FCC Test Report

APPLICANT	:	CT Asia
EQUIPMENT	:	Mobile Phone
BRAND NAME	:	BLU
MODEL NAME	:	Vivo 4.65 HD
FCC ID	:	YHLBLUVIVO465
STANDARD	:	FCC 47 CFR FCC Part 15 Subpart B
CLASSIFICATION	:	Certification

The product was received on Dec. 18, 2012 and completely tested on Jan. 04, 2013. We, SPORTON INTERNATIONAL (KUNSHAN) 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 (KUNSHAN) INC., the test report shall not be reproduced except in full.

Reviewed by:

Jones Tsai

Jones Tsai / Manager

Testing Laboratory 1190

SPORTON INTERNATIONAL (KUNSHAN) INC.
No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C.

TABLE OF CONTENTS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC2D1808	Rev. 01	Initial issue of report	Jan. 09, 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 14.39 dB at 0.220 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 3.86 dB at 239.520 MHz

1. General Description

1.1. Applicant

CT Asia
Unit 01, 15/F, Seaview Centre, 139-141 Hoi bun road, Kwun Tong, Kowloon, Hongkong

1.2. Manufacturer

Gionee Communication Equipment Co., Ltd.
21/F, Times Technology Building, No. 7028, Shennan Avenue, Futian District, Shenzhen, China

1.3. Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Phone
Brand Name	BLU
Model Name	Vivo 4.65 HD
FCC ID	YHLBLUVIVO465
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA/WLAN11bgn/Bluetooth
HW Version	S80_Mainboard_P2
SW Version	S80_0202_V0903
EUT Stage	Production Unit

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

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 802.11b/g/n: 2412 MHz ~ 2462 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 802.11b/g/n: 2412 MHz ~ 2462 MHz Bluetooth: 2402 MHz ~ 2480 MHz GPS : 1.57542 GHz FM: 88 MHz ~ 108 MHz
Antenna Type	WWAN : Fixed Internal Antenna WLAN : PIFA Antenna Bluetooth : PIFA Antenna
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE: GMSK / 8PSK WCDMA: QPSK (Uplink) HSDPA: QPSK (Uplink) HSUPA: QPSK (Uplink) 802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth BDR (1Mbps) : GFSK Bluetooth EDR (2Mbps) : π/4-DQPSK Bluetooth EDR (3Mbps) : 8-DPSK GPS : BPSK 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-KS	03CH01-KS	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
- IC RSS-Gen Issue 3

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)	☒	☒	Note 1
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

Note 1: Testing for this mode is not required or not the worst case.

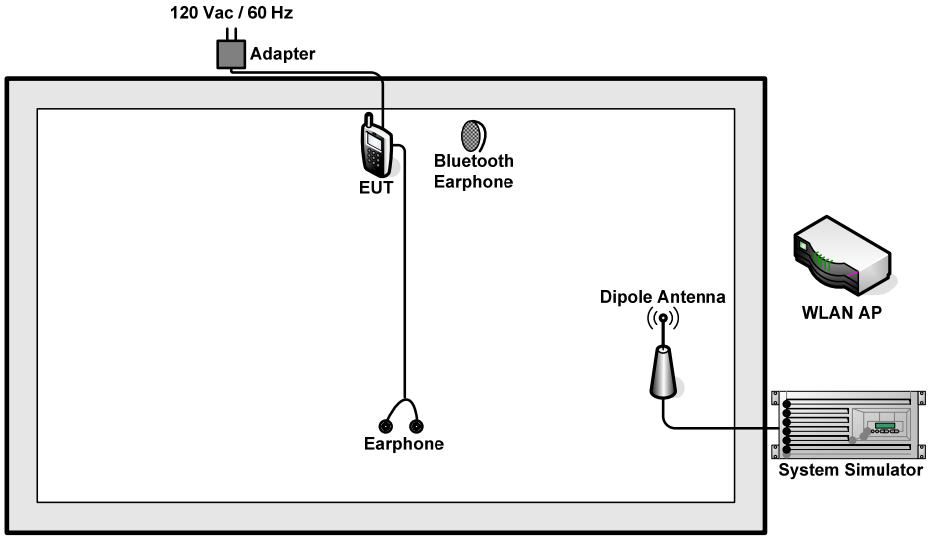
Remark: For signal above 1GHz, the worst case was test item 2.

