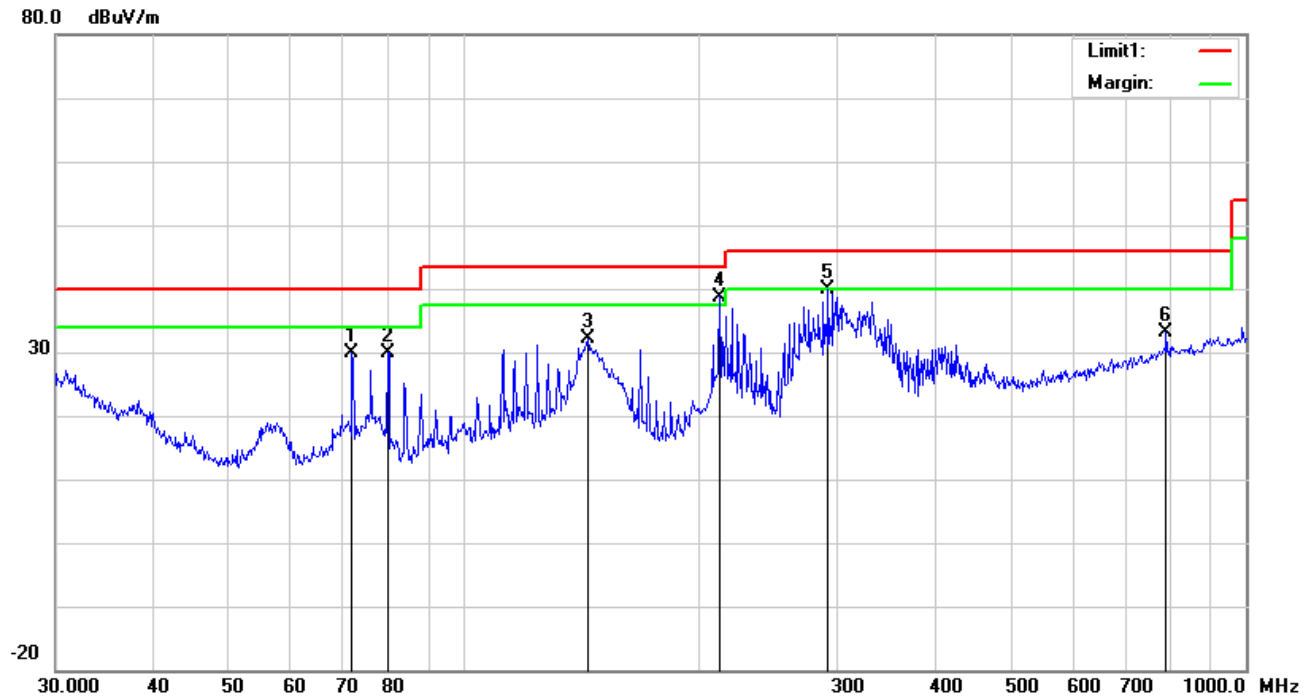


**Test Mode:** Bluetooth Mode

**30MHz -1GHz**



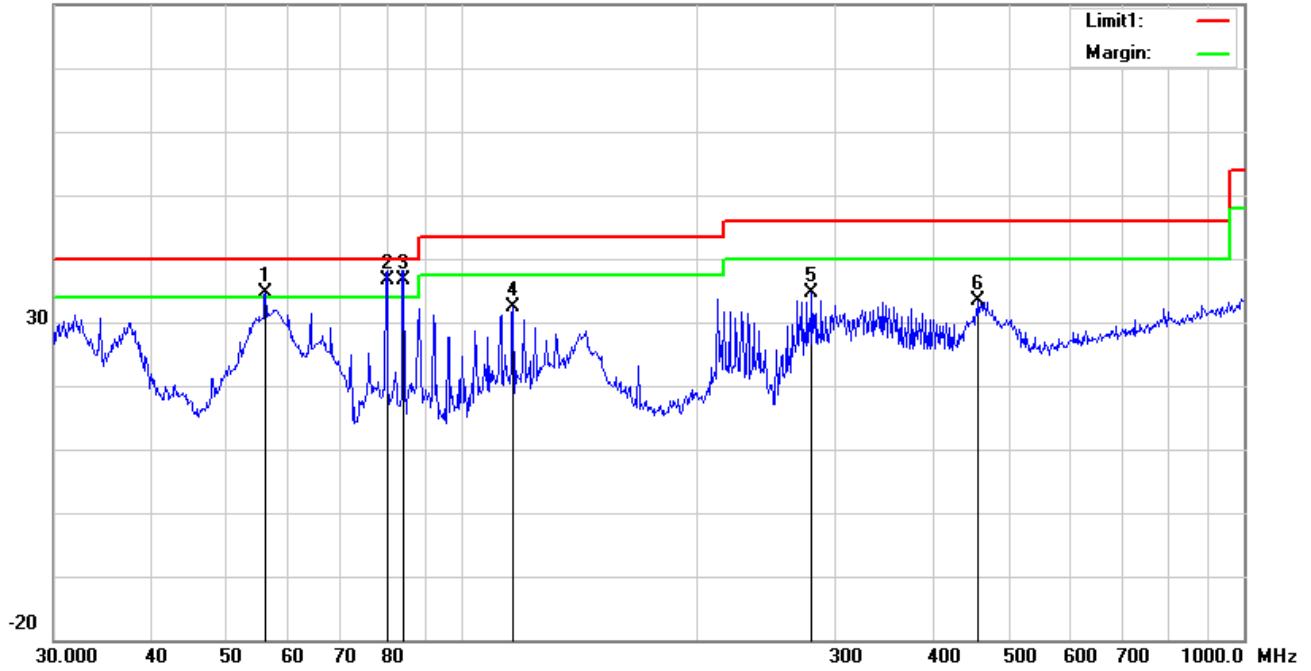
**Test Data**

**Horizontal 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	71.8320	43.47	peak	7.76	22.39	0.97	29.81	40.00	-10.19	100	47
2	H	79.8003	43.56	peak	7.60	22.42	1.05	29.79	40.00	-10.21	100	294
3	H	143.8295	40.55	peak	12.60	22.38	1.30	32.07	43.50	-11.43	100	209
4	H	212.2695	47.39	QP	11.93	22.36	1.58	38.54	43.50	-4.96	100	270
5	H	292.0583	47.07	peak	13.25	22.29	1.78	39.81	46.00	-6.19	100	130
6	H	790.6188	29.95	peak	21.29	21.17	2.94	33.01	46.00	-12.99	100	325

### 30MHz -1GHz

80.0 dBuV/m



#### Test Data

#### Vertical Polarity Plot @3m

No.	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	56.0007	48.51	QP	7.74	22.40	0.77	34.62	40.00	-5.38	100	52
2	V	80.0806	50.35	QP	7.60	22.42	1.05	36.58	40.00	-3.42	100	155
3	V	84.1100	50.11	QP	7.76	22.38	1.07	36.56	40.00	-3.44	100	257
4	V	116.1321	40.43	peak	13.22	22.35	1.16	32.46	43.50	-11.04	100	94
5	V	280.0238	42.46	peak	12.72	22.29	1.75	34.64	46.00	-11.36	100	33
6	V	457.5073	36.29	peak	16.85	21.89	2.17	33.42	46.00	-12.58	100	60

### Above 1GHz

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

Frequency	Meter Reading	Antenna Factor	Cable loss	Preamp factor	Emission Level	Limits	Margin	Detector	Polarity
(MHz)	(dB $\mu$ V)	(dB)	(dB)	(dB)	(dB $\mu$ V/m)	(dB $\mu$ V/m)	(dB)	(PK/AV)	(H/V)
Low Channel:GFSK Mode(Worst Case)-2402MHz									
2390	38.13	28.72	3.36	26.32	43.89	74	-30.11	peak	Vertical
4804	29.52	32.94	3.98	27.49	38.95	54	-15.05	Average	Vertical
