TEST REPORT

Applicant: Shenzhen Xunlong Software CO.,Limited
Address: Room 219, Area 2, Block B, Mingyou Purchasing Center,Baoyuan Road, Xixiang Street,Bao'an, Shenzhen, Guangdong, China

The following sample(s) was/were submitted and identified on behalf of the client as:

Product name:	Development Board
Test model:	OPi 4 LTS
Serial model:	OPi 4
Trade:	Orange Pi ™
Manufacturer:	Orange Pi Electronic Technology (Dongguan) Co., Ltd
Address:	Beike Base of Production, Education & Research,No.48,Changping International Innovation Port,Huancheng North Road,Changping Town, Dongguan City
Sample Received Date:	Mar. 07, 2022
Testing Period:	Mar. 07, 2022~ Apr. 01, 2022

Test Requirement:

As specified by client, to determine the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyls(PBBs), Polybrominated, Diphenyl Ethers(PBDEs), Bis-(2-ethylhexyl) Phthalate (DEHP), Benzyl butyl Phthalate (BBP), Dibutyl Phthalate (DBP) and Diisobutyl Phthalate(DIBP)contents in the submitted sample in accordance with RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Test Result(s): Please refer to the following page(s);

Test Method: Please refer to the following page(s);

Compiled by: Dora Reviewed by:

Approved by: Date: 2022-10-14

Test Result(s):

1.Shell

Part No.	Part Description	Test Items	XRF Screening Result(mg/kg)	Chemical Test Result(mg/kg)	Conclusion
1	Black metal case with lettering	Pb	OL	250	Pass
		Cd	IN	N.D.	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
2	Black metal cover	Pb	OL	397	Pass
		Cd	IN	N.D.	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
3	Black metal screw	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	IN	N.D.	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	

2. Antenna 1

4	Black casing tube	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
5	Golden metal shell of interface	Pb	OL	26020#1	Pass
		Cd	IN	44	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
6	White plastic of interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
7	Metal plug pin of interface	Pb	OL	26500#1	Pass
		Cd	IN	N.D.	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	

8	Tin solder of interface	Pb	OL	249	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
9	Golden metal contact pin of antenna	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
10	Black plastic of antenna	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
11	Black wire jacket of antenna	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	

12	Silvery metal mesh of antenna	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
13	Transparent wire jacket of antenna	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
14	Core of wire of transparent wire jacket	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	

3. Antenna 2

15	Black plastic rod	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	

16	Black plastic shell	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
17	Black plastic support	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	IN	N.D.	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
18	Black casing tube	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
19	Golden metal tube	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	

20	Tin solder of golden metal tube	Pb	OL	249	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
21	Black plastic nut of interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
22	Silvery metal shell of interface	Pb	OL	95	Pass
		Cd	IN	18	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
23	Red rubber ring of interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	192	
		BBP	/	N.D.	
		DBP	/	N.D.	

24	White plastic of interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
25	Metal plug pin of interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
26	Brown translucent leather of antenna	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
27	Silvery metal mesh of antenna	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	

28	Transparent wire jacket of antenna	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
29	Core of wire of transparent wire jacket	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	

4. PCBA

30	Blue PCB	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	IN	N.D.	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
31	Silvery metal shell of USB interface 1	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	

32	White plastic of USB interface 1	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
33	Metal plug pin of USB interface 1	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
34	Silvery metal shell of cable interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
35	Black plastic of cable interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	IN	N.D.	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	

36	Metal plug pin of cable interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
37	Yellow LED of cable interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
38	Green LED of cable interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
39	Metal pin of cable interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	

40	Silvery metal shell of USB interface 2	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	IN	N.D.	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
41	Blue plastic of USB interface 2	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	IN	N.D.	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
42	Metal plug pin of USB interface 2	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
43	Black plastic of DC5V interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	IN	N.D.	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	

44	Silvery metal contact pin of DC5V interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
45	Metal plug pin of DC5V interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
46	Silvery metal shell of Type-C interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	IN	N.D.	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
47	Black plastic of Type-C interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	

