

# **FCC Test Report**

APPLICANT : Brightstar Corporation

**EQUIPMENT** : Smartphone

BRAND NAME mint

MODEL NAME : Mint 140 FCC ID : WVB140M

: FCC 47 CFR FCC Part 15 Subpart B STANDARD

CLASSIFICATION : Certification

The product was received on Oct. 16, 2015 and testing was completed on Nov. 02, 2015. 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: James Huang / Manager

James Huang

Approved by: Jones Tsai / Manager

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.

TEL: 86-755-8637-9589 FAX: 86-755-8637-9595 FCC ID: WVB140M

: 1 of 24 Page Number Report Issued Date: Nov. 05, 2015

Testing Laboratory

Report No.: FC5O1601

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## **REVISION HISTORY**

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC5O1601	Rev. 01	Initial issue of report	Nov. 05, 2015

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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	9.70 dB at
					2.690 MHz
					Under limit
3.2	15 100	Dadiated Emission	< 15 100 limita	DACC	2.79 dB at
3.2	15.109	15.109 Radiated Emission	< 15.109 limits	PASS	240.060 MHz
					for Quasi-Peak

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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

### SHENZHEN UNI-ONE ELECTRONIC CO.,LTD

5/F, Bldg A2, Kexing Science Park, Keyuan RD., Hi-Tech Park Shenzhen, P.R.China

## 1.3. Product Feature of Equipment Under Test

Product Feature				
Equipment	Smartphone			
Brand Name	mint			
Model Name	Mint 140			
FCC ID	WVB140M			
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: 421201510120517/421201510120525 Radiation: 421201510120319/421201510120327			
HW Version	UH03			
SW Version	UNI_C421_brightstar_0.1_150303			
EUT Stage	Production Unit			

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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# SERBITOR LAG. FCC

# 1.4. Product Specification subjective to this standard

Product Specification subjective to this standard			
Froduct Specif	-		
	GSM850: 824.2 MHz ~ 848.8 MHz		
	GSM1900: 1850.2 MHz ~ 1909.8MHz		
Tx Frequency	WCDMA Band V: 826.4 MHz ~ 846.6 MHz		
' '	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 : Internal Antenna		
Antenna Type	Bluetooth : Internal Antenna		
	GPS : Internal Antenna		
	GSM: GMSK		
	GPRS: GMSK		
	EGPRS : GMSK/8PSK (Downlink Only)		
	WCDMA: QPSK (Uplink)		
	HSDPA: QPSK (Uplink)		
	HSUPA: QPSK (Uplink)		
Type of Modulation	HSPA+:16QAM (16QAM uplink is not supported)		
Type of Modulation	802.11b: DSSS (DBPSK / DQPSK / CCK)		
	802.11g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM)		
	Bluetooth LE : GFSK		
	Bluetooth (1Mbps) : GFSK		
	Bluetooth (2Mbps) : π /4-DQPSK		
	Bluetooth (3Mbps) : 8-DPSK		
	GPS: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		
Took Cita Logation	Town, Nanshan District, Shenzhen, Guangdong, P. R. China		
Test Site Location	TEL: +86-755-8637-9589		
	FAX: +86-755-8637-9595		
Took Site No	Sporton Site No.		
Test Site No.	CO01-SZ		

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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		
Toot Site No	Sporton Site No.	FCC Registration No.	
Test 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)	$\boxtimes$	$\boxtimes$	Note 1	
2.	Data application transferred mode (EUT connected with Notebook)				

#### Abbreviations:

EMI AC: AC conducted emissions

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

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

Note 1: Testing for this mode is not required or not the worst case.

Remark: For signal above 1GHz, the worst case was test item 2.

