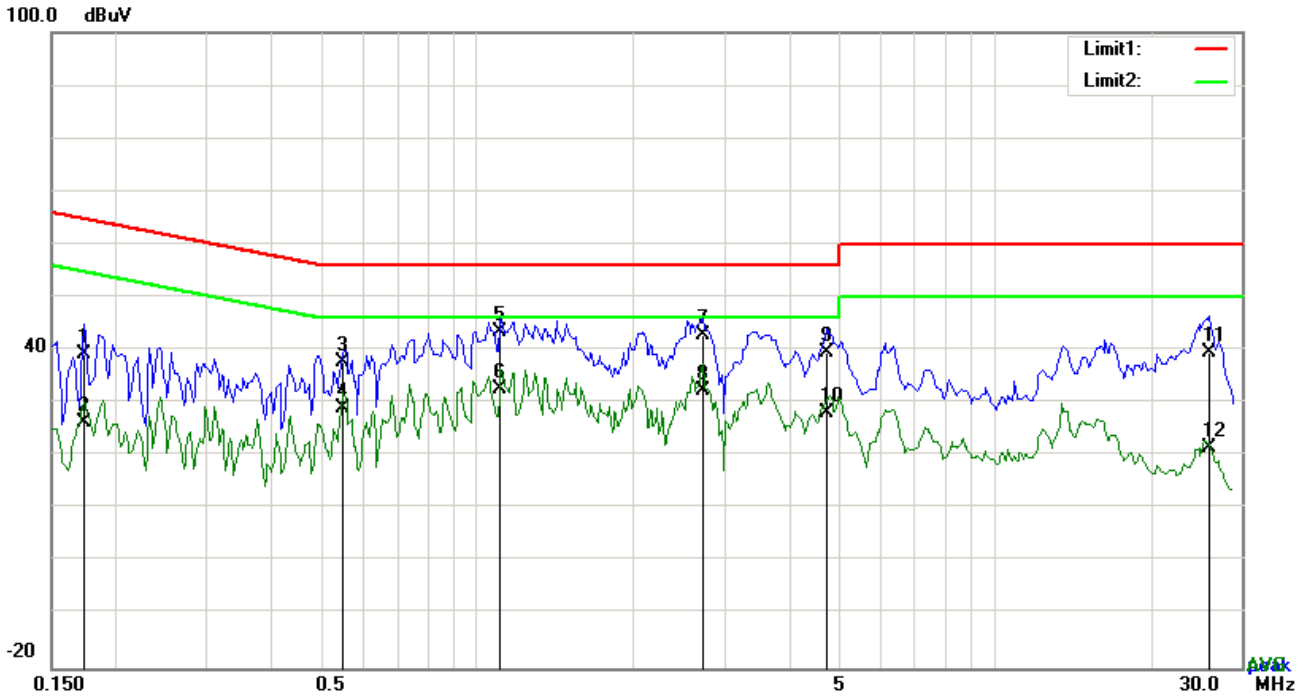


Test Mode:	Transmitting Mode
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Test Data

Phase Neutral Plot at 240Vac, 60Hz

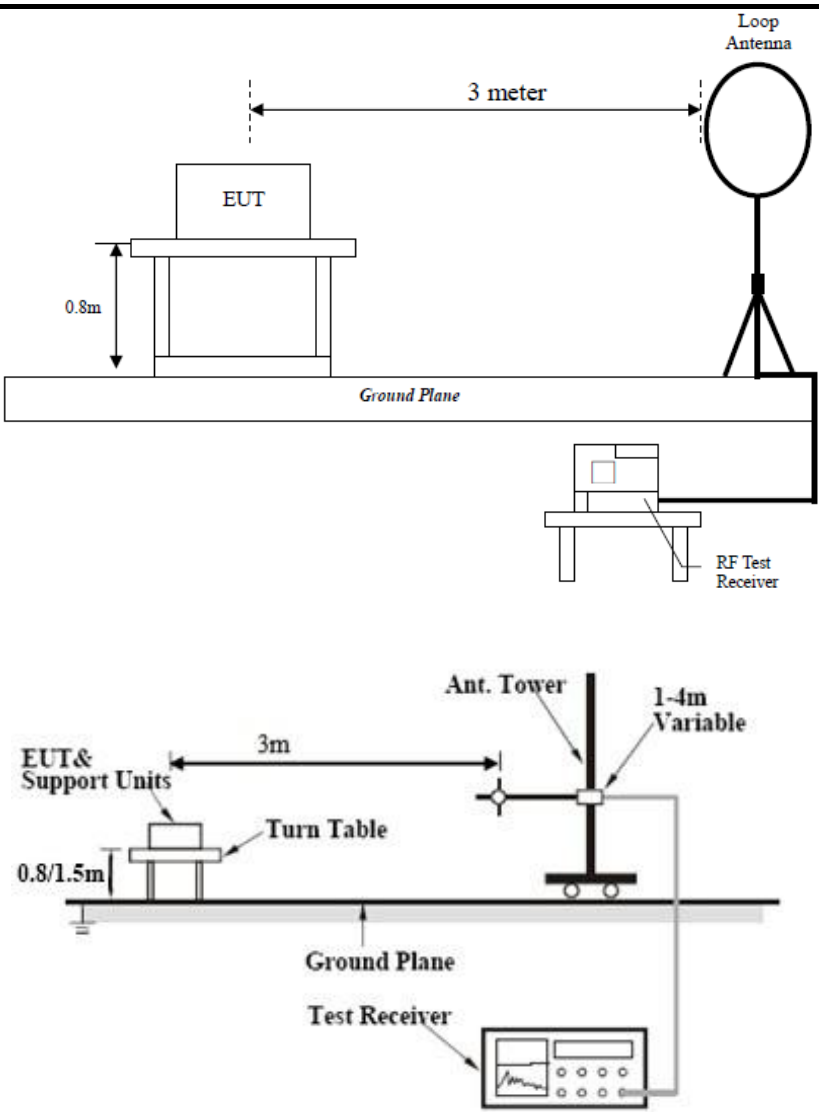
No.	P/L	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)
1	N	0.1734	29.32	QP	10.02	39.34	64.80	-25.46
2	N	0.1734	16.47	AVG	10.02	26.49	54.80	-28.31
3	N	0.5493	27.65	QP	10.02	37.67	56.00	-18.33
4	N	0.5493	19.01	AVG	10.02	29.03	46.00	-16.97
5	N	1.1094	33.30	QP	10.03	43.33	56.00	-12.67
6	N	1.1094	22.64	AVG	10.03	32.67	46.00	-13.33
7	N	2.7240	32.73	QP	10.05	42.78	56.00	-13.22
8	N	2.7240	22.21	AVG	10.05	32.26	46.00	-13.74
9	N	4.7316	29.48	QP	10.07	39.55	56.00	-16.45
10	N	4.7316	17.97	AVG	10.07	28.04	46.00	-17.96
11	N	25.9632	29.09	QP	10.36	39.45	60.00	-20.55
12	N	25.9632	11.21	AVG	10.36	21.57	50.00	-28.43

6.7 Radiated Emissions & Restricted Band

Temperature	25 °C
Relative Humidity	55%
Atmospheric Pressure	1017mbar
Test date :	June 23, 2017
Tested By :	Loren Luo

Requirement(s):

Spec	Item	Requirement	Applicable																
47CFR§15.247(d), RSS210 (A8.5)	a)	<p>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</p> <table border="1"> <thead> <tr> <th>Frequency range (MHz)</th> <th>Field Strength (µV/m)</th> </tr> </thead> <tbody> <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> </tbody> </table>	Frequency range (MHz)	Field Strength (µV/m)	0.009~0.490	2400/F(KHz)	0.490~1.705	24000/F(KHz)	1.705~30.0	30	30 – 88	100	88 – 216	150	216 960	200	Above 960	500	<input checked="" type="checkbox"/>
	Frequency range (MHz)	Field Strength (µV/m)																	
	0.009~0.490	2400/F(KHz)																	
0.490~1.705	24000/F(KHz)																		
1.705~30.0	30																		
30 – 88	100																		
88 – 216	150																		
216 960	200																		
Above 960	500																		
b)	<p>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</p> <p><input checked="" type="checkbox"/> 20 dB down <input type="checkbox"/> 30 dB down</p>	<input checked="" type="checkbox"/>																	
c)	<p>or restricted band, emission must also comply with the radiated emission limits specified in 15.209</p>	<input checked="" type="checkbox"/>																	

<p>Test Setup</p>	
<p>Procedure</p>	<ol style="list-style-type: none"> 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: <ol style="list-style-type: none"> 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.

