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	<p>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.</p> <p>5. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.</p>
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	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

Test Data  Yes  N/A

Test Plot  Yes (See below)  N/A

**Test Result:**

<b>Test Mode:</b>	Transmitting Mode
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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:**

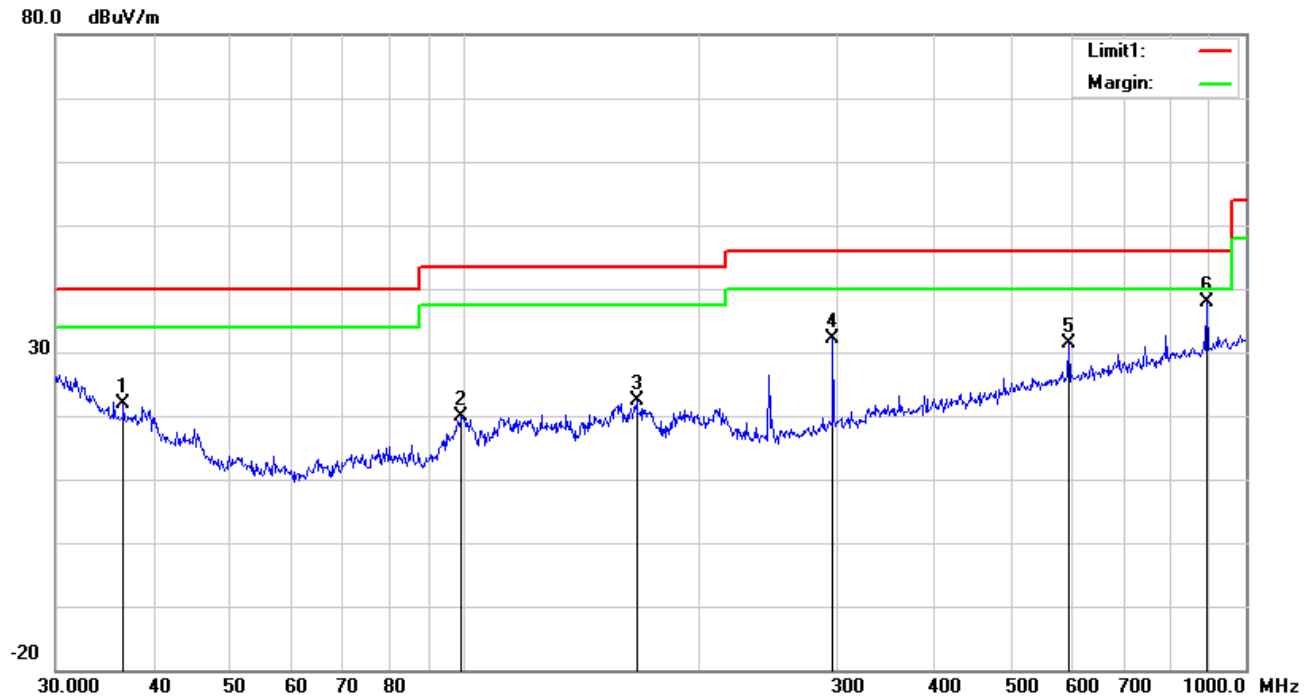
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor =  $40 \log (\text{specific distance}/\text{test distance})$ (dB);

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

<b>Test Mode:</b>	<b>Transmitting Mode</b>
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**30MHz -1GHz**

