# EMC TEST REPORT



Report No.: 16071337-FCC-E

Supersede Report No: N/A Applicant MOBIWIRE MOBILES (NINGBO) CO., LTD **Product Name** Smartphone ÖUN Fun Value Lite Model No. Serial No. N/A **Test Standard** FCC Part 15 Subpart B Class B:2015, ANSI C63.4: 2014 Test Date November 21 to December 01, 2016 **Issue Date** December 02, 2016 Pass **Test Result** Fail Equipment complied with the specification 7 Equipment did not comply with the specification David Huang 140 Loren Luo David Huang **Test Engineer Checked By** This test report may be reproduced in full only Test result presented in this test report is applicable to the tested sample only

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

Zone A, Floor 1, Building 2 Wan Ye Long Technology Park South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China 518108 Phone: +86 0755 2601 4629801 Email: China@siemic.com.cn



 Test Report
 16071337-FCC-E

 Page
 2 of 30

# Laboratories Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.



In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

	•	
Country/Region Scope		
USA	EMC, RF/Wireless, SAR, Telecom	
Canada	EMC, RF/Wireless, SAR, Telecom	
Taiwan	EMC, RF, Telecom, SAR, Safety	
Hong Kong	RF/Wireless, SAR, Telecom	
Australia	EMC, RF, Telecom, SAR, Safety	
Korea	EMI, EMS, RF, SAR, Telecom, Safety	
Japan	EMI, RF/Wireless, SAR, Telecom	
Singapore	EMC, RF, SAR, Telecom	
Europe	EMC, RF, SAR, Telecom, Safety	

#### Accreditations for Conformity Assessment



 Test Report
 16071337-FCC-E

 Page
 3 of 30

This page has been left blank intentionally.



 Test Report
 16071337-FCC-E

 Page
 4 of 30

# CONTENTS

1.	REPORT REVISION HISTORY	5
2.	CUSTOMER INFORMATION	5
3.	TEST SITE INFORMATION	5
4.	EQUIPMENT UNDER TEST (EUT) INFORMATION	6
5.	TEST SUMMARY	8
6.	MEASUREMENTS, EXAMINATION AND DERIVED RESULTS	9
6.1	AC POWER LINE CONDUCTED EMISSIONS	9
6.2	RADIATED EMISSIONS	15
ANN	NEX A. TEST INSTRUMENT	20
ANN	NEX B. EUT AND TEST SETUP PHOTOGRAPHS	21
ANN	NEX C. TEST SETUP AND SUPPORTING EQUIPMENT	26
ANN	NEX D. USER MANUAL / BLOCK DIAGRAM / SCHEMATICS / PARTLIST	29
	NEX E. DECLARATION OF SIMILARITY	30



Test Report	16071337-FCC-E
Page	5 of 30

## 1. Report Revision History

Report No.	Report Version	Description	Issue Date
16071337-FCC-E	NONE	Original	December 02, 2016

## 2. Customer information

Applicant Name	MOBIWIRE MOBILES (NINGBO) CO.,LTD
Applicant Add	No.999,Dacheng East Road,Fenghua City,Zhejiang
Manufacturer	MOBIWIRE MOBILES (NINGBO) CO.,LTD
Manufacturer Add	No.999,Dacheng East Road,Fenghua City,Zhejiang

## 3. Test site information

Lab performing tests	SIEMIC (Shenzhen-China) LABORATORIES
	Zone A, Floor 1, Building 2 Wan Ye Long Technology Park
Lab Address	South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China
	518108
FCC Test Site No.	718246
IC Test Site No.	4842E-1
Test Software	Radiated Emission Program-To Shenzhen v2.0



 Test Report
 16071337-FCC-E

 Page
 6 of 30

Description of EUT:	Smartphone	
Main Model:	Cun Fun Value Lite	
Serial Model:	N/A	
	GSM850: -1dBi	
	PCS1900: -1dBi	
Antenna Gain:	UMTS-FDD Band V: -1dBi	
	UMTS-FDD Band II: -1dBi	
	Bluetooth/WIFI/BLE: -2dBi	
Antenna Type:	PIFA antenna	
	Adapter:	
	Model: ÖUN Fun Value Lite	
	Input: AC100-240V~50/60Hz,0.15A	
Input Dowor:	Output: DC 5.0V-550mA	
Input Power:	Battery:	
	Model: ÖUN Fun Value Lite	
	Spec : 3.7V,1400mAh,5.18Wh	
	Maximum chargeable voltage: 4.2V	
Equipment Category :	JBP	
	GSM / GPRS: GMSK	
	EGPRS: GMSK,8PSK	
Type of Medulation:	UMTS-FDD: QPSK	
Type of Modulation:	802.11b/g/n: DSSS, OFDM	
	Bluetooth: GFSK, π /4DQPSK, 8DPSK	
	BLE: GFSK	