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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:

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:

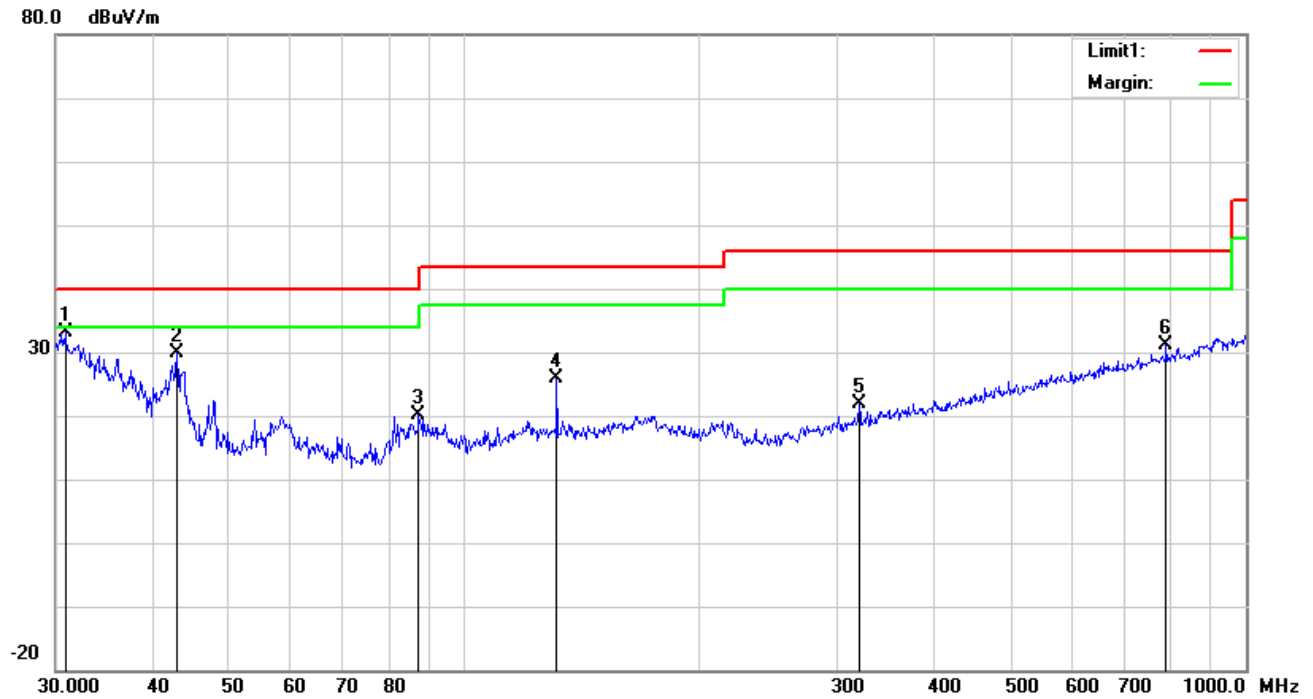
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

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

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

Test Mode:	Transmitting Mode
-------------------	--------------------------

30MHz -1GHz

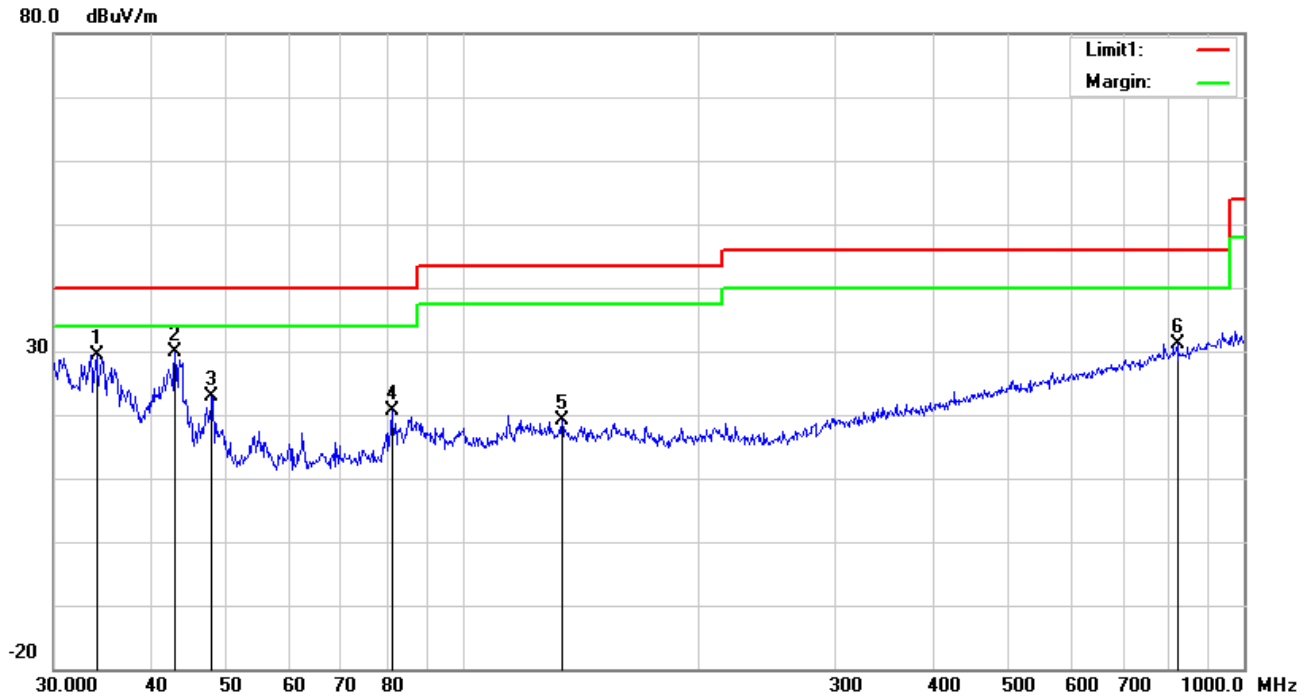


Test Data

Vertical Polarity Plot @3m

No.	P/L	Frequency	Reading	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	V	30.8535	34.06	peak	20.74	22.27	0.64	33.17	40.00	-6.83	100	224
2	V	42.8998	39.48	peak	11.99	22.29	0.77	29.95	40.00	-10.05	100	102
3	V	87.4177	33.52	peak	7.90	22.35	1.01	20.08	40.00	-19.92	100	154
4	V	131.2965	33.98	peak	13.17	22.39	1.21	25.97	43.50	-17.53	200	45
5	V	319.9370	28.28	peak	14.02	22.23	1.89	21.96	46.00	-24.04	100	105
6	V	790.6188	27.96	peak	21.29	21.17	2.94	31.02	46.00	-14.98	100	70

