

FCC Part 15B TEST REPORT

Product Name : GSM Mobile Phone

Model Name : X2S

Prepared for:

**Global Technology Exchange LLC
Room 1607 – 08, Westin Centre, 26 Hung To Road, Kwun Tong Kowloon,
Hong Kong**

Prepared by:

**Unilab(Shanghai) Co.,Ltd.
FCC 2.948 register number is 714465**

Report Number : UL34420130905FCC001-3

Date of Report : Sep. 16, 2013

Date of Test : Sep. 05 –Sep. 14, 2013

Notes:

The test results only relate to these samples which have been tested.

Partly using this report will not be admitted unless been allowed by Unilab.

Unilab is only responsible for the complete report with the reported stamp of Unilab.

Applicant: Global Technology Exchange LLC
Room 1607 – 08, Westin Centre, 26 Hung To Road, Kwun Tong
Kowloon, Hong Kong

Manufacturer: Global Technology Exchange LLC
Room 1607 – 08, Westin Centre, 26 Hung To Road, Kwun Tong
Kowloon, Hong Kong

Product Name: GSM Mobile Phone

Brand Name: LYNXX

Model Name: X2S

FCC ID: OA7-X2S

EUT Voltage: 3.7V

Date of Receipt: Sep. 05, 2013

Test Standard: 47 CFR Part 15 Subpart B

Test Result: PASS

Date of Test Sep. 05 –Sep. 14, 2013

Prepared by : 
(Technical Engineer: Flame Wang)

Reviewed by : 
(Senior Engineer: Forest Cao)

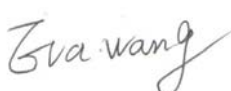
Approved by : 
(Supervisor: Eva Wang)

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1. TECHNIACL SUMMARY

1.1 SUMMARY OF STANDARDS AND TEST RESULTS

Test items and the results are as bellow:

Standard	Item		Result	Remarks
FCC 47 CFR Part 15 Subpart B (10-1-09 Edition)	§15.107	Conducted Emission	PASS	Meet Class B limit
	§15.109	Radiated Emission	PASS	Meet Class B limit

1.2 TEST UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Uncertainty of Conducted Emission: $\pm 1.8\text{dB}$

Uncertainty of Radiated Emission: $\pm 3.1\text{dB}$

1.3 TEST EQUIPMENT LIST

Shielding Room No. 3 - Conducted disturbance Test				
Equipment	Manufacturer	Model	Serial No.	Due Date
Receiver	Agilent	N9038A	MY51210142	2013/09/28
LISN	R&S	ENV216	100069	2014/06/23

3m Semi-anechoic Chamber - Radiated disturbance Test				
Equipment	Manufacturer	Model	Serial No.	Due Date
3m Chamber & Accessory Equipment	ETS-LINDGREN	FACT-3	CT-0000336	2013/11/27
Receiver	Agilent	N9038A	MY51210142	2013/09/28
Biconilog Antenna	SCHWARZBECK	VULB 9160	3316	2013/09/20
Horn Antenna	SCHWARZBECK	BBHA9120D	00057407	2013/09/20
Microwave Preamplifier	EM Electronics	EM30180	3008A02425	2014/03/01

The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and has been calibrated by accredited calibration laboratories.

1.4 SUPPORT EQUIPMENT

Equipment	Manufacturer	Model	Serial No.	Due Date
PC	DELL	VOSTRO 260	7JXLB3X	/
Displayer	DELL	E1910Hc	CN-0CD1MT-64180-OC7-06TS	/
Mouse	DELL	MS111-P	CN-0MF3JY-71581-2C7-05GB	/
Keyboard	DELL	KB212-B	CN-0Y88XT-65890-22L-01MG-A01	/
Adapter	JHC	JHC-A01-1A0	/	/

1.5 TEST FACILITY

Test Site:	Unilab(Shanghai) Co.,Ltd.
Location:	No.1350, Lianxi Road, Beicai, Pudong New District, Shanghai, 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 714465.</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.

1.6 TEST SETUP CONFIGURATION

EUT Function and Test Mode

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

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.

