

TEST REPORT

Report Number: HK11110773-2

Application
for
Original Grant of 47 CFR Part 15 Certification
New Family of RSS-210 Issue 8 Equipment Certification

1.9GHz Digital Modulation Cordless Phone with Caller ID, Digital Answering
Machine and Bluetooth - Base Unit Bluetooth Portion

FCC ID: VLJ80-8619-00

IC: 4522A-80861900

Prepared and Checked by:

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January 27, 2012

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GENERAL INFORMATION

| | |
|------------------------------------|--|
| Applicant Name: | Binatone Electronics International Limited |
| Applicant Address: | Floor 23A, 9 Des Voeux Road West, Sheung Wan, Hong Kong. |
| FCC Specification Standard: | FCC Part 15, October 1, 2010 Edition |
| FCC ID: | VLJ80-8619-00 |
| FCC Model(s): | L702BT, L701BT, L703BT, L704BT, L705BT, L70XBT |
| IC Specification Standard: | RSS-210 Issue 8, December 2010 RSS-Gen Issue 3, December 2010 RSS-102 Issue 4, March 2010 RSS-310 Issue 3, December 2010 |
| IC: | 4522A-80861900 |
| IC Model(s): | L702BT, L701BT, L703BT, L704BT, L705BT |
| Type of EUT: | Transceiver |
| Description of EUT: | 1.9GHz Digital Modulation Cordless Phone with Caller ID, Digital Answering Machine and Bluetooth - Base Unit Bluetooth Portion |
| Serial Number: | N/A |
| Sample Receipt Date: | November 17, 2011 |
| Date of Test: | November 23 – December 02, 2011 |
| Report Date: | January 27, 2012 |
| Environmental Conditions: | Temperature: +10 to 40°C Humidity: 10 to 90% |

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Table of Contents

| | |
|---|-----------|
| 1.0 Test Results Summary & Statement of Compliance | 4 |
| 1.1 Summary of Test Results | 4 |
| 1.2 Statement of Compliance | 4 |
| 2.0 General Description | 6 |
| 2.1 Product Description | 6 |
| 2.2 Test Methodology | 7 |
| 2.3 Test Facility | 7 |
| 3.0 System Test Configuration | 9 |
| 3.1 Justification | 9 |
| 3.2 EUT Exercising Software | 10 |
| 3.3 Details of EUT and Description of Accessories | 11 |
| 3.4 Measurement Uncertainty | 11 |
| 4.0 Test Results | 13 |
| 4.1 Field Strength Calculation | 13 |
| 4.2 Radiated Emissions | 14 |
| 4.2.1 Radiated Emission Configuration Photograph | 14 |
| 4.2.2 Radiated Emission Data | 14 |
| 4.2.3 Transmitter Duty Cycle Calculation | 15 |
| 4.3 Radiated Emissions from Receiver | 24 |
| 4.3.1 Radiated Emission Configuration Photograph | 24 |
| 4.3.2 Radiated Emission Data | 24 |
| 4.4 Radiated Emission on the Bandedge | 27 |
| 4.5 AC Power Line Conducted Emission | 29 |
| 4.5.1 AC Power Line Conducted Emission Configuration Photograph | 29 |
| 4.5.2 AC Power Line Conducted Emission Data | 29 |
| 4.6 Radio Frequency Exposure Compliance | 32 |
| 5.0 Equipment List | 34 |

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EXHIBIT 1 TEST RESULTS SUMMARY & STATEMENT OF COMPLIANCE

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1.0 Test Results Summary & Statement of Compliance

1.1 Summary of Test Results

| Test Items | FCC Part 15 Section | RSS-210/ RSS-Gen [#] / RSS-310 [^] Section | Results | Details see section |
|---------------------------------------|-----------------------|---|---------|---------------------------|
| Antenna Requirement | 15.203 | 7.1.2 [#] | Pass | 2.1 |
| Radiated Emission | 15.249(a), 209, & 109 | A2.9(a) | Pass | 4.2 |
| Radiated Emission on the Bandedge | 15.249(d) | A2.9(b) | Pass | 4.4 |
| Radiated Emission in Restricted Bands | 15.205 | 2.2 | Pass | 4.2 |
| Radiated Emission from Receiver | N/A | 2.3 | Pass | 4.3 |
| AC Power Line Conducted Emission | 15.207 & 15.107 | 7.2.4 [#] | Pass | 4.5 |
| Radio Frequency Exposure Compliance | N/A | RSS-102 | Pass | 4.6 |

Note: Pursuant to FCC Part 15 Section 15.215(c), the 20dB bandwidth of the emission was contained within the frequency band designated (mentioned as above) which the EUT operated. The effects, if any, from frequency sweeping, frequency hopping, other modulation techniques and frequency stability over expected variations in temperature and supply voltage were considered.

1.2 Statement of Compliance

The equipment under test is found to be complying with the following standards:

FCC Part 15, October 1, 2010 Edition
RSS-210 Issue 8, December 2010
RSS-Gen Issue 3, December 2010
RSS-102 Issue 4, March 2010
RSS-310 Issue 3, December 2010

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EXHIBIT 2 GENERAL DESCRIPTION

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2.0 General Description

2.1 Product Description

The Model: L702BT is a 1.9GHz Digital Modulation Cordless Phone with Caller ID, Digital Answering Machine and Bluetooth – Base Unit Bluetooth Portion. Only Base Unit has Bluetooth feature, and it operates at frequency range of 2402MHz to 2480MHz with 79 channels. Base Unit is powered by an adaptor 100-120VAC to 6VDC 400mA. With Bluetooth and 1.9GHz wireless communications enabled, the Base Unit allows users to use a cordless handset to dial out or receive Bluetooth-equipped cellular phone calls via the cellular network. Only one cellular phone can be on a call at time.

