

FCC Test Report

APPLICANT : Bullitt Group
EQUIPMENT : Smartphone
BRAND NAME : KODAK
MODEL NAME : EKTRA
MARKETING NAME : KODAK EKTRA Smartphone
FCC ID : ZL5EKTRA
STANDARD : FCC 47 CFR FCC Part 15 Subpart B
CLASSIFICATION : Certification

The product was received on Mar. 07, 2017 and testing was completed on Apr. 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.



Prepared by: James Huang / Manager



Approved by: Jones Tsai / Manager



Sporton International (KunShan) INC.

No.3-2, Pingxiang Road, Kunshan Development Zone, Jiangsu, China



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC730704	Rev. 01	Initial issue of report	Apr. 14, 2017



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 11.29 dB at 0.561 MHz
3.2	15.109	ICES003 Section 6.2	Radiated Emission	< 15.109 limits < ICES003 6.2 limits	PASS	Under limit 3.49 dB at 39.450 MHz



1. General Description

1.1. Applicant

Bullitt Group

One Valpy, Valpy Street, Reading, Berkshire, RG1 1AR, UK

1.2. Manufacturer

Shanghai Sunrise Simcom Limited

No. 888, Shengli Rd., Qingpu, Shanghai, P.R.China 201700

1.3. Product Feature of Equipment Under Test

Product Feature	
Equipment	Smartphone
Brand Name	KODAK
Model Name	EKTRA
Marketing Name	KODAK EKTRA Smartphone
FCC ID	ZL5EKTRA
EUT supports Radios application	GSM/GPRS/EGPRS/WCDMA/HSPA/ DC-HSDPA/HSPA+/LTE/NFC 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/ Bluetooth v4.1 LE
IMEI Code	Conduction: 357682080000874 Radiation: 357682080000817
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 7 : 2502.5 MHz ~ 2567.5 MHz LTE Band 12 : 699.7 MHz ~ 715.3 MHz LTE Band 17 : 706.5 MHz ~ 713.5 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz 802.11a/n/ac: 5180 MHz ~ 5240 MHz; 5260 MHz ~ 5320 MHz; 5500MHz ~ 5720 MHz ; 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 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 7: 2622.5 MHz ~ 2687.5 MHz LTE Band 12 : 729.7 MHz ~ 745.3 MHz LTE Band 17 : 736.5 MHz ~ 743.5 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz 802.11a/n/ac: 5180 MHz ~ 5240 MHz; 5260 MHz ~ 5320 MHz; 5500MHz ~ 5720 MHz ; 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz GPS : 1.57542 GHz Glonass: 1602 MHz + $n \times 0.5625\text{MHz}$ ($n=-7,-6,-5,...,0,...,6$) NFC : 13.56 MHz FM : 87.5 MHz ~ 108 MHz
Antenna Type	WWAN : PIFA Antenna WLAN : PIFA Antenna Bluetooth : PIFA Antenna GPS/Glonass: PIFA Antenna NFC : Loop Antenna FM: External headset Antenna
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA : BPSK (Uplink)

	HSDPA/DC-HSDPA : QPSK (Uplink) HSUPA : QPSK (Uplink) HSPA+ : 16QAM DC-HSDPA : 64QAM 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) : $\pi/4$ -DQPSK Bluetooth (3Mbps) : 8-DPSK GPS/Glonass : BPSK NFC: ASK FM
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Note: WLAN operation in 5600 MHz ~ 5650 MHz is notched.

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 Development Zone, Jiangsu, 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

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.

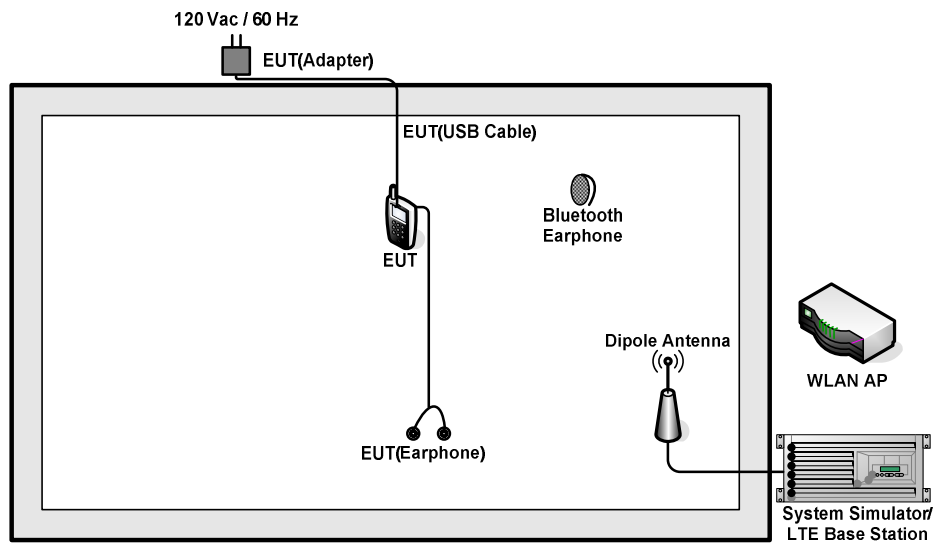
Frequency range investigated: conduction (150 kHz to 30 MHz), radiation (30MHz to the 5th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

