RF TEST REPORT

Report No.: 17070565-FCC-R2

Supersede Report No.: N/A

Applicant	BLU Products，Inc
Product Name	Mobile phone
Model No.	ADVANCE 4.0M
Serial No.	N/A
Test Standard	FCC Part 15.247: 2016, ANSI C63.10: 2013
Test Date	July 07 to 11, 2017
Issue Date	July 12, 2017
Test Result	☑ Pass ☐ Fail
Equipment complied with the specification	☑
Equipment did not comply with the specification	☐

Evans He	David Huang	
Test Engineer	Checked By	

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Test result presented in this test report is applicable to the tested sample only

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

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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.

Accreditations for Conformity Assessment

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

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1. Report Revision History

Report No.	Report Version	Description	Issue Date
17070565-FCC-R2	NONE	Original	July 12, 2017

2. Customer information

Applicant Name	BLU Products，Inc
Applicant Add	10814 NW 33rd St # 100 Doral, FL 33172
Manufacturer	BLU Products，Inc
Manufacturer Add	10814 NW 33rd St # 100 Doral, FL 33172

3. Test site information

Lab performing tests	SIEMIC (Shenzhen-China) LABORATORIES
Lab Address	Zone A, Floor 1, Building 2 Wan Ye Long Technology Park 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 of Radiated Emission	Radiated Emission Program-To Shenzhen v2.0
Test Software of Conducted Emission	EZ-EMC(ver.Icp-03A1)

4. Equipment under Test (EUT) Information

Description of EUT:	Mobile phone
Main Model:	ADVANCE 4.0M
Serial Model:	N/A
Date EUT received:	July 06, 2017
Test Date(s):	July 07 to 11, 2017
Equipment Category：	DTS
Antenna Gain:	GSM850:-0.3dBi PCS1900: 0.1dBi UMTS-FDD Band V: -0.6dBi UMTS-FDD Band II: -0.8dBi WIFI: 0.3dBi Bluetooth: -0.2dBi
Antenna Type:	PIFA antenna
Type of Modulation:	GSM / GPRS: GMSK EGPRS: GMSK,8PSK UMTS-FDD: QPSK 802.11b/g/n: DSSS, OFDM Bluetooth: GFSK, π /4DQPSK, 8DPSK
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 Bluetooth: 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 Bluetooth: 79CH
Port:	USB Port, Earphone Port
Input Power:	Adapter: Model: US-WW-0502 Input: AC100-240V~50/60Hz,0.15A Output: DC 5.0V,500mA Battery : Model: C615044130L Spec: 3.7V,1300mAh, 4.81Wh
Trade Name :	BLU
FCC ID:	YHLBLUADVANCE4M

Note: The difference between the old case RSZ160906003-00D and new case 17070565: Antenna and Appearance shape , accessories are the same . The only difference is added one LCD bonding pad on PCB, the other construction is the same.
So, we have retested the Radiated Emissions data in this report.

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
§15.203	Antenna Requirement	Compliance
§15.205, §15.209, §15.247(d)	Radiated Emissions & Unwanted Emissions into Restricted Frequency Bands	Compliance

Measurement Uncertainty

Emissions		
Test Item	**Description**	**Uncertainty**
Radiated Emissions & Unwanted Emissions into Restricted Frequency Bands	Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2 (for EUTs < 0.5m X 0.5m X 0.5m)	+5.6dB/-4.5dB
-	-	-

6. Measurements, Examination And Derived Results

6.1 Antenna Requirement

Applicable Standard

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited.
The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

a. Antenna must be permanently attached to the unit.

b. Antenna must use a unique type of connector to attach to the EUT.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.
And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

The EUT has 2 antennas:
A permanently attached PIFA antenna for Bluetooth/WIF, the gain is -0.2dBi for Bluetooth, the gain is 0.3dBi for WIFI.
A permanently attached PIFA antenna for GSM/PCS/UMTS, the gain is -0.3dBi for GSM850, 0.1dBi for PCS1900, -0.6dBi for UMTS-FDD Band V, -0.8dBi for UMTS-FDD Band II.

The antenna meets up with the ANTENNA REQUIREMENT.

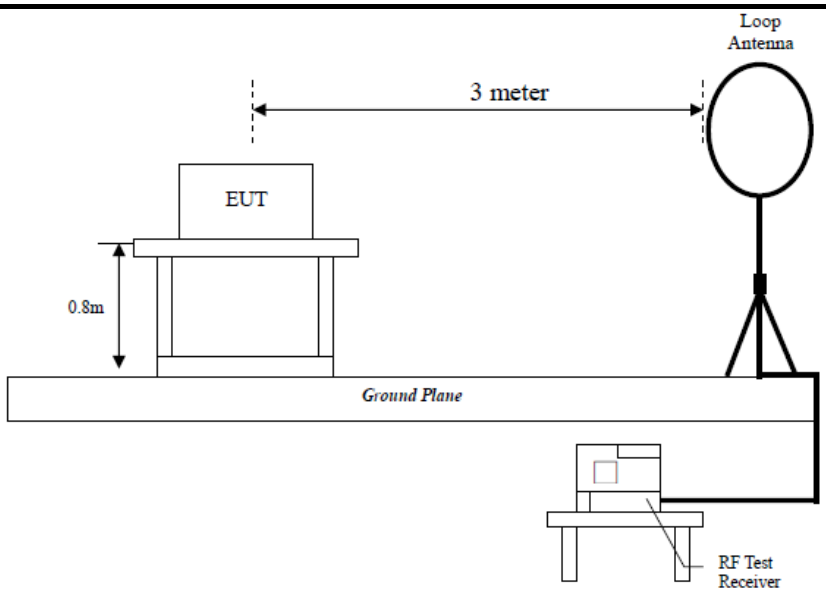
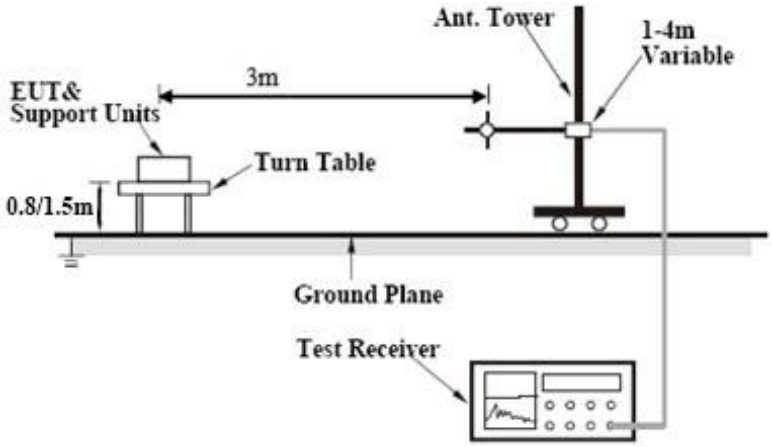
Result: Compliance.

6.2 Radiated Spurious Emissions & Restricted Band

Temperature	25℃
Relative Humidity	57%
Atmospheric Pressure	1015mbar
Test date :	July 07, 2017
Tested By :	Evans He

Requirement(s):

<table>
<tr><th>Spec</th><th>Item</th><th>Requirement</th><th>Applicable</th></tr>
<tr><td rowspan="3">47CFR§15.247(d), RSS210 (A8.5)</td><td>a)</td><td>Except higher limit as specified elsewhere in other section, the emissions from the low-power radio-frequency devices shall not exceed the field strength levels specified in the following table and the level of any unwanted emissions shall not exceed the level of the fundamental emission. The tighter limit applies at the band edges
<table>
<tr><th>Frequency range (MHz)</th><th>Field Strength (μV/m)</th></tr>
<tr><td>0.009~0.490</td><td>2400/F(KHz)</td></tr>
<tr><td>0.490~1.705</td><td>24000/F(KHz)</td></tr>
<tr><td>1.705~30.0</td><td>30</td></tr>
<tr><td>30 – 88</td><td>100</td></tr>
<tr><td>88 – 216</td><td>150</td></tr>
<tr><td>216 960</td><td>200</td></tr>
<tr><td>Above 960</td><td>500</td></tr>
</table></td><td>☑</td></tr>
<tr><td>b)</td><td>For non-restricted band, In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB or 30dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, determined by the measurement method on output power to be used. Attenuation below the general limits specified in § 15.209(a) is not required
☒ 20 dB down ☐ 30 dB down</td><td>☑</td></tr>
<tr><td>c)</td><td>or restricted band, emission must also comply with the radiated emission limits specified in 15.209</td><td>☑</td></tr>
</table>

Test Setup	 
Procedure	1. The EUT was switched on and allowed to warm up to its normal operating condition. 2. The test was carried out at the selected frequency points obtained from the EUT characterization. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner: a. Vertical or horizontal polarization (whichever gave the higher emission level over a full rotation of the EUT) was chosen. b. The EUT was then rotated to the direction that gave the maximum emission. c. Finally, the antenna height was adjusted to the height that gave the maximum emission. 3. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasiy Peak detection at frequency below 1GHz. 4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz with Peak detection for Peak measurement at frequency above 1GHz.

