TESTING
No. L2264

# Part 15B

# TEST REPORT

| | |
|---|---|
| **Product Name** | Tablet PC |
| **Model Name** | R8 |
| **FCC ID** | NV8-R8 |
| **Client** | Estone Technology Inc |

**TA Technology (Shanghai) Co., Ltd.**

# GENERAL SUMMARY

| | | | |
|---|---|---|---|
| **Product Name** | Tablet PC | **Model Name** | R8 |
| **FCC ID** | NV8-R8 | | |
| **Report No.** | RXC1209-0833EMC01R2 | | |
| **Client** | Estone Technology Inc | | |
| **Manufacturer** | Shenzhenshi ChuangZhiCheng Technology Co., Ltd Manufacturing Center | | |
| **Reference Standard(s)** | **FCC Code CFR47 Part15B (2010-12)** Radio frequency device.<br><br>**ANSI C63.4 (2009)** Methods of Measurement of Radio-Noise Emission from Low-Voltage Electrical and Electronic Equipment in the Range of 9 KHz to 40GHz. | | |
| **Conclusion** | This portable wireless equipment has been measured in all cases requested by the relevant standards. Test results in Chapter 2 of this test report are below limits specified in the relevant standards.<br><br>General Judgment : **Pass**<br><br>**(Stamp)**<br>**Date of issue: December 21st, 2012** | | |
| **Comment** | The test result only responds to the measured sample. | | |

**Approved by** 杨伟中 Director **Revised by** 范广翔 EMC Manager **Performed by** 蓝江鹏 EMC Engineer

# TABLE OF CONTENT

# 1. General Information

## 1.1. Notes of the test report

**TA Technology (Shanghai) Co., Ltd.** guarantees the reliability of the data presented in this test report, which is the results of measurements and tests performed for the items under test on the date and under the conditions stated in this test report and is based on the knowledge and technical facilities available at TA Technology (Shanghai) Co., Ltd. at the time of execution of the test.

**TA Technology (Shanghai) Co., Ltd.** is liable to the client for the maintenance by its personnel of the confidentiality of all information related to the items under test and the results of the test. This report only refers to the item that has undergone the test.

This report standalone dose not constitute or imply by its own an approval of the product by the certification Bodies or competent Authorities. This report can not be used partially or in full for publicity and/or promotional purposes without previous written approval of **TA Technology (Shanghai) Co., Ltd.** and the Accreditation Bodies, if it applies.

If the electrical report is inconsistent with the printed one, it should be subject to the latter.

## 1.2. Testing laboratory

| | |
|---|---|
| Company: | TA Technology (Shanghai) Co., Ltd. |
| Registration Number: | 428261 |
| Address: | No.145, Jintang Rd, Tangzhen Industry Park, Pudong |
| City: | Shanghai |
| Post code: | 201201 |
| Country: | P. R. China |
| Contact: | Yang Weizhong |
| Telephone: | +86-021-50791141/2/3 |
| Fax: | +86-021-50791141/2/3-8000 |
| Website: | http://www.ta-shanghai.com |
| E-mail: | yangweizhong@ta-shanghai.com |

## 1.3. Applicant Information

| | |
|---|---|
| Company: | Estone Technology Inc |
| Address: | 3324 secor road #8, Toledo, OH 43606 |
| City: | Toledo |
| Postal Code: | / |
| Country: | America |

## 1.4. Manufacturer Information

| | |
|---|---|
| Company: | Shenzhenshi ChuangZhiCheng Technology Co., Ltd Manufacturing Center |
| Address: | 3F, Block A2, A3, Beida Funder Hi-tech park, Songbai Road, ShiyanStreet, Baoan District, Shenzhen |
| City: | Shenzhen |
| Postal Code: | 518000 |
| Country: | China |

## 1.5. Information of EUT

**General information**

| | |
|---|---|
| Name of EUT: | Tablet PC |
| IMEI: | CZC1260024620010 |
| Hardware Version: | VerD |
| Software Version: | R802R007 |
| Antenna Type: | Internal Antenna |

Equipment Under Test (EUT) is Tablet PC with internal antenna. During the test, the EUT was in the full system mode: the USB port was connected to a mouse and the earphone port was connected to an earphone.

The sample under test was selected by the Client.

Components list please refer to documents of the manufacturer.

## 1.6. Test Date

The test is performed from October 26, 2012 to November 15, 2012.

# 2. Test Information

## 2.1. Summary of test results

| Number | Test Case | Clause in FCC Rules | Verdict |
|---|---|---|---|
| 1 | Radiated Emission | 15.109, ANSI C63.4-2009 | PASS |
| 2 | Conducted Emission | 15.107, ANSI C63.4-2009 | PASS |

## 2.2. Radiated Emission

**Ambient condition**

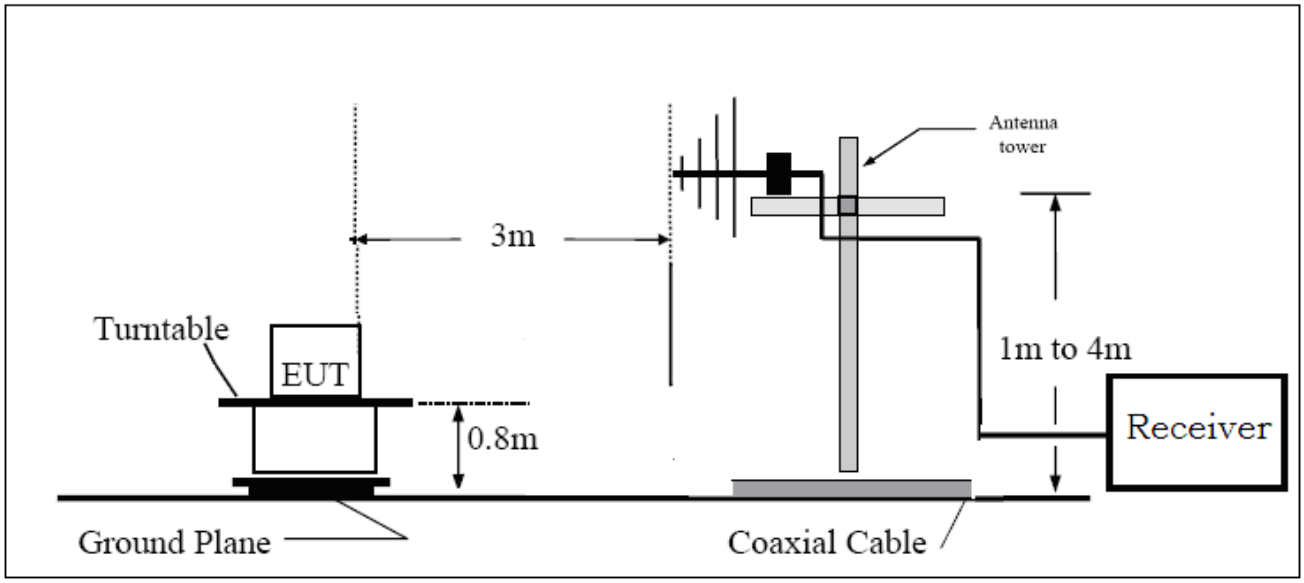
| Temperature | Relative humidity | Pressure |
|---|---|---|
| 24°C~26°C | 45%~50% | 102.5kPa |