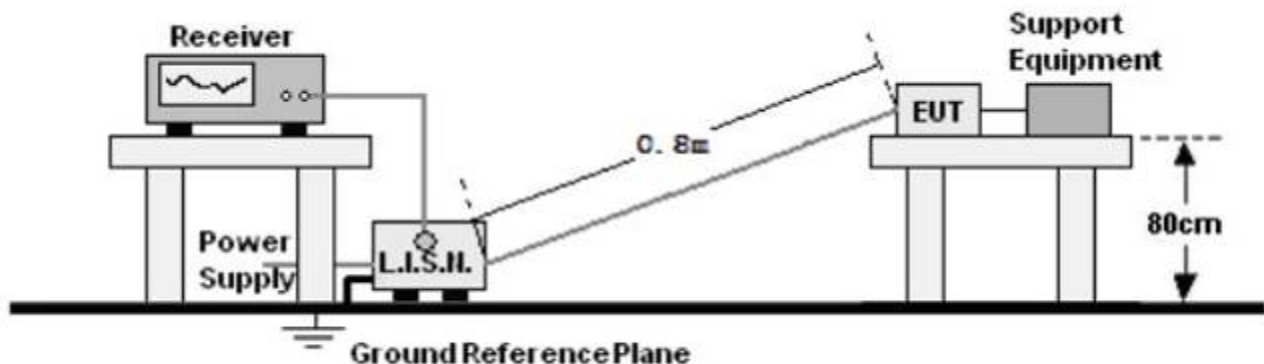
1.7 ENVIRONMENTAL CONDITIONS

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

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

2. CONDUCTED DISTURBANCE

2.1 TEST SETUP



2.2 LIMITS OF LINE CONDUCTED DISTURBANCE

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

2.3 TSET PROCEDURE

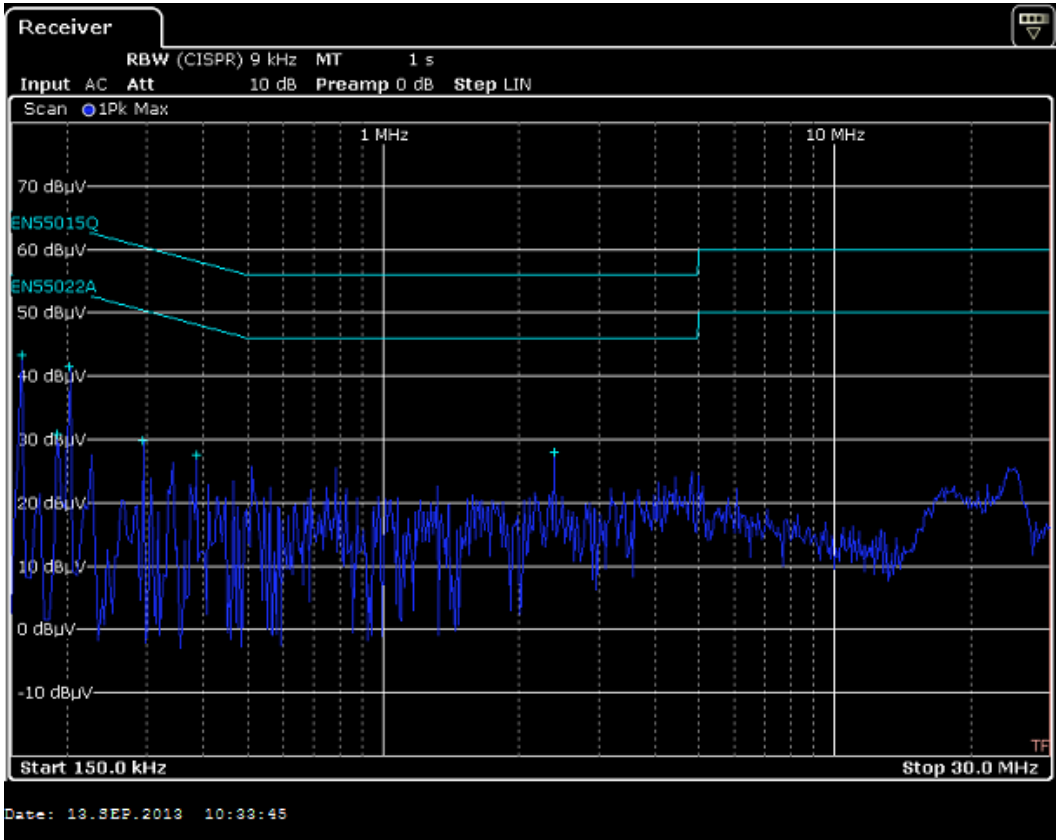
1. The EUT and support equipment were placed on a nonconductive table 0.8m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane. The EUT connected to the main through Line Impedance Stability Network (L.I.S.N) to provide a 50 Ω /50uH coupling impedance for the measuring equipment. The support equipment is also connected to the main power through a LISN that provides a 50 Ω /50uH coupling impedance with 50 Ω terminations. Both sides of AC line (Line & Neutral) were checked to find out the maximum conducted emission.
2. The RBW of the receiver was set at 9 kHz. The frequency range from 150 kHz to 30 MHz was checked. Run the receiver's pre-scan to record the maximum disturbance generated from EUT in all power lines in the full band.
3. For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

