



FCC 47 CFR PART 15 SUBPART B

TEST REPORT

For

Applicant: B Mobile HK Limited

Address: G/F 144 Un Chau Street, Sham Shui Po, Hong Kong

Product Name: Mobile Phone

Model Name: AX520

Brand Name: B Mobile

FCC ID: ZSW-AX520

Report No.: STS120214F1

Date of Issue: March. 05, 2012

Issued by: Most Technology Service Co., Ltd.

**Address: No.5, 2nd Langshan Road, North District, Hi-tech Industrial Park,
Nanshan, Shenzhen, Guangdong, China**

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2. GENERAL INFORMATION

2.1 PRODUCT INFORMATION

EUT1- Mobile Phone	
Description:	Mobile Phone
Model Name:	AX520
Brand Name:	B Mobile
IMEI No.:	--
Frequency:	GSM 850MHz/1900MHz
Hardware Version:	A3_V2.1
Software Version:	android_2.3.7
EUT2- Battery	
Description:	Lithium-ion Battery
Model Name:	AX520
Brand Name:	B Mobile
Manufacturer:	SHENZHEN EXCEED-ELEC CO.,LTD
Capacitance:	1500 mAh
Rated Voltage:	3.7V
Charge Limit:	4.2V
EUT3 – Power Supply	
Description:	Travel Charger
Model Name:	AX520
Brand Name:	B Mobile
Manufacturer:	SHENZHEN GUANG MING TONG ELECTRONICS INDUSTRY CO.,LTD .
Rated Input:	AC 100-240V, 50/60Hz, 0.15A
Rated Output:	DC 5V, 1A

NOTE:

1. The EUT is a model of GSM Portable Mobile Station (MS). It consists of **hand telephone set, Lithium battery, USB cable, headphone** 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:	No.5, Langshan 2nd Rd., North Hi-Tech Industrial park, Nanshan, Shenzhen, Guangdong, China
Description:	<p>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 C63.4:2009 and CISPR 16 requirements. The FCC Registration Number is 490827.</p> <p>The CNAS Registration Number is CNAS L3573.</p>
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 C63.4:2009 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.

3.2 GENERAL TEST PROCEDURES

EUT Function and Test Mode

The EUT has been tested under normal operating (TX) and standby (RX) condition.

The field strength of radiation emission was measured in the following position: EUT stand-up position (Y axis), lie-down position (X, Z axis).

The following data show only with the worst case setup.

The worst case of Y axis was reported.

Based on client request, all normal using modes of the normal function were tested but only the worst test data of the worst mode is reported by this report.

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4:2009,Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.4:2009.

3.3 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

- (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
10.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41			

¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

² Above 38.6

- (b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi- peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

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	Calibration date	Calibration due date
1	Test Receiver	Rohde & Schwarz	ESCI	100492	2011/03/14	2012/03/14
2	L.I.S.N.	Rohde & Schwarz	ENV216	100093	2011/03/14	2012/03/14
3	Coaxial Switch	Anritsu Corp	MP59B	6200283933	2011/03/14	2012/03/14
4	Terminator	Hubersuhner	50Ω	No.1	2011/03/14	2012/03/14
5	RF Cable	SchwarzBeck	N/A	No.1	2011/03/14	2012/03/14
6	Test Receiver	Rohde & Schwarz	ESPI	101202	2011/03/14	2012/03/14
7	Bilog Antenna	Sunol	JB3	A121206	2011/03/14	2012/03/14
8	Test Antenna - Horn	Schwarzbeck	BBHA 9120C	--	2011/03/14	2012/03/14
9	Test Antenna - LOOP	Schwarzbeck	VULB 9163	--	2011/03/14	2012/03/14
10	Cable	Resenberger	N/A	NO.1	2011/03/14	2012/03/14
11	Cable	SchwarzBeck	N/A	NO.2	2011/03/14	2012/03/14
12	Cable	SchwarzBeck	N/A	NO.3	2011/03/14	2012/03/14
13	DC Power Filter	DuoJi	DL2×30B	N/A	2011/03/14	2012/03/14
14	Single Phase Power Line Filter	DuoJi	FNF 202B30	N/A	2011/03/14	2012/03/14
15	3 Phase Power Line Filter	DuoJi	FNF 402B30	N/A	2011/03/14	2012/03/14
16	Spectrum Analyzer	Agilent	4408B	MY41440460	2011/03/14	2012/03/14
17	Absorbing Clamp	Luthi	MDS21	3635	2011/03/14	2012/03/14
18	Coaxial Switch	Anritsu Corp	MP59B	6200283933	2011/03/14	2012/03/14
19	AC Power Source	Kikusui	AC40MA	LM003232	2011/03/14	2012/03/14
20	Test Analyzer	Kikusui	KHA1000	LM003720	2011/03/14	2012/03/14
21	Line Impedance Network	Kikusui	LIN40MA-PCR-L	LM002352	2011/03/14	2012/03/14
22	ESD Tester	Kikusui	KES4021	LM003537	2011/03/14	2012/03/14
23	EMC PRO System	EM Test	UCS-500-M4	V064810202 6	2011/03/14	2012/03/14
24	Signal Generator	IFR	2032	203002/100	2011/03/14	2012/03/14
25	Amplifier	A&R	150W1000	301584	2011/03/14	2012/03/14
26	CDN	FCC	FCC-801-M2-25	47	2011/03/14	2012/03/14
27	CDN	FCC	FCC-801-M3-25	107	2011/03/14	2012/03/14
28	EM Injection Clamp	FCC	F-203I-23mm	403	2011/03/14	2012/03/14
29	RF Cable	MIYAZAKI	N/A	No.1/No.2	2011/03/14	2012/03/14
30	Universal Radio Communication Tester	ROHDE&SCHWARZ	CMU200	0304789	2011/03/14	2012/03/14
31	Telecommunication Antenna	European Antennas	PSA 75301R/170	0304213	2011/03/14	2012/03/14
32	Temperature Chamber	Guangzhou Gongwen	GDS-250	N/A	2011/03/14	2012/03/14

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: 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 2: 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 850/1900MHz,WCDMA850/1900 MHz mid ARFCN and maximum output power.

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

Mode 3: GPRS Mode

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

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

Mode 4: Bluetooth Mode

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 EUT and the Bluetooth Earphone and a System Simulator (SS).

The MS operated at GSM 850/1900MHz mid and maximum output power.

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

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

Mode 5: Wifi Mode

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

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

Mode 6: GPS Mode

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

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

Mode 7: 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 8: Camera Mode

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

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

Mode 9: FM Mode

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

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

Mode 10: 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** (MSi-MS-1224).

Note: Due to the different configuration and test, in this list only some worse mode. The worst test data of the worse mode is reported by this report.

6. LINE CONDUCTED EMISSION TEST

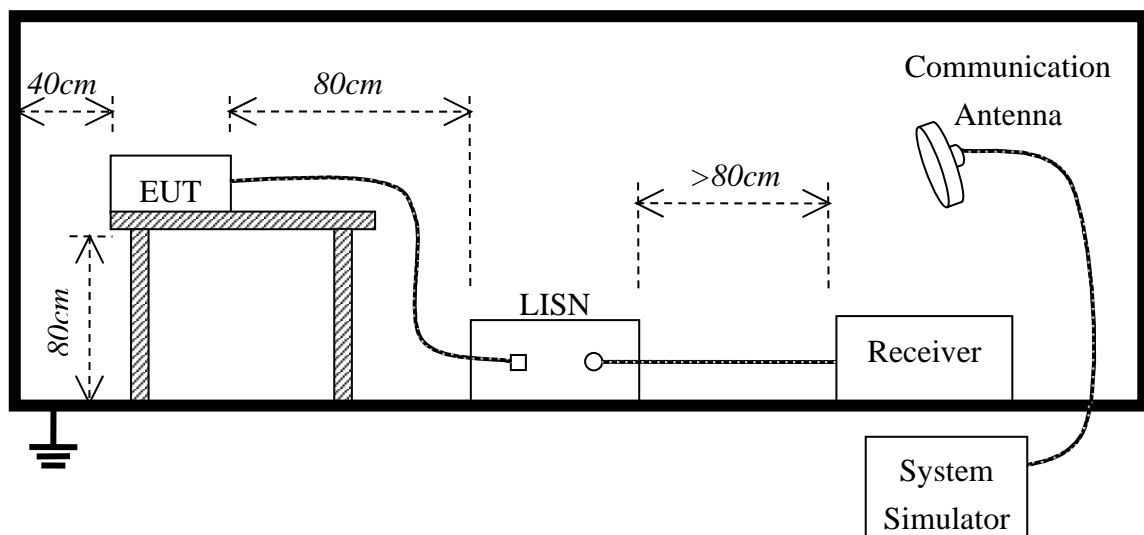
6.1. LIMITS OF LINE CONDUCTED EMISSION TEST

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 DC 5V by AC/DC adapter or USB port of notebook which 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
Idle Mode	2012-2-24	STS120214F1	AX520_0_(L, N)	<input type="checkbox"/>
Call Mode	2012-2-24	STS120214F1	AX520_1_(L, N)	<input type="checkbox"/>
GPRS Mode	2012-2-24	STS120214F1	AX520_2_(L, N)	<input type="checkbox"/>
Bluetooth Mode	2012-2-24	STS120214F1	AX520_3_(L, N)	<input checked="" type="checkbox"/>
WIFI Mode	2012-2-24	STS120214F1	AX520_4_(L, N)	<input type="checkbox"/>
GPS Mode	2012-2-24	STS120214F1	AX520_5_(L, N)	<input type="checkbox"/>
MP3/MP4 Mode	2012-2-24	STS120214F1	AX520_6_(L, N)	<input type="checkbox"/>
Camera Mode	2012-2-24	STS120214F1	AX520_7_(L, N)	<input type="checkbox"/>
FM Mode	2012-2-24	STS120214F1	AX520_8_(L, N)	<input type="checkbox"/>
USB Mode	2012-2-24	STS120214F1	AX520_9_(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.

