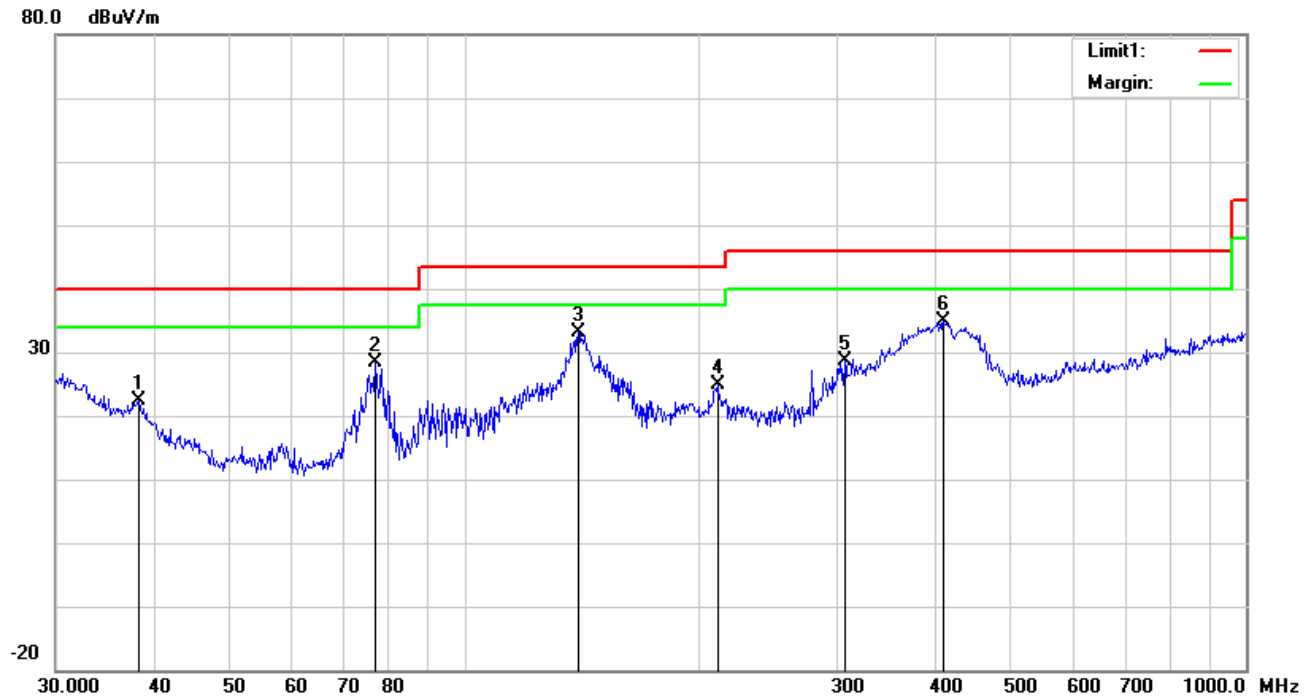


**Test Mode:** Bluetooth Mode

**30MHz -1GHz**



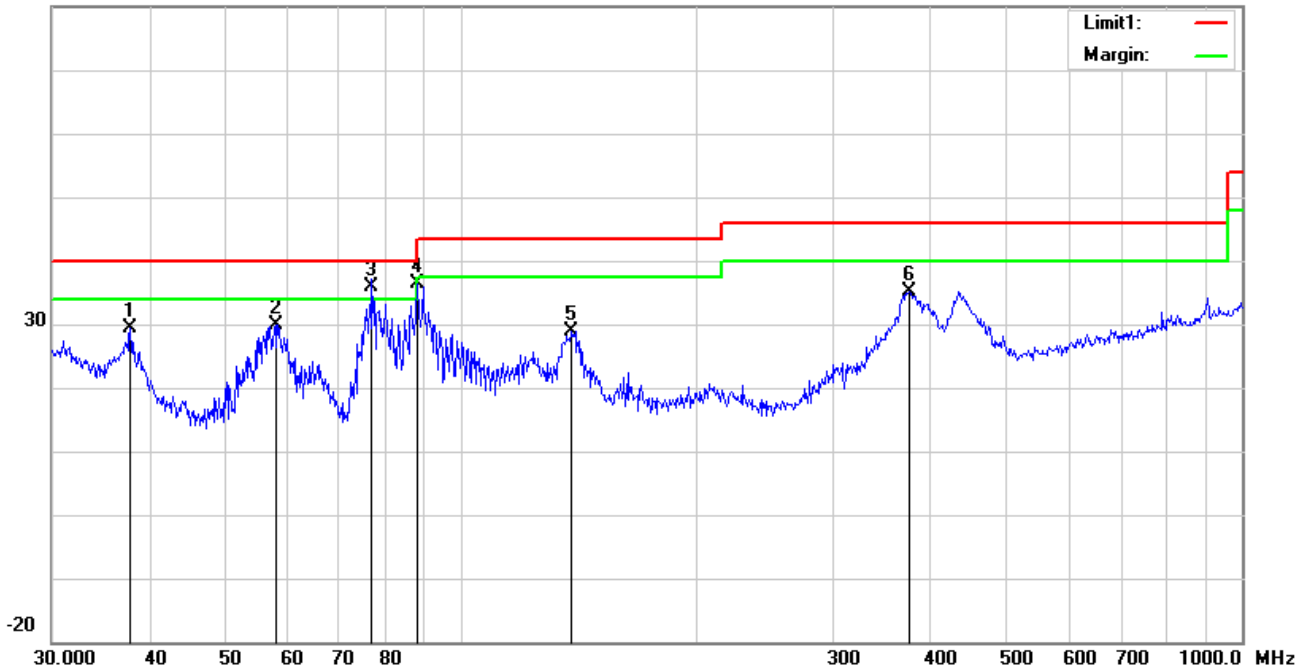
### Test Data

#### Horizontal Polarity Plot @3m

No.	P/L	Frequency	Reading	Detect or	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degr ee
		(MHz)	(dBuV/m)		(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	( )
1	H	38.3462	28.87	peak	15.11	22.27	0.78	22.49	40.00	-17.51	200	225
2	H	76.7808	42.22	peak	7.66	22.41	0.99	28.46	40.00	-11.54	100	132
3	H	139.8508	41.67	peak	12.61	22.41	1.27	33.14	43.50	-10.36	100	324
4	H	210.7860	33.78	peak	11.95	22.36	1.57	24.94	43.50	-18.56	100	201
5	H	306.7537	35.31	peak	13.74	22.27	1.82	28.60	46.00	-17.40	100	208
6	H	410.3825	38.95	peak	15.91	21.99	2.03	34.90	46.00	-11.10	100	272

### 30MHz -1GHz

80.0 dBuV/m



### 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	37.8121	35.37	peak	15.50	22.27	0.78	29.38	40.00	-10.62	100	281
2	V	57.9993	44.11	peak	7.52	22.40	0.76	29.99	40.00	-10.01	100	260
3	V	77.0505	49.73	QP	7.66	22.41	1.00	35.98	40.00	-4.02	100	179
4	V	88.0329	49.68	peak	7.92	22.34	1.00	36.26	43.50	-7.24	100	208
5	V	138.8735	37.34	peak	12.67	22.41	1.26	28.86	43.50	-14.64	100	159
6	V	374.6226	40.06	peak	15.17	22.08	2.03	35.18	46.00	-10.82	100	288

## 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)	(dBμV)	(dB)	(dB)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	(PK/AV)	(H/V)
Low Channel:GFSK Mode(Worst Case)-2402MHz									
2390	39.85	28.72	3.36	26.32	45.61	74	-28.39	peak	Vertical
4804	31.28	32.94	3.98	27.49	40.71	54	-13.29	Average	Vertical
4804	40.52	32.94	3.98	27.49	49.95	74	-24.05	peak	Vertical
