

# FCC PART 15 SUBPART B MEASUREMENT AND TEST REPORT

For

**Fanvil Technology Co., Ltd**

Level 3, Block A, Gaoxinqi Building, Anhua Industrial Park, Qianjin 1 Road, 35th  
District, Bao'An, Shenzhen, 518101 P.R.China

|                |
|----------------|
| MODEL: X3, X3P |
|----------------|

November 6, 2014

|                                                                                     |                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>This Report Concerns:</b><br><input checked="" type="checkbox"/> Original Report | <b>Equipment Type:</b><br>X3                                                                                                                                                                                     |
| <b>Test By:</b>                                                                     | Zhou Chunyan/ <i>Zhou Chunyan</i>                                                                                                                                                                                |
| <b>Report Number:</b>                                                               | BCT14JR-1475E                                                                                                                                                                                                    |
| <b>Test Date:</b>                                                                   | October 22~November 6, 2014                                                                                                                                                                                      |
| <b>Reviewed By:</b>                                                                 | Jiankuai.Li/ <i>Jiankuai.Li</i>                                                                                                                                                                                  |
| <b>Approved By:</b>                                                                 | Owen Yang/ <i>Owen Yang</i>                                                                                                                                                                                      |
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Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior written consent of Shenzhen Bontek Compliance Testing Laboratory Co., Ltd.

**TABLE OF CONTENTS**

**1 - GENERAL INFORMATION ..... 3**

1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT) ..... 3

1.2 TEST STANDARDS ..... 3

1.3 TEST SUMMARY ..... 4

1.4 TEST FACILITY ..... 4

**2 - SYSTEM TEST CONFIGURATION ..... 5**

2.1 JUSTIFICATION ..... 5

2.2 EUT EXERCISE SOFTWARE ..... 5

2.3 SPECIAL ACCESSORIES ..... 5

2.4 EQUIPMENT MODIFICATIONS ..... 5

2.5 CONFIGURATION OF TEST SYSTEM ..... 5

**3 - DISTURBANCE VOLTAGE AT THE MAINS TERMINALS ..... 6**

3.1 MEASUREMENT UNCERTAINTY ..... 6

3.2 LIMIT OF DISTURBANCE VOLTAGE AT THE MAINS TERMINALS ..... 6

3.3 EUT SETUP ..... 6

3.4 INSTRUMENT SETUP ..... 7

3.5 TEST PROCEDURE ..... 7

3.6 SUMMARY OF TEST RESULTS ..... 7

3.7 DISTURBANCE VOLTAGE TEST DATA ..... 7

3.8 TEST EQUIPMENT LIST AND DETAILS ..... 7

3.9 TEST RESULT ..... 7

**4 - RADIATED DISTURBANCES ..... 10**

4.1 MEASUREMENT UNCERTAINTY ..... 10

4.2 LIMIT OF RADIATED DISTURBANCES ..... 10

4.3 EUT SETUP ..... 10

4.4 TEST RECEIVER SETUP ..... 11

4.5 TEST PROCEDURE ..... 11

4.6 CORRECTED AMPLITUDE & MARGIN CALCULATION ..... 11

4.7 RADIATED EMISSIONS TEST RESULT ..... 11

4.8 TEST EQUIPMENT LIST AND DETAILS ..... 12

4.9 TEST RESULT ..... 12

**APPENDIX A - EUT PHOTOGRAPHS ..... 15**

**APPENDIX B - TEST SETUP PHOTOGRAPHS ..... 17**

**APPENDIX C - BONTEK ACCREDITATION CERTIFICATES ..... 22**

# 1 - GENERAL INFORMATION

## 1.1 Product Description for Equipment Under Test (EUT)

### Client Information

Applicant: **Fanvil Technology Co . ,Ltd**  
 Address of applicant: Level 3,Block A,Gaoxingqi Building,Anhua Industrial Park,Qianjin 1 Road,35th District,Bao'An,Shenzhen,518101 P.R.China  
 Manufacturer: **Fanvil Technology Co . ,Ltd**  
 Address of manufacturer: Level 3,Block A,Gaoxingqi Building,Anhua Industrial Park,Qianjin 1 Road,35th District,Bao'An,Shenzhen,518101 P.R.China

### General Description of E.U.T

EUT Description: **X3**  
 Trade Mark: **Fanvil**  
 Model No.: **X3,X3P**  
 Test Model No.: **X3P**  
 Adapter Power Rating: **Model: FPS005USA-050100**  
**Input: AC 100-240V 50/60Hz 300mA**  
**Output: DC 5V 1A**  
 Power Rating: **Output: DC 5V 1A**

Remark: \* *The test data gathered are from the production sample provided by the manufacturer.*

\* *Supplementary models have the same appearance, but with different ways of power supply.*

### General Description of Test Auxiliary

| AUX Description:                                 | Manufacturer | Model No.  | Certificate |
|--------------------------------------------------|--------------|------------|-------------|
| Laptop                                           | LENOVO       | 0658       | CE,FCC      |
| 8-Port 10/100Mbps Desktop Switch with 4-port POE | TP-LINK      | TL-SF1008P | CE,FCC      |

## 1.2 Test Standards

The following Declaration of Conformity report of EUT is prepared in accordance with FCC Rules and Regulations Part 15 Subpart B

The objective of the manufacturer is to demonstrate compliance with the described above standards.

### 1.3 Test Summary

For the EUT described above. The standards used were FCC Part 15 Subpart B for Emissions

Table 1 : Tests Carried Out Under FCC Part 15 Subpart B

| Standard              | Test Items                            | Status |
|-----------------------|---------------------------------------|--------|
| FCC Part 15 Subpart B | Conduction Emission, 0.15MHz to 30MHz | √      |
| FCC Part 15 Subpart B | Radiation Emission, 30MHz to 1GHz     | √      |

- √ Indicates that the test is applicable
- × Indicates that the test is not applicable

### 1.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

#### IC Registration No.: 7631A

The 3m alternate test site of Shenzhen Bontek Compliance Testing Laboratory Co., Ltd. EMC Laboratory has been registered by Certification and Engineer Bureau of Industry Canada for the performance of with Registration NO.: 7631A on January 2011. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

#### CNAS - Registration No.: L3923

Shenzhen Bontek Compliance Testing Laboratory Co., Ltd. to ISO/IEC 17025:25 General Requirements for the Competence of Testing and Calibration Laboratories(CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing. The acceptance letter from the CNAS is maintained in our files: Registration: L3923, March, 2012.