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

#### Remark:

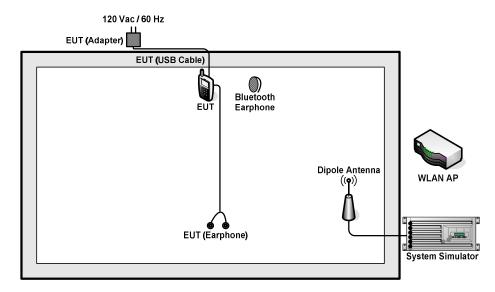
- 1. The worst case of AC is mode 1; and the USB Link mode of AC is mode 4; the test data of these modes were reported.
- 2. The worst case of RE < 1G is mode 4; the test data of these modes were reported.
- 3. Link with Notebook means data application transferred mode between EUT and Notebook.

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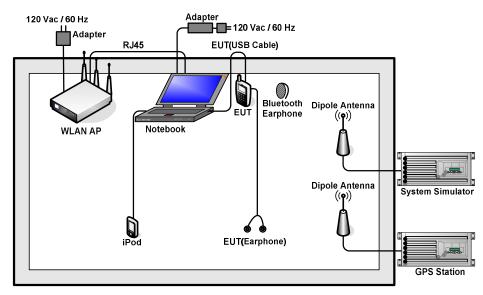


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# 2.2. Connection Diagram of Test System



<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	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	GPS Station	ADIVIC	MP9000	N/A	N/A	Unshielded, 1.8 m
3.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
4.	WLAN AP	ASUSTeK	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 2.7 m
5.	Bluetooth Earphone	Samsung	HS3000	A3LHS3000	N/A	N/A
6.	Bluetooth Earphone	Nokia	BH-108	PYAHS-107W	N/A	N/A
7.	Ipod	Apple	MC690ZP/A	FCC DoC	Shielded, 1.2 m	N/A
8.	Ipod	Apple	MC525ZP/A	FCC DoC	Shielded, 1.0 m	N/A
9.	Notebook	Lenovo	E540	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
10.	SD Card	SanDisk	4G class 4	FCC DoC	N/A	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 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 "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

- 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.

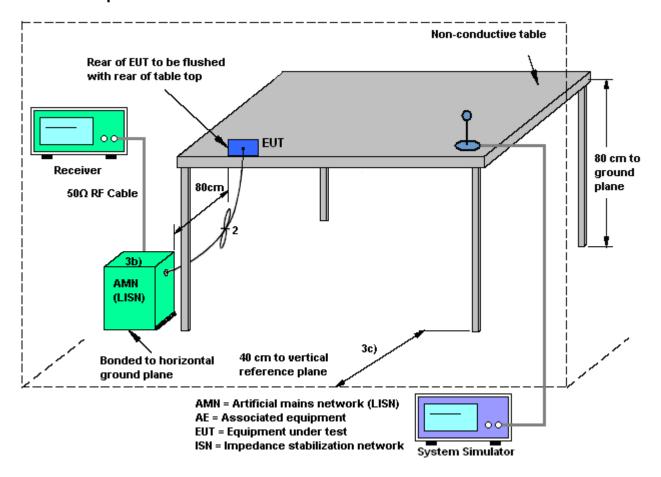
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## 3.1.4 Test Setup



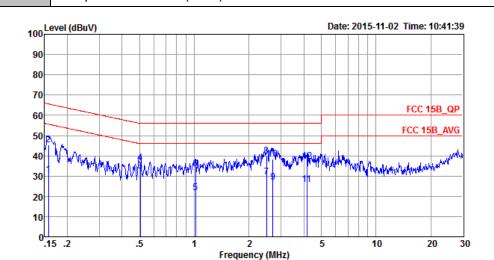
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3.1.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	21~23℃
Test Engineer :	Jacky Yang	Relative Humidity :	41~43%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Tune	GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter)		
Function Type :	+ Earphone + Camera(Back	) + SIM1	