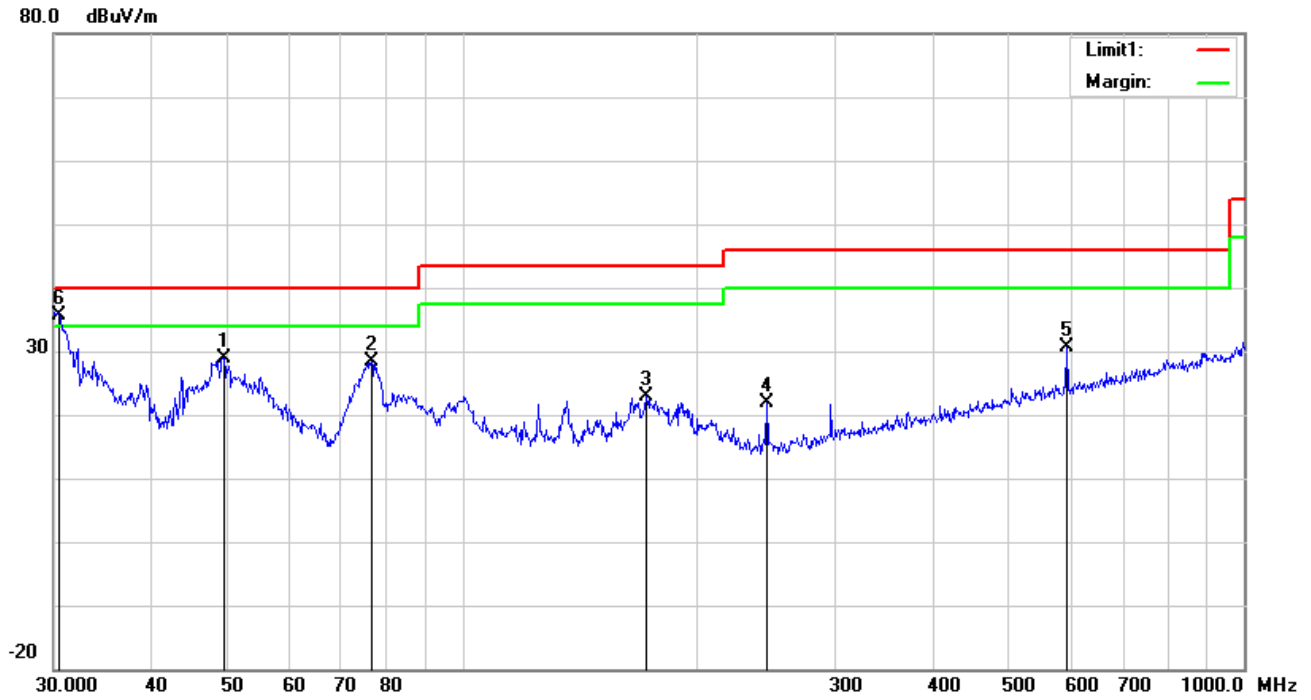


**Test Data**

**Vertical Polarity Plot @3m**

No.	P/L	Frequency	Reading	Detect or	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	36.6375	26.90	peak	16.35	22.26	0.77	21.76	40.00	-18.24	100	235
2	H	99.1797	30.98	peak	10.20	22.32	1.10	19.96	43.50	-23.54	100	154
3	H	166.0680	31.17	peak	12.11	22.26	1.37	22.39	43.50	-21.11	100	16
4	H	296.1836	39.26	peak	13.43	22.29	1.78	32.18	46.00	-13.82	100	234
5	H	593.0497	31.56	peak	19.00	21.60	2.49	31.45	46.00	-14.55	100	266
6	H	890.7278	33.26	peak	22.40	20.91	3.03	37.78	46.00	-8.22	100	224

### 30MHz -1GHz



*Test Data*

### Horizontal Polarity Plot @3m

N o.	P/ L	Frequency (MHz)	Reading (dBuV/m)	Detect or	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degr ee (°)
1	V	49.5328	41.91	peak	8.61	22.37	0.80	28.95	40.00	-11.05	100	75
2	V	76.5121	42.02	peak	7.67	22.41	0.99	28.27	40.00	-11.73	200	25
3	V	171.9946	32.06	peak	11.64	22.26	1.36	22.80	43.50	-20.70	100	92
4	V	245.0900	31.06	peak	11.47	22.30	1.68	21.91	46.00	-24.09	100	248
5	V	593.0497	30.77	peak	19.00	21.60	2.49	30.66	46.00	-15.34	100	197
6	V	30.5306	36.32	QP	20.99	22.28	0.63	35.66	40.00	-4.34	100	278

### Above 1GHz

<b>Test Mode:</b>	<b>Transmitting Mode</b>
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#### Low Channel (2412 MHz) (b mode worst case)

Frequency (MHz)	S.A. Reading (dB $\mu$ V)	Detector (PK/AV)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord Amp. (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
4824	46.32	AV	V	33.39	7.22	48.46	38.47	54	-15.53
4824	44.29	AV	H	33.39	7.22	48.46	36.44	54	-17.56
4824	65.1	PK	V	33.39	7.22	48.46	57.25	74	-16.75
4824	66.92	PK	H	33.39	7.22	48.46	59.07	74	-14.93
8930	37.87	AV	V	38.17	9.16	48.91	36.29	54	-17.71
8930	34.42	AV	H	38.17	9.16	48.91	32.84	54	-21.16
8930	53.54	PK	V	38.17	9.16	48.91	51.96	74	-22.04
8930	57.67	PK	H	38.17	9.16	48.91	56.09	74	-17.91

#### Middle Channel (2437 MHz) (b mode worst case)

Frequency (MHz)	S.A. Reading (dB $\mu$ V)	Detector (PK/AV)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord Amp. (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
4874	43.79	AV	V	33.62	7.53	48.36	36.58	54	-17.42
4874	47.78	AV	H	33.62	7.53	48.36	40.57	54	-13.43
4874	65.82	PK	V	33.62	7.53	48.36	58.61	74	-15.39
4874	66.78	PK	H	33.62	7.53	48.36	59.57	74	-14.43
10471	28.43	AV	V	39.92	12.5	47.01	33.84	54	-20.16
10471	25	AV	H	39.92	12.5	47.01	30.41	54	-23.59
10471	45.63	PK	V	39.92	12.5	47.01	51.04	74	-22.96
10471	46.45	PK	H	39.92	12.5	47.01	51.86	74	-22.14

**High Channel (2462 MHz) (b mode worst case)**

Frequency (MHz)	S.A. Reading (dB $\mu$ V)	Detector (PK/AV)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord Amp. (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
4924	49.12	AV	V	33.74	7.78	48.34	42.3	54	-11.7
4924	45.73	AV	H	33.74	7.78	48.34	38.91	54	-15.09
4924	70.37	PK	V	33.74	7.78	48.34	63.55	74	-10.45
4924	68.84	PK	H	33.74	7.78	48.34	62.02	74	-11.98
17812	22.29	AV	V	41.9	17.04	46.25	34.98	54	-19.02
17812	19.19	AV	H	41.9	17.04	46.25	31.88	54	-22.12
17812	41.52	PK	V	41.9	17.04	46.25	54.21	74	-19.79
17812	43.6	PK	H	41.9	17.04	46.25	56.29	74	-17.71

**Note:**

- 1, The testing has been conformed to  $10 \times 2462 \text{MHz} = 24,620 \text{MHz}$
- 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.
- 4, The radiated spurious test above 18GHz is subcontracted to SIEMIC (Nanjing-China) Laboratories. and found 30dB below the limit at least.

## Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Due	In use
<b>AC Line Conducted</b>					
EMI test receiver	ESCS30	8471241027	09/15/2017	09/14/2018	<input checked="" type="checkbox"/>
Line Impedance	LI-125A	191106	09/23/2017	09/22/2018	<input checked="" type="checkbox"/>
Line Impedance	LI-125A	191107	09/23/2017	09/22/2018	<input checked="" type="checkbox"/>
ISN	ISN T800	34373	09/23/2017	09/22/2018	<input type="checkbox"/>
Transient Limiter	LIT-153	531118	08/30/2017	08/29/2018	<input type="checkbox"/>
<b>RF conducted test</b>					
Agilent ESA-E SERIES	E4407B	MY45108319	09/15/2017	09/14/2018	<input checked="" type="checkbox"/>
Power Splitter	1#	1#	08/30/2017	08/29/2018	<input checked="" type="checkbox"/>
DC Power Supply	E3640A	MY40004013	09/15/2017	09/14/2018	<input checked="" type="checkbox"/>
<b>Radiated Emissions</b>					
EMI test receiver	ESL6	100262	09/15/2017	09/14/2018	<input checked="" type="checkbox"/>
Positioning Controller	UC3000	MF780208282	11/17/2017	11/16/2018	<input checked="" type="checkbox"/>
OPT 010 AMPLIFIER (0.1-1300MHz)	8447E	2727A02430	08/30/2017	08/29/2018	<input checked="" type="checkbox"/>
Microwave Preamplifier (1 ~ 26.5GHz)	8449B	3008A02402	03/22/2018	03/21/2019	<input checked="" type="checkbox"/>
Horn Antenna	BBHA9170	3145226D1	09/27/2017	09/26/2018	<input checked="" type="checkbox"/>
Active Antenna (9kHz-30MHz)	AL-130	121031	10/12/2017	10/11/2018	<input checked="" type="checkbox"/>
Bilog Antenna (30MHz~6GHz)	JB6	A110712	09/19/2017	09/18/2018	<input checked="" type="checkbox"/>
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	71283	09/22/2017	09/21/2018	<input checked="" type="checkbox"/>
Universal Radio Communication Tester	CMU200	121393	09/23/2017	09/22/2018	<input checked="" type="checkbox"/>

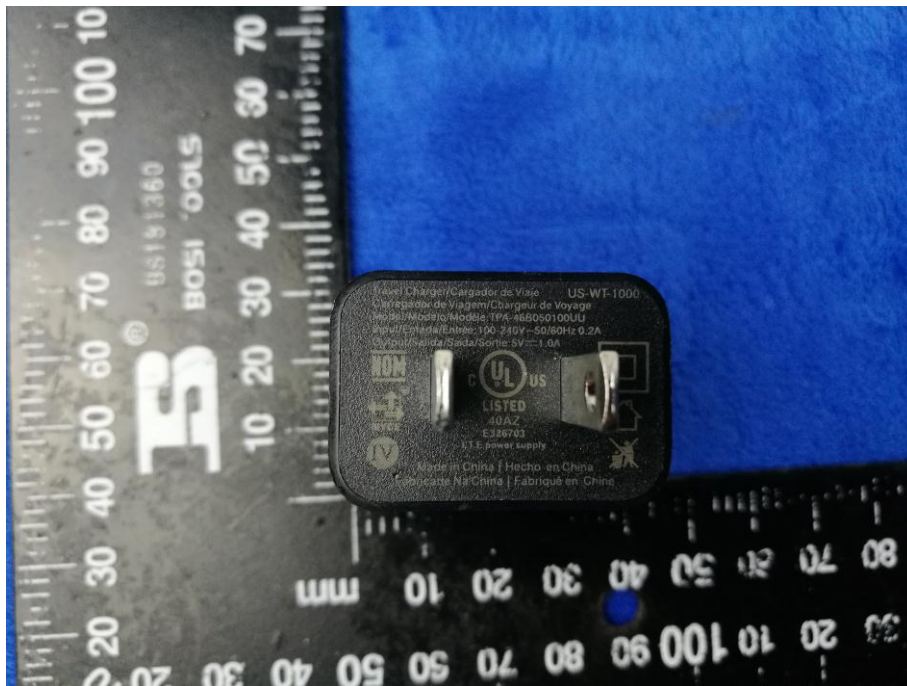
## Annex B. EUT and Test Setup Photographs