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	H	34.0365	32.67	peak	18.29	22.26	0.73	29.43	40.00	-10.57	100	263
2	H	42.8998	39.52	peak	11.99	22.29	0.77	29.99	40.00	-10.01	100	41
3	H	47.8260	35.01	peak	9.36	22.34	0.78	22.81	40.00	-17.19	100	246
4	H	81.2117	34.22	peak	7.65	22.41	1.05	20.51	40.00	-19.49	100	87
5	H	134.0882	27.32	peak	12.98	22.40	1.23	19.13	43.50	-24.37	100	199
6	H	821.7104	27.73	peak	21.64	21.09	2.92	31.20	46.00	-14.80	100	97

Above 1GHz

Test Mode:	Transmitting Mode
-------------------	--------------------------

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

Frequency (MHz)	S.A. Reading (dB μ V)	Detector (PK/AV)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord Amp. (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
4824	39.29	AV	V	33.8	6.86	32.69	47.26	54	-6.74
4824	37.95	AV	H	33.8	6.86	32.69	45.92	54	-8.08
4824	48.67	PK	V	33.8	6.86	32.69	56.64	74	-17.36
4824	47.84	PK	H	33.8	6.86	32.69	55.81	74	-18.19
17897	23.81	AV	V	45.12	11.57	32.11	48.39	54	-5.61
17897	23.11	AV	H	45.12	11.57	32.11	47.69	54	-6.31
17897	39.75	PK	V	45.12	11.57	32.11	64.33	74	-9.67
17897	38.87	PK	H	45.12	11.57	32.11	63.45	74	-10.55

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

Frequency (MHz)	S.A. Reading (dB μ V)	Detector (PK/AV)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord Amp. (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
4874	40.53	AV	V	33.6	6.82	32.71	45.82	54	-8.18
4874	39.54	AV	H	33.6	6.82	32.71	47.25	54	-6.75
4874	48.31	PK	V	33.6	6.82	32.71	56.02	74	-17.98
4874	48.02	PK	H	33.6	6.82	32.71	55.73	74	-18.27
17904	24.31	AV	V	45.17	11.63	32.18	48.93	54	-5.07
17904	22.39	AV	H	45.17	11.63	32.18	47.01	54	-6.99
17904	39.14	PK	V	45.17	11.63	32.18	63.76	74	-10.24
17904	39.02	PK	H	45.17	11.63	32.18	63.64	74	-10.36

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

Frequency (MHz)	S.A. Reading (dB μ V)	Detector (PK/AV)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord Amp. (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
4924	38.78	AV	V	33.83	6.95	32.79	46.77	54	-7.23
4924	36.95	AV	H	33.83	6.95	32.79	46.93	54	-7.07
4924	48.12	PK	V	33.83	6.95	32.79	54.73	74	-19.27
4924	47.7	PK	H	33.83	6.95	32.79	55.69	74	-18.31
17917	22.6	AV	V	45.19	11.61	32.24	47.16	54	-6.84
17917	21.59	AV	H	45.19	11.61	32.24	47.87	54	-6.13
17917	39.96	PK	V	45.19	11.61	32.24	64.52	74	-9.48
17917	37.88	PK	H	45.19	11.61	32.24	64.41	74	-9.59

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.

Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Due	In use
AC Line Conducted					
EMI test receiver	ESCS30	8471241027	09/16/2016	09/15/2017	<input checked="" type="checkbox"/>
Line Impedance	LI-125A	191106	09/24/2016	09/23/2017	<input checked="" type="checkbox"/>
Line Impedance	LI-125A	191107	09/24/2016	09/23/2017	<input checked="" type="checkbox"/>
ISN	ISN T800	34373	09/24/2016	09/23/2017	<input type="checkbox"/>
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	71283	09/23/2016	09/22/2017	<input checked="" type="checkbox"/>
Transient Limiter	LIT-153	531118	08/31/2016	08/30/2017	<input checked="" type="checkbox"/>
RF conducted test					
Agilent ESA-E SERIES	E4407B	MY45108319	09/16/2016	09/15/2017	<input checked="" type="checkbox"/>
Power Splitter	1#	1#	08/31/2016	08/30/2017	<input checked="" type="checkbox"/>
DC Power Supply	E3640A	MY40004013	09/16/2016	09/15/2017	<input checked="" type="checkbox"/>
Radiated Emissions					
EMI test receiver	ESL6	100262	09/16/2016	09/15/2017	<input checked="" type="checkbox"/>
Positioning Controller	UC3000	MF780208282	11/18/2016	11/17/2017	<input checked="" type="checkbox"/>
OPT 010 AMPLIFIER (0.1-1300MHz)	8447E	2727A02430	08/31/2016	08/30/2017	<input checked="" type="checkbox"/>
Microwave Preamplifier (1 ~ 26.5GHz)	8449B	3008A02402	03/23/2017	03/22/2018	<input checked="" type="checkbox"/>
Active Antenna (9kHz-30MHz)	AL-130	121031	10/13/2016	10/12/2017	<input checked="" type="checkbox"/>
Bilog Antenna (30MHz~6GHz)	JB6	A110712	09/20/2016	09/19/2017	<input checked="" type="checkbox"/>
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	71283	09/23/2016	09/22/2017	<input checked="" type="checkbox"/>
Universal Radio Communication Tester	CMU200	121393	09/24/2016	09/23/2017	<input checked="" type="checkbox"/>

