# ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

## UN-INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART B REQUIREMENT

*OF*

| | |
|---|---|
| **Product Name:** | **Mobile Phone** |
| **Brand Name:** | **Sony** |
| **Type No.:** | **PM-0851-BV** |
| **Added Model(s):** | **N/A** |
| **Model Difference:** | **N/A** |
| **FCC ID:** | **PY7-PM0851** |
| **Based on SGS EMC Report No.:** | **EM/2014/C0068** |
| **Issue Date:** | **Jan. 16, 2015** |
| **FCC Rule Part:** | **FCC Part 15:2014, Subpart B, Class B** |
| **Prepared for:** | **Sony Mobile Communications AB<br>Nya Vattentornet 22188 Lund/SWEDEN** |
| **Prepared by:** | **SGS Taiwan Ltd.<br>Electronics & Communication Laboratory<br>No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803** |

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# VERIFICATION OF COMPLIANCE

| | |
|---|---|
| **Applicant:** | Sony Mobile Communications AB<br>Nya Vattentornet 22188 Lund/SWEDEN |
| **Manufacturer:** | Sony Mobile Communications AB<br>Nya Vattentornet 22188 Lund/SWEDEN |
| **Product Name:** | Mobile Phone |
| **Brand Name:** | Sony |
| **Type No.:** | PM-0851-BV |
| **Added Model(s):** | N/A |
| **Model Difference:** | N/A |
| **FCC ID:** | PY7-PM0851 |
| **File Number:** | EM/2014/B0035 |
| **Date of EUT Received:** | Nov. 14, 2014 |
| **Date of test:** | Jan. 07, 2015 |
| **Issue Date:** | Jan. 16, 2015 |
| **Standards:** | **FCC Part 15:2014, Subpart B, Class B** |

## We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2009) and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15B, Class B. The test results of this report relate only to the tested sample identified in this report.

| | | | |
|---|---|---|---|
| ***Tested By:*** | Eddy Cheng | ***Date:*** | Jan. 16, 2015 |
| | ***Eddy Cheng / Engineer*** | | |
| ***Prepared By:*** | Fanny Chen | ***Date:*** | Jan. 16, 2015 |
| | ***Fanny Chen / Clerk*** | | |
| ***Approved By:*** | Victor Wen | ***Date:*** | Jan. 16, 2015 |
| | ***Victor Wen / Assistant Manager*** | | |

# Revision History

| Report Number | Revision | Description | Issue Date |
|---|---|---|---|
| EM/2014/B0035 | Rev.00 | Initial Version | Jan. 12, 2015 |
| EM/2014/B0035 | Rev.01 | Rrevised HT40 2422~2562 channel | Jan. 16, 2015 |

# Contents

# 1. General Information

## 1.1 Product description

General:

| | | |
|---|---|---|
| Product Name: | Mobile Phone | |
| Brand Name: | Sony | |
| Type No.: | PM-0851-BV | |
| Added Model(s): | N/A | |
| Model Difference: | N/A | |
| Data Cable (USB): | Model No.: EC450, Supplier: K-one<br>Type No.: AI-0700 | |
| Simple Hands-free (SHF): | Model No.: MH410c, Supplier: Foster Electric<br>Type No.: AG-1100 | |
| Car Charger: | Model No.: AN400, Supplier: Salcomp<br>Type No.: CAA-0003013 | |
| BT PHF: | Model No.: SBH20, Supplier: Sony<br>Type No.: RD-0010 coupling with Simple Hands Free (Model No.: MH755, Supplier: BALDA, Type No.: AG-0503) | |
| Hardware Version: | A | |
| Software Version: | 25.0.B.0.35 | |
| Power Supply: | 3.8Vdc | |
| | Battery: | Model No.: LIS1574ERPC, Supplier: Sony<br>Type No.: N/A |
| | Adapter: | Model No.: EP800, Supplier: Salcomp<br>Type No.: CAA-0002016-US |
| IMEI: | 004402453435988 | |

Bluetooth BR+EDR:

| | |
|---|---|
| Bluetooth Version: | V4.1 dual mode + HS |
| Channel number: | 79 channels |
| Modulation type: | Frequency Hopping Spread Spectrum |
| Transmit Power: | 5.38dBm |
| Frequency Range: | 2.402GHz – 2.480GHz |
| Dwell Time: | <= 0.4s |
| Antenna Designation: | PIFA Antenna, Gain: 2.52dBi |

Bluetooth Low Energy:

| | |
|---|---|
| Frequency Range: | 2402 – 2480MHz |
| Bluetooth Version: | V4.1 dual mode + HS |
| Channel number: | 40 channels |
| Modulation type: | GFSK |
| Transmit Power: | -1.49dBm (Peak) |
| Antenna Designation: | PIFA Antenna, Gain: 2.52dBi |

NFC:

| | |
|---|---|
| Operating Frequency | 13.56MHz |
| Transmit Power | < 123dBuV/m at 3m. |
| Number of Channels | 1 |
| Antenna Type | Loop Antenna |
| Modulation Type | ASK, BPSK |

WLAN 2.4GHz:

| Wi-Fi | Frequency Range | Channels | Rated Power | Modulation Technology |
|---|---|---|---|---|
| 11b/g | 2412-2462 | 11 | b: 18.87dBm<br>g: 22.66dBm | DSSS, OFDM |
| 11n | HT20 2412-2462 | 11 | HT20: 21.09dBm | OFDM |
| 11n | HT40 2422-2452 | 7 | HT40: 22.22dBm | OFDM |
| Antenna Designation: | | PIFA Antenna, Gain: 2.52dBi | | |
| Modulation type: | | CCK, DQPSK, DBPSK for DSSS<br>64QAM, 16QAM, QPSK, BPSK for OFDM | | |
| Transition Rate: | | 802.11 b: 1/2/5.5/11 Mbps;<br>802.11 g: 6/9/12/18/24/36/48/54 Mbps<br>802.11 n_20MHz: 6.5 – 72.2Mbps<br>802.11 n_40MHz: 13.5 –135Mbps | | |

WLAN 5GHz:

| Wi-Fi | Frequency Range | Channels | Avg. Power | Modulation Technology |
|---|---|---|---|---|
| 11a | 5150~5250 | 4 | 13.96dBm | OFDM |
| | 5250~5350 | 4 | 13.99dBm | |
| | 5470~5725 | 8 | 13.96dBm | |
| | 5725-5850 | 5 | 13.79dBm | |
| 11n | HT20 5150~5250 | 4 | HT20: 12.99dBm | OFDM |
| | HT20 5250~5350 | 4 | HT20: 12.95dBm | |
| | HT20 5470~5725 | 8 | HT20: 12.99dBm | |
| | HT20 5725-5850 | 5 | HT20: 12.79dBm | |
| 11n | HT40 5150~5250 | 2 | HT40: 11.95dBm | OFDM |
| | HT40 5250~5350 | 2 | HT40: 11.93dBm | |
| | HT40 5470~5725 | 3 | HT40: 11.96dBm | |
| | HT40 5725-5850 | 2 | HT40: 11.98dBm | |
| Antenna Designation | PIFA Antenna,<br>5GHz Gain: -0.54dBi (5150MHz-5250MHz)<br>5GHz Gain: -0.89dBi (5250MHz-5350MHz)<br>5GHz Gain: -0.34dBi (5470MHz-5725MHz)<br>5GHz Gain: -0.19dBi (5725MHz-5850MHz) | | | |
| Modulation type | CCK, DQPSK, DBPSK for DSSS<br>64QAM, 16QAM, QPSK, BPSK for OFDM | | | |
| Transition Rate: | 802.11 a: 6/9/12/18/24/36/48/54 Mbps<br>802.11 n_20MHz: 6.5 – 65.0Mbps<br>802.11 n_40MHz: 13.5 – 135.0Mbps | | | |

GSM / WCDMA/ LTE:

| | Operating Frequency | | Rated Power |
|---|---|---|---|
| Cellular Phone Standards Frequency Range and Power | GSM/GPRS 850, Class 12 | 824.2 MHz– 848.8 MHz | 33dBm |
| | EDGE 850, Class 12 | 824.2 MHz– 848.8 MHz | 27dBm |
| | GSM/GPRS 1900, Class 12 | 1850.2MHz – 1909.8MHz | 30dBm |
| | EDGE 1900, Class 12 | 1850.2MHz – 1909.8MHz | 26dBm |
| | WCDMA/HSUPA/HSDPA /HSPA+ Band II | 1852.4MHz – 1907.6MHz | 24dBm |
| | WCDMA/HSUPA/HSDPA /HSPA+ Band V | 826.4MHz - 846.6MHz | 24dBm |
| | 1.4MHz BW LTE-Band 2 | 1850.7MHz– 1909.3MHz | 23dBm |
| | 3MHz BW LTE-Band 2 | 1851.5MHz – 1908.5MHz | 23dBm |
| | 5MHz BW LTE-Band 2 | 1852.5MHz – 1907.5MHz | 23dBm |
| | 10MHz BW LTE-Band 2 | 1855.0MHz – 1905.0MHz | 23dBm |
| | 15MHz BW LTE-Band 2 | 1857.5MHz – 1902.5MHz | 23dBm |
| | 20MHz BW LTE-Band 2 | 1860.0MHz – 1900.0MHz | 23dBm |
| | 1.4MHz BW LTE-Band 5 | 824.7MHz – 848.3MHz | 23dBm |
| | 3MHz BW LTE-Band 5 | 825.5MHz – 848.3MHz | 23dBm |
| | 5MHz BW LTE-Band 5 | 826.5MHz – 846.5MHz | 23dBm |
| | 10MHz BW LTE-Band 5 | 829.0MHz – 844.0MHz | 23dBm |
| | 5MHz BW LTE-Band 7 | 2502.5MHz – 2567.5MHz | 23dBm |
| | 10MHz BW LTE-Band 7 | 2505.0MHz – 2565.0MHz | 23dBm |
| | 15MHz BW LTE-Band 7 | 2507.5MHz – 2562.5MHz | 23dBm |
| | 15MHz BW LTE-Band 7 | 2510.0MHz – 2560.0MHz | 23dBm |

| | |
|---|---|
| Type of Emission: | GSM 850: 250KGXW, GSM 1900: 248KGXW<br>GPRS 850: 250KGXW, GPRS 1900: 247KGXW<br>EDGE 850: 250KG7W, EDGE 1900: 253KG7W<br>WCDMA Band II: 4M23F9W,<br>WCDMA Band V: 4M23F9W<br>HSDPA Band II: 4M20F9W,<br>HSDPA Band V: 4M22F9W<br>HSUPA Band II: 4M21F9W,<br>HSUPA Band V: 4M22F9W<br>1.4MHz BW LTE-Band 2 QPSK:1M10G7D<br>1.4MHz BW LTE-Band 2 16QAM: 1M10D7W<br>3MHz BW LTE-Band 2 QPSK: 2M71G7D<br>3MHz BW LTE-Band 2 16QAM: 2M71D7W<br>5MHz BW LTE-Band 2 QPSK: 4M55G7D<br>5MHz BW LTE-Band 2 16QAM: 4M53D7W<br>10MHz BW LTE-Band 2 QPSK: 8M98G7D<br>10MHz BW LTE-Band 2 16QAM: 8M99D7W<br>15MHz BW LTE-Band 2 QPSK: 13M53G7D<br>15MHz BW LTE-Band 2 16QAM: 13M52D7W<br>20MHz BW LTE-Band 2 QPSK: 18M00G7D<br>20MHz BW LTE-Band 2 16QAM: 18M00D7W<br>1.4MHz BW LTE-Band 5 QPSK:1M10G7D<br>1.4MHz BW LTE-Band 5 16QAM: 1M10D7W<br>3MHz BW LTE-Band 5 QPSK: 2M70G7D<br>3MHz BW LTE-Band 5 16QAM: 2M71D7W<br>5MHz BW LTE-Band 5 QPSK: 4M54G7D<br>5MHz BW LTE-Band 5 16QAM: 4M53D7W<br>10MHz BW LTE-Band 5 QPSK: 9M03G7D<br>10MHz BW LTE-Band 5 16QAM: 9M05D7W<br>5MHz BW LTE-Band 7 QPSK: 4M53G7D<br>5MHz BW LTE-Band 7 16QAM: 4M53D7W<br>10MHz BW LTE-Band 7 QPSK: 9M23G7D<br>10MHz BW LTE-Band 7 16QAM: 9M22D7W<br>15MHz BW LTE-Band 7 QPSK: 13M93G7D<br>15MHz BW LTE-Band 7 16QAM: 13M95D7W<br>20MHz BW LTE-Band 7 QPSK: 18M72G7D<br>20MHz BW LTE-Band 7 16QAM: 18M70D7W |

## 1.2 Test Plan

**Test Plan:**

| PM-0851-BV | Config 1 | Config 2 |
|---|---|---|
| Applicable standard (FCC 15B ) | | |
| Accessories | EUT<br>+USB Cable(EC450)<br>+PHF(MH410c) | EUT<br>+ AC Adapter(EP800)<br>+USB Cable(EC450)<br>+SHF(MH410c) |
| | DATA Link (USB) | CAMERA |
| | DATA Link(USB) +<br>Idle(WWAN.WIFI.BT.GPS & NFC ON) | FULL SYSTEM +<br>Idle(WWAN.WIFI.BT.GPS & NFC ON) |
| Description | | |
| radiated emission | DATA Link (USB) | Recording |
| conducted emission (AC Power) | DATA Link (USB) | Recording/play recording/MP3 |

* Test Configuration required by client.

