# **FCC Test Report**

APPLICANT : BLU Products, Inc.

**EQUIPMENT**: Smart phone

BRAND NAME : BLU

MODEL NAME : NEO XL, STUDIO X6

FCC ID : YHLBLUNEOXL

STANDARD : FCC 47 CFR FCC Part 15 Subpart B

**CLASSIFICATION**: Certification

The product was received on Jan. 20, 2016 and testing was completed on Feb. 23, 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: Andy Yeh / Manager

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Report Issued Date : Mar. 03, 2016
Report Version : Rev. 01

Testing Laboratory

Report No.: FC612016

Report Template No.: BU5-FD15B Version 1.2

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## **REVISION HISTORY**

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC612016	Rev. 01	Initial issue of report	Mar. 03, 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 3.03 dB at 0.490 MHz
3.2	15.109	ICES003 Section 6.2	Radiated Emission	< 15.109 limits < ICES003 6.2 limits	PASS	Under limit 5.33 dB at 240.060 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	Smart phone
Brand Name	BLU
Model Name	NEO XL, STUDIO X6
FCC ID	YHLBLUNEOXL
	GSM/GPRS/EGPRS(Downlink Only)/WCDMA/HSPA/
EUT supports Radios application	HSPA+(16QAM uplink is not supported)/
Lo i supports Radios application	WLAN 2.4GHz 802.11b/g/n HT20/
	Bluetooth v3.0+EDR/Bluetooth v4.0 LE
IMEI Code	Conduction: 863911029807959/863911029807967
I IWEI Code	Radiation: 863911029807959/863911029807967
HW Version	A855-V0.2
SW Version	V01
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

Standard	s-related Product Specification		
	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		
Rx Frequency	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		
	WWAN : FPC Antenna		
Antenna Type	WLAN : FPC Antenna		
Antenna Type	Bluetooth : FPC Antenna		
	GPS : FPC 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		
Type of 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		

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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					
Took Oito No	Sporton	Site No.	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	EMI	EMI		
		AC	RE<1G	RE≥1G		
1.	Charging Mode (EUT with adapter)	$\boxtimes$	$\boxtimes$	Note 1		
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: WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + Camera (Back) + SIM1 <fig.1></fig.1>
AC Conducted	4/0	Mode 2: WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + Camera (Front) + SIM1 < Fig.1>
Emission	1/2	Mode 3: GSM850 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 + SIM1 <fig.2></fig.2>
	1/2 N	Mode 1: WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + Camera (Back) + SIM1 <fig.1></fig.1>
Radiated		Mode 2: WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Earphone + Camera (Front) + SIM1 < Fig.1>
Emissions < 1GHz		Mode 3: GSM850 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 + 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 + SIM1 <fig.2></fig.2>

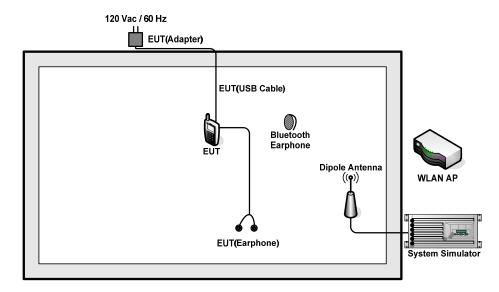
#### Remark:

- 1. The worst case of AC is mode 2; 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.

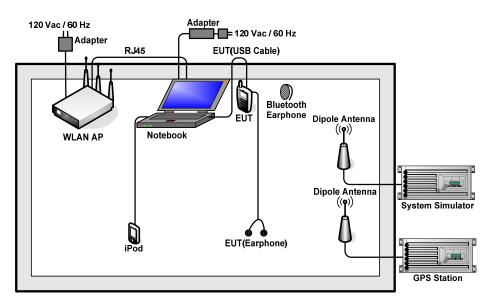
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## 2.2. Connection Diagram of Test System



<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	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	N/A	N/A	Unshielded, 2.7 m with Core
4.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
5.	Notebook	Lenovo	E540	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
6.	Bluetooth Earphone	Nokia	BH-108	PYAHS-107W	N/A	N/A
7.	Bluetooth Earphone	Samsung	HS3000	A3LHS3000	N/A	N/A
8.	iPod nano 8GB	Apple	MC690ZP/A	FCC DoC	Shielded, 1.2 m	N/A
9.	iPod	Apple	MC525 ZP/A	FCC DoC	Shielded, 1.0 m	N/A
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. 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.