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

Whole Package View



Adapter - Label View





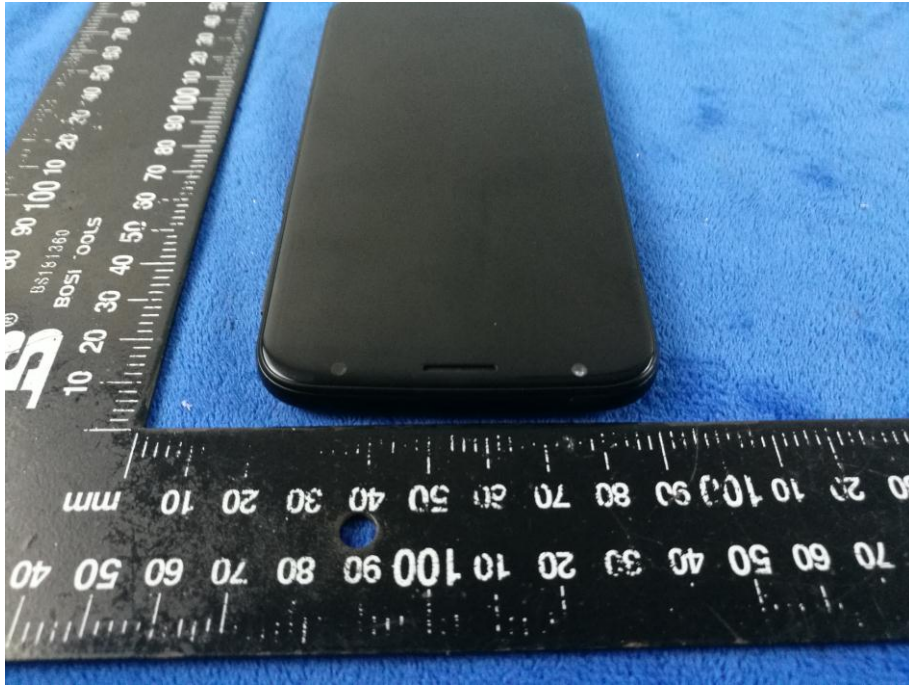
EUT - Front View



EUT - Rear View



EUT - Top View



EUT - Bottom View

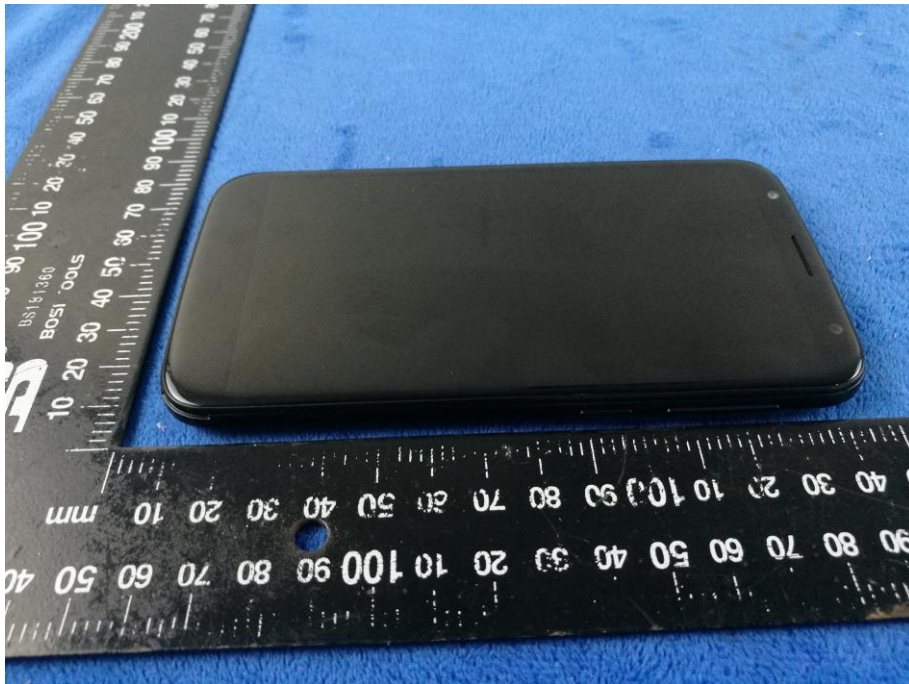




EUT - Left View



EUT - Right View



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

Cover Off - Top View 1



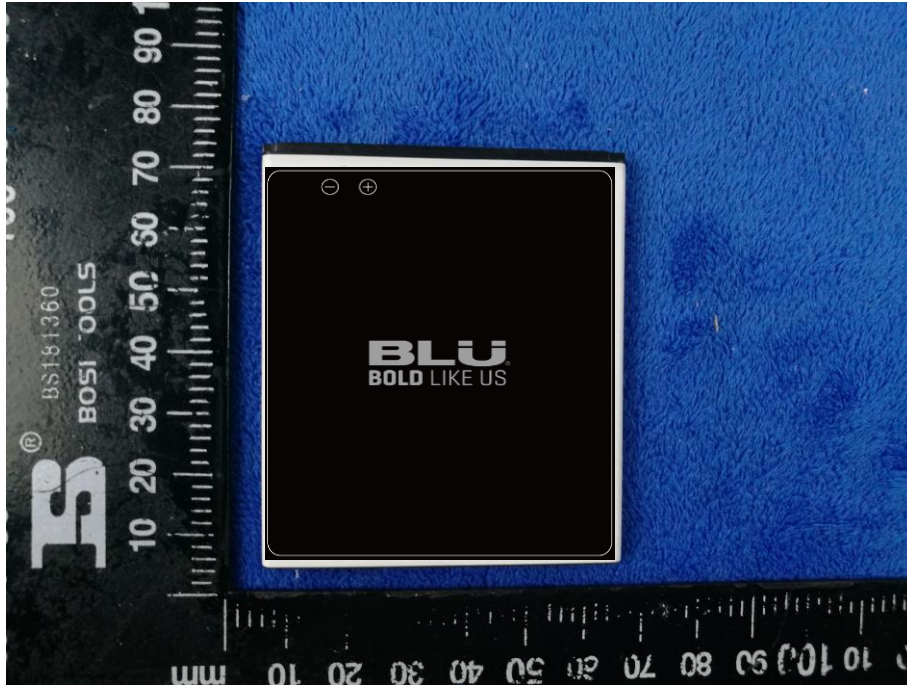
Cover Off - Top View 2





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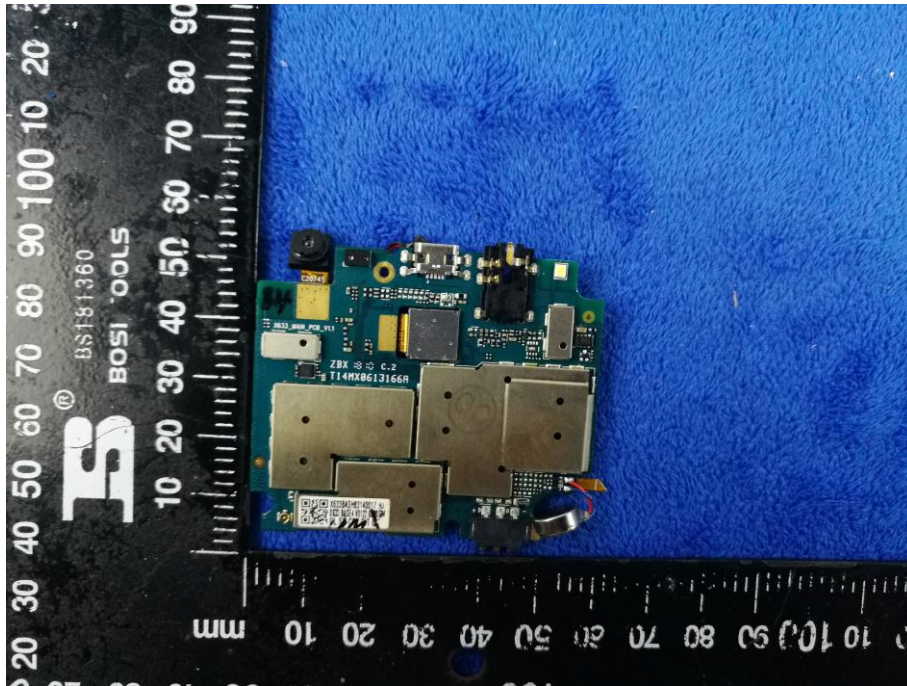
Battery - Front View



