# **FCC Test Report**

APPLICANT : BLU Products, Inc.

**EQUIPMENT**: Mobile phone

BRAND NAME : BLU

MODEL NAME : ENERGY DIAMOND FCC ID : YHLBLUENDIAMOND

STANDARD : FCC 47 CFR FCC Part 15 Subpart B

**CLASSIFICATION** : Certification

The product was received on Apr. 28, 2016 and testing was completed on Jun. 07, 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 C63.4-2014 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 (SHENZHEN) INC., the test report shall not be reproduced except in full.

Prepared by: Ken Chen / Manager

lan Chen

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.

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Report Version : Rev. 01

Testing Laboratory

**Report No.: FC642816** 

Report Template No.: BU5-FD15B Version 1.3

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## **REVISION HISTORY**

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC642816	Rev. 01	Initial issue of report	Jun. 20, 2016

SPORTON INTERNATIONAL (SHENZHEN) INC.

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## **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 5.57 dB at
3.2	15.109	ICES003 Section 6.2	Radiated Emission	< 15.109 limits < ICES003 6.2 limits	PASS	0.160 MHz Under limit 4.45 dB at 344.800 MHz

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## 1. General Description

## 1.1. Applicant

**BLU Products, Inc.** 

10814 NW 33rd St # 100 Doral, FL 33172

### 1.2. Manufacturer

**BLU Products, Inc.** 

10814 NW 33rd St # 100 Doral, FL 33172

## 1.3. Product Feature of Equipment Under Test

	Product Feature			
Equipment	Mobile phone			
Brand Name	BLU			
Model Name	ENERGY DIAMOND			
FCC ID	YHLBLUENDIAMOND			
	GSM/GPRS/WCDMA/HSPA/			
EUT supports Radios application	WLAN2.4GHz 802.11b/g/n HT20/HT40/			
	Bluetooth v3.0 + EDR/Bluetooth v4.0 LE			
IMEI Code	Conduction: 351771053550316/351771053550324			
INVELCORE	Radiation:351771053550415/351771053550423			
HW Version	S4018-MB-V1.2			
SW Version	BLU_ENERGY DIAMOND_V02_GENERIC			
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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## 1.4. Product Specification of Equipment Under Test

Standards-related Product Specification					
Otandards					
	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8MHz				
	WCDMA Band V: 826.4 MHz ~ 846.6 MHz				
Tx Frequency	WCDMA Band IV: 1712.4 MHz ~ 1752.6 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				
	WCDMA Band IV : 2112.4 MHz ~ 2152.6 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				
	FM: 88 MHz ~ 108 MHz				
	WWAN : IFA Antenna				
Antenna Type	WLAN : PIFA Antenna				
Antenna Type	Bluetooth : PIFA Antenna				
	GPS : PIFA Antenna				
	GSM: GMSK				
	GPRS: GMSK				
	WCDMA: QPSK (Uplink)				
	HSDPA: QPSK (Uplink)				
	HSUPA: QPSK (Uplink)				
	802.11b: DSSS (DBPSK / DQPSK / CCK)				
Type of Modulation	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				
	FM				

## 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					
	Town, Nanshan District, Shenzhen, Guangdong, P. R. China					
Test Site Location	TEL: +86-755-8637-9589					
	FAX: +86-755-8637-9595					
Toot Site No	Sporton Site No.					
Test Site No.	CO01-SZ					

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.					
Test Site Location	No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P. R. China					
	TEL: +86-755- 3320-2398					
Toot Site No	Sporton Site No.	FCC/IC Registration No.				
Test Site No.	03CH02-SZ	566869/4086F				

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.

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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 C63.4-2014 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

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

The following tables are showing the test modes as the worst cases and recorded in this report.

		Test Condition			
Item	EUT Configuration	EMI	EMI	EMI	
		AC	RE<1G	RE≥1G	
1.	Charging Mode (EUT with adapter)	$\boxtimes$	$\boxtimes$	Note1	
2.	Data application transferred mode (EUT with notebook)	$\boxtimes$	$\boxtimes$	$\boxtimes$	

#### Abbreviations:

EMI AC: AC conducted emissions

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

EMI RE < 1G: EUT radiated emissions < 1GHz</li>

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
		Mode 1: GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + Camera (Back) + SIM1 <fig.1></fig.1>
AC Conducted	1/2	Mode 2: GSM1900 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + Camera (Front) + SIM1 <fig.1></fig.1>
Emission	1/2	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 IV Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Earphone + GPS Rx + FM Rx + SIM1 <fig.2></fig.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: GSM1900 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + Camera (Front) + SIM1 <fig.1></fig.1>
Emissions < 1GHz	1/2	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 IV Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Earphone + GPS Rx + FM Rx + SIM1 <fig.2></fig.2>
Radiated Emissions ≥ 1GHz	2	Mode 1: WCDMA Band IV Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Earphone + GPS Rx + FM Rx + SIM1 <fig.2></fig.2>