7206	31.78	25.28	5.51	27.94	34.63	54	-19.37	Average	Vertical
7206	41.23	25.28	5.51	27.94	44.08	74	-29.92	peak	Vertical
2390	40.09	28.72	3.36	26.32	45.85	74	-28.15	peak	Horizontal
4804	31.27	32.94	3.98	27.49	40.70	54	-13.30	Average	Horizontal
4804	41.86	32.94	3.98	27.49	51.29	74	-22.71	peak	Horizontal
7206	31.93	25.28	5.51	27.94	34.78	54	-19.22	Average	Horizontal
7206	43.36	25.28	5.51	27.94	46.21	74	-27.79	peak	Horizontal
Middle Channel:GFSK Mode(Worst Case)-2441MHz									
4882	30.09	32.11	4.04	27.53	38.71	54	-15.29	Average	Vertical
4882	40.27	32.11	4.04	27.53	48.89	74	-25.11	peak	Vertical
7323	31.18	24.33	5.58	27.96	33.13	54	-20.87	Average	Vertical
7323	41.38	24.33	5.58	27.96	43.33	74	-30.67	peak	Vertical
4882	30.63	32.11	4.04	27.53	39.25	54	-14.75	Average	Horizontal
4882	41.54	32.11	4.04	27.53	50.16	74	-23.84	peak	Horizontal
7323	33.75	24.33	5.58	27.96	35.70	54	-18.30	Average	Horizontal
7323	42.38	24.33	5.58	27.96	44.33	74	-29.67	peak	Horizontal
High Channel:GFSK Mode(Worst Case)-2480MHz									
2483.5	40.21	28.79	3.48	26.34	46.14	74	-27.86	peak	Vertical
4960	30.87	31.32	4.12	27.58	38.73	54	-15.27	Average	Vertical
4960	40.44	31.32	4.12	27.58	48.30	74	-25.70	peak	Vertical
7440	31.19	24.38	5.68	27.99	33.26	54	-20.74	Average	Vertical
7440	41.35	24.38	5.68	27.99	43.42	74	-30.58	peak	Vertical
2483.5	41.38	28.79	3.48	26.34	47.31	74	-26.69	peak	Horizontal
4960	31.73	31.32	4.12	27.58	39.59	54	-14.41	Average	Horizontal
4960	41.55	31.32	4.12	27.58	49.41	74	-24.59	peak	Horizontal
7440	32.54	24.38	5.68	27.99	34.61	54	-19.39	Average	Horizontal