Test Items	EUT Configure Mode	Function Type
AC Conducted Emission	1/2	Mode 1: GSM850 Idle + WLAN Idle + Bluetooth Idle + USB Cable (Charging from Adapter) + Earphone + Camera + SIM 1 <Fig. 1> Mode 2: GSM1900 Idle + WLAN Idle + Bluetooth Idle + USB Cable (Charging from Adapter) + Earphone + MPEG4 + SIM 1 <Fig. 1> Mode 3: WCDMA Band V Idle + WLAN Idle + Bluetooth Idle + USB Cable (Charging from Adapter) + Earphone + FM Rx + SIM 1 <Fig. 2> Mode 4: WCDMA Band II Idle + WLAN Idle + Bluetooth Idle + USB Cable (Data Link with PC) + Earphone + GPS Rx + SIM 1 <Fig. 3>
Radiated Emissions < 1GHz	1/2	Mode 1: GSM850 Idle + WLAN Idle + Bluetooth Idle + USB Cable (Charging from Adapter) + Earphone + Camera + SIM 1 <Fig. 1> Mode 2: GSM1900 Idle + WLAN Idle + Bluetooth Idle + USB Cable (Charging from Adapter) + Earphone + MPEG4 + SIM 1 <Fig. 1> Mode 3: WCDMA Band V Idle + WLAN Idle + Bluetooth Idle + USB Cable (Charging from Adapter) + Earphone + FM Rx + SIM 1 <Fig. 2> Mode 4: WCDMA Band II Idle + WLAN Idle + Bluetooth Idle + USB Cable (Data Link with PC) + Earphone + GPS Rx + SIM 1 <Fig. 3>
Radiated Emissions ≥ 1GHz	2	Mode 1: WCDMA Band II Idle + WLAN Idle + Bluetooth Idle + USB Cable (Data Link with PC) + Earphone + GPS Rx + SIM 1 <Fig. 3>

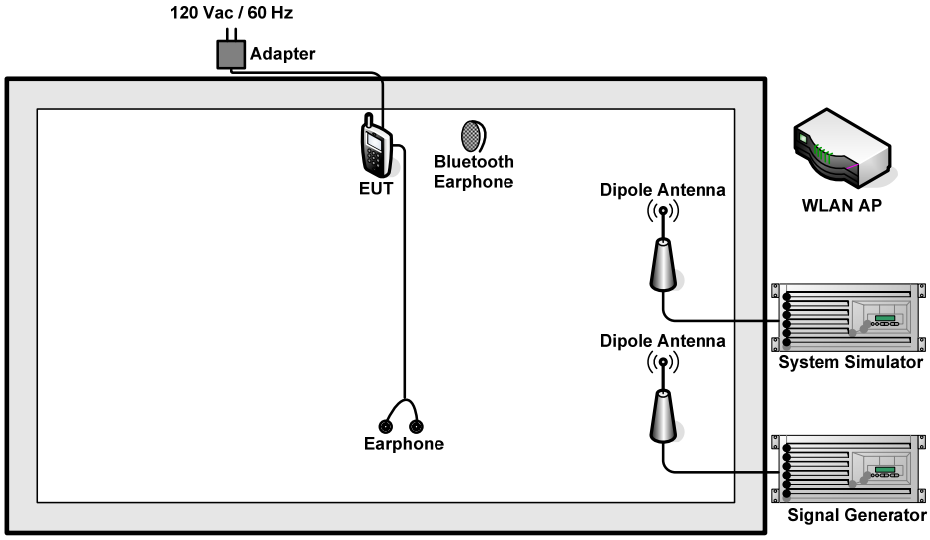
Remark:

1. The worst case of AC Conducted Emission is mode 4; only the test data of this mode was reported.
2. The worst case of Radiated Emissions is mode 4; only the test data of this mode was reported.
3. Link with PC means data application transferred mode between EUT and PC.

