

Test Report

Report No.: MTi221228001-05C1

Date of Issue: January 06, 2023

Client: Huizhou Gold Rose Technology Co., Ltd

Product: Natural Energy Light

Test Type: Commissioned Inspection

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>



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Basic Information			
Client	Huizhou Gold Rose Technology Co., Ltd		
Client Address	Zone D-1, 5th Floor, No. 12 Plant, Songyang Road, Zhongkai High-tech Zone, Huizhou City		
Manufacturer	Huizhou Gold Rose Technology Co., Ltd		
Manufacturer Address	Zone D-1, 5th Floor, No. 12 Plant, Songyang Road, Zhongkai High-tech Zone, Huizhou City		
Factory	Huizhou Gold Rose Technology Co., Ltd		
Factory Address	Zone D-1, 5th Floor, No. 12 Plant, Songyang Road, Zhongkai High-tech Zone, Huizhou City		
Sample Information			
Product	Natural Energy Light	Model	S18
Serial Model	S18Pro, S19, S20, S30	Brand/ Trademark	Voraiya, Rosa Rugosa
Sample Number	1	Sample Description	/
Testing Information			
Sample Receive Date	December 29, 2022	Sample Source	Customer provided
Test Specification	With reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU(RoHS 2.0) .		
Date of Tests	December 29, 2022- January 05, 2023		
Test Address	Chemistry lab		
Test Results:	Please refer to next page(s).		
Conclusion:	The submitted sample(s) complied with the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), PBBs, PBDEs, DBP, BBP, DEHP, DIBP content requirement according to RoHS Directive (EU) 2015/863 amending 2011/65/EU(RoHS 2.0).		
Compiled:	Tobey Lin	Reviewed:	Junsheng Chen
		Approved:	Olivia Feng

Test Method:

1. With reference to IEC 62321-3-1:2013, screening by XRF spectroscopy.
2. Wet chemical test method.
 - a. With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
 - b. With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.
 - c. With reference to IEC 62321-4:2017, determination of Mercury by ICP-OES.
 - d. With reference to IEC 62321-7-1:2015 & IEC 62321-7-2:2017, determination of Hexavalent chromium by Colorimetric method using UV-Vis.
 - e. With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.
3. With reference to IEC 62321-8: 2017, determination of phthalates by GC-MS.

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Testing Result:

Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
1	White plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP\DEHP\DIBP)	--	N.D.	
2	White plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP\DEHP\DIBP)	--	N.D.	
3	Black plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP\DEHP\DIBP)	--	N.D.	
4	Black plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP\DEHP\DIBP)	--	N.D.	

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Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
5	White plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
6	Black plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
7	Silver metal screw	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	X	N.D.	
		Br(PBBs&PBDEs)	--	--	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	--	
8	Silver metal screw	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	--	--	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	--	
9	Black metal screw	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	--	--	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	--	

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Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
10	Copper coil	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	--	--	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	--	
11	Yellow plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
12	Black foam	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
13	Translucent plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
14	Translucent plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	

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Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
15	Gray plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
16	Black plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
17	Black plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
18	Black plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
19	Black plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	

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Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
20	Black metal	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	--	--	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	--	
21	Silver magnet	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	--	--	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	--	
22	Black IC	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
23	Black resistance	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
24	Green PCB	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	

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Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
25	Yellow capacitor	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
26	White label	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
27	Black IC	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
28	Black resistance	Pb [#]	OL	1778 [#]	Exempt
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
29	Black IC	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	

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Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
30	Diode	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
31	Black IC	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
32	Capacitor	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
33	Black IC	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
34	Capacitor	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	

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Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
35	Black IC	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
36	Black IC	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
37	Black IC	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
38	Crystal oscillator	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
39	Black IC	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	

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Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
40	Inductor	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
41	Capacitor	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
42	Electron device	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
43	Glass	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	--	--	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	--	
44	White plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	

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Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
45	White plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
46	White plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
47	LED	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
48	Solder	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	--	--	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	--	
49	Silver metal	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	--	--	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	--	

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Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
50	Black plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
51	White plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
52	Black plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
53	Silver metal	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	X	N.D.	
		Br(PBBs&PBDEs)	--	--	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	--	
54	White line skin	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	

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Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
55	Black line skin	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
56	Red line skin	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
57	Yellow line skin	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
58	Green line skin	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
59	Blue line skin	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	

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Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
60	Silver metal line	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	--	--	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	--	
61	Yellow LED	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
62	White LED	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
63	Black resistance	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
64	Black resistance	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	

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Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
65	Silver metal	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	--	--	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	--	
66	Black plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
67	Black soft plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
68	Black plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
69	White plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	

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Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
70	White plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
71	White line skin	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
72	White line skin	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
73	Red line skin	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
74	Copper metal line	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	--	--	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	--	

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Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
75	Silver metal	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	--	--	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	--	
76	White plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
77	Silver metal	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	--	--	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	--	
78	Silver metal	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	--	--	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	--	
79	Purple plastic	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI)	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	

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Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
80	Black IC	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
81	Silver metal	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	X	N.D.	
		Br(PBBs&PBDEs)	--	--	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	--	
82	Green PCB	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
83	Solder	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	--	--	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	--	
84	White LED	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	

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Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
85	Black IC	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
86	Black resistance	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
87	Diode	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
88	Black IC	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
89	Solder	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	--	--	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	--	

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Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
90	Black capacitor	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
91	Black capacitor	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
92	Blue ceramics capacitors	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
93	Blue ceramics capacitors	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
94	Audion	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	

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Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
95	Green capacitor	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
96	Inductor	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
97	Black capacitor	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
98	Silver metal	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	--	--	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	--	
99	Black capacitor	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	

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Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
100	Blue ceramics capacitors	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	
101	Black capacitor	Pb	BL	/	Pass
		Cd	BL	/	
		Hg	BL	/	
		Cr(Cr(VI))	BL	/	
		Br(PBBs&PBDEs)	BL	/	
		Phthalate(DBP\BBP \DEHP\DIBP)	--	N.D.	

Remark:

- (1) (a) It is the result on total Br while test item on restricted substances is PBBs/PBDEs. It is the result on total Cr while test item on restricted substances is Cr⁶⁺.
- (b) Results are obtained by XRF for primary screening, and further chemical testing by ICP-OES (for Cd, Pb, Hg), UV-Vis (for Cr(VI)) and GC-MS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC62321-3-1:2013 (unit: mg/kg).