**Methods of Measurement**

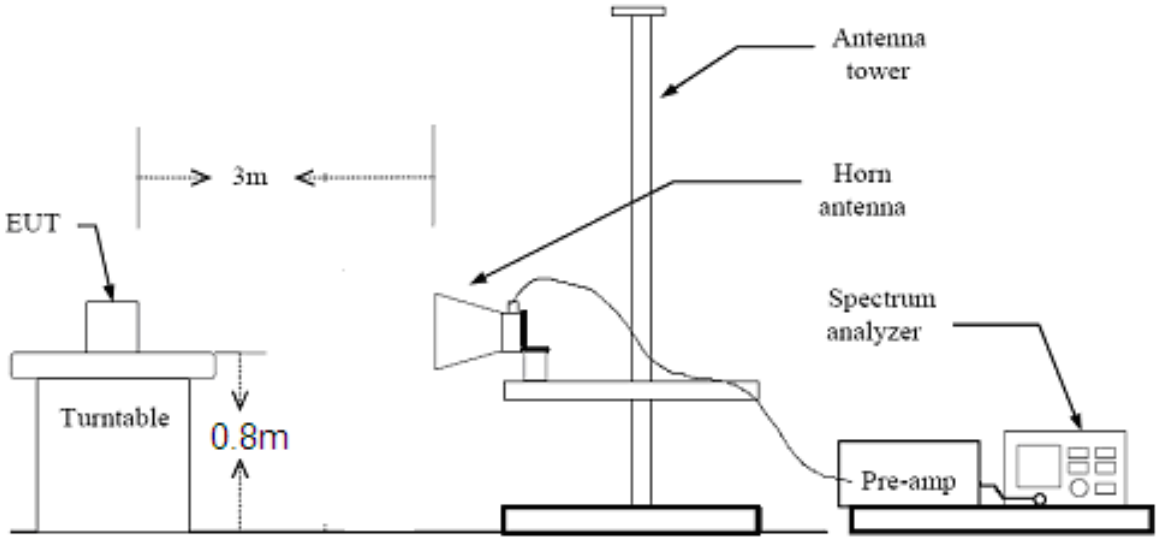
The EUT is placed on a non-metallic table 0.8m above the horizontal metal reference ground plane. The distance between EUT and receive antenna should be 3 meters. During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.4-2009. Sweep the whole frequency band through the range from 30MHz to the 5th harmonic of the carrier. During the test, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turn table shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna.
The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing. During the test, the EUT is worked at maximum output power.
Set the spectrum analyzer in the following:
Below 1GHz:
RBW=100kHz / VBW=300kHz / Sweep=AUTO
Above 1GHz:
(a) PEAK: RBW=1MHz VBW=3MHz/ Sweep=AUTO
(b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO
The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in lie-down position (Y axis) and the worst case was recorded.

**Test Setup**

**Below 1GHz**




**Above 1GHz**



**Limits**

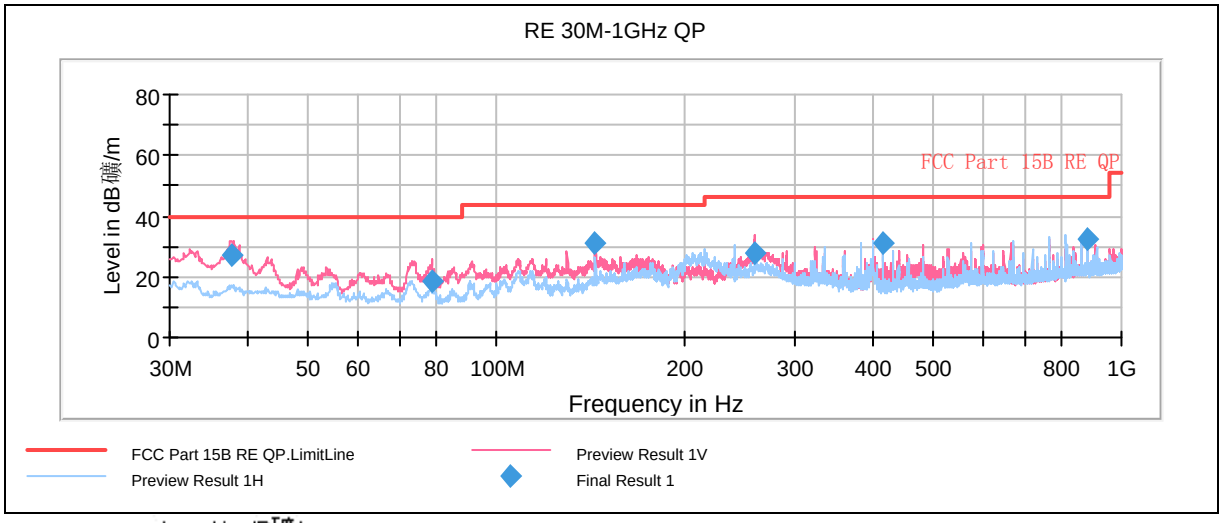
| Frequency (MHz) | Field Strength (dBμV/m) | Detector |
|---|---|---|
| 30 -88 | 40.0 | Quasi-peak |
| 88-216 | 43.5 | Quasi-peak |
| 216 – 960 | 46.0 | Quasi-peak |
| 960-1000 | 54.0 | Quasi-peak |
| 1000-5$^{th}$ harmonic of the highest frequency or 40GHz,which is lower | 54<br>74 | Average<br>Peak |

**Measurement Uncertainty**

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor *k* = 1.96. U= 3.92 dB.

