FCC Test Report

APPLICANT	:	Brightstar Corporation
EQUIPMENT	:	smart phone
BRAND NAME	:	Avvio
MODEL NAME	:	751
FCC ID	:	WVBA751X
STANDARD	:	FCC 47 CFR FCC Part 15 Subpart B
CLASSIFICATION	:	Certification

This is a variant report which is only valid together with the original test report. The product was received on Jun. 06, 2016. We, SPORTON INTERNATIONAL (SHENZHEN) INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI C63.4-2014 and has been in 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.

Prepared by: Ken Chen / Manager

Approved by: Jones Tsai / Manager

Testing Laboratory
2353

SPORTON INTERNATIONAL (SHENZHEN) INC.
1F & 2F, Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town, Nanshan District, Shenzhen, Guangdong, P. R. China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC651702-01	Rev. 01	Initial issue of report	Jun. 22, 2016

1. General Description

1.1. Applicant

Brightstar Corporation
9725 NW 117th Ave., Miami, Florida, FL 33178, United States

1.2. Manufacturer

Mobiwire Mobiles (Ningbo) Co.,Ltd.
No. 999 Dacheng East Road Fenghua, Zhejiang China

1.3. Product Feature of Equipment Under Test

Product Feature	
Equipment	smart phone
Brand Name	Avvio
Model Name	751
FCC ID	WVBA751X
EUT supports Radios application	GSM/GPRS/EGPRS(Downlink Only)/ WCDMA/HSPA/HSPA+(16QAM uplink is not supported)/ WLAN2.4GHz 802.11b/g/n HT20/HT40/ Bluetooth v3.0+EDR/Bluetooth v4.0 LE
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

Standards-related Product Specification	
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	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 : PIFA Antenna WLAN : Monopole Antenna Bluetooth : Monopole Antenna GPS : Monopole Antenna
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK(Downlink Only) WCDMA: QPSK (Uplink) HSDPA: QPSK (Uplink) HSUPA: QPSK (Uplink) HSPA+: 16QAM (Uplink is not supported) 802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth v4.0 LE : GFSK Bluetooth (1Mbps) : GFSK Bluetooth (2Mbps) : π/4-DQPSK Bluetooth (3Mbps) : 8-DPSK GPS : BPSK FM

1.5. Re-use of Measured Data

1.5.1 Introduction Section

This application re-uses data collected on a similar device. The subject device of this application (Model: 751, FCC ID: WVBA751X) is electrically identical to the reference device (Model: M235, P135, FCC ID: WVB235M) for the portions of the circuitry corresponding to the data being re-used, as treated by KDB Publication 178919 D01.

1.5.2 Difference Section

For details concerning the similarity with respect to component placement, mechanical/electrical design etc., please refer to the Operational Description.

The re-used RF data includes the following bands provided in Appendix A (Sporton RF Report No. FC651702 for the reference device Model: M235, P135, FCC ID: WVB235M).

1.5.3 Spot Check Verification Data Section

In order to confirm hardware similarity of the subject device with the reference device, spot check measurements were performed on the subject device for radiated emission, the test result were consistent with FCC ID WVB235M.

Assertions concerning the similarity of these devices are based on representations by the applicant. The applicant accepts full responsibility for the validity of the similarity claim, and for the determination that verification test data are sufficient to support it.

1.5.4 Reference detail Section:

Equipment Class	Reference FCC ID	Folder Test/RF Exposure	Report Title/Section
JBP	WVB235M	Part15B(FC651702)	All sections applicable

Appendix A. Original Report

Please refer to Sporton report number FC651702 as below.

FCC Test Report

APPLICANT	:	Brightstar Corporation
EQUIPMENT	:	smart phone
BRAND NAME	:	mint, Pulsare
MODEL NAME	:	M235, P135
FCC ID	:	WVB235M
STANDARD	:	FCC 47 CFR FCC Part 15 Subpart B
CLASSIFICATION	:	Certification

The product was received on May 17, 2016 and testing was completed on May 29, 2016. We, SPORTON INTERNATIONAL (SHENZHEN) INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI C63.4-2014 and has been in 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.

Prepared by: Ken Chen / Manager

Approved by: Jones Tsai / Manager

Testing Laboratory
2353

SPORTON INTERNATIONAL (SHENZHEN) INC.
1F & 2F, Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town, Nanshan District, Shenzhen, Guangdong, P. R. China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC651702	Rev. 01	Initial issue of report	Jun. 08, 2016
FC651702	Rev. 02	Update report for adding brand name “Pulsare” and model name “P135”.	Jun. 15, 2016

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.107	AC Conducted Emission	< 15.107 limits	PASS	Under limit 14.71 dB at 0.620 MHz
3.2	15.109	Radiated Emission	< 15.109 limits	PASS	Under limit 3.17 dB at 180.120 MHz

1. General Description

1.1. Applicant

Brightstar Corporation
9725 NW 117th Ave., Miami, Florida, FL 33178, United States

1.2. Manufacturer

Mobiwire Mobiles (Ningbo) Co.,Ltd.
No. 999 Dacheng East Road Fenghua, Zhejiang China

1.3. Product Feature of Equipment Under Test

Product Feature	
Equipment	smart phone
Brand Name	mint, Pulsare
Model Name	M235, P135
FCC ID	WVB235M
EUT supports Radios application	GSM/GPRS/EGPRS(Downlink Only)/ WCDMA/HSPA/HSPA+(16QAM uplink is not supported)/ WLAN2.4GHz 802.11b/g/n HT20/HT40/ Bluetooth v3.0+EDR/Bluetooth v4.0 LE
IMEI Code	Conduction: 861578011103911/861578011103929 Radiation: 861578011103374/861578011103382
EUT Stage	Production Unit

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 with different brand names and model names. The brand name “mint” with model name “M235” and “Pulsare” with model name “P135”. The others are the same including circuit design, PCB board, structure and all components. The only difference is for different market purpose.

1.4. Product Specification of Equipment Under Test

Standards-related Product Specification	
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	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 : PIFA Antenna WLAN : Monopole Antenna Bluetooth : Monopole Antenna GPS : Monopole Antenna
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK(Downlink Only) WCDMA: QPSK (Uplink) HSDPA: QPSK (Uplink) HSUPA: QPSK (Uplink) HSPA+: 16QAM (Uplink is not supported) 802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth v4.0 LE : GFSK Bluetooth (1Mbps) : GFSK Bluetooth (2Mbps) : π/4-DQPSK Bluetooth (3Mbps) : 8-DPSK GPS : BPSK FM

1.5. Modification of EUT

No modifications are made to the EUT during all test items.

