Verification Report

Applicant	:	**Dongguan Ruizi Technology Co., Ltd**
Address	:	**Floor 7-10, Building S7, Fenggang Tian'an Digital City, 208 Fenggang Section, Dongshen Road, Fenggang Town, Dongguan City, Guangdong Province, China**

Report on the submitted samples said to be:

Sample Name(s)	:	**LED Tri-proof Light**
Trade Mark	:	**ERVAN**
Part No.	:	**See next page**
Sample Received Date	:	**May 26, 2022**
Testing Period	:	**May 26, 2022 ~ June 06, 2022**
Date of Report	:	**June 06, 2022**
Results	:	**Please refer to next page(s).**

TEST REQUEST	CONCLUSION
As specified by client, based on the performed tests on submitted sample, the result of Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), PBBs, PBDEs, Dibutyl Phthalate(DBP), Butylbenzyl Phthalate(BBP), Di-2-ethylhexyl Phthalate(DEHP) and Diisobutyl phthalate(DIBP) content comply with the limits set by RoHS Directive 2011/65/EU with amendment (EU) 2015/863.	**PASS**

Signed for and on behalf of LCS

Young/Laboratory Manager

TP01XX-XX-XX-XXXXX-XXX
The first “X” can be A, C, means the model version. A means basic edition, C means optimized version. **The second “X” can be P, M, means Material of PC cover. P means PC, M means PMMA.** **The third “X” can be C, L, means the method connecting wire. C means general unconnectable mode , L means connectable.** **The fourth “X” can be C, P, means the electrical function. C means normal, P means can be connected to microwave and infrared.** **The fifth to sixth “X” can be 20, 30, 40. means the power, 20 means 20W, 30 means 30W, 40 means 40W.** **The seventh to tenth “X” can be 0600, 1200, 1500, means the length. 0600 means 600mm, 1200 means 1200mm, 1500 means 1500mm.** **The eleventh “X” can be K, C. means the lampshade type. K means expand, C means transparent.** **The twelfth to thirteenth “X” can be 27, 30, 40, 50, 65, means CCT. 27 means 2700K, 30 means 3000K, 40 means 4000K, 50 means 5000K, 65 means 6500K.** **The fourteenth “X” can be L, M, H, G means the light effect. L means standard light effect, M means medium light effect, H means high light effect, G means super high light effect.**
For example as below

Model	Rating	Interconnected
TP01AP-LC-40-1500K-65H	220-240V~, 50/60Hz, 40W, IP65, ta40°C	maximum 1000W
TP01AP-LP-40-1500K-40H	220-240V~, 50/60Hz, 40W, IP65, ta40°C	maximum 1000W

Results:

A. EU RoHS Directive 2011/65/EU and its amendment directives

Test method: With reference to IEC 62321-1:2013&IEC 62321-2:2021&IEC 62321-3-1:2013, Screening by X-ray Fluorescence Spectroscopy (XRF)

Sample No.	Sample Description	Results						Date of sample submission/ Resubmission
		Cd	Pb	Hg	Cr▼	Br▼		
						PBBs	PBDEs	
1	White translucent plastic lampshade	BL	BL	BL	BL	BL	BL	2022-05-26
2	Grey white plastic shell	BL	BL	BL	BL	BL	BL	2022-05-26
3	Grey white plastic shell	BL	BL	BL	BL	BL	BL	2022-05-26
4	Grey white plastic nut	BL	BL	BL	BL	BL	BL	2022-05-26
5	Black soft plastic sleeve	BL	BL	BL	BL	BL	BL	2022-05-26
6	White plastic bracket	BL	BL	BL	BL	BL	BL	2022-05-26
7	Silver metal screw	BL	BL	BL	BL	/	/	2022-05-26
8	Silver wire card	BL	BL	BL	BL	/	/	2022-05-26
9	White plastic port housing	BL	BL	BL	BL	BL	BL	2022-05-26
10	Yellow body (LED)	BL	BL	BL	BL	BL	BL	2022-05-26
11	Tin solder	BL	BL	BL	BL	/	/	2022-05-26
12	Black print white plastic sleeve	BL	BL	BL	BL	BL	BL	2022-05-26
13	Red plastic thread cover	BL	BL	BL	BL	BL	BL	2022-05-26
14	Silver metal core	BL	BL	BL	BL	/	/	2022-05-26
15	Black plastic wire cover	BL	BL	BL	BL	BL	BL	2022-05-26
16	Silver metal plate with white coating	BL	BL	BL	BL	/	/	2022-05-26
17	Yellow plastic thread cover	BL	BL	BL	BL	BL	BL	2022-05-26
18	Blue plastic thread cover	BL	BL	BL	BL	BL	BL	2022-05-26
19	Copper colored metal core	BL	BL	BL	BL	/	/	2022-05-26
20	Brown plastic thread cover	BL	BL	BL	BL	BL	BL	2022-05-26
21	White printed black plastic sleeve	BL	BL	BL	BL	BL	BL	2022-05-26
22	Silver metal screw	BL	BL	BL	BL	/	/	2022-05-26
23	Blue body (capacitance)	BL	BL	BL	BL	BL	BL	2022-05-26
24	Red plastic shell	BL	BL	BL	BL	BL	BL	2022-05-26