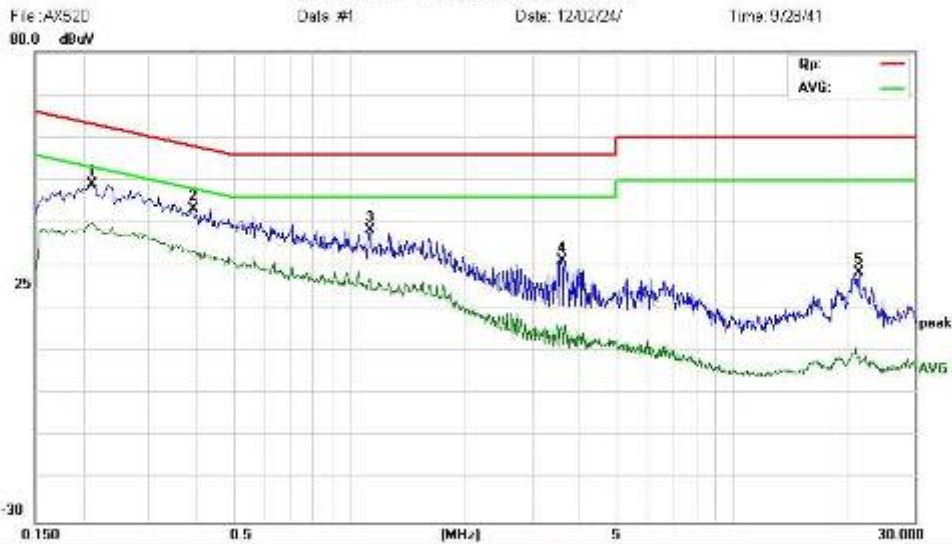
The test data of the worst case condition(s) was reported on the Summary Data page.

6.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST



Address: No.5, Langshen 2nd Rd., North Hi-Tech Industrial park
 Guangdong, China
 Tel: 0755-86170306 Fax: 0755-86170310

Conducted Emission Measurement



Site: site #1 Phase: **N** Temperature: 26
 Limit: FCC Part15 B Class B GP Power: AC 120V/60Hz Humidity: 60 %
 EUT: Mobile Phone
 MN: AX520
 Mode: bluetooth
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1	*	0.2100	37.14	11.93	49.07	63.21	-14.14	peak	
2		0.3900	32.60	10.73	43.33	58.06	-14.73	peak	
3		1.1260	28.48	9.87	38.35	56.00	-17.65	peak	
4		3.5700	20.70	10.57	31.27	56.00	-24.73	peak	
5		21.3900	19.45	9.00	28.45	60.00	-31.55	peak	

*:Maximum data x:Over limit :Over margin.

Engineer Signature: Sky



Address: No.5, Langshen 2nd Rd., North Hi-Tech Industrial park
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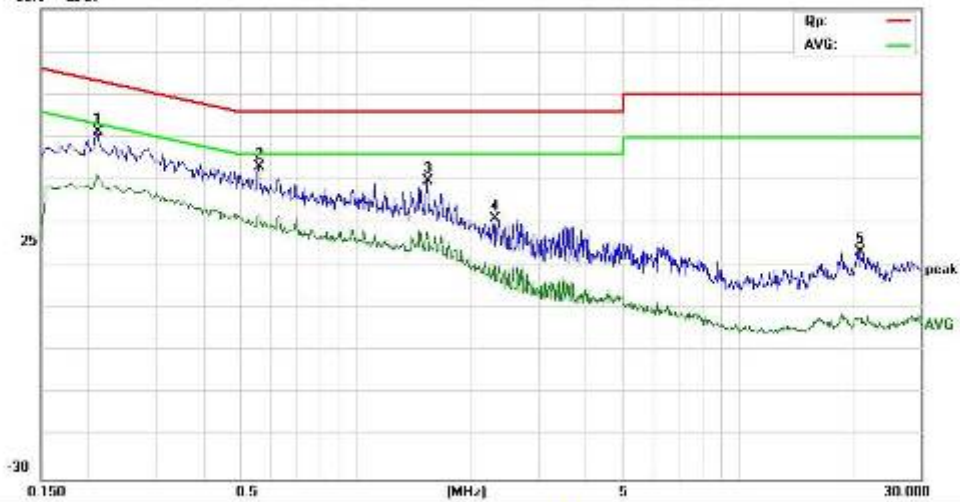
Conducted Emission Measurement

File: AX520
 00.0 dBuV

Date: #2

Date: 12/02/24

Time: 9:31:19



Site: site #1 Phase: L1 Temperature: 26
 Limit: FCC Part15 B Class B GP Power: AC 120V/60Hz Humidity: 60 %
 EUT: Mobile Phone
 MN: AX520
 Mode: bluetooth
 Note:

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Detector	Comment
		MHz	dBuV	dB	ment	dBuV	dB		
1	*	0.2100	38.42	11.93	51.35	63.21	-11.86	peak	
2		0.5580	33.08	10.00	43.06	56.00	-12.94	peak	
3		1.5340	30.23	9.47	39.70	56.00	-16.30	peak	
4		2.3020	21.60	9.30	30.90	56.00	-25.10	peak	
5		20.7280	14.18	9.00	23.18	60.00	-36.82	peak	

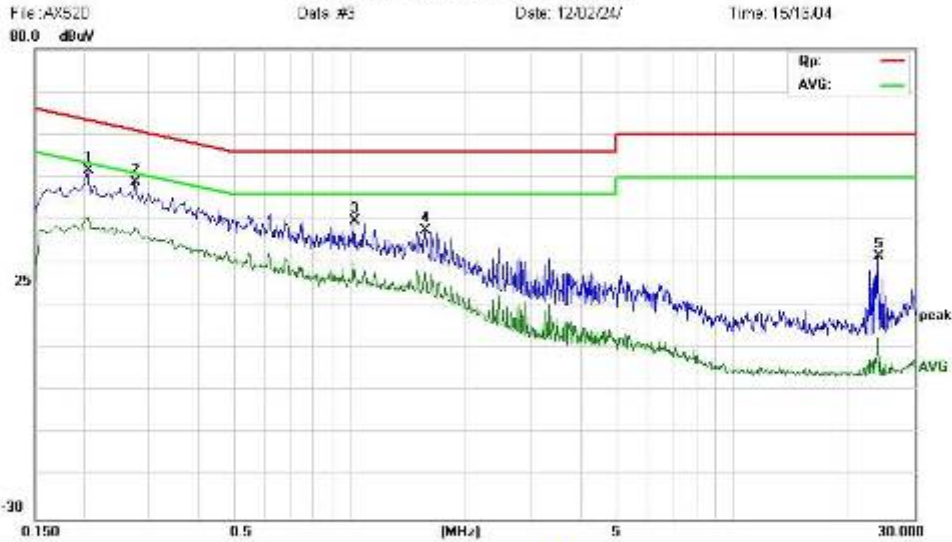
*:Maximum data x: Over limit : Over margin.

Engineer Signature: Sky



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 Tel: 0755-86170306 Fax: 0755-86170310

Conducted Emission Measurement



Site: site #1 Phase: L1 Temperature: 26
 Limit: EN55022 Class B QP Power: AC 120V/60Hz Humidity: 60 %
 EUT: Mobile Phone
 MN: AX520
 Mode: wifi
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.2080	39.54	11.98	51.50	63.37	-11.87	peak	
2		0.2740	37.20	11.51	48.71	61.00	-12.29	peak	
3		1.0220	28.72	9.98	39.70	56.00	-16.30	peak	
4		1.5680	28.17	9.43	37.60	56.00	-18.40	peak	
5		24.0220	22.34	9.00	31.34	60.00	-28.66	peak	

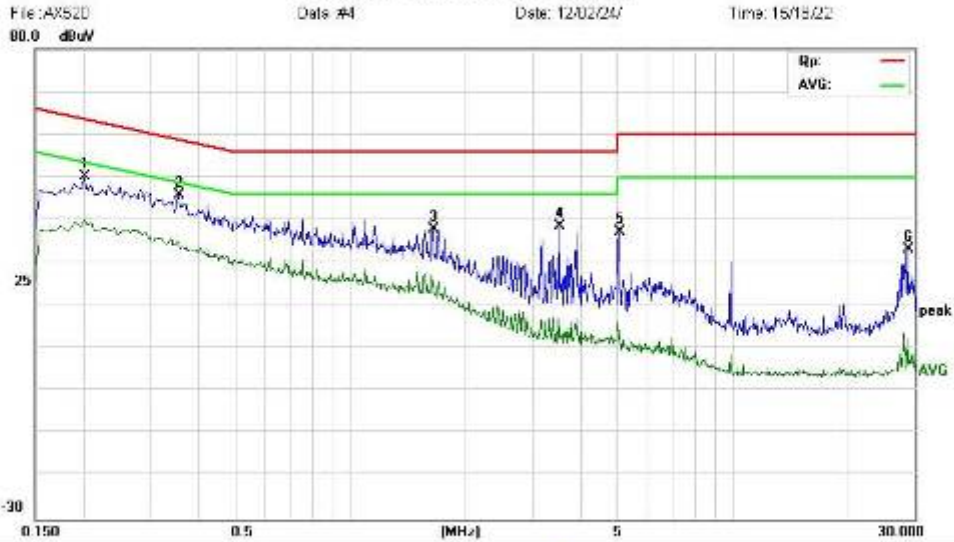
*Maximum data x Over limit - Over margin.