The Bluetooth antenna used in Base Unit is integral, and the test sample is a prototype.

For FCC, the Model(s): L701BT, L703BT, L704BT, L705BT and L70XBT are the same as the Model: L702BT in electronics/electrical designs, including software & firmware, PCB layout and construction design/Physical design/Enclosure. The only differences between these models are model number and package configuration to be sold for marketing purpose. Suffix (X) indicates different number of handsets.

For IC, the Model(s): L701BT, L703BT, L704BT and L705BT are the same as the Model: L702BT in electronics/electrical designs, including software & firmware, PCB layout and construction design/Physical design/Enclosure. The only differences between these models are model number and package configuration to be sold for marketing purpose.

The circuit description is saved with filename: descri.pdf.

Connection between the device and the telephone network is accomplished through the use of USOC RJ11C in the 2-wire loop calling central office line.

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2.2 Test Methodology

Both AC power line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2003). Preliminary radiated scans and all radiated measurements were performed in Open Area Test Sites. All Radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "**Justification Section**" of this Application.

2.3 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data and conducted data are at Roof Top and 2nd Floor respectively of Intertek Testing Services Hong Kong Ltd., which is located at Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong. This test facility and site measurement data have been fully placed on file with the FCC and the Industry Canada.

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EXHIBIT 3 SYSTEM TEST CONFIGURATION

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3.0 **System Test Configuration**

3.1 Justification

For radiated emissions testing, the equipment under test (EUT) was setup to transmit continuously / receive continuously / normal mode to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, all cables (if any) were manipulated to produce worst case emissions.

Base Unit was powered by a 100-120VAC to 6VDC 400mA adaptor.

For the measurements, the EUT was attached to a plastic stand if necessary and placed on the wooden turntable. If the base unit attached to peripherals, they were connected and operational to simulate typical use. The handset was remotely located as far from the antenna and the base as possible to ensure full power transmission from the base. Else, the base was wired to transmit full power.

The signal was maximized through rotation and placement in the three orthogonal axes. The antenna height and polarization were varied during the search for maximum signal level. The antenna height was varied from 1 to 4 meters. Radiated emissions were taken at three meters unless the signal level was too low for measurement at that distance. If necessary, a pre-amplifier was used and/or the test was conducted at a closer distance.

For any intentional radiator powered by AC power line, measurements of the radiated signal level of the fundamental frequency component of the emission was performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage.

For transmitter radiated measurement, the spectrum analyzer resolution bandwidth was 100 kHz for frequencies below 1000 MHz. The resolution bandwidth was 1 MHz for frequencies above 1000 MHz.

For receiver radiated measurement, the spectrum analyzer resolution bandwidth was 1MHz for measurement above 1GHz while 100kHz for measurement from 30MHz to 1GHz.

Radiated emission measurement for transmitter was performed from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower. Radiated emission measurement for receiver was performed from 30MHz to the fifth harmonic of the highest frequency or 40GHz, whichever is lower.

Emission that are directly caused by digital circuits in the transmit path and transmitter portion were measured, and the limit are according to FCC Part 15 Section 15.209. Digital circuitry used to control additional functions other than the operation of the transmitter are subject to FCC Part 15 Section 15.109 Limits.

The DECT module was put into transmission mode when taking radiated emission data for determining worst-case spurious emission.

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3.1 Justification - Cont'd

Detector function for radiated emissions is in peak mode. Average readings, when required, are taken by measuring the duty cycle of the equipment under test and subtracting the corresponding amount in dB from the measured peak readings. A detailed description for the calculation of the average factor can be found in section 4.2.3.

Determination of pulse desensitization was made according to *Hewlett Packard Application Note 150-2, Spectrum Analysis... Pulsed RF*. The effective period (T_{eff}) was 625 μ s. With the resolution bandwidth 1MHz and spectrum analyzer IF bandwidth 3dB, the pulse desensitization factor was 0dB.

For AC line conducted emission test, the EUT along with its peripherals were placed on a 1.0m(W)x1.5m(L) and 0.8m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane. The EUT was connected to power mains through a line impedance stabilization network (LISN), which provided 50ohm coupling impedance for measuring instrument. The LISN housing, measuring instrument case, reference ground plane, and vertical ground plane were bounded together. The excess power cable between the EUT and the LISN was bundled.

All connecting cables of EUT and peripherals were manipulated to find the maximum emission.

All relevant operation modes have been tested, and the worst case data is included in this report.

3.2 EUT Exercising Software

The EUT exercise program used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use.

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3.3 Details of EUT and Description of Accessories

Details of EUT:

An AC adaptor (provided with the unit) was used to power the device. Their description are listed below.

- (1) Base Unit: An AC adaptor (100-120VAC to 6VDC 400mA, Model: S005IU0600040, Brand: Ten Pao) (Supplied by Client)
- (2) Base Unit: An AC adaptor (100-120VAC to 6VDC 400mA, Model: SSA-5AP-09 US 060040L, Brand: Sunstrong) (Supplied by Client)

Description of Accessories:

- (1) 1m Telephone Line with Termination (Supplied by Intertek)
- (2) Handset, Model: L702BT, FCC ID: VLJ80-8619-00 (Supplied by Client)
- (3) 3m Telephone Line (Supplied by Intertek)
- (4) Nokia Mobile Phone: Model: 5300, FCC ID: PPIRM-146 (Supplied by Intertek)
- (5) Telephone Line Simulator, Model: TLS-5D-01, S/N: 151101 (Supplied by Intertek)

3.4 Measurement Uncertainty

When determining of the test conclusion, the Measurement Uncertainty of test has been considered.