Sample No.	Sample Description	Results						Date of sample submission/ Resubmission
		Cd	Pb	Hg	Cr▼	Br▼		
						PBBs	PBDEs	
25	Black sealant	BL	BL	BL	BL	BL	BL	2022-05-26
26	Gold metal pin	BL	BL	BL	BL	/	/	2022-05-26
27	White plastic sheet	BL	BL	BL	BL	BL	BL	2022-05-26
28	Copper wire	BL	BL	BL	BL	/	/	2022-05-26
29	Black plastic frame	BL	BL	BL	BL	BL	BL	2022-05-26
30	Black core	BL	BL	BL	BL	/	/	2022-05-26
31	Yellow plastic tape	BL	BL	BL	BL	BL	BL	2022-05-26
32	Copper colored metal film	BL	BL	BL	BL	/	/	2022-05-26
33	Black printed silver label with adhesive	BL	BL	BL	BL	BL	BL	2022-05-26
34	Brown plastic housing (capacitor)	BL	BL	BL	BL	BL	BL	2022-05-26
35	Silver metal shell (capacitor)	BL	BL	BL	BL	/	/	2022-05-26
36	Black soft plastic plug (capacitor)	BL	BL	BL	BL	BL	BL	2022-05-26
37	Silver metal pin (capacitor)	BL	BL	BL	BL	/	/	2022-05-26
38	Silver grey metal film (capacitor)	BL	BL	BL	BL	/	/	2022-05-26
39	Transparent plastic tape (capacitor)	BL	BL	BL	BL	BL	BL	2022-05-26
40	Bright silver metal film (capacitor)	BL	BL	BL	BL	/	/	2022-05-26
41	Yellow wet paper (capacitor)	BL	BL	BL	BL	BL	BL	2022-05-26
42	Black plastic port housing	BL	BL	BL	BL	BL	BL	2022-05-26
43	Red plastic port housing	BL	BL	BL	BL	BL	BL	2022-05-26
44	Black body (capacitor)	BL	BL	BL	BL	BL	BL	2022-05-26
45	Black grey plastic shell	BL	BL	BL	BL	BL	BL	2022-05-26
46	Yellow plastic shell	BL	BL	BL	BL	BL	BL	2022-05-26
47	Grey plastic port housing	BL	BL	BL	BL	BL	BL	2022-05-26
48	White plastic wire skin	BL	BL	BL	BL	BL	BL	2022-05-26
49	Copper wire (inductance)	BL	BL	BL	BL	/	/	2022-05-26
50	Black core (inductance)	BL	BL	BL	BL	/	/	2022-05-26
51	White printed black plastic sleeve (inductance)	BL	BL	BL	BL	BL	BL	2022-05-26

Sample No.	Sample Description	Results						Date of sample submission/ Resubmission
		Cd	Pb	Hg	Cr▼	Br▼		
						PBBs	PBDEs	
52	Black body (IC)	BL	BL	BL	BL	BL	BL	2022-05-26
53	Black body (diode)	BL	BL	BL	BL	BL	BL	2022-05-26
54	Green PCB	BL	BL	BL	BL	BL	BL	2022-05-26
55	Brown body (chip capacitor)	BL	BL	BL	BL	BL	BL	2022-05-26
56	White body (electrolytic capacitor)	BL	BL	BL	BL	BL	BL	2022-05-26
57	Black body (patch resistor)	BL	BL	BL	BL	BL	BL	2022-05-26
58	Tin solder	BL	BL	BL	BL	/	/	2022-05-26

Note:

1. Results were obtained by XRF for primary screening, and further chemical testing by ICP(for Cd, Pb, Hg), UV-Vis(for Cr(VI)) and GC-MS(for PBBs, PBDEs) are recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321-3-1:2013(Unit: mg/kg).

Element	Polymers	Metals	Composite material
Cd	BL≤(70-3σ)<X<(130+3σ)≤OL	BL≤(70-3σ)<X<(130+3σ)≤OL	LOD<X<(150+3σ)≤OL
Pb	BL≤(700-3σ)<X<(1300+3σ)≤OL	BL≤(700-3σ)<X<(1300+3σ)≤OL	BL≤(500-3σ)<X<(1500+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	N/A	BL≤(250-3σ)<X

Remark:

- BL= Below Limit
- OL= Over Limit
- X= The range of needing to do further testing
- 3σ= The reproducibility of analytical instruments
- N/A= Not applicable
- LOD= Detection limit

2. The XRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.
3. The maximum permissible limit is quoted from the document RoHS Directive 2011/65/EU with amendment (EU) 2015/863.
4. ▼=For restricted substances PBBs and PBDEs, the results show the total Br content, the restricted substance was Cr(VI), and the results showed the total Cr content.

