# HFCC 47 CFR PART 15 Subpart B & Subpart C

# TEST REPORT

## For

## Misiu System LLC

## Wireless, Personal Security Alarm Systems--Auto Transmitter Unit

## Model Number: RGA-4102

## Trade Name: RealGuard

*Prepared for*

**Misiu System LLC**
**3808 209th Place SE Bothell, WA 98021**

*Prepared by*

**Compliance Certification Services Inc.**
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# 1. TEST RESULT CERTIFICATION

**Applicant:** Misiu System LLC
3808 209th Place SE Bothell, WA 98021

**Equipment Under Test:** Wireless, Personal Security Alarm Systems--Auto Transmitter Unit

**Trade Name:** RealGuard

**Model Number:** RGA-4102

**Date of Test:** April 25, 2004

| APPLICABLE STANDARDS | |
|---|---|
| **STANDARD** | **TEST RESULT** |
| FCC Part 15 Subpart B & Subpart C | No non-compliance noted |

## We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. 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 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements emission limits of FCC Rules Part 15.107, 15.109,15.207, 15.209 and 15.249.
The test results of this report relate only to the tested sample identified in this report.

*Approved by:*

Harris. W. Lai
Director of Linkou Laboratory
Compliance Certification Services Inc.

*Reviewed by:*

James Lee
Section Manager
Compliance Certification Services Inc.

# 2. EUT DESCRIPTION

| | |
|---|---|
| **Product** | Wireless, Personal Security Alarm Systems--Auto Transmitter Unit |
| **Trade Name** | RealGuard |
| **Model Number** | RGA-4102 |
| **Model Discrepancy** | N/A |
| **Power Supply** | Powered by car batteries (Rating: 12Vdc) |
| **Frequency Range** | 915 MHz |
| **Modulation Technique** | FM Modulation |
| **Antenna Gain** | -1.97dBi (Max) |
| **Antenna Designation** | Monopole Antenna |

***Note:*** *This submittal(s) (test report) is intended for FCC ID: QGP-RG4102-1 filing to comply with Section 15.107 & 15.109 (FCC Part 15, Subpart B) and Section 15.207, 15.209, 15.249 (FCC Part 15, Subpart C Rules.)*

# 3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4 and FCC CFR 47 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057, 15.207, 15.209 and 15.249.

## 3.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

## 3.2 EUT EXERCISE

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

According to its specifications, the EUT must comply with the requirements of the Section 15.107 and 15.109 under the FCC Rules Part 15 Subpart B and Section 15.207, 15.209,15.249 under the FCC Rules Part 15 Subpart C.

## 3.3 GENERAL TEST PROCEDURES

**Conducted Emissions**

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

**Radiated Emissions**

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements in Section 13.1.4.1 of ANSI C63.4.

## 3.4 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

| MHz | MHz | MHz | GHz |
|---|---|---|---|
| 0.090 - 0.110 | 16.42 - 16.423 | 399.9 - 410 | 4.5 - 5.15 |
| [1]0.495 - 0.505 | 16.69475 - 16.69525 | 608 - 614 | 5.35 - 5.46 |
| 2.1735 - 2.1905 | 16.80425 - 16.80475 | 960 - 1240 | 7.25 - 7.75 |
| 4.125 - 4.128 | 25.5 - 25.67 | 1300 - 1427 | 8.025 - 8.5 |
| 4.17725 - 4.17775 | 37.5 - 38.25 | 1435 - 1626.5 | 9.0 - 9.2 |
| 4.20725 - 4.20775 | 73 - 74.6 | 1645.5 - 1646.5 | 9.3 - 9.5 |
| 6.215 - 6.218 | 74.8 - 75.2 | 1660 - 1710 | 10.6 - 12.7 |
| 6.26775 - 6.26825 | 108 - 121.94 | 1718.8 - 1722.2 | 13.25 - 13.4 |
| 6.31175 - 6.31225 | 123 - 138 | 2200 - 2300 | 14.47 - 14.5 |
| 8.291 - 8.294 | 149.9 - 150.05 | 2310 - 2390 | 15.35 - 16.2 |
| 8.362 - 8.366 | 156.52475 - | 2483.5 - 2500 | 17.7 - 21.4 |
| 8.37625 - 8.38675 | 156.52525 | 2655 - 2900 | 22.01 - 23.12 |
| 8.41425 - 8.41475 | 156.7 - 156.9 | 3260 - 3267 | 23.6 - 24.0 |
| 12.29 - 12.293 | 162.0125 - 167.17 | 3332 - 3339 | 31.2 - 31.8 |
| 12.51975 - 12.52025 | 167.72 - 173.2 | 3345.8 - 3358 | 36.43 - 36.5 |
| 12.57675 - 12.57725 | 240 - 285 | 3600 - 4400 | ([2]) |
| 13.36 - 13.41 | 322 - 335.4 | | |