48	Metal plug pin of Type-C interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
49	Silvery metal shell of HDMI interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
50	Black plastic of HDMI interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
51	Metal plug pin of HDMI interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	

52	Black plastic of AV interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
53	Golden metal contact pin of AV interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
54	Black rubber sleeve of MIC	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	363	
		BBP	/	N.D.	
		DBP	/	N.D.	
55	Microphone body of MIC	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	

56	Black plastic of pin header	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	IN	N.D.	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
57	Metal plug pin of pin header	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
58	Silvery metal shell of U1000chip	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
59	Green PCB of U1000chip	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	

60	Chip of U1000chip	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
61	Grey colloid of U1000chip	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
62	Black plastic of GP102 interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
63	White plastic of GP102 interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	

64	Metal plug pin of GP102 interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
65	Golden metal shell	Pb	IN	333	Pass
		Cd	IN	N.D.	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
66	White plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
67	Silvery metal shell of TF interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	IN	N.D.	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	

68	Black plastic of TF interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
69	Metal plug pin of TF interface	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
70	Black plastic button of SW1 light touch switch	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
71	Silvery metal shell of SW1 light touch switch	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	IN	N.D.	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	

72	Black plastic of SW1 light touch switch	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
73	Metal shrapnel of SW1 light touch switch	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	IN	N.D.	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
74	Chip 1 of SMD	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
75	Chip 2 of SMD	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	

76	Chip 3 of SMD	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
77	SMD capacitor	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
78	SMD resistor	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
79	SMD diode	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	

80	Silver crystals of SMD	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
81	SMD LED	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
82	SMD audion	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
83	Black crystals of SMD	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	

84	SMD inductor	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	IN	N.D.	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
85	Silvery metal cover of SMD PCBA	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	/	/	
		DIBP	/	/	
		DEHP	/	/	
		BBP	/	/	
		DBP	/	/	
86	Green PCB of SMD PCBA	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	
87	Chip of SMD PCBA	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	

88	Crystal oscillator of SMD PCBA	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		DIBP	/	N.D.	
		DEHP	/	N.D.	
		BBP	/	N.D.	
		DBP	/	N.D.	

Note: 1.N.D. = Not Detected (<MDL) MDL = Method Detection Limit
1mg/kg = 1ppm =0.0001% /=Not Regulated or Not Applicable
2. BL = Below the XRF screening limit
IN = Further chemical test will be conducted when the screening result inconclusive
OL = Further chemical test will be conducted while the result is above the screening limit.
3. For metal samples, the sample is negative for Cr(VI), if the Cr(VI) concentration is less than 0.10 μg/cm², the coating is considered a non- Cr(VI) based coating;
The sample is positive for Cr(VI), if the Cr(VI) concentration is greater than 0.13 μg/cm², The sample coating is considered to contain Cr(VI);
The result is considered to be inconclusive, the Cr(VI) concentration is between the 0.10 μg/cm² and 0.13 μg/cm², unavoidable coating variations may influence the determination.
Because the storage condition and production date of the sample are not known, the test results of the sample of hexavalent chromium can only represent the state of hexavalent chromium in the samples tested.

Remark: 1. When conducting the test for PBBs&PBDEs, XRF was introduced to screen Br Exclusively; When conducting the test for Hexavalent Chromium, XRF was introduced to screen Chromium exclusively.
2. According to the client's statement , the material of the sample(s) comply with RoHS directive 2011/65/EU Annex III Exemption, Corresponding exemption clause:
#1 6(c) Lead is exempted as copper alloy containing up to 4% lead by weight .
3. Part No.8, 20 Resubmitted Date: Mar. 30, 2022.