RoHS Restricted Substances	Maximum Concentration Value (mg/kg) (by weight in homogenous materials)
Cadmium(Cd)	100
Lead(Pb)	1000
Mercury(Hg)	1000
Hexavalent Chromium(Cr(VI))	1000
Polybrominated biphenyls(PBBs)	1000
Polybrominated diphenylethers(PBDEs)	1000
Dibutyl Phthalate(DBP)	1000
Butylbenzyl Phthalate(BBP)	1000
Di-(2-ethylhexyl) Phthalate(DEHP)	1000
Diisobutyl phthalate(DIBP)	1000

Disclaimers:

This XRF Screening report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF screening report is sufficient for its/his/her purposes. The result shown in this XRF screening report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.

B. EU RoHS Directive 2011/65/EU with amendment (EU) 2015/863 on Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), PBBs, PBDEs, DBP, BBP, DEHP & DIBP content

Test method:

Lead(Pb) & Cadmium(Cd) Content:

With reference to IEC 62321-5:2013, by acid digestion and analysis was performed by inductively coupled plasma atomic emission spectrometer (ICP-OES) or Atomic absorption spectrometer (AAS).

Mercury(Hg) Content:

With reference to IEC 62321-4:2013+AMD1:2017 CSV, by acid digestion and analysis was performed by inductively coupled plasma atomic emission spectrometer (ICP-OES).

Hexavalent Chromium(Cr(VI)) Content:

With reference to IEC 62321-7-1:2015 or IEC 62321-7-2:2017, analysis was performed by UV-visible spectrophotometer (UV-Vis).

PBBs & PBDEs Content:

With reference to IEC 62321-6:2015, by solvent extraction and analysis was performed by gas chromatographic-mass spectrometer (GC-MS).

Phthalates(DBP, BBP, DEHP &DIBP) Content:

With reference to IEC 62321-8:2017, by solvent extraction and analysis was performed by gas chromatographic-mass spectrometer (GC-MS).

5) The test results of Phthalates(DBP, BBP, DEHP &DIBP)

Tested Items	MDL (mg/kg)	Results (mg/kg)	Limit (mg/kg)
		1+2+3+4+5+6	
Dibutyl Phthalate(DBP) Content	600	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	600	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	600	N.D.	1000
Diisobutyl phthalate(DIBP) Content	600	N.D.	1000

Tested Items	MDL (mg/kg)	Results (mg/kg)	Limit (mg/kg)
		9+10+12+13+15+17	
Dibutyl Phthalate(DBP) Content	600	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	600	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	600	N.D.	1000
Diisobutyl phthalate(DIBP) Content	600	N.D.	1000

Tested Items	MDL (mg/kg)	Results (mg/kg)	Limit (mg/kg)
		18+20+21+23+24+25	
Dibutyl Phthalate(DBP) Content	600	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	600	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	600	N.D.	1000
Diisobutyl phthalate(DIBP) Content	600	N.D.	1000

Tested Items	MDL (mg/kg)	Results (mg/kg)	Limit (mg/kg)
		27+29+31+33+34+36	
Dibutyl Phthalate(DBP) Content	600	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	600	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	600	N.D.	1000
Diisobutyl phthalate(DIBP) Content	600	N.D.	1000

Tested Items	MDL (mg/kg)	Results (mg/kg)	Limit (mg/kg)
		39+41+42+43+44+45	
Dibutyl Phthalate(DBP) Content	600	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	600	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	600	N.D.	1000
Diisobutyl phthalate(DIBP) Content	600	N.D.	1000

