FCC Test Report

APPLICANT	:	ZTE CORPORATION
EQUIPMENT	:	CDMA /LTE Multi-Mode Digital Mobile Phone
BRAND NAME	:	ZTE
MODEL NAME	:	Z3001S
FCC ID	:	SRQ-Z3001S
STANDARD	:	FCC 47 CFR FCC Part 15 Subpart B
CLASSIFICATION	:	Certification

The product was received on Nov. 16, 2017 and testing was completed on Dec. 11, 2017. 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

NVLAP®
TESTING
NVLAP LAB CODE 600155-0

Approved by: James Huang / Manager

Sporton International (Kunshan) Inc.
No.3-2 Ping-Xiang Rd, Kunshan Development Zone Kunshan City Jiangsu Province 215335
China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC7N1618	Rev. 01	Initial issue of report	Dec. 27, 2017

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 10.98 dB at 1.839 MHz
3.2	15.109	Radiated Emission	< 15.109 limits	PASS	Under limit 1.44 dB at 45.52 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	CDMA /LTE Multi-Mode Digital Mobile Phone
Brand Name	ZTE
Model Name	Z3001S
FCC ID	SRQ-Z3001S
EUT supports Radios application	CDMA/EV-DO/LTE/ WLAN 2.4GHz 802.11b/g/n HT20/HT40 Bluetooth v3.0 + EDR / Bluetooth v4.0 LE Bluetooth v4.1 LE
IMEI Code	Conduction: 99000898000100 Radiation: 99000898000100
HW Version	Z3001SHW1.0
SW Version	Z3001SV1.0.0B02
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	LTE Band 13 : 779.5 MHz ~ 784.5 MHz LTE Band 25 : 1850.7 MHz ~ 1914.3 MHz LTE Band 26 : 814.7 MHz ~ 848.3 MHz LTE Band 41 : 2498.5 MHz ~ 2687.5 MHz CDMA2000 BC0: 824.70 MHz ~ 848.31 MHz CDMA2000 BC1: 1851.25 MHz ~ 1908.75 MHz CDMA2000 BC10: 817.9 MHz ~ 823.1 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Rx Frequency	LTE Band 13 : 748.5 MHz ~ 753.5 MHz LTE Band 25 : 1930.7 MHz ~ 1994.3 MHz LTE Band 26 : 859.7 MHz ~ 893.3 MHz LTE Band 41 : 2498.5 MHz ~ 2687.5 MHz CDMA2000 BC0: 869.70 MHz ~ 893.31 MHz CDMA2000 BC1: 1931.25 MHz ~ 1988.75 MHz CDMA2000 BC10: 862.9 MHz ~ 868.1 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz Bluetooth: 2402 MHz ~ 2480 MHz GNSS : 1559 MHz ~ 1610 MHz FM : 88~108 MHz
Antenna Type	WWAN: PIFA Antenna WLAN: PIFA Antenna Bluetooth: PIFA Antenna GNSS: PIFA Antenna FM: External headset Antenna
Type of Modulation	CDMA2000 : QPSK CDMA2000 1xEV-DO : 8PSK 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 GNSS : BPSK FM : FM

Note: GNSS = GPS + Glonass

1.5. Modification of EUT

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

1.6. Test Location

Sporton International (Kunshan) Inc. is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600155-0) and the FCC designation No is CN5013.

Test Site	Sporton International (Kunshan) Inc.		
Test Site Location	No.3-2 Ping-Xiang Rd, Kunshan Development Zone Kunshan City Jiangsu Province 215335 China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	**Sporton Site No.**		**FCC Test Firm Registration No.**
	CO01-KS	03CH02-KS	630927

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).

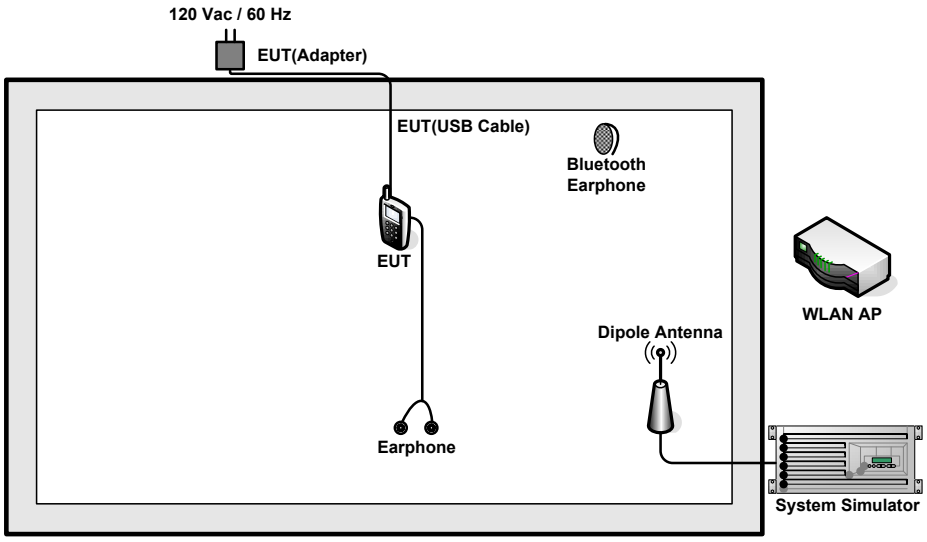
Test Items	Function Type
AC Conducted Emission	Mode 1 : CDMA2000 BC0 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter 1) + Earphone + Camera(Rear) + Battery 1 <Fig.1> Mode 2 : CDMA2000 BC1 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter 1) + Earphone + Camera(Front) + Battery 1 <Fig.1> Mode 3 : CDMA2000 BC10 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter 1) + Earphone + MPEG4 + Battery 1 <Fig.1> Mode 4 : CDMA2000 BC0 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter 2) + Earphone + Camera(Rear) + Battery 1 <Fig.1> Mode 5 : CDMA2000 BC0 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter 3) + Earphone + Camera(Rear) + Battery 1 <Fig.1> Mode 6 : LTE Band 13 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Data Link with Notebook) + Earphone + GNSS Rx + Battery 1 <Fig.2> Mode 7 : CDMA2000 BC0 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter 1) + Earphone + Camera(Rear) + Battery 2 <Fig.1> Mode 8 : CDMA2000 BC0 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter 1) + Earphone + Camera(Rear) + Battery 3 <Fig.1>

Radiated Emissions < 1GHz	Mode 1 : CDMA2000 BC0 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter 1) + Earphone + Camera(Rear) + Battery 1 <Fig.1> Mode 2 : CDMA2000 BC1 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter 1) + Earphone + Camera(Front) + Battery 1 <Fig.1> Mode 3 : CDMA2000 BC10 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter 1) + Earphone + MPEG4 + Battery 1 <Fig.1> Mode 4 : CDMA2000 BC10 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter 2) + Earphone + MPEG4 + Battery 1 <Fig.1> Mode 5 : CDMA2000 BC10 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter 3) + Earphone + MPEG4 + Battery 1 <Fig.1> Mode 6 : LTE Band 13 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Data Link with Notebook) + Earphone + GNSS Rx + Battery 1 <Fig.2> Mode 7 : CDMA2000 BC10 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter 1) + Earphone + MPEG4 + Battery 2 <Fig.1> Mode 8 : CDMA2000 BC10 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter 1) + Earphone + MPEG4 + Battery 3 <Fig.1>
Radiated Emissions ≥ 1GHz	Mode 1 : CDMA2000 BC10 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter 1) + Earphone + MPEG4 + Battery 1 <Fig.1> Mode 2 : LTE Band 13 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Data Link with Notebook) + Earphone + GNSS Rx + Battery 1 <Fig.2>