Test Method:

When screening results exceed the XRF screening limit in IEC 62321-3-1: 2013, further use of chemical methods are required to test the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls(PBBs) and Polybrominated Diphenyl Ethers(PBDEs)

1. XRF screening limits in mg/kg for regulated elements according to IEC 62321-3-1:2013

Element	Limit of IEC 62321-3-1:2013 (mg/kg)		
	Polymers	Metals	Composite material
Pb	BL≤(700-3σ) <X <(1300+3σ)≤OL	BL≤(700-3σ) <X <(1300+3σ)≤OL	BL≤(500-3σ)<X <(1500+3σ)≤OL
Cd	BL≤(70-3σ)<X < (130+3σ) ≤OL	BL≤(70-3σ)<X < (130+3σ) ≤OL	LOD <X<(150+3σ) ≤OL
Hg	BL≤(700-3σ)<X <(1300+3σ)≤OL	BL≤(700-3σ)<X <(1300+3σ)≤OL	BL≤(500-3σ)<X <(1500+3σ)≤OL
Cr	BL≤(700-3σ)< X	BL≤(700-3σ)< X	BL≤(500-3σ)< X
Br	BL≤(300-3σ)< X	/	BL≤(250-3σ)< X

Note: BL= Below the XRF screening limit OL=Over the XRF screening limit
X=The symbol"X"marks the region where further investigation is necessary.
3σ =The reproducibility of analytical instruments LOD= Detection limit

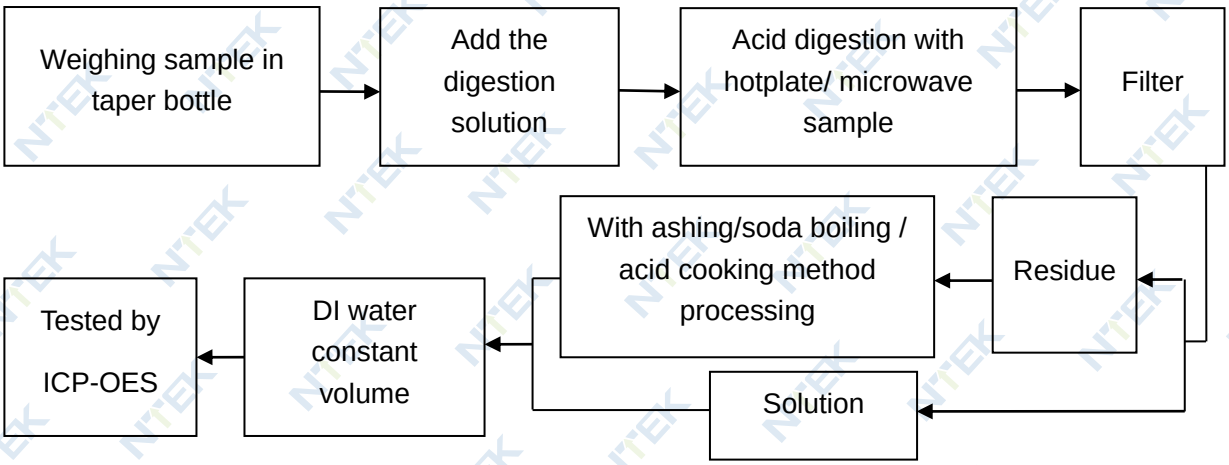
2. Chemical Test

Test item	Test method	Test instrument	MDL	Limit△
Lead (Pb)	IEC 62321-5:2013 Ed.1.0	ICP-OES	10 mg/kg	1000 mg/kg
Cadmium (Cd)	IEC 62321-5:2013 Ed.1.0	ICP-OES	10 mg/kg	100 mg/kg
Mercury (Hg)	IEC 62321-4:2013+AMD1:2017	ICP-OES	10 mg/kg	1000 mg/kg
Hexavalent Chromium(Cr(VI))	IEC 62321-7-1:2015 Ed.1.0	UV-Vis	0.10 μg/cm^2	1000 mg/kg
	IEC 62321-7-2:2017 Ed.1.0		8 mg/kg	
Polybrominated Biphenyls(PBBs)	IEC 62321-6:2015 Ed.1.0	GC-MS	100 mg/kg	1000 mg/kg
Polybrominated, Diphenyl Ethers(PBDEs)	IEC 62321-6:2015 Ed.1.0	GC-MS	100 mg/kg	1000 mg/kg
Bis-(2-ethylhexyl) Phthalate (DEHP)	IEC 62321-8:2017 Ed.1.0	GC-MS	50 mg/kg	1000 mg/kg
Benzyl butyl Phthalate (BBP)	IEC 62321-8:2017 Ed.1.0	GC-MS	50 mg/kg	1000 mg/kg
Dibutyl Phthalate (DBP)	IEC 62321-8:2017 Ed.1.0	GC-MS	50 mg/kg	1000 mg/kg
Diisobutyl Phthalate (DIBP)	IEC 62321-8:2017 Ed.1.0	GC-MS	50 mg/kg	1000 mg/kg

