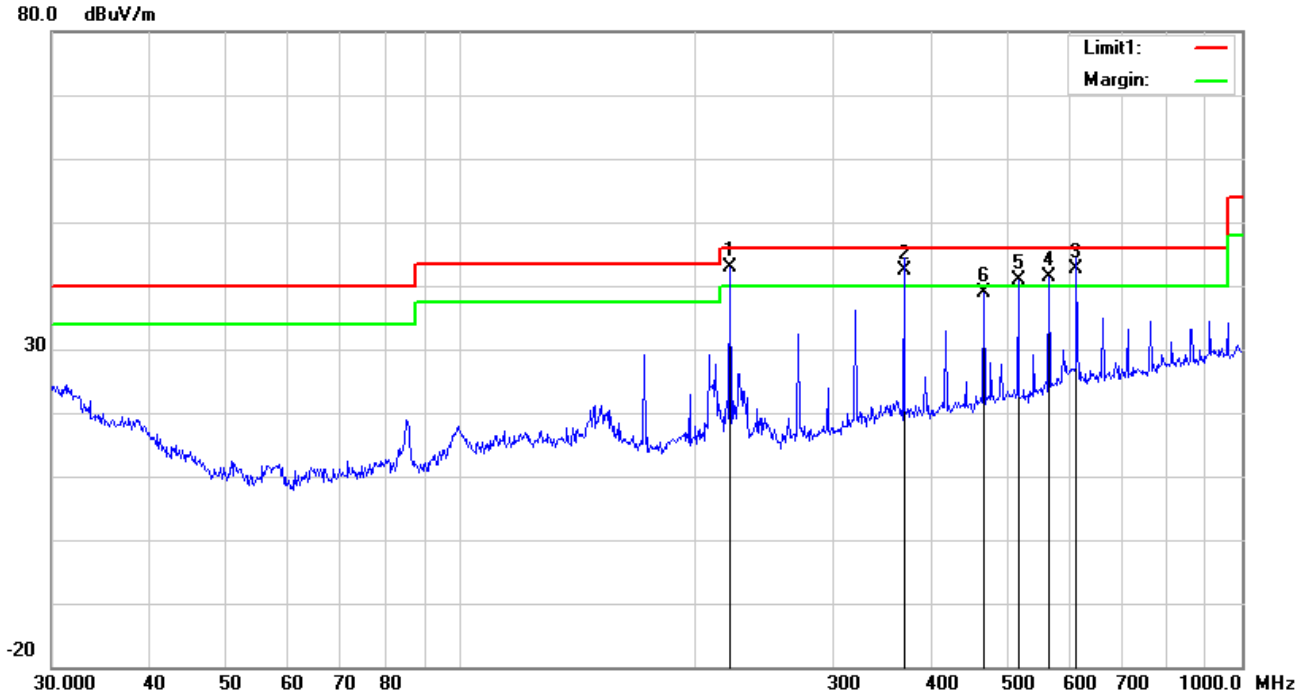
Test Mode:	Bluetooth Mode

30MHz -1GHz

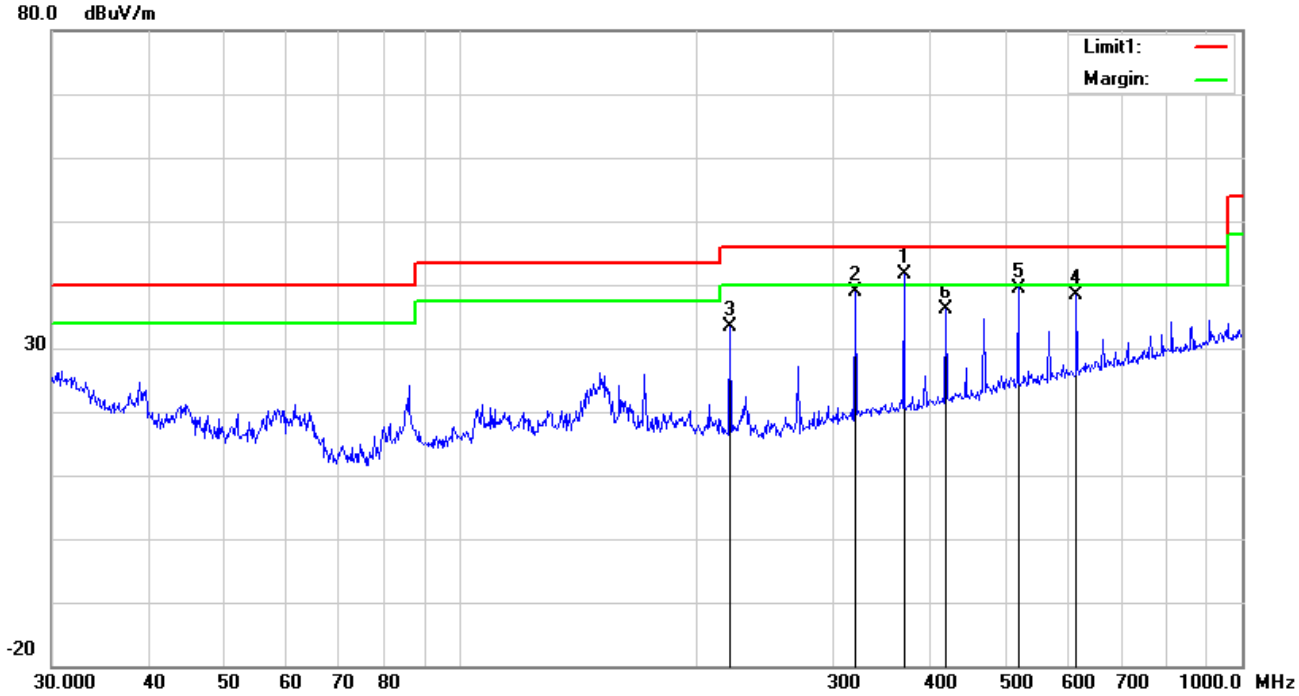


Test Data

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	H	221.3921	51.73	QP	11.80	22.34	1.61	42.80	46.00	-3.20	100	263
2	H	369.4047	47.37	QP	15.06	22.10	2.03	42.36	46.00	-3.64	100	159
3	H	614.2142	42.32	QP	19.26	21.55	2.53	42.56	46.00	-3.44	100	199
4	H	566.6223	41.86	QP	18.63	21.66	2.48	41.31	46.00	-4.69	100	200
5	H	517.2480	42.24	QP	17.94	21.77	2.44	40.85	46.00	-5.15	100	17
6	H	467.2349	41.59	QP	17.04	21.88	2.23	38.98	46.00	-7.02	100	347

