# **FCC Test Report**

APPLICANT : BLU Products, Inc.

**EQUIPMENT**: Mobile phone

BRAND NAME : BLU

MODEL NAME : DIVA FLIP

FCC ID : YHLBLUDIVAFLIP

STANDARD : FCC 47 CFR FCC Part 15 Subpart B

**CLASSIFICATION**: Certification

The product was received on Jan. 12, 2016 and testing was completed on Mar. 03, 2016. 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

James Huang

Approved by: Jones Tsai / Manager

SPORTON INTERNATIONAL (KUNSHAN) INC.

No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P. R. China

SPORTON INTERNATIONAL (KUNSHAN) INC.

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## **REVISION HISTORY**

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC611204	Rev. 01	Initial issue of report	Mar. 17, 2016

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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 7.56 dB at 0.170 MHz
3.2	15.109	ICES003 Section 6.2	Radiated Emission	< 15.109 limits < ICES003 6.2 limits	PASS	Under limit 3.37 dB at 600.300 MHz for Quasi-Peak

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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	DIVA FLIP
FCC ID	YHLBLUDIVAFLIP
EUT supports Radios application	GSM/Bluetooth v3.0+EDR
IMEI Code	Conduction: 351771053541752/351771053541760 Radiation: 351771053541711/351771053541729
HW Version	S2415-MB-V1.2
SW Version	BLU_T390_V08_GENERIC_ANATEL_160129_1415
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.

### 1.4. Product Specification of Equipment Under Test

Standards-related Product Specification					
	GSM850: 824.2 MHz ~ 848.8 MHz				
Tx Frequency	GSM1900: 1850.2 MHz ~ 1909.8MHz Bluetooth: 2402 MHz ~ 2480 MHz				
	GSM850: 869.2 MHz ~ 893.8 MHz				
Rx Frequency	GSM1900: 1930.2 MHz ~ 1989.8 MHz				
	Bluetooth: 2402 MHz ~ 2480 MHz				
Antenna Type	WWAN: IFA Antenna				
Antenna Type	Bluetooth : Monopole Antenna				
	GSM: GMSK				
Type of Madulation	Bluetooth (1Mbps) : GFSK				
Type of Modulation	Bluetooth (2Mbps) : π /4-DQPSK				
	Bluetooth (3Mbps) : 8-DPSK				

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#### 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.					
	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P. R. China					
Test Site Location	TEL: +86-0512-5790-0158					
	FAX: +86-0512-5790-0958					
Toot Site No	Sportor	FCC/IC Registration No.				
Test Site No.	CO01-KS	03CH03-KS	306251/4086E			

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 AC	EMI RE<1G	EMI RE≥1G		
1.	Charging Mode (EUT with adapter)	$\boxtimes$	$\boxtimes$	$\boxtimes$		
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

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Test Items	EUT Configure Mode	Function Type
		Mode 1: GSM1900 Idle + Bluetooth Idle + Adapter + Earphone + Camera + SIM1 <fig.1></fig.1>
AC Conducted Emission	1/2	Mode 2: GSM850 Idle + Bluetooth Idle + Adapter + Earphone + MP3 + SIM2 <fig.1></fig.1>
		Mode 3: GSM1900 Idle + Bluetooth Idle + USB Cable (Data Link with Notebook) + Earphone + SD Card + SIM1 <fig.2></fig.2>
		Mode 1: GSM1900 Idle + Bluetooth Idle + Adapter + Earphone + Camera + SIM1 <fig.1></fig.1>
Radiated Emissions < 1GHz	1/2	Mode 2: GSM850 Idle + Bluetooth Idle + Adapter + Earphone + MP3 + SIM2 <fig.1></fig.1>
		Mode 3: GSM1900 Idle + Bluetooth Idle + USB Cable (Data Link with Notebook) + Earphone + SD Card + SIM1 <fig.2></fig.2>
Radiated	1/2	Mode 1: GSM1900 Idle + Bluetooth Idle + Adapter + Earphone + Camera + SIM1 <fig.1></fig.1>
Emissions ≥ 1GHz		Mode 2: GSM1900 Idle + Bluetooth Idle + USB Cable (Data Link with Notebook) + Earphone + SD Card + SIM1 <fig.2></fig.2>