1.6. Test Location

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.	
Test Site Location	1F & 2F,Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town, Nanshan District, Shenzhen, Guangdong, P. R. China TEL: +86-755-8637-9589 FAX: +86-755-8637-9595	
Test Site No.	**Sporton Site No.**	
	CO01-SZ	

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.	
Test Site Location	No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P. R. China TEL: +86-755- 3320-2398	
Test Site No.	**Sporton Site No.**	**FCC Registration No.**
	03CH02-SZ	566869

Note: The test site complies with ANSI C63.4 2014 requirement.

1.7. Applicable 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 C63.4-2014

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 C63.4-2014 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 connected with notebook)	☒	☒	☒

Abbreviations:

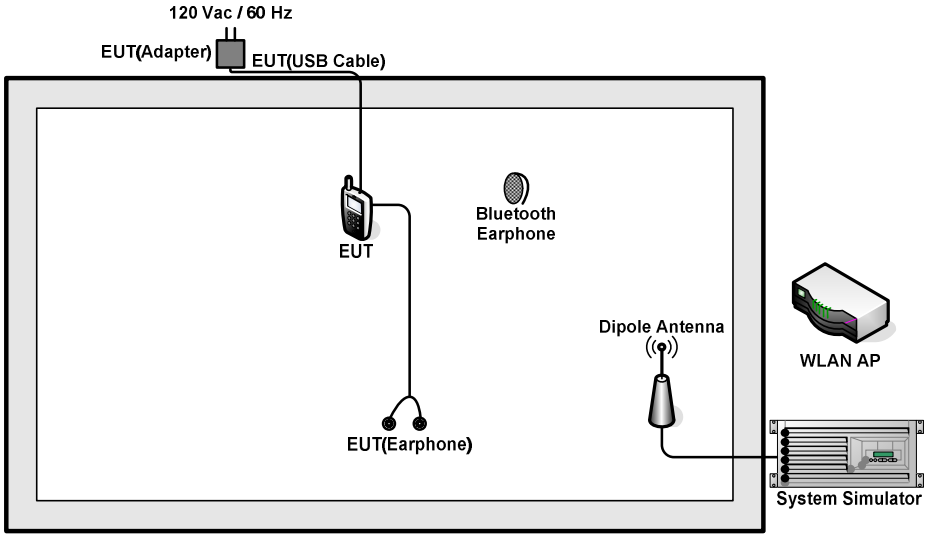
- EMI AC: AC conducted emissions
- EMI RE ≥ 1G: EUT radiated emissions ≥ 1GHz
- EMI RE < 1G: EUT radiated emissions < 1GHz

Test Items	EUT Configure Mode	Function Type
AC Conducted Emission	1/2	Mode 1 : GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + Camera(Front) + SIM1 + SD Card <Fig.1> Mode 2 : GSM1900 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + Camera(Back) + SIM2 + SD Card <Fig.1> Mode 3 : WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + MPEG4 + SIM1 + SD Card <Fig.1> Mode 4 : WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Earphone + GPS Rx + SIM2 + SD Card + FM Rx <Fig.2>
Radiated Emissions < 1GHz	1/2	Mode 1 : GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + Camera(Front) + SIM1 + SD Card <Fig.1> Mode 2 : GSM1900 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + Camera(Back) + SIM2 + SD Card <Fig.1> Mode 3 : WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + MPEG4 + SIM1 + SD Card <Fig.1> Mode 4 : WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Earphone + GPS Rx + SIM2 + SD Card + FM Rx <Fig.2>
Radiated Emissions ≥ 1GHz	1/2	Mode 1 : GSM1900 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + Camera(Back) + SIM2 + SD Card <Fig.1> Mode 2 : WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Earphone + GPS Rx + SIM2 + SD Card + FM Rx <Fig.2>

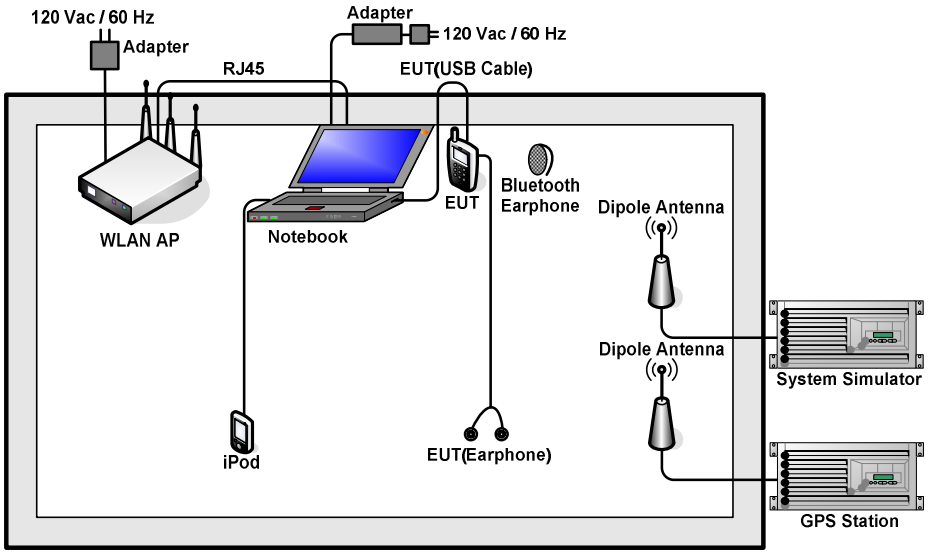
Remark:

1. The worst case of AC is mode 1; and the USB Link mode of AC is mode 4, the test data of these modes are reported.
2. The worst case of RE < 1G is mode 2; and the USB Link mode of RE is mode 4, the test data of these modes are reported.
3. Link with notebook means data application transferred mode between EUT and notebook.

