



# FCC 47 CFR PART 15 SUBPART B

## TEST REPORT

*For*

**Applicant :** LTT Card Services, INC

**Address :** PO Box 194625 San Juan, Puerto Rico 00919-4625,  
United States

**Product Name :** GSM Mobile Phone

**Model Name :** X20

**Brand Name :** Premier

**FCC ID :** XUMPREX20

**Report No. :** SZSTS091001F1

**Date of Issue :** October 19, 2009

**Issued by :** Shenzhen Super Test Service Technology Co., Ltd.

**Address :** No.5, Nangshan 2nd Rd., North Hi-Tech Industrial park ,Nanshan  
Shenzhen Guangdong ,China

**Tel :** 86-755-2795 8522

**Fax :** 86-755-2795 8022

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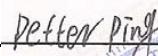
**1. VERIFICATION OF CONFORMITY**

**Equipment Under Test:** GSM Mobile Phone  
**Brand Name:** Premier  
**Model Number:** X20  
**Series Model Name:** N/A  
**Series Model Difference description:** N/A  
**FCC ID:** XUMPREX20  
**Applicant:** LTT Card Services, INC  
PO Box 194625 San Juan, Puerto Rico 00919-4625, United State  
**Manufacturer:** General Electric Communication Limited  
Unit 1017, Tian An Cyber Times Tower A, Futian District, Shenzhen, China  
**Technical Standards:** FCC Part 15 B  
**File Number:** SZSTS091001F1  
**Date of test:** October. 15 – October. 19, 2009  
**Deviation:** None  
**Condition of Test Sample:** Normal  
**Test Result:** PASS

The above equipment was tested by Shenzhen Super Test Service Technology Co., Ltd. for compliance with the requirements set forth in FCC Part 15 and the Technical Standards mentioned above. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment and the level of the immunity endurance of the equipment are within the compliance requirements.

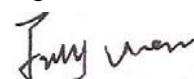
The test results of this report relate only to the tested sample identified in this report.

Tested by (+ signature):



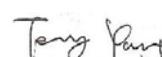
Petter Ping October 19, 2009

Review by (+ signature):



July Wen October 19, 2009

Approved by (+ signature):



Terry Yang October 19, 2009

## 2. GENERAL INFORMATION

### 2.1 PRODUCT INFORMATION

<b>EUT1- Mobile Phone</b>	
Description:	GSM Mobile Phone
Model Name:	X20
Model Difference description:	Only the colors are different.
Serial No.:	---
IMEI No.:	---
Frequency:	GSM 850MHz/1900MHz
Hardware Version:	V1.1
Software Version:	---
<b>EUT2- Battery</b>	
Description:	Lithium-ion Battery
Model Name:	X20
Brand Name:	Premier
Manufacturer:	Shenzhen BAK Battery CO., LTD
Capacitance:	1000 mAh
Rated Voltage:	3.7V
Charge Limit:	4.2V
<b>EUT3 – Power Supply</b>	
Description:	Travel Charger
Model Name:	TN0500550D-08
Brand Name:	---
Manufacturer:	Shenzhen Tailing Technology Ltd.
Rated Input:	AC 100-240V,50/60HZ
Rated Output:	DC 5.0V,550mA
Length DC USB cable:	100 cm

**NOTE:**

1. The EUT is a model of GSM Portable Mobile Station (MS). It consists of **hand telephone set, lithium battery, USB Cable, Earphone and charger** as listed above.
2. Please refer to Appendix 2 for the photographs of the EUT. For a more detailed features description about the EUT, please refer to User's Manual.

## 2.2 OBJECTIVE

Perform FCC Part 15 Subpart B tests for FCC Marking.

## 2.3 TEST STANDARDS AND RESULTS

Test items and the results are as bellow:

EMISSION				
Standard	Item		Result	Remarks
FCC 47 CFR Part 15 Subpart B (10-1-05 Edition)	§15.107	Conducted Emission	PASS	Meet Class B limit
	§15.109	Radiated Emission	PASS	Meet Class B limit

*Note:* 1. The test result judgment is decided by the limit of measurement standard  
2. The information of measurement uncertainty is available upon the customer's request.

## 2.4 ENVIRONMENTAL CONDITIONS

During the measurement the environmental conditions were within the listed ranges:

- Temperature: 15-35°C
- Humidity: 30-60 %
- Atmospheric pressure: 86-106 kPa

### 3. TEST FACILITY

Test Site: Most Technology Service Co.,ltd

Location: Add: No.5, Nangshan 2nd Rd., North Hi-Tech Industrial park ,Nanshan Shenzhen Guangdong ,China

Description: There is one 3m semi-anechoic an area test sites and two line conducted labs for final test. The Open Area Test Sites and the Line Conducted labs are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4 and CISPR 16 requirements. The FCC Registration Number is **490827**.