#### Remark:

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

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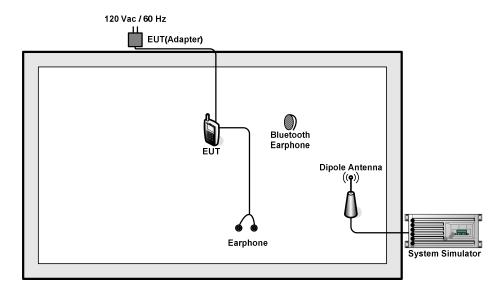
FAX: 86-0512-5790-0958

FCC ID: YHLBLUDIVAFLIP

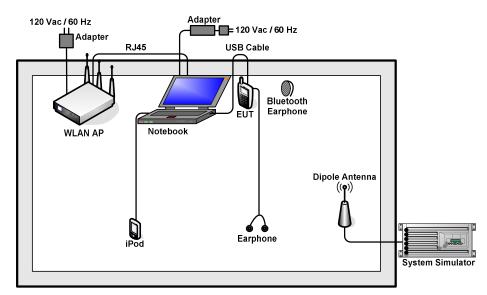
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## 2.2. Connection Diagram of Test System



<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.	Notebook	Lenovo	E540	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	Bluetooth Earphone	Nokia	BH-108	PYAHS-107W	N/A	N/A
4.	Bluetooth Earphone	Samsung	HS3000	A3LHS3000	N/A	N/A
5.	Earphone	Apple	MC690ZP/A	N/A	Unshielded, 1.6 m	N/A
6.	iPod	Apple	MC525 ZP/A	FCC DoC	Shielded, 1.0 m	N/A
7.	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 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, 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 "Music Player" to play MP3 file.
- 3. 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.

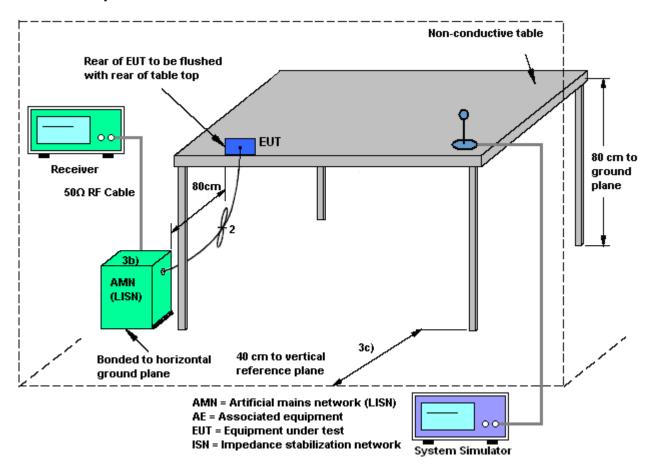
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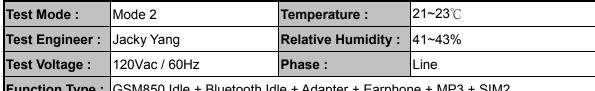
#### 3.1.4 Test Setup



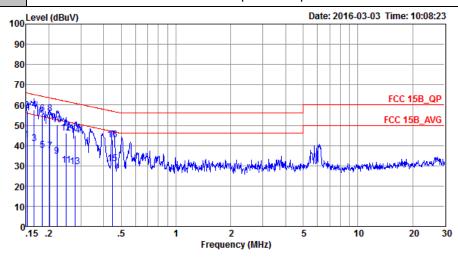
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#### 3.1.5 Test Result of AC Conducted Emission



GSM850 Idle + Bluetooth Idle + Adapter + Earphone + MP3 + SIM2 **Function Type:** 