Engineer Signature: Sky



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 Guangdong, China
 Tel: 0755-86170306 Fax: 0755-86170310

Conducted Emission Measurement



Site: site #1 Phase: **N** Temperature: 26
 Limit: EN55022 Class B QP Power: AC 120V/60Hz Humidity: 60 %
 EUT: Mobile Phone
 MN: AX520
 Mode: wifi
 Note:

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Detector	Comment
		MHz	dBμV	dB	ment	dBμV	dB		
1		0.2020	83.20	11.99	50.19	83.53	-13.34	peak	
2	*	0.3580	54.77	10.95	45.72	58.77	-13.05	peak	
3		1.8380	28.32	9.38	37.68	56.00	-18.32	peak	
4		3.5380	28.18	10.54	38.72	56.00	-17.28	peak	
5		5.0340	25.14	11.98	37.12	60.00	-22.88	peak	
6		28.8860	24.14	9.00	33.14	60.00	-26.86	peak	

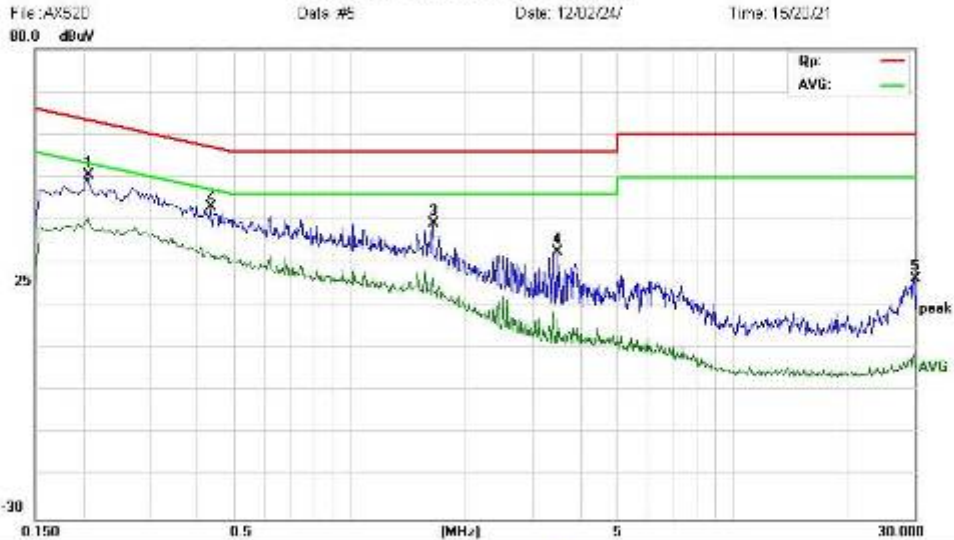
*Maximum data x Over limit - Over margin

Engineer Signature: Sky



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 Tel: 0755-86170306 Fax: 0755-86170310

Conducted Emission Measurement



Site: site #1 Phase: **N** Temperature: 26
 Limit: EN55022 Class B QP Power: AC 120V/60Hz Humidity: 60 %
 EUT: Mobile Phone
 MN: AX520
 Mode: camera
 Note:

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Detector	Comment
		MHz	dBuV	dB	ment	dBuV	dB		
1	*	0.2080	38.53	11.98	50.49	83.37	-12.80	peak	
2		0.4340	32.57	10.44	43.01	57.18	-14.17	peak	
3		1.8380	28.88	9.38	39.22	56.00	-16.78	peak	
4		3.4820	22.00	10.48	32.48	56.00	-23.52	peak	
5		29.9820	17.27	9.00	28.27	60.00	-33.73	peak	

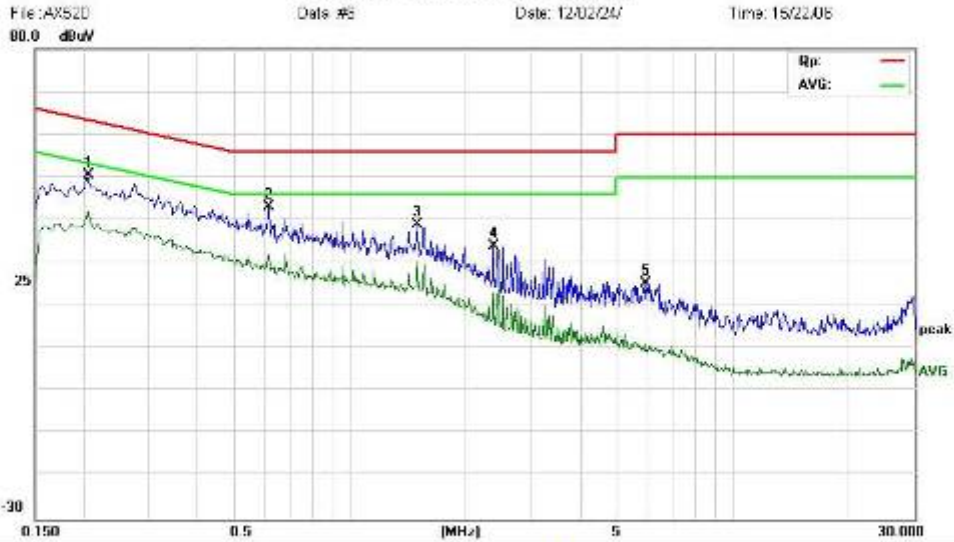
*Maximum data x Over limit - Over margin.

Engineer Signature: Sky



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 Guangdong, China
 Tel: 0755-86170306 Fax: 0755-86170310

Conducted Emission Measurement



Site: site #1 Phase: L1 Temperature: 26
 Limit: EN55022 Class B QP Power: AC 120V/60Hz Humidity: 60 %
 EUT: Mobile Phone
 MN: AX520
 Mode: camera
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.2080	38.53	11.98	50.49	63.37	-12.88	peak	
2		0.8140	33.01	10.00	43.01	56.00	-12.99	peak	
3		1.4800	28.34	9.51	38.85	56.00	-17.15	peak	
4		2.3780	24.64	9.38	34.02	56.00	-21.98	peak	
5		5.9180	18.82	11.45	25.27	60.00	-34.73	peak	

*:Maximum data x: Over limit : Over margin.

Engineer Signature: Sky

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:

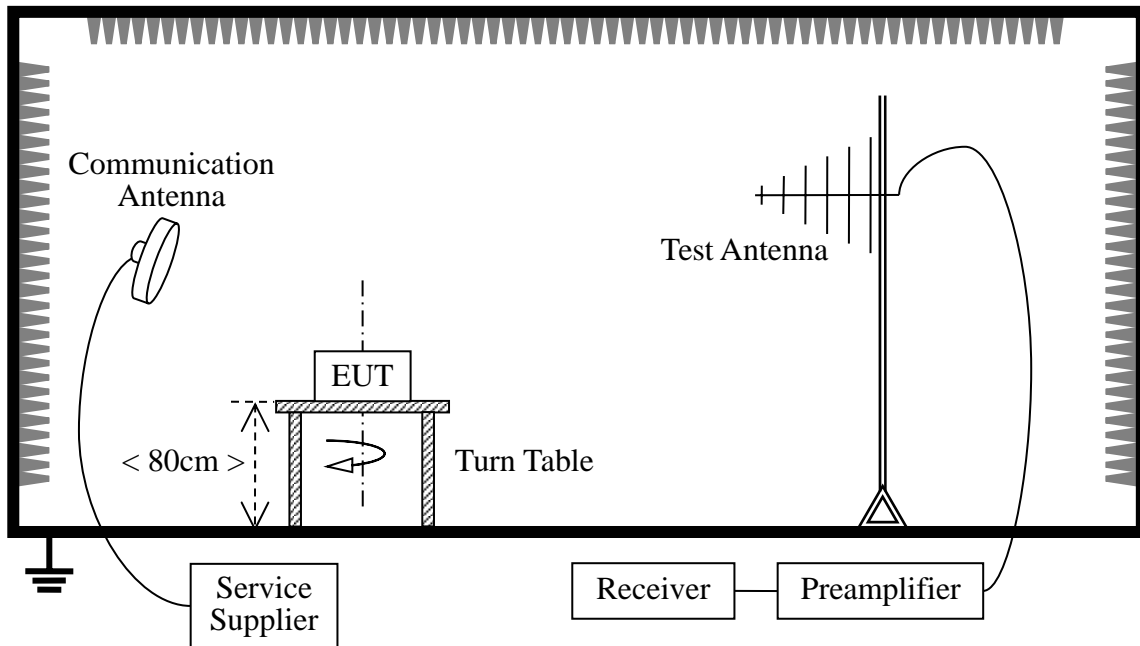
Frequency (MHz)	Field Strength ($\mu\text{V}/\text{m}$)	Measurement Distance (m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

NOTE:

1. Field Strength ($\text{dB}\mu\text{V}/\text{m}$) = $20 \cdot \log[\text{Field Strength } (\mu\text{V}/\text{m})]$.
2. In the emission tables above, the tighter limit applies at the band edges.