## 1.3 Operation Procedure

1. Set down EUT with support units and turn on the power of all equipment.
2. Pressing mouse button continuously or move mouse cursor.
3. Pre-test the EUT in all modes by each model, then figure the worst case out.
4. Tests under the normal operation pattern.

## 1.4 Description of Support Units

| PRODUCT | MANUFACTURER | MODEL NO. | SERIAL NO. |
|---|---|---|---|
| Notebook | IBM | L412 | LR-ZYMYD |
| Radio Communication Analyzer | R&S | CMU200 | N/A |
| Mouse | HP | M-UAE96 | 390938-001 |
| Printer | HP | DJ3820 | CN34L181B1 |

## 1.5 Modification List

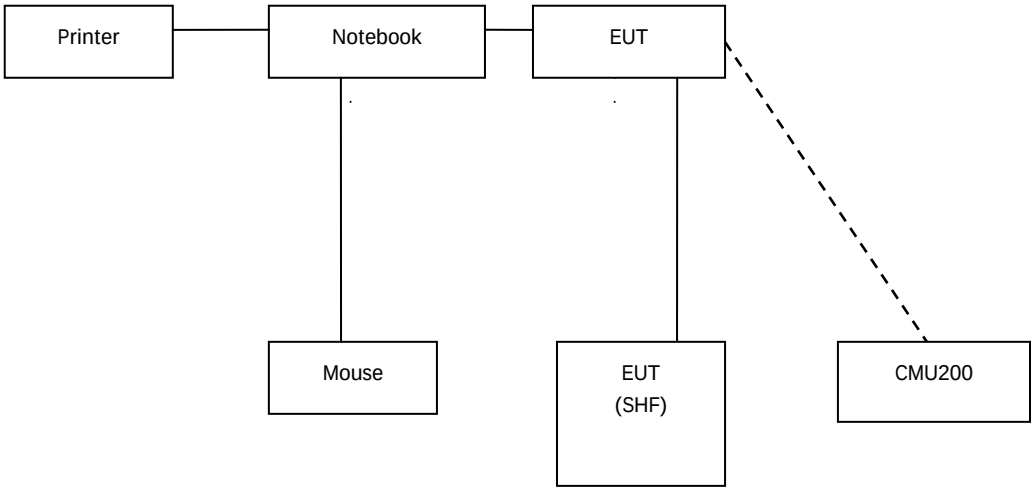
No modification by SGS Taiwan Electronics & Communication Laboratory.

## 1.6 Cable List

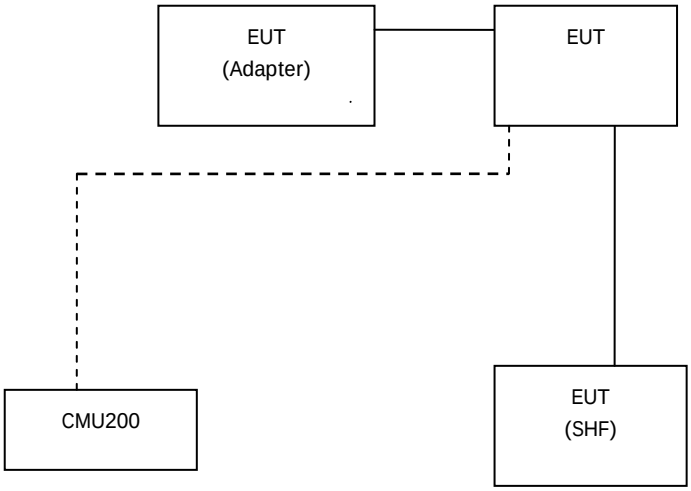
| Cable Type | Length | Shielding / Non-shielding |
|---|---|---|
| USB cable with core near EUT, near Adapter | 1.0 m | Shielding |

## 1.7 Test Set-Up Configuration

Config 1




Config 2



## 1.8 Measurement Procedure

Conducted Emission Testing was performed according ANSI C63.4:2009 in a shielded room with peripherals placed on a table, 0.8m high over a metal floor. It was located more than required distance away from the shielded room wall.

Radiated Emission Testing was performed according to ANSI C63.4:2009 at the 9*6*6 3m Semi-Anechoic chamber test site. The EUT was placed in a 0.8m high table along with the peripherals. The turn table was separated from the antenna distance 3meters. Cables were placed in a position to produce maximum emissions as determined by experimentation, and operation mode was selected for maximum.

The frequencies and amplitudes of maximum emission were measured at varying azimuths, antenna heights and antenna polarities. Reported are maximized emission levels.

The measurement facilities used to collect the 3m Radiated Emission and AC power line conducted data are located on the address of SGS Taiwan Ltd. Electronics & Communication Laboratory No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803 which are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4:2009. FCC Registration Number: TW0513.

## 1.9 Standards Applicable for Testing

Table of tests to be carried out under FCC Part 15, Subpart B

| Test Standards | Status |
|---|---|
| FCC Part 15, Subpart B | Applicable |
| Deviation from Standard | No Deviation |

## 1.10 Summary of Results

| Highest Emission | | | | | |
|---|---|---|---|---|---|
| **Standard** | **Test Type** | **Result** | **Phase / Polar.** | **Frequency(MHz)** | **Margin(dB)** |
| FCC Part 15 Subpart B Class B/ CISPR 22 Class B | Conducted Emission | PASS | Line | 0.1647 | -15.45(QP) |
| | | | Neutral | 2.7900 | -13.26(QP) |
| | Radiated Emission | PASS | Ver. | 30.1820 | -11.30(QP) |

# 2. Radio Disturbance

## 2.1 Test Results

| | Results |
|---|---|
| Conducted Emission | **Pass** |
| Radiated Emission | **Pass** |

## 2.2 Frequency Range

Conducted Emission : 150 kHz - 30 MHz

Radiated Emission : See below table

| Highest frequency generated or used in the device or on which the device operates or tunes (MHz) | Upper frequency of measurement range (MHz) |
|---|---|
| Below 1.705 | 30 |
| 1.705 - 108 | 1000 |
| 108 - 500 | 2000 |
| 500 - 1000 | 5000 |
| Above 1000 | 5th harmonic of the highest frequency or 40 GHz, whichever is lower |

## 2.3 Limits Of Conducted And Radiated Emission

### 2.3.1 Limit Of Conducted Emission Of FCC Part 15, Subpart B/CISPR 22

| FREQUENCY (MHz) | Class A (dBuV) | | Class B (dBuV) | |
|---|---|---|---|---|
| | Quasi - peak | Average | Quasi - peak | Average |
| 0.15 - 0.5 | 79 | 66 | 66 - 56 | 56 - 46 |
| 0.50 - 5.0 | 73 | 60 | 56 | 46 |
| 5.0 - 30.0 | 73 | 60 | 60 | 50 |

Note : (1) The lower limit shall apply at the transition frequencies.
(2) The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz.
(3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected there to, shall not exceed the level of field strengths specified above.

### 2.3.2 Limit Of Radiated Emissions Of FCC Part 15, Subpart B/CISPR 22

**FCC Limit:**

- Detector Function : Quasi – Peak

| FREQUENCY (MHz) | Class A (at 10m) dBuV/m | Class B (at 3m) dBuV/m |
|---|---|---|
| 30~88 | 39 | 40 |
| 88~216 | 43.5 | 43.5 |
| 216~960 | 46.44 | 46 |
| Above 960 | 49.54 | 54 |

- Detector Function : Peak , Average

| FREQUENCY (MHz) | Class A (dBuV) (at 3m) | | Class B (dBuV) (at 3m) | |
|---|---|---|---|---|
| | Peak | Average | Peak | Average |
| Above 1000 | 79.3 | 59.3 | 73.9 | 53.9 |

**CISPR Limit:**

- Detector Function : Quasi – Peak

| FREQUENCY (MHz) | Class A (at 10m) dBuV/m | Class B (at 10m) dBuV/m |
|---|---|---|
| 30-230 | 40 | 30 |
| 230-1000 | 47 | 37 |

- Detector Function : Peak , Average – Class A

| Frequency range GHz | Average Limit dB(μV/m) | Peak Limit dB(μV/m) |
|---|---|---|
| 1 to 3 | 56 | 76 |
| 3 to 6 | 60 | 80 |

- Detector Function : Peak , Average – Class B

| Frequency range GHz | Average Limit dB(μV/m) | Peak Limit dB(μV/m) |
|---|---|---|
| 1 to 3 | 50 | 70 |
| 3 to 6 | 54 | 74 |

Note : The lower limit applies at the transition frequency.

## 2.4 Test of Conducted Emission

### 2.4.1 Test Equipments

| SGS Wuku Conducted Emission Test Site | | | | | |
|---|---|---|---|---|---|
| **Name of Equipment** | **Manufacturer** | **Model** | **Serial Number** | **Calibration Date** | **Calibration Due** |
| EMI Test Receiver | R&S | ESCI 3 | 100335 | Dec. 30, 2014 | Dec. 29, 2015 |
| Coaxial Cables | N/A | WK CE Cable | N/A | Nov. 26, 2014 | Nov. 25, 2015 |
| LISN | SCHWARZBECK | NSLK 8127 | 8127-649 | May 02, 2014 | May 01, 2015 |
| LISN | FCC | FCC-LISN-50/250-25-2-01 | 04034 | Mar. 19, 2014 | Mar. 18, 2015 |
| Test Software | Farad | EZ-EMC | Ver. SGS-03A2 | N.C.R. | N.C.R. |

### 2.4.2 Test Site

SGS Taiwan LTD. Electronics & Communication Laboratory

No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803

### 2.4.3 Operating Environment

Temperature: 24 degree C Humidity: 66 %RH

Atmospheric Pressure: 996 mBar

### 2.4.4 Uncertainty of Conducted Emission

Expanded uncertainty (K=2) of conducted emission is 2.28 dB.

### 2.4.5 Measurement level and Factor calculate method

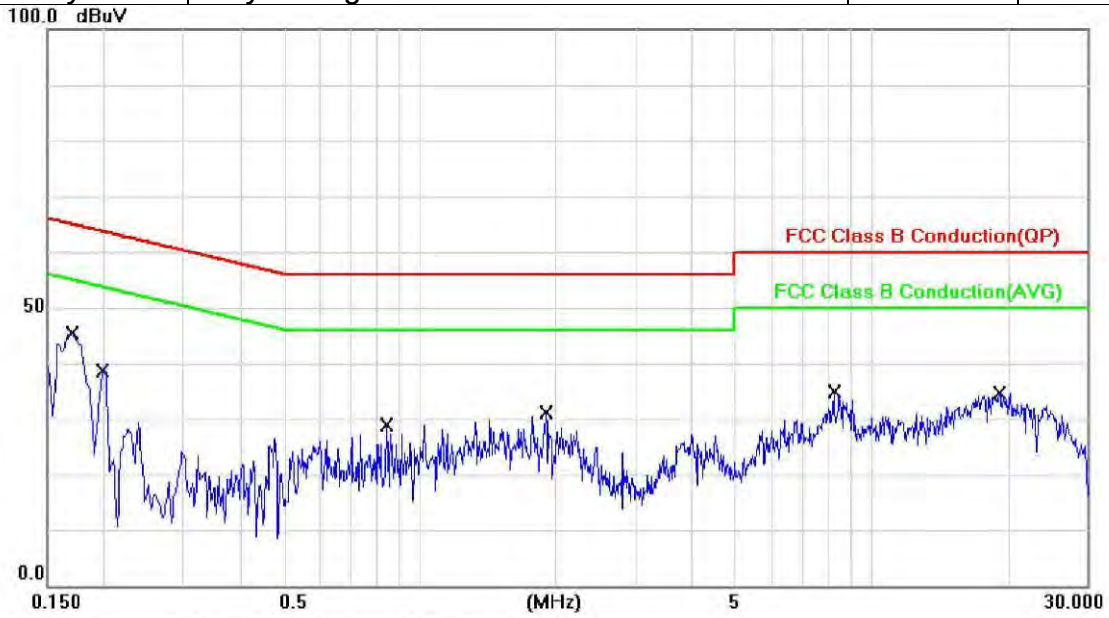
Factor = LISN insertion loss + Cable loss

Measurement Level = Reading Level + Factor

Over (Margin) = Measurement Level − Limit

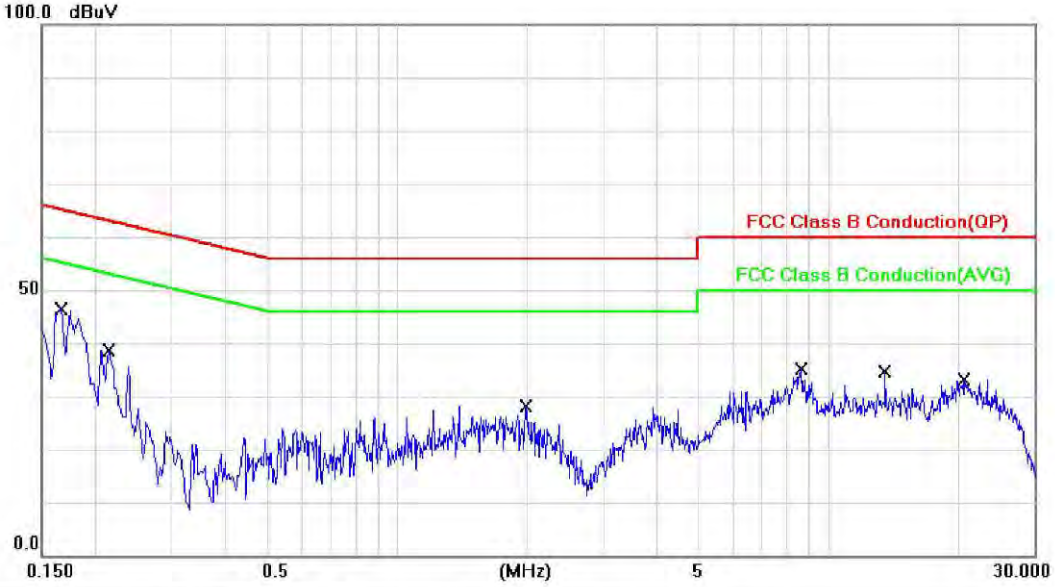
### 2.4.6 Measurement Data

| Operation Mode: | Config 1 DATA Link (USB) | Test Date: | Dec. 30, 2014 |
|---|---|---|---|
| Tested By: | Eddy Cheng | Pol.: | L1 |



