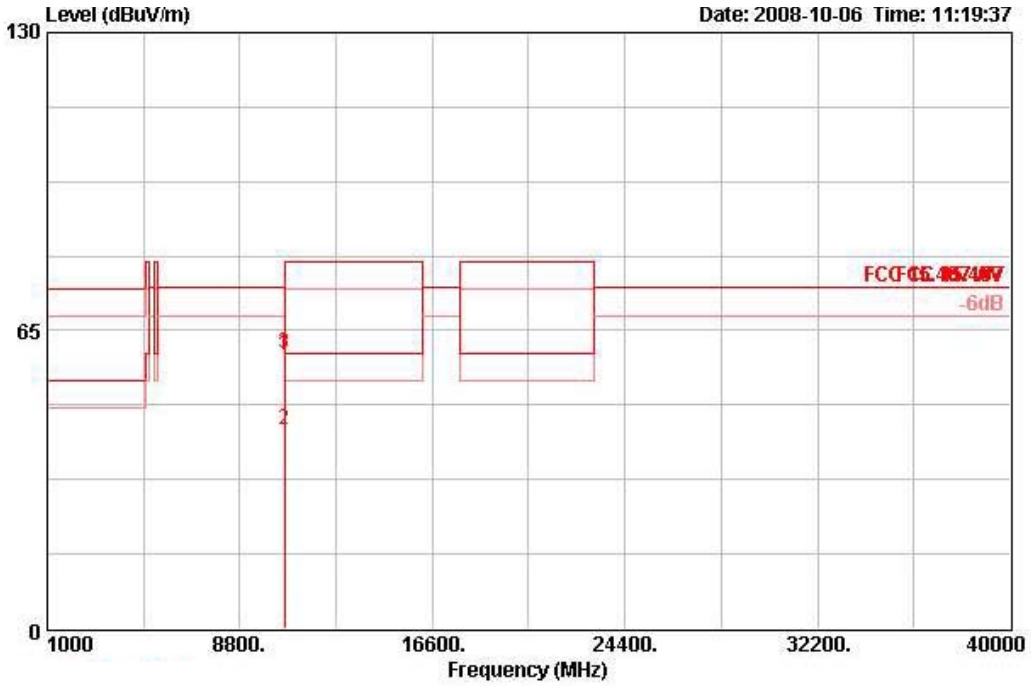
| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | 802.11a Ch 60 / Ant. A1 + Ant. A2 + Ant. A3 |

*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 | 10597.600 | 60.98 | -13.32 | 74.30 | 50.99 | 38.38 | 6.51 | 34.90 | PEAK | 100 | 246 | HORIZONTAL |
| 2 | 10602.800 | 44.32 | -15.68 | 60.00 | 34.31 | 38.38 | 6.52 | 34.89 | AVERAGE | 100 | 246 | HORIZONTAL |
| 3 | 10607.200 | 60.85 | -19.15 | 80.00 | 50.84 | 38.38 | 6.52 | 34.89 | PEAK | 100 | 246 | HORIZONTAL |

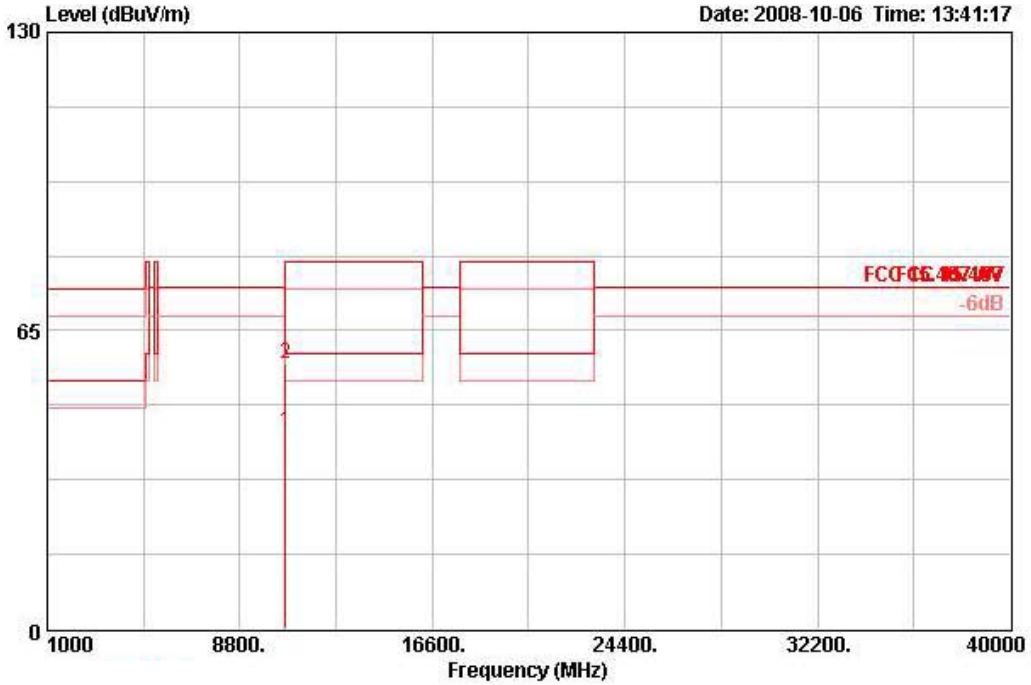
*Vertical*




| | 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 | 10597.800 | 59.64 | -14.66 | 74.30 | 49.65 | 38.38 | 6.51 | 34.90 | PEAK | 100 | 233 | VERTICAL |
| 2 | 10602.900 | 43.45 | -16.55 | 60.00 | 33.44 | 38.38 | 6.52 | 34.89 | AVERAGE | 100 | 233 | VERTICAL |
| 3 | 10606.400 | 60.04 | -19.96 | 80.00 | 50.04 | 38.38 | 6.52 | 34.89 | PEAK | 100 | 233 | VERTICAL |

