# **FCC Test Report**

**APPLICANT**: Brightstar Corporation

**EQUIPMENT**: Mobile Phone

BRAND NAME : mint MODEL NAME : M245

FCC ID : WVB245M

STANDARD : FCC 47 CFR FCC Part 15 Subpart B

**CLASSIFICATION**: Certification

The product was received on Feb. 02, 2016 and testing was completed on Mar. 10, 2016. We, SPORTON INTERNATIONAL (SHENZHEN) INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI C63.4-2009 and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL (SHENZHEN) INC., the test report shall not be reproduced except in full.

Prepared by: Andy Yeh / Manager

Andy Jeh

Approved by: Jones Tsai / Manager



Report No.: FC620201

## SPORTON INTERNATIONAL (SHENZHEN) INC.

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

SPORTON INTERNATIONAL (SHENZHEN) INC.

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## **REVISION HISTORY**

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC620201	Rev. 01	Initial issue of report	Mar. 16, 2016

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## **SUMMARY OF TEST RESULT**

Report Section	FCC Rule	Description	Limit	Result	Remark
					Under limit
3.1	15.107	AC Conducted Emission	< 15.107 limits	PASS	6.77 dB at
					0.150 MHz
					Under limit
3.2	15.109	Radiated Emission	< 15.109 limits	PASS	3.77 dB at
					37.020 MHz

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## 1. General Description

## 1.1. Applicant

### **Brightstar Corporation**

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

### 1.2. Manufacturer

### Heng Da Chuang Xin Technology Limited

Rm14H Taibang Building, 4 Rd., High Tech South, Nanshan, SZ, P. R. C. 518000

## 1.3. Product Feature of Equipment Under Test

Product Feature					
Equipment	Mobile Phone				
Brand Name	mint				
Model Name	M245				
FCC ID	WVB245M				
EUT supports Radios application	GSM/GPRS/EGPRS(Downlink Only)/WCDMA/HSPA/ HSPA+(16QAM uplink is not supported)/ WLAN2.4GHz 802.11b/g/n HT20/HT40/ Bluetooth v3.0+EDR/Bluetooth v4.0 LE				
IMEI Code	Conduction/Radiation: 358395070001997/358395070003993				
HW Version	V1_0_1				
SW Version	MINT_M245_V1_0_1				
EUT Stage Pre-Production					

Remark:

The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

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## 1.4. Product Specification of Equipment Under Test

Standards-related Product Specification					
	GSM850: 824.2 MHz ~ 848.8 MHz				
	GSM1900: 1850.2 MHz ~ 1909.8MHz				
Tx Frequency	WCDMA Band V: 826.4 MHz ~ 846.6 MHz				
1 x 1 requeries	WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz				
	802.11b/g/n: 2412 MHz ~ 2462 MHz				
	Bluetooth: 2402 MHz ~ 2480 MHz				
	GSM850: 869.2 MHz ~ 893.8 MHz				
	GSM1900: 1930.2 MHz ~ 1989.8 MHz				
	WCDMA Band V: 871.4 MHz ~ 891.6 MHz				
Rx Frequency	WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz				
	802.11b/g/n: 2412 MHz ~ 2462 MHz				
	Bluetooth: 2402 MHz ~ 2480 MHz				
	GPS: 1.57542 GHz				
	WWAN: IFA Antenna				
Antenna Type	WLAN : IFA Antenna				
Antenna Type	Bluetooth : IFA Antenna				
	GPS: IFA Antenna				
	GSM: GMSK				
	GPRS: GMSK				
	EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK(Downlink Only)				
	WCDMA: QPSK (Uplink)				
	HSDPA: QPSK (Uplink)				
	HSUPA: QPSK (Uplink)				
Type of Modulation	HSPA+: 16QAM (Uplink is not supported)				
l spo or modulation	802.11b: DSSS (DBPSK / DQPSK / CCK)				
	802.11g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM)				
	Bluetooth v4.0 LE : GFSK				
	Bluetooth (1Mbps) : GFSK				
	Bluetooth (2Mbps) : π /4-DQPSK				
	Bluetooth (3Mbps) : 8-DPSK				
	GPS: BPSK				

