# TEST REPORT

## Report Number: HK10020644-1

Application
for
Original Grant of 47 CFR Part 15 Certification
New Family of RSS-210 Issue 7 Equipment Certification

2.4GHz Frequency Hopping Spread Spectrum Baby Unit

## FCC ID: VLJ-MBP35BBU

## IC: 4522A-MBP35BBU

Prepared and Checked by:

Koo Wai Ip
Engineer

Approved by:

Nip Ming Fung, Melvin
Supervisor
April 26, 2010




**Intertek Testing Services Hong Kong Ltd.**
2/F., Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong.
Tel: (852) 2173 8888 Fax: (852) 2785 5487 Website: www.hk.intertek-etlsemko.com

# 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: 2008 |
| **FCC ID:** | VLJ-MBP35BBU |
| **FCC Model(s):** | MBP35ByBU, MBP35xByBU |
| **IC Specification Standard:** | RSS-210 Issue 7, June 2007<br>RSS-Gen Issue 2, June 2007<br>RSS-102 Issue 4, March 2010 |
| **IC:** | 4522A-MBP35BBU |
| **IC Model(s):** | MBP35BLBU, MBP35BWBU |
| **Type of EUT:** | Transceiver |
| **Description of EUT:** | 2.4GHz Frequency Hopping Spread Spectrum Baby Unit |
| **Serial Number:** | N/A |
| **Sample Receipt Date:** | February 25, 2010 |
| **Date of Test:** | April 15-22, 2010 |
| **Report Date:** | April 26, 2010 |
| **Environmental Conditions:** | Temperature: +10 to 40°C<br>Humidity: 10 to 90% |

## Table of Contents

## 1.0 **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 | 7.1.4# | Pass | 2.1 |
| Radiated Emission<br>Radiated Emission on the Bandedge | 15.249(a), 209, & 109<br>15.249(d) | A2.9(a)<br>A2.9(b) | Pass<br>Pass | 4.2<br>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 | 7.2.2# | 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.

# EXHIBIT 2
# GENERAL DESCRIPTION

## 2.0 General Description

### 2.1 Product Description

The Equipment Under Test (EUT) is a 2.4GHz Frequency Hopping Spread Spectrum Baby Unit of Baby Monitor system. It operates at frequency range of 2404MHz to 2479MHz, and there are total 36 channels, and 24 channels are used for the communication environment. The EUT is powered by a 100-240VAC to 6VDC 800mA switching AC adaptor and/or a 3 x “AA” size 1.5VDC battery.

The antenna used in baby unit is integral, and the test sample is a prototype.

For FCC, The Model(s): MBP35ByBU and MBP35xByBU are the same as the Model: MBP35BWBU in electronics/electrical designs including software & firmware, PCB layout and construction design/physical design/enclosure. The only differences between these models are color and model number to be sold for marketing purpose. The letter “x” indicates different number of baby units, and another letter “y” represents color code such as L= Lime and W = Silver-white.

For IC, The Model(s): MBP35BLBU is the same as the Model: MBP35BWBU in electronics/electrical designs including software & firmware, PCB layout and construction design/physical design/enclosure. The only differences between these models are color and model number to be sold for marketing purpose.

The circuit description is attached in the Appendix and saved with filename: descri.pdf.

### 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 located at Roof Top and 2nd Floor respectively of 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.

# EXHIBIT 3
# SYSTEM TEST CONFIGURATION

## 3.0 **System Test Configuration**

### 3.1 Justification

For radiated emissions testing, the equipment under test (EUT) was setup to transmit / receive continuously 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.

The EUT was powered by a 100-240VAC to 6VDC 800mA adaptor and/or 3 x 1.5V "AA" size alkaline new battery.

For the measurements, the EUT is attached to a plastic stand if necessary and placed on the wooden turntable. If the EUT attaches to peripherals, they are connected and operational to simulate typical use.