Site : CO01-SZ

Condition: FCC 15B\_QP LISN\_L\_20150304 LINE

Project : (FC)501601

Mode : Mode 1 IMEI : 421201510120517/421201510120525

			Over	Limit	Read	LISN	Cable	
	Freq	Level	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBu∀	dB	dBuV	dBu∀	dB	dB	
1	0.16	30.79	-24.81	55.60	19.99	0.45	10.35	Average
2	0.16	45.29	-20.31	65.60	34.49	0.45	10.35	QP
3 4	0.50	32.52	-13.48	46.00	21.69	0.67	10.16	Average
4	0.50	36.42	-19.58	56.00	25.59	0.67	10.16	QP
5	1.02	21.86	-24.14	46.00	11.20	0.51	10.15	Average
6	1.02	33.56	-22.44	56.00	22.90	0.51	10.15	QP
7	2.50	29.61	-16.39	46.00	18.90	0.51	10.20	Average
8	2.50	39.81	-16.19	56.00	29.10	0.51	10.20	QP
9	2.71	26.93	-19.07	46.00	16.20	0.52	10.21	Average
10	2.71	38.33	-17.67	56.00	27.60	0.52	10.21	QP
11	4.16	25.84	-20.16	46.00	15.00	0.61	10.23	Average
12	4.16	37.14	-18.86	56.00	26.30	0.61	10.23	QP

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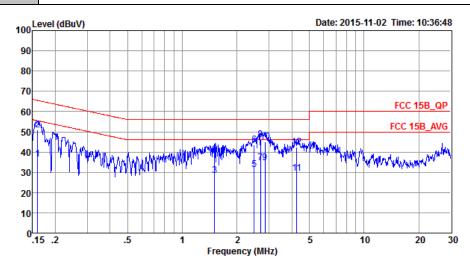
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21~23℃ Test Mode: Mode 1 Temperature: Test Engineer: Jacky Yang Relative Humidity: 41~43% Test Voltage: 120Vac / 60Hz Phase: Neutral

GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) **Function Type:** + Earphone + Camera(Back) + SIM1



Site : CO01-SZ

Condition: FCC 15B\_QP LISN\_N\_20150304 NEUTRAL

Project : (FC) 501601 : Mode 1 Mode

IMEI : 421201510120517/421201510120525

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBu₹	dB	dBuV	dBu₹	dB	dB	
1	0.16	36.71	-18.76	55.47	25.90	0.46	10.35	Average
2	0.16	50.91	-14.56	65.47	40.10	0.46	10.35	QP
3	1.50	28.54	-17.46	46.00	17.80	0.57	10.17	Average
4	1.50	39.74	-16.26	56.00	29.00	0.57	10.17	QP
5	2.49	31.49	-14.51	46.00	20.70	0.59	10.20	Average
6	2.49	43.39	-12.61	56.00	32.60	0.59	10.20	QP
7	2.69	34.70	-11.30	46.00	23.89	0.60	10.21	Average
8 *	2.69	46.30	-9.70	56.00	35.49	0.60	10.21	QP
9	2.85	34.81	-11.19	46.00	24.00	0.60	10.21	Average
10	2.85	45.01	-10.99	56.00	34.20	0.60	10.21	QP
11	4.27	29.47	-16.53	46.00	18.60	0.64	10.23	Average
12	4.27	42.57	-13.43	56.00	31.70	0.64	10.23	QP

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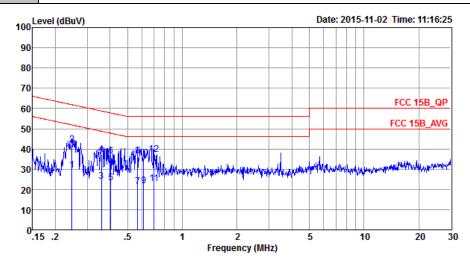


Test Mode: Mode 4 Temperature: 21~23°C

Test Engineer: Jacky Yang Relative Humidity: 41~43%

Test Voltage: 120Vac / 60Hz Phase: Line

Function Type: WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + Earphone + USB Cable(Data Link with Notebook) + GPS Rx + SIM1