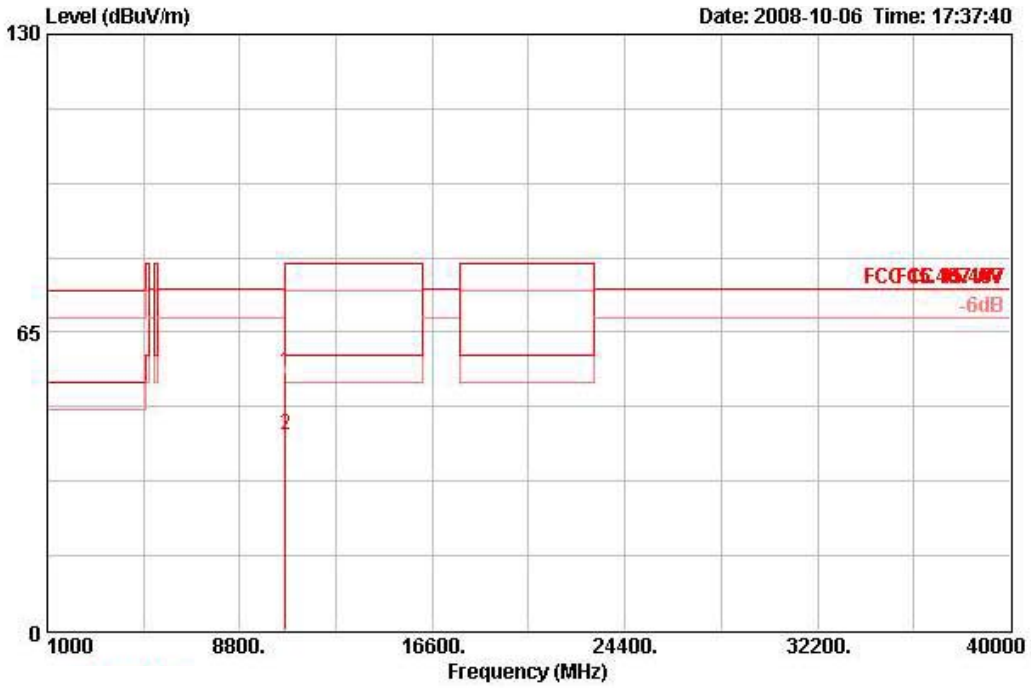
| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | 802.11a Ch 64 / Ant. A1 + Ant. A2 + Ant. A3 |

*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 | 10638.000 | 43.13 | -16.87 | 60.00 | 33.12 | 38.37 | 6.53 | 34.88 | AVERAGE | 100 | 271 | HORIZONTAL |
| 2 | 10642.960 | 57.75 | -22.25 | 80.00 | 47.73 | 38.37 | 6.53 | 34.88 | PEAK | 100 | 271 | HORIZONTAL |

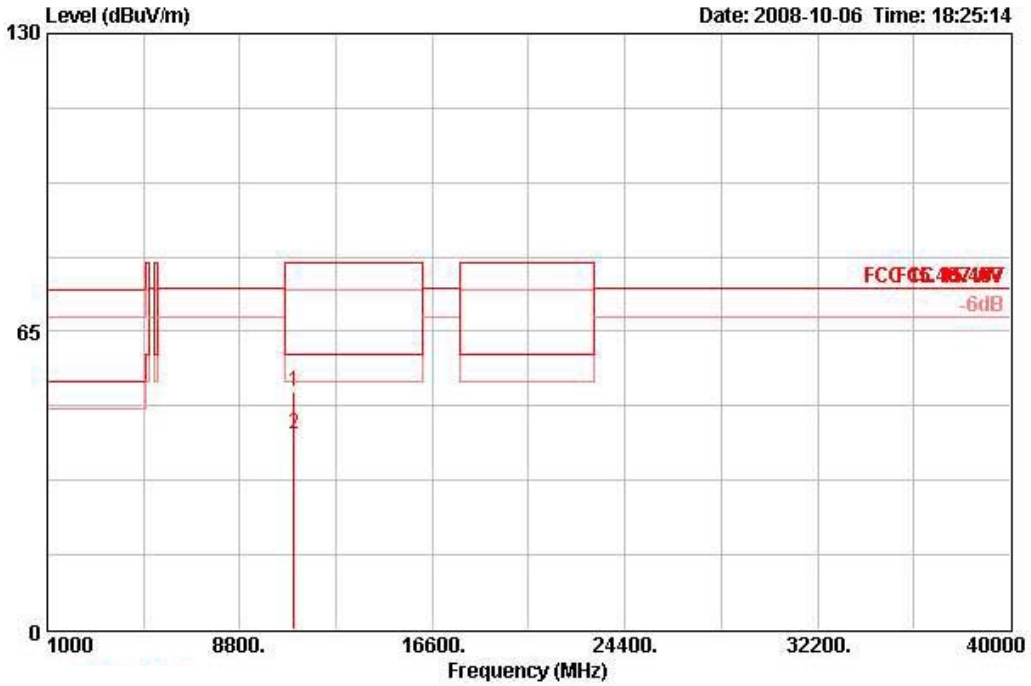
*Vertical*




| | 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 | 10637.410 | 56.26 | -23.74 | 80.00 | 46.24 | 38.37 | 6.53 | 34.88 | PEAK | 100 | 249 | VERTICAL |
| 2 | 10637.450 | 42.43 | -17.57 | 60.00 | 32.41 | 38.37 | 6.53 | 34.88 | AVERAGE | 100 | 249 | VERTICAL |