**Test Results**

CDMA Cellular




Note: a font ( Level in dB磭/m )in the test plot =(level in dbuv/m)

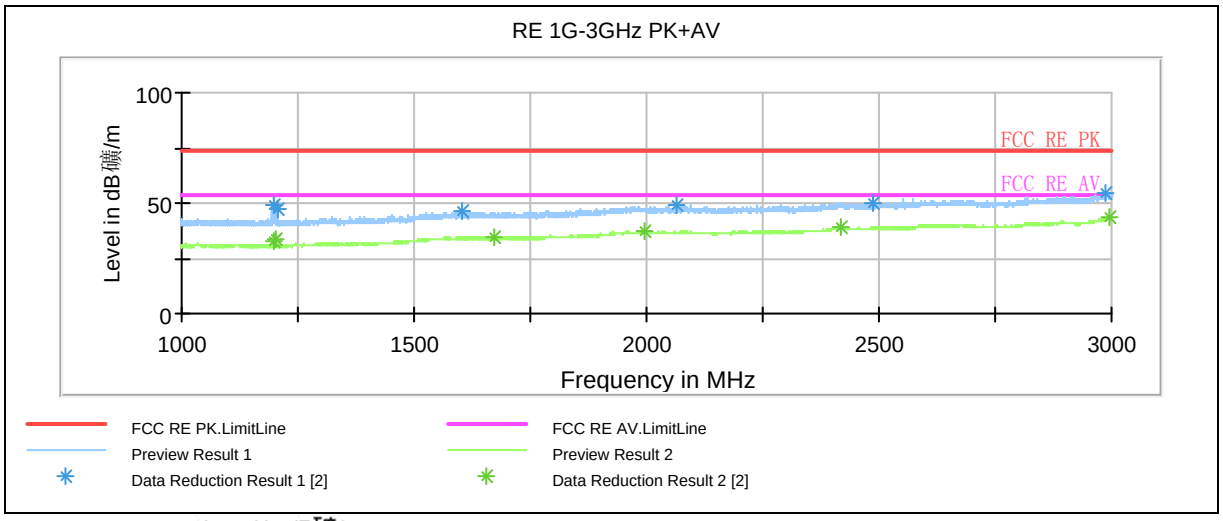
Radiated Emission from 30MHz to 1GHz

| Frequency (MHz) | Quasi-Peak (dBuV/m) | Height (cm) | Polarization | Azimuth (deg) | Reading value (dBuV/m) | Correct Factor (dB) | Margin (dB) | Limit (dBuV/m) |
|---|---|---|---|---|---|---|---|---|
| 37.745600 | 26.9 | 100.0 | V | 20.0 | 49.4 | -22.5 | 13.1 | 40.0 |
| 78.746590 | 18.6 | 121.0 | V | 4.0 | 48.6 | -30.0 | 21.4 | 40.0 |
| 144.015062 | 30.8 | 100.0 | V | 330.0 | 61.9 | -31.1 | 12.7 | 43.5 |
| 259.638500 | 27.6 | 200.0 | V | 244.0 | 54.1 | -26.5 | 18.4 | 46.0 |
| 414.971250 | 31.2 | 125.0 | V | 32.0 | 54 | -22.8 | 14.8 | 46.0 |
| 881.816750 | 32.4 | 121.0 | V | 289.0 | 47.4 | -15.0 | 13.6 | 46.0 |

**Remark: 1. Quasi-Peak = Reading value + Correction factor**

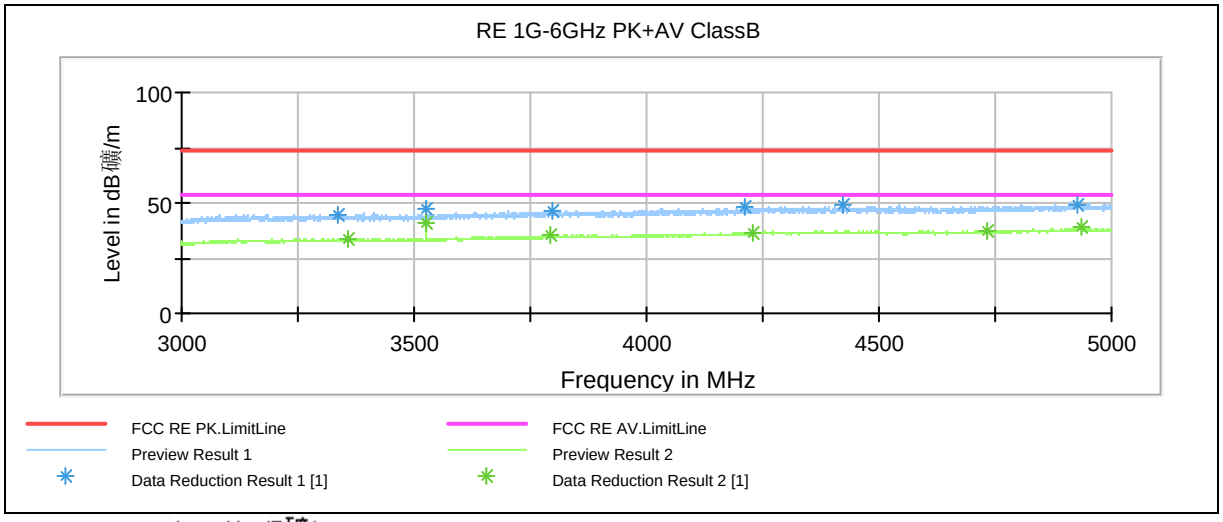
**2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)**

**3. Margin = Limit – Quasi-Peak**




Note: a font ( Level in dBµV/m )in the test plot =(level in dbuv/m)
Note: Blue trace uses the peak detection Green trace uses the average detection