Site Filing: The site description is on file with the Federal Communications Commission, 7435 Oakland Mills Road, Columbia, MD 21046.

Instrument Tolerance: All measuring equipment is in accord with ANSI C63.4 and CISPR 16 requirements that meet industry regulatory agency and accreditation agency requirement.

Ground Plane: Two conductive reference ground planes were used during the Line Conducted Emission, one in vertical and the other in horizontal. The dimensions of these ground planes are as below. The vertical ground plane was placed distancing 40 cm to the rear of the wooden test table on where the EUT and the support equipment were placed during test. The horizontal ground plane projected 50 cm beyond the footprint of the EUT system and distanced 80 cm to the wooden test table. For Radiated Emission Test, one horizontal conductive ground plane extended at least 1m beyond the periphery of the EUT and the largest measuring antenna, and covered the entire area between the EUT and the antenna. It has no holes or gaps having longitudinal dimensions larger than one-tenth of a wavelength at the highest frequency of measurement up to 1GHz.

#### 4. TEST EQUIPMENT LIST

**Instrumentation:** The following list contains equipment used at MOST for testing. The equipment conforms to the CISPR 16-1 / ANSI C63.2 Specifications for Electromagnetic Interference and Field Strength Instrumentation from 10 kHz to 1.0 GHz or above.

No.	Equipment	Manufacturer	Model No.	S/N	Calculator due date
1	Test Receiver	Rohde & Schwarz	ESCI	100492	2010/03/14
2	L.I.S.N.	Rohde & Schwarz	ENV216	100093	2010/03/14
3	Coaxial Switch	Anritsu Corp	MP59B	6200283933	2010/03/14
4	Terminator	Hubersuhner	50Ω	No.1	2010/03/14
5	RF Cable	SchwarzBeck	N/A	No.1	2010/03/14
6	Test Receiver	Rohde & Schwarz	ESPI	101202	2010/03/14
7	Bilog Antenna	Sunol	JB3	A121206	2010/03/14
8	Test Antenna - Horn	Schwarzbeck	BBHA 9120C	--	2010/03/14
9	Test Antenna - Bi-Log	Schwarzbeck	VULB 9163	--	2010/03/14
10	Cable	Resenberger	N/A	NO.1	2010/03/14
11	Cable	SchwarzBeck	N/A	NO.2	2010/03/14
12	Cable	SchwarzBeck	N/A	NO.3	2010/03/14
13	DC Power Filter	DuoJi	DL2×30B	N/A	2010/03/14
14	Single Phase Power Line Filter	DuoJi	FNF 202B30	N/A	2010/03/14
15	3 Phase Power Line Filter	DuoJi	FNF 402B30	N/A	2010/03/14
16	Test Receiver	Rohde & Schwarz	ESCI	100492	2010/03/14
17	Absorbing Clamp	Luthi	MDS21	3635	2010/03/14
18	Coaxial Switch	Anritsu Corp	MP59B	6200283933	2010/03/14
19	AC Power Source	Kikusui	AC40MA	LM003232	2010/03/14
20	Test Analyzer	Kikusui	KHA1000	LM003720	2010/03/14
21	Line Impedance Network	Kikusui	LIN40MA-PCR-L	LM002352	2010/03/14
22	ESD Tester	Kikusui	KES4021	LM003537	2010/03/14
23	EMCPRO System	EM Test	UCS-500-M4	V0648102026	2010/03/14
24	Signal Generator	IFR	2032	203002/100	2010/03/14
25	Amplifier	A&R	150W1000	301584	2010/03/14
26	CDN	FCC	FCC-801-M2-25	47	2010/03/14
27	CDN	FCC	FCC-801-M3-25	107	2010/03/14
28	EM Injection Clamp	FCC	F-203I-23mm	403	2010/03/14
29	RF Cable	MIYAZAKI	N/A	No.1/No.2	2010/03/14
30	Universal Radio Communication Tester	ROHDE&SCHWARZ	CMU200	0304789	2010/03/14
31	Telecommunication Antenna	European Antennas	PSA 75301R/170	0304213	2010/03/14

**NOTE:** Equipments listed above have been calibrated and are in the period of validation.

## 5. 47 CFR PART 15B REQUIREMENTS

### 5.1 GENERAL INFORMATION

#### EUT Function and Test Mode

##### Mode 1: Call Mode

Before the measurement, the lithium battery was completely discharge.

During the measurement, the lithium battery and the charger were installed, and the MS were in charging state. A communication link was established between the MS and a System Simulator (SS). The MS operated at GSM 900MHz mid ARFCN (62) and maximum output power (level 5).

The EUT configuration of the emission test was **MS + Battery+ Charger**.

##### Mode 2: Idle Mode

The MS was registered to the base station simulator but no call was set up.

The EUT configuration of the emission test was **MS + Battery+ Charger**.

##### Mode 3: FM Mode

During the test, the MS was playing the FM function continuously.