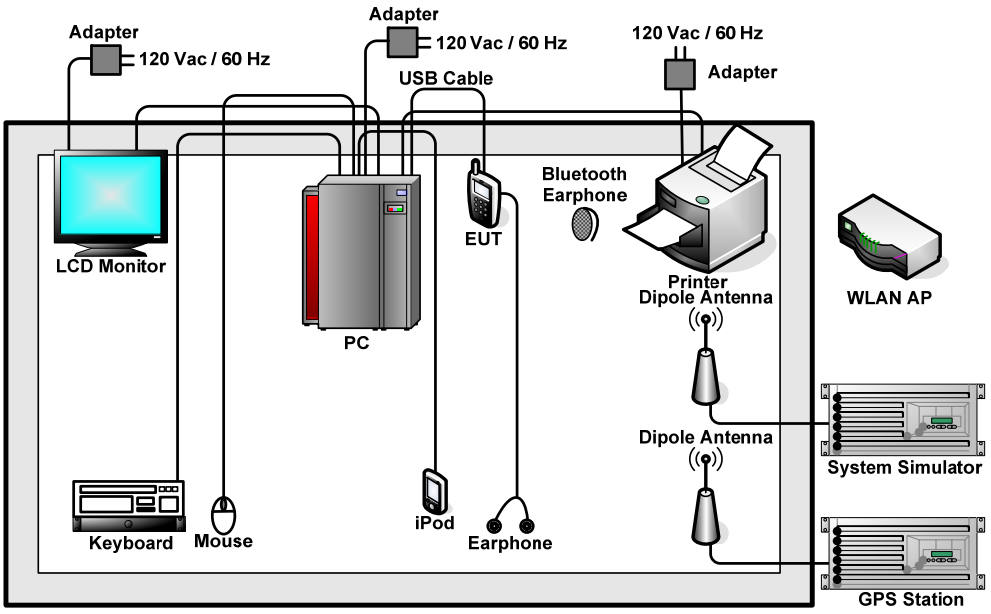
2.2. Connection Diagram of Test System



<Fig. 1>



<Fig. 2>


Adapter
120 Vac / 60 Hz
Adapter
120 Vac / 60 Hz
USB Cable
120 Vac / 60 Hz
Adapter
LCD Monitor
PC
EUT
Bluetooth
Earphone
Printer
Dipole Antenna
WLAN AP
Dipole Antenna
System Simulator
Keyboard
Mouse
iPod
Earphone
GPS Station

<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	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	Signal Generator	R&S	SMR40	N/A	N/A	Unshielded, 1.8 m
3.	GPS Station	ADIVIC	MP9000	N/A	N/A	Unshielded, 1.8 m
4.	WLAN AP	D-link	DIR-855	KA2DIR855A2	N/A	Unshielded, 1.8 m
5.	PC	Dell	MT320	FCC DoC	N/A	Unshielded, 1.8 m
6.	PC	Dell	DCSM	FCC DoC	N/A	Unshielded, 1.8 m
7.	Monitor	Dell	E1910Hc	FCC DoC	Shielded, 1.2 m	Unshielded, 1.8 m
8.	(USB) Keyboard	Dell	SK-8115	FCC DoC	Shielded, 1.8 m with core	N/A
9.	(USB) Mouse	Dell	N231	FCC DoC	Shielded, 1.8 m	N/A
10.	(USB) Mouse	Dell	MO56UC	FCC DoC	Shielded, 1.8 m	N/A
11.	Bluetooth Earphone	Nokia	BH-106	QTLBH-106	N/A	N/A
12.	Bluetooth Earphone	Nokia	BH-102	PYAHS-107W	N/A	N/A
13.	Printer	HP	Laser Jet 1018	FCC DoC	Shielded, 1.8 m	Unshielded, 1.8 m
14.	iPod	Apple	A1199	FCC DoC	Shielded, 1.2 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 signal generator.
3. Turn on GPS function to make the EUT receive continuous signals from GPS station.
4. Execute "Video player" to play MPEG4 files
5. Turn on camera to capture images.
6. Execute "H Pattern" to show H Pattern via VGA Cable on the Monitor.

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.