2.2. Connection Diagram of Test System



<Fig.1>



<Fig.2>

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	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	GPS Station	ADIVIC	MP9000	N/A	N/A	Unshielded, 1.8 m
3.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 2.7 m with Core
4.	Bluetooth Earphone	Nokia	BH-108	PYAHS-107W	N/A	N/A
5.	Bluetooth Earphone	Samsung	HS3000	A3LHS3000	N/A	N/A
6.	Notebook	Lenovo	E540	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
7.	SD Card	SanDisk	4G class 4	FCC DoC	N/A	N/A
8.	iPod nano 8GB	Apple	MC690 ZP/A	FCC DoC	Shielded, 1.2 m	N/A
9.	iPod	Apple	MC525 ZP/A	FCC DoC	Shielded, 1.0 m	N/A

2.4. EUT Operation Test Setup

The EUT was in GSM or WCDMA idle mode during the testing. The EUT was synchronized to the BCCH, and was 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. Data application is transferred between notebook and EUT via USB cable.
2. Turn on GPS function to make the EUT receive continuous signals from GPS station.
3. Execute "Video player" to play MPEG4 files.
4. Turn on camera to capture images.
5. Turn on FM function.

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.

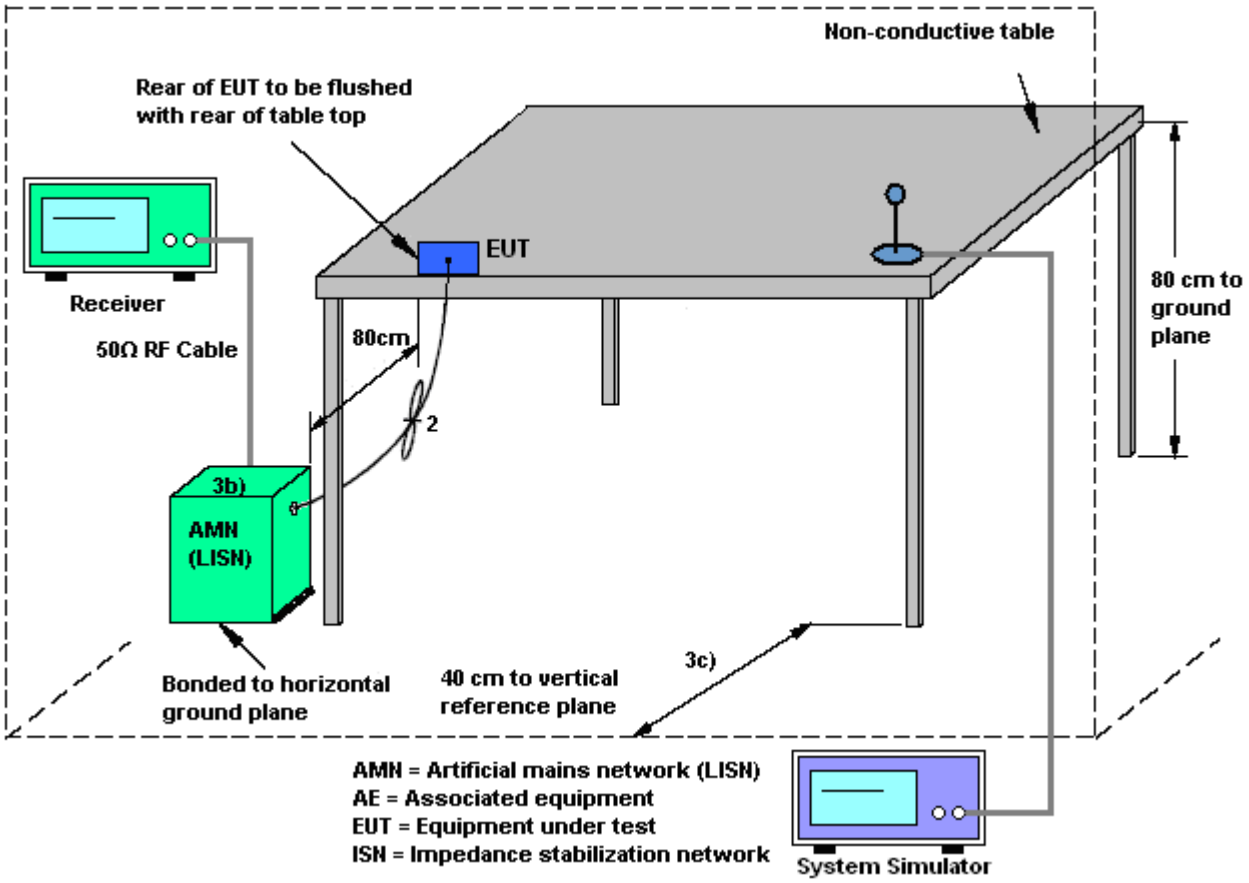
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedure

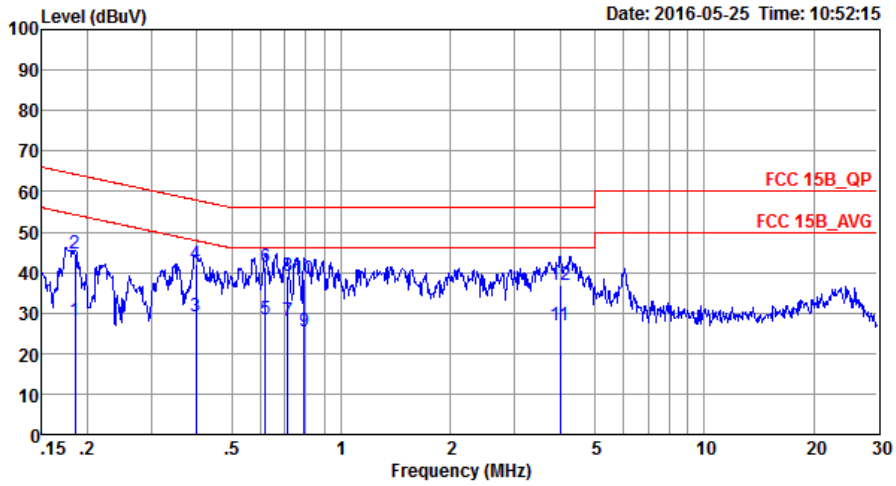
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
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 (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