#### FCC – Registration No.: 970318

Shenzhen CTL Testing Technology Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 970318, December, 2013.

## 2 - SYSTEM TEST CONFIGURATION

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### 2.1 Justification

The system was configured for testing in a typical fashion (as only used by a typical user).

### 2.2 EUT Exercise Software

The EUT exercising program used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use. The software offered by manufacture, can let the EUT being ON operation.

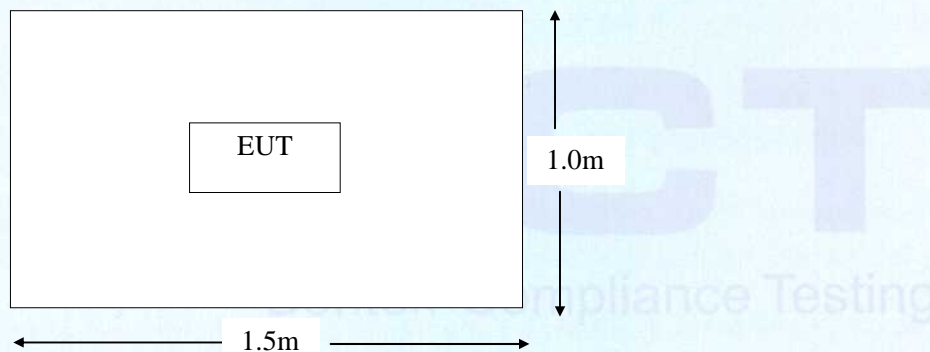
### 2.3 Special Accessories

As shown in section 2.5, interface cable used for compliance testing is shielded as normally supplied by **Fanvil Technology Co . ,Ltd** and its respective support equipment manufacturers.

### 2.4 Equipment Modifications

The EUT tested was not modified by BCT.

### 2.5 Configuration of Test System



### 3 - DISTURBANCE VOLTAGE AT THE MAINS TERMINALS

#### 3.1 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is 3.4 dB.

#### 3.2 Limit of Disturbance Voltage at The Mains Terminals

| Frequency Range (MHz) | Limits ( dBuV) |         |
|-----------------------|----------------|---------|
|                       | Quasi-Peak     | Average |
| 0.150~0.500           | 66~56          | 56~46   |
| 0.500~5.000           | 56             | 46      |
| 5.000~30.00           | 60             | 50      |

Note: (1)The tighter limit shall apply at the edge between two frequency bands.

#### 3.3 EUT Setup

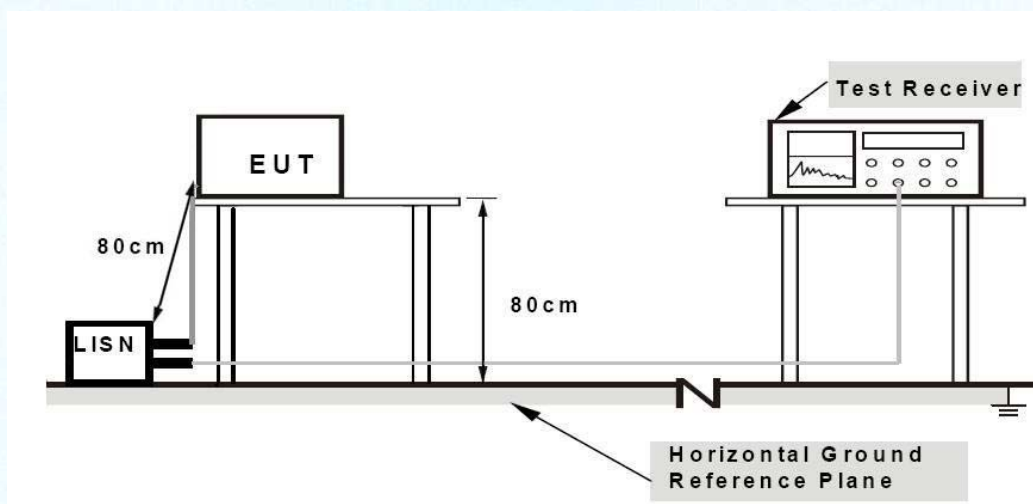
The setup of EUT is according with ANSI C63.4-2009 measurement procedure. The specification used was the FCC Rules and Regulations Part 15 Subpart B limits.

The EUT was placed center and the back edge of the test table.

The AV cables were draped along the test table and bundled to 30-40cm in the middle.

The spacing between the peripherals was 10 cm.

Maximum emission emitted from EUT was determined by manipulating the EUT, support equipment, interconnecting cables and varying the mode of operation and the levels in the final result of the test were recorded with the EUT running in the operating mode that maximum emission was emitted.



### 3.4 Instrument Setup

The test receiver was set with the following configurations:

Test Receiver Setting:

Frequency Range.....150 KHz to 30 MHz  
 Detector.....Peak & Quasi-Peak & Average  
 Sweep Speed.....Auto  
 IF Band Width.....9 KHz

### 3.5 Test Procedure

During the conducted emission test, the EUT power cord was connected to the auxiliary outlet of the first Artificial Mains.

Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance using all installation combination.

All data was recorded in the peak detection mode. Quasi-peak and Average readings were only performed when an emission was found to be marginal (within -10 dB  $\mu$  V of specification limits). Quasi-peak readings are distinguished with a "QP". Average readings are distinguished with a "AV".

