FCC Test Report

APPLICANT	:	ZTE CORPORATION
EQUIPMENT	:	WCDMA/LTE Multi-mode Digital Mobile Phone
BRAND NAME	:	ZTE
MODEL NAME	:	Z836BL
FCC ID	:	SRQ-Z836BL
STANDARD	:	FCC 47 CFR FCC Part 15 Subpart B
CLASSIFICATION	:	Certification

The product was completed on Nov. 04, 2016. We, SPORTON INTERNATIONAL (KUNSHAN) 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 (KUNSHAN) INC., the test report shall not be reproduced except in full.

James Huang

Prepared by: James Huang / Manager

Jones Tsai

Approved by: Jones Tsai / Manager

Testing Laboratory
2627

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

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC692313	Rev. 01	Initial issue of report	Nov. 11, 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 6.89 dB at 0.552 MHz
3.2	15.109	Radiated Emission	< 15.109 limits	PASS	Under limit 0.63 dB at 35.400 MHz for Quasi-Peak

1. General Description

1.1. Applicant

ZTE CORPORATION

ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P. R. China

1.2. Manufacturer

ZTE CORPORATION

ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P. R. China

1.3. Product Feature of Equipment Under Test

Product Feature	
Equipment	WCDMA/LTE Multi-mode Digital Mobile Phone
Brand Name	ZTE
Model Name	Z836BL
FCC ID	SRQ-Z836BL
EUT supports Radios application	GSM/GPRS/EGPRS/ WCDMA/HSPA/HSPA+(16QAM uplink is not supported)/LTE WLAN2.4GHz 802.11b/g/n HT20/HT40/ Bluetooth v3.0+EDR/Buetooth v4.0 LE/ Bluetooth v4.2 LE
IMEI Code	Conduction/Radiation: 862447030002588
HW Version	Z836BLHWV1.0
SW Version	Z836BLV1.0.0B01
EUT Stage	Identical Prototype

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 IV : 1712.4 MHz ~ 1752.6 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz LTE Band 2 : 1850.7 MHz ~ 1909.3 MHz LTE Band 4 : 1710.7 MHz ~ 1754.3 MHz LTE Band 5 : 824.7 MHz ~ 848.3 MHz LTE Band 12 : 699.7 MHz ~ 715.3 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 IV : 2112.4 MHz ~ 2152.6 MHz WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz LTE Band 2 : 1930.7 MHz ~ 1989.3 MHz LTE Band 4 : 2110.7 MHz ~ 2154.3 MHz LTE Band 5 : 869.7 MHz ~ 893.3 MHz LTE Band 12 : 729.7 MHz ~ 745.3 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz Bluetooth: 2402 MHz ~ 2480 MHz GPS : 1.57542 GHz Glonass : 1602 MHz + n× 0.5625MHz *(n=−7,−6,−5,...0,...,6)*
Antenna Type	WWAN : PIFA Antenna WLAN : PIFA Antenna Bluetooth : PIFA Antenna GPS/Glonass : PIFA Antenna
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA : BPSK (Uplink) HSDPA : QPSK (Uplink) HSUPA : QPSK (Uplink) HSPA+ : 16QAM (16QAM uplink is not supported) LTE: QPSK / 16QAM 802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth LE : GFSK Bluetooth (1Mbps) : GFSK Bluetooth (2Mbps) : π/4-DQPSK Bluetooth (3Mbps) : 8-DPSK GPS/Glonass : BPSK

1.5. Modification of EUT

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

1.6. Test Location

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.		
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P. R. China TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958		
Test Site No.	**Sporton Site No.**		**FCC Registration No.**
	CO01-KS	03CH02-KS	418269

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 with notebook)	☒	☒	☒

Abbreviations:

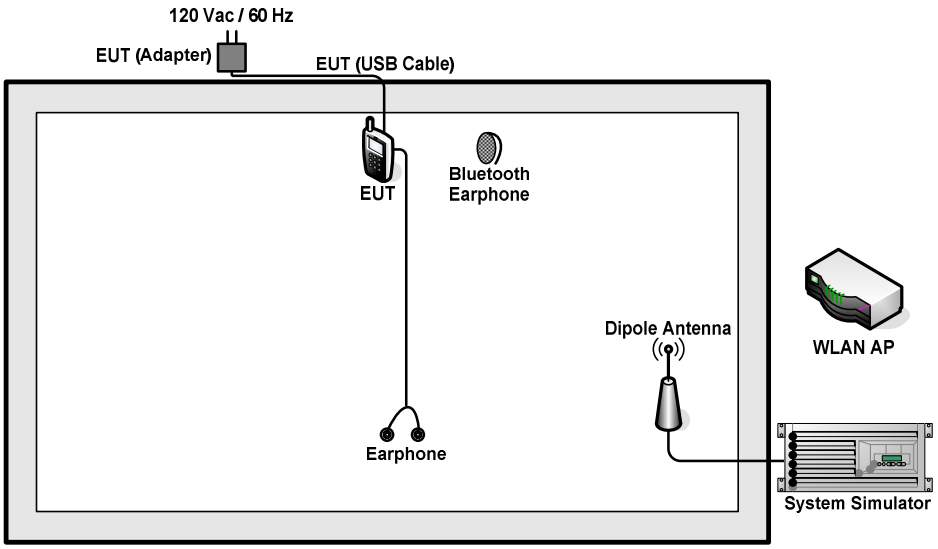
- EMI AC: AC conducted emissions
- EMI RE ≥ 1G: EUT radiated emissions ≥ 1GHz
- EMI RE < 1G: EUT radiated emissions < 1GHz

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 1) + Battery 1 + Earphone + Camera (Rear) <Fig.1> Mode 2: GSM1900 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter 2) + Battery 2 + Earphone + Camera (Front) <Fig.1> Mode 3: WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter 3) + Battery 1 + Earphone + MPEG4 <Fig.1> Mode 4: LTE Band 2 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter 1) + Battery 1 + Earphone + Glonass Rx <Fig.2> Mode 5: LTE Band 4 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Battery 1 + Earphone + GPS Rx <Fig.3>
Radiated Emissions < 1GHz	1/2	Mode 1: GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter 1) + Battery 1 + Earphone + Camera (Rear) <Fig.1> Mode 2: GSM1900 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter 2) + Battery 2 + Earphone + Camera (Front) <Fig.1> Mode 3: WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter 3) + Battery 2 + Earphone + MPEG4 <Fig.1> Mode 4: LTE Band 2 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter 2) + Battery 2 + Earphone + Glonass Rx <Fig.2> Mode 5: LTE Band 4 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Battery 2 + Earphone + GPS Rx <Fig.3>
Radiated Emissions ≥ 1GHz	1/2	Mode 1: GSM1900 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter 2) + Battery 2 + Earphone + Camera (Front) <Fig.1> Mode 2: LTE Band 4 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Battery 2 + Earphone + GPS Rx<Fig.3>