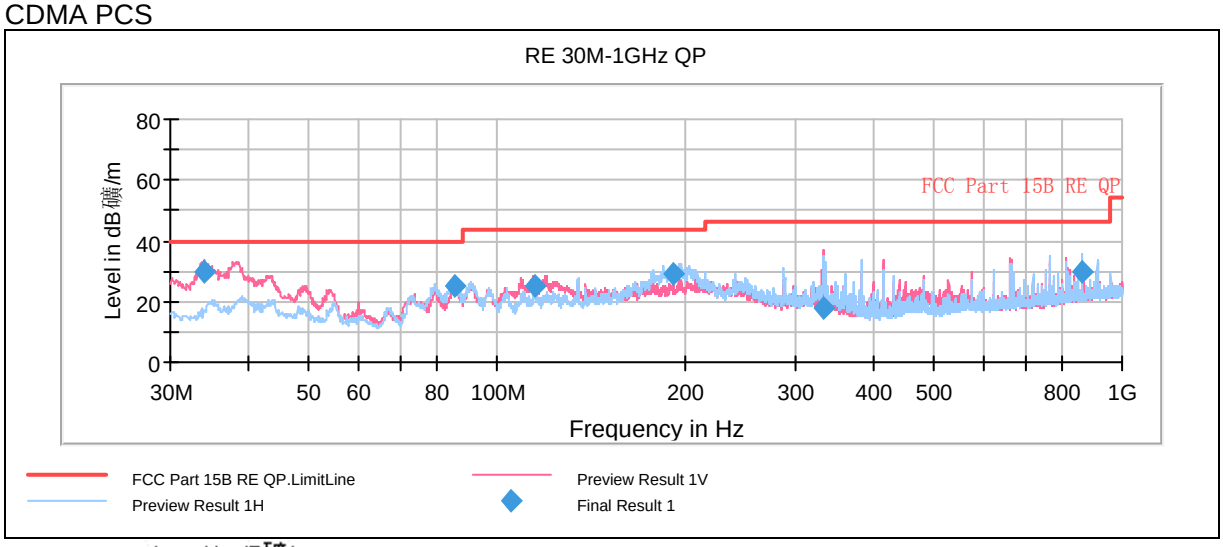
Radiated Emission from 1GHz to 3GHz




Note: a font ( Level in dBµV/m )in the test plot =(level in dbuv/m)
Note: Blue trace uses the peak detection Green trace uses the average detection

Radiated Emission from 3GHz to 5GHz

CDMA PCS




Note: a font ( Level in dB磺/m )in the test plot =(level in dbuv/m)

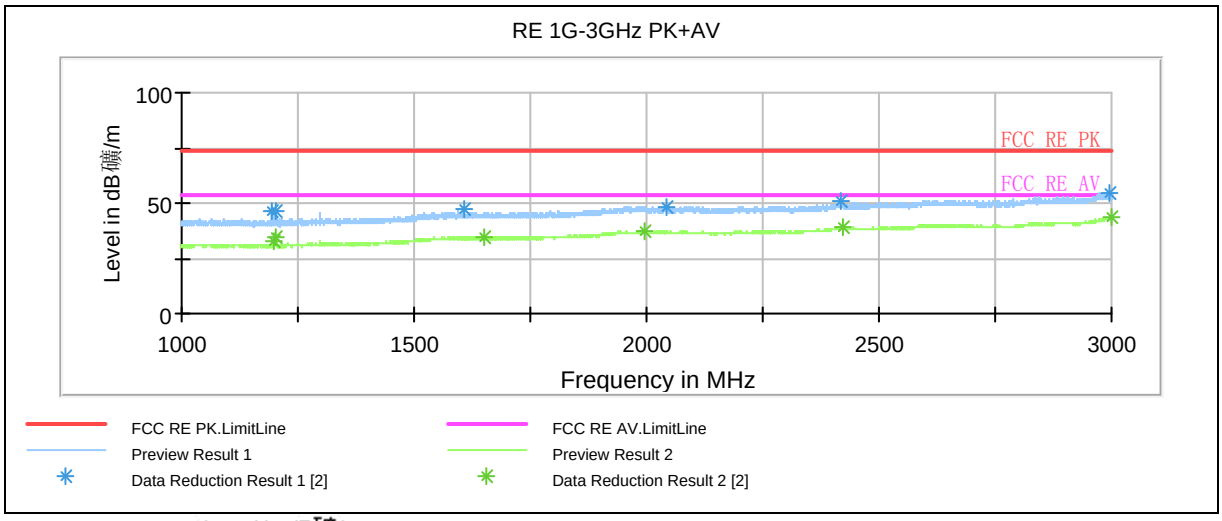
Radiated Emission from 30MHz to 1GHz

| Frequency (MHz) | Quasi-Peak (dBuV/m) | Height (cm) | Polarization | Azimuth (deg) | Reading value (dBuV/m) | Correct Factor (dB) | Margin (dB) | Limit (dBuV/m) |
|---|---|---|---|---|---|---|---|---|
| 34.117194 | 30.1 | 100.0 | V | 177.0 | 52.7 | -22.6 | 9.9 | 40.0 |
| 85.518669 | 24.8 | 200.0 | H | 179.0 | 53.2 | -28.4 | 15.2 | 40.0 |
| 114.625919 | 25.1 | 100.0 | V | 49.0 | 53.1 | -28.0 | 18.4 | 43.5 |
| 191.990025 | 29.1 | 100.0 | H | 105.0 | 58.1 | -29.0 | 14.4 | 43.5 |
| 333.091250 | 17.7 | 100.0 | V | 114.0 | 42.4 | -24.7 | 28.3 | 46.0 |
| 863.878750 | 29.8 | 220.0 | H | 340.0 | 45.2 | -15.4 | 16.2 | 46.0 |

**Remark: 1. Quasi-Peak = Reading value + Correction factor**

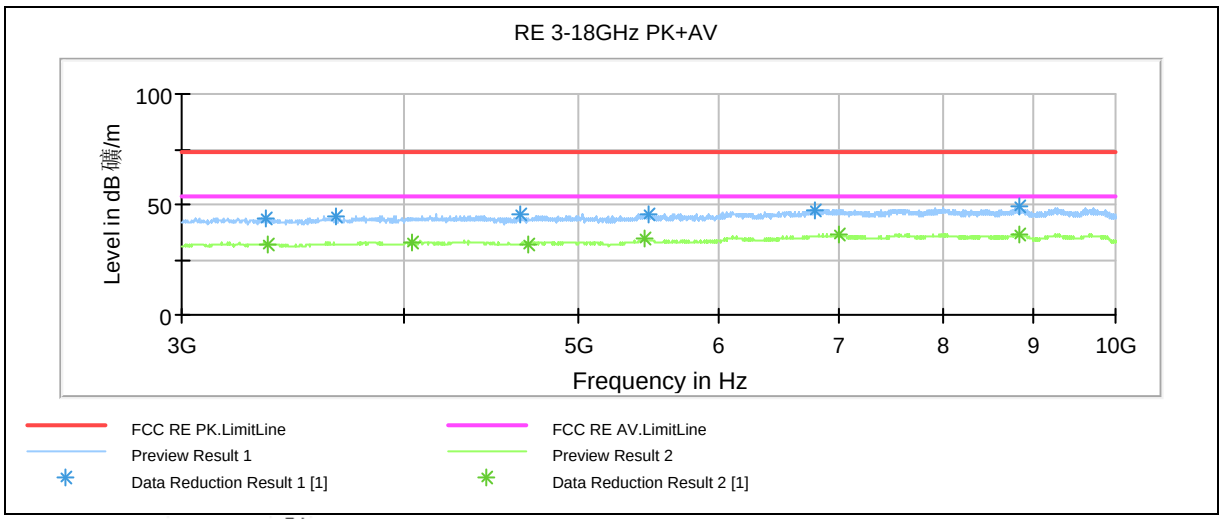
**2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)**