**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**

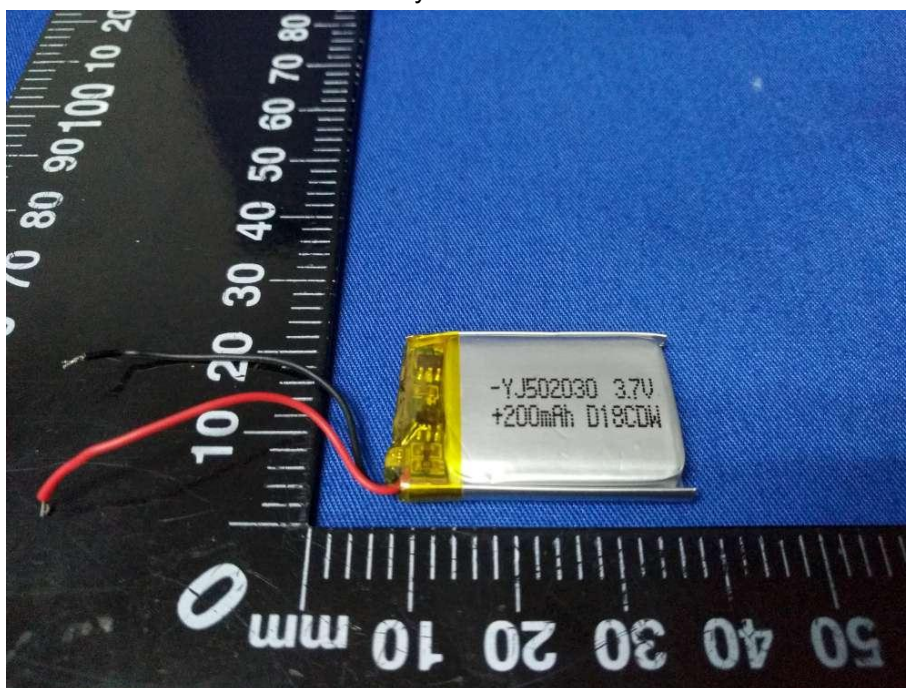
Cover Off - Top View 1



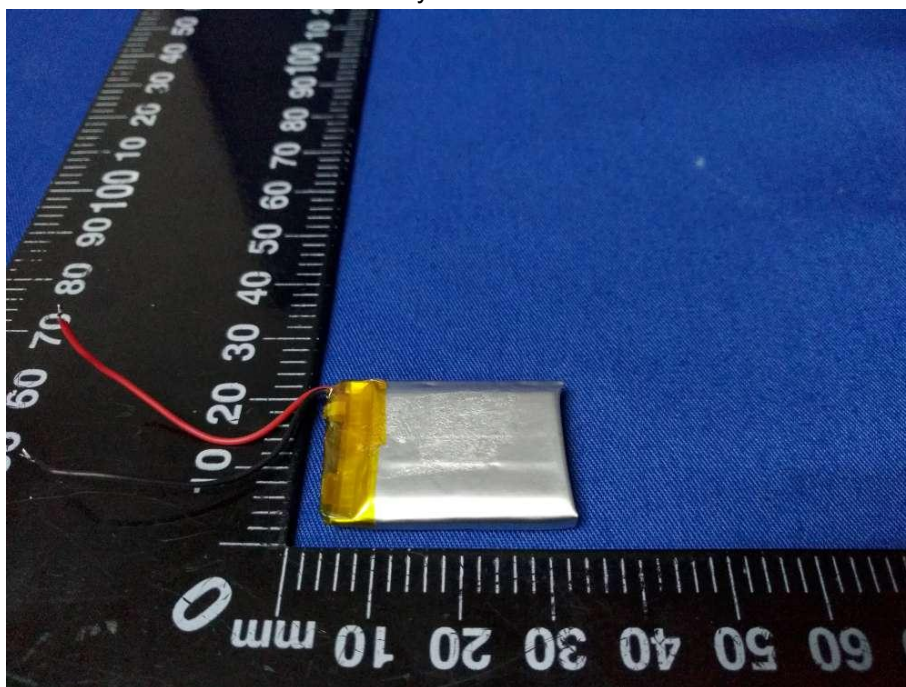
Cover Off - Top View 2



Battery - Front View