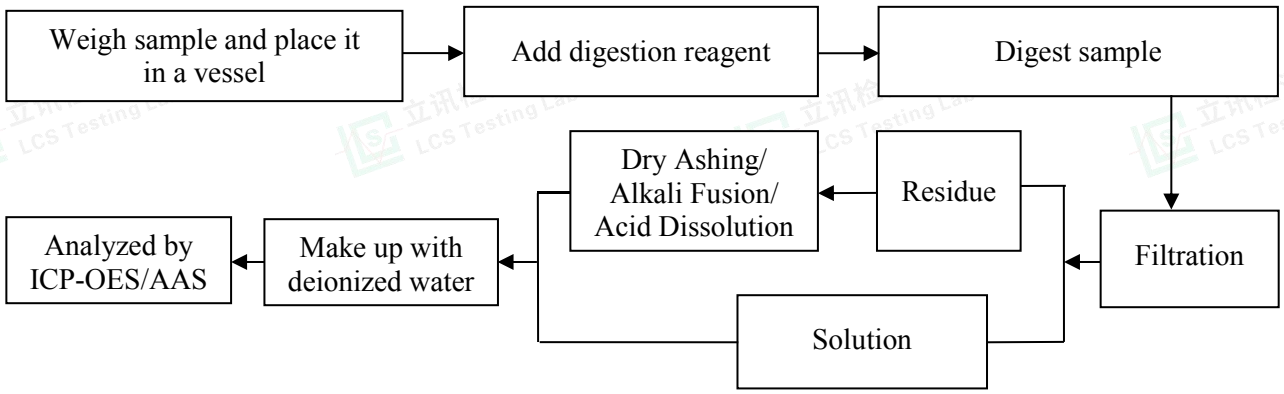
Tested Items	MDL (mg/kg)	Results (mg/kg)	Limit (mg/kg)
		46+47+48+51+52+53	
Dibutyl Phthalate(DBP) Content	600	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	600	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	600	N.D.	1000
Diisobutyl phthalate(DIBP) Content	600	N.D.	1000

Tested Items	MDL (mg/kg)	Results (mg/kg)	Limit (mg/kg)
		54+55+56+57	
Dibutyl Phthalate(DBP) Content	600	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	600	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	600	N.D.	1000
Diisobutyl phthalate(DIBP) Content	600	N.D.	1000

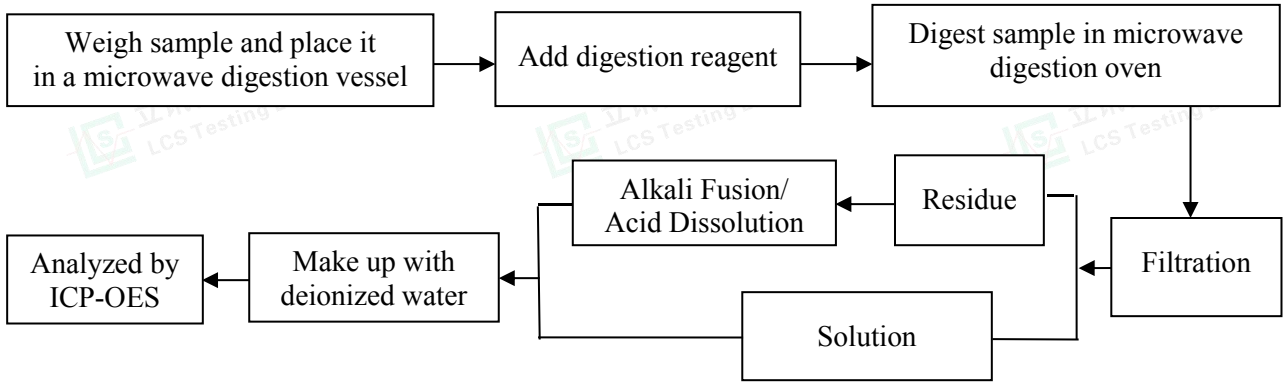
Note:
- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL)
- mg/kg = milligrams per kilogram
- According to customer's requirement, only the appointed materials have been tested.