4804	39.67	32.94	3.98	27.49	49.10	74	-24.90	peak	Vertical
7206	31.28	25.28	5.51	27.94	34.13	54	-19.87	Average	Vertical
7206	40.84	25.28	5.51	27.94	43.69	74	-30.31	peak	Vertical
2390	39.86	28.72	3.36	26.32	45.62	74	-28.38	peak	Horizontal
4804	30.32	32.94	3.98	27.49	39.75	54	-14.25	Average	Horizontal
4804	41.55	32.94	3.98	27.49	50.98	74	-23.02	peak	Horizontal
7206	30.76	25.28	5.51	27.94	33.61	54	-20.39	Average	Horizontal
7206	42.68	25.28	5.51	27.94	45.53	74	-28.47	peak	Horizontal
Middle Channel:GFSK Mode(Worst Case)-2441MHz									
4882	29.85	32.11	4.04	27.53	38.47	54	-15.53	Average	Vertical
4882	39.82	32.11	4.04	27.53	48.44	74	-25.56	peak	Vertical
7323	30.96	24.33	5.58	27.96	32.91	54	-21.09	Average	Vertical
7323	41.03	24.33	5.58	27.96	42.98	74	-31.02	peak	Vertical
4882	30.58	32.11	4.04	27.53	39.20	54	-14.80	Average	Horizontal
4882	41.38	32.11	4.04	27.53	50.00	74	-24.00	peak	Horizontal
7323	33.64	24.33	5.58	27.96	35.59	54	-18.41	Average	Horizontal
7323	41.95	24.33	5.58	27.96	43.90	74	-30.10	peak	Horizontal
High Channel:GFSK Mode(Worst Case)-2480MHz									
2483.5	39.32	28.79	3.48	26.34	45.25	74	-28.75	peak	Vertical
4960	30.54	31.32	4.12	27.58	38.40	54	-15.60	Average	Vertical
4960	39.64	31.32	4.12	27.58	47.50	74	-26.50	peak	Vertical
7440	30.83	24.38	5.68	27.99	32.90	54	-21.10	Average	Vertical
7440	41.26	24.38	5.68	27.99	43.33	74	-30.67	peak	Vertical
2483.5	40.28	28.79	3.48	26.34	46.21	74	-27.79	peak	Horizontal
4960	30.69	31.32	4.12	27.58	38.55	54	-15.45	Average	Horizontal
4960	41.39	31.32	4.12	27.58	49.25	74	-24.75	peak	Horizontal
7440	32.29	24.38	5.68	27.99	34.36	54	-19.64	Average	Horizontal