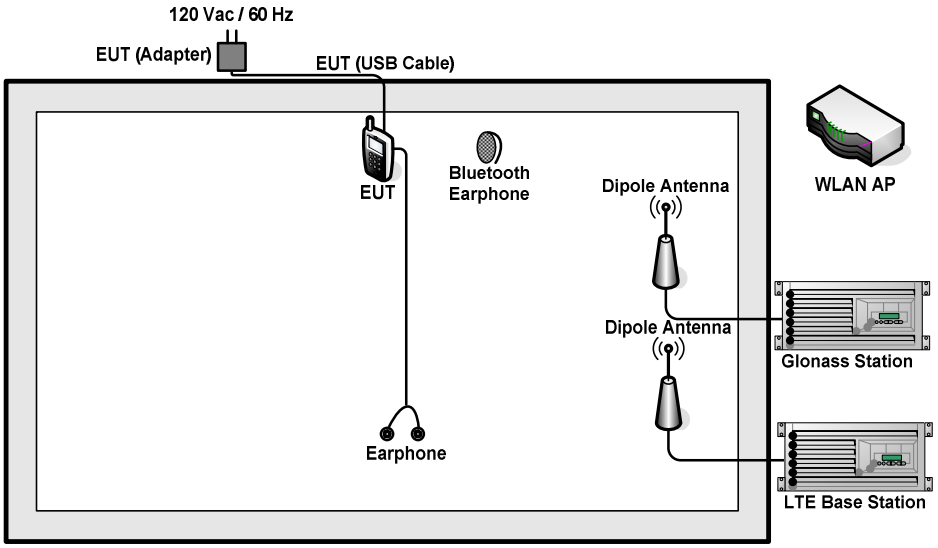
Remark:

1. The worst case of AC is mode 1 and the USB Link mode is mode 5, the test data of these modes were reported.
2. The worst case of RE < 1G is mode 2 and the USB Link mode is mode 5, the test data of these modes were reported.
3. Data Link with Notebook means data application transferred mode between EUT and Notebook.

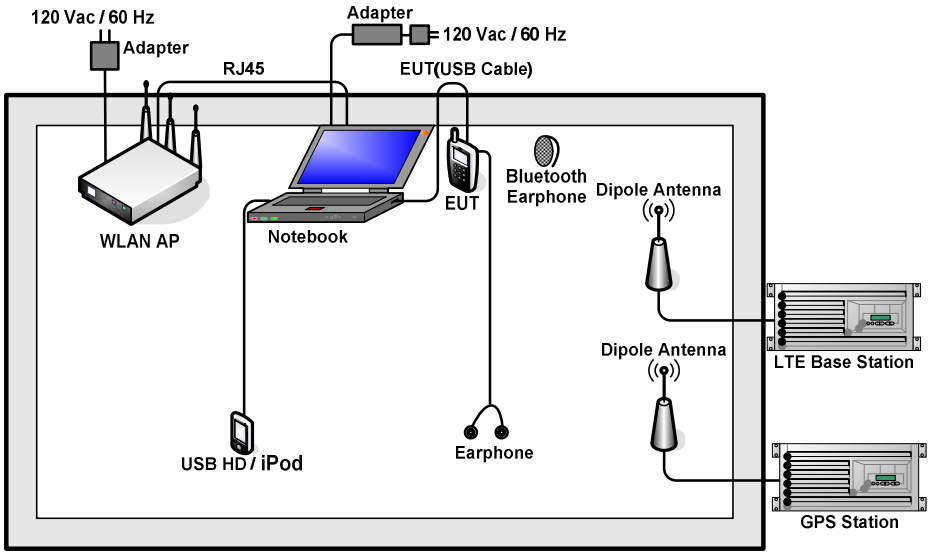
2.2. Connection Diagram of Test System



<Fig.1>



<Fig.2>


120 Vac / 60 Hz
Adapter
RJ45
Adapter
120 Vac / 60 Hz
EUT(USB Cable)
WLAN AP
Notebook
EUT
Bluetooth Earphone
Dipole Antenna
Dipole Antenna
LTE Base Station
USB HD / 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.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	Glonass Station	RACELOGIC	RLLS03-2RP	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.	Notebook	Lenovo	G480	N/A	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
6.	Bluetooth Earphone	Lenovo	LBH301	N/A	N/A	N/A
7.	Earphone	Lenovo	LH102	N/A	N/A	N/A
8.	SD Card	SanDisk	Uitra	N/A	N/A	N/A
9.	iPod	Apple	A1199	FCC DoC	Unshielded, 1.2 m	N/A
10.	USB HD	Lenovo	F310	N/A	Unshielded, 1.0 m	N/A

2.4. EUT Operation Test Setup

The EUT was in GSM or WCDMA or LTE 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. Data application is transferred between Notebook and EUT via USB cable.
2. Turn on GPS/Glonass function to make the EUT receive continuous signals from GPS/Glonass station.
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.

