FCC Test Report

APPLICANT	:	LENOVO (SHANGHAI) ELECTRONICS TECHNOLOGY CO LTD.
EQUIPMENT	:	Lenovo Mobile Phone
BRAND NAME	:	Lenovo
MODEL NAME	:	Lenovo PB2-670Y
FCC ID	:	O57PB2670Y
STANDARD	:	FCC 47 CFR FCC Part 15 Subpart B
CLASSIFICATION	:	Certification

The product was received on May 13, 2016 and testing was completed on Jun. 03, 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.

Prepared by: James Huang / Manager

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
FC651305	Rev. 01	Initial issue of report	Jul. 08, 2016

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.107	ICES003 Section 6.1	AC Conducted Emission	< 15.107 limits < ICES003 6.1 limits	PASS	Under limit 9.86 dB at 0.150 MHz
3.2	15.109	ICES003 Section 6.2	Radiated Emission	< 15.109 limits < ICES003 6.2 limits	PASS	Under limit 8.54 dB at 223.860 MHz

1. General Description

1.1. Applicant

LENOVO (SHANGHAI) ELECTRONICS TECHNOLOGY CO LTD.
NO 68 BUILDING 199 FENJU RD, CHINA (SHANGHAI) PILOT FREE TRADE ZONE, SHANGHAI, 200131 CHINA

1.2. Manufacturer

Lenovo PC HK Limited
23/F, Lincoln House, Taikoo Place 979 King's Road, Quarry Bay, Hong Kong

1.3. Product Feature of Equipment Under Test

Product Feature	
Equipment	Lenovo Mobile Phone
Brand Name	Lenovo
Model Name	Lenovo PB2-670Y
FCC ID	O57PB2670Y
EUT supports Radios application	GSM/GPRS/EGPRS/WCDMA/HSPA/DC-HSDPA/HSPA+/LTE/ WLAN 2.4GHz 802.11b/g/n HT20/HT40/ WLAN 5GHz 802.11a/n HT20/HT40/ WLAN 5GHz 802.11ac VHT20/VHT40/VHT80/ Bluetooth v3.0+EDR/Bluetooth v4.0 LE
IMEI Code	Conduction: Sample 1:860995030006266/860995030007462 Sample 2:860995030005292/860995030006498 Radiation: Sample 1:860995030005763/860995030006969 Sample 2: 860995030005292/860995030006498
HW Version	LenovoPad PB2_670Y
SW Version	PB2-670Y_160904
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 5 : 824.7 MHz ~ 848.3 MHz LTE Band 2 : 1850.7 MHz ~ 1909.3 MHz LTE Band 4 : 1710.7 MHz ~ 1754.3 MHz LTE Band 7 : 2502.5 MHz ~ 2567.5 MHz LTE Band 12 : 699.7 MHz ~ 715.3 MHz LTE Band 13 : 779.5 MHz ~ 784.5 MHz LTE Band 17 : 706.5 MHz ~ 713.5 MHz 802.11b/g/n: 2412 MHz ~ 2472 MHz 802.11a/n/ac: 5180 MHz ~ 5240 MHz; 5260 MHz ~ 5320 MHz; 5500 MHz ~ 5700 MHz; 5745 MHz ~ 5825 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 5 : 869.7 MHz ~ 893.3 MHz LTE Band 2 : 1930.7 MHz ~ 1989.3 MHz LTE Band 4 : 2110.7 MHz ~ 2154.3 MHz LTE Band 7 : 2622.5 MHz~ 2687.5 MHz LTE Band 12 : 729.7 MHz ~ 745.3 MHz LTE Band 13 : 748.5 MHz ~ 753.5 MHz LTE Band 17 : 736.5 MHz ~ 743.5 MHz 802.11b/g/n: 2412 MHz ~ 2472 MHz 802.11a/n/ac: 5180 MHz ~ 5240 MHz; 5260 MHz ~ 5320 MHz; 5500 MHz ~ 5700 MHz; 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz GPS : 1.57542 GHz Glonass: 1602 MHz + n× 0.5625MHz (n=−7,−6,−5,...0,...,6)

Standards-related Product Specification	
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: QPSK (Uplink) HSDPA / DC-HSDPA: QPSK (Uplink) HSUPA: QPSK (Uplink) DC-HSDPA: 64QAM HSPA+ : 16QAM LTE: QPSK / 16QAM 802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n/ac : OFDM (BPSK / QPSK / 16QAM / 64QAM /256QAM) 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/IC Registration No.
	CO01-KS	03CH02-KS	418269/4086E

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.

1.8. Component List

Note: there are two types of EUT, the details refer the following table. According to the difference, the sample 1 to perform full test and the sample 2 to verify worse mode for EMC test.

Component	Sample 1	Sample 2
LCM	Tianma TL064VVXP02-00IPS(Golden) TL064VVXP01-00IPS(Black)	Oflim MCF-065-2517-02 IPS(Golden) MCF-065-2517-01 IPS(Black)
Back_camera	Sunny Y13S03A-200	GuangBao 2-52-13147-00A
Battery	SUCD+ATL L16D1P32	XWD+Coslight L16D1P32