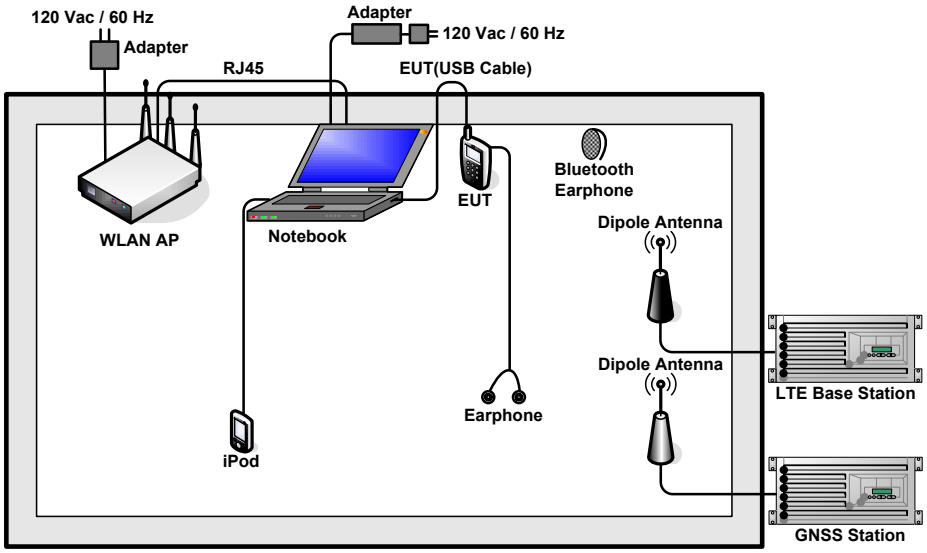
Remark:

1. The worst case of AC is mode 1; and the USB Link mode of AC is mode 6, the test data of these modes are reported.
2. The worst case of RE < 1G is mode 3; and the USB Link mode of RE is mode 6, 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>

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	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
3.	GNSS Station	RACELOGIC	RLLS03-2RP	N/A	N/A	Unshielded, 1.8 m
4.	WLAN AP	LINKSYS	WRT600N	Q87-WRT600NV11	N/A	Unshielded, 1.8 m
5.	WLAN AP	TP-Link	TL-WDR5600	N/A	N/A	Unshielded, 1.8m
6.	WLAN AP	D-Link	DIR-855	KA2DIR855A2	N/A	Unshielded,1.8m
7.	Notebook	Lenovo	G40-80	N/A	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
8.	Notebook	Dell	Latitude3440	NA	NA	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
9.	Bluetooth Earphone	Lenovo	LBH308	N/A	N/A	N/A
10.	iPod	Apple	A1199	FCC DoC	Shielded, 1.2m	N/A
11.	SD Card	Kingston	SDC4/4GB	N/A	N/A	N/A
12.	SD Card	SanDisk	Uitra	N/A	N/A	N/A
13.	Earphone	Lenovo	LH102	N/A	N/A	Unshielded,1.2m
14.	Earphone	Lenovo	SH100	N/A	N/A	N/A

2.4. EUT Operation Test Setup

The EUT was in CDMA 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 GNSS function to make the EUT receive continuous signals from GNSS 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.