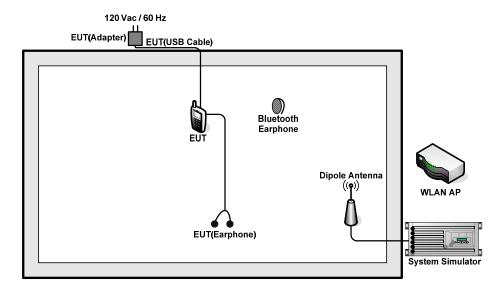
#### Remark:

- 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 are reported.
- 2. The worst case of RE < 1G is mode 4; only the test data of this mode is reported.
- 3. Data Link with notebook means data application transferred mode between EUT and notebook.

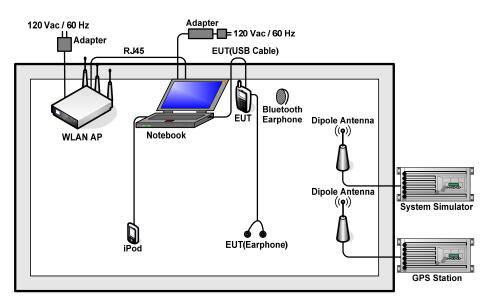
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## 2.2. Connection Diagram of Test System



<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	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
3.	System Simulator	Agilent	8960	N/A	N/A	Unshielded, 1.8 m
4.	GPS Station	ADIVIC	MP9000	N/A	N/A	Unshielded, 1.8 m
5.	WLAN AP	ASUSTek	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 2.7 m
6.	Bluetooth Earphone	Nokia	BH-108	PYAHS-107W	N/A	N/A
7.	Bluetooth Earphone	Samsung	HS3000	A3LHS3000	N/A	N/A
8.	Notebook	Lenovo	E540	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
9.	SD Card	SanDisk	4G class 4	FCC DoC	N/A	N/A
10.	iPod nano 8GB	Apple	MC690 ZP/A	FCC DoC	Shielded, 1.2 m	N/A
11.	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 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 function 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.
- 5. Turn on FM function.

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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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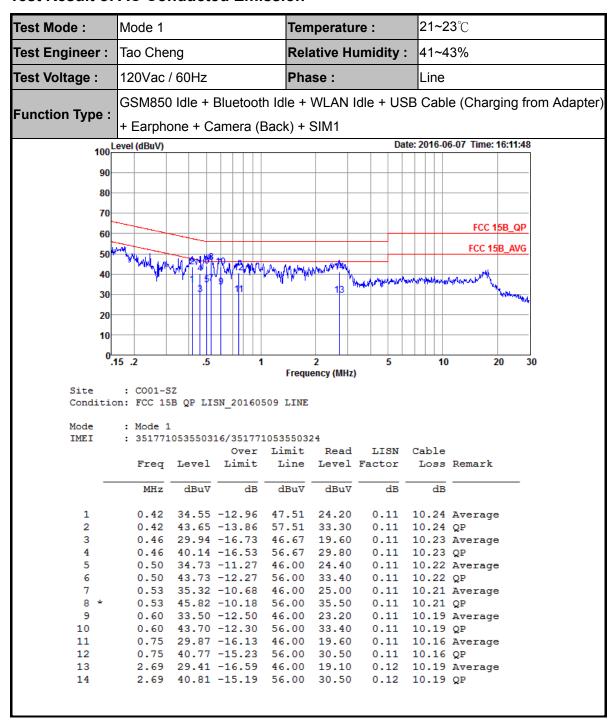
### 3.1.4 Test Setup



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#### 3.1.5 Test Result of AC Conducted Emission

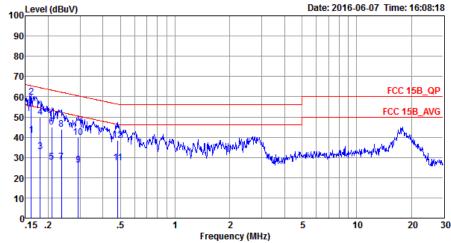


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21~23℃ Test Mode: Mode 1 Temperature: Test Engineer: Tao Cheng Relative Humidity: 41~43% Test Voltage: 120Vac / 60Hz Phase: Neutral GSM850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) Function Type: + Earphone + Camera (Back) + SIM1 100 Level (dBuV) Date: 2016-06-07 Time: 16:08:18