**3. Margin = Limit – Quasi-Peak**




Note: a font ( Level in dB礦/m )in the test plot =(level in dbuv/m)
Note: Blue trace uses the peak detection Green trace uses the average detection

Radiated Emission from 1GHz to 3GHz




Note: a font ( Level in dB礦/m )in the test plot =(level in dbuv/m)
Note: Blue trace uses the peak detection Green trace uses the average detection

Radiated Emission from 3GHz to 10GHz

## 2.3. Conducted Emission

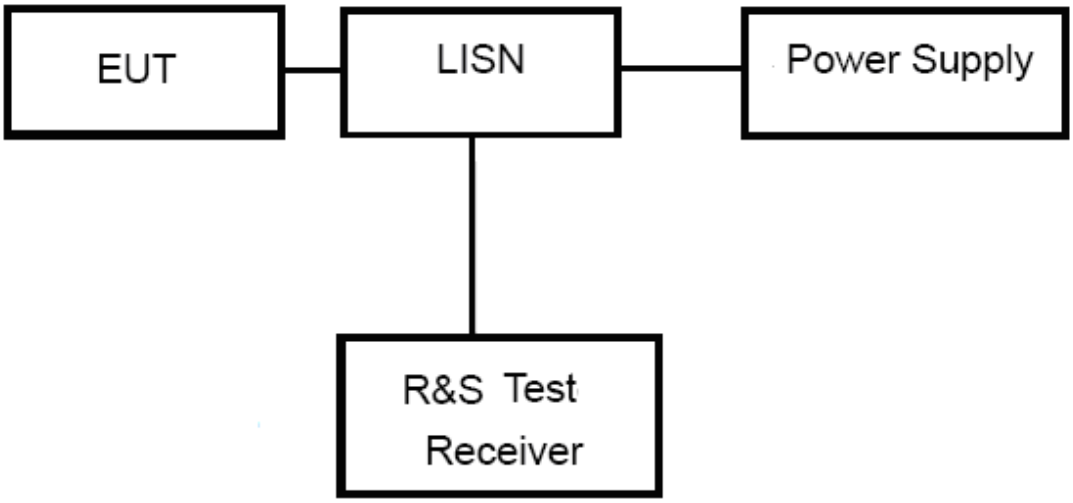
**Ambient condition**

| Temperature | Relative humidity | Pressure |
|---|---|---|
| 24°C ~26°C | 50%~55% | 102.5kPa |

**Methods of Measurement**

The EUT is placed on a non-metallic table of 80cm height above the horizontal metal reference ground plane. During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.4-2009. Connect the AC power line of the EUT to the L.I.S.N. Use EMI receiver to detect the average and Quasi-peak value. RBW is set to 9 kHz, VBW is set to 30kHz.The measurement result should include both L line and N line.

**Test Setup**




Note: Power Supply is AC Power source and it is used to change the voltage from 220V/50Hz to 110V/60Hz.

**Limits**

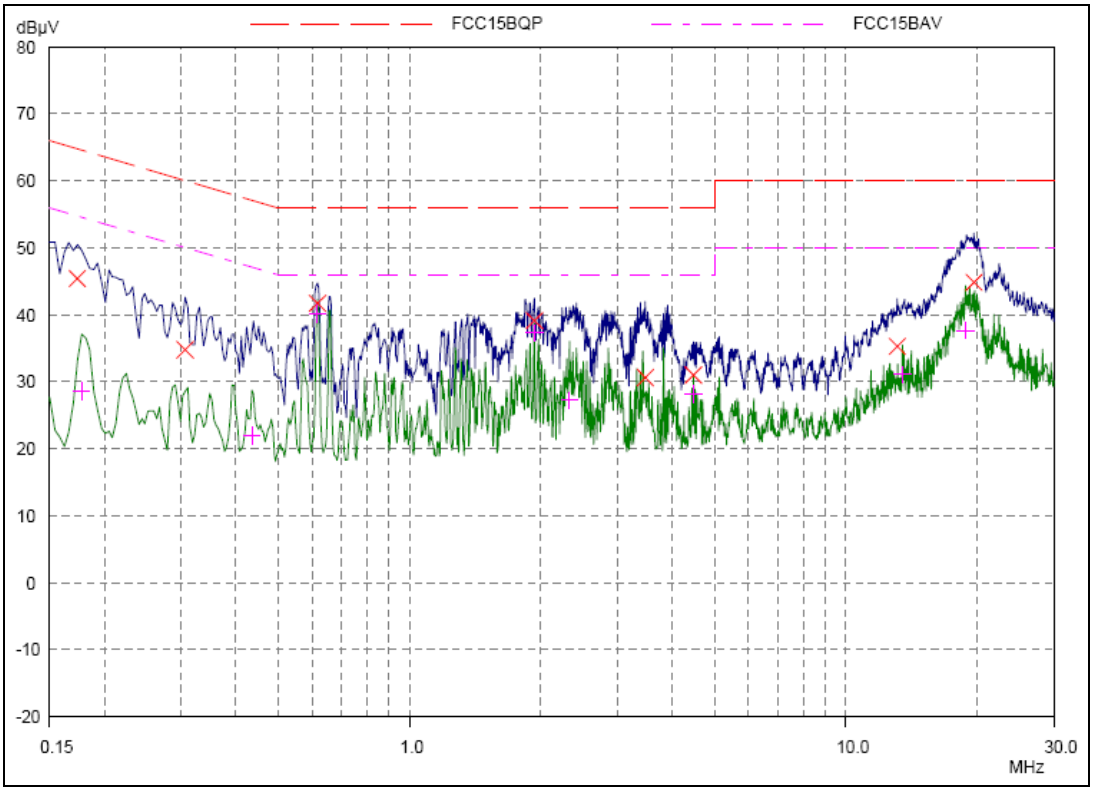
| Frequency (MHz) | Conducted Limits(dBμV) | |
|---|---|---|
| | Quasi-peak | Average |
| 0.15 - 0.5 | 66 to 56 * | 56 to 46* |
| 0.5 - 5 | 56 | 46 |
| 5 - 30 | 60 | 50 |
| *: Decreases with the logarithm of the frequency. | | |

**Measurement Uncertainty**

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor *k* = 1.96. U= 2.69 dB.