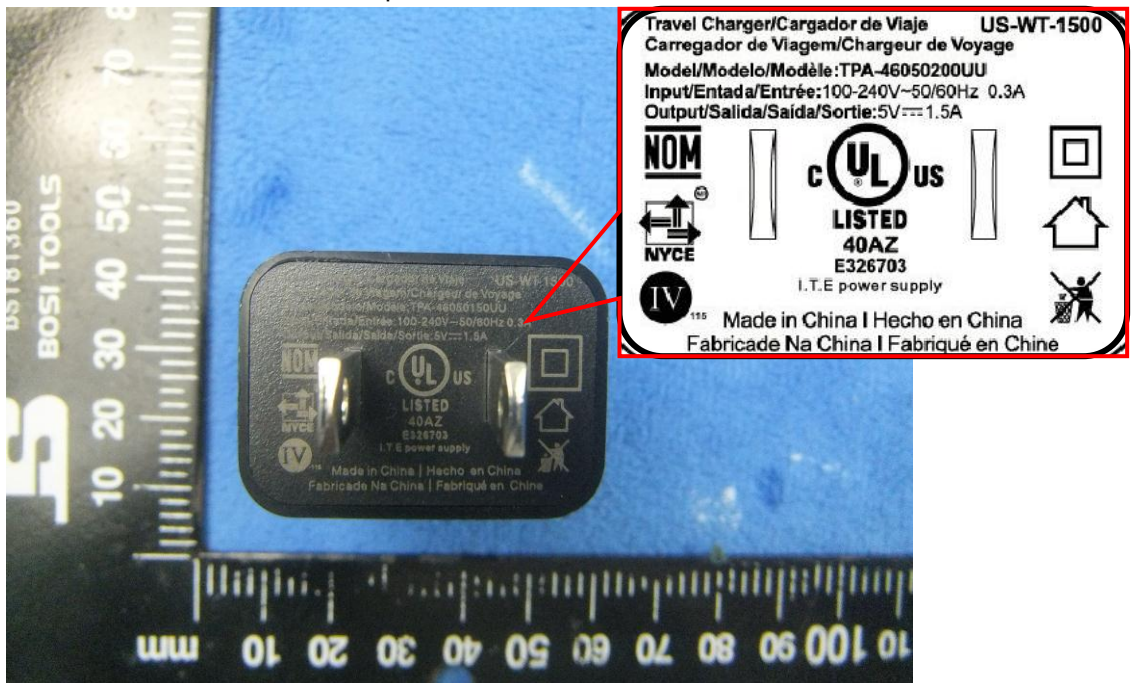
Annex B. EUT and Test Setup Photographs

Annex B.i. Photograph: EUT External Photo

Whole Package View



Adapter - Front View



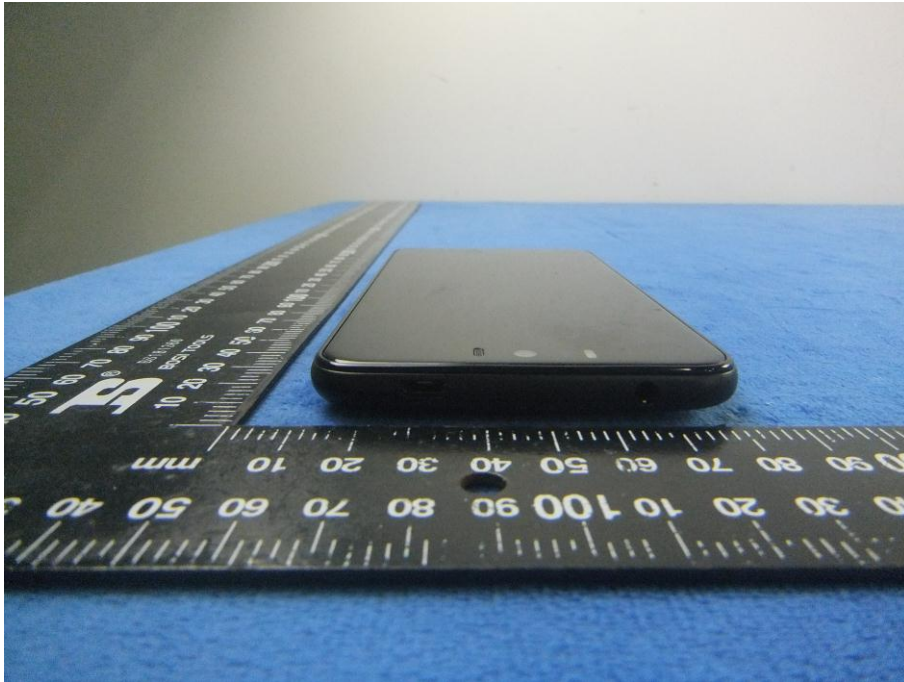
EUT - Front View



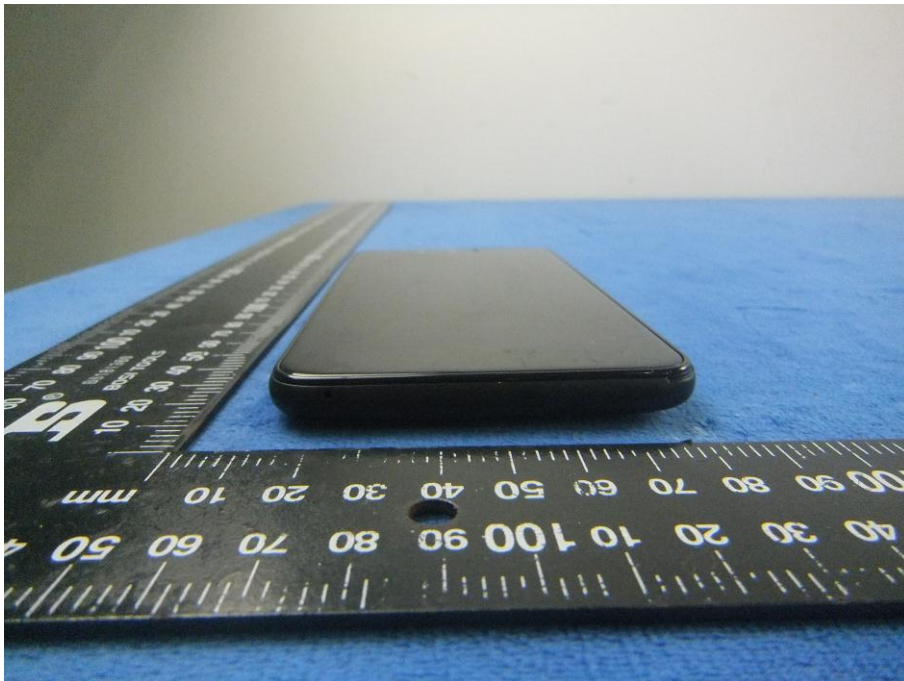
EUT - Rear View