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EXHIBIT 4 TEST RESULTS

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4.0 Test Results

Data is included of the worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

4.1 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

$$FS = RA + AF + CF - AG + PD + AV$$

where FS = Field Strength in dB μ V/m
 RA = Receiver Amplitude (including preamplifier) in dB μ V
 CF = Cable Attenuation Factor in dB
 AF = Antenna Factor in dB
 AG = Amplifier Gain in dB
 PD = Pulse Desensitization in dB
 AV = Average Factor in -dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

$$FS = RA + AF + CF - AG + PD + AV$$

Example

Assume a receiver reading of 62.0 dB μ V is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted. The pulse desensitization factor of the spectrum analyzer was 0 dB, and the resultant average factor was -10 dB. The net field strength for comparison to the appropriate emission limit is 32 dB μ V/m. This value in dB μ V/m was converted to its corresponding level in μ V/m.

$$\begin{aligned} RA &= 62.0 \text{ dB}\mu\text{V} \\ AF &= 7.4 \text{ dB} \\ CF &= 1.6 \text{ dB} \\ AG &= 29 \text{ dB} \\ PD &= 0 \text{ dB} \\ AV &= -10 \text{ dB} \\ FS &= 62 + 7.4 + 1.6 - 29 + 0 + (-10) = 32 \text{ dB}\mu\text{V/m} \end{aligned}$$

$$\text{Level in } \mu\text{V/m} = \text{Common Antilogarithm } [(32 \text{ dB}\mu\text{V/m})/20] = 39.8 \mu\text{V/m}$$

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4.2 Radiated Emissions

4.2.1 Radiated Emission Configuration Photograph

Worst Case Radiated Emission
at

Base Unit with Adaptor “Ten Pao” and “Sunstrong”: 69.100 MHz

The worst case radiated emission configuration photographs are saved with
filename: config photos.pdf

4.2.2 Radiated Emission Data

The data in tables 1-8 list the significant emission frequencies, the limit and the
margin of compliance.

Judgement -

Base Unit with Adaptor “Ten Pao” and “Sunstrong”: Passed by 5.9 dB margin

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4.2.3 Transmitter Duty Cycle Calculation

Based on the Bluetooth Specification Version 2.0 / 2.1 + EDR, the transmitter ON time for each timeslot of Bluetooth is 625 μ s. DH5 has the maximum duty cycle, which consists of 5 continuous Tx slots and 1 Rx slot. Therefore one hopset take $(5+1) \times 625\mu\text{s} = 3.75\text{ms}$. For one period for a pseudo-random hopping through all 79 RF channels, it take: $79 \times 3.75\text{ms} = 296.25\text{ms}$.

The dwell time for DH5 is $5 \times 625\mu\text{s} = 3.125\text{ms}$.

Therefore,

$$\begin{aligned}\text{Duty Cycle (DC)} &= \text{Maximum On time in } 100\text{ms}/100\text{ms} \\ &= 3.125\text{ms}/100\text{ms} \\ &= 0.03125\end{aligned}$$

$$\begin{aligned}\text{Average Factor (AF) of Bluetooth in dB} &= 20 \log_{10} (0.03125) \\ &= -30.1\text{dB}\end{aligned}$$

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Model: L702BT

Mode: TX-Channel 00 with Adaptor "Ten Pao"

Table 1, Base Unit Bluetooth Portion

Radiated Emission Data

| Polarization | Frequency (MHz) | Reading (dBuV) | Pre-Amp Gain (dB) | Antenna Factor (dB) | Average Factor (dB) | Calculated at 3m (dBuV/m) | Average Limit at 3m (dBuV/m) | Margin (dB) |
|--------------|------------------|----------------|-------------------|---------------------|---------------------|---------------------------|------------------------------|--------------|
| V | 2402.000 | 91.2 | 33 | 29.4 | 30.1 | 57.5 | 94.0 | -36.5 |
| H | 4804.000 | 57.5 | 33 | 34.9 | 30.1 | 29.3 | 54.0 | -24.7 |
| H | 7206.000 | 46.5 | 33 | 37.9 | 30.1 | 21.3 | 54.0 | -32.7 |
| H | 9608.000 | 43.2 | 33 | 40.4 | 30.1 | 20.5 | 54.0 | -33.5 |
| H | 12010.000 | 42.7 | 33 | 40.5 | 30.1 | 20.1 | 54.0 | -33.9 |
| H | 14412.000 | 42.6 | 33 | 40.0 | 30.1 | 19.5 | 54.0 | -34.5 |

| Polarization | Frequency (MHz) | Reading (dBuV) | Pre-Amp Gain (dB) | Antenna Factor (dB) | Net at 3m - Peak (dBuV/m) | Peak Limit at 3m (dBuV/m) | Margin (dB) |
|--------------|------------------|----------------|-------------------|---------------------|---------------------------|---------------------------|--------------|
| V | 2402.000 | 91.2 | 33 | 29.4 | 87.6 | 114.0 | -26.4 |
| H | 4804.000 | 57.5 | 33 | 34.9 | 59.4 | 74.0 | -14.6 |
| H | 7206.000 | 46.5 | 33 | 37.9 | 51.4 | 74.0 | -22.6 |
| H | 9608.000 | 43.2 | 33 | 40.4 | 50.6 | 74.0 | -23.4 |
| H | 12010.000 | 42.7 | 33 | 40.5 | 50.2 | 74.0 | -23.8 |
| H | 14412.000 | 42.6 | 33 | 40.0 | 49.6 | 74.0 | -24.4 |

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. Horn antenna is used for the emission over 1000MHz.
 5. Emission (the row indicated by **bold italic**) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

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Model: L702BT

Mode: TX-Channel 39 with Adaptor "Ten Pao"