Site : CO01-SZ

Condition: FCC 15B\_QP LISN\_L\_20150304 LINE

Project : (FC)501601 Mode : Mode 4

IMEI : 421201510120517/421201510120525

			Over	Limit	Read	TION	Cable	
	Freq	Level	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBu∇	dB	dBu₹	dBuV	dB	dB	
1	0.25	29.49	-22.37	51.86	18.69	0.55	10.25	Average
2	0.25	41.99	-19.87	61.86	31.19	0.55	10.25	QP
3	0.36	23.93	-24.81	48.74	13.20	0.55	10.18	Average
4	0.36	37.13	-21.61	58.74	26.40	0.55	10.18	QP
5	0.40	23.42	-24.35	47.77	12.71	0.54	10.17	Average
6	0.40	36.52	-21.25	57.77	25.81	0.54	10.17	QP
7	0.57	21.37	-24.63	46.00	10.60	0.62	10.15	Average
8	0.57	36.67	-19.33	56.00	25.90	0.62	10.15	QP
9	0.61	21.94	-24.06	46.00	11.20	0.59	10.15	Average
10	0.61	35.44	-20.56	56.00	24.70	0.59	10.15	QP
11	0.70	22.79	-23.21	46.00	12.10	0.54	10.15	Average
12 *	0.70	37.29	-18.71	56.00	26.60	0.54	10.15	QP

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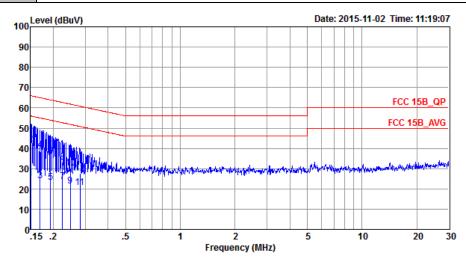
 Test Mode :
 Mode 4
 Temperature :
 21~23°C

 Test Engineer :
 Jacky Yang
 Relative Humidity :
 41~43%

 Test Voltage :
 120Vac / 60Hz
 Phase :
 Neutral

 WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + Earphone + USB Cable(Data

Function Type : WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + Earphone + USB Cable(Data Link with Notebook) + GPS Rx + SIM1



Site : CO01-SZ

Condition: FCC 15B\_QP LISN\_N\_20150304 NEUTRAL

Project : (FC)501601 Mode : Mode 4

IMEI : 421201510120517/421201510120525

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBu₹	dB	dBu∀	dBu∀	dB	dB	
1	0.15		-30.89	56.00	14.30	0.45		Average
2 *	0.15	42.01	-23.99	66.00	31.20	0.45	10.36	QP
3	0.17	24.01	-30.98	54.99	13.20	0.48	10.33	Average
4	0.17	39.21	-25.78	64.99	28.40	0.48	10.33	QP
5	0.19	23.40	-30.49	53.89	12.60	0.50	10.30	Average
6	0.19	36.10	-27.79	63.89	25.30	0.50	10.30	QP
7	0.22	23.70	-28.96	52.66	12.90	0.53	10.27	Average
8	0.22	33.20	-29.46	62.66	22.40	0.53	10.27	QP
9	0.25	21.50	-30.32	51.82	10.71	0.55	10.24	Average
10	0.25	30.40	-31.42	61.82	19.61	0.55	10.24	QP
11	0.28	20.69	-30.12	50.81	9.89	0.58	10.22	Average
12	0.28	27.79	-33.02	60.81	16.99	0.58	10.22	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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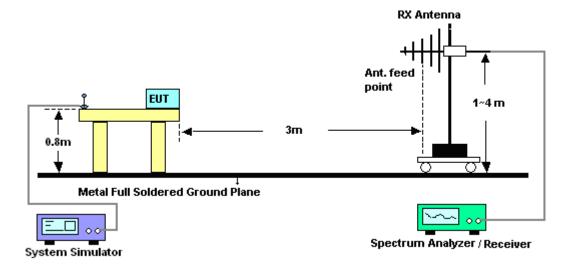
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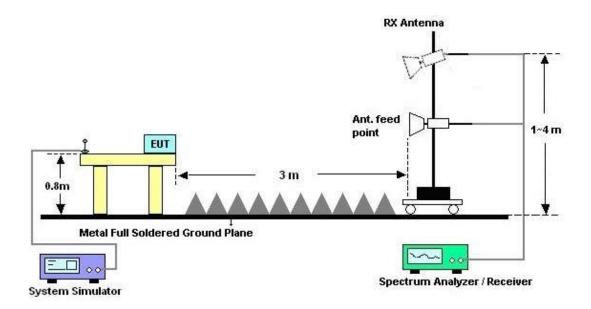
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## 3.2.4. Test Setup of Radiated Emission