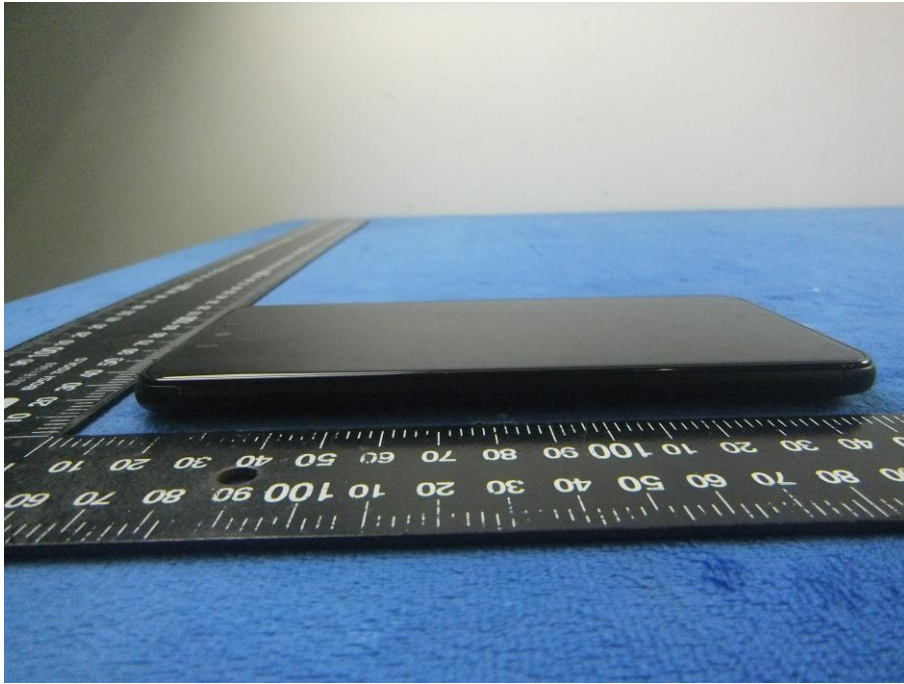
EUT - Top View



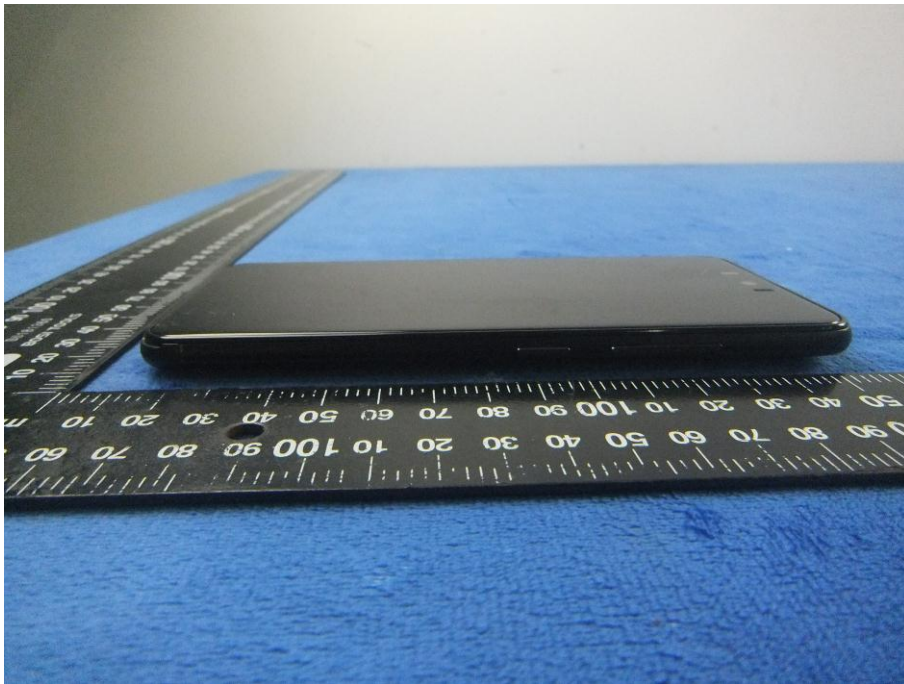
EUT - Bottom View



EUT - Left View



EUT - Right View

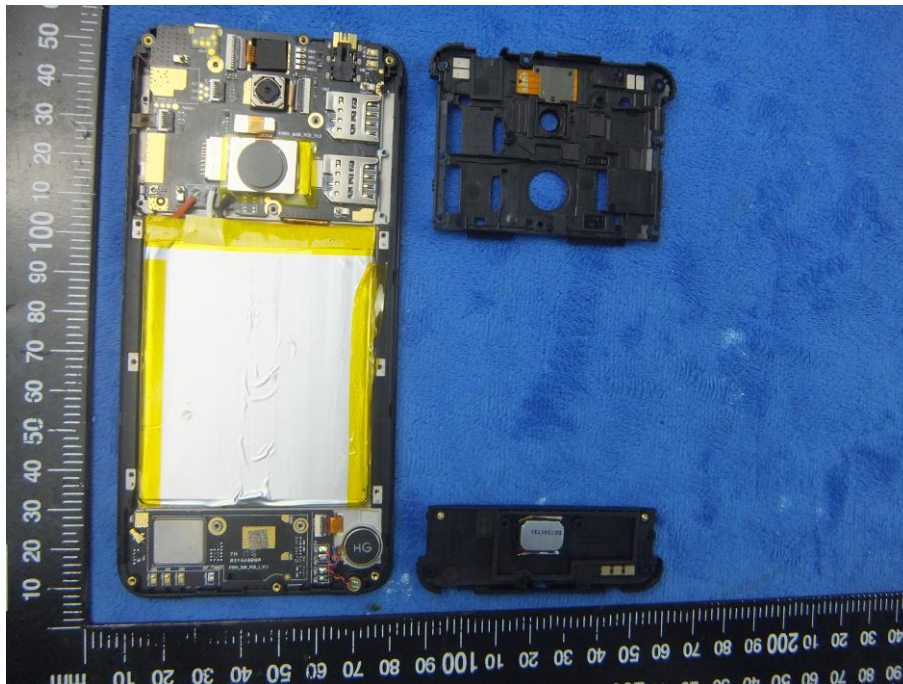


Annex B.ii. Photograph: EUT Internal Photo

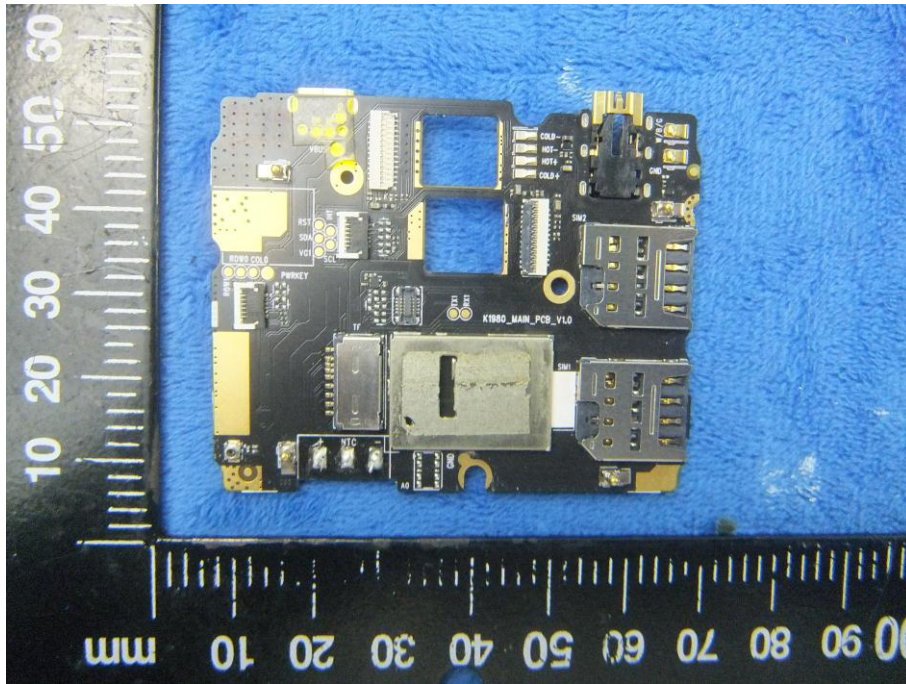
Cover Off - Top View 1