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

Project : (FC) 611204

Mode : Mode 2 IMEI : 351771053541752/351771053541760

	_	- 1	Over	Limit	Read	LISN	Cable	
	rreq	Level	Limit	Line	телет	Factor	Toss	Remark
	MHz	dBu∀	dB	dBu∀	dBu₹	dB	dB	
1	0.15	42.89	-13.02	55.91	32.10	0.43	10.36	Average
2	0.15	57.29	-8.62	65.91	46.50	0.43	10.36	QP
3	0.17	40.90	-14.26	55.16	30.10	0.46	10.34	Average
4 *	0.17	57.60	-7.56	65.16	46.80	0.46	10.34	QP
5	0.18	37.51	-16.77	54.28	26.71	0.49	10.31	Average
6	0.18	55.61	-8.67	64.28	44.81	0.49	10.31	QP
7	0.20	37.11	-16.38	53.49	26.30	0.52	10.29	Average
8	0.20	55.71	-7.78	63.49	44.90	0.52	10.29	QP
9	0.22	34.50	-18.24	52.74	23.70	0.53	10.27	Average
10	0.22	50.20	-12.54	62.74	39.40	0.53	10.27	QP
11	0.25	30.19	-21.59	51.78	19.40	0.55	10.24	Average
12	0.25	45.99	-15.79	61.78	35.20	0.55	10.24	QP
13	0.28	29.68	-21.17	50.85	18.90	0.56	10.22	Average
14	0.28	44.98	-15.87	60.85	34.20	0.56	10.22	QP
15	0.45	31.06	-15.87	46.93	20.30	0.60	10.16	Average
16	0.45	42.96	-13.97	56.93	32.20	0.60	10.16	QP

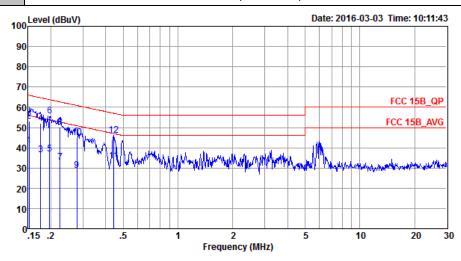
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Test Mode :	Mode 2	Temperature :	21~23℃
Test Engineer :	Jacky Yang	Relative Humidity :	41~43%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral

Function Type: GSM850 Idle + Bluetooth Idle + Adapter + Earphone + MP3 + SIM2



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

Project : (FC)611204 Mode : Mode 2

IMEI : 351771053541752/351771053541760

			Over	Limit	Read	LISN	Cable	
	Freq	Level	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBuV	dB	dBu₹	dBu∀	dB	dB	
1	0.15	40.81	-15.10	55.91	30.00	0.45	10.36	Average
2	0.15	53.11	-12.80	65.91	42.30	0.45	10.36	QP
3	0.18	36.61	-18.07	54.68	25.81	0.48	10.32	Average
4	0.18	52.11	-12.57	64.68	41.31	0.48	10.32	QP
5	0.20	36.80	-16.96	53.76	25.99	0.51	10.30	Average
6 *	0.20	55.60	-8.16	63.76	44.79	0.51	10.30	QP
7	0.22	32.80	-19.86	52.66	22.00	0.53	10.27	Average
8	0.22	50.10	-12.56	62.66	39.30	0.53	10.27	QP
9	0.28	28.79	-22.11	50.90	17.99	0.58	10.22	Average
10	0.28	44.89	-16.01	60.90	34.09	0.58	10.22	QP
11	0.44	33.54	-13.44	46.98	22.80	0.58	10.16	Average
12	0.44	46.14	-10.84	56.98	35.40	0.58	10.16	QP

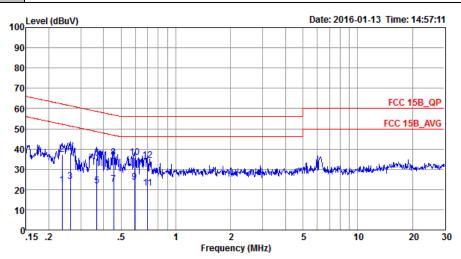
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Test Mode :	Mode 3	Temperature :	21~23℃
Test Engineer :	Jacky Yang	Relative Humidity :	41~43%
Test Voltage :	120Vac / 60Hz	Phase :	Line
	GSM1900 Idle + Bluetootl	h Idle + USB Cable	(Data Link with Notebook) +