Element	Polymers	Metals	Composite Material
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$
Br	$BL \leq (300-3\sigma) < X$	NA	$BL \leq (250-3\sigma) < X$

(c) OL=Over Limit, BL=Below Limit, X=inconclusive, LOD=Limit of Detection, NA=not applicable, -- = No Testing

(d) The XRF screening test for RoHS elements-The reading may be different to the actual content in the sample be of non-uniformity composition

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(2) (a) mg/kg=ppm=0.0001%, N.D.=not detected (<MDL)

(b) Unit and Method Detection Limit(MDL) in wet chemical test

Test Items	Unit	MDL	Limit
Pb	mg/kg	2	1000
Cd	mg/kg	2	100
Hg	mg/kg	2	1000
Cr ⁶⁺	mg/kg	See below	1000
PBBs	mg/kg	See below	1000
PBDEs	mg/kg	See below	1000
DBP	mg/kg	50	1000
BBP	mg/kg	50	1000
DEHP	mg/kg	50	1000
DIBP	mg/kg	50	1000

The MDL for single compound of PBBs & PBDEs is 20mg/kg, MDL of Cr⁶⁺ for metal sample is 0.10µg/cm². and MDL of Cr⁶⁺ for polymer & composite sample is 8 mg/kg.

(c) Metal sample:

-The sample is positive for Cr⁶⁺ if the Cr⁶⁺ concentration is greater than 0.13 µg/cm².

The sample coating is considered to contain Cr⁶⁺.

-The sample is negative for Cr⁶⁺ if Cr⁶⁺ is ND (concentration less than 0.10 µg/cm²).

The coating is considered a non- Cr⁶⁺ based coating

-The result between 0.10 µg/cm² and 0.13 µg/cm² is considered to be inconclusive, unavoidable coating variations may influence the determination

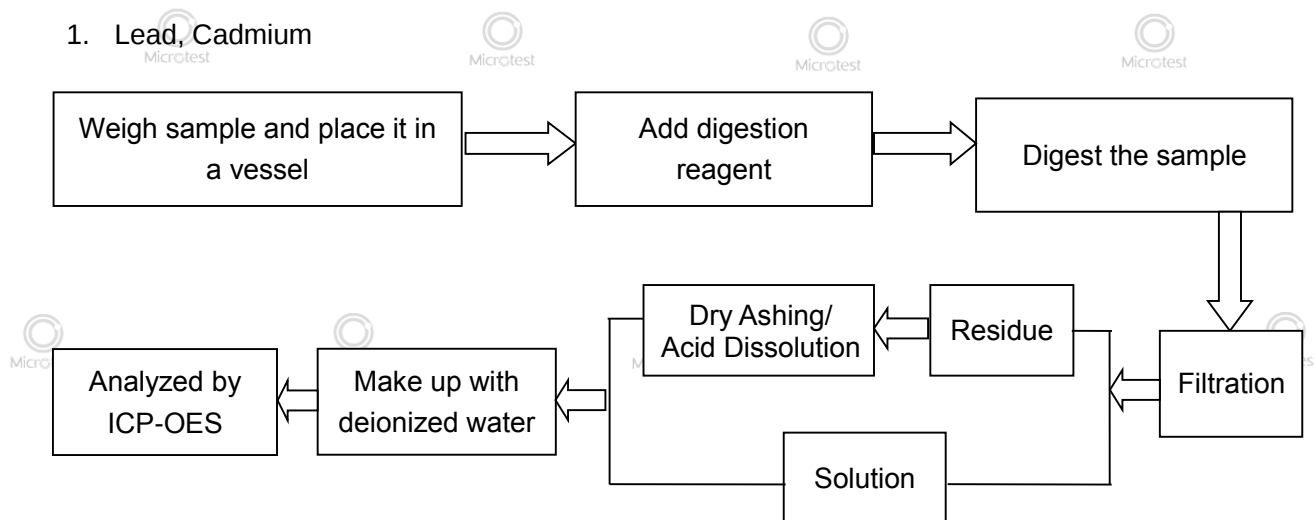
Information on storage conditions and production date of the tested sample is unavailable and thus Cr⁶⁺ results represent status of the sample at the time of testing.

(3) As specified by client to test the specified materials only.

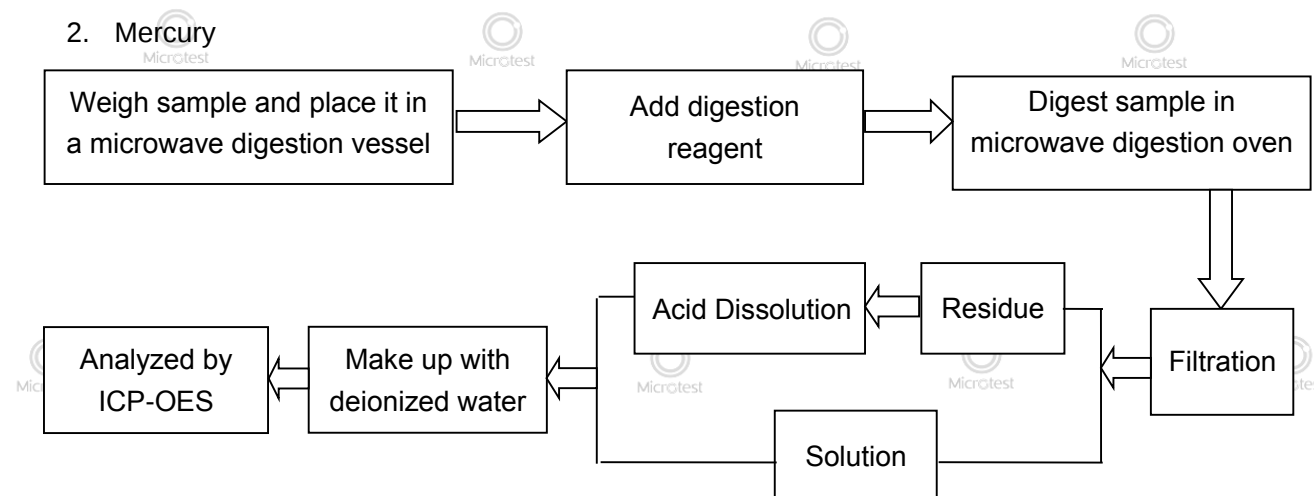
(4) #=According to the declaration from the client, Lead (Pb) in the sample are exempted by EU RoHS Directive 2011/65/EU based on ANNEX III 7(c)-I, Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors

Testing flow chart:

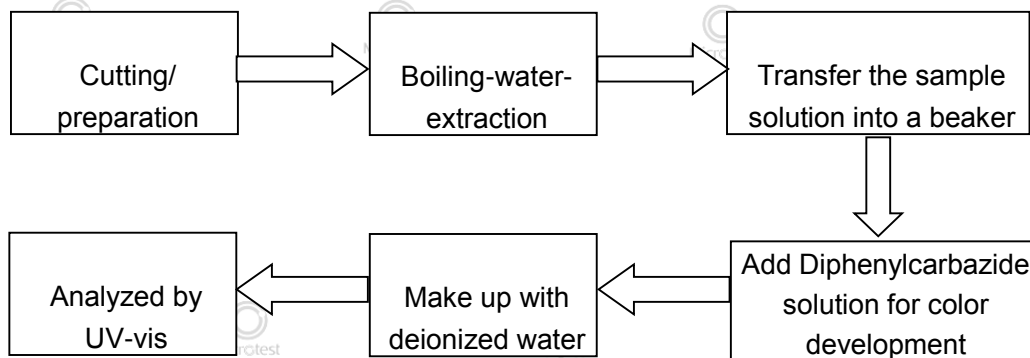
1. Lead, Cadmium



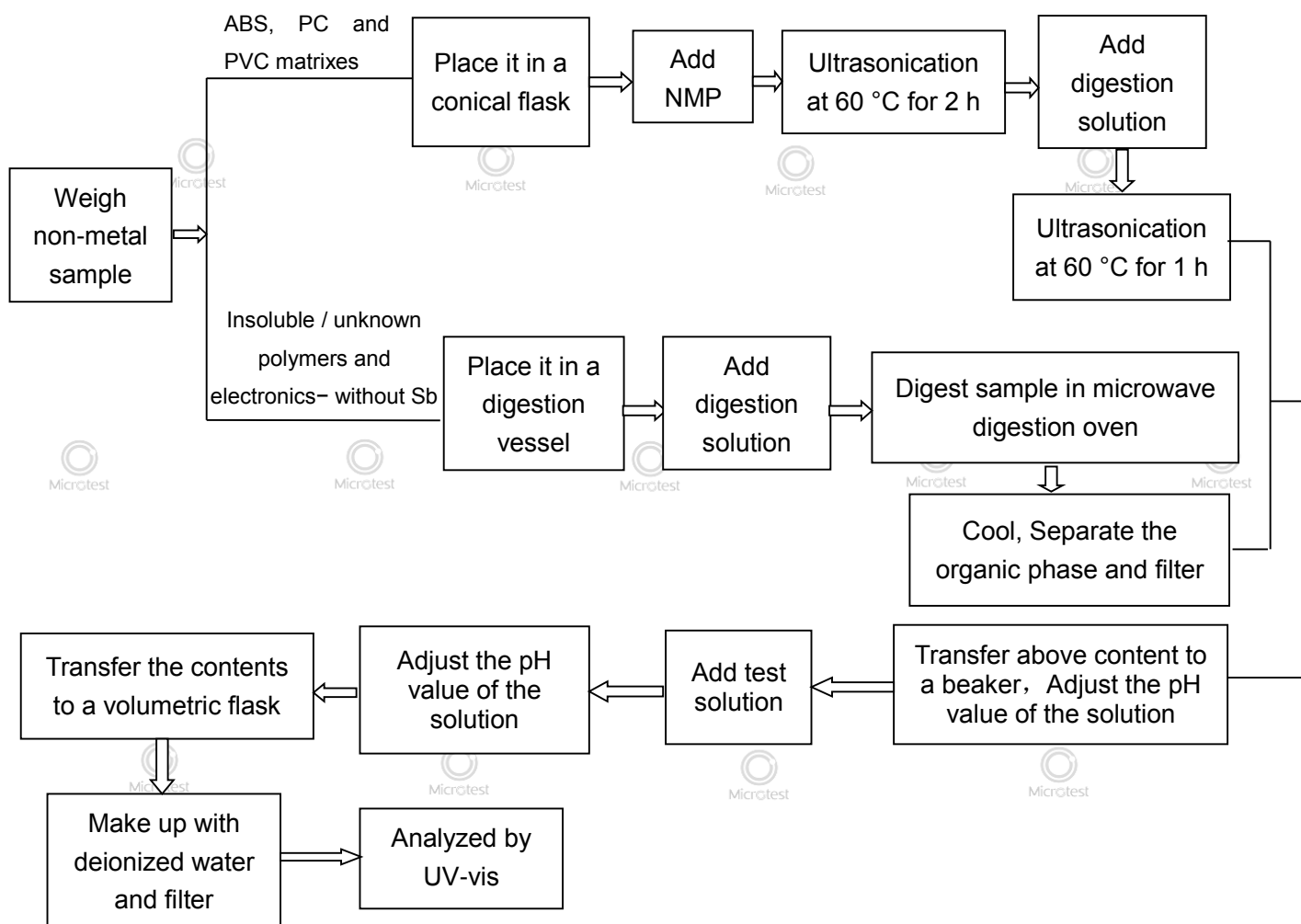
2. Mercury



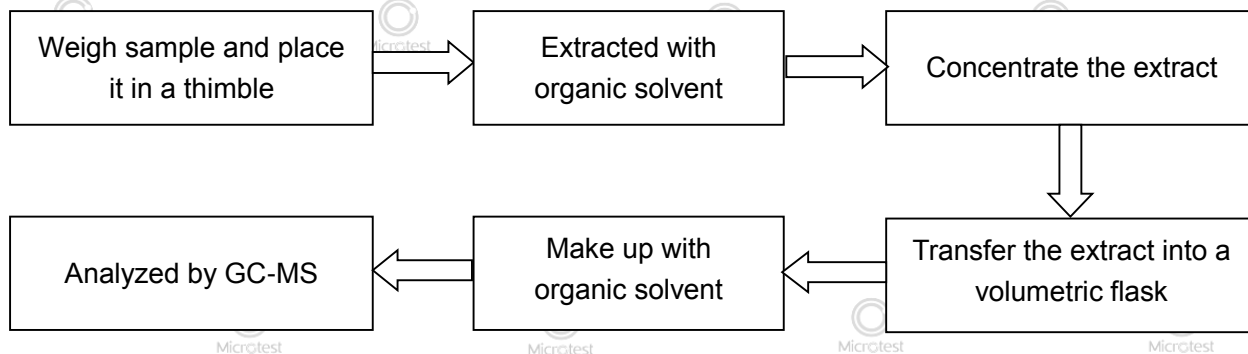
3. Hexavalent Chromium (For metal material)



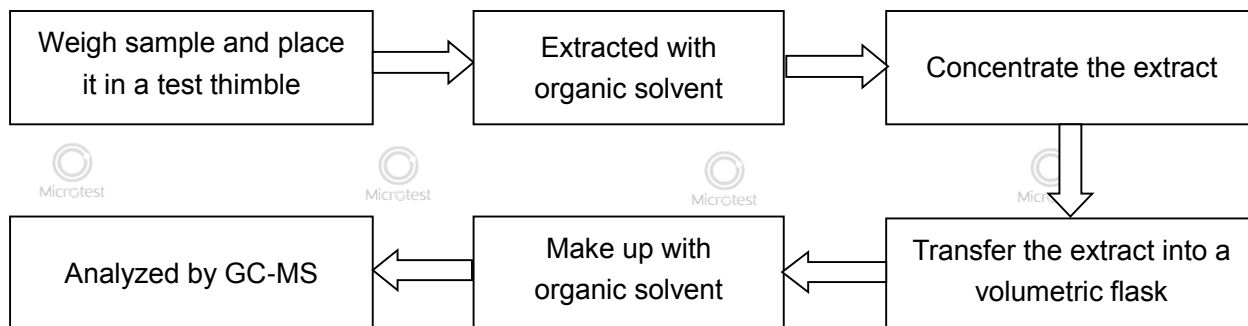
4. Hexavalent Chromium(For non-metal material):