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**Note:**

- 1, The testing has been conformed to  $10 \times 2480\text{MHz} = 24,800\text{MHz}$*
- 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	03/23/2017	03/22/2018	<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**

EUT - Front View



EUT - Rear View





EUT - Top View



EUT - Bottom View



EUT - Left View



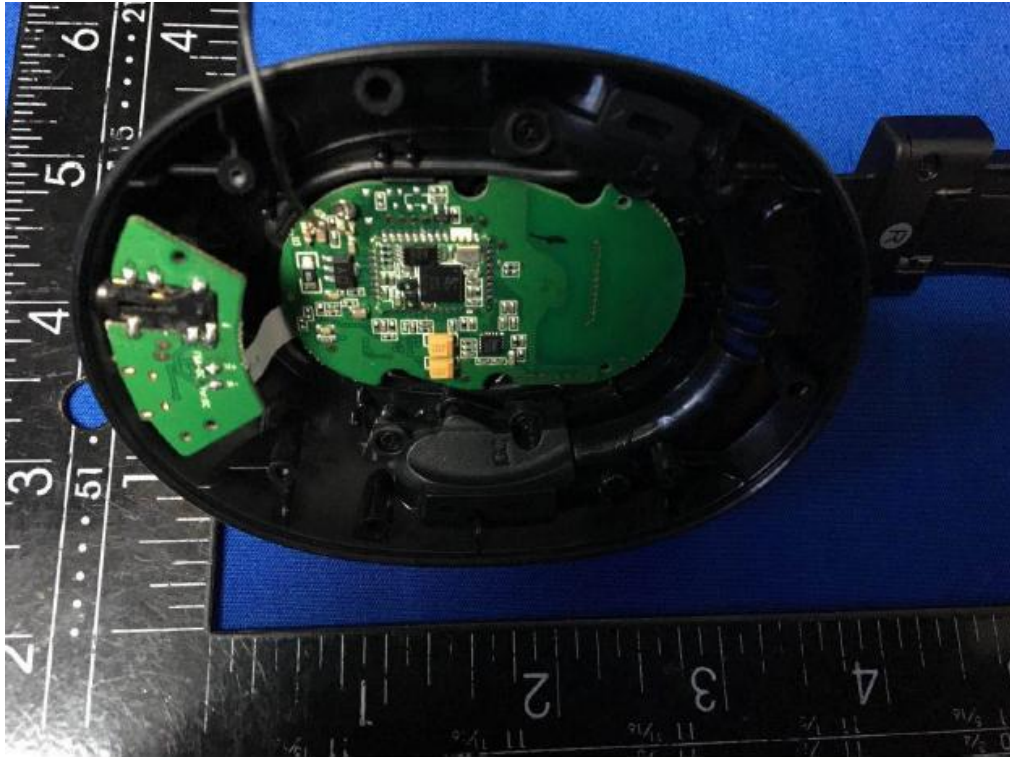
EUT - Right View





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

Cover Off - Top View



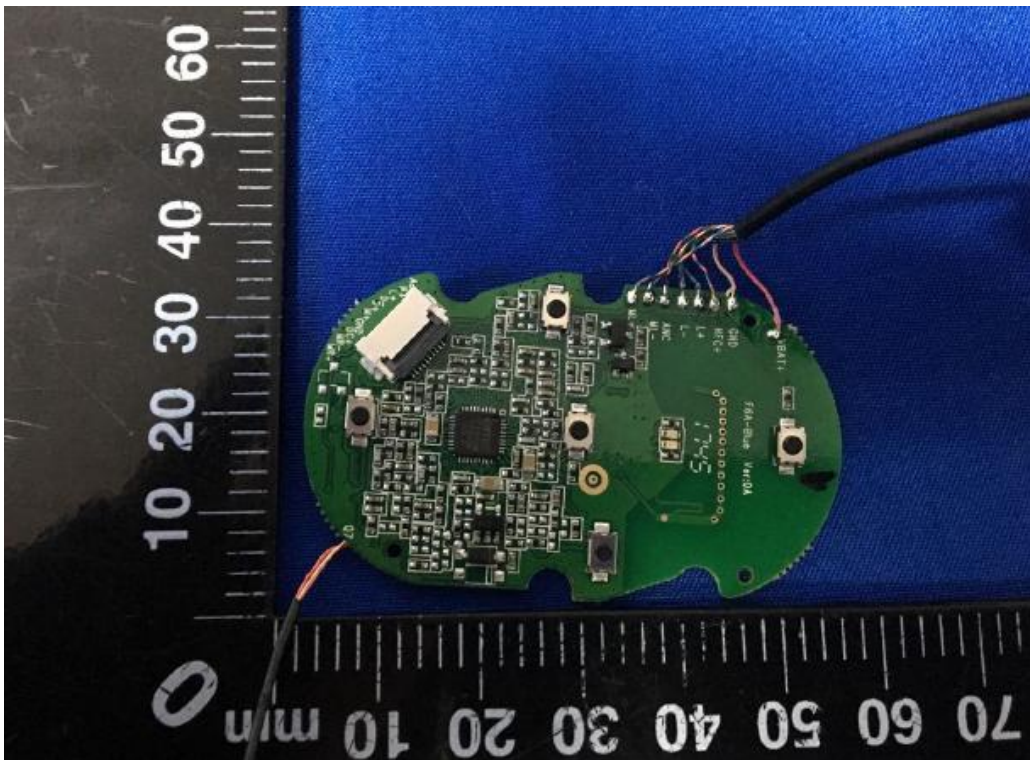
Battery - Front View