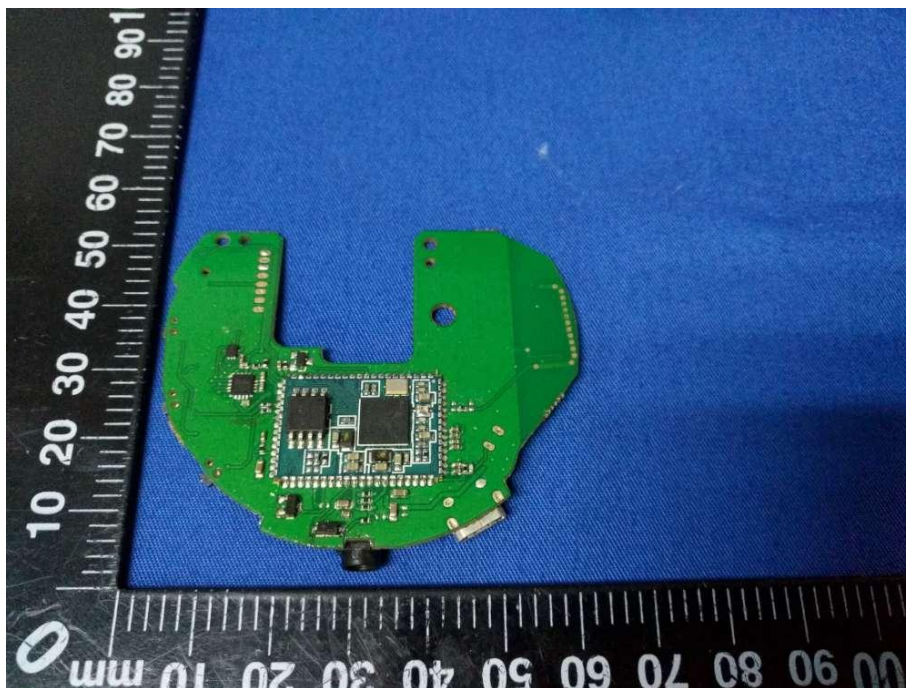


Battery - Rear View

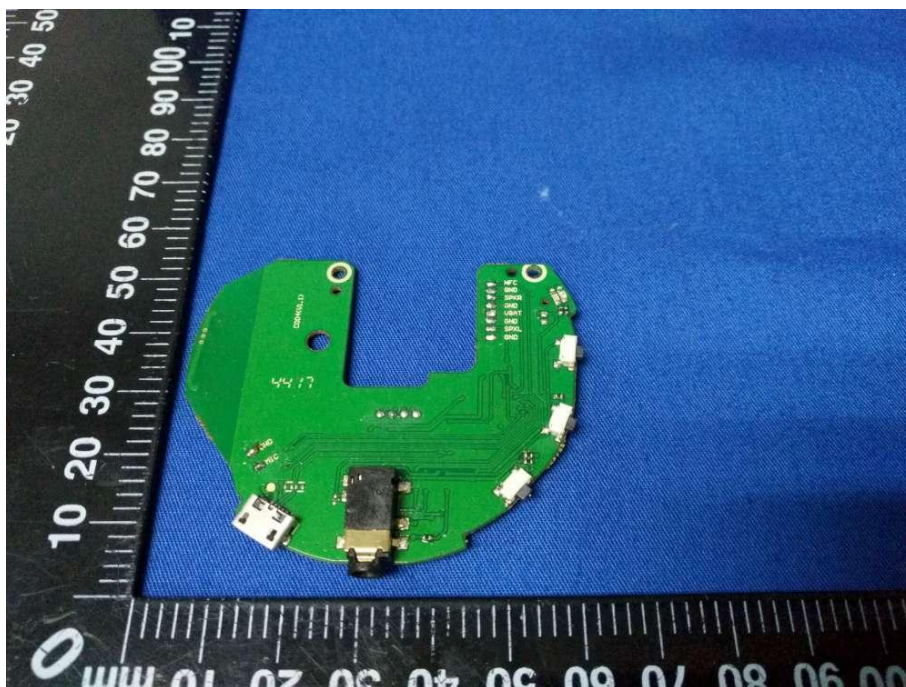




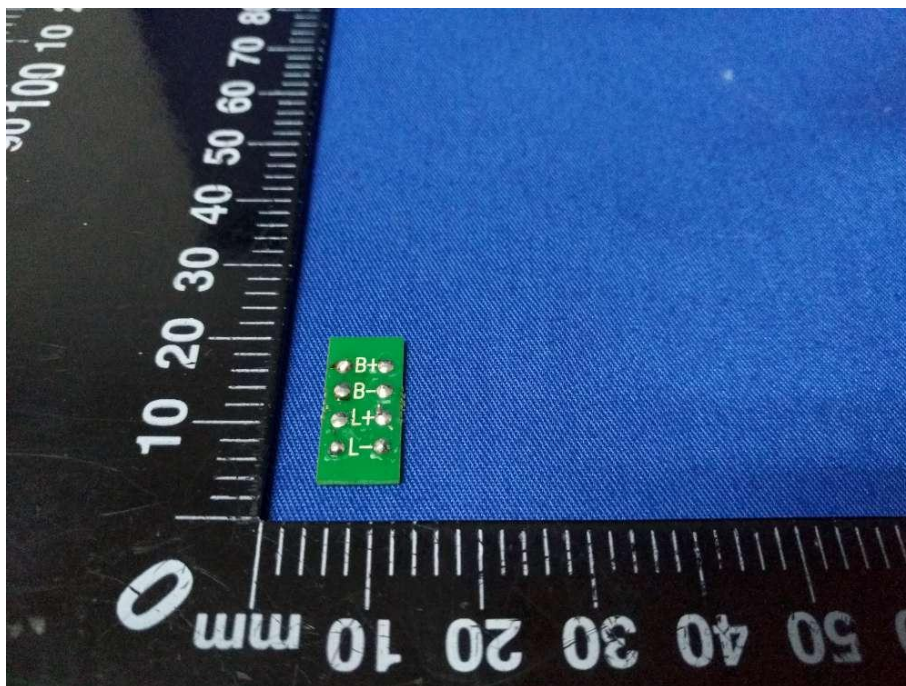
Mainboard - Front View



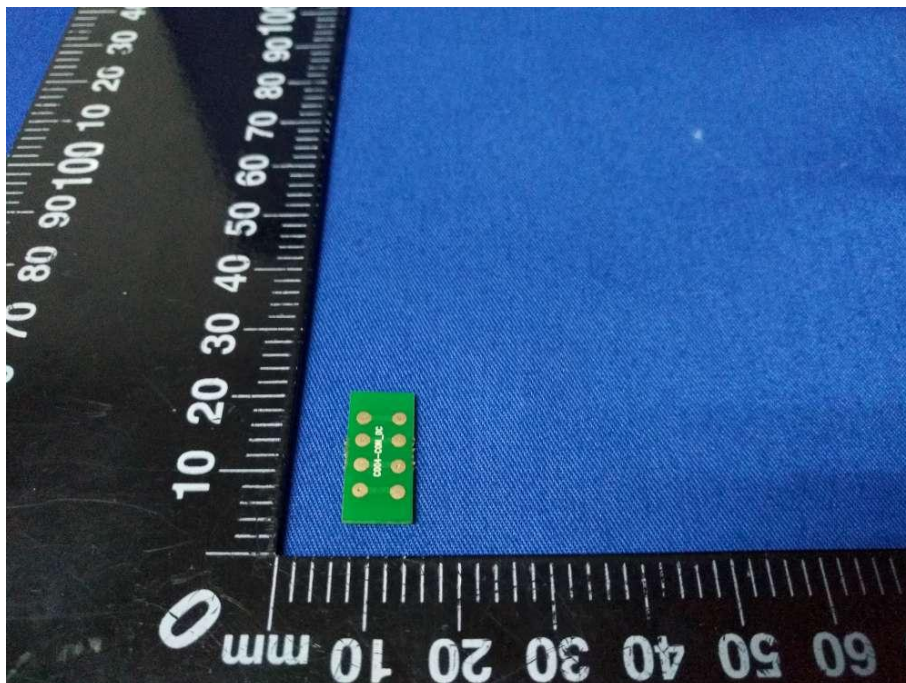
Mainboard – Rear View