Table 2, Base Unit Bluetooth Portion

Radiated Emission Data

| Polarization | Frequency (MHz) | Reading (dBuV) | Pre-Amp Gain (dB) | Antenna Factor (dB) | Average Factor (dB) | Calculated at 3m (dBuV/m) | Average Limit at 3m (dBuV/m) | Margin (dB) |
|--------------|------------------|----------------|-------------------|---------------------|---------------------|---------------------------|------------------------------|--------------|
| V | 2441.000 | 91.0 | 33 | 29.4 | 30.1 | 57.3 | 94.0 | -36.7 |
| H | 4882.000 | 57.4 | 33 | 34.9 | 30.1 | 29.2 | 54.0 | -24.8 |
| H | 7323.000 | 46.4 | 33 | 37.9 | 30.1 | 21.2 | 54.0 | -32.8 |
| H | 9764.000 | 43.2 | 33 | 40.4 | 30.1 | 20.5 | 54.0 | -33.5 |
| H | 12205.000 | 42.7 | 33 | 40.5 | 30.1 | 20.1 | 54.0 | -33.9 |
| H | 14646.000 | 44.1 | 33 | 38.4 | 30.1 | 19.4 | 54.0 | -34.6 |

| Polarization | Frequency (MHz) | Reading (dBuV) | Pre-Amp Gain (dB) | Antenna Factor (dB) | Net at 3m - Peak (dBuV/m) | Peak Limit at 3m (dBuV/m) | Margin (dB) |
|--------------|------------------|----------------|-------------------|---------------------|---------------------------|---------------------------|--------------|
| V | 2441.000 | 91.0 | 33 | 29.4 | 87.4 | 114.0 | -26.6 |
| H | 4882.000 | 57.4 | 33 | 34.9 | 59.3 | 74.0 | -14.7 |
| H | 7323.000 | 46.4 | 33 | 37.9 | 51.3 | 74.0 | -22.7 |
| H | 9764.000 | 43.2 | 33 | 40.4 | 50.6 | 74.0 | -23.4 |
| H | 12205.000 | 42.7 | 33 | 40.5 | 50.2 | 74.0 | -23.8 |
| H | 14646.000 | 44.1 | 33 | 38.4 | 49.5 | 74.0 | -24.5 |

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. Horn antenna is used for the emission over 1000MHz.
 5. Emission (the row indicated by **bold italic**) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

INTERTEK TESTING SERVICES

Model: L702BT

Mode: TX-Channel 78 with Adaptor "Ten Pao"

Table 3, Base Unit Bluetooth Portion

Radiated Emission Data

| Polarization | Frequency (MHz) | Reading (dBuV) | Pre-Amp Gain (dB) | Antenna Factor (dB) | Average Factor (dB) | Calculated at 3m (dBuV/m) | Average Limit at 3m (dBuV/m) | Margin (dB) |
|--------------|------------------|----------------|-------------------|---------------------|---------------------|---------------------------|------------------------------|--------------|
| V | 2480.000 | 90.9 | 33 | 29.4 | 30.1 | 57.2 | 94.0 | -36.8 |
| H | 4960.000 | 57.7 | 33 | 34.9 | 30.1 | 29.5 | 54.0 | -24.5 |
| H | 7440.000 | 46.5 | 33 | 37.9 | 30.1 | 21.3 | 54.0 | -32.7 |
| H | 9920.000 | 43.2 | 33 | 40.4 | 30.1 | 20.5 | 54.0 | -33.5 |
| H | 12400.000 | 42.8 | 33 | 40.5 | 30.1 | 20.2 | 54.0 | -33.8 |
| H | 14880.000 | 44.4 | 33 | 38.4 | 30.1 | 19.7 | 54.0 | -34.3 |

| Polarization | Frequency (MHz) | Reading (dBuV) | Pre-Amp Gain (dB) | Antenna Factor (dB) | Net at 3m - Peak (dBuV/m) | Peak Limit at 3m (dBuV/m) | Margin (dB) |
|--------------|------------------|----------------|-------------------|---------------------|---------------------------|---------------------------|--------------|
| V | 2480.000 | 90.9 | 33 | 29.4 | 87.3 | 114.0 | -26.7 |
| H | 4960.000 | 57.7 | 33 | 34.9 | 59.6 | 74.0 | -14.4 |
| H | 7440.000 | 46.5 | 33 | 37.9 | 51.4 | 74.0 | -22.6 |
| H | 9920.000 | 43.2 | 33 | 40.4 | 50.6 | 74.0 | -23.4 |
| H | 12400.000 | 42.8 | 33 | 40.5 | 50.3 | 74.0 | -23.7 |
| H | 14880.000 | 44.4 | 33 | 38.4 | 49.8 | 74.0 | -24.2 |

- NOTES: 1. Peak detector is used for the emission measurement.
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna is used for the emission over 1000MHz.
5. Emission (the row indicated by **bold italic**) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

INTERTEK TESTING SERVICES

Model: L702BT

Mode: Talk with Adaptor "Ten Pao"

Table 4, Base Unit Bluetooth Portion

Radiated Emission Data

| Polarization | Frequency (MHz) | Reading (dBμV) | Pre-amp (dB) | Antenna Factor (dB) | Net at 3m (dBμV/m) | Limit at 3m (dBμV/m) | Margin (dB) |
|--------------|-----------------|----------------|--------------|---------------------|--------------------|----------------------|--------------|
| V | 41.460 | 39.6 | 16 | 10.0 | 33.6 | 40.0 | -6.4 |
| V | 55.280 | 38.8 | 16 | 11.0 | 33.8 | 40.0 | -6.2 |
| V | 69.100 | 43.1 | 16 | 7.0 | 34.1 | 40.0 | -5.9 |
| H | 110.560 | 36.3 | 16 | 14.0 | 34.3 | 43.5 | -9.2 |
| H | 138.200 | 35.5 | 16 | 14.0 | 33.5 | 43.5 | -10.0 |
| H | 165.840 | 31.8 | 16 | 17.0 | 32.8 | 43.5 | -10.7 |