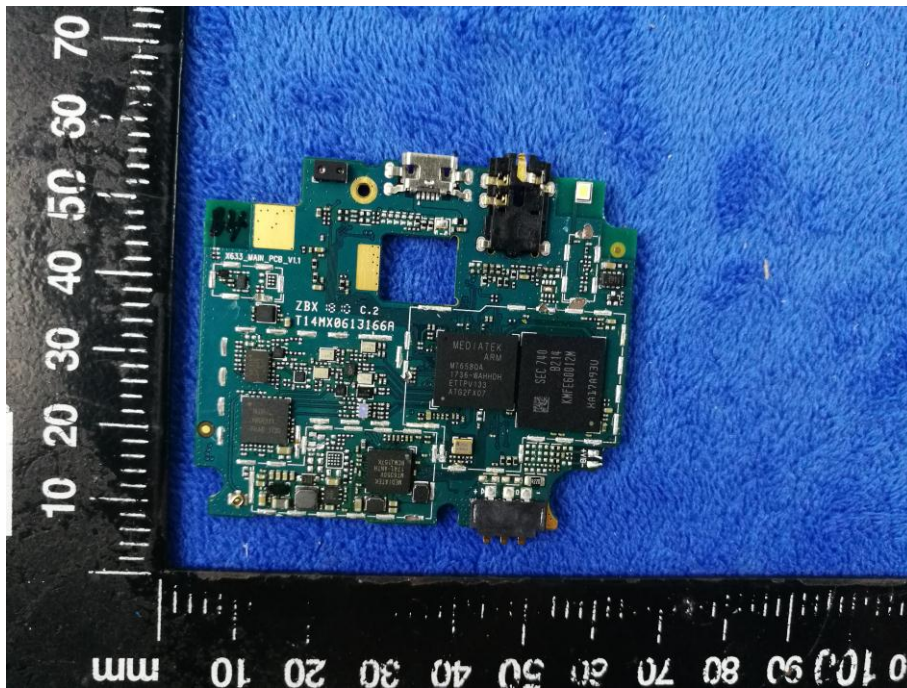
Battery - Rear View



Mainboard with Shielding - Front View

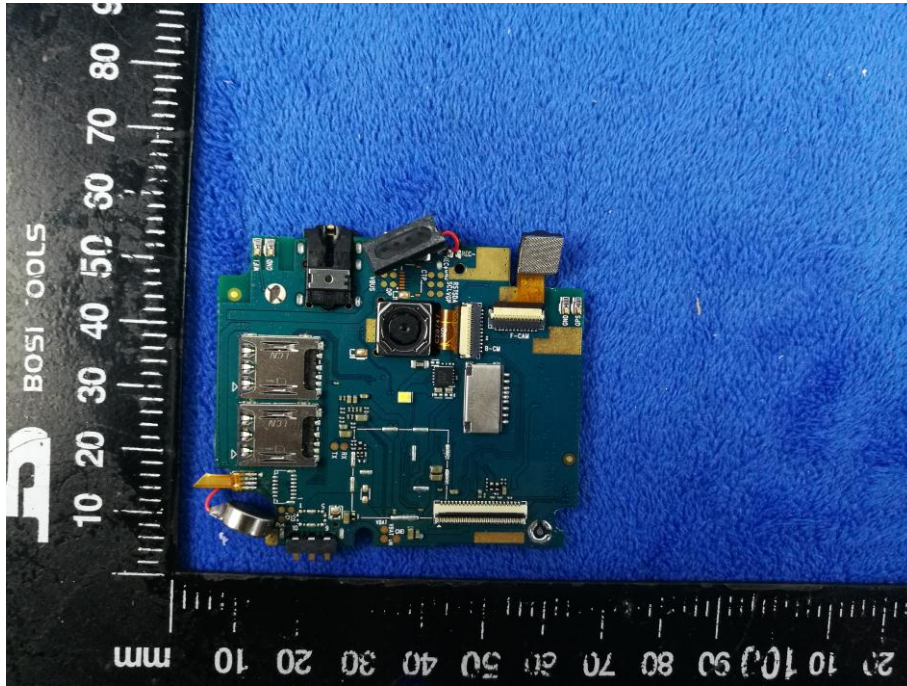


Mainboard without Shielding - Front View

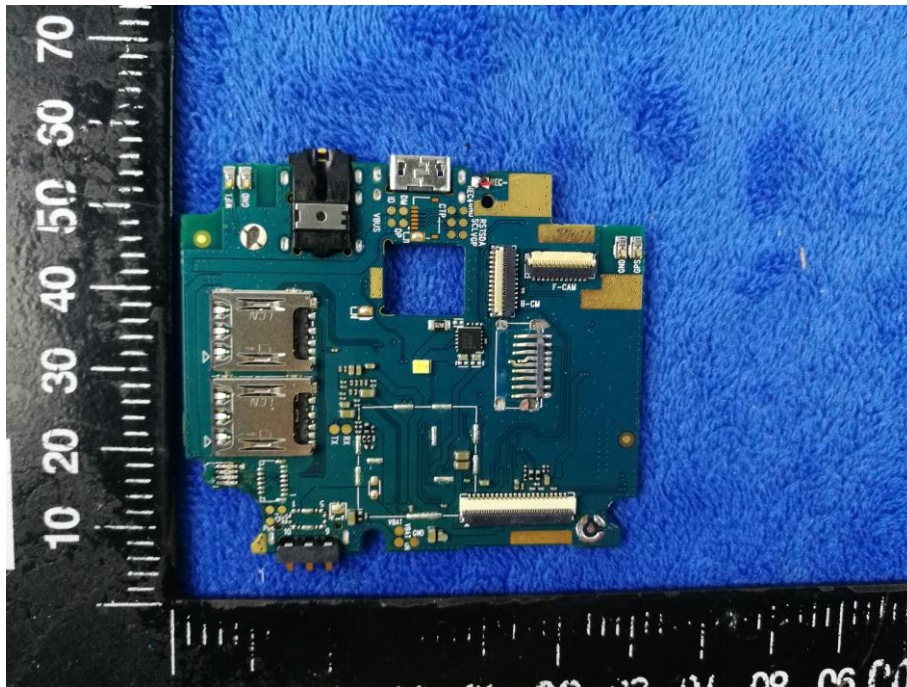




Mainboard with Shielding – Rear View



Mainboard without Shielding – Rear View



LCD – Front View



LCD – Rear View