△Limit is from RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

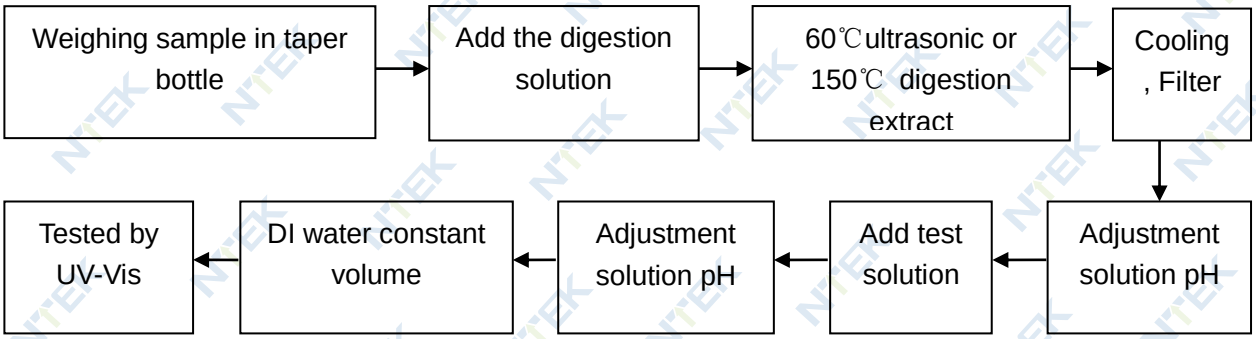
Test Flow:

1. Lead(Pb), Cadmium(Cd) , Mercury (Hg)

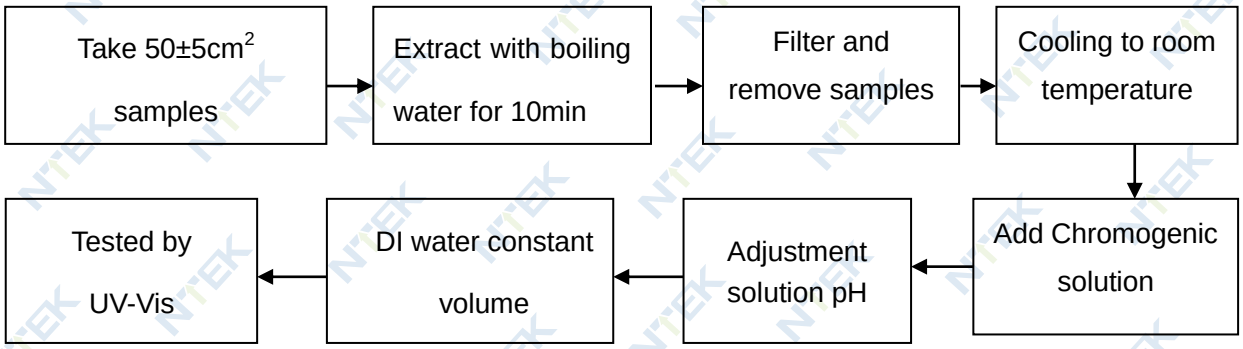


2. Hexavalent Chromium(Cr(VI))

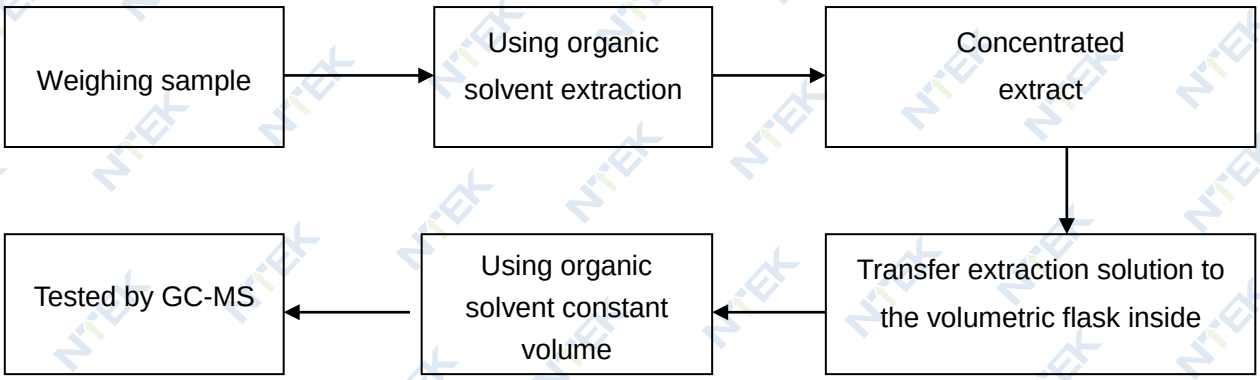
2.1 Non- metal sample(s)



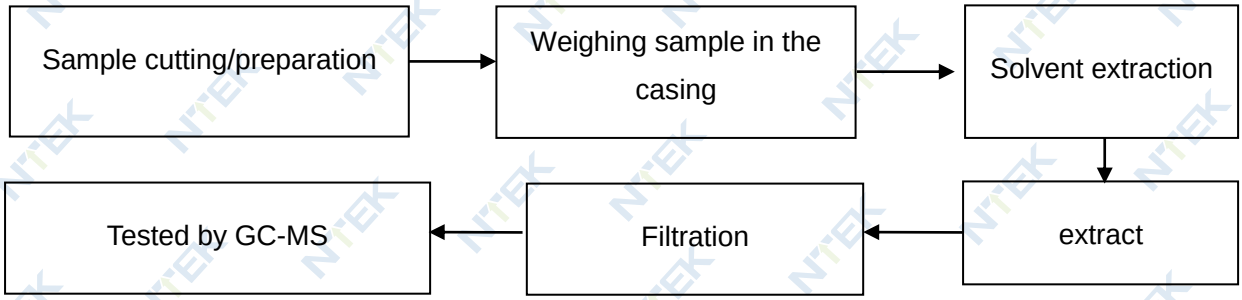
2.2 Metal sample(s)



3. PBBs/ PBDEs



4. Phthalates



Sample photo(s):