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. Emission (the row indicated by **bold italic**) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

INTERTEK TESTING SERVICES

Model: L702BT

Mode: TX-Channel 00 with Adaptor "Sunstrong"

Table 5, Base Unit Bluetooth Portion

Radiated Emission Data

| Polarization | Frequency (MHz) | Reading (dBuV) | Pre-Amp Gain (dB) | Antenna Factor (dB) | Average Factor (dB) | Calculated at 3m (dBuV/m) | Average Limit at 3m (dBuV/m) | Margin (dB) |
|--------------|------------------|----------------|-------------------|---------------------|---------------------|---------------------------|------------------------------|--------------|
| V | 2402.000 | 91.1 | 33 | 29.4 | 30.1 | 57.4 | 94.0 | -36.6 |
| H | 4804.000 | 58.9 | 33 | 34.9 | 30.1 | 30.7 | 54.0 | -23.3 |
| H | 7206.000 | 46.4 | 33 | 37.9 | 30.1 | 21.2 | 54.0 | -32.8 |
| H | 9608.000 | 43.4 | 33 | 40.4 | 30.1 | 20.7 | 54.0 | -33.3 |
| H | 12010.000 | 42.7 | 33 | 40.5 | 30.1 | 20.1 | 54.0 | -33.9 |
| H | 14412.000 | 42.8 | 33 | 40.0 | 30.1 | 19.7 | 54.0 | -34.3 |

| Polarization | Frequency (MHz) | Reading (dBuV) | Pre-Amp Gain (dB) | Antenna Factor (dB) | Net at 3m - Peak (dBuV/m) | Peak Limit at 3m (dBuV/m) | Margin (dB) |
|--------------|------------------|----------------|-------------------|---------------------|---------------------------|---------------------------|--------------|
| V | 2402.000 | 91.1 | 33 | 29.4 | 87.5 | 114.0 | -26.5 |
| H | 4804.000 | 58.9 | 33 | 34.9 | 60.8 | 74.0 | -13.2 |
| H | 7206.000 | 46.4 | 33 | 37.9 | 51.3 | 74.0 | -22.7 |
| H | 9608.000 | 43.4 | 33 | 40.4 | 50.8 | 74.0 | -23.2 |
| H | 12010.000 | 42.7 | 33 | 40.5 | 50.2 | 74.0 | -23.8 |
| H | 14412.000 | 42.8 | 33 | 40.0 | 49.8 | 74.0 | -24.2 |

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. Horn antenna is used for the emission over 1000MHz.
 5. Emission (the row indicated by **bold italic**) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

INTERTEK TESTING SERVICES

Model: L702BT

Mode: TX-Channel 39 with Adaptor "Sunstrong"

Table 6, Base Unit Bluetooth Portion

Radiated Emission Data

| Polarization | Frequency (MHz) | Reading (dBuV) | Pre-Amp Gain (dB) | Antenna Factor (dB) | Average Factor (dB) | Calculated at 3m (dBuV/m) | Average Limit at 3m (dBuV/m) | Margin (dB) |
|--------------|------------------|----------------|-------------------|---------------------|---------------------|---------------------------|------------------------------|--------------|
| V | 2441.000 | 90.9 | 33 | 29.4 | 30.1 | 57.2 | 94.0 | -36.8 |
| H | 4882.000 | 58.3 | 33 | 34.9 | 30.1 | 30.1 | 54.0 | -23.9 |
| H | 7323.000 | 46.3 | 33 | 37.9 | 30.1 | 21.1 | 54.0 | -32.9 |
| H | 9764.000 | 43.2 | 33 | 40.4 | 30.1 | 20.5 | 54.0 | -33.5 |
| H | 12205.000 | 42.9 | 33 | 40.5 | 30.1 | 20.3 | 54.0 | -33.7 |
| H | 14646.000 | 44.2 | 33 | 38.4 | 30.1 | 19.5 | 54.0 | -34.5 |

| Polarization | Frequency (MHz) | Reading (dBuV) | Pre-Amp Gain (dB) | Antenna Factor (dB) | Net at 3m - Peak (dBuV/m) | Peak Limit at 3m (dBuV/m) | Margin (dB) |
|--------------|------------------|----------------|-------------------|---------------------|---------------------------|---------------------------|--------------|
| V | 2441.000 | 90.9 | 33 | 29.4 | 87.3 | 114.0 | -26.7 |
| H | 4882.000 | 58.3 | 33 | 34.9 | 60.2 | 74.0 | -13.8 |
| H | 7323.000 | 46.3 | 33 | 37.9 | 51.2 | 74.0 | -22.8 |
| H | 9764.000 | 43.2 | 33 | 40.4 | 50.6 | 74.0 | -23.4 |
| H | 12205.000 | 42.9 | 33 | 40.5 | 50.4 | 74.0 | -23.6 |
| H | 14646.000 | 44.2 | 33 | 38.4 | 49.6 | 74.0 | -24.4 |

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. Horn antenna is used for the emission over 1000MHz.
 5. Emission (the row indicated by **bold italic**) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

INTERTEK TESTING SERVICES

Model: L702BT

Mode: TX-Channel 78 with Adaptor "Sunstrong"