**Test Results**

CDMA Cellular




Note: Blue trace uses the peak detection Green trace uses the average detection

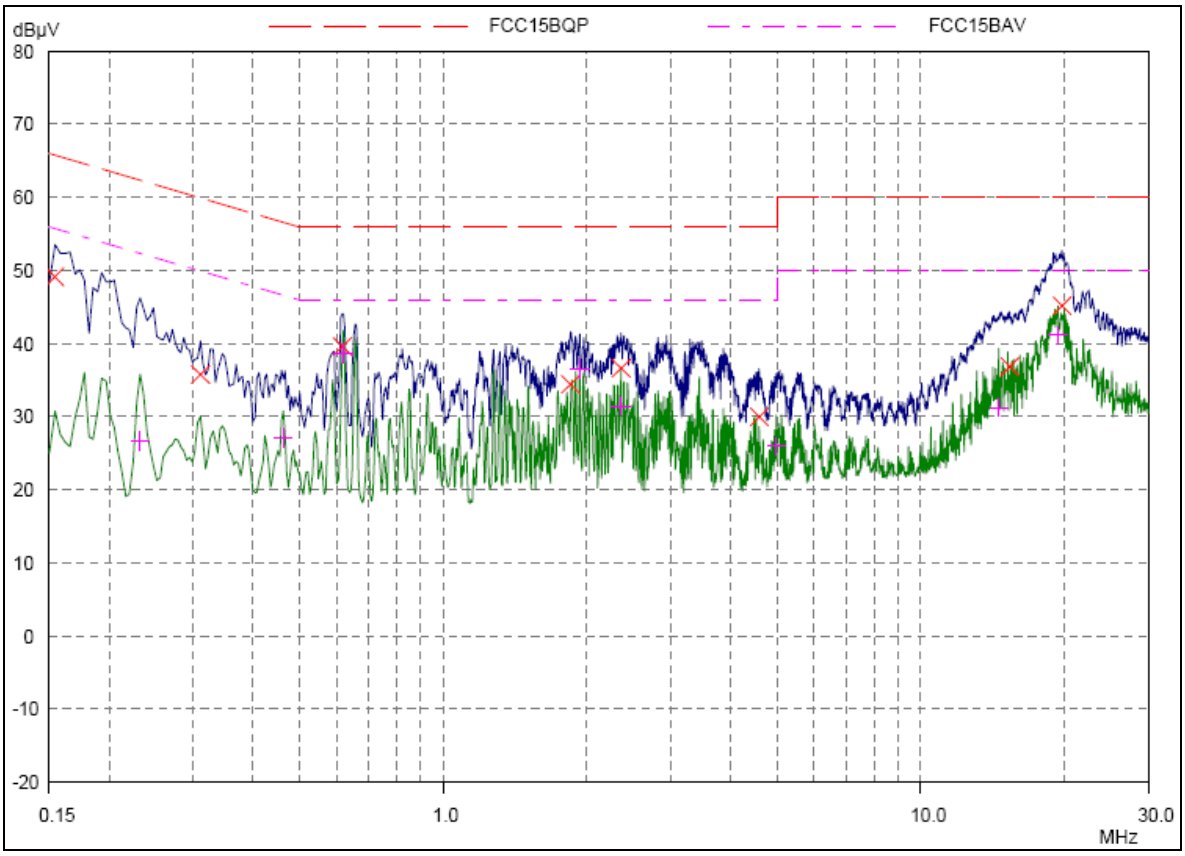
L line

Conducted Emission from 150 KHz to 30 MHz

Final Measurement Results

| Frequency MHz | QP Level dBµV | QP Limit dBµV | QP Delta dB | Phase - |
|---|---|---|---|---|
| 0.17343 | 45.44 | 64.79 | 19.35 | L1 |
| 0.30625 | 34.78 | 60.07 | 25.29 | L1 |
| 0.61484 | 41.70 | 56.00 | 14.30 | L1 |
| 1.93125 | 39.11 | 56.00 | 16.89 | L1 |
| 3.47031 | 30.63 | 56.00 | 25.37 | L1 |
| 4.48203 | 31.02 | 56.00 | 24.98 | L1 |
| 13.11093 | 35.29 | 60.00 | 24.71 | L1 |
| 19.67343 | 44.88 | 60.00 | 15.12 | L1 |

| Frequency MHz | AV Level dBµV | AV Limit dBµV | AV Delta dB | Phase - |
|---|---|---|---|---|
| 0.17734 | 28.60 | 54.61 | 26.01 | L1 |
| 0.43515 | 21.96 | 47.15 | 25.19 | L1 |
| 0.61484 | 40.18 | 46.00 | 5.82 | L1 |
| 1.93125 | 37.31 | 46.00 | 8.69 | L1 |
| 2.32578 | 27.23 | 46.00 | 18.77 | L1 |
| 4.48203 | 28.20 | 46.00 | 17.80 | L1 |
| 13.48593 | 31.06 | 50.00 | 18.94 | L1 |
| 18.80625 | 37.70 | 50.00 | 12.30 | L1 |




Note: Blue trace uses the peak detection Green trace uses the average detection

N line

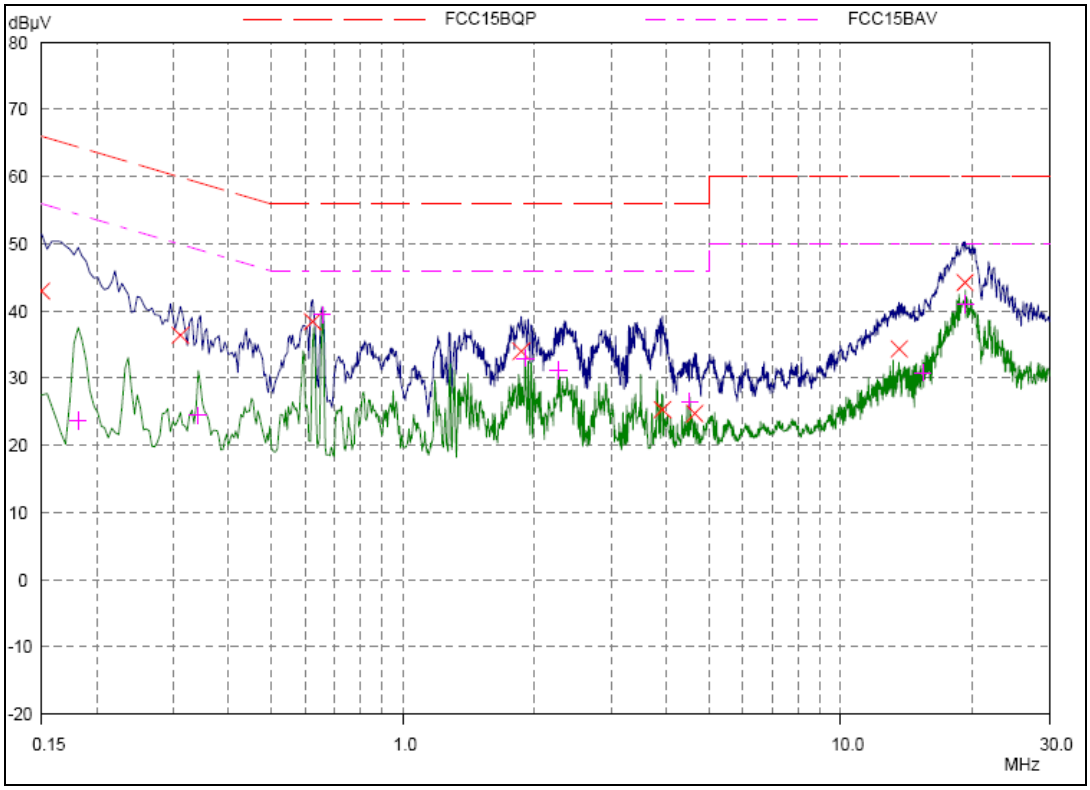
Conducted Emission from 150 KHz to 30 MHz