## 1.5. Modification of EUT

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

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### 1.6. Test Location

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

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.		
	No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan		
Test Site Location	warehouse, Nanshan District, Shenzhen, Guangdong, P. R. China		
	TEL: +86-755-3320-2398		
Test Site No.	Sporton Site No.	FCC Registration No.	
rest Site No.	03CH01-SZ	831040	

## 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 C63.4-2009

**Remark:** All test items were verified and recorded according to the standards and without any deviation during the test.

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## 2. Test Configuration of Equipment Under Test

### 2.1. Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2009 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.

		Test Condition			
Item	EUT Configuration	EMI AC	EMI RE<1G	EMI RE≥1G	
1.	Charging Mode (EUT with adapter)				
2.	Data application transferred mode	$\boxtimes$	$\boxtimes$	$\boxtimes$	
۷.	(EUT connected with notebook)	(EUT connected with notebook)			

#### Abbreviations:

EMI AC: AC conducted emissions

EMI RE ≥ 1G: EUT radiated emissions ≥ 1GHz

• EMI RE < 1G: EUT radiated emissions < 1GHz

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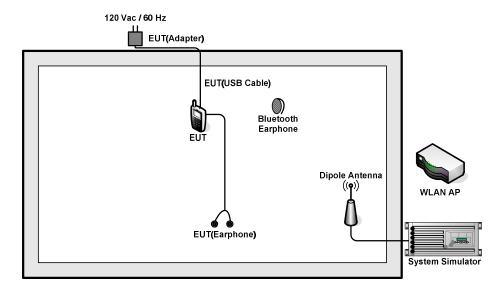
Test Items	EUT Configure Mode	Function Type
		Mode 1: WCDMA Band II Idle + USB Cable (Charging from Adapter) + Bluetooth Idle + WLAN Idle + Earphone + Camera (Front) + SIM1 <fig.1></fig.1>
AC Conducted	1/2	Mode 2: GSM850 Idle + USB Cable (Charging from Adapter) + Bluetooth Idle + WLAN Idle + Earphone + Camera (Back) + SIM2 <fig.1></fig.1>
Emission	1/2	Mode 3: GSM1900 Idle + USB Cable (Charging from Adapter) + Bluetooth Idle + WLAN Idle + Earphone + MPEG4 + SIM1 <fig.1></fig.1>
		Mode 4: WCDMA Band V Idle + USB Cable (Data Link with Notebook) + Bluetooth Idle + WLAN Idle + Earphone + GPS Rx + SD Card + SIM2 < Fig. 2>
		Mode 1: WCDMA Band II Idle + USB Cable (Charging from Adapter) + Bluetooth Idle + WLAN Idle + Earphone + Camera (Front) + SIM1 <fig.1></fig.1>
Radiated	1/2	Mode 2: GSM850 Idle + USB Cable (Charging from Adapter) + Bluetooth Idle + WLAN Idle + Earphone + Camera (Back) + SIM2 <fig.1></fig.1>
Emissions < 1GHz	1/2	Mode 3: GSM1900 Idle + USB Cable (Charging from Adapter) + Bluetooth Idle + WLAN Idle + Earphone + MPEG4 + SIM1 <fig.1></fig.1>
		Mode 4: WCDMA Band V Idle + USB Cable (Data Link with Notebook) + Bluetooth Idle + WLAN Idle + Earphone + GPS Rx + SD Card + SIM2 < Fig. 2>
Radiated	0	Mode 1: GSM850 Idle + USB Cable (Charging from Adapter) + Bluetooth Idle + WLAN Idle + Earphone + Camera (Back) + SIM2 <fig.1></fig.1>
Emissions ≥ 1GHz	.,	Mode 2: WCDMA Band V Idle + USB Cable (Data Link with Notebook) + Bluetooth Idle + WLAN Idle + Earphone + GPS Rx + SD Card + SIM2 < Fig. 2>