The EUT configuration of the emission test was **MS + Battery+ Earphone**.

##### Mode 4: USB Mode

During the test, the MS was connected with the notebook and made the data transmission function continuously.

The EUT configuration of the emission test was **MS + Battery+ USB Cable+ Notebook** (HP6515b, SN: CNU7522LPW).

##### Mode 5: MP3/MP4 Mode

During the test, the MS was playing the MP3/MP4 function continuously.

The EUT configuration of the emission test was **MS + Battery + Charger**.

##### Mode 6: Camera Mode

During the test, the MS was playing the camera function continuously.

The EUT configuration of the emission test was **MS + Battery**.

##### Mode 6: Bluetooth Mode

During the test, the MS was playing the bluetooth function continuously.

The EUT configuration of the emission test was **MS + Battery+ BT Earphone + Charger (CE approved)**.

## 6. LINE CONDUCTED EMISSION TEST

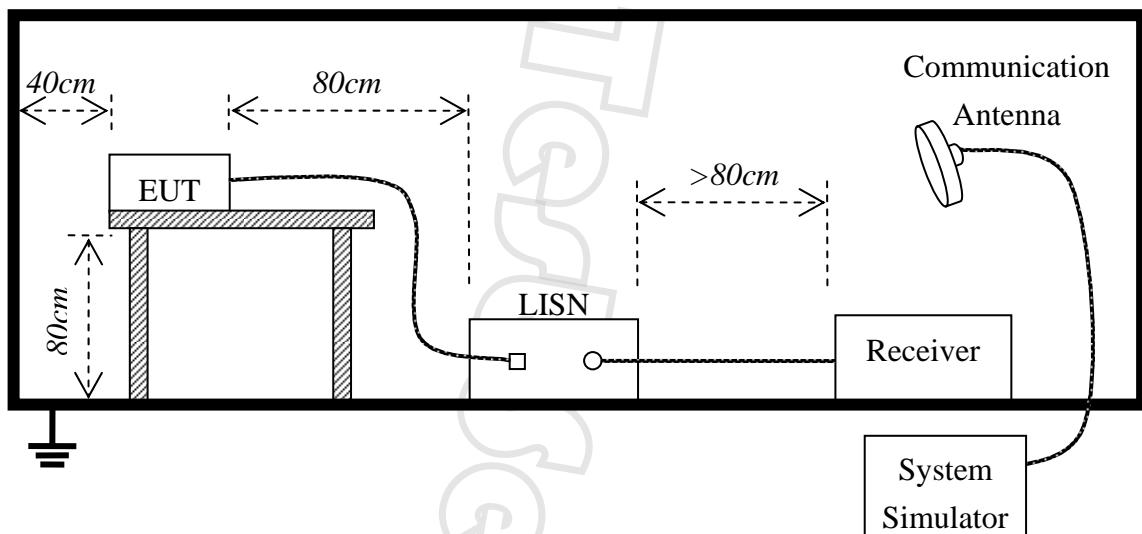
### 6.1. LIMITS OF LINE CONDUCTED EMISSION TEST

Frequency	Maximum RF Line Voltage	
	Q.P. (dBuV)	Average (dBuV)
150kHz-500kHz	66-56	56-46
500kHz-5MHz	56	46
5MHz-30MHz	60	50

**\*\*Note:** 1. the lower limit shall apply at the transition frequency.

2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz

### 6.2. BLOCK DIAGRAM OF TEST SETUP



### 6.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per FCC Part 15 (see Test Facility for the dimensions of the ground plane used). When the EUT is floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- 2) Support equipment, if needed, was placed as per FCC Part 15.
- 3) All I/O cables were positioned to simulate typical actual usage as per FCC Part 15.
- 4) The EUT received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5) All support equipments received power from a second LISN supplying power of AC 120V/60Hz, if any.
- 6) The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7) Analyzer / Receiver scanned from 150 kHz to 30 MHz for emissions in each of the test modes.
- 8) During the above scans, the emissions were maximized by cable manipulation.
- 9) The following test mode(s) were scanned during the preliminary test:

Preliminary Conducted Emission Test				
Frequency Range Investigated		150KHz TO 30 MHz		
Mode of operation	Date	Report No.	Data#	Worst Mode
Call Mode	2009-10-19	SZSTS091001F1	X20_1(L,N)	<input type="checkbox"/>
Idle Mode	2009-10-19	SZSTS091001F1	X20_2(L,N)	<input type="checkbox"/>
FM Mode	2009-10-19	SZSTS091001F1	X20_3(L,N)	<input type="checkbox"/>
USB Mode	2009-10-19	SZSTS091001F1	X20_4(L,N)	<input type="checkbox"/>
MP3/MP4 Mode	2009-10-19	SZSTS091001F1	X20_5(L,N)	<input checked="" type="checkbox"/>
Camera Mode	2009-10-19	SZSTS091001F1	X20_6(L,N)	<input type="checkbox"/>
Bluetooth Mode	2009-10-19	SZSTS091001F1	X20_7(L,N)	<input type="checkbox"/>

Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

### 6.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

EUT and support equipment was set up on the test bench as per step 9 of the preliminary test.