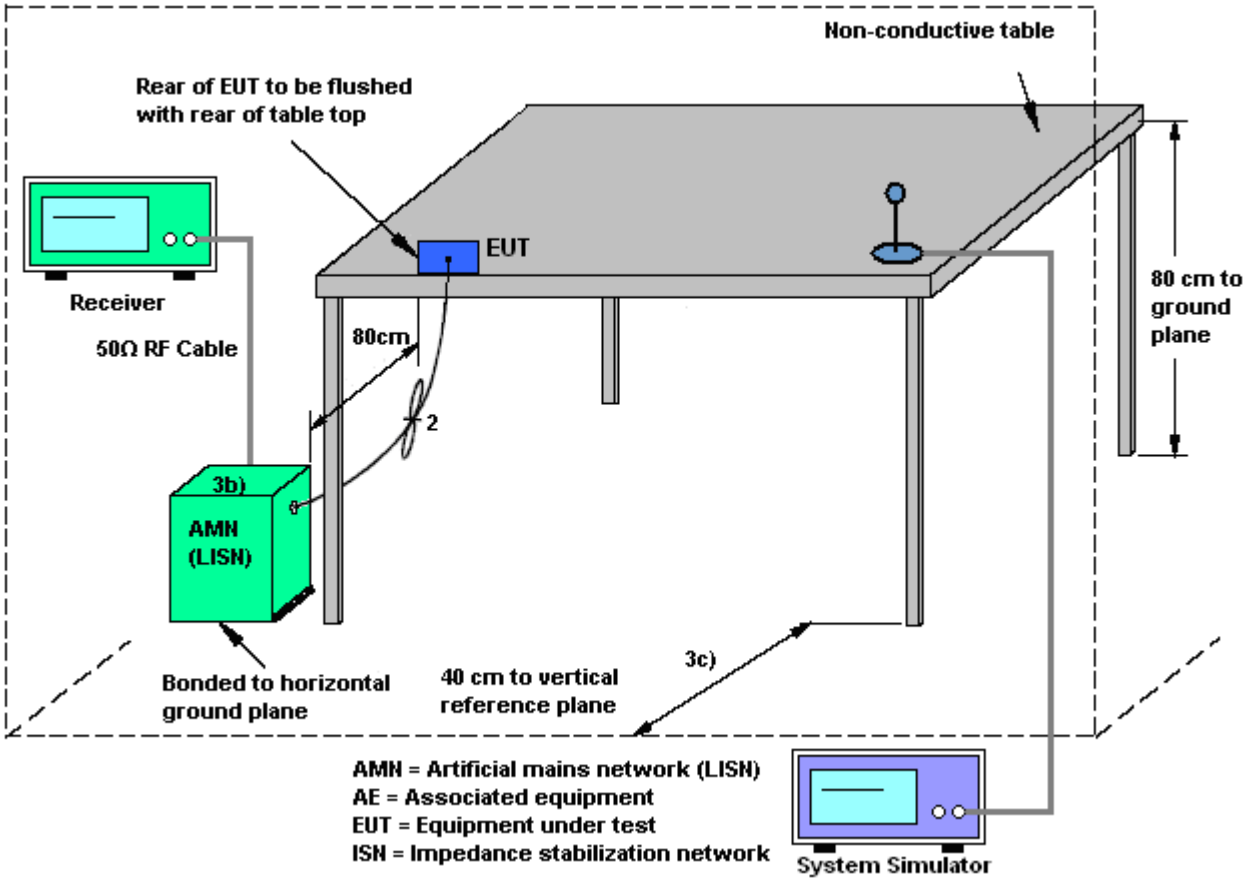
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedure

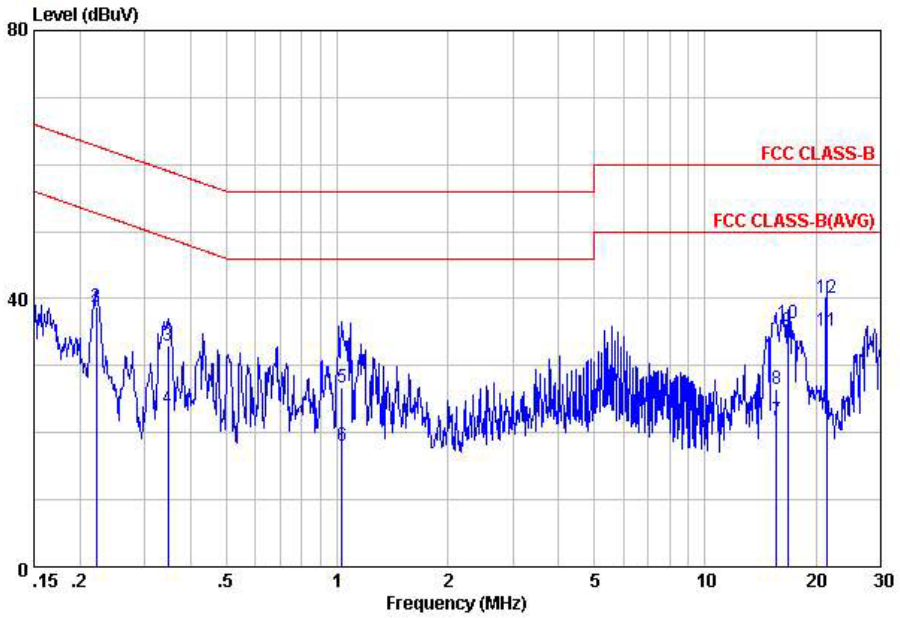
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
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