	The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz with Peak detection for Average Measurement as below at frequency above 1GHz. 5. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.
Remark	Different RF configuration has been evaluated but not much difference was found. The data presented here is the worst case data with EUT under 802.11n – HT20-2437MHz mode.
Result	☑ Pass ☐ Fail

Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A

Test Result:

Test Mode:	Transmitting Mode

Frequency range: 9KHz - 30MHz

Freq. (MHz)	Detection value	Factor (dB/m)	Reading (dBuV/m)	Result (dBuV/m)	Limit@3m (dBuV/m)	Margin (dB)
--	--	--	--	--	--	>20
--	--	--	--	--	--	>20

Note:

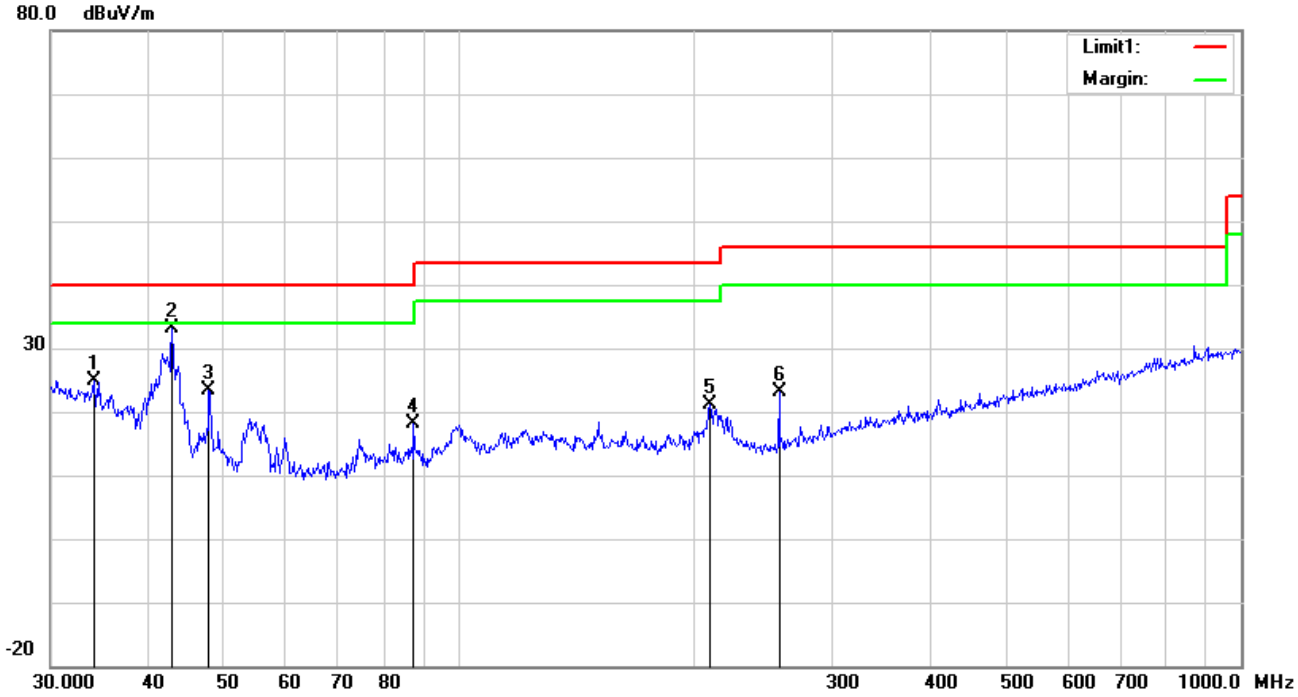
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor =40 log (specific distance/test distance)(dB);

Limit line = specific limits(dBuv) + distance extrapolation factor.

Test Mode:	Transmitting Mode

30MHz -1GHz

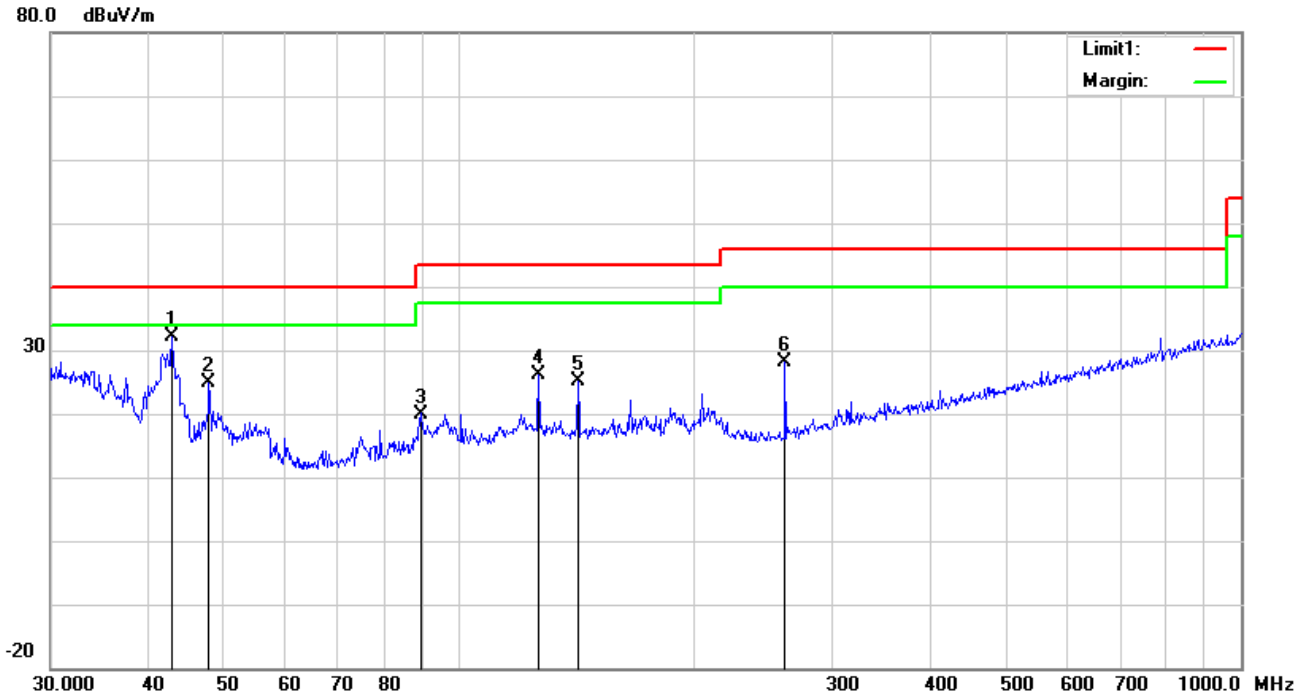


Test Data

Vertical Polarity Plot @3m

No.	P/L	Frequency	Reading	Detector	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degree
		(MHz)	(dBuV/m)		(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	( )
1	H	34.0365	28.04	peak	18.29	22.26	0.73	24.80	40.00	-15.20	100	333
2	H	42.8998	42.63	peak	11.99	22.29	0.77	33.10	40.00	-6.90	100	49
3	H	47.8260	35.51	peak	9.36	22.34	0.78	23.31	40.00	-16.69	100	211
4	H	87.4177	31.67	peak	7.90	22.35	1.01	18.23	40.00	-21.77	200	9
5	H	209.3129	29.98	peak	11.97	22.36	1.57	21.16	43.50	-22.34	100	26
6	H	256.5211	32.06	peak	11.69	22.29	1.71	23.17	46.00	-22.83	100	320

30MHz -1GHz



Test Data

Horizontal Polarity Plot @3m

No.	P/L	Frequency	Reading	Detector	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degree
		(MHz)	(dBuV/m)		(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)
1	V	42.8998	41.75	peak	11.99	22.29	0.77	32.22	40.00	-7.78	100	221
2	V	47.8260	37.03	peak	9.36	22.34	0.78	24.83	40.00	-15.17	200	201
3	V	89.2764	33.39	peak	7.97	22.33	0.97	20.00	43.50	-23.50	100	161
4	V	126.3286	33.72	peak	13.49	22.38	1.19	26.02	43.50	-17.48	100	9
5	V	141.8262	33.68	peak	12.60	22.40	1.28	25.16	43.50	-18.34	100	251
6	V	261.0583	36.82	peak	11.89	22.29	1.72	28.14	46.00	-17.86	100	113

