

FCC Test Report

APPLICANT : Brightstar Corporation
EQUIPMENT : mobile phone
BRAND NAME : Avvio
MODEL NAME : Avvio 821S / Avvio 821 / MEU SN81
MARKETING NAME : Avvio 821S / Avvio 821 / MEU SN81
FCC ID : WVBA821X
STANDARD : FCC 47 CFR FCC Part 15 Subpart B
CLASSIFICATION : Certification

The product was received on Jan. 30, 2013 and completely tested on Mar. 17, 2013. We, SPORTON INTERNATIONAL (SHENZHEN) INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 and shown the compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL (SHENZHEN) INC., the test report shall not be reproduced except in full.

Reviewed by:



Jones Tsai / Manager



SPORTON INTERNATIONAL (SHENZHEN) INC.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC313005	Rev. 01	Initial issue of report	May 06, 2013



SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.107	7.2.4	AC Conducted Emission	< 15.107 limits < RSS-Gen table 2 limits	PASS	Under limit 8.19 dB at 0.640 MHz
3.2	15.109	7.2.3.2	Radiated Emission	< 15.109 limits or < RSS-Gen table 1 limits (Section 6)	PASS	Under limit 3.06 dB at 130.880 MHz for Quasi-Peak

1. General Description

1.1. Applicant

Brightstar Corporation
9725 NW 117th Ave., Miami, Florida, United States

1.2. Manufacturer

KCMobile Co., Ltd.
#502, Ace techno tower 8th,191-7 Guro-dong, Guro-Gu, Seoul, South Korea

1.3. Feature of Equipment Under Test

Product Feature	
Equipment	mobile phone
Brand Name	Avvio
Model Name	Avvio 821S / AVVIO 821 / MEU SN81
Marketing Name	Avvio 821S / AVVIO 821 / MEU SN81
FCC ID	WVBA821X
EUT supports Radios application	GSM/GPRS/WCDMA/HSPA/Bluetooth
HW Version	94V-0
SW Version	K912_KCM_DUAL_V0_0_1
EUT Stage	Identical Prototype

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. There are two different types of EUT. They are single SIM card mobile (Model Name: Avvio 821, MEU SN81) and dual SIM card mobile (Model Name: Avvio 821S). The others are the same including circuit design, PCB board, structure and all components. It is special to declare. After pre-scan two types of EUT, we found test result of the sample that dual SIM was the worst, so we choose dual SIM card mobile to perform all test.
3. The model names (Avvio 821S, Avvio 821, MEU SN81) are identical on hardware. The only difference is the label of different branding for different customer.

1.4. Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx Frequency	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Rx Frequency Range	GSM850: 869.2 MHz ~ 893.8 MHz GSM1900: 1930.2 MHz ~ 1989.8 MHz WCDMA Band V: 871.4 MHz ~ 891.6 MHz WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz Bluetooth: 2402 MHz ~ 2480 MHz FM: 88 MHz ~ 108 MHz
Antenna Type	WWAN : PIFA Antenna Bluetooth : Monopole Antenna
Type of Modulation	GSM: GMSK GPRS: GMSK WCDMA: QPSK (Uplink) HSDPA: QPSK (Uplink) HSUPA: QPSK (Uplink) Bluetooth BDR (1Mbps) : GFSK Bluetooth EDR (2Mbps) : $\pi/4$ -DQPSK Bluetooth EDR (3Mbps) : 8-DPSK FM

1.5. Test Site

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.		
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C. TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958		
Test Site No.	Sporton Site No.		FCC/IC Registration No.
	CO01-SZ	03CH01-SZ	149928/4086E-1

1.6. Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC 47 CFR FCC Part 15 Subpart B
- ANSI C63.4-2003

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

2. Test Configuration of Equipment Under Test

2.1. Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

Frequency range investigated: conduction (150 KHz to 30 MHz), radiation (30MHz to the 5th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

The following tables are showing the test modes as the worst cases and recorded in this report.

Item	EUT Configuration	Test Condition		
		EMI AC	EMI RE<1G	EMI RE≥1G
1.	Charging Mode (EUT with adapter)	☒	☒	☒
2.	Data application transferred mode (EUT with PC)	☒	☒	☒

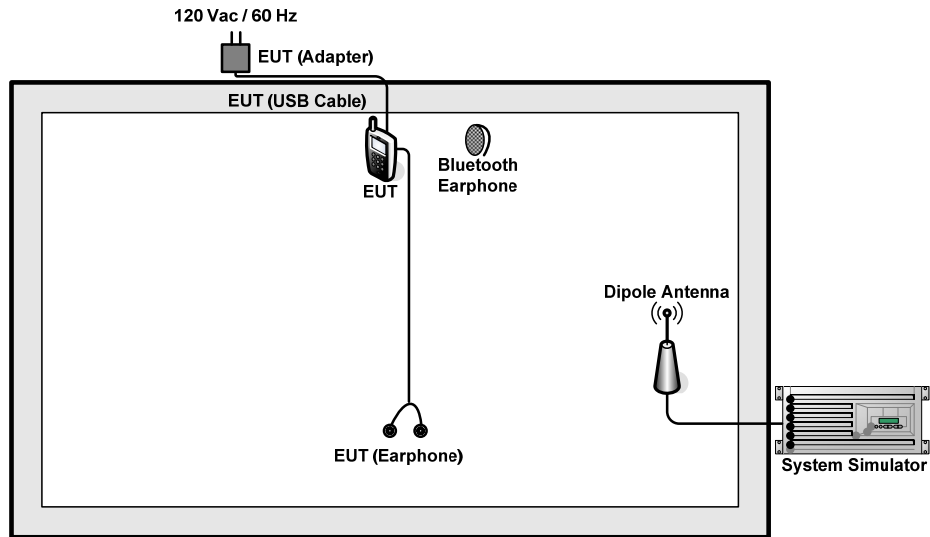
Abbreviations:

- EMI AC: AC conducted emissions
- EMI RE ≥ 1G: EUT radiated emissions ≥ 1GHz
- EMI RE < 1G: EUT radiated emissions < 1GHz