### Remark:

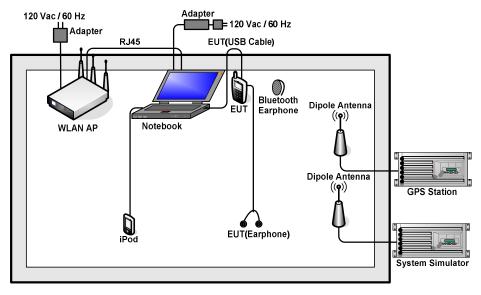
- 1. The worst case of AC is mode 1; and the USB link mode of AC is mode 4, the test data of these modes are reported.
- 2. The worst case of RE < 1G is mode 2; and the USB link mode of RE is mode 4, the test data of these modes are reported.
- **3.** Data Link with Notebook means data application transferred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

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## 2.2. Connection Diagram of Test System



<Fig.1>



<Fig.2>

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## 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.	GPS Station	ADIVIC	MP9000	N/A	N/A	Unshielded, 1.8 m
3.	WLAN AP	ASUSTek	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 2.7 m
4.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
5.	Bluetooth Earphone	Nokia	BH-108	PYAHS-107W	N/A	N/A
6.	Bluetooth Earphone	Samsung	HS3000	A3LHS3000	N/A	N/A
7.	Notebook	Lenovo	E540	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
8.	SD Card	SanDisk	4G class 4	FCC DoC	N/A	N/A
9.	iPod nano 8GB	Apple	MC690 ZP/A	FCC DoC	Shielded, 1.2 m	N/A
10.	iPod	Apple	MC525 ZP/A	FCC DoC	Shielded, 1.0 m	N/A

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## 2.4. EUT Operation Test Setup

The EUT was in GSM or WCDMA idle mode during the testing. The EUT was synchronized to the BCCH, and was in continuous receiving mode by setting system simulator's paging reorganization.

At the same time, the EUT was attached to the Bluetooth earphone or WLAN AP, and the following programs installed in the EUT were programmed during the test.

- 1. Data application is transferred between notebook and EUT via USB cable.
- 2. Execute "GPS Test" to make the EUT receive continuous signals from GPS station.
- 3. Execute "Video player" to play MPEG4 files.
- 4. Turn on camera to capture images.

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

<sup>\*</sup>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.

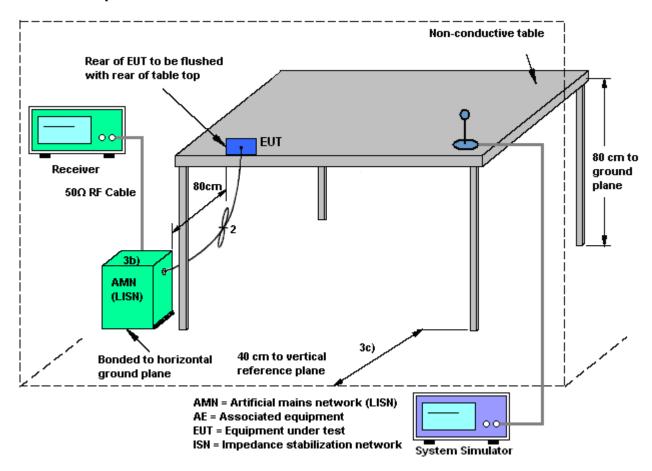
#### 3.1.3 Test Procedure

- 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.

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### 3.1.4 Test Setup

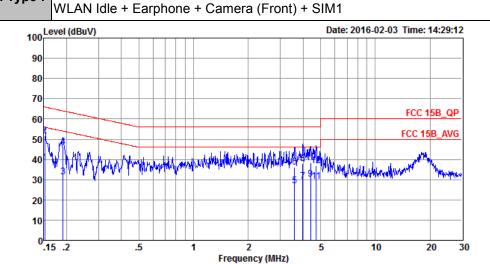


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### 3.1.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	21~23℃	
Test Engineer :	Jacky Yang	Relative Humidity: 41~43%		
Test Voltage :	120Vac / 60Hz	Phase :	Line	
Function Type :	WCDMA Band II Idle + USB Cable (Charging from Adapter) + Bluetooth Idle +			