Site : CO01-SZ

Condition: FCC 15B\_QP LISN\_20160509 NEUTRAL

Mode : Mode 1

IMEI : 351771053550316/351771053550324

Over Limit Read LISN Cable

	Freq	Level	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBuV	dB	dBu∇	dBu∀	dB	dB	
1	0.16	41.11	-14.27	55.38	30.41	0.13	10.57	Average
2 *	0.16	59.81	-5.57	65.38	49.11	0.13	10.57	QP
3	0.18	32.96	-21.50	54.46	22.30	0.12	10.54	Average
4	0.18	49.66	-14.80	64.46	39.00	0.12	10.54	QP
5	0.21	27.60	-25.63	53.23	17.00	0.11	10.49	Average
6	0.21	45.00	-18.23	63.23	34.40	0.11	10.49	QP
7	0.24	27.68	-24.54	52.22	17.10	0.11	10.47	Average
8	0.24	43.78	-18.44	62.22	33.20	0.11	10.47	QP
9	0.29	26.34	-24.12	50.46	15.80	0.11	10.43	Average
10	0.29	39.84	-20.62	60.46	29.30	0.11	10.43	QP
11	0.48	27.33	-18.94	46.27	17.00	0.11	10.22	Average
12	0.48	38.33	-17.94	56.27	28.00	0.11	10.22	QP

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21~23℃ Test Mode: Mode 4 Temperature: Test Engineer: Tao Cheng Relative Humidity: 41~43% 120Vac / 60Hz Phase: Test Voltage: Line WCDMA Band IV Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Function Type: Notebook) + Earphone + GPS Rx + FM Rx + SIM1 100 Level (dBuV) Date: 2016-06-07 Time: 16:39:33 90 ደበ 70 FCC 15B\_QP 60 FCC 15B\_AVG 50 40 30 20 10 .15 .2 2 5 10 20 30 Frequency (MHz) Site : C001-SZ Condition: FCC 15B QP LISN L\_20160112 LINE IMEI : 351771053550316/351771053550324 Over Limit Read LISN Cable Freq Level Limit Line Level Factor Loss Remark dBuV dBuV dBuV MHz dB dB dB 0.26 25.49 -25.98 51.47 14.71 1 0.55 10.23 Average 10.23 QP 0.26 40.99 -20.48 61.47 30.21 0.55 0.35 24.34 -24.62 48.96 13.61 0.55 10.18 Average 0.35 36.04 -22.92 58.96 25.31 0.40 22.62 -25.15 47.77 11.91 0.40 37.92 -19.85 57.77 27.21 4 0.55 10.18 QP 0.54 10.17 Average 0.54 10.17 QP 6 7 0.45 21.67 -25.13 46.80 10.90 0.61 10.16 Average 0.45 36.87 -19.93 56.80 26.10 0.59 22.66 -23.34 46.00 11.90 0.61 10.16 QP 0.61 10.15 Average 8 9 10 \* 0.59 38.16 -17.84 56.00 27.40 0.61 10.15 QP 0.67 21.21 -24.79 46.00 10.50 0.67 37.51 -18.49 56.00 26.80 0.56 10.15 Average 0.56 10.15 QP 11 12

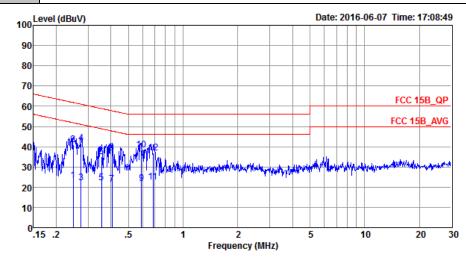
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21~23℃ Test Mode: Mode 4 Temperature: Test Engineer: Tao Cheng Relative Humidity: 41~43% Phase: Test Voltage: 120Vac / 60Hz Neutral