Final Measurement Results

| Frequency MHz | QP Level dBµV | QP Limit dBµV | QP Delta dB | Phase - |
|---|---|---|---|---|
| 0.1539 | 49.14 | 65.79 | 16.65 | N |
| 0.31015 | 35.76 | 59.97 | 24.21 | N |
| 0.61484 | 39.60 | 56.00 | 16.40 | N |
| 1.84921 | 34.46 | 56.00 | 21.54 | N |
| 2.35703 | 36.62 | 56.00 | 19.38 | N |
| 4.59531 | 29.96 | 56.00 | 26.04 | N |
| 15.38437 | 36.87 | 60.00 | 23.13 | N |
| 19.79062 | 45.19 | 60.00 | 14.81 | N |

| Frequency MHz | AV Level dBµV | AV Limit dBµV | AV Delta dB | Phase - |
|---|---|---|---|---|
| 0.23203 | 26.67 | 52.38 | 25.71 | N |
| 0.4625 | 27.12 | 46.65 | 19.53 | N |
| 0.61875 | 38.69 | 46.00 | 7.31 | N |
| 1.93125 | 36.53 | 46.00 | 9.47 | N |
| 2.35703 | 31.50 | 46.00 | 14.50 | N |
| 4.98593 | 25.98 | 46.00 | 20.02 | N |
| 14.57968 | 31.19 | 50.00 | 18.81 | N |
| 19.36875 | 41.11 | 50.00 | 8.89 | N |

CDMA PCS




Note: Blue trace uses the peak detection Green trace uses the average detection

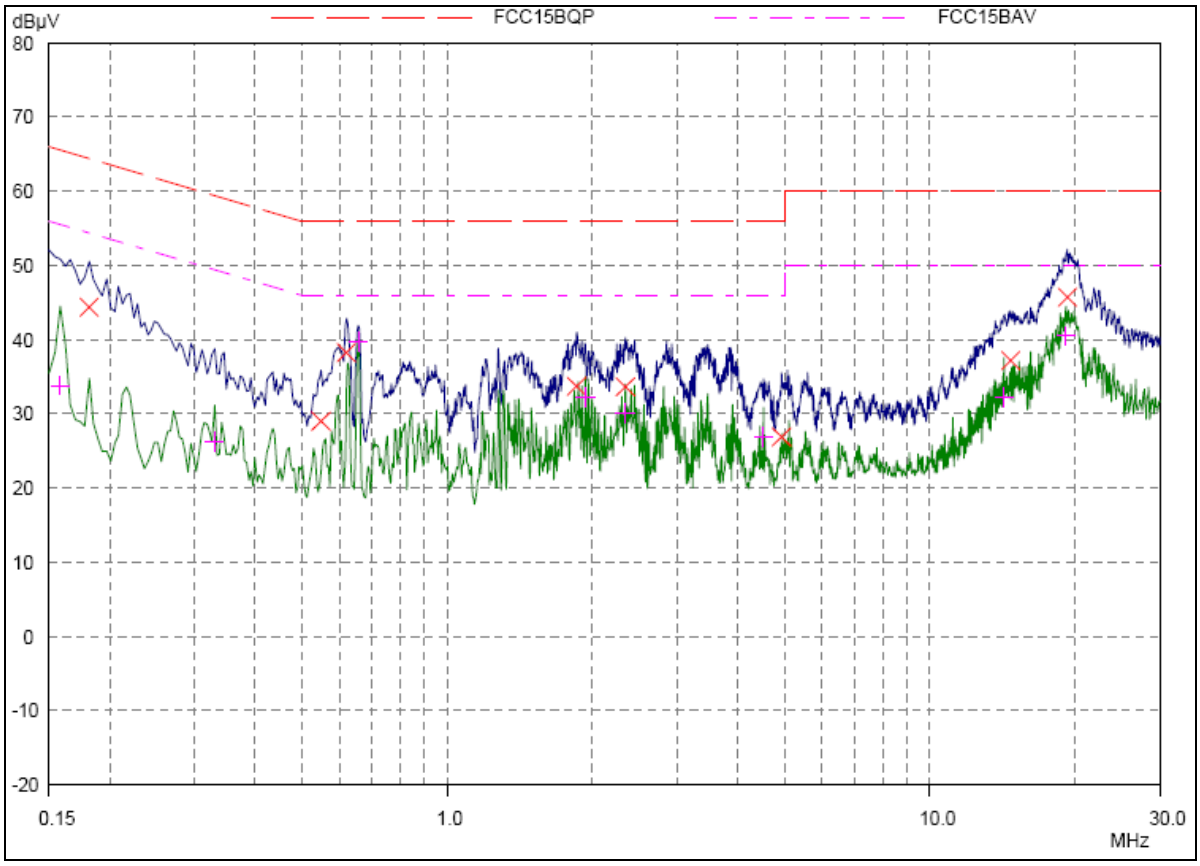
L line

Conducted Emission from 150 KHz to 30 MHz

Final Measurement Results

| Frequency MHz | QP Level dBµV | QP Limit dBµV | QP Delta dB | Phase - |
|---|---|---|---|---|
| 0.15 | 42.95 | 66.00 | 23.05 | L1 |
| 0.31015 | 36.41 | 59.97 | 23.56 | L1 |
| 0.62265 | 38.43 | 56.00 | 17.57 | L1 |
| 1.86484 | 34.01 | 56.00 | 21.99 | L1 |
| 3.91953 | 25.31 | 56.00 | 30.69 | L1 |
| 4.64609 | 24.76 | 56.00 | 31.24 | L1 |
| 13.5914 | 34.35 | 60.00 | 25.65 | L1 |
| 19.2125 | 44.25 | 60.00 | 15.75 | L1 |