Test Items	Function Type
AC Conducted Emission	Mode 1: GSM850 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter) + Earphone + Camera(Rear)<Fig.1> Mode 2: GSM1900 Idle + Bluetooth Idle + WLAN Idle(5G) + USB Cable (Charging from Adapter) + Earphone + Camera(Front)<Fig.1> Mode 3: WCDMA Band V Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter) + Earphone + MPEG4<Fig.1> Mode 4: LTE Band 4 Idle + Bluetooth Idle + WLAN Idle(5G) + USB Cable (Charging from Adapter) + Earphone + NFC On<Fig.1> Mode 5: LTE Band 2 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter) + Earphone + Glonass Rx<Fig.2> Mode 6: LTE Band 7 Idle + Bluetooth Idle + WLAN Idle(5G) + USB Cable (Data Link with Notebook) + Earphone + GPS Rx<Fig.3>
Radiated Emissions < 1GHz	Mode 1: GSM850 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter) + Earphone + Camera(Rear)<Fig.1> Mode 2: GSM1900 Idle + Bluetooth Idle + WLAN Idle(5G) + USB Cable (Charging from Adapter) + Earphone + Camera(Front)<Fig.1> Mode 3: WCDMA Band V Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter) + Earphone + MPEG4<Fig.1> Mode 4: LTE Band 4 Idle + Bluetooth Idle + WLAN Idle(5G) + USB Cable (Charging from Adapter) + Earphone + NFC On<Fig.1> Mode 5: LTE Band 2 Idle + Bluetooth Idle + WLAN Idle(2.4G) + USB Cable (Charging from Adapter) + Earphone + Glonass Rx<Fig.2> Mode 6: LTE Band 7 Idle + Bluetooth Idle + WLAN Idle(5G) + USB Cable (Data Link with Notebook) + Earphone + GPS Rx<Fig.3>
Radiated Emissions ≥ 1GHz	Mode 1: GSM1900 Idle + Bluetooth Idle + WLAN Idle(5G) + USB Cable (Charging from Adapter) + Earphone + Camera(Front)<Fig.1> Mode 2: LTE Band 7 Idle + Bluetooth Idle + WLAN Idle(5G) + USB Cable (Data Link with Notebook) + Earphone + GPS Rx<Fig.3>

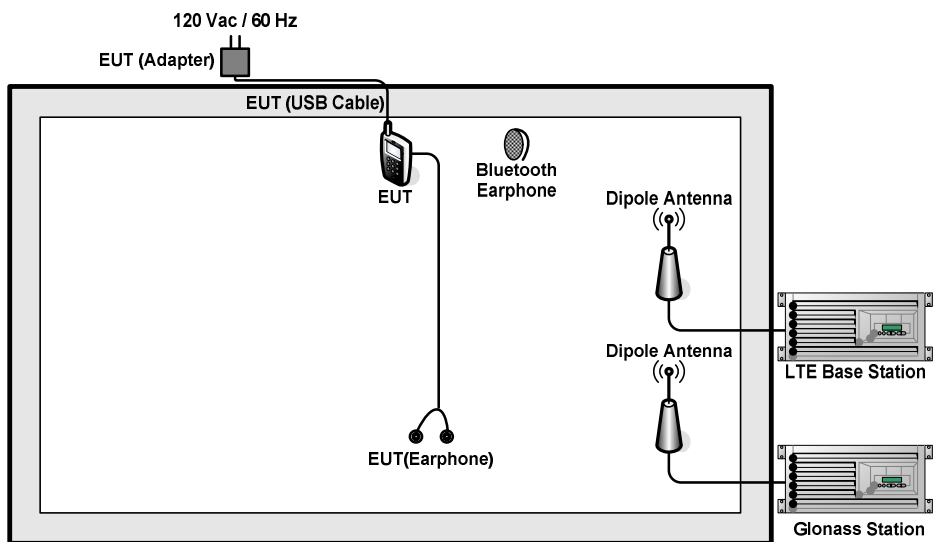
Remark:

1. The worst case of AC is mode 4; and the USB link mode of AC is mode 6, the test data of these modes were reported.
2. The worst case of RE < 1G is mode 2; and the USB Link mode of RE is mode 6, the test data of these modes were reported.
3. Data Link with Notebook means data application transferred mode between EUT and Notebook.

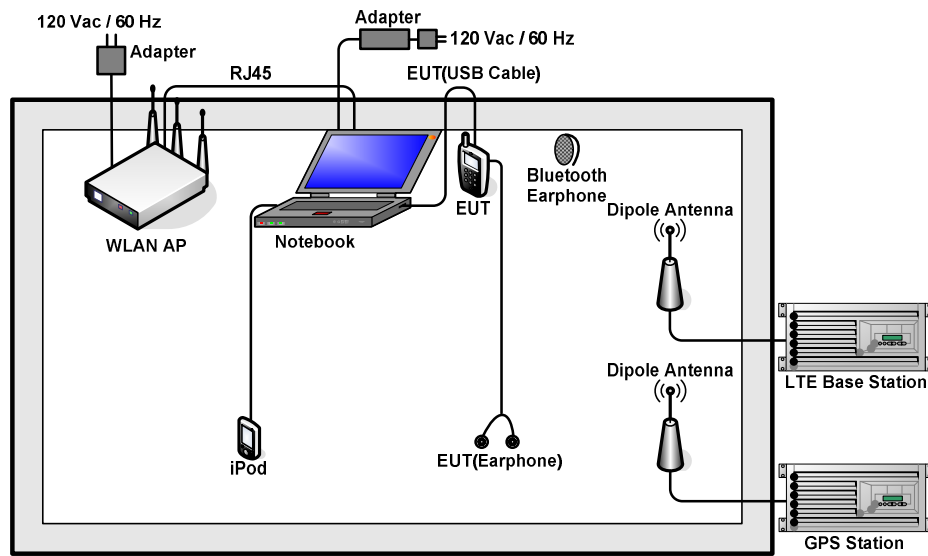
2.2. Connection Diagram of Test System



<Fig.1>



<Fig.2>



<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.	System Simulator	R&S	CMU200	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	RLLS03-2P	N/A	N/A	Unshielded, 1.8 m
5.	WLAN AP	D-link	DIR855	KA2DIR855A2	N/A	Unshielded, 1.8 m
6.	WLAN AP	TP-Link	TL-WDR5600	N/A	N/A	Unshielded, 1.8 m
7.	WLAN AP	LINKSYS	WRT600N	Q87-WRT600NV11	N/A	Unshielded, 1.8 m
8.	Bluetooth Earphone	Lenovo	LBH308	N/A	N/A	N/A
9.	Bluetooth Earphone	Lenovo	LBH301	N/A	N/A	N/A
10.	Notebook	Lenovo	G480	N/A	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
11.	Notebook	DELL	Latitude3440	N/A	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
12.	SD Card	Kingston	4GB	N/A	N/A	N/A
13.	SD Card	SanDisk	Uitra	N/A	N/A	N/A
14.	iPod	Apple	A1199	FCC DoC	Unshielded, 1.2 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.
5. Turn on NFC function.