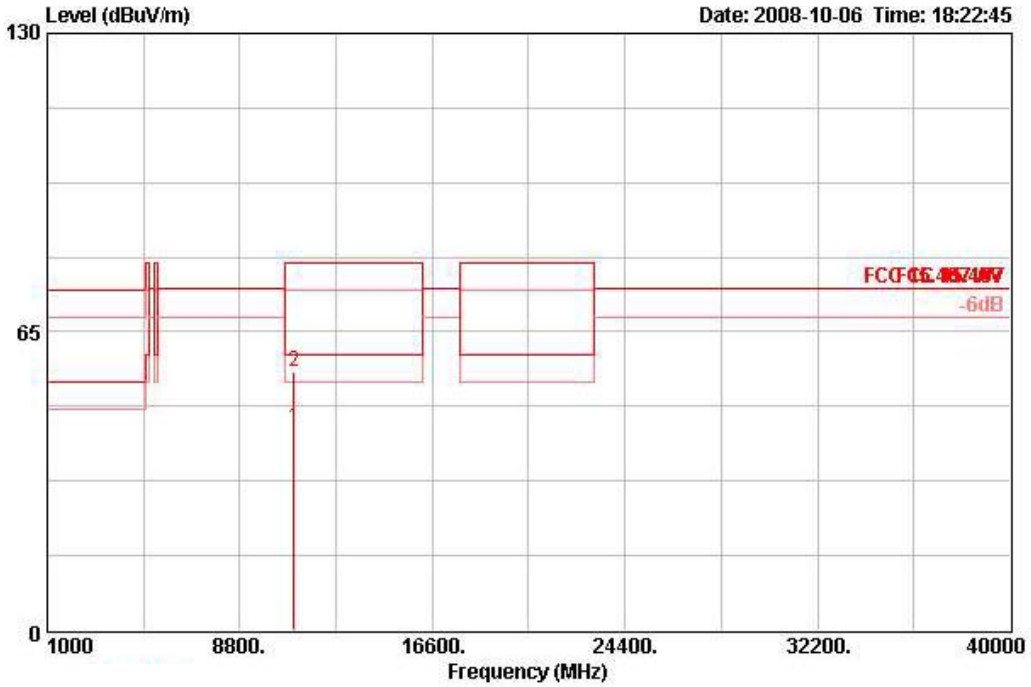
| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | 802.11a Ch 100 / Ant. A1 + Ant. A2 + Ant. A3 |

*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 | 10997.320 | 51.73 | -28.27 | 80.00 | 41.54 | 38.32 | 6.63 | 34.76 | PEAK | 100 | 272 | HORIZONTAL |
| 2 | 10997.470 | 42.42 | -17.58 | 60.00 | 32.23 | 38.32 | 6.63 | 34.76 | AVERAGE | 100 | 272 | HORIZONTAL |

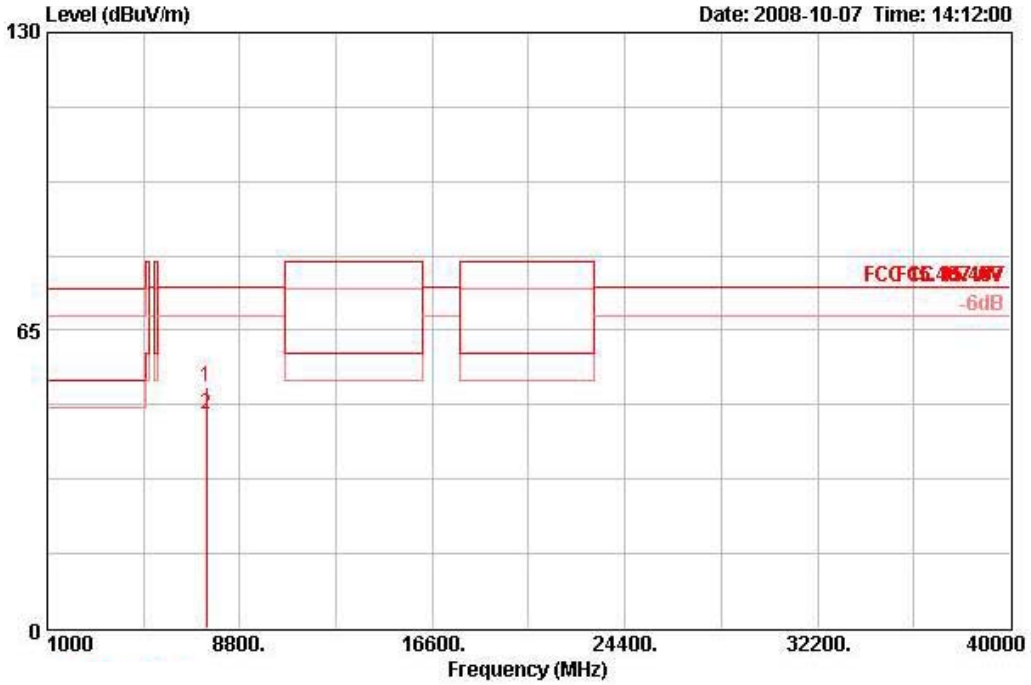
*Vertical*




| | 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 | 10997.530 | 44.13 | -15.87 | 60.00 | 33.95 | 38.30 | 6.63 | 34.76 | AVERAGE | 102 | 262 | VERTICAL |
| 2 | 10998.170 | 56.20 | -23.80 | 80.00 | 46.03 | 38.30 | 6.63 | 34.76 | PEAK | 102 | 262 | VERTICAL |