Battery - Rear View

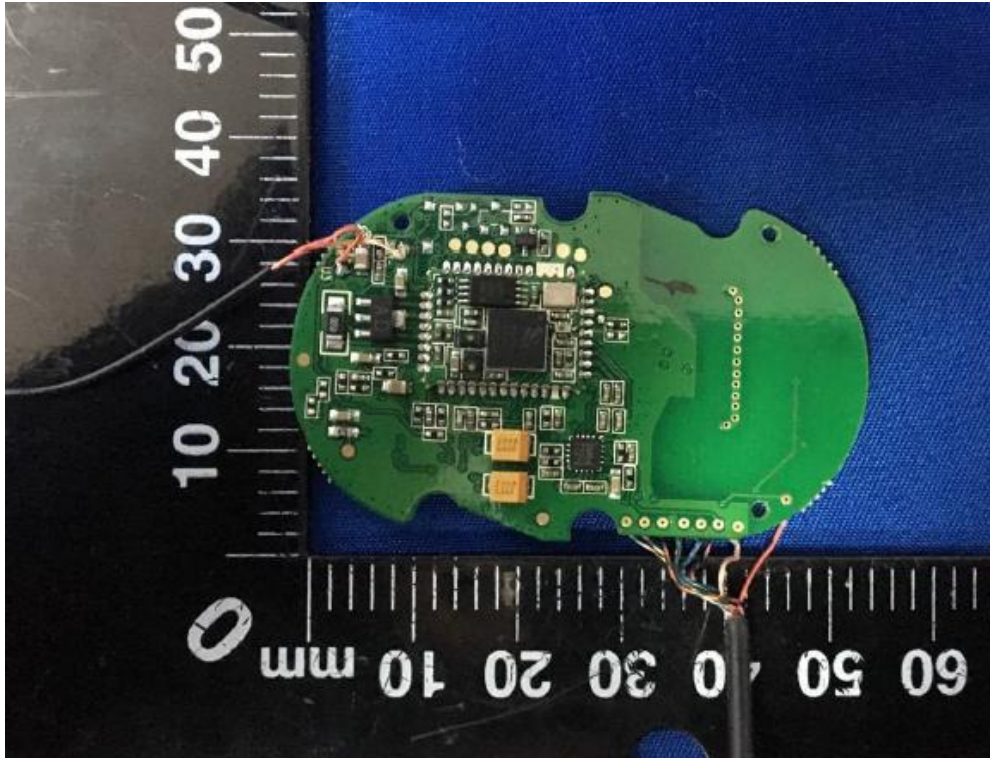


Mainboard - Front View

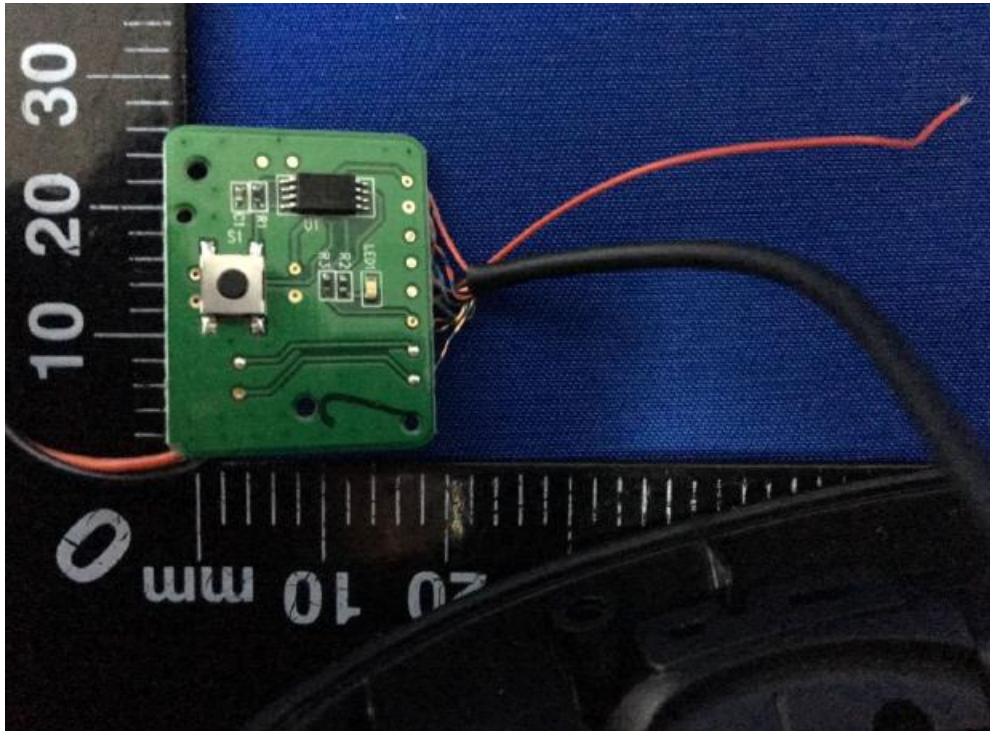




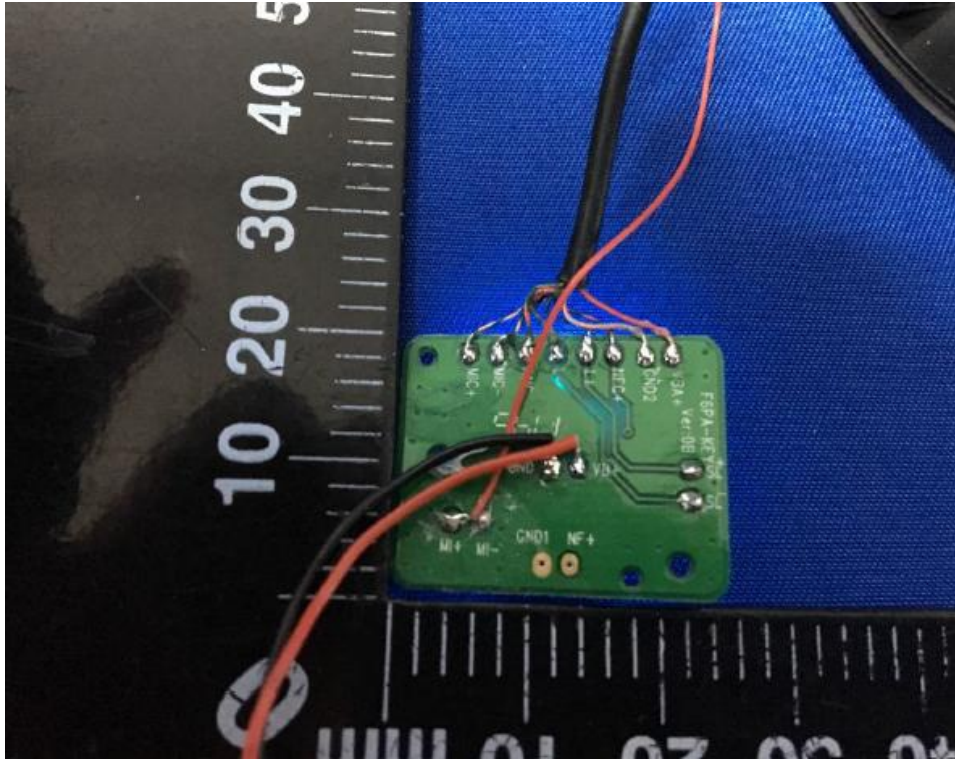
Mainboard – Rear View



Small board - Front View



Small board – Rear View



BT - Antenna View





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



