EMC TEST REPORT

SIEMIC
GLOBAL TESTING & CERTIFICATIONS
YOUR CHOICE FOR- TCB FCB CB NB CAB RCB

Report No.: 15050022-FCC-E

Applicant	b mobile HK Limited
Product Name	Mobile Phone
Model No.	AX600
Serial No.	AX630
Test Standard	FCC Part 15 Subpart B Class B:2014, ANSI C63.4: 2014
Test Date	June 10 to June 24,2015
Issue Date	June 24, 2015
Test Result	☑ Pass ☐ Fail
Equipment complied with the specification	☑
Equipment did not comply with the specification	☐

Lucifer He	David Huang	
Lucifer He Test Engineer	David Huang Checked By	

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Test result presented in this test report is applicable to the tested sample only

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

Zone A, Floor 1, Building 2 Wan Ye Long Technology Park

South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China 518108

Phone: +86 0755 2601 4629801 Email: China@siemic.com.cn

Laboratories Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.

In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

Accreditations for Conformity Assessment

Country/Region	Scope
USA	EMC, RF/Wireless, SAR, Telecom
Canada	EMC, RF/Wireless, SAR, Telecom
Taiwan	EMC, RF, Telecom, SAR, Safety
Hong Kong	RF/Wireless, SAR, Telecom
Australia	EMC, RF, Telecom, SAR, Safety
Korea	EMI, EMS, RF, SAR, Telecom, Safety
Japan	EMI, RF/Wireless, SAR, Telecom
Singapore	EMC, RF, SAR, Telecom
Europe	EMC, RF, SAR, Telecom, Safety

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CONTENTS

1. Report Revision History

Report No.	Report Version	Description	Issue Date
15050022-FCC-E	NONE	Original	June 24, 2015

2. Customer information

Applicant Name	b mobile HK Limited
Applicant Add	Flat 18; 14/F Block 1; Golden Industrial Building;16-26 Kwai Tak Street; Kwai Chung;New Territories; Hong Kong
Manufacturer	b mobile HK Limited
Manufacturer Add	Flat 18; 14/F Block 1; Golden Industrial Building;16-26 Kwai Tak Street; Kwai Chung;New Territories; Hong Kong

3. Test site information

Lab performing tests	SIEMIC (Shenzhen-China) LABORATORIES
Lab Address	Zone A, Floor 1, Building 2 Wan Ye Long Technology Park South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China 518108
FCC Test Site No.	718246
IC Test Site No.	4842E-1
Test Software	Radiated Emission Program-To Shenzhen v2.0

4. Equipment under Test (EUT) Information

Description of EUT:	Mobile Phone
Main Model:	AX600
Serial Model:	AX630
Antenna Gain:	GSM850: -1.18dBi PCS1900: 0.06dBi UMTS-FDD Band V: -1.79dBi UMTS-FDD Band II: -0.2dBi Bluetooth/BLE:0.03dBi WIFI: 0.03 dBi GPS: -1.76 dBi
Input Power:	Battery: Model: AX600 Spec: 3.8V, 1250 mAh 4.75Wh Adapter: Input: AC100 ~ 240V ,50/60Hz 0.15A Output:DC5.0V, 0.7A
Trade Name :	Bmobile
FCC ID:	ZSW-30-009
Date EUT received:	June 10, 2015

Equipment Category：	JBP
Type of Modulation:	GSM / GPRS: GMSK EGPRS: GMSK, 8PSK UMTS-FDD: QPSK, 16QAM 802.11b/g/n: DSSS, OFDM Bluetooth: GFSK, π /4DQPSK, 8DPSK BLE: GFSK GPS:BPSK
RF Operating Frequency (ies):	GSM850 TX: 824.2 ~ 848.8 MHz; RX: 869.2 ~ 893.8 MHz PCS1900 TX: 1850.2 ~ 1909.8 MHz; RX: 1930.2 ~ 1989.8 MHz UMTS-FDD Band V TX: 826.4 ~ 846.6 MHz; RX: 871.4 ~ 891.6 MHz UMTS-FDD Band II TX:1852.4 ~ 1907.6 MHz; RX: 1932.4 ~ 1987.6 MHz WIFI:802.11b/g/n(20M): 2412-2472 MHz WIFI:802.11n(40M): 2422-2462 MHz Bluetooth& BLE: 2402-2480 MHz GPS RX:1575.42 MHz
Number of Channels:	GSM 850: 124CH PCS1900: 299CH UMTS-FDD Band V : 102CH UMTS-FDD Band II : 277CH WIFI :802.11b/g/n(20M): 13CH WIFI :802.11n(40M): 9CH Bluetooth: 79CH BLE: 40CH
Port:	Power Port, Earphone Port, USB Port
GPRS/EGPRS Multi-slot class	8/10/12

5. Test Summary

The product was tested in accordance with the following specifications.

All testing has been performed according to below product classification:

FCC Rules	Description of Test	Result
§15.107; ANSI C63.4: 2014	AC Power Line Conducted Emissions	Compliance
§15.109; ANSI C63.4: 2014	Radiated Emissions	Compliance

Measurement Uncertainty

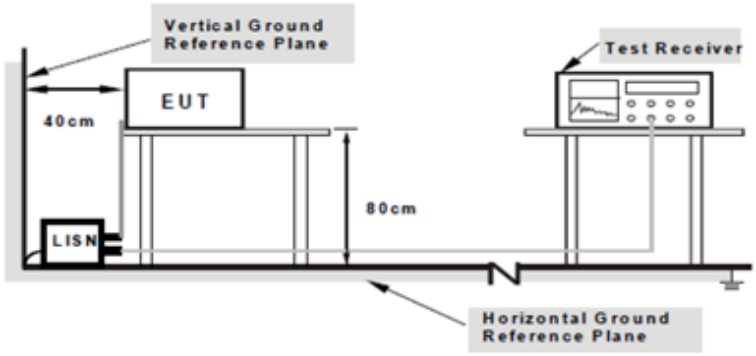
Emissions		
Test Item	**Description**	**Uncertainty**
Band Edge and Radiated Spurious Emissions	Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2 (for EUTs < 0.5m X 0.5m X 0.5m)	+5.6dB/-4.5dB
-	-	-

6. Measurements, Examination And Derived Results

6.1 AC Power Line Conducted Emissions

Temperature	20°C
Relative Humidity	59%
Atmospheric Pressure	1017mbar
Test date :	June 17, 2015
Tested By :	Lucifer He

Requirement(s):