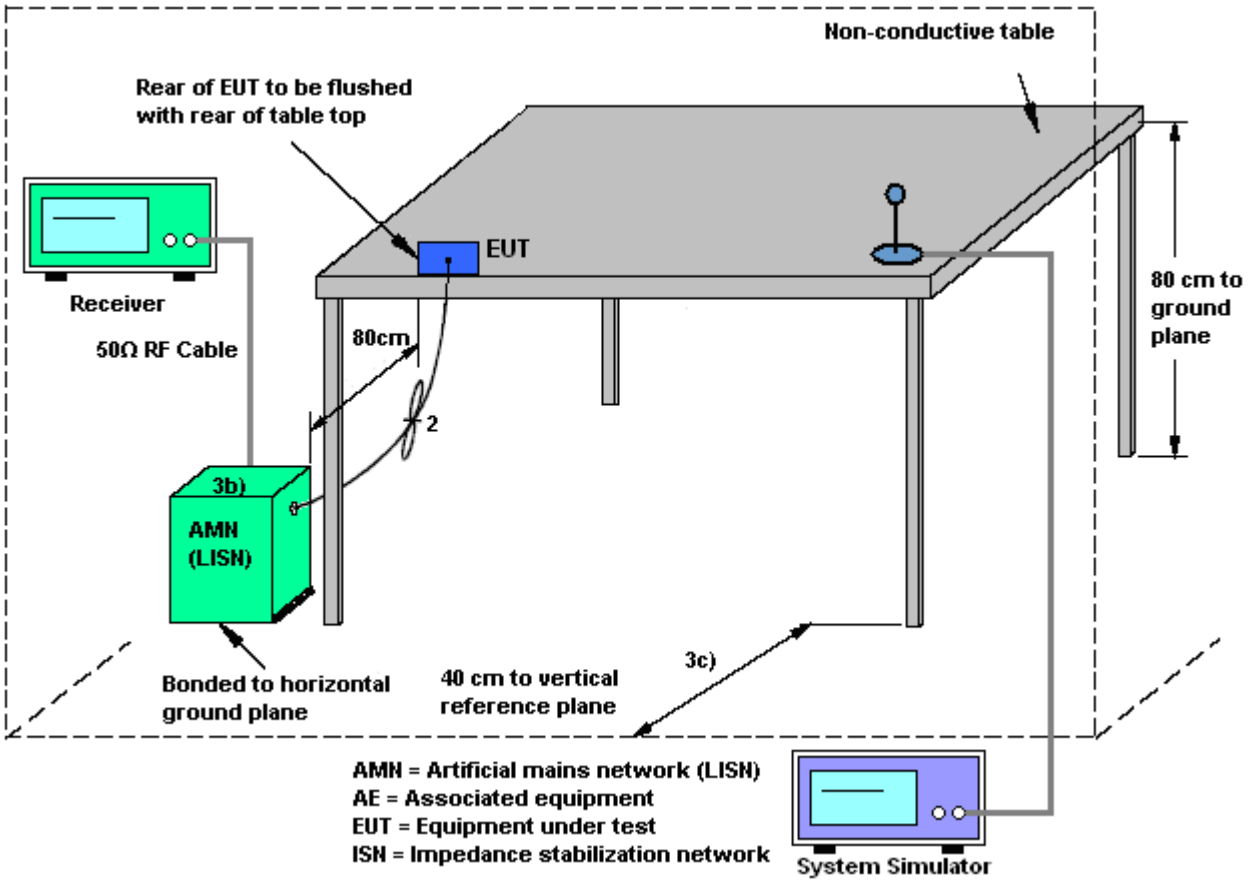
3.1.2 Measuring Instruments

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

3.1.3 Test Procedure

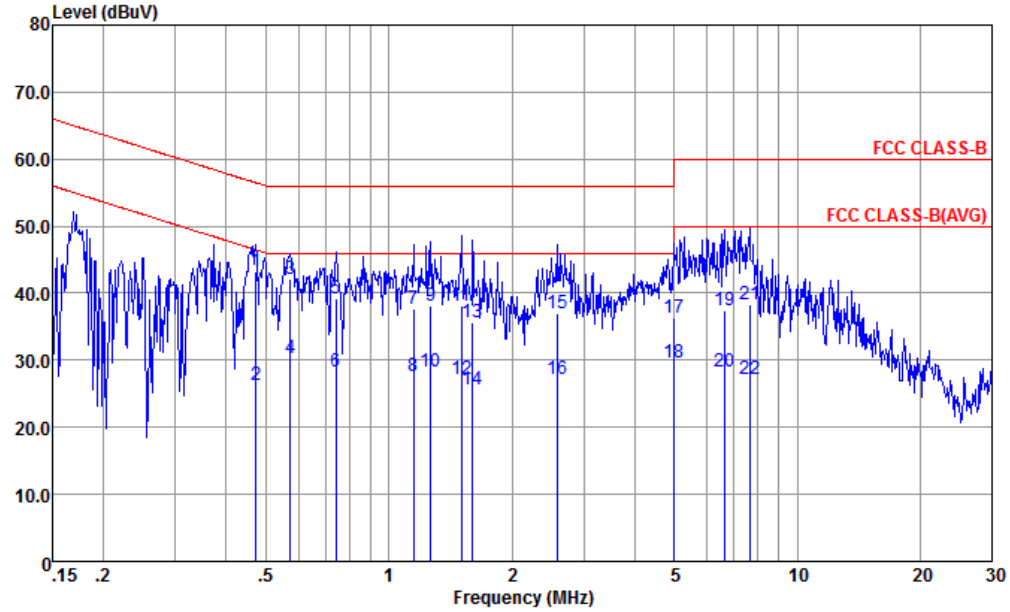
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.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

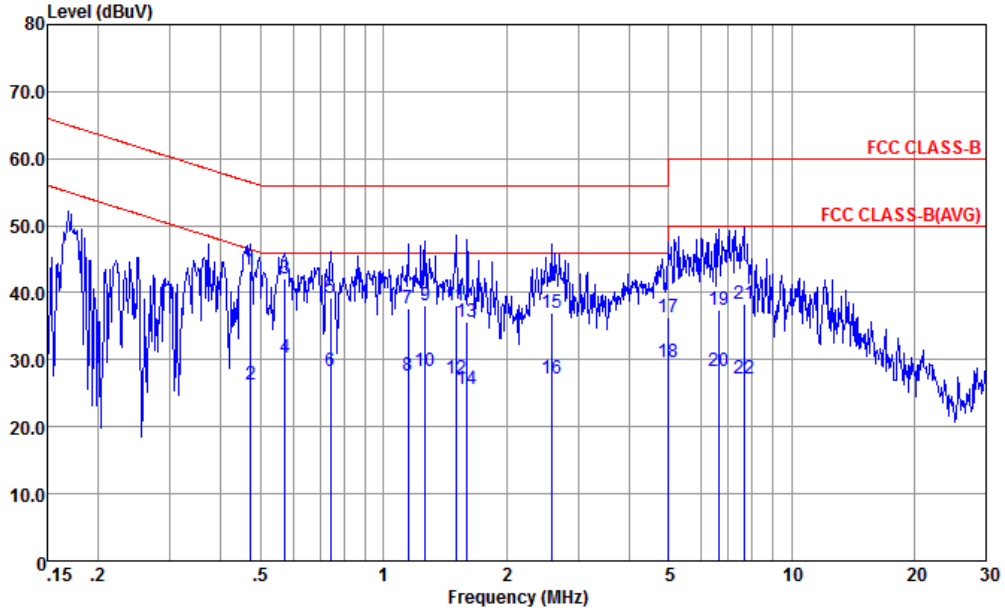
Test Mode :	Mode 1	**Temperature :**	20~22℃
Test Engineer :	Morris Li	**Relative Humidity :**	48~50%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter 1) + Battery 1 + Earphone + Camera (Rear)		



Site : CO01-KS
Condition : FCC CLASS-B LISN-L-20151024 LINE
Project : (FC) 692313
mode : Mode 1
IMEI : 862447030002588/01

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	*	0.474	43.12	-13.33	56.45	32.70	0.23	10.19	QP
2		0.474	26.22	-20.23	46.45	15.80	0.23	10.19	Average
3		0.573	42.22	-13.78	56.00	31.81	0.23	10.18	QP
4		0.573	30.22	-15.78	46.00	19.81	0.23	10.18	Average
5		0.743	39.32	-16.68	56.00	28.90	0.24	10.18	QP
6		0.743	28.22	-17.78	46.00	17.80	0.24	10.18	Average
7		1.147	37.63	-18.37	56.00	27.20	0.24	10.19	QP
8		1.147	27.63	-18.37	46.00	17.20	0.24	10.19	Average
9		1.269	38.02	-17.98	56.00	27.60	0.23	10.19	QP
10		1.269	28.22	-17.78	46.00	17.80	0.23	10.19	Average
11		1.503	38.10	-17.90	56.00	27.70	0.21	10.19	QP
12		1.503	27.30	-18.70	46.00	16.90	0.21	10.19	Average
13		1.602	35.59	-20.41	56.00	25.20	0.20	10.19	QP
14		1.602	25.59	-20.41	46.00	15.20	0.20	10.19	Average
15		2.581	37.09	-18.91	56.00	26.70	0.18	10.21	QP
16		2.581	27.09	-18.91	46.00	16.70	0.18	10.21	Average