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

[2] Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

## 3.5 DESCRIPTION OF TEST MODES

The EUT has been tested under engineering test mode condition and the EUT staying in continuous transmitting mode.

# 4. INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

# 5. FACILITIES AND ACCREDITATIONS

## 5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at

☒ No. 81-1, Lane 210, Bade Rd. 2, Luchu Hsiang, Taoyuan Hsien, Taiwan, R.O.C.

☐ No. 199, Chunghsen Road, Hsintien City, Taipei Hsien, Taiwan, R.O.C.

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

## 5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, “Radio Interference Measuring Apparatus and Measurement Methods.”

## 5.3 LABORATORY ACCREDITATIONS AND LISTING

The test facilities used to perform radiated and conducted emissions tests are accredited by National Voluntary Laboratory Accreditation Program for the specific scope of accreditation under Lab Code: 200600-0 to perform Electromagnetic Interference tests according to FCC PART 15 AND CISPR 22 requirements. No part of this report may be used to claim or imply product endorsement by NVLAP or any agency of the US Government. In addition, the test facilities are listed with Federal Communications Commission (Registration no: 93105 and 90471).

## 5.4 TABLE OF ACCREDITATIONS AND LISTINGS

| Country | Agency | Scope of Accreditation | Logo |
|---|---|---|---|
| USA | NVLAP* | EN 55011, EN 55014-1, AS/NZS 1044, CNS 13783-1, EN 55022, CNS 13438, EN 61000-3-2, EN 61000-3-3, ANSI C63.4, FCC OST/MP-5, AS/NZS CISPR 22, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11 | NVLAP 200600-0 |
| USA | FCC | 3/10 meter Open Area Test Sites to perform FCC Part 15/18 measurements | FC 93105, 90471 |
| Japan | VCCI | 4 3/10 meter Open Area Test Sites to perform conducted/radiated measurements | VCCI R-393/1066/725/879 C-402/747/912 |
| Norway | NEMKO | EN 50081-1/2, EN 50082-1/2, IEC 61000-6-1/2, EN 50091-2, EN 50130-4, EN 55011, EN 55013, EN 55014-1/2, EN 55015, EN 55022, EN 55024, EN 61000-3-2/3, EN 61326-1, IEC 61000-4-2/3/4/5/6/8/11, EN 60601-1-2, EN 300 328-2, EN 300 422-2, EN 301 419-1, EN 301 489-01/03/07/08/09/17, EN 301 419-2/3, EN 300 454-2, EN 301 357-2 | N ELA 124a ELA 124b ELA 124c |
| Taiwan | CNLA | EN 300 328-1/2, EN 300 220-1/2/3, EN 300 440-1/2, EN 61000-3-2, EN 61000-3-3, 47 CFR FCC Part 15 Subpart C/D/E, EN 55013, CNS 13439, EN 55014-1, CNS 13783-1, EN 55022, CNS 13438, CISPR 22, AS/NZS 3548, EN 61000-4-2/3/4/5/6/8/11, ENV 50204, IEEE Std 1528, FCC OET Bulletin, 65+Supplement C, EN50360, EN50361, EN50371, RSS102 | CNLA 0363 ILAC MRA |
| Taiwan | BSMI | CNS 13438, CNS 13783-1, CNS 13439, CNS 14115 | 商檢 SL2-IS-E-0014 SL2-IN-E-0014 SL2-A1-E-0014 SL2-R1-E-0014 SL2-R2-E-0014 SL2-L1-E-0014 |
| Canada | Industry Canada | RSS212, Issue 1 | Canada IC 3991-3 IC 3991-4 |

