Shenzhen LCS Compliance Testing Laboratory Ltd.
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TEST REPORT

Client company	:	**JCC Lighting Products Ltd.**
Client address	:	**Innovation Centre, Beeding Close, Southern Cross Trading Estate, Bognor Regis, West Sussex PO22 9TS, UK**
Manufacturer	:	**Zhejiang Tai-G Photoelectric Technology Co., Ltd.**
Address	:	**No.576, Gaoxin Xiyi Rd., Tongxiang Economic Development Zone, 314500, Tongxiang, Zhejiang, China.**

Report on the submitted samples said to be:

Sample Name	:	**Fire-rated LED downlight**
Trade Mark	:	JCC | a LEVITON company
Test Item No.	:	**JC1001**
Style/ Item No.	:	**JC1002, WHIT022, WHIT030, WHIT031, WHIT032**
Sample Receiving Date	:	**April 17, 2019**
Testing Period	:	**April 17, 2019 ~ April 18, 2019**
Results	:	**Please refer to next page(s).**

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Summary of Test Results:

TEST REQUEST	**CONCLUSION**
According to the customer's request, based on the performed tests on submitted sample, the results of lead(Pb), mercury(Hg), cadmium(Cd), hexavalent chromium(Cr^{6+}), polybrominated biphenyls(PBBs), polybrominated diphenyl(PBDEs) , (BBP), (DBP), DEHP) (DIBP), comply with the limits as set by EU RoHS Directive 2011/65/EU and its amendment directives	**PASS**

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Signed for and on behalf of LCS

Center of Testing Service * APPROVED *

Written By: Fairy Zhang **Checked by:** Suez Su **Approved by:** Lily Dan

Results:

A EU RoHS Directive 2011/65/EU and its amendment directives EU 863/2015

Test method:

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

Lead & Cadmium Content:

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

Mercury 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 Content:

With reference to IEC 62321-7-1:2015 or IEC 62321-7-2:2017, by alkaline digestion and 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)

BBP DBP DEHP & DIBP Content:

With reference to IEC 62321-8:2015, by solvent extraction and analysis was performed by gas chromatographic-mass spectrometer (GC-MS)

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No.	Sample	Tested Item	XRF Screening results	Chemical test results (mg/kg)	**Conclusion**	Date of sample submission/resubmission
01	Black coating	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
02	Silver metal sheet	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
03	Red plastic film	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
04	Silver metal needle	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
05	White plastic ring	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
06	Silver metal sheet	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		

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No.	Sample	Tested Item	XRF Screening results	Chemical test results (mg/kg)	**Conclusion**	Date of sample submission/resubmission
07	Silver metal sheet	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
08	White coating	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
09	White plastic ring	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
10	White plastic ring	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
11	White plastic sheet	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	X	N.D.		
		PBDEs	X	N.D.		
12	Transparent plastic sheet	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		

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No.	Sample	Tested Item	XRF Screening results	Chemical test results (mg/kg)	**Conclusion**	Date of sample submission/resubmission
13	Black plastic film	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
14	Black plastic film	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
15	Silver metal needle	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	X	N.D.		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
16	White plastic sheet	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
17	Black plastic cord skin	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
18	Red plastic line skin	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		

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No.	Sample	Tested Item	XRF Screening results	Chemical test results (mg/kg)	**Conclusion**	Date of sample submission/resubmission
19	Silver metal wire	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
20	Black plastic line skin	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
21	White plastic line skin	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
22	Silver metal wire	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
23	Solder (PCB1)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
24	Yellow LED (PCB1)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		

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No.	Sample	Tested Item	XRF Screening results	Chemical test results (mg/kg)	**Conclusion**	Date of sample submission/resubmission
25	Silver metal sheet (PCB1)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
26	Silver metal sheet (PCB2)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
27	Black plastic film (PCB2)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
28	Solder (PCB2)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	X	N.D.		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
29	PCB board (PCB2)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
30	Green plastic film	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		

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No.	Sample	Tested Item	XRF Screening results	Chemical test results (mg/kg)	**Conclusion**	Date of sample submission/resubmission
31	Grey plastic film (PCB3)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
32	Silver metal sheet (PCB3)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
33	Black plastic film (PCB3)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
34	Gray ceramic sheet (PCB3)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
35	Gold metal copper wire (PCB3)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
36	Red coating (PCB3)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		