2.4 TSET RESULT

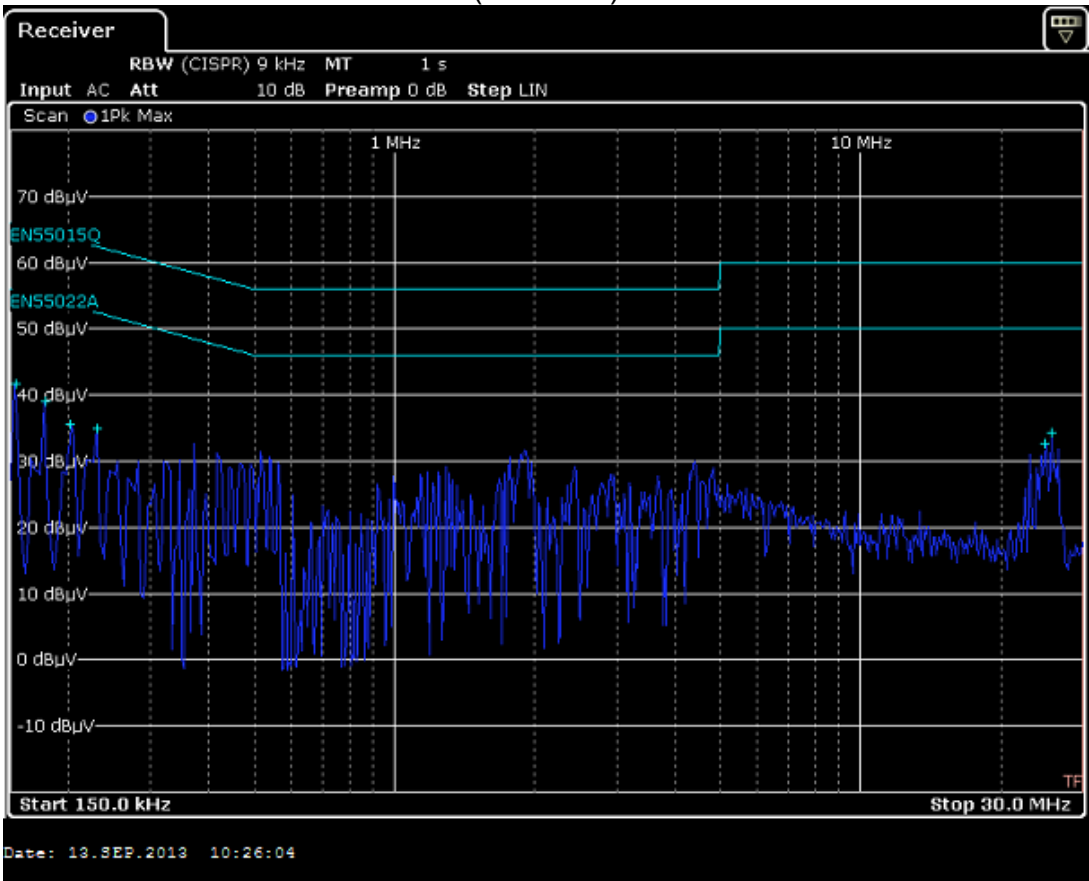
Test Verdict:

No.	Frequency	Measurement Level (dBuV)	Limit (dBuV)	Margin (dB)	Phase	Detector	Result
1	158.0000kHz	43.41	65.56	-22.16	L	Peak	Pass
2	190.0000kHz	30.77	64.04	-33.27	L	Peak	Pass
3	202.0000kHz	41.39	63.53	-22.14	L	Peak	Pass
4	294.0000kHz	29.72	60.41	-30.69	L	Peak	Pass
5	386.0000kHz	27.61	58.15	-30.54	L	Peak	Pass
6	2.3900MHz	27.98	56.00	-28.02	L	Peak	Pass
7	154.0000kHz	41.61	65.78	-24.17	N	Peak	Pass
8	178.0000kHz	39.05	64.58	-25.53	N	Peak	Pass
9	202.0000kHz	35.49	63.53	-28.04	N	Peak	Pass
10	230.0000kHz	34.91	62.45	-27.54	N	Peak	Pass
11	24.8980MHz	32.75	60.00	-27.25	N	Peak	Pass
12	25.6940MHz	34.38	60.00	-25.62	N	Peak	Pass

Test Plots:



(Phase: L)