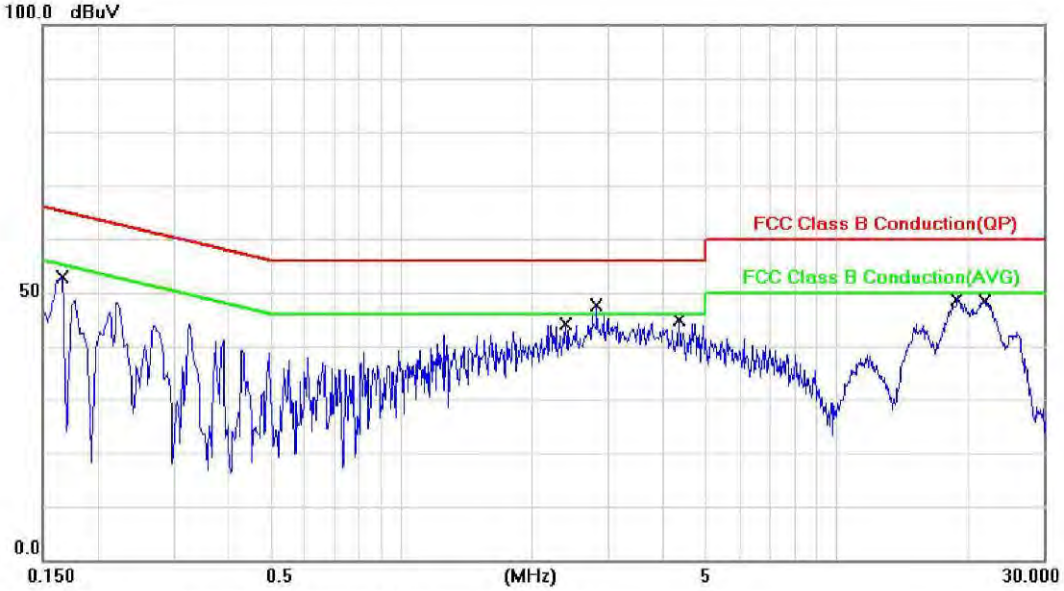

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | * | 0.1700 | 42.70 | 0.07 | 42.77 | 64.96 | -22.19 | QP | |
| 2 | | 0.1700 | 27.60 | 0.07 | 27.67 | 54.96 | -27.29 | AVG | |
| 3 | | 0.1980 | 34.70 | 0.07 | 34.77 | 63.69 | -28.92 | QP | |
| 4 | | 0.1980 | 15.60 | 0.07 | 15.67 | 53.69 | -38.02 | AVG | |
| 5 | | 0.8460 | 23.10 | 0.08 | 23.18 | 56.00 | -32.82 | QP | |
| 6 | | 0.8460 | 9.80 | 0.08 | 9.88 | 46.00 | -36.12 | AVG | |
| 7 | | 1.8980 | 24.00 | 0.10 | 24.10 | 56.00 | -31.90 | QP | |
| 8 | | 1.8980 | 13.40 | 0.10 | 13.50 | 46.00 | -32.50 | AVG | |
| 9 | | 8.2620 | 27.00 | 0.28 | 27.28 | 60.00 | -32.72 | QP | |
| 10 | | 8.2620 | 19.70 | 0.28 | 19.98 | 50.00 | -30.02 | AVG | |
| 11 | | 19.2180 | 27.90 | 0.56 | 28.46 | 60.00 | -31.54 | QP | |
| 12 | | 19.2180 | 19.00 | 0.56 | 19.56 | 50.00 | -30.44 | AVG | |

| Operation Mode: | Config 1 DATA Link (USB) | Test Date: | Dec. 30, 2014 |
|---|---|---|---|
| Tested By: | Eddy Cheng | Pol.: | N |



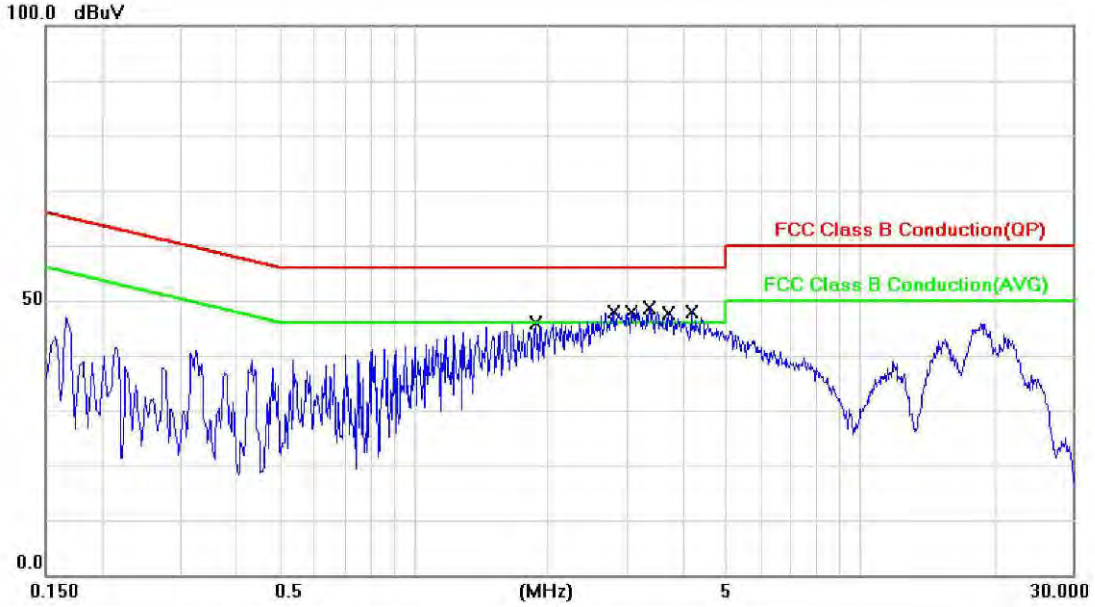

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | * | 0.1660 | 44.10 | 0.05 | 44.15 | 65.16 | -21.01 | QP | |
| 2 | | 0.1660 | 28.50 | 0.05 | 28.55 | 55.16 | -26.61 | AVG | |
| 3 | | 0.2140 | 32.00 | 0.06 | 32.06 | 63.05 | -30.99 | QP | |
| 4 | | 0.2140 | 13.20 | 0.06 | 13.26 | 53.05 | -39.79 | AVG | |
| 5 | | 1.9900 | 18.40 | 0.12 | 18.52 | 56.00 | -37.48 | QP | |
| 6 | | 1.9900 | 7.50 | 0.12 | 7.62 | 46.00 | -38.38 | AVG | |
| 7 | | 8.6700 | 27.30 | 0.30 | 27.60 | 60.00 | -32.40 | QP | |
| 8 | | 8.6700 | 19.20 | 0.30 | 19.50 | 50.00 | -30.50 | AVG | |
| 9 | | 13.5340 | 24.30 | 0.42 | 24.72 | 60.00 | -35.28 | QP | |
| 10 | | 13.5340 | 16.30 | 0.42 | 16.72 | 50.00 | -33.28 | AVG | |
| 11 | | 20.6820 | 25.30 | 0.59 | 25.89 | 60.00 | -34.11 | QP | |
| 12 | | 20.6820 | 16.80 | 0.59 | 17.39 | 50.00 | -32.61 | AVG | |

| Operation Mode: | Config 2 Recording (Front) | Test Date: | Dec. 30, 2014 |
|---|---|---|---|
| Tested By: | Eddy Cheng | Pol.: | L1 |



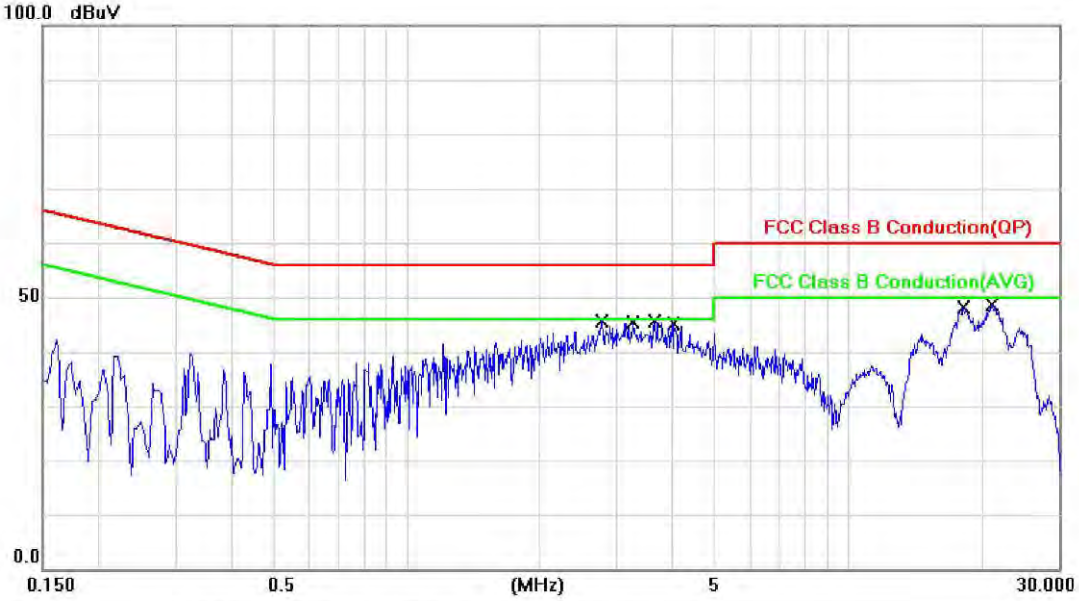

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 0.1638 | 48.90 | 0.07 | 48.97 | 65.27 | -16.30 | QP | |
| 2 | | 0.1638 | 34.80 | 0.07 | 34.87 | 55.27 | -20.40 | AVG | |
| 3 | | 2.3860 | 36.80 | 0.12 | 36.92 | 56.00 | -19.08 | QP | |
| 4 | | 2.3860 | 27.20 | 0.12 | 27.32 | 46.00 | -18.68 | AVG | |
| 5 | | 2.8095 | 39.40 | 0.13 | 39.53 | 56.00 | -16.47 | QP | |
| 6 | * | 2.8095 | 30.20 | 0.13 | 30.33 | 46.00 | -15.67 | AVG | |
| 7 | | 4.3380 | 37.20 | 0.17 | 37.37 | 56.00 | -18.63 | QP | |
| 8 | | 4.3380 | 28.10 | 0.17 | 28.27 | 46.00 | -17.73 | AVG | |
| 9 | | 18.7120 | 42.80 | 0.55 | 43.35 | 60.00 | -16.65 | QP | |
| 10 | | 18.7120 | 32.70 | 0.55 | 33.25 | 50.00 | -16.75 | AVG | |
| 11 | | 21.6880 | 42.50 | 0.64 | 43.14 | 60.00 | -16.86 | QP | |
| 12 | | 21.6880 | 31.40 | 0.64 | 32.04 | 50.00 | -17.96 | AVG | |

| Operation Mode: | Config 2 Recording (Front) | Test Date: | Dec. 30, 2014 |
|---|---|---|---|
| Tested By: | Eddy Cheng | Pol.: | N |