 Test Report
 16071337-FCC-E

 Page
 7 of 30

RF Operating Frequency (ies):	GSM850 TX: 824.2 ~ 848.8 MHz; RX: 869.2 ~ 893.8 MHz PCS1900 TX: 1850.2 ~ 1909.8 MHz; RX: 1930.2 ~ 1989.8 MHz UMTS-FDD Band V TX: 826.4 ~ 846.6 MHz; RX: 871.4 ~ 891.6 MHz UMTS-FDD Band II TX:1852.4 ~ 1907.6 MHz; RX: 1932.4 ~ 1987.6 MHz WIFI: 802.11b/g/n(20M): 2412-2462 MHz WIFI: 802.11n(40M): 2422-2452 MHz Bluetooth& BLE: 2402-2480 MHz
Number of Channels:	GSM 850: 124CH PCS1900: 299CH UMTS-FDD Band V: 102CH UMTS-FDD Band II: 277CH WIFI :802.11b/g/n(20M): 11CH WIFI :802.11n(40M): 7CH Bluetooth: 79CH BLE: 40CH
Port:	USB Port, Earphone Port
Trade Name :	öun
FCC ID:	2ADA4FUNVALUEL
Date EUT received:	November 21, 2016

Test Date(s):

November 21 to December 01, 2016



Test Report	16071337-FCC-E
Page	8 of 30

## 5. Test Summary

The product was tested in accordance with the following specifications.

All testing has been performed according to below product classification:

FCC Rules	Description of Test	Result
§15.107; ANSI C63.4: 2014	AC Power Line Conducted Emissions	Compliance
§15.109; ANSI C63.4: 2014	Radiated Emissions	Compliance

#### **Measurement Uncertainty**

Emissions		
Test Item Description Uncertaint		Uncertainty
AC Power Line Conducted	Confidence level of approximately 95% (in the case	
Emissions and Radiated	where distributions are normal), with a coverage	+5.6dB/-4.5dB
Emissions	factor of 2 (for EUTs < 0.5m X 0.5m X 0.5m)	
-	-	-



Test Report	16071337-FCC-E
Page	9 of 30

## 6. Measurements, Examination And Derived Results

### 6.1 AC Power Line Conducted Emissions

Temperature	25°C
Relative Humidity	52%
Atmospheric Pressure	1028mbar
Test date :	November 28, 2016
Tested By :	Loren Luo

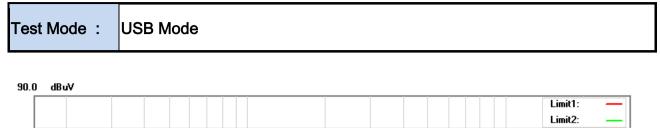
#### Requirement(s):

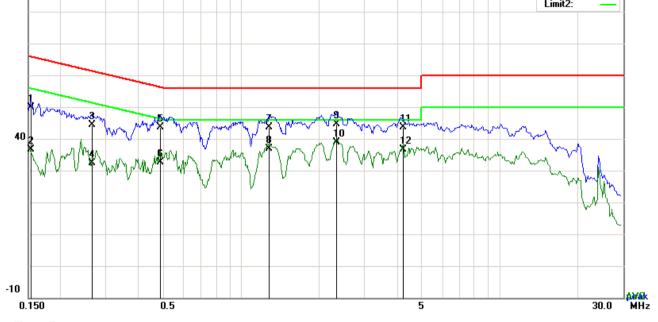
Spec	Item	Requirement Applicab						
47CFR§15. 107	a)	For Low-power radio-fr connected to the public voltage that is conducted frequency or frequencies not exceed the limits in [mu] H/50 ohms line im lower limit applies at th Frequency ranges (MHz) 0.15 ~ 0.5 0.5 ~ 5	R					
		5 ~ 30	60	50				
Test Setup		Vertical Ground Reference Plane UT UT UT Bocm Bocm Horizontal Ground Reference Plane Horizontal Ground Reference Plane						
Procedure	<ol> <li>The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m x 1m x 0.8m high, non-metallic table.</li> <li>The power supply for the EUT was fed through a 50Ω /50mH EUT LISN, connected to filtered mains.</li> </ol>							