A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions.

Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less -2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.

The test data of the worst case condition(s) was reported on the Summary Data page.

## 6.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST

**EUT** : GSM Mobile Phone  
**M/N** : X20  
**Mode** : MP3/MP4 Mode

**Power** : AC 120V  
**Temperature** : 27 °C  
**Humidity** : 60%

FREQ MHz	Q.P.	AVG	Q.P.	AVG	Q.P.	AVG	NOTE
	RAW	RAW	Limit	Limit	Margin	Margin	
	dBuV	dBuV	dBuV	dBuV	dB	dB	
0.194	56.38	49.67	63.86	53.86	-7.48	-4.19	L
0.567	50.37	41.97	56.00	46.00	-5.63	-4.03	L
0.785	48.67	39.75	56.00	46.00	-7.33	-6.25	L
0.190	57.13	48.95	64.04	54.04	-6.91	-5.09	N
0.382	50.67	43.37	58.24	48.24	-7.57	-4.87	N
0.762	48.92	40.29	56.00	46.00	-7.08	-5.71	N

Freq. = Emission frequency in MHz  
 Reading level = Uncorrected Analyzer/Receiver reading  
 Factor = Cable loss + LISN inserting loss  
 Emission level = Reading level + Factor  
 Limit = Limit stated in standard  
 Margin = Reading in reference to limit  
 “---” = The emission level complied with the Average limits, with at least 2 dB margin, so no further recheck.

## 7. RADIATED EMISSION TEST

### 7.1. LIMITS OF RADIATED DISTURBANCES AT 3M DISTANCES FOR CLASS B

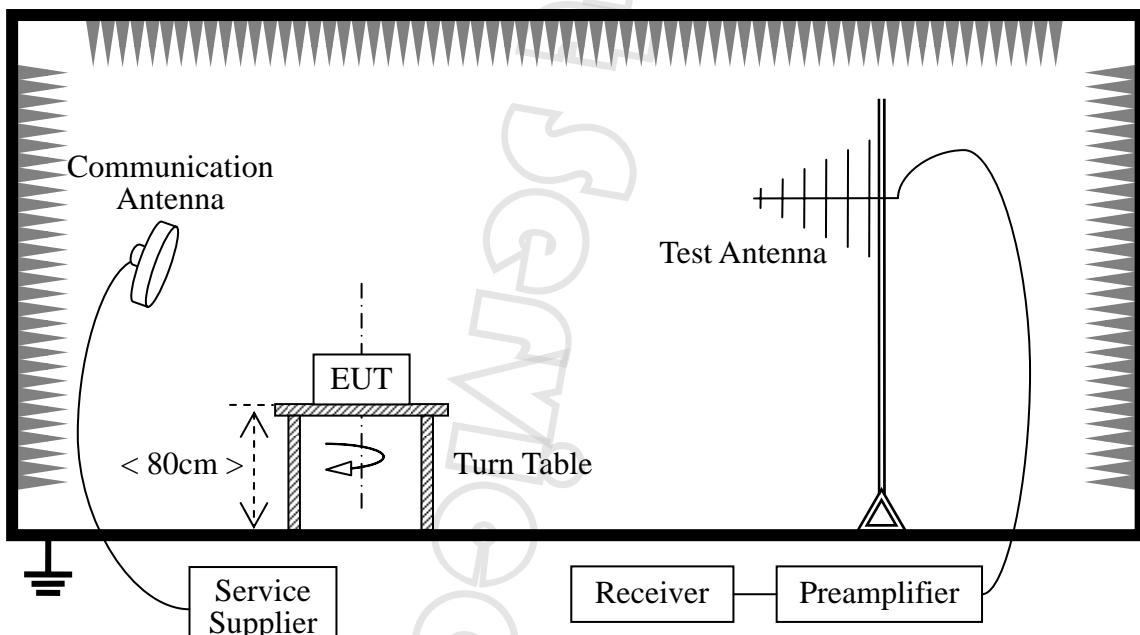
According to FCC section 15.109, except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength ( $\mu$ V/m)	Measurement Distance (m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

For frequencies above 1000MHz, the field strength limits are based on average detector. When average radiated emission measurements are specified in this part, including emission measurements below 1000MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit for the frequency being investigated unless a different peak emission limit is otherwise specified in the rules.

### 7.2 TEST DESCRIPTION

#### Test Setup:



The EUT is powered by the Battery. The Module is located in a 3m Semi-Anechoic Chamber; the antenna factors, cable loss and so on of the site as factors are calculated to correct the reading. During the measurement, the EUT is activated and transmitting with the other Bluetooth device (Supply by the Applicant)

during the test.