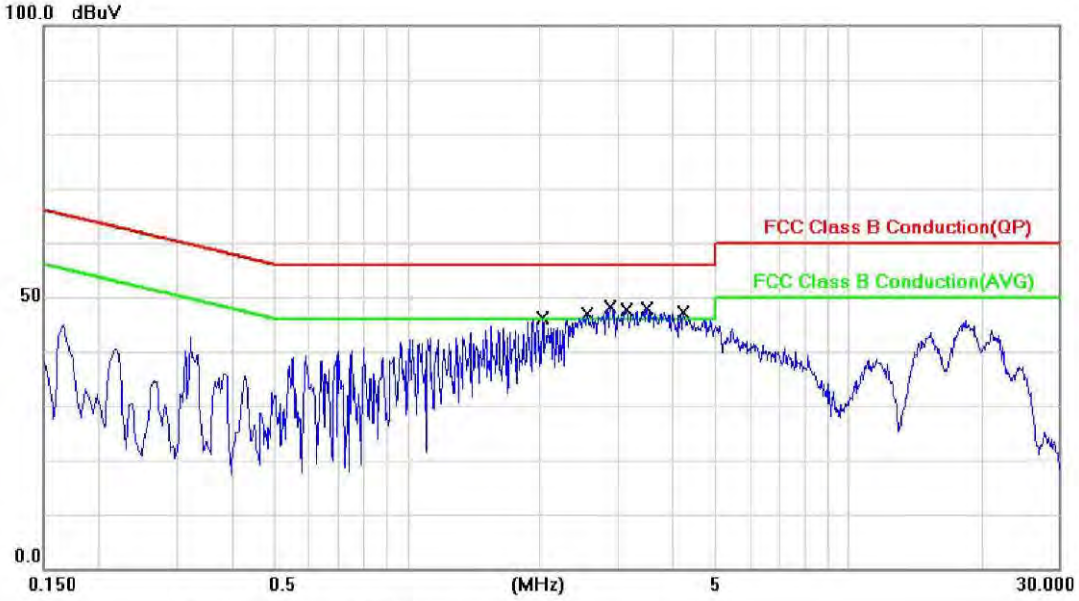

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 1.8700 | 40.70 | 0.12 | 40.82 | 56.00 | -15.18 | QP | |
| 2 | | 1.8700 | 29.60 | 0.12 | 29.72 | 46.00 | -16.28 | AVG | |
| 3 | | 2.8100 | 41.60 | 0.14 | 41.74 | 56.00 | -14.26 | QP | |
| 4 | | 2.8100 | 31.60 | 0.14 | 31.74 | 46.00 | -14.26 | AVG | |
| 5 | | 3.0740 | 42.00 | 0.15 | 42.15 | 56.00 | -13.85 | QP | |
| 6 | | 3.0740 | 31.70 | 0.15 | 31.85 | 46.00 | -14.15 | AVG | |
| 7 | * | 3.3700 | 42.30 | 0.15 | 42.45 | 56.00 | -13.55 | QP | |
| 8 | | 3.3700 | 31.50 | 0.15 | 31.65 | 46.00 | -14.35 | AVG | |
| 9 | | 3.7220 | 41.90 | 0.16 | 42.06 | 56.00 | -13.94 | QP | |
| 10 | | 3.7220 | 30.90 | 0.16 | 31.06 | 46.00 | -14.94 | AVG | |
| 11 | | 4.1900 | 41.20 | 0.17 | 41.37 | 56.00 | -14.63 | QP | |
| 12 | | 4.1900 | 30.00 | 0.17 | 30.17 | 46.00 | -15.83 | AVG | |

| Operation Mode: | Config 2 Recording (Back) | Test Date: | Dec. 30, 2014 |
|---|---|---|---|
| Tested By: | Eddy Cheng | Pol.: | L1 |



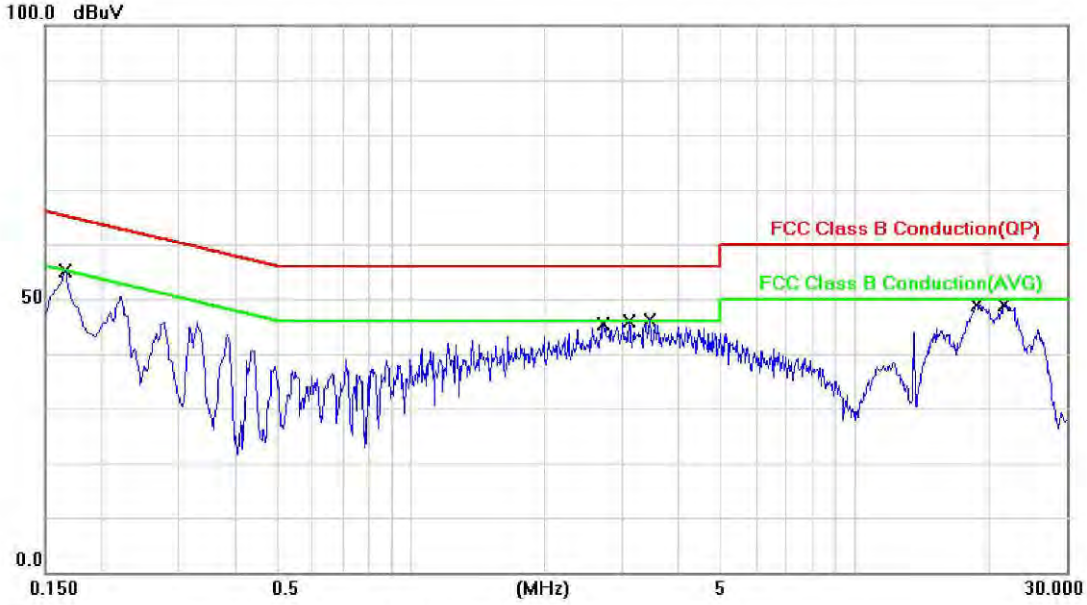

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 2.7660 | 38.60 | 0.13 | 38.73 | 56.00 | -17.27 | QP | |
| 2 | | 2.7660 | 29.50 | 0.13 | 29.63 | 46.00 | -16.37 | AVG | |
| 3 | | 3.2740 | 38.90 | 0.14 | 39.04 | 56.00 | -16.96 | QP | |
| 4 | * | 3.2740 | 29.90 | 0.14 | 30.04 | 46.00 | -15.96 | AVG | |
| 5 | | 3.6940 | 38.50 | 0.14 | 38.64 | 56.00 | -17.36 | QP | |
| 6 | | 3.6940 | 29.40 | 0.14 | 29.54 | 46.00 | -16.46 | AVG | |
| 7 | | 4.0380 | 38.10 | 0.16 | 38.26 | 56.00 | -17.74 | QP | |
| 8 | | 4.0380 | 28.90 | 0.16 | 29.06 | 46.00 | -16.94 | AVG | |
| 9 | | 18.2340 | 41.80 | 0.54 | 42.34 | 60.00 | -17.66 | QP | |
| 10 | | 18.2340 | 32.00 | 0.54 | 32.54 | 50.00 | -17.46 | AVG | |
| 11 | | 21.2500 | 42.10 | 0.63 | 42.73 | 60.00 | -17.27 | QP | |
| 12 | | 21.2500 | 31.20 | 0.63 | 31.83 | 50.00 | -18.17 | AVG | |

| Operation Mode: | Config 2 Recording (Back) | Test Date: | Dec. 30, 2014 |
|---|---|---|---|
| Tested By: | Eddy Cheng | Pol.: | N |



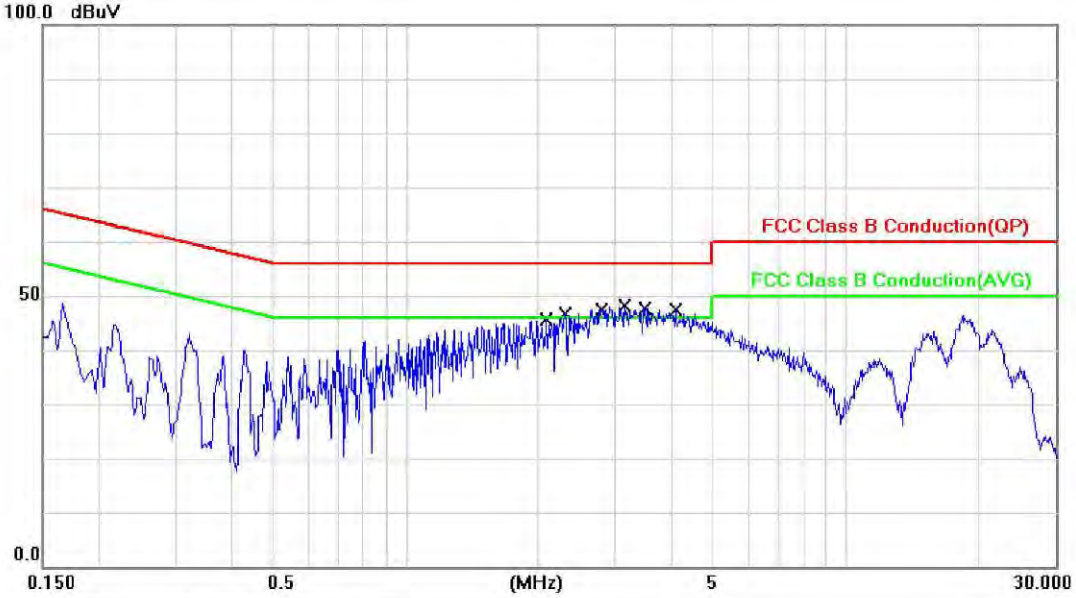

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 2.0260 | 39.90 | 0.13 | 40.03 | 56.00 | -15.97 | QP | |
| 2 | | 2.0260 | 29.10 | 0.13 | 29.23 | 46.00 | -16.77 | AVG | |
| 3 | | 2.5620 | 41.10 | 0.14 | 41.24 | 56.00 | -14.76 | QP | |
| 4 | | 2.5620 | 30.20 | 0.14 | 30.34 | 46.00 | -15.66 | AVG | |
| 5 | * | 2.8940 | 42.60 | 0.14 | 42.74 | 56.00 | -13.26 | QP | |
| 6 | | 2.8940 | 31.90 | 0.14 | 32.04 | 46.00 | -13.96 | AVG | |
| 7 | | 3.1500 | 42.20 | 0.15 | 42.35 | 56.00 | -13.65 | QP | |
| 8 | | 3.1500 | 31.70 | 0.15 | 31.85 | 46.00 | -14.15 | AVG | |
| 9 | | 3.4940 | 41.90 | 0.15 | 42.05 | 56.00 | -13.95 | QP | |
| 10 | | 3.4940 | 31.30 | 0.15 | 31.45 | 46.00 | -14.55 | AVG | |
| 11 | | 4.2380 | 41.10 | 0.18 | 41.28 | 56.00 | -14.72 | QP | |
| 12 | | 4.2380 | 30.10 | 0.18 | 30.28 | 46.00 | -15.72 | AVG | |

| Operation Mode: | Config 2 play recording | Test Date: | Dec. 30, 2014 |
|---|---|---|---|
| Tested By: | Eddy Cheng | Pol.: | L1 |



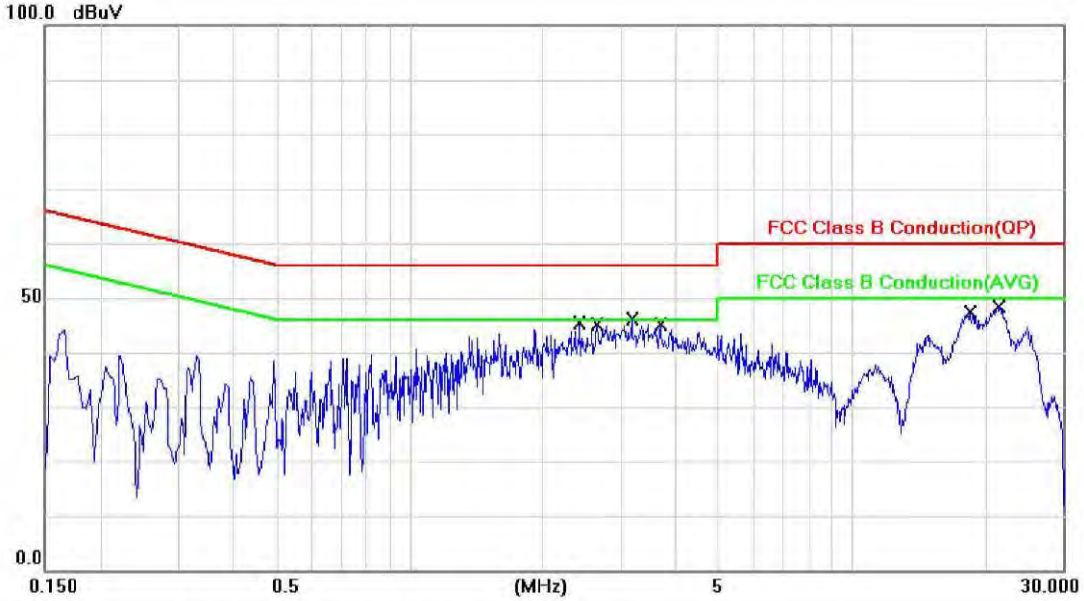

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | * | 0.1647 | 49.70 | 0.07 | 49.77 | 65.22 | -15.45 | QP | |
| 2 | | 0.1647 | 35.60 | 0.07 | 35.67 | 55.22 | -19.55 | AVG | |
| 3 | | 2.7180 | 38.40 | 0.12 | 38.52 | 56.00 | -17.48 | QP | |
| 4 | | 2.7180 | 29.30 | 0.12 | 29.42 | 46.00 | -16.58 | AVG | |
| 5 | | 3.1020 | 39.20 | 0.13 | 39.33 | 56.00 | -16.67 | QP | |
| 6 | | 3.1020 | 29.90 | 0.13 | 30.03 | 46.00 | -15.97 | AVG | |
| 7 | | 3.4380 | 38.30 | 0.14 | 38.44 | 56.00 | -17.56 | QP | |
| 8 | | 3.4380 | 29.50 | 0.14 | 29.64 | 46.00 | -16.36 | AVG | |
| 9 | | 18.8180 | 42.60 | 0.55 | 43.15 | 60.00 | -16.85 | QP | |
| 10 | | 18.8180 | 32.70 | 0.55 | 33.25 | 50.00 | -16.75 | AVG | |
| 11 | | 21.6740 | 42.40 | 0.64 | 43.04 | 60.00 | -16.96 | QP | |
| 12 | | 21.6740 | 31.40 | 0.64 | 32.04 | 50.00 | -17.96 | AVG | |

| Operation Mode: | Config 2 play recording | Test Date: | Dec. 30, 2014 |
|---|---|---|---|
| Tested By: | Eddy Cheng | Pol.: | N |