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

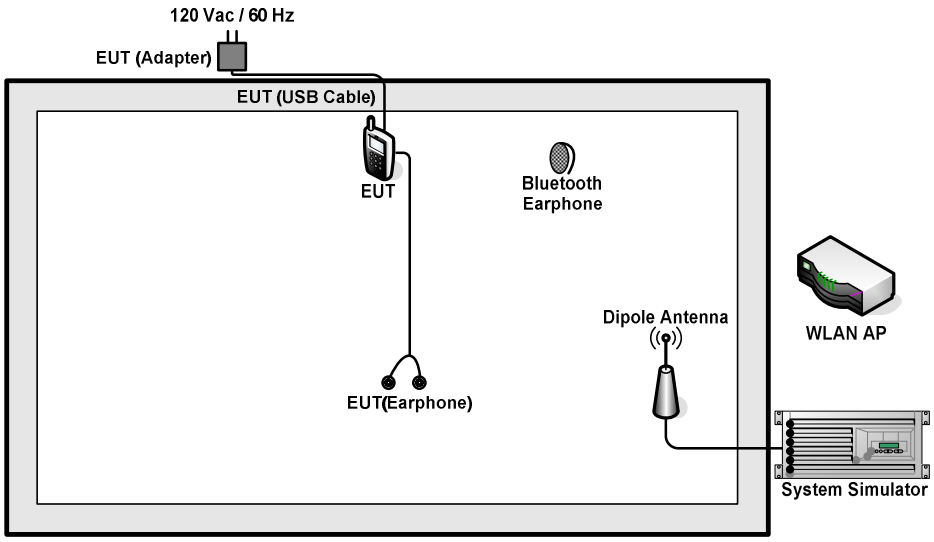
Test Items	EUT Configure Mode	Function Type
AC Conducted Emission	1/2	Mode 1 : GSM850 Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Charging from Adapter 1) + Battery 1 + Camera (Rear) + Earphone + SIM1 for Sample 1 <Fig.1> Mode 2 : GSM1900 Idle + Bluetooth Idle + WLAN (5G) Idle + USB Cable (Charging from Adapter 2) + Battery 1 + Camera (Front) + Earphone + SIM2 for Sample 1 <Fig.1> Mode 3 : WCDMA Band V Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Charging from Adapter 1) + Battery 1 + MPEG4 + Earphone + SIM1 for Sample 1 <Fig.1> Mode 4 : LTE Band 4 Idle + Bluetooth Idle + WLAN (5G) Idle + USB Cable (Charging from Adapter 1) + Battery 1 + Glonass Rx + Earphone + SIM2 for Sample 1 <Fig.2> Mode 5 : LTE Band 12 Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Data Link with Notebook) + Battery 1 + GPS Rx + Earphone + SIM1 for Sample 1 <Fig.3> Mode 6 : GSM850 Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Charging from Adapter 1) + Battery 2 + Camera (Rear) + Earphone + SIM1 for Sample 2 <Fig.1>
Radiated Emissions < 1GHz	1/2	Mode 1 : GSM850 Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Charging from Adapter 1) + Battery 1 + Camera (Rear) + Earphone + SIM1 for Sample 1 <Fig.1> Mode 2 : GSM1900 Idle + Bluetooth Idle + WLAN (5G) Idle + USB Cable (Charging from Adapter 2) + Battery 1 + Camera (Front) + Earphone + SIM2 for Sample 1 <Fig.1> Mode 3 : WCDMA Band V Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Charging from Adapter 1) + Battery 1 + MPEG4 + Earphone + SIM1 for Sample 1 <Fig.1> Mode 4 : LTE Band 4 Idle + Bluetooth Idle + WLAN (5G) Idle + USB Cable (Charging from Adapter 1) + Battery 1 + Glonass Rx + Earphone + SIM2 for Sample 1 <Fig.2> Mode 5 : LTE Band 12 Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Data Link with Notebook) + Battery 1 + GPS Rx + Earphone + SIM1 for Sample 1 <Fig.3> Mode 6 : GSM850 Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Charging from Adapter 1) + Battery 2 + Camera (Rear) + Earphone + SIM1 for Sample 2 <Fig.1>

Test Items	EUT Configure Mode	Function Type
Radiated Emissions ≥ 1GHz	1/2	Mode 1 : GSM850 Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Charging from Adapter 1) + Battery 1 + Camera (Rear) + Earphone + SIM1 for Sample 1 <Fig.1> Mode 2 : LTE Band 12 Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Data Link with Notebook) + Battery 1 + GPS Rx + Earphone + SIM1 for Sample 1 <Fig.3>

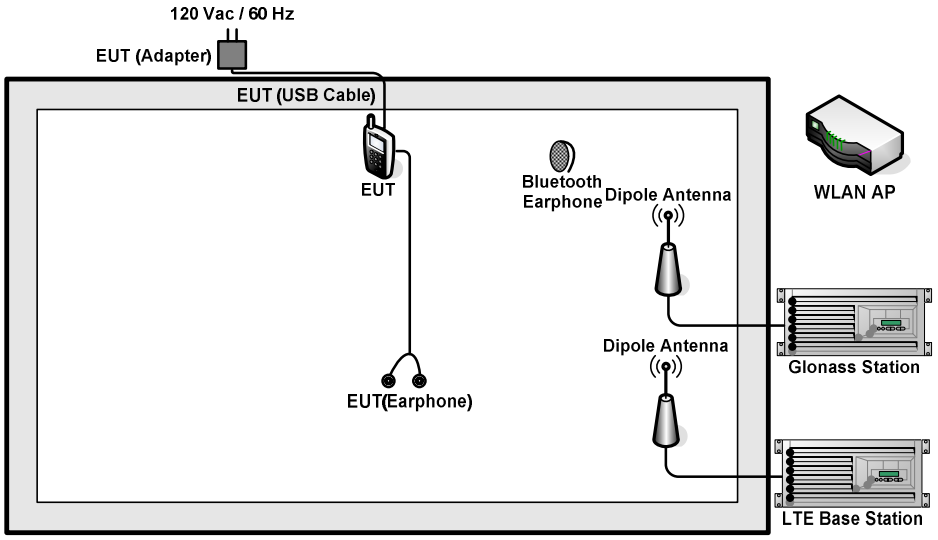
Remark:

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

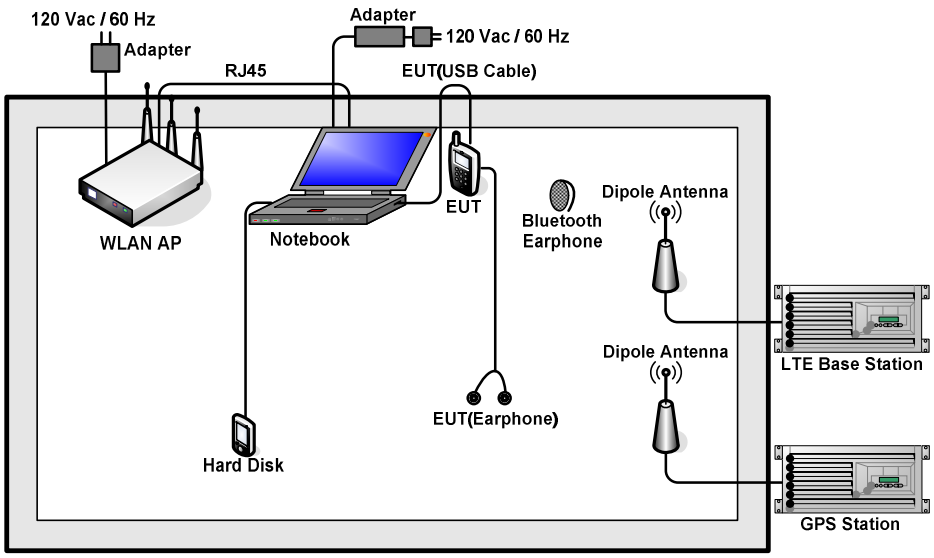
2.2. Connection Diagram of Test System



<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
EUT(Earphone)
Hard Disk
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.	LTE Base Station	Anritus	MT8820C	N/A	N/A	Unshielded, 1.8 m
3.	GPS Station	ADIVIC	MP9000	N/A	N/A	Unshielded, 1.8 m
4.	Glonass Station	RACELOGIC	RLLS03-2RP	N/A	N/A	Unshielded, 1.8 m
5.	WLAN AP	D-Link	DIR-855	KA2DIR855A2	N/A	Unshielded, 1.8 m
6.	WLAN AP	LINKSYS	WRT600N	Q87-WRT600NV11	N/A	Unshielded, 1.8 m
7.	Notebook	Lenovo	G480	N/A	N/A	AC I/P: Unshielded, 0.9 m DC O/P: Shielded, 1.8 m
8.	Bluetooth Earphone	Lenovo	LBH-301	2010DP1340	N/A	N/A
9.	Bluetooth Earphone	Lenovo	LBH505	N/A	N/A	N/A
10.	SD Card	Kingston	4GB	N/A	N/A	N/A
11.	SD Card	SanDisk	Uitra	FCC DoC	N/A	N/A
12.	Hard Disk	Lenovo	F310	N/A	Shielded, 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. Execute "Video Player" to play MPEG4 files.
3. Turn on camera to capture images.
4. Turn on GPS/Glonass function to make the EUT receive continuous signals from GPS/Glonass station.