3.1.4 Test Setup



3.1.5 Test Result of AC Conducted Emission

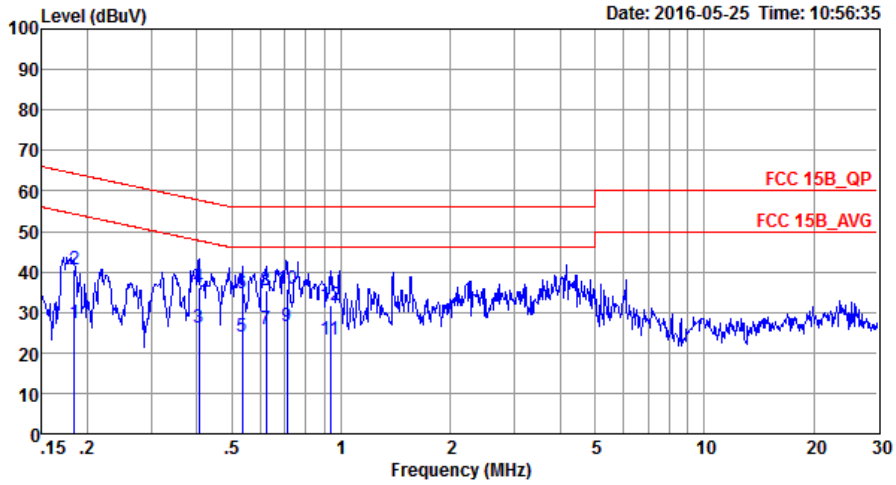
Test Mode :	Mode 1	Temperature :	21~23℃
Test Engineer :	Tao Cheng	Relative Humidity :	41~43%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + Camera(Front) + SIM1 + SD Card		



Site : CO01-SZ
Condition: FCC 15B_QP LISN_20160509 LINE
Project : (FC)651702
Mode : Mode 1
IMEI : 861578011103911/86178011103929

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.19	28.04	-26.20	54.24	17.39	0.12	10.53	Average
2		0.19	44.64	-19.60	64.24	33.99	0.12	10.53	QP
3		0.40	29.16	-18.74	47.90	18.80	0.11	10.25	Average
4		0.40	41.96	-15.94	57.90	31.60	0.11	10.25	QP
5		0.62	28.49	-17.51	46.00	18.20	0.11	10.18	Average
6	*	0.62	41.29	-14.71	56.00	31.00	0.11	10.18	QP
7		0.71	28.17	-17.83	46.00	17.90	0.11	10.16	Average
8		0.71	39.17	-16.83	56.00	28.90	0.11	10.16	QP
9		0.79	25.47	-20.53	46.00	15.20	0.11	10.16	Average
10		0.79	38.27	-17.73	56.00	28.00	0.11	10.16	QP
11		4.01	26.95	-19.05	46.00	16.60	0.13	10.22	Average
12		4.01	36.85	-19.15	56.00	26.50	0.13	10.22	QP

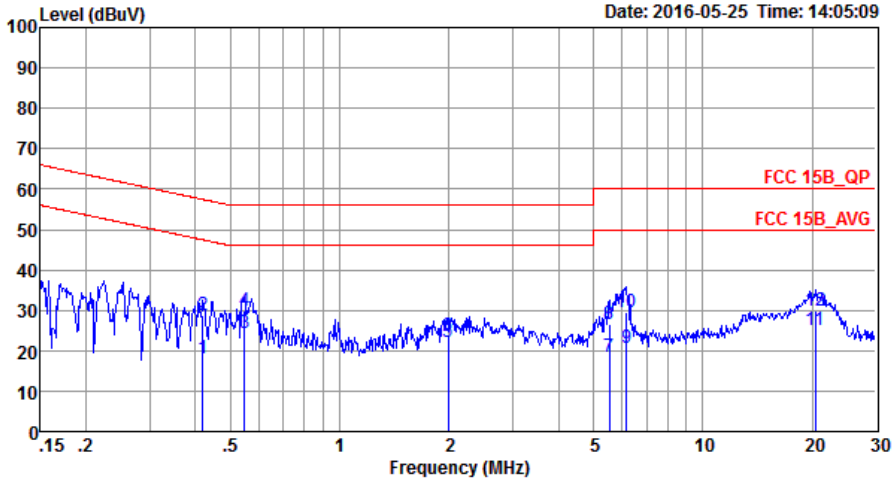
Test Mode :	Mode 1	Temperature :	21~23℃
Test Engineer :	Tao Cheng	Relative Humidity :	41~43%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + Camera(Front) + SIM1 + SD Card		



Site : CO01-SZ
Condition: FCC 15B_QP LISN_20160509 NEUTRAL
Project : (FC)651702
Mode : Mode 1
IMEI : 861578011103911/86178011103929

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.18	27.25	-27.03	54.28	16.60	0.12	10.53	Average
2		0.18	40.75	-23.53	64.28	30.10	0.12	10.53	QP
3		0.41	26.06	-21.67	47.73	15.70	0.11	10.25	Average
4		0.41	36.26	-21.47	57.73	25.90	0.11	10.25	QP
5		0.53	23.92	-22.08	46.00	13.60	0.11	10.21	Average
6		0.53	34.52	-21.48	56.00	24.20	0.11	10.21	QP
7		0.62	25.99	-20.01	46.00	15.70	0.11	10.18	Average
8		0.62	35.29	-20.71	56.00	25.00	0.11	10.18	QP
9	*	0.71	26.57	-19.43	46.00	16.30	0.11	10.16	Average
10		0.71	35.77	-20.23	56.00	25.50	0.11	10.16	QP
11		0.93	23.07	-22.93	46.00	12.80	0.11	10.16	Average
12		0.93	31.87	-24.13	56.00	21.60	0.11	10.16	QP

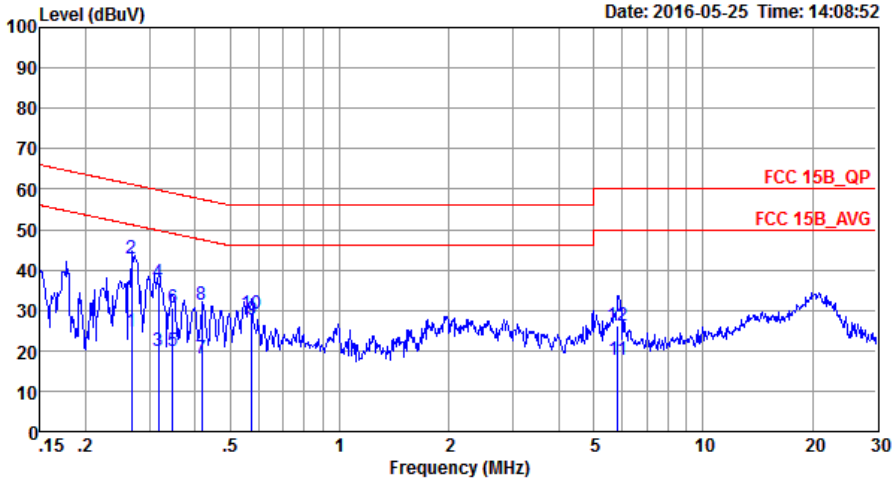
Test Mode :	Mode 4	Temperature :	21~23℃
Test Engineer :	Tao Cheng	Relative Humidity :	41~43%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Earphone + GPS Rx + SIM2 + SD Card + FM Rx		