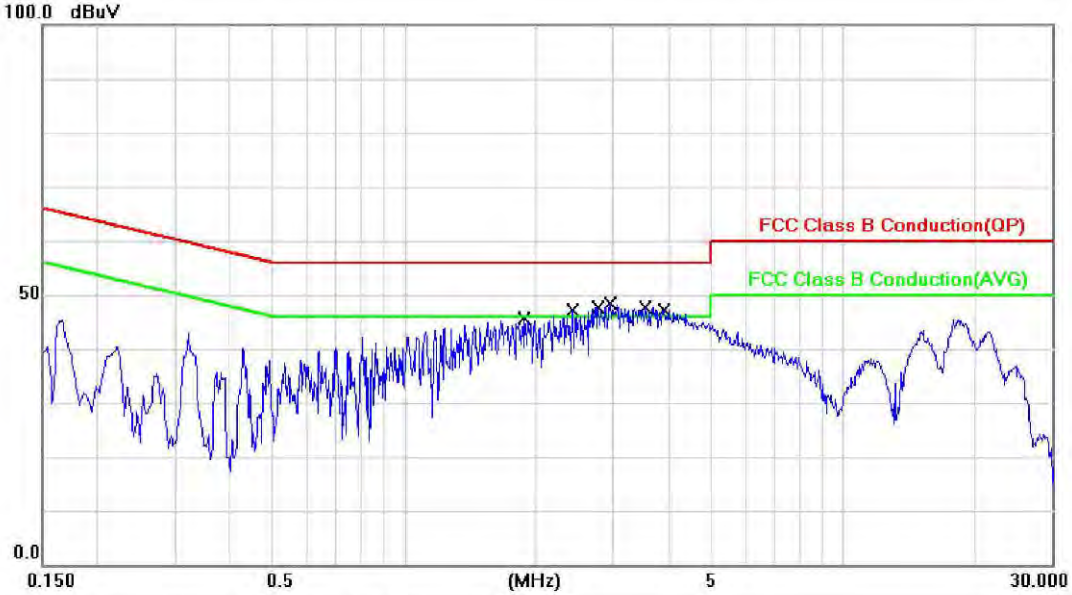

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 2.0900 | 40.80 | 0.13 | 40.93 | 56.00 | -15.07 | QP | |
| 2 | | 2.0900 | 29.90 | 0.13 | 30.03 | 46.00 | -15.97 | AVG | |
| 3 | | 2.3060 | 41.30 | 0.13 | 41.43 | 56.00 | -14.57 | QP | |
| 4 | | 2.3060 | 30.30 | 0.13 | 30.43 | 46.00 | -15.57 | AVG | |
| 5 | * | 2.7900 | 42.60 | 0.14 | 42.74 | 56.00 | -13.26 | QP | |
| 6 | | 2.7900 | 32.10 | 0.14 | 32.24 | 46.00 | -13.76 | AVG | |
| 7 | | 3.1500 | 42.20 | 0.15 | 42.35 | 56.00 | -13.65 | QP | |
| 8 | | 3.1500 | 31.50 | 0.15 | 31.65 | 46.00 | -14.35 | AVG | |
| 9 | | 3.5420 | 42.10 | 0.15 | 42.25 | 56.00 | -13.75 | QP | |
| 10 | | 3.5420 | 31.30 | 0.15 | 31.45 | 46.00 | -14.55 | AVG | |
| 11 | | 4.1060 | 41.00 | 0.17 | 41.17 | 56.00 | -14.83 | QP | |
| 12 | | 4.1060 | 30.10 | 0.17 | 30.27 | 46.00 | -15.73 | AVG | |

| Operation Mode: | Config 2 MP3 | Test Date: | Dec. 30, 2014 |
|---|---|---|---|
| Tested By: | Eddy Cheng | Pol.: | L1 |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 2.4300 | 37.00 | 0.12 | 37.12 | 56.00 | -18.88 | QP | |
| 2 | | 2.4300 | 27.30 | 0.12 | 27.42 | 46.00 | -18.58 | AVG | |
| 3 | | 2.6580 | 38.30 | 0.12 | 38.42 | 56.00 | -17.58 | QP | |
| 4 | | 2.6580 | 29.00 | 0.12 | 29.12 | 46.00 | -16.88 | AVG | |
| 5 | | 3.1820 | 39.30 | 0.13 | 39.43 | 56.00 | -16.57 | QP | |
| 6 | * | 3.1820 | 30.10 | 0.13 | 30.23 | 46.00 | -15.77 | AVG | |
| 7 | | 3.6900 | 38.40 | 0.14 | 38.54 | 56.00 | -17.46 | QP | |
| 8 | | 3.6900 | 29.50 | 0.14 | 29.64 | 46.00 | -16.36 | AVG | |
| 9 | | 18.4420 | 41.70 | 0.54 | 42.24 | 60.00 | -17.76 | QP | |
| 10 | | 18.4420 | 31.90 | 0.54 | 32.44 | 50.00 | -17.56 | AVG | |
| 11 | | 21.5100 | 41.90 | 0.63 | 42.53 | 60.00 | -17.47 | QP | |
| 12 | | 21.5100 | 30.90 | 0.63 | 31.53 | 50.00 | -18.47 | AVG | |

| Operation Mode: | Config 2 MP3 | Test Date: | Dec. 30, 2014 |
|---|---|---|---|
| Tested By: | Eddy Cheng | Pol.: | N |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 1.8780 | 41.30 | 0.12 | 41.42 | 56.00 | -14.58 | QP | |
| 2 | | 1.8780 | 29.50 | 0.12 | 29.62 | 46.00 | -16.38 | AVG | |
| 3 | | 2.4100 | 40.90 | 0.14 | 41.04 | 56.00 | -14.96 | QP | |
| 4 | | 2.4100 | 30.20 | 0.14 | 30.34 | 46.00 | -15.66 | AVG | |
| 5 | | 2.7700 | 41.90 | 0.14 | 42.04 | 56.00 | -13.96 | QP | |
| 6 | | 2.7700 | 31.30 | 0.14 | 31.44 | 46.00 | -14.56 | AVG | |
| 7 | * | 2.9580 | 42.20 | 0.14 | 42.34 | 56.00 | -13.66 | QP | |
| 8 | | 2.9580 | 31.90 | 0.14 | 32.04 | 46.00 | -13.96 | AVG | |
| 9 | | 3.5580 | 42.00 | 0.15 | 42.15 | 56.00 | -13.85 | QP | |
| 10 | | 3.5580 | 31.30 | 0.15 | 31.45 | 46.00 | -14.55 | AVG | |
| 11 | | 3.9100 | 41.40 | 0.16 | 41.56 | 56.00 | -14.44 | QP | |
| 12 | | 3.9100 | 30.70 | 0.16 | 30.86 | 46.00 | -15.14 | AVG | |

## 2.5 Test of Radiated Emission

### 2.5.1 Test Instruments

#### Below 1GHz

| SGS 966 Chamber No. II | | | | | |
|---|---|---|---|---|---|
| **Name of Equipment** | **Manufacturer** | **Model** | **Serial Number** | **Calibration Date** | **Calibration Due** |
| EMI Test Receiver | R&S | ESCI 7 | 100760 | May 26, 2014 | May 25, 2015 |
| Biconical Antenna | Schwarzbeck | VHBB 9124 | 9124-560 | Feb. 10, 2014 | Feb. 09, 2015 |
| Log-Periodic Antenna | Schwarzbeck | UHALP 9108 A | UHALP 9108-A 0990 | Feb. 10, 2014 | Feb. 09, 2015 |
| Broadband Antenna | SCHWAZBECK | VULB9168 | VULB9168-298 | Nov. 04, 2014 | Nov. 03, 2015 |
| Pre-Amplifier | Agilent | 8447D | 1937A02774 | Mar. 27, 2014 | Mar. 26, 2015 |
| Coaxial Cable | Huber+Suhner | SUCCOFLEX 104PEA | N/A | Nov. 26, 2014 | Nov. 25, 2015 |
| Antenna Master | MF. | MF-7802 | N/A | N.C.R. | N.C.R. |
| Turn Table | MF. | N/A | N/A | N.C.R. | N.C.R. |
| Controller | MF. | 3000 | MF780208153 | N.C.R. | N.C.R. |
| Site NSA | Chamost | 966II Chamber | N/A | Dec. 21, 2014 | Dec. 20, 2015 |
| Test Software | Farad | EZ-EMC | Ver. SGS-03A2 | N.C.R. | N.C.R. |

## Above 1GHz

| SGS 966 Chamber No. II | | | | | |
|---|---|---|---|---|---|
| **Name of Equipment** | **Manufacturer** | **Model** | **Serial Number** | **Calibration Date** | **Calibration Due** |
| EMI Test Receiver | R&S | ESCI 7 | 100760 | May 26, 2014 | May 25, 2015 |
| Spectrum Analyzer | R&S | FSV 40 | 101385 | Aug. 01, 2014 | Jul. 31, 2015 |
| Horn Antenna | SCHWAZBECK | BBHA 9120D | BBHA9120D309 | Dec. 24, 2014 | Dec. 23, 2015 |
| Horn Antenna | SCHWAZBECK | BBHA 9170 | BBHA9170184 | Jan. 23, 2014 | Jan. 22, 2015 |
| Pre-Amplifier | EM Electronics Corp. | EM30180 | 06031802 | Jan. 24, 2014 | Jan. 23, 2015 |
| Pre Amplifier | EMC Instruments | EMC012645 | 980119 | Jun. 10, 2014 | Jun. 09, 2015 |
| Pre-Amplifier | EM Electronics Corp. | EM26400 | 971576 | Oct. 02, 2014 | Oct. 01, 2015 |
| Coaxial Cable | Huber+Suhner | SUCCOFLEX 104-02 | N/A | Nov. 26, 2014 | Nov. 25, 2015 |
| Coaxial Cable | Huber+Suhner | SUCCOFLEX 102 | 22962/2 | Nov. 26, 2014 | Nov. 25, 2015 |
| Coaxial Cable | Huber+Suhner | SUCCOFLEX 102 | 23051/2 | Nov. 26, 2014 | Nov. 25, 2015 |
| Coaxial Cable | Huber+Suhner | SUCOFLEX 102 | MY 2152/2 | Jun. 06, 2014 | Jun. 05, 2015 |
| Coaxial Cable | Huber+Suhner | SUCOFLEX 102 | MY 2153/2 | Jun. 06, 2014 | Jun. 05, 2015 |
| Antenna Master | MF. | N/A | N/A | N.C.R. | N.C.R. |
| Turn Table | MF. | N/A | N/A | N.C.R. | N.C.R. |
| Controller | MF. | 3000 | MF780208153 | N.C.R. | N.C.R. |
| Site VSWR | Chamost | 966II Chamber | N/A | Dec. 21, 2014 | Dec. 20, 2015 |
| Test Software | Farad | EZ-EMC | Ver. SGS-03A2 | N.C.R. | N.C.R. |

### 2.5.2 Test Site

SGS Taiwan LTD. Electronics & Communication Laboratory

No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803

### 2.5.3 Operating Environment

Temperature : 25 degree C Humidity : 58 %RH
Atmospheric Pressure : 996 mBar

### 2.5.4 Uncertainty of Radiated Emission

Expanded uncertainty (k=2) of radiated emission measurement is 5.09 dB. (30-1000MHz)
Expanded uncertainty (k=2) of radiated emission measurement is 5.04 dB. (1-6GHz)
Expanded uncertainty (k=2) of radiated emission measurement is 5.10 dB. (6-18GHz)
Expanded uncertainty (k=2) of radiated emission measurement is 5.12 dB. (18-26GHz)
Expanded uncertainty (k=2) of radiated emission measurement is 5.04 dB. (26-40GHz)

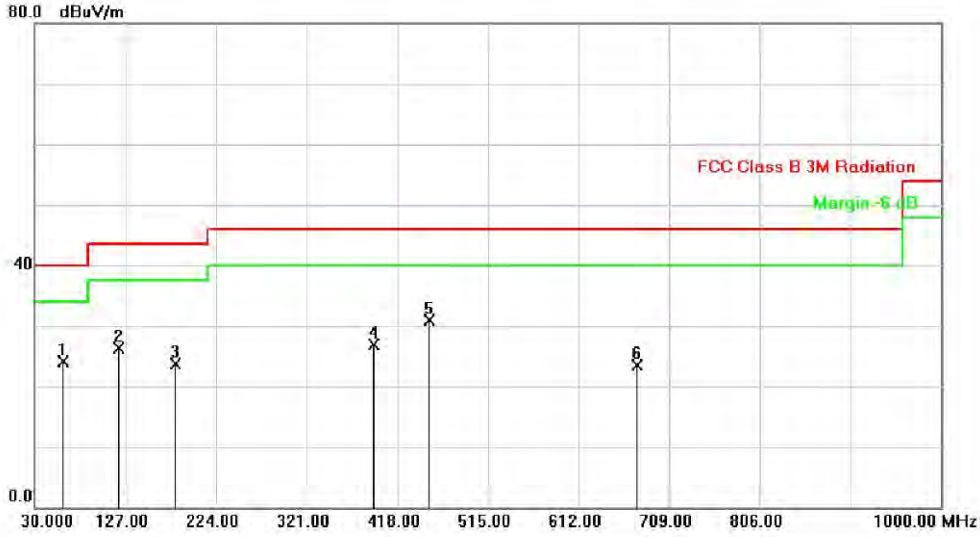
### 2.5.5 Measurement level and Factor calculate method

Correct Factor = Antenna Factor + Cable loss- Amplifier Gain
Measurement Level = Reading Level + Correct Factor
Over (Margin) = Measurement Level – Limit