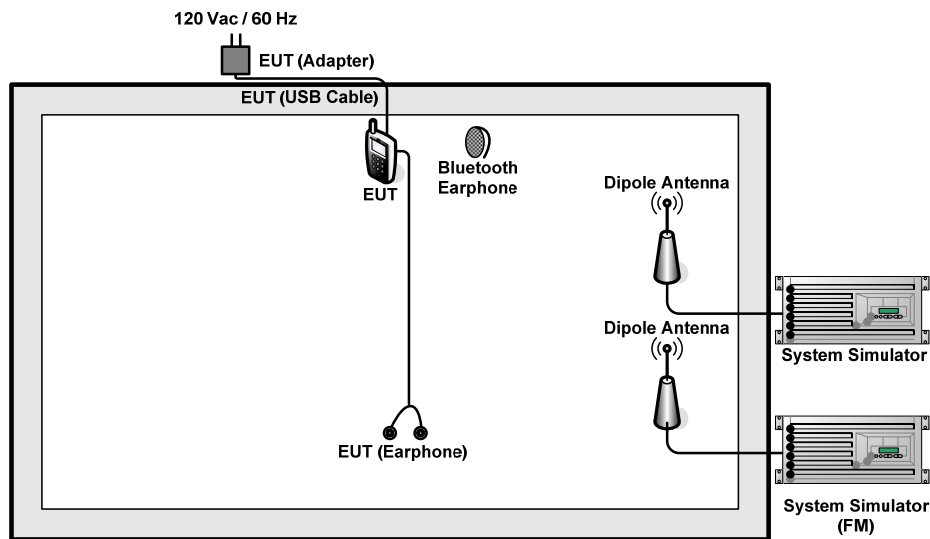
Remark: For signal above 1GHz, the worst case was test item 1.

Test Items	EUT Configure Mode	Function Type
AC Conducted Emission	1/2	Mode 1: GSM850 Idle + Bluetooth Idle + USB Cable (Charging from Adpater) + Earphone + Camera + SIM1 <Fig.1> Mode 2: GSM1900 Idle + Bluetooth Idle + USB Cable (Charging from Adpater) + Earphone + MPEG4 + SIM1 <Fig.1> Mode 3: WCDMA Band V Idle + Bluetooth Idle + USB Cable (Charging from Adpater) + Earphone + FM Rx + SIM1 <Fig.2> Mode 4: WCDMA Band II Idle + Bluetooth Idle + USB Cable (Data Link with PC) + Earphone + SIM1 <Fig.3>
Radiated Emissions < 1GHz	1/2	Mode 1: GSM850 Idle + Bluetooth Idle + USB Cable (Charging from Adpater) + Earphone + Camera + SIM1 <Fig.1> Mode 2: GSM1900 Idle + Bluetooth Idle + USB Cable (Charging from Adpater) + Earphone + MPEG4 + SIM1 <Fig.1> Mode 3: WCDMA Band V Idle + Bluetooth Idle + USB Cable (Charging from Adpater) + Earphone + FM Rx + SIM1 <Fig.2> Mode 4: WCDMA Band II Idle + Bluetooth Idle + USB Cable (Data Link with PC) + Earphone + SIM1 <Fig.3>
Radiated Emissions ≥ 1GHz	1/2	Mode 1: GSM1900 Idle + Bluetooth Idle + USB Cable (Charging from Adpater) + Earphone + MPEG4 + SIM1 <Fig.1> Mode 2: WCDMA Band II Idle + Bluetooth Idle + USB Cable (Data Link with PC) + Earphone + SIM1 <Fig.3>
<p>Remark:</p> <ol style="list-style-type: none"> The worst case of AC Conducted Emission is mode 3, and the USB Link mode of AC Conducted Emission is mode 4; the test data of these modes were reported. The worst case of Radiated Emissions is mode 2, and the USB Link mode of Radiated Emissions is mode 4; the test data of these modes were reported. Data Link with PC means data application transferred mode between EUT and PC. 		

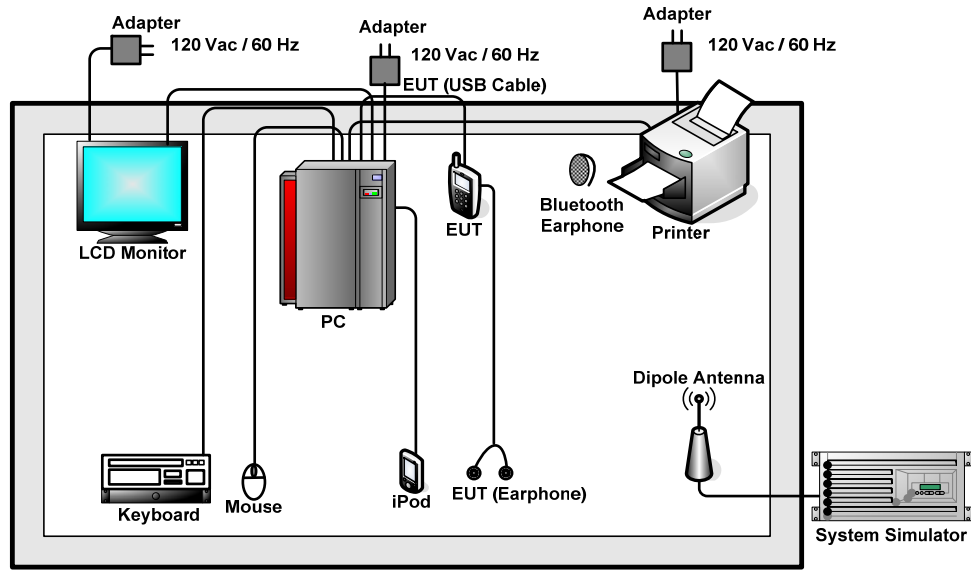
2.2. Connection Diagram of Test System



<Fig. 1>



<Fig. 2>



<Fig. 3>

2.3. Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	Agilent	E5515C	N/A	N/A	Unshielded, 1.8 m
2.	System Simulator (FM)	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
3.	Bluetooth Earphone	Nokia	BH-108	N/A	N/A	N/A
4.	Bluetooth Earphone	Nokia	HS-12W	PYAHS-12W	N/A	N/A
5.	PC	DELL	OPTIPLEX 390	FCC DoC	N/A	Unshielded, 1.8 m
6.	Mouse	DELL	MS111-L	FCC DoC	Shielded, 1.5 m	N/A
7.	Monitor	DELL	IN1940MWB	FCC DoC	Shielded, 1.2 m	Unshielded, 1.8 m
8.	(USB) Keyboard	DELL	KB212-B	FCC DoC	Shielded, 1.5 m	N/A
9.	Printer	SAMSUNG	ML-1610	FCC DoC	Shielded, 1.8 m	Unshielded, 1.8 m
10.	iPod	Apple	MC525 ZP/A	FCC DoC	Shielded, 1.0 m	N/A