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	V	369.4047	46.75	peak	15.06	22.10	2.03	41.74	46.00	-4.26	100	281
2	V	319.9370	45.17	peak	14.02	22.23	1.89	38.85	46.00	-7.15	100	307
3	V	221.3921	42.26	peak	11.80	22.34	1.61	33.33	46.00	-12.67	200	349
4	V	614.2142	38.21	peak	19.26	21.55	2.53	38.45	46.00	-7.55	100	222
5	V	517.2480	40.89	peak	17.94	21.77	2.44	39.50	46.00	-6.50	100	271
6	V	417.6411	40.04	peak	16.05	21.97	2.05	36.17	46.00	-9.83	100	333

Above 1GHz

Test Mode:	Transmitting Mode

Frequency	Meter Reading	Antenna Factor	Cable loss	Preamp factor	Emission Level	Limits	Margin	Detector	Polarity
(MHz)	(dBμV)	(dB)	(dB)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	(PK/AV)	(H/V)
Low Channel:GFSK Mode(Worst Case)-2402MHz									
2390	38.59	28.72	3.36	26.32	44.35	74	-29.65	peak	Vertical
4804	27.44	32.94	3.98	27.49	36.87	54	-17.13	Average	Vertical
4804	37.76	32.94	3.98	27.49	47.19	74	-26.81	peak	Vertical
7206	30.83	25.28	5.51	27.94	33.68	54	-20.32	Average	Vertical
7206	40.24	25.28	5.51	27.94	43.09	74	-30.91	peak	Vertical
2390	39.53	28.72	3.36	26.32	45.29	74	-28.71	peak	Horizontal
4804	30.86	32.94	3.98	27.49	40.29	54	-13.71	Average	Horizontal
4804	41.21	32.94	3.98	27.49	50.64	74	-23.36	peak	Horizontal
7206	30.54	25.28	5.51	27.94	33.39	54	-20.61	Average	Horizontal
7206	42.33	25.28	5.51	27.94	45.18	74	-28.82	peak	Horizontal
Middle Channel:GFSK Mode(Worst Case)-2441MHz									
4882	30.54	32.11	4.04	27.53	39.16	54	-14.84	Average	Vertical
4882	38.46	32.11	4.04	27.53	47.08	74	-26.92	peak	Vertical
7323	30.64	24.33	5.58	27.96	32.59	54	-21.41	Average	Vertical
7323	41.40	24.33	5.58	27.96	43.35	74	-30.65	peak	Vertical
4882	30.74	32.11	4.04	27.53	39.36	54	-14.64	Average	Horizontal
4882	41.38	32.11	4.04	27.53	50.00	74	-24.00	peak	Horizontal
7323	34.90	24.33	5.58	27.96	36.85	54	-17.15	Average	Horizontal
7323	40.53	24.33	5.58	27.96	42.48	74	-31.52	peak	Horizontal
High Channel:GFSK Mode(Worst Case)-2480MHz									
2483.5	37.55	28.79	3.48	26.34	43.48	74	-30.52	peak	Vertical
4960	29.48	31.32	4.12	27.58	37.34	54	-16.66	Average	Vertical
4960	39.73	31.32	4.12	27.58	47.59	74	-26.41	peak	Vertical
7440	30.64	24.38	5.68	27.99	32.71	54	-21.29	Average	Vertical
7440	40.75	24.38	5.68	27.99	42.82	74	-31.18	peak	Vertical
2483.5	40.28	28.79	3.48	26.34	46.21	74	-27.79	peak	Horizontal
4960	29.75	31.32	4.12	27.58	37.61	54	-16.39	Average	Horizontal
4960	40.49	31.32	4.12	27.58	48.35	74	-25.65	peak	Horizontal
7440	33.57	24.38	5.68	27.99	35.64	54	-18.36	Average	Horizontal
7440	41.31	24.38	5.68	27.99	43.38	74	-30.62	peak	Horizontal
NOTE:1.Absolute Level= ReadingLevel+antenna Factor+cable loss-preamp factor. 2.EUT Pre-scan X/Y/Z orientation, only the worst case is presented in the report (Z orientation)									

Note:

*1, The testing has been conformed to 10*2480MHz=24,800MHz*
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
AC Line Conducted					
EMI test receiver	ESCS30	8471241027	09/15/2017	09/14/2018	☑
Line Impedance	LI-125A	191106	09/23/2017	09/22/2018	☑
Line Impedance	LI-125A	191107	09/23/2017	09/22/2018	☑
ISN	ISN T800	34373	09/23/2017	09/22/2018	☐
Transient Limiter	LIT-153	531118	08/30/2017	08/29/2018	☐
RF conducted test					
Agilent ESA-E SERIES	E4407B	MY45108319	09/15/2017	09/14/2018	☑
Power Splitter	1#	1#	08/30/2017	08/29/2018	☑
DC Power Supply	E3640A	MY40004013	09/15/2017	09/14/2018	☑
Radiated Emissions					
EMI test receiver	ESL6	100262	09/15/2017	09/14/2018	☑
Positioning Controller	UC3000	MF780208282	11/17/2017	11/16/2018	☑
OPT 010 AMPLIFIER (0.1-1300MHz)	8447E	2727A02430	08/30/2017	08/29/2018	☑
Microwave Preamplifier (1 ~ 26.5GHz)	8449B	3008A02402	03/22/2018	03/21/2019	☑
Horn Antenna	BBHA9170	3145226D1	09/27/2017	09/26/2018	☑
Active Antenna (9kHz-30MHz)	AL-130	121031	10/12/2017	10/11/2018	☑
Bilog Antenna (30MHz~6GHz)	JB6	A110712	09/19/2017	09/18/2018	☑
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	71283	09/22/2017	09/21/2018	☑
Universal Radio Communication Tester	CMU200	121393	09/23/2017	09/22/2018	☑