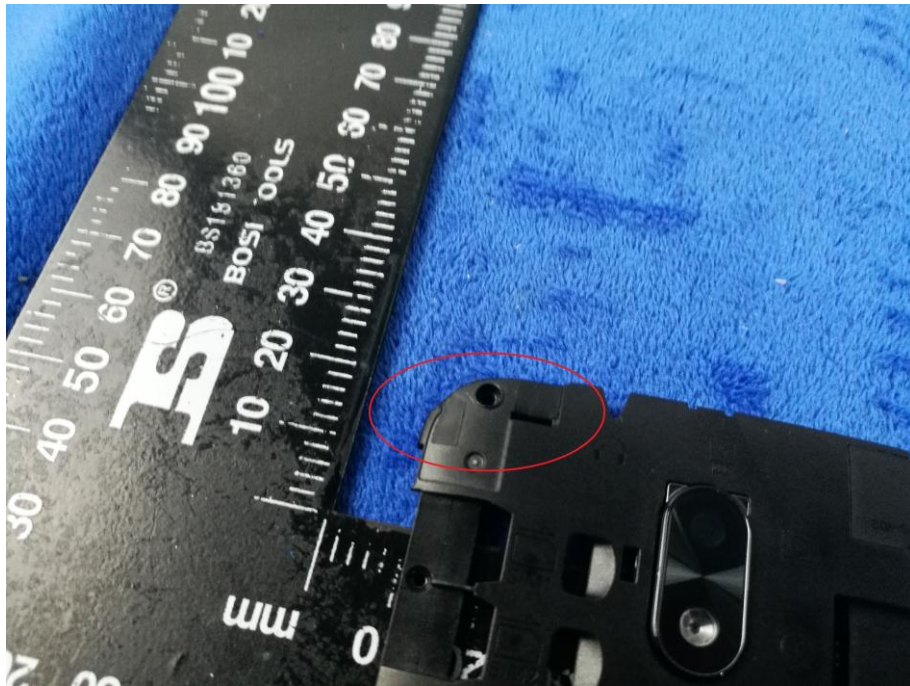




GSM/PCS/UMTS-FDD Antenna View



WIFI/BT/BLE/GPS - Antenna View



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RXD - Antenna View



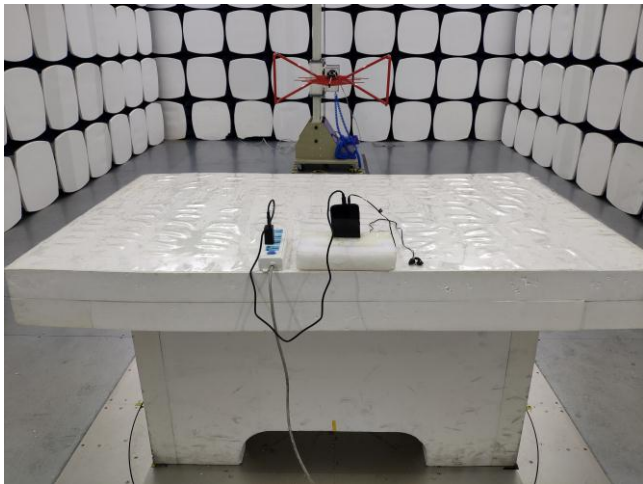
**Annex B.iii. Photograph: Test Setup Photo**



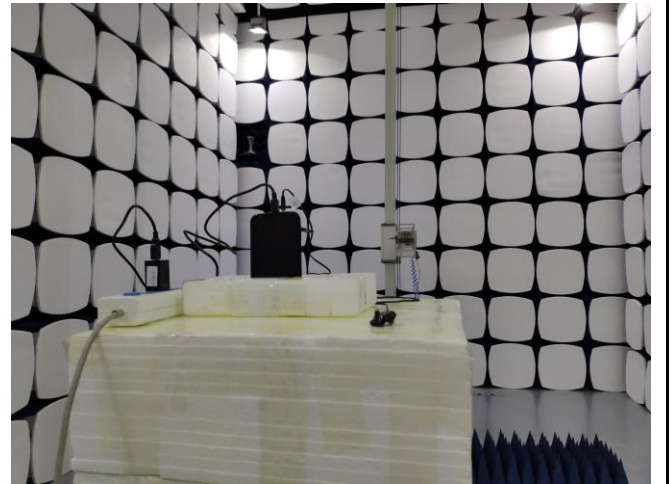
Conducted Emissions Test Setup Front View