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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

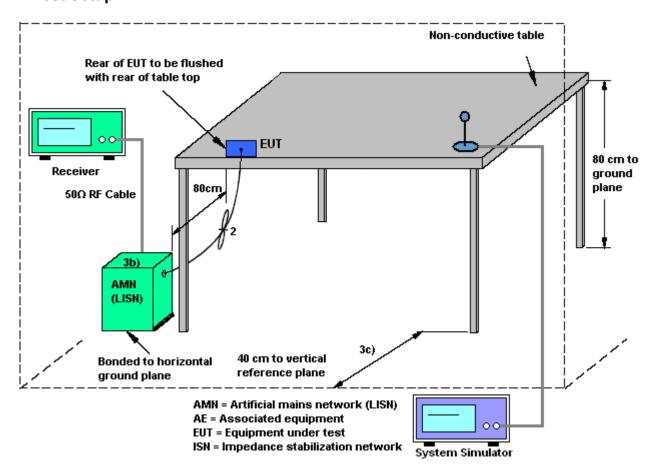
- The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- 2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
- 3. All the support units are connecting to the other 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

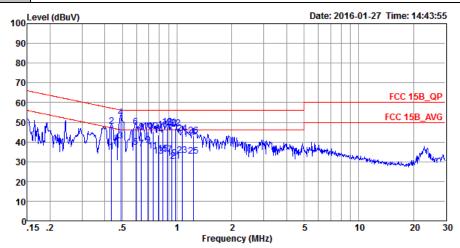


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#### 3.1.5 Test Result of AC Conducted Emission

Test Mode :	Mode 2	Temperature :	21~23℃		
Test Engineer :	Jacky Yang	Relative Humidity :	41~43%		
Test Voltage :	120Vac / 60Hz	Phase :	Line		
Function Type	WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from				
Function Type :	Adapter) + Earphone + Camera (Front) + SIM1				



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

Project : (FC) 612016 Mode : Mode 2

IMEI : 863911029807959/863911029807967

THE	: 002311	.0296079	29/00231	10290079	0 /			
			Over	Limit	Read	LISN	Cable	
	Freq	Level	Limit	Line	Level	Factor	Loss	Remark
_								
	MHz	dBu∀	dB	dBu∀	dBu∀	dB	dB	
1	0.44	35.15	-12.00	47.15	24.40	0.59	10.16	Average
2	0.44	47.95	-9.20	57.15	37.20		10.16	QP
3	0.49	40.62	-5.52	46.14	29.80	0.66	10.16	Average
4 *	0.49	52.42	-3.72	56.14	41.60	0.66	10.16	QP
5	0.59	37.16	-8.84	46.00	26.40	0.61	10.15	Average
6	0.59	47.66	-8.34	56.00	36.90	0.61	10.15	QP
7	0.64	36.53	-9.47	46.00	25.80	0.58	10.15	Average
8	0.64	45.13	-10.87	56.00	34.40	0.58	10.15	QP
9	0.69	38.19	-7.81	46.00	27.50	0.54	10.15	Average
10	0.69	45.29	-10.71	56.00	34.60	0.54	10.15	QP
11	0.74	35.39	-10.61	46.00	24.70	0.54	10.15	Average
12	0.74	45.49	-10.51	56.00	34.80	0.54	10.15	QP
13	0.79	32.88	-13.12	46.00	22.20	0.53	10.15	Average
14	0.79	43.48	-12.52	56.00	32.80	0.53	10.15	QP
15	0.83	33.78	-12.22	46.00	23.10	0.53	10.15	Average
16	0.83	46.28	-9.72	56.00	35.60	0.53	10.15	QP
17	0.88	33.47	-12.53	46.00	22.80	0.52	10.15	Average
18	0.88	47.67	-8.33	56.00	37.00	0.52	10.15	QP
19	0.94	31.57	-14.43	46.00	20.90	0.52	10.15	Average
20	0.94	47.07	-8.93	56.00	36.40	0.52	10.15	QP
21	0.98	30.36	-15.64	46.00	19.70	0.51	10.15	Average
22	0.98	46.96	-9.04	56.00	36.30	0.51	10.15	QP
23	1.07	33.06	-12.94	46.00	22.40	0.51	10.15	Average
24	1.07	44.26	-11.74	56.00	33.60	0.51	10.15	QP
25	1.23	32.96	-13.04	46.00	22.30	0.50	10.16	Average
26	1.23	43.26	-12.74	56.00	32.60	0.50	10.16	QP