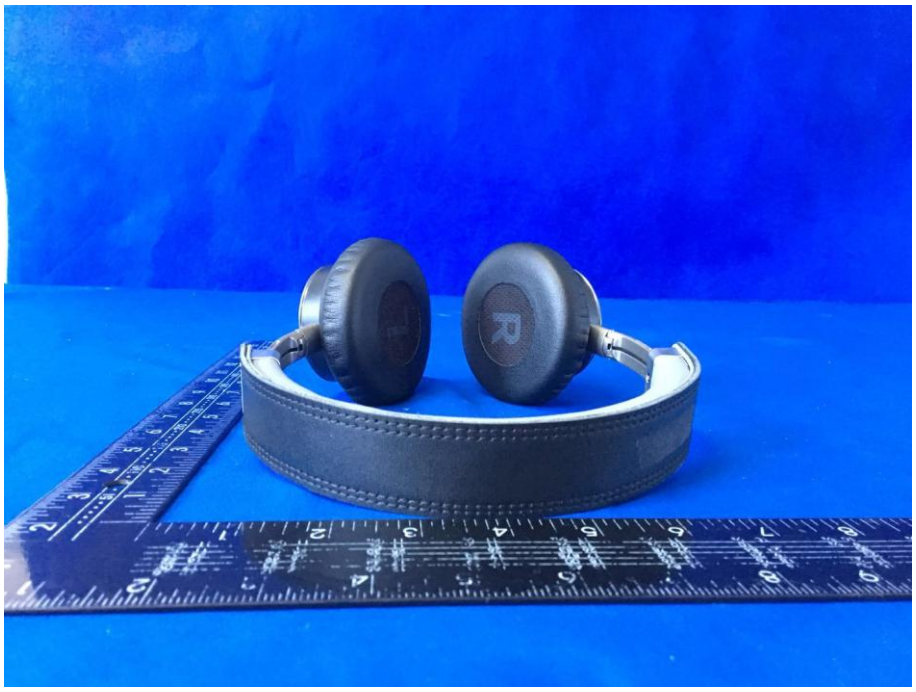
Annex B. EUT And Test Setup Photographs

Annex B.i. Photograph: EUT External Photo

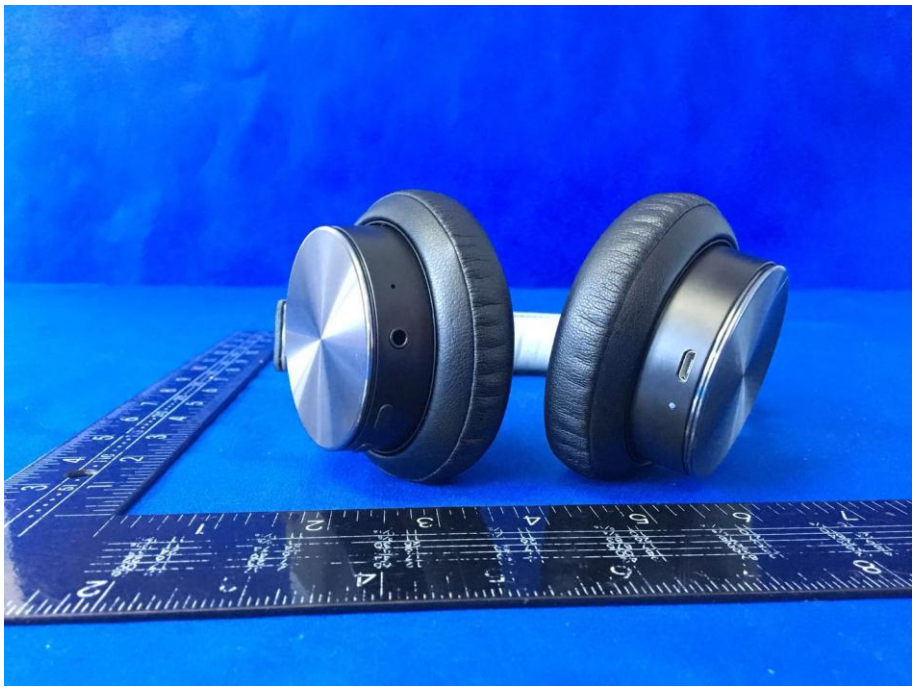
EUT - Front View

EUT - Rear View

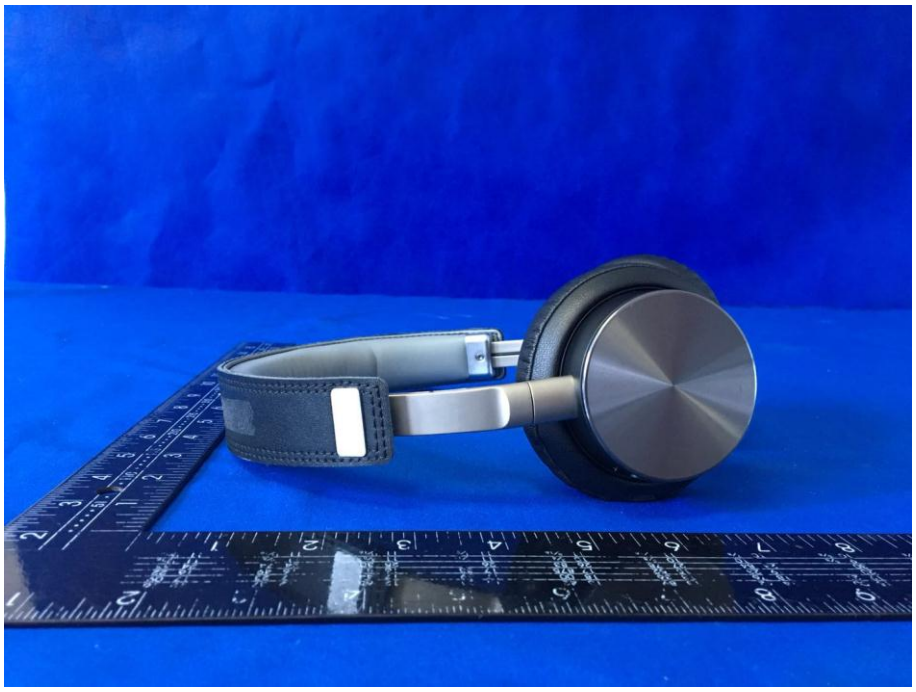
EUT - Top View