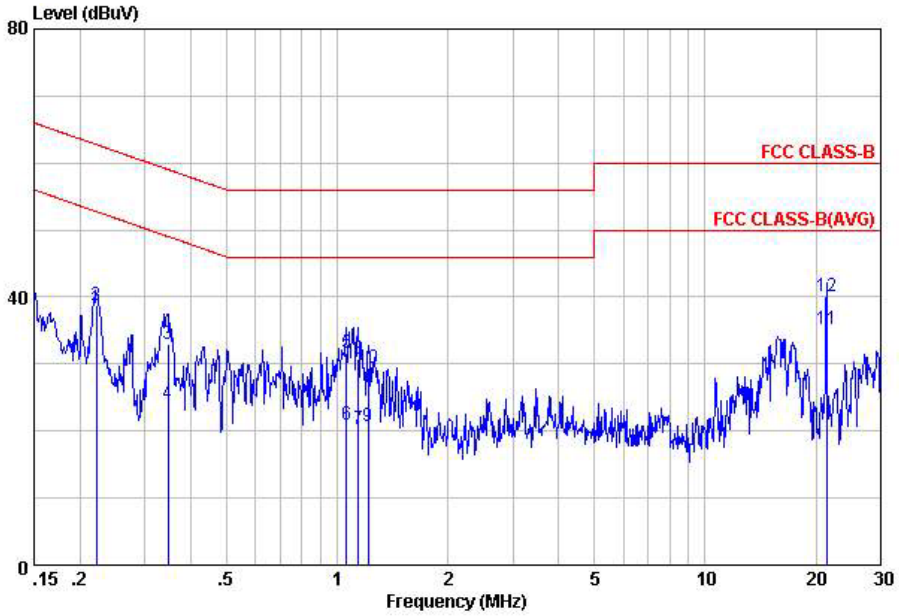
Test Mode :	Mode 4	**Temperature :**	19~20℃
Test Engineer :	Tom Wang	**Relative Humidity :**	39~40%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	WCDMA Band II Idle + WLAN Idle + Bluetooth Idle + USB Cable (Data Link with PC) + Earphone + GPS Rx + SIM 1		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : C001-KS
Condition: FCC CLASS-B LISN-111230 LINE
Project : (FC) 2D1808
mode : Mode 4

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.22	38.15	-14.59	52.74	28.00	-0.07	10.22	Average
2	0.22	38.75	-23.99	62.74	28.60	-0.07	10.22	QP
3	0.35	32.87	-26.18	59.05	22.70	-0.08	10.25	QP
4	0.35	23.67	-25.38	49.05	13.50	-0.08	10.25	Average
5	1.03	26.78	-29.22	56.00	16.60	-0.10	10.28	QP
6	1.03	18.08	-27.92	46.00	7.90	-0.10	10.28	Average
7	15.63	21.77	-28.23	50.00	11.39	-0.01	10.39	Average
8	15.63	26.57	-33.43	60.00	16.19	-0.01	10.39	QP
9	16.75	35.23	-14.77	50.00	24.80	0.01	10.42	Average
10	16.75	36.43	-23.57	60.00	26.00	0.01	10.42	QP
11	21.37	35.30	-14.70	50.00	24.70	0.09	10.51	Average
12	21.37	40.20	-19.80	60.00	29.60	0.09	10.51	QP

Test Mode :	Mode 4	**Temperature :**	19~20℃
Test Engineer :	Tom Wang	**Relative Humidity :**	39~40%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Function Type :	WCDMA Band II Idle + WLAN Idle + Bluetooth Idle + USB Cable (Data Link with PC) + Earphone + GPS Rx + SIM 1		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : C001-KS
Condition: FCC CLASS-B LISN-111230 NEUTRAL
Project : (FC) 2D1808
mode : Mode 4