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21~23°C Test Mode: Mode 2 Temperature: Test Engineer: Jacky Yang Relative Humidity: 41~43% 120Vac / 60Hz Phase: Test Voltage: Neutral WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from **Function Type:** Adapter) + Earphone + Camera (Front) + SIM1 100 Level (dBuV) Date: 2016-01-27 Time: 14:49:10 90 80 70 FCC 15B\_QP 60 FCC 15B\_AVG 50 30 20 10 .15 .2 20 10 30 Frequency (MHz) Condition: FCC 15B QP LISN N 20150304 NEUTRAL Project : (FC) 612016 Mode : Mode 2 TMET : 863911029807959/863911029807967 Over Limit Read LISN Cable Freq Level Limit Line Level Factor Loss Remark dB dBuV dBuV dBu∀ dB dB MHz 1 0.38 33.73 -14.48 48.21 22.99 0.56 10.18 Average 47.33 -10.88 58.21 36.59 0.56 10.18 QP 0.38 3 0.44 36.64 -10.34 46.98 25.90 0.58 10.16 Average 49.94 -7.04 56.98 39.20 40.56 -5.63 46.19 29.80 0.58 10.16 QP 0.60 10.16 Average 4 0.44 5 0.49 0.49 53.16 -3.03 56.19 42.40 0.60 10.16 QP 34.93 -11.07 46.00 24.20 49.33 -6.67 56.00 38.60 7 0.59 0.58 10.15 Average 8 0.59 0.58 10.15 QP 0.63 31.72 -14.28 46.00 21.00 9 0.57 10.15 Average 0.63 45.92 -10.08 56.00 35.20 0.69 32.10 -13.90 46.00 21.40 10 0.57 10.15 QP 0.55 10.15 Average 11 0.69 45.20 -10.80 56.00 34.50 0.55 10.15 QP 12 13 0.74 30.70 -15.30 46.00 20.00 0.55 10.15 Average 14 0.74 45.20 -10.80 56.00 34.50 0.55 10.15 QP 0.78 29.30 -16.70 46.00 18.60 0.55 10.15 Average 15 0.78 45.30 -10.70 56.00 34.60 0.55 10.15 QP 0.83 30.90 -15.10 46.00 20.20 0.83 46.90 -9.10 56.00 36.20 0.55 10.15 Average 0.55 10.15 QP 17 18 0.88 32.01 -13.99 46.00 21.30 19 0.56 10.15 Average

0.88 48.71 -7.29 56.00 38.00

20

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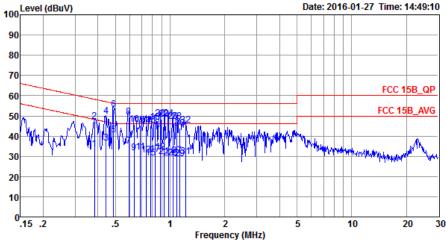
0.56