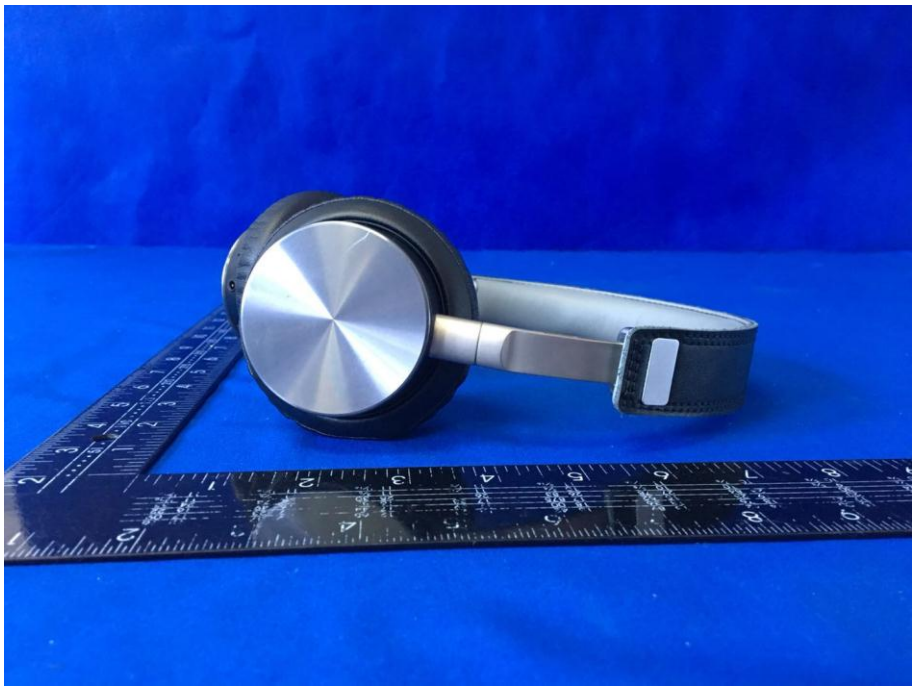
EUT - Bottom View



EUT - Left View

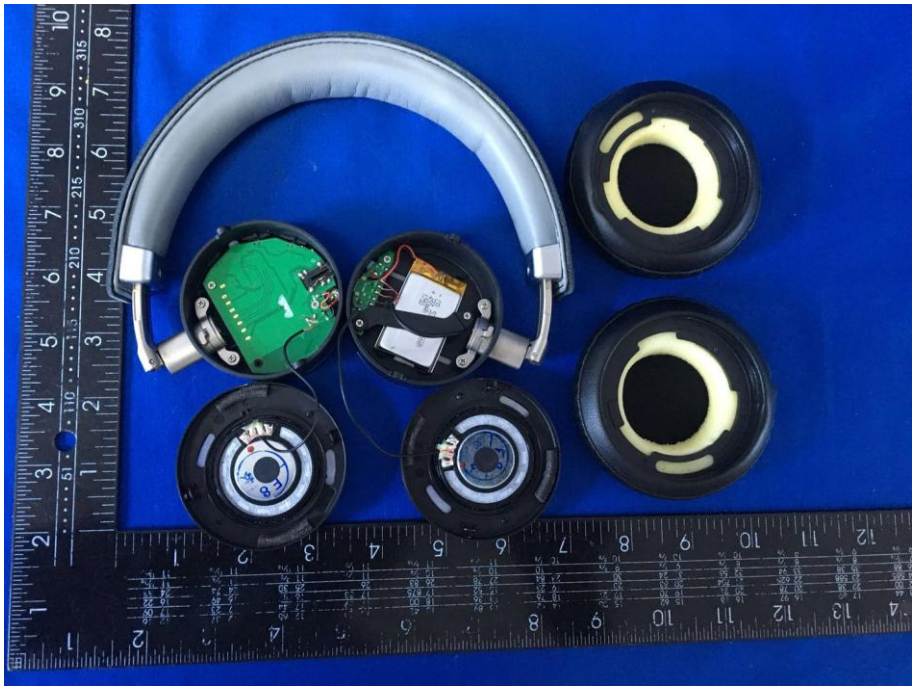


EUT - Right View

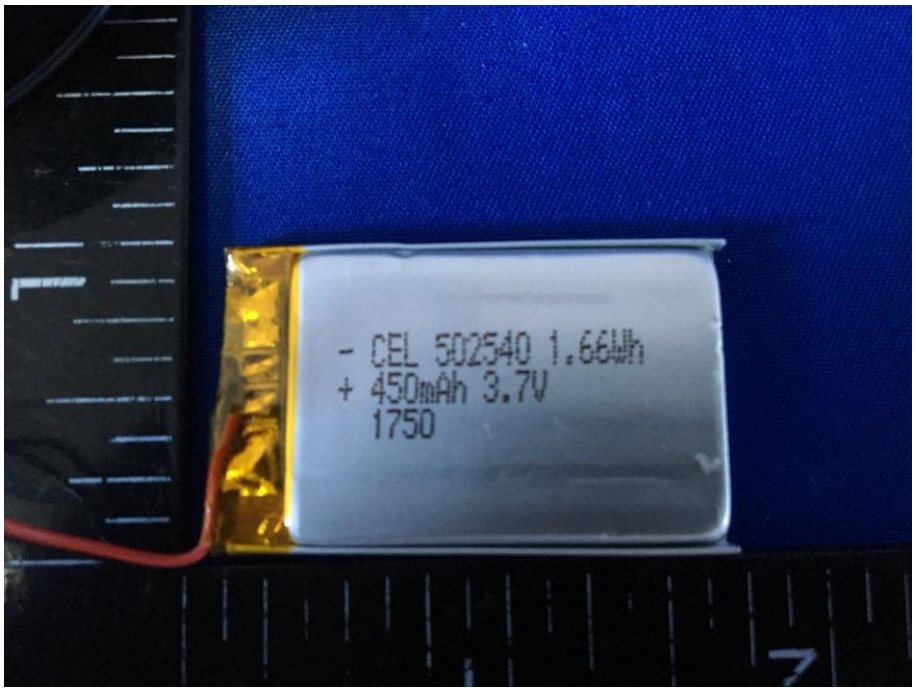


Annex B.ii. Photograph: EUT Internal Photo

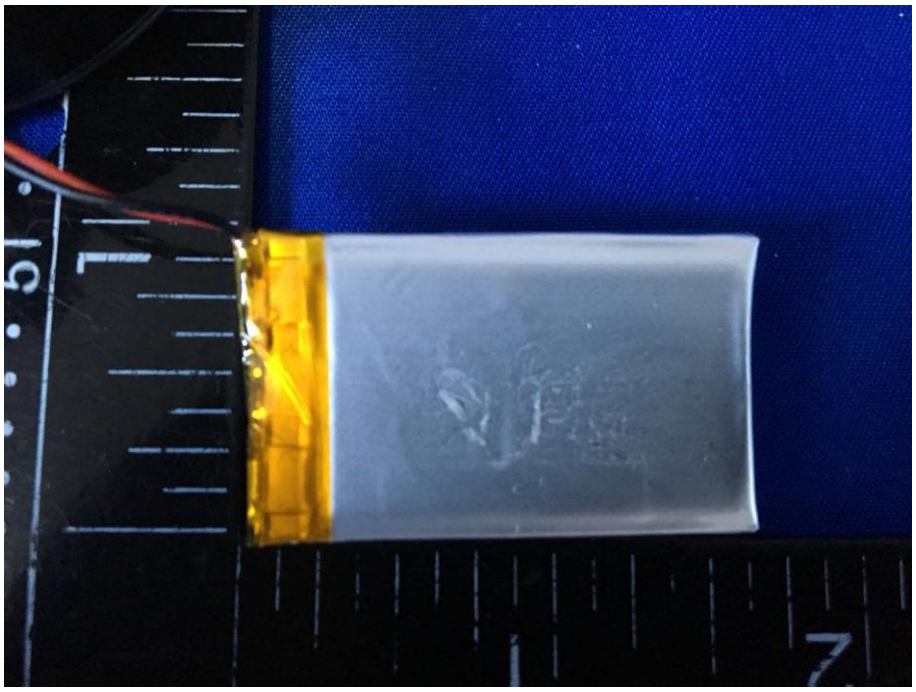