3. Test Result

3.1. Test of AC Conducted Emission Measurement

3.1.1 Limits of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

3.1.2 Measuring Instruments

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

3.1.3 Test Procedure

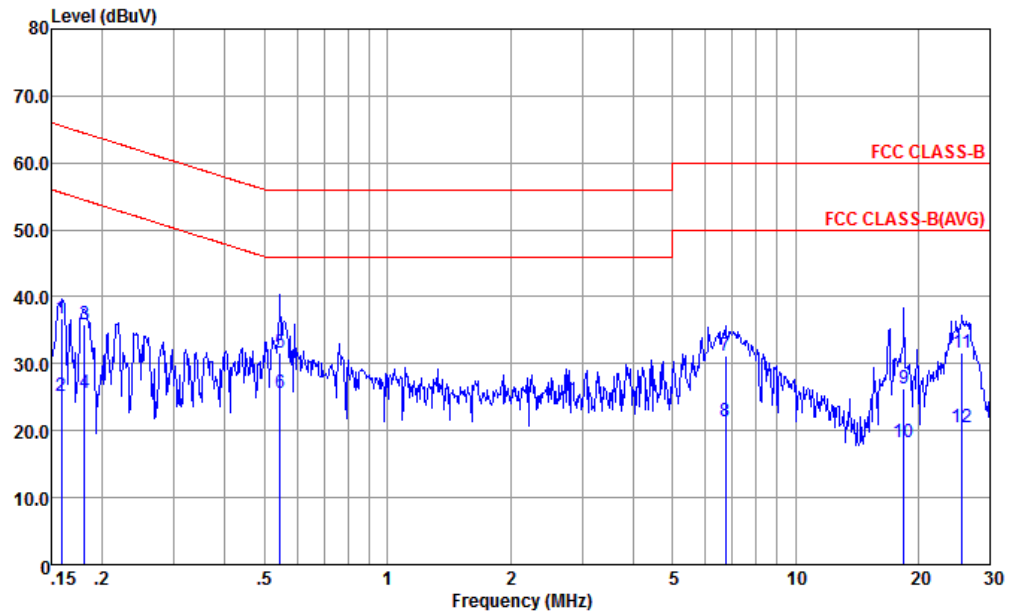
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

3.1.4 Test Setup



3.1.5 Test Result of AC Conducted Emission

Test Mode :	Mode 4	Temperature :	22~24℃
Test Engineer :	Amos Zhang	Relative Humidity :	42~46%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	LTE Band 4 Idle + Bluetooth Idle + WLAN Idle(5G) + USB Cable (Charging from Adapter) + Earphone + NFC On		

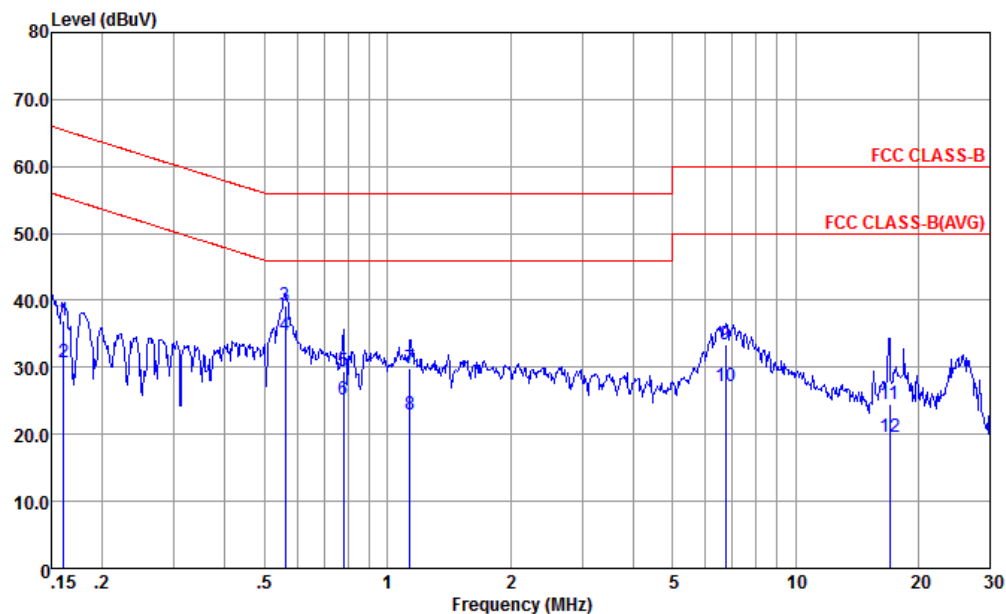


Site : CO01-KS
 Condition : FCC CLASS-B LISN-L-20151024 LINE
 Project : (FC) 730704
 mode : Mode 4
 IMEI : 357682080000874 #11

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV		dBuV	dBuV			
1	0.159	36.75	-28.77	65.52	25.90	0.47	10.38	QP
2	0.159	25.15	-30.37	55.52	14.30	0.47	10.38	Average
3	0.181	35.98	-28.48	64.46	25.30	0.33	10.35	QP
4	0.181	25.58	-28.88	54.46	14.90	0.33	10.35	Average
5	0.546	31.72	-24.28	56.00	21.30	0.23	10.19	QP
6 *	0.546	25.62	-20.38	46.00	15.20	0.23	10.19	Average
7	6.733	31.10	-28.90	60.00	20.59	0.23	10.28	QP
8	6.733	21.30	-28.70	50.00	10.79	0.23	10.28	Average
9	18.426	26.34	-33.66	60.00	15.30	0.27	10.77	QP
10	18.426	18.34	-31.66	50.00	7.30	0.27	10.77	Average
11	25.591	31.57	-28.43	60.00	20.60	0.22	10.75	QP
12	25.591	20.47	-29.53	50.00	9.50	0.22	10.75	Average