5. Polybromobiphenyls (PBBs), Polybromodiphenyl ethers (PBDEs)

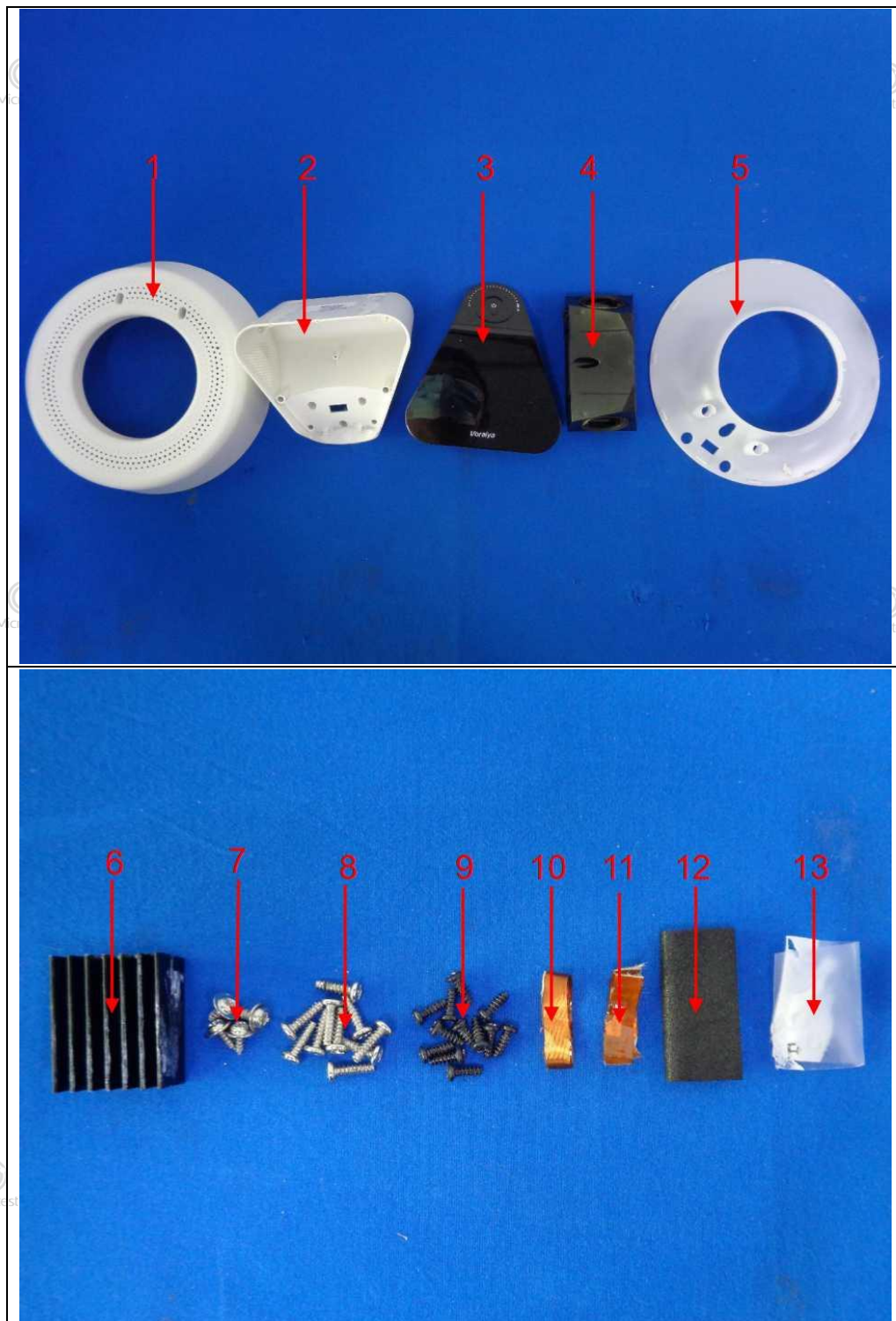


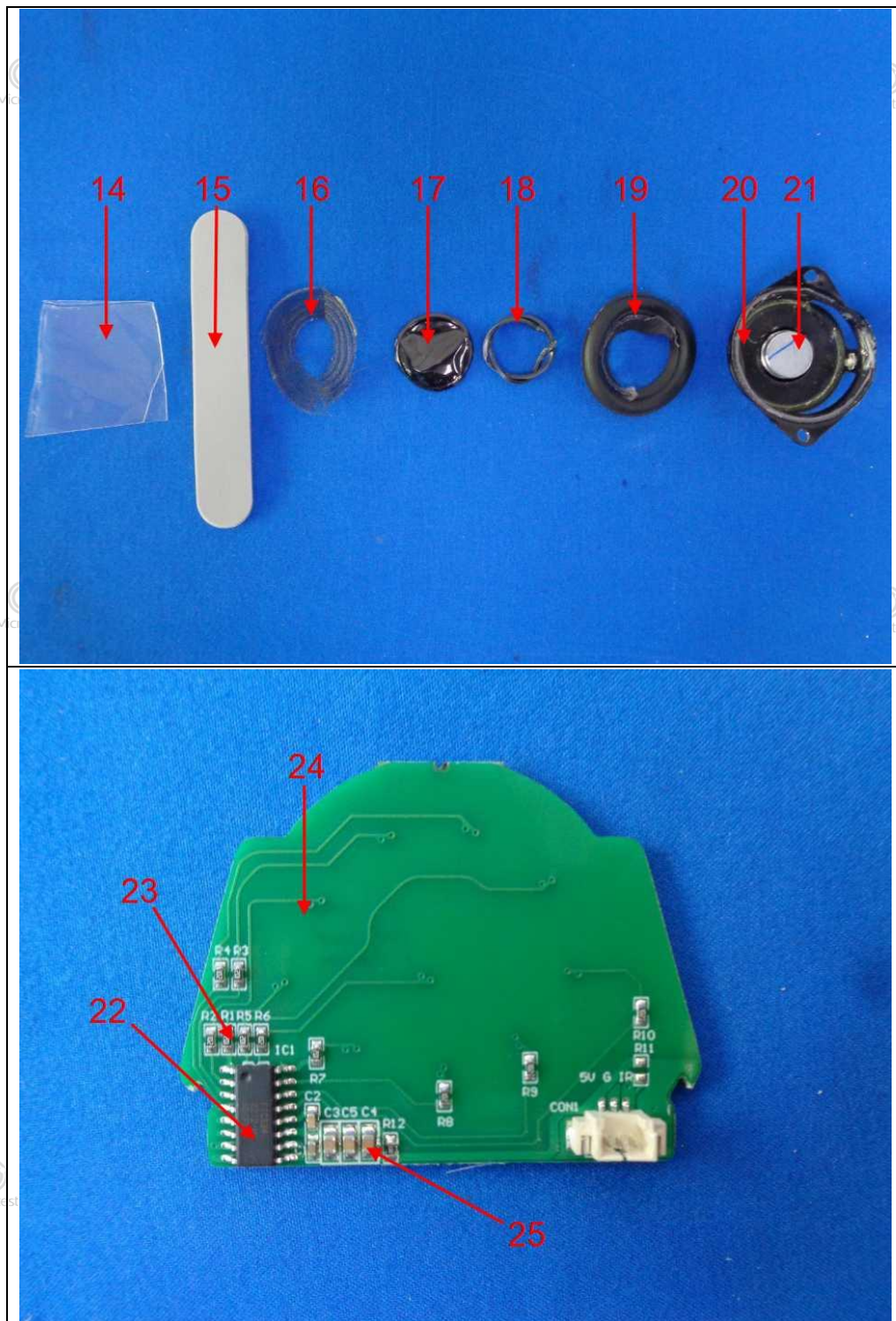
6. Phthalates(DBP, BBP, DEHP, DIBP)