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

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

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. Receiver was performed from 30MHz to the fifth harmonic of the highest frequency.

Emission that are directly caused by digital circuits in the transmit path and transmitter portion are measured, and the limit are according to FCC Part 15 Section 15.109.

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 Exhibit 4.2.3.

Determination of pulse desensitization was made according to *Hewlett Packard Application Note 150-2, Spectrum Analysis... Pulsed RF.* The effective period (Teff) was referred to Exhibit 4.2.3. 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.

3.3 Details of EUT and Description of Accessories

*Details of EUT:*

An AC adaptor and/or a battery (provided with the unit) were used to power the device. Their description are listed below.

(1) An AC adaptor (100-240VAC to 6VDC 800mA, Model: SW-060080A) (Supplied by Client)
(2) 3 x "AA" size 1.5VDC battery (Supplied by Intertek)

*Description of Accessories:*

There are no special accessories necessary for compliance of this product.

3.4 Measurement Uncertainty

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

3.5 Equipment Modification

Any modifications installed previous to testing by Binatone Electronics International Limited will be incorporated in each production model sold/leased in the United States and Canada.

No modifications were installed by Commercial & Electrical Division, Intertek Testing Services Hong Kong Ltd.

# EXHIBIT 4
# TEST RESULTS

## 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 Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CF - AG

where FS = Field Strength in dBμV/m
RA = Receiver Amplitude (including preamplifier) in dBμV
CF = Cable Attenuation Factor in dB
AF = Antenna Factor in dB
AG = Amplifier Gain in dB

In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows:-

FS = RR + LF

where FS = Field Strength in dBμV/m
RR = RA - AG in dBμV
LF = CF + AF in dB

Assume a receiver reading of 52.0 dBμV 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, giving a field strength of 32 dBμV/m. This value in dBμV/m was converted to its corresponding level in μV/m.

RA = 52.0 dBμV
AF = 7.4 dB
CF = 1.6 dB
AG = 29.0 dB
FS = RR + LF
FS = 23 + 9 = 32 dBμV/m

RR = 23.0 dBμV
LF = 9.0 dB

Level in μV/m = Common Antilogarithm [(32 dBμV/m)/20] = 39.8 μV/m

## 4.2 Radiated Emissions

### 4.2.1 Radiated Emission Configuration Photograph

Worst Case Radiated Emission
at

432.000 MHz

The worst case radiated emission configuration photographs are attached in the Appendix and saved with filename: config photos.pdf

### 4.2.2 Radiated Emission Data

The data in tables 1-4 list the significant emission frequencies, the limit and the margin of compliance.

Judgement -

Passed by 4.9 dB margin

4.2.3 Transmitter Duty Cycle Calculation

Duty Cycle (DC) = Maximum On time in 100ms/100ms
= 5.226ms / 100ms

Average Factor (AF) = 20 log(DC)
= 20* log (0.05226)
=-25.6dB

The sample plot shows the bit timing is attached in the Appendix and saved with filename: timing.pdf

Mode: TX-Channel 01

Table 1

**Radiated Emission Data**

| Polari-zation | Frequency (MHz) | Reading (dBµV) | Pre-Amp Gain (dB) | Antenna Factor (dB) | Average Factor (dB) | Calculated at 3m (dBµV/m) | Average Limit at 3m (dBµV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| V | 2404.000 | 98.2 | 33 | 29.4 | 25.6 | 69.0 | 94.0 | -25.0 |
| ***V*** | ***4808.000*** | ***53.5*** | ***33*** | ***34.9*** | ***25.6*** | ***29.8*** | ***54.0*** | ***-24.2*** |
| H | 7212.000 | 51.4 | 33 | 37.9 | 25.6 | 30.7 | 54.0 | -23.3 |
| H | 9616.000 | 53.0 | 33 | 40.4 | 25.6 | 34.8 | 54.0 | -19.2 |
| ***H*** | ***12020.000*** | ***48.7*** | ***33*** | ***40.5*** | ***25.6*** | ***30.6*** | ***54.0*** | ***-23.4*** |