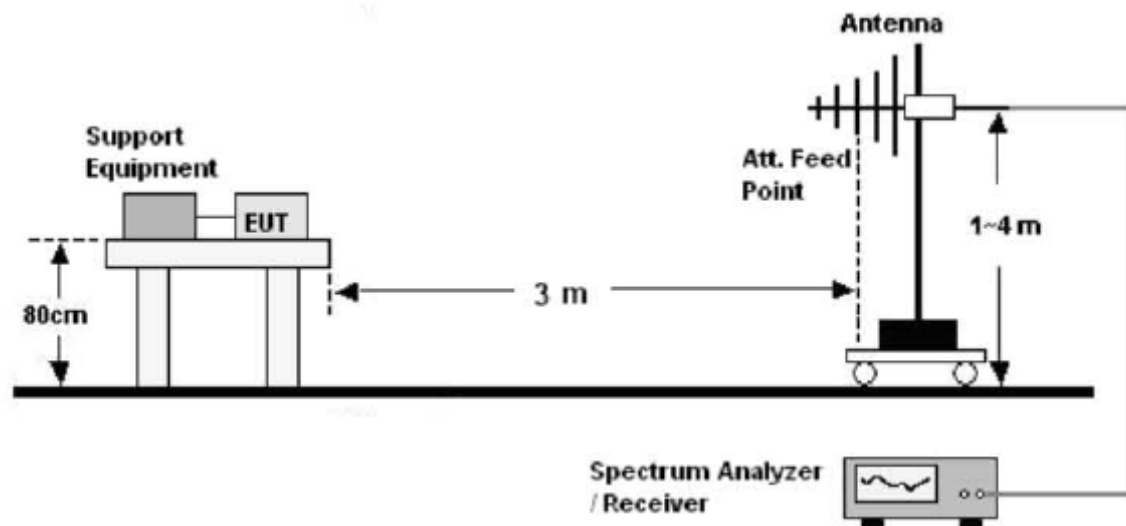


(Phase: N)

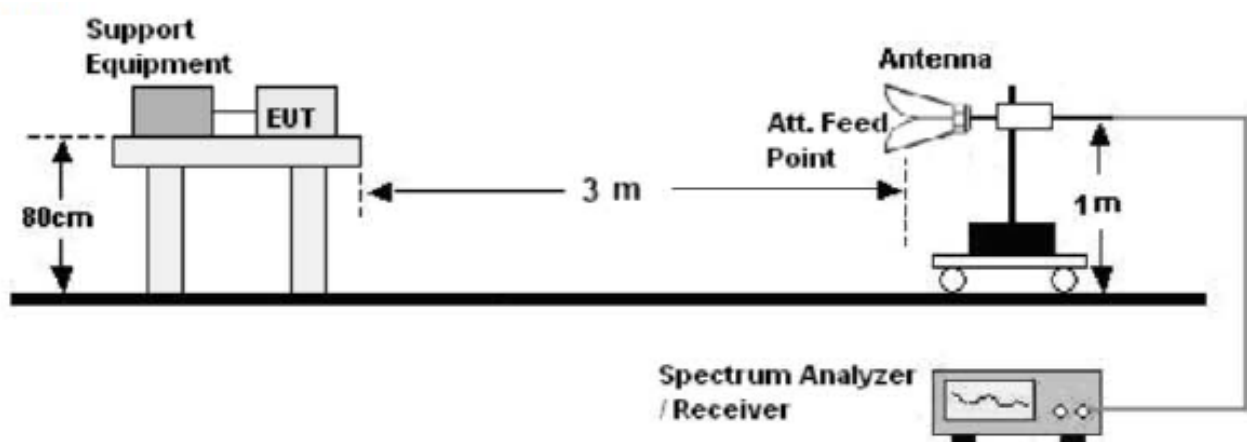
3. RADIATED DISTURBANCE

3.1 TEST SETUP

30MHz-1GHz:



Above 1GHz:



3.2 LIMITS OF RADIATED DISTURBANCES

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 ($\mu\text{V/m}$)	Measurement Distance (m)
30 – 88	100	3
88 – 216	150	3
216 – 960	200	3
Above 960	500	3

Note:

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

3.3 TSET PROCEDURE

30MHz - 1GHz:

1. The EUT and support equipment were placed on the non-conductive turntable 0.8m above the horizontal metal ground plane at a chamber. The EUT was set 3 meters away from the receiving antenna, which was mounted on an antenna tower. Broadband antenna (Calibrated Bilog Antenna) was used as receiving antenna.
2. The frequency range from 30MHz to 1GHz was checked. The RBW of the receiver was set at 120kHz. Set the receiver in Peak detector, Max Hold mode. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied between 1~4 m in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.
3. For each frequency whose maximum record was higher or close to limit, measure its QP value: vary the antenna's height and rotate the turntable from 0 to 360 degrees to find the height and degree where EUT radiated the maximum emission, then set the test frequency receiver to QP Detector and record the maximum value.

Above 1GHz:

1. The EUT and support equipment were placed on the non-conductive turntable 0.8m above the ground at a chamber. The EUT was set 3 meters away from the receiving antenna, which was mounted on an antenna tower. Horn antenna was used as receiving antenna.
2. The frequency range above 1GHz was checked. The RBW of the receiver was set at 1MHz. Set the receiver in Peak detector, Max Hold mode. Record the maximum field strength of all the pre-scan process in the full band when the antenna is 1m and varied in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.
3. For each frequency whose maximum record was higher or close to limit, measure its Average value: rotate the turntable from 0 to 360 degrees to find the degree where EUT radiated the maximum emission, then set the test frequency receiver to EMI Average Detector and record the maximum value.