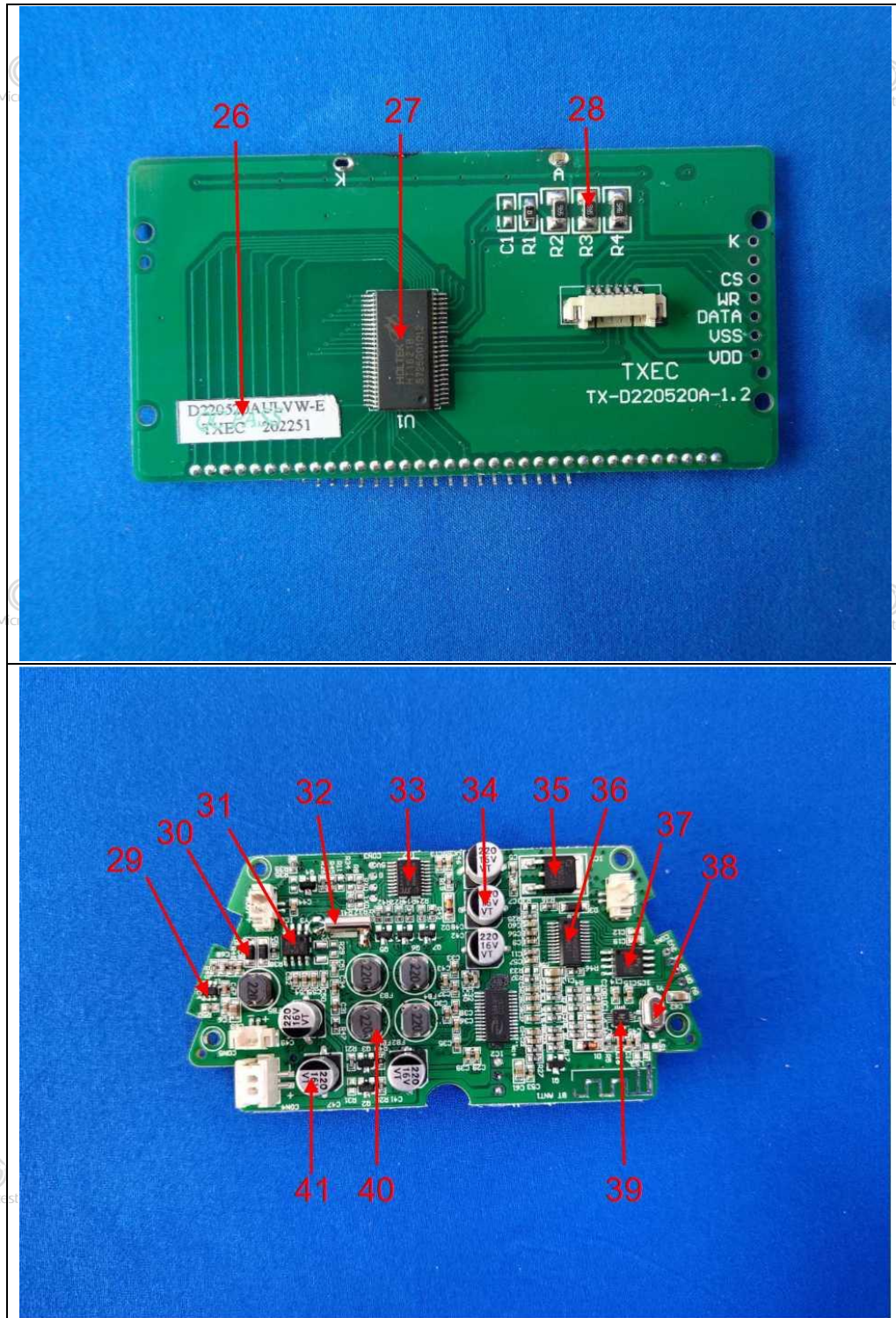


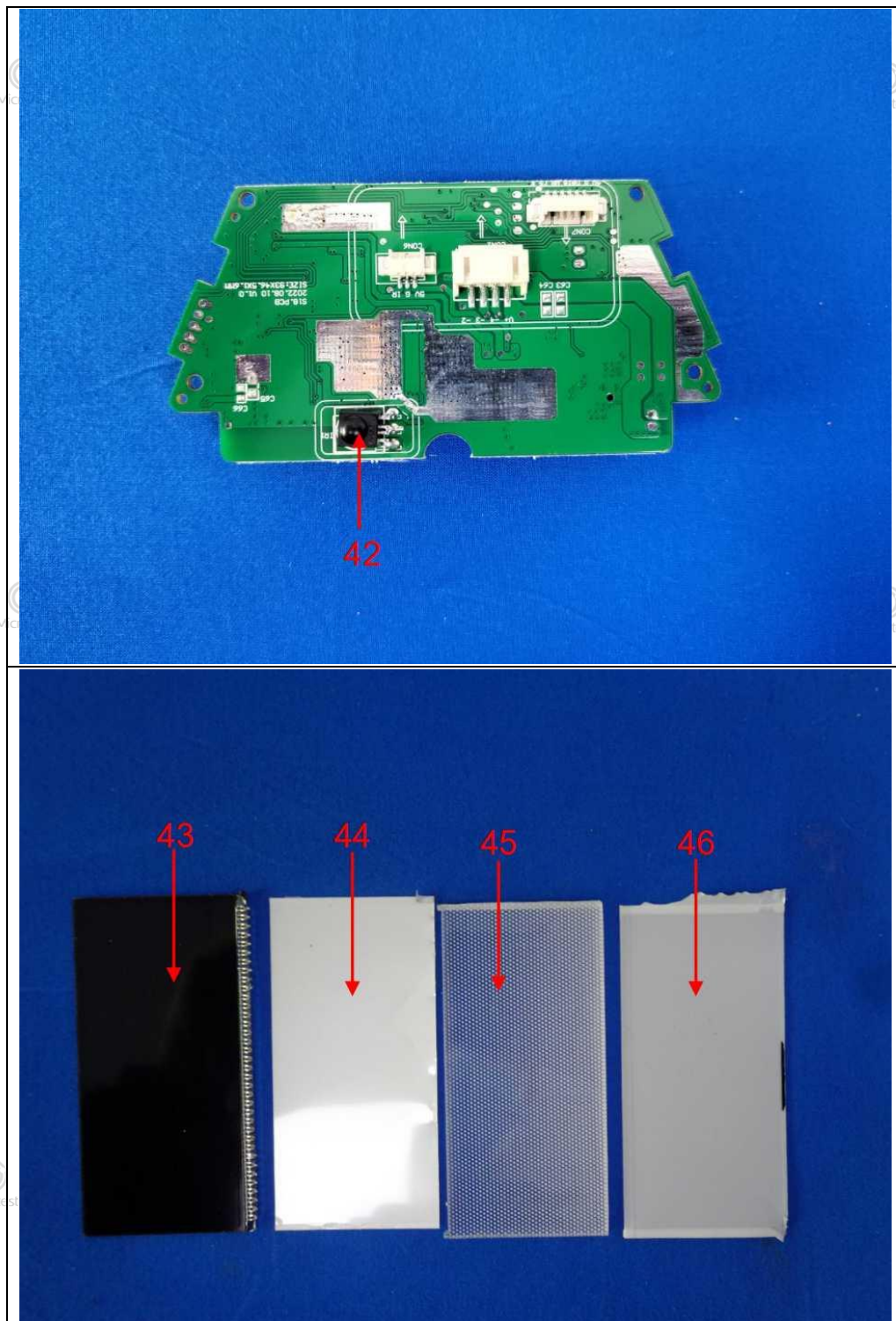