2.4. Test Software

The EUT was in GSM or WCDMA idle mode during the testing. The EUT was synchronized to the BCCH, and is in continuous receiving mode by setting system simulator's paging reorganization.

At the same time, the EUT was attached to the Bluetooth earphone or WLAN AP, and the following programs installed in the EUT were programmed during the test.

1. Execute the program, "Winthrax" under WIN7 installed in PC for files transfer with EUT via USB cable.
2. Turn on FM function to make the EUT receive continuous signals from system simulator (FM).
3. Execute "Video player" to play MPEG4 files.
4. Turn on camera to capture images.

3. Test Result

3.1. Test of AC Conducted Emission Measurement

3.1.1 Limits of AC Conducted Emission

For equipment 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.

Frequency of emission (MHz)	Conducted limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

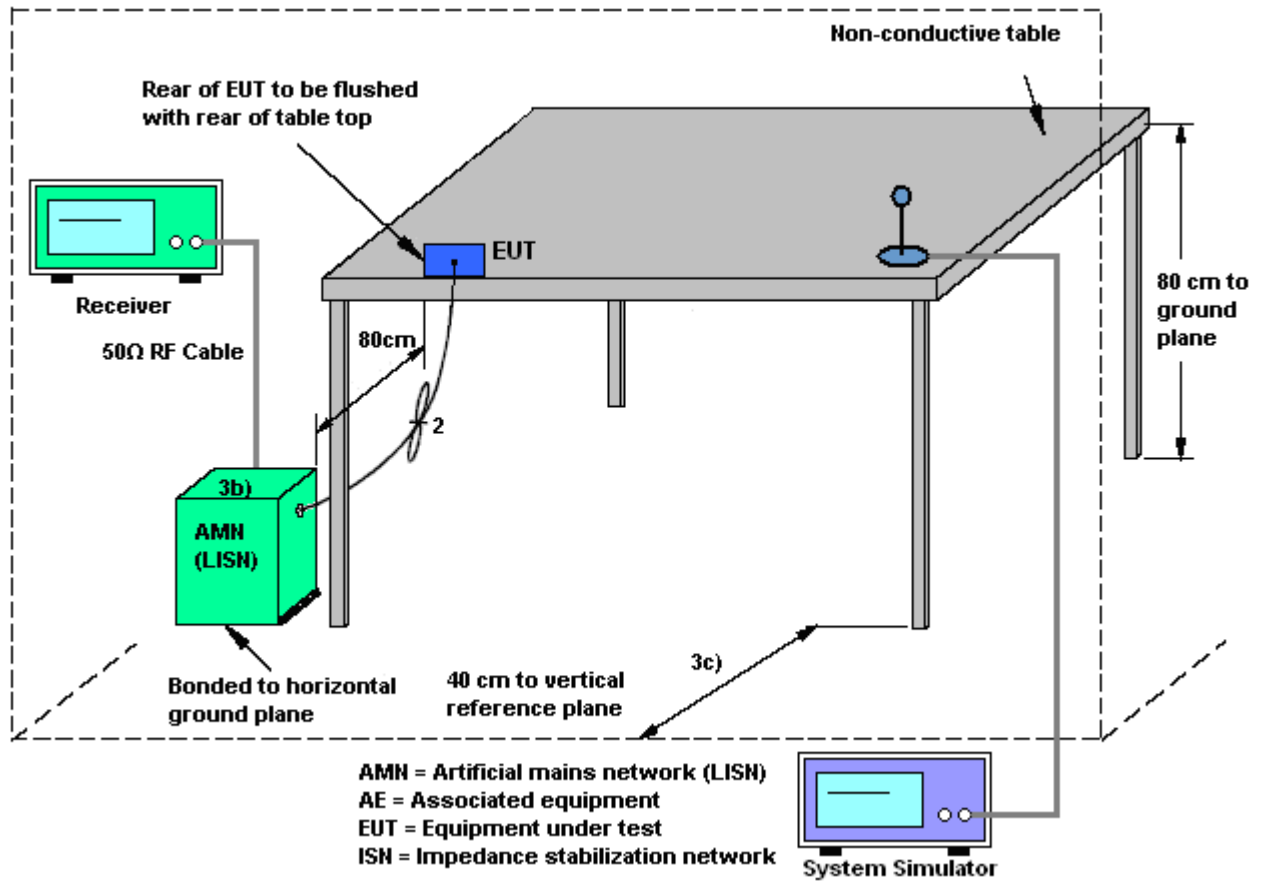
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedure

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 KHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