** No part of this report may be used to claim or imply product endorsement by NVLAP or any agency of the US Government.*

# 6. SETUP OF EQUIPMENT UNDER TEST

## 6.1 SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

## 6.2 SUPPORT EQUIPMENT

| Device Type | Brand | Model | FCC ID | Series No. | Data Cable | Power Cord |
|---|---|---|---|---|---|---|
| N/A | N/A | N/A | N/A | N/A | N/A | N/A |

***Notes:***

1. *All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.*
2. *Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.*

# 7. FCC PART 15.249 REQUIREMENTS

## 7.1 SPURIOUS EMISSION

### 7.2.1 Radiated Emissions

**LIMIT**

1. In the section 15.249(a):
   Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

| Fundamental Frequency | Field Strength of Fundamental Field Strength (mV/m) | Field Strength of Harmonics (µV/m) |
|---|---|---|
| 902-928 MHz | 50 | 500 |
| 2400 - 2483.5 MHz | 50 | 500 |
| 5725 - 5875 MHz | 50 | 500 |
| 24.0 - 24.25 GHz | 250 | 2500 |

1. Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

| Frequency (MHz) | Field Strength (µV/m) | Measurement Distance (m) |
|---|---|---|
| 30-88 | 100* | 3 |
| 88-216 | 150* | 3 |
| 216-960 | 200* | 3 |
| Above 960 | 500 | 3 |

***Note:*** *Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.*

2. In the above emission table, the tighter limit applies at the band edges.

| Frequency (Hz) | Field Strength (µV/m at 3-meter) | Field Strength (dBµV/m at 3-meter) |
|---|---|---|
| 30-88 | 100 | 40 |
| 88-216 | 150 | 43.5 |
| 216-960 | 200 | 46 |
| Above 960 | 500 | 54 |