Cover Off - Top View



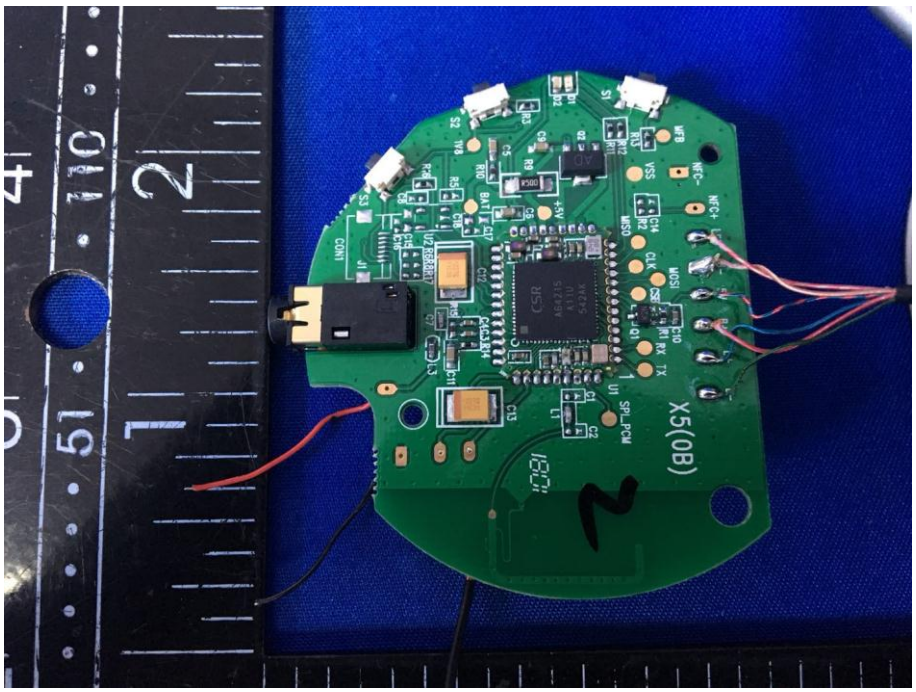
Battery - Front View



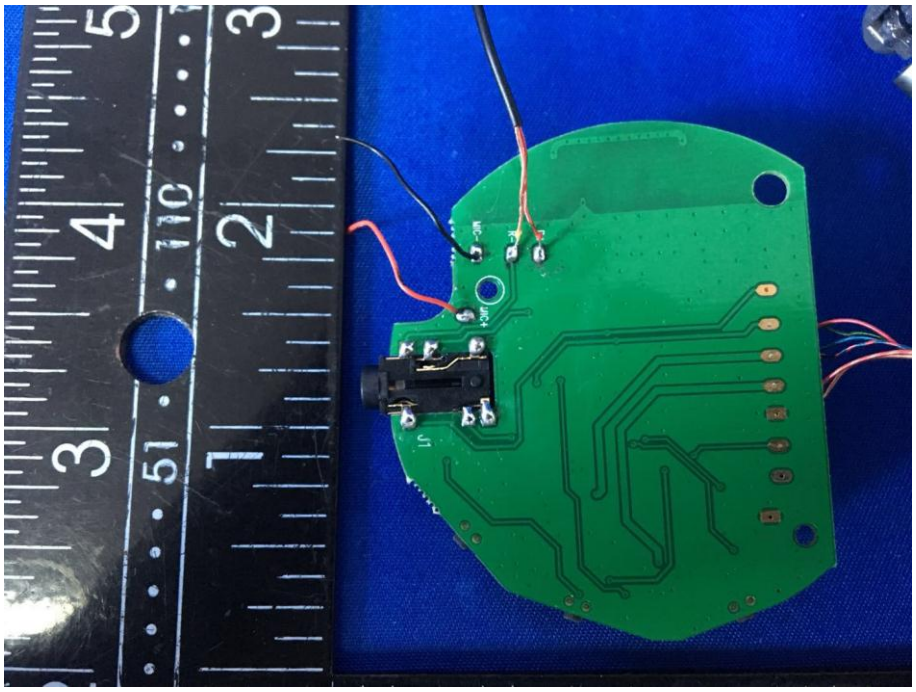
Battery - Rear View



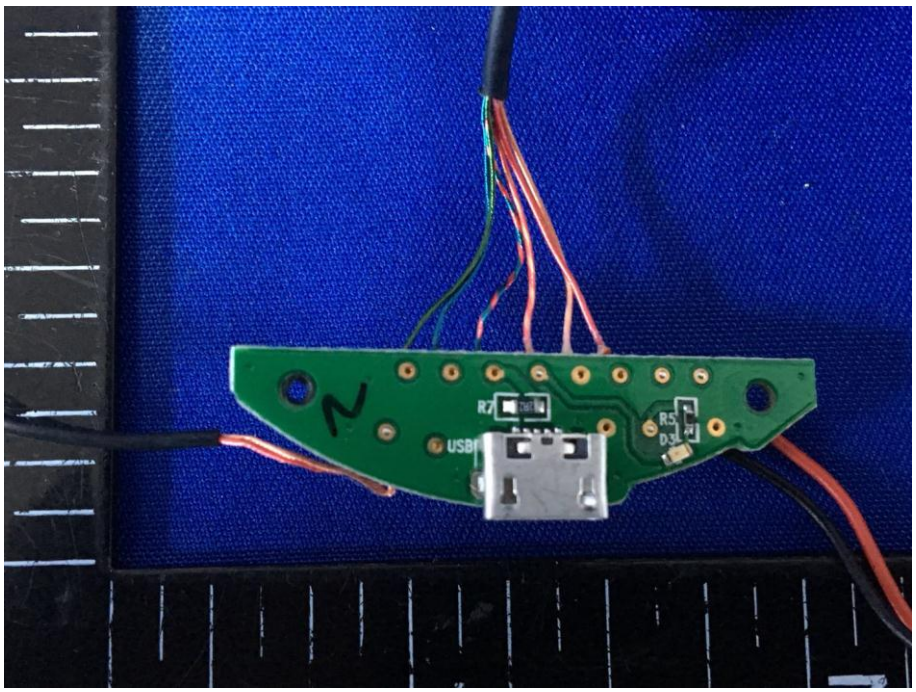
Mainboard - Front View



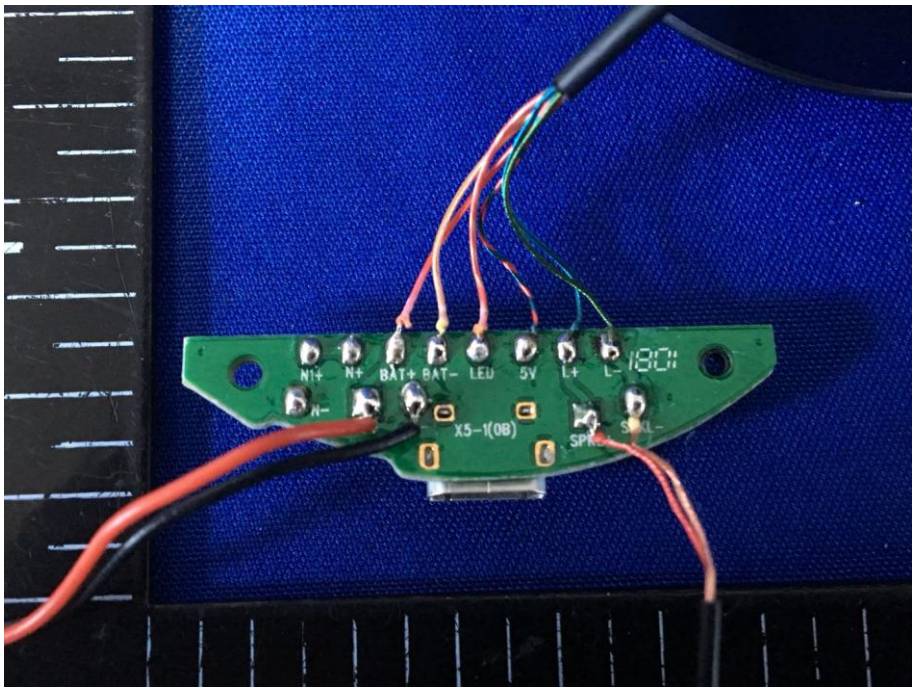