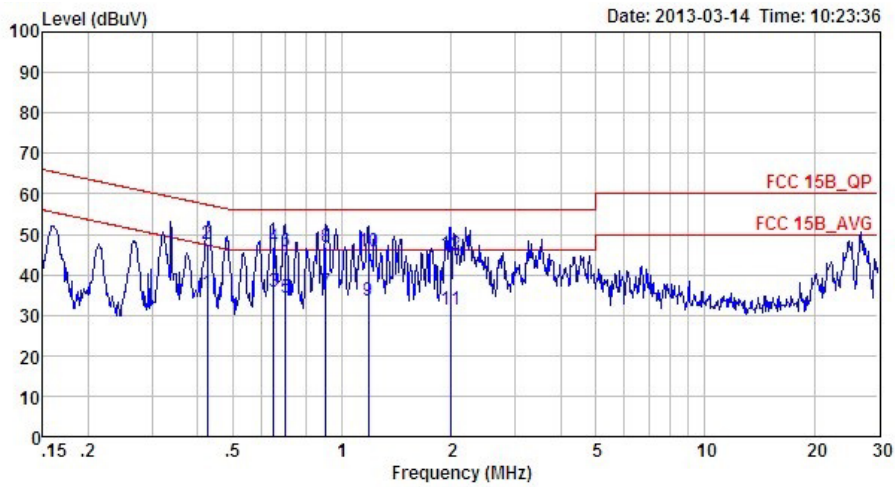
3.1.4 Test Setup





3.1.5 Test Result of AC Conducted Emission

Test Mode :	Mode 3	Temperature :	22~23°C
Test Engineer :	Leo Liao	Relative Humidity :	48~49%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WCDMA Band V Idle + Bluetooth Idle + USB Cable (Charging from Adpater) + Earphone + FM Rx + SIM1		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

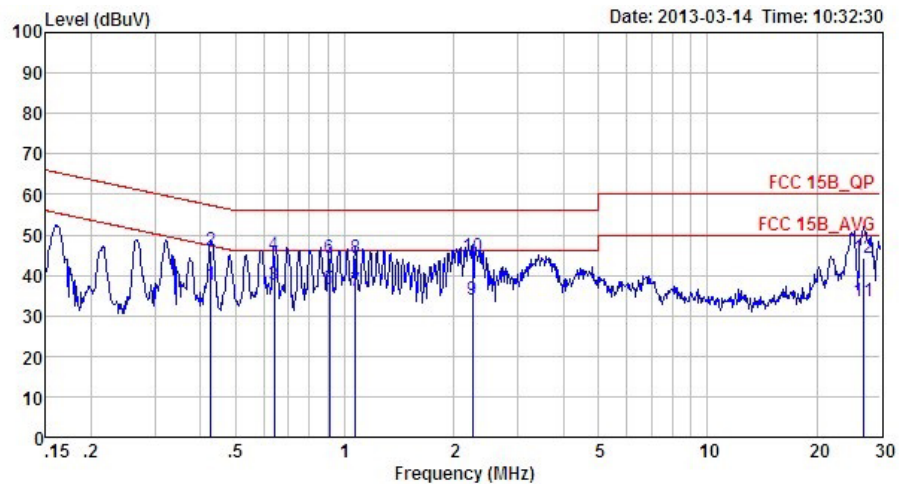


Site : C001-SZ
 Condition: FCC 15B_QP LISN_L_2000601 LINE
 Mode : Mode 3

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.43	35.60	-11.73	47.33	25.50	0.02	10.08	Average
2	0.43	47.60	-9.73	57.33	37.50	0.02	10.08	QP
3	0.65	35.72	-10.28	46.00	25.60	0.02	10.10	Average
4	0.65	47.02	-8.98	56.00	36.90	0.02	10.10	QP
5	0.70	34.42	-11.58	46.00	24.30	0.02	10.10	Average
6	0.70	45.62	-10.38	56.00	35.50	0.02	10.10	QP
7	0.90	35.63	-10.37	46.00	25.49	0.03	10.11	Average
8 *	0.90	47.03	-8.97	56.00	36.89	0.03	10.11	QP
9	1.18	33.75	-12.25	46.00	23.60	0.03	10.12	Average
10	1.18	45.75	-10.25	56.00	35.60	0.03	10.12	QP
11	1.99	31.29	-14.71	46.00	21.10	0.04	10.15	Average
12	1.99	45.09	-10.91	56.00	34.90	0.04	10.15	QP



Test Mode :	Mode 3	Temperature :	22~23°C
Test Engineer :	Leo Liao	Relative Humidity :	48~49%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WCDMA Band V Idle + Bluetooth Idle + USB Cable (Charging from Adpater) + Earphone + FM Rx + SIM1		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

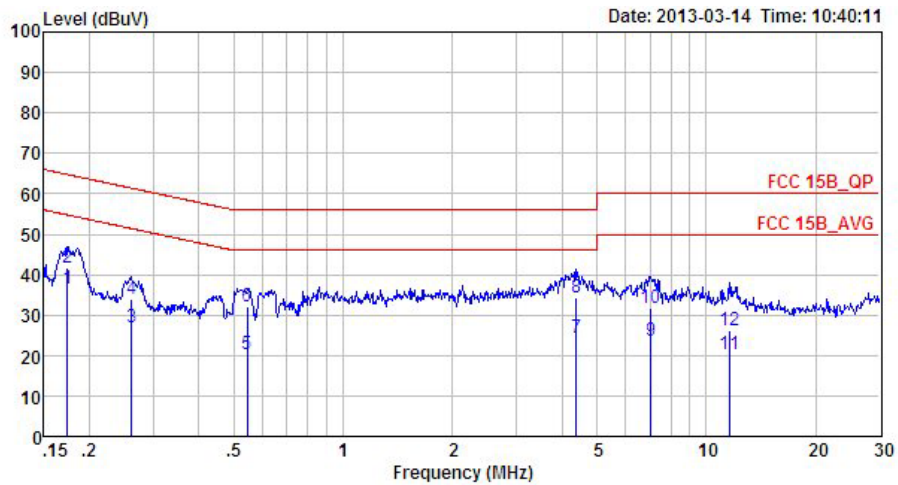


Site : CO01-SZ
 Condition: FCC 15B_QP LISN_N_2000601 NEUTRAL
 Mode : Mode 3

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.43	37.69	-9.60	47.29	27.59	0.02	10.08	Average
2	0.43	46.19	-11.10	57.29	36.09	0.02	10.08	QP
3	0.64	37.81	-8.19	46.00	27.69	0.02	10.10	Average
4	0.64	45.11	-10.89	56.00	34.99	0.02	10.10	QP
5	0.91	36.53	-9.47	46.00	26.40	0.02	10.11	Average
6	0.91	44.43	-11.57	56.00	34.30	0.02	10.11	QP
7	1.07	36.24	-9.76	46.00	26.10	0.02	10.12	Average
8	1.07	44.34	-11.66	56.00	34.20	0.02	10.12	QP
9	2.25	33.80	-12.20	46.00	23.60	0.04	10.16	Average
10	2.25	44.80	-11.20	56.00	34.60	0.04	10.16	QP
11	26.98	33.72	-16.28	50.00	22.40	0.89	10.43	Average
12	26.98	44.32	-15.68	60.00	33.00	0.89	10.43	QP