Above 1GHz

Test Mode:	Transmitting Mode

Low Channel (2412 MHz) (g mode worst case)

Frequency (MHz)	S.A. Reading (dBµV)	Detector (PK/AV)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
4824	42.16	AV	V	33.39	7.22	48.46	34.31	54	-19.69
4824	40.25	AV	H	33.39	7.22	48.46	32.4	54	-21.6
4824	54.61	PK	V	33.39	7.22	48.46	46.76	74	-27.24
4824	53.29	PK	H	33.39	7.22	48.46	45.44	74	-28.56
6435	28.76	AV	V	35.52	7.84	48.71	23.41	54	-30.59
6435	26.49	AV	H	35.52	7.84	48.71	21.14	54	-32.86
6435	45.21	PK	V	35.52	7.84	48.71	39.86	74	-34.14
6435	43.16	PK	H	35.52	7.84	48.71	37.81	74	-36.19

Middle Channel (2437 MHz) (g mode worst case)

Frequency (MHz)	S.A. Reading (dBµV)	Detector (PK/AV)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
4874	41.05	AV	V	33.62	7.53	48.36	33.84	54	-20.16
4874	40.23	AV	H	33.62	7.53	48.36	33.02	54	-20.98
4874	56.74	PK	V	33.62	7.53	48.36	49.53	74	-24.47
4874	55.23	PK	H	33.62	7.53	48.36	48.02	74	-25.98
13508	24.91	AV	V	40.65	13.76	46.88	32.44	54	-21.56
13508	23.15	AV	H	40.65	13.76	46.88	30.68	54	-23.32
13508	45.26	PK	V	40.65	13.76	46.88	52.79	74	-21.21
13508	43.18	PK	H	40.65	13.76	46.88	50.71	74	-23.29

High Channel (2462 MHz) (g mode worst case)

Frequency (MHz)	S.A. Reading (dBμV)	Detector (PK/AV)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord Amp. (dBμV/m)	Limit (dBμV/m)	Margin (dB)
4924	43.15	AV	V	33.74	7.78	48.34	36.33	54	-17.67
4924	42.87	AV	H	33.74	7.78	48.34	36.05	54	-17.95
4924	52.16	PK	V	33.74	7.78	48.34	45.34	74	-28.66
4924	50.33	PK	H	33.74	7.78	48.34	43.51	74	-30.49
17942	20.17	AV	V	43.21	19.44	44.4	38.42	54	-15.58
17942	19.56	AV	H	43.21	19.44	44.4	37.81	54	-16.19
17942	43.22	PK	V	43.21	19.44	44.4	61.47	74	-12.53
17942	41.06	PK	H	43.21	19.44	44.4	59.31	74	-14.69

Note:

*1, The testing has been conformed to 10*2462MHz=24,620MHz*

2, All other emissions more than 30 dB below the limit

3, X-Axis, Y-Axis and Z-Axis were investigated. The results above show only the worst case.

Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Due	In use
Radiated Emissions					
EMI test receiver	ESL6	100262	09/16/2016	09/15/2017	☑
Positioning Controller	UC3000	MF780208282	11/18/2016	11/17/2017	☑
OPT 010 AMPLIFIER (0.1-1300MHz)	8447E	2727A02430	08/31/2016	08/30/2017	☑
Microwave Preamplifier (1 ~ 26.5GHz)	8449B	3008A02402	03/23/2017	03/22/2018	☑
Active Antenna (9kHz-30MHz)	AL-130	121031	10/13/2016	10/12/2017	☑
Bilog Antenna (30MHz~6GHz)	JB6	A110712	09/20/2016	09/19/2017	☑
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	71283	09/23/2016	09/22/2017	☑
Universal Radio Communication Tester	CMU200	121393	09/24/2016	09/23/2017	☑