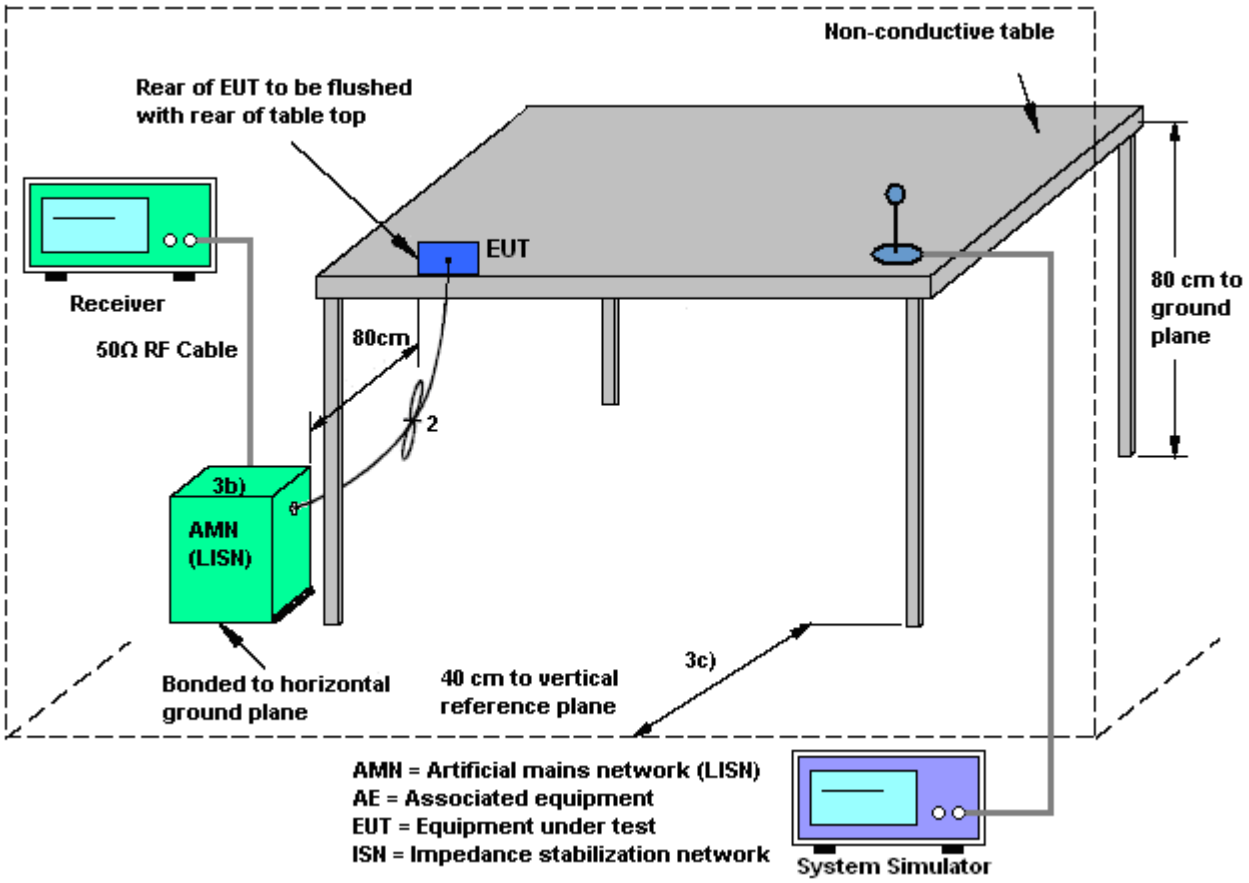
3.1.2 Measuring Instruments

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

3.1.3 Test Procedure

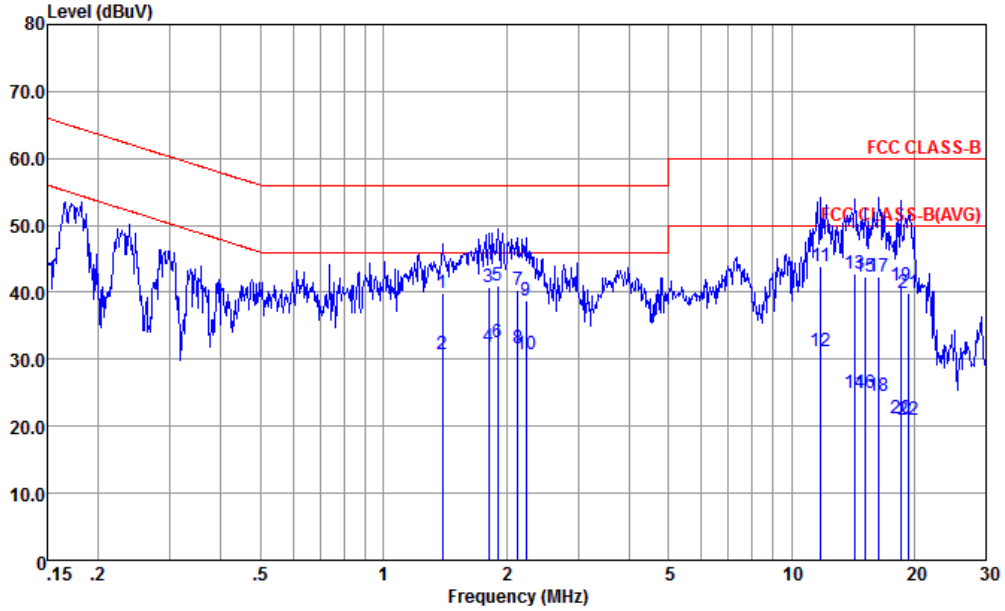
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.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

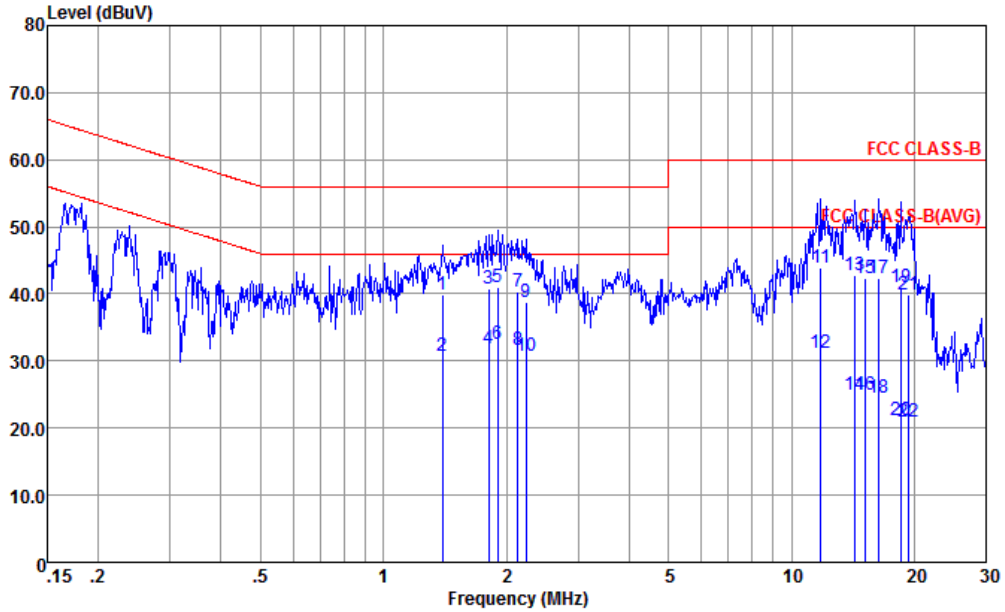
Test Mode :	Mode 1	**Temperature :**	22~24℃
Test Engineer :	Amos Zhang	**Relative Humidity :**	42~46%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	CDMA2000 BC0 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter 1) + Earphone + Camera(Rear) + Battery 1		



Site : CO01-KS
Condition : FCC CLASS-B LISN-L-171013-060103 LINE
Project : (FC) 7N1618
mode : Mode 1
: 99000898000100 #6

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		1.396	39.93	-16.07	56.00	29.50	0.27	10.16	QP
2		1.396	30.73	-15.27	46.00	20.30	0.27	10.16	Average
3		1.810	40.78	-15.22	56.00	30.30	0.28	10.20	QP
4		1.810	31.78	-14.22	46.00	21.30	0.28	10.20	Average
5		1.908	41.09	-14.91	56.00	30.60	0.28	10.21	QP
6	*	1.908	32.59	-13.41	46.00	22.10	0.28	10.21	Average
7		2.133	40.30	-15.70	56.00	29.80	0.29	10.21	QP
8		2.133	31.70	-14.30	46.00	21.20	0.29	10.21	Average
9		2.237	38.80	-17.20	56.00	28.30	0.29	10.21	QP
10		2.237	30.80	-15.20	46.00	20.30	0.29	10.21	Average
11		11.807	43.98	-16.02	60.00	33.31	0.31	10.36	QP
12		11.807	31.28	-18.72	50.00	20.61	0.31	10.36	Average
13		14.288	42.77	-17.23	60.00	32.10	0.27	10.40	QP
14		14.288	24.87	-25.13	50.00	14.20	0.27	10.40	Average
15		15.226	42.27	-17.73	60.00	31.59	0.26	10.42	QP
16		15.226	24.87	-25.13	50.00	14.19	0.26	10.42	Average
17		16.312	42.27	-17.73	60.00	31.60	0.24	10.43	QP