7.2 TEST DESCRIPTION

Test Setup:



The EUT is powered by the Battery charged with the AC Adapter which is powered by 120V, 60Hz AC mains supply. 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
Idle Mode	2012-2-25	STS120214F1	AX520_0_(H, V)	<input type="checkbox"/>
Call Mode	2012-2-25	STS120214F1	AX520_1_(H, V)	<input type="checkbox"/>
GPRS Mode	2012-2-25	STS120214F1	AX520_2_(H, V)	<input type="checkbox"/>
Bluetooth Mode	2012-2-25	STS120214F1	AX520_3_(H, V)	<input type="checkbox"/>
WIFI Mode	2012-2-25	STS120214F1	AX520_4_(H, V)	<input type="checkbox"/>
GPS Mode	2012-2-25	STS120214F1	AX520_5_(H, V)	<input type="checkbox"/>
MP3/MP4 Mode	2012-2-25	STS120214F1	AX520_6_(H, V)	<input type="checkbox"/>
Camera Mode	2012-2-25	STS120214F1	AX520_7_(H, V)	<input type="checkbox"/>
FM Mode	2012-2-25	STS120214F1	AX520_8_(H, V)	<input type="checkbox"/>
USB Mode	2012-2-25	STS120214F1	AX520_9_(H, V)	<input checked="" type="checkbox"/>

7.3 TEST RESULT

Form 9 KHz to 30MHz:

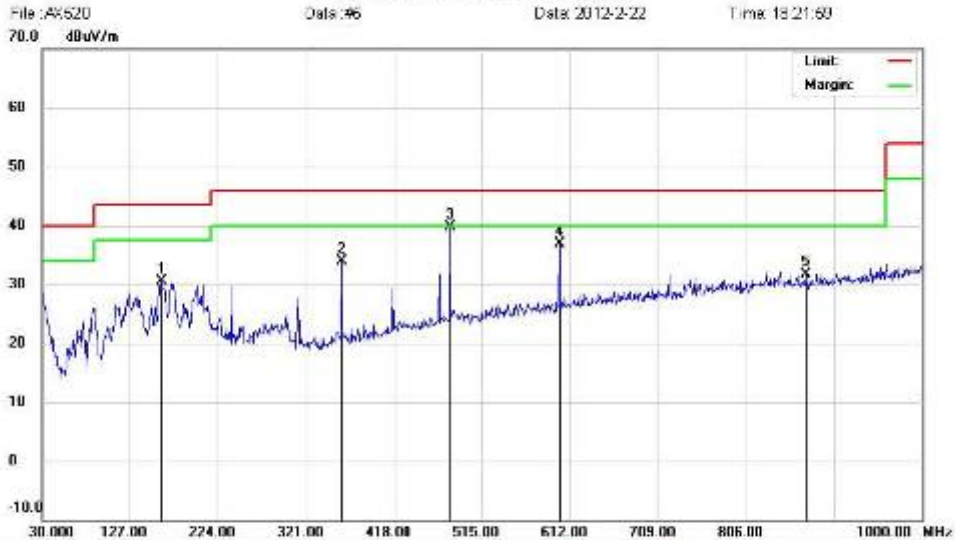
Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	AV Margin (dB)
					Peak (dBuV/m)	AV (dBuV/m)			
N/A	H								>20
N/A	V								>20

-Note: No test data was detected in below 30MHz.



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Radiated Emission Measurement



Site: site MOST 3M Polarization: **Horizontal** Temperature: 26
 Limit: FCC Part 15 B 3M Radiation Power: AC 120V/60Hz Humidity: 61 %
 EUT: Mobile Phone Distance:
 MN: AX520
 Mode: bluetooth
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		160.9500	13.13	17.28	30.41	43.50	-13.09			peak
2		359.6000	15.68	18.30	33.98	48.00	-12.02			peak
3	*	420.0800	18.10	21.70	39.80	48.00	-8.20			peak
4		600.3800	13.91	23.01	36.92	48.00	-9.08			peak
5		871.9800	4.72	27.00	31.72	46.00	-14.28			peak

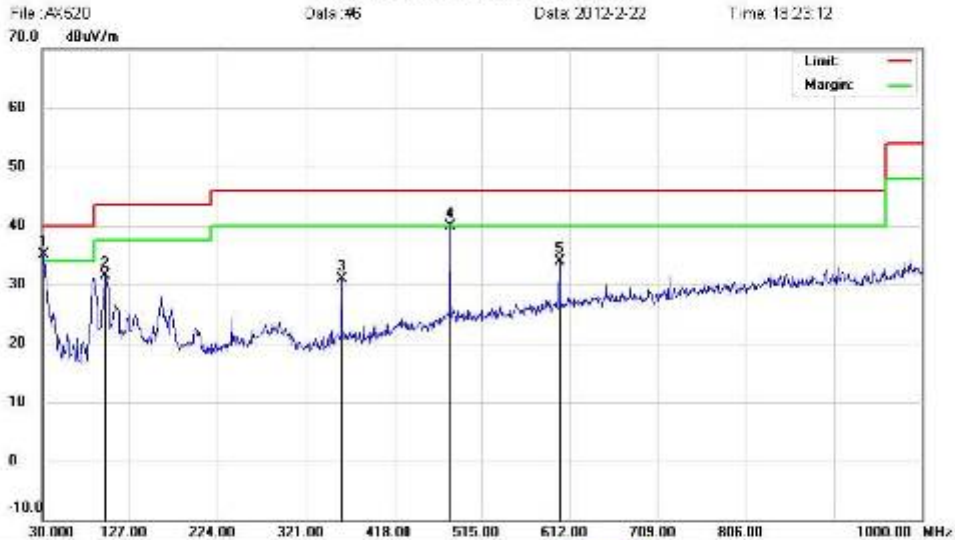
*:Maximum data x:Over limit l:lower margin

Engineer Signature: Allen



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Radiated Emission Measurement



Site: site MOST 3M Polarization: **Vertical** Temperature: 26
 Limit: FCC Part 15 B 3M Radiation Power: AC 120V/60Hz Humidity: 61 %
 EUT: Mobile Phone Distance:
 MN: AX520
 Mode: bluetooth
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	30.9700	11.11	24.05	35.18	40.00	-4.84	peak		
2		100.8100	18.07	13.44	31.51	43.50	-11.99	peak		
3		359.8000	12.65	18.30	30.95	48.00	-15.05	peak		
4		480.0800	18.19	21.70	39.89	48.00	-6.11	peak		
5		600.3800	10.82	23.01	33.83	48.00	-12.17	peak		

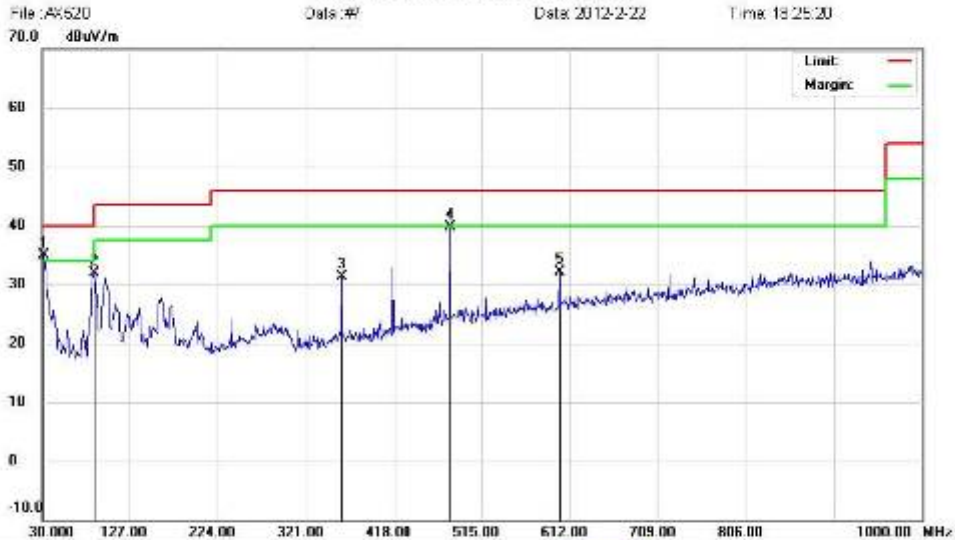
*Maximum data x:Over limit |:over margin

Engineer Signature: Allen



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Radiated Emission Measurement



File: AX520 Date: # Date: 2012-2-22 Time: 13:25:20
 Site: site MOST 3M Polarization: **Vertical** Temperature: 26
 Limit: FCC Part 15 B 3M Radiation Power: AC 120V/60Hz Humidity: 61 %
 EUT: Mobile Phone Distance:
 MN: AX520
 Mode: GPS
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1	*	30.9700	10.87	24.05	34.92	40.00	-5.08			peak
2		88.2000	20.52	11.38	31.88	43.50	-11.62			peak
3		359.8000	12.95	18.30	31.25	48.00	-14.75			peak
4		480.0800	17.91	21.70	39.61	48.00	-6.39			peak
5		600.3800	9.11	23.01	32.12	46.00	-13.88			peak