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



Site : CO01-SZ

Condition: FCC 15B QP LISN 20160509 NEUTRAL

: Mode 4 Mode

: 351771053550316/351771053550324 IMEI

	Fre	eq Level	Limit	Line	Level	Factor	Loss	Remark
	Mi	Hz dBuV	dB	dBu∀	dBu∀	——dB	dB	
1	0.2	25 23.17	-28.65	51.82	12.60	0.11	10.46	Average
2	0.2	25 40.97	-20.85	61.82	30.40	0.11	10.46	QP
3	0.2	27 22.05	-28.93	50.98	11.50	0.11	10.44	Average
4	0.2	27 41.65	-19.33	60.98	31.10	0.11	10.44	QP
5	0.3	36 22.03	-26.80	48.83	11.60	0.11	10.32	Average
6	0.3	36 35.13	-23.70	58.83	24.70	0.11	10.32	QP
7	0.4	41 21.26	-26.47	47.73	10.90	0.11	10.25	Average
8	0.4	41 36.86	-20.87	57.73	26.50	0.11	10.25	QP
9	0.	59 21.60	-24.40	46.00	11.30	0.11	10.19	Average
10 *	0.5	59 38.50	-17.50	56.00	28.20	0.11	10.19	QP
11	0.0	68 22.37	-23.63	46.00	12.10	0.11	10.16	Average
12	0.0	68 36.87	-19.13	56.00	26.60	0.11	10.16	QP

Over Limit Read

LISN Cable

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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 (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.

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#### 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 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 (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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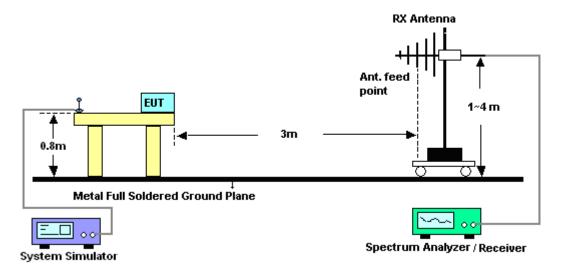
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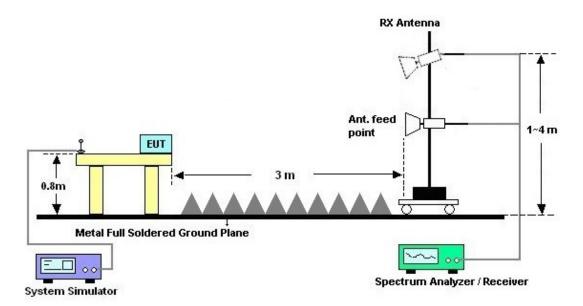
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## 3.2.4. Test Setup of Radiated Emission

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



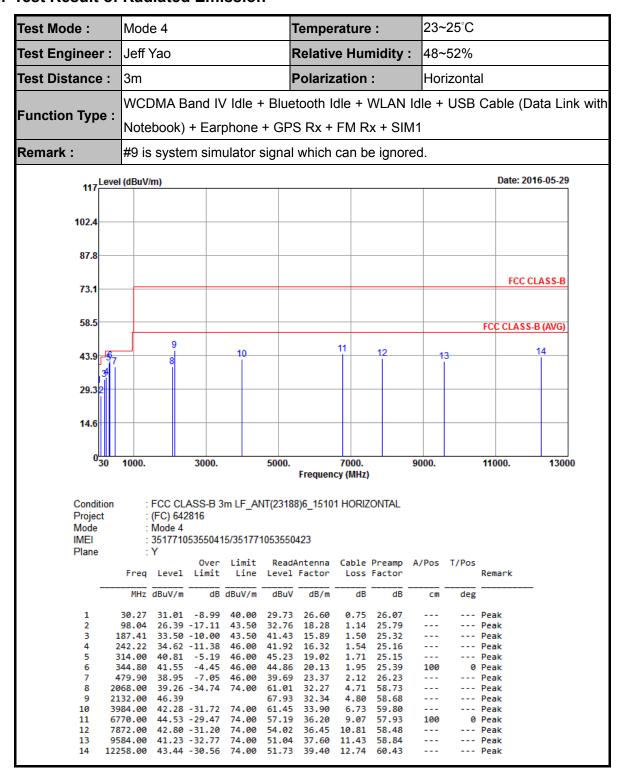
#### For radiated emissions above 1GHz



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#### 3.2.5. Test Result of Radiated Emission