Test Mode :	Mode 4	Temperature :	22~23°C
Test Engineer :	Leo Liao	Relative Humidity :	48~49%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WCDMA Band II Idle + Bluetooth Idle + USB Cable (Data Link with PC) + Earphone + SIM1		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

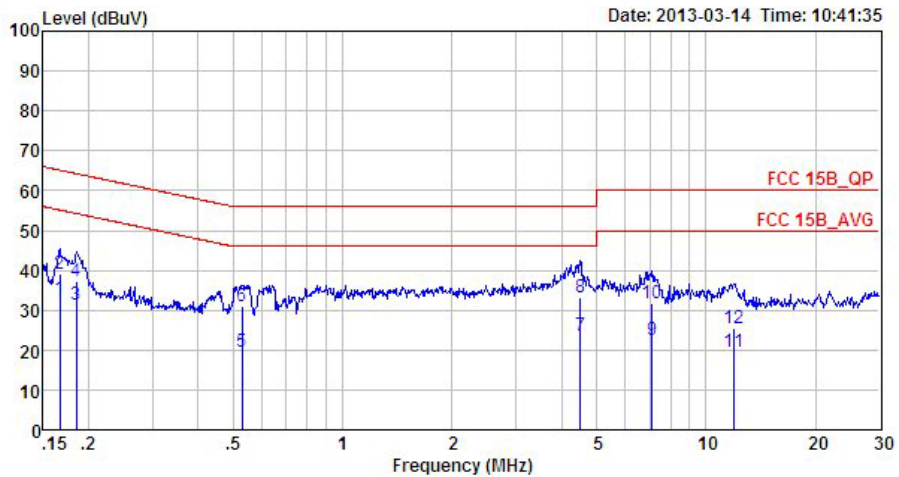


Site : CO01-SZ
 Condition: FCC 15B_QP LISN_L_2000601 LINE
 Mode : Mode 4

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1 *	0.17	36.58	-18.19	54.77	26.50	0.03	10.05	Average
2	0.17	41.88	-22.89	64.77	31.80	0.03	10.05	QP
3	0.26	26.99	-24.39	51.38	16.91	0.02	10.06	Average
4	0.26	33.89	-27.49	61.38	23.81	0.02	10.06	QP
5	0.54	20.11	-25.89	46.00	10.00	0.02	10.09	Average
6	0.54	32.21	-23.79	56.00	22.10	0.02	10.09	QP
7	4.38	24.46	-21.54	46.00	14.21	0.06	10.19	Average
8	4.38	34.36	-21.64	56.00	24.11	0.06	10.19	QP
9	7.02	23.70	-26.30	50.00	13.40	0.10	10.20	Average
10	7.02	31.80	-28.20	60.00	21.50	0.10	10.20	QP
11	11.56	20.18	-29.82	50.00	9.60	0.25	10.33	Average
12	11.56	26.08	-33.92	60.00	15.50	0.25	10.33	QP



Test Mode :	Mode 4	Temperature :	22~23°C
Test Engineer :	Leo Liao	Relative Humidity :	48~49%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WCDMA Band II Idle + Bluetooth Idle + USB Cable (Data Link with PC) + Earphone + SIM1		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : C001-SZ
 Condition: FCC 15B_QP LISN_N_2000601 NEUTRAL

Mode : Mode 4

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1 *	0.17	32.88	-22.24	55.12	22.81	0.02	10.05	Average
2	0.17	39.28	-25.84	65.12	29.21	0.02	10.05	QP
3	0.19	31.37	-22.87	54.24	21.30	0.02	10.05	Average
4	0.19	37.27	-26.97	64.24	27.20	0.02	10.05	QP
5	0.53	19.40	-26.60	46.00	9.29	0.02	10.09	Average
6	0.53	31.10	-24.90	56.00	20.99	0.02	10.09	QP
7	4.50	23.46	-22.54	46.00	13.20	0.07	10.19	Average
8	4.50	33.16	-22.84	56.00	22.90	0.07	10.19	QP
9	7.10	22.33	-27.67	50.00	12.00	0.13	10.20	Average
10	7.10	31.73	-28.27	60.00	21.40	0.13	10.20	QP
11	11.93	19.66	-30.34	50.00	9.00	0.32	10.34	Average
12	11.93	25.56	-34.44	60.00	14.90	0.32	10.34	QP

3.2. Test of Radiated Emission Measurement

3.2.1. Limit of Radiated Emission

The emissions from an unintentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.2.2. Measuring Instruments

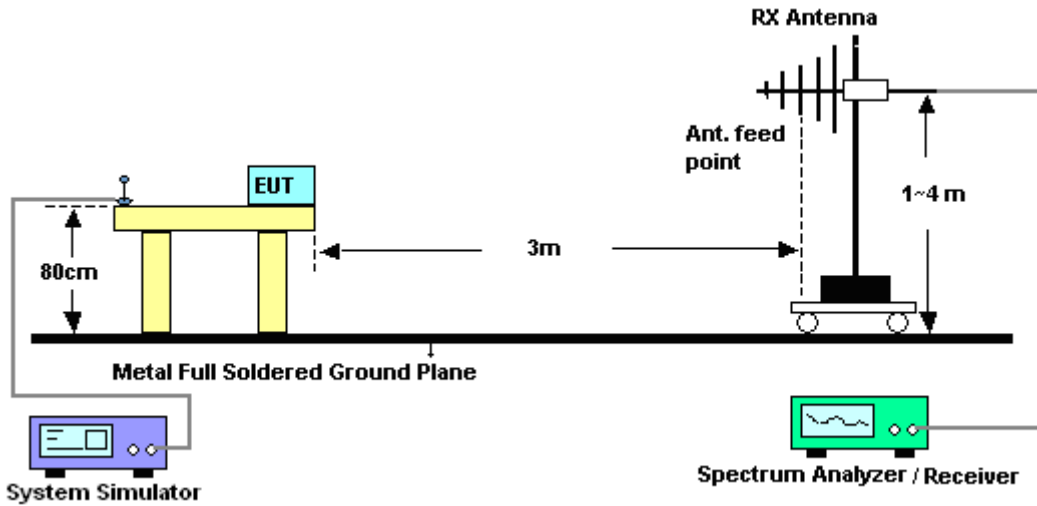
See list of measuring instruments of this test report.