Test Process

1. Lead(Pb) & Cadmium(Cd): IEC 62321-5:2013

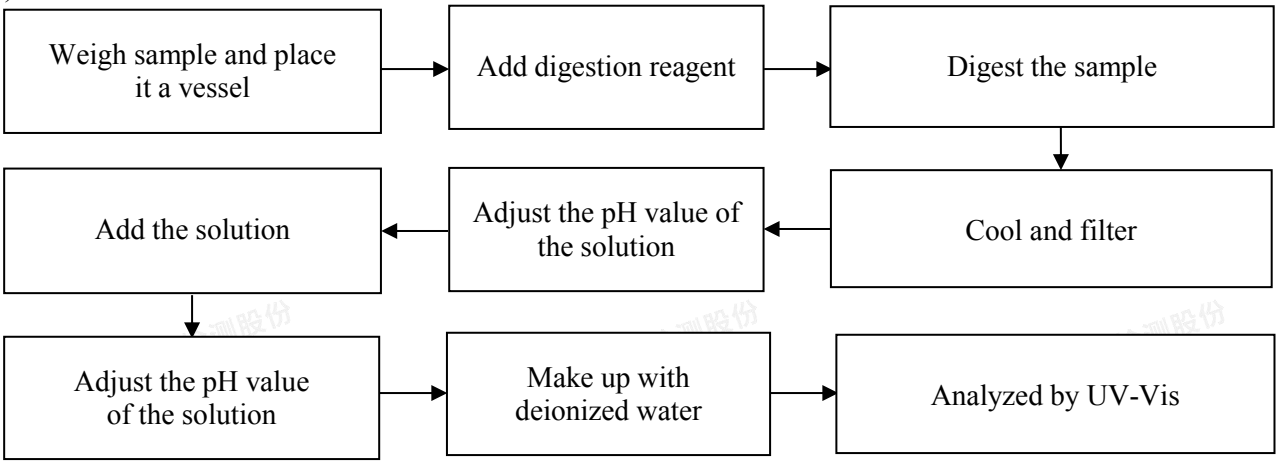


2. Mercury(Hg): IEC 62321-4:2013+AMD1:2017 CSV

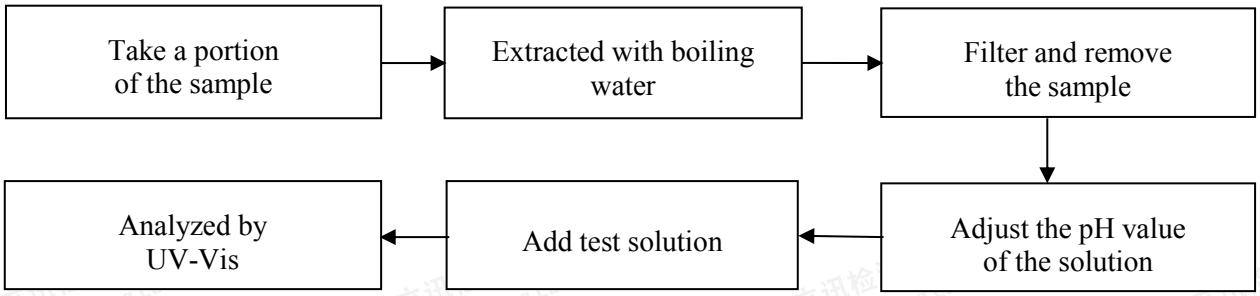


3. Hexavalent Chromium(Cr(VI))

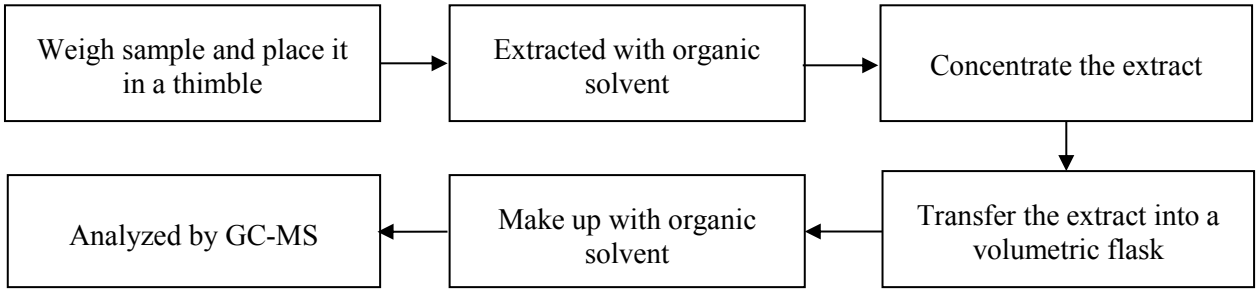