For the Test Antenna:

- (a) In the frequency range of 9 kHz to 30MHz, magnetic field is measured with Loop Test Antenna. The Test Antenna is positioned with its plane vertical at 1m distance from the EUT. The center of the Loop Test Antenna is 1m above the ground. During the measurement the Loop Test Antenna rotates about its vertical axis for maximum response at each azimuth about the EUT.
- (b) In the frequency range above 30MHz, Bi-Log Test Antenna (30MHz to 1GHz) and Horn Test Antenna (above 1GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength. The emission levels at both horizontal and vertical polarizations should be tested.

Preliminary Radiated Emission Test				
Frequency Range Investigated			30 MHz TO 1000 MHz	
Mode of operation	Date	Report No.	Data#	Worst Mode
Call Mode	2009-10-19	SZSTS091001F1	X20_1(H,V)	<input type="checkbox"/>
Idle Mode	2009-10-19	SZSTS090619F1	X20_2(H,V)	<input type="checkbox"/>
FM Mode	2009-10-19	SZSTS090619F1	X20_3(H,V)	<input type="checkbox"/>
USB Mode	2009-10-19	SZSTS090619F1	X20_4(H,V)	<input type="checkbox"/>
MP3/MP4 Mode	2009-10-19	SZSTS090619F1	X20_5(H,V)	<input type="checkbox"/>
Camera Mode	2009-10-19	SZSTS090619F1	X20_6(H,V)	<input type="checkbox"/>
Bluetooth Mode	2009-10-19	SZSTS090619F1	X20_7(H,V)	<input checked="" type="checkbox"/>

### 7.3 TEST RESULT

**EUT** : GSM Mobile Phone  
**M/N** : X20  
**Mode** : Bluetooth Mode

**Power** : AC 120V  
**Temperature** : 27 °C  
**Humidity** : 60%

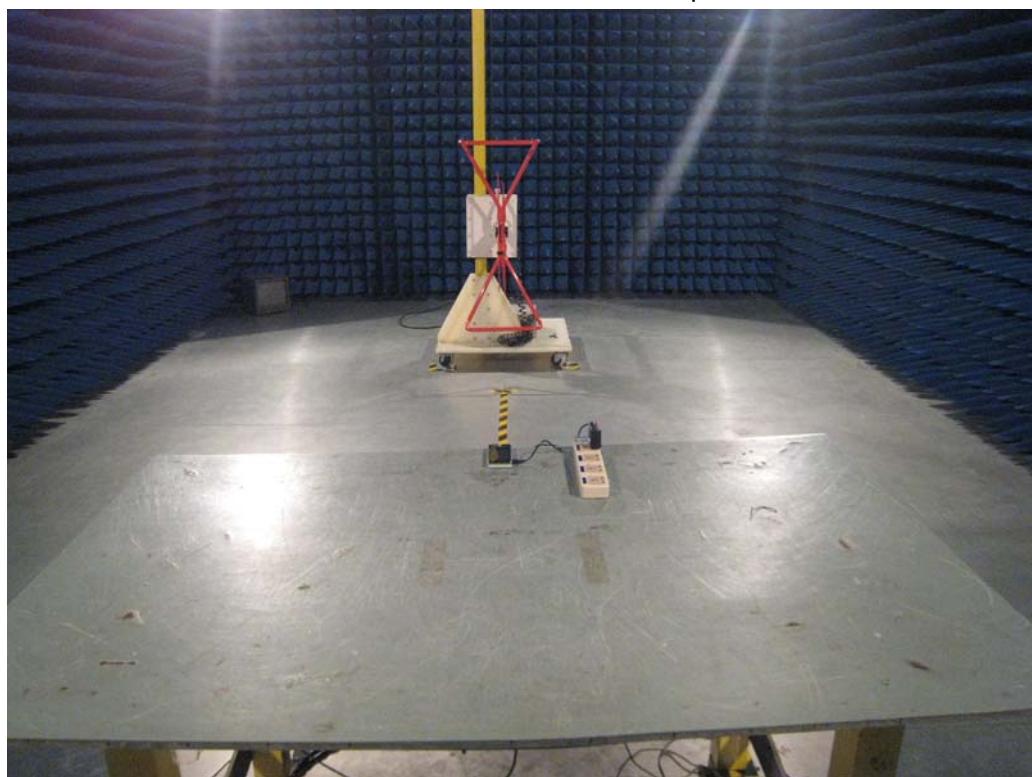
Frequency Range Investigated (30 MHz TO 1000 MHz)							
Freq. (MHz)	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Safe Margins (dBuV/m)	Ant. H/V	Mark
78.530	20.85	9.48	30.33	40.00	-9.67	H	Q
89.370	25.61	7.38	32.99	43.50	-10.51	H	Q
235.940	31.96	5.37	37.33	46.00	-8.67	H	Q
800.591	27.94	9.64	37.58	46.00	-8.42	H	Q
<hr/>							
33.850	6.95	14.85	21.80	40.00	-18.21	V	Q
150.420	22.92	8.64	31.56	43.50	-11.94	V	Q
253.940	20.58	6.35	26.93	43.50	-16.57	V	Q
845.340	30.51	2.37	32.88	46.00	-13.12	V	Q