3.4 TSET RESULT

Form 9 KHz to 30MHz:

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

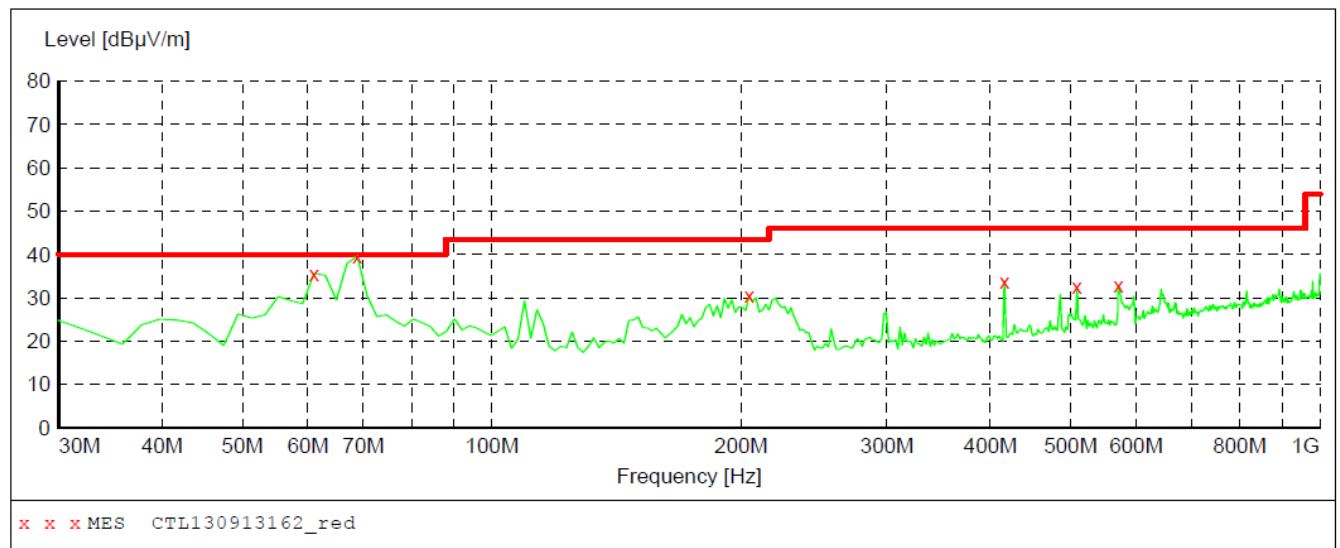
-Note: No test data was detected in below 30MHz.

Form 30MHz to 1GHz:***Radiation Emission Test FCC PART 15B***

EUT: MOBILE PHONE
 Manufacturer:
 Operating Condition: USB MODE-1
 Test Site: 3m Chamber
 Operator: NICE
 Test Specification:
 Comment:
 Start of Test: 9/13/2013 / 4:14:57PM

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

Short Description:		Field Strength			
Start	Stop	Detector	Meas. Time	IF Bandw.	Transducer
Frequency 30.0 MHz	Frequency 1.0 GHz	MaxPeak	300.0 ms	120 kHz	JB1



9/13/2013 4:16PM

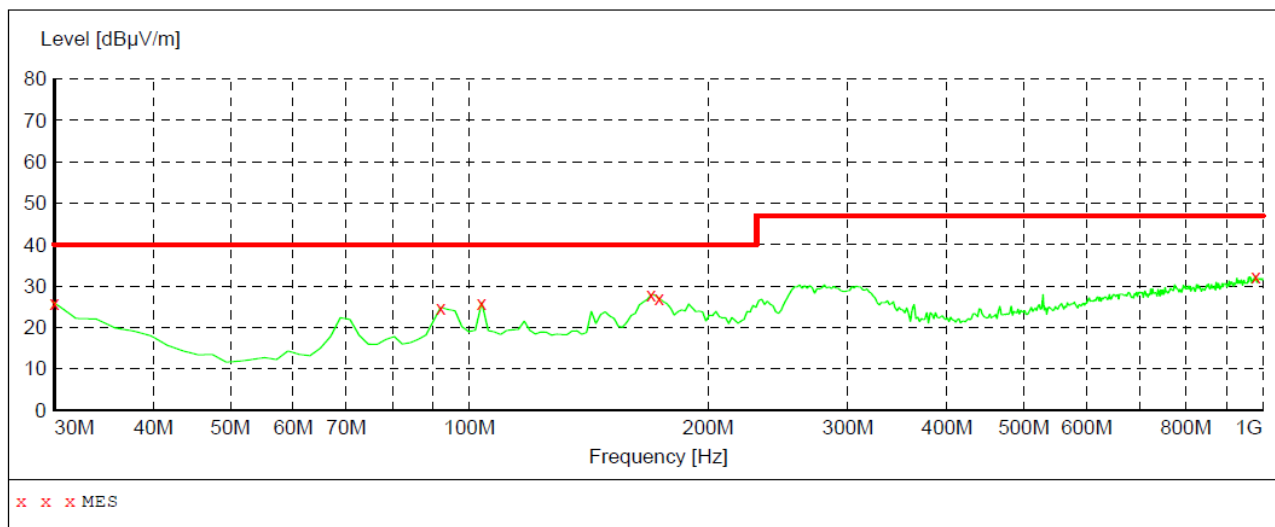
Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Det.	Polarization
61.040000	35.60	8.4	40.0	4.4	---	VERTICAL
68.800000	39.60	8.4	40.0	0.4	---	VERTICAL
204.600000	30.50	14.4	43.5	13.0	---	VERTICAL
416.060000	33.90	18.6	46.0	12.1	---	VERTICAL
509.180000	32.60	20.4	46.0	13.4	---	VERTICAL
571.260000	32.80	21.4	46.0	13.2	---	VERTICAL