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.22	38.35	-14.39	52.74	28.20	-0.07	10.22	Average
2	0.22	38.85	-23.89	62.74	28.70	-0.07	10.22	QP
3	0.35	32.87	-26.18	59.05	22.70	-0.08	10.25	QP
4	0.35	23.97	-25.08	49.05	13.80	-0.08	10.25	Average
5	1.06	31.58	-24.42	56.00	21.39	-0.09	10.28	QP
6	1.06	20.98	-25.02	46.00	10.79	-0.09	10.28	Average
7	1.14	20.38	-25.62	46.00	10.19	-0.09	10.28	Average
8	1.14	30.78	-25.22	56.00	20.59	-0.09	10.28	QP
9	1.22	20.78	-25.22	46.00	10.59	-0.09	10.28	Average
10	1.22	29.38	-26.62	56.00	19.19	-0.09	10.28	QP
11	21.37	35.30	-14.70	50.00	24.72	0.07	10.51	Average
12	21.37	40.20	-19.80	60.00	29.62	0.07	10.51	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

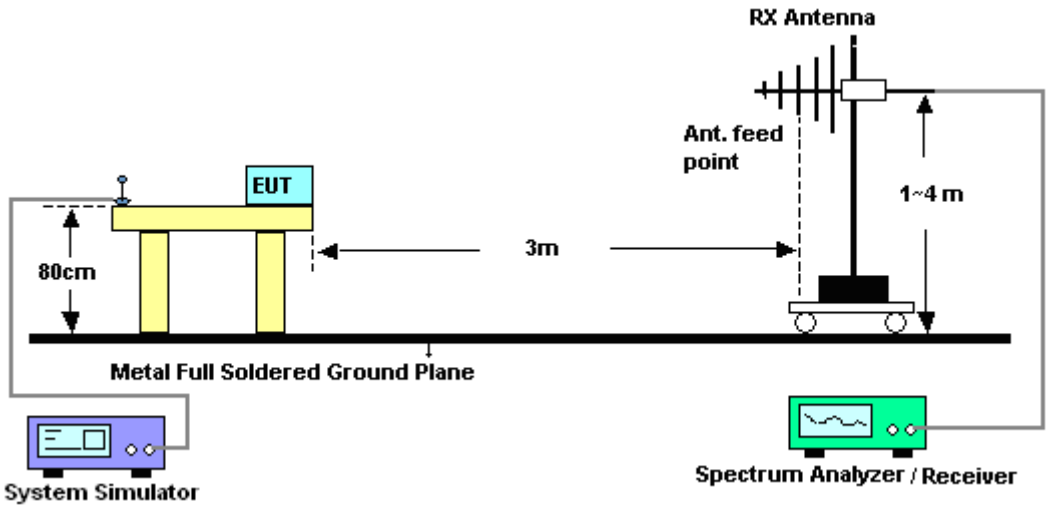
See list of measuring instruments of this test report.

3.2.3. Test Procedures

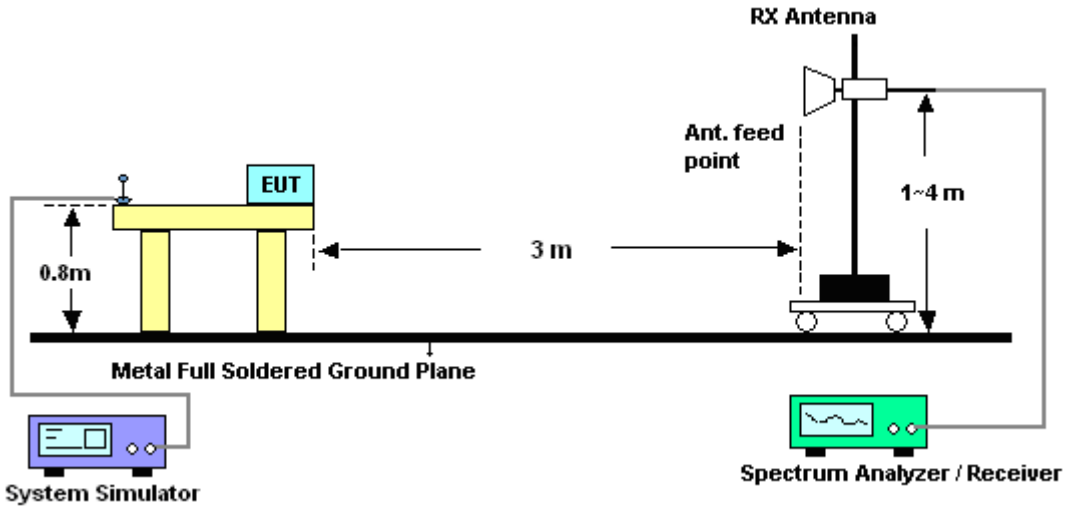
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna 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