### 3.6 Summary of Test Results

According to the data in section 3.6, the EUT complied with the FCC Part 15 B Conducted margin, with the *worst* margin reading of:

### 3.7 Disturbance Voltage Test Data

|                              |                  |
|------------------------------|------------------|
| Temperature ( °C )           | 22~25            |
| Humidity ( %RH )             | 50~55            |
| Barometric Pressure ( mbar ) | 950~1000         |
| EUT                          | X3               |
| M/N                          | X3P              |
| Operating Mode               | Normal operation |

Test data see following pages

**Remark:** (1) When PK reading is less than relevant limit 20dB, the QP reading and AV reading will not be recorded.  
 (2) Where QP reading is less than relevant AV limit, the AV reading will not be measured

### 3.8 Test Equipment List and Details

| No. | Instrument no. | Equipment                    | Manufacturer    | Model No. | S/N     | Last calibration | Due calibration |
|-----|----------------|------------------------------|-----------------|-----------|---------|------------------|-----------------|
| 1   | BCT-EMC001     | EMI Test Receiver            | R&S             | ESCI      | 100687  | 2014-4-24        | 2015-4-23       |
| 2   | BCT-EMC020     | Teo Line Single Phase Module | SCHWARZBECK     | NSLK8128  | 8128247 | 2014-10-30       | 2015-10-29      |
| 3   | BCT-EMC032     | 10dB attenuator              | ELECTRO-METRICS | EM-7600   | 836     | 2014-4-24        | 2015-4-23       |

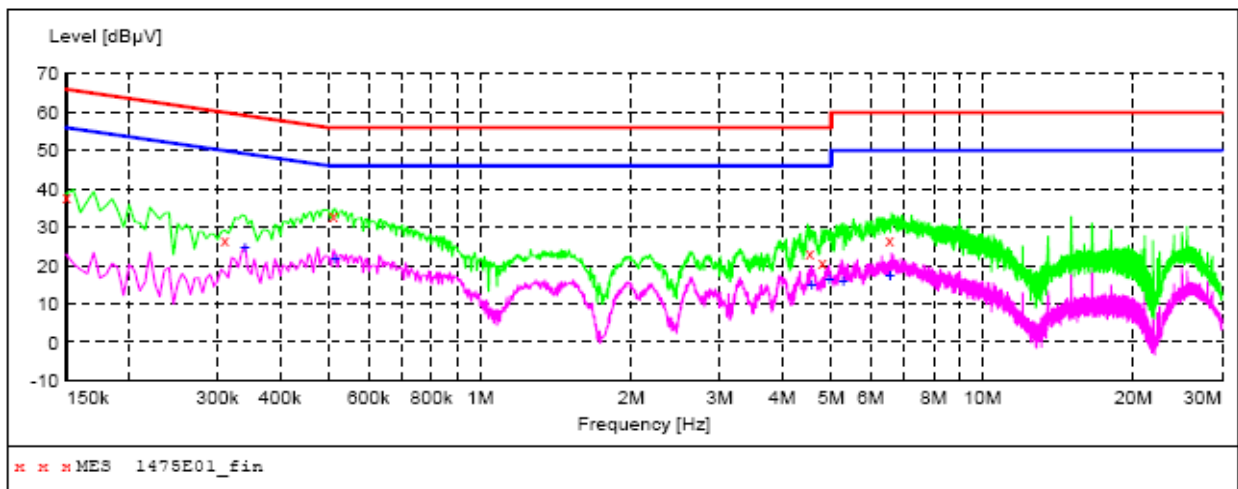
### 3.9 Test Result

**PASS**

### Conducted Emission Test Data

EUT: X3  
 M/N: X3P  
 Operating Condition: Normal operation  
 Test Site: Shielded Room  
 Operator: Cheng  
 Test Specification: AC 120V/60Hz for Adapter  
 Comment: Live Line  
 Start of Test: Tem:25°C Hum:50%

**SCAN TABLE: "Voltage (150K-30M) FIN"**  
 Short Description: 150K-30M Voltage



#### MEASUREMENT RESULT: "1475E01\_fin"

11/6/2014 14:04

| Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE  |
|---------------|------------|-----------|------------|-----------|----------|------|-----|
| 0.150000      | 37.90      | 13.4      | 66         | 28.1      | QP       | L1   | GND |
| 0.310000      | 26.70      | 10.9      | 60         | 33.3      | QP       | L1   | GND |
| 0.510000      | 32.90      | 10.5      | 56         | 23.1      | QP       | L1   | GND |
| 4.535000      | 23.10      | 10.4      | 56         | 32.9      | QP       | L1   | GND |
| 4.800000      | 20.70      | 10.4      | 56         | 35.3      | QP       | L1   | GND |
| 6.540000      | 26.50      | 10.5      | 60         | 33.5      | QP       | L1   | GND |

#### MEASUREMENT RESULT: "1475E01\_fin2"

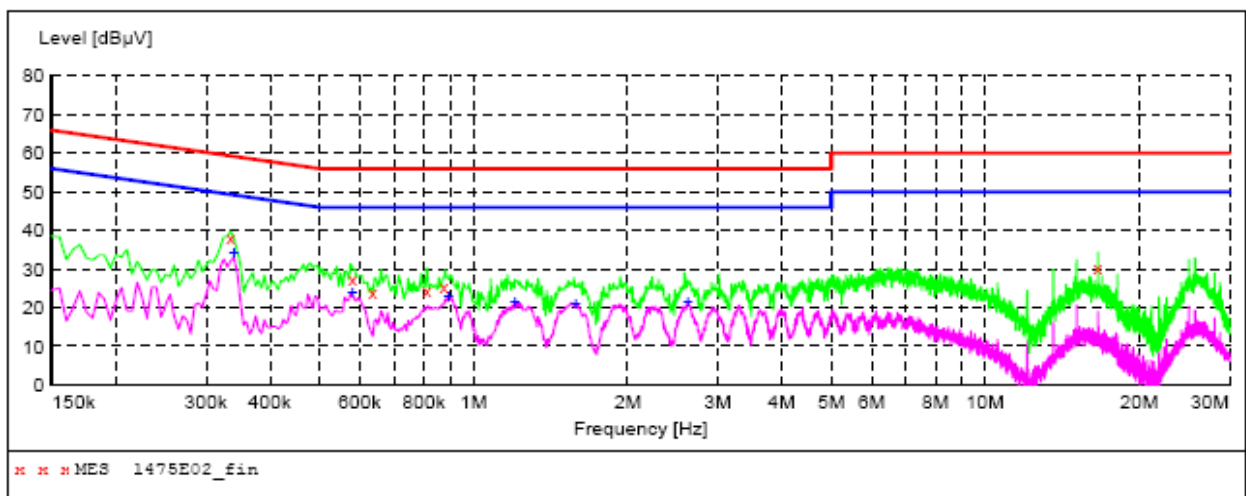
11/6/2014 14:04

| Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE  |
|---------------|------------|-----------|------------|-----------|----------|------|-----|
| 0.340000      | 24.80      | 10.8      | 49         | 24.4      | AV       | L1   | GND |
| 0.515000      | 21.80      | 10.5      | 46         | 24.2      | AV       | L1   | GND |
| 4.570000      | 15.00      | 10.4      | 46         | 31.0      | AV       | L1   | GND |
| 4.965000      | 16.50      | 10.4      | 46         | 29.5      | AV       | L1   | GND |
| 5.290000      | 15.90      | 10.4      | 50         | 34.1      | AV       | L1   | GND |
| 6.550000      | 17.70      | 10.5      | 50         | 32.3      | AV       | L1   | GND |