Radiation Emission Test FCC PART 15B

EUT: MOBILE PHONE
 Manufacturer:
 Operating Condition: USB MODE-1
 Test Site: 3m Chamber
 Operator: NICE
 Test Specification:
 Comment: white Cable 1
 Start of Test: 9/6/2013 / 3:12:54PM

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

Short Description:		Field Strength			
Start	Stop	Detector	Meas. Time	IF Bandw.	Transducer
30.0 MHz	1.0 GHz	MaxPeak	300.0 ms	120 kHz	JB1



9/6/2013 3:15PM

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Det.	Polarization
30.000000	25.90	21.1	40.0	14.1	---	HORIZONTAL
92.080000	24.80	10.0	40.0	15.2	---	HORIZONTAL
103.720000	26.00	12.5	40.0	14.0	---	HORIZONTAL
169.680000	27.90	13.6	40.0	12.1	---	HORIZONTAL
173.560000	27.10	13.3	40.0	12.9	---	HORIZONTAL
980.600000	32.40	27.1	47.0	14.6	---	HORIZONTAL

Above 1GHz

Freq.	Ant. Pol	Peak	AV	Ant./CL	Actual Fs		Peak	AV	Peak	AV
(MHz)	H/V	Reading	Reading	CF			Limit	Limit	Margin	Margin
		(dBuV)	(dBuV)	(dB)	Peak	AV	(dBuV/m)	(dBuV/m)	(dB)	(dB)
					(dBuV/m)	(dBuV/m)				
--	H	--	--	--	--	--	70.00	50.00	--	--
--	H	--	--	--	--	--	70.00	50.00	--	--
N/A										>20
--	V	--	--	--	--	--	70.00	50.00	--	--
--	V	--	--	--	--	--	70.00	50.00	--	--
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 1GHz is mainly from the environment noise.