Test Mode :	Mode 4	Temperature :	22~24℃
Test Engineer :	Amos Zhang	Relative Humidity :	42~46%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	LTE Band 4 Idle + Bluetooth Idle + WLAN Idle(5G) + USB Cable (Charging from Adapter) + Earphone + NFC On		

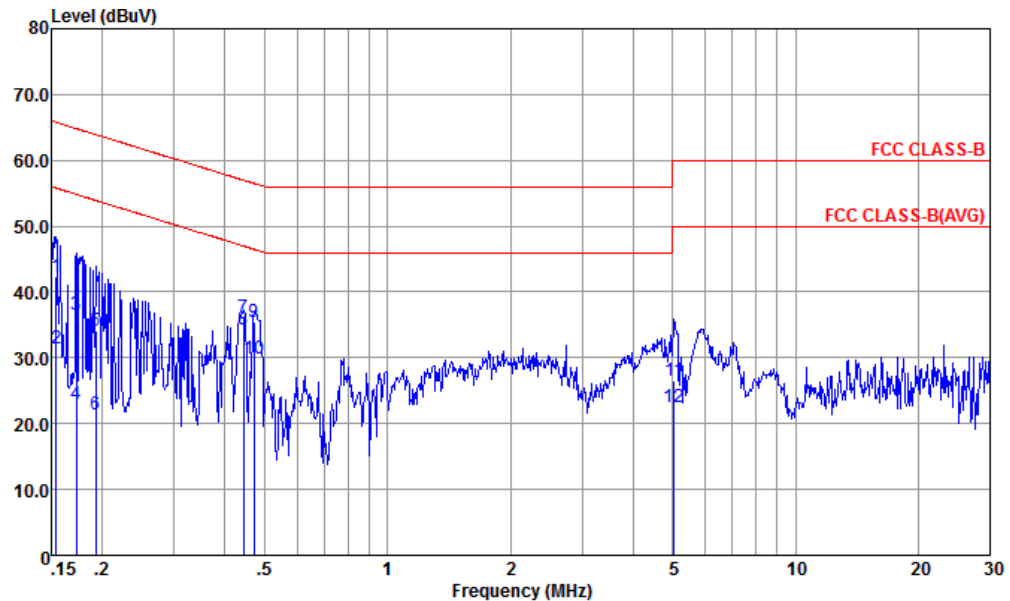


Site : CO01-KS
 Condition : FCC CLASS-B LISN-N-20151024 NEUTRAL
 Project : (FC) 730704
 mode : Mode 4
 IMEI : 357682080000874 #11

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV		dBuV	dBuV	dB	dB	
1	0.161	36.98	-28.45	65.43	26.30	0.30	10.38	QP
2	0.161	30.78	-24.65	55.43	20.10	0.30	10.38	Average
3	0.561	39.31	-16.69	56.00	28.80	0.33	10.18	QP
4 *	0.561	34.71	-11.29	46.00	24.20	0.33	10.18	Average
5	0.779	29.32	-26.68	56.00	18.80	0.35	10.17	QP
6	0.779	25.12	-20.88	46.00	14.60	0.35	10.17	Average
7	1.135	29.76	-26.24	56.00	19.20	0.37	10.19	QP
8	1.135	23.06	-22.94	46.00	12.50	0.37	10.19	Average
9	6.733	33.48	-26.52	60.00	22.90	0.30	10.28	QP
10	6.733	27.18	-22.82	50.00	16.60	0.30	10.28	Average
11	17.018	24.51	-35.49	60.00	13.60	0.26	10.65	QP
12	17.018	19.51	-30.49	50.00	8.60	0.26	10.65	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 7 Idle + Bluetooth Idle + WLAN Idle(5G) + USB Cable (Data Link with Notebook) + Earphone + GPS Rx		

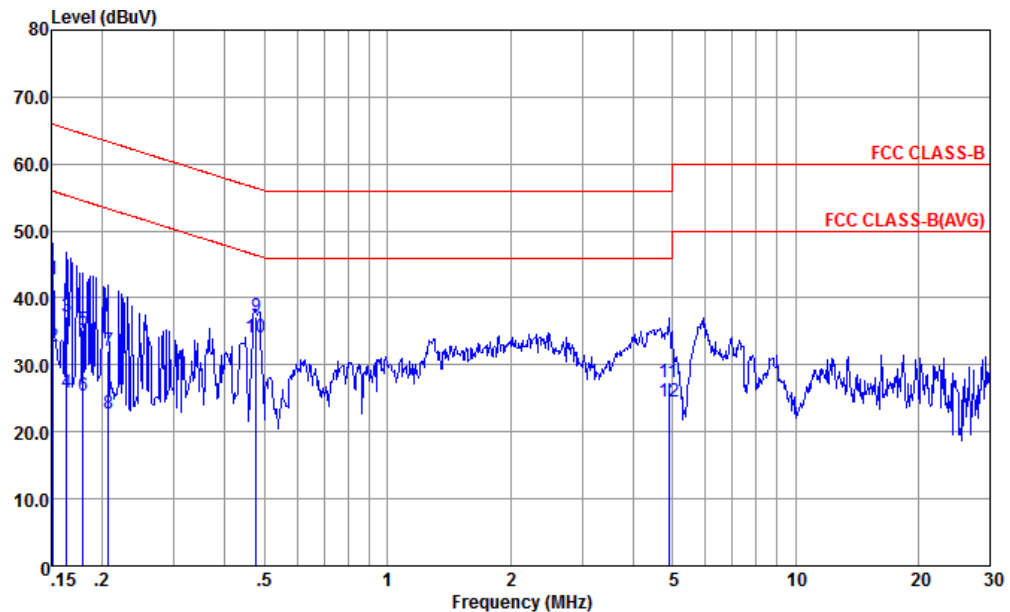


Site : CO01-KS
 Condition : FCC CLASS-B LISN-L-20151024 LINE
 Project : (FC) 730704
 Mode : Mode 6
 IMEI : 357682080000874 #11