CIEN		<b></b>	1							
GLOBAL TESTING & (	CERTIFICATIONS	Test Report	16071337-FCC-E							
YOUR CHOICE FOR- TCB FO	B CB NB CAB RCB	Page	10 of 30							
	3. The RF OUT of the E	UT LISN was co	nnected to the EMI test receiver via a low-loss							
	coaxial cable.									
	4. All other supporting e	quipment were p	oowered separately from another main supply.							
	5. The EUT was switched on and allowed to warm up to its normal operating condition.									
	6. A scan was made on	the NEUTRAL li	ne (for AC mains) or Earth line (for DC power)							
			ng an EMI test receiver.							
			he EMI test receiver was then tuned to the							
		and the necessa	ary measurements made with a receiver bandwidth							
	setting of 10 kHz.									
	8. Step 7 was then repe	ated for the LIVE	E line (for AC mains) or DC line (for DC power).							
Remark										
Result	Pass F	ail								
Tutput	Yes	N/A								
Test Data	res	N/A								
Test Plot	Yes (See below)	N/A								



Test Report	16071337-FCC-E
Page	11 of 30





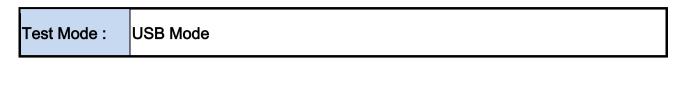
Test Data

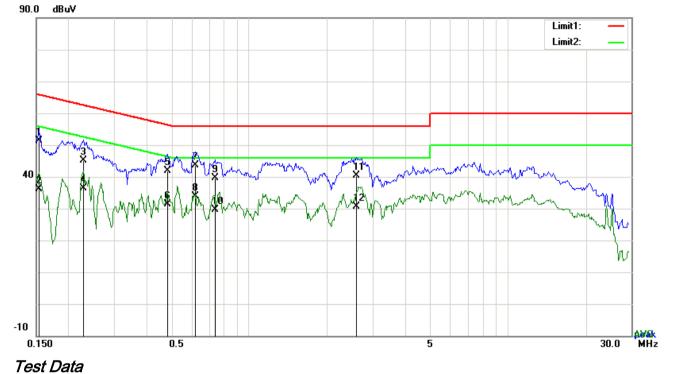
Phase Line Plot at 1	120Vac, 60Hz
----------------------	--------------

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	L1	0.1539	36.67	QP	13.19	49.86	65.79	-15.93
2	L1	0.1539	23.35	AVG	13.19	36.54	55.79	-19.25
3	L1	0.2644	31.56	QP	12.78	44.34	61.29	-16.95
4	L1	0.2644	19.69	AVG	12.78	32.47	51.29	-18.82
5	L1	0.4863	31.56	QP	11.95	43.51	56.23	-12.72
6	L1	0.4863	20.69	AVG	11.95	32.64	46.23	-13.59
7	L1	1.2810	32.24	QP	11.40	43.64	56.00	-12.36
8	L1	1.2810	25.46	AVG	11.40	36.86	46.00	-9.14
9	L1	2.3379	33.17	QP	11.40	44.57	56.00	-11.43
10	L1	2.3379	27.38	AVG	11.40	38.78	46.00	-7.22
11	L1	4.2324	32.18	QP	11.40	43.58	56.00	-12.42
12	L1	4.2324	25.13	AVG	11.40	36.53	46.00	-9.47



Test Report	16071337-FCC-E
Page	12 of 30



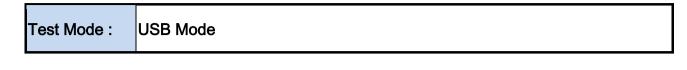


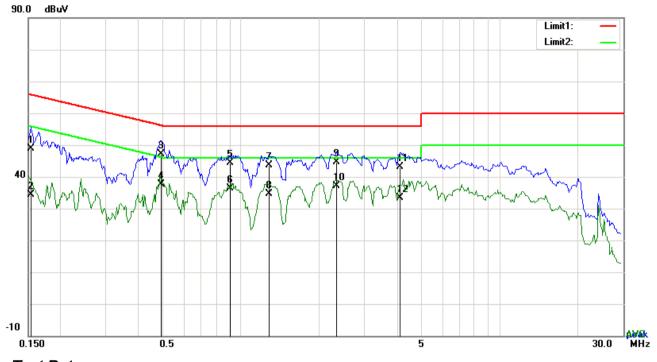
Phase	Neutral	Plot at	120Vac,	60Hz
-------	---------	---------	---------	------