Table 7, Base Unit Bluetooth Portion

Radiated Emission Data

| Polarization | Frequency (MHz) | Reading (dBuV) | Pre-Amp Gain (dB) | Antenna Factor (dB) | Average Factor (dB) | Calculated at 3m (dBuV/m) | Average Limit at 3m (dBuV/m) | Margin (dB) |
|--------------|------------------|----------------|-------------------|---------------------|---------------------|---------------------------|------------------------------|--------------|
| V | 2480.000 | 91.0 | 33 | 29.4 | 30.1 | 57.3 | 94.0 | -36.7 |
| H | 4960.000 | 58.7 | 33 | 34.9 | 30.1 | 30.5 | 54.0 | -23.5 |
| H | 7440.000 | 46.4 | 33 | 37.9 | 30.1 | 21.2 | 54.0 | -32.8 |
| H | 9920.000 | 43.0 | 33 | 40.4 | 30.1 | 20.3 | 54.0 | -33.7 |
| H | 12400.000 | 42.7 | 33 | 40.5 | 30.1 | 20.1 | 54.0 | -33.9 |
| H | 14880.000 | 44.0 | 33 | 38.4 | 30.1 | 19.3 | 54.0 | -34.7 |

| Polarization | Frequency (MHz) | Reading (dBuV) | Pre-Amp Gain (dB) | Antenna Factor (dB) | Net at 3m - Peak (dBuV/m) | Peak Limit at 3m (dBuV/m) | Margin (dB) |
|--------------|------------------|----------------|-------------------|---------------------|---------------------------|---------------------------|--------------|
| V | 2480.000 | 91.0 | 33 | 29.4 | 87.4 | 114.0 | -26.6 |
| H | 4960.000 | 58.7 | 33 | 34.9 | 60.6 | 74.0 | -13.4 |
| H | 7440.000 | 46.4 | 33 | 37.9 | 51.3 | 74.0 | -22.7 |
| H | 9920.000 | 43.0 | 33 | 40.4 | 50.4 | 74.0 | -23.6 |
| H | 12400.000 | 42.7 | 33 | 40.5 | 50.2 | 74.0 | -23.8 |
| H | 14880.000 | 44.0 | 33 | 38.4 | 49.4 | 74.0 | -24.6 |

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. Horn antenna is used for the emission over 1000MHz.
 5. Emission (the row indicated by **bold italic**) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

INTERTEK TESTING SERVICES

Model: L702BT

Mode: Talk with Adaptor "Sunstrong"

Table 8, Base Unit Bluetooth Portion

Radiated Emission Data

| Polarization | Frequency (MHz) | Reading (dB μ V) | Pre-amp (dB) | Antenna Factor (dB) | Net at 3m (dB μ V/m) | Limit at 3m (dB μ V/m) | Margin (dB) |
|--------------|-----------------|----------------------|--------------|---------------------|--------------------------|----------------------------|--------------|
| V | 41.460 | 39.8 | 16 | 10.0 | 33.8 | 40.0 | -6.2 |
| V | 55.280 | 38.4 | 16 | 11.0 | 33.4 | 40.0 | -6.6 |
| V | 69.100 | 43.1 | 16 | 7.0 | 34.1 | 40.0 | -5.9 |
| H | 110.560 | 36.6 | 16 | 14.0 | 34.6 | 43.5 | -8.9 |
| H | 138.200 | 35.4 | 16 | 14.0 | 33.4 | 43.5 | -10.1 |
| H | 165.840 | 31.5 | 16 | 17.0 | 32.5 | 43.5 | -11.0 |

- NOTES:
1. Peak detector is used for the emission measurement.
 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. Emission (the row indicated by **bold italic**) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

INTERTEK TESTING SERVICES

4.3 Radiated Emissions from Receiver

4.3.1 Radiated Emission Configuration Photograph

Worst Case Radiated Emission
at

Base Unit with Adaptor "Ten Pao": 2439.500 MHz

The worst case radiated emission configuration photographs are saved with
filename: config photos.pdf

4.3.2 Radiated Emission Data

The data in tables 9-10 list the significant emission frequencies, the limit and the
margin of compliance.

Judgement -

Base Unit with Adaptor "Ten Pao": Passed by 13.2 dB margin

INTERTEK TESTING SERVICES

Model: L702BT

Mode: Receiving – Middle Channel with Adaptor “Ten Pao”

Table 9, Base Unit

Radiated Emissions Data

| Polarization | Frequency (MHz) | Reading (dB μ V) | Pre-amp (dB) | Antenna Factor (dB) | Net at 3m (dB μ V/m) | Limit at 3m (dB μ V/m) | Margin (dB) |
|--------------|-----------------|----------------------|--------------|---------------------|--------------------------|----------------------------|-------------|
| V | 2439.500 | 44.4 | 33 | 29.4 | 40.8 | 54.0 | -13.2 |
| V | 4879.000 | 38.7 | 33 | 34.9 | 40.6 | 54.0 | -13.4 |
| V | 7318.500 | 35.3 | 33 | 37.9 | 40.2 | 54.0 | -13.8 |
| V | 9758.000 | 32.6 | 33 | 40.4 | 40.0 | 54.0 | -14.0 |
| V | 12197.500 | 32.1 | 33 | 40.5 | 39.6 | 54.0 | -14.4 |

NOTES:

1. Peak detector is used for the emission measurement.
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna is used for the emission over 1000MHz.

INTERTEK TESTING SERVICES

Model: L702BT

Mode: Receiving – Middle Channel with Adaptor “Sunstrong”

Table 10, Base Unit

Radiated Emissions Data

| Polarization | Frequency (MHz) | Reading (dB μ V) | Pre-amp (dB) | Antenna Factor (dB) | Net at 3m (dB μ V/m) | Limit at 3m (dB μ V/m) | Margin (dB) |
|--------------|-----------------|----------------------|--------------|---------------------|--------------------------|----------------------------|-------------|
| V | 2439.500 | 44.2 | 33 | 29.4 | 40.6 | 54.0 | -13.4 |
| V | 4879.000 | 38.5 | 33 | 34.9 | 40.4 | 54.0 | -13.6 |
| V | 7318.000 | 35.3 | 33 | 37.9 | 40.2 | 54.0 | -13.8 |
| V | 9758.000 | 32.5 | 33 | 40.4 | 39.9 | 54.0 | -14.1 |
| V | 12197.500 | 32.1 | 33 | 40.5 | 39.6 | 54.0 | -14.4 |

NOTES:

1. Peak detector is used for the emission measurement.
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna is used for the emission over 1000MHz.