Mainboard – Rear View



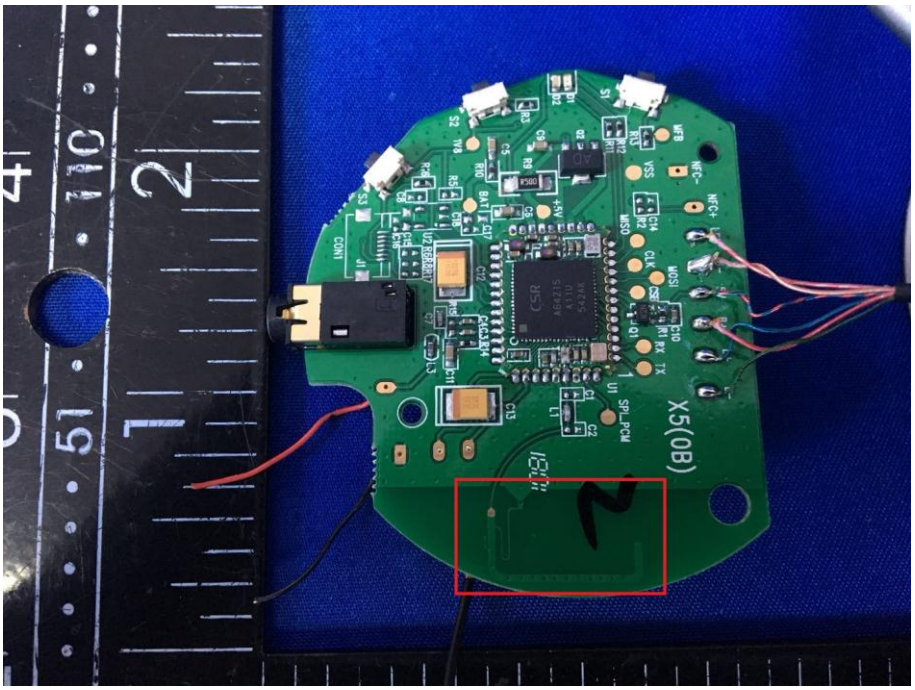
Small board - Front View



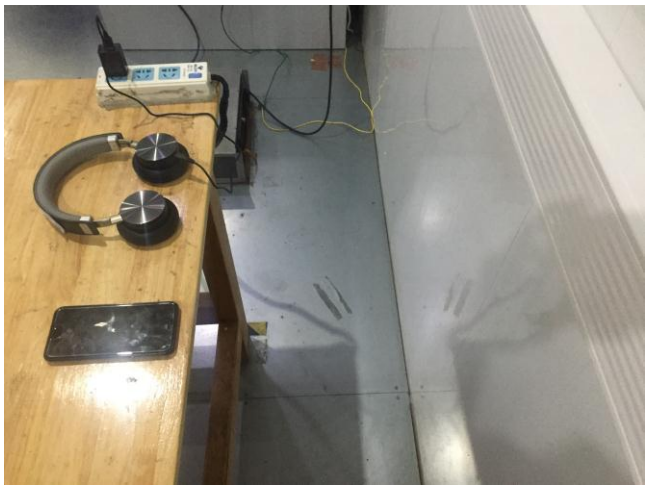
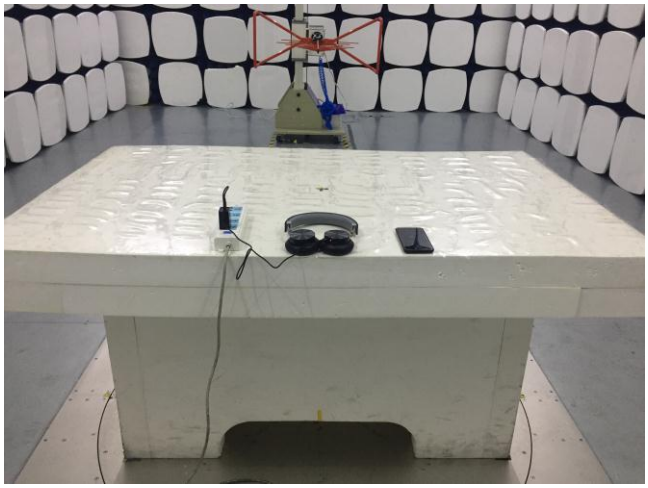
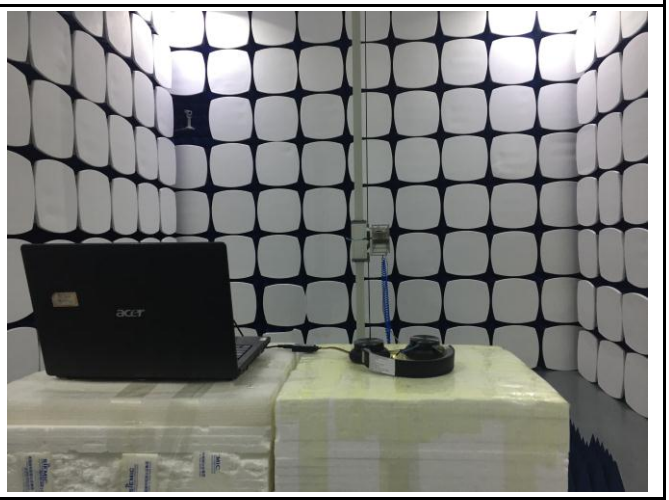
Small board – Rear View