### Conducted Emission Test Data

EUT: X3  
M/N: X3P  
Operating Condition: Normal operation  
Test Site: Shielded Room  
Operator: Cheng  
Test Specification: AC 120V/60Hz for Adapter  
Comment: Neutral Line  
Start of Test: Tem:25°C Hum:50%

**SCAN TABLE: "Voltage (150K-30M) FIN"**  
Short Description: 150K-30M Voltage



**MEASUREMENT RESULT: "1475E02\_fin"**

11/6/2014 14:07

| Frequency MHz | Level dBuV | Transd dB | Limit dBuV | Margin dB | Detector | Line | PE  |
|---------------|------------|-----------|------------|-----------|----------|------|-----|
| 0.335000      | 38.10      | 10.9      | 59         | 21.2      | QP       | N    | GND |
| 0.580000      | 27.40      | 10.4      | 56         | 28.6      | QP       | N    | GND |
| 0.635000      | 24.10      | 10.4      | 56         | 31.9      | QP       | N    | GND |
| 0.810000      | 24.30      | 10.4      | 56         | 31.7      | QP       | N    | GND |
| 0.875000      | 25.50      | 10.4      | 56         | 30.5      | QP       | N    | GND |
| 16.615000     | 30.40      | 10.8      | 60         | 29.6      | QP       | N    | GND |

**MEASUREMENT RESULT: "1475E02\_fin2"**

11/6/2014 14:07

| Frequency MHz | Level dBuV | Transd dB | Limit dBuV | Margin dB | Detector | Line | PE  |
|---------------|------------|-----------|------------|-----------|----------|------|-----|
| 0.340000      | 34.40      | 10.8      | 49         | 14.8      | AV       | N    | GND |
| 0.580000      | 24.00      | 10.4      | 46         | 22.0      | AV       | N    | GND |
| 0.895000      | 22.90      | 10.4      | 46         | 23.1      | AV       | N    | GND |
| 1.205000      | 21.70      | 10.4      | 46         | 24.3      | AV       | N    | GND |
| 1.585000      | 21.20      | 10.4      | 46         | 24.8      | AV       | N    | GND |
| 2.625000      | 21.50      | 10.4      | 46         | 24.5      | AV       | N    | GND |

## 4 - RADIATED DISTURBANCES

### 4.1 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement is 4.0 dB.

### 4.2 Limit of Radiated Disturbances

| Frequency (MHz) | Distance (Meters) | Field Strengths Limits (dB $\mu$ V/m) |
|-----------------|-------------------|---------------------------------------|
| 30 ~ 88         | 3                 | 40                                    |
| 88~216          | 3                 | 43.5                                  |
| 216 ~ 960       | 3                 | 46                                    |
| 960 ~ 1000      | 3                 | 54                                    |

- Note: (1) The tighter limit shall apply at the edge between two frequency bands.  
 (2) Distance refers to the distance in meters between the test instrument antenna and the closest point of any part of the E.U.T.

### 4.3 EUT Setup

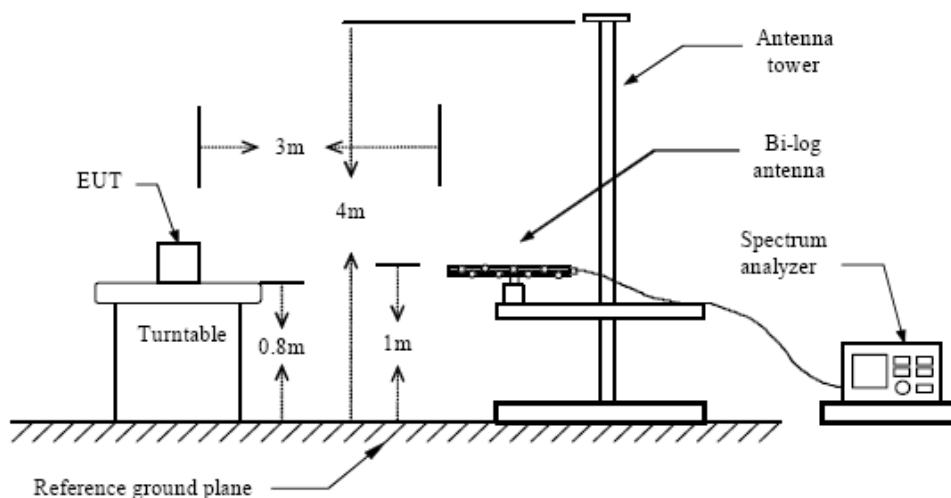
The radiated emission tests were performed in the in the 3-meter anechoic chamber, using the setup accordance with the ANSI C63.4-2009. The specification used was the FCC Part 15 Subpart B limits.

The EUT was placed on the center of the test table.

Maximum emission emitted from EUT was determined by manipulating the EUT, support equipment, interconnecting cables and varying the mode of operation and the levels in the final result of the test were recorded with the EUT running in the operating mode that maximum emission was emitted.

Block diagram of test setup (In chamber)

Below 1 GHz



#### 4.4 Test Receiver Setup

According to FCC Part 15 rule, the frequency was investigated from 30 to 1000 MHz. During the radiated emission test, the test receiver was set with the following configurations:

Test Receiver Setting:

Detector.....Peak & Quasi-Peak  
 IF Band Width.....120KHz  
 Frequency Range.....30MHz to 1000MHz  
 Turntable Rotated.....0 to 360 degrees

Antenna Position:

Height.....1m to 4m  
 Polarity.....Horizontal and Vertical

#### 4.5 Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

All data was recorded in the peak detection mode. Quasi-peak readings performed only when an emission was found to be marginal (within -10 dB  $\mu$  V of specification limits), and are distinguished with a "QP" in the data table.