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No.	Sample	Tested Item	XRF Screening results	Chemical test results (mg/kg)	**Conclusion**	Date of sample submission/resubmission
37	Yellow plastic sheet (transformer -PCB3)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
38	Black plastic sheet (transformer -PCB3)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
39	Gray ceramic sheet (transformer -PCB3)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
40	Gold metal copper wire (transformer -PCB3)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
41	Blue plastic sheet (capacitance -PCB3)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
42	Silver metal sheet (capacitance -PCB3)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		

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No.	Sample	Tested Item	XRF Screening results	Chemical test results (mg/kg)	**Conclusion**	Date of sample submission/resubmission
43	Black plastic ring (capacitor -PCB3)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
44	Blue coating (PCB3)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
45	Color ring resistance (PCB3)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
46	Patch resistance (PCB3)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	X	N.D.		
		PBBs	BL	/		
		PBDEs	BL	/		
47	Patch capacitance (PCB3)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
48	Black diode (PCB3)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		

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No.	Sample	Tested Item	XRF Screening results	Chemical test results (mg/kg)	**Conclusion**	Date of sample submission/resubmission
49	Black IC (PCB3)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
50	Black diode (PCB3)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	X	N.D.		
		PBDEs	X	N.D.		
51	Solder (PCB3)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
52	PCB board (PCB3)	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	X	N.D.		
		PBDEs	X	N.D.		
53	Silver metal screw	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	X	Negative		
		PBBs	BL	/		
		PBDEs	BL	/		
54	Silver metal screw	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		

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No.	Sample	Tested Item	XRF Screening results	Chemical test results (mg/kg)	**Conclusion**	Date of sample submission/resubmission
55	Silver metal screw	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	X	N.D.		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
56	Silver metal nut	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	X	Negative		
		PBBs	BL	/		
		PBDEs	BL	/		
57	Silver metal nut	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	X	Negative		
		PBBs	BL	/		
		PBDEs	BL	/		
58	Pvc Silicone Fiberglass Sleeving	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		
59	Silver metal ring	Lead (Pb)	BL	/	PASS	2018-07-05/ 2018-08-04
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	X	Negative		
		PBBs	BL	/		
		PBDEs	BL	/		
60	Silver metal ring	Lead (Pb)	BL	/	PASS	2018-07-05
		Cadmium Content (Cd)	BL	/		
		Mercury (Hg)	BL	/		
		Hexavalent Chromium (Cr^{6+})	BL	/		
		PBBs	BL	/		
		PBDEs	BL	/		

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B) The test results of DBP、BBP、DEHP & DIBP

Item	Unit	MDL	Results			Limit
			1+3+5	8+9+10	11+12+13	
Dibuyl Phthalate(DBP)	mg/kg	50	N.D.	N.D.	N.D.	1000 mg/kg
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	N.D.	N.D.	1000 mg/kg
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	N.D.	N.D.	N.D.	1000 mg/kg
Diispbutyl phthalate(DIBP)	mg/kg	50	N.D.	N.D.	N.D.	1000 mg/kg
Conclusion	**/**	**/**	**Pass**	**Pass**	**Pass**	/

Item	Unit	MDL	Results			Limit
			14+16+17	18+20+21	24+27+29	
Dibuyl Phthalate(DBP)	mg/kg	50	N.D.	104	N.D.	1000 mg/kg
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	N.D.	N.D.	1000 mg/kg
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	N.D.	N.D.	N.D.	1000 mg/kg
Diispbutyl phthalate(DIBP)	mg/kg	50	N.D.	N.D.	N.D.	1000 mg/kg
Conclusion	**/**	**/**	**Pass**	**Pass**	**Pass**	/

Item	Unit	MDL	Results			Limit
			30+31+33	36+37+38	41+43+52	
Dibuyl Phthalate(DBP)	mg/kg	50	N.D.	N.D.	N.D.	1000 mg/kg
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	N.D.	N.D.	1000 mg/kg
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	N.D.	N.D.	N.D.	1000 mg/kg
Diispbutyl phthalate(DIBP)	mg/kg	50	N.D.	N.D.	N.D.	1000 mg/kg
Conclusion	**/**	**/**	**Pass**	**Pass**	**Pass**	/

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Item	Unit	MDL	Results	Limit
			58	
Dibuyl Phthalate(DBP)	mg/kg	50	N.D.	1000 mg/kg
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	1000 mg/kg
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	N.D.	1000 mg/kg
Diispbutyl phthalate(DIBP)	mg/kg	50	N.D.	1000 mg/kg
Conclusion	**/**	**/**	**Pass**	/

Note:

i 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.