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



### For radiated emissions above 1GHz



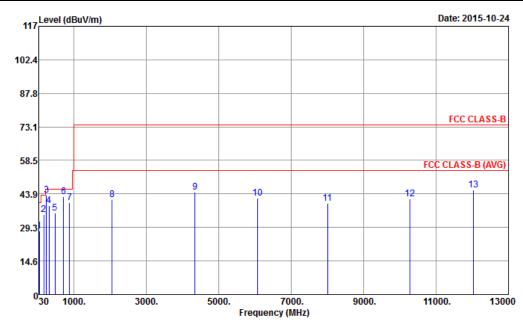
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3.2.5. Test Result of Radiated Emission

Test Mode :	Mode 4	Temperature :	23~25°C				
Test Engineer :	Kaer Huang	Relative Humidity :	48~52%				
Test Distance :	3m	Polarization :	Horizontal				
Eurotion Type	WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + Earphone + USB Cable(Data						
Function Type :	Link with Notebook) + GPS	Rx + SIM1					
Remark :	#7 is system simulator signal which can be ignored.						



: 03CH01-SZ

Site Condition : FCC CLASS-B 3m LF\_ANT\_141107 HORIZONTAL

: (FC) 5O1601 Project

Mode : Mode 4

IMEI : 421201510120319/421201510120327

	Freq	Level	Over Limit	Limit Line		Intenna Factor		Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	42.69	27.82	-12.18	40.00	38.87	14.25	0.70	26.00			Peak
2	165.54	34.89	-8.61	43.50	46.94	12.00	1.38	25.43			Peak
3	240.06	43.21	-2.79	46.00	54.55	12.25	1.57	25.16	123	198	QP
4	314.00	38.67	-7.33	46.00	47.82	14.29	1.71	25.15			Peak
5	479.90	35.51	-10.49	46.00	41.02	18.59	2.13	26.23			Peak
6	720.00	42.76	-3.24	46.00	45.65	20.73	2.71	26.33	120	200	QP
7	881.40	40.11			41.28	21.77	2.99	25.93			Peak
8	2058.00	41.50	-32.50	74.00	63.31	32.25	4.69	58.75			Peak
9	4346.00	44.78	-29.22	74.00	63.42	34.11	7.06	59.81			Peak
10	6070.00	42.09	-31.91	74.00	57.13	35.87	8.48	59.39			Peak
11	8006.00	39.63	-34.37	74.00	49.91	36.50	11.09	57.87			Peak
12	10280.00	41.84	-32.16	74.00	50.32	38.33	12.16	58.97			Peak
13	12036.00	45.78	-28.22	74.00	53.92	39.49	12.65	60.28	152	60	Peak

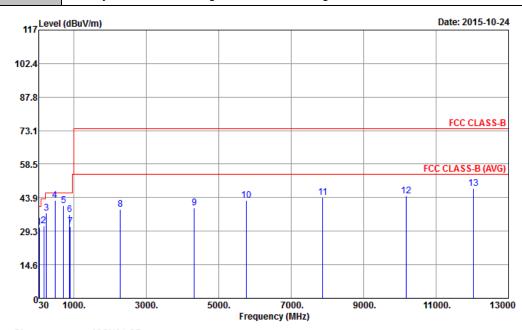
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23~25°C Test Mode: Mode 4 Temperature: Test Engineer: Kaer Huang Relative Humidity: 48~52% Test Distance: 3m Polarization: Vertical WCDMA Band V Idle + Bluetooth Idle + WLAN Idle + Earphone + USB Cable(Data **Function Type:** Link with Notebook) + GPS Rx + SIM1 Remark: #6 is system simulator signal which can be ignored.