Annex B. EUT and Test Setup Photographs

Annex B.i. Photograph: EUT External Photo

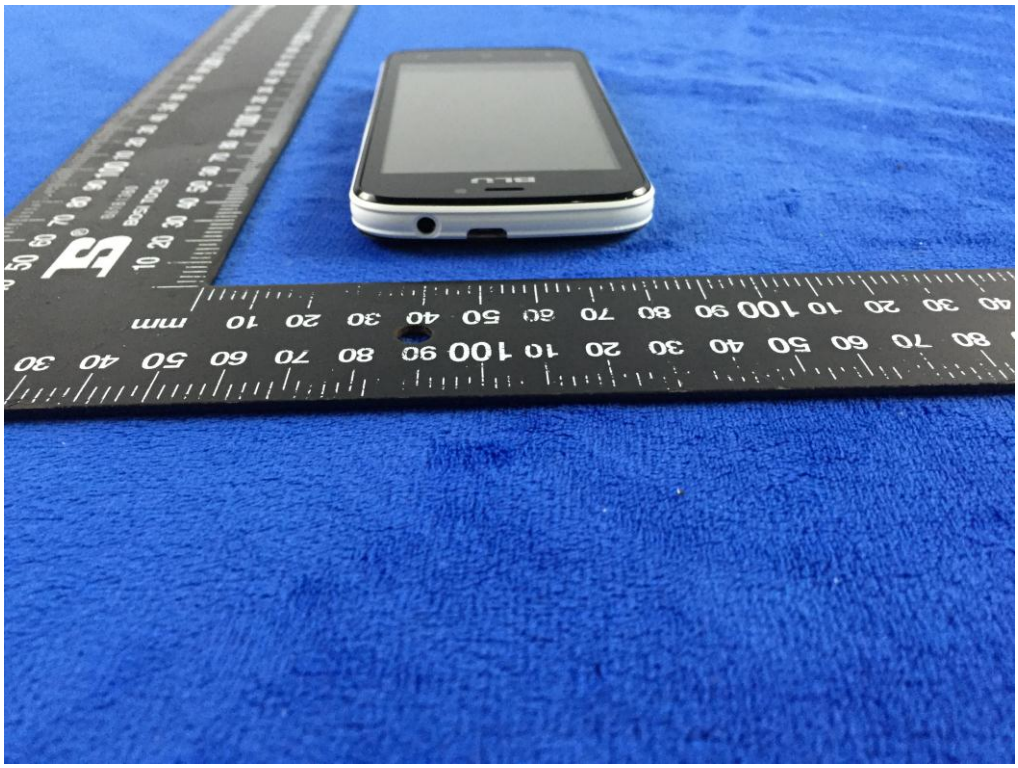
Whole Package View

Adapter - Lable View

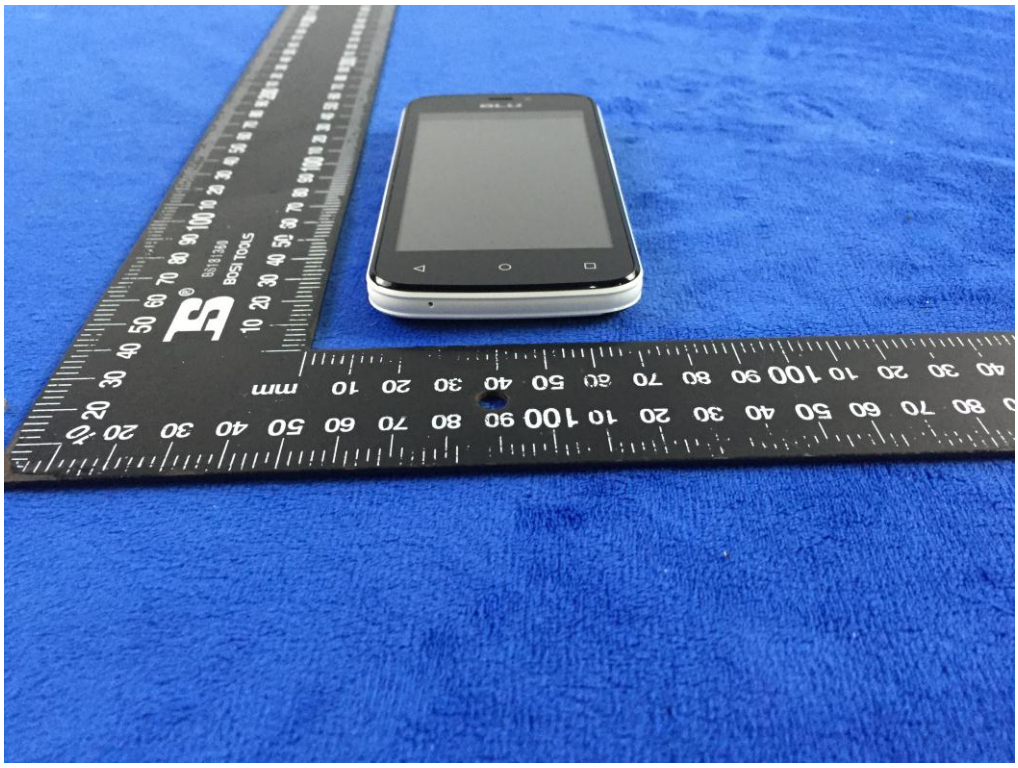
EUT - Front View

EUT - Rear View