Small board - Front View

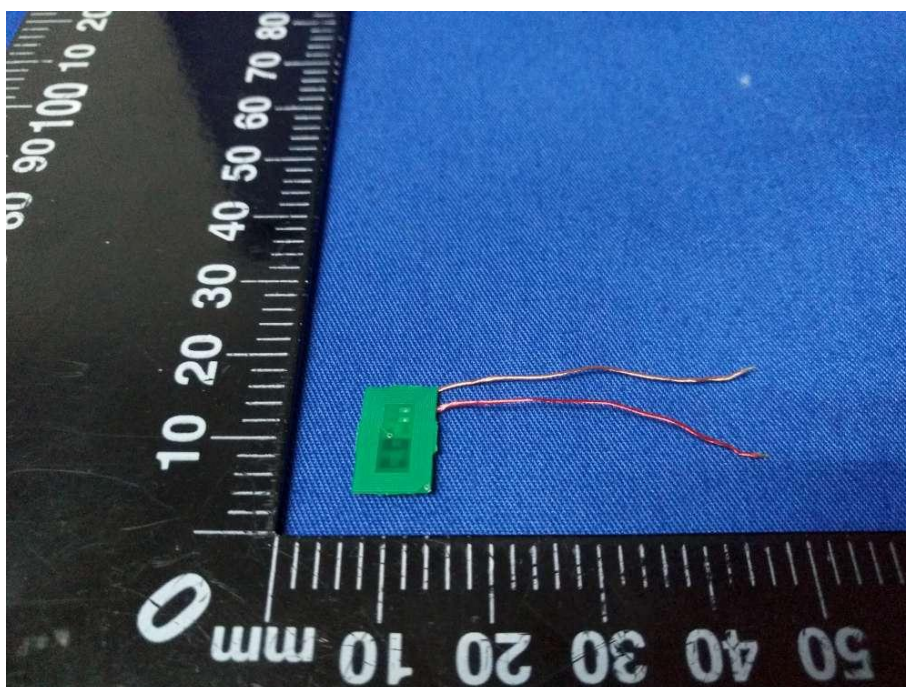


Small board – Rear View

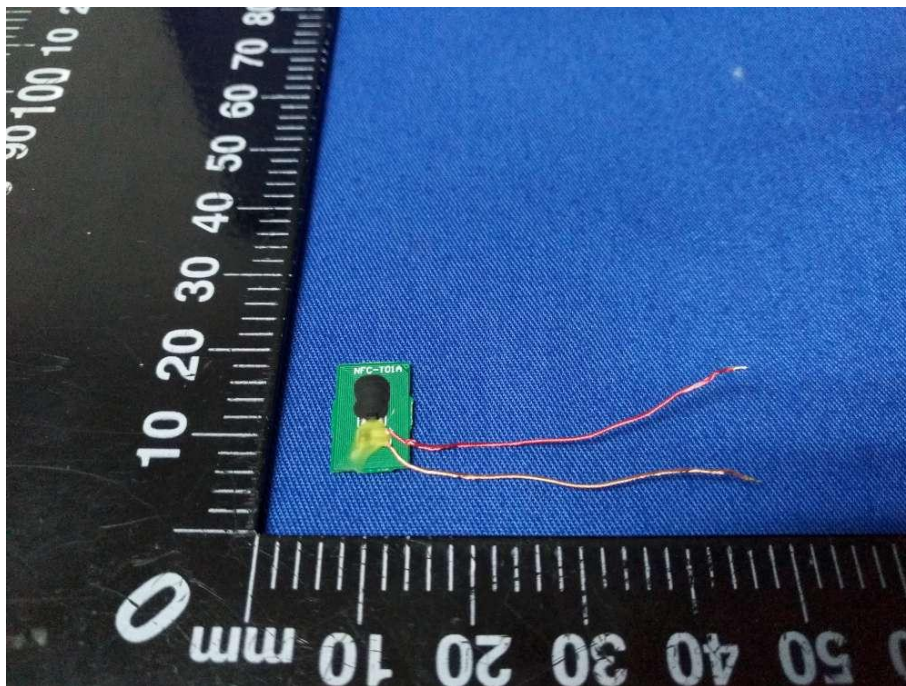




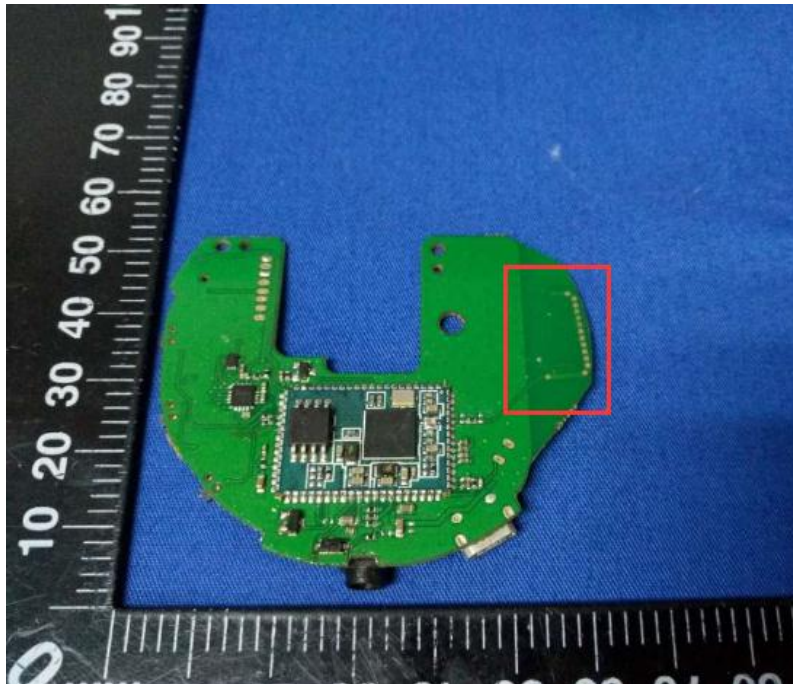
Connected board - Front View