| Polari-zation | Frequency (MHz) | Reading (dBµV) | Pre-Amp Gain (dB) | Antenna Factor (dB) | Net at 3m - Peak (dBµV/m) | Peak Limit at 3m (dBµV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|
| V | 2404.000 | 98.2 | 33 | 29.4 | 94.6 | 114.0 | -19.4 |
| ***V*** | ***4808.000*** | ***53.5*** | ***33*** | ***34.9*** | ***55.4*** | ***74.0*** | ***-18.6*** |
| H | 7212.000 | 51.4 | 33 | 37.9 | 56.3 | 74.0 | -17.7 |
| H | 9616.000 | 53.0 | 33 | 40.4 | 60.4 | 74.0 | -13.6 |
| ***H*** | ***12020.000*** | ***48.7*** | ***33*** | ***40.5*** | ***56.2*** | ***74.0*** | ***-17.8*** |

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.

Mode: TX-Channel 18

Table 2

**Radiated Emission Data**

| Polari-zation | Frequency (MHz) | Reading (dBµV) | Pre-Amp Gain (dB) | Antenna Factor (dB) | Average Factor (dB) | Calculated at 3m (dBµV/m) | Average Limit at 3m (dBµV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| V | 2440.000 | 99.0 | 33 | 29.4 | 25.6 | 69.8 | 94.0 | -24.2 |
| ***V*** | ***4880.000*** | ***53.6*** | ***33*** | ***34.9*** | ***25.6*** | ***29.9*** | ***54.0*** | ***-24.1*** |
| ***H*** | ***7320.000*** | ***51.4*** | ***33*** | ***37.9*** | ***25.6*** | ***30.7*** | ***54.0*** | ***-23.3*** |
| H | 9760.000 | 52.9 | 33 | 40.4 | 25.6 | 34.7 | 54.0 | -19.3 |
| ***H*** | ***12200.000*** | ***48.8*** | ***33*** | ***40.5*** | ***25.6*** | ***30.7*** | ***54.0*** | ***-23.3*** |

| Polari-zation | Frequency (MHz) | Reading (dBµV) | Pre-Amp Gain (dB) | Antenna Factor (dB) | Net at 3m - Peak (dBµV/m) | Peak Limit at 3m (dBµV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|
| V | 2440.000 | 99.0 | 33 | 29.4 | 95.4 | 114.0 | -18.6 |
| ***V*** | ***4880.000*** | ***53.6*** | ***33*** | ***34.9*** | ***55.5*** | ***74.0*** | ***-18.5*** |
| ***H*** | ***7320.000*** | ***51.4*** | ***33*** | ***37.9*** | ***56.3*** | ***74.0*** | ***-17.7*** |
| H | 9760.000 | 52.9 | 33 | 40.4 | 60.3 | 74.0 | -13.7 |
| ***H*** | ***12200.000*** | ***48.8*** | ***33*** | ***40.5*** | ***56.3*** | ***74.0*** | ***-17.7*** |

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. 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.

Mode: TX-Channel 36

Table 3

**Radiated Emission Data**

| Polari-zation | Frequency (MHz) | Reading (dBµV) | Pre-Amp Gain (dB) | Antenna Factor (dB) | Average Factor (dB) | Calculated at 3m (dBµV/m) | Average Limit at 3m (dBµV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|---|
| V | 2479.000 | 99.1 | 33 | 29.4 | 25.6 | 69.9 | 94.0 | -24.1 |
| ***V*** | ***4958.000*** | ***53.7*** | ***33*** | ***34.9*** | ***25.6*** | ***30.0*** | ***54.0*** | ***-24.0*** |
| ***H*** | ***7437.000*** | ***51.5*** | ***33*** | ***37.9*** | ***25.6*** | ***30.8*** | ***54.0*** | ***-23.2*** |
| H | 9916.000 | 52.8 | 33 | 40.4 | 25.6 | 34.6 | 54.0 | -19.4 |
| ***H*** | ***12395.000*** | ***48.9*** | ***33*** | ***40.5*** | ***25.6*** | ***30.8*** | ***54.0*** | ***-23.2*** |