EUT - Top View

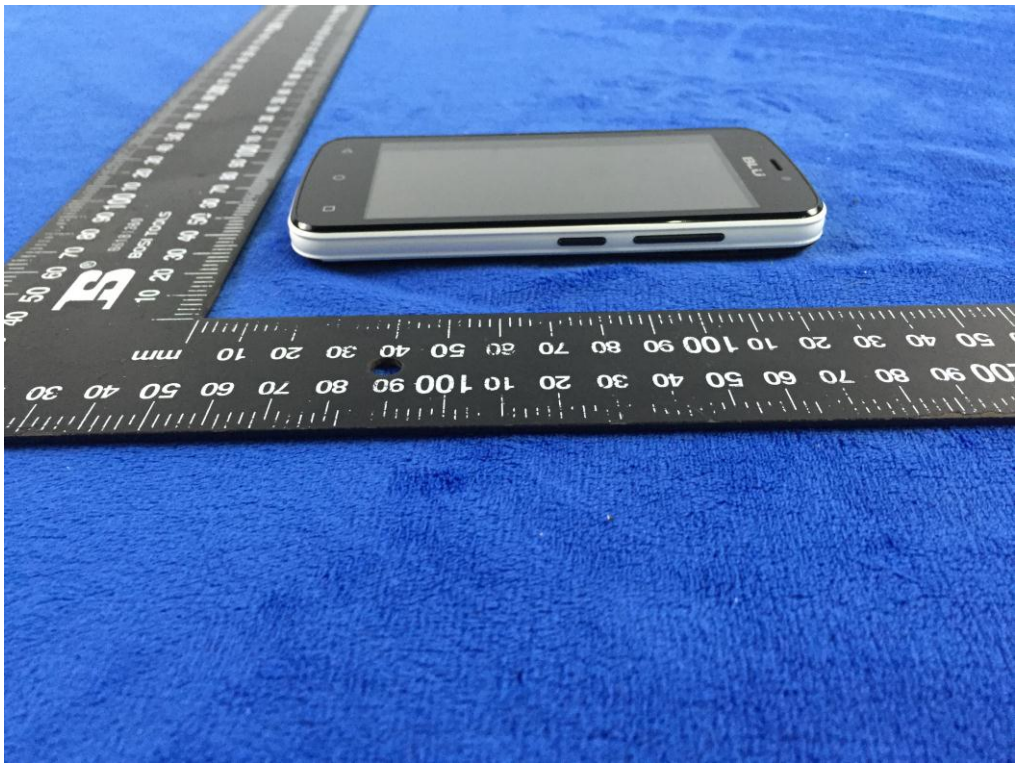


EUT - Bottom View



EUT - Left View

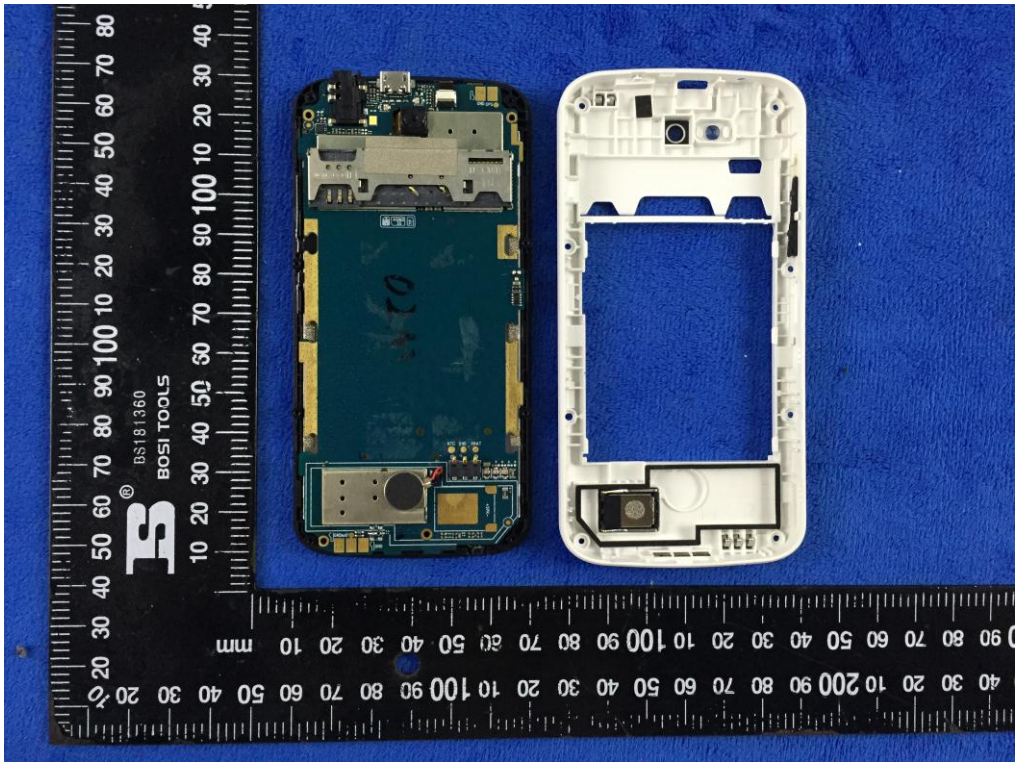
EUT - Right View



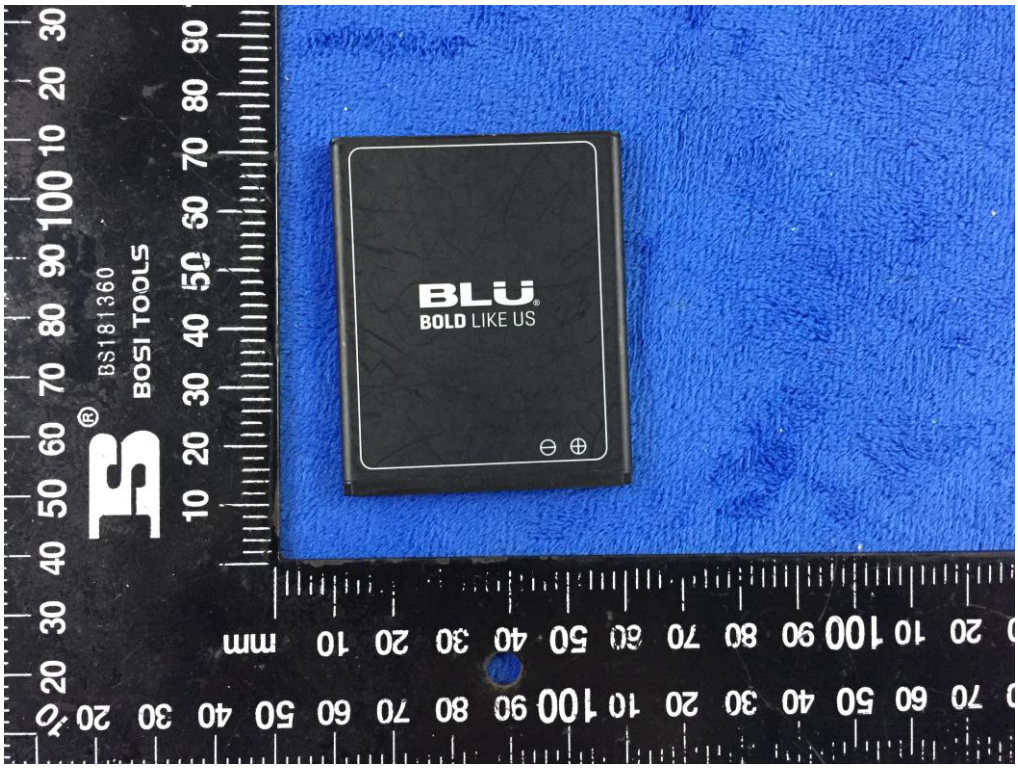
Annex B.ii. Photograph: EUT Internal Photo