Function Type: Earphone + SD Card + SIM1



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

Project : (FC) 611204 : Mode 3 Mode

IMEI : 351771053541752/351771053541760

			Over	Limit	Read	LISN	Cable	
	Freq	Level	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBu∀	dB	dBuV	dBu∀	dB	dB	
1	0.24	22.30	-29.92	52.22	11.51	0.54	10.25	Average
2	0.24	37.20	-25.02	62.22	26.41	0.54	10.25	QP
3	0.26	23.98	-27.36	51.34	13.20	0.55	10.23	Average
4	0.26	38.08	-23.26	61.34	27.30	0.55	10.23	QP
5	0.37	21.63	-26.93	48.56	10.90	0.55	10.18	Average
6	0.37	35.53	-23.03	58.56	24.80	0.55	10.18	QP
7	0.45	22.47	-24.33	46.80	11.70	0.61	10.16	Average
8	0.45	35.97	-20.83	56.80	25.20	0.61	10.16	QP
9	0.59	23.46	-22.54	46.00	12.70	0.61	10.15	Average
10 4	0.59	35.66	-20.34	56.00	24.90	0.61	10.15	QP
11	0.70	20.79	-25.21	46.00	10.10	0.54	10.15	Average
12	0.70	34.29	-21.71	56.00	23.60	0.54	10.15	QP

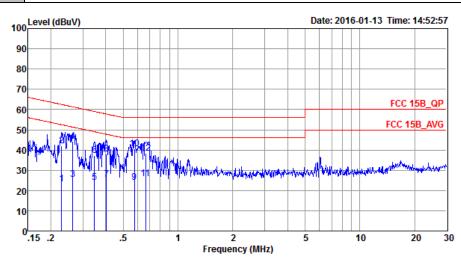
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Test Mode :	Mode 3	Temperature :	<b>21~23</b> ℃
Test Engineer :	Jacky Yang	Relative Humidity :	41~43%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type:	GSM1900 Idle + Bluetootl	h Idle + USB Cable	(Data Link with Notebook) +

Function Type : GSM1900 Idle + Bluetooth Idle + USB Cable (Data Link with Notebook) + Earphone + SD Card + SIM1



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

Project : (FC)611204 Mode : Mode 3

IMEI : 351771053541752/351771053541760

	_	_	Over	Limit	Read	LISN	Cable	
	Freq	Level	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBu₹	dB	dBuV	dBu₹	dB	dB	
1	0.23	23.10	-29.38	52.48	12.30	0.54	10.26	Average
2	0.23	42.00	-20.48	62.48	31.20	0.54	10.26	QP
3	0.26	25.40	-25.89	51.29	14.60	0.57	10.23	Average
4	0.26	44.30	-16.99	61.29	33.50	0.57	10.23	QP
5	0.35	23.96	-25.09	49.05	13.20	0.57	10.19	Average
6	0.35	37.26	-21.79	59.05	26.50	0.57	10.19	QP
7	0.40	25.42	-22.35	47.77	14.70	0.55	10.17	Average
8	0.40	37.92	-19.85	57.77	27.20	0.55	10.17	QP
9	0.58	23.94	-22.06	46.00	13.21	0.58	10.15	Average
10 *	0.58	40.44	-15.56	56.00	29.71	0.58	10.15	QP
11	0.66	25.81	-20.19	46.00	15.10	0.56	10.15	Average
12	0.66	38.31	-17.69	56.00	27.60	0.56	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.

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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 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 (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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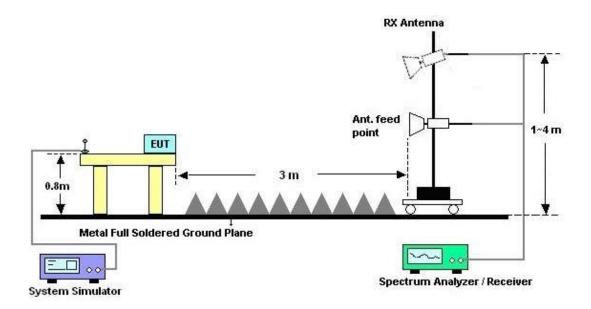
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### 3.2.4. Test Setup of Radiated Emission