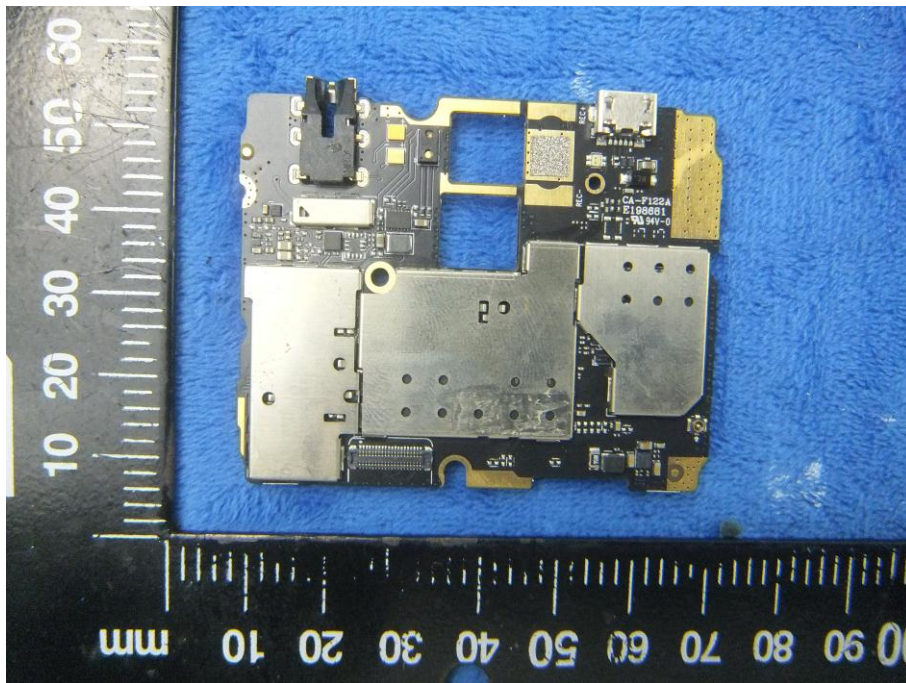
Cover Off - Top View 2



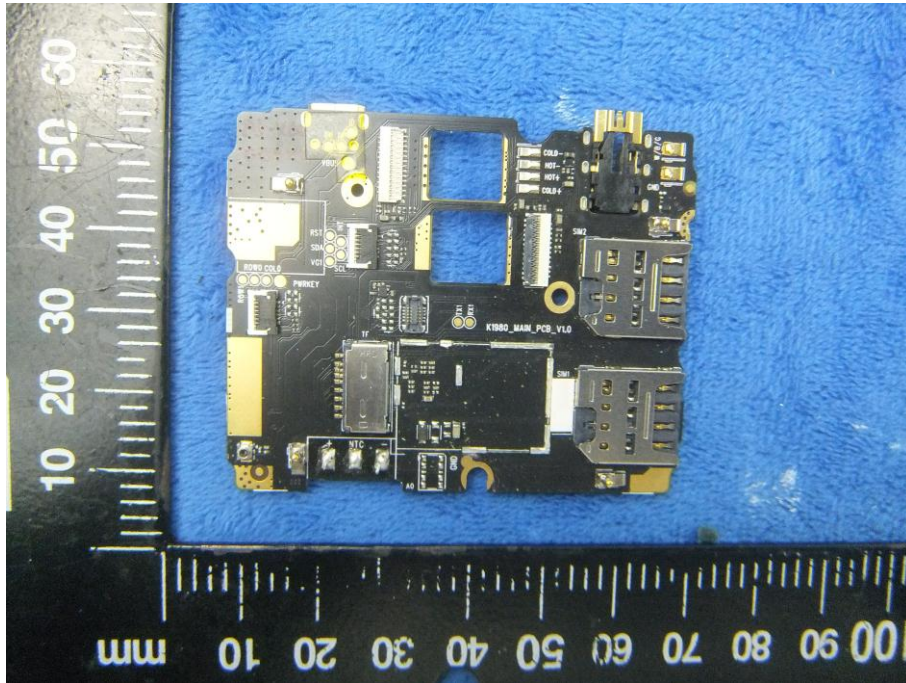
Mainboard with Shielding - Front View



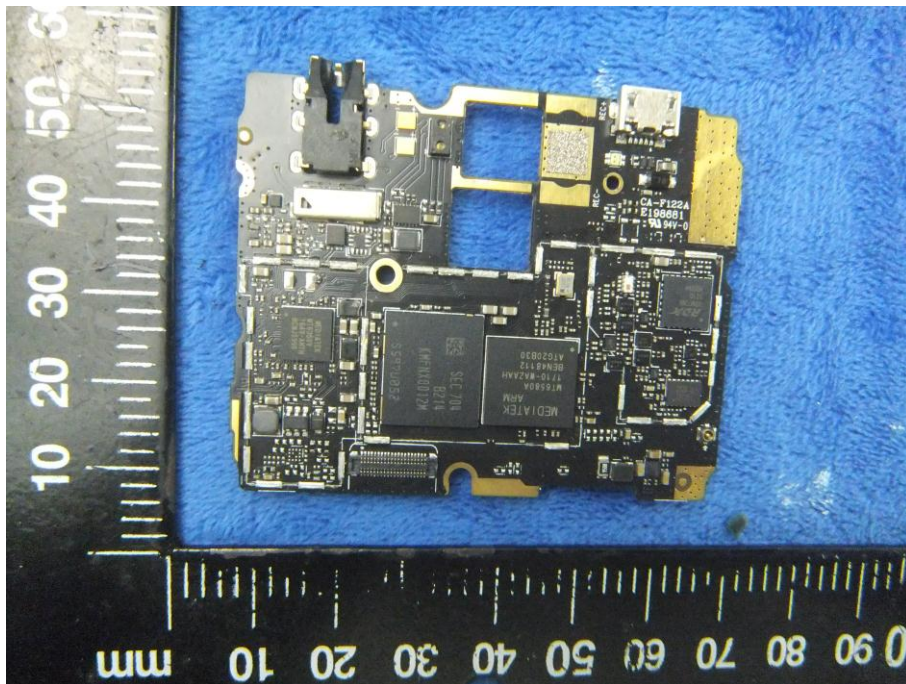
Mainboard with Shielding - Rear View



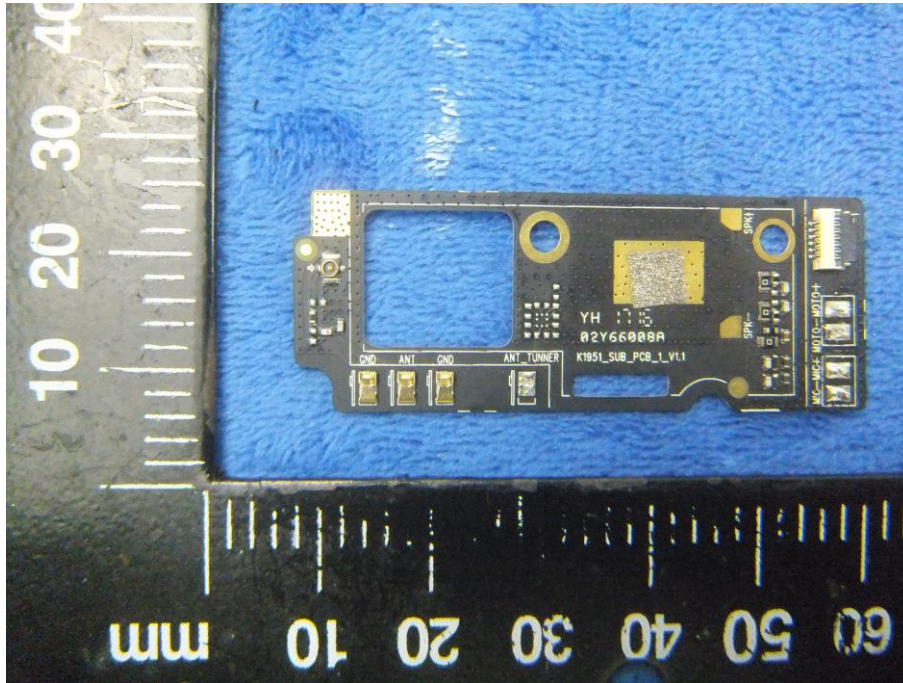
Mainboard without Shielding - Front View