Site : 03CH01-SZ

Condition : FCC CLASS-B 3m LF\_ANT\_141107 VERTICAL

Project : (FC) 5O1601

Mode : Mode 4

IMEI : 421201510120319/421201510120327

	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	42.42	30.83	-9.17	40.00	41.88	14.25	0.70	26.00			Peak
2	166.62	31.71	-11.79	43.50	43.78	11.97	1.38	25.42			Peak
3	240.06	37.01	-8.99	46.00	48.35	12.25	1.57	25.16			Peak
4	479.90	42.61	-3.39	46.00	48.12	18.59	2.13	26.23	115	200	QP
5	720.00	40.49	-5.51	46.00	43.38	20.73	2.71	26.33			Peak
6	881.40	36.65			37.82	21.77	2.99	25.93			Peak
7	896.40	31.36	-14.64	46.00	32.56	21.63	3.05	25.88			Peak
8	2286.00	38.68	-35.32	74.00	59.81	32.49	4.95	58.57			Peak
9	4328.00	39.55	-34.45	74.00	58.25	34.10	7.03	59.83			Peak
10	5770.00	42.74	-31.26	74.00	58.20	35.49	8.24	59.19			Peak
11	7874.00	44.02	-29.98	74.00	55.23	36.45	10.82	58.48			Peak
12	10176.00	44.65	-29.35	74.00	53.23	38.25	12.11	58.94			Peak
13	12040.00	47.76	-26.24	74.00	55.90	39.49	12.65	60.28	120	50	Peak

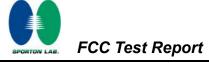
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# 4. List of Measuring Equipment

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	Oct. 24, 2015~ Oct. 26, 2015	May 25, 2016	Radiation (03CH01-SZ)
Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz;M ax 30dBm	Jun. 07, 2015	Oct. 24, 2015~ Oct. 26, 2015	Jun. 06, 2016	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	23188	30MHz-2GHz	Oct. 17, 2015	Oct. 24, 2015~ Oct. 26, 2015	Oct. 16, 2016	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS Lindgren	3117	00119436	1GHz~18GHz	Oct. 17, 2015	Oct. 24, 2015~ Oct. 26, 2015	Oct. 16, 2016	Radiation (03CH01-SZ)
Amplifier	ADVANTEST	BB525C	E9007003	9kHz ~3000MHz / 30 dB	Jan. 28, 2015	Oct. 24, 2015~ Oct. 26, 2015	Jan. 27, 2016	Radiation (03CH01-SZ)
Amplifier	Agilent Technologies	83017A	MY39501302	500MHz~26.5G Hz	Jan. 28, 2015	Oct. 24, 2015~ Oct. 26, 2015	Jan. 27, 2016	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	61601000198 5	N/A	NCR	Oct. 24, 2015~ Oct. 26, 2015	NCR	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Oct. 24, 2015~ Oct. 26, 2015	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Oct. 24, 2015~ Oct. 26, 2015	NCR	Radiation (03CH01-SZ)
EMI Receiver	R&S	ESCI7	100724	9kHz~3GHz;	Jan. 28, 2015	Nov. 02, 2015	Jan. 27, 2016	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	103892	9kHz~30MHz	Feb. 02, 2015	Nov. 02, 2015	Feb. 01, 2016	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	MessTec	AN3016	16850	9kHz~30MHz	Feb. 02, 2015	Nov. 02, 2015	Feb. 01, 2016	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	61602000089 1	100Vac~250Vac	Aug. 07, 2015	Nov. 02, 2015	Aug. 06, 2016	Conduction (CO01-SZ)
Pulse Limiter	COM-POWER	LIT-153 Transient Limiter	53139	150kHz~30MHz	Oct. 20, 2015	Nov. 02, 2015	Oct. 19, 2016	Conduction (CO01-SZ)

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# 5. Uncertainty of Evaluation

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

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

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

	T
Measuring Uncertainty for a Level of	4.0.4D
Confidence of 95% (U = 2Uc(y))	4.8dB

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