| Polari-zation | Frequency (MHz) | Reading (dBµV) | Pre-Amp Gain (dB) | Antenna Factor (dB) | Net at 3m - Peak (dBµV/m) | Peak Limit at 3m (dBµV/m) | Margin (dB) |
|---|---|---|---|---|---|---|---|
| V | 2479.000 | 99.1 | 33 | 29.4 | 95.5 | 114.0 | -18.5 |
| ***V*** | ***4958.000*** | ***53.7*** | ***33*** | ***34.9*** | ***55.6*** | ***74.0*** | ***-18.4*** |
| ***H*** | ***7437.000*** | ***51.5*** | ***33*** | ***37.9*** | ***56.4*** | ***74.0*** | ***-17.6*** |
| H | 9916.000 | 52.8 | 33 | 40.4 | 60.2 | 74.0 | -13.8 |
| ***H*** | ***12395.000*** | ***48.9*** | ***33*** | ***40.5*** | ***56.4*** | ***74.0*** | ***-17.6*** |

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.

Mode: Talk

Table 4

**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 | 54.000 | 33.6 | 16 | 11.0 | 28.6 | 40.0 | -11.4 |
| H | 189.000 | 30.0 | 16 | 16.0 | 30.0 | 43.5 | -13.5 |
| H | 216.000 | 36.0 | 16 | 17.0 | 37.0 | 43.5 | -6.5 |
| ***H*** | ***240.000*** | ***37.3*** | ***16*** | ***19.0*** | ***40.3*** | ***46.0*** | ***-5.7*** |
| ***H*** | ***270.000*** | ***21.5*** | ***16*** | ***22.0*** | ***27.5*** | ***46.0*** | ***-18.5*** |
| H | 288.000 | 30.5 | 16 | 22.0 | 36.5 | 46.0 | -9.5 |
| H | 384.000 | 29.1 | 16 | 24.0 | 37.1 | 46.0 | -8.9 |
| ***H*** | ***405.000*** | ***23.6*** | ***16*** | ***24.0*** | ***31.6*** | ***46.0*** | ***-14.4*** |
| H | 432.000 | 32.1 | 16 | 25.0 | 41.1 | 46.0 | -4.9 |
| H | 459.000 | 23.6 | 16 | 26.0 | 33.6 | 46.0 | -12.4 |
| H | 513.000 | 23.4 | 16 | 27.0 | 34.4 | 46.0 | -11.6 |
| H | 540.000 | 17.6 | 16 | 28.0 | 29.6 | 46.0 | -16.4 |

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. 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.

## 4.3 Radiated Emissions from Receiver

### 4.3.1 Radiated Emission Configuration Photograph

Worst Case Radiated Emission
at

2432.000 MHz

The worst case radiated emission configuration photographs are attached in the Appendix and saved with filename: config photos.pdf

### 4.3.2 Radiated Emission Data

The data in tables 5 list the significant emission frequencies, the limit and the margin of compliance.

Judgement -

Passed by 11.6 dB margin

Mode: Receiving – Middle Channel

Table 5

**Radiated Emissions 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 | 2432.000 | 46.0 | 33 | 29.4 | 42.4 | 54.0 | -11.6 |
| V | 4864.000 | 40.2 | 33 | 34.9 | 42.1 | 54.0 | -11.9 |
| V | 7296.000 | 36.0 | 33 | 37.9 | 40.9 | 54.0 | -13.1 |
| V | 9728.000 | 32.8 | 33 | 40.4 | 40.2 | 54.0 | -13.8 |
| V | 12160.000 | 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.