*Note:*

*The maximum radiated emission is searched using PK, QP and AV detectors; the emission levels more than the limits, and that have narrow margins from the limits will be re-measured with AV and QP detectors.*

**APPENDIX 1**  
**PHOTOGRAPHS OF TEST SETUP**

Radiated Emission Test Setup



Conducted Emission Test Setup



**APPENDIX 2**  
**PHOTOGRAPHS OF EUT**

FRONT VIEW OF SAMPLE



BACK VIEW OF SAMPLE



LEFT VIEW OF SAMPLE



RIGHT VIEW OF SAMPLE



TOP VIEW OF SAMPLE



BOTTOM VIEW OF SAMPLE



PHOTO OF POWER SUPPLY



PHOTO OF USB CABLE



PHOTO OF EARPHONE



PHOTO OF BATTERY

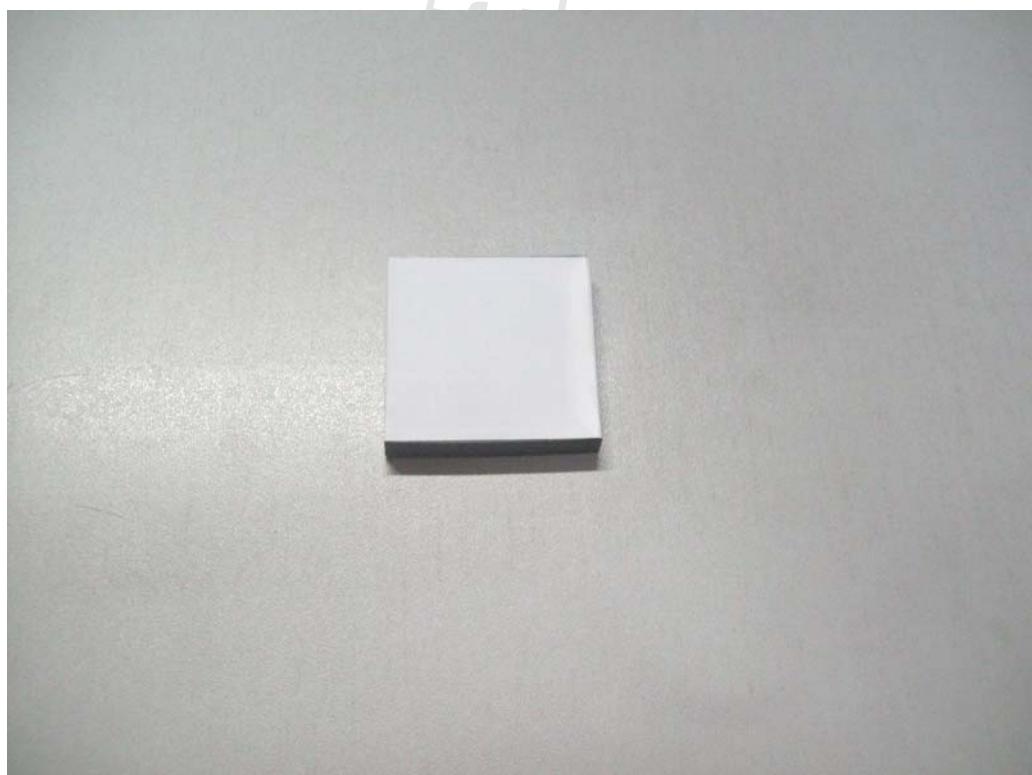


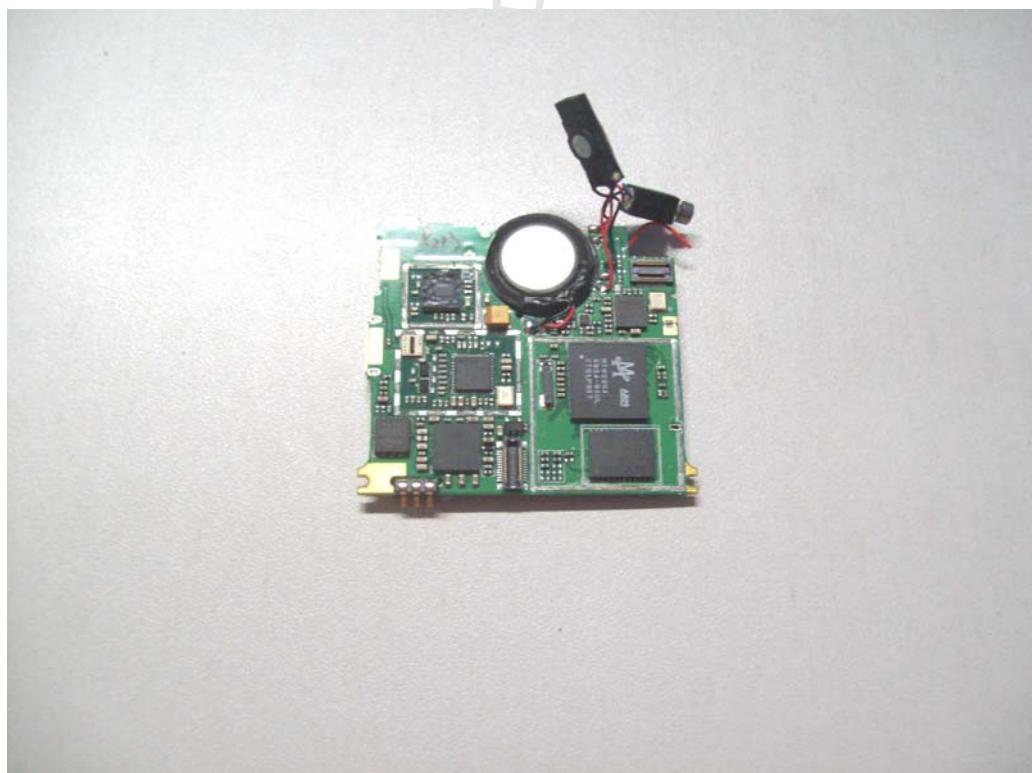
PHOTO OF OTHER COLORS OF SAMPLE