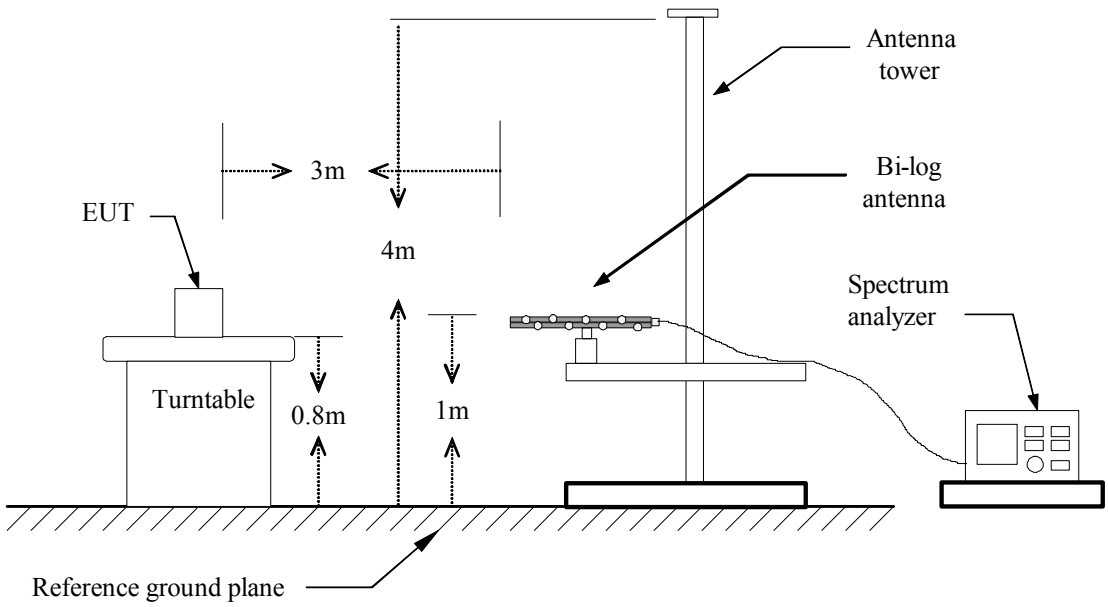
# MEASUREMENT EQUIPMENT USED

| Open Area Test Site # 3 | | | | |
|---|---|---|---|---|
| **Name of Equipment** | **Manufacturer** | **Model** | **Serial Number** | **Calibration Due** |
| Spectrum Analyzer | ADVANTEST | R3261A | N/A | N.C.R |
| EMI Test Receiver | R&S | ESVS20 | 838804/004 | 01/08/2005 |
| Pre-Amplifier | HP | 8447D | 2944A09173 | 03/02/2005 |
| Bilog Antenna | SCHWAZBECK | VULB9163 | 145 | 12/26/2004 |
| Turn Table | EMCO | 2081-1.21 | 9709-1885 | N.C.R |
| Antenna Tower | EMCO | 2075-2 | 9707-2060 | N.C.R |
| Controller | EMCO | 2090 | 9709-1256 | N.C.R |
| RF Switch | ANRITSU | MP59B | M53867 | N.C.R |
| Site NSA | C&C | N/A | N/A | 09/05/2004 |
| Horn antenna | Schwarzbeck | BBHA 9120 | D210 | 02/23/2005 |
| Loop Antenna | EMCO | 6502 | 2356 | 07/10/2004 |
| Pre-Amplifier | HP | 8449B | 3008B00965 | 10/02/2004 |

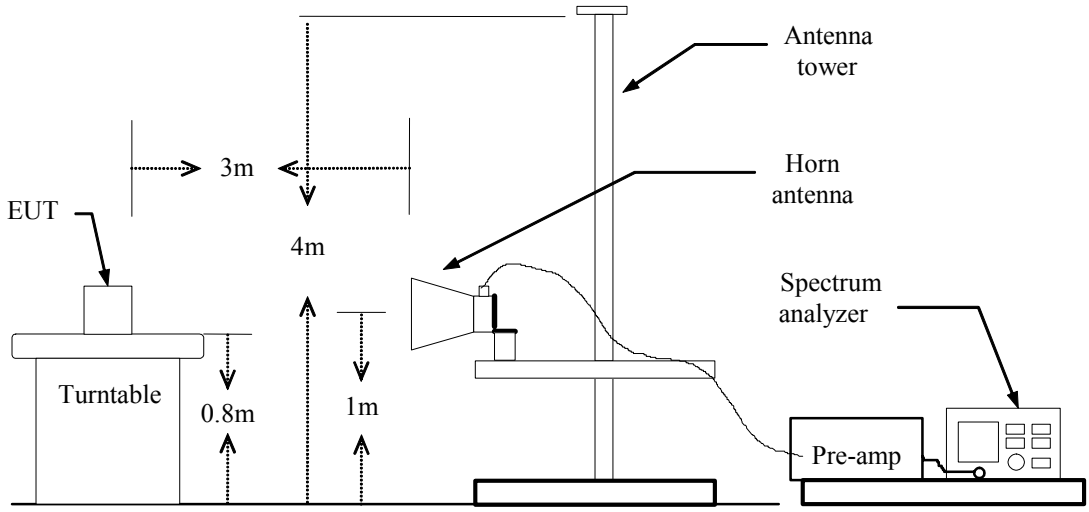
***Remark:*** *Each piece of equipment is scheduled for calibration once a year.*

## Test Configuration

**Below 1 GHz**



**Above 1 GHz**




## TEST PROCEDURE

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.