Site : CO01-SZ

Condition: FCC 15B\_QP LISN\_L\_20160112 LINE

Project : (FC)620201 Mode : Mode 1

IMEI : 358395070001997/358395070003993

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBu∀	dBu∇	dB	dB	
1	0.15	38.49	-17.42	55.91	27.70	0.43	10.36	Average
2	* 0.15	51.59	-14.32	65.91	40.80	0.43	10.36	QP
3	0.19	31.41	-22.57	53.98	20.60	0.51	10.30	Average
4	0.19	46.11	-17.87	63.98	35.30	0.51	10.30	QP
5	3.60	27.11	-18.89	46.00	16.30	0.59	10.22	Average
6	3.60	36.31	-19.69	56.00	25.50	0.59	10.22	QP
7	3.99	29.14	-16.86	46.00	18.30	0.61	10.23	Average
8	3.99	37.94	-18.06	56.00	27.10	0.61	10.23	QP
9	4.41	30.16	-15.84	46.00	19.31	0.62	10.23	Average
10	4.41	38.46	-17.54	56.00	27.61	0.62	10.23	QP
11	4.72	28.97	-17.03	46.00	18.10	0.63	10.24	Average
12	4.72	36.77	-19.23	56.00	25.90	0.63	10.24	QP

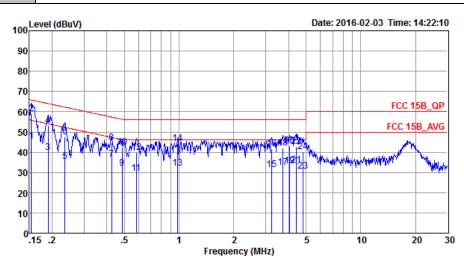
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Test Mode :	Mode 1	Temperature :	21~23℃
Test Engineer :	Jacky Yang	Relative Humidity :	41~43%
Test Voltage :	: Voltage: 120Vac / 60Hz Phase:		Neutral

WCDMA Band II Idle + USB Cable (Charging from Adapter) + Bluetooth Idle + Function Type: WLAN Idle + Earphone + Camera (Front) + SIM1



Site : C001-SZ Condition: FCC 15B\_QP LISN\_N\_20160112 NEUTRAL

Project : (FC) 620201 Mode : Mode 1

: 358395070001997/358395070003993

				Over	Limit	Read	LISN	Cable	
		Freq	Level	Limit	Line	Level	Factor	Loss	Remark
		MHz	dBu∀	dB	dBu∀	dBu∀	dB	dB	
1		0.15	45.51	-10.27	55.78	34.70	0.46	10.35	Average
2	*	0.15			65.78	48.20			
3		0.19		-14.02					Average
4				-11.02					
5		0.24		-16.96	52.26	24.50			Average
6				-14.56	62.26				_
7		0.43	36.53	-10.80	47.33	25.79			Average
8				-12.70	57.33				
9		0.49	32.16	-14.07	46.23	21.40	0.60	10.16	Average
10		0.49	42.36	-13.87	56.23	31.60	0.60		_
11		0.58	29.43	-16.57	46.00	18.70	0.58	10.15	Average
12		0.58	39.83	-16.17	56.00	29.10	0.58	10.15	QP
13		0.98	32.21	-13.79	46.00	21.50	0.56	10.15	Average
14		0.98	44.31	-11.69	56.00	33.60	0.56	10.15	QP
15		3.22	31.33	-14.67	46.00	20.50	0.61	10.22	Average
16		3.22	41.63	-14.37	56.00	30.80	0.61	10.22	QP
17		3.72	32.65	-13.35	46.00	21.81	0.62	10.22	Average
18		3.72	42.25	-13.75	56.00	31.41	0.62	10.22	QP
19		4.07	33.26	-12.74	46.00	22.40	0.63	10.23	Average
20		4.07	43.06	-12.94	56.00	32.20	0.63	10.23	QP
21		4.43	33.47	-12.53	46.00	22.60	0.64	10.23	Average
22		4.43	42.87	-13.13	56.00	32.00	0.64	10.23	QP
23		4.82	30.69	-15.31	46.00	19.80	0.65	10.24	Average
24		4.82	40.29	-15.71	56.00	29.40	0.65	10.24	QP