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.

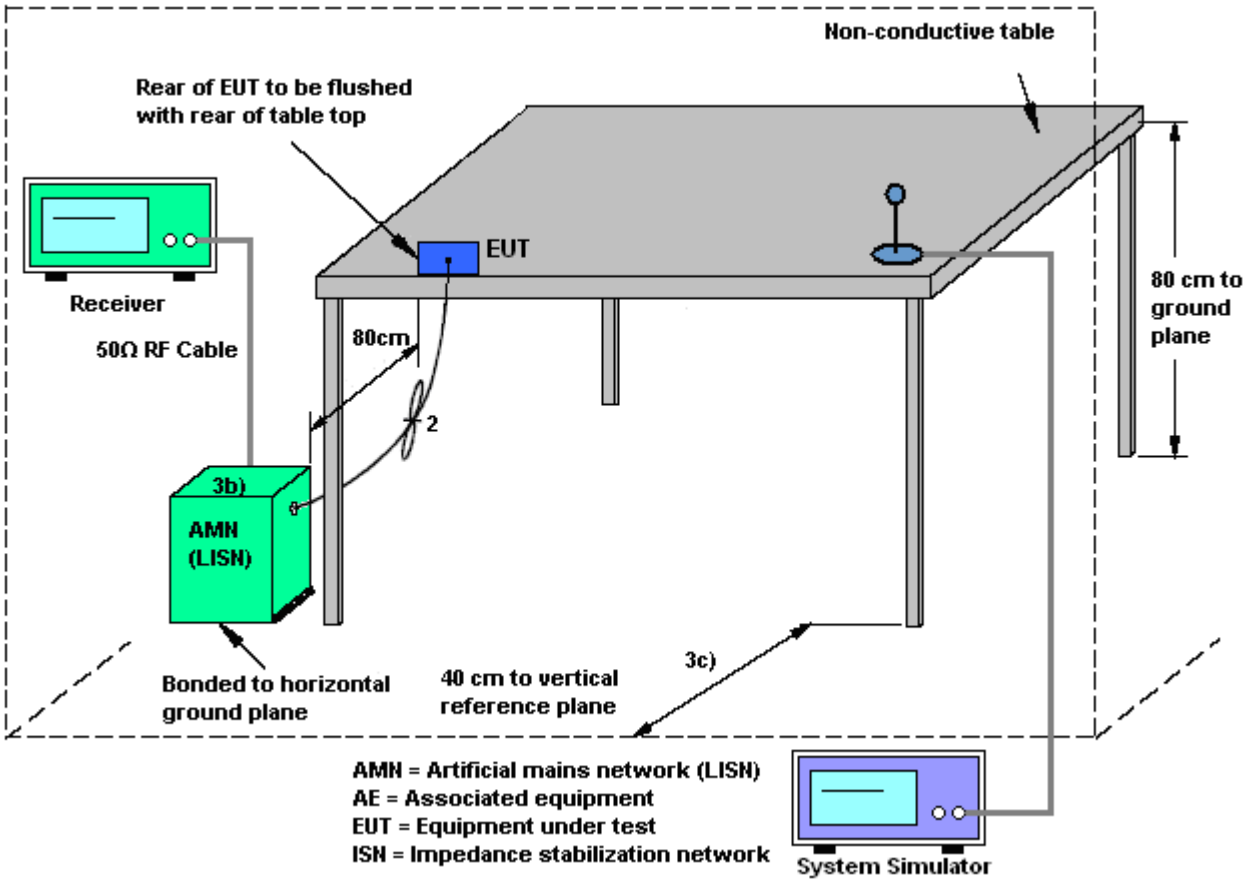
3.1.2 Measuring Instruments

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

3.1.3 Test Procedure

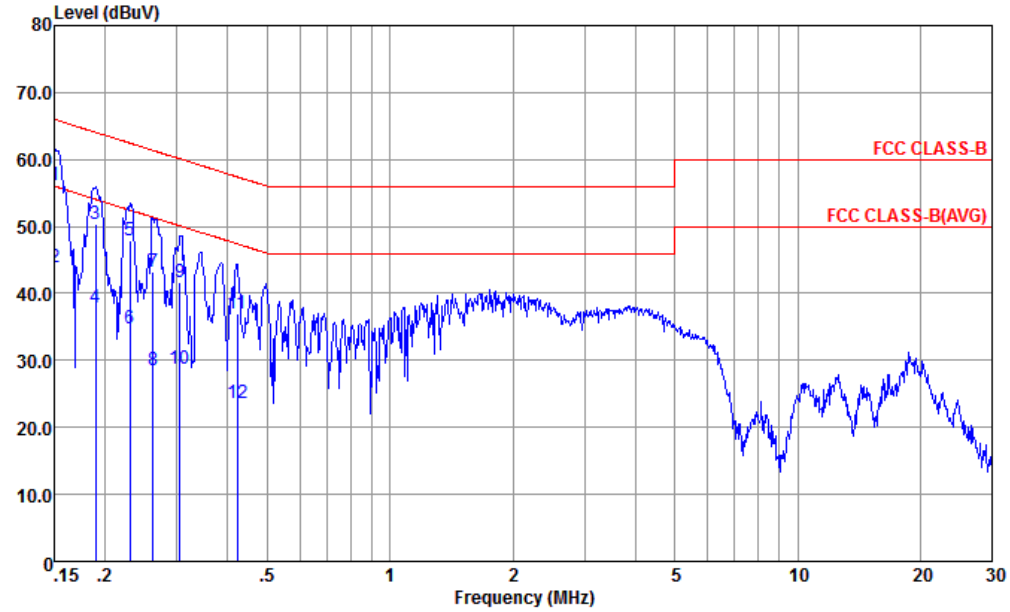
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.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