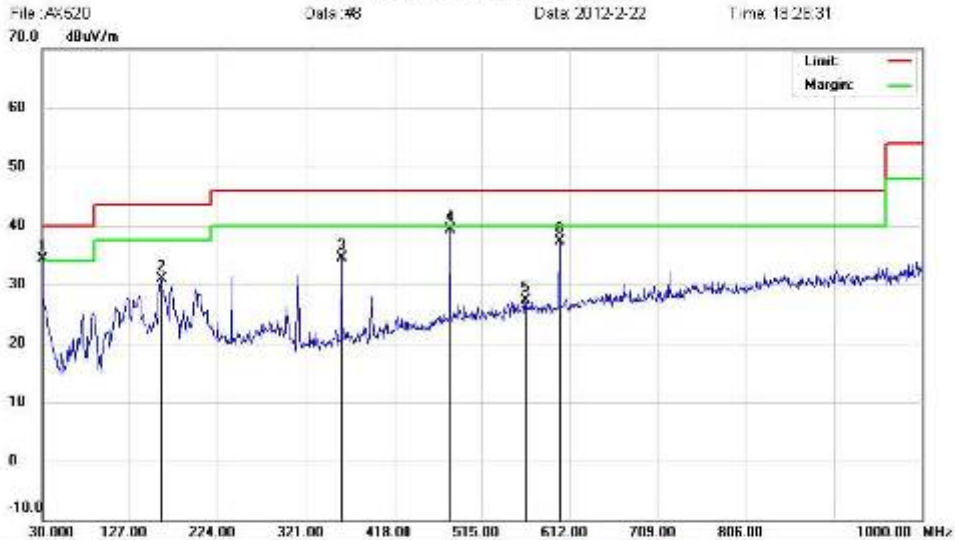
*:Maximum data x:Over limit l:lower margin

Engineer Signature: Allen



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Radiated Emission Measurement



Site: site MOST 3M Polarization: **Horizontal** Temperature: 26
 Limit: FCC Part 15 B 3M Radiation Power: AC 120V/60Hz Humidity: 61 %
 EUT: Mobile Phone Distance:
 MN: AX520
 Mode: GPS
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height m	Table Degree	Comment
1	*	30.0000	24.27	24.80	34.27	40.00	-5.73	peak			
2		160.9500	13.67	17.28	30.95	43.50	-12.55	peak			
3		359.8000	16.19	18.30	34.49	48.00	-11.51	peak			
4		480.0800	17.53	21.70	39.23	48.00	-6.77	peak			
5		562.5300	4.68	22.73	27.39	46.00	-18.61	peak			
6		600.3800	14.39	23.01	37.40	48.00	-8.60	peak			

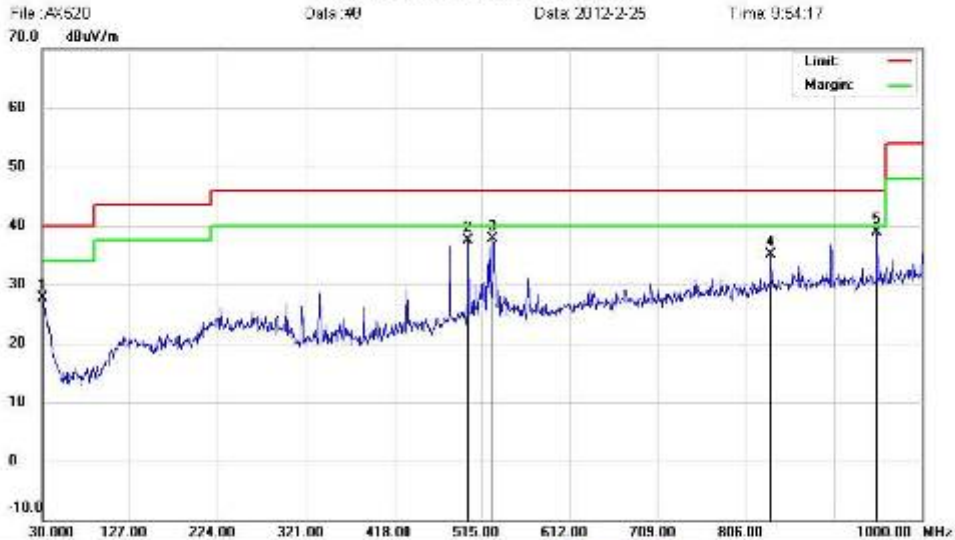
*:Maximum data x:Over limit | :Lower margin

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Radiated Emission Measurement



Site: site MOST 3M Polarization: **Horizontal** Temperature: 26
 Limit: FCC Part 15 B 3M Radiation Power: DC 5V From PC Input Act 20V/60H Humidity: 61 %
 EUT: Mobile Phone Distance:
 MN: AX520
 Mode: USB
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		30.9700	3.74	24.05	27.79	40.00	-12.21			peak
2		500.4500	16.08	21.40	37.48	48.00	-8.52			peak
3		527.8100	15.65	22.08	37.73	48.00	-8.27			peak
4		824.1300	7.95	27.08	35.03	46.00	-10.97			peak
5	*	950.5300	10.94	27.92	38.88	48.00	-7.14			peak

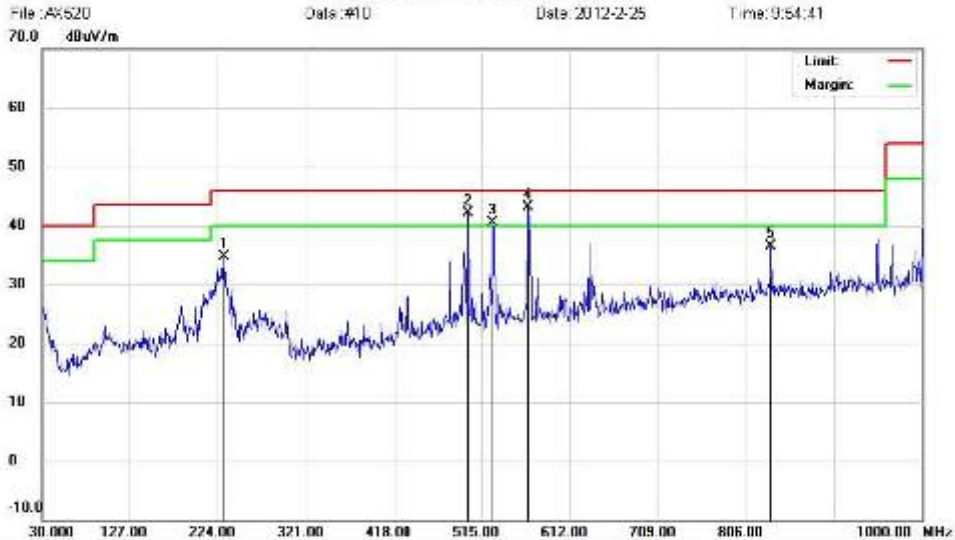
*Maximum data x:Over limit l:over margin

Engineer Signature: Allen



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Radiated Emission Measurement



Site: site MOST 3M Polarization: **Vertical** Temperature: 26
 Limit: FCC Part 15 B 3M Radiation Power: DC 5V from PC Humidity: 61 %
 EUT: Mobile Phone Distance:
 MN: AX520
 Mode: USB
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		230.7900	18.07	16.58	34.63	48.00	-11.37	peak		
2	I	500.4500	20.70	21.40	42.10	48.00	-3.90	peak		
3	I	527.8100	18.51	22.08	40.59	48.00	-5.41	peak		
4	^	566.4100	20.32	22.79	43.11	48.00	-2.89	QP		
5		824.1300	9.39	27.08	38.47	46.00	-9.53	peak		

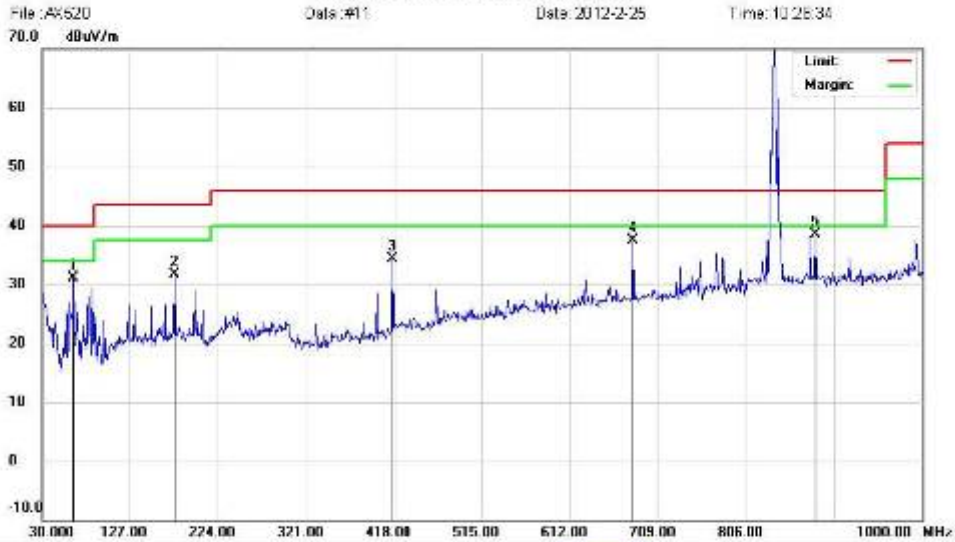
*Maximum data x:Over limit |:over margin

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Radiated Emission Measurement