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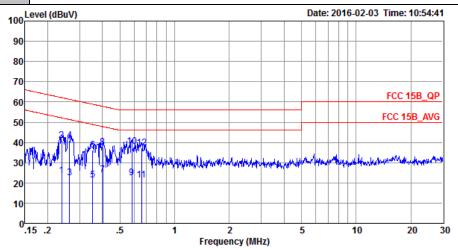
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Test Mode :	Mode 4	Temperature :	21~23℃				
Test Engineer :	Jacky Yang	Relative Humidity :	41~43%				
Test Voltage :	120Vac / 60Hz	Phase :	Line				
	WCDMA Band V Idle + USB Cable (Data Link with Notebook) + Bluetooth Idle						

Function Type: WLAN Idle + Earphone + GPS Rx + SD Card + SIM2



Site : CO01-SZ

Condition: FCC 15B\_QP LISN\_L\_20160112 LINE

Project : (FC) 620201 : Mode 4

: 358395070001997/358395070003993

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBu∇	dB	dBu∇	dBu∇	dB	dB	
1	0.24	23.49	-28.64	52.13	12.70	0.54	10.25	Average
2	0.24	41.09	-21.04	62.13	30.30	0.54	10.25	QP
3	0.26	22.68	-28.61	51.29	11.89	0.56	10.23	Average
4	0.26	40.88	-20.41	61.29	30.09	0.56	10.23	QP
5	0.35	21.34	-27.53	48.87	10.61	0.55	10.18	Average
6	0.35	36.34	-22.53	58.87	25.61	0.55	10.18	QP
7	0.40	23.91	-23.90	47.81	13.20	0.54	10.17	Average
8	0.40	37.81	-20.00	57.81	27.10	0.54	10.17	QP
9	0.58	22.46	-23.54	46.00	11.70	0.61	10.15	Average
10 *	0.58	37.96	-18.04	56.00	27.20	0.61	10.15	QP
11	0.66	21.51	-24.49	46.00	10.80	0.56	10.15	Average
12	0.66	37.11	-18.89	56.00	26.40	0.56	10.15	QP

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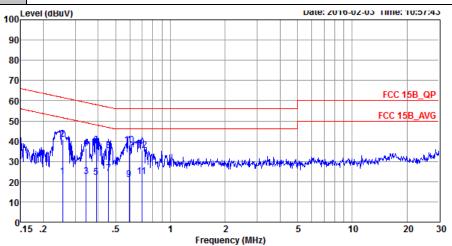
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Test Mode :	Mode 4	Temperature :	<b>21~23</b> ℃
Test Engineer :	Jacky Yang	Relative Humidity :	41~43%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WCDMA Band V Idle + USI	B Cable (Data Link wit	th Notebook) + Bluetooth Idle +