Connected board – Rear View



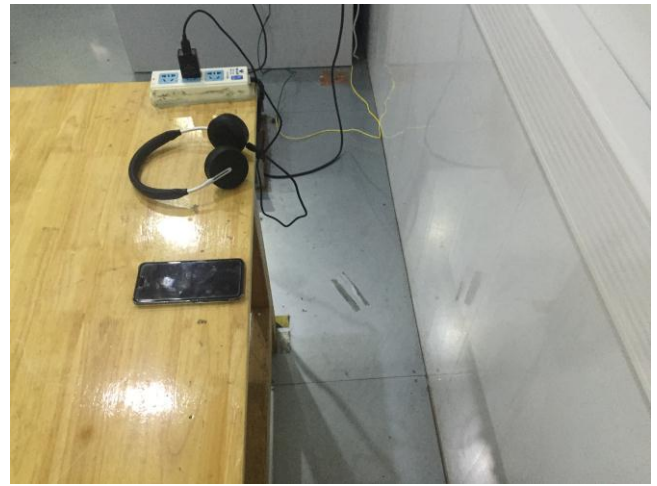
BT - Antenna View



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



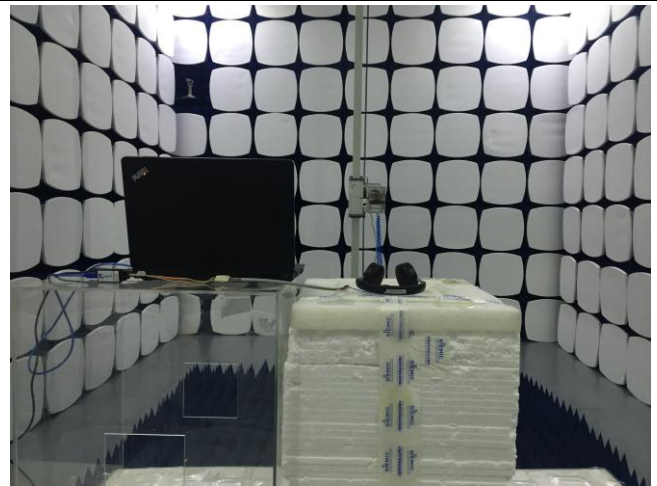
Conducted Emissions Test Setup Front View