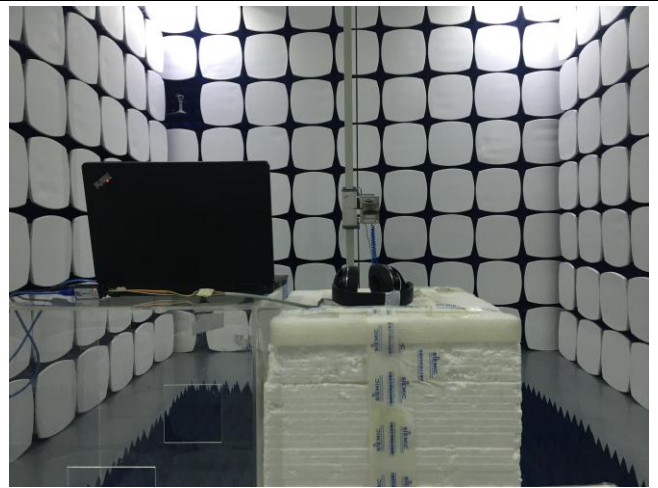
Conducted Emissions Test Setup Front View



Conducted Emissions Test Setup Side View



Radiated Spurious Emissions Test Setup Below 1GHz



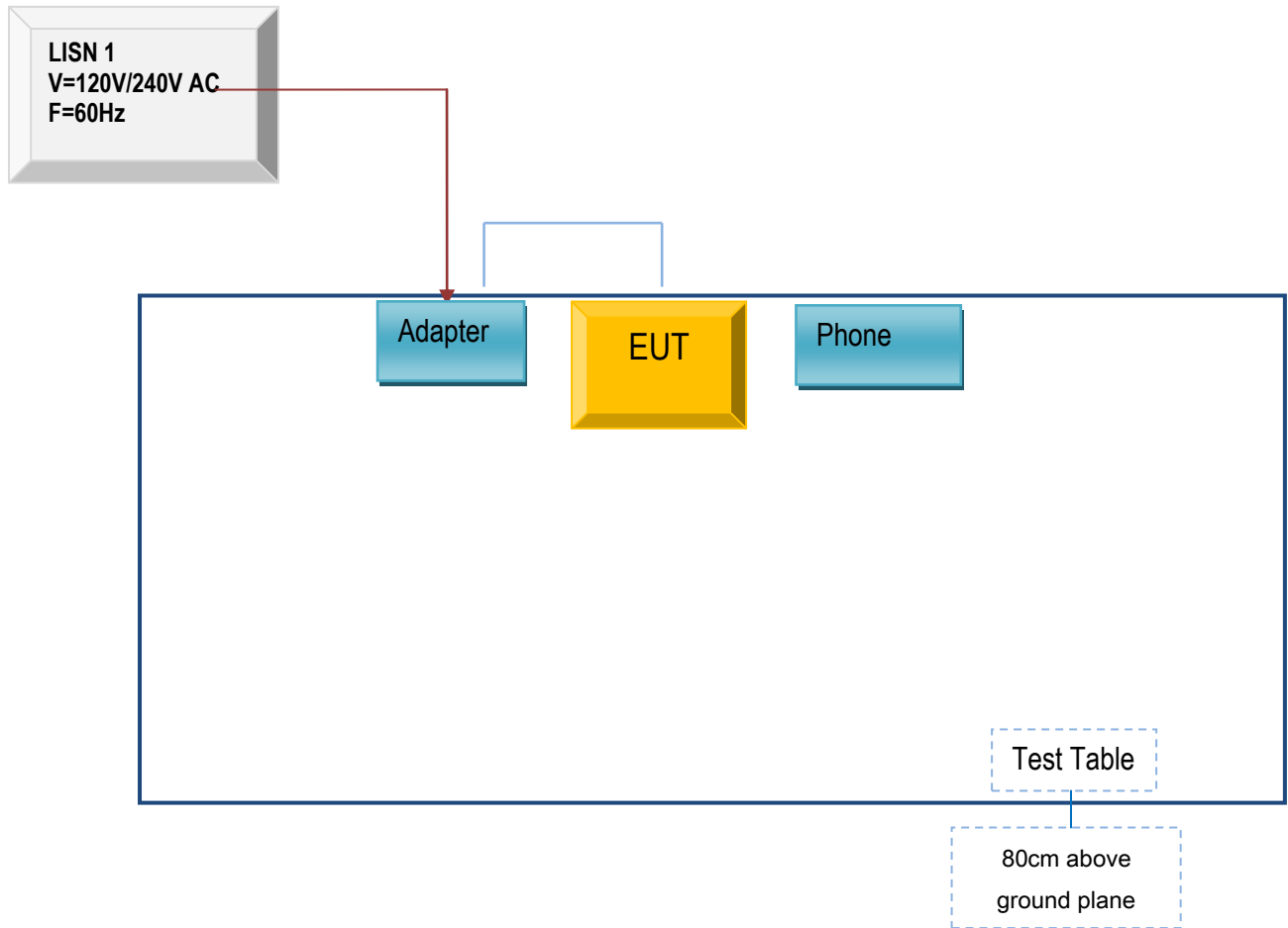
Radiated Spurious Emissions Test Setup Above  
1GHz