<table>
<tr><th>Spec</th><th>Item</th><th>Requirement</th><th>Applicable</th></tr>
<tr><td>47CFR§15.107</td><td>a)</td><td>For Low-power radio-frequency devices that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 [mu] H/50 ohms line impedance stabilization network (LISN). The lower limit applies at the boundary between the frequencies ranges.
<table>
<tr><th rowspan="2">Frequency ranges (MHz)</th><th colspan="2">Limit (dBμV)</th></tr>
<tr><th>QP</th><th>Average</th></tr>
<tr><td>0.15 ~ 0.5</td><td>66 – 56</td><td>56 – 46</td></tr>
<tr><td>0.5 ~ 5</td><td>56</td><td>46</td></tr>
<tr><td>5 ~ 30</td><td>60</td><td>50</td></tr>
</table>
</td><td>☑</td></tr>
<tr><td>Test Setup</td><td colspan="3"> 

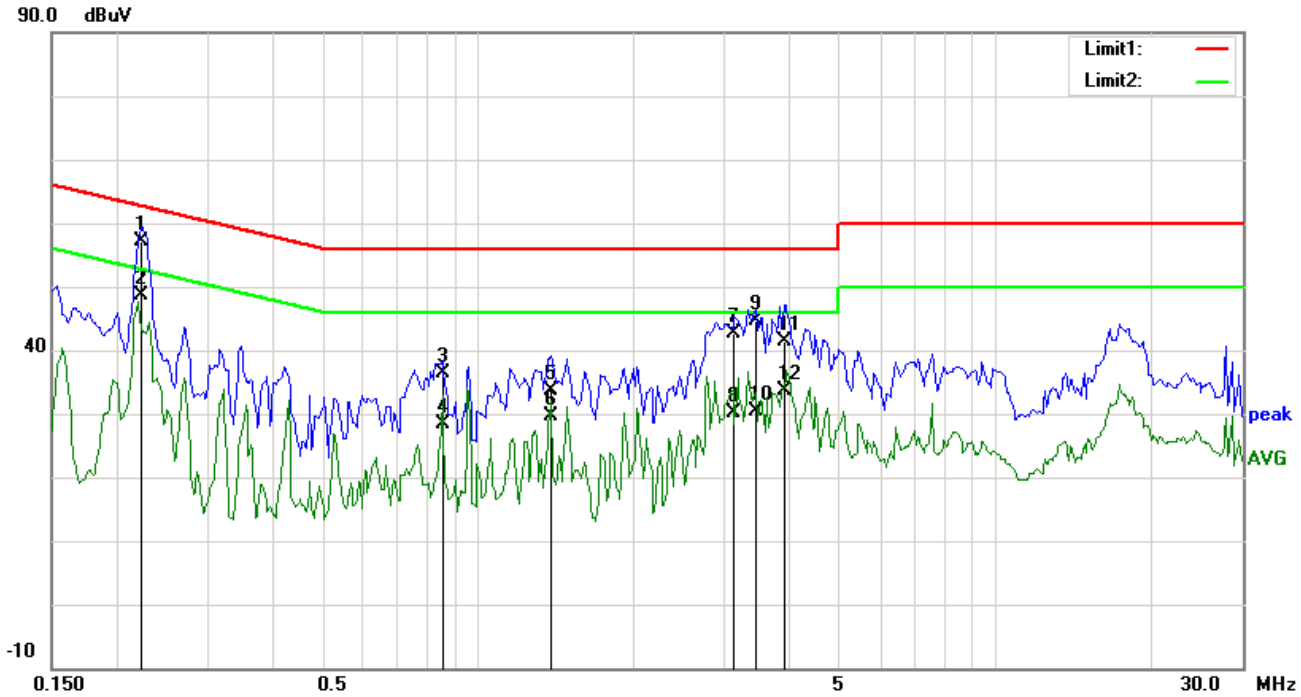
Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80cm from EUT and at least 80cm from other units and other metal planes support units.</td></tr>
<tr><td>Procedure</td><td colspan="3">1. The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m x 1m x 0.8m high, non-metallic table.
2. The power supply for the EUT was fed through a 50W/50mH EUT LISN, connected to filtered mains.</td></tr>
</table>

	3. The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss coaxial cable. 4. All other supporting equipment were powered separately from another main supply. 5. The EUT was switched on and allowed to warm up to its normal operating condition. 6. A scan was made on the NEUTRAL line (for AC mains) or Earth line (for DC power) over the required frequency range using an EMI test receiver. 7. High peaks, relative to the limit line, The EMI test receiver was then tuned to the selected frequencies and the necessary measurements made with a receiver bandwidth setting of 10 kHz. 8. Step 7 was then repeated for the LIVE line (for AC mains) or DC line (for DC power).
Remark	
Result	☑ Pass ☐ Fail

Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A

Test Mode 1:	USB Mode

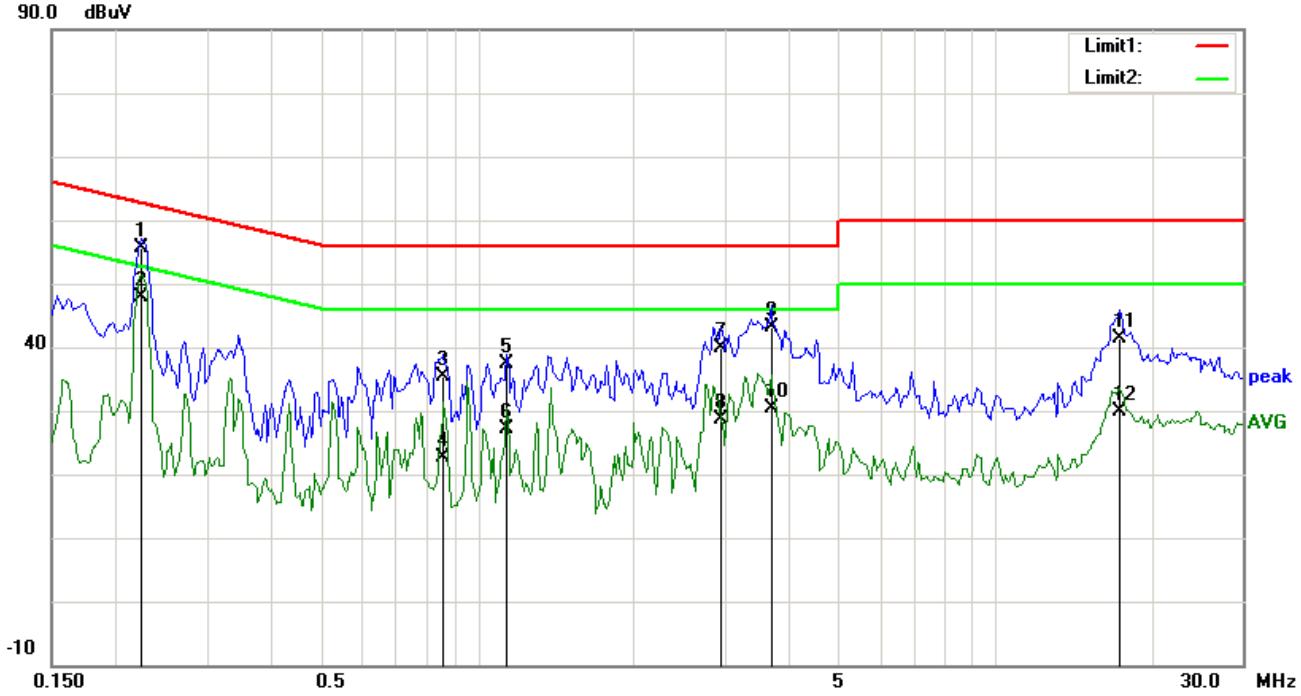


Test Data

Phase Line Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Comment
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)	
1	L1	0.2242	44.25	QP	12.92	57.17	62.66	-5.49	
2	L1	0.2242	35.69	AVG	12.92	48.61	52.66	-4.05	
3	L1	0.8531	24.80	QP	11.55	36.35	56.00	-19.65	
4	L1	0.8531	16.76	AVG	11.55	28.31	46.00	-17.69	
5	L1	1.3883	22.19	QP	11.40	33.59	56.00	-22.41	
6	L1	1.3883	18.20	AVG	11.40	29.60	46.00	-16.40	
7	L1	3.1250	31.25	QP	11.40	42.65	56.00	-13.35	
8	L1	3.1250	18.72	AVG	11.40	30.12	46.00	-15.88	
9	L1	3.4375	33.28	QP	11.40	44.68	56.00	-11.32	
10	L1	3.4375	18.90	AVG	11.40	30.30	46.00	-15.70	
11	L1	3.9141	29.86	QP	11.40	41.26	56.00	-14.74	
12	L1	3.9141	22.24	AVG	11.40	33.64	46.00	-12.36	

Test Mode 1:	USB Mode

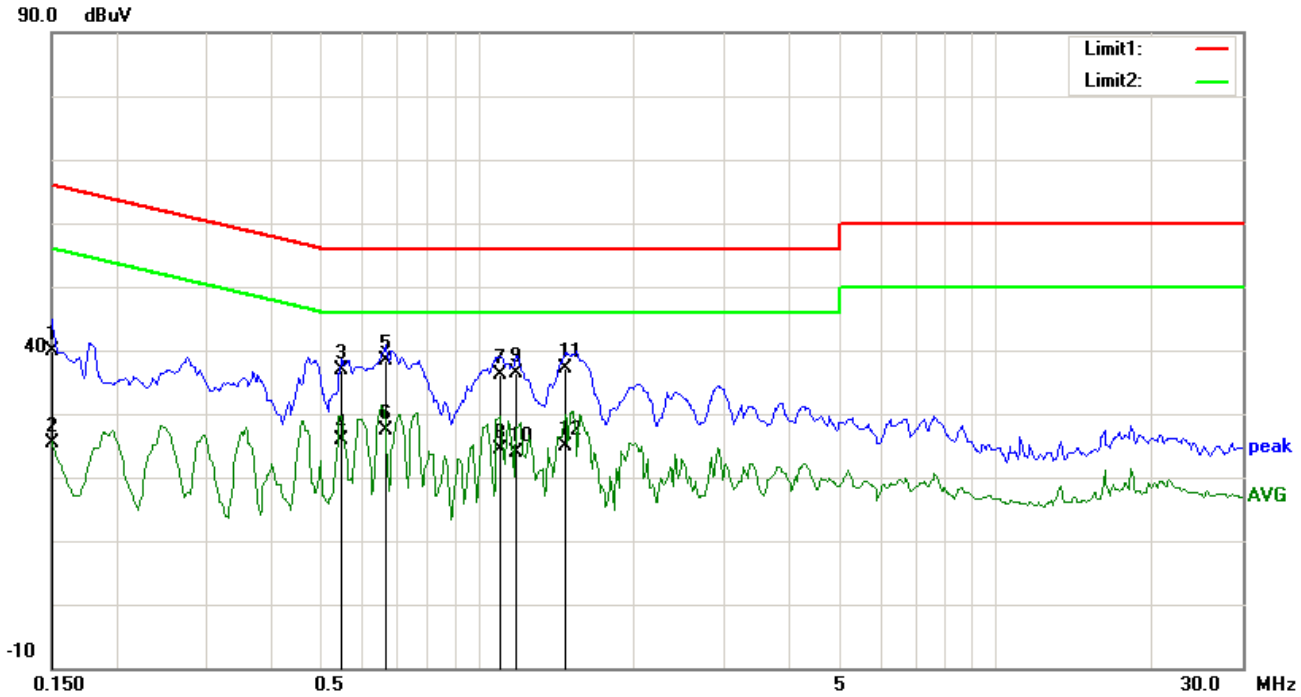


Test Data

Phase Neutral Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Comment
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)	
1	N	0.2242	42.64	QP	12.92	55.56	62.66	-7.10	
2	N	0.2242	34.98	AVG	12.92	47.90	52.66	-4.76	
3	N	0.8609	23.72	QP	11.54	35.26	56.00	-20.74	
4	N	0.8609	11.09	AVG	11.54	22.63	46.00	-23.37	
5	N	1.1383	26.07	QP	11.42	37.49	56.00	-18.51	
6	N	1.1383	15.61	AVG	11.42	27.03	46.00	-18.97	
7	N	2.9547	28.22	QP	11.64	39.86	56.00	-16.14	
8	N	2.9547	17.05	AVG	11.64	28.69	46.00	-17.31	
9	N	3.6836	31.41	QP	11.74	43.15	56.00	-12.85	
10	N	3.6836	18.76	AVG	11.74	30.50	46.00	-15.50	
11	N	17.4297	26.75	QP	14.61	41.36	60.00	-18.64	
12	N	17.4297	15.32	AVG	14.61	29.93	50.00	-20.07	