Pictures

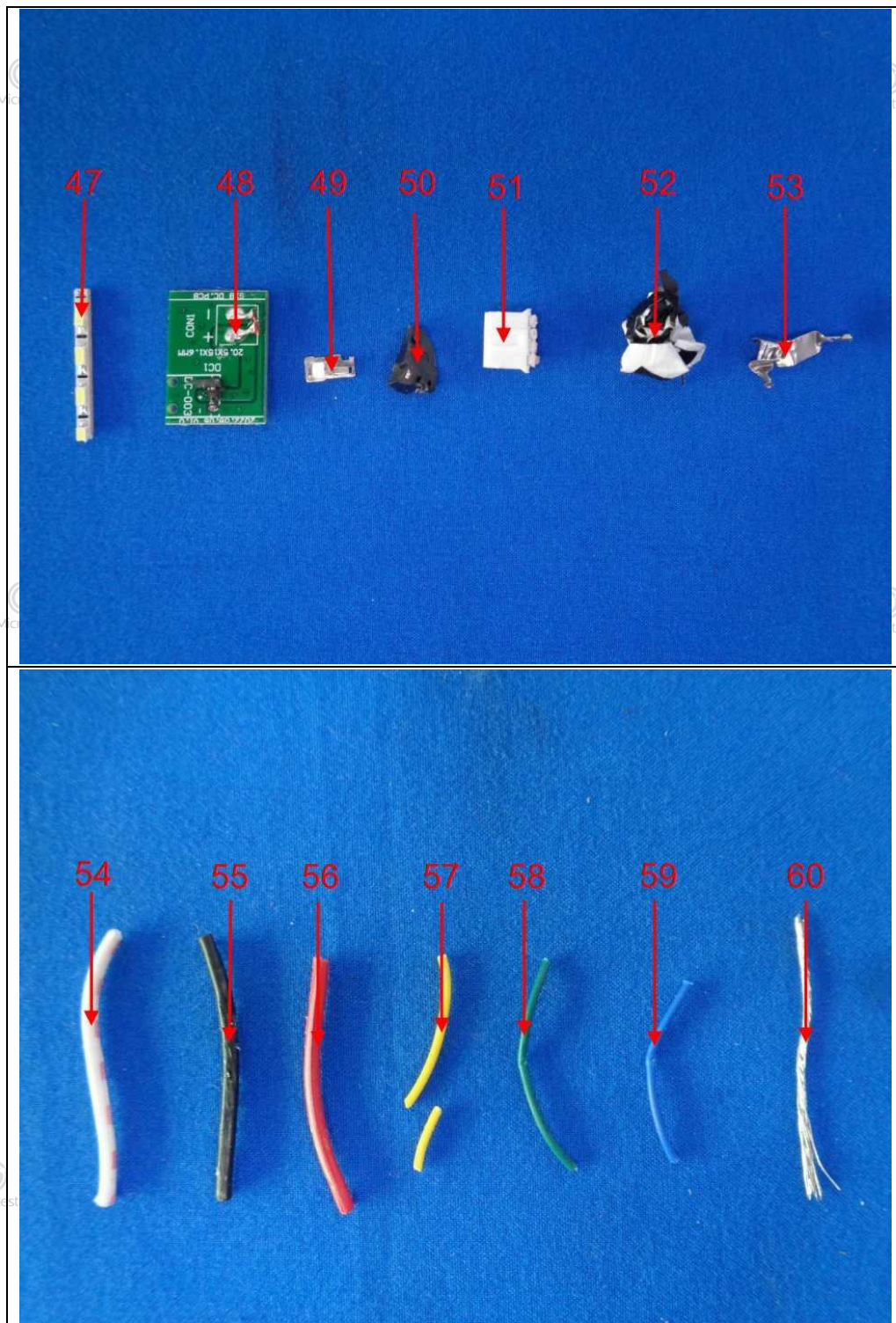


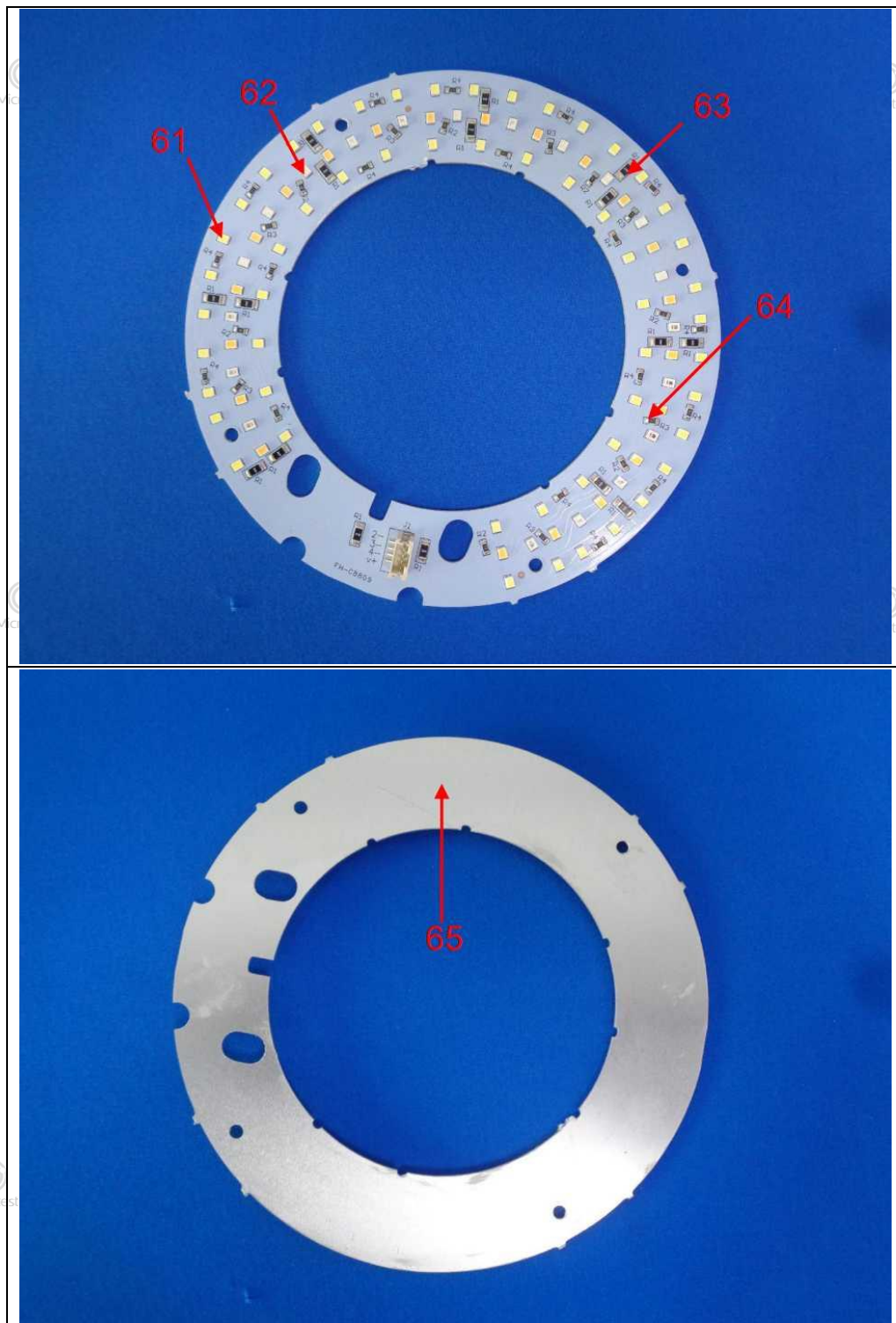