1) IEC 62321-7-2:2017



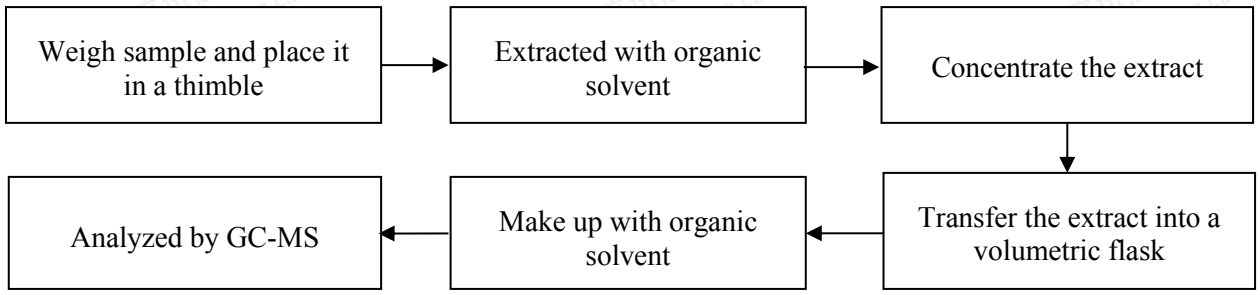
2) IEC 62321-7-1:2015



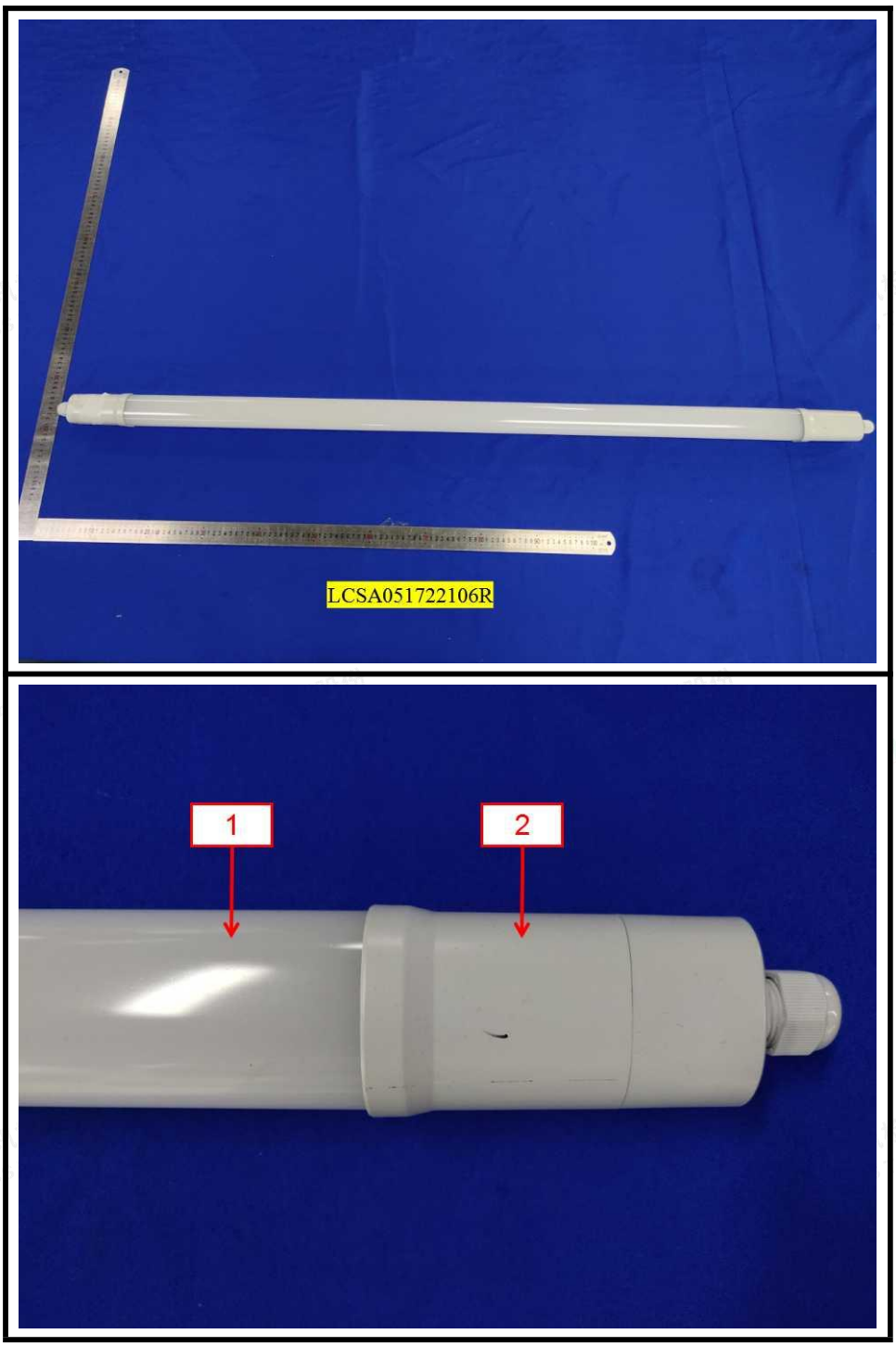
4. Polybrominated Biphenyls(PBBs) & Polybrominated Diphenyl Ethers(PBDEs) : IEC 62321-6:2015