WLAN Idle + Earphone + GPS Rx + SD Card + SIM2



Site : CO01-SZ

Condition: FCC 15B\_QP LISN\_N\_20160112 NEUTRAL

Project : (FC) 620201 : Mode 4 Mode

: 358395070001997/358395070003993 IMEI

			Over	Limit	Read	LISN	Cable	
	Freq	Level	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBu∇	dB	dBu₹	dBu₹	dB	dB	
1	0.25	22.50	-29.10	51.60	11.70	0.56	10.24	Average
2	0.25	41.10	-20.50	61.60	30.30	0.56	10.24	QP
3	0.34	22.66	-26.43	49.09	11.90	0.57	10.19	Average
4	0.34	36.46	-22.63	59.09	25.70	0.57	10.19	QP
5	0.39	22.13	-25.90	48.03	11.41	0.55	10.17	Average
6	0.39	37.93	-20.10	58.03	27.21	0.55	10.17	QP
7	0.46	23.95	-22.81	46.76	13.20	0.59	10.16	Average
8	0.46	35.55	-21.21	56.76	24.80	0.59	10.16	QP
9	0.59	21.03	-24.97	46.00	10.30	0.58	10.15	Average
10 *	0.59	38.13	-17.87	56.00	27.40	0.58	10.15	QP
11	0.70	22.50	-23.50	46.00	11.80	0.55	10.15	Average
12	0.70	35.40	-20.60	56.00	24.70	0.55	10.15	QP

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### 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	Field Strength	Measurement Distance		
(MHz)	(microvolts/meter)	(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.
- 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 (dB $\mu$ V/m) = 20 log Emission level ( $\mu$ V/m)
- 9. Corrected Reading: Antenna Factor + Cable Loss + Read Level Preamp Factor = Level

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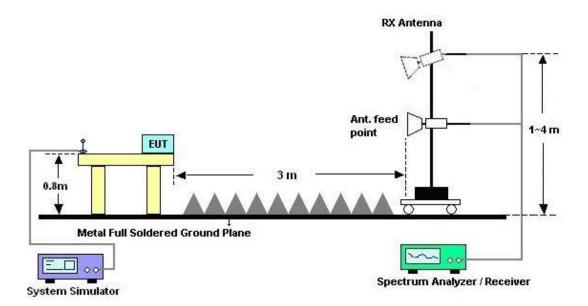
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## 3.2.4. Test Setup of Radiated Emission