Site: site MOST 3M Polarization: **Vertical** Temperature: 26
 Limit: FCC Part 15 B 3M Radiation Power: AC 120V/60Hz Humidity: 61 %
 EUT: Mobile Phone Distance:
 MN: AX520
 Mode: call
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree	Comment
1		85.8900	19.69	11.37	31.08	40.00	-8.94	peak			
2		178.4700	14.83	16.88	31.71	43.50	-11.79	peak			
3		416.0600	14.83	19.57	34.40	48.00	-11.60	peak			
4		680.9700	13.08	24.48	37.58	48.00	-8.44	peak			
5	*	882.8300	11.29	27.13	38.42	48.00	-7.58	peak			

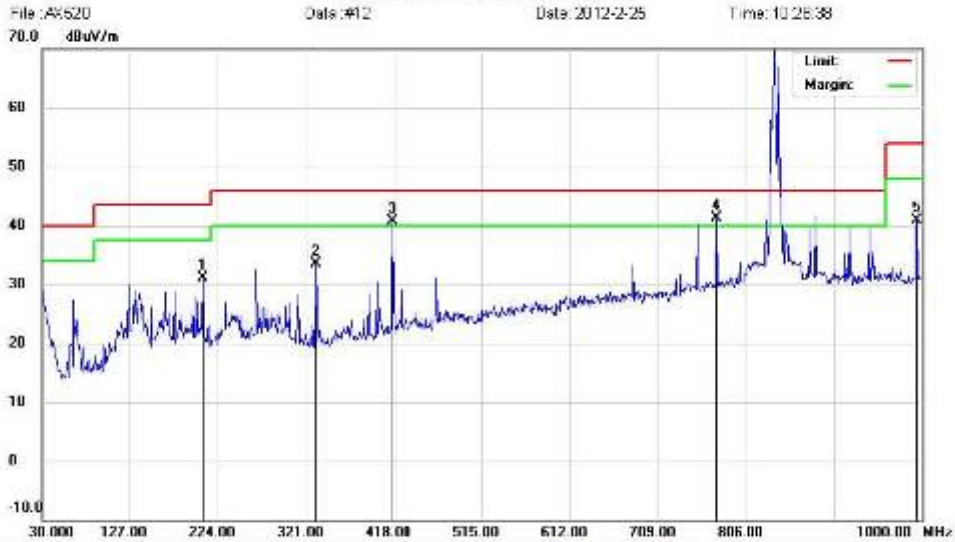
*:Maximum data x:Over limit |:Lower margin

Engineer Signature: Allen



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Radiated Emission Measurement



File: AX520 Date: #12 Date: 2012-2-25 Time: 12:28:38
 Site: site MOST 3M Polarization: **Horizontal** Temperature: 26
 Limit: FCC Part 15 B 3M Radiation Power: AC 120V/60Hz Humidity: 61 %
 EUT: Mobile Phone Distance:
 MN: AX520
 Mode: call
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	
1		207.5100	14.54	16.53	31.07	43.50	-12.43	peak		
2		331.8700	16.50	17.02	33.52	48.00	-12.48	peak		
3	1	416.0800	21.23	19.57	40.80	48.00	-5.20	peak		
4	7	773.0200	15.35	25.99	41.34	48.00	-4.66	peak		
5		994.1800	11.95	28.94	40.89	54.00	-13.11	peak		

*:Maximum data x:Over limit | :Lower margin

Engineer Signature: Allen

Notes: The spikes which exceed the limit should be ignored because they are MS and SS carrier frequency.

The worst test data above 1 GHz was showed as the follow:

Operation Mode:	CALL(850MHz)	Test Date:	February, 25.2012
Temperature:	24°C	Tested by:	Habby Guo
Humidity:	70 % RH	Polarity:	Ver. / Hor.

Freq. (MHz)	Ant. H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Ant./CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Peak Margin (dB)	AV Margin (dB)
					Peak (dBuV/m)	AV (dBuV/m)				
1717.50	H	59.83	38.92	9.06	68.89	47.98	74.00	54.00	-5.11	-6.02
2765.50	H	56.22	35.54	9.09	65.31	44.63	74.00	54.00	-8.69	-9.37
N/A										>20
1717.50	V	56.88	36.03	9.06	65.94	45.09	74.00	54.00	-8.06	-8.91
2765.00	V	53.39	32.77	9.09	62.48	41.86	74.00	54.00	-11.52	-12.14
N/A										>20

Notes:

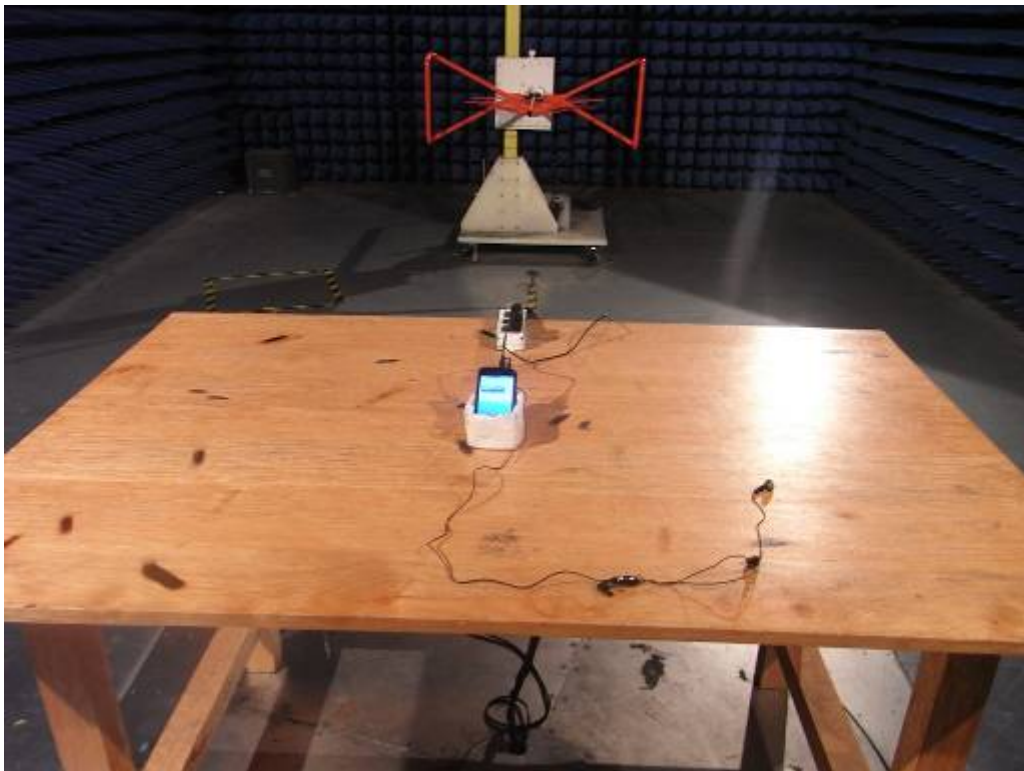
1. Measuring frequencies from 1 GHz to 6GHz.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
3. The frequency that above 3GHz is mainly from the environment noise.