APPENDIX I PHOTOGRAPHS OF TEST SETUP

CONDUCTED DISTURBANCE TEST SETUP



RADIATED DISTURBANCE TEST SETUP





APPENDIX II PHOTOGRAPHS OF EUT

FRONT VIEW OF SAMPLE



BACK VIEW OF SAMPLE



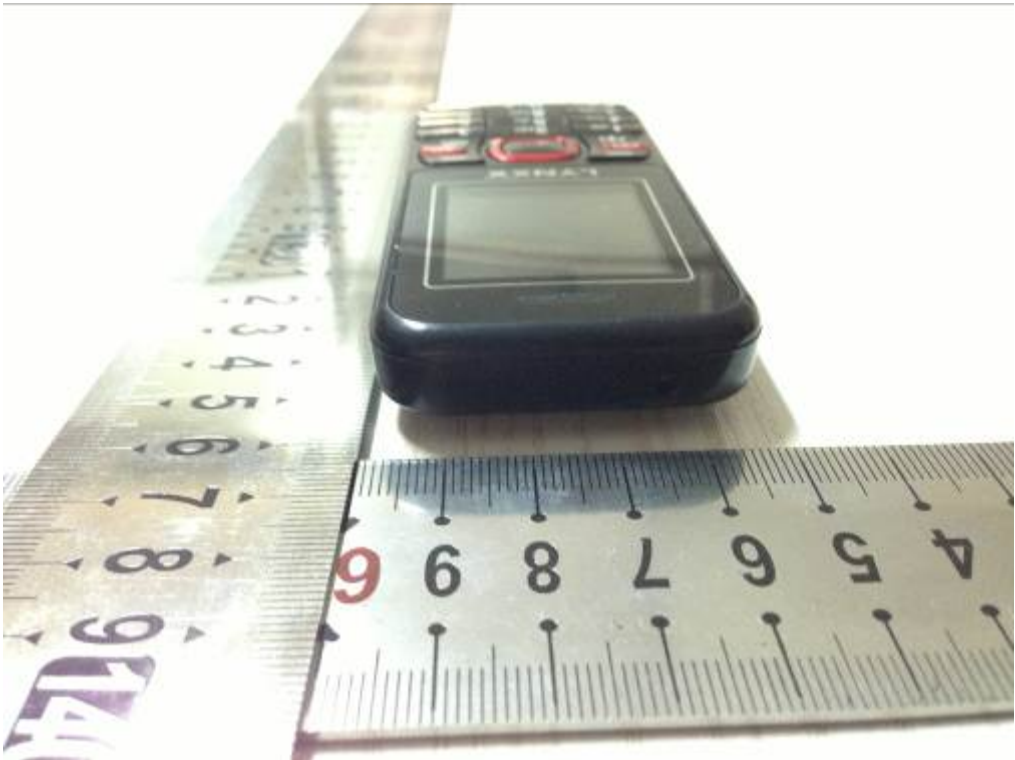
LEFT VIEW OF SAMPLE



RIGHT VIEW OF SAMPLE



UP VIEW OF SAMPLE



DOWN VIEW OF SAMPLE



PHOTO OF CHARGER



PHOTO OF HEADPHONE



PHOTO OF BATTERY