Conducted Emissions Test Setup Side View



Radiated Spurious Emissions Test Setup Below 1GHz

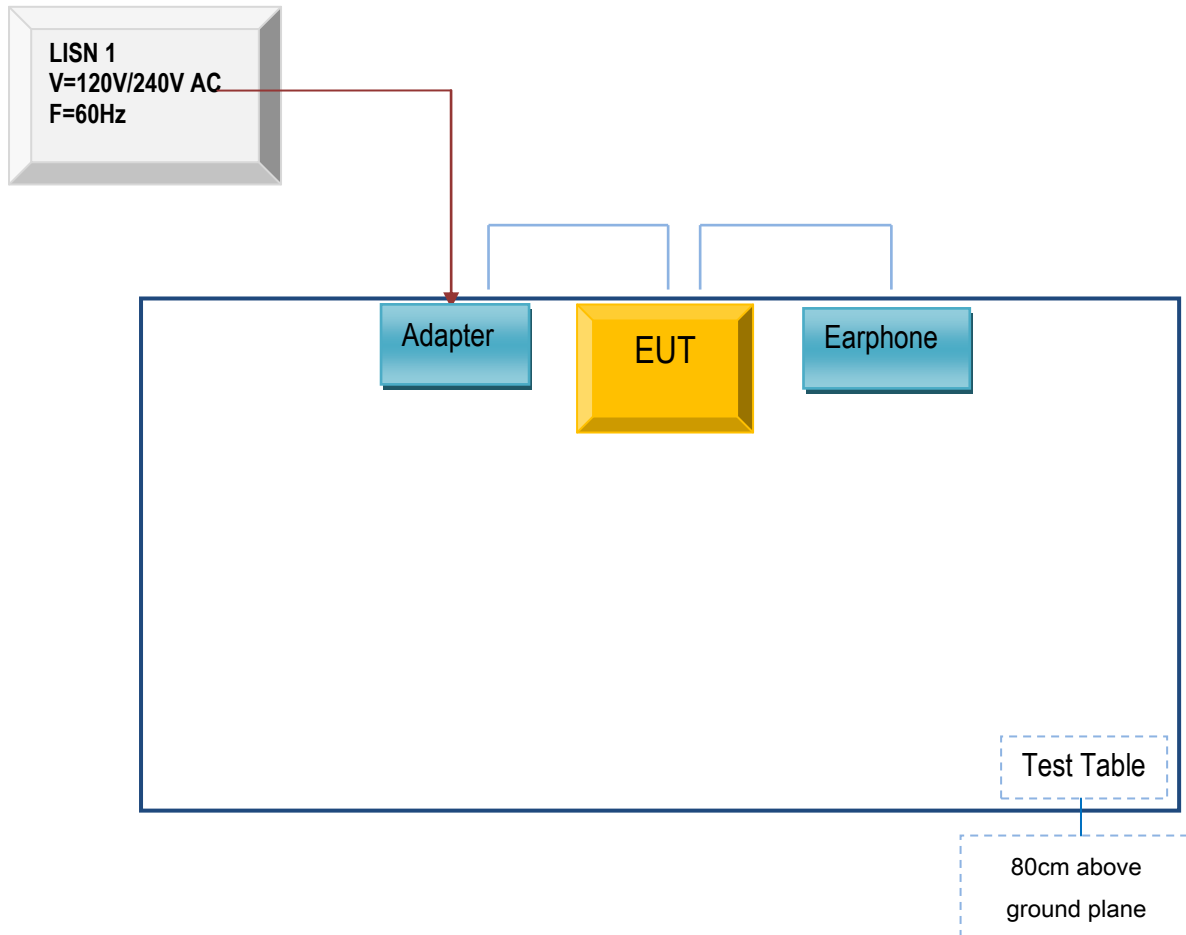


Radiated Spurious Emissions Test Setup Above  
1GHz

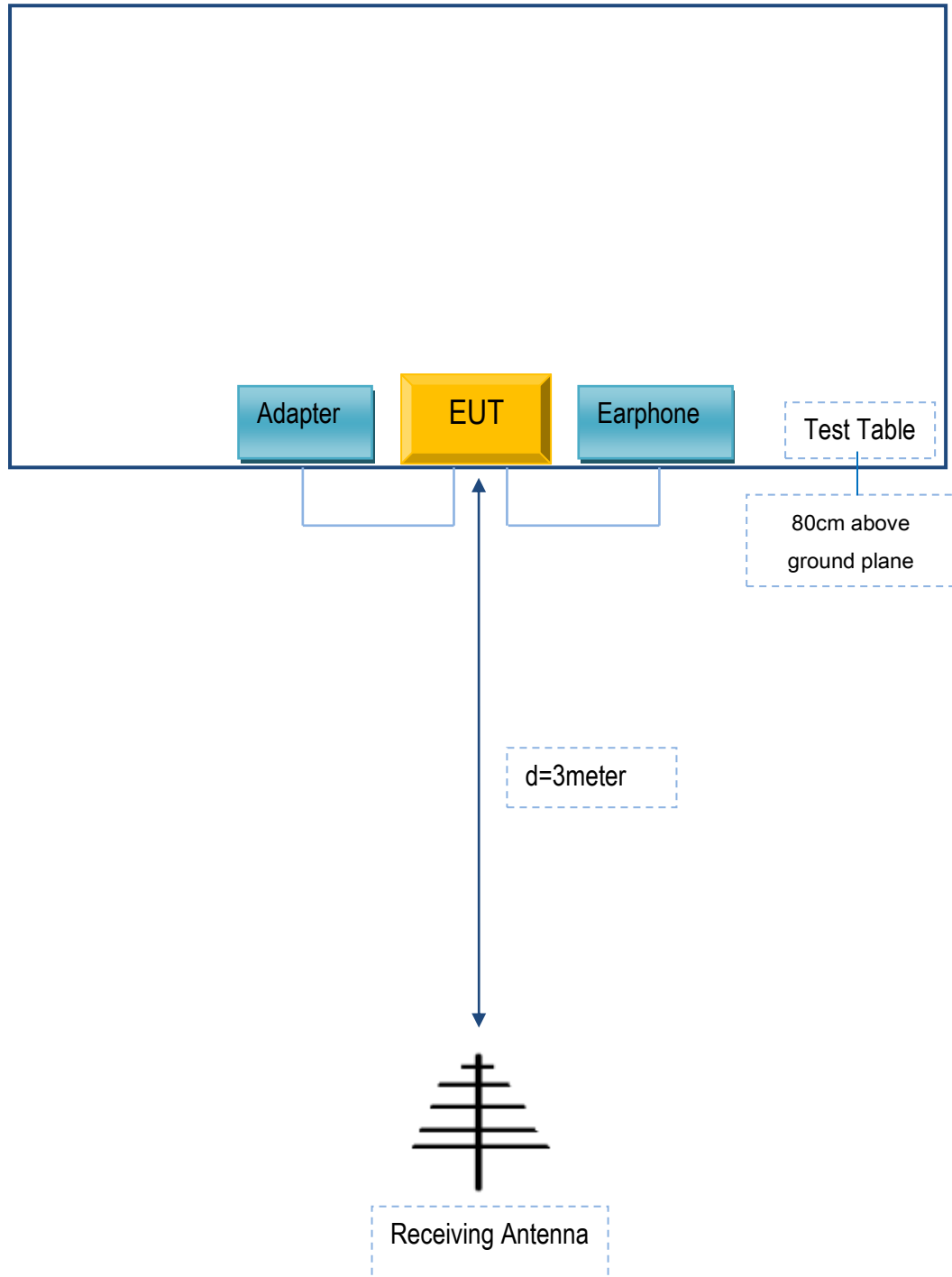
## Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