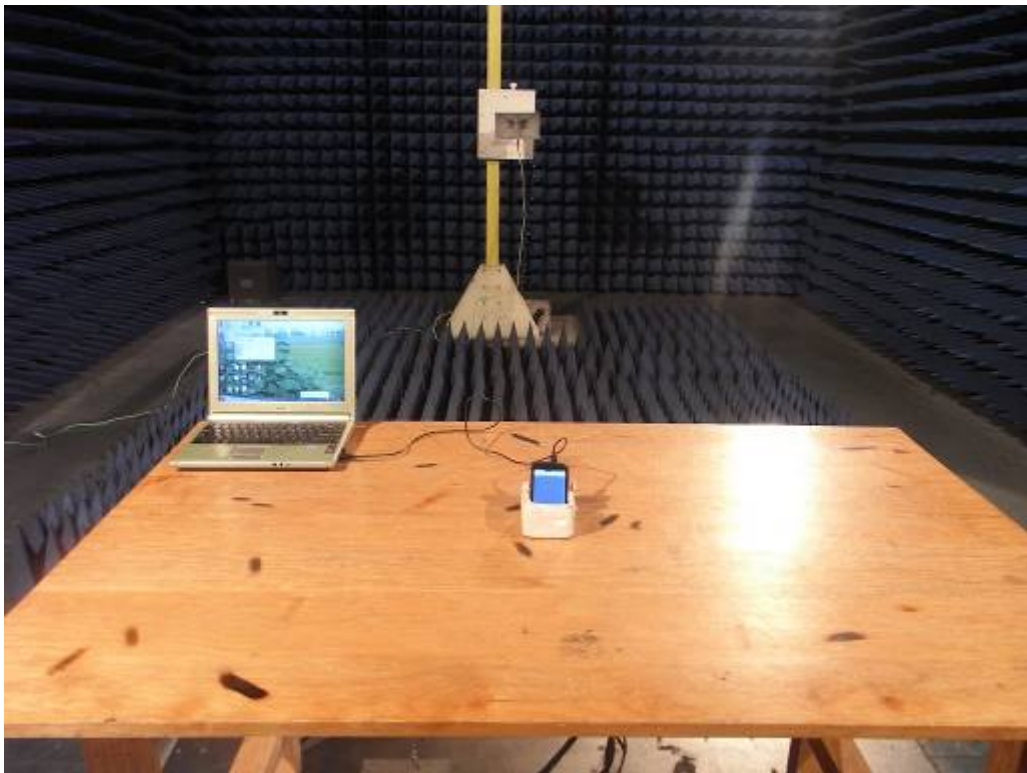
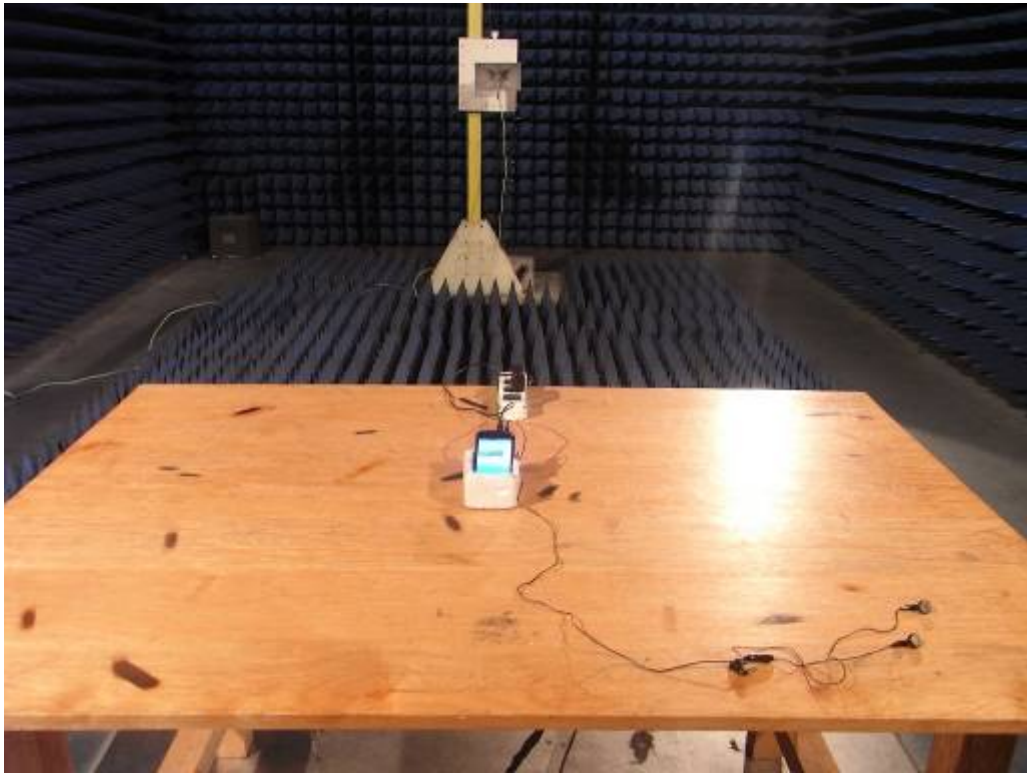
APPENDIX 1
PHOTOGRAPHS OF TEST SETUP