Conducted Emissions Test Setup Side View



Radiated Spurious Emissions Test Setup Below 1GHz

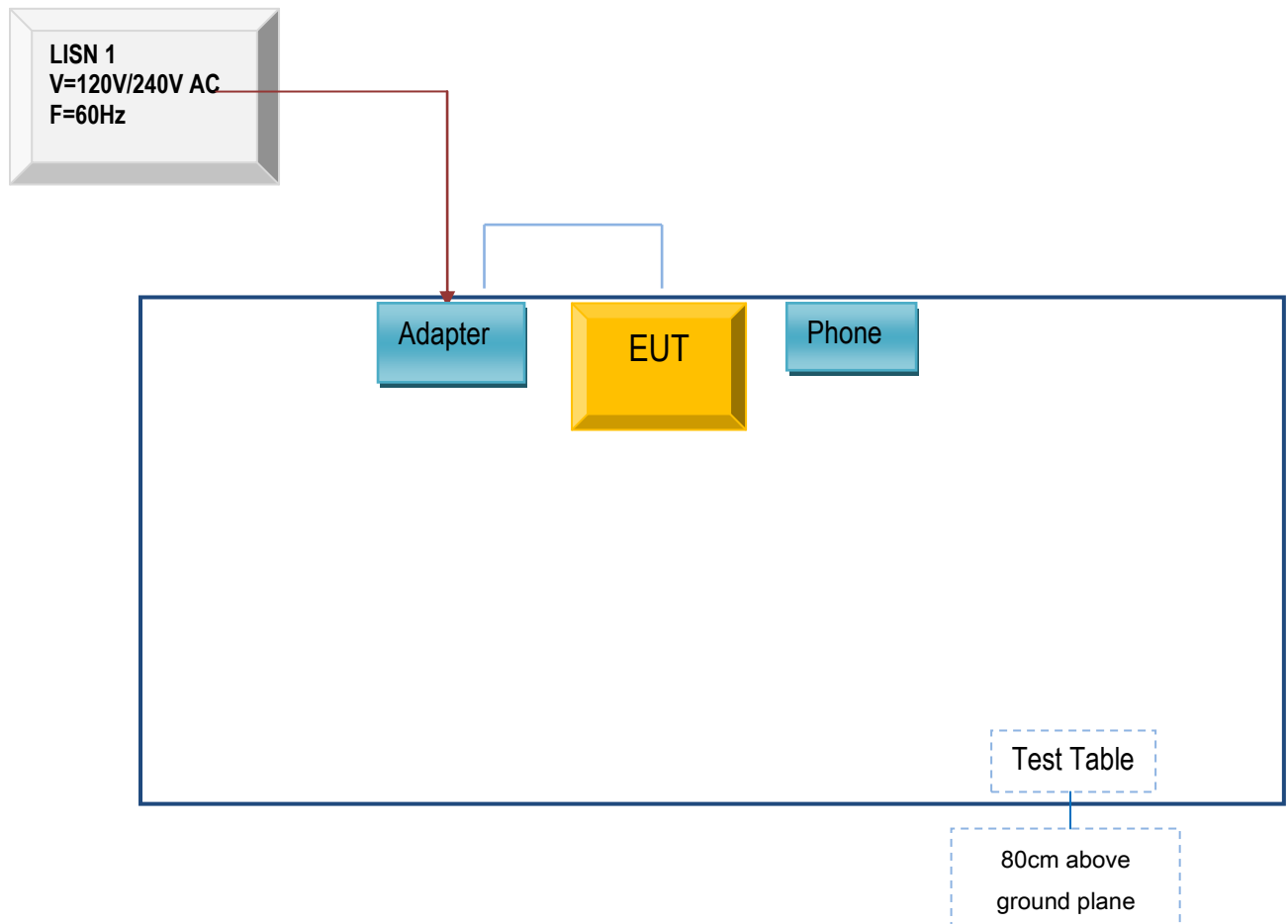


Radiated Spurious Emissions Test Setup Above  
1GHz

## Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

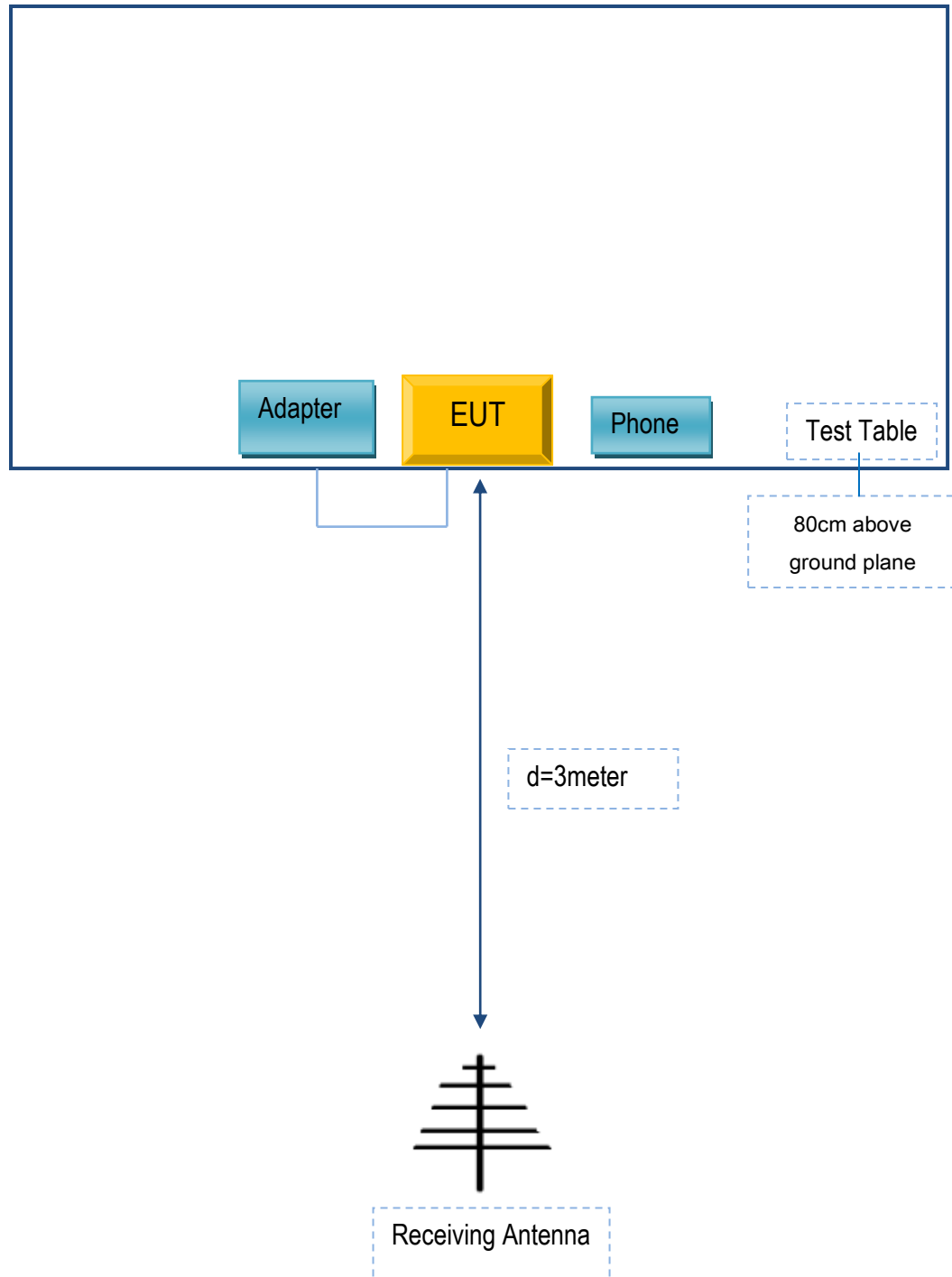