INTERNAL PHOTO OF SAMPLE – 1



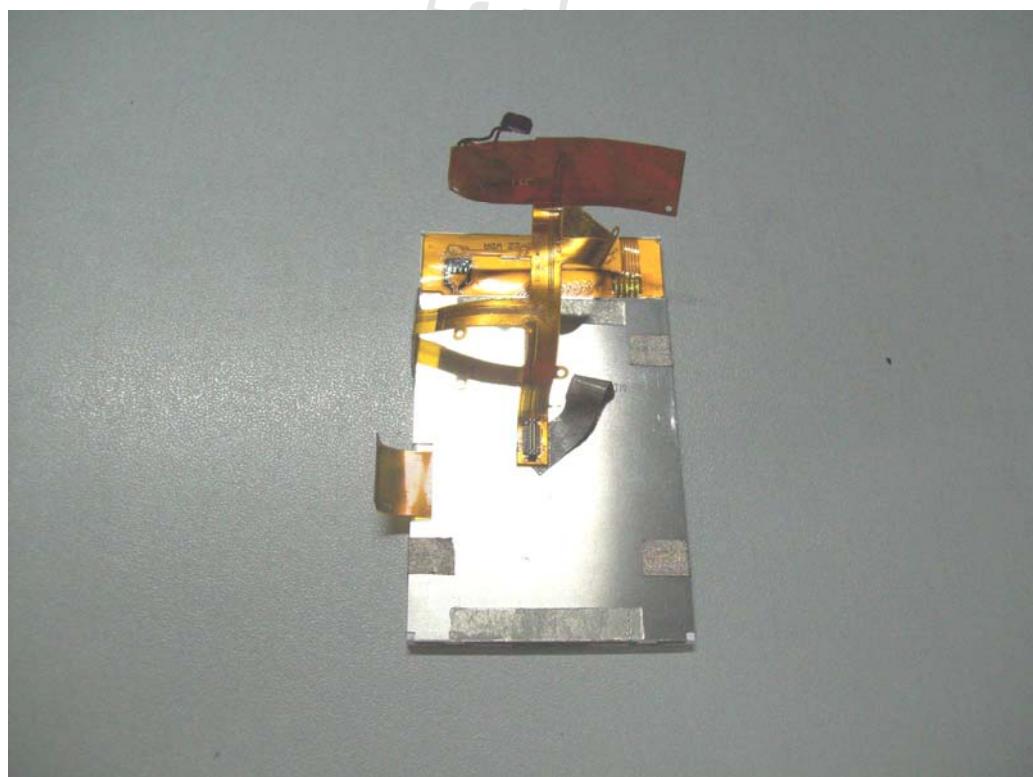
INTERNAL PHOTO OF SAMPLE – 2



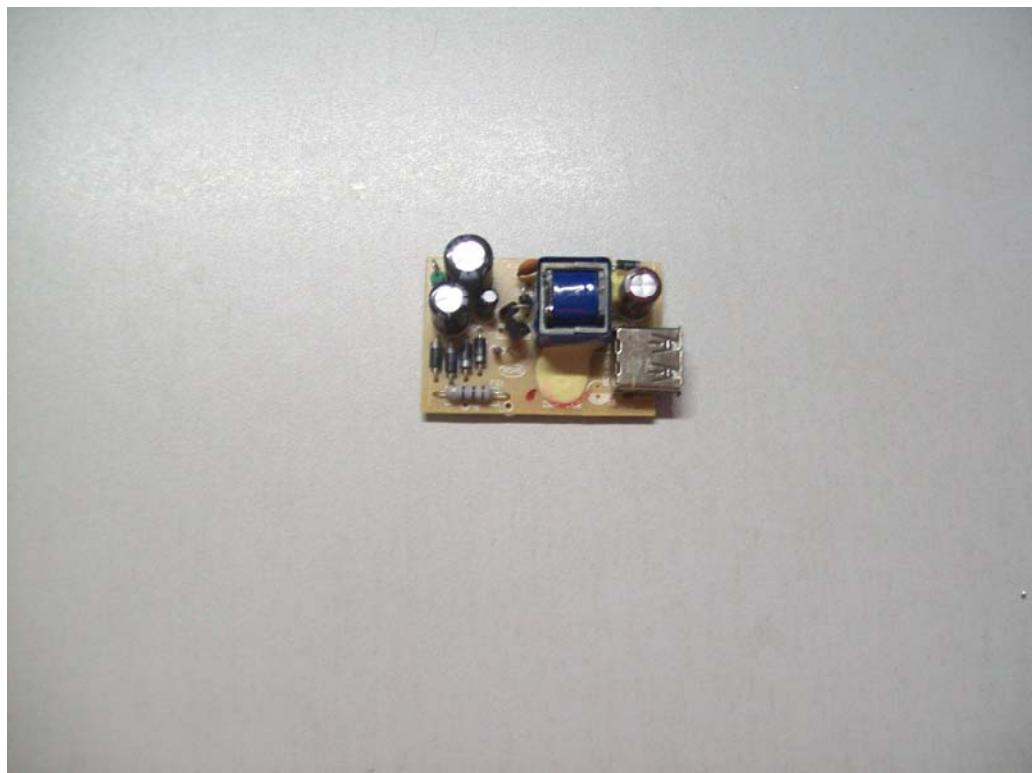
INTERNAL PHOTO OF SAMPLE – 3



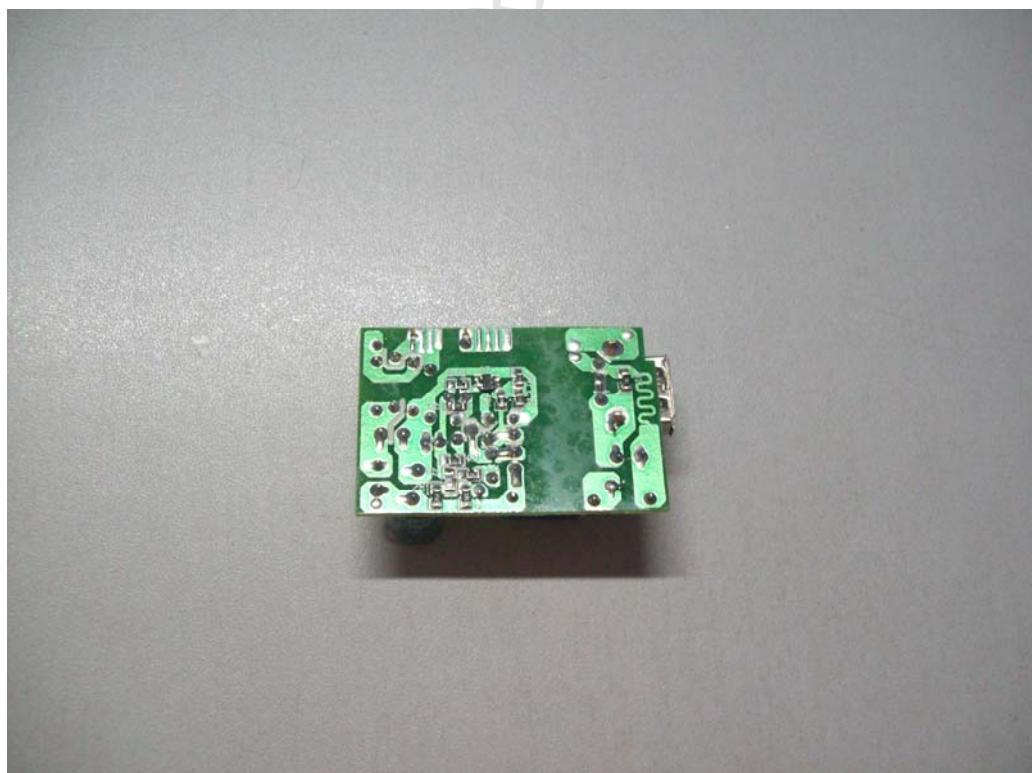
INTERNAL PHOTO OF SAMPLE –4



INTERNAL PHOTO OF POWER SUPPLY-1



INTERNAL PHOTO OF POWER SUPPLY-2



-----END OF REPORT-----