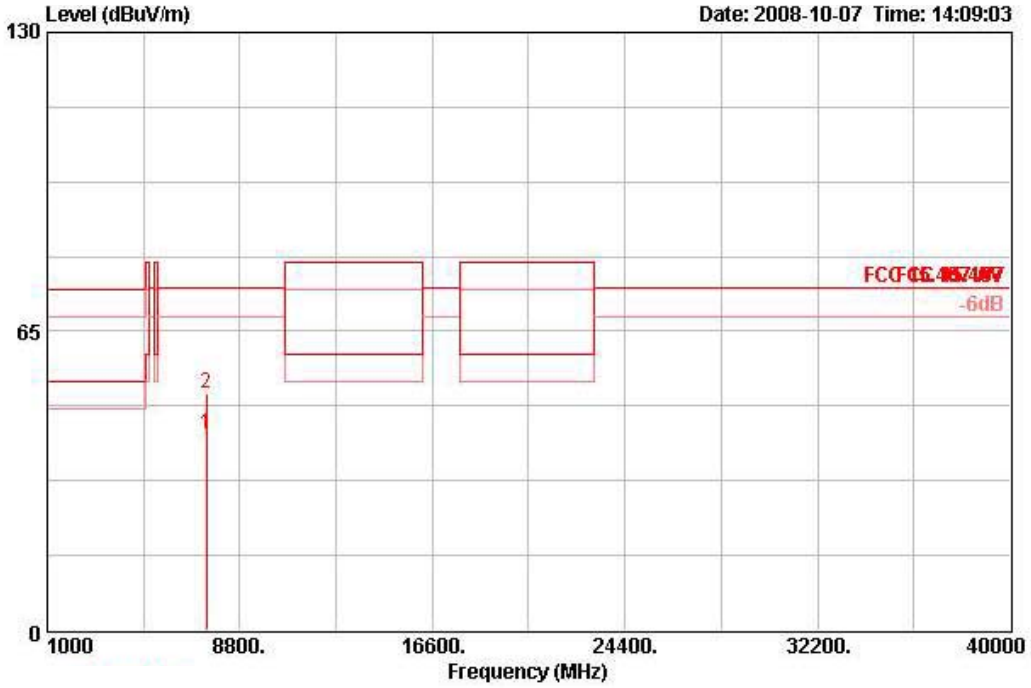
| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | 802.11a Ch 116 / Ant. A1 + Ant. A2 + Ant. A3 |

*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 | 7440.000 | 52.77 | -21.53 | 74.30 | 46.52 | 36.20 | 5.20 | 35.15 | PEAK | 104 | 342 | HORIZONTAL |
| 2 | 7440.060 | 46.67 | -27.63 | 74.30 | 40.42 | 36.20 | 5.20 | 35.15 | AVERAGE | 104 | 342 | HORIZONTAL |

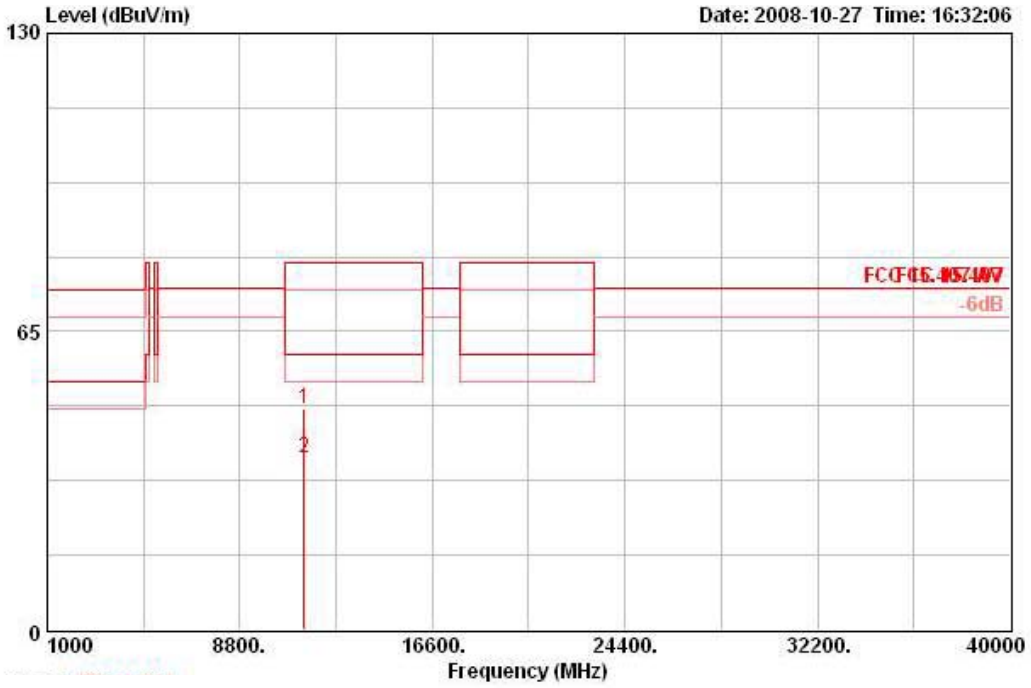
*Vertical*




| | 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 | 7440.040 | 42.48 | -31.82 | 74.30 | 36.24 | 36.20 | 5.20 | 35.15 | AVERAGE | 100 | 245 | VERTICAL |
| 2 | 7440.180 | 51.61 | -22.69 | 74.30 | 45.36 | 36.20 | 5.20 | 35.15 | PEAK | 100 | 245 | VERTICAL |