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23~25°C Test Mode: Mode 4 Temperature: Test Engineer: Jeff Yao Relative Humidity: 48~52% Test Distance: 3m Polarization: Vertical WCDMA Band IV Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with **Function Type:** Notebook) + Earphone + GPS Rx + FM Rx + SIM1 Remark: #8 is system simulator signal which can be ignored. 117 Level (dBuV/m) Date: 2016-05-29 102.4 87.8 FCC CLASS-B 73.1 58.5 FCC CLASS-B (AVG) 43.9 29.3 14.6 030 1000. 3000. 5000. 7000. 9000. 11000. 13000 Frequency (MHz) Condition : FCC CLASS-B 3m LF\_ANT(23188)6\_15101 VERTICAL Project (FC) 642816 Mode Mode 4 IMEI : 351771053550415/351771053550423 Plane : Y Over Limit ReadAntenna Freq Level Limit Line Level Factor ReadAntenna Cable Preamp A/Pos T/Pos Remark Loss Factor MHz dBuV/m dB dBuV/m dBuV dB/m dB deg 30.00 29.66 -10.34 40.00 28.38 26.60 0.75 26.07 100 0 Peak 27.06 -16.44 43.50 33.43 18.28 25.79 --- Peak 98.04 1.14 187.14 27.99 -15.51 43.50 35.92 15.89 1.50 25.32 --- Peak 298.65 33.83 -12.17 46.00 38.70 18.46 1.71 25.04 --- Peak --- Peak 300.00 33.76 -12.24 46.00 38.59 18.50 1.71 25.04 399.40 33.32 -12.68 46.00 34.00 --- Peak 23.10 2.03 25.81 797.00 34.92 -11.08 46.00 30.84 27.38 --- Peak 2.88 26.18 2132.00 45.69 4.80 Peak 9 2634.00 39.92 -34.08 74.00 60.66 32.81 5.36 58.91 --- Peak 10 3530.00 39.64 - 34.36 74.00 59.53 33.43 6.30 59.62 --- Peak 6554.00 --- Peak 11 41.01 -32.99 74.00 54.00 36.28 8.81 58.08 39.94 -34.06 52.04 7550.00 74.00 36.32 10.05 --- Peak 12 58.47

40.93 -33.07

41.88 -32.12 74.00

11472.00

50.53

49.87

39.17

11.54

12.59

59.75

100

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--- Peak

0 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	R&S	ESR7	101404	9kHz~7GHz;Ma x 30dBm	Oct. 20, 2015	Jun. 07, 2016	Oct. 19, 2016	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103892	9kHz~30MHz	Jan. 12, 2016	Jun. 07, 2016	Jan. 11, 2017	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	MessTec	3816/2SH	00103912	9kHz~30MHz	Jan. 12, 2016	Jun. 07, 2016	Jan. 11, 2017	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Aug. 07, 2015	Jun. 07, 2016	Aug. 06, 2016	Conduction (CO01-SZ)
Pulse Limiter	COM-POWER	LIT-153 Transient Limiter	53139	150kHz~30MHz	Oct. 20, 2015	Jun. 07, 2016	Oct. 19, 2016	Conduction (CO01-SZ)
EMI Test Receiver	R&S	ESR7	101404	9kHz~7GHz; Max 30dBm	Oct. 20, 2015	May 29, 2016	Oct. 19, 2016	Radiation (03CH02-SZ)
Spectrum Analyzer	R&S	FSV40	101041	10kHz~40GHz; Max 30dBm	Oct. 20, 2015	May 29, 2016	Oct. 19, 2016	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz~2GHz	May 07, 2016	May 29, 2016	May 06, 2017	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	SCHWARZBE CK	BBHA 9120D	9120D-1285	1GHz~18GHz	Jan. 11, 2016	May 29, 2016	Jan. 10, 2017	Radiation (03CH02-SZ)
Amplifier	HP	8447F	3113A04622	9kHz~1300MHz / 30 dB	Aug. 07, 2015	May 29, 2016	Aug. 06, 2016	Radiation (03CH02-SZ)
Amplifier	Agilent	8449B	3008A01023	1GHz~26.5GHz	Oct. 20, 2015	May 29, 2016	Oct. 19, 2016	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	616010002470	N/A	NCR	May 29, 2016	NCR	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	May 29, 2016	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	May 29, 2016	NCR	Radiation (03CH02-SZ)

NCR: No Calibration Required

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## 5. Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of	0.0 ID
Confidence of 95% (U = 2Uc(y))	2.3 dB

### <u>Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)</u>

Measuring Uncertainty for a Level of	
<u> </u>	5.0 dB
Confidence of 95% (U = 2Uc(y))	3.0 dB
Offinderice of 33 /6 (0 = 20C(y))	

### <u>Uncertainty of Radiated Emission Measurement (1GHz ~ 18GHz)</u>

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y)) 4.9dB	1 4 40 K
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### **Uncertainty of Radiated Emission Measurement (18GHz ~ 40GHz)**

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.1dB

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