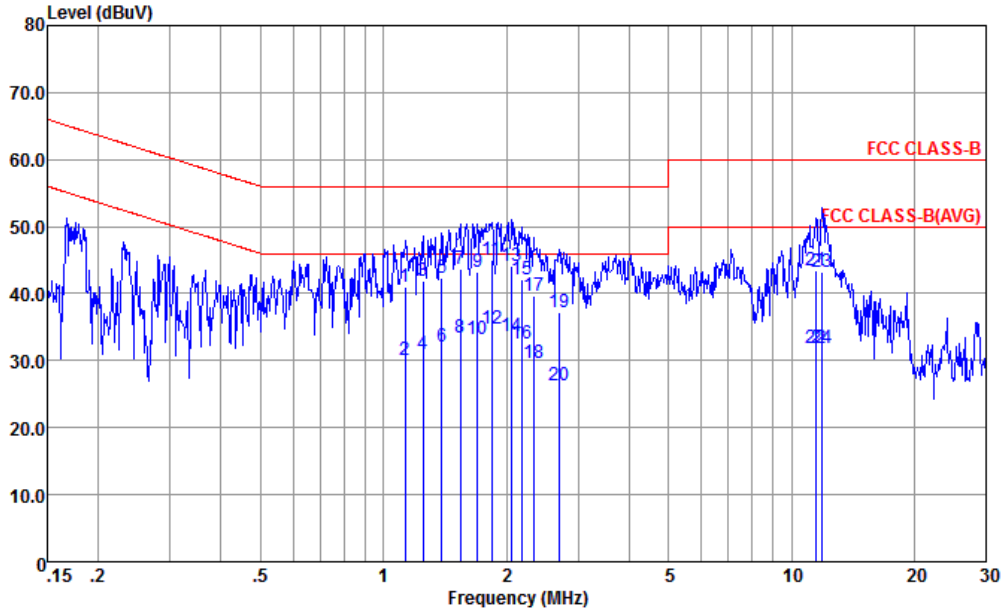
Test Mode :	Mode 1	**Temperature :**	23~25℃
Test Engineer :	Amos Zhang	**Relative Humidity :**	42~46%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	CDMA2000 BC0 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter 1) + Earphone + Camera(Rear) + Battery 1		



Site : CO01-KS
Condition : FCC CLASS-B LISN-L-171013-060103 LINE
Project : (FC) 7N1618
mode : Mode 1
: 99000898000100 #6

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
18	16.312	24.47	-25.53	50.00	13.80	0.24	10.43	Average
19	18.524	40.96	-19.04	60.00	30.30	0.20	10.46	QP
20	18.524	21.26	-28.74	50.00	10.60	0.20	10.46	Average
21	19.428	39.96	-20.04	60.00	29.30	0.19	10.47	QP
22	19.428	20.86	-29.14	50.00	10.20	0.19	10.47	Average

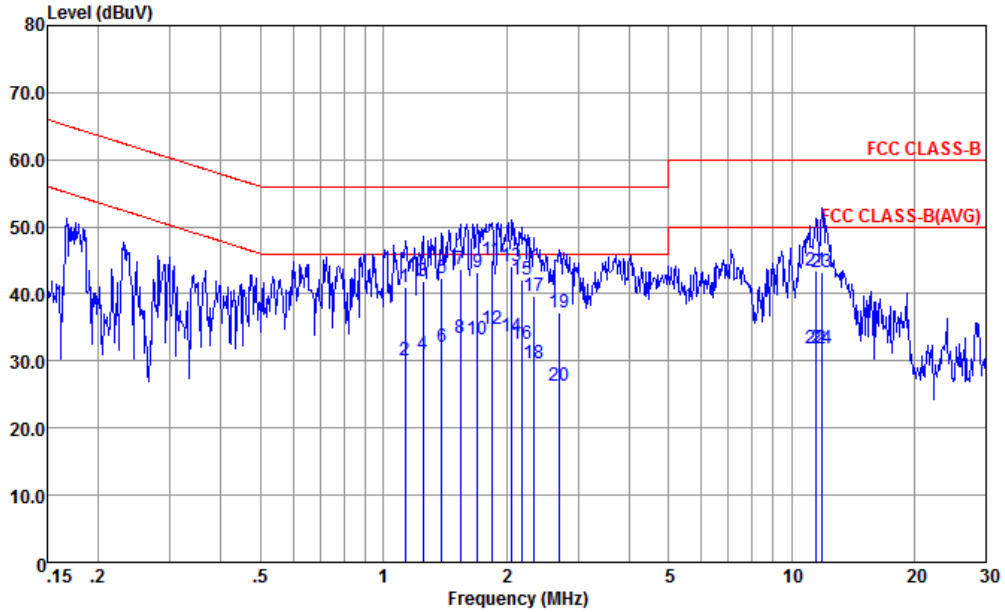
Test Mode :	Mode 1	Temperature :	22~24℃
Test Engineer :	Amos Zhang	Relative Humidity :	42~46%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	CDMA2000 BC0 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter 1) + Earphone + Camera(Rear) + Battery 1		



Site : CO01-KS
Condition : FCC CLASS-B LISN-N-171013-060103 NEUTRAL
Project : (FC) 7N1618
mode : Mode 1
: 99000898000100 #6

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	1.129	41.04	-14.96	56.00	30.60	0.31	10.13	QP
2	1.129	30.04	-15.96	46.00	19.60	0.31	10.13	Average
3	1.249	41.96	-14.04	56.00	31.51	0.31	10.14	QP
4	1.249	30.96	-15.04	46.00	20.51	0.31	10.14	Average
5	1.388	42.37	-13.63	56.00	31.90	0.31	10.16	QP
6	1.388	32.07	-13.93	46.00	21.60	0.31	10.16	Average
7	1.544	43.69	-12.31	56.00	33.20	0.32	10.17	QP
8	1.544	33.39	-12.61	46.00	22.90	0.32	10.17	Average
9	1.698	43.31	-12.69	56.00	32.80	0.32	10.19	QP
10	1.698	33.11	-12.89	46.00	22.60	0.32	10.19	Average
11 *	1.839	45.02	-10.98	56.00	34.50	0.32	10.20	QP
12	1.839	34.72	-11.28	46.00	24.20	0.32	10.20	Average
13	2.066	44.13	-11.87	56.00	33.60	0.32	10.21	QP
14	2.066	33.73	-12.27	46.00	23.20	0.32	10.21	Average
15	2.178	42.13	-13.87	56.00	31.60	0.32	10.21	QP
16	2.178	32.43	-13.57	46.00	21.90	0.32	10.21	Average
17	2.334	39.73	-16.27	56.00	29.21	0.32	10.20	QP

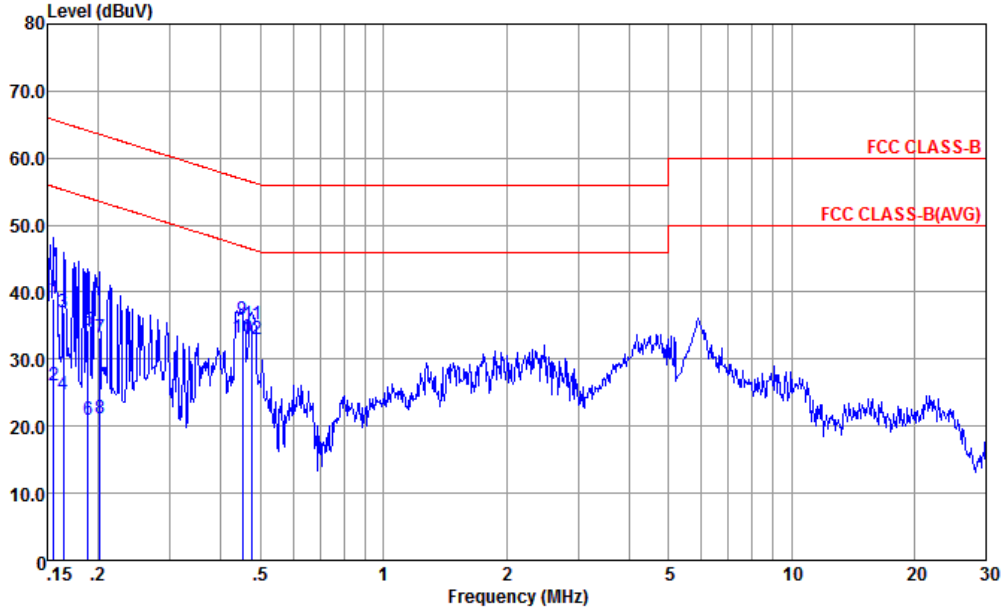
Test Mode :	Mode 1	Temperature :	22~24℃
Test Engineer :	Amos Zhang	Relative Humidity :	42~46%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	CDMA2000 BC0 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter 1) + Earphone + Camera(Rear) + Battery 1		