10.15 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 :	WCDMA Band II Idle + Blue	+ Bluetooth Idle + WLAN Idle + USB Cable (Charging from					
Function Type :	Adapter) + Earphone + Camera (Front) + SIM1						
100 Level (dBuV)		Date: 2016-01-27 Time: 14:49:10					
100							



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

Project : (FC) 612016 Mode : Mode 2

IMEI : 863911029807959/863911029807967 Over Limit Read

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBu∀	dB	dBu∀	dBu∀	dB	dB	
21	0.93	29.71	-16.29	46.00	19.00	0.56	10.15	Average
22	0.93	48.41	-7.59	56.00	37.70	0.56	10.15	QP
23	0.98	29.31	-16.69	46.00	18.60	0.56	10.15	Average
24	0.98	48.61	-7.39	56.00	37.90	0.56	10.15	QP
25	1.04	29.01	-16.99	46.00	18.30	0.56	10.15	Average
26	1.04	47.21	-8.79	56.00	36.50	0.56	10.15	QP
27	1.09	30.42	-15.58	46.00	19.71	0.56	10.15	Average
28	1.09	47.42	-8.58	56.00	36.71	0.56	10.15	QP
29	1.13	28.62	-17.38	46.00	17.90	0.56	10.16	Average
30	1.13	44.02	-11.98	56.00	33.30	0.56	10.16	QP
31	1.22	29.82	-16.18	46.00	19.10	0.56	10.16	Average
32	1.22	45.42	-10.58	56.00	34.70	0.56	10.16	QP

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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 IV Idle	+ Bluetooth Idle + WLAN Id	le + USB Cable (Dat
Function Type :	Notebook) + Earphone	+ GPS Rx + SIM1	
100 <sup>L</sup>	evel (dBuV)	Date:	2016-01-27 Time: 15:28:31
90			
80			
70			
60			FCC 15B_QP
50			FCC 15B_AVG
40	6 8 10 40		
30			.alba.i
20	MULTIPLE AND LANGUE AND	obey consistent and a second of the management of the second	and many happy as he was a second
10			
0	15 .2 .5	1 2 5	10 20 30
	3.2 .3	Frequency (MHz)	10 20 30

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBu∀	dB	dBu∇	dBu∀	dB	dB	
1	0.17	24.20	-31.01	55.21	13.40	0.46	10.34	Average
2	0.17	37.50	-27.71	65.21	26.70	0.46	10.34	QP
3	0.25	28.09	-23.69	51.78	17.30	0.55	10.24	Average
4	0.25	38.59	-23.19	61.78	27.80	0.55	10.24	QP
5	0.41	23.92	-23.72	47.64	13.20	0.55	10.17	Average
6	0.41	37.12	-20.52	57.64	26.40	0.55	10.17	QP
7	0.47	23.69	-22.89	46.58	12.90	0.63	10.16	Average
8	0.47	36.39	-20.19	56.58	25.60	0.63	10.16	QP
9	0.54	23.99	-22.01	46.00	13.20	0.64	10.15	Average
10 *	0.54	36.29	-19.71	56.00	25.50	0.64	10.15	QP
11	0.70	21.09	-24.91	46.00	10.40	0.54	10.15	Average
12	0.70	33.99	-22.01	56.00	23.30	0.54	10.15	QP

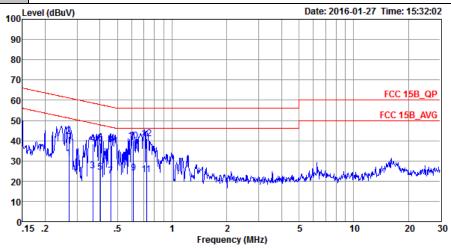
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Test Mode :	Mode 4	Temperature :	21~23℃
Test Engineer :	Jacky Yang	Relative Humidity :	41~43%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
F 1:	WCDMA Band IV Idle + Blu	etooth Idle + WLAN Id	le + USB Cable (Data Link with