BT - Antenna View



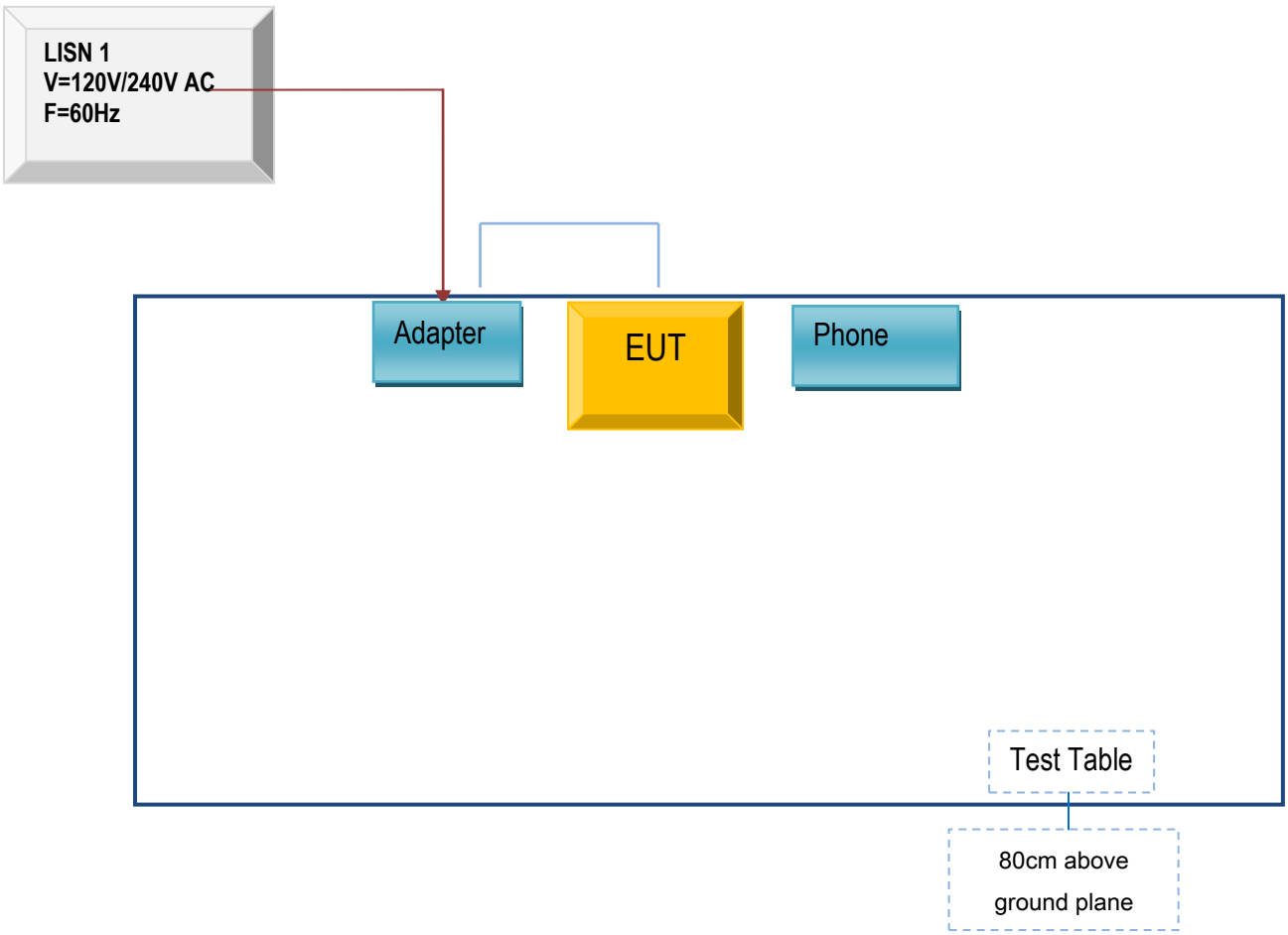
Annex B.iii. Photograph: Test Setup Photo