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	Ν	0.1539	38.23	QP	13.19	51.42	65.79	-14.37
2	Ν	0.1539	23.00	AVG	13.19	36.19	55.79	-19.60
3	Ν	0.2280	32.29	QP	12.91	45.20	62.52	-17.32
4	Ν	0.2280	23.35	AVG	12.91	36.26	52.52	-16.26
5	Ν	0.4815	29.92	QP	11.97	41.89	56.31	-14.42
6	Ν	0.4815	19.30	AVG	11.97	31.27	46.31	-15.04
7	Ν	0.6180	31.86	QP	11.78	43.64	56.00	-12.36
8	Ν	0.6180	22.06	AVG	11.78	33.84	46.00	-12.16
9	Ν	0.7352	28.09	QP	11.66	39.75	56.00	-16.25
10	Ν	0.7352	17.97	AVG	11.66	29.63	46.00	-16.37
11	Ν	2.5945	28.68	QP	11.60	40.28	56.00	-15.72
12	Ν	2.5945	19.13	AVG	11.60	30.73	46.00	-15.27



Test Report	16071337-FCC-E
Page	13 of 30



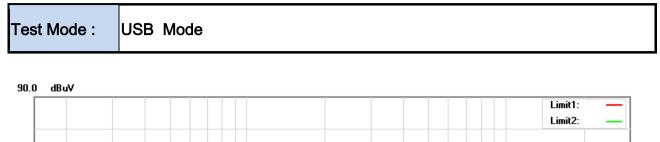


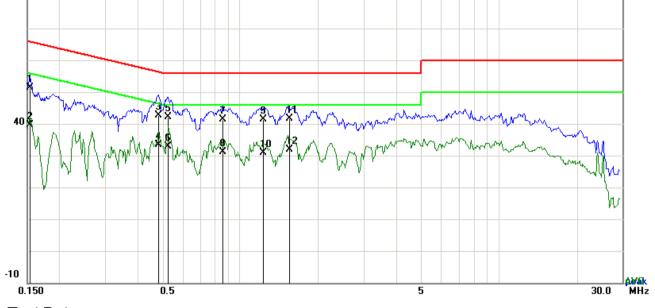
Test Data

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	L1	0.1539	35.61	QP	13.19	48.80	65.79	-16.99
2	L1	0.1539	21.22	AVG	13.19	34.41	55.79	-21.38
3	L1	0.4893	35.22	QP	11.94	47.16	56.18	-9.02
4	L1	0.4893	25.70	AVG	11.94	37.64	46.18	-8.54
5	L1	0.9039	32.79	QP	11.50	44.29	56.00	-11.71
6	L1	0.9039	24.92	AVG	11.50	36.42	46.00	-9.58
7	L1	1.2810	32.32	QP	11.40	43.72	56.00	-12.28
8	L1	1.2810	23.35	AVG	11.40	34.75	46.00	-11.25
9	L1	2.3379	33.21	QP	11.40	44.61	56.00	-11.39
10	L1	2.3379	25.69	AVG	11.40	37.09	46.00	-8.91
11	L1	4.1271	31.78	QP	11.40	43.18	56.00	-12.82
12	L1	4.1271	21.88	AVG	11.40	33.28	46.00	-12.72



Test Report	16071337-FCC-E
Page	14 of 30





#### Test Data

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin		
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)		
1	Ν	0.1539	38.13	QP	13.19	51.32	65.79	-14.47		
2	Ν	0.1539	26.37	AVG	13.19	39.56	55.79	-16.23		
3	Ν	0.4815	30.59	QP	11.97	42.56	56.31	-13.75		
4	Ν	0.4815	21.50	AVG	11.97	33.47	46.31	-12.84		
5	Ν	0.5244	30.31	QP	11.88	42.19	56.00	-13.81		
6	Ν	0.5244	20.99	AVG	11.88	32.87	46.00	-13.13		
7	Ν	0.8559	29.81	QP	11.54	41.35	56.00	-14.65		
8	Ν	0.8559	19.71	AVG	11.54	31.25	46.00	-14.75		
9	Ν	1.2342	29.84	QP	11.43	41.27	56.00	-14.73		
10	Ν	1.2342	19.51	AVG	11.43	30.94	46.00	-15.06		
11	Ν	1.5462	30.05	QP	11.47	41.52	56.00	-14.48		
12	Ν	1.5462	20.42	AVG	11.47	31.89	46.00	-14.11		

#### Phase Neutral Plot at 240Vac, 60Hz



Test Report	16071337-FCC-E
Page	15 of 30

## 6.2 Radiated Emissions

Temperature	25℃
Relative Humidity	52%
Atmospheric Pressure	1028mbar
Test date :	November 28, 2016
Tested By :	Loren Luo