# TEST RESULTS

## Below 1 GHz

**Operation Mode:** Auto Unit TX **Test Date:** April 25, 2004

**Temperature:** 25°C **Tested by:** Max Yan

**Humidity:** 68% RH **Polarity:** Ver. / Hor.

| Freq. (MHz) | Ant.Pol. H/V | Detector Mode (PK/QP) | Reading (dBuV) | Factor (dB) | Actual FS (dBuV/m) | Limit 3m (dBuV/m) | Safe Margin (dB) |
|---|---|---|---|---|---|---|---|
| 914.56 | V | QP | 50.56 | 28.36 | 78.92 | 94.00 | -15.08 |
| 57.00 | V | Peak | 12.37 | 14.06 | 26.43 | 40.00 | -13.57 |
| 136.50 | V | Peak | 3.77 | 10.99 | 14.76 | 43.50 | -28.74 |
| 140.25 | V | Peak | 2.12 | 10.88 | 13.00 | 43.50 | -30.50 |
| 310.50 | V | Peak | 2.04 | 16.96 | 19.00 | 46.00 | -27.00 |
| 903.17 | V | Peak | 6.07 | 28.19 | 34.26 | 46.00 | -11.74 |
| N/A | | | | | | | |
| 913.67 | H | QP | 53.68 | 28.34 | 82.02 | 94.00 | -11.98 |
| 57.45 | H | Peak | 3.87 | 13.97 | 17.84 | 40.00 | -22.16 |
| 158.70 | H | Peak | 19.64 | 11.35 | 30.99 | 43.50 | -12.51 |
| 237.90 | H | Peak | 13.87 | 15.83 | 29.70 | 46.00 | -16.30 |
| 294.60 | H | Peak | 11.68 | 16.47 | 28.15 | 46.00 | -17.85 |
| 903.17 | H | Peak | 5.74 | 28.19 | 33.93 | 46.00 | -12.07 |
| N/A | | | | | | | |

***Notes:***

1. *Measuring frequencies from 30 MHz to the 1GHz.*
2. *Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak detector mode.*
3. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
4. *The IF bandwidth of SPA between 30MHz to 1GHz was 100kHz.*

**Operation Mode:** Auto Unit RX **Test Date:** April 25, 2004

**Temperature:** 25°C **Tested by:** Max Yan

**Humidity:** 68% RH **Polarity:** Ver. / Hor.

| Freq. (MHz) | Ant.Pol. H/V | Detector Mode (PK/QP) | Reading (dBuV) | Factor (dB) | Actual FS (dBuV/m) | Limit 3m (dBuV/m) | Safe Margin (dB) |
|---|---|---|---|---|---|---|---|
| 71.85 | V | Peak | 4.82 | 10.02 | 14.84 | 40.00 | -25.16 |
| 86.25 | V | Peak | 4.48 | 11.12 | 15.60 | 40.00 | -24.40 |
| 903.17 | V | Peak | 7.41 | 28.19 | 35.60 | 46.00 | -10.40 |
| N/A | | | | | | | |
| N/A | | | | | | | |
| N/A | | | | | | | |
| 57.45 | H | Peak | 5.37 | 13.97 | 19.34 | 40.00 | -20.66 |
| 86.25 | H | Peak | 1.15 | 11.12 | 12.27 | 40.00 | -27.73 |
| 903.17 | H | Peak | 8.07 | 28.19 | 36.26 | 46.00 | -9.74 |
| N/A | | | | | | | |
| N/A | | | | | | | |
| N/A | | | | | | | |

***Notes:***

1. *Measuring frequencies from 30 MHz to the 1GHz.*
2. *Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak detector mode.*
3. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
4. *The IF bandwidth of SPA between 30MHz to 1GHz was 100kHz.*