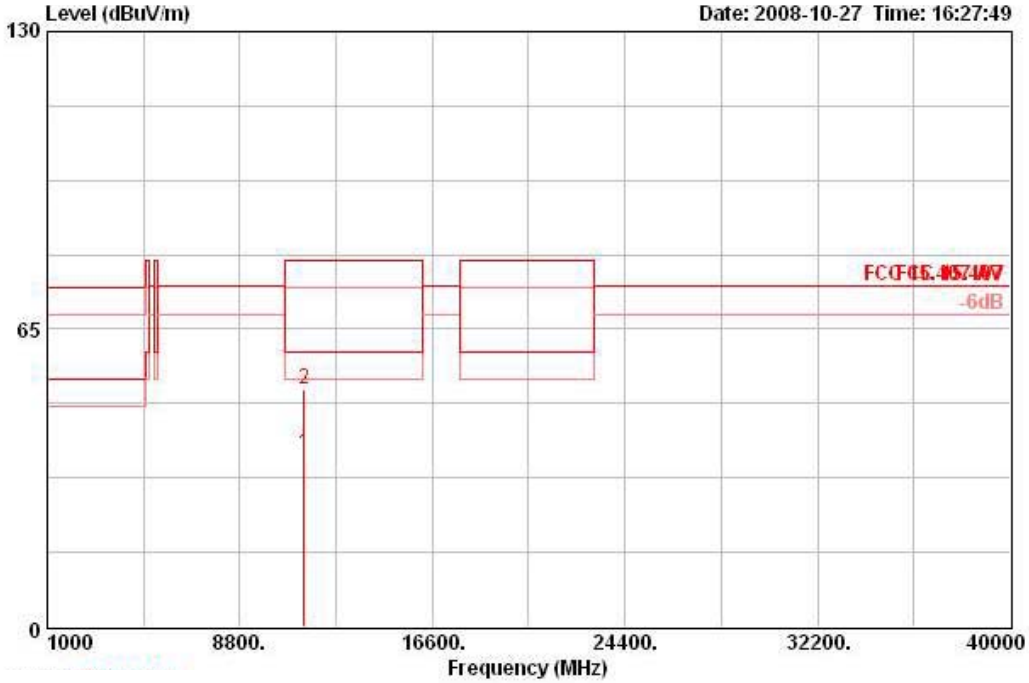
| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | 802.11a Ch 140 / Ant. A1 + Ant. A2 + Ant. A3 |

*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 | 11397.810 | 47.99 | -32.01 | 80.00 | 44.24 | 38.70 | 0.00 | 34.95 | PEAK | 100 | 65 | HORIZONTAL |
| 2 @ | 11398.030 | 37.43 | -22.57 | 60.00 | 33.68 | 38.70 | 0.00 | 34.95 | AVERAGE | 100 | 65 | 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 @ | 11398.170 | 37.82 | -22.18 | 60.00 | 34.07 | 38.70 | 0.00 | 34.95 | AVERAGE | 100 | 117 | VERTICAL |
| 2 | 11398.990 | 51.98 | -28.02 | 80.00 | 48.23 | 38.70 | 0.00 | 34.95 | PEAK | 100 | 117 | 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 5.15-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). For transmitters operating in the 5.470-5.725 GHz band: all emissions outside of the 5.470-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). For transmitters operating in the 5.725-5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17 dBm/MHz (78.3dBuV/m at 3m); for frequencies 10 MHz or greater above or below the band edge, emissions 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

1. The test procedure is the same as section 4.6.3, only the frequency range investigated is limited to 100MHz around bandedges.
2. 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 | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | Draft n MCS8 20MHz Ch 60 / Ant. A1 + Ant. A2 + Ant. A3 |
| Test Date | Oct. 07, 2008 | | |

**Channel 60**

| | 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 @ | 5298.800 | 118.13 | | | 80.00 | 33.94 | 4.19 | 0.00 | PEAK | 100 | 267 | HORIZONTAL |
| 2 over | 5301.600 | 104.97 | | | 66.84 | 33.94 | 4.19 | 0.00 | AVERAGE | 100 | 267 | HORIZONTAL |
| 3 ! | 5350.000 | 57.30 | -2.70 | 60.00 | 19.05 | 34.03 | 4.22 | 0.00 | AVERAGE | 100 | 267 | HORIZONTAL |
| 4 | 5352.400 | 73.41 | -6.59 | 80.00 | 35.16 | 34.03 | 4.22 | 0.00 | PEAK | 100 | 267 | HORIZONTAL |

Item 1, 2 are the fundamental frequency at 5300 MHz.

| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | Draft n MCS8 20MHz Ch 64 / Ant. A1 + Ant. A2 + Ant. A3 |
| Test Date | Oct. 07, 2008 | | |

**Channel 64**

| | 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 over | 5320.800 | 103.95 | | | 65.77 | 33.97 | 4.20 | 0.00 | AVERAGE | 100 | 269 | HORIZONTAL |
| 2 @ | 5321.200 | 119.60 | | | 81.43 | 33.97 | 4.20 | 0.00 | PEAK | 100 | 269 | HORIZONTAL |
| 3 ! | 5350.000 | 59.37 | -0.63 | 60.00 | 21.12 | 34.03 | 4.22 | 0.00 | AVERAGE | 100 | 269 | HORIZONTAL |
| 4 ! | 5352.600 | 76.49 | -3.51 | 80.00 | 38.24 | 34.03 | 4.22 | 0.00 | PEAK | 100 | 269 | HORIZONTAL |

Item 1, 2 are the fundamental frequency at 5320 MHz.

| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | Draft n MCS8 20MHz Ch 100 / Ant. A1 + Ant. A2 + Ant. A3 |
| Test Date | Oct. 07, 2008 | | |

Channel 100

| | 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 | 5460.000 | 56.15 | -23.85 | 80.00 | 17.68 | 34.19 | 4.28 | 0.00 | PEAK | 142 | 360 | HORIZONTAL |
| 2 | 5460.000 | 68.82 | -11.18 | 80.00 | 30.35 | 34.19 | 4.28 | 0.00 | PEAK | 142 | 360 | HORIZONTAL |
| 3 ! | 5470.000 | 72.94 | -1.36 | 74.30 | 34.44 | 34.21 | 4.29 | 0.00 | PEAK | 142 | 360 | HORIZONTAL |
| 4 @ | 5502.200 | 124.57 | | | 86.02 | 34.25 | 4.30 | 0.00 | PEAK | 142 | 360 | HORIZONTAL |
| 5 over | 5503.000 | 109.08 | | | 70.53 | 34.25 | 4.30 | 0.00 | PEAK | 142 | 360 | HORIZONTAL |

Item 4, 5 are the fundamental frequency at 5500 MHz.

| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | Draft n MCS8 20MHz Ch 140 / Ant. A1 + Ant. A2 + Ant. A3 |
| Test Date | Oct. 27, 2008 | | |

Channel 140

| | 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 @ | 5702.200 | 116.83 | | | 82.49 | 34.34 | 0.00 | 0.00 | PEAK | 100 | 198 | HORIZONTAL |
| 2 over | 5704.200 | 102.93 | | | 68.59 | 34.34 | 0.00 | 0.00 | AVERAGE | 100 | 198 | HORIZONTAL |
| 3 ! | 5726.000 | 68.67 | -5.63 | 74.30 | 34.32 | 34.34 | 0.00 | 0.00 | PEAK | 100 | 198 | HORIZONTAL |

Item 1, 2 are the fundamental frequency at 5700 MHz.

| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | Draft n MCS8 40MHz Ch 54 / Ant. A1 + Ant. A2 + Ant. A3 |
| Test Date | Oct. 07, 2008 | | |

**Channel 54**

| | 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 over | 5282.400 | 115.76 | | | 77.67 | 33.91 | 4.18 | 0.00 | PEAK | 100 | 264 | HORIZONTAL |
| 2 over | 5287.200 | 97.91 | | | 59.83 | 33.91 | 4.18 | 0.00 | AVERAGE | 100 | 264 | HORIZONTAL |
| 3 ! | 5350.000 | 57.46 | -2.54 | 60.00 | 19.21 | 34.03 | 4.22 | 0.00 | AVERAGE | 100 | 264 | HORIZONTAL |
| 4 | 5357.600 | 73.99 | -6.01 | 80.00 | 35.74 | 34.03 | 4.22 | 0.00 | PEAK | 100 | 264 | HORIZONTAL |

Item 1, 2 are the fundamental frequency at 5270 MHz.

| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | Draft n MCS8 40MHz Ch 62 / Ant. A1 + Ant. A2 + Ant. A3 |
| Test Date | Oct. 07, 2008 | | |

**Channel 62**

| | 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 @ | 5322.400 | 118.09 | | | 79.92 | 33.97 | 4.20 | 0.00 | PEAK | 115 | 222 | HORIZONTAL |
| 2 over | 5326.000 | 98.69 | | | 60.51 | 33.97 | 4.20 | 0.00 | AVERAGE | 115 | 222 | HORIZONTAL |
| 3 ! | 5350.000 | 59.48 | -0.52 | 60.00 | 21.23 | 34.03 | 4.22 | 0.00 | AVERAGE | 115 | 222 | HORIZONTAL |
| 4 ! | 5352.400 | 79.20 | -0.80 | 80.00 | 40.95 | 34.03 | 4.22 | 0.00 | PEAK | 115 | 222 | HORIZONTAL |

Item 1, 2 are the fundamental frequency at 5310 MHz.

| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | Draft n MCS8 40MHz Ch 102 / Ant. A1 + Ant. A2 + Ant. A3 |
| Test Date | Oct. 07, 2008 | | |

**Channel 102**

| | 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 ! | 5456.800 | 78.58 | -1.42 | 80.00 | 40.12 | 34.19 | 4.28 | 0.00 | PEAK | 144 | 360 | HORIZONTAL |
| 2 ! | 5460.000 | 58.02 | -1.98 | 60.00 | 19.56 | 34.19 | 4.28 | 0.00 | AVERAGE | 144 | 360 | HORIZONTAL |
| 3 @ | 5502.400 | 120.76 | | | 82.21 | 34.25 | 4.30 | 0.00 | PEAK | 144 | 360 | HORIZONTAL |
| 4 over | 5502.800 | 103.05 | | | 64.50 | 34.25 | 4.30 | 0.00 | AVERAGE | 144 | 360 | HORIZONTAL |

Item 3, 4 are the fundamental frequency at 5510MHz.

| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | Draft n MCS8 40MHz Ch 110 / Ant. A1 + Ant. A2 + Ant. A3 |
| Test Date | Oct. 07, 2008 | | |

**Channel 110**

| | 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 | 5458.000 | 73.93 | -6.07 | 80.00 | 35.46 | 34.19 | 4.28 | 0.00 | PEAK | 115 | 360 | HORIZONTAL |
| 2 ! | 5460.000 | 57.53 | -2.47 | 60.00 | 19.07 | 34.19 | 4.28 | 0.00 | AVERAGE | 115 | 360 | HORIZONTAL |
| 3 over | 5540.400 | 105.86 | | | 67.26 | 34.29 | 4.31 | 0.00 | AVERAGE | 115 | 360 | HORIZONTAL |
| 4 @ | 5542.800 | 123.81 | | | 85.21 | 34.29 | 4.31 | 0.00 | PEAK | 115 | 360 | HORIZONTAL |