Cover Off - Top View 1

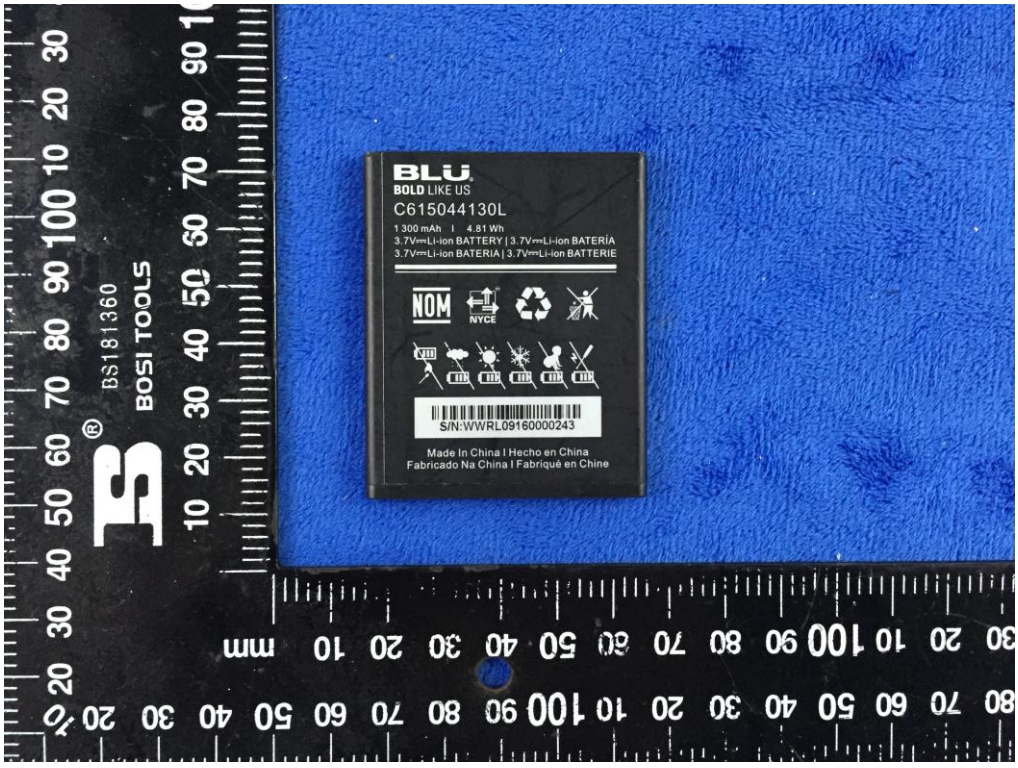
Cover Off - Top View 2



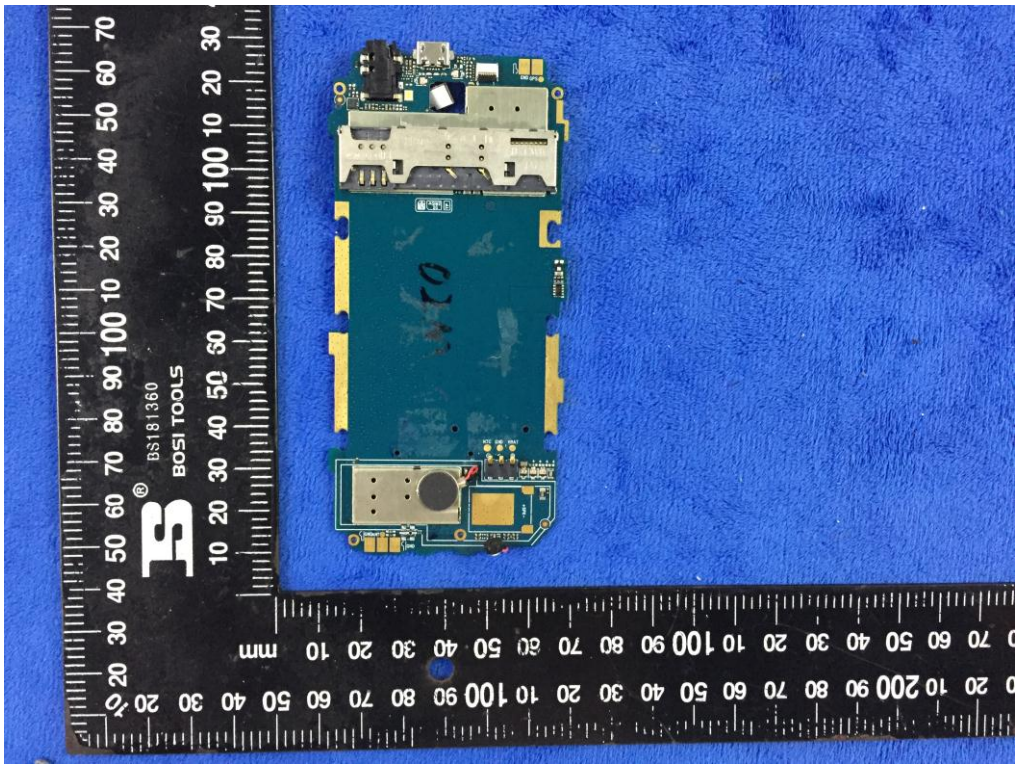
Battery - Front View



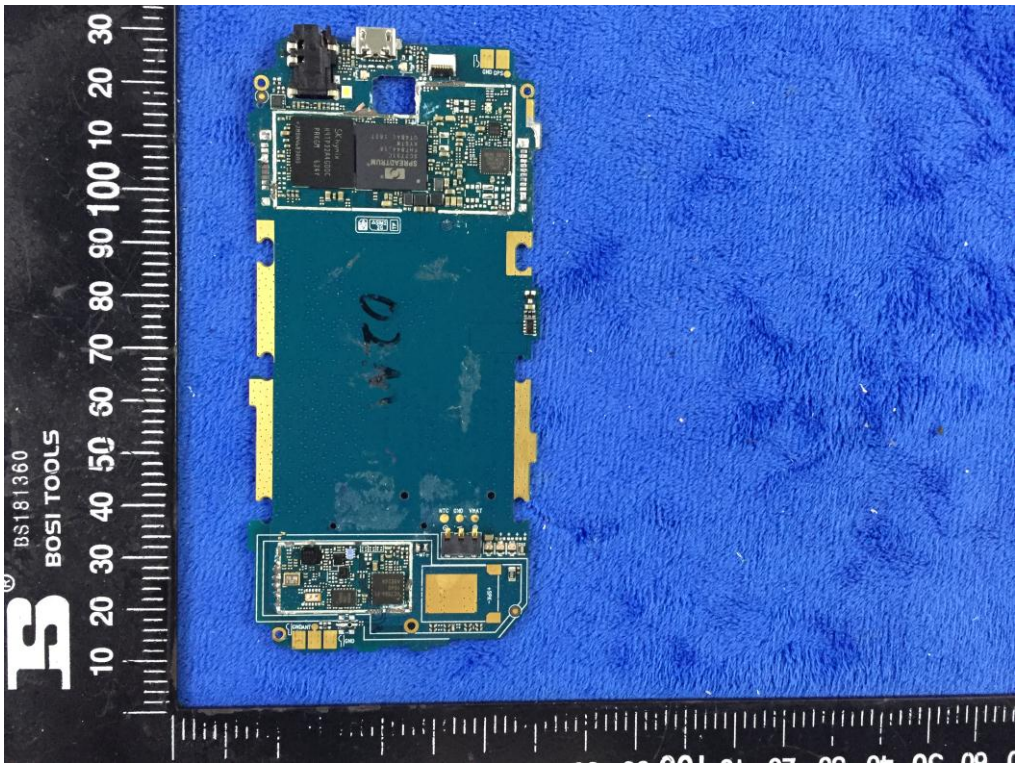
Battery - Rear View



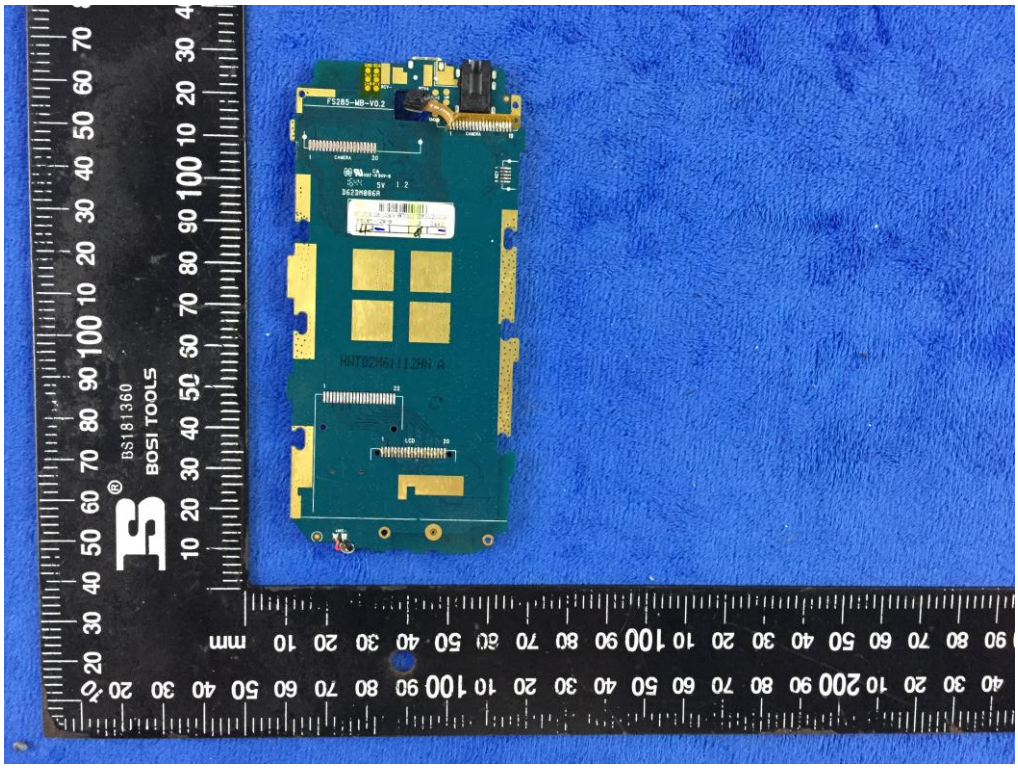
Mainboard with Shielding - Front View



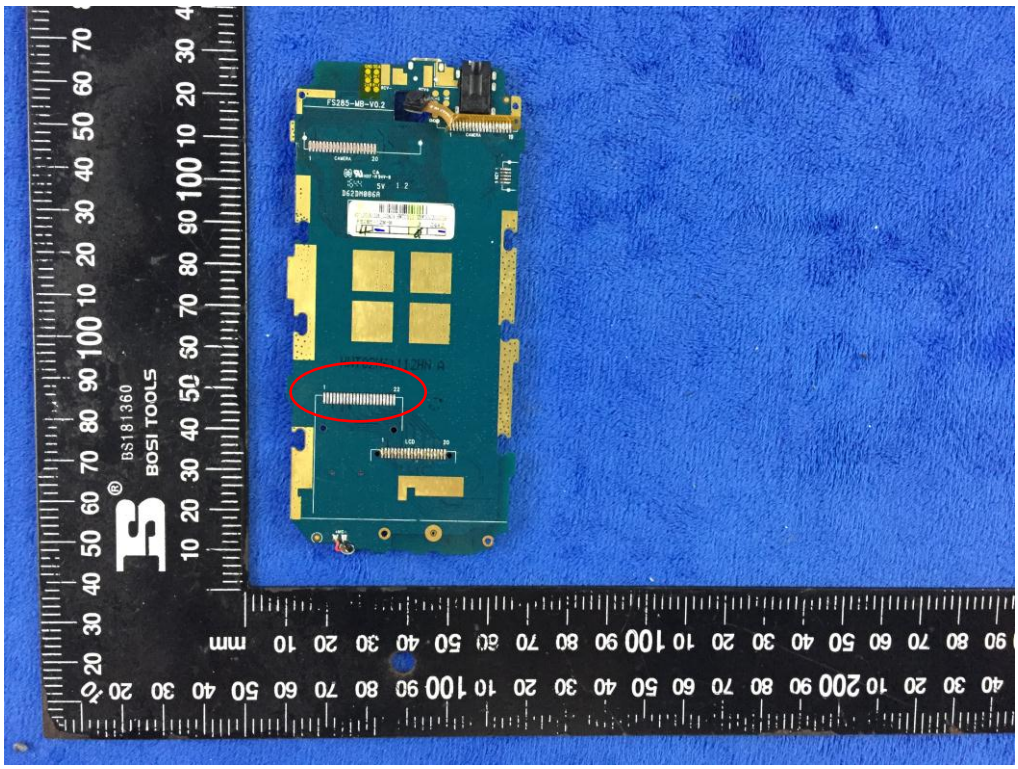
Mainboard without Shielding - Front View