3.2.3. Test Procedures

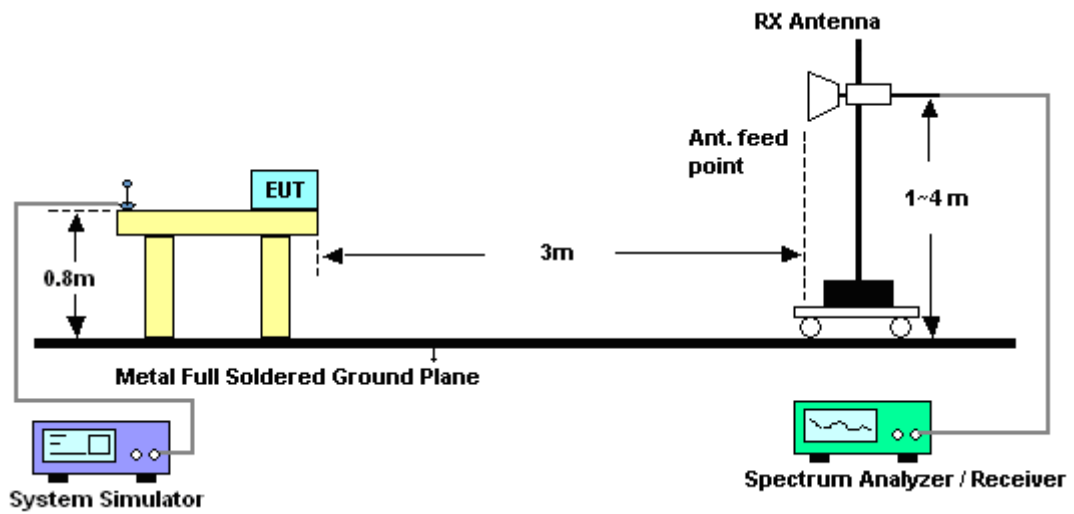
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna height is adjusted between one to four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.
7. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, peak values of EUT will be reported. Otherwise, the emission will be repeated by using the quasi-peak method and reported.
8. Emission level (dBuV/m) = 20 log Emission level (uV/m)
9. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor= Level

3.2.4. Test Setup of Radiated Emission

For radiated emissions from 30MHz to 1GHz

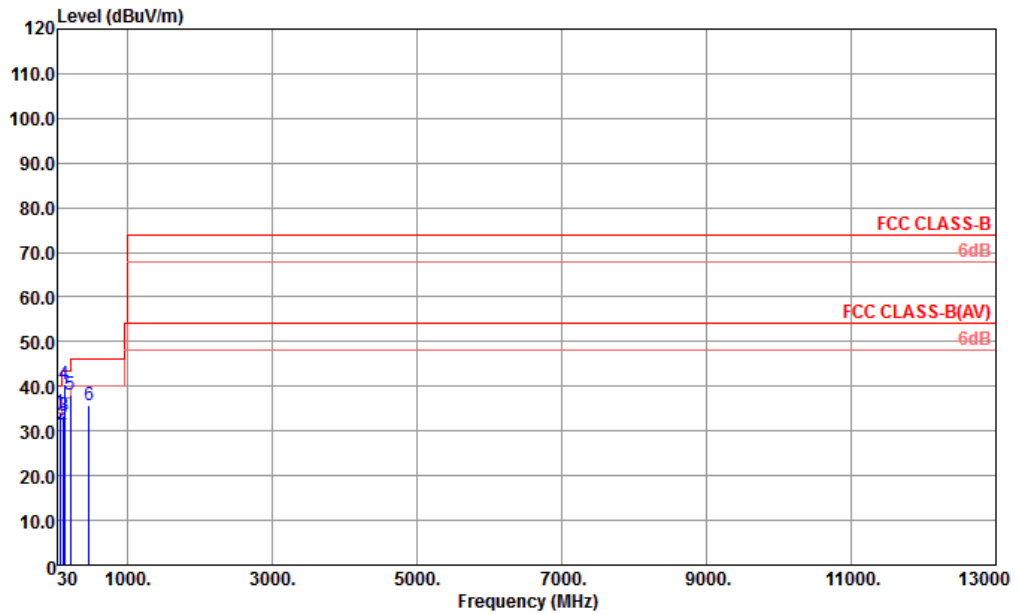


For radiated emissions above 1GHz



3.2.5. Test Result of Radiated Emission

Test Mode :	Mode 2	Temperature :	24~25°C
Test Engineer :	John Zheng	Relative Humidity :	54~56%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	GSM1900 Idle + Bluetooth Idle + USB Cable (Charging from Adpater) + Earphone + MPEG4 + SIM1		