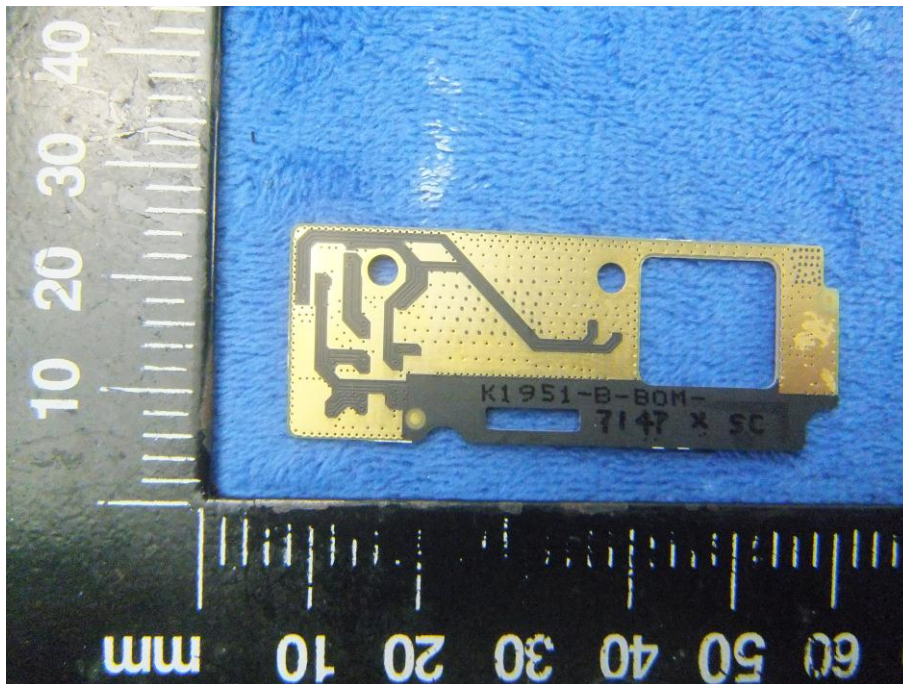
Mainboard without Shielding - Rear View



Small Mainboard - Front View



Small Mainboard - Rear View



LCD – Front View



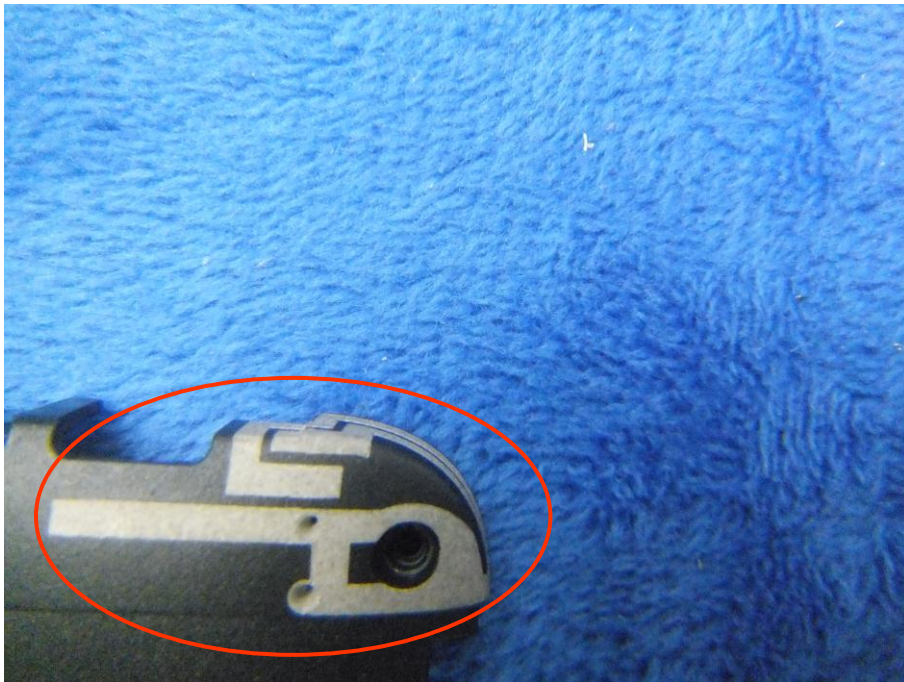
LCD – Rear View



GSM/PCS/UMTS - Antenna View



BT/WIFI - Antenna View



Annex B.iii. Photograph: Test Setup Photo



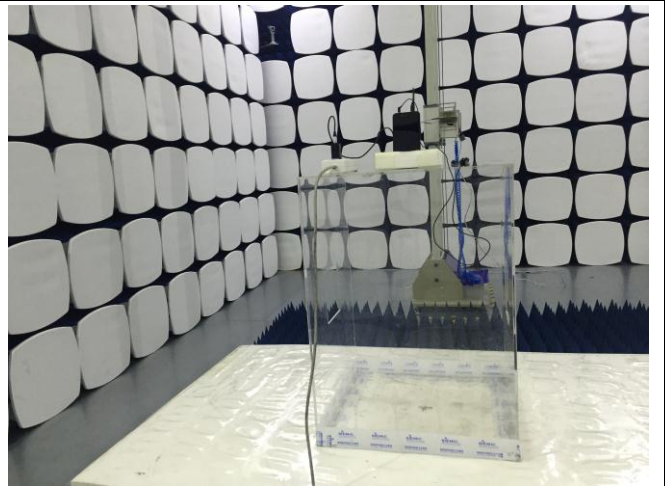
Conducted Emissions Test Setup Front View