#### 4.6 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

The "Margin" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB  $\mu$  V means the emission is 7dB  $\mu$  V below the maximum limit for Subpart B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Corr. Ampl.}$$

#### 4.7 Radiated Emissions Test Result

|                              |                  |
|------------------------------|------------------|
| Temperature ( °C )           | 22~25            |
| Humidity ( %RH )             | 50~54            |
| Barometric Pressure ( mbar ) | 950~1000         |
| EUT                          | X3               |
| M/N                          | X3P              |
| Operating Mode               | Normal operation |

#### 4.8 Test Equipment List and Details

| No. | Instrument no. | Equipment                     | Manufacturer | Model No. | S/N      | Last calibration | Due calibration |
|-----|----------------|-------------------------------|--------------|-----------|----------|------------------|-----------------|
| 1   | BCT-EMC001     | EMI Test Receiver             | R&S          | ESCI      | 100687   | 2014-4-24        | 2015-4-23       |
| 2   | BCT-EMC002     | EMI Test Receiver             | R&S          | ESPI      | 100097   | 2014-10-30       | 2015-10-29      |
| 3   | BCT-EMC018     | TRILOG Broadband Test-Antenna | SCHWARZBECK  | VULB9163  | 9163-324 | 2014-5-18        | 2015-5-17       |

#### 4.9 Test Result

**PASS**

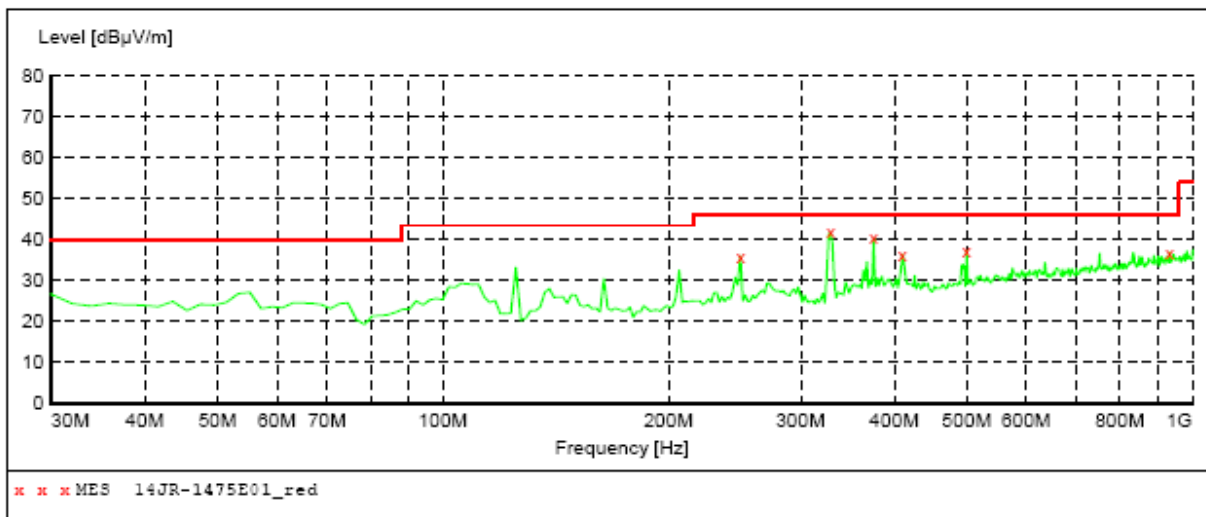


### Radiated Emission Test Data of Below 1GHz

EUT: X3  
 M/N: X3P  
 Operating Condition: Normal operation  
 Test Site: CHAMBER  
 Operator: Pan  
 Test Specification: AC 120V/60Hz for Adapter  
 Comment: Polarization: Horizontal  
 Start of Test: Tem:25°C Hum:50%

#### **SWEEP TABLE: "test (30M-1G)"**

| Short Description: |           | Field Strength |            |           |              |
|--------------------|-----------|----------------|------------|-----------|--------------|
| Start              | Stop      | Detector       | Meas. Time | IF Bandw. | Transducer   |
| Frequency          | Frequency |                |            |           |              |
| 30.0 MHz           | 1.0 GHz   | MaxPeak        | Coupled    | 100 kHz   | VULB9163 NEW |



#### **MEASUREMENT RESULT: "14JR-1475E01\_red"**

11/5/2014 16:35

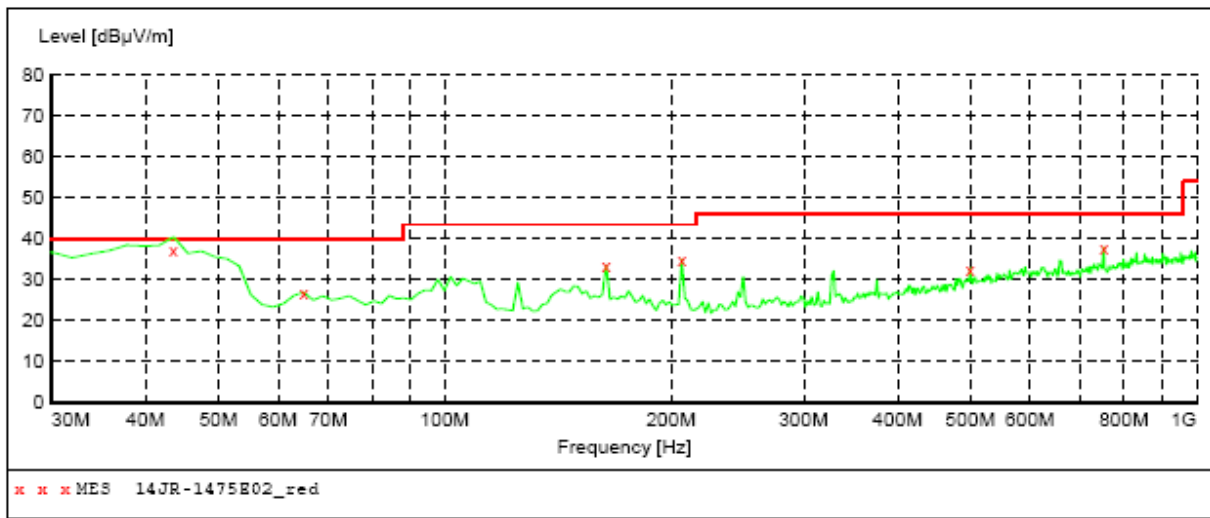
| Frequency MHz | Level dBuV/m | Transd dB | Limit dBuV/m | Margin dB | Det. | Height cm | Azimuth deg | Polarization |
|---------------|--------------|-----------|--------------|-----------|------|-----------|-------------|--------------|
| 249.220000    | 36.00        | 17.2      | 46.0         | 10.0      | QP   | 100.0     | 0.00        | HORIZONTAL   |
| 328.760000    | 41.80        | 19.6      | 46.0         | 4.2       | QP   | 100.0     | 0.00        | HORIZONTAL   |
| 375.320000    | 40.40        | 20.8      | 46.0         | 5.6       | QP   | 100.0     | 0.00        | HORIZONTAL   |
| 410.240000    | 36.40        | 21.7      | 46.0         | 9.6       | QP   | 100.0     | 0.00        | HORIZONTAL   |
| 499.480000    | 37.20        | 23.8      | 46.0         | 8.8       | QP   | 100.0     | 0.00        | HORIZONTAL   |
| 932.100000    | 36.90        | 29.4      | 46.0         | 9.1       | QP   | 100.0     | 0.00        | HORIZONTAL   |