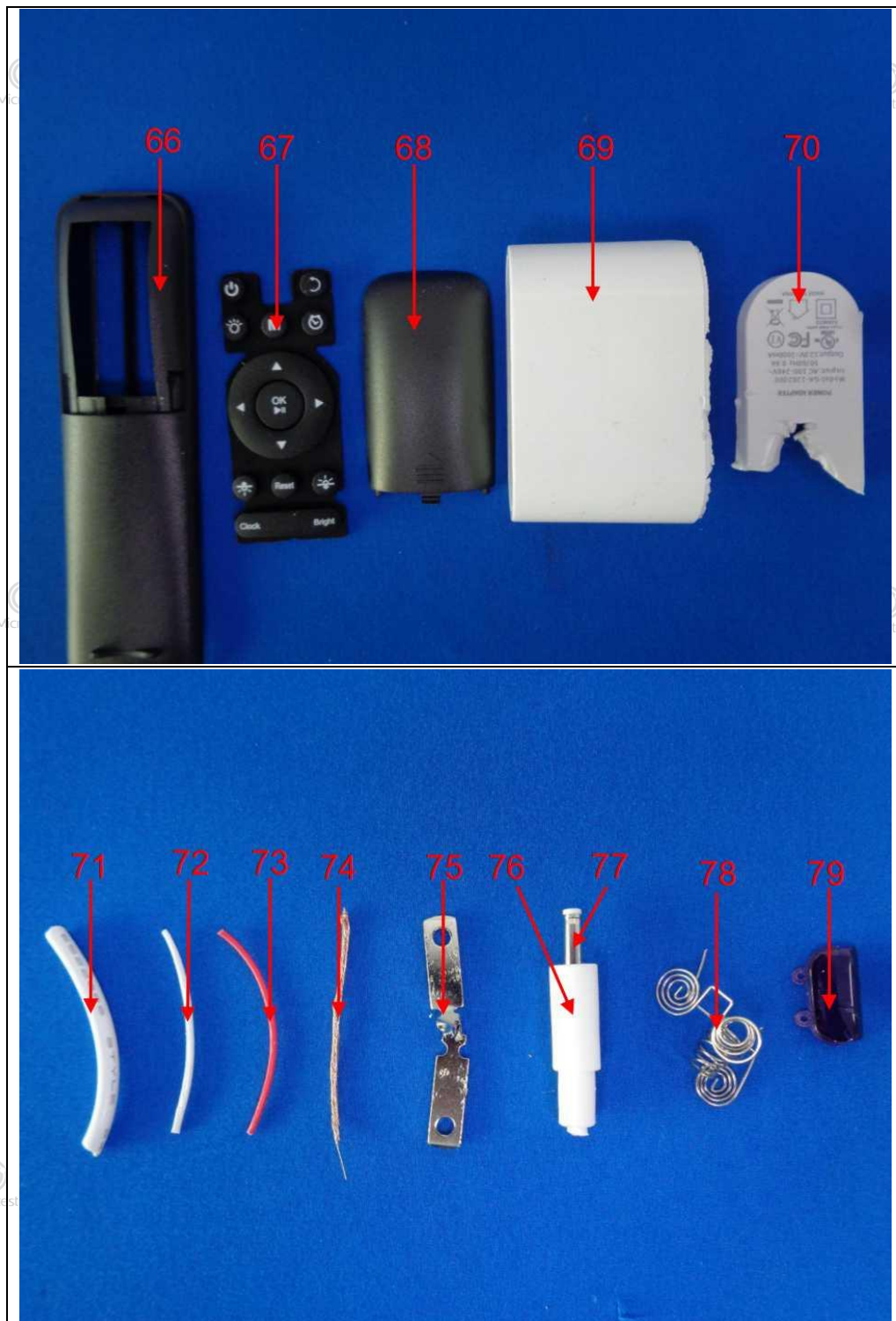


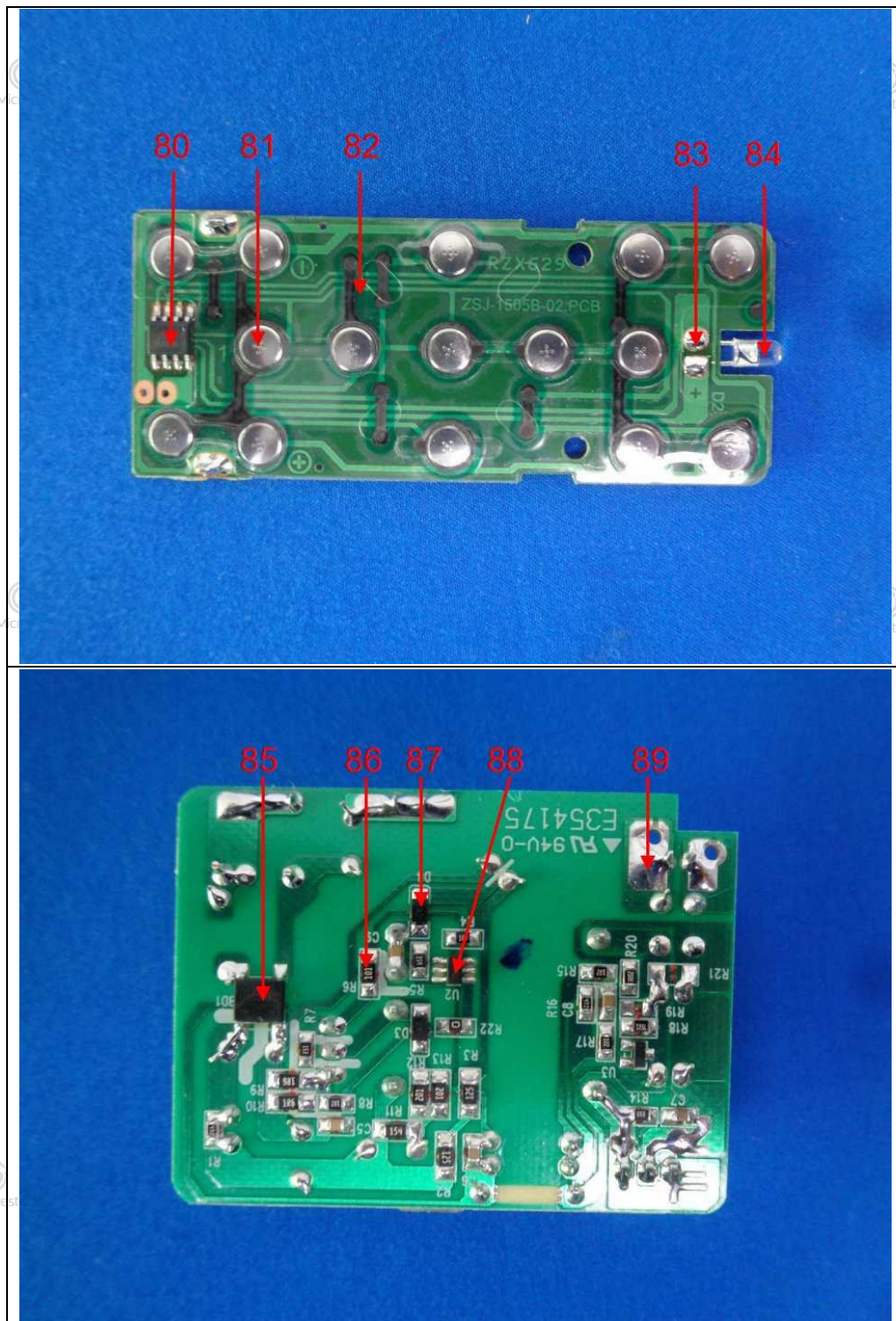