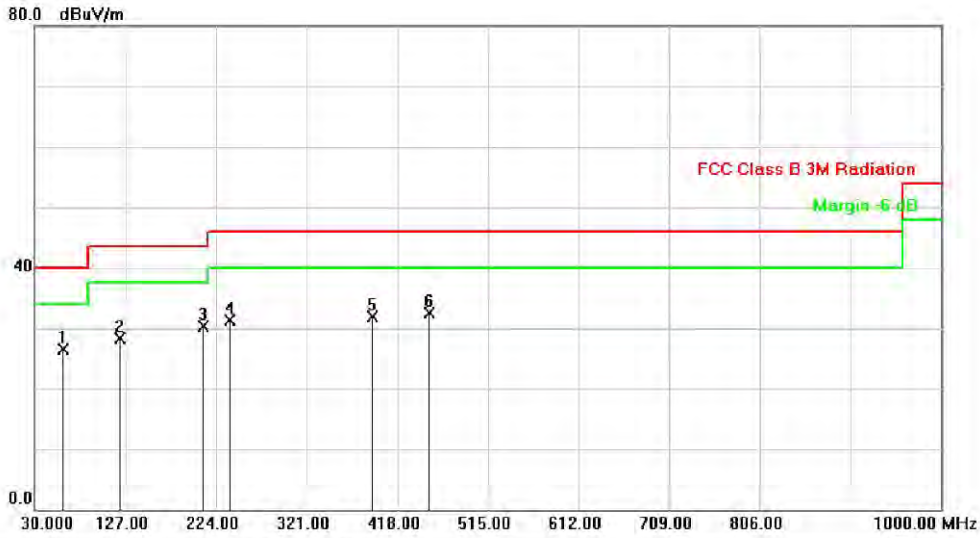
### 2.5.6 Measurement Data

**Below 1GHz**

| Operation Mode | Config 1 DATA Link (USB) | Test Date | Jan. 07, 2015 |
|---|---|---|---|
| Test by | Eddy Cheng | Pol | Ver. and Hor. |

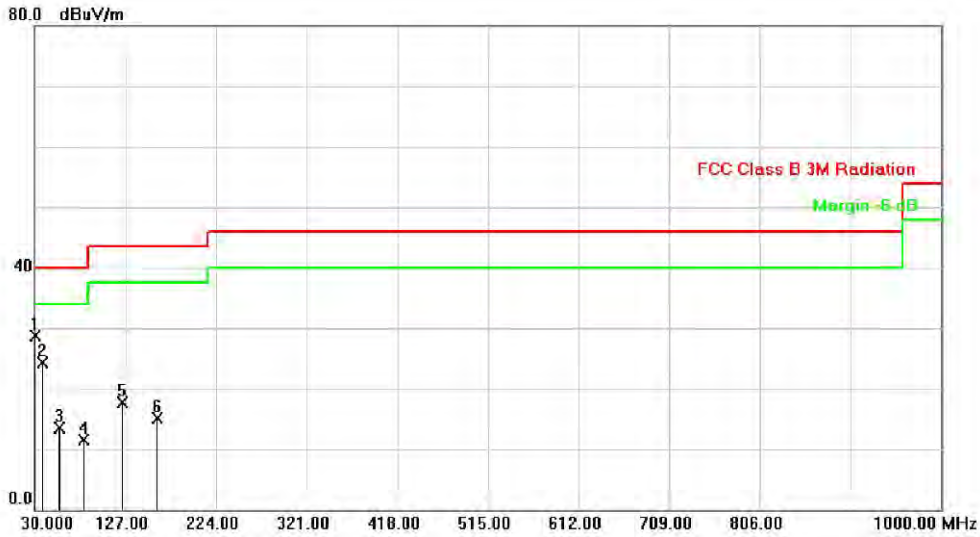



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 60.4520 | 37.29 | -13.13 | 24.16 | 40.00 | -15.84 | QP | |
| 2 | | 120.3100 | 40.87 | -14.57 | 26.30 | 43.50 | -17.20 | QP | |
| 3 | | 180.5150 | 37.95 | -14.18 | 23.77 | 43.50 | -19.73 | QP | |
| 4 | | 392.2770 | 36.28 | -9.32 | 26.96 | 46.00 | -19.04 | QP | |
| 5 | * | 452.2690 | 38.43 | -7.58 | 30.85 | 46.00 | -15.15 | QP | |
| 6 | | 675.2490 | 27.05 | -3.64 | 23.41 | 46.00 | -22.59 | QP | |

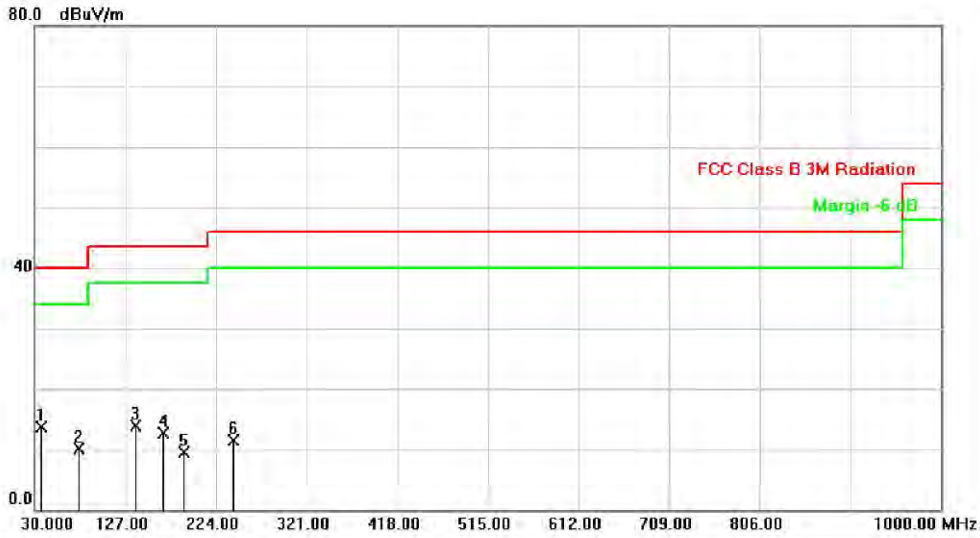



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 59.9320 | 39.61 | -13.04 | 26.57 | 40.00 | -13.43 | QP | |
| 2 | | 120.5660 | 42.92 | -14.54 | 28.38 | 43.50 | -15.12 | QP | |
| 3 | * | 210.1730 | 44.98 | -14.74 | 30.24 | 43.50 | -13.26 | QP | |
| 4 | | 239.2370 | 44.75 | -13.40 | 31.35 | 46.00 | -14.65 | QP | |
| 5 | | 392.0740 | 41.16 | -9.33 | 31.83 | 46.00 | -14.17 | QP | |
| 6 | | 452.1850 | 40.12 | -7.59 | 32.53 | 46.00 | -13.47 | QP | |

| Operation Mode | Config 2 Recording (Front) | Test Date | Jan. 07, 2015 |
|---|---|---|---|
| Test by | Eddy Cheng | Pol | Ver. and Hor. |



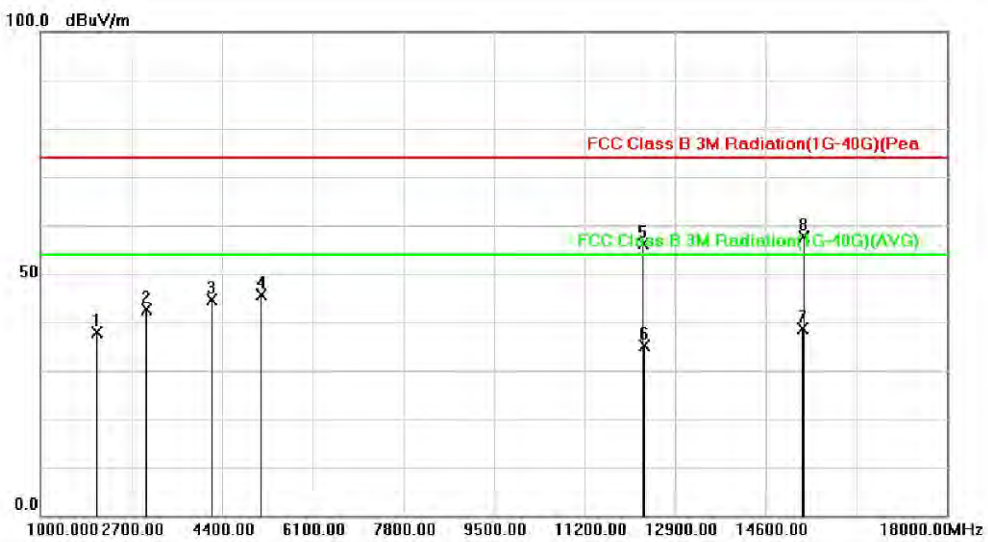

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 30.1820 | 42.04 | -13.34 | 28.70 | 40.00 | -11.30 | QP | |
| 2 | | 38.5120 | 37.08 | -12.74 | 24.34 | 40.00 | -15.66 | QP | |
| 3 | | 56.4870 | 26.19 | -12.70 | 13.49 | 40.00 | -26.51 | QP | |
| 4 | | 81.8830 | 28.52 | -16.97 | 11.55 | 40.00 | -28.45 | QP | |
| 5 | | 123.4410 | 31.91 | -14.17 | 17.74 | 43.50 | -25.76 | QP | |
| 6 | | 161.2440 | 27.11 | -11.95 | 15.16 | 43.50 | -28.34 | QP | |



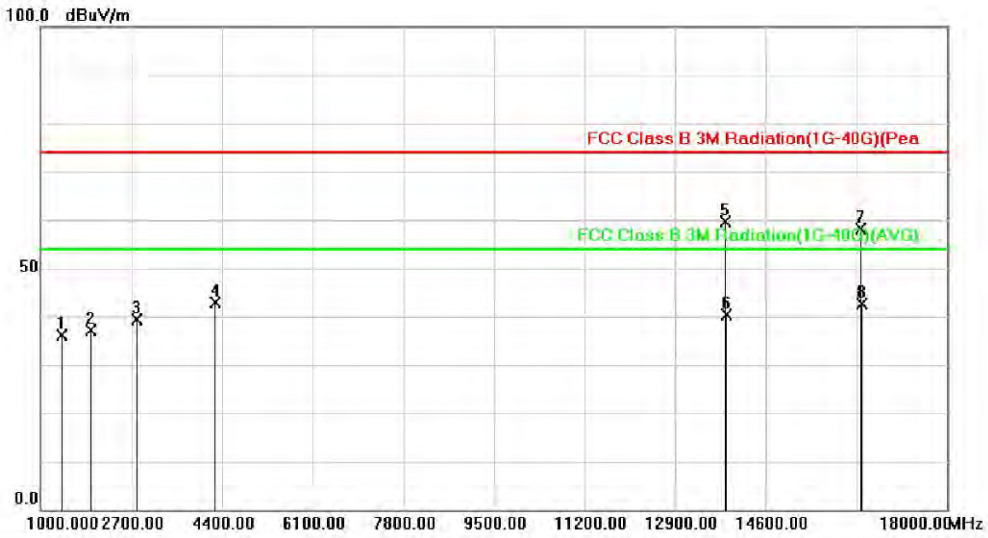

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 37.4510 | 26.51 | -12.85 | 13.66 | 40.00 | -26.34 | QP | |
| 2 | | 76.8110 | 26.04 | -15.99 | 10.05 | 40.00 | -29.95 | QP | |
| 3 | | 138.1350 | 26.52 | -12.60 | 13.92 | 43.50 | -29.58 | QP | |
| 4 | | 167.3710 | 25.03 | -12.24 | 12.79 | 43.50 | -30.71 | QP | |
| 5 | | 189.9420 | 24.66 | -15.23 | 9.43 | 43.50 | -34.07 | QP | |
| 6 | | 242.1990 | 24.83 | -13.27 | 11.56 | 46.00 | -34.44 | QP | |

## Above 1 – 18 GHz

| Operation Mode | Config 1 DATA Link (USB) | Test Date | Jan. 07, 2015 |
|---|---|---|---|
| Test by | Eddy Cheng | Pol | Ver. and Hor. |

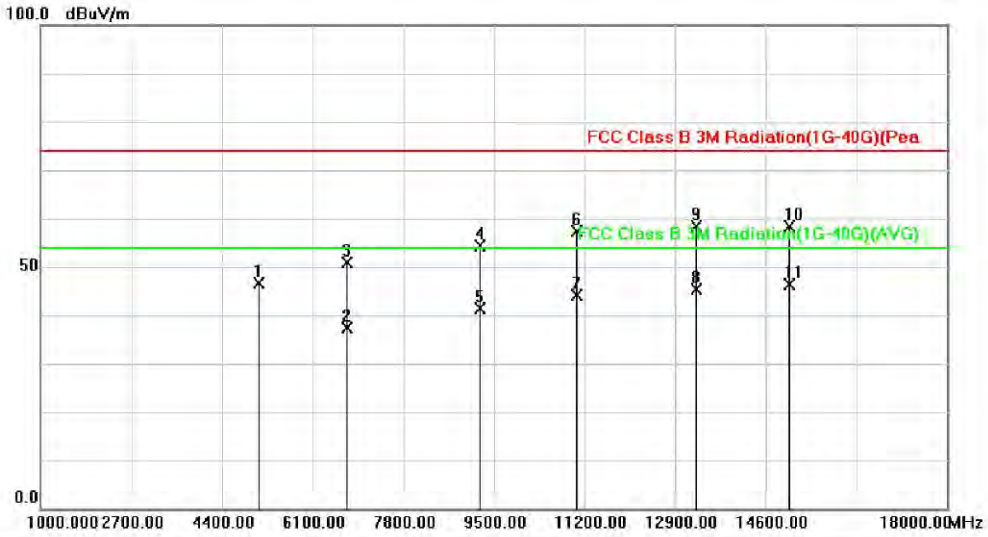



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 2054.000 | 56.32 | -18.35 | 37.97 | 74.00 | -36.03 | peak | |
| 2 | | 2972.000 | 57.27 | -14.60 | 42.67 | 74.00 | -31.33 | peak | |
| 3 | | 4196.000 | 56.91 | -12.39 | 44.52 | 74.00 | -29.48 | peak | |
| 4 | | 5131.000 | 55.89 | -10.37 | 45.52 | 74.00 | -28.48 | peak | |
| 5 | | 12305.000 | 5.27 | 50.87 | 56.14 | 74.00 | -17.86 | peak | |
| 6 | | 12327.000 | -15.83 | 50.85 | 35.02 | 54.00 | -18.98 | AVG | |
| 7 | * | 15288.000 | -14.28 | 52.92 | 38.64 | 54.00 | -15.36 | AVG | |
| 8 | | 15314.000 | 4.74 | 52.81 | 57.55 | 74.00 | -16.45 | peak | |