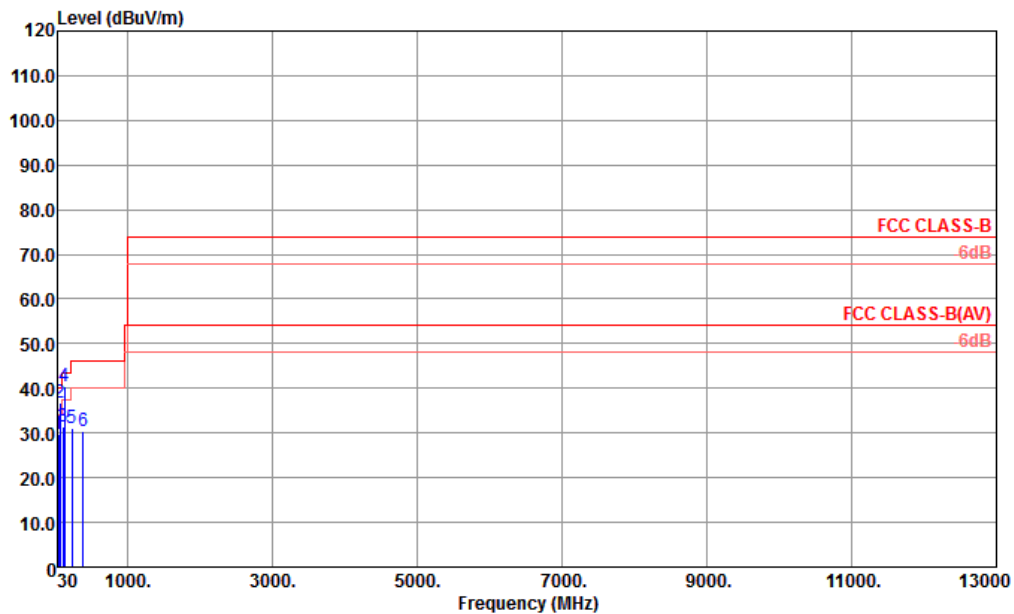


Site : 03CH01-SZ
 Condition : FCC CLASS-B 3m LF ANT-H 121202 HORIZONTAL
 Mode : Mode 2

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 !	62.01	34.26	-5.74	40.00	58.39	5.57	0.84	30.54	---	---	Peak
2	104.69	31.36	-12.14	43.50	49.03	11.80	1.18	30.65	---	---	Peak
3	121.18	33.34	-10.16	43.50	50.51	12.20	1.23	30.60	---	---	Peak
4 q	130.88	40.44	-3.06	43.50	57.36	12.40	1.24	30.56	200	197	QP
5 p	211.39	37.98	-5.52	43.50	57.30	9.47	1.51	30.30	---	---	Peak
6	467.47	35.75	-10.25	46.00	46.19	16.96	2.04	29.44	---	---	Peak



Test Mode :	Mode 2	Temperature :	24~25°C
Test Engineer :	John Zheng	Relative Humidity :	54~56%
Test Distance :	3m	Polarization :	Vertical
Function Type :	GSM1900 Idle + Bluetooth Idle + USB Cable (Charging from Adpater) + Earphone + MPEG4 + SIM1		

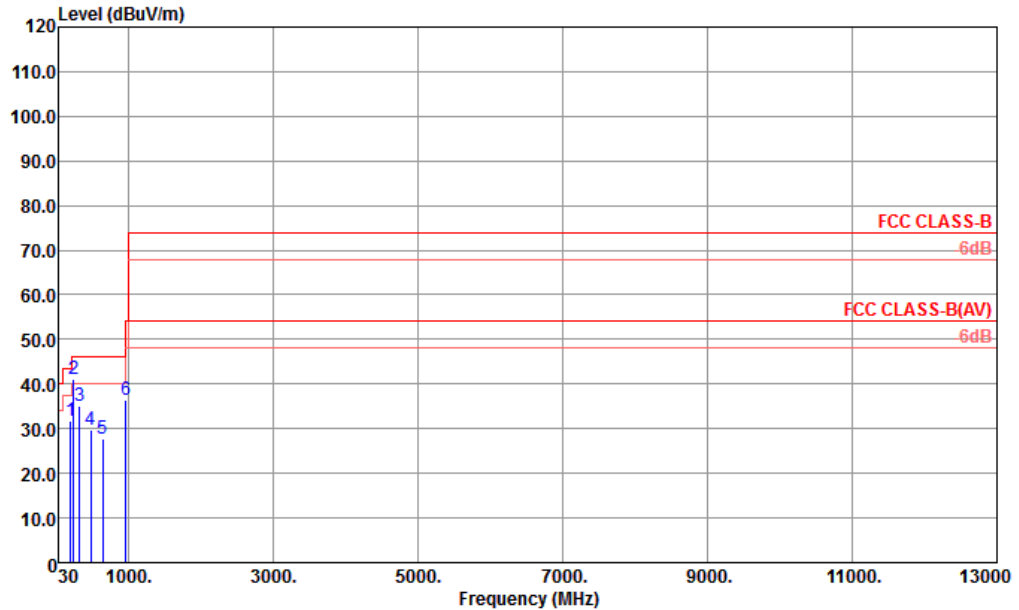


Site : 03CH01-SZ
 Condition : FCC CLASS-B 3m LF ANT-V 121202 VERTICAL
 Mode : Mode 2

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	40.67	29.62	-10.38	40.00	49.20	10.10	0.86	30.54	---	---	Peak
2	63.95	36.73	-3.27	40.00	60.89	5.53	0.85	30.54	122	239	QP
3	103.72	31.54	-11.96	43.50	49.52	11.50	1.17	30.65	---	---	Peak
4	128.94	40.46	-3.04	43.50	57.43	12.37	1.23	30.57	---	---	Peak
5	231.76	30.97	-15.03	46.00	48.60	11.00	1.60	30.23	---	---	Peak
6	386.96	30.56	-15.44	46.00	42.26	16.12	1.89	29.71	---	---	Peak



Test Mode :	Mode 4	Temperature :	24~25°C
Test Engineer :	John Zheng	Relative Humidity :	54~56%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	WCDMA Band II Idle + Bluetooth Idle + USB Cable (Data Link with PC) + Earphone + SIM1		