### Annex C.ii. TEST SET UP BLOCK

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

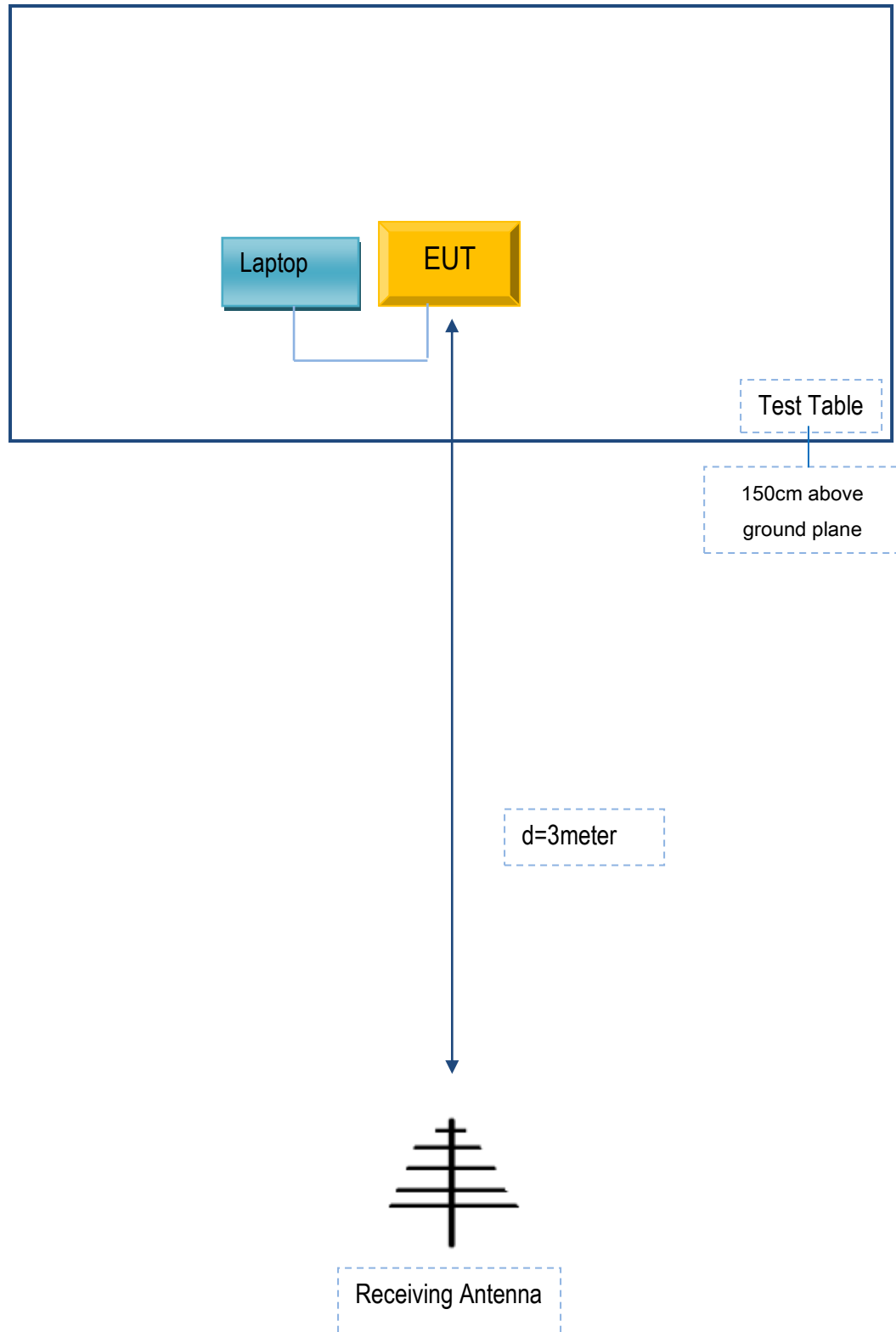




**Block Configuration Diagram for Radiated Emissions ( Below 1GHz ) .**



**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
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