INTERTEK TESTING SERVICES

4.4 Radiated Emission on the Bandedge

From the following plots, they show that the fundamental emissions are confined in the specified band (2400MHz and 2483.5MHz). In case of emissions up to two standard bandwidths away from the bandedge, the delta measurement technique is used for determining bandedge compliance. Standard bandwidth is the bandwidth specified by ANSI C63.4 (2003) for frequency being measured.

Emissions radiated outside of the specified frequency bands, except harmonics, are attenuated by 50 dB below the level of the fundamental or to the general radiated emission limits in FCC Part 15 Section 15.209 / Table 5 of RSS-Gen, whichever is the lesser attenuation, which meet the requirement of FCC Part 15 Section 15.249(d) / RSS-210 A2.9(b).

Radiated Emission on bandedge plots are saved with filename: be.pdf

Bandedge compliance is determined by applying marker-delta method, i.e.

Resultant Field Strength = Fundamental Emissions - Delta from the plot

INTERTEK TESTING SERVICES

4.4 Radiated Emission on the Bandedge (Cont'd)

Resultant field strength for the lowest and/or highest channel(s), with corresponding average values are calculated as follows:

For Model: L702BT with Adaptor "Ten Pao"

| | Channel | Fundamental Emission (dBμV/m) | Delta from the Plot (dB) | Resultant Field Strength (dBμV/m) | Average Limit (dBμV/m) | Margin (dB) |
|------|---------|-------------------------------|--------------------------|-----------------------------------|------------------------|-------------|
| Base | Lowest | 57.5 | 34.62 | 22.88 | 54 | -31.12 |
| | Highest | 57.2 | 46.77 | 10.43 | 54 | -43.57 |

| | Channel | Fundamental Emission (dBμV/m) | Delta from the Plot (dB) | Resultant Field Strength (dBμV/m) | Peak Limit (dBμV/m) | Margin (dB) |
|------|---------|-------------------------------|--------------------------|-----------------------------------|---------------------|-------------|
| Base | Lowest | 87.6 | 34.62 | 52.98 | 74 | -21.02 |
| | Highest | 87.3 | 46.77 | 40.53 | 74 | -33.47 |

For Model: L702BT with Adaptor "Sunstrong"

| | Channel | Fundamental Emission (dBμV/m) | Delta from the Plot (dB) | Resultant Field Strength (dBμV/m) | Average Limit (dBμV/m) | Margin (dB) |
|------|---------|-------------------------------|--------------------------|-----------------------------------|------------------------|-------------|
| Base | Lowest | 57.4 | 34.62 | 22.78 | 54 | -31.22 |
| | Highest | 57.3 | 46.77 | 10.53 | 54 | -43.47 |

| | Channel | Fundamental Emission (dBμV/m) | Delta from the Plot (dB) | Resultant Field Strength (dBμV/m) | Peak Limit (dBμV/m) | Margin (dB) |
|------|---------|-------------------------------|--------------------------|-----------------------------------|---------------------|-------------|
| Base | Lowest | 87.5 | 34.62 | 52.88 | 74 | -21.12 |
| | Highest | 87.4 | 46.77 | 40.63 | 74 | -33.37 |

The resultant field strength meets the general radiated emission limit in FCC Part 15 Section 15.209 / Table 5 of RSS-Gen, which does not exceed 74dBμV/m for peak limit and also 54dBμV/m for average limit.

INTERTEK TESTING SERVICES

4.5 AC Power Line Conducted Emission

- ☐ Not applicable – EUT is only powered by battery for operation.
- ☒ EUT connects to AC power line. Emission Data is listed in following pages.
- ☐ Base Unit connects to AC power line and has transmission. Handset connects to AC power line but has no transmission. Emission Data of Base Unit is listed in following pages.

4.5.1 AC Power Line Conducted Emission Configuration Photograph

Worst Case Line-Conducted Configuration
at

Base Unit with Adaptor “Sunstrong”: 0.398 MHz

The worst case line conducted configuration photographs are saved with filename: config photos.pdf

4.5.2 AC Power Line Conducted Emission Data

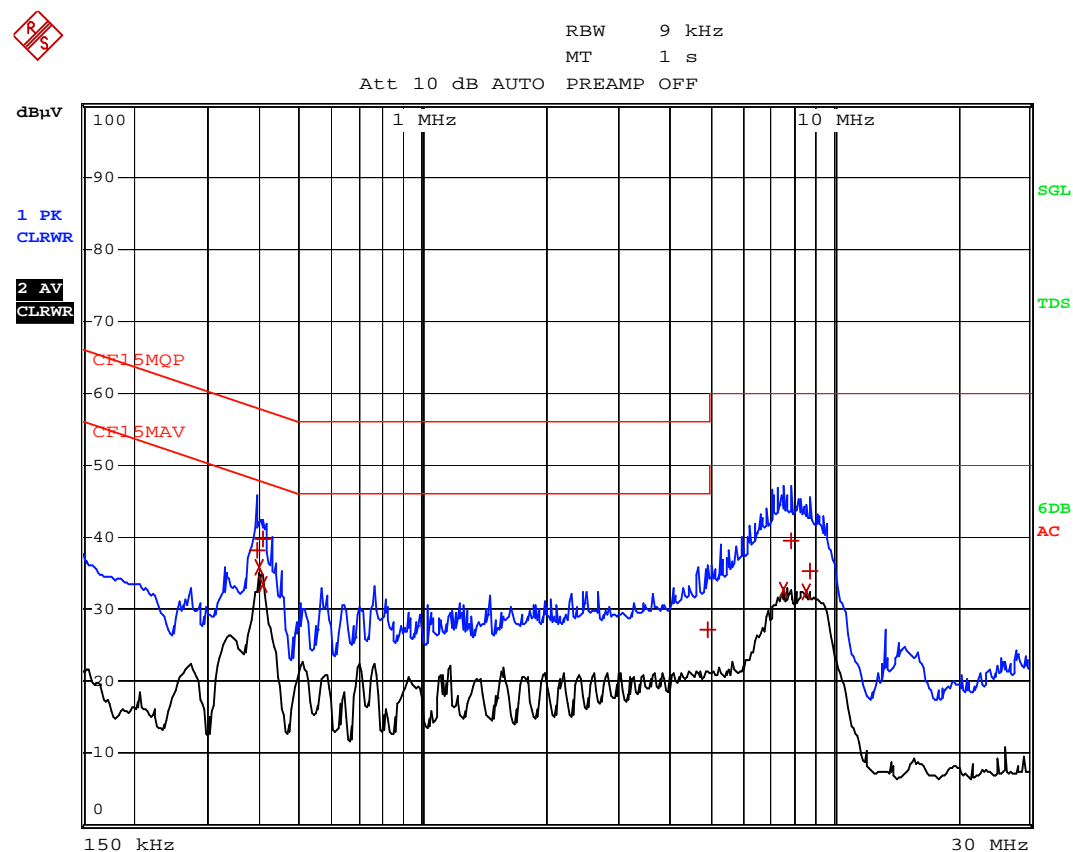
The plot(s) and data in the following pages list the significant emission frequencies, the limit and the margin of compliance.