Site : CO01-SZ
Condition: FCC 15B_QP LISN_20160509 LINE
Project : (FC)651702
Mode : Mode 4
IMEI : 861578011103911/86178011103929

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.42	18.25	-29.21	47.46	7.90	0.11	10.24	Average
2		0.42	28.75	-28.71	57.46	18.40	0.11	10.24	QP
3	*	0.55	24.21	-21.79	46.00	13.90	0.11	10.20	Average
4		0.55	29.91	-26.09	56.00	19.60	0.11	10.20	QP
5		1.99	22.28	-23.72	46.00	12.00	0.11	10.17	Average
6		1.99	23.78	-32.22	56.00	13.50	0.11	10.17	QP
7		5.53	18.42	-31.58	50.00	8.00	0.15	10.27	Average
8		5.53	26.42	-33.58	60.00	16.00	0.15	10.27	QP
9		6.15	20.74	-29.26	50.00	10.30	0.16	10.28	Average
10		6.15	29.44	-30.56	60.00	19.00	0.16	10.28	QP
11		20.38	25.24	-24.76	50.00	14.20	0.40	10.64	Average
12		20.38	29.94	-30.06	60.00	18.90	0.40	10.64	QP

Test Mode :	Mode 4	Temperature :	21~23℃
Test Engineer :	Tao Cheng	Relative Humidity :	41~43%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Earphone + GPS Rx + SIM2 + SD Card + FM Rx		



Site : CO01-SZ
Condition: FCC 15B_QP LISN_20160509 NEUTRAL
Project : (FC)651702
Mode : Mode 4
IMEI : 861578011103911/86178011103929

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.27	24.85	-26.35	51.20	14.30	0.11	10.44	Average
2		0.27	42.75	-18.45	61.20	32.20	0.11	10.44	QP
3		0.32	20.10	-29.70	49.80	9.60	0.11	10.39	Average
4		0.32	36.80	-23.00	59.80	26.30	0.11	10.39	QP
5		0.35	19.75	-29.30	49.05	9.30	0.11	10.34	Average
6		0.35	30.75	-28.30	59.05	20.30	0.11	10.34	QP
7		0.42	18.05	-29.46	47.51	7.70	0.11	10.24	Average
8		0.42	31.45	-26.06	57.51	21.10	0.11	10.24	QP
9	*	0.57	27.81	-18.19	46.00	17.50	0.11	10.20	Average
10		0.57	29.31	-26.69	56.00	19.00	0.11	10.20	QP
11		5.84	17.73	-32.27	50.00	7.30	0.16	10.27	Average
12		5.84	26.23	-33.77	60.00	15.80	0.16	10.27	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

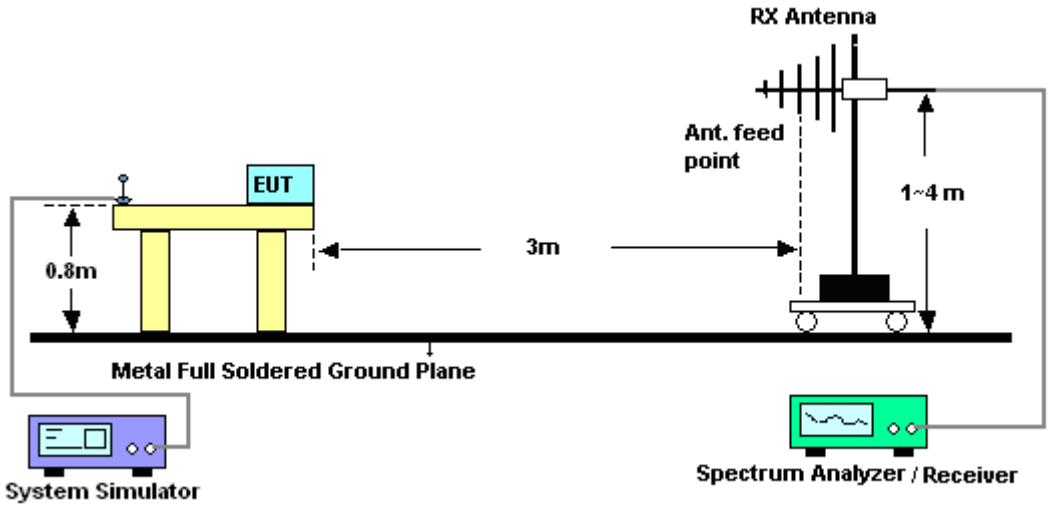
The measuring equipment is listed in the section 4 of this test report.

3.2.3. Test Procedures

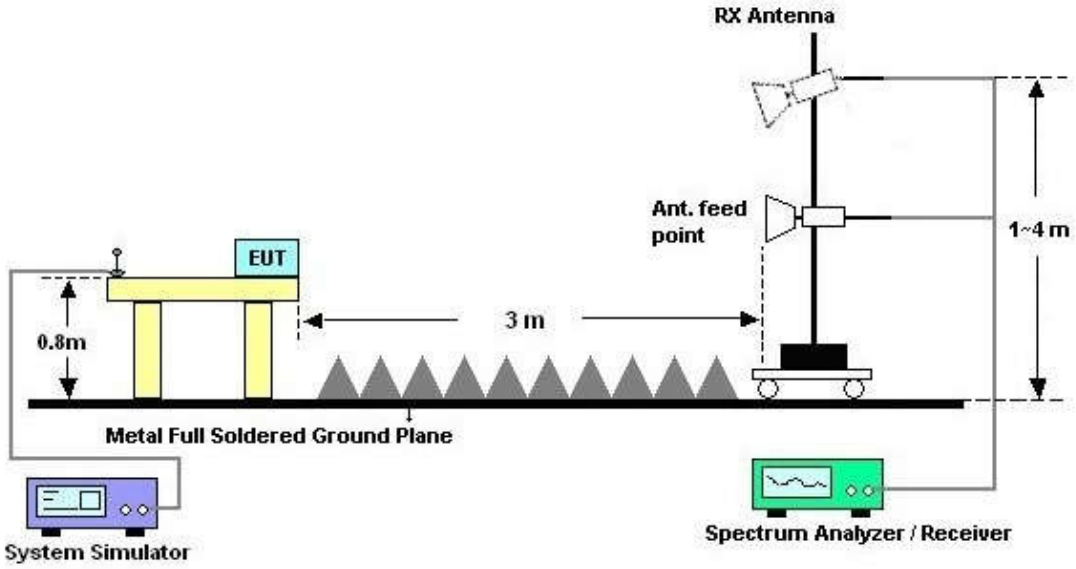
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna 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 (RBW=120kHz/VBW=300kHz for frequency below 1GHz; RBW=1MHz VBW=3MHz (Peak), RBW=1MHz/VBW=10Hz (Average) for frequency above 1GHz).
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 (dBμV/m) = 20 log Emission level (μV/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