Function Type: Notebook) + Earphone + GPS Rx + SIM1



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

Project : (FC) 612016 : Mode 4 Mode

: Mode 4 : 863911029807959/863911029807967

			Over	Limit	Read	LISN	Cable	
	Freq	Level	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBu∀	dB	dBuV	dBu∀	dB	dB	
1	0.27	31.49	-19.63	51.12	20.70	0.57	10.22	Average
2	0.27	41.89	-19.23	61.12	31.10	0.57	10.22	QP
3	0.37	25.24	-23.37	48.61	14.50	0.56	10.18	Average
4	0.37	38.34	-20.27	58.61	27.60	0.56	10.18	QP
5	0.40	24.32	-23.49	47.81	13.60	0.55	10.17	Average
6	0.40	38.82	-18.99	57.81	28.10	0.55	10.17	QP
7	0.46	22.45	-24.26	46.71	11.70	0.59	10.16	Average
8	0.46	37.95	-18.76	56.71	27.20	0.59	10.16	QP
9	0.61	24.12	-21.88	46.00	13.40	0.57	10.15	Average
10	0.61	40.02	-15.98	56.00	29.30	0.57	10.15	QP
11	0.72	23.40	-22.60	46.00	12.70	0.55	10.15	Average
12 *	0.72	40.80	-15.20	56.00	30.10	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.

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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

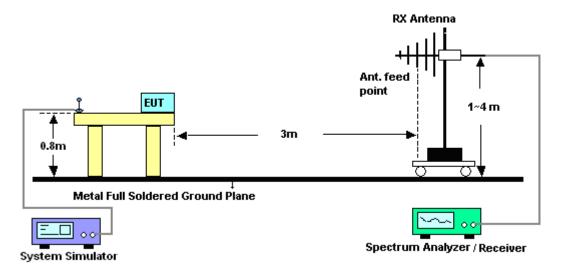
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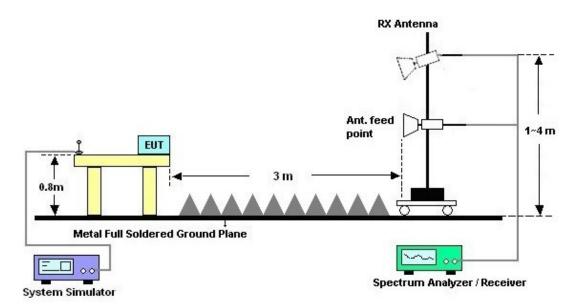
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### 3.2.4. Test Setup of Radiated Emission