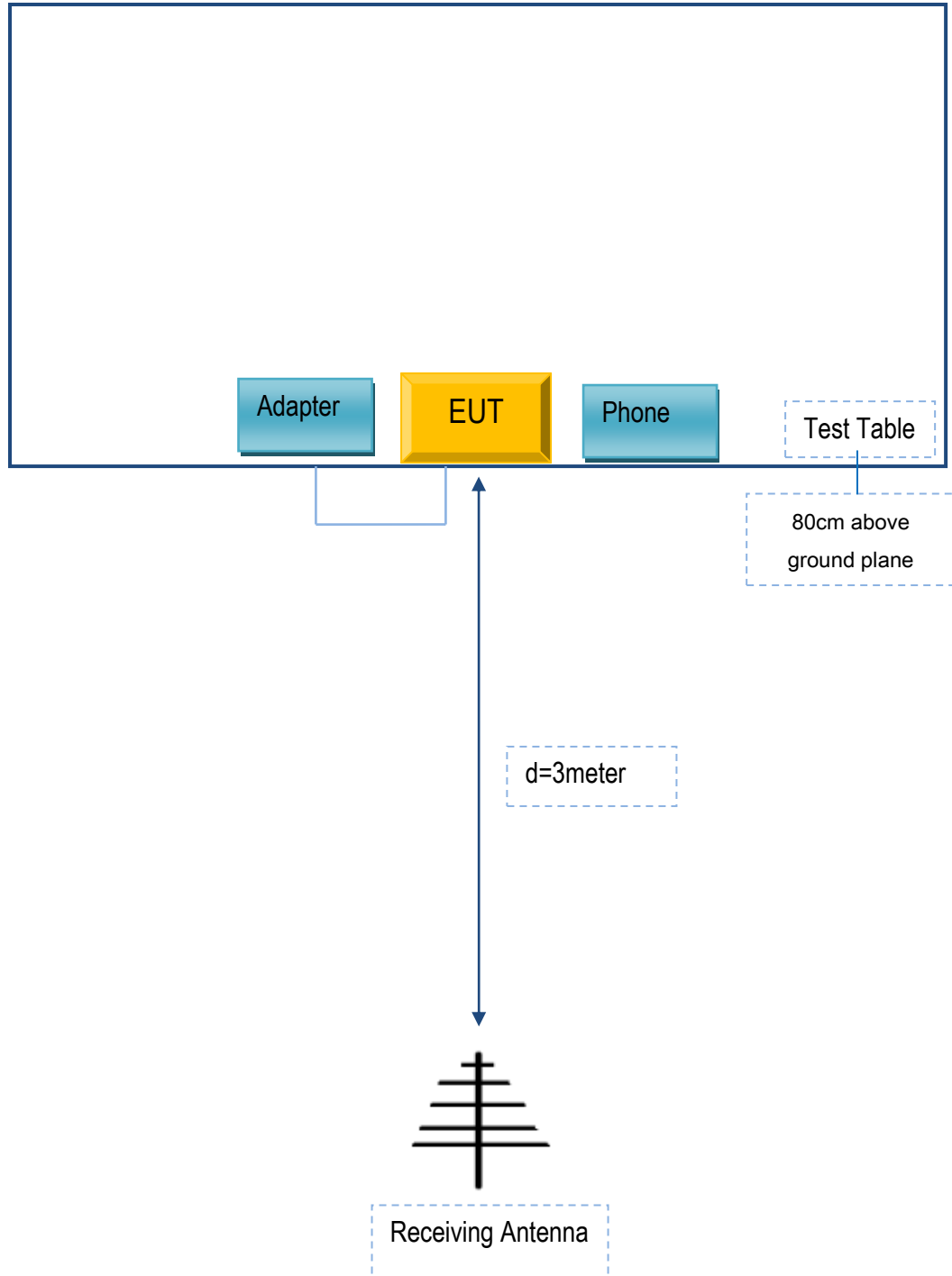
## Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