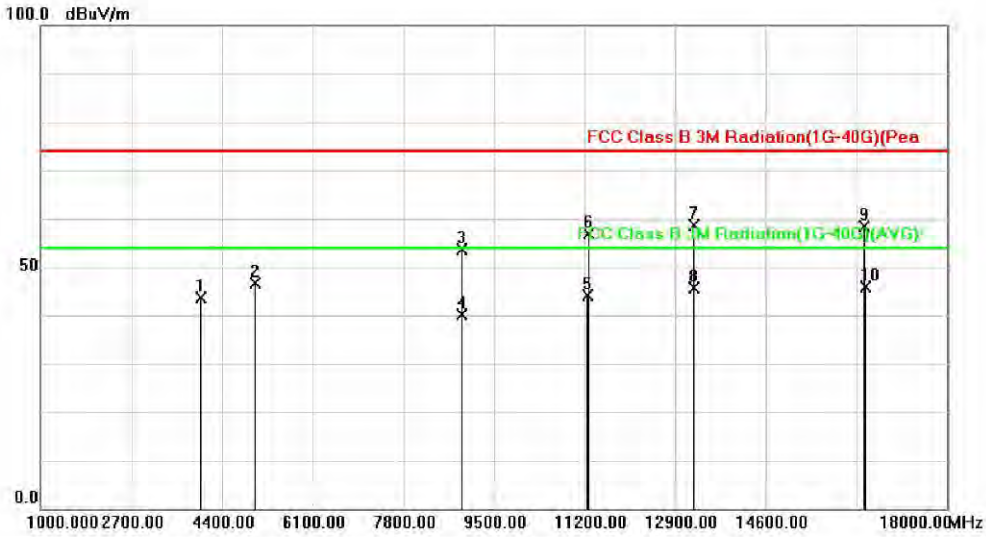



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 1391.000 | 56.25 | -20.04 | 36.21 | 74.00 | -37.79 | peak | |
| 2 | | 1935.000 | 55.85 | -18.74 | 37.11 | 74.00 | -36.89 | peak | |
| 3 | | 2802.000 | 54.44 | -15.17 | 39.27 | 74.00 | -34.73 | peak | |
| 4 | | 4281.000 | 55.16 | -12.17 | 42.99 | 74.00 | -31.01 | peak | |
| 5 | | 13835.000 | 5.27 | 54.25 | 59.52 | 74.00 | -14.48 | peak | |
| 6 | | 13862.000 | -14.01 | 54.30 | 40.29 | 54.00 | -13.71 | AVG | |
| 7 | | 16368.000 | 5.36 | 52.80 | 58.16 | 74.00 | -15.84 | peak | |
| 8 | * | 16392.000 | -10.36 | 52.90 | 42.54 | 54.00 | -11.46 | AVG | |

| Operation Mode | Config 2 Recording (Front) | Test Date | Jan. 07, 2015 |
|---|---|---|---|
| Test by | Eddy Cheng | Pol | Ver. and Hor. |



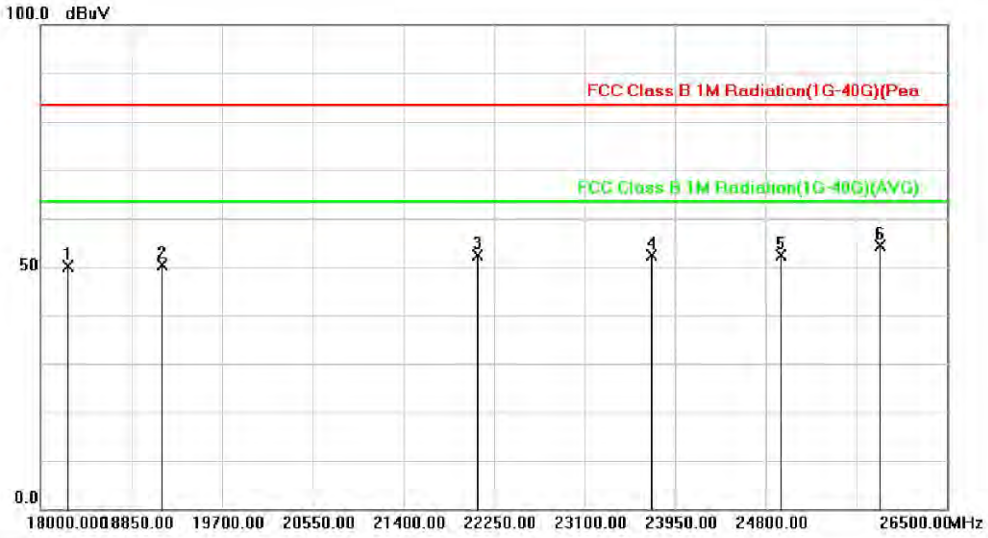

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 5080.000 | 55.72 | -9.03 | 46.69 | 74.00 | -27.31 | peak | |
| 2 | | 6745.520 | 41.85 | -4.39 | 37.46 | 54.00 | -16.54 | AVG | |
| 3 | | 6746.000 | 55.39 | -4.39 | 51.00 | 74.00 | -23.00 | peak | |
| 4 | | 9245.000 | 53.22 | 1.17 | 54.39 | 74.00 | -19.61 | peak | |
| 5 | | 9245.320 | 40.20 | 1.17 | 41.37 | 54.00 | -12.63 | AVG | |
| 6 | | 11047.000 | 53.15 | 4.17 | 57.32 | 74.00 | -16.68 | peak | |
| 7 | | 11051.700 | 39.92 | 4.16 | 44.08 | 54.00 | -9.92 | AVG | |
| 8 | | 13286.120 | -8.66 | 54.09 | 45.43 | 54.00 | -8.57 | AVG | |
| 9 | | 13291.000 | 4.17 | 54.11 | 58.28 | 74.00 | -15.72 | peak | |
| 10 | | 15042.000 | 2.95 | 55.40 | 58.35 | 74.00 | -15.65 | peak | |
| 11 | * | 15051.990 | -8.98 | 55.36 | 46.38 | 54.00 | -7.62 | AVG | |



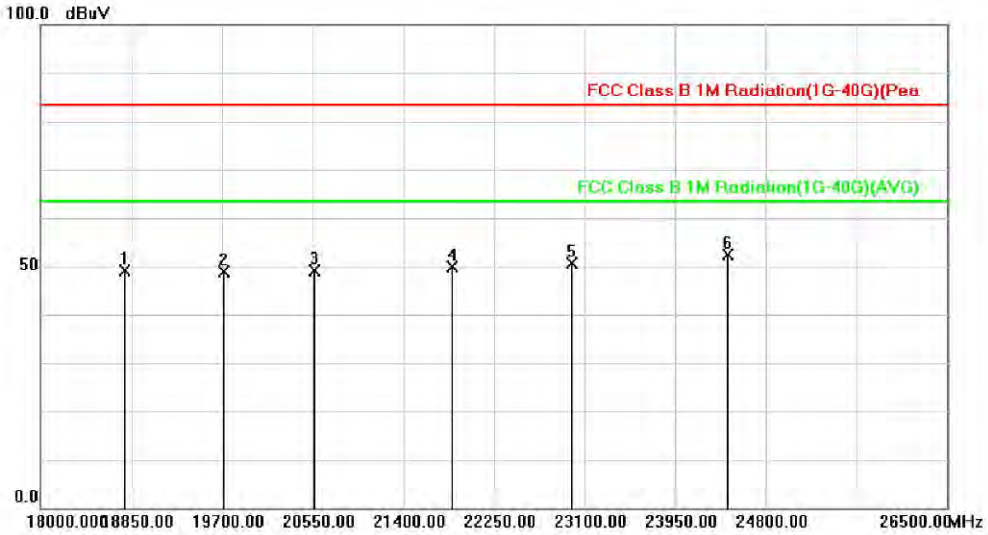

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 4009.000 | 55.02 | -11.33 | 43.69 | 74.00 | -30.31 | peak | |
| 2 | | 5012.000 | 55.81 | -9.11 | 46.70 | 74.00 | -27.30 | peak | |
| 3 | | 8888.000 | 53.32 | 0.31 | 53.63 | 74.00 | -20.37 | peak | |
| 4 | | 8895.910 | 39.80 | 0.32 | 40.12 | 54.00 | -13.88 | AVG | |
| 5 | | 11263.240 | -8.58 | 52.67 | 44.09 | 54.00 | -9.91 | AVG | |
| 6 | | 11268.000 | 4.24 | 52.68 | 56.92 | 74.00 | -17.08 | peak | |
| 7 | | 13240.000 | 4.57 | 53.96 | 58.53 | 74.00 | -15.47 | peak | |
| 8 | | 13240.240 | -8.41 | 53.96 | 45.55 | 54.00 | -8.45 | AVG | |
| 9 | | 16453.000 | 3.70 | 54.78 | 58.48 | 74.00 | -15.52 | peak | |
| 10 | * | 16462.910 | -8.87 | 54.82 | 45.95 | 54.00 | -8.05 | AVG | |

## Above 18 - 26.5 GHz

| Operation Mode | Config 1 DATA Link (USB) | Test Date | Jan. 07, 2015 |
|---|---|---|---|
| Test by | Eddy Cheng | Pol | Ver. and Hor. |

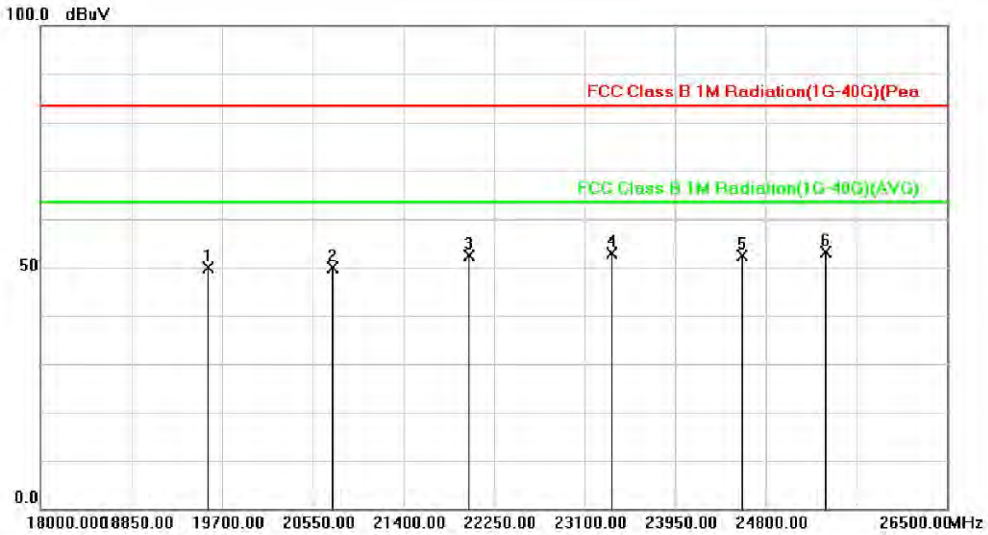



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 18255.000 | 62.95 | -12.81 | 50.14 | 83.50 | -33.36 | peak | |
| 2 | | 19139.000 | 61.93 | -11.63 | 50.30 | 83.50 | -33.20 | peak | |
| 3 | | 22097.000 | 63.69 | -11.25 | 52.44 | 83.50 | -31.06 | peak | |
| 4 | | 23729.000 | 63.04 | -10.78 | 52.26 | 83.50 | -31.24 | peak | |
| 5 | | 24936.000 | 61.88 | -9.57 | 52.31 | 83.50 | -31.19 | peak | |
| 6 | * | 25871.000 | 62.86 | -8.39 | 54.47 | 83.50 | -29.03 | peak | |