### Radiated Emission Test Data of Below 1GHz

EUT: X3  
M/N: X3P  
Operating Condition: Normal operation  
Test Site: CHAMBER  
Operator: Pan  
Test Specification: AC 120V/60Hz for Adapter  
Comment: Polarization: Vertical  
Start of Test: Tem:25°C Hum:50%

**SWEEP TABLE: "test (30M-1G)"**

| Short Description: |         | Field Strength |            |           |              |
|--------------------|---------|----------------|------------|-----------|--------------|
| Start              | Stop    | Detector       | Meas. Time | IF Bandw. | Transducer   |
| 30.0 MHz           | 1.0 GHz | MaxPeak        | Coupled    | 100 kHz   | VULB9163 NEW |



**MEASUREMENT RESULT: "14JR-1475E02\_red"**

11/5/2014 16:33

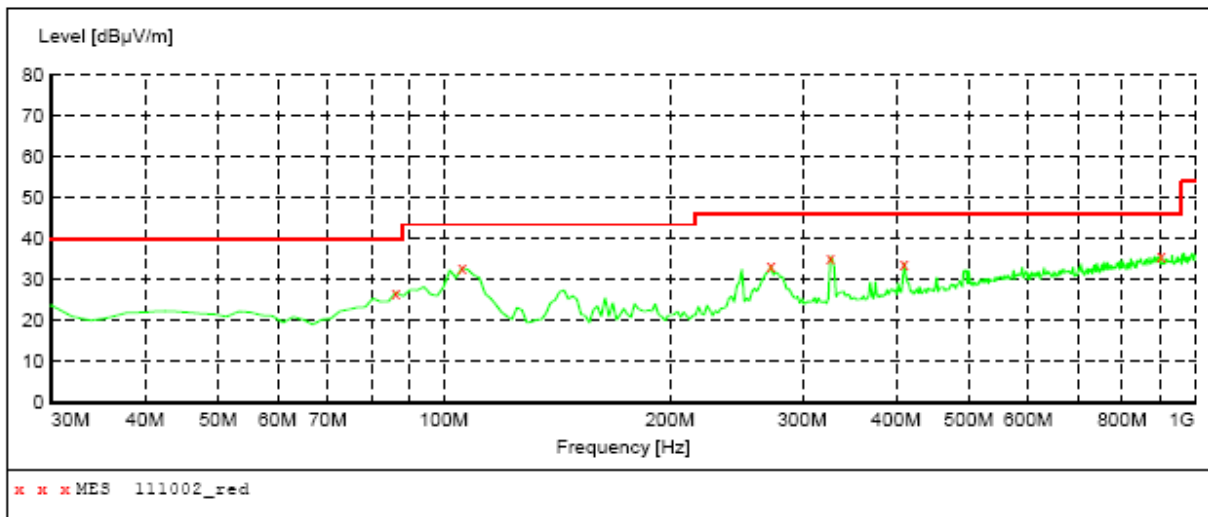
| Frequency MHz | Level dBµV/m | Transd dB | Limit dBµV/m | Margin dB | Det. | Height cm | Azimuth deg | Polarization |
|---------------|--------------|-----------|--------------|-----------|------|-----------|-------------|--------------|
| 43.580000     | 37.40        | 15.9      | 40.0         | 2.6       | QP   | 100.0     | 0.00        | VERTICAL     |
| 64.920000     | 26.90        | 13.5      | 40.0         | 13.1      | QP   | 100.0     | 0.00        | VERTICAL     |
| 163.860000    | 33.60        | 12.9      | 43.5         | 9.9       | QP   | 100.0     | 0.00        | VERTICAL     |
| 206.540000    | 35.00        | 15.0      | 43.5         | 8.5       | QP   | 100.0     | 0.00        | VERTICAL     |
| 499.480000    | 32.70        | 23.8      | 46.0         | 13.3      | QP   | 100.0     | 0.00        | VERTICAL     |
| 751.680000    | 37.90        | 27.3      | 46.0         | 8.1       | QP   | 100.0     | 0.00        | VERTICAL     |

### Radiated Emission Test Data of Below 1GHz

EUT: X3  
 M/N: X3P  
 Operating Condition: Normal operation  
 Test Site: CHAMBER  
 Operator: Pan  
 Test Specification: AC 120V/60Hz for POE  
 Comment: Polarization: Horizontal  
 Start of Test: Tem:25°C Hum:50%

**SWEEP TABLE: "test (30M-1G)"**

| Short Description: |         | Field Strength |            |           |              |
|--------------------|---------|----------------|------------|-----------|--------------|
| Start              | Stop    | Detector       | Meas. Time | IF Bandw. | Transducer   |
| 30.0 MHz           | 1.0 GHz | MaxPeak        | Coupled    | 100 kHz   | VULB9163 NEW |