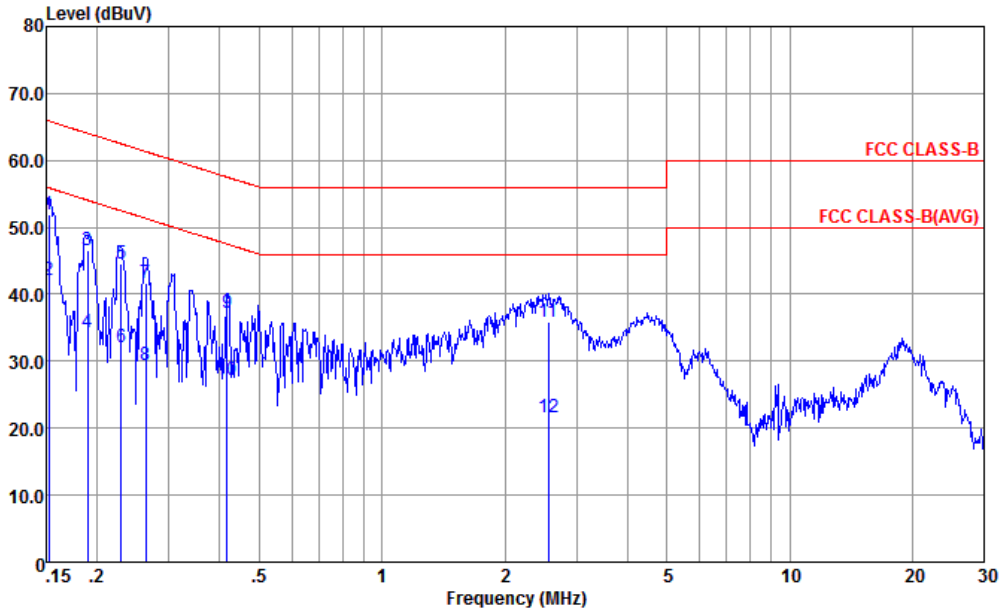
Test Mode :	Mode 1	**Temperature :**	22~24℃
Test Engineer :	Amos Zhang	**Relative Humidity :**	44~49%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	GSM850 Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Charging from Adapter 1) + Battery 1 + Camera (Rear) + Earphone + SIM1 for Sample 1		



Site : CO01-KS
Condition : FCC CLASS-B LISN-L-20151024 LINE
Project : (FC) 651305
mode : Mode 1
: 860995030006266/860995030007462 #7

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1 *	0.15	56.14	-9.86	66.00	45.50	0.53	10.11	QP
2	0.15	43.84	-12.16	56.00	33.20	0.53	10.11	Average
3	0.19	50.29	-13.77	64.06	39.90	0.27	10.12	QP
4	0.19	37.99	-16.07	54.06	27.60	0.27	10.12	Average
5	0.23	47.86	-14.58	62.44	37.50	0.22	10.14	QP
6	0.23	34.66	-17.78	52.44	24.30	0.22	10.14	Average
7	0.26	43.27	-18.11	61.38	32.91	0.22	10.14	QP
8	0.26	28.47	-22.91	51.38	18.11	0.22	10.14	Average
9	0.31	41.67	-18.43	60.10	31.30	0.22	10.15	QP
10	0.31	28.67	-21.43	50.10	18.30	0.22	10.15	Average
11	0.42	37.00	-20.42	57.42	26.60	0.23	10.17	QP
12	0.42	23.70	-23.72	47.42	13.30	0.23	10.17	Average

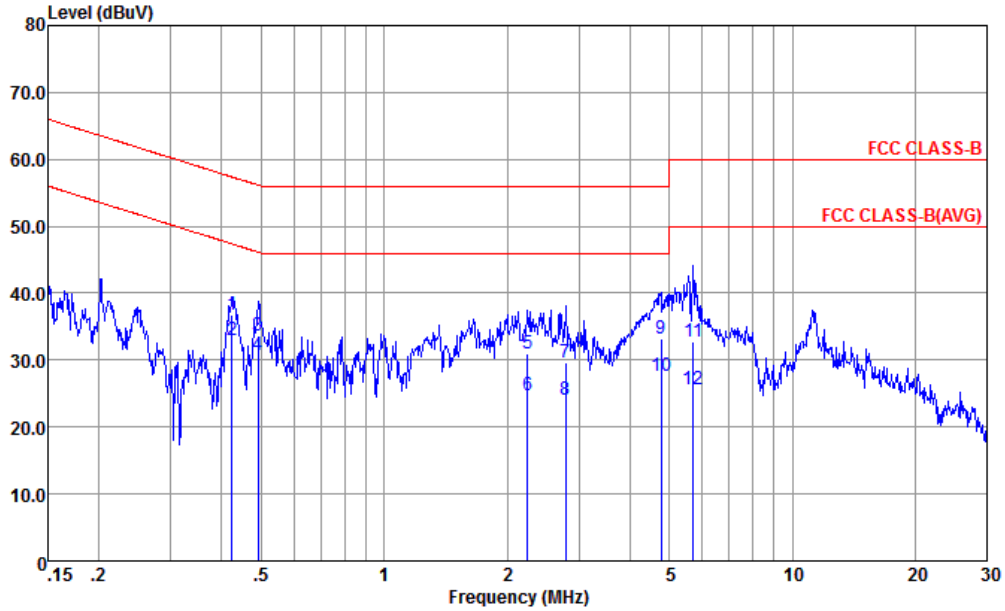
Test Mode :	Mode 1	Temperature :	22~24℃
Test Engineer :	Amos Zhang	Relative Humidity :	44~49%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM850 Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Charging from Adapter 1) + Battery 1 + Camera (Rear) + Earphone + SIM1 for Sample 1		



Site : CO01-KS
Condition : FCC CLASS-B LISN-N-20151024 NEUTRAL
Project : (FC) 651305
mode : Mode 1
: 860995030006266/860995030007462 #7

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.15	52.01	-13.86	65.87	41.60	0.30	10.11	QP
2	*	0.15	42.01	-13.86	55.87	31.60	0.30	10.11	Average
3		0.19	46.53	-17.53	64.06	36.10	0.31	10.12	QP
4		0.19	34.33	-19.73	54.06	23.90	0.31	10.12	Average
5		0.23	44.55	-17.93	62.48	34.10	0.31	10.14	QP
6		0.23	32.05	-20.43	52.48	21.60	0.31	10.14	Average
7		0.26	41.66	-19.68	61.34	31.21	0.31	10.14	QP
8		0.26	29.36	-21.98	51.34	18.91	0.31	10.14	Average
9		0.42	37.29	-20.22	57.51	26.80	0.32	10.17	QP
10		0.42	27.09	-20.42	47.51	16.60	0.32	10.17	Average
11		2.55	35.82	-20.18	56.00	25.30	0.37	10.15	QP
12		2.55	21.72	-24.28	46.00	11.20	0.37	10.15	Average