### For radiated emissions from 30MHz to 1GHz



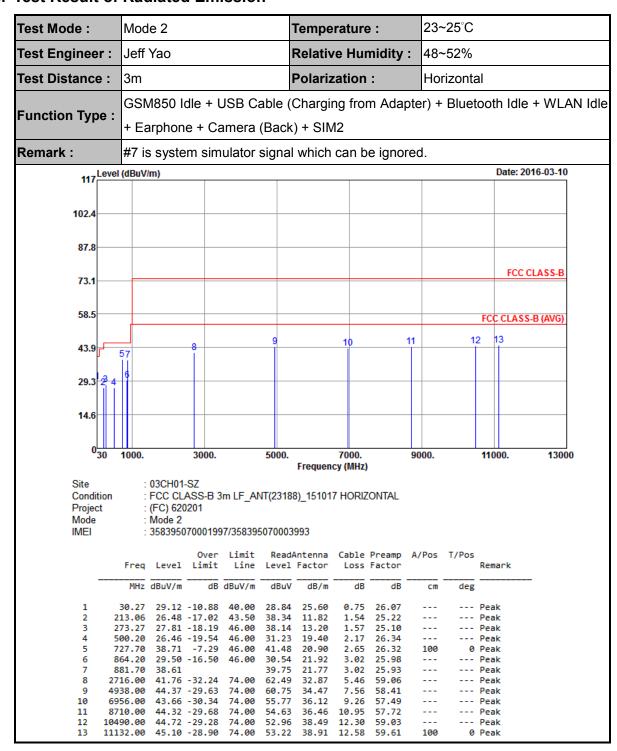
### For radiated emissions above 1GHz



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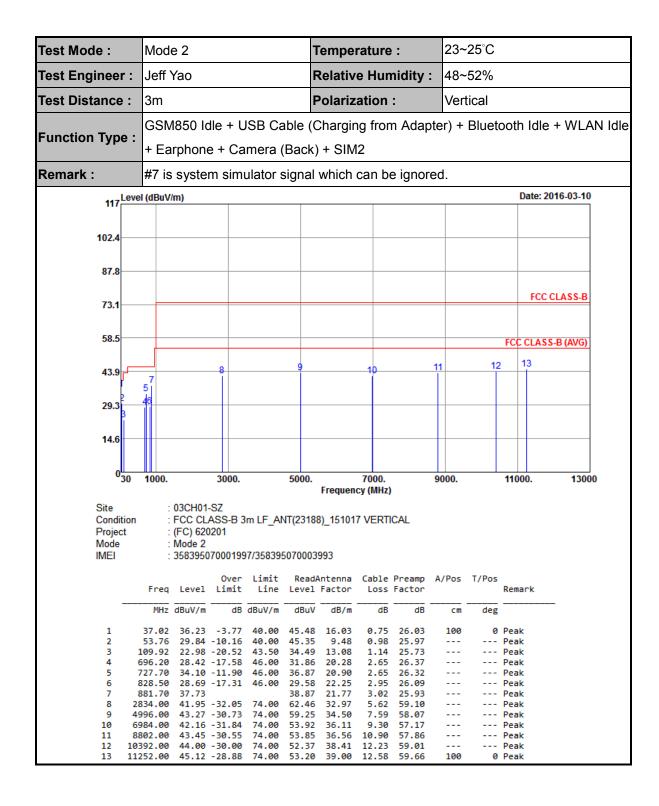
#### 3.2.5. Test Result of Radiated Emission



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FCC Test Report Report No.: FC620201



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23~25°C Test Mode: Mode 4 Temperature: Test Engineer: Jeff Yao **Relative Humidity:** 48~52% Polarization: Test Distance: 3m Horizontal WCDMA Band V Idle + USB Cable (Data Link with Notebook) + Bluetooth Idle + **Function Type:** WLAN Idle + Earphone + GPS Rx + SD Card + SIM2 Remark: #7 is system simulator signal which can be ignored. 117 Level (dBuV/m) Date: 2016-03-10 102.4 87.8 FCC CLASS-B 73.1 58.5 FCC CLASS-B (AVG) 43.9 29.3 14.6 1000. 3000. 5000. 7000. 9000. 11000. 13000 Frequency (MHz) Site 03CH01-SZ Condition FCC CLASS-B 3m LF35407CBL6112D 6DB HORIZONTAL Project (FC) 620201 Mode Mode 4 IMFI 358395070001997/358395070003993 Over Limit ReadAntenna Cable Preamp A/Pos T/Pos Freq Level Limit Line Level Factor Loss Factor Remark dB dBuV/m MHz dBuV/m dBuV dB/m dB deg CM 30.27 26.39 -13.61 40.00 27.91 23.80 0.75 26.07 --- Peak 36.09 -7.41 41.70 -4.30 16.58 17.77 207.93 43.50 43.24 1.50 25.23 --- Peak 240.06 46.00 47.55 0 Peak 1.54 25.16 100 324.50 35.81 -10.19 46.00 38.77 20.56 1.71 25.23 --- Peak 416.20 33.98 -12.02 46.00 22.68 Peak 720.00 41.03 -4.97 46.00 38.87 25.84 2.65 26.33 --- Peak ---27.13 --- Peak 881.70 40.77 36.55 3.02 25.93 2684.00 41.71 -32.29 74.00 8 62.47 32.85 5.41 59.02 Peak 4948.00 44.83 -29.17 74.00 61.21 34.47 7.56 58.41 100 0 Peak