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.154	42.39	-23.39	65.78	31.50	0.50	10.39	QP
2	0.154	31.49	-24.29	55.78	20.60	0.50	10.39	Average
3	0.173	36.64	-28.17	64.81	25.90	0.38	10.36	QP
4	0.173	23.04	-31.77	54.81	12.30	0.38	10.36	Average
5	0.192	34.20	-29.73	63.93	23.60	0.26	10.34	QP
6	0.192	21.30	-32.63	53.93	10.70	0.26	10.34	Average
7	0.444	36.02	-20.96	56.98	25.60	0.23	10.19	QP
8 *	0.444	34.22	-12.76	46.98	23.80	0.23	10.19	Average
9	0.471	35.42	-21.07	56.49	25.00	0.23	10.19	QP
10	0.471	29.92	-16.57	46.49	19.50	0.23	10.19	Average
11	5.031	26.54	-33.46	60.00	16.11	0.19	10.24	QP
12	5.031	22.54	-27.46	50.00	12.11	0.19	10.24	Average



Test Mode :	Mode 6	Temperature :	22~24°C
Test Engineer :	Amos Zhang	Relative Humidity :	42~46%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	LTE Band 7 Idle + Bluetooth Idle + WLAN Idle(5G) + USB Cable (Data Link with Notebook) + Earphone + GPS Rx		



Site : CO01-KS
 Condition : FCC CLASS-B LISN-N-20151024 NEUTRAL
 Project : (FC) 730704
 Mode : Mode 6
 IMEI : 357682080000874 #11

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.152	42.79	-23.12	65.91	32.10	0.30	10.39	QP
2	0.152	32.79	-23.12	55.91	22.10	0.30	10.39	Average
3	0.163	37.18	-28.12	65.30	26.50	0.30	10.38	QP
4	0.163	25.88	-29.42	55.30	15.20	0.30	10.38	Average
5	0.180	35.26	-29.24	64.50	24.59	0.31	10.36	QP
6	0.180	25.46	-29.04	54.50	14.79	0.31	10.36	Average
7	0.207	32.14	-31.18	63.32	21.50	0.31	10.33	QP
8	0.207	22.74	-30.58	53.32	12.10	0.31	10.33	Average
9	0.476	37.31	-19.10	56.41	26.80	0.32	10.19	QP
10 *	0.476	34.01	-12.40	46.41	23.50	0.32	10.19	Average
11	4.900	27.50	-28.50	56.00	16.90	0.36	10.24	QP
12	4.900	24.50	-21.50	46.00	13.90	0.36	10.24	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

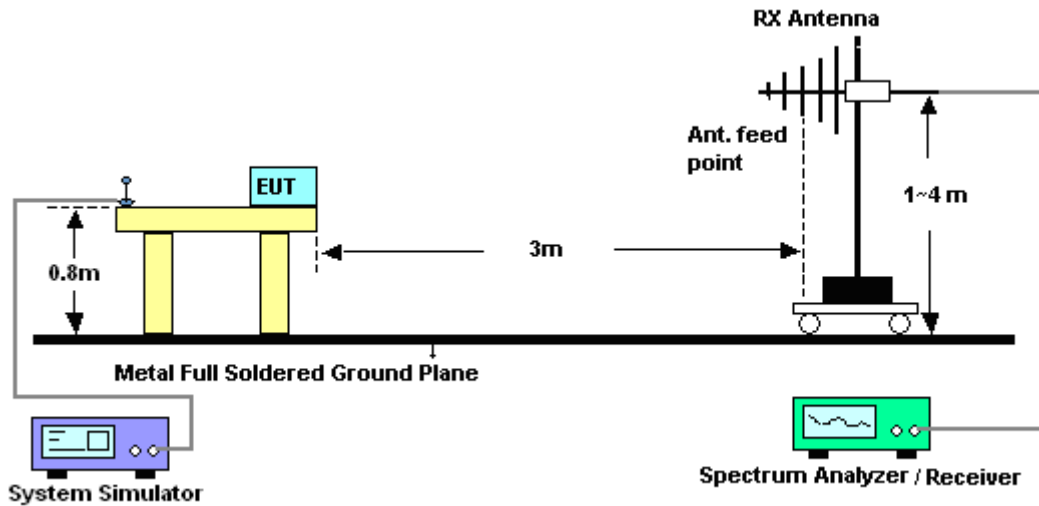
The measuring equipment is listed in the section 4 of this test report.

3.2.3. Test Procedures

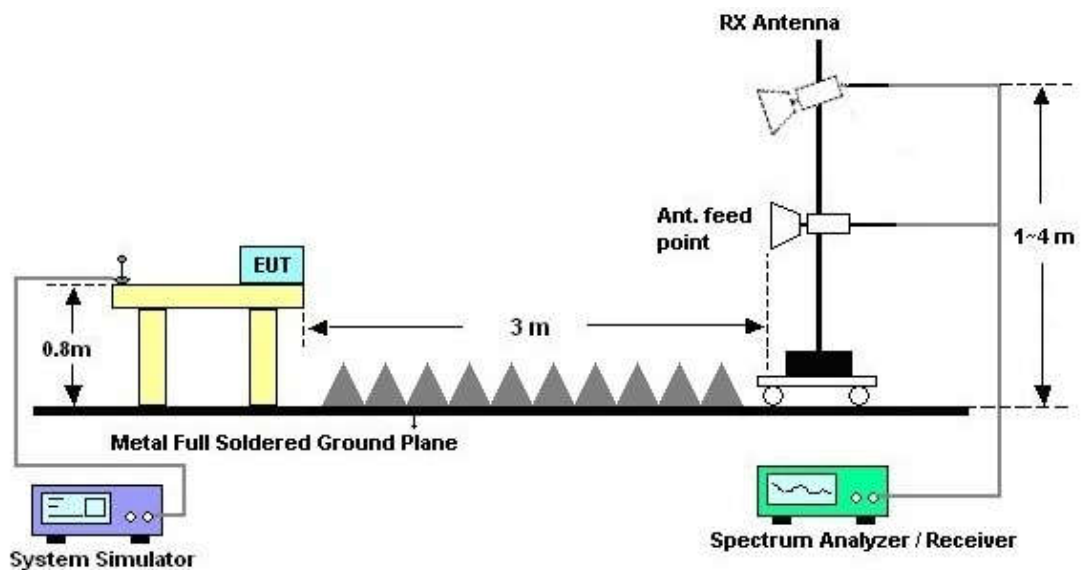
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna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