Item 3, 4 are the fundamental frequency at 5550 MHz.

| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | Draft n MCS8 40MHz Ch 134 / Ant. A1 + Ant. A2 + Ant. A3 |
| Test Date | Oct. 27, 2008 | | |

**Channel 134**

| | 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 @ | 5658.000 | 121.83 | | | 87.50 | 34.33 | 0.00 | 0.00 | PEAK | 100 | 195 | HORIZONTAL |
| 2 over | 5666.000 | 102.76 | | | 68.43 | 34.33 | 0.00 | 0.00 | AVERAGE | 100 | 195 | HORIZONTAL |
| 3 ! | 5725.000 | 73.38 | -0.92 | 74.30 | 39.04 | 34.34 | 0.00 | 0.00 | PEAK | 100 | 195 | HORIZONTAL |

Item 1, 2 are the fundamental frequency at 5670 MHz.

| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | 802.11a Ch 60 / Ant. A1 + Ant. A2 + Ant. A3 |
| Test Date | Oct. 06, 2008 | | |

**Channel 60**

| | 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 over | 5298.000 | 110.74 | | | 72.61 | 33.94 | 4.19 | 0.00 | AVERAGE | 142 | 226 | HORIZONTAL |
| 2 @ | 5302.400 | 116.49 | | | 78.36 | 33.94 | 4.19 | 0.00 | PEAK | 142 | 226 | HORIZONTAL |
| 3 ! | 5350.000 | 57.36 | -2.64 | 60.00 | 19.11 | 34.03 | 4.22 | 0.00 | AVERAGE | 142 | 226 | HORIZONTAL |
| 4 | 5353.600 | 72.86 | -7.14 | 80.00 | 34.61 | 34.03 | 4.22 | 0.00 | PEAK | 142 | 226 | HORIZONTAL |

Item 1, 2 are the fundamental frequency at 5300 MHz.

| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | 802.11a Ch 64 / Ant. A1 + Ant. A2 + Ant. A3 |
| Test Date | Oct. 06, 2008 | | |

**Channel 64**

| | 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 @ | 5317.600 | 124.20 | | | 86.03 | 33.97 | 4.20 | 0.00 | PEAK | 140 | 220 | HORIZONTAL |
| 2 over | 5317.800 | 109.15 | | | 70.97 | 33.97 | 4.20 | 0.00 | AVERAGE | 140 | 220 | HORIZONTAL |
| 3 ! | 5350.000 | 77.73 | -2.27 | 80.00 | 39.48 | 34.03 | 4.22 | 0.00 | PEAK | 140 | 220 | HORIZONTAL |
| 4 ! | 5350.000 | 59.18 | -0.82 | 60.00 | 20.93 | 34.03 | 4.22 | 0.00 | AVERAGE | 140 | 220 | HORIZONTAL |

Item 1, 2 are the fundamental frequency at 5320 MHz.

| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | 802.11a Ch 100 / Ant. A1 + Ant. A2 + Ant. A3 |
| Test Date | Oct. 06, 2008 | | |

**Channel 100**

| | 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 | 5456.200 | 68.86 | -11.14 | 80.00 | 30.39 | 34.19 | 4.28 | 0.00 | PEAK | 100 | 341 | HORIZONTAL |
| 2 ! | 5460.000 | 55.65 | -4.35 | 60.00 | 17.18 | 34.19 | 4.28 | 0.00 | AVERAGE | 100 | 341 | HORIZONTAL |
| 3 ! | 5469.200 | 72.56 | -1.74 | 74.30 | 34.06 | 34.21 | 4.29 | 0.00 | PEAK | 100 | 341 | HORIZONTAL |
| 4 @ | 5499.400 | 120.24 | | | 81.71 | 34.23 | 4.30 | 0.00 | PEAK | 100 | 341 | HORIZONTAL |
| 5 over | 5501.200 | 105.00 | | | 66.45 | 34.25 | 4.30 | 0.00 | AVERAGE | 100 | 341 | HORIZONTAL |

Item 4, 5 are the fundamental frequency at 5500 MHz.

| Temperature | 24℃ | Humidity | 56% |
|---|---|---|---|
| Test Engineer | Alan Huang | Configurations | 802.11a Ch 140 / Ant. A1 + Ant. A2 + Ant. A3 |
| Test Date | Oct. 27, 2008 | | |

**Channel 140**

| | 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 @ | 5701.800 | 122.17 | | | 87.84 | 34.34 | 0.00 | 0.00 | PEAK | 100 | 202 | HORIZONTAL |
| 2 over | 5706.400 | 106.64 | | | 72.30 | 34.34 | 0.00 | 0.00 | AVERAGE | 100 | 202 | HORIZONTAL |
| 3 ! | 5725.000 | 72.07 | -2.23 | 74.30 | 37.73 | 34.34 | 0.00 | 0.00 | PEAK | 100 | 202 | HORIZONTAL |

Item 1, 2 are the fundamental frequency at 5700 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].