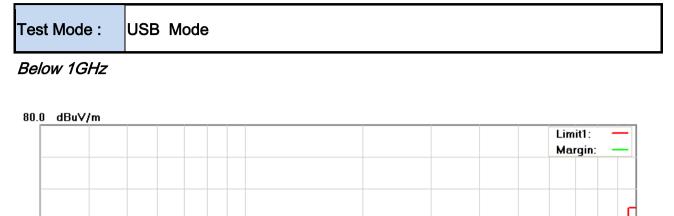
#### Requirement(s):

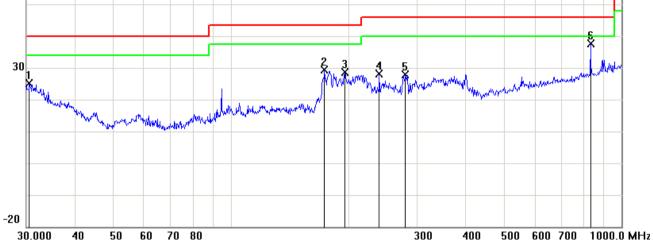
Spec	Item	Requirement		Applicable				
47CFR§15. 109(d)	a)	Except higher limit as specified else emissions from the low-power radio exceed the field strength levels spe the level of any unwanted emission the fundamental emission. The tigh edges Frequency range (MHz)	V					
		30 – 88	Field Strength (µV/m) 100					
		88 - 216	150					
		216 - 960	200					
		Above 960	500					
Test Setup	Ant. Tower L-4m Variable Support Units Social Social Ground Plane Test Receiver							
1.       The EUT was switched on and allowed to warm up to its normal operating of the environment of the envison of the environment of the environment of the envi								

<b>.</b>									
SIEM	IIC	Test Report	16071337-FCC-E						
GLOBAL TESTING & YOUR CHOICE FOR- TCB FO	CERTIFICATIONS CB CB NB CAB RCB	Page	16 of 30						
	over a full	rotation of the El	UT) was chosen.						
	b. The EUT was then rotated to the direction that gave the maximur								
	emission.								
	c. Finally, the emission.	e antenna height	was adjusted to the height that gave the maximum						
	3. The resolution bar	ndwidth and video	b bandwidth of test receiver/spectrum analyzer is						
	120 kHz for Quasi	y Peak detection	at frequency below 1GHz.						
	4. The resolution bane	dwidth of test rec	eiver/spectrum analyzer is 1MHz and video						
	bandwidth is 3MH 1GHz.	z with Peak deteo	ction for Peak measurement at frequency above						
	The resolution ba	ndwidth of test re	eceiver/spectrum analyzer is 1MHz and the video						
	bandwidth with P	eak detection for	Average Measurement as below at frequency						
	above 1GHz.								
	■ 1 kHz (Duty cy	cle < 98%) □ 10	Hz (Duty cycle > 98%)						
	-	-	e next frequency point, until all selected frequency						
	points were measu	ured.							
Remark									
Result	Pass	Fail							
	Yes Yes (See below)	N/A N/A							



Test Report	16071337-FCC-E
Page	17 of 30





#### Test Data

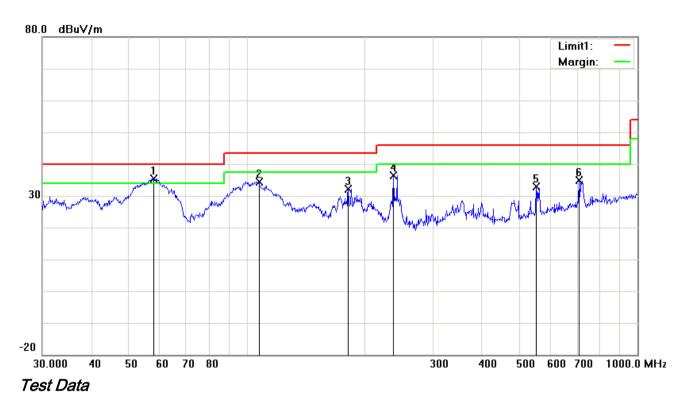
#### Horizontal Polarity Plot @3m

No.	P/L	Frequency	Readin g	Detector	Corrected	Result	Limit	Margin	Height	Degree
		(MHz)	(dBuV/ m)		(dB/m)	(dBuV/m )	(dBuV/m)	(dB)	(cm)	(°)
1	н	30.5306	25.90	peak	-0.66	25.24	40.00	-14.76	100	64
2	н	173.8135	38.72	peak	-9.41	29.31	43.50	-14.19	100	162
3	н	195.8220	37.66	peak	-8.94	28.72	43.50	-14.78	100	347
4	Н	239.9873	37.17	peak	-9.10	28.07	46.00	-17.93	100	122
5	Н	280.0238	35.62	peak	-7.82	27.80	46.00	-18.20	100	259
6	Н	833.3171	33.99	peak	3.61	37.60	46.00	-8.40	100	84