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 the fundamental emissions are within two standard bandwidths 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 2 of RSS-210, 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 attached in the Appendix and 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

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

| Channel | Fundamental Emission (dBµV/m) | Delta from the Plot (dB) | Resultant Field Strength (dBµV/m) | Average Limit (dBµV/m) | Margin (dB) |
|---|---|---|---|---|---|
| Lowest | 69.0 | 41.22 | 27.78 | 54 | -26.22 |
| Highest | 69.9 | 41.77 | 28.13 | 54 | -25.87 |

| Channel | Fundamental Emission (dB猩/m) | Delta from the Plot (dB) | Resultant Field Strength (dB猩/m) | Peak Limit (dB猩/m) | Margin (dB) |
|---|---|---|---|---|---|
| Lowest | 94.6 | 41.22 | 53.38 | 74 | -20.62 |
| Highest | 95.5 | 41.77 | 53.73 | 74 | -20.27 |

The resultant field strength meets the general radiated emission limit in FCC Part 15 Section 15.209 / Table 2 of RSS-210, which does not exceed 74dBµV/m for peak limit and also 54dBµV/m for average limit.

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

0.402 MHz

The worst case line conducted configuration photographs are attached in the Appendix and saved with filename: config photos.pdf

4.5.2 AC Power Line Conducted Emission Data

The conducted emission test result is attached in the Appendix and saved with filename: conduct.pdf

Judgement -

Passed by 16.62 dB margin compare with quasi-peak limit

4.6 Radio Frequency Exposure Compliance

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

## 5.0 **Equipment List**

1) Radiated Emissions Test

| Equipment | EMI Test Receiver | Spectrum Analyzer | Log Periodic Antenna |
|---|---|---|---|
| Registration No. | EW-0014 | EW-2188 | EW-0447 |
| Manufacturer | R&S | AGILENTTECH | EMCO |
| Model No. | ESVS30 | E4407B | 3146 |
| Calibration Date | Jun. 01, 2009 | Dec. 25, 2009 | Nov. 12, 2008 |
| Calibration Due Date | Jun. 01, 2010 | Dec. 31, 2010 | May 12, 2010 |

| Equipment | Digital Multimeter | Biconical Antenna | Double Ridged Guide Antenna |
|---|---|---|---|
| Registration No. | EW-1237 | EW-2512 | EW-1015 |
| Manufacturer | FLUKE | EMCO | EMCO |
| Model No. | 179 | 3104C | 3115 |
| Calibration Date | Sep. 01, 2009 | Oct. 31, 2008 | Feb. 09, 2010 |
| Calibration Due Date | Oct. 01, 2010 | Apr. 30, 2010 | Aug. 09, 2011 |

| Equipment | Spectrum Analyzer | Broad-Band Horn Antenna with frequency range 14G - 40GHz |
|---|---|---|
| Registration No. | EW-2466 | EW-1679 |
| Manufacturer | R&S | SCHWARZBECK |
| Model No. | FSP30 | BBHA9170 |
| Calibration Date | Nov. 11, 2009 | Feb. 17, 2010 |
| Calibration Due Date | Nov. 11, 2010 | Feb. 17, 2011 |

2) Conducted Emissions Test

| Equipment | Artificial Mains | Pulse Limiter | EMI Test Receiver |
|---|---|---|---|
| Registration No. | EW-0192 | EW-0699 | EW-2251 |
| Manufacturer | R&S | R&S | R&S |
| Model No. | ESH3-Z5 | ESH3-Z2 | ESCI |
| Calibration Date | Nov. 23, 2009 | Dec. 24, 2009 | Oct. 22, 2009 |
| Calibration Due Date | Nov. 23, 2010 | Jun. 24, 2011 | Oct. 22, 2010 |

**END OF TEST REPORT**