Test Mode 1:	USB Mode

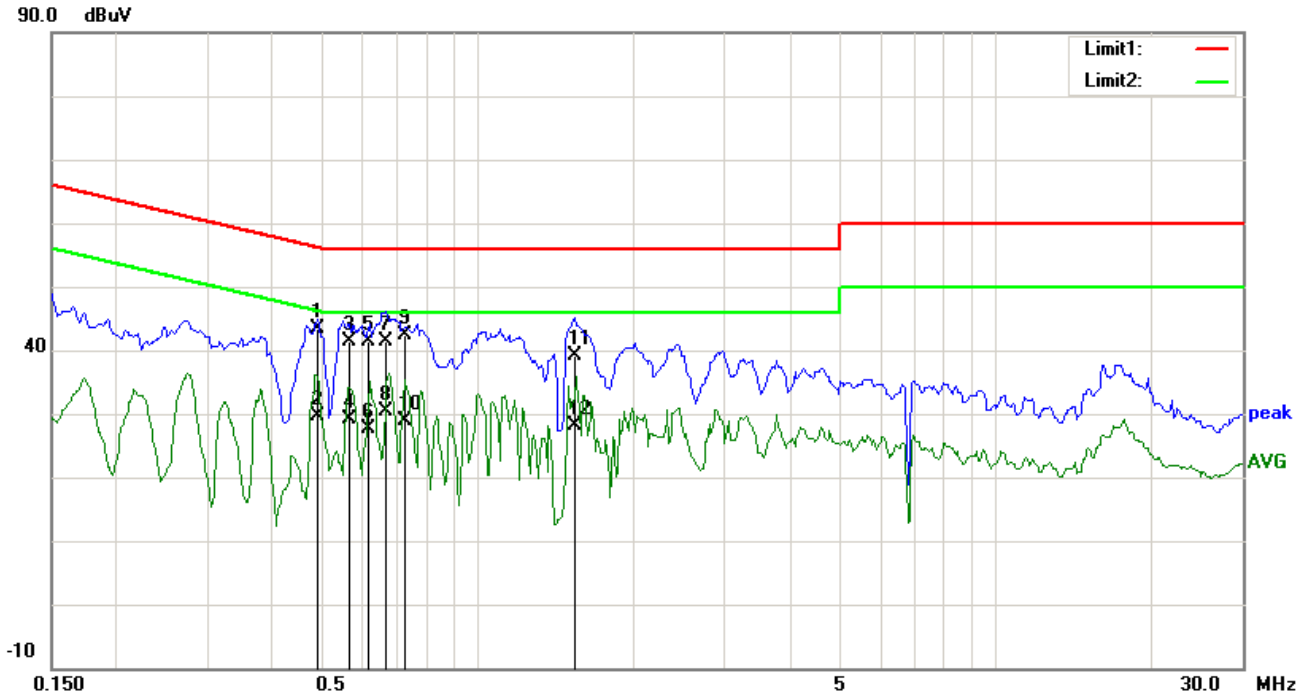


Test Data

Phase Line Plot at 240Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Comment
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)	
1	L1	0.1500	26.61	QP	13.20	39.81	66.00	-26.19	
2	L1	0.1500	12.17	AVG	13.20	25.37	56.00	-30.63	
3	L1	0.5445	25.00	QP	11.86	36.86	56.00	-19.14	
4	L1	0.5445	14.01	AVG	11.86	25.87	46.00	-20.13	
5	L1	0.6617	26.53	QP	11.74	38.27	56.00	-17.73	
6	L1	0.6617	15.62	AVG	11.74	27.36	46.00	-18.64	
7	L1	1.1031	24.74	QP	11.40	36.14	56.00	-19.86	
8	L1	1.1031	12.94	AVG	11.40	24.34	46.00	-21.66	
9	L1	1.1891	25.00	QP	11.40	36.40	56.00	-19.60	
10	L1	1.1891	12.41	AVG	11.40	23.81	46.00	-22.19	
11	L1	1.4781	25.76	QP	11.40	37.16	56.00	-18.84	
12	L1	1.4781	13.42	AVG	11.40	24.82	46.00	-21.18	

Test Mode 1:	USB Mode



Test Data

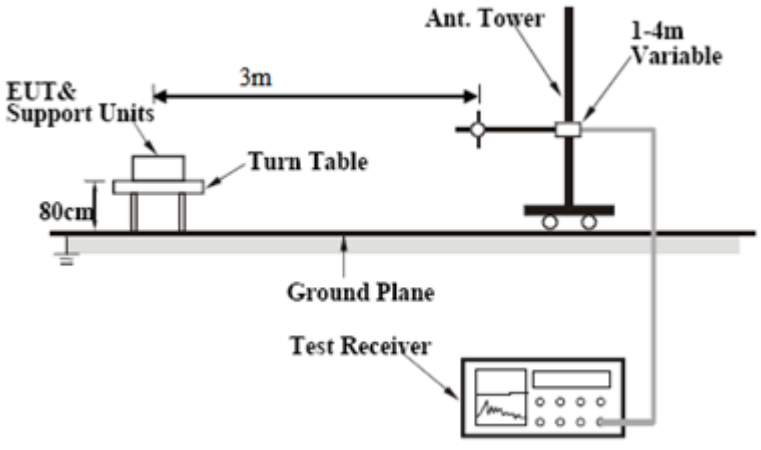
Phase Neutral Plot at 240Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Comment
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)	
1	N	0.4898	31.32	QP	11.94	43.26	56.17	-12.91	
2	N	0.4898	17.66	AVG	11.94	29.60	46.17	-16.57	
3	N	0.5641	29.63	QP	11.84	41.47	56.00	-14.53	
4	N	0.5641	17.34	AVG	11.84	29.18	46.00	-16.82	
5	N	0.6140	29.69	QP	11.79	41.48	56.00	-14.52	
6	N	0.6140	15.93	AVG	11.79	27.72	46.00	-18.28	
7	N	0.6656	29.58	QP	11.73	41.31	56.00	-14.69	
8	N	0.6656	18.75	AVG	11.73	30.48	46.00	-15.52	
9	N	0.7236	30.75	QP	11.68	42.43	56.00	-13.57	
10	N	0.7236	17.10	AVG	11.68	28.78	46.00	-17.22	
11	N	1.5367	27.74	QP	11.47	39.21	56.00	-16.79	
12	N	1.5367	16.58	AVG	11.47	28.05	46.00	-17.95	

6.2 Radiated Emissions

Temperature	20°C
Relative Humidity	59%
Atmospheric Pressure	1017mbar
Test date :	June 17, 2015
Tested By :	Lucifer He

Requirement(s):

<table>
<tr><th>Spec</th><th>Item</th><th>Requirement</th><th>Applicable</th></tr>
<tr><td>47CFR§15.
107(d)</td><td>a)</td><td>Except higher limit as specified elsewhere in other section, the emissions from the low-power radio-frequency devices shall not exceed the field strength levels specified in the following table and the level of any unwanted emissions shall not exceed the level of the fundamental emission. The tighter limit applies at the band edges
<table>
<tr><th>Frequency range (MHz)</th><th>Field Strength (μV/m)</th></tr>
<tr><td>30 – 88</td><td>100</td></tr>
<tr><td>88 – 216</td><td>150</td></tr>
<tr><td>216 960</td><td>200</td></tr>
<tr><td>Above 960</td><td>500</td></tr>
</table></td><td>☑</td></tr>
<tr><td>Test Setup</td><td colspan="3"> 
</td></tr>
<tr><td>Procedure</td><td colspan="3">1. The EUT was switched on and allowed to warm up to its normal operating condition.
2. The test was carried out at the selected frequency points obtained from the EUT characterization. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner:
a. Vertical or horizontal polarization (whichever gave the higher emission level</td></tr>
</table>