CE TEST SETUP



RE 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 EARPHONE



PHOTO OF USB CABLE



PHOTO OF POWER SUPPLY



PHOTO OF THE ENTIRE SAMPLE



INTERNAL PHOTO OF SAMPLE – 1



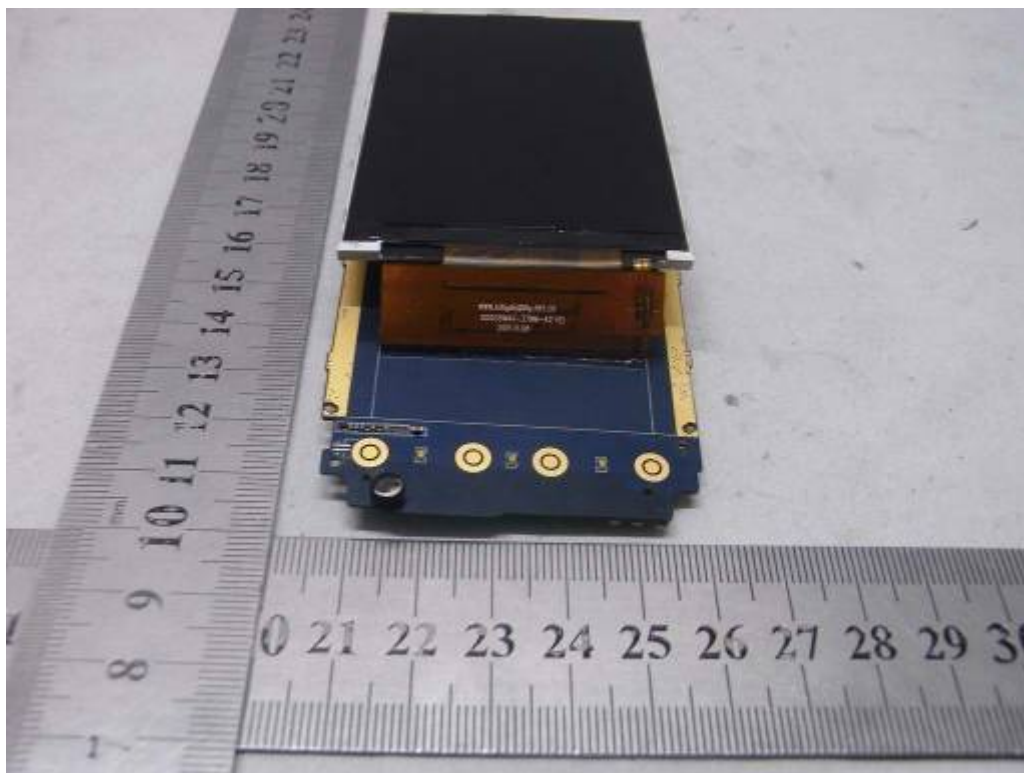
INTERNAL PHOTO OF SAMPLE – 2



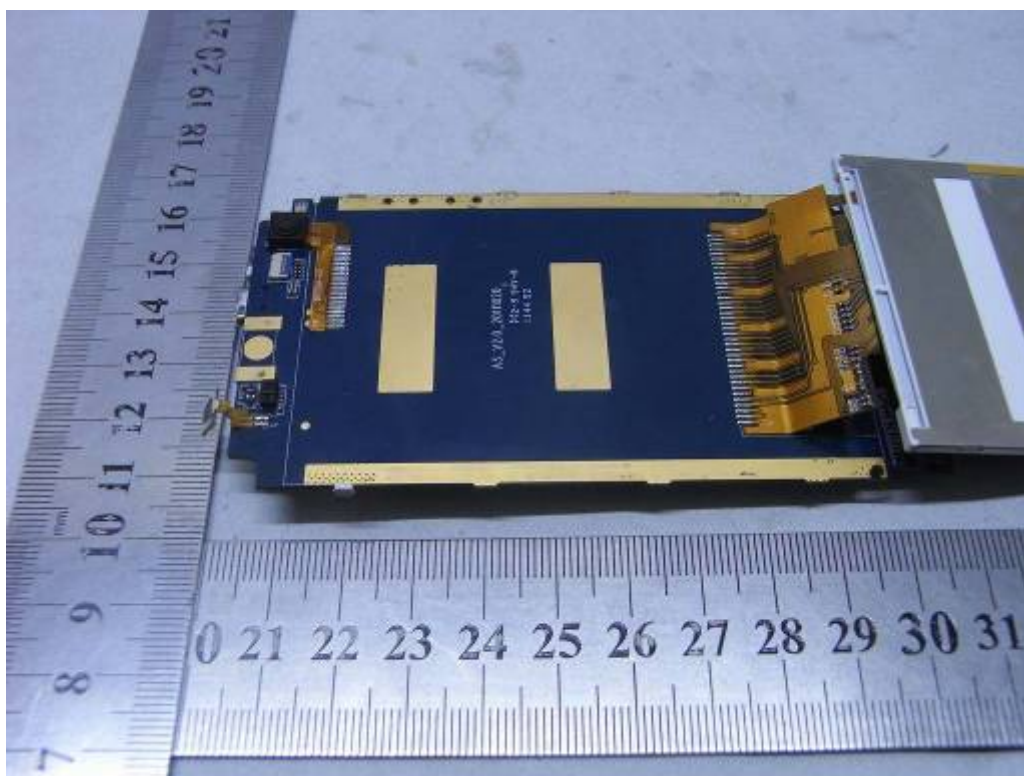
INTERNAL PHOTO OF SAMPLE -3



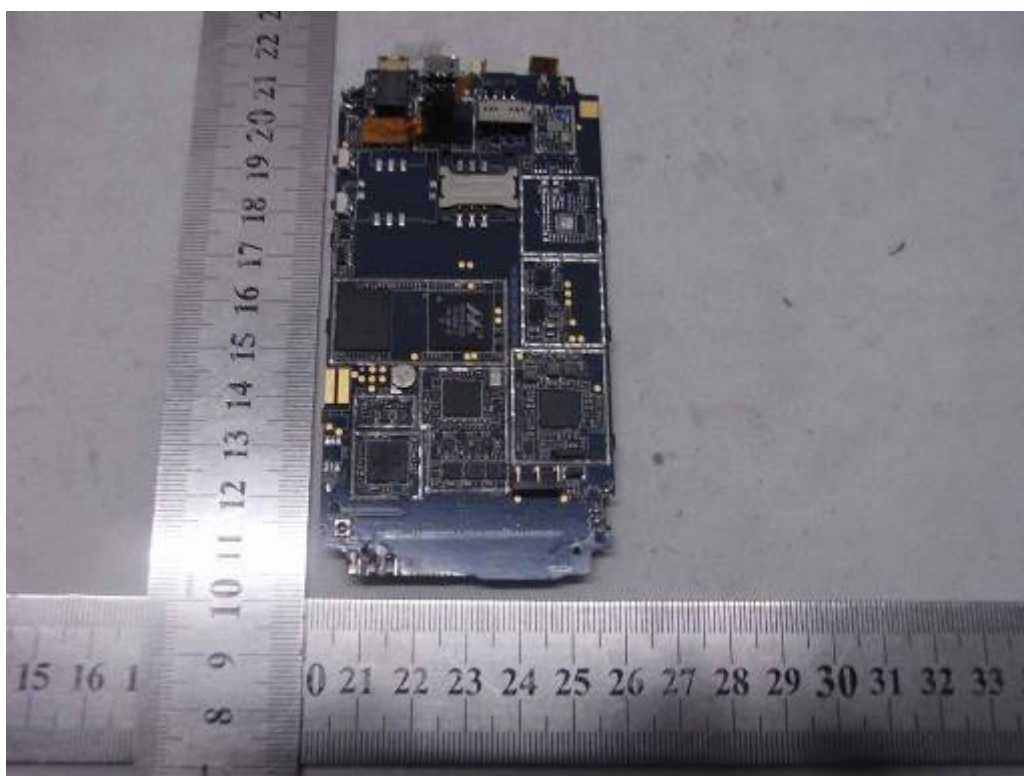
INTERNAL PHOTO OF SAMPLE -4



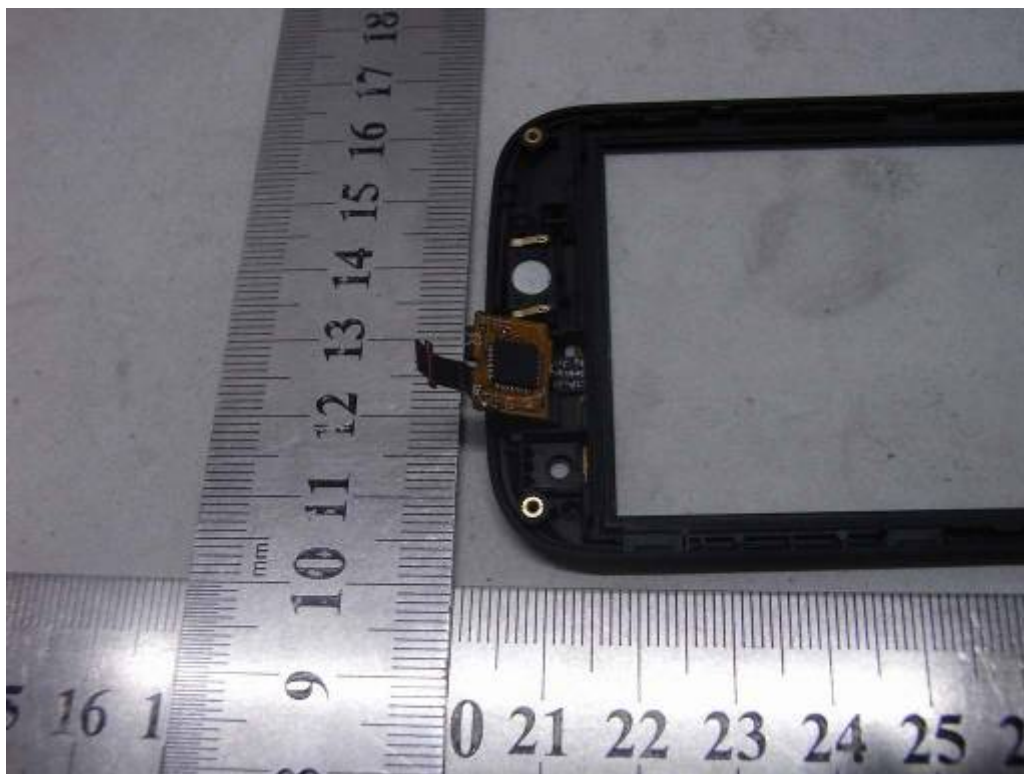
INTERNAL PHOTO OF SAMPLE -5



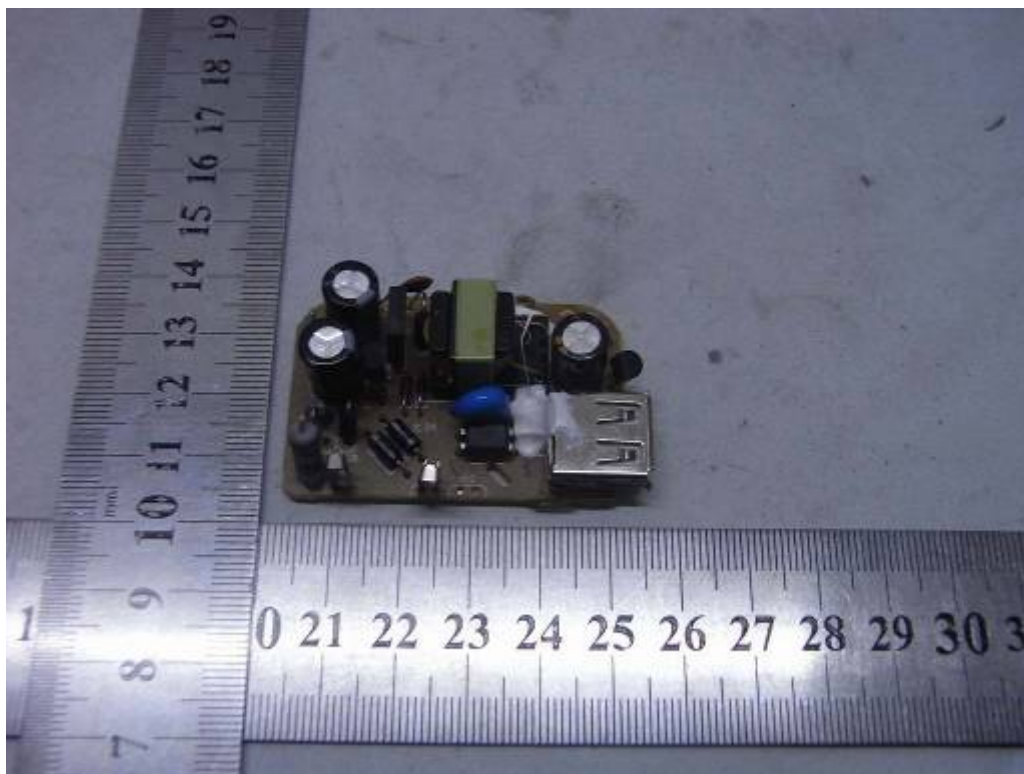
INTERNAL PHOTO OF SAMPLE -6



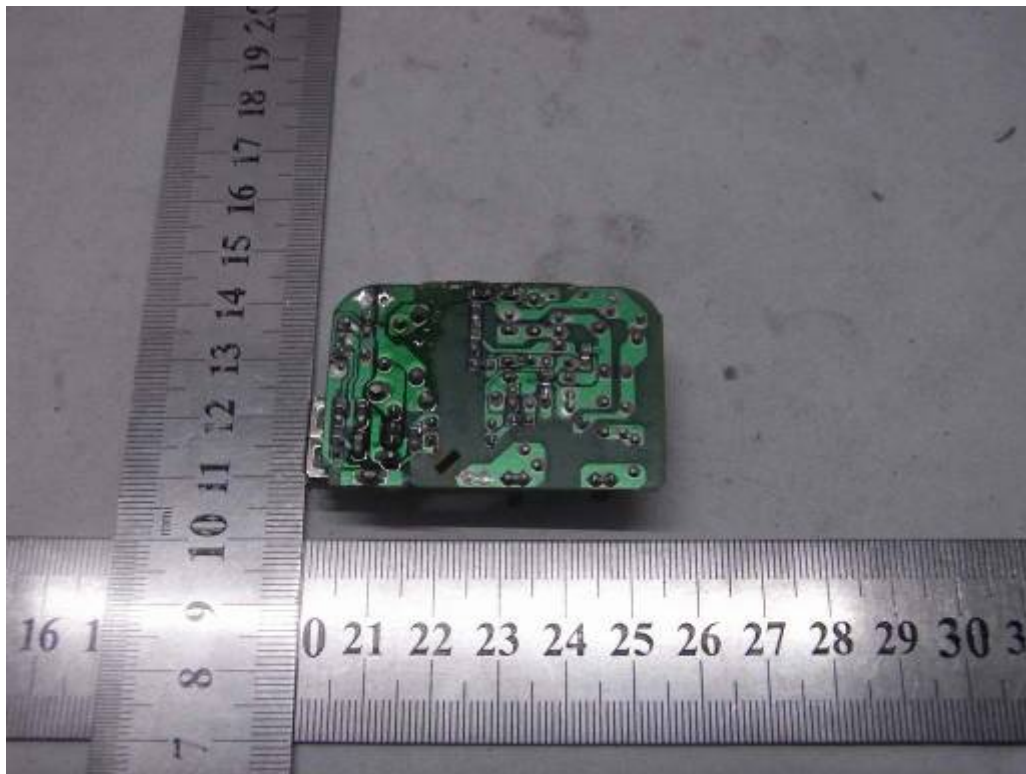
INTERNAL PHOTO OF SAMPLE -7



INTERNAL PHOTO OF POWER SUPPLY-1



INTERNAL PHOTO OF POWER SUPPLY-2



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