INTERNAL PHOTO OF SAMPLE - 1



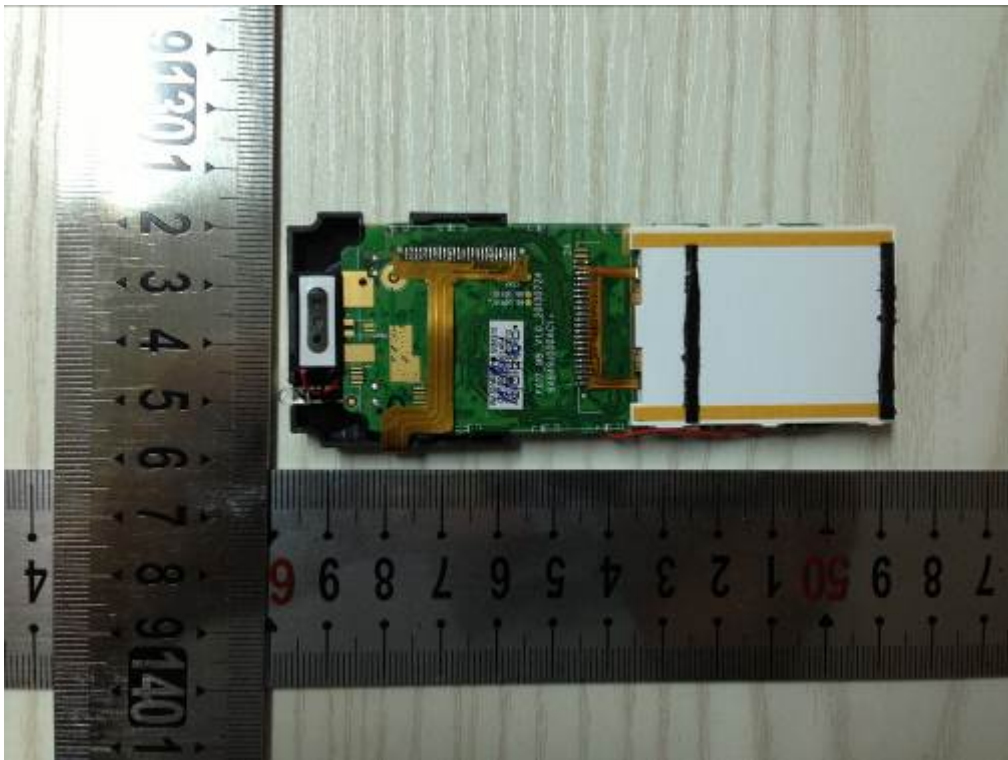
INTERNAL PHOTO OF SAMPLE -2



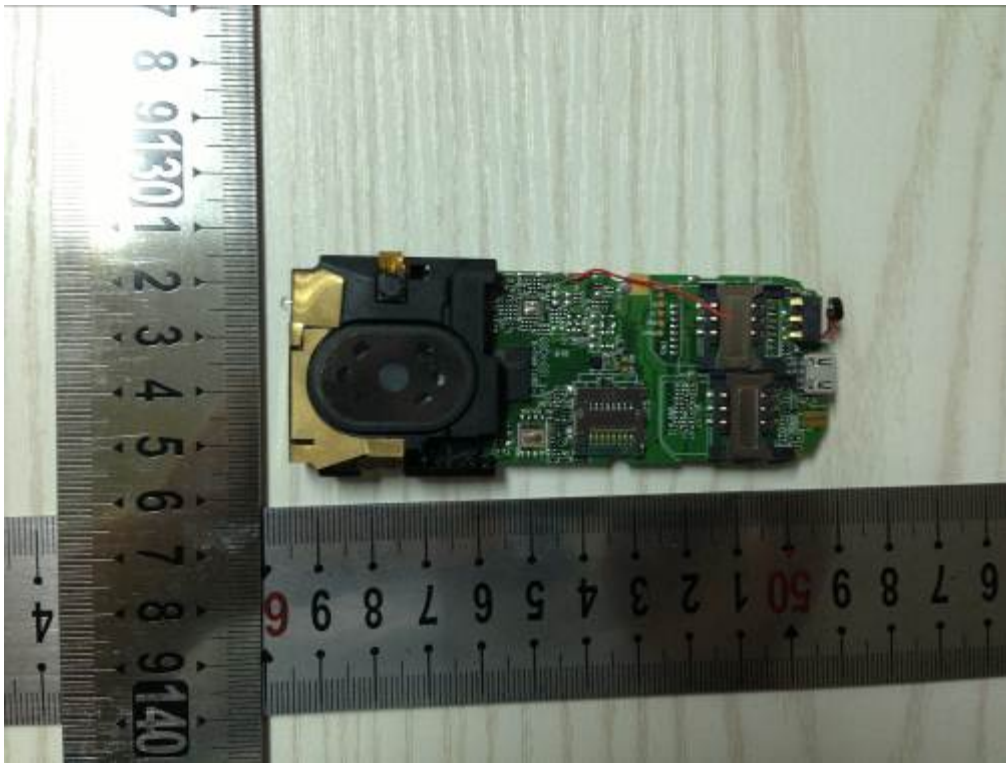
INTERNAL PHOTO OF SAMPLE - 3



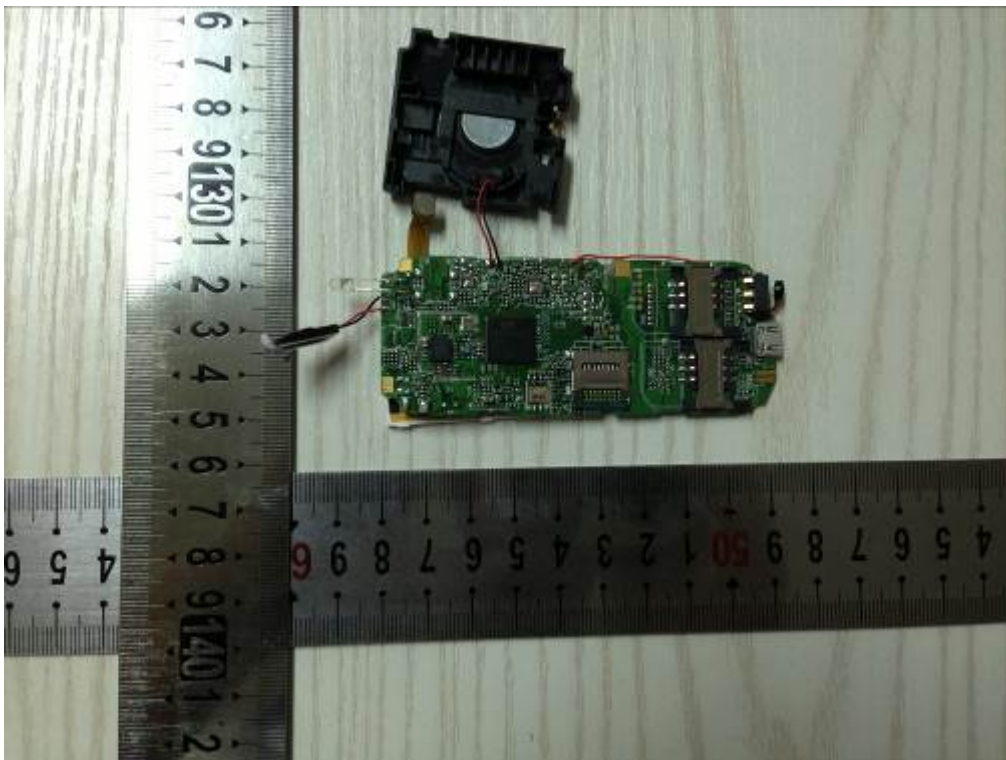
INTERNAL PHOTO OF SAMPLE - 4



INTERNAL PHOTO OF SAMPLE - 5



INTERNAL PHOTO OF SAMPLE - 6



INTERNAL PHOTO OF SAMPLE - 7



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