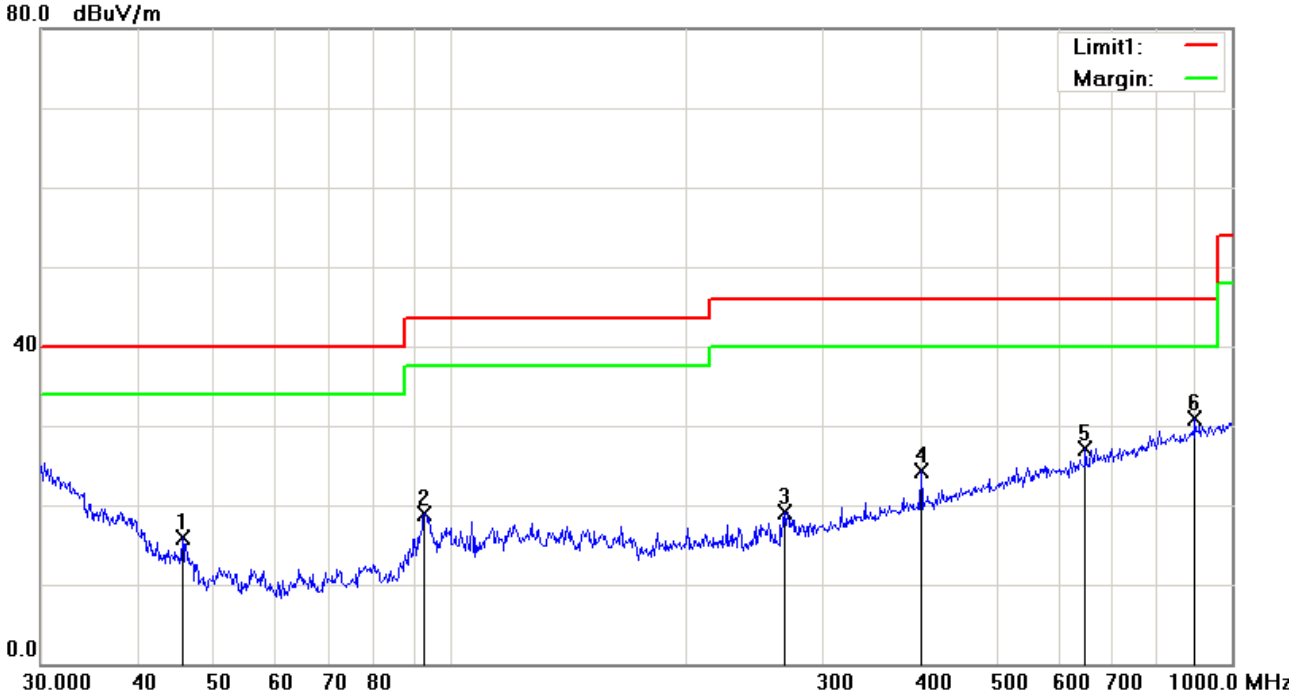
	over a full rotation of the EUT) was chosen. b. The EUT was then rotated to the direction that gave the maximum emission. c. Finally, the antenna height was adjusted to the height that gave the maximum emission. 3. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasiy Peak detection at frequency below 1GHz. 4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz with Peak detection for Peak measurement at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth with Peak detection for Average Measurement as below at frequency above 1GHz. ■ 1 kHz (Duty cycle < 98%) □ 10 Hz (Duty cycle > 98%) 5. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.
Remark	
Result	☑ Pass ☐ Fail

Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A

Test Mode:	USB Mode

Below 1GHz



Test Data

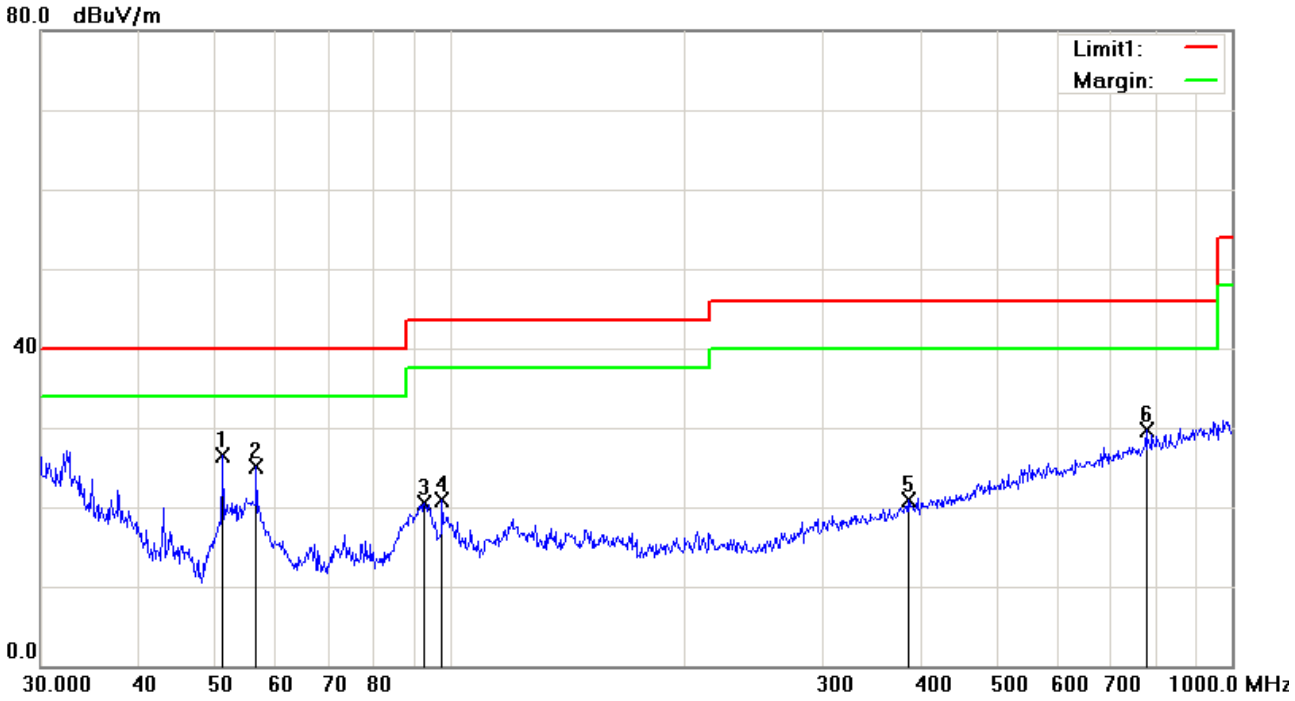
Horizontal Polarity Plot @3m

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
		(MHz)	(dBuV/m)		(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	( )	
1	H	45.5348	27.05	peak	-11.18	15.87	40.00	-24.13	200	356	
2	H	92.7872	31.64	peak	-12.68	18.96	43.50	-24.54	200	198	
3	H	267.5455	27.54	peak	-8.39	19.15	46.00	-26.85	100	108	
4	H	400.4319	28.52	peak	-4.29	24.23	46.00	-21.77	100	157	
5	H	649.6597	26.34	peak	0.81	27.15	46.00	-18.85	100	123	
6	H	896.9965	26.25	peak	4.64	30.89	46.00	-15.11	162	360	

Above 1GHz

Note: The frequency that above 1GHz is mainly from the environment noise.