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

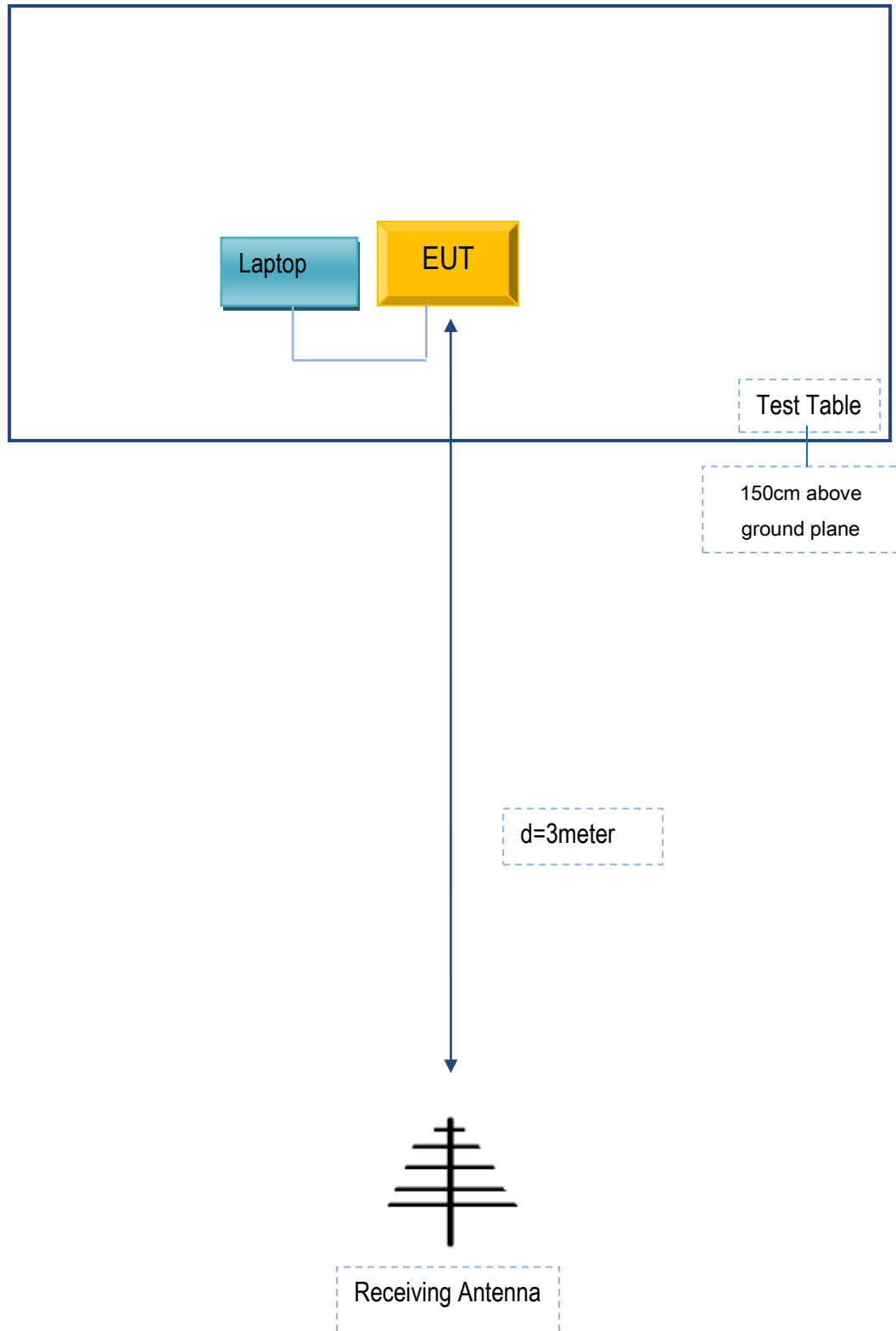
#### Block Configuration Diagram for AC Line Conducted Emissions



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
Lenovo	Laptop	E40	LR-1EHRX
Apple	Phone	Iphone4s	N/A
DCA	Adapter	E2164A	N/A

### Supporting Cable:

Cable type	Shield Type	Ferrite Core	Length	Serial No
N/A	N/A	N/A	N/A	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