**MEASUREMENT RESULT: "111002\_red"**

11/10/2014 10:34

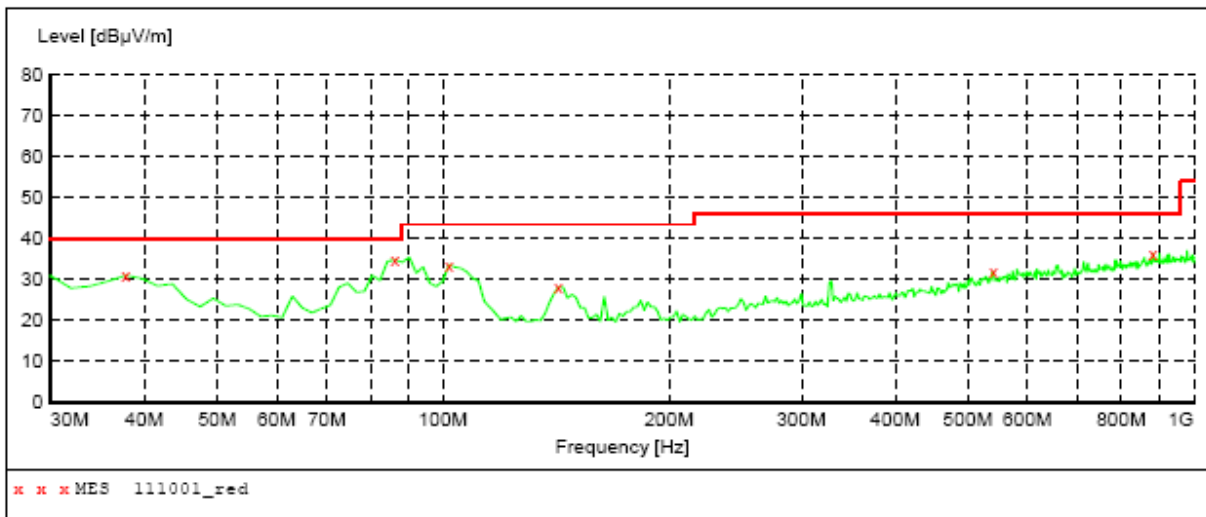
| Frequency MHz | Level dBµV/m | Transd dB | Limit dBµV/m | Margin dB | Det. | Height cm | Azimuth deg | Polarization |
|---------------|--------------|-----------|--------------|-----------|------|-----------|-------------|--------------|
| 86.260000     | 27.00        | 14.8      | 40.0         | 13.0      | QP   | 100.0     | 0.00        | HORIZONTAL   |
| 105.660000    | 32.90        | 16.9      | 43.5         | 10.6      | QP   | 100.0     | 0.00        | HORIZONTAL   |
| 272.500000    | 33.50        | 17.9      | 46.0         | 12.5      | QP   | 100.0     | 0.00        | HORIZONTAL   |
| 326.820000    | 35.60        | 19.5      | 46.0         | 10.4      | QP   | 100.0     | 0.00        | HORIZONTAL   |
| 410.240000    | 34.00        | 21.7      | 46.0         | 12.0      | QP   | 100.0     | 0.00        | HORIZONTAL   |
| 901.060000    | 35.90        | 29.2      | 46.0         | 10.1      | QP   | 100.0     | 0.00        | HORIZONTAL   |

### Radiated Emission Test Data of Below 1GHz

EUT: X3  
M/N: X3P  
Operating Condition: Normal operation  
Test Site: CHAMBER  
Operator: Pan  
Test Specification: AC 120V/60Hz for POE  
Comment: Polarization: Vertical  
Start of Test: Tem:25°C Hum:50%

**SWEEP TABLE: "test (30M-1G)"**

| Short Description: |           | Field Strength |            |           |              |
|--------------------|-----------|----------------|------------|-----------|--------------|
| Start              | Stop      | Detector       | Meas. Time | IF Bandw. | Transducer   |
| Frequency          | Frequency | MaxPeak        | Coupled    | 100 kHz   | VULB9163 NEW |
| 30.0 MHz           | 1.0 GHz   |                |            |           |              |



**MEASUREMENT RESULT: "111001\_red"**

11/10/2014 10:32

| Frequency MHz | Level dBuV/m | Transd dB | Limit dBuV/m | Margin dB | Det. | Height cm | Azimuth deg | Polarization |
|---------------|--------------|-----------|--------------|-----------|------|-----------|-------------|--------------|
| 37.760000     | 31.00        | 15.2      | 40.0         | 9.0       | QP   | 100.0     | 0.00        | VERTICAL     |
| 86.260000     | 34.80        | 14.8      | 40.0         | 5.2       | QP   | 100.0     | 0.00        | VERTICAL     |
| 101.780000    | 33.60        | 17.3      | 43.5         | 9.9       | QP   | 100.0     | 0.00        | VERTICAL     |
| 142.520000    | 28.20        | 12.3      | 43.5         | 15.3      | QP   | 100.0     | 0.00        | VERTICAL     |
| 540.220000    | 31.90        | 24.8      | 46.0         | 14.1      | QP   | 100.0     | 0.00        | VERTICAL     |
| 881.660000    | 36.40        | 29.0      | 46.0         | 9.6       | QP   | 100.0     | 0.00        | VERTICAL     |

## APPENDIX A - EUT PHOTOGRAPHS

### EUT – Whole View



### EUT – Top View



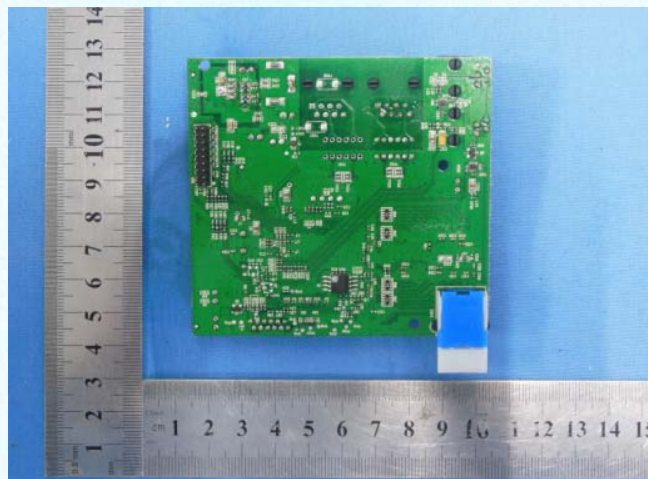
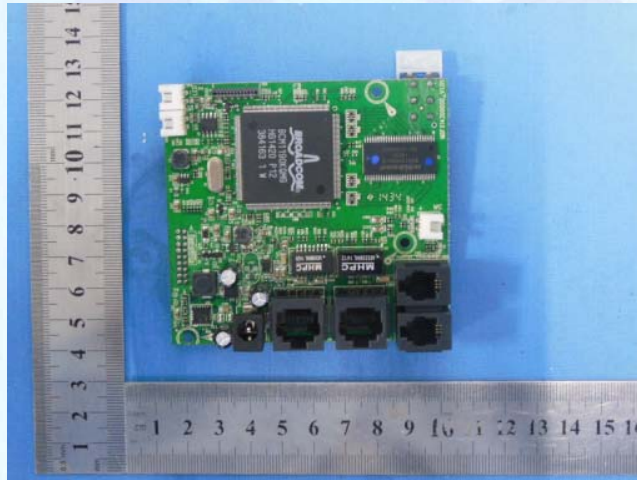
### EUT – Bottom View