Below 1GHz



Test Data

Vertical Polarity Plot @3m

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
		(MHz)	(dBuV/m)		(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	( )	
1	V	51.3005	39.80	peak	-13.33	26.47	40.00	-13.53	200	205	
2	V	56.5929	39.01	peak	-13.96	25.05	40.00	-14.95	100	22	
3	V	92.7872	33.11	peak	-12.68	20.43	43.50	-23.07	100	195	
4	V	97.7983	32.26	peak	-11.39	20.87	43.50	-22.63	100	218	
5	V	385.2805	25.57	peak	-4.64	20.93	46.00	-25.07	100	117	
6	V	776.8778	26.78	peak	2.84	29.62	46.00	-16.38	200	66	

Above 1GHz

Note: The frequency that above 1GHz is mainly from the environment noise.

Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Due	In use
AC Line Conducted Emissions					
EMI test receiver	ESCS30	8471241027	09/18/2014	09/17/2015	☑
Line Impedance Stabilization Network	LI-125A	191106	09/26/2014	09/25/2015	☑
Line Impedance Stabilization Network	LI-125A	191107	09/26/2014	09/25/2015	☑
LISN	ISN T800	34373	09/26/2014	09/25/2015	☑
Transient Limiter	LIT-153	531118	09/02/2014	09/01/2015	☑
Radiated Emissions					
EMI test receiver	ESL6	100262	09/18/2014	09/17/2015	☑
OPT 010 AMPLIFIER (0.1-1300MHz)	8447E	2727A02430	09/02/2014	09/01/2015	☑
Microwave Preamplifier (1 ~ 26.5GHz)	8449B	3008A02402	03/25/2015	03/24/2016	☑
Bilog Antenna (30MHz~6GHz)	JB6	A110712	09/22/2014	09/21/2015	☑
Double Ridge Horn Antenna	AH-118	71259	09/25/2014	09/24/2015	☑

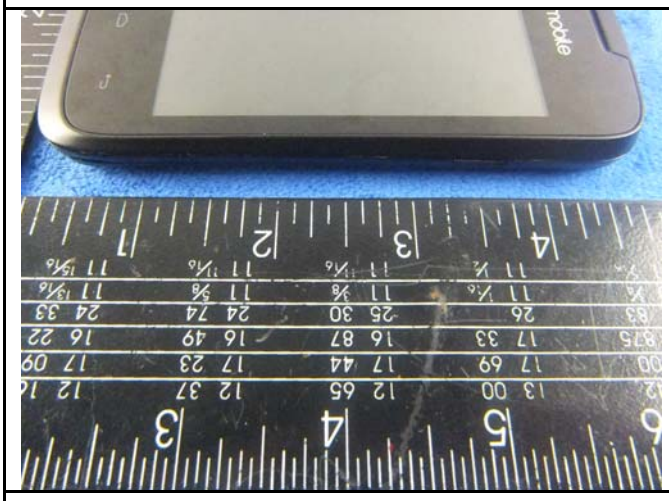
Annex B. EUT And Test Setup Photographs

Annex B.i. Photograph: EUT External Photo

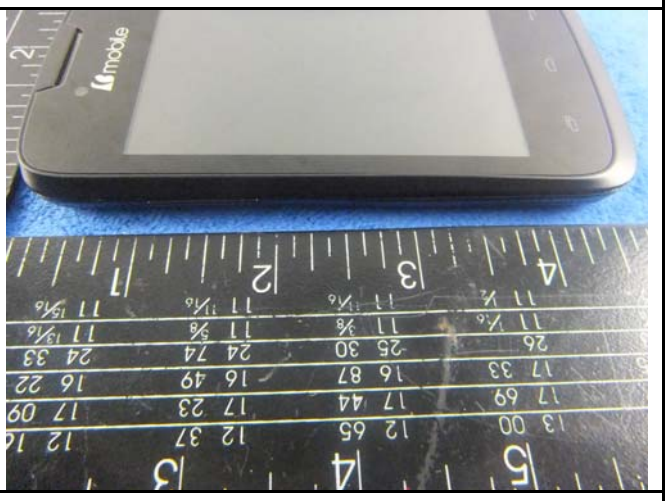
	
Whole Package - Top View	Adapter - Front View
	
EUT - Front View	EUT - Rear View

EUT - Top View

EUT - Bottom View



EUT - Left View



EUT - Right View

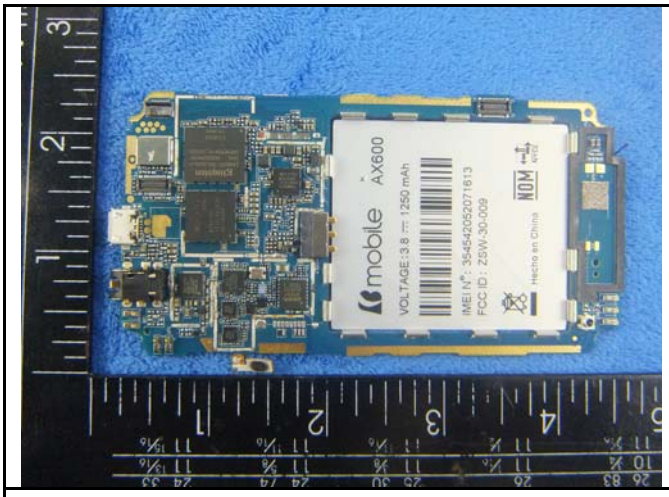
Annex B.ii. Photograph: EUT Internal Photo