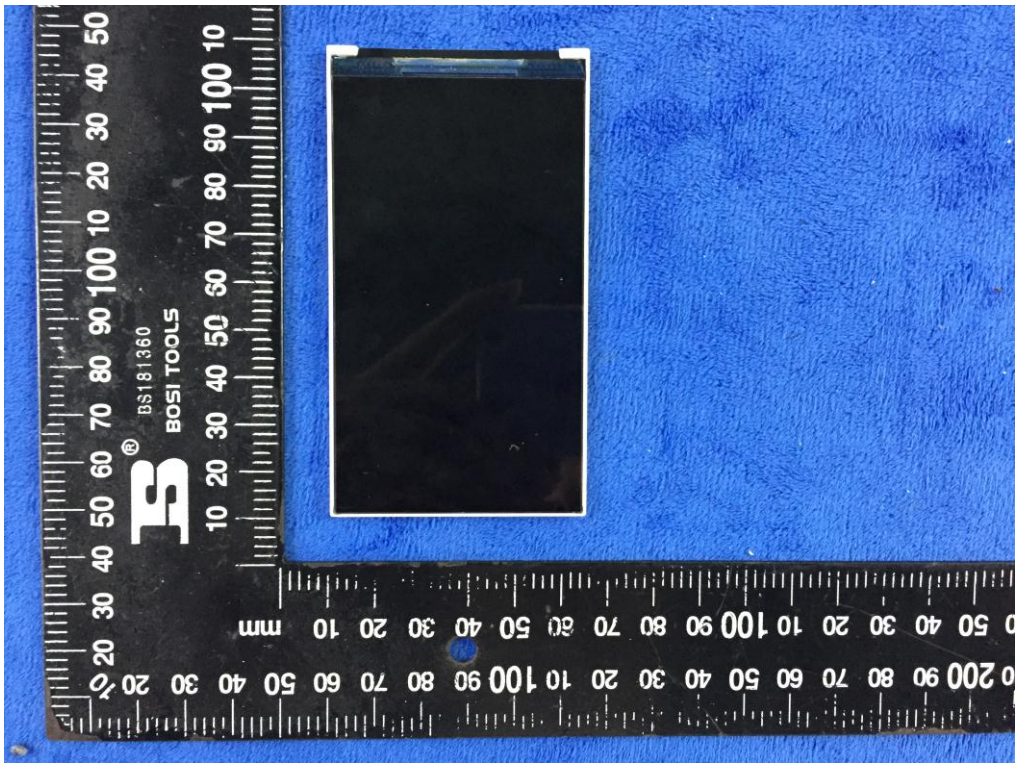
Mainboard – Rear View



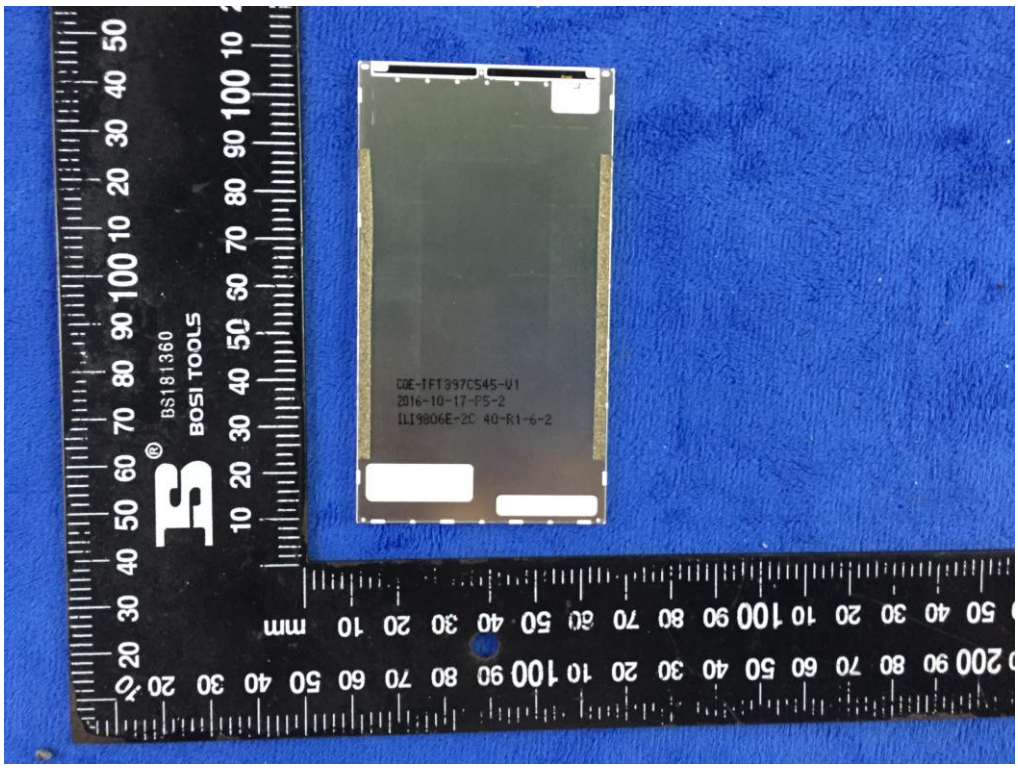
LCD bonding pads View



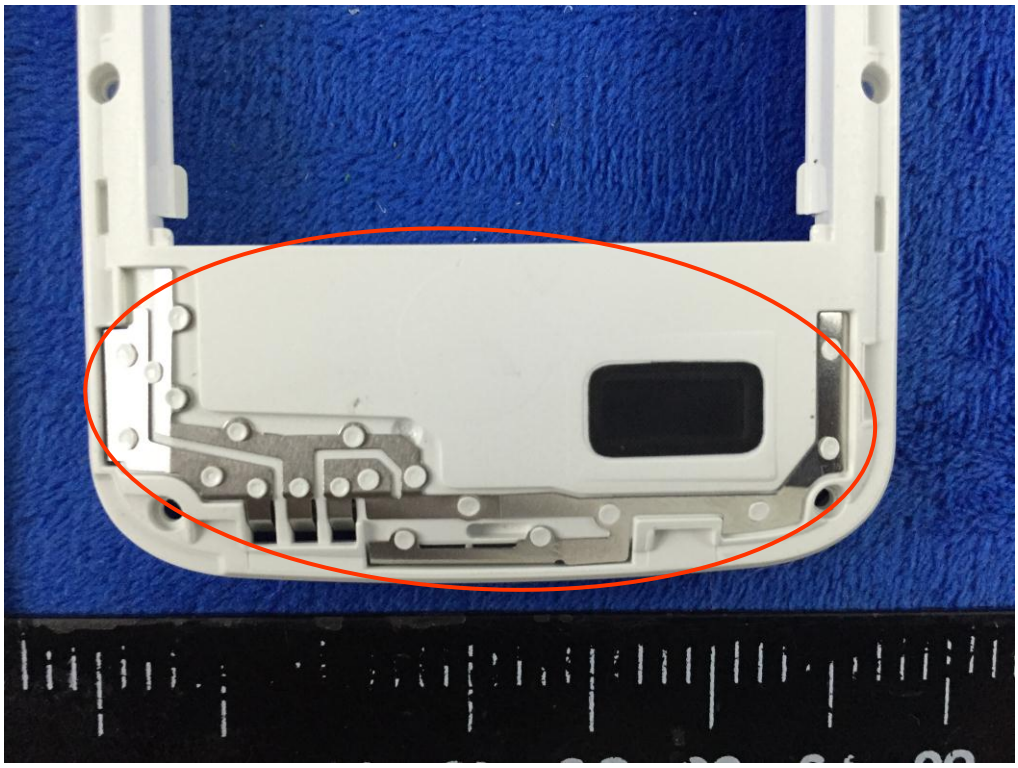
LCD – Front View



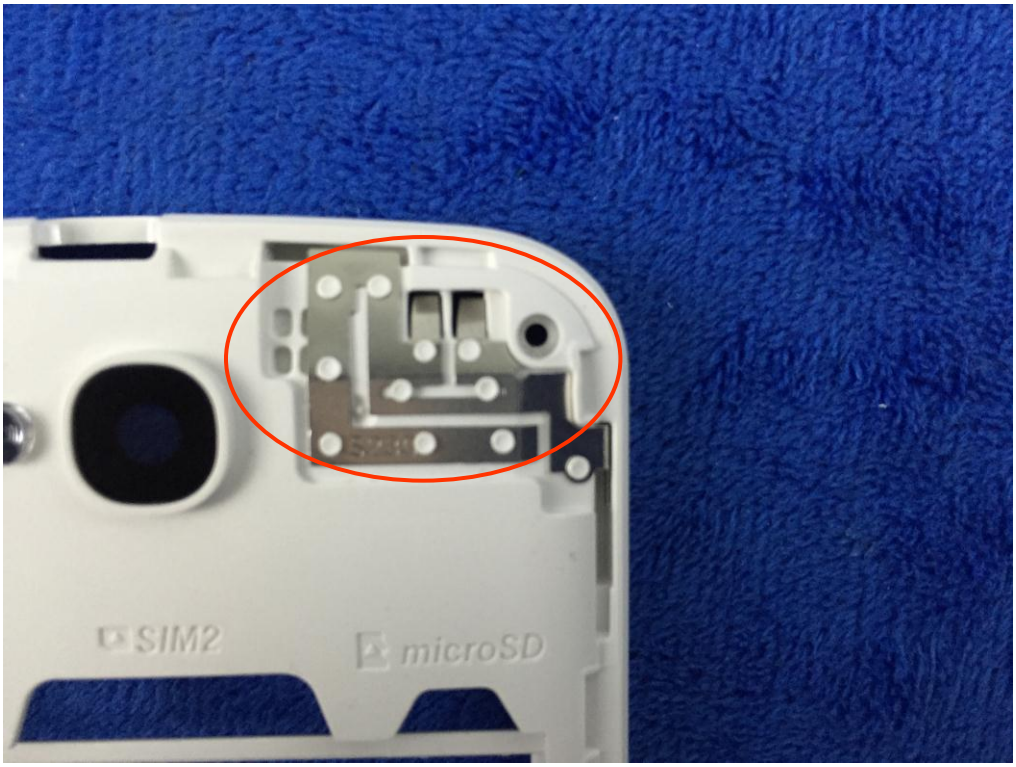
LCD – Rear View



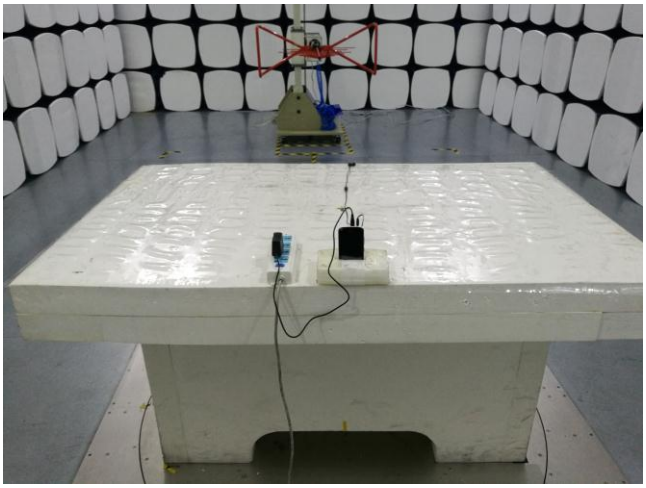
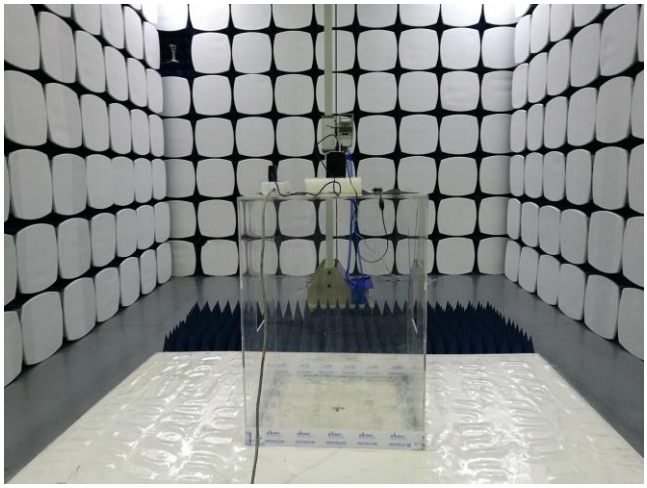
GSM/PCS/UMTS-FDD Antenna View