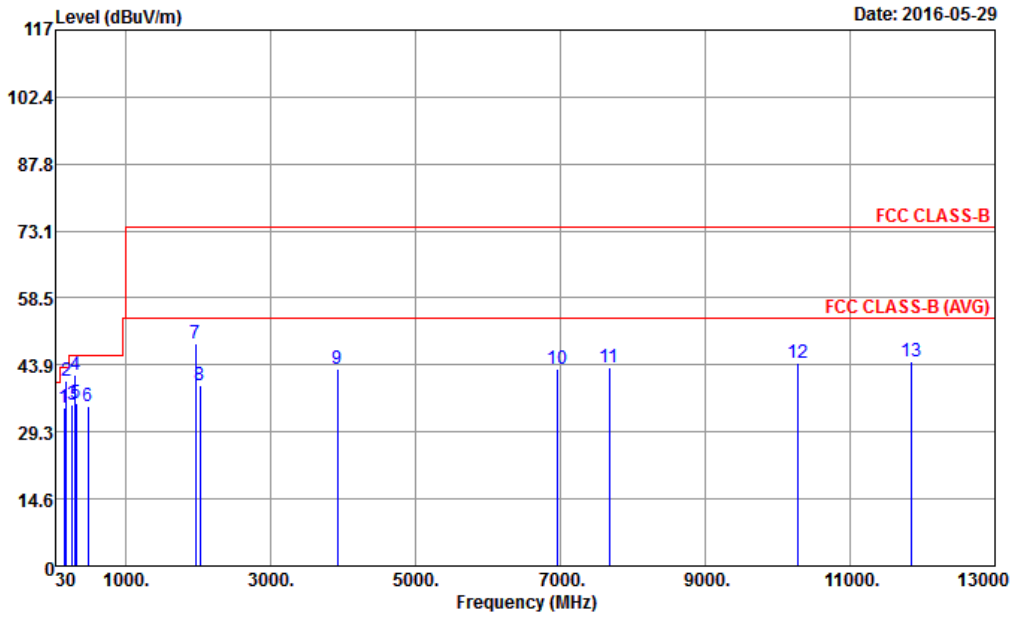


For radiated emissions above 1GHz



3.2.5. Test Result of Radiated Emission

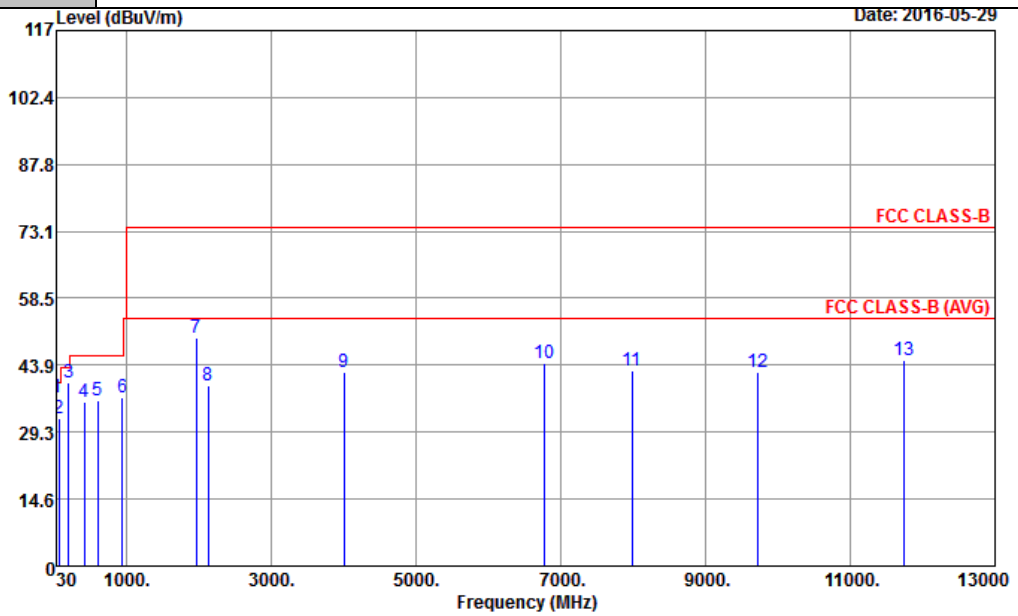
Test Mode :	Mode 2	**Temperature :**	23~25°C
Test Engineer :	Jeff Yao	**Relative Humidity :**	48~52%
Test Distance :	3m	**Polarization :**	Horizontal
Function Type :	GSM1900 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + Camera(Back) + SIM2 + SD Card		
Remark :	#7 is system simulator signal which can be ignored.		