Cover Off - Top View

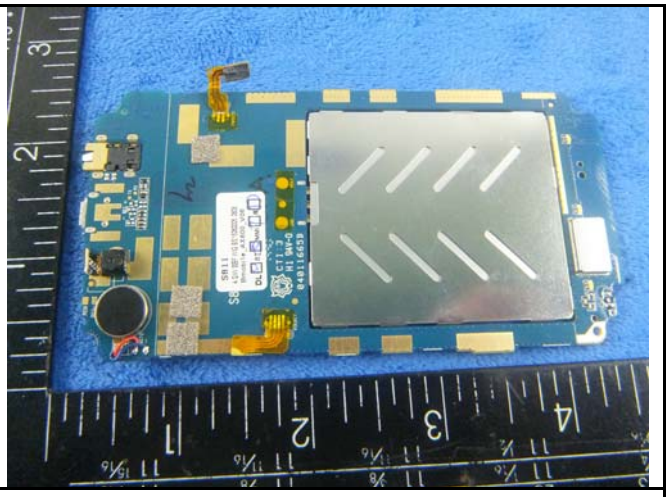
Battery - Top View

Battery - Bottom View

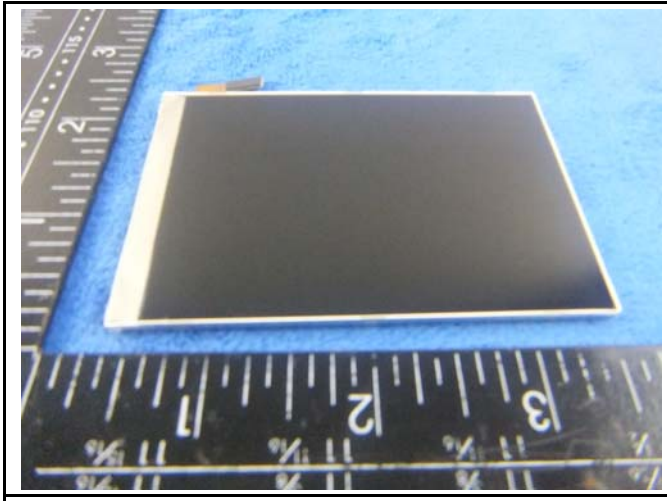
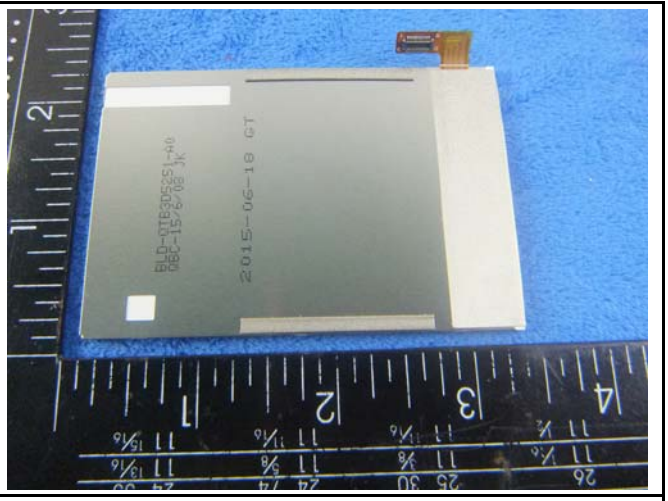
Mainborad With Shielding - Front View



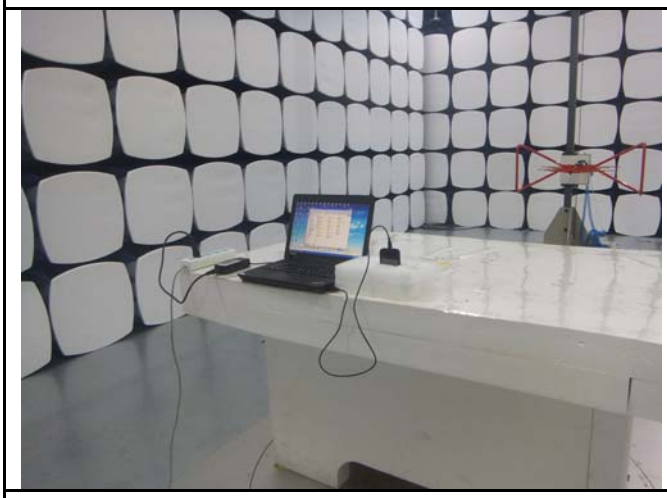
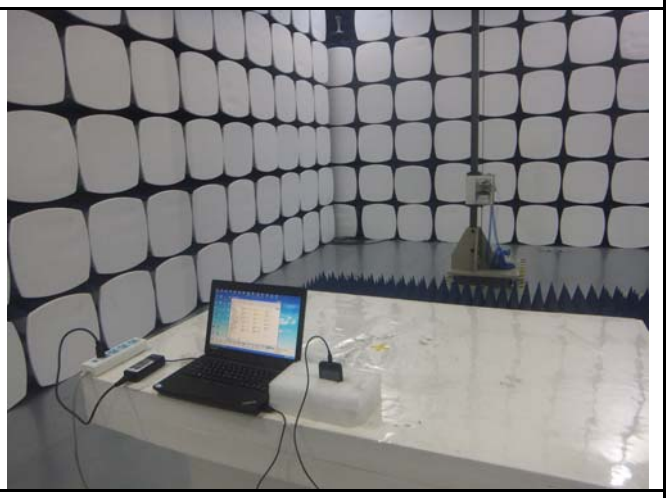
Mainborad Without Shielding - Front View



Mainborad - rear View

	
LCD - Front View LCD – Rear View	LCD – Rear View
	
WIFI/BT/BLE - Antenna View	GSM/PCS/UMTS-FDD Antenna View

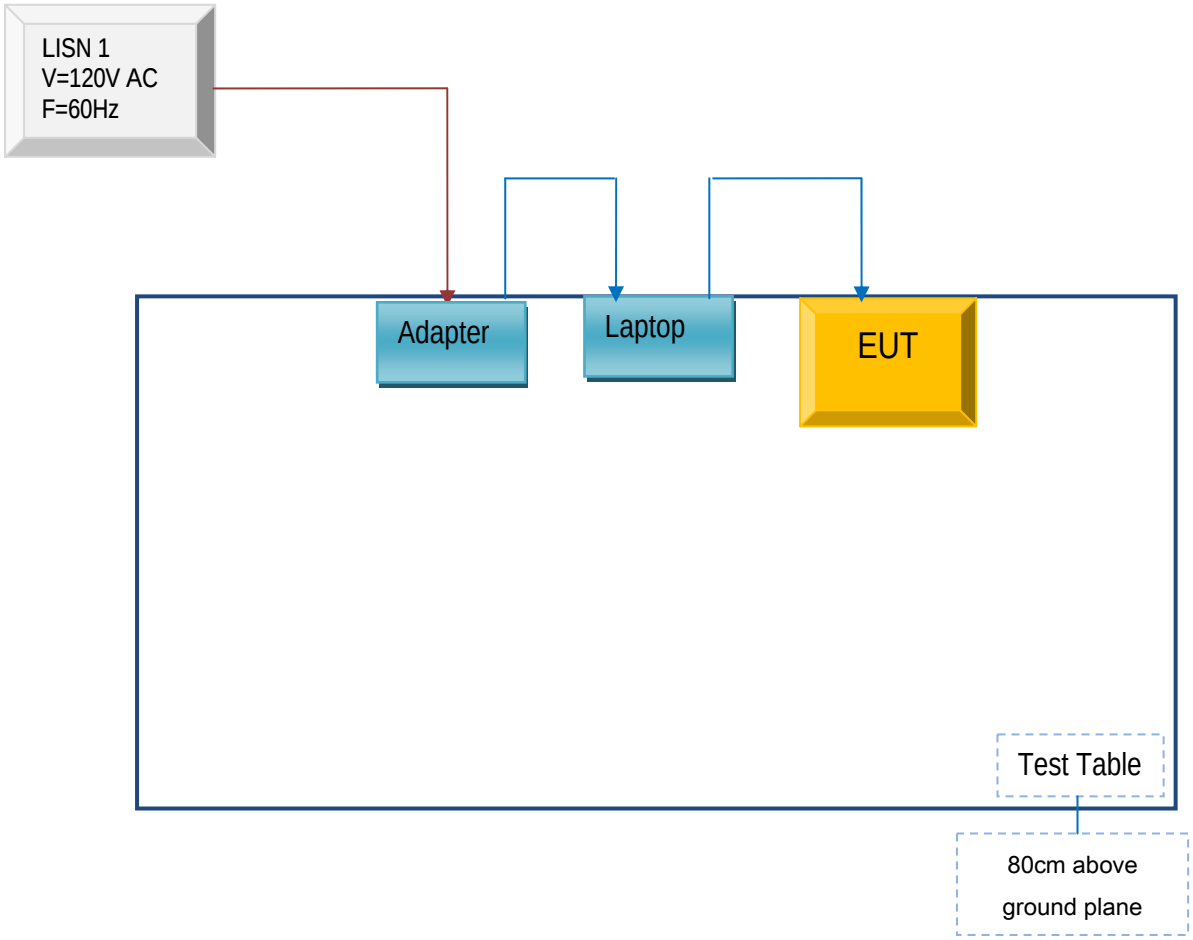
Annex B.iii. Photograph: Test Setup Photo