Conducted Emissions Test Setup Side View



Radiated Spurious Emissions Test Setup Below 1GHz

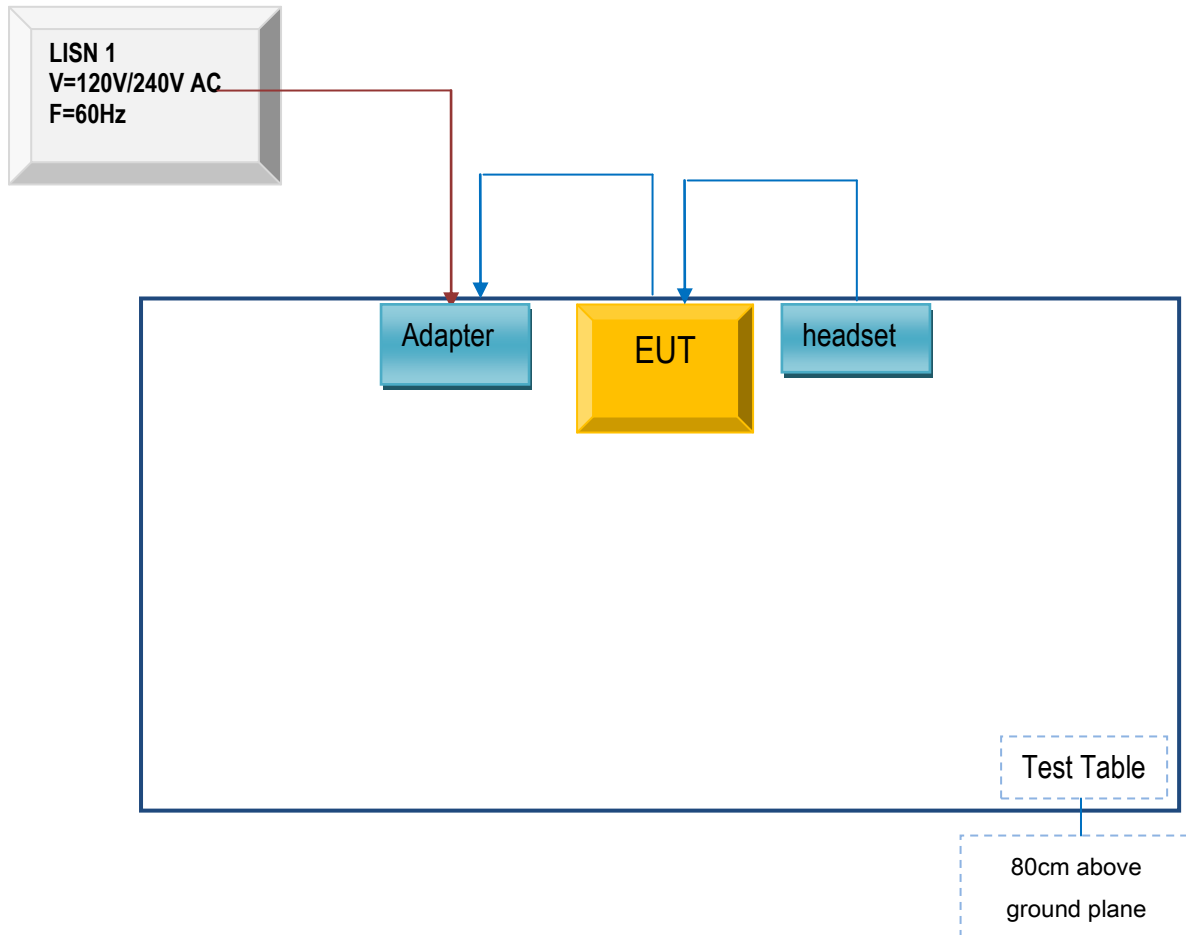


Radiated Spurious Emissions Test Setup Above
1GHz

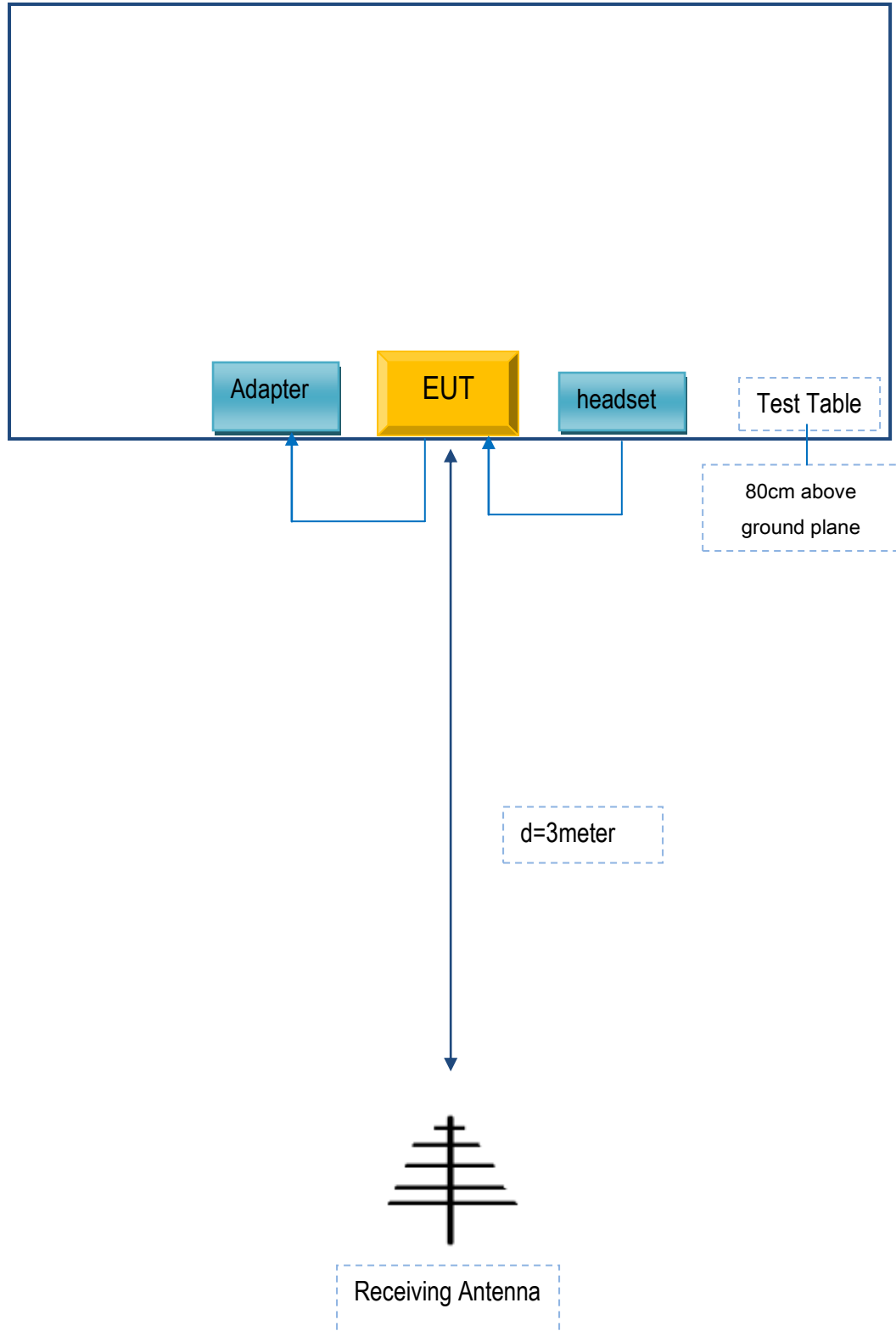
Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

Annex C.ii. TEST SET UP BLOCK

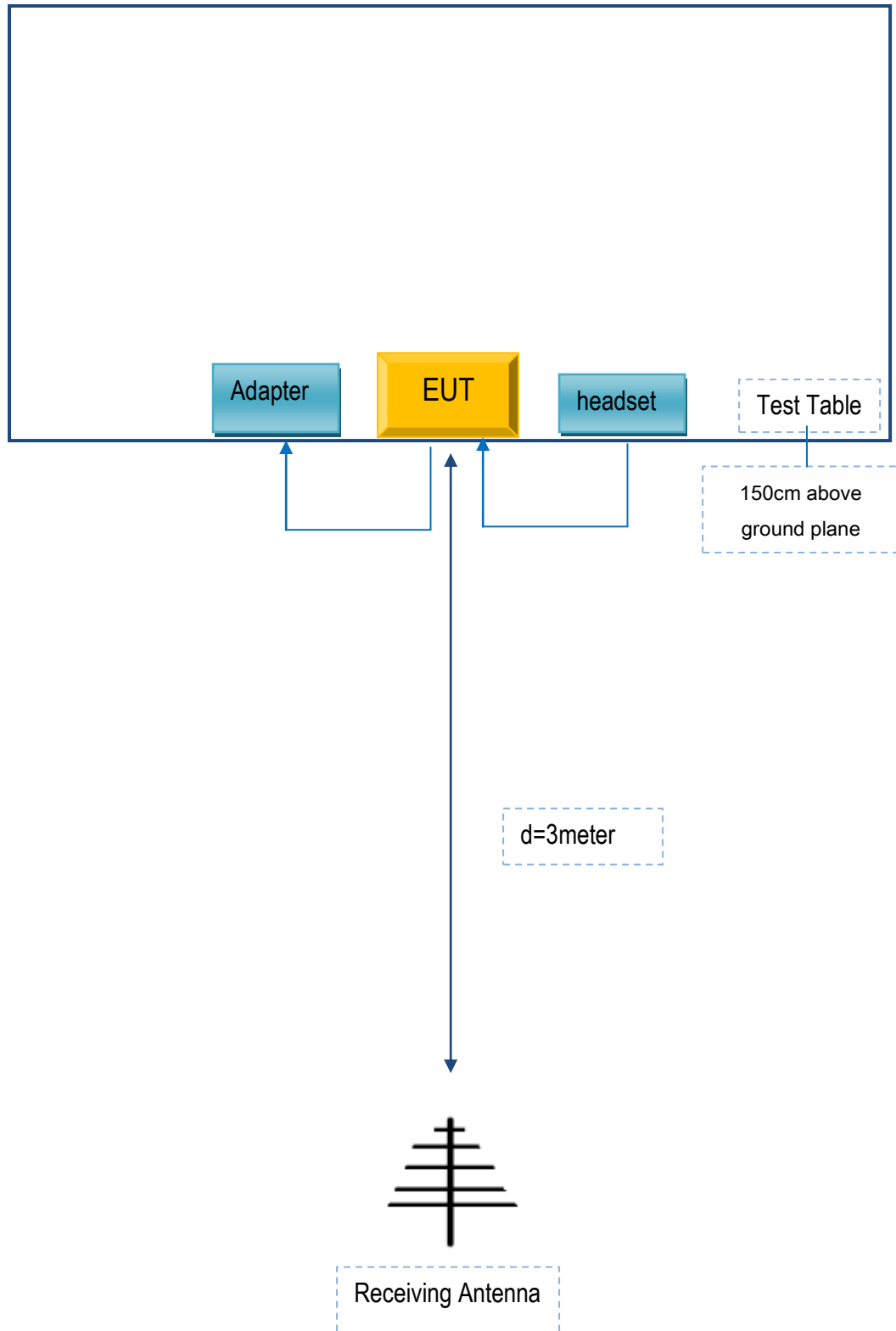
Block Configuration Diagram for AC Line Conducted Emissions



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
SAMSUNG	headset	HS130	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