Condition : FCC CLASS-B 3m LF_ANT(23188)6_15101 HORIZONTAL
Project : (FC) 651702
Mode : Mode 2
IMEI : 861578011103374/861578011103382
Plane : Y

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	149.88	34.39	-9.11	43.50	41.10	17.60	1.20	25.51	---	---	Peak
2	180.12	40.33	-3.17	43.50	47.98	16.20	1.50	25.35	100	0	Peak
3	264.09	35.24	-10.76	46.00	41.74	17.05	1.57	25.12	---	---	Peak
4	300.00	41.75	-4.25	46.00	46.58	18.50	1.71	25.04	---	---	Peak
5	311.90	35.45	-10.55	46.00	39.93	18.95	1.71	25.14	---	---	Peak
6	479.90	34.99	-11.01	46.00	35.73	23.37	2.12	26.23	---	---	Peak
7	1960.00	48.50			70.81	31.74	4.59	58.64	---	---	Peak
8	2028.00	39.58	-34.42	74.00	61.49	32.22	4.67	58.80	---	---	Peak
9	3926.00	42.86	-31.14	74.00	62.13	33.83	6.65	59.75	---	---	Peak
10	6950.00	43.18	-30.82	74.00	55.29	36.12	9.26	57.49	---	---	Peak
11	7678.00	43.50	-30.50	74.00	55.54	36.37	10.33	58.74	---	---	Peak
12	10282.00	44.25	-29.75	74.00	52.72	38.33	12.17	58.97	---	---	Peak
13	11846.00	44.72	-29.28	74.00	52.80	39.41	12.61	60.10	100	0	Peak

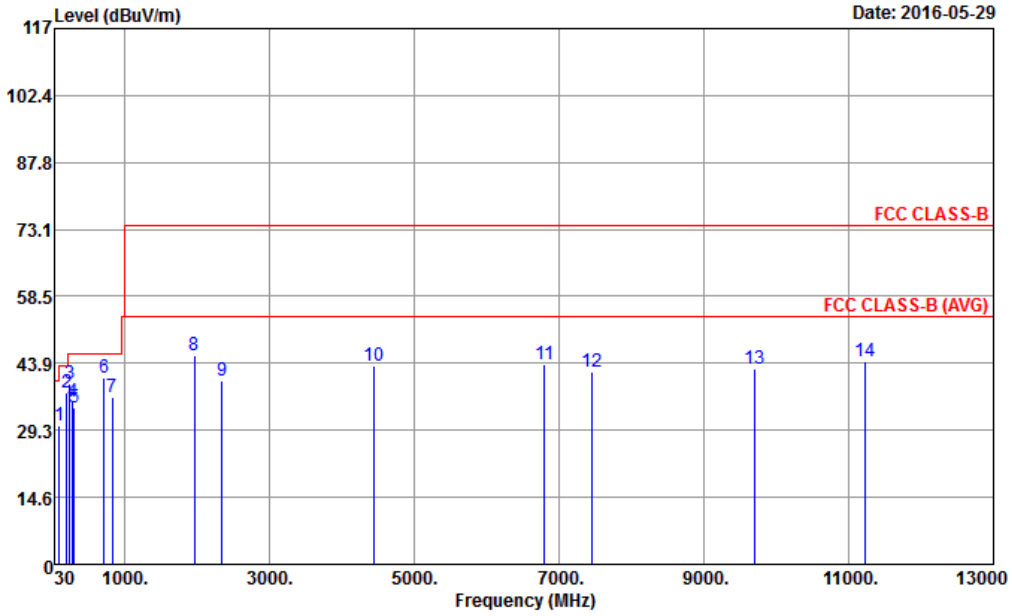
Test Mode :	Mode 2	**Temperature :**	23~25°C
Test Engineer :	Jeff Yao	**Relative Humidity :**	48~52%
Test Distance :	3m	**Polarization :**	Vertical
Function Type :	GSM1900 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + Camera(Back) + SIM2 + SD Card		
Remark :	#7 is system simulator signal which can be ignored.		



Condition : FCC CLASS-B 3m LF_ANT(23188)6_15101 VERTICAL
Project : (FC) 651702
Mode : Mode 2
IMEI : 861578011103374/861578011103382
Plane : Y

	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	31.89	36.69	-3.31	40.00	36.15	25.84	0.75	26.05	100	0	Peak
2	63.21	32.11	-7.89	40.00	44.52	12.54	0.98	25.93	---	---	Peak
3	199.83	40.05	-3.45	43.50	48.50	15.30	1.50	25.25	---	---	Peak
4	419.70	35.91	-10.09	46.00	36.08	23.67	2.08	25.92	---	---	Peak
5	600.30	36.23	-9.77	46.00	35.65	24.50	2.52	26.44	---	---	Peak
6	937.70	36.72	-9.28	46.00	30.37	28.78	3.15	25.58	---	---	Peak
7	1960.00	49.82			72.13	31.74	4.59	58.64	---	---	Peak
8	2124.00	39.52	-34.48	74.00	61.13	32.32	4.76	58.69	---	---	Peak
9	4002.00	42.51	-31.49	74.00	61.73	33.91	6.73	59.86	---	---	Peak
10	6764.00	44.16	-29.84	74.00	56.86	36.20	9.03	57.93	---	---	Peak
11	7982.00	42.61	-31.39	74.00	52.99	36.49	11.09	57.96	---	---	Peak
12	9726.00	42.22	-31.78	74.00	51.65	37.77	11.66	58.86	---	---	Peak
13	11748.00	44.93	-29.07	74.00	52.98	39.34	12.61	60.00	100	0	Peak

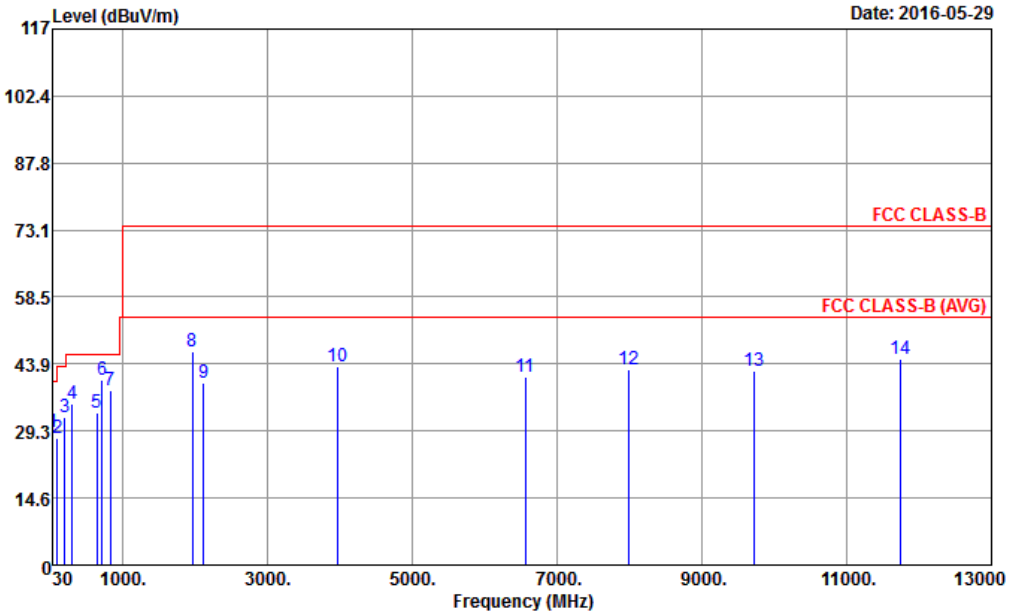
Test Mode :	Mode 4	Temperature :	23~25°C
Test Engineer :	Jeff Yao	Relative Humidity :	48~52%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Earphone + GPS Rx + SIM2 + SD Card + FM Rx		
Remark :	#8 is system simulator signal which can be ignored.		