Element	Unit	Non-metal	Metal	Composite Material
Cd	mg/kg	BL≤70-3σ<X <130+3σ≤OL	BL≤70-3σ<X <130+3σ≤OL	BL≤50-3σ<X <150+3σ≤OL
Pb	mg/kg	BL≤700-3σ<X <1300+3σ≤OL	BL≤700-3σ<X <1300+3σ≤OL	BL≤500-3σ<X <1500+3σ≤OL
Hg	mg/kg	BL≤700-3σ<X <1300+3σ≤OL	BL≤700-3σ<X <1300+3σ≤OL	BL≤500-3σ<X <1500+3σ≤OL
Cr	mg/kg	BL≤700-3σ<X	BL≤700-3σ<X	BL≤500-3σ<X
Br	mg/kg	BL≤300-3σ<X	--	BL≤250-3σ<X

Note:

BL = Below Limit
OL = Over Limit
X = Inconclusive

ii The XRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.

iii The maximum permissible limit is quoted from the document 2005/618/EC amending RoHS directive 2011/65/EU:

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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
Dibuyl Phthalate(DBP)	1000
Benzylbutyl Phthalate(BBP)	1000
Bis(2-ethylhexyl) Phthalate(DEHP)	1000
Diispbutyl 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.

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Note:

- Negative = Absence of Cr(Ⅵ) on the tested areas
- MDL = Method Detection Limit
- N/A = Not apply
- /= Undetected
- mg/kg = ppm
- ** = Spot-test:
  Negative = Absence of Cr(Ⅵ) coating/ surface layer, Positive = Presence of Cr(Ⅵ) coating/ surface layer;
  (The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed)
  Boiling-water-extraction:
  Negative = Absence of Cr(Ⅵ) coating/ surface layer, Positive = Presence of Cr(Ⅵ) coating/ surface layer;
  (The detected concentration in boiling- water-extraction solution is equal or greater than 0.02 mg/kg with 50cm^2 sample surface areas.)
- # =
  Positive indicates the presence of Cr(Ⅵ) on the tested areas and result be regarded as conflict with RoHS requirement.
  Negative indicates the absence of Cr(Ⅵ) on the tested areas and result be regarded as no conflict with RoHS requirement.

#1 According to RoHS directive 2011/65/EU and its amendments, Lead is exempted in glass of cathode ray tubes, electronic components and fluorescent tubes.

#2 According to RoHS directive 2011/65/EU and its amendments, Lead is exempted in electronic ceramic parts (e.g. piezoelectronic devices).

#3 According to RoHS directive 2011/65/EU and its amendments, Lead is exempted as an alloying element in Copper containing up to 4% (40000ppm) by weight.

#4 According to RoHS directive 2011/65/EU and its amendments, Lead is exempted in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead).

#5 According to the statement provided by the customer, according to RoHS directive 2011/65/EU and its amendments, Lead is exempted as an alloying element in Aluminum containing up to 0.4% (4000ppm) by weight.

#6 According to the statement provided by the customer, according to RoHS directive 2011/65/EU and its amendments, Cadmium and its compounds in electrical contact is exempted.

- Flow chart appendix is included.
- Photo appendix is included.
- This report cites data numbered LCS180625019AR.