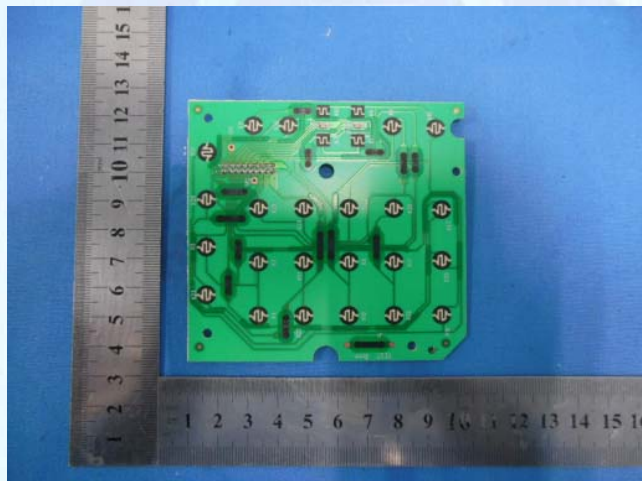
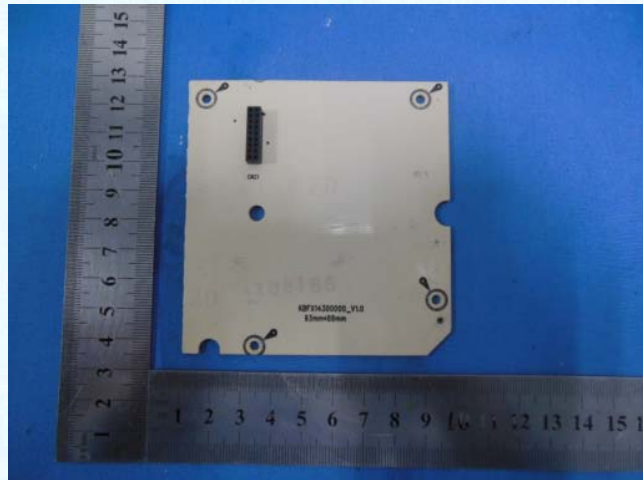
### EUT –Open View



### EUT –PCB View



### EUT –PCB View



### EUT –Adapter View

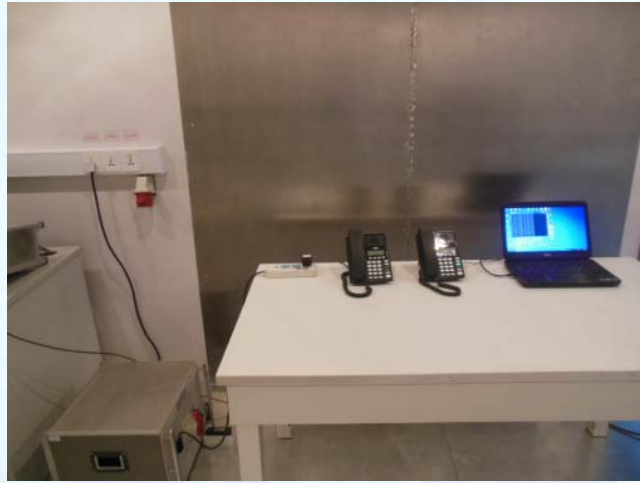


**EUT –Adapter View**

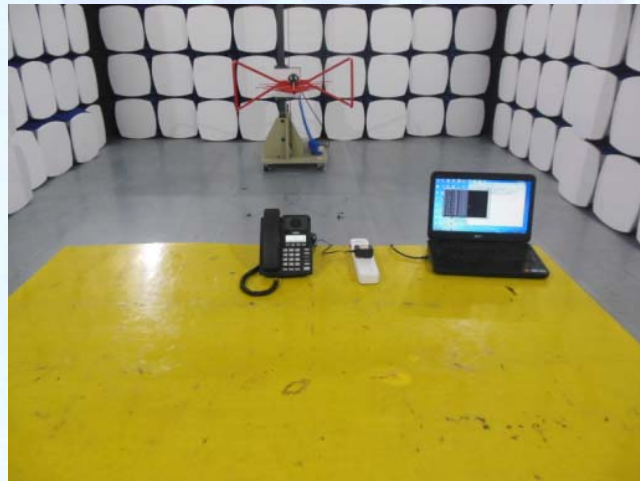


## APPENDIX B - TEST SETUP PHOTOGRAPHS

### Conducted Emission



### Radiated Emission



## APPENDIX C - BONTEK ACCREDITATION CERTIFICATES



**China National Accreditation Service for Conformity Assessment**

### **LABORATORY ACCREDITATION CERTIFICATE**

**(Registration No. CNAS L3923 )**

**Shenzhen Bontek Compliance Testing Laboratory Co., Ltd.**

1/F., Block East H-3, OCT Eastern Ind. Zone, the 1st Road,

Xiangshan East Street, Nanshan District, Shenzhen, Guangdong, China

*is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence of testing.*

*The scope of accreditation is detailed in the attached appendices bearing the same registration number as above. The appendices form an integral part of this certificate.*

**Date of Issue: 2012-03-22**

**Date of Expiry: 2015-03-21**

**Date of Initial Accreditation: 2009-02-27**

**Date of Update: 2012-03-22**

Signed on behalf of China National Accreditation Service  
for Conformity Assessment

China National Accreditation Service for Conformity Assessment (CNAS) is authorized by Certification and Accreditation Administration of the People's Republic of China (CNCA) to operate the national accreditation schemes for conformity assessment. CNAS is the signatory to International Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (ILAC MRA) and Asia Pacific Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (APLAC MRA).

No. CNAS AL 2

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