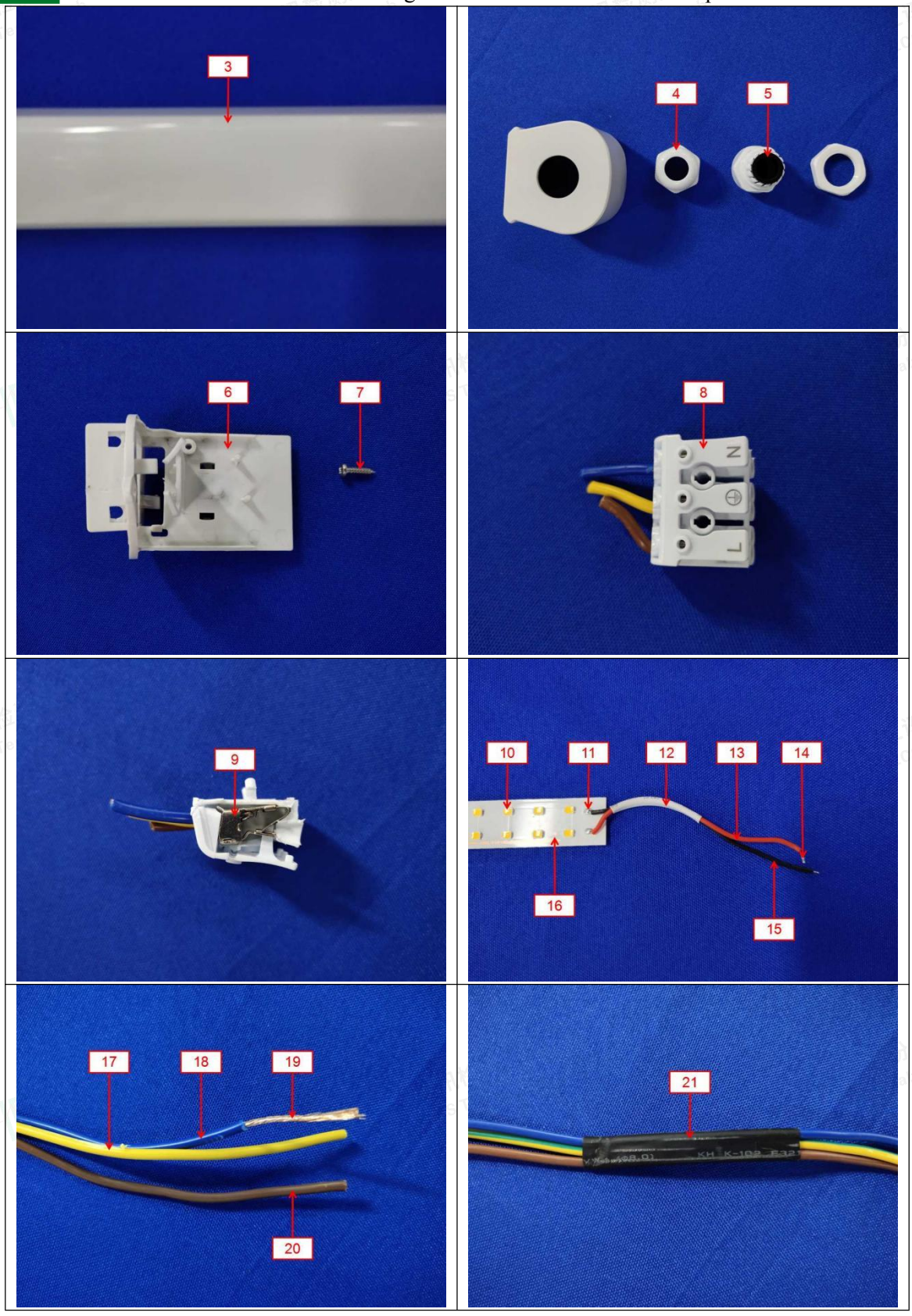


5. Phthalates(DBP, BBP, DEHP & DIBP) : IEC 62321-8:2017



The photo(s) of the sample

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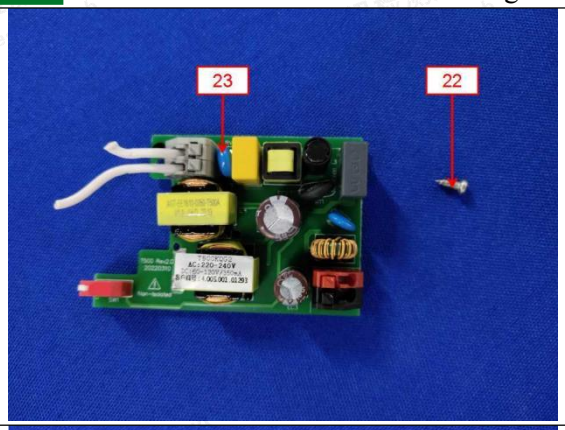
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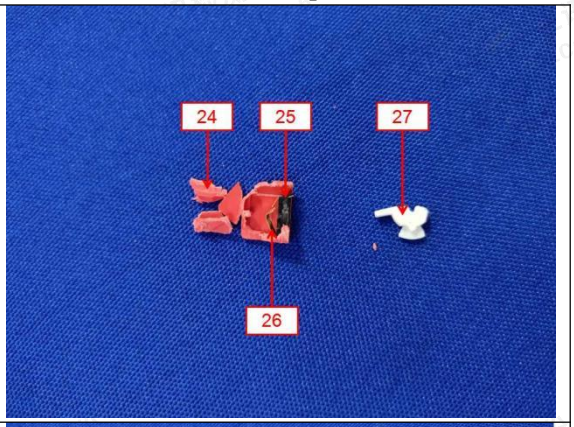
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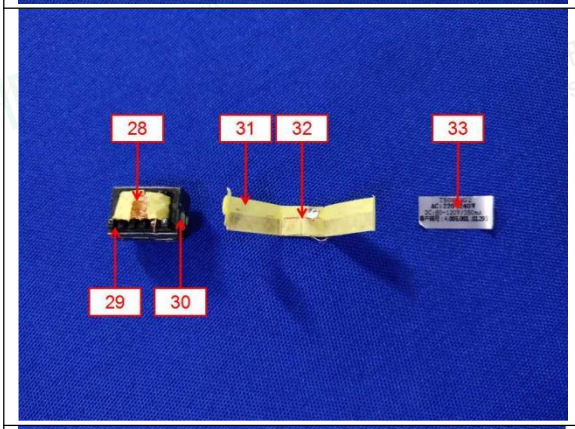
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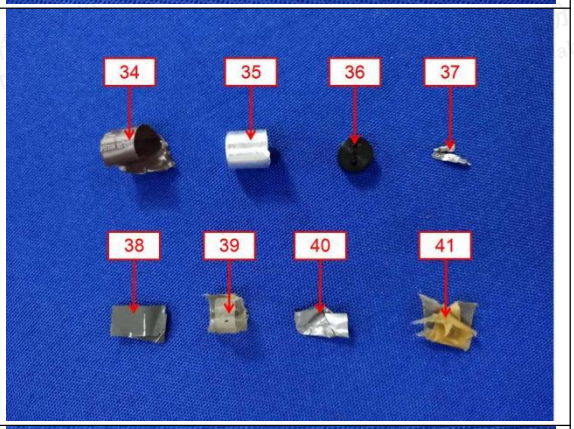
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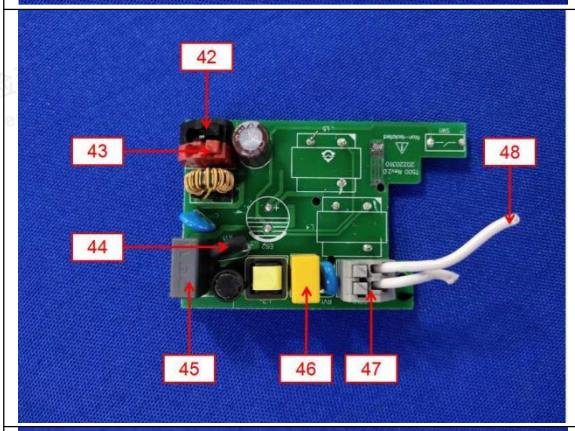
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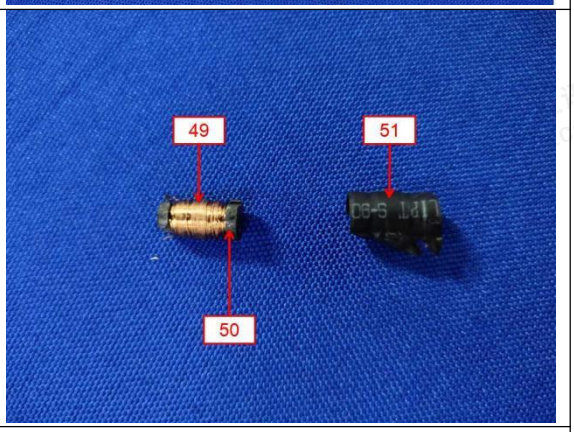