Condition : FCC CLASS-B 3m LF_ANT(23188)6_15101 HORIZONTAL
Project : (FC) 651702
Mode : Mode 4
IMEI : 861578011103374/861578011103382
Plane : Y

	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	99.93	30.37	-13.13	43.50	36.41	18.60	1.14	25.78	---	---	Peak
2	199.83	37.34	-6.16	43.50	45.79	15.30	1.50	25.25	---	---	Peak
3	240.06	39.39	-6.61	46.00	46.74	16.27	1.54	25.16	---	---	Peak
4	283.80	35.37	-10.63	46.00	41.00	17.87	1.57	25.07	---	---	Peak
5	300.00	34.21	-11.79	46.00	39.04	18.50	1.71	25.04	---	---	Peak
6	720.00	40.79	-5.21	46.00	37.77	26.70	2.65	26.33	100	0	Peak
7	825.00	36.54	-9.46	46.00	31.92	27.76	2.95	26.09	---	---	Peak
8	1960.00	45.74			68.05	31.74	4.59	58.64	---	---	Peak
9	2340.00	39.98	-34.02	74.00	61.01	32.54	5.03	58.60	---	---	Peak
10	4446.00	43.33	-30.67	74.00	61.82	34.17	7.13	59.79	---	---	Peak
11	6802.00	43.76	-30.24	74.00	56.48	36.18	9.07	57.97	---	---	Peak
12	7456.00	41.98	-32.02	74.00	54.21	36.29	9.90	58.42	---	---	Peak
13	9702.00	42.76	-31.24	74.00	52.26	37.75	11.60	58.85	---	---	Peak
14	11232.00	44.36	-29.64	74.00	52.44	38.99	12.58	59.65	100	0	Peak

Test Mode :	Mode 4	Temperature :	23~25°C
Test Engineer :	Jeff Yao	Relative Humidity :	48~52%
Test Distance :	3m	Polarization :	Vertical
Function Type :	WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Earphone + GPS Rx + SIM2 + SD Card + FM Rx		
Remark :	#8 is system simulator signal which can be ignored.		



Condition : FCC CLASS-B 3m LF_ANT(23188)6_15101 VERTICAL
Project : (FC) 651702
Mode : Mode 4
IMEI : 861578011103374/861578011103382
Plane : Y

	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	30.00	28.86	-11.14	40.00	27.58	26.60	0.75	26.07	---	---	Peak
2	98.04	27.56	-15.94	43.50	33.93	18.28	1.14	25.79	---	---	Peak
3	199.83	32.31	-11.19	43.50	40.76	15.30	1.50	25.25	---	---	Peak
4	299.73	35.35	-10.65	46.00	40.18	18.50	1.71	25.04	---	---	Peak
5	645.80	33.37	-12.63	46.00	31.98	25.24	2.56	26.41	---	---	Peak
6	720.00	40.42	-5.58	46.00	37.40	26.70	2.65	26.33	100	0	Peak
7	825.00	38.12	-7.88	46.00	33.50	27.76	2.95	26.09	---	---	Peak
8	1960.00	46.61			68.92	31.74	4.59	58.64	---	---	Peak
9	2114.00	39.89	-34.11	74.00	61.50	32.32	4.76	58.69	---	---	Peak
10	3964.00	43.42	-30.58	74.00	62.64	33.87	6.69	59.78	---	---	Peak
11	6564.00	41.07	-32.93	74.00	54.06	36.28	8.81	58.08	---	---	Peak
12	7982.00	42.61	-31.39	74.00	52.99	36.49	11.09	57.96	---	---	Peak
13	9726.00	42.22	-31.78	74.00	51.65	37.77	11.66	58.86	---	---	Peak
14	11748.00	44.93	-29.07	74.00	52.98	39.34	12.61	60.00	100	0	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	100724	9kHz~3GHz;	Nov. 23, 2015	May 25, 2016	Nov. 22, 2016	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103892	9kHz~30MHz	Jan. 12, 2016	May 25, 2016	Jan. 11, 2017	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	MessTec	3816/2SH	00103912	9kHz~30MHz	Jan. 12, 2016	May 25, 2016	Jan. 11, 2017	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Aug. 07, 2015	May 25, 2016	Aug. 06, 2016	Conduction (CO01-SZ)
Pulse Limiter	COM-POWER	LIT-153 Transient Limiter	53139	150kHz~30MHz	Oct. 20, 2015	May 25, 2016	Oct. 19, 2016	Conduction (CO01-SZ)
EMI Test Receiver	R&S	ESR7	101404	9kHz~7GHz; Max 30dBm	Oct. 20, 2015	May 29, 2016	Oct. 19, 2016	Radiation (03CH02-SZ)
Spectrum Analyzer	R&S	FSV40	101041	10kHz~40GHz; Max 30dBm	Oct. 20, 2015	May 29, 2016	Oct. 19, 2016	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz~2GHz	May 07, 2016	May 29, 2016	May 06, 2017	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1285	1GHz~18GHz	Jan. 11, 2016	May 29, 2016	Jan. 10, 2017	Radiation (03CH02-SZ)
Amplifier	HP	8447F	3113A04622	9kHz~1300MHz / 30 dB	Aug. 07, 2015	May 29, 2016	Aug. 06, 2016	Radiation (03CH02-SZ)
Amplifier	Agilent	8449B	3008A01023	1GHz~26.5GHz	Oct. 20, 2015	May 29, 2016	Oct. 19, 2016	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	616010002470	N/A	NCR	May 29, 2016	NCR	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	May 29, 2016	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	May 29, 2016	NCR	Radiation (03CH02-SZ)

NCR: No Calibration Required

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))	**2.3 dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.0 dB**