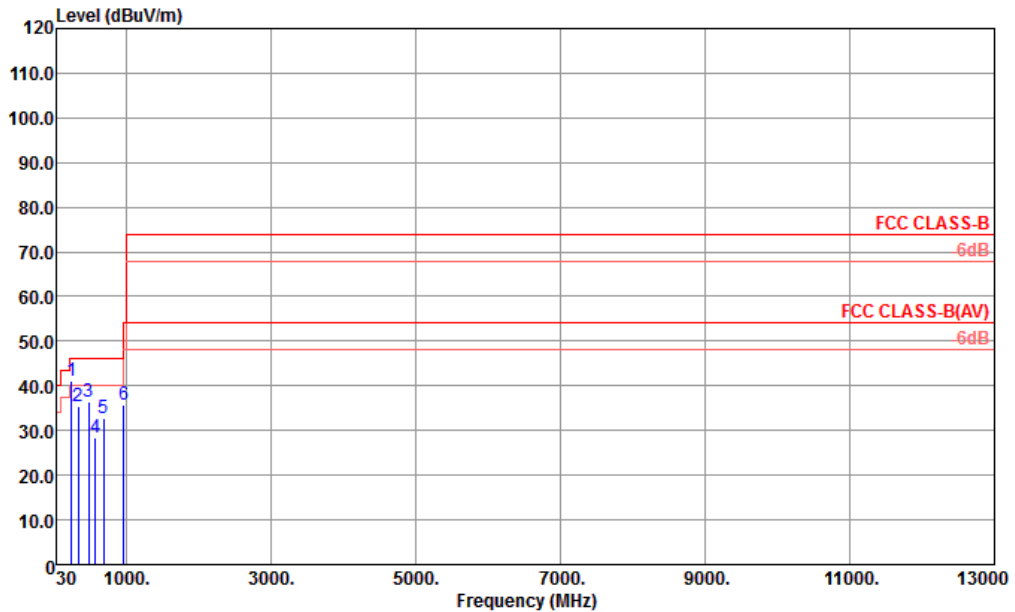


Site : 03CH01-SZ
 Condition : FCC CLASS-B 3m LF ANT-H 121202 HORIZONTAL
 Mode : Mode 4

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp	Loss Factor	A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	195.87	31.77	-11.73	43.50	51.50	9.20	1.42	30.35	---	---	Peak
2 p	236.61	41.12	-4.88	46.00	58.14	11.57	1.62	30.21	100	250	Peak
3	328.76	35.21	-10.79	46.00	48.64	14.70	1.77	29.90	---	---	Peak
4	480.08	29.66	-16.34	46.00	39.78	17.20	2.08	29.40	---	---	Peak
5	647.89	27.65	-18.35	46.00	35.17	19.24	2.38	29.14	---	---	Peak
6	960.23	36.29	-17.71	54.00	40.40	21.80	2.81	28.72	---	---	Peak



Test Mode :	Mode 4	Temperature :	24~25°C
Test Engineer :	John Zheng	Relative Humidity :	54~56%
Test Distance :	3m	Polarization :	Vertical
Function Type :	WCDMA Band II Idle + Bluetooth Idle + USB Cable (Data Link with PC) + Earphone + SIM1		



Site : 03CH01-SZ
 Condition : FCC CLASS-B 3m LF ANT-V 121202 VERTICAL
 Mode : Mode 4

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Preamp	Loss Factor	A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 p	239.52	41.06	-4.94	46.00	57.90	11.73	1.63	30.20	100	325 Peak	
2	329.73	35.40	-10.60	46.00	48.83	14.70	1.77	29.90	---	---	Peak
3	480.08	36.44	-9.56	46.00	46.56	17.20	2.08	29.40	---	---	Peak
4	572.23	28.25	-17.75	46.00	36.64	18.60	2.24	29.23	---	---	Peak
5	689.60	32.70	-13.30	46.00	40.06	19.30	2.42	29.08	---	---	Peak
6	959.00	35.77	-10.23	46.00	39.88	21.80	2.81	28.72	---	---	Peak

4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
ESCIO TEST Receiver	R&S	1142.8007.03	100724	9kHz -3GHz	Mar. 28, 2013	Mar. 14, 2013	Mar. 27, 2014	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Mar. 28, 2013	Mar. 14, 2013	Mar. 27, 2014	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103892	9kHz~30MHz	Mar. 28, 2013	Mar. 14, 2013	Mar. 27, 2014	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	N/A	Nov. 20, 2012	Mar. 14, 2013	Nov. 19, 2013	Conduction (CO01-SZ)
AC Filter	ETS-LINDGREN	LRE-2030/PE N 256260	00093783	N/A	N/A	Mar. 14, 2013	N/A	Conduction (CO01-SZ)
AC Filter	ETS-LINDGREN	LRE-2030/PE N 256260	00097973	N/A	N/A	Mar. 14, 2013	N/A	Conduction (CO01-SZ)
ESCI TEST Receiver	R&S	ESCI	100724	9K-3GHz	Mar. 28, 2013	Mar. 17, 2013	Mar. 27, 2014	Radiation (03CH01-SZ)
Spectrum Analyzer	R&S	FSP30	101362	9kHz~30GHz	Oct. 11, 2012	Mar. 17, 2013	Oct. 10, 2013	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS Lindgren	3117	00119436	1GHz~18GHz	Oct. 12, 2012	Mar. 17, 2013	Oct. 11, 2013	Radiation (03CH01-SZ)
Bilog Antenna	SCHAFFNER	CBL6112B	2614	30Mhz~2Ghz	Nov. 03, 2012	Mar. 17, 2013	Nov. 02, 2013	Radiation (03CH01-SZ)
Amplifier	ADVANTEST	BB525C	E9007003	9KHz-3000MHz GAIN 30db	Mar. 28, 2013	Mar. 17, 2013	Mar. 27, 2014	Radiation (03CH01-SZ)
Amplifier	Yiai	AV3860B	04030	2GHz~26.5GHz	Mar. 28, 2013	Mar. 17, 2013	Mar. 27, 2014	Radiation (03CH01-SZ)
SHF-EHF-Horn	Schwarzbeck	BBHA9170	BBHA9170249	14Ghz~40Ghz	Nov. 23, 2012	Mar. 17, 2013	Nov. 22, 2013	Radiation (03CH01-SZ)
System Simulator(FM)	R&S	CMU200	112352	GSM/WCDMA /CDMA2000	Oct. 26, 2012	Mar. 14, 2013~ Mar. 17, 2013	Oct. 25, 2013	-
System Simulator	Agilent	E5515C	MY50264168	GSM/WCDMA /CDMA2000	Oct. 09, 2012	Mar. 14, 2013~ Mar. 17, 2013	Oct. 08, 2013	-

5. Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150 KHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.26
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.54
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.72
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Appendix A. Photographs of EUT

Please refer to Sporton report number EP313005 as below.