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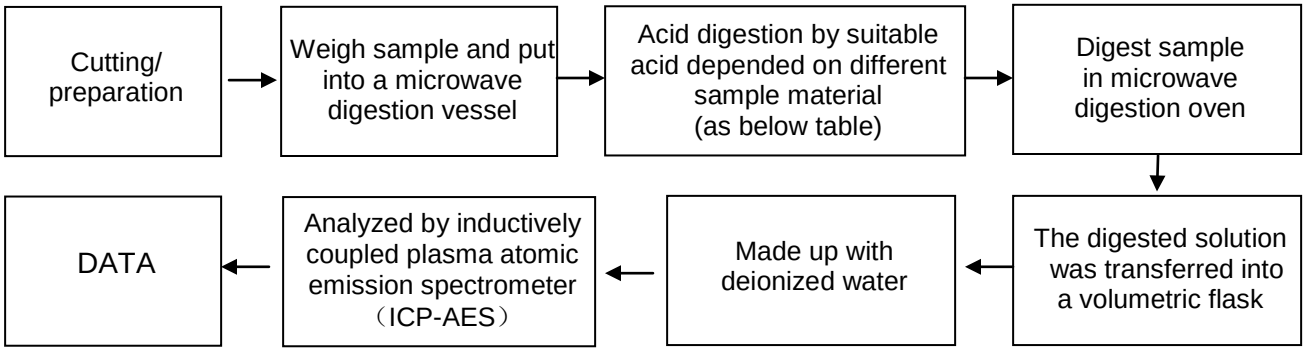
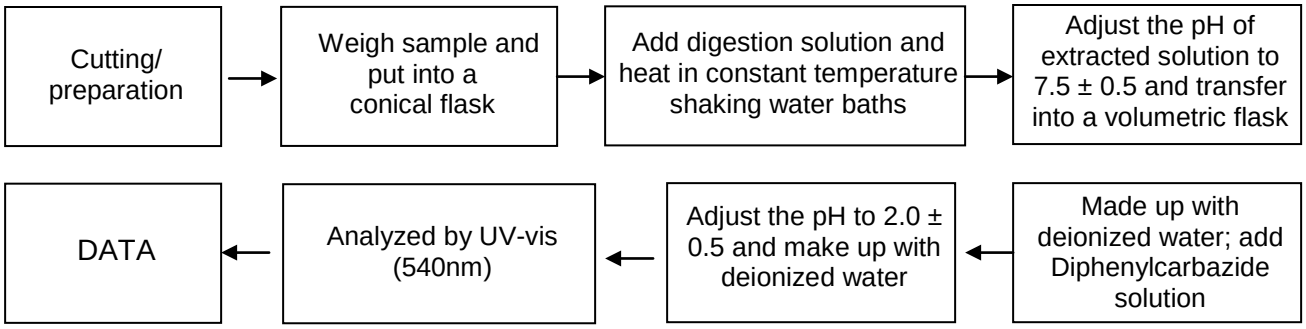
AppendixI

Test Flow chart

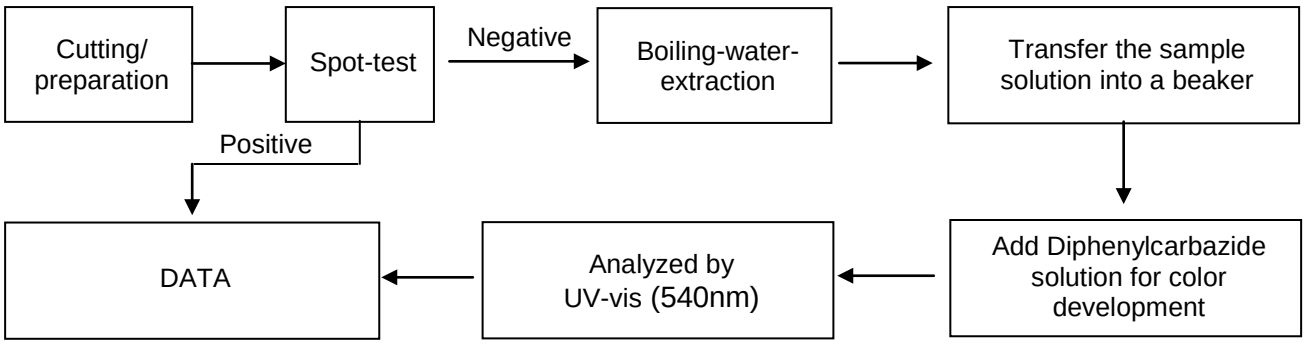
1. Test Flow chart for Cd / Pb /Hg content
These samples were dissolved totally by pre-conditioning method according to below flow chart.