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

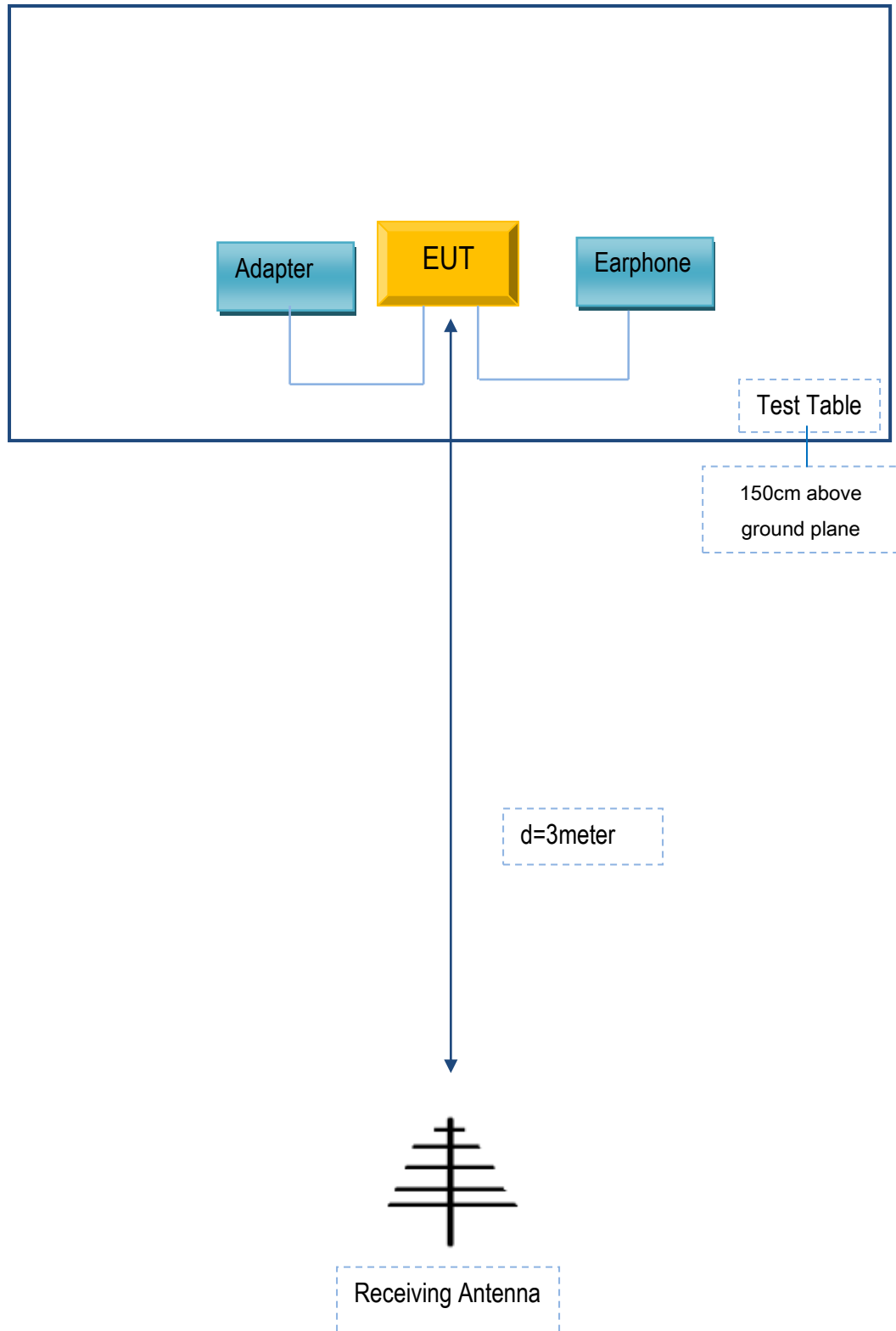
#### Block Configuration Diagram for AC Line Conducted Emissions



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



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





## Annex C. ii. 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.	Adapter	TPA-46B050100UU	N/A
N/A	Earphone	N/A	N/A

### Supporting Cable:

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

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

Please see the attachment



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## Annex E. DECLARATION OF SIMILARITY

N/A