3.2.4. Test Setup of Radiated Emission

For radiated emissions from 30MHz to 1GHz

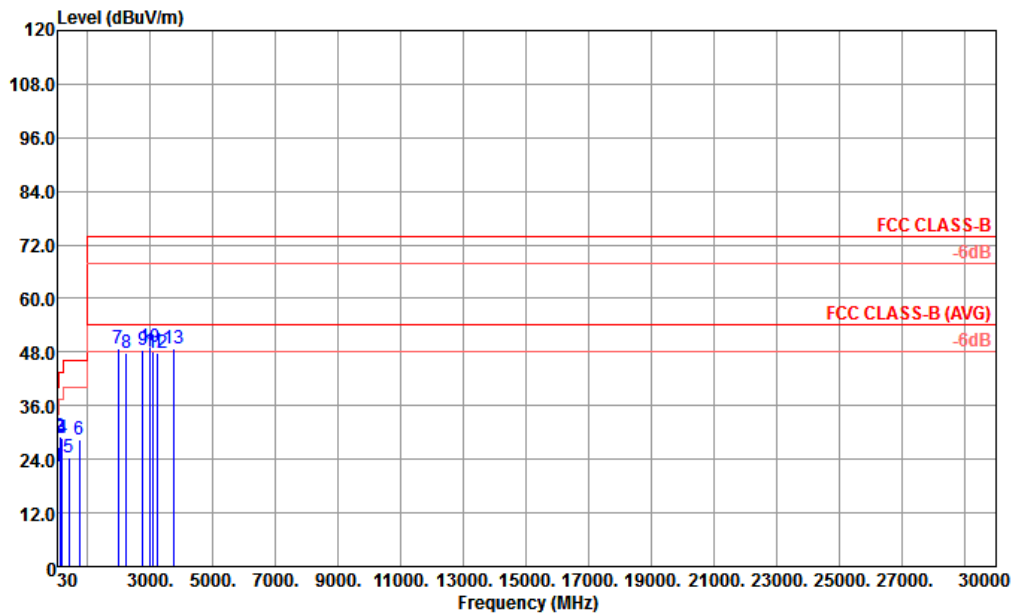


For radiated emissions above 1GHz



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(5G) + USB Cable (Charging from Adapter) + Earphone + Camera(Front)		
Remark :	#7 is system simulator signal which can be ignored.		

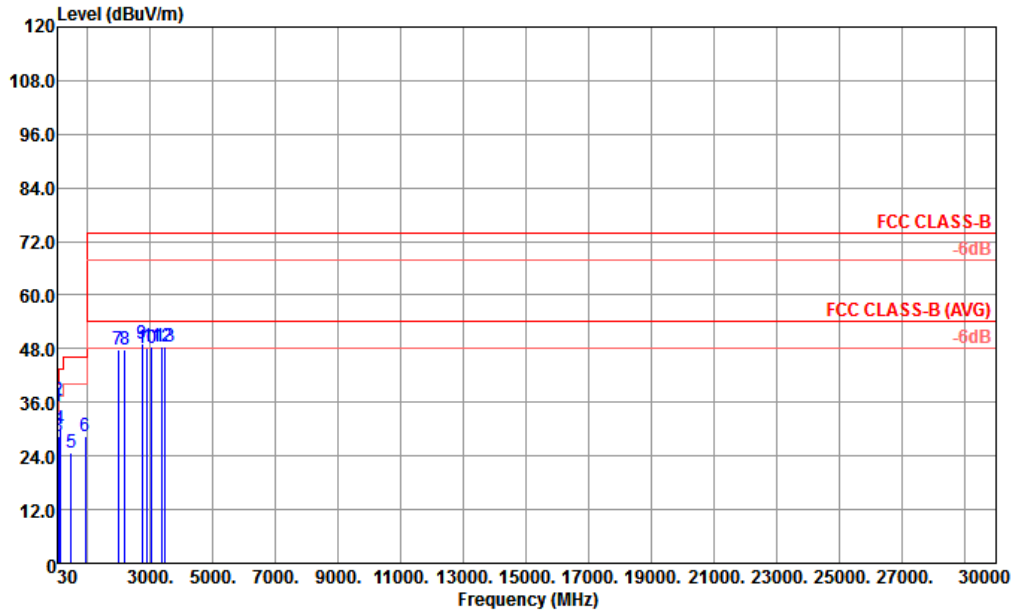


Site : 03CH02-KS
 Condition : FCC CLASS-B 3m 966-02 LF ANT HORIZONTAL
 Project : (FC) 730704
 Mode : 2
 IMEI : 357682080000817 #4

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	32.43	22.47	-17.53	40.00	29.05	25.05	0.11	31.74	---	Peak
2	107.22	29.01	-14.49	43.50	42.10	18.22	0.25	31.56	100	0 Peak
3	151.50	28.69	-14.81	43.50	42.37	17.51	0.33	31.52	---	Peak
4	194.16	28.63	-14.87	43.50	43.81	15.58	0.40	31.16	---	Peak
5	395.20	24.45	-21.55	46.00	29.24	24.82	0.91	30.52	---	Peak
6	743.80	28.45	-17.55	46.00	28.88	26.27	1.34	28.04	---	Peak
7	1960.00	48.80			49.12	30.07	4.47	34.86	---	Peak
8	2224.00	47.85	-26.15	74.00	45.02	31.22	5.78	34.17	---	Peak
9	2768.00	48.52	-25.48	74.00	42.24	32.03	2.81	28.56	---	Peak
10	2982.00	48.99	-25.01	74.00	42.11	32.56	3.09	28.77	---	Peak
11	3087.00	47.99	-26.01	74.00	40.58	32.96	4.43	29.98	---	Peak
12	3222.00	47.69	-26.31	74.00	39.35	33.44	6.04	31.14	---	Peak
13	3756.00	48.88	-25.12	74.00	39.43	34.50	6.44	31.49	---	Peak



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(5G) + USB Cable (Charging from Adapter) + Earphone + Camera(Front)		
Remark :	#7 is system simulator signal which can be ignored.		