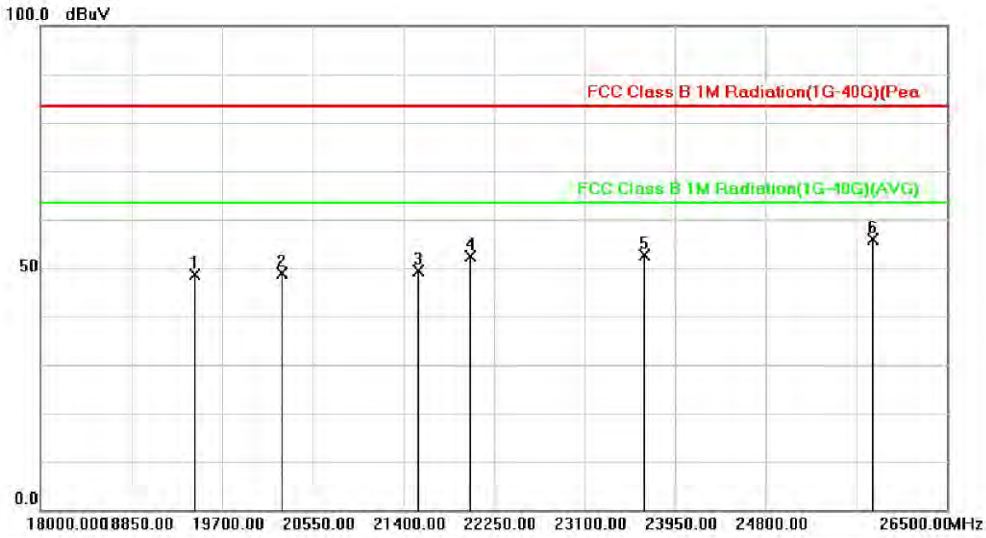



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 18782.000 | 61.18 | -12.07 | 49.11 | 83.50 | -34.39 | peak | |
| 2 | | 19717.000 | 60.80 | -12.01 | 48.79 | 83.50 | -34.71 | peak | |
| 3 | | 20567.000 | 61.24 | -12.06 | 49.18 | 83.50 | -34.32 | peak | |
| 4 | | 21859.000 | 61.20 | -11.29 | 49.91 | 83.50 | -33.59 | peak | |
| 5 | | 22981.000 | 61.57 | -10.82 | 50.75 | 83.50 | -32.75 | peak | |
| 6 | * | 24443.000 | 62.54 | -10.07 | 52.47 | 83.50 | -31.03 | peak | |

| Operation Mode | Config 2 Recording (Front) | Test Date | Jan. 07, 2015 |
|---|---|---|---|
| Test by | Eddy Cheng | Pol | Ver. and Hor. |



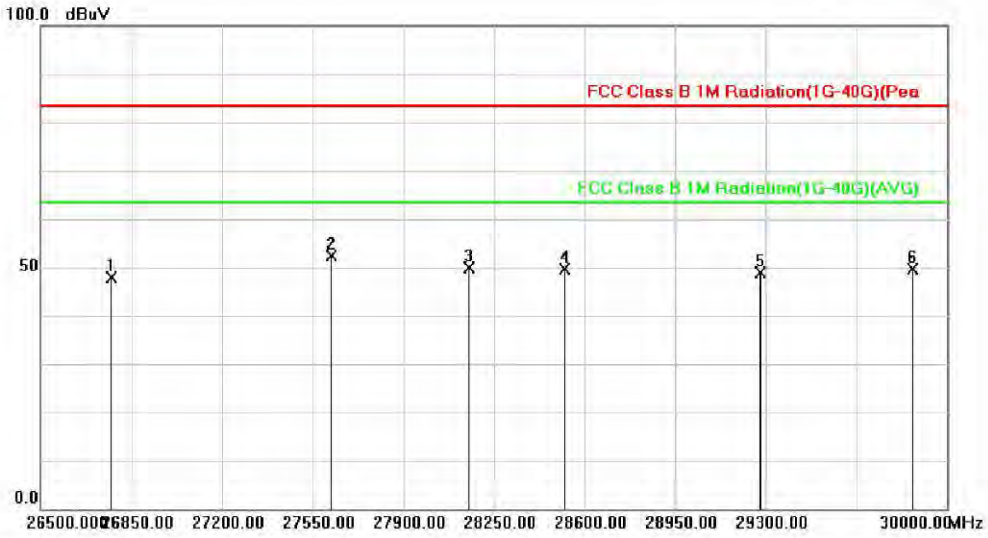

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 19564.000 | 61.36 | -11.47 | 49.89 | 83.50 | -33.61 | peak | |
| 2 | | 20737.000 | 61.88 | -11.94 | 49.94 | 83.50 | -33.56 | peak | |
| 3 | | 22012.000 | 63.53 | -11.23 | 52.30 | 83.50 | -31.20 | peak | |
| 4 | | 23355.000 | 63.31 | -10.53 | 52.78 | 83.50 | -30.72 | peak | |
| 5 | | 24579.000 | 62.26 | -9.86 | 52.40 | 83.50 | -31.10 | peak | |
| 6 | * | 25361.000 | 61.11 | -7.98 | 53.13 | 83.50 | -30.37 | peak | |



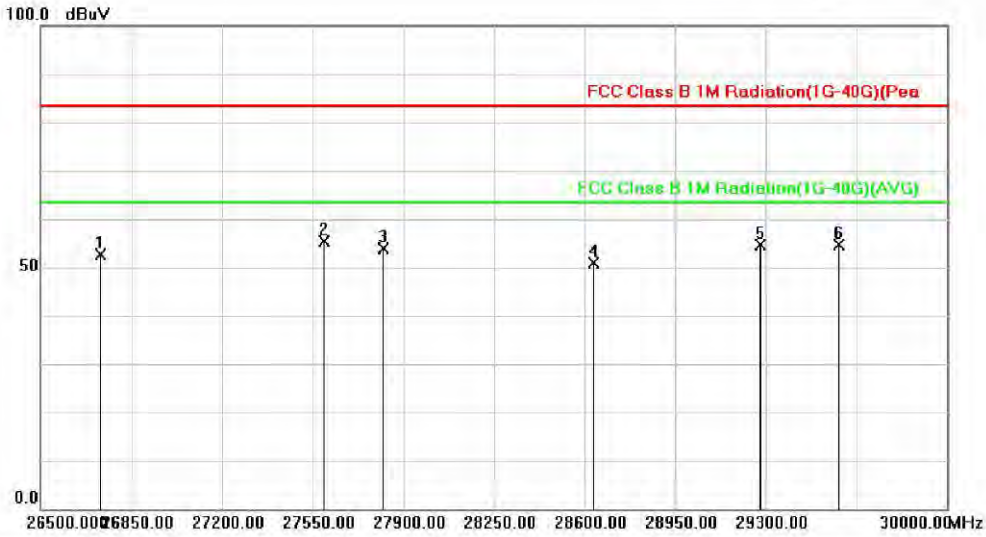

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 19445.000 | 59.96 | -11.30 | 48.66 | 83.50 | -34.84 | peak | |
| 2 | | 20261.000 | 61.52 | -12.55 | 48.97 | 83.50 | -34.53 | peak | |
| 3 | | 21536.000 | 60.93 | -11.43 | 49.50 | 83.50 | -34.00 | peak | |
| 4 | | 22029.000 | 63.56 | -11.24 | 52.32 | 83.50 | -31.18 | peak | |
| 5 | | 23661.000 | 63.22 | -10.67 | 52.55 | 83.50 | -30.95 | peak | |
| 6 | * | 25803.000 | 64.05 | -8.21 | 55.84 | 83.50 | -27.66 | peak | |

## Above 26.5 - 30 GHz

| Operation Mode | Config 1 DATA Link (USB) | Test Date | Jan. 07, 2015 |
|---|---|---|---|
| Test by | Eddy Cheng | Pol | Ver. and Hor. |

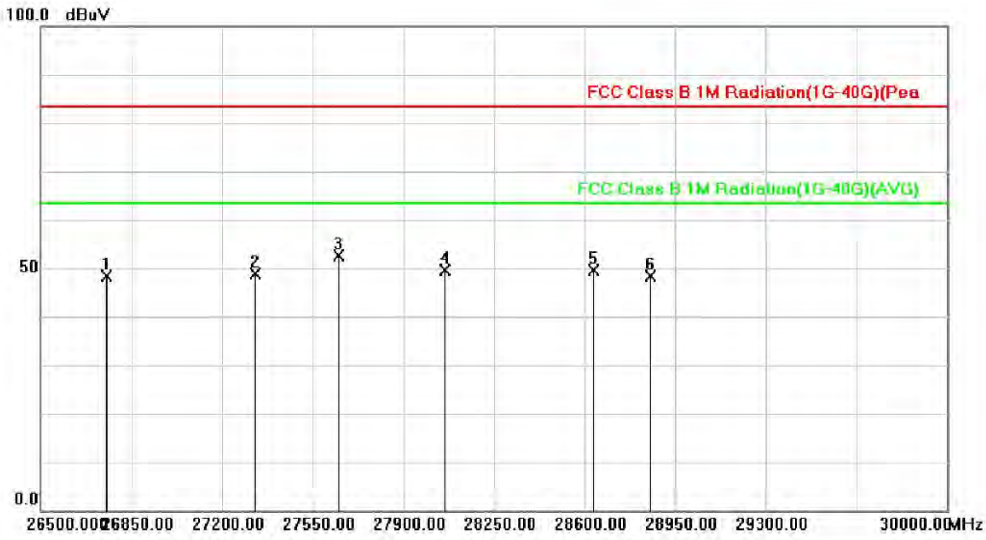



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 26773.000 | 57.81 | -9.87 | 47.94 | 83.50 | -35.56 | peak | |
| 2 | * | 27620.000 | 63.24 | -10.97 | 52.27 | 83.50 | -31.23 | peak | |
| 3 | | 28152.000 | 60.79 | -10.99 | 49.80 | 83.50 | -33.70 | peak | |
| 4 | | 28523.000 | 60.14 | -10.40 | 49.74 | 83.50 | -33.76 | peak | |
| 5 | | 29279.000 | 61.13 | -12.25 | 48.88 | 83.50 | -34.62 | peak | |
| 6 | | 29867.000 | 61.96 | -12.27 | 49.69 | 83.50 | -33.81 | peak | |

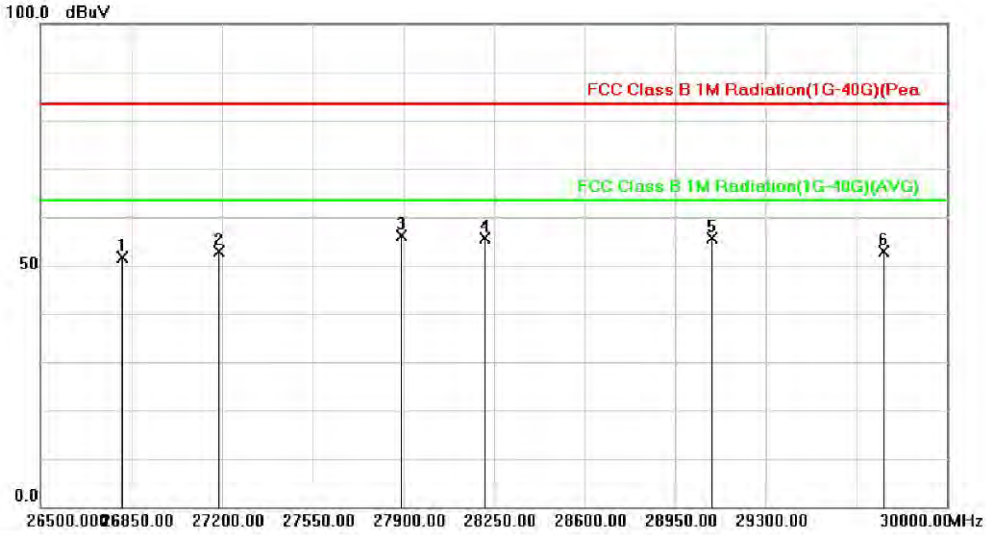



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 26731.000 | 62.37 | -9.83 | 52.54 | 83.50 | -30.96 | peak | |
| 2 | * | 27592.000 | 66.24 | -10.93 | 55.31 | 83.50 | -28.19 | peak | |
| 3 | | 27823.000 | 64.93 | -11.14 | 53.79 | 83.50 | -29.71 | peak | |
| 4 | | 28635.000 | 61.76 | -10.84 | 50.92 | 83.50 | -32.58 | peak | |
| 5 | | 29279.000 | 66.84 | -12.25 | 54.59 | 83.50 | -28.91 | peak | |
| 6 | | 29580.000 | 66.84 | -12.27 | 54.57 | 83.50 | -28.93 | peak | |

| Operation Mode | Config 2 Recording (Front) | Test Date | Jan. 07, 2015 |
|---|---|---|---|
| Test by | Eddy Cheng | Pol | Ver. and Hor. |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 26752.000 | 58.13 | -9.85 | 48.28 | 83.50 | -35.22 | peak | |
| 2 | | 27326.000 | 59.48 | -10.61 | 48.87 | 83.50 | -34.63 | peak | |
| 3 | * | 27648.000 | 63.58 | -10.99 | 52.59 | 83.50 | -30.91 | peak | |
| 4 | | 28061.000 | 60.79 | -11.17 | 49.62 | 83.50 | -33.88 | peak | |
| 5 | | 28635.000 | 60.37 | -10.84 | 49.53 | 83.50 | -33.97 | peak | |
| 6 | | 28852.000 | 60.08 | -11.67 | 48.41 | 83.50 | -35.09 | peak | |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 26815.000 | 61.52 | -9.92 | 51.60 | 83.50 | -31.90 | peak | |
| 2 | | 27186.000 | 63.38 | -10.40 | 52.98 | 83.50 | -30.52 | peak | |
| 3 | * | 27893.000 | 67.38 | -11.19 | 56.19 | 83.50 | -27.31 | peak | |
| 4 | | 28215.000 | 66.52 | -10.87 | 55.65 | 83.50 | -27.85 | peak | |
| 5 | | 29090.000 | 67.83 | -12.25 | 55.58 | 83.50 | -27.92 | peak | |
| 6 | | 29755.000 | 65.21 | -12.27 | 52.94 | 83.50 | -30.56 | peak | |

** End of Report **