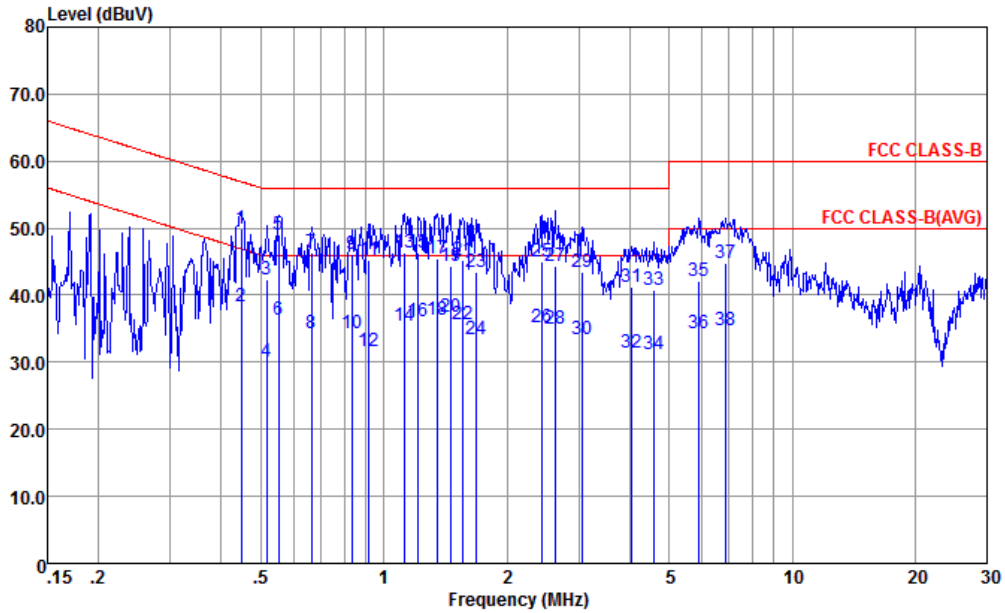
Test Mode :	Mode 1	**Temperature :**	20~22℃
Test Engineer :	Morris Li	**Relative Humidity :**	48~50%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter 1) + Battery 1 + Earphone + Camera (Rear)		



Site : CO01-KS
Condition : FCC CLASS-B LISN-L-20151024 LINE
Project : (FC) 692313
mode : Mode 1
IMEI : 862447030002588/01

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
17	4.978	36.23	-19.77	56.00	25.80	0.19	10.24	QP
18	4.978	29.53	-16.47	46.00	19.10	0.19	10.24	Average
19	6.627	37.40	-22.60	60.00	26.90	0.22	10.28	QP
20	6.627	28.30	-21.70	50.00	17.80	0.22	10.28	Average
21	7.646	38.33	-21.67	60.00	27.80	0.23	10.30	QP
22	7.646	27.23	-22.77	50.00	16.70	0.23	10.30	Average

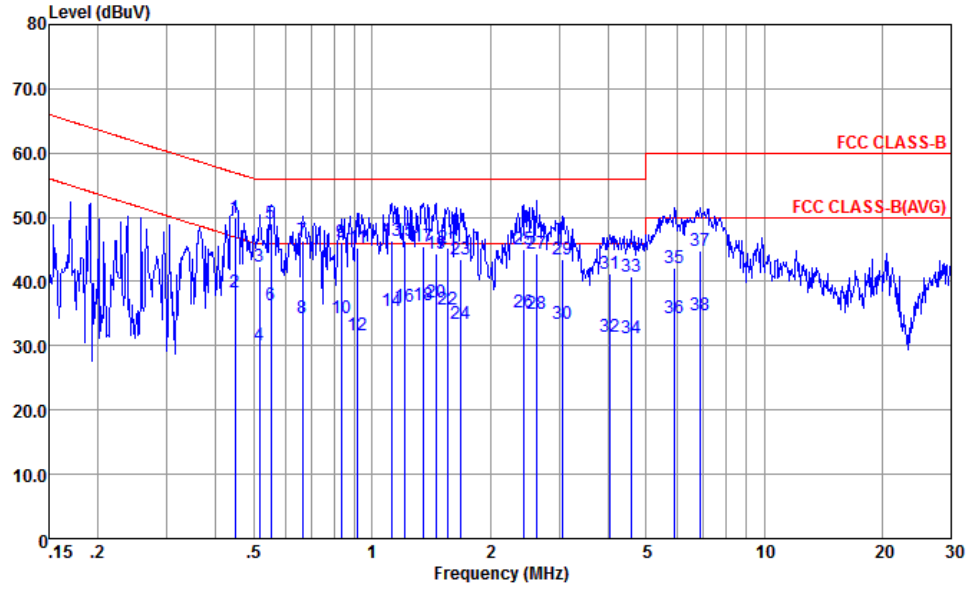
Test Mode :	Mode 1	Temperature :	20~22℃
Test Engineer :	Morris Li	Relative Humidity :	48~50%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter 1) + Battery 1 + Earphone + Camera (Rear)		



Site : CO01-KS
Condition : FCC CLASS-B LISN-N-20151024 NEUTRAL
Project : (FC) 692313
mode : Mode 1
IMEI : 862447030002588/01

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.447	49.91	-7.02	56.93	39.40	0.32	10.19	QP
2	0.447	38.41	-8.52	46.93	27.90	0.32	10.19	Average
3	0.516	42.31	-13.69	56.00	31.80	0.32	10.19	QP
4	0.516	30.01	-15.99	46.00	19.50	0.32	10.19	Average
5 *	0.552	49.11	-6.89	56.00	38.60	0.33	10.18	QP
6	0.552	36.41	-9.59	46.00	25.90	0.33	10.18	Average
7	0.665	46.32	-9.68	56.00	35.80	0.34	10.18	QP
8	0.665	34.42	-11.58	46.00	23.90	0.34	10.18	Average
9	0.835	46.13	-9.87	56.00	35.60	0.35	10.18	QP
10	0.835	34.23	-11.77	46.00	23.70	0.35	10.18	Average
11	0.918	45.15	-10.85	56.00	34.61	0.36	10.18	QP
12	0.918	31.65	-14.35	46.00	21.11	0.36	10.18	Average
13	1.123	46.26	-9.74	56.00	35.70	0.37	10.19	QP
14	1.123	35.36	-10.64	46.00	24.80	0.37	10.19	Average
15	1.216	46.26	-9.74	56.00	35.70	0.37	10.19	QP
16	1.216	36.16	-9.84	46.00	25.60	0.37	10.19	Average

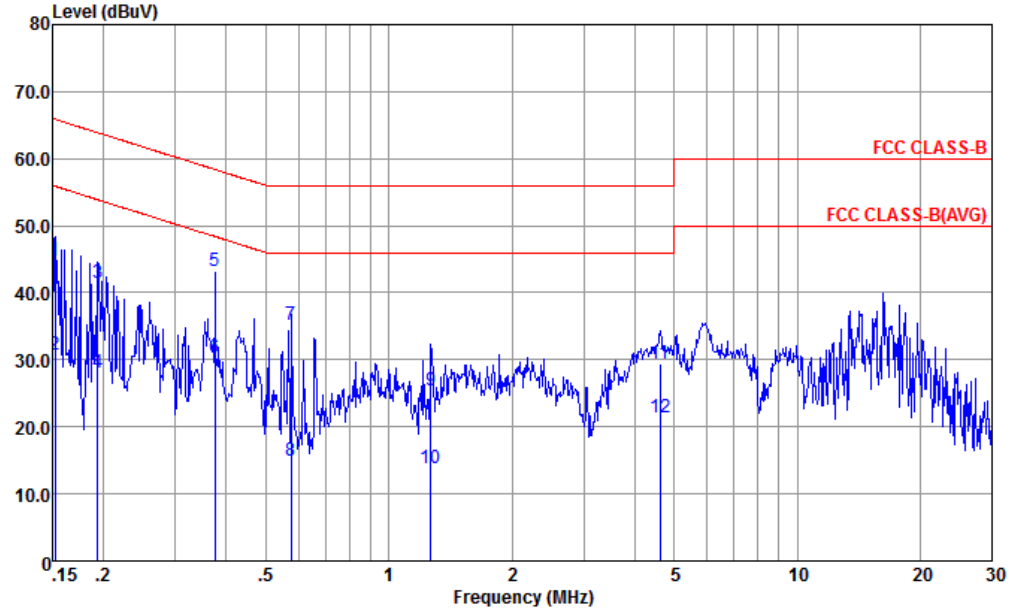
Test Mode :	Mode 1	**Temperature :**	20~22℃
Test Engineer :	Morris Li	**Relative Humidity :**	48~50%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Function Type :	GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter 1) + Battery 1 + Earphone + Camera (Rear)		