	
Conducted Emissions Test Setup – Front View	Conducted Emissions Test Setup – Side View
	
Radiated Spurious Emissions Test Setup Below 1GHz	Radiated Spurious Emissions Test Setup Above 1GHz

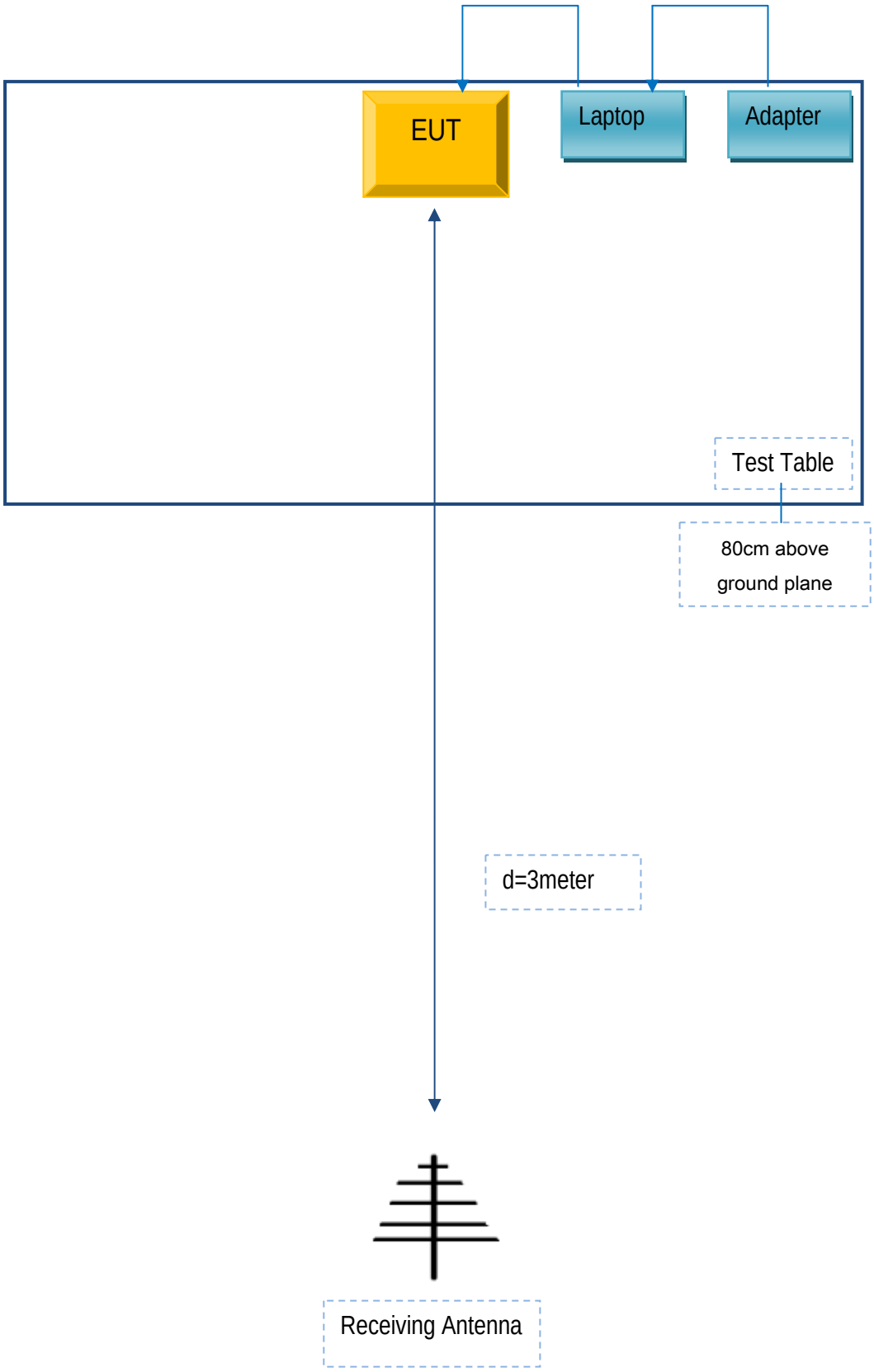
Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

Annex C.ii. TEST SET UP BLOCK

Block Configuration Diagram for Conducted Emissions



Block Configuration Diagram for Radiated Emissions



Annex C. il. SUPPORTING EQUIPMENT DESCRIPTION

The following is a description of supporting equipment and details of cables used with the EUT.

Manufacturer	Equipment Description	Model	Calibration Date	Calibration Due Date
Lenovo	Lenovo Laptop	E40& 0579A52	N/A	N/A

Annex D. User Manual / Block Diagram / Schematics / Partlist

Please see Attachment

Annex E. DECLARATION OF SIMILARITY

b Mobile HK Limited

To SIEMIC Inc
775 Montague Expressway
Milpitas, CA 95035.

Statement

We, b Mobile HK Limited apply a multiple-listing certification for the below models.

Product Name: Mobile phone

Model number: AX600/ AX630

FCC ID: ZSW-30-009

We hereby state that these models are identical in interior structure, electrical circuits and components, and just model name is different for the marketing requirement.

Your assistance on this matter is highly appreciated.

Sincerely,
Name: KA SHING LAM
Title: Director
Signature:

For and on behalf of
b mobile HK Limited
Authorized Signature(s)