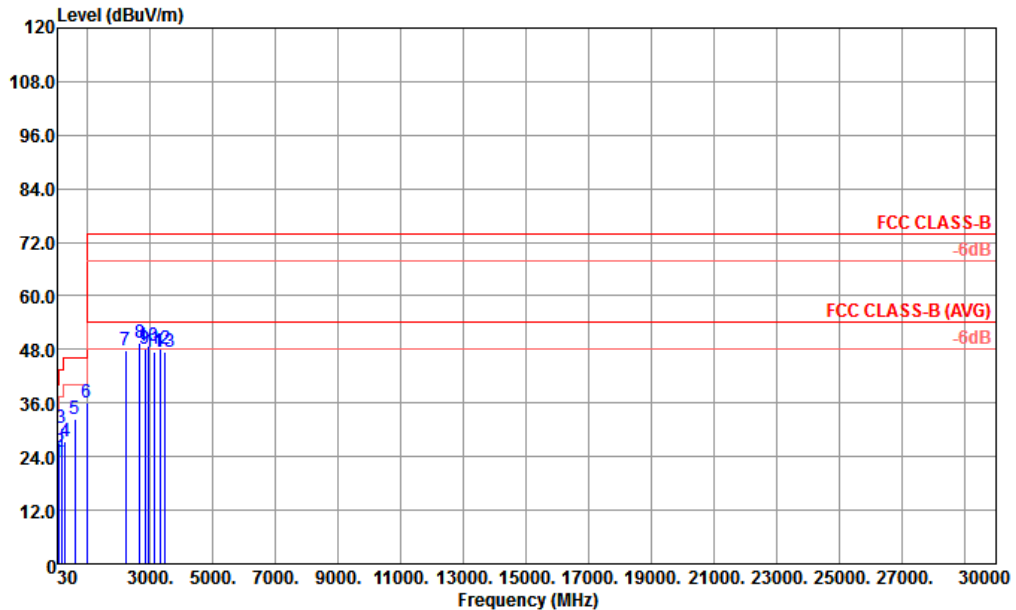


Site : 03CH02-KS
Condition : FCC CLASS-B 3m 966-02 LF ANT VERTICAL
Project : (FC) 730704
Mode : 2
IMEI : 357682080000817 #4

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	A/Pos	T/Pos	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor			
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 !	34.59	35.25	-4.75	40.00	42.31	24.55	0.12	31.73	---	Peak
2 !	39.45	36.51	-3.49	40.00	46.31	21.90	0.13	31.83	100	0 Peak
3	73.74	28.33	-11.67	40.00	46.08	13.80	0.19	31.74	---	Peak
4	107.22	30.11	-13.39	43.50	43.20	18.22	0.25	31.56	---	Peak
5	467.30	24.73	-21.27	46.00	29.90	23.84	0.92	29.93	---	Peak
6	926.50	28.37	-17.63	46.00	25.31	28.03	1.71	26.68	---	Peak
7	1960.00	47.93			48.25	30.07	4.47	34.86	---	Peak
8	2196.00	47.93	-26.07	74.00	45.30	31.14	5.80	34.31	---	Peak
9	2738.00	49.00	-25.00	74.00	43.16	31.96	2.91	29.03	---	Peak
10	2900.00	48.03	-25.97	74.00	41.01	32.35	2.95	28.28	---	Peak
11	3054.00	48.31	-25.69	74.00	41.37	32.82	3.79	29.67	---	Peak
12	3348.00	48.53	-25.47	74.00	39.89	33.60	5.96	30.92	---	Peak
13	3453.00	48.30	-25.70	74.00	39.57	33.72	5.98	30.97	---	Peak



Test Mode :	Mode 6	Temperature :	21~22°C
Test Engineer :	Jason Peng	Relative Humidity :	41~42%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	LTE Band 7 Idle + Bluetooth Idle + WLAN Idle(5G) + USB Cable (Data Link with Notebook) + Earphone + GPS Rx		
Remark :	#8 is system simulator signal which can be ignored.		

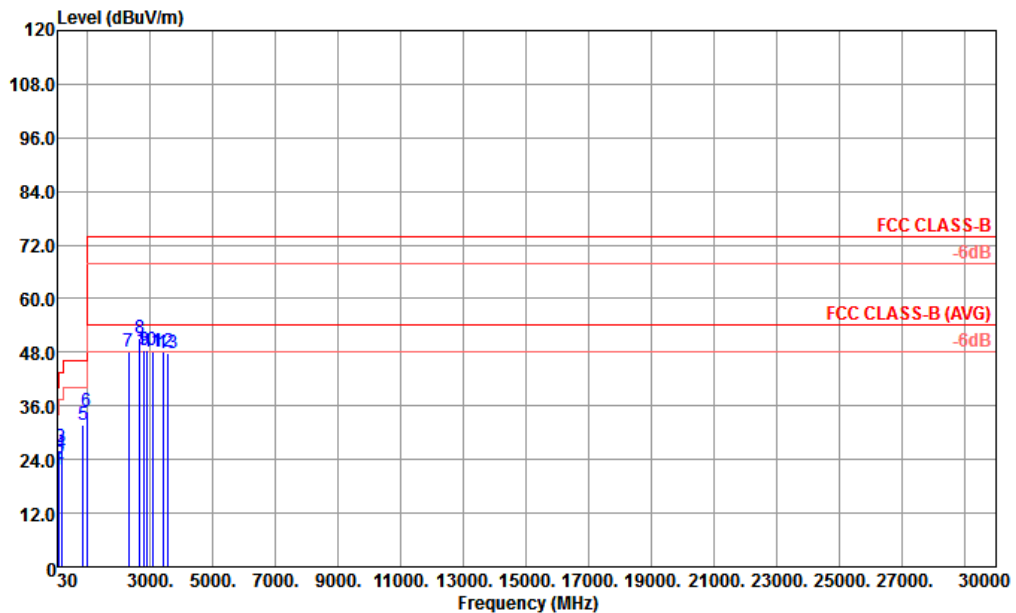


Site : 03CH02-KS
Condition : FCC CLASS-B 3m 966-02 LF ANT HORIZONTAL
Project : (FC) 730704
Mode : 6
IMEI : 357682080000817 #4