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



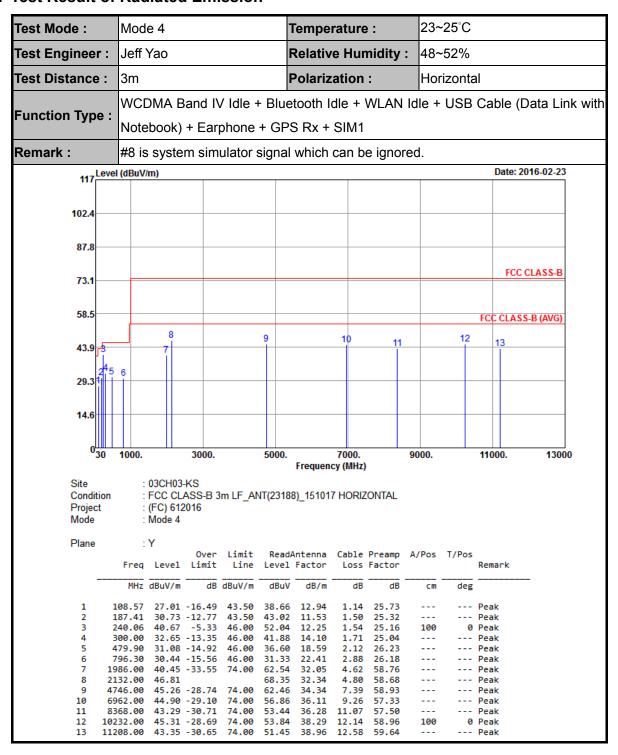
#### For radiated emissions above 1GHz



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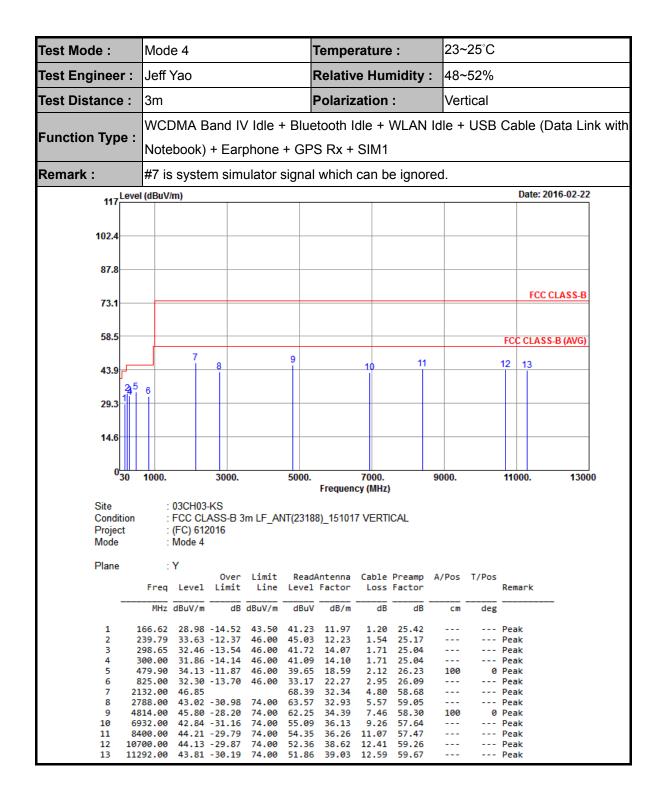
#### 3.2.5. Test Result of Radiated Emission



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## 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	101403	9kHz~7GHz;Ma x 30dBm	Sep. 10, 2015	Feb. 23, 2016	Sep. 09, 2016	Radiation (03CH03-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz-44GHz	Jun. 05, 2015	Feb. 23, 2016	Jun. 04, 2016	Radiation (03CH03-KS)
Bilog Antenna	TeseQ	CBL6112D	23182	25MHz-2GHz	Jan. 16, 2016	Feb. 23, 2016	Jan. 15, 2017	Radiation (03CH03-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1356	1GHz~18GHz	Jun. 25, 2015	Feb. 23, 2016	Jun. 24, 2016	Radiation (03CH03-KS)
Amplifier	Burgeon	BPA-530	102212	0.01MHz-3000 MHz	Aug. 10, 2015	Feb. 23, 2016	Aug. 09, 2016	Radiation (03CH03-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Oct. 24, 2015	Feb. 23, 2016	Oct. 23, 2016	Radiation (03CH03-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Feb. 23, 2016	NCR	Radiation (03CH03-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Feb. 23, 2016	NCR	Radiation (03CH03-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Feb. 23, 2016	NCR	Radiation (03CH03-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	May 04, 2015	Jan. 27, 2016	May 03, 2016	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060103	9kHz~30MHz	Oct. 24, 2015	Jan. 27, 2016	Oct. 23, 2016	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060105	9kHz~30MHz	Oct. 24, 2015	Jan. 27, 2016	Oct. 23, 2016	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP0000008 11	AC 0V~300V, 45Hz~1000Hz	Oct. 24, 2015	Jan. 27, 2016	Oct. 23, 2016	Conduction (CO01-KS)

NCR: No Calibration Required

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## 5. Uncertainty of Evaluation

#### <u>Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)</u>

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	
Confidence of 95% (U = 2Uc(y))	4.5dB

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