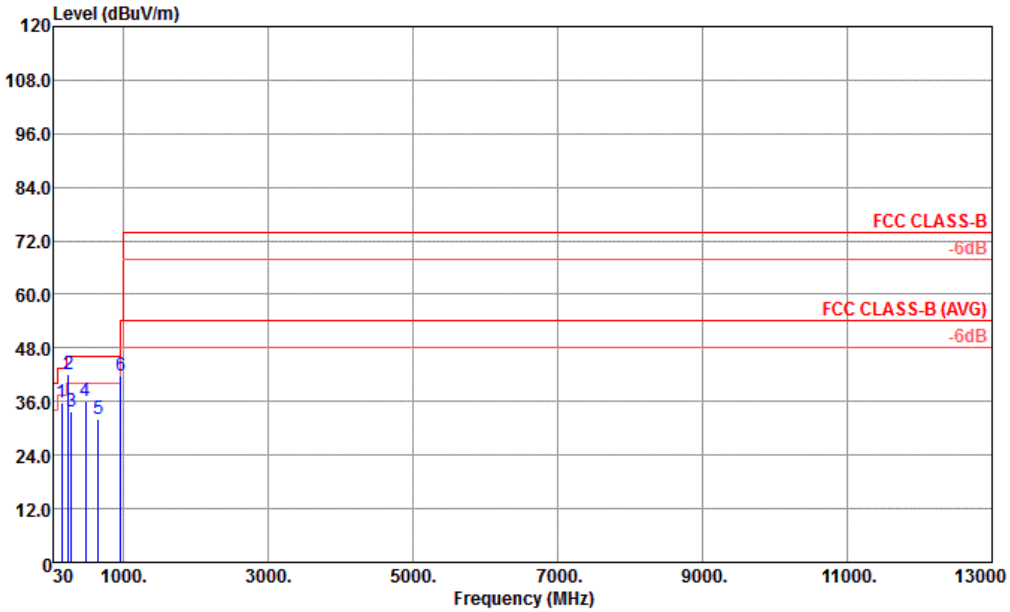


For radiated emissions above 1GHz



3.2.5. Test Result of Radiated Emission

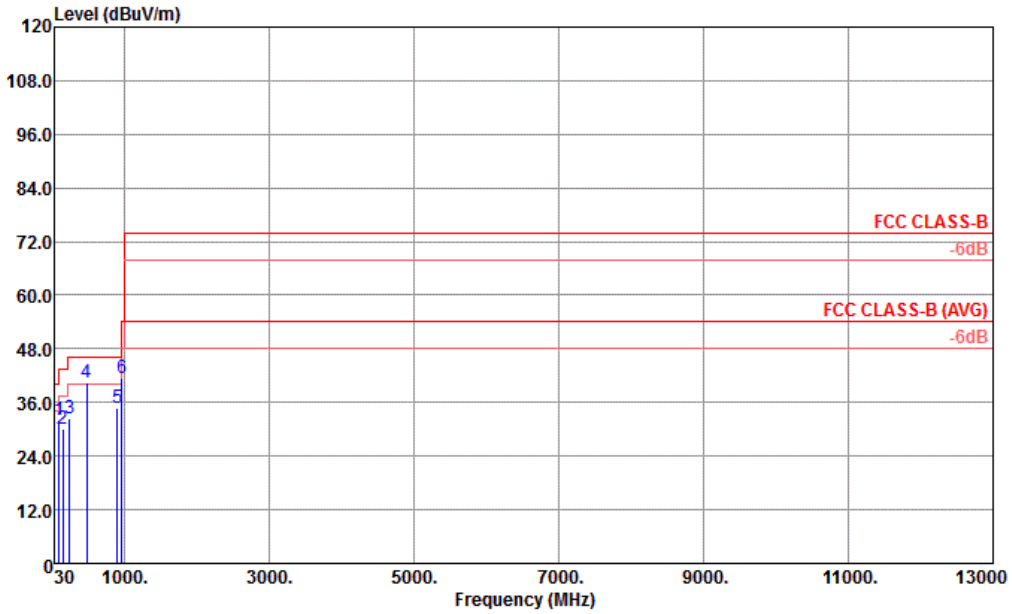
Test Mode :	Mode 4	Temperature :	22~23°C
Test Engineer :	Steven Hao	Relative Humidity :	42~43%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	WCDMA Band II Idle + WLAN Idle + Bluetooth Idle + USB Cable (Data Link with PC) + Earphone + GPS Rx + SIM 1		