Site : CO01-KS
Condition : FCC CLASS-B LISN-N-171013-060103 NEUTRAL
Project : (FC) 7N1618
mode : Mode 1
: 99000898000100 #6

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
18	2.334	29.73	-16.27	46.00	19.21	0.32	10.20	Average
19	2.707	37.32	-18.68	56.00	26.80	0.33	10.19	QP
20	2.707	26.32	-19.68	46.00	15.80	0.33	10.19	Average
21	11.438	43.43	-16.57	60.00	32.80	0.27	10.36	QP
22	11.438	31.83	-18.17	50.00	21.20	0.27	10.36	Average
23	11.870	43.13	-16.87	60.00	32.51	0.26	10.36	QP
24	11.870	31.83	-18.17	50.00	21.21	0.26	10.36	Average

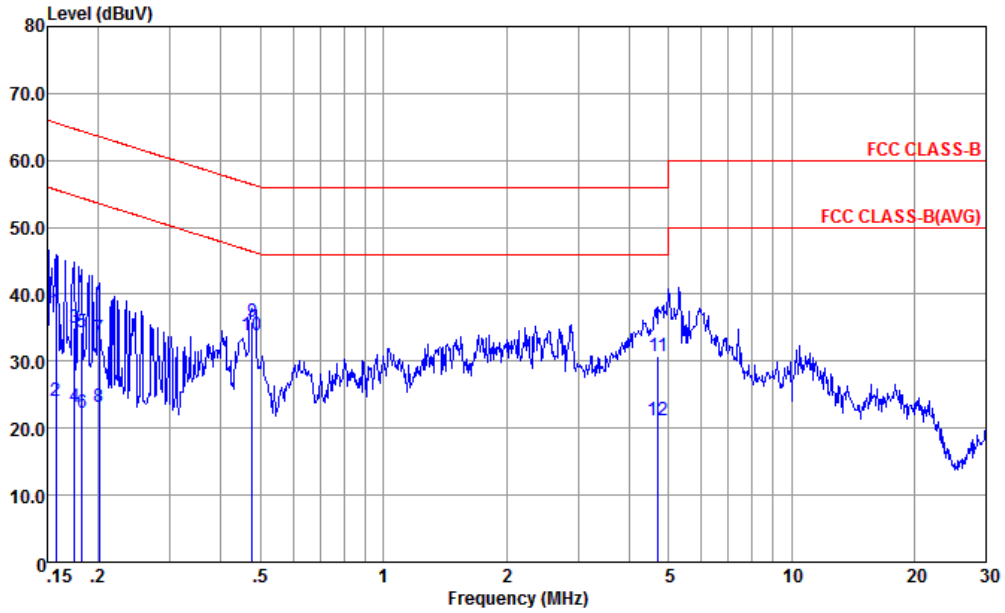
Test Mode :	Mode 6	Temperature :	22~24℃
Test Engineer :	Amos Zhang	Relative Humidity :	42~46%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	LTE Band 13 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Data Link with Notebook) + Earphone + GNSS Rx + Battery 1		



Site : CO01-KS
Condition : FCC CLASS-B LISN-L-171013-060103 LINE
Project : (FC) 7N1618
mode : Mode 6
: 99000898000100 #6

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.156	38.96	-26.73	65.69	28.20	0.16	10.60	QP
2	0.156	25.96	-29.73	55.69	15.20	0.16	10.60	Average
3	0.164	36.94	-28.31	65.25	26.20	0.17	10.57	QP
4	0.164	24.64	-30.61	55.25	13.90	0.17	10.57	Average
5	0.188	34.28	-29.83	64.11	23.60	0.19	10.49	QP
6	0.188	20.88	-33.23	54.11	10.20	0.19	10.49	Average
7	0.202	33.26	-30.28	63.54	22.61	0.20	10.45	QP
8	0.202	21.16	-32.38	53.54	10.51	0.20	10.45	Average
9	0.452	35.81	-21.04	56.85	25.21	0.25	10.35	QP
10	0.452	33.31	-13.54	46.85	22.71	0.25	10.35	Average
11	0.476	35.18	-21.23	56.41	24.59	0.26	10.33	QP
12 *	0.476	32.88	-13.53	46.41	22.29	0.26	10.33	Average

Test Mode :	Mode 6	Temperature :	22~24℃
Test Engineer :	Amos Zhang	Relative Humidity :	42~46%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	LTE Band 13 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Data Link with Notebook) + Earphone + GNSS Rx + Battery 1		



Site : CO01-KS
Condition : FCC CLASS-B LISN-N-171013-060103 NEUTRAL
Project : (FC) 7N1618
mode : Mode 6
: 99000898000100 #6

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.157	37.47	-28.13	65.60	26.60	0.28	10.59	QP
2		0.157	24.17	-31.43	55.60	13.30	0.28	10.59	Average
3		0.175	35.01	-29.71	64.72	24.20	0.28	10.53	QP
4		0.175	23.11	-31.61	54.72	12.30	0.28	10.53	Average
5		0.182	34.39	-29.98	64.37	23.60	0.28	10.51	QP
6		0.182	22.29	-32.08	54.37	11.50	0.28	10.51	Average
7		0.201	33.34	-30.24	63.58	22.61	0.28	10.45	QP
8		0.201	23.24	-30.34	53.58	12.51	0.28	10.45	Average
9		0.476	35.82	-20.59	56.41	25.20	0.29	10.33	QP
10	*	0.476	33.82	-12.59	46.41	23.20	0.29	10.33	Average
11		4.721	30.76	-25.24	56.00	20.20	0.34	10.22	QP
12		4.721	21.16	-24.84	46.00	10.60	0.34	10.22	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