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



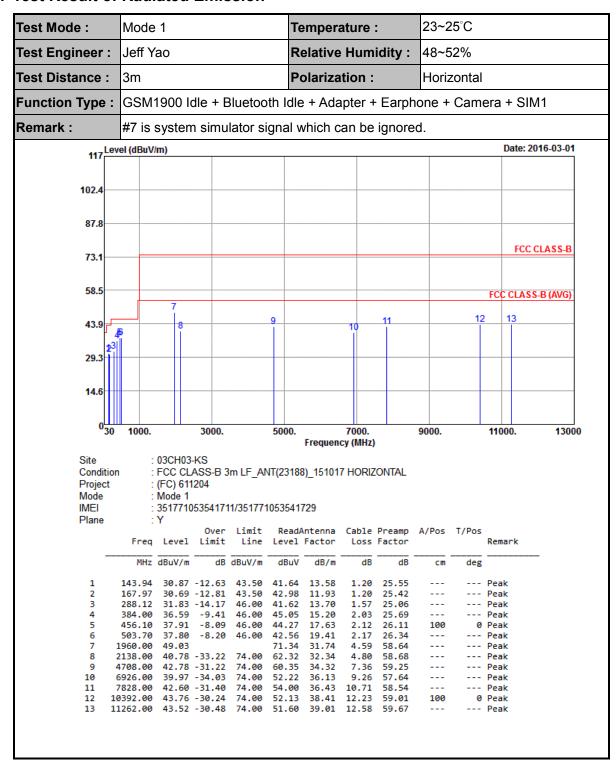
#### For radiated emissions above 1GHz



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#### 3.2.5. Test Result of Radiated Emission



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Temperature: 23~25°C Test Mode: Mode 1 Jeff Yao **Relative Humidity:** 48~52% Test Engineer: Test Distance : Polarization: Vertical 3m **Function Type:** GSM1900 Idle + Bluetooth Idle + Adapter + Earphone + Camera + SIM1 Remark: #7 is system simulator signal which can be ignored. 117 Level (dBuV/m) Date: 2016-03-01 102.4 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)