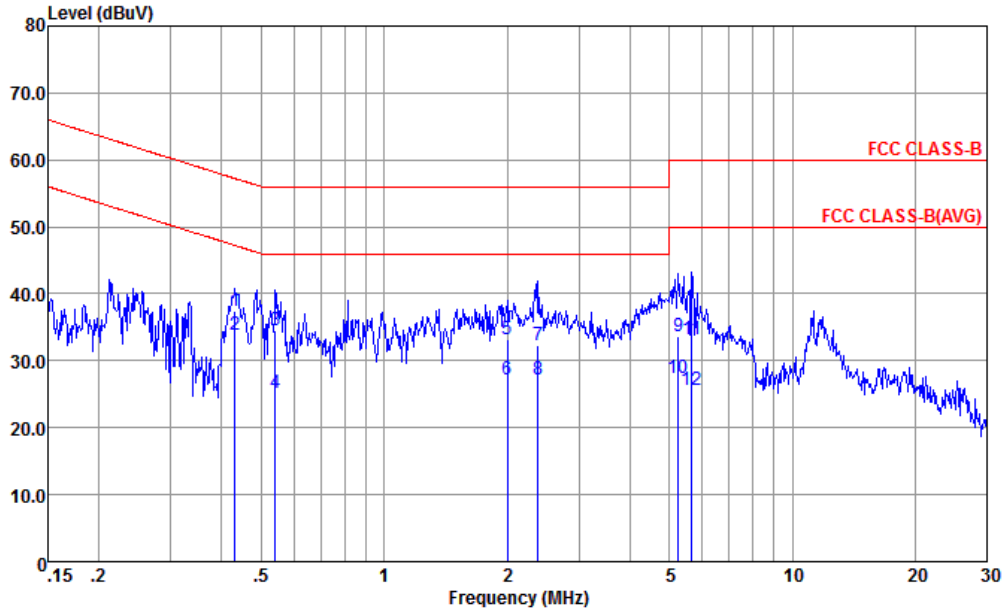
Test Mode :	Mode 5	Temperature :	22~24℃
Test Engineer :	Amos Zhang	Relative Humidity :	44~49%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	LTE Band 12 Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Data Link with Notebook) + Battery 1 + GPS Rx + Earphone + SIM1 for Sample 1		



Site : CO01-KS
Condition : FCC CLASS-B LISN-L-20151024 LINE
Project : (FC) 651305
mode : Mode 5
: 860995030006266/860995030007462 #7

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.42	36.70	-20.67	57.37	26.30	0.23	10.17	QP
2 *	0.42	33.00	-14.37	47.37	22.60	0.23	10.17	Average
3	0.49	33.69	-22.45	56.14	23.30	0.23	10.16	QP
4	0.49	30.69	-15.45	46.14	20.30	0.23	10.16	Average
5	2.25	30.93	-25.07	56.00	20.61	0.18	10.14	QP
6	2.25	24.83	-21.17	46.00	14.51	0.18	10.14	Average
7	2.78	29.63	-26.37	56.00	19.30	0.18	10.15	QP
8	2.78	24.13	-21.87	46.00	13.80	0.18	10.15	Average
9	4.77	33.17	-22.83	56.00	22.80	0.19	10.18	QP
10	4.77	27.57	-18.43	46.00	17.20	0.19	10.18	Average
11	5.71	32.70	-27.30	60.00	22.30	0.21	10.19	QP
12	5.71	25.70	-24.30	50.00	15.30	0.21	10.19	Average

Test Mode :	Mode 5	Temperature :	22~24℃
Test Engineer :	Amos Zhang	Relative Humidity :	44~49%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	LTE Band 12 Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Data Link with Notebook) + Battery 1 + GPS Rx + Earphone + SIM1 for Sample 1		



Site : CO01-KS
Condition : FCC CLASS-B LISN-N-20151024 NEUTRAL
Project : (FC) 651305
mode : Mode 5
: 860995030006266/860995030007462 #7

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.43	37.39	-19.85	57.24	26.90	0.32	10.17	QP
2	*	0.43	33.79	-13.45	47.24	23.30	0.32	10.17	Average
3		0.54	34.59	-21.41	56.00	24.11	0.32	10.16	QP
4		0.54	25.29	-20.71	46.00	14.81	0.32	10.16	Average
5		2.00	33.12	-22.88	56.00	22.60	0.38	10.14	QP
6		2.00	27.12	-18.88	46.00	16.60	0.38	10.14	Average
7		2.38	32.42	-23.58	56.00	21.89	0.38	10.15	QP
8		2.38	27.12	-18.88	46.00	16.59	0.38	10.15	Average
9		5.25	33.74	-26.26	60.00	23.20	0.35	10.19	QP
10		5.25	27.44	-22.56	50.00	16.90	0.35	10.19	Average
11		5.68	33.13	-26.87	60.00	22.61	0.33	10.19	QP
12		5.68	25.63	-24.37	50.00	15.11	0.33	10.19	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

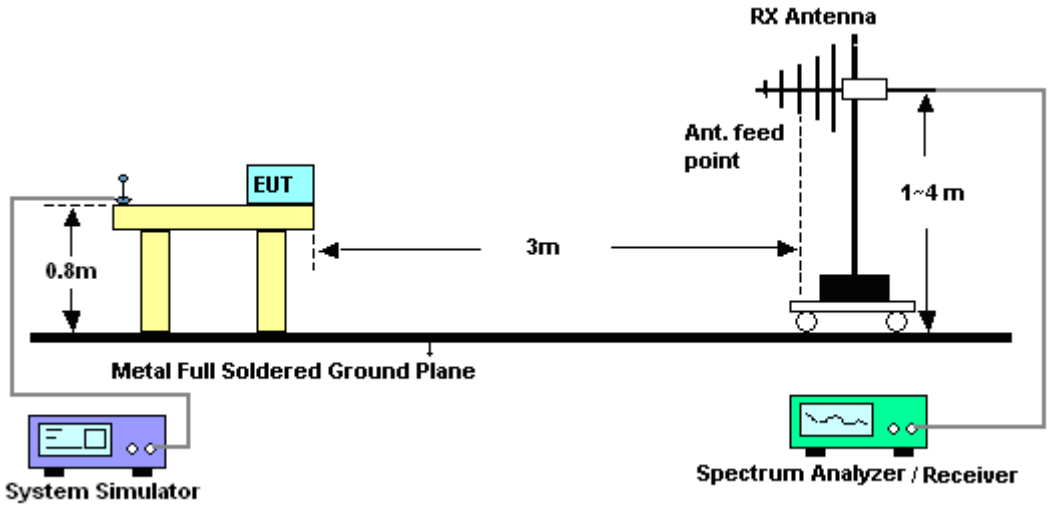
The measuring equipment is listed in the section 4 of this test report.