## 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

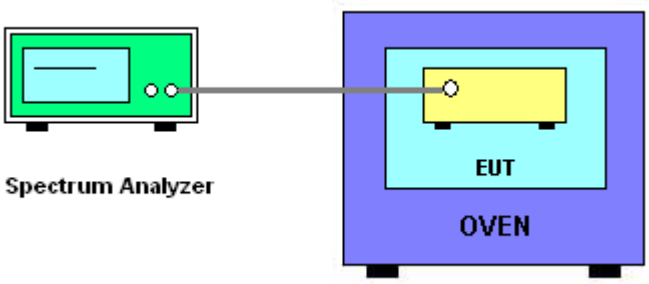
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

| 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 Power Meter 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

**Voltage vs. Frequency Stability**

| Voltage | Measurement Frequency (MHz) |
|---|---|
| (V) | **5300** |
| 126.50 | 5300.049500 |
| 110.00 | 5300.029600 |
| 93.50 | 5299.998100 |
| Max. Deviation (MHz) | **0.049500** |
| Max. Deviation (ppm) | **9.34** |

**Temperature vs. Frequency Stability**

| Temperature | Measurement Frequency (MHz) |
|---|---|
| (℃) | **5300** |
| -30 | 5300.004200 |
| -20 | 5300.019800 |
| -10 | 5300.026400 |
| 0 | 5300.027600 |
| 10 | 5300.022800 |
| 20 | 5300.018000 |
| 30 | 5300.015000 |
| 40 | 5300.011400 |
| 50 | 5300.013200 |
| Max. Deviation (MHz) | **0.027600** |
| Max. Deviation (ppm) | **5.21** |

## 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 | 100132 | 9kHz – 2.75GHz | Jul. 14, 2007 | Conduction (CO04-HY) |
| 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, 2007 | 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, 2007 | 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) |
| RF Cable-CON | UTIFLEX | 3102-26886-4 | CB049 | 9kHz – 30MHz | Apr. 20, 2008 | Conduction (CO04-HY) |
| ISN | SCHAFFNER | ISN T400 | 21653 | 9kHz –30MHz | May 09, 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) |
| Isolation Transformer | Erika Fiedler OHG | D-65396 Walluf | 58 | 45MHz-2.15GHz | 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) |
| 3m Semi Anechoic Chamber | SIDT FRANKONIA | SAC-3M | 03CH03-HY | 30 MHz - 1 GHz 3m | Jun. 14, 2008 | 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 | Agilent | 8449B | 3008A02120 | 1 GHz - 26.5 GHz | Jul. 21, 2008 | Radiation (03CH03-HY) |
| Amplifier | MITEQ | AMF-6F-260400 | 923364 | 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) |
| Spectrum Analyzer | R&S | FSP40 | 100305 | 9 kHz - 40 GHz | Sep. 27, 2008 | Radiation (03CH03-HY) |
| Loop Antenna | R&S | HFH2-Z2 | 860004/001 | 9 kHz - 30 MHz | May 23, 2006* | Radiation (03CH03-HY) |
| Loop Antenna | R&S | HFH2-Z2 | 860004/001 | 9 kHz - 30 MHz | May 23, 2008* | Radiation (03CH03-HY) |
| Bilog Antenna | SCHAFFNER | CBL 6112D | 22237 | 30 MHz – 1 GHz | Jul. 21, 2007 | Radiation (03CH03-HY) |
| Bilog Antenna | SCHAFFNER | CBL 6112D | 22237 | 30 MHz – 1 GHz | Jul. 12, 2008 | Radiation (03CH03-HY) |
| Horn Antenna | EMCO | 3115 | 6741 | 1GHz ~ 18GHz | May 04, 2007 | Radiation (03CH03-HY) |
| Horn Antenna | EMCO | 3115 | 6741 | 1GHz ~ 18GHz | Apr. 04, 2008 | Radiation (03CH03-HY) |

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Remark |
|---|---|---|---|---|---|---|
| Horn Antenna | SCHWARZBECK | BBHA9170 | BBHA9170154 | 15 GHz - 40 GHz | NCR | 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 | Dec. 17, 2007 | Conducted (TH01-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 Meter | R&S | NRVS | 100444 | DC ~ 40GHz | Jul. 11, 2008 | Conducted (TH01-HY) |
| Power Sensor | R&S | NRV-Z51 | 100458 | DC ~ 30GHz | Jun. 27, 2007 | Conducted (TH01-HY) |
| Power Sensor | R&S | NRV-Z51 | 100458 | DC ~ 30GHz | Jul. 11, 2008 | Conducted (TH01-HY) |
| Power Sensor | R&S | NRV-Z32 | 100057 | 30MHz ~ 6GHz | Jun. 27, 2007 | Conducted (TH01-HY) |
| Power Sensor | R&S | NRV-Z32 | 100057 | 30MHz ~ 6GHz | Jul. 11, 2008 | Conducted (TH01-HY) |
| AC Power Source | HPC | HPA-500W | HPA-9100024 | AC 0 ~ 300V | May 04, 2007* | Conducted (TH01-HY) |
| AC Power Source | HPC | HPA-500W | HPA-9100024 | AC 0 ~ 300V | May 30, 2008* | Conducted (TH01-HY) |
| DC Power Source | G.W. | GPC-6030D | C671845 | DC 1V ~ 60V | Mar. 03, 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) |
| Temp. and Humidity Chamber | KSON | THS-C3L | 612 | N/A | Oct. 01, 2008 | 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) |
| Signal Generator | R&S | SMR40 | 100116 | 10MHz ~ 40GHz | Mar. 07, 2007 | Conducted (TH01-HY) |
| Signal Generator | R&S | SMR40 | 100116 | 10MHz ~ 40GHz | Mar. 10, 2008 | Conducted (TH01-HY) |
| oscilloscope | Tektonix | TDS380 | B016197 | 400MHz/ 2GS/s | Jun. 27, 2008 | Conducted (TH01-HY) |

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

* Calibration Interval of instruments listed above is two year.

NCR means Non-Calibration required.

# 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

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