Site : 03CH03-KS

Condition : FCC CLASS-B 3m LF\_ANT(23188)\_151017 VERTICAL

Project : (FC) 611204 Mode : Mode 1

IMEI : 351771053541711/351771053541729

Plane : Y

									T/Pos	
Freq	Level	Limit	Line	Level	Factor	Loss	Factor			Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
30.27	32.25	-7.75	40.00	31.97	25.60	0.75	26.07			Peak
143.94	32.23	-11.27	43.50	43.00	13.58	1.20	25.55			Peak
192.00	31.93	-11.57	43.50	44.16	11.56	1.50	25.29			Peak
600.30	42.63	-3.37	46.00	46.85	19.70	2.52	26.44	145	80	QP
647.90	41.46	-4.54	46.00	45.32	19.99	2.56	26.41	100	20	QP
696.20	41.20	-4.80	46.00	44.64	20.28	2.65	26.37	147	80	QP
1960.00	48.97			71.28	31.74	4.59	58.64			Peak
2186.00	41.28	-32.72	74.00	62.71	32.39	4.85	58.67			Peak
4982.00	43.43	-30.57	74.00	59.53	34.49	7.59	58.18			Peak
5084.00	40.45	-33.55	74.00	55.82	34.60	7.66	57.63			Peak
8538.00	43.17	-30.83	74.00	53.31	36.24	11.04	57.42			Peak
10338.00	43.20	-30.80	74.00	51.61	38.37	12.21	58.99			Peak
11726.00	43.46	-30.54	74.00	51.50	39.33	12.61	59.98	100	0	Peak
	30.27 143.94 192.00 600.30 647.90 9696.20 1960.00 2186.00 4982.00 5084.00 8538.00	30.27 32.25 143.94 32.23 192.00 31.93 600.30 42.63 647.90 41.46 696.20 41.20 1960.00 48.97 2186.00 41.28 4982.00 43.43 5084.00 40.45 8538.00 43.17 10338.00 43.20	MHz dBuV/m dB  30.27 32.25 -7.75 143.94 32.23 -11.27 192.00 31.93 -11.57 600.30 42.63 -3.37 647.90 41.46 -4.54 696.20 41.20 -4.80 1960.00 48.97 2186.00 41.28 -32.72 4982.00 43.43 -30.57 5084.00 40.45 -33.55 8538.00 43.17 -30.83 10338.00 43.20 -30.80	Freq         Level         Limit         Line           MHz         dBuV/m         dB dBuV/m           30.27         32.25         -7.75         40.00           143.94         32.23         -11.27         43.50           192.00         31.93         -11.57         43.50           600.30         42.63         -3.37         46.00           647.90         41.46         -4.54         46.00           696.20         41.20         -4.80         46.00           1960.00         48.97	Freq         Level         Limit         Line         Level           MHz         dBuV/m         dB dBuV/m         dBuV         dBuV           30.27         32.25         -7.75         40.00         31.97           143.94         32.23         -11.27         43.50         43.00           192.00         31.93         -11.57         43.50         44.16           600.30         42.63         -3.37         46.00         46.85           647.90         41.46         -4.54         46.00         45.32           696.20         41.20         -4.80         46.00         44.64           1960.00         48.97         71.28           2186.00         41.28         -32.72         74.00         62.71           4982.00         43.43         -30.57         74.00         59.53           5084.00         40.45         -33.55         74.00         55.82           8538.00         43.17         -30.83         74.00         53.31           10338.00         43.20         -30.80         74.00         51.61	Freq         Level         Limit         Line         Level         Factor           MHz         dBuV/m         dB dBuV/m         dBuV         dB/m           30.27         32.25         -7.75         40.00         31.97         25.60           143.94         32.23         -11.27         43.50         43.00         13.58           192.00         31.93         -11.57         43.50         44.16         11.56           600.30         42.63         -3.37         46.00         46.85         19.70           647.90         41.46         -4.54         46.00         45.32         19.99           696.20         41.20         -4.80         46.00         44.64         20.28           1960.00         48.97         71.28         31.74           2186.00         41.28         -32.72         74.00         62.71         32.39           4982.00         43.43         -30.57         74.00         59.53         34.60           8538.00         43.17         -30.83         74.00         53.31         36.24           10338.00         43.20         -30.80         74.00         51.61         38.37	Freq         Level         Limit         Line         Level         Factor         Loss           MHz         dBuV/m         dB dBuV/m         dBuV         dB/m         dB           30.27         32.25         -7.75         40.00         31.97         25.60         0.75           143.94         32.23         -11.27         43.50         43.00         13.58         1.20           192.00         31.93         -11.57         43.50         44.16         11.56         1.50           600.30         42.63         -3.37         46.00         46.85         19.70         2.52           647.90         41.46         -4.54         46.00         45.32         19.99         2.56           696.20         41.20         -4.80         46.00         44.64         20.28         2.65           1960.00         48.97         71.28         31.74         4.59           2186.00         41.28         -32.72         74.00         62.71         32.39         4.85           4982.00         43.43         -30.57         74.00         55.53         34.49         7.59           5084.00         40.45         -33.55         74.00         55.82	Freq         Level         Limit         Line         Level         Factor         Loss         Factor           MHz         dBuV/m         dB dBuV/m         dBuV         dB/m         dB         dB           30.27         32.25         -7.75         40.00         31.97         25.60         0.75         26.07           143.94         32.23         -11.27         43.50         43.00         13.58         1.20         25.55           192.00         31.93         -11.57         43.50         44.16         11.56         1.50         25.29           600.30         42.63         -3.37         46.00         46.85         19.70         2.52         26.44           647.90         41.46         -4.54         46.00         45.32         19.99         2.56         26.41           696.20         41.20         -4.80         46.00         45.32         19.99         2.56         26.37           1960.00         48.97	Freq         Level         Limit         Line         Level         Factor         Loss         Factor           MHz         dBuV/m         dB         dBuV         dB         dB         dB         cm           30.27         32.25         -7.75         40.00         31.97         25.60         0.75         26.07            143.94         32.23         -11.27         43.50         43.00         13.58         1.20         25.55            192.00         31.93         -11.57         43.50         44.16         11.56         1.50         25.29            600.30         42.63         -3.37         46.00         46.85         19.70         2.52         26.44         145           647.90         41.46         -4.54         46.00         45.32         19.99         2.56         26.41         100           696.20         41.20         -4.80         46.00         44.64         20.28         2.65         26.37         147           1960.00         48.97	MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg  30.27 32.25 -7.75 40.00 31.97 25.60 0.75 26.07 143.94 32.23 -11.27 43.50 43.00 13.58 1.20 25.55 192.00 31.93 -11.57 43.50 44.16 11.56 1.50 25.29 600.30 42.63 -3.37 46.00 46.85 19.70 2.52 26.44 145 80 647.90 41.46 -4.54 46.00 45.32 19.99 2.56 26.41 100 20 696.20 41.20 -4.80 46.00 44.64 20.28 2.65 26.37 147 80 1960.00 48.97 71.28 31.74 4.59 58.64 2186.00 41.28 -32.72 74.00 62.71 32.39 4.85 58.67 4982.00 43.43 -30.57 74.00 55.82 34.60 7.66 57.63 5084.00 40.45 -33.55 74.00 55.82 34.60 7.66 57.63 8538.00 43.17 -30.83 74.00 55.31 36.24 11.04 57.42 10338.00 43.20 -30.80 74.00 51.61 38.37 12.21 58.99