Test Report	16071337-FCC-E
Page	18 of 30

Below 1GHz



#### Vertical Polarity Plot @3m

No.	P/L	Frequency	Readin g	Detector	Corrected	Result	Limit	Margin	Height	Degree
		(MHz)	(dBuV/ m)		(dB/m)	(dBuV/m )	(dBuV/m)	(dB)	(cm)	(°)
1	V	57.7962	49.45	QP	-14.10	35.35	40.00	-4.65	100	76
2	V	107.5101	43.93	peak	-9.47	34.46	43.50	-9.04	100	130
3	V	181.9202	41.93	peak	-9.76	32.17	43.50	-11.33	100	82
4	V	237.4760	45.53	peak	-9.07	36.46	46.00	-9.54	100	195
5	V	550.9480	33.71	peak	-0.80	32.91	46.00	-13.09	100	337
6	V	709.1823	33.43	peak	1.57	35.00	46.00	-11.00	100	236



Test Report	16071337-FCC-E
Page	19 of 30

#### Above 1GHz

Frequency (MHz)	Amplitude (dBµV/m)	Azimuth	Height (cm)	Polarity (H/V)	Factors (dB)	Limit (dBµV/m)	Margin (dB)	Detector (PK/AV)
1557.35	50.65	82	152	V	-22.54	74	-23.35	PK
2056.12	50.32	57	121	V	-22.72	74	-23.68	PK
1675.54	49.72	32	167	V	-22.36	74	-24.28	PK
2186.32	50.21	80	165	Н	-22.45	74	-23.79	PK
2854.42	49.68	77	132	Н	-22.72	74	-24.32	PK
1852.45	50.57	92	100	Н	-22.82	74	-23.43	PK

Note1: The highest frequency of the EUT is 2480 MHz, so the testing has been conformed to 5\*2480MHz=12,400MHz.

*Note2: The frequency that above 3GHz is mainly from the environment noise.* 

Note3: The AV measurement performed, more than 20dB below limit so AV test data was not presented.



 Test Report
 16071337-FCC-E

 Page
 20 of 30

## Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Due	In use	
AC Line Conducted Emis	AC Line Conducted Emissions					
EMI test receiver	ESCS30	8471241027	09/16/2016	09/15/2017		
Line Impedance Stabilization Network	LI-125A	191106	09/24/2016	09/23/2017	V	
Line Impedance Stabilization Network	LI-125A	191107	09/24/2016	09/23/2017	K	
LISN	ISN T800	34373	09/24/2016	09/23/2017	•	
Transient Limiter	LIT-153	531118	08/31/2016	08/30/2017	K	
Radiated Emissions						
EMI test receiver	ESL6	100262	09/16/2016	09/15/2017		
OPT 010 AMPLIFIER (0.1-1300MHz)	8447E	2727A02430	08/31/2016	08/30/2017	V	
Microwave Preamplifier (1 ~ 26.5GHz)	8449B	3008A02402	03/24/2016	03/23/2017	Z	
Bilog Antenna (30MHz~6GHz)	JB6	A110712	09/20/2016	09/19/2017	V	
Double Ridge Horn Antenna	AH-118	71259	09/23/2016	09/22/2017		



Test Report	16071337-FCC-E
Page	21 of 30

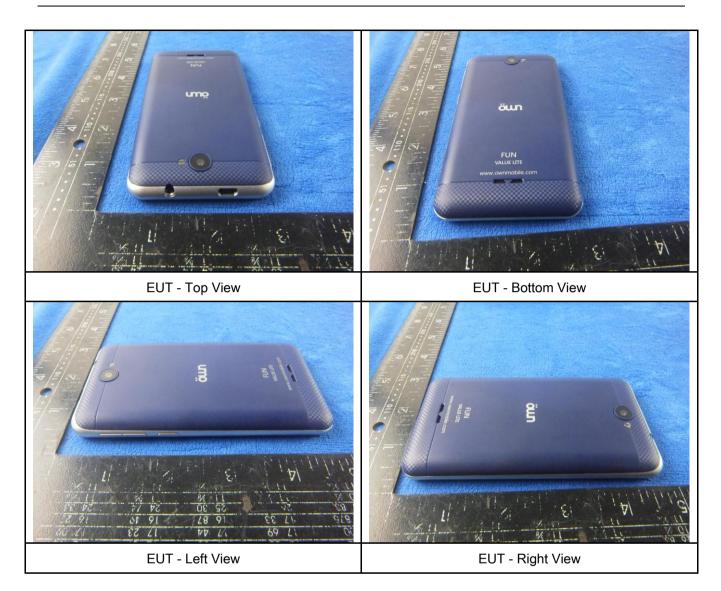
## Annex B. EUT And Test Setup Photographs