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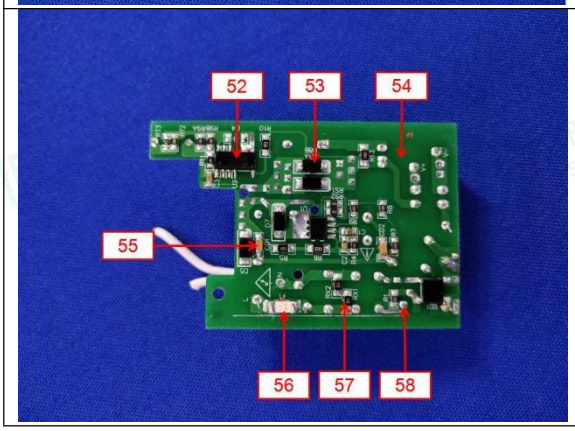
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Statement:

1. The test report is invalid without the signature of the approver and the special seal for the company's report;
2. The company name, address and sample information shown on the report were provided by the applicant who should be responsible for the authenticity which are not verified by LCS;
3. The test results in this report are only responsible for the tested samples;
4. Without written approval of LCS, this report can't be reproduced except in full;
5. In case of any discrepancy between the corresponding Chinese and English contents in the test report, the English version shall prevail.

*** End of Report ***