	
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

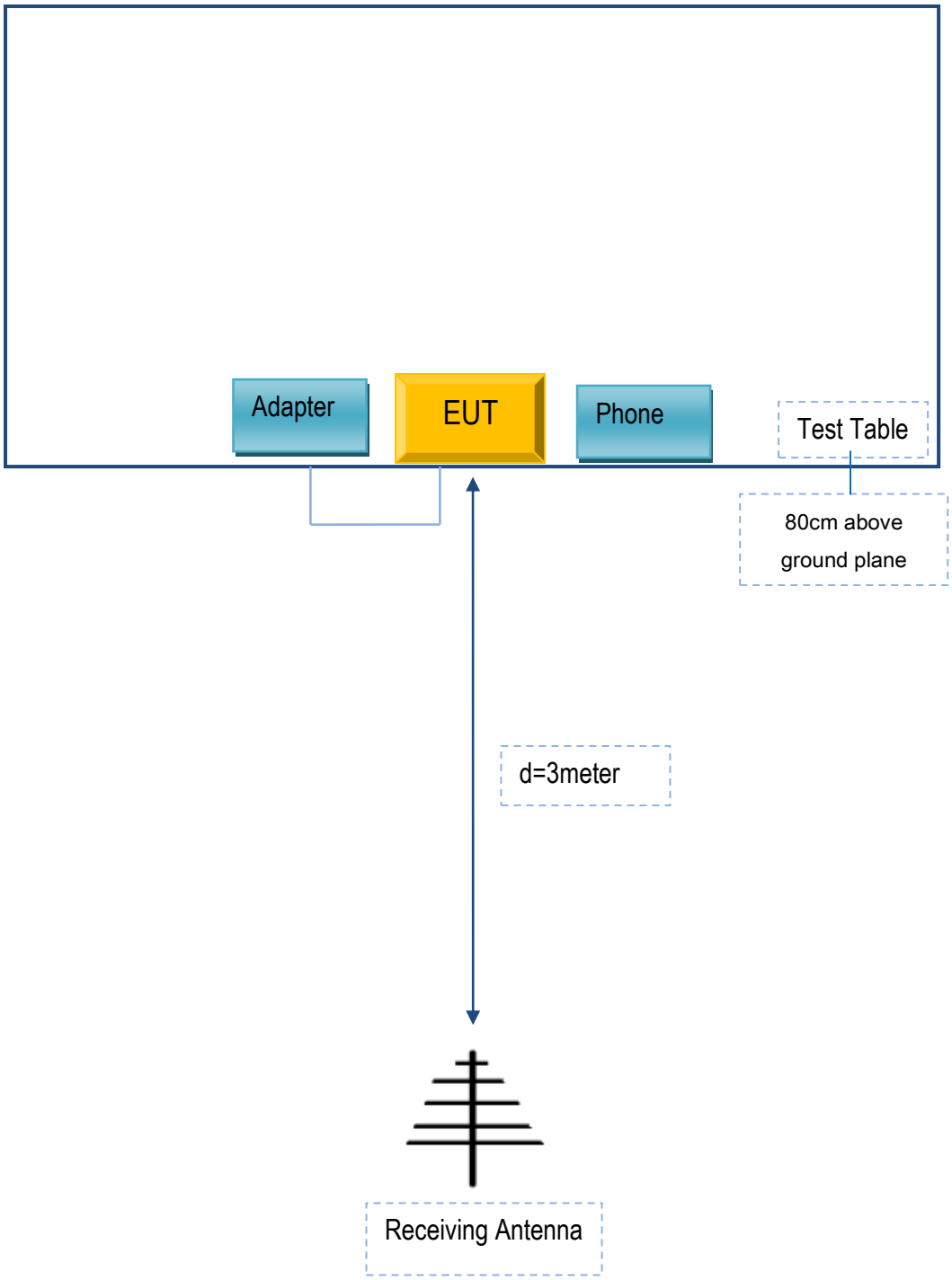
Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

Annex C.ii. TEST SET UP BLOCK

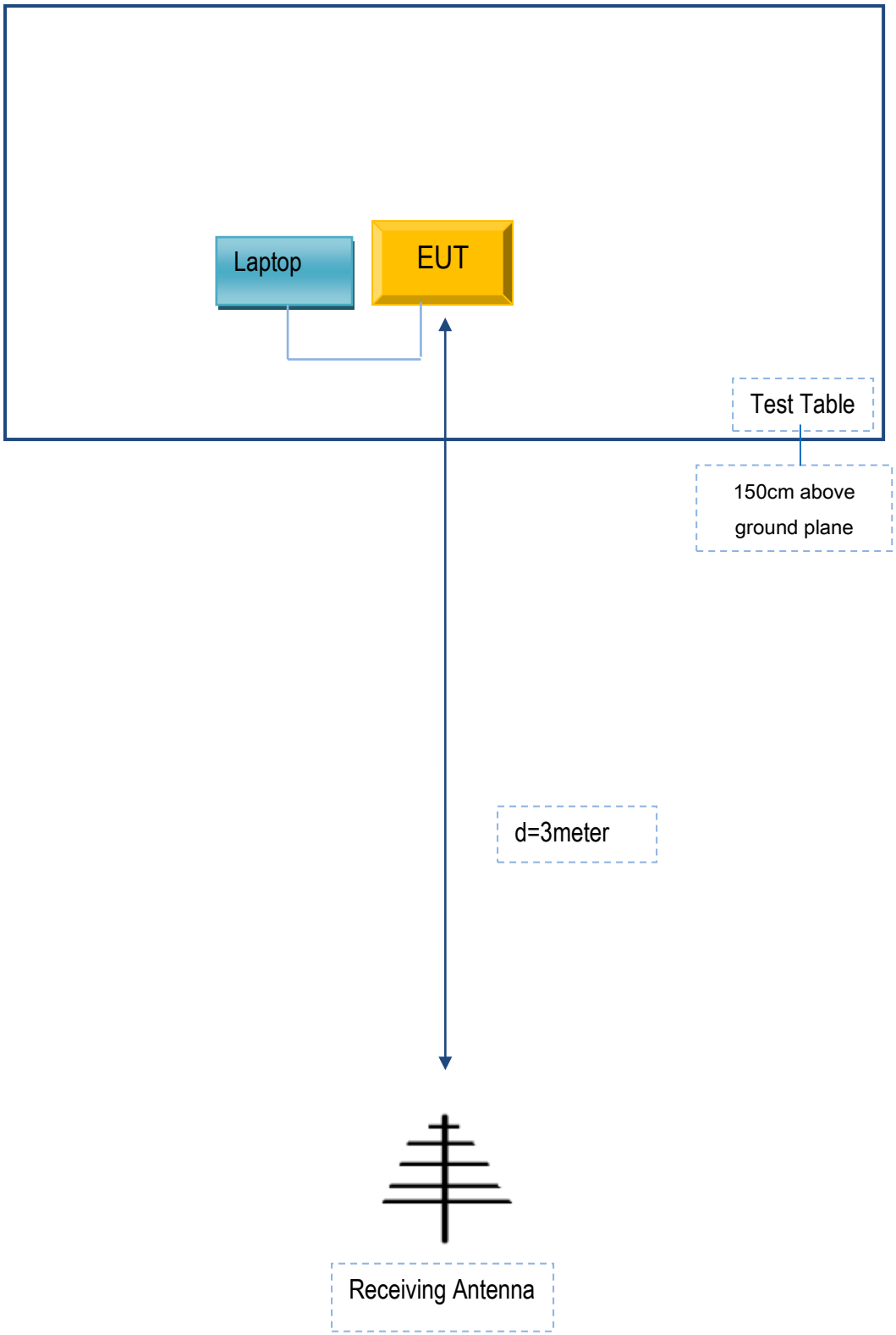
Block Configuration Diagram for AC Line Conducted Emissions



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



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



Annex C. 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
Huawei	Phone	Honor 9	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

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

Please see the attachment

Annex E. DECLARATION OF SIMILARITY

N/A