Base Unit with Adaptor “Sunstrong” - Passed by 12.18 dB margin compare with
average limit

INTERTEK TESTING SERVICES

Model No.: L702BT

Worst Case: Talk (DECT & Bluetooth)



Date: 23.NOV.2011 11:23:23

INTERTEK TESTING SERVICES

Model No.: L702BT

Worst Case: Talk (DECT & Bluetooth)

EDIT PEAK LIST (Final Measurement Results)

Trace1: CF15MQP

Trace2: CF15MAV

Trace3: ---

| | TRACE | FREQUENCY | LEVEL dBμV | DELTA LIMIT dB |
|---|---------------|------------|--------------|----------------|
| 1 | Quasi Peak | 393 kHz | 38.24 N gnd | -19.75 |
| 2 | CISPR Average | 397.5 kHz | 35.72 L1 gnd | -12.18 |
| 1 | Quasi Peak | 406.5 kHz | 39.69 N gnd | -18.02 |
| 2 | CISPR Average | 406.5 kHz | 33.36 L1 gnd | -14.35 |
| 1 | Quasi Peak | 4.9335 MHz | 27.16 N gnd | -28.84 |
| 2 | CISPR Average | 7.5345 MHz | 32.68 L1 gnd | -17.31 |
| 1 | Quasi Peak | 7.9305 MHz | 39.45 N gnd | -20.54 |
| 2 | CISPR Average | 8.5785 MHz | 32.44 L1 gnd | -17.56 |
| 1 | Quasi Peak | 8.7585 MHz | 35.19 L1 gnd | -24.80 |

Date: 23.NOV.2011 11:23:01

INTERTEK TESTING SERVICES

4.6 Radio Frequency Exposure Compliance

The Routine RF Exposure Evaluation, Routine SAR Evaluation and Declaration of RF Exposure Compliance are saved with filename: RF exposure.pdf

INTERTEK TESTING SERVICES

EXHIBIT 5 EQUIPMENT LIST

INTERTEK TESTING SERVICES

5.0 Equipment List

1) Radiated Emissions Test

| | | | |
|----------------------|-------------------|-------------------|-------------------|
| Equipment | EMI Test Receiver | Spectrum Analyzer | Biconical Antenna |
| Registration No. | EW-2500 | EW-2188 | EW-0571 |
| Manufacturer | R&S | AGILENTTECH | EMCO |
| Model No. | ESCI | E4407B | 3104C |
| Calibration Date | Jan. 25, 2011 | Sep. 26, 2011 | Sep. 28, 2010 |
| Calibration Due Date | Jan. 25, 2012 | Sep. 26, 2012 | Mar. 28, 2012 |

| | | | |
|----------------------|--|--|----------------------|
| Equipment | Broad-Band Horn Antenna with frequency range 14G - 40GHz | Double Ridged Guide Antenna (1GHz - 18GHz) | Log Periodic Antenna |
| Registration No. | EW-1679 | EW-1133 | EW-0446 |
| Manufacturer | SCHWARZBECK | EMCO | EMCO |
| Model No. | BBHA9170 | 3115 | 3146 |
| Calibration Date | Mar. 03, 2011 | Mar. 02, 2011 | Oct. 31, 2011 |
| Calibration Due Date | Mar. 03, 2012 | Sep. 02, 2012 | Apr. 30, 2013 |

| | |
|----------------------|-------------------|
| Equipment | Spectrum Analyzer |
| Registration No. | EW-2466 |
| Manufacturer | ROHDESCHWARZ |
| Model No. | FSP30 |
| Calibration Date | Apr. 11, 2011 |
| Calibration Due Date | Apr. 11, 2012 |

2) Conducted Emissions Test

| | | | |
|----------------------|-------------------|------------------|---------------|
| Equipment | EMI Test Receiver | Artificial Mains | Pulse Limiter |
| Registration No. | EW-2251 | EW-0192 | EW-0698 |
| Manufacturer | R&S | R&S | R&S |
| Model No. | ESCI | ESH3-Z5 | ESH3-Z2 |
| Calibration Date | May 06, 2011 | Nov. 30, 2010 | Mar. 11, 2011 |
| Calibration Due Date | May 06, 2012 | Feb. 29, 2012 | Mar. 11, 2012 |

END OF TEST REPORT