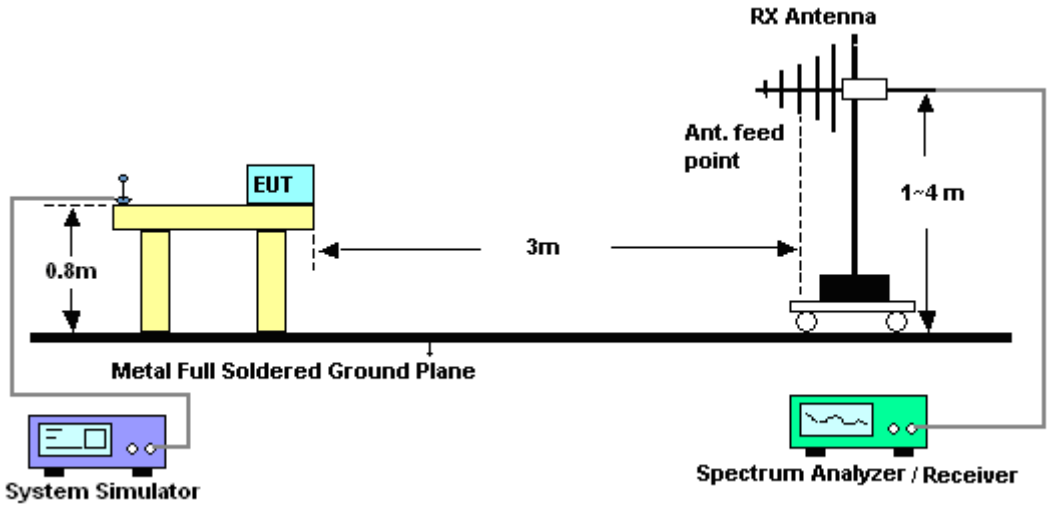
The measuring equipment is listed in the section 4 of this test report.

3.2.3. Test Procedures

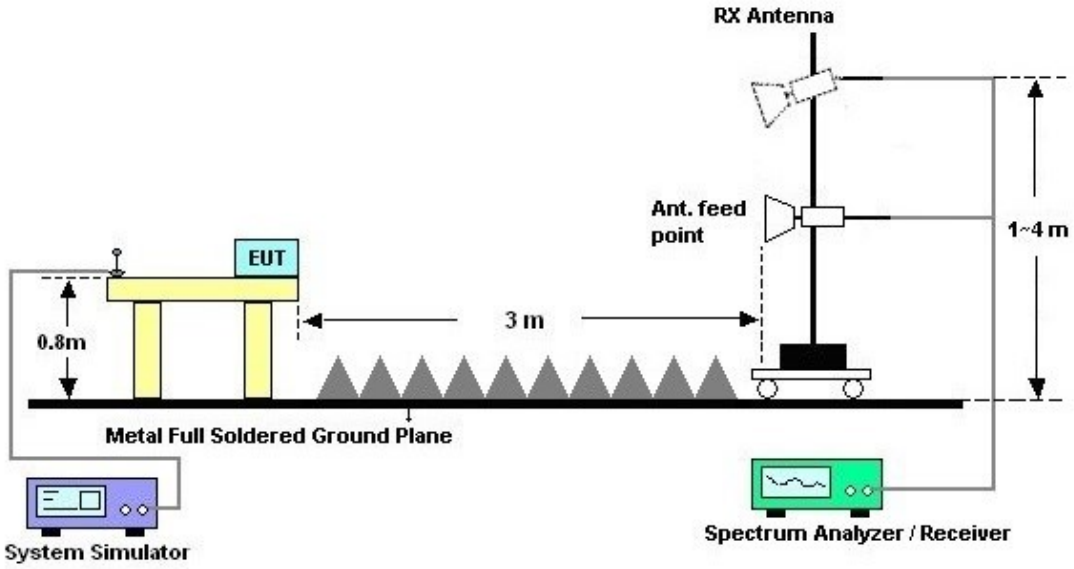
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna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

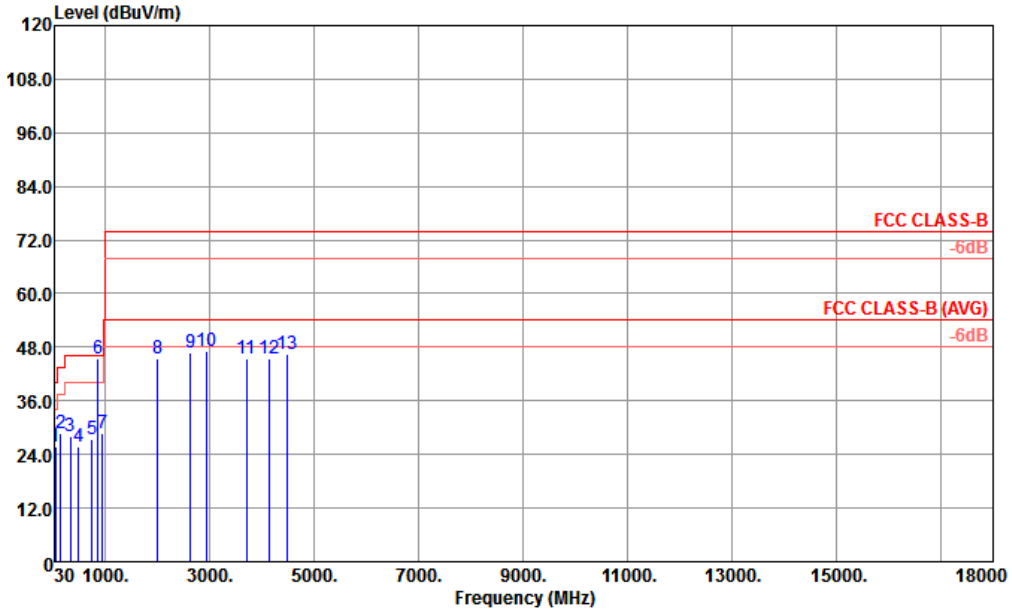


For radiated emissions above 1GHz



3.2.5. Test Result of Radiated Emission

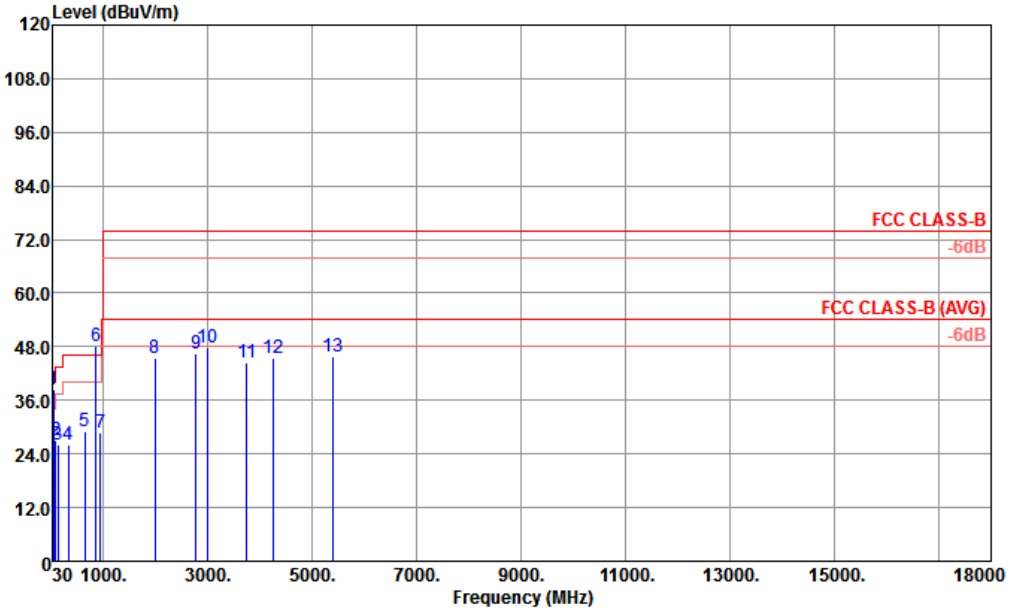
Test Mode :	Mode 3	**Temperature :**	21~22°C
Test Engineer :	Gavin Zhang	**Relative Humidity :**	41~42%
Test Distance :	3m	**Polarization :**	Horizontal
Function Type :	CDMA2000 BC10 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter 1) + Earphone + MPEG4 + Battery 1		
Remark :	#6 is system simulator signal which can be ignored.		