WIFI/BT - Antenna View



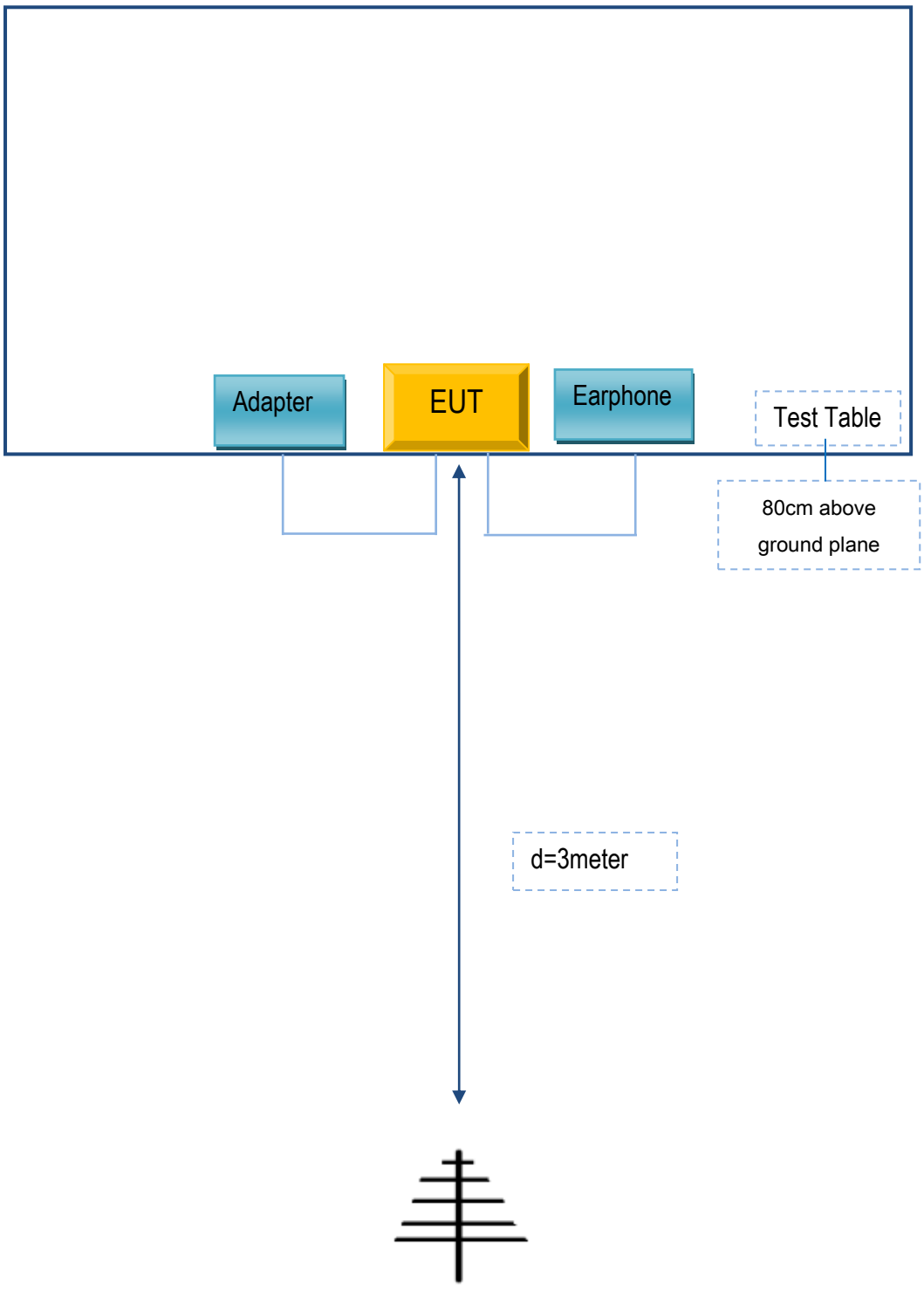
Annex B.iii. Photograph: Test Setup Photo

	
Radiated Spurious Emissions Test Setup Below 1GHz	Radiated Spurious Emissions Test Setup Above 1GHz

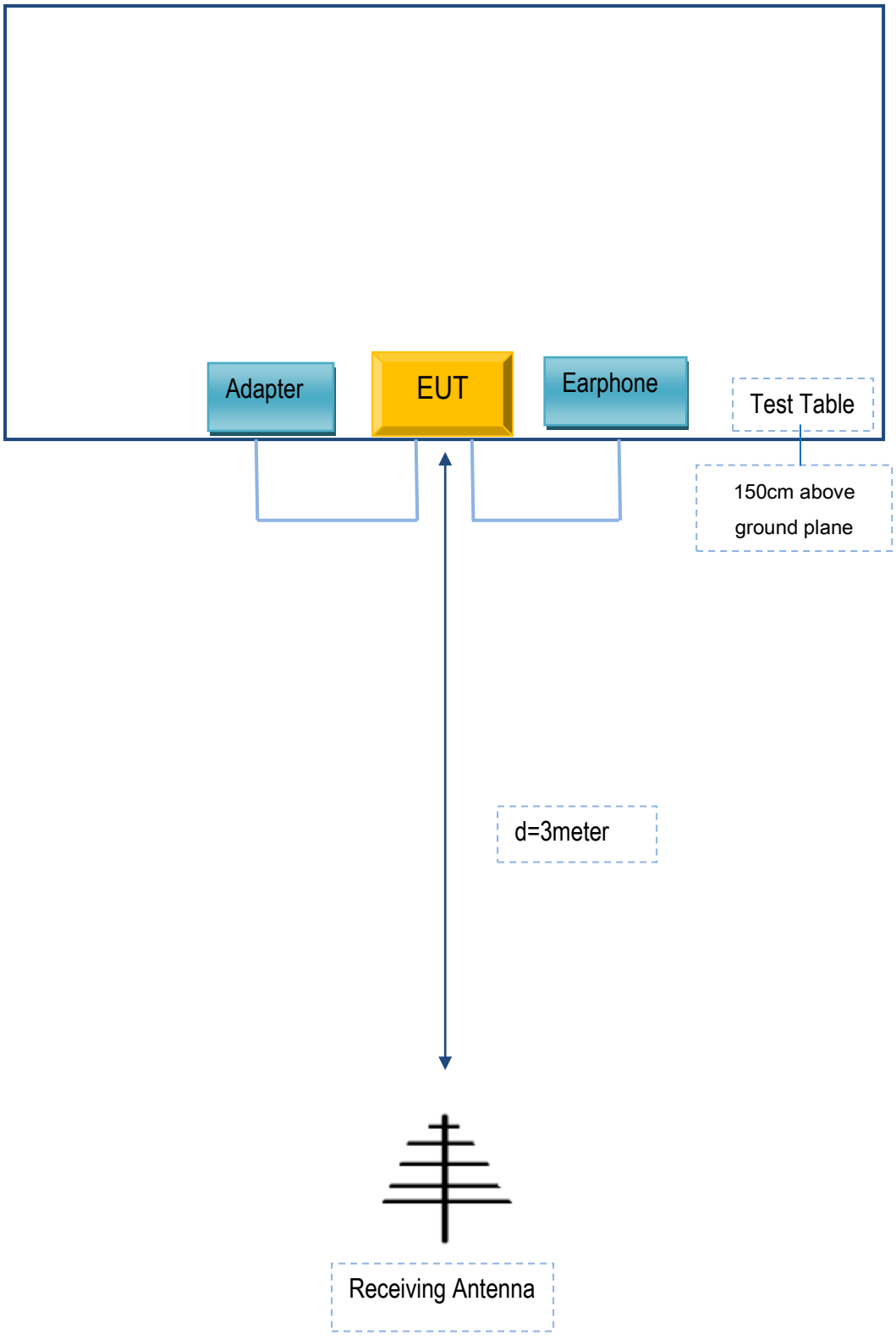
Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

Annex C.ii. TEST SET UP BLOCK

Block Configuration Diagram for Radiated Emissions (Below 1GHz) .



Block Configuration Diagram for Radiated Emissions （Above 1GHz）.



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
BLU Products，Inc	Earphone	ADVANCE 4.0M	N/A
BLU Products，Inc	Adapter	US-WW-0502	N/A

Supporting Cable:

Cable type	Shield Type	Ferrite Core	Length	Serial No
USB Cable	Un-shielding	No	0.8m	N/A
Earphone Cables	Un-shielding	No	0.5m	N/A

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

Please see the attachment

Annex E. DECLARATION OF SIMILARITY

Declaration Letter

(Original approval holder)

Company name	BLU Products，Inc
Address	10814 NW 33rd St # 100 Doral, FL 33172

Declare that the following company:

(New approval holder)

Company name	BLU Products，Inc
Address	10814 NW 33rd St # 100 Doral, FL 33172

is here to declare that PCBA ,Antenna and Appearance shape , accessories are the same . The only difference is listed as below

(Difference from original approval holder's)

	Model	**Difference**
Original	ADVANCE 4.0M	Only add one LCD bonding pad on PCB
New	ADVANCE 4.0M	

and apply for own approval or certificate.

Attestation:

Date:	**Name:** (this must be a person)	**Function:**	**Signature:** (or official company stamp)
2017-7-13	Zeng wei