11

12

5112.00

8728.00

10588.00

11110.00

42.69 -31.31

43.34 -30.66

43.74 -30.26

43.55 -30.45

74.00

74.00

74.00

74.00

57.96

53.68

51.97

51.69

34.64

36.48

38.55

38.89

10.93

12.35

12.58

57.75

59.13

59.61

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Peak

--- Peak

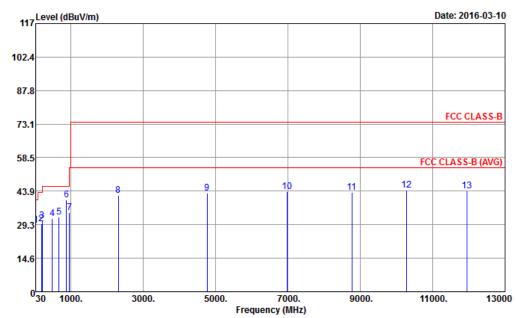
--- Peak

--- Peak

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



Site : 03CH01-SZ

Condition : FCC CLASS-B 3m LF35407CBL6112D\_6DB VERTICAL

Project : (FC) 620201 Mode : Mode 4

IMEI : 358395070001997/358395070003993

	Freq	Level	Over Limit	Limit Line		Antenna Factor		Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.00	28.92	-11.08	40.00	30.44	23.80	0.75	26.07	100	0	Peak
2	184.98	29.67	-13.83	43.50	36.88	16.62	1.50	25.33			Peak
3	207.93	30.96	-12.54	43.50	38.11	16.58	1.50	25.23			Peak
4	492.50	31.85	-14.15	46.00	32.46	23.52	2.17	26.30			Peak
5	674.50	32.68	-13.32	46.00	31.07	25.39	2.61	26.39			Peak
6	881.70	40.22			36.00	27.13	3.02	25.93			Peak
7	960.80	34.67	-19.33	54.00	29.02	27.91	3.15	25.41			Peak
8	2310.00	42.17	-31.83	74.00	63.26	32.51	4.98	58.58			Peak
9	4768.00	43.03	-30.97	74.00	59.85	34.37	7.43	58.62			Peak
10	6984.00	43.60	-30.40	74.00	55.36	36.11	9.30	57.17			Peak
11	8770.00	43.22	-30.78	74.00	53.60	36.52	10.90	57.80			Peak
12	10286.00	44.48	-29.52	74.00	52.93	38.33	12.19	58.97	100	0	Peak
13	11940.00	43.99	-30.01	74.00	52.11	39.47	12.62	60.21			Peak

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## 4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver&SA	Agilent Technologies	N9038A	MY52260185	20Hz~26.5GHz	May 26, 2015	Mar. 10, 2016	May 25, 2016	Radiation (03CH01-SZ)
Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz;M ax 30dBm	Jun. 07, 2015	Mar. 10, 2016	Jun. 06, 2016	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	23188	30MHz-2GHz	Oct. 17, 2015	Mar. 10, 2016	Oct. 16, 2016	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS Lindgren	3117	00119436	1GHz~18GHz	Oct. 17, 2015	Mar. 10, 2016	Oct. 16, 2016	Radiation (03CH01-SZ)
Amplifier	HP	8447F	3113A04622	9kHz ~1300MHz / 30 dB	Aug. 07, 2015	Mar. 10, 2016	Aug. 06, 2016	Radiation (03CH01-SZ)
Amplifier	Agilent Technologies	83017A	MY39501302	500MHz~26.5G Hz	Jan. 12, 2016	Mar. 10, 2016	Jan. 11, 2017	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	61601000198 5	N/A	NCR	Mar. 10, 2016	NCR	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Mar. 10, 2016	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Mar. 10, 2016	NCR	Radiation (03CH01-SZ)
EMI Receiver	R&S	ESCI7	100724	9kHz~3GHz;	Nov. 23, 2015	Feb. 03, 2016	Nov. 22, 2016	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103892	9kHz~30MHz	Jan. 12, 2016	Feb. 03, 2016	Jan. 11, 2017	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	MessTec	3816/2SH	00103912	9kHz~30MHz	Jan. 12, 2016	Feb. 03, 2016	Jan. 11, 2017	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	61602000089 1	100Vac~250Vac	Aug. 07, 2015	Feb. 03, 2016	Aug. 06, 2016	Conduction (CO01-SZ)
Pulse Limiter	COM-POWER	LIT-153 Transient Limiter	53139	150kHz~30MHz	Oct. 20, 2015	Feb. 03, 2016	Oct. 19, 2016	Conduction (CO01-SZ)

NCR: No Calibration Required

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## 5. Uncertainty of Evaluation

## **Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)**

	4
Measuring Uncertainty for a Level of	2.3dB
Confidence of 95% (U = 2Uc(y))	2.306

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

Magazina Uncertainty for a Loyal of	
Measuring Uncertainty for a Level of	4.8dB
Confidence of 95% (U = 2Uc(y))	

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