Site : 03CH02-KS
Condition : FCC CLASS-B 3m 02 LF ANT HORIZONTAL
Project : (FC) 7N1618
Mode : 3
IMEI : 99000898000100 #6
Battery : 18%

	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	44.55	25.90	-14.10	40.00	36.78	20.57	0.66	32.11	100	0	Peak
2	157.07	28.79	-14.71	43.50	42.09	17.23	1.29	31.82	---	---	Peak
3	342.34	28.14	-17.86	46.00	37.55	19.61	1.91	30.93	---	---	Peak
4	487.84	25.63	-20.37	46.00	30.31	23.36	2.33	30.37	---	---	Peak
5	754.59	27.43	-18.57	46.00	26.58	26.68	2.80	28.63	---	---	Peak
6 !	865.17	45.32			42.82	27.22	3.07	27.79	---	---	Peak
7	949.56	28.67	-17.33	46.00	24.11	28.50	3.20	27.14	---	---	Peak
8	2002.00	45.33	-28.67	74.00	43.02	30.30	4.63	32.62	---	---	Peak
9	2632.00	46.86	-27.14	74.00	40.20	31.71	5.42	30.47	---	---	Peak
10	2942.00	47.29	-26.71	74.00	38.23	32.40	5.92	29.26	---	---	Peak
11	3708.00	45.61	-28.39	74.00	34.80	34.37	6.55	30.11	---	---	Peak
12	4131.00	45.55	-28.45	74.00	34.03	35.32	7.09	30.89	---	---	Peak
13	4485.00	46.36	-27.64	74.00	34.58	35.87	7.32	31.41	---	---	Peak

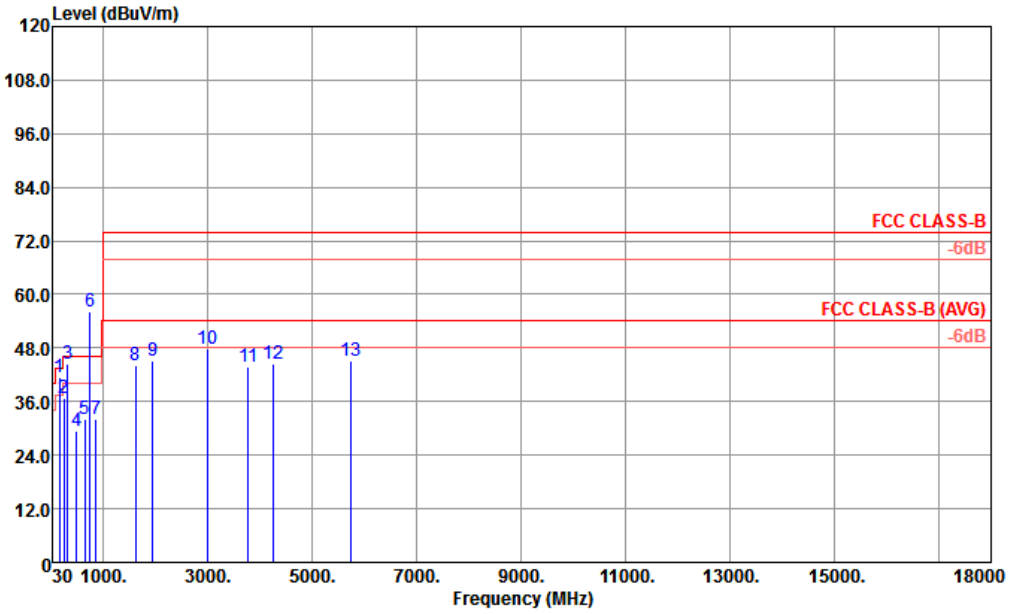
Test Mode :	Mode 3	Temperature :	21~22°C
Test Engineer :	Gavin Zhang	Relative Humidity :	41~42%
Test Distance :	3m	Polarization :	Vertical
Function Type :	CDMA2000 BC10 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter 1) + Earphone + MPEG4 + Battery 1		
Remark :	#6 is system simulator signal which can be ignored.		



Site : 03CH02-KS
Condition : FCC CLASS-B 3m 02 LF ANT VERTICAL
Project : (FC) 7N1618
Mode : 3
IMEI : 99000898000100 #6
Battery : 18%

	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 !	45.52	38.56	-1.44	40.00	50.20	19.80	0.67	32.11	100	289	QP
2	87.23	27.20	-12.80	40.00	42.03	16.25	0.96	32.04	---	---	Peak
3	143.49	26.16	-17.34	43.50	39.23	17.55	1.23	31.85	---	---	Peak
4	342.34	26.22	-19.78	46.00	35.63	19.61	1.91	30.93	---	---	Peak
5	649.83	29.13	-16.87	46.00	30.37	25.40	2.68	29.32	---	---	Peak
6 *	866.14	48.13			45.63	27.22	3.07	27.79	---	---	Peak
7	956.35	28.70	-17.30	46.00	23.97	28.62	3.21	27.10	---	---	Peak
8	1990.00	45.30	-28.70	74.00	43.12	30.19	4.61	32.62	---	---	Peak
9	2782.00	46.39	-27.61	74.00	38.99	31.97	5.78	30.35	---	---	Peak
10	2992.00	47.80	-26.20	74.00	38.13	32.55	5.95	28.83	---	---	Peak
11	3756.00	44.53	-29.47	74.00	33.36	34.70	6.59	30.12	---	---	Peak
12	4257.00	45.53	-28.47	74.00	33.84	35.53	7.25	31.09	---	---	Peak
13	5388.00	45.67	-28.33	74.00	37.33	35.20	7.93	34.79	---	---	Peak