3.2.3. Test Procedures

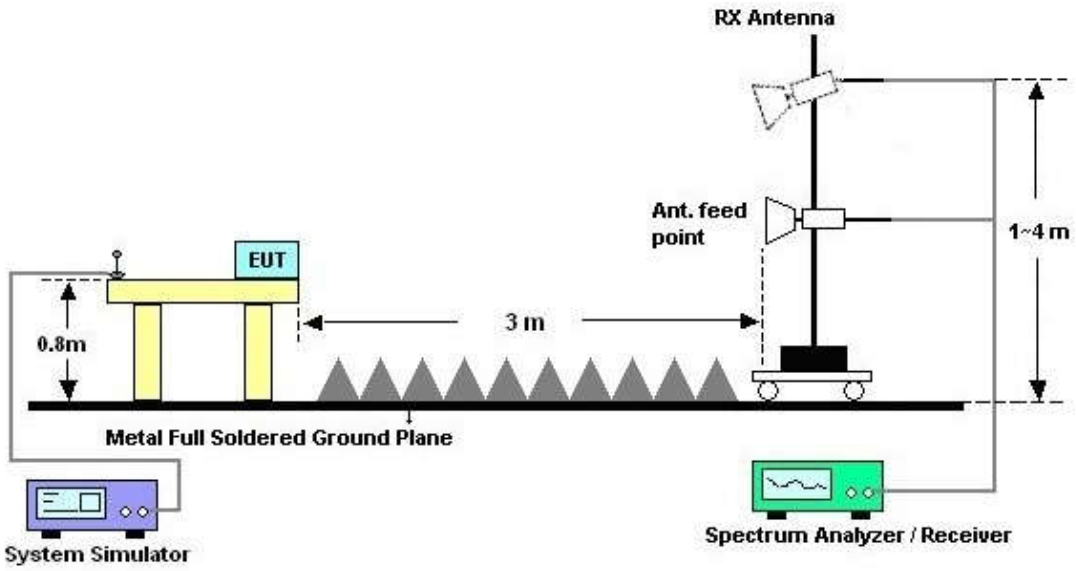
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna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

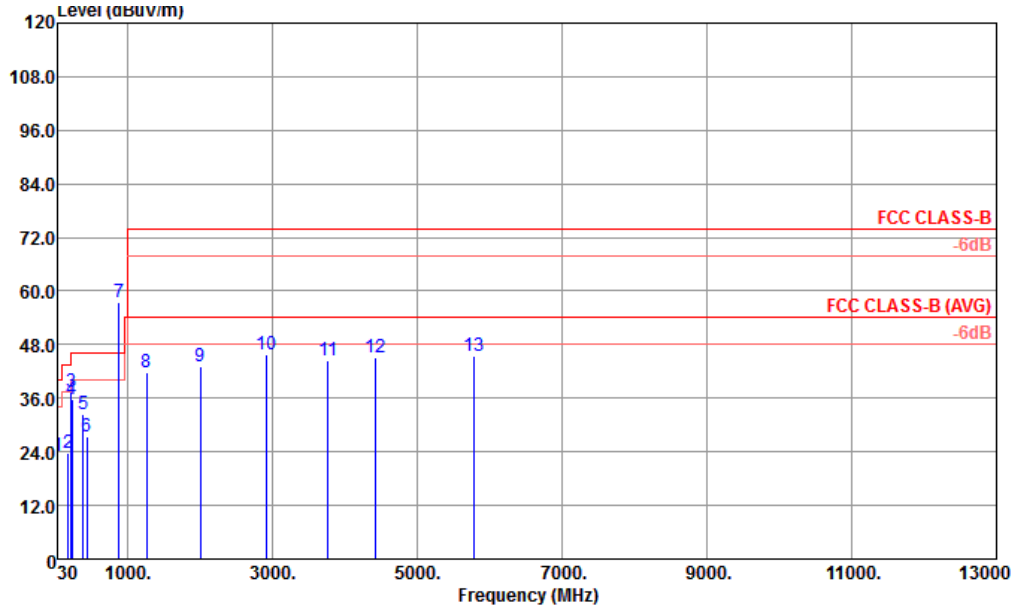


For radiated emissions above 1GHz



3.2.5. Test Result of Radiated Emission

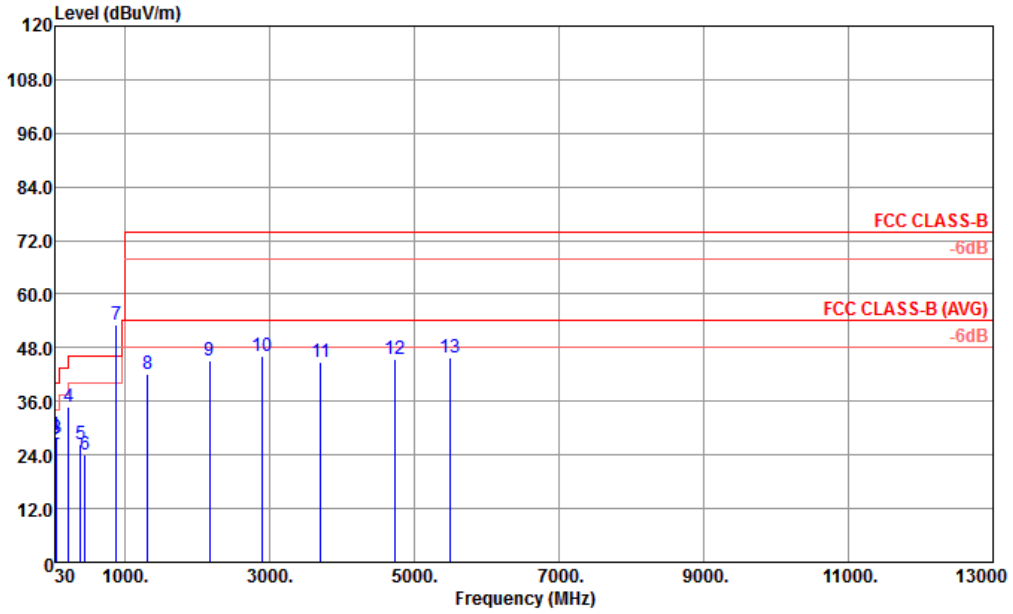
Test Mode :	Mode 1	**Temperature :**	21~22°C
Test Engineer :	Waird Chen	**Relative Humidity :**	41~42%
Test Distance :	3m	**Polarization :**	Horizontal
Function Type :	GSM850 Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Charging from Adapter 1) + Battery 1 + Camera (Rear) + Earphone + SIM1 for Sample 1		
Remark :	#7 is system simulator signal which can be ignored.		