| Frequency MHz | AV Level dBµV | AV Limit dBµV | AV Delta dB | Phase - |
|---|---|---|---|---|
| 0.18125 | 23.64 | 54.43 | 30.79 | L1 |
| 0.3414 | 24.49 | 49.17 | 24.68 | L1 |
| 0.6539 | 39.40 | 46.00 | 6.60 | L1 |
| 1.9039 | 32.94 | 46.00 | 13.06 | L1 |
| 2.26328 | 31.10 | 46.00 | 14.90 | L1 |
| 4.5289 | 26.50 | 46.00 | 19.50 | L1 |
| 15.41953 | 30.80 | 50.00 | 19.20 | L1 |
| 19.29453 | 41.03 | 50.00 | 8.97 | L1 |




Note: Blue trace uses the peak detection Green trace uses the average detection

N line

Conducted Emission from 150 KHz to 30 MHz

Final Measurement Results

| Frequency MHz | QP Level dBµV | QP Limit dBµV | QP Delta dB | Phase - |
|---|---|---|---|---|
| 0.18125 | 44.39 | 64.43 | 20.04 | N |
| 0.54843 | 29.04 | 56.00 | 26.96 | N |
| 0.61875 | 38.29 | 56.00 | 17.71 | N |
| 1.85703 | 33.73 | 56.00 | 22.27 | N |
| 2.3375 | 33.67 | 56.00 | 22.33 | N |
| 4.92734 | 26.93 | 56.00 | 29.07 | N |
| 14.7164 | 37.21 | 60.00 | 22.79 | N |
| 19.27109 | 45.70 | 60.00 | 14.30 | N |

| Frequency MHz | AV Level dBµV | AV Limit dBµV | AV Delta dB | Phase - |
|---|---|---|---|---|
| 0.15781 | 33.85 | 55.58 | 21.73 | N |
| 0.32968 | 26.32 | 49.46 | 23.14 | N |
| 0.6539 | 39.79 | 46.00 | 6.21 | N |
| 1.93125 | 32.24 | 46.00 | 13.76 | N |
| 2.3375 | 30.16 | 46.00 | 15.84 | N |
| 4.525 | 26.88 | 46.00 | 19.12 | N |
| 14.26328 | 32.22 | 50.00 | 17.78 | N |
| 19.20078 | 40.48 | 50.00 | 9.52 | N |

## 3. Main Test Instruments

| No. | Name | Type | Manufacturer | Serial Number | Calibration Date | Valid Period |
|---|---|---|---|---|---|---|
| 01 | EMI Test Receiver | ESCI | R&S | 100948 | 2012-06-30 | One year |
| 02 | Trilog Antenna | VULB 9163 | SCHWARZBECK | 9163-201 | 2010-06-20 | Three years |
| 03 | Signal Analyzer | FSV30 | R&S | 100815 | 2012-06-30 | One year |
| 04 | Horn Antenna | HF907 | R&S | 100126 | 2012-07-01 | Three years |
| 05 | EMI Test Receiver | ESCS30 | R&S | 100138 | 2012-01-16 | One year |
| 06 | LISN | ENV216 | R&S | 101171 | 2010-04-16 | Three years |

*******END OF REPORT BODY*******

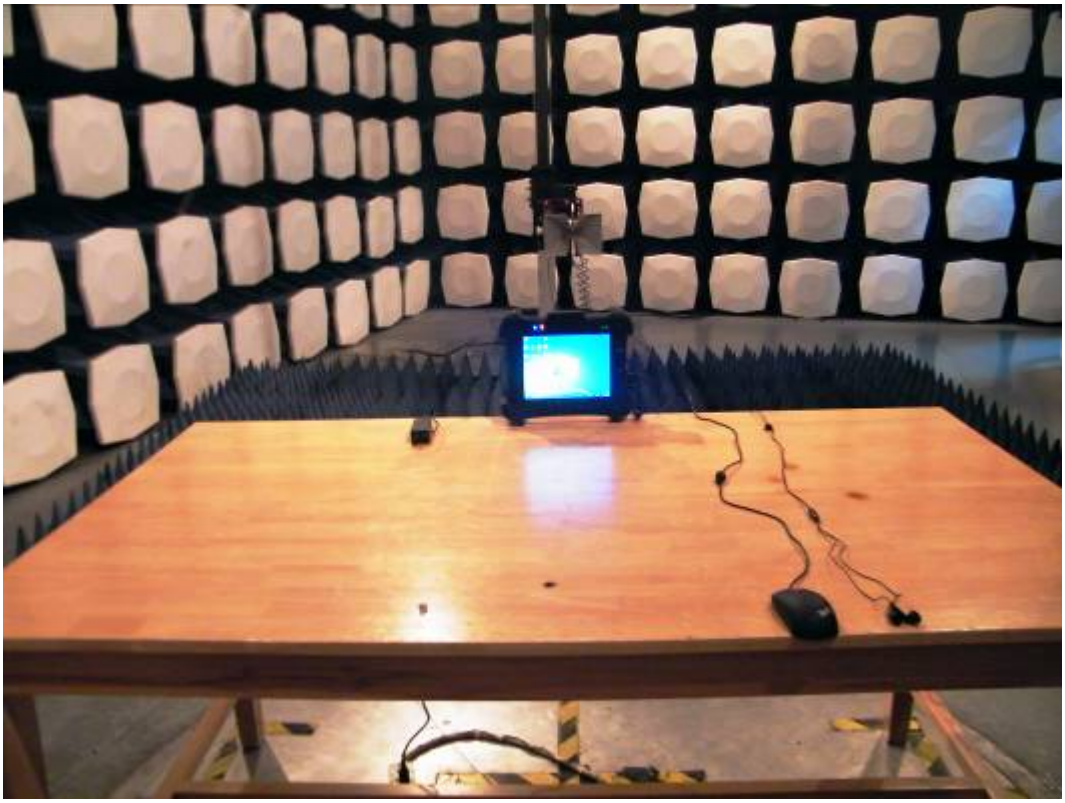
# ANNEX A： The EUT Appearance and Test Setup

## A.1 EUT Appearance


**Picture 1 EUT**

## A.2 Test Setup

Below 1GHz



Above 1GHz

**Picture 2 Radiated Emission Test Setup**

**Picture 3 Conducted Emission Test Setup**