#### Annex B.i. Photograph: EUT External Photo





Test Report	16071337-FCC-E
Page	22 of 30





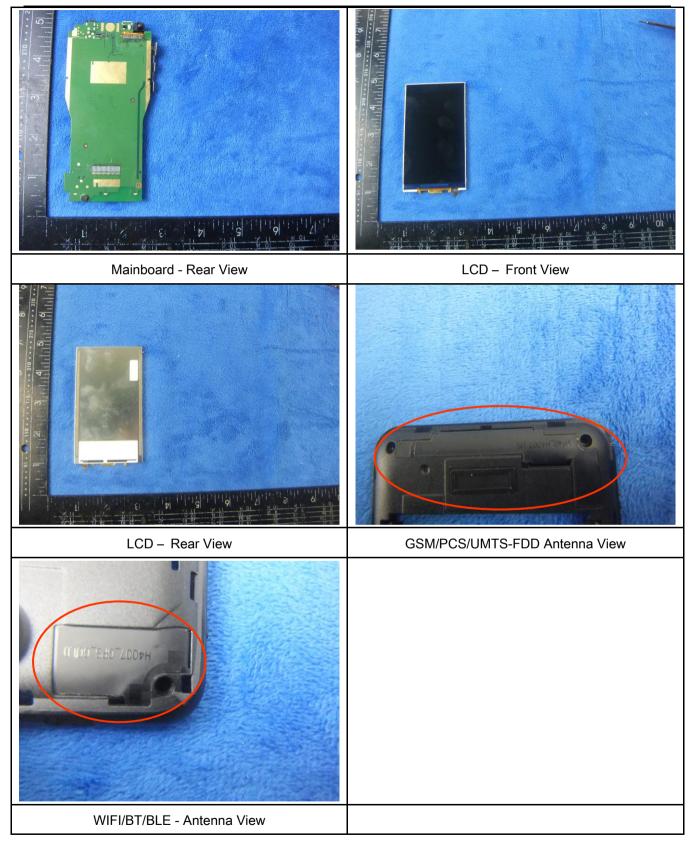
Test Report	16071337-FCC-E
Page	23 of 30

#### Annex B.ii. Photograph: EUT Internal Photo





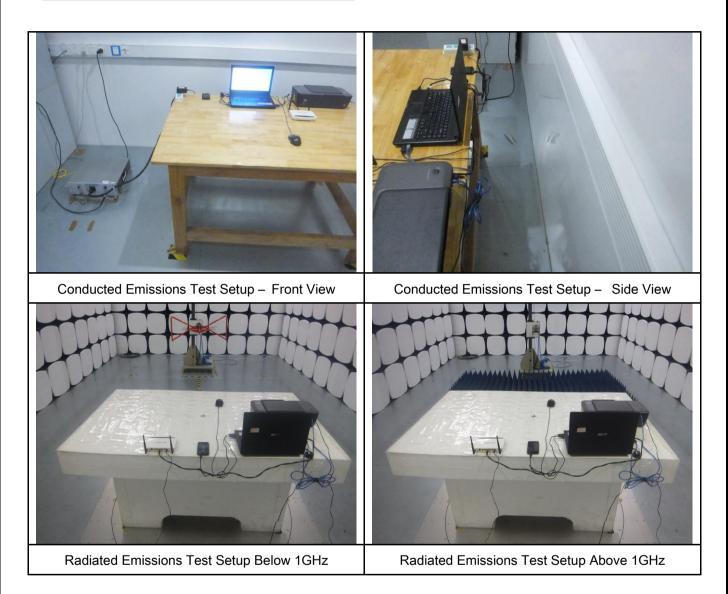
Test Report	16071337-FCC-E
Page	24 of 30