**Above 1 GHz**

**Operation Mode:** Auto Unit TX **Test Date:** April 25, 2004

**Temperature:** 25°C **Tested by:** Max Yan

**Humidity:** 68% RH **Polarity:** Ver. / Hor.

| Freq. (MHz) | Ant. Pol H/V | Peak Reading (dBuV) | AV Reading (dBuV) | Ant. / CL CF (dB) | Actual Fs | | Peak Limit (dBuV/m) | AV Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Peak (dBuV/m) | AV (dBuV/m) | | | | |
| 1826.67 | V | 50.00 | --- | -5.56 | 44.44 | --- | 74.00 | 54.00 | -9.56 | Peak |
| 2740.00 | V | 47.34 | --- | -2.13 | 45.21 | --- | 74.00 | 54.00 | -8.79 | Peak |
| N/A | | | | | | | | | | |
| N/A | | | | | | | | | | |
| N/A | | | | | | | | | | |
| N/A | | | | | | | | | | |
| | | | | | | | | | | |
| 1826.67 | H | 50.84 | --- | -5.56 | 45.28 | --- | 74.00 | 54.00 | -8.72 | Peak |
| 2740.00 | H | 46.17 | --- | -2.13 | 44.04 | --- | 74.00 | 54.00 | -9.96 | Peak |
| N/A | | | | | | | | | | |
| N/A | | | | | | | | | | |
| N/A | | | | | | | | | | |
| N/A | | | | | | | | | | |

***Notes:***

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
3. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.*
4. *Spectrum setting:*
   a. *Peak Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 1MHz, Sweep time = 200 ms.*
   b. *AV Setting 1GH z- 26GHz, RBW = 1MHz, VBW = 10Hz, Sweep time = 200 ms.*

**Operation Mode:** Auto Unit RX **Test Date:** April 25, 2004

**Temperature:** 25°C **Tested by:** Max Yan

**Humidity:** 68% RH **Polarity:** Ver. / Hor.

| Freq. (MHz) | Ant. Pol H/V | Peak Reading (dBuV) | AV Reading (dBuV) | Ant. / CL CF (dB) | Actual Fs | | Peak Limit (dBuV/m) | AV Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Peak (dBuV/m) | AV (dBuV/m) | | | | |
| 1806.67 | V | 46.50 | --- | -5.69 | 40.81 | --- | 74.00 | 54.00 | -13.19 | Peak |
| N/A | | | | | | | | | | |
| N/A | | | | | | | | | | |
| N/A | | | | | | | | | | |
| N/A | | | | | | | | | | |
| N/A | | | | | | | | | | |
| | | | | | | | | | | |
| 1806.67 | H | 49.67 | --- | -5.69 | 43.98 | --- | 74.00 | 54.00 | -10.02 | Peak |
| N/A | | | | | | | | | | |
| N/A | | | | | | | | | | |
| N/A | | | | | | | | | | |
| N/A | | | | | | | | | | |
| N/A | | | | | | | | | | |

***Notes:***

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
3. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.*
4. *Spectrum setting:*
   a. *Peak Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 1MHz, Sweep time = 200 ms.*
   b. *AV Setting 1GH z- 26GHz, RBW = 1MHz, VBW = 10Hz, Sweep time = 200 ms.*

## 7.2 POWERLINE CONDUCTED EMISSIONS

### LIMIT

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

| Frequency Range (MHz) | Limits (dBµV) | |
|---|---|---|
| | Quasi-peak | Average |
| 0.15 to 0.50 | 66 to 56 | 56 to 46 |
| 0.50 to 5 | 56 | 46 |
| 5 to 30 | 60 | 50 |

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

### MEASUREMENT EQUIPMENT USED

| Name of Equipment | Manufacturer | Model | Serial Number | Calibration Due |
|---|---|---|---|---|
| EMI Test Receiver | R&S | ESCS30 | 845552/030 | 03/14/2005 |
| LISN | R&S | ESH2-Z5 | 843285/010 | 01/08/2005 |
| LISN | EMCO | 3825/2 | 9003-1628 | 07/27/2004 |
| Spectrum Analyzer | ADVANTEST | R3261C | 81720301 | N.C.R |
| ISN | FCC | FCC-TLISN-T4 | 20065 | 05/08/2005 |
| ISN | FCC | FCC-TLISN-T8-02 | 20148 | 02/06/2005 |

***Remark:*** *Each piece of equipment is scheduled for calibration once a year.*

**Test Configuration**

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

### TEST PROCEDURE

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.

### TEST RESULTS

Not Applicable