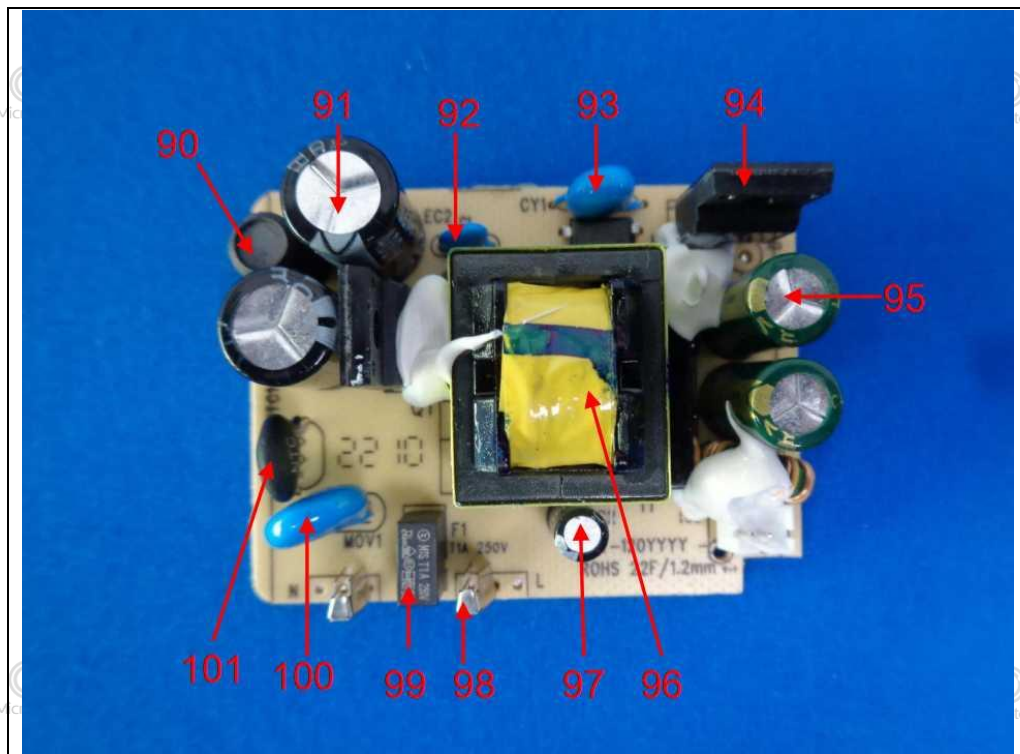












***** END *****