Test Report	16071337-FCC-E
Page	25 of 30

#### Annex B.iii. Photograph: Test Setup Photo



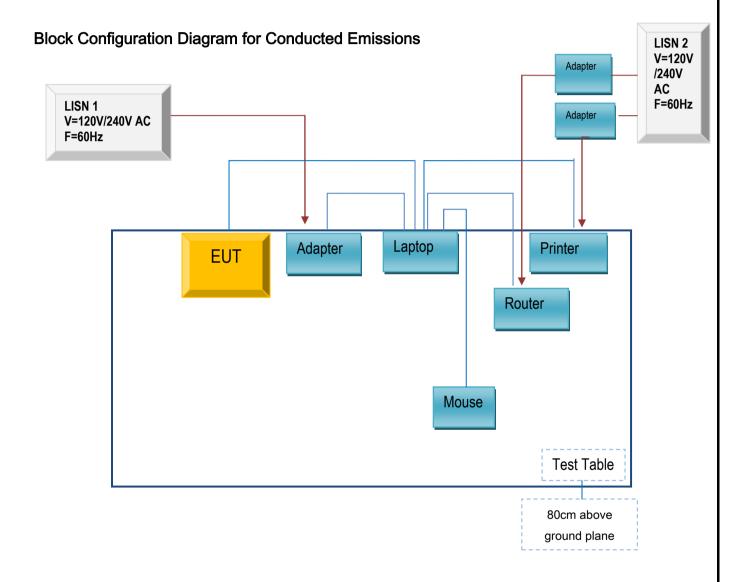


Test Report 16071337-FCC-E Page

26 of 30

## Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

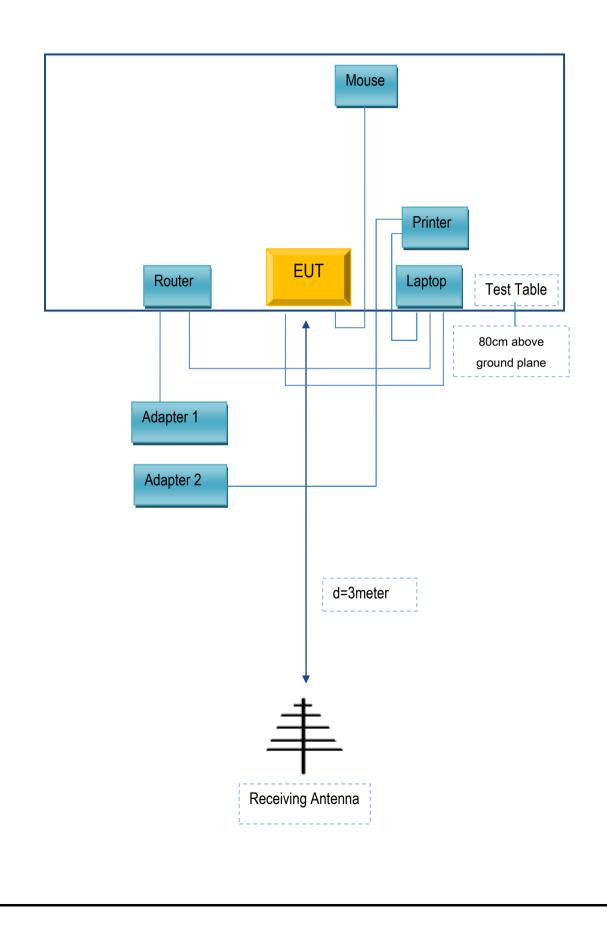
#### Annex C.ii. TEST SET UP BLOCK





Test Report	16071337-FCC-E
Page	27 of 30

#### Block Configuration Diagram for Radiated Emissions





 Test Report
 16071337-FCC-E

 Page
 28 of 30

#### Annex C. il. SUPPORTING EQUIPMENT DESCRIPTION

The following is a description of supporting equipment and details of cables used with the EUT.

#### Supporting Equipment:

Manufacturer	Equipment Description	Model	Serial No
Lenovo	Laptop	E40	LR-1EHRX
GOLDWEB	Router	R102	1202032094
Lenovo	AC Adapter	42T4416	21D9JU
HP	Printer	VCVRA-1003	CN36M19JWX
DELL	Mouse	E100	912NMTUT41481
BULL	Socket	GN-403	GN201203

#### Supporting Cable:

Cable type	Shield Type	Ferrite Core	Length	Serial No
USB Cable	Un-shielding	No	2m	JX120051274
USB Cable	Un-shielding	No	2m	CBA3000AH0C1
RJ45 Cable	Un-shielding	No	2m	KX156327541
Router Power cable	Un-shielding	No	2m	13274630Z
Printer Power cable	Un-shielding	No	2m	127581031
Power Cable	Un-shielding	No	0.8m	GT211032



Test Report	16071337-FCC-E	
Page	29 of 30	

## Annex D. User Manual / Block Diagram / Schematics / Partlist

Please see the attachment



 Test Report
 16071337-FCC-E

 Page
 30 of 30

## Annex E. DECLARATION OF SIMILARITY

N/A