Site : 03CH02-KS
Condition : FCC CLASS-B 3m 966-02 LF ANT HORIZONTAL
Project : (FC) 651305
Mode : 1
IMEI : 860995030005763 860995030006969

		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		31.89	23.08	-16.92	40.00	28.69	25.30	0.11	31.02	---	---	Peak	HORIZONT
2		182.01	23.81	-19.69	43.50	37.70	16.13	0.38	30.40	---	---	Peak	HORIZONT
3		223.86	37.46	-8.54	46.00	51.18	16.27	0.46	30.45	140	300	Peak	HORIZONT
4		229.80	35.93	-10.07	46.00	49.41	16.51	0.47	30.46	---	---	Peak	HORIZONT
5		389.60	32.28	-13.72	46.00	37.73	24.34	0.89	30.68	---	---	Peak	HORIZONT
6		442.10	27.38	-18.62	46.00	32.38	24.63	0.90	30.53	---	---	Peak	HORIZONT
7	*	881.70	57.57			59.06	27.45	1.59	30.53	---	---	Peak	HORIZONT
8		1260.00	41.79	-32.21	74.00	46.76	28.38	3.31	36.66	---	---	Peak	HORIZONT
9		2004.00	43.03	-30.97	74.00	42.64	30.50	4.61	34.72	---	---	Peak	HORIZONT
10		2908.00	45.65	-28.35	74.00	38.63	32.35	2.95	28.28	---	---	Peak	HORIZONT
11		3768.00	44.60	-29.40	74.00	35.15	34.52	6.44	31.51	---	---	Peak	HORIZONT
12		4416.00	45.18	-28.82	74.00	36.48	35.25	4.73	31.28	---	---	Peak	HORIZONT
13		5787.00	45.43	-28.57	74.00	39.25	35.19	6.75	35.76	---	---	Peak	HORIZONT

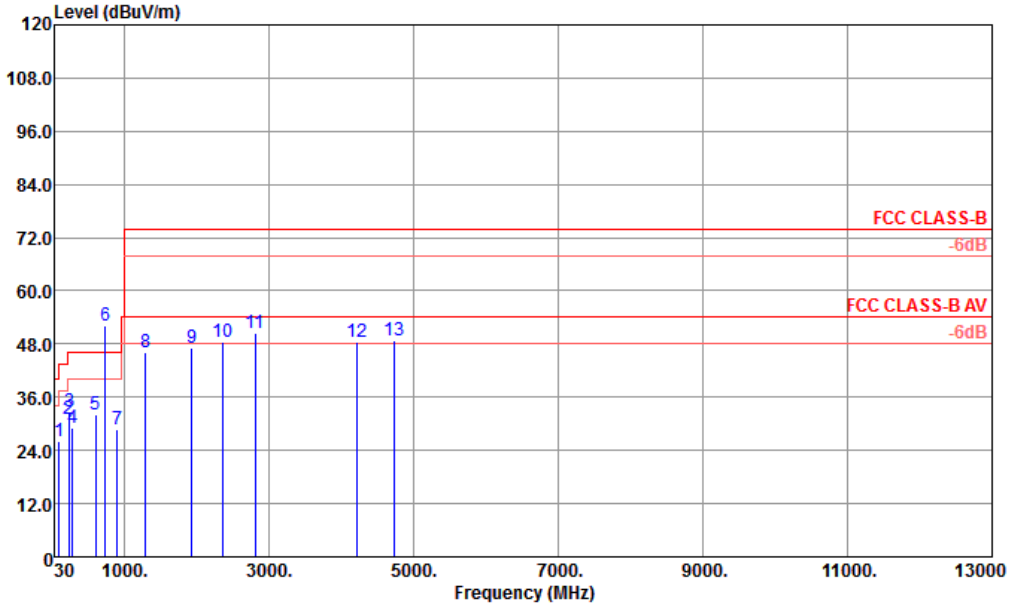
Test Mode :	Mode 1	**Temperature :**	21~22°C
Test Engineer :	Waird Chen	**Relative Humidity :**	41~42%
Test Distance :	3m	**Polarization :**	Vertical
Function Type :	GSM850 Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Charging from Adapter 1) + Battery 1 + Camera (Rear) + Earphone + SIM1 for Sample 1		
Remark :	#7 is system simulator signal which can be ignored.		



Site : 03CH02-KS
Condition : FCC CLASS-B 3m 966-02 LF ANT VERTICAL
Project : (FC) 651305
Mode : 1
IMEI : 860995030005763 860995030006969

		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	28.48	-11.52	40.00	34.96	24.30	0.12	30.90	---	---	Peak	VERTICAL
2		45.93	26.30	-13.70	40.00	37.46	19.50	0.14	30.80	---	---	Peak	VERTICAL
3		51.60	27.68	-12.32	40.00	43.52	14.77	0.15	30.76	---	---	Peak	VERTICAL
4		220.62	34.71	-11.29	46.00	48.51	16.19	0.45	30.44	100	140	Peak	VERTICAL
5		389.60	26.41	-19.59	46.00	31.86	24.34	0.89	30.68	---	---	Peak	VERTICAL
6		443.50	24.19	-21.81	46.00	29.21	24.60	0.90	30.52	---	---	Peak	VERTICAL
7	*	881.70	53.29			54.78	27.45	1.59	30.53	---	---	Peak	VERTICAL
8		1314.00	42.26	-31.74	74.00	46.94	28.45	3.33	36.46	---	---	Peak	VERTICAL
9		2172.00	45.27	-28.73	74.00	42.90	31.08	5.65	34.36	---	---	Peak	VERTICAL
10		2900.00	46.11	-27.89	74.00	39.09	32.35	2.95	28.28	---	---	Peak	VERTICAL
11		3708.00	44.78	-29.22	74.00	35.48	34.30	6.34	31.34	---	---	Peak	VERTICAL
12		4740.00	45.55	-28.45	74.00	37.30	35.07	5.91	32.73	---	---	Peak	VERTICAL
13		5493.00	45.73	-28.27	74.00	40.05	35.25	7.10	36.67	---	---	Peak	VERTICAL

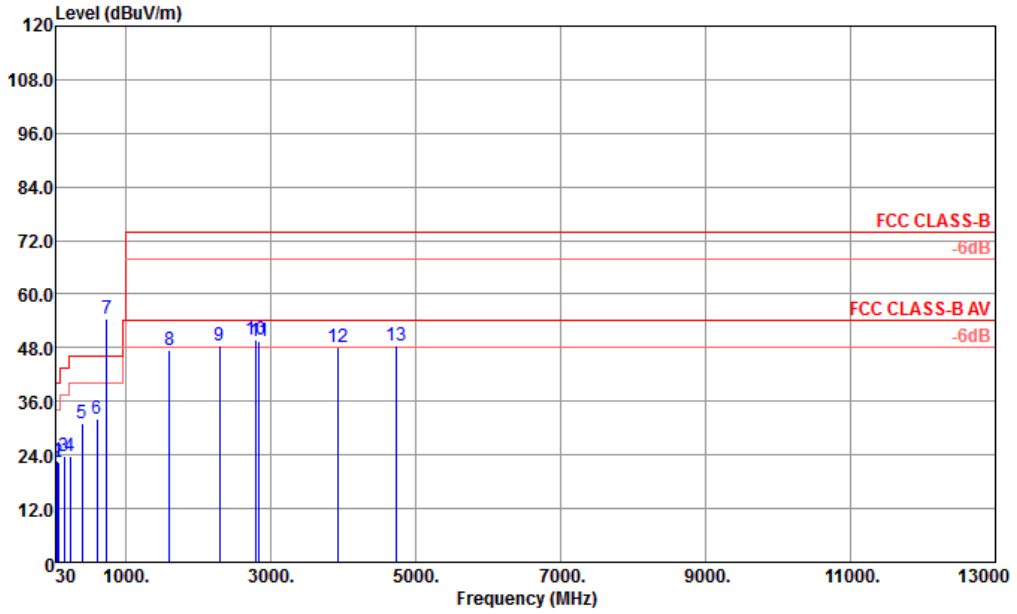
Test Mode :	Mode 5	**Temperature :**	21~22°C
Test Engineer :	Waird Chen	**Relative Humidity :**	41~42%
Test Distance :	3m	**Polarization :**	Horizontal
Function Type :	LTE Band 12 Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Data Link with Notebook) + Battery 1 + GPS Rx + Earphone + SIM1 for Sample 1		
Remark :	#6 is system simulator signal which can be ignored.		