Fig.1

Fig.2

Fig.3

Fig.4

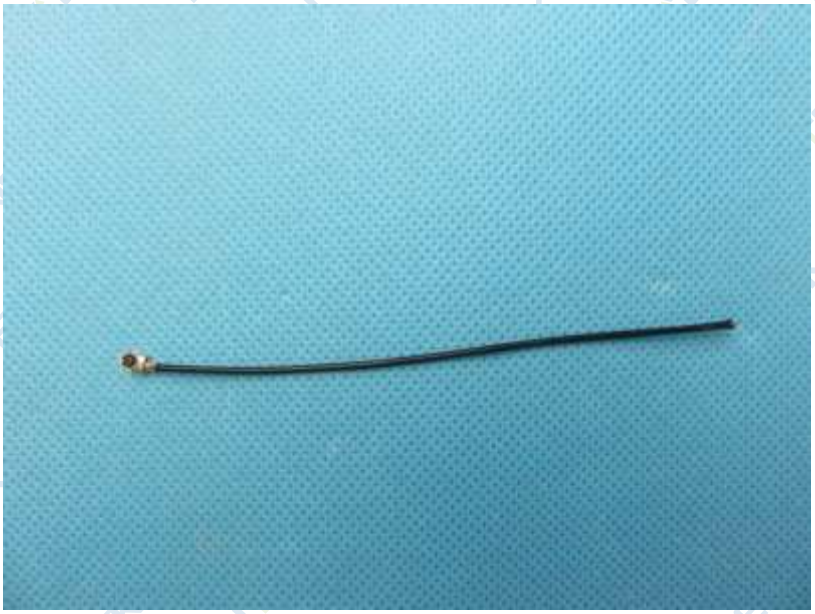


Fig.5

Fig.6

Fig.7

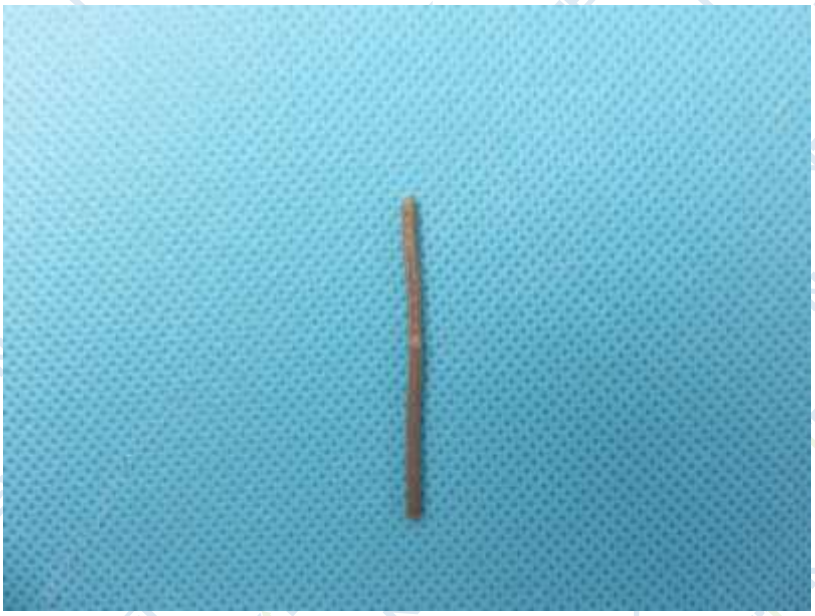


Fig.8

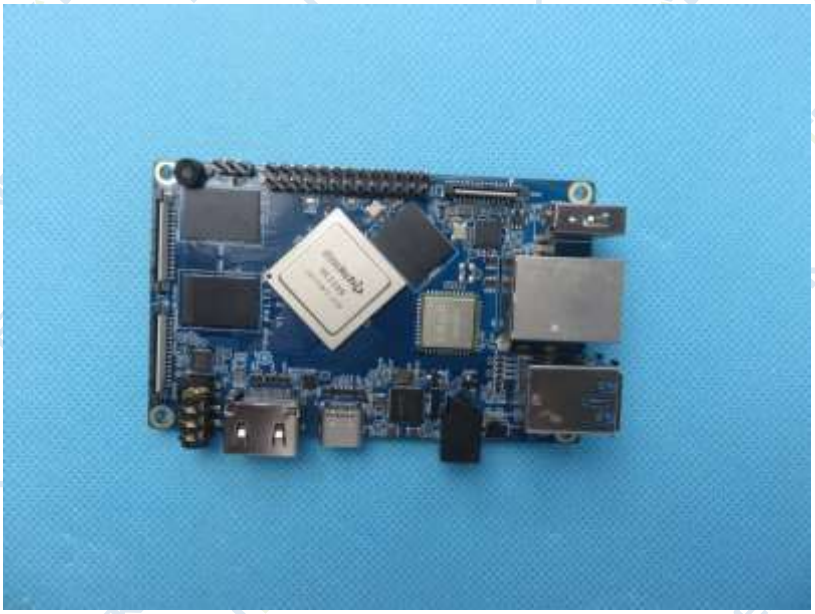


Fig.9

Fig.10

Fig.11

****End of Report****

The test results or data in this report will be used only for education, scientific research, enterprise product development and internal quality control or other purposes.

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