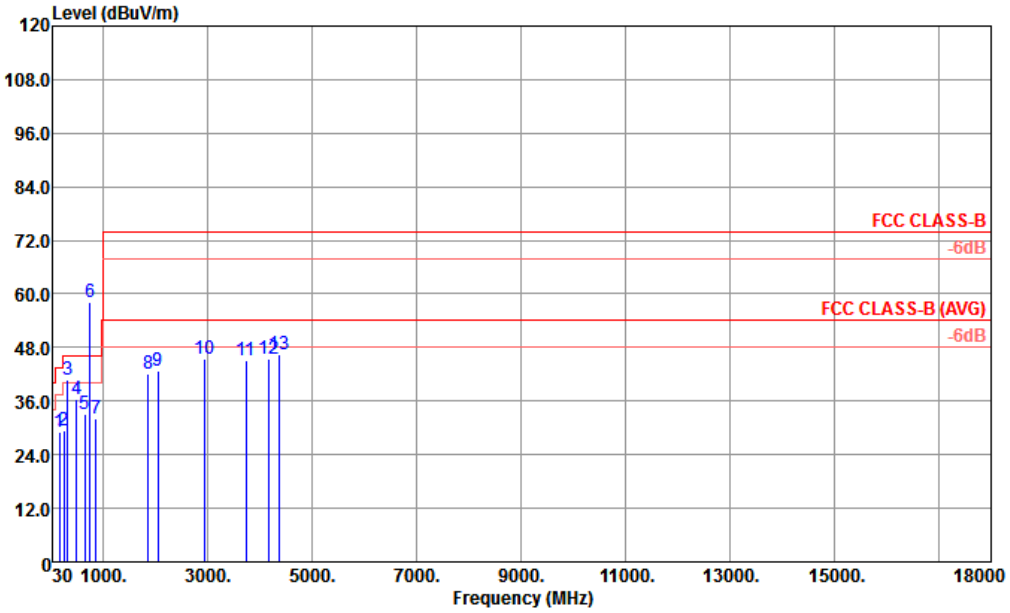
Test Mode :	Mode 6	Temperature :	21~22°C
Test Engineer :	Gavin Zhang	Relative Humidity :	41~42%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	LTE Band 13 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Data Link with Notebook) + Earphone + GNSS Rx + Battery 1		
Remark :	#6 is system simulator signal which can be ignored.		



Site : 03CH02-KS
Condition : FCC CLASS-B 3m 02 LF ANT HORIZONTAL
Project : (FC) 7N1618
Mode : 6
IMEI : 99000898000100 #6
Battery : 28%
: PC/NB USB Data Link to EUT (SD)

		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	!	165.80	41.49	-2.01	43.50	55.00	16.96	1.32	31.79	197	262	QP
2		254.07	36.84	-9.16	46.00	49.60	17.00	1.76	31.52	---	---	Peak
3	!	325.85	44.44	-1.56	46.00	54.51	19.03	1.91	31.01	100	284	QP
4		487.84	29.39	-16.61	46.00	34.07	23.36	2.33	30.37	---	---	Peak
5		645.95	32.02	-13.98	46.00	33.35	25.34	2.68	29.35	---	---	Peak
6	*	750.71	56.10			55.24	26.69	2.82	28.65	---	---	Peak
7		862.26	32.02	-13.98	46.00	29.59	27.19	3.06	27.82	---	---	Peak
8		1628.00	44.18	-29.82	74.00	46.44	29.02	4.23	35.51	---	---	Peak
9		1954.00	45.05	-28.95	74.00	43.56	29.96	4.59	33.06	---	---	Peak
10		2992.00	47.70	-26.30	74.00	38.03	32.55	5.95	28.83	---	---	Peak
11		3783.00	43.68	-30.32	74.00	32.48	34.76	6.61	30.17	---	---	Peak
12		4263.00	44.45	-29.55	74.00	32.76	35.53	7.25	31.09	---	---	Peak
13		5757.00	45.06	-28.94	74.00	38.82	34.89	8.23	36.88	---	---	Peak

Test Mode :	Mode 6	Temperature :	21~22°C
Test Engineer :	Gavin Zhang	Relative Humidity :	41~42%
Test Distance :	3m	Polarization :	Vertical
Function Type :	LTE Band 13 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Data Link with Notebook) + Earphone + GNSS Rx + Battery 1		
Remark :	#6 is system simulator signal which can be ignored.		



Site : 03CH02-KS
Condition : FCC CLASS-B 3m 02 LF ANT VERTICAL
Project : (FC) 7N1618
Mode : 6
IMEI : 99000898000100 #6
Battery : 28%
: PC/NB USB Data Link to EUT (SD)

		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		165.80	29.25	-14.25	43.50	42.76	16.96	1.32	31.79	---	---	Peak
2		254.07	29.53	-16.47	46.00	42.29	17.00	1.76	31.52	---	---	Peak
3	!	324.88	40.74	-5.26	46.00	50.81	19.03	1.91	31.01	100	352	QP
4		487.84	36.48	-9.52	46.00	41.16	23.36	2.33	30.37	---	---	Peak
5		644.98	33.14	-12.86	46.00	34.50	25.31	2.68	29.35	---	---	Peak
6	*	754.59	58.03			57.18	26.68	2.80	28.63	---	---	Peak
7		863.23	32.06	-13.94	46.00	29.60	27.21	3.06	27.81	---	---	Peak
8		1872.00	42.17	-31.83	74.00	41.92	29.47	4.50	33.72	---	---	Peak
9		2056.00	42.95	-31.05	74.00	40.66	30.47	4.71	32.89	---	---	Peak
10		2942.00	45.43	-28.57	74.00	36.37	32.40	5.92	29.26	---	---	Peak
11		3738.00	45.16	-28.84	74.00	34.12	34.59	6.57	30.12	---	---	Peak
12		4170.00	45.57	-28.43	74.00	33.90	35.37	7.24	30.94	---	---	Peak
13		4386.00	46.48	-27.52	74.00	34.88	35.72	7.15	31.27	---	---	Peak

4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	Apr. 20, 2017	Dec. 11, 2017	Apr. 19, 2018	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060103	9kHz~30MHz	Oct. 13, 2017	Dec. 11, 2017	Oct. 12, 2018	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060105	9kHz~30MHz	Oct. 13, 2017	Dec. 11, 2017	Oct. 12, 2018	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 12, 2017	Dec. 11, 2017	Oct. 11, 2018	Conduction (CO01-KS)
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz; Max 30dBm	Aug. 08, 2017	Dec. 07, 2017	Aug. 07, 2018	Radiation (03CH02-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150208	10Hz~44GHz, MAX 30dB	Apr. 18, 2017	Dec. 07, 2017	Apr. 17, 2018	Radiation (03CH02-KS)
Bilog Antenna	TeseQ	CBL6112D	23182	30MHz~2GHz	Jan. 22, 2017	Dec. 07, 2017	Jan. 21, 2018	Radiation (03CH02-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Oct. 21, 2017	Dec. 07, 2017	Oct. 20, 2018	Radiation (03CH02-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA170249	15GHz~40GHz	Feb. 15, 2017	Dec. 07, 2017	Feb. 14, 2018	Radiation (03CH01-KS)
Amplifier	SONOMA	310N	187289	9kHz~1GHz	Aug. 07, 2017	Dec. 07, 2017	Aug. 06, 2018	Radiation (03CH02-KS)
Amplifier	Agilent	8449B	3008A02384	1-26.5GHz Gain 30dB	Oct. 12, 2017	Dec. 07, 2017	Oct. 11, 2018	Radiation (03CH02-KS)
Amplifier	MITEQ	TTA1840-35-HG	1887435	18GHz~40GHz	Oct. 12, 2017	Dec. 07, 2017	Oct. 11, 2018	Radiation (03CH02-KS)
AC Power Source	Chroma	61601	616010002473	N/A	NCR	Dec. 07, 2017	NCR	Radiation (03CH02-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	Dec. 07, 2017	NCR	Radiation (03CH02-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	Dec. 07, 2017	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))	**5.2dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.7dB**