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	30.81	22.83	-17.17	40.00	28.92	25.55	0.11	31.75	---	Peak
2	100.20	25.09	-18.41	43.50	38.16	18.17	0.23	31.47	---	Peak
3	163.65	30.34	-13.16	43.50	44.44	17.00	0.35	31.45	---	Peak
4	274.35	27.33	-18.67	46.00	40.23	17.59	0.54	31.03	---	Peak
5	596.80	32.43	-13.57	46.00	36.13	24.33	0.90	28.93	---	Peak
6	959.90	36.06	-9.94	46.00	32.04	28.66	1.75	26.39	100	Peak
7	2198.00	47.65	-26.35	74.00	45.02	31.14	5.80	34.31	---	Peak
8	2656.00	49.46			44.81	31.78	3.31	30.44	---	Peak
9	2832.00	48.30	-25.70	74.00	41.09	32.18	2.81	27.78	---	Peak
10	2914.00	48.74	-25.26	74.00	41.68	32.39	2.95	28.28	---	Peak
11	3123.00	47.53	-26.47	74.00	39.94	33.11	4.76	30.28	---	Peak
12	3339.00	48.19	-25.81	74.00	39.55	33.60	5.96	30.92	---	Peak
13	3438.00	47.59	-26.41	74.00	38.90	33.70	5.96	30.97	---	Peak



Test Mode :	Mode 6	Temperature :	21~22°C
Test Engineer :	Jason Peng	Relative Humidity :	41~42%
Test Distance :	3m	Polarization :	Vertical
Function Type :	LTE Band 7 Idle + Bluetooth Idle + WLAN Idle(5G) + USB Cable (Data Link with Notebook) + Earphone + GPS Rx		
Remark :	#8 is system simulator signal which can be ignored.		



Site : 03CH02-KS
Condition : FCC CLASS-B 3m 966-02 LF ANT VERTICAL
Project : (FC) 730704
Mode : 6
TMET : 357682080000817 #4

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	35.40	21.81	-18.19	40.00	29.14	24.30	0.12	31.75	---	Peak
2	100.20	22.90	-20.60	43.50	35.97	18.17	0.23	31.47	---	Peak
3	153.66	26.79	-16.71	43.50	40.54	17.42	0.33	31.50	---	Peak
4	163.65	25.50	-18.00	43.50	39.60	17.00	0.35	31.45	---	Peak
5	852.30	31.92	-14.08	46.00	30.54	27.22	1.39	27.23	---	Peak
6	959.90	34.68	-11.32	46.00	30.66	28.66	1.75	26.39	100	Peak
7	2294.00	48.15	-25.85	74.00	44.92	31.29	5.70	33.76	---	Peak
8	2654.00	51.21			46.56	31.78	3.31	30.44	---	Peak
9	2794.00	48.50	-25.50	74.00	41.78	32.10	2.71	28.09	---	Peak
10	2906.00	48.48	-25.52	74.00	41.46	32.35	2.95	28.28	---	Peak
11	3072.00	48.27	-25.73	74.00	40.94	32.89	4.11	29.67	---	Peak
12	3396.00	48.17	-25.83	74.00	39.52	33.66	5.93	30.94	---	Peak
13	3579.00	47.85	-26.15	74.00	38.93	33.88	6.07	31.03	---	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. 29, 2016	Apr. 11, 2017	Apr. 28, 2017	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060103	9kHz~30MHz	Oct. 13, 2016	Apr. 11, 2017	Oct. 12, 2017	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060105	9kHz~30MHz	Oct. 13, 2016	Apr. 11, 2017	Oct. 12, 2017	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP0000008 11	AC 0V~300V, 45Hz~1000Hz	Oct. 13, 2016	Apr. 11, 2017	Oct. 12, 2017	Conduction (CO01-KS)
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz; Max 30dBm	Aug. 09, 2016	Mar. 21, 2017	Aug. 08, 2017	Radiation (03CH02-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150208	10Hz~44GHz, MAX 30dB	Apr. 22, 2016	Mar. 21, 2017	Apr. 21, 2017	Radiation (03CH02-KS)
Bilog Antenna	TeseQ	CBL6112D	37879	30MHz~2GHz	Aug. 20, 2016	Mar. 21, 2017	Aug. 19, 2017	Radiation (03CH02-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Oct. 22, 2016	Mar. 21, 2017	Oct. 21, 2017	Radiation (03CH02-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA170249	15GHz~40GHz	Feb. 15, 2017	Mar. 21, 2017	Feb. 14, 2018	Radiation (03CH02-KS)
Amplifier	MITEQ	TTA1840-35-H G	1887435	18GHz~40GHz	Oct. 13, 2016	Mar. 21, 2017	Oct. 12, 2017	Radiation (03CH02-KS)
Amplifier	com-power	PA-103A	161069	1kHz~1000MHz / 32 dB	Apr. 22, 2016	Mar. 21, 2017	Apr. 21, 2017	Radiation (03CH02-KS)
Amplifier	Agilent	8449B	3008A02384	1-26.5GHz Gain 30dB	Oct. 13, 2016	Mar. 21, 2017	Oct. 12, 2017	Radiation (03CH02-KS)
AC Power Source	Chroma	61601	61601000247 3	N/A	NCR	Mar. 21, 2017	NCR	Radiation (03CH02-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	Mar. 21, 2017	NCR	Radiation (03CH02-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	Mar. 21, 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% ($U = 2U_c(y)$)	2.3dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	5.2dB
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Uncertainty of Radiated Emission Measurement (1GHz ~ 18GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	4.7dB
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Uncertainty of Radiated Emission Measurement (18GHz ~ 40GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	5.3dB
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