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Test Mode :	Mode :	2			To	mpera	turo :		23~25	5°C			
						-		114					
Test Engineer :	Jeff Ya	10				lative		aity :					
Test Distance :	3m				Ро	larizat	ion :		Horizontal				
Function Type :	GSM1	900 Id	lle +	Blueto	oth Id	dle +	USB	Cable	(Data	Link	with	Notebool	k) +
runction type.	Earpho	one + S	SD Ca	rd + SII	M1								
Remark :	#7 is s	ystem	simula	ator sig	nal wl	hich ca	ın be i	ignored	d.				
	evel (dBuV	/m)									Dat	te: 2016-03-01	
117		•											
102.4													
87.8													
73.1												FCC CLASS-B	
58.5		7									FCC CI	_ASS-B (AVG)	
43.9	3		8		9		10	11		12	13		
[2	45 <sub>6</sub>												
29.3													
14.6													
03	0 1000.	I	3000.		5000.	. 7000. 9000. 110 Frequency (MHz)			11000.	1300	00		
Site	:	03CH03-	KS			rrequen	Cy (IIII12)	,					
Condition				m LF_AN	T(2318	8)_15101	7 HORIZ	ZONTAL					
Project Mode		(FC) 611 Mode 3	204										
IMEI			5354171	1/351771	053541	729							
Plane	:	Υ	Over	Limit	Read/	Antenna	Cable	Preamp	A/Pos	T/Pos			
_			Limit	Line	Level	Factor	Loss	Factor			Remark		
	MHz	dBuV/m		dBuV/m	dBuV	dB/m	dB		cm	deg			
1 2	43.50 192.00			40.00 43.50				25.99 25.29	100		Peak Peak		
3	227.91			46.00		12.05	1.54				Peak		
4 5	300.00 498.10			46.00 46.00			2.17	25.04 26.33			Peak Peak		
6	696.90	30.59		46.00	34.03	20.28	2.65	26.37			Peak		
7 8	1960.00 2614.00		-32.74	74.00	71.34		4.59 5.36	58.64 58.87			Peak Peak		
9	4708.00	44.78	-29.22	74.00	62.35	34.32	7.36	59.25	100	0	Peak		
10 11	6926.00 7828.00			74.00 74.00				57.64 58.54			Peak Peak		
12	10392.00	44.76	-29.24	74.00	53.13	38.41	12.23	59.01			Peak		
13	11262.00	44.52	-29.48	74.00	52.60	39.01	12.58	59.67			Peak		