Site : 03CH01-KS
Condition : FCC CLASS-B 3m LF_ANT_100803 HORIZONTAL
Project : (FC) 2D1808
Mode : mode 4

	Freq	Level	Over Limit	Limit Line	Read 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	147.37	35.63	-7.87	43.50	58.28	10.21	0.72	33.58	---	---	Peak
2 !	239.52	42.14	-3.86	46.00	63.19	11.51	0.90	33.46	102	325	Peak
3	285.11	33.92	-12.08	46.00	53.58	12.76	0.97	33.39	---	---	Peak
4	480.08	36.05	-9.95	46.00	51.06	16.87	1.28	33.16	---	---	Peak
5	648.86	32.02	-13.98	46.00	44.61	18.90	1.46	32.95	---	---	Peak
6	960.23	41.92	-12.08	54.00	51.80	20.79	1.77	32.44	---	---	Peak

Test Mode :	Mode 4	Temperature :	22~23°C
Test Engineer :	Steven Hao	Relative Humidity :	42~43%
Test Distance :	3m	Polarization :	Vertical
Function Type :	WCDMA Band II Idle + WLAN Idle + Bluetooth Idle + USB Cable (Data Link with PC) + Earphone + GPS Rx + SIM 1		



Site : 03CH01-KS
Condition : FCC CLASS-B 3m LF_ANT_100803 VERTICAL
Project : (FC) 2D1808
Mode : mode 4

	Freq	Level	Over Limit	Limit Line	Read 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	100.81	32.07	-11.43	43.50	54.48	10.62	0.58	33.61	---	---	Peak
2	147.37	30.16	-13.34	43.50	52.81	10.21	0.72	33.58	---	---	Peak
3	239.52	32.55	-13.45	46.00	53.60	11.51	0.90	33.46	---	---	Peak
4 !	480.08	40.38	-5.62	46.00	55.39	16.87	1.28	33.16	120	172	Peak
5	898.15	34.83	-11.17	46.00	45.04	20.45	1.77	32.43	---	---	Peak
6	960.23	41.40	-12.60	54.00	51.28	20.79	1.77	32.44	---	---	Peak

4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz	Jun. 01, 2012	Jan. 04, 2013	May 31, 2013	Conduction (CO01-KS)
LISN	MessTec	AN3016	60103	9kHz~30MHz	Dec. 07, 2012	Jan. 04, 2013	Dec. 06, 2013	Conduction (CO01-KS)
LISN	MessTec	AN3016	60105	9kHz~30MHz	Dec. 07, 2012	Jan. 04, 2013	Dec. 06, 2013	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	N/A	Nov. 15, 2012	Jan. 04, 2013	Nov. 14, 2013	Conduction (CO01-KS)
EMI Test Receiver	R&S	ESCI	100534	9kHz~3GHz	Nov. 08, 2012	Jan. 03, 2013	Nov. 07, 2013	Radiation (03CH01-KS)
Spectrum Analyzer	R&S	FSP30	100400	9kHz~30GHz	Jun. 01, 2012	Jan. 03, 2013	May 31, 2013	Radiation (03CH01-KS)
Bilog Antenna	SCHAFFNER	CBL6112D	23182	25MHz~2GHz	Dec. 07, 2012	Jan. 03, 2013	Dec. 06, 2013	Radiation (03CH01-KS)
Double Ridge Horn Antenna	EMCO	3117	00075959	1GHz~18GHz	Jan. 07, 2012	Jan. 03, 2013	Jan. 06, 2013	Radiation (03CH01-KS)
Amplifier	com-power	PA-103A	161069	1MHz~1GHz	Jun. 01, 2012	Jan. 03, 2013	May 31, 2013	Radiation (03CH01-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Dec. 07, 2012	Jan. 03, 2013	Dec. 06, 2013	Radiation (03CH01-KS)
Signal Generator	R&S	SMR40	100455	10MHz~40GHz	Dec. 07, 2012	Jan. 03, 2013~ Jan. 04, 2013	Dec. 06, 2013	-
GPS Station	ADIVIC	MP9000	MP9000-111046	N/A	Dec. 07, 2012	Jan. 03, 2013~ Jan. 04, 2013	Dec. 06, 2013	-
System Simulator	R&S	CMU200	837587/066	2G Full-Band	Dec. 07, 2012	Jan. 03, 2013~ Jan. 04, 2013	Dec. 06, 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**

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.54**

Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.72**

Appendix A. Photographs of EUT

Please refer to Sporton report number EP2D1808 as below.