2. Test Flowchart for Cr^{6+} content (For non-metal material)



Test Flowchart for Cr^{6+} content (For metal material)



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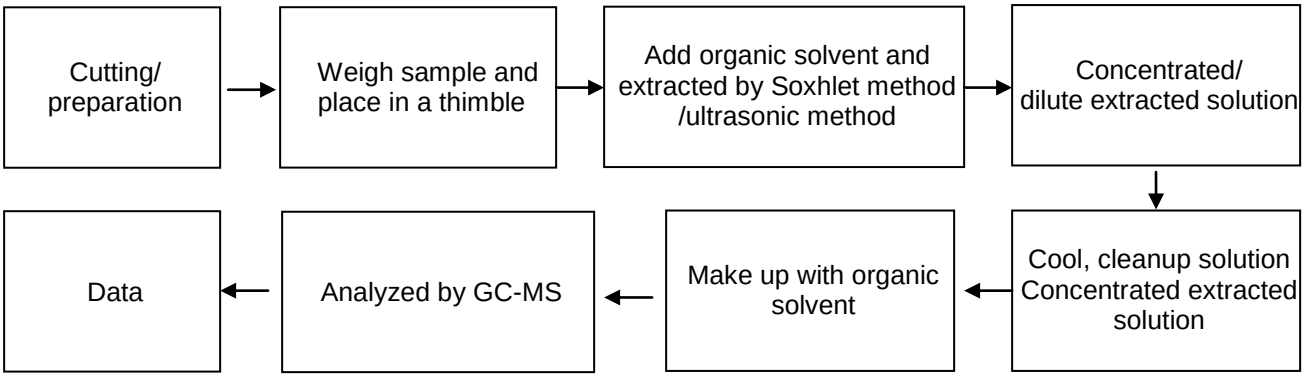
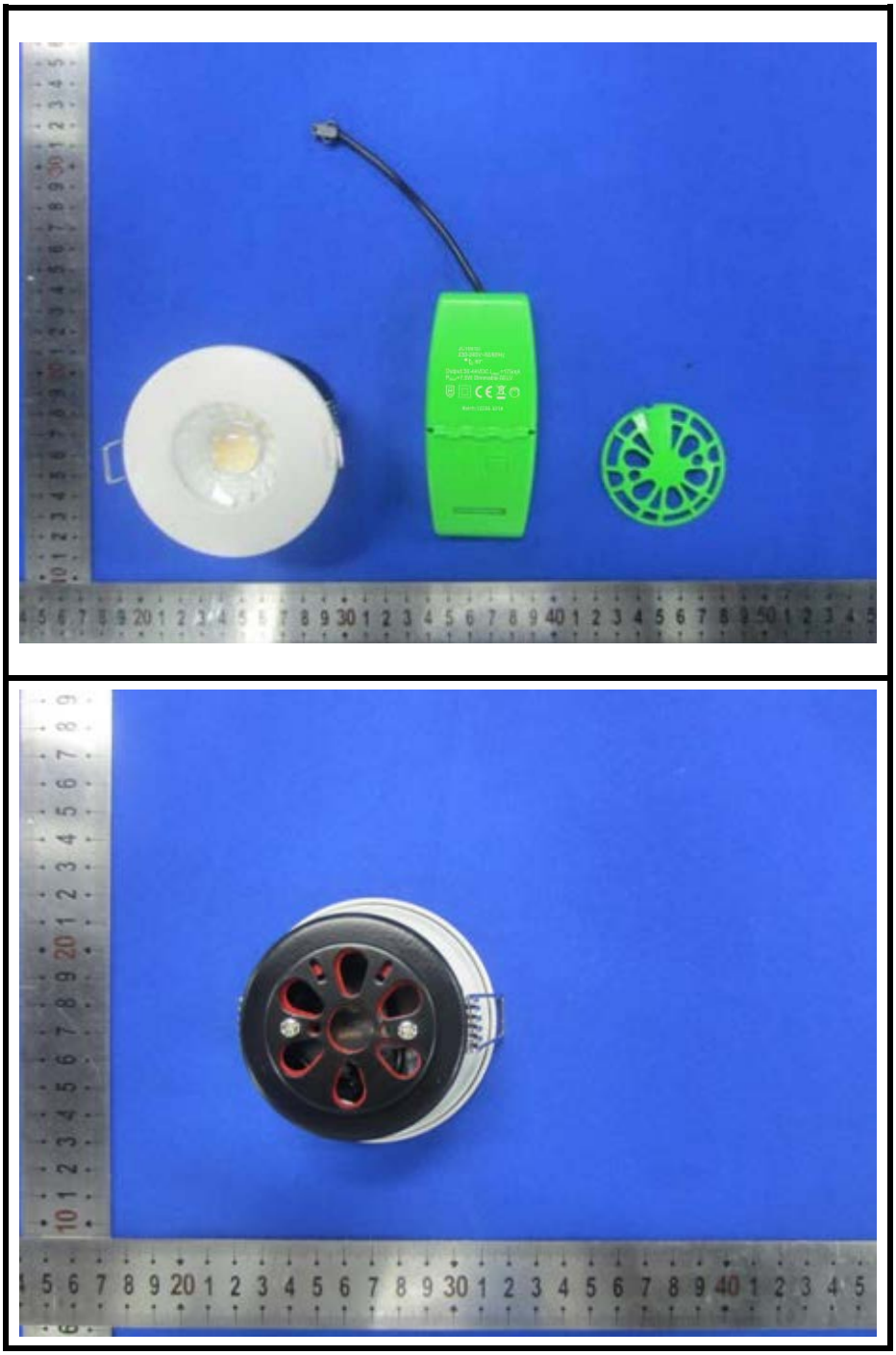
3. Test Flowchart for PBBs & PBDEs content

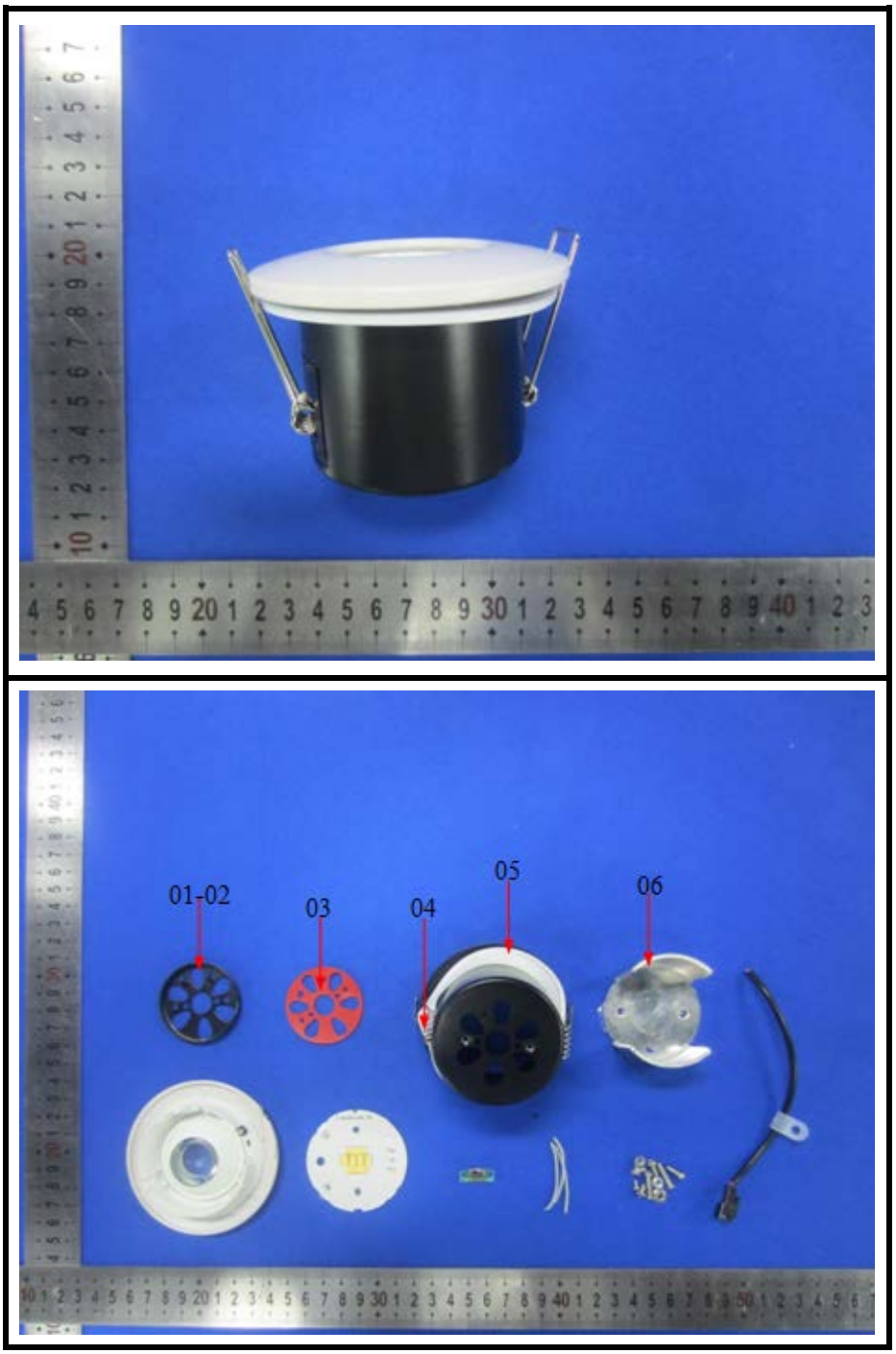


AppendixII

Photograph of Sample

Test Item No: JC1001

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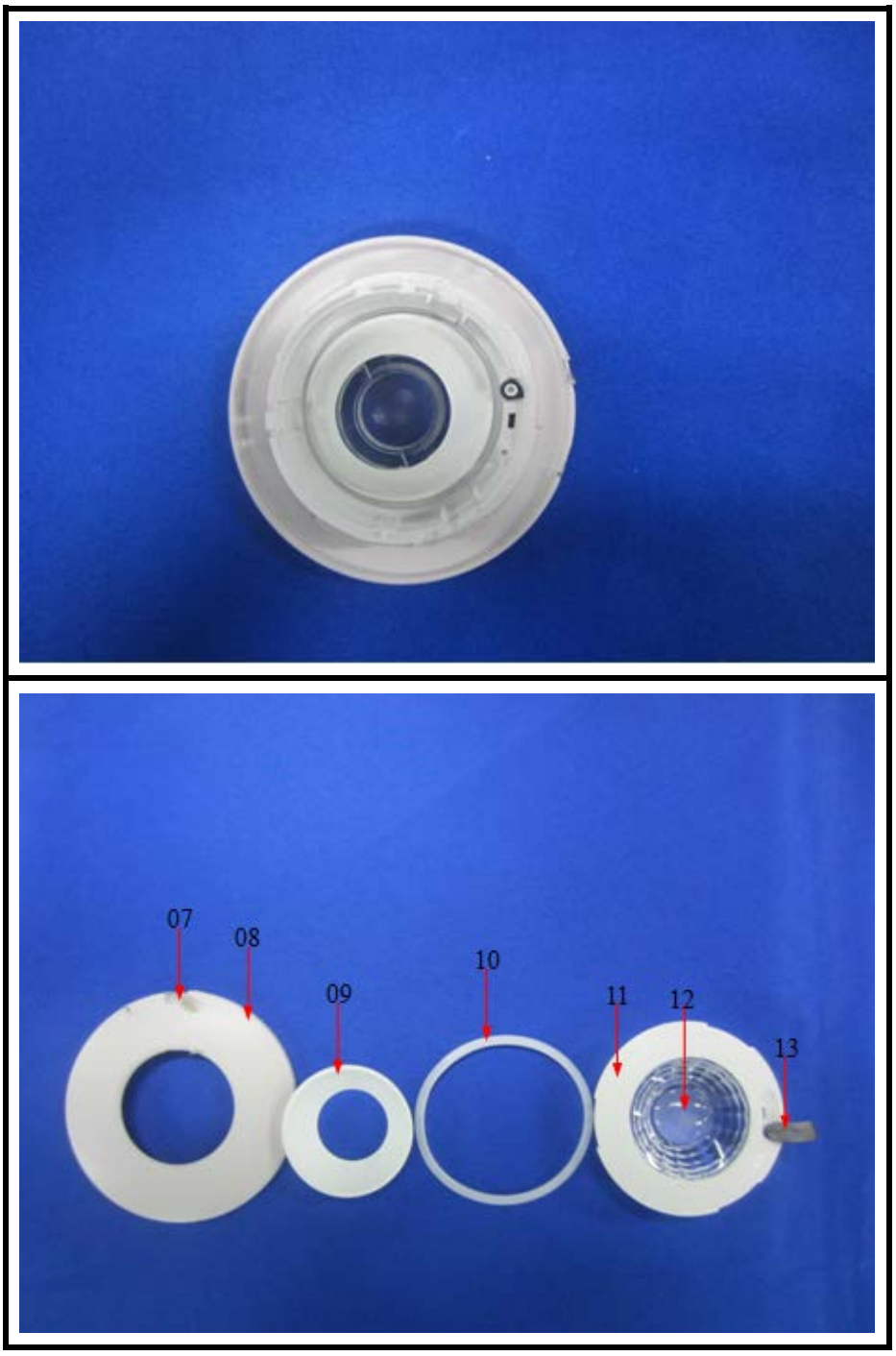
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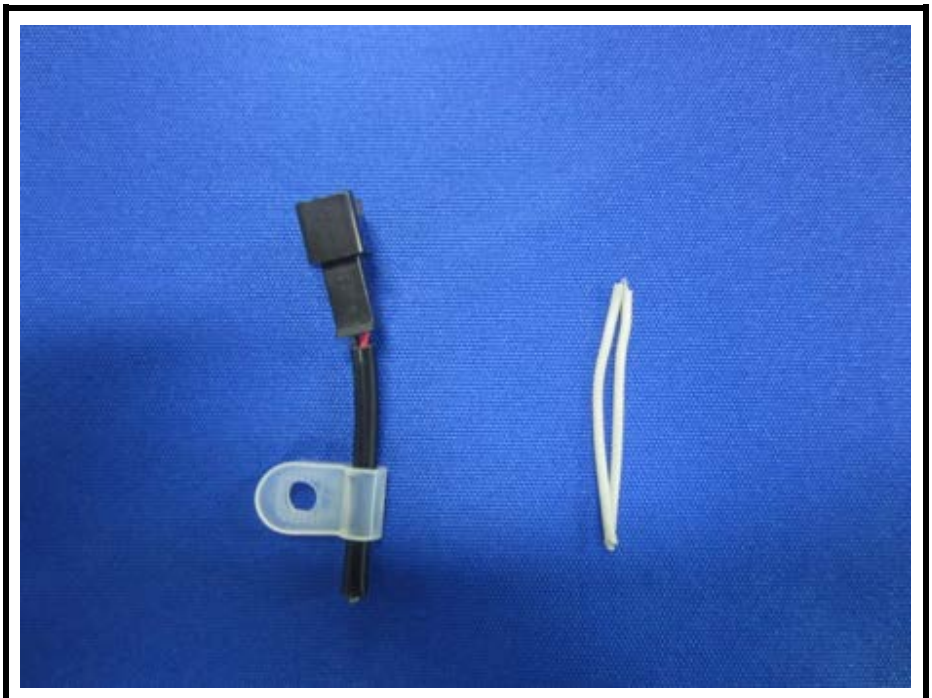

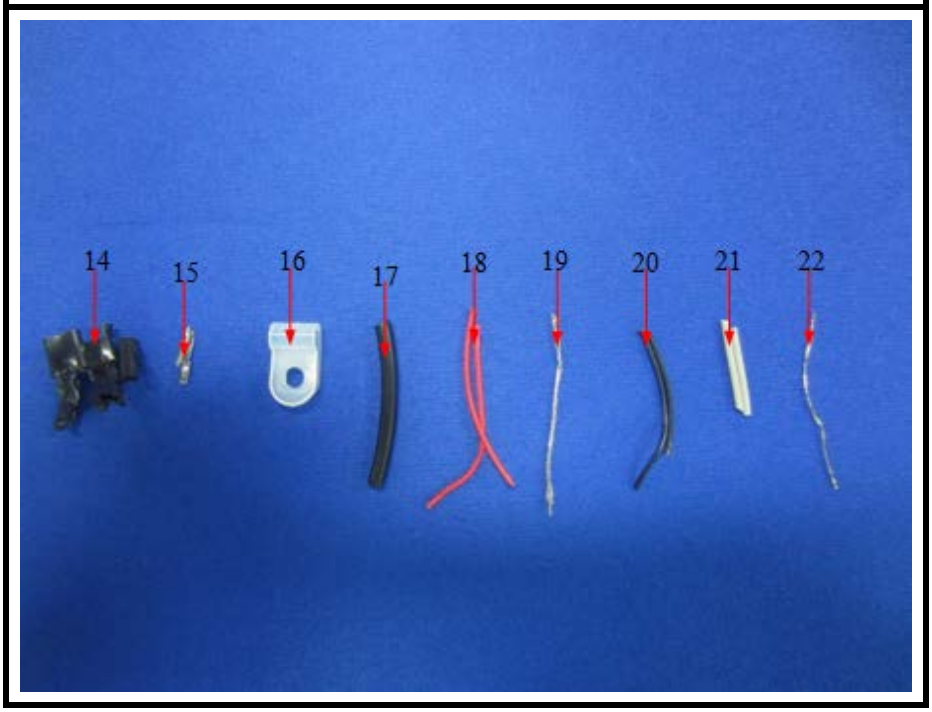
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