Site : 03CH02-KS
Condition : FCC CLASS-B 3m 966-02 LF ANT HORIZONTAL
Project : (FC) 651305
Mode : 5
IMEI : 860995030005763 860995030006969

		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		100.20	26.20	-17.30	43.50	38.07	18.30	0.23	30.40	---	---	Peak	HORIZONT
2		231.15	30.95	-15.05	46.00	44.35	16.59	0.47	30.46	---	---	Peak	HORIZONT
3		239.25	32.80	-13.20	46.00	45.88	16.92	0.48	30.48	110	230	Peak	HORIZONT
4		286.77	28.96	-17.04	46.00	41.21	17.69	0.56	30.50	---	---	Peak	HORIZONT
5		598.90	32.11	-13.89	46.00	37.11	24.30	0.90	30.20	---	---	Peak	HORIZONT
6	*	738.20	52.05			54.88	26.34	1.31	30.48	---	---	Peak	HORIZONT
7		904.10	28.65	-17.35	46.00	29.87	27.66	1.71	30.59	---	---	Peak	HORIZONT
8		1294.00	46.01	-27.99	74.00	50.72	28.42	3.33	36.46	---	---	Peak	HORIZONT
9		1934.00	47.29	-26.71	74.00	47.87	29.93	4.49	35.00	---	---	Peak	HORIZONT
10		2350.00	48.63	-25.37	74.00	45.15	31.35	5.62	33.49	---	---	Peak	HORIZONT
11		2812.00	50.31	-23.69	74.00	43.03	32.14	2.76	27.62	---	---	Peak	HORIZONT
12		4209.00	48.55	-25.45	74.00	38.89	35.12	6.38	31.84	---	---	Peak	HORIZONT
13		4740.00	48.75	-25.25	74.00	40.50	35.07	5.91	32.73	---	---	Peak	HORIZONT

Test Mode :	Mode 5	**Temperature :**	21~22°C
Test Engineer :	Waird Chen	**Relative Humidity :**	41~42%
Test Distance :	3m	**Polarization :**	Vertical
Function Type :	LTE Band 12 Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Data Link with Notebook) + Battery 1 + GPS Rx + Earphone + SIM1 for Sample 1		
Remark :	#7 is system simulator signal which can be ignored.		



Site : 03CH02-KS
Condition : FCC CLASS-B 3m 966-02 LF ANT VERTICAL
Project : (FC) 651305
Mode : 5
IMEI : 860995030005763 860995030006969

		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		60.24	22.78	-17.22	40.00	40.52	12.70	0.16	30.60	---	---	Peak	VERTICAL
2		66.45	22.50	-17.50	40.00	40.07	12.85	0.18	30.60	---	---	Peak	VERTICAL
3		153.12	23.68	-19.82	43.50	36.24	17.51	0.33	30.40	---	---	Peak	VERTICAL
4		231.15	23.65	-22.35	46.00	37.05	16.59	0.47	30.46	---	---	Peak	VERTICAL
5		398.00	30.99	-15.01	46.00	35.66	25.11	0.92	30.70	---	---	Peak	VERTICAL
6		598.20	31.97	-14.03	46.00	36.95	24.32	0.90	30.20	100	200	Peak	VERTICAL
7	*	738.20	54.36			57.19	26.34	1.31	30.48	---	---	Peak	VERTICAL
8		1600.00	47.55	-26.45	74.00	50.73	28.94	4.13	36.25	---	---	Peak	VERTICAL
9		2288.00	48.61	-25.39	74.00	45.38	31.29	5.70	33.76	---	---	Peak	VERTICAL
10		2798.00	49.76	-24.24	74.00	42.57	32.10	2.71	27.62	---	---	Peak	VERTICAL
11		2840.00	49.59	-24.41	74.00	42.38	32.18	2.81	27.78	---	---	Peak	VERTICAL
12		3936.00	48.27	-25.73	74.00	38.92	34.76	6.25	31.66	---	---	Peak	VERTICAL
13		4737.00	48.61	-25.39	74.00	40.44	35.07	5.83	32.73	---	---	Peak	VERTICAL

4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz; Max 30dBm	Sep. 10, 2015	Jun. 01, 2016	Sep. 09, 2016	Radiation (03CH02-KS)
Spectrum Analyzer	R&S	FSV40	101040	10kHz~40GHz; Max 30dBm	Sep. 10, 2015	Jun. 01, 2016	Sep. 09, 2016	Radiation (03CH02-KS)
Bilog Antenna	TeseQ	CBL6112D	23182	25MHz-2GHz	Mar. 12, 2016	Jun. 01, 2016	Mar. 11, 2017	Radiation (03CH02-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Nov. 07, 2015	Jun. 01, 2016	Nov. 06, 2016	Radiation (03CH02-KS)
Amplifier	com-power	PA-103A	161069	1kHz~1000MHz / 32 dB	Apr. 22, 2016	Jun. 01, 2016	Apr. 21, 2017	Radiation (03CH02-KS)
Amplifier	Agilent	8449B	3008A02384	1GHz~26.5GHz	Oct. 24, 2015	Jun. 01, 2016	Oct. 23, 2016	Radiation (03CH02-KS)
AC Power Source	Chroma	61601	616010002473	N/A	NCR	Jun. 01, 2016	NCR	Radiation (03CH02-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	Jun. 01, 2016	NCR	Radiation (03CH02-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	Jun. 01, 2016	NCR	Radiation (03CH02-KS)
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz; Max 30dBm	Sep. 10, 2015	Jun. 03, 2016	Sep. 09, 2016	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060103	9kHz~30MHz	Oct. 24, 2015	Jun. 03, 2016	Oct. 23, 2016	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060105	9kHz~30MHz	Oct. 24, 2015	Jun. 03, 2016	Oct. 23, 2016	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 24, 2015	Jun. 03, 2016	Oct. 23, 2016	Conduction (CO01-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 (1 GHz ~ 18 GHz)

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