Site : CO01-KS
Condition : FCC CLASS-B LISN-N-20151024 NEUTRAL
Project : (FC) 692313
mode : Mode 1
IMEI : 862447030002588/01

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
17	1.352	45.36	-10.64	56.00	34.80	0.37	10.19	QP
18	1.352	36.26	-9.74	46.00	25.70	0.37	10.19	Average
19	1.456	44.26	-11.74	56.00	33.69	0.38	10.19	QP
20	1.456	36.76	-9.24	46.00	26.19	0.38	10.19	Average
21	1.560	45.26	-10.74	56.00	34.69	0.38	10.19	QP
22	1.560	35.66	-10.34	46.00	25.09	0.38	10.19	Average
23	1.689	43.37	-12.63	56.00	32.80	0.38	10.19	QP
24	1.689	33.47	-12.53	46.00	22.90	0.38	10.19	Average
25	2.435	45.08	-10.92	56.00	34.50	0.38	10.20	QP
26	2.435	35.28	-10.72	46.00	24.70	0.38	10.20	Average
27	2.622	44.38	-11.62	56.00	33.80	0.37	10.21	QP
28	2.622	35.08	-10.92	46.00	24.50	0.37	10.21	Average
29	3.058	43.49	-12.51	56.00	32.90	0.37	10.22	QP
30	3.058	33.49	-12.51	46.00	22.90	0.37	10.22	Average
31	4.049	41.20	-14.80	56.00	30.60	0.36	10.24	QP
32	4.049	31.40	-14.60	46.00	20.80	0.36	10.24	Average
33	4.574	40.80	-15.20	56.00	30.20	0.36	10.24	QP
34	4.574	31.30	-14.70	46.00	20.70	0.36	10.24	Average
35	5.898	42.08	-17.92	60.00	31.49	0.33	10.26	QP
36	5.898	34.28	-15.72	50.00	23.69	0.33	10.26	Average
37	6.878	44.78	-15.22	60.00	34.21	0.29	10.28	QP
38	6.878	34.78	-15.22	50.00	24.21	0.29	10.28	Average

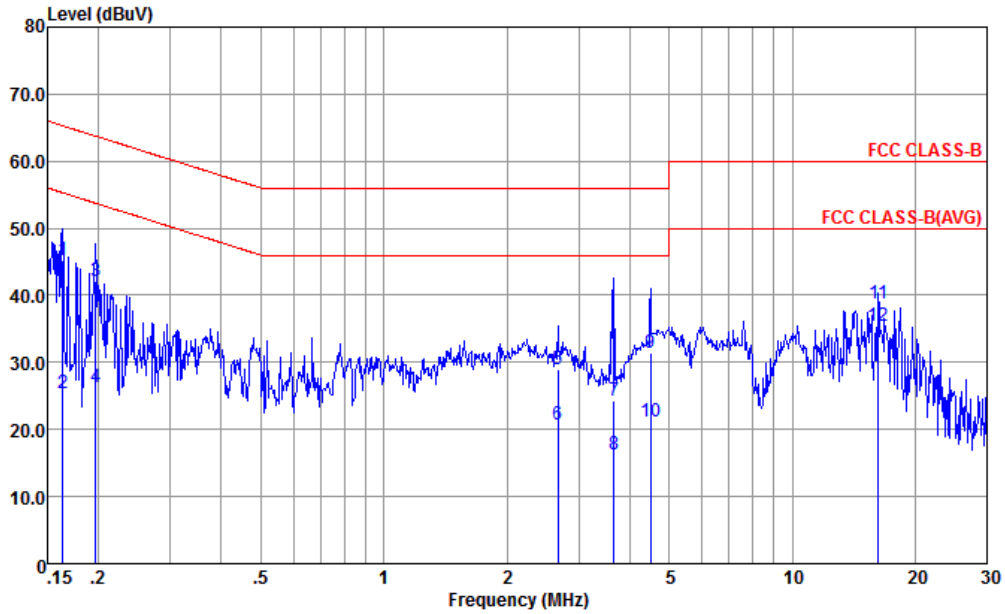
Test Mode :	Mode 5	Temperature :	20~22℃
Test Engineer :	Morris Li	Relative Humidity :	40~42%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	LTE Band 4 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Battery 1 + Earphone + GPS Rx		



Site : CO01-KS
Condition : FCC CLASS-B LISN-L-20151024 LINE
Project : (FC) 692313
mode : Mode 5
IMEI : 862447030002588/01

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.152	44.70	-21.17	65.87	33.80	0.51	10.39	QP
2		0.152	30.80	-25.07	55.87	19.90	0.51	10.39	Average
3		0.193	41.40	-22.49	63.89	30.80	0.26	10.34	QP
4		0.193	28.00	-25.89	53.89	17.40	0.26	10.34	Average
5	*	0.375	43.34	-15.05	58.39	32.90	0.23	10.21	QP
6		0.375	30.24	-18.15	48.39	19.80	0.23	10.21	Average
7		0.576	35.32	-20.68	56.00	24.91	0.23	10.18	QP
8		0.576	14.92	-31.08	46.00	4.51	0.23	10.18	Average
9		1.269	25.32	-30.68	56.00	14.90	0.23	10.19	QP
10		1.269	13.82	-32.18	46.00	3.40	0.23	10.19	Average
11		4.622	29.33	-26.67	56.00	18.90	0.19	10.24	QP
12		4.622	21.33	-24.67	46.00	10.90	0.19	10.24	Average

Test Mode :	Mode 5	Temperature :	20~22℃
Test Engineer :	Morris Li	Relative Humidity :	48~50%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	LTE Band 4 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Battery 1 + Earphone + GPS Rx		



Site : CO01-KS
Condition : FCC CLASS-B LISN-N-20151024 NEUTRAL
Project : (FC) 692313
mode : Mode 5
IMEI : 862447030002588/01

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.163	45.32	-19.98	65.30	34.64	0.30	10.38	QP
2	0.163	25.32	-29.98	55.30	14.64	0.30	10.38	Average
3	0.197	42.07	-21.69	63.76	31.42	0.31	10.34	QP
4	0.197	26.27	-27.49	53.76	15.62	0.31	10.34	Average
5	2.664	28.89	-27.11	56.00	18.31	0.37	10.21	QP
6	2.664	20.79	-25.21	46.00	10.21	0.37	10.21	Average
7	3.661	24.22	-31.78	56.00	13.62	0.37	10.23	QP
8	3.661	16.32	-29.68	46.00	5.72	0.37	10.23	Average
9	4.501	31.33	-24.67	56.00	20.73	0.36	10.24	QP
10	4.501	21.13	-24.87	46.00	10.53	0.36	10.24	Average
11	16.226	38.74	-21.26	60.00	27.90	0.26	10.58	QP
12 *	16.226	35.34	-14.66	50.00	24.50	0.26	10.58	Average

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

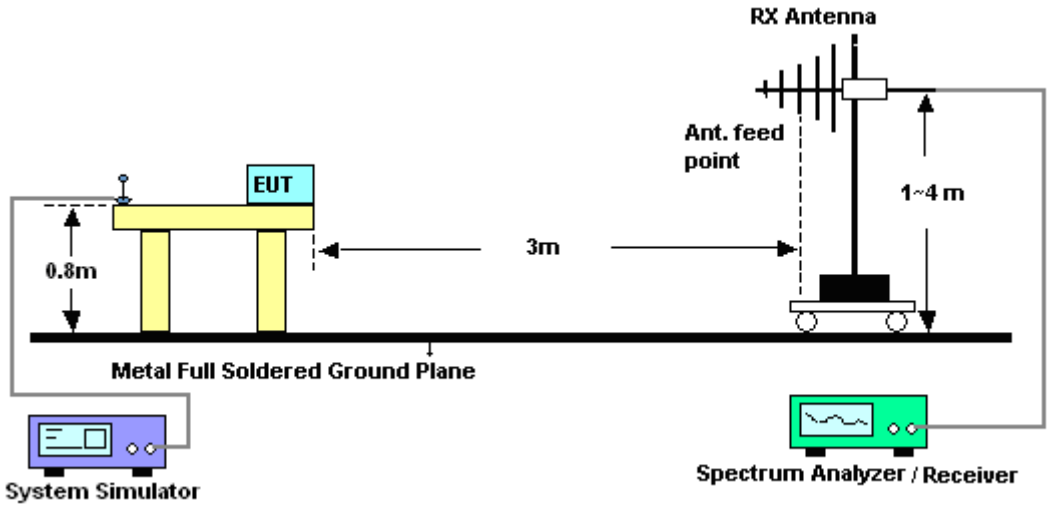
The measuring equipment is listed in the section 4 of this test report.

3.2.3. Test Procedures

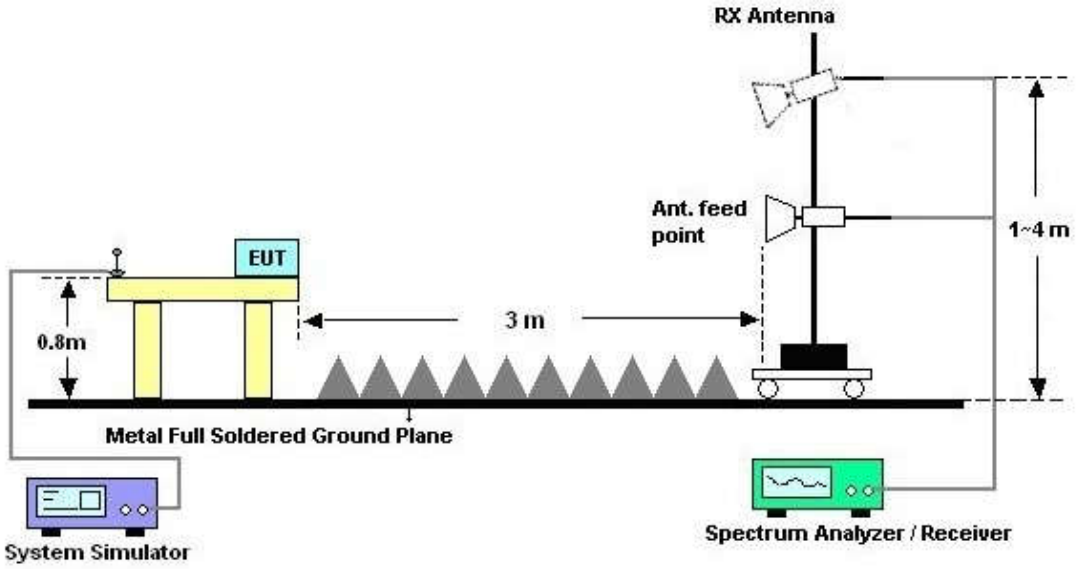
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna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

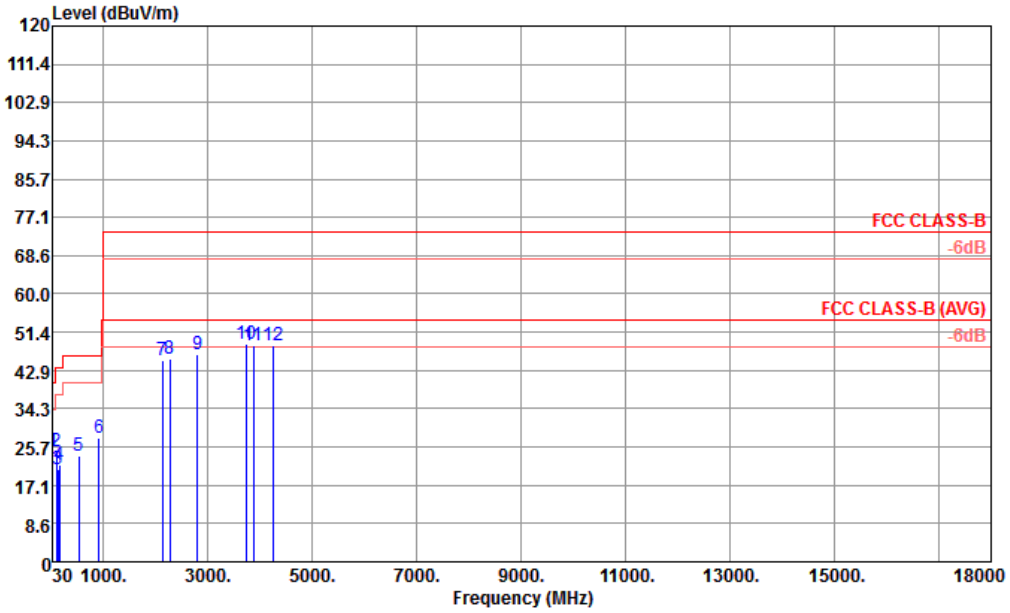


For radiated emissions above 1GHz



3.2.5. Test Result of Radiated Emission

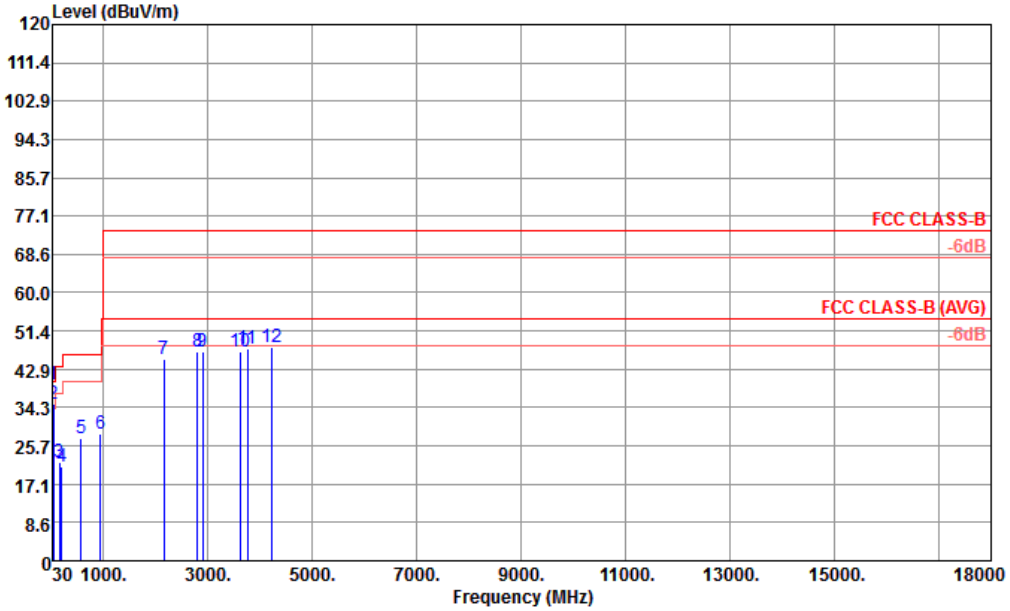
Test Mode :	Mode 2	Temperature :	21~22°C
Test Engineer :	Jason Peng	Relative Humidity :	41~42%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	GSM1900 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter 2) + Battery 2 + Earphone + Camera (Front)		



Site : 03CH02-KS
Condition : FCC CLASS-B 3m 966-02 LF ANT HORIZONTAL
Project : (FC) 692313
Mode : 2
IMEI : 862447030002588/01

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phas
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg		
1	35.67	24.58	-15.42	40.00	31.91	24.30	0.12	31.75	100	0	Peak	HORIZONT
2	104.79	24.87	-18.63	43.50	37.92	18.24	0.24	31.53	---	---	Peak	HORIZONT
3	132.06	20.60	-22.90	43.50	33.91	17.85	0.29	31.45	---	---	Peak	HORIZONT
4	171.21	21.84	-21.66	43.50	36.31	16.63	0.36	31.46	---	---	Peak	HORIZONT
5	535.90	23.86	-22.14	46.00	28.26	24.18	0.89	29.47	---	---	Peak	HORIZONT
6	923.70	27.84	-18.16	46.00	24.85	27.98	1.71	26.70	---	---	Peak	HORIZONT
7	2138.00	45.25	-28.75	74.00	43.34	30.97	5.35	34.41	---	---	Peak	HORIZONT
8	2274.00	45.47	-28.53	74.00	42.38	31.27	5.72	33.90	---	---	Peak	HORIZONT
9	2814.00	46.60	-27.40	74.00	39.32	32.14	2.76	27.62	---	---	Peak	HORIZONT
10	3756.00	48.86	-25.14	74.00	39.41	34.50	6.44	31.49	---	---	Peak	HORIZONT
11	3882.00	48.51	-25.49	74.00	38.93	34.69	6.50	31.61	---	---	Peak	HORIZONT
12	4245.00	48.48	-25.52	74.00	38.94	35.14	6.17	31.77	---	---	Peak	HORIZONT

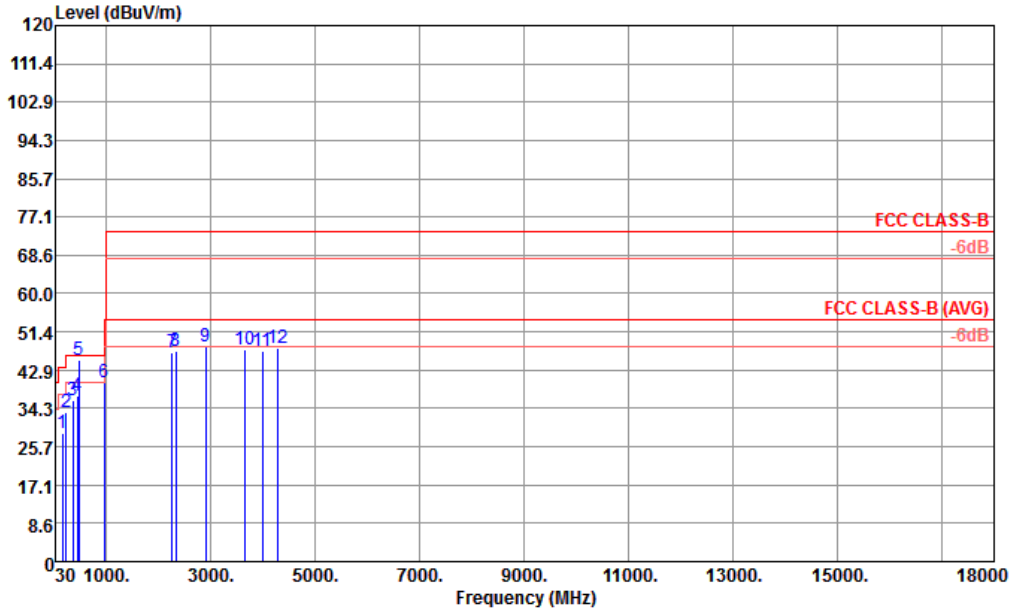
Test Mode :	Mode 2	Temperature :	21~22°C
Test Engineer :	Jason Peng	Relative Humidity :	41~42%
Test Distance :	3m	Polarization :	Vertical
Function Type :	GSM1900 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter 2) + Battery 2 + Earphone + Camera (Front)		



Site : 03CH02-KS
Condition : FCC CLASS-B 3m 966-02 LF ANT VERTICAL
Project : (FC) 692313
Mode : 2
IMEI : 862447030002588/01

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phas
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg		
1 !	35.40	39.37	-0.63	40.00	46.70	24.30	0.12	31.75	100	0	QP	VERTICAL
2 !	46.20	35.04	-4.96	40.00	48.33	18.42	0.14	31.85	---	---	Peak	VERTICAL
3	168.78	22.00	-21.50	43.50	36.30	16.77	0.36	31.43	---	---	Peak	VERTICAL
4	206.58	20.99	-22.51	43.50	36.01	15.58	0.42	31.02	---	---	Peak	VERTICAL
5	575.80	27.26	-18.74	46.00	30.96	24.54	0.88	29.12	---	---	Peak	VERTICAL
6	953.80	28.25	-17.75	46.00	24.46	28.51	1.73	26.45	---	---	Peak	VERTICAL
7	2160.00	45.00	-29.00	74.00	42.88	31.03	5.50	34.41	---	---	Peak	VERTICAL
8	2808.00	46.89	-27.11	74.00	39.65	32.10	2.76	27.62	---	---	Peak	VERTICAL
9	2914.00	46.79	-27.21	74.00	39.73	32.39	2.95	28.28	---	---	Peak	VERTICAL
10	3621.00	46.80	-27.20	74.00	37.81	33.97	6.14	31.12	---	---	Peak	VERTICAL
11	3771.00	47.48	-26.52	74.00	38.03	34.52	6.44	31.51	---	---	Peak	VERTICAL
12	4242.00	47.71	-26.29	74.00	38.17	35.14	6.17	31.77	---	---	Peak	VERTICAL

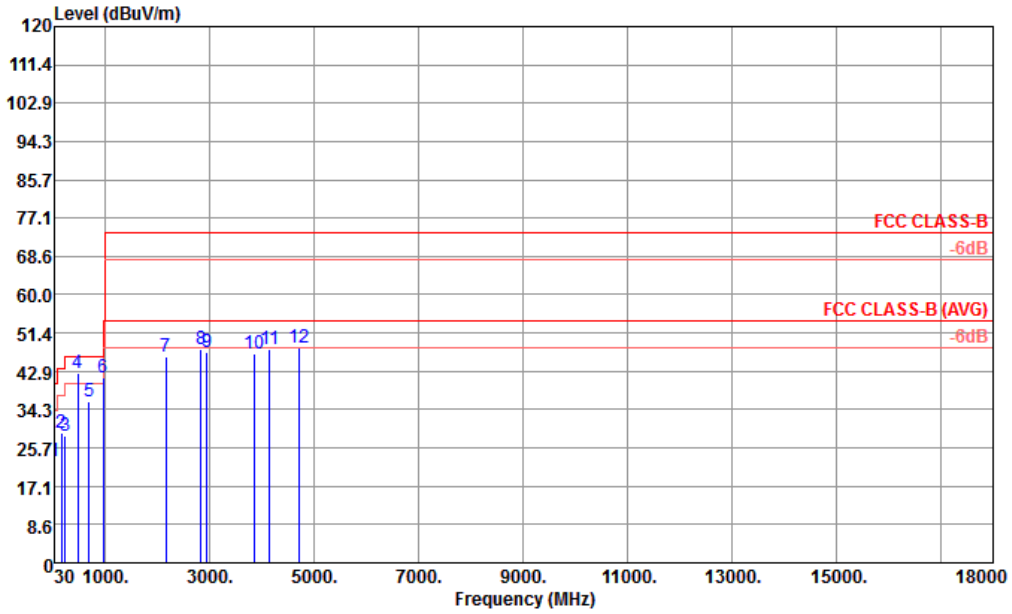
Test Mode :	Mode 5	Temperature :	21~22°C
Test Engineer :	Jason Peng	Relative Humidity :	41~42%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	LTE Band 4 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Battery 2 + Earphone + GPS Rx		



Site : 03CH02-KS
Condition : FCC CLASS-B 3m 966-02 LF ANT HORIZONTAL
Project : (FC) 692313
Mode : 5
IMEI : 862447030002588/01

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phas
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg		
1		166.77	28.85	-14.65	43.50	43.08	16.86	0.35	31.44	---	---	Peak	HORIZONT
2		239.52	33.29	-12.71	46.00	46.94	16.96	0.48	31.09	---	---	Peak	HORIZONT
3		359.80	35.96	-10.04	46.00	44.60	21.26	0.76	30.66	---	---	Peak	HORIZONT
4		450.98	37.10	-8.90	46.00	41.76	24.45	0.91	30.02	---	---	Peak	HORIZONT
5	!	480.08	45.28	-0.72	46.00	50.69	23.37	0.92	29.70	100	310	QP	HORIZONT
6	!	959.90	40.10	-5.90	46.00	36.08	28.66	1.75	26.39	---	---	Peak	HORIZONT
7		2270.00	46.86	-27.14	74.00	43.77	31.27	5.72	33.90	---	---	Peak	HORIZONT
8		2342.00	47.10	-26.90	74.00	43.60	31.35	5.64	33.49	---	---	Peak	HORIZONT
9		2912.00	48.27	-25.73	74.00	41.25	32.35	2.95	28.28	---	---	Peak	HORIZONT
10		3660.00	47.62	-26.38	74.00	38.47	34.10	6.24	31.19	---	---	Peak	HORIZONT
11		3996.00	47.10	-26.90	74.00	37.94	34.84	6.03	31.71	---	---	Peak	HORIZONT
12		4275.00	47.79	-26.21	74.00	38.37	35.16	5.96	31.70	---	---	Peak	HORIZONT

Test Mode :	Mode 5	Temperature :	21~22°C
Test Engineer :	Jason Peng	Relative Humidity :	41~42%
Test Distance :	3m	Polarization :	Vertical
Function Type :	LTE Band 4 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Battery 2 + Earphone + GPS Rx		



Site : 03CH02-KS
Condition : FCC CLASS-B 3m 966-02 LF ANT VERTICAL
Project : (FC) 692313
Mode : 5
IMEI : 862447030002588/01

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phas
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg		
1		38.73	22.78	-17.22	40.00	31.97	22.50	0.12	31.81	---	---	Peak	VERTICAL
2		165.80	29.24	-14.26	43.50	43.42	16.91	0.35	31.44	---	---	Peak	VERTICAL
3		239.52	28.30	-17.70	46.00	41.95	16.96	0.48	31.09	---	---	Peak	VERTICAL
4	!	480.08	42.34	-3.66	46.00	47.75	23.37	0.92	29.70	100	0	Peak	VERTICAL
5		692.51	36.21	-9.79	46.00	36.73	26.58	1.16	28.26	---	---	Peak	VERTICAL
6	!	959.90	41.61	-4.39	46.00	37.59	28.66	1.75	26.39	---	---	Peak	VERTICAL
7		2160.00	46.17	-27.83	74.00	44.05	31.03	5.50	34.41	---	---	Peak	VERTICAL
8		2830.00	47.88	-26.12	74.00	40.67	32.18	2.81	27.78	---	---	Peak	VERTICAL
9		2948.00	47.26	-26.74	74.00	40.19	32.47	3.04	28.44	---	---	Peak	VERTICAL
10		3858.00	46.68	-27.32	74.00	37.10	34.64	6.53	31.59	---	---	Peak	VERTICAL
11		4152.00	47.77	-26.23	74.00	38.08	35.05	6.53	31.89	---	---	Peak	VERTICAL
12		4713.00	48.18	-25.82	74.00	39.91	35.10	5.74	32.57	---	---	Peak	VERTICAL

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;	Apr. 29, 2016	Oct. 31, 2016	Apr. 28, 2017	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060103	9kHz~30MHz	Oct. 13, 2016	Oct. 31, 2016	Oct. 12, 2017	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060105	9kHz~30MHz	Oct. 13, 2016	Oct. 31, 2016	Oct. 12, 2017	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 13, 2016	Oct. 31, 2016	Oct. 12, 2017	Conduction (CO01-KS)
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz; Max 30dBm	Aug. 09, 2016	Nov. 04, 2016	Aug. 08, 2017	Radiation (03CH02-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150208	10Hz~44GHz; Max 30dB	Apr. 22, 2016	Nov. 04, 2016	Apr. 21, 2017	Radiation (03CH02-KS)
Bilog Antenna	TeseQ	CBL6112D	35406	25MHz~2GHz	Apr. 16, 2016	Nov. 04, 2016	Apr. 15, 2017	Radiation (03CH02-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75959	1GHz~18GHz	Jan. 16, 2016	Nov. 04, 2016	Jan. 15, 2017	Radiation (03CH02-KS)
Amplifier	com-power	PA-103A	161069	1kHz~1000MHz / 32 dB	Apr. 22, 2016	Nov. 04, 2016	Apr. 21, 2017	Radiation (03CH02-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Oct. 13, 2016	Nov. 04, 2016	Oct. 12, 2017	Radiation (03CH02-KS)
AC Power Source	Chroma	61601	616010002473	N/A	NCR	Nov. 04, 2016	NCR	Radiation (03CH02-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	Nov. 04, 2016	NCR	Radiation (03CH02-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	Nov. 04, 2016	NCR	Radiation (03CH02-KS)

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))	**2.3dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.1dB**

Uncertainty of Radiated Emission Measurement (1GHz ~ 18GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.5dB**