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Test Distance : 3: Function Type : E Remark : #	SM1900 arphone - 7 is syste (dBuV/m)	+ SD Ca	ard + S	Pooth Id		ion : USB	Cable	d.	al	Date FCC CL	Notebook e: 2016-03-01  CC CLASS-B  ASS-B (AVG)  13
Function Type : E  Remark : #  117  102.4  87.8  73.1  58.5  43.9  29.3	SM1900 arphone - 7 is syste (dBuV/m)	+ SD Ca	ard + S	ooth I	dle +	USB	gnored	d.	a Link	Date FCC CL	e: 2016-03-01  CC CLASS-B  ASS-B (AVG)
Function Type : E  Remark : #  117  102.4  87.8  73.1  58.5  43.9  29.3	arphone - 7 is syste (dBuV/m)	+ SD Ca	ard + S	IM1 gnal w			gnored	d.		Date FCC CL	e: 2016-03-01  CC CLASS-B  ASS-B (AVG)
Remark : ##  117  102.4  87.8  73.1  58.5  43.9  29.3	7 is syste			gnal w	hich ca	an be i			12	FCC CL	CC CLASS-B ASS-B (AVG)
117 Level 102.4 87.8 73.1 58.5 43.9 2 29.3	(dBuV/m)	m simul	ator siç		hich ca	an be i			12	FCC CL	CC CLASS-B ASS-B (AVG)
102.4 87.8 73.1 58.5 43.9 2 3 4 29.3	7	8		90			1	1	12	FCC CL	CC CLASS-B ASS-B (AVG)
87.8 73.1 58.5 43.9 2 13 4 29.3	7	8		90			1	1	12	FCC CL	ASS-B (AVG)
87.8 73.1 58.5 43.9 2 13 4 29.3	7	8		90			1	1	12	FCC CL	ASS-B (AVG)
73.1 58.5 43.9 2 3 4 29.3	7	8		90			1	1	12	FCC CL	ASS-B (AVG)
43.9 29.3	7	8		90			1	1	12	FCC CL	ASS-B (AVG)
58.5 43.9 29.3	7	8		90			1	1	12	FCC CL	ASS-B (AVG)
43.9 2 3 4 29.3	56	8		90			1	1	12		
29.3	56	8		90			1	1	12	!	13
29.3	56										
29.3	16										
14.6	11 1										
030	1000.	3000.		5000.	F	7000.		9000.		11000.	13000
Site	: 03CH	103-KS			Frequen	Cy (WHZ)					
Condition Project	: FCC ( : (FC) (	CLASS-B 3 611204	3m LF_AI	VT(2318	8)_15101	7 VERTI	CAL				
Mode IMEI	: Mode		11/35177 <sup>.</sup>	1053541	729						
Plane	: Y	0ver			Antenna	Cable	Dreamn	A / Pos	T/Pos		
	Freq Leve	el Limit			Factor		Factor	A/P05	1/105	Remark	
	MHz dBuV	/m dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg		
	43.23 27.8				13.83		25.99			Peak	
	67.97 35.7 64.09 31.7				12.87		25.42 25.12	100		Peak Peak	
4 4	99.50 32.5	52 -13.48	46.00	37.32	19.36	2.17	26.33			Peak	
	99.70 31.1 96.30 30.7	15 -14.85 75 -15.25			20.29		26.37 26.18			Peak Peak	
7 19	60.00 49.9	97		72.28	31.74	4.59	58.64			Peak	
	74.00 41.0						58.77			Peak	
	82.00 44.4 84.00 44.4				34.49 34.60		58.18 57.63			Peak Peak	
11 85	38.00 44.1	17 -29.83	74.00	54.31	36.24	11.04	57.42			Peak	
	38.00 45.2 26.00 44.4							100		Peak 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 Receiver	R&S	ESCI7	100768	9kHz~7GHz;	May 04, 2015	Jan. 13, 2016~ Mar. 03, 2016	May 03, 2016	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060103	9kHz~30MHz	Oct. 24, 2015	Jan. 13, 2016~ Mar. 03, 2016	Oct. 23, 2016	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060105	9kHz~30MHz	Oct. 24, 2015	Jan. 13, 2016~ Mar. 03, 2016	Oct. 23, 2016	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP0000008 11	AC 0V~300V, 45Hz~1000Hz	Oct. 24, 2015	Jan. 13, 2016~ Mar. 03, 2016	Oct. 23, 2016	Conduction (CO01-KS)
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz; Max 30dBm	Sep. 10, 2015	Mar. 01, 2016	Sep. 09, 2016	Radiation (03CH03-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz-44GHz	Jun. 05, 2015	Mar. 01, 2016	Jun. 04, 2016	Radiation (03CH03-KS)
Bilog Antenna	TeseQ	CBL6112D	23182	25MHz-2GHz	Jan. 16, 2016	Mar. 01, 2016	Jan. 15, 2017	Radiation (03CH03-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1356	1GHz~18GHz	Jun. 25, 2015	Mar. 01, 2016	Jun. 24, 2016	Radiation (03CH03-KS)
Amplifier	Burgeon	BPA-530	102212	0.01MHz-3000 MHz	Aug.10, 2015	Mar. 01, 2016	Aug. 09, 2016	Radiation (03CH03-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Oct. 24, 2015	Mar. 01, 2016	Oct. 23, 2016	Radiation (03CH03-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Mar. 01, 2016	NCR	Radiation (03CH03-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Mar. 01, 2016	NCR	Radiation (03CH03-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Mar. 01, 2016	NCR	Radiation (03CH03-KS)

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	2.3dB
Confidence of 95% (U = 2Uc(y))	2.3uB

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

Measuring Uncertainty for a Level of	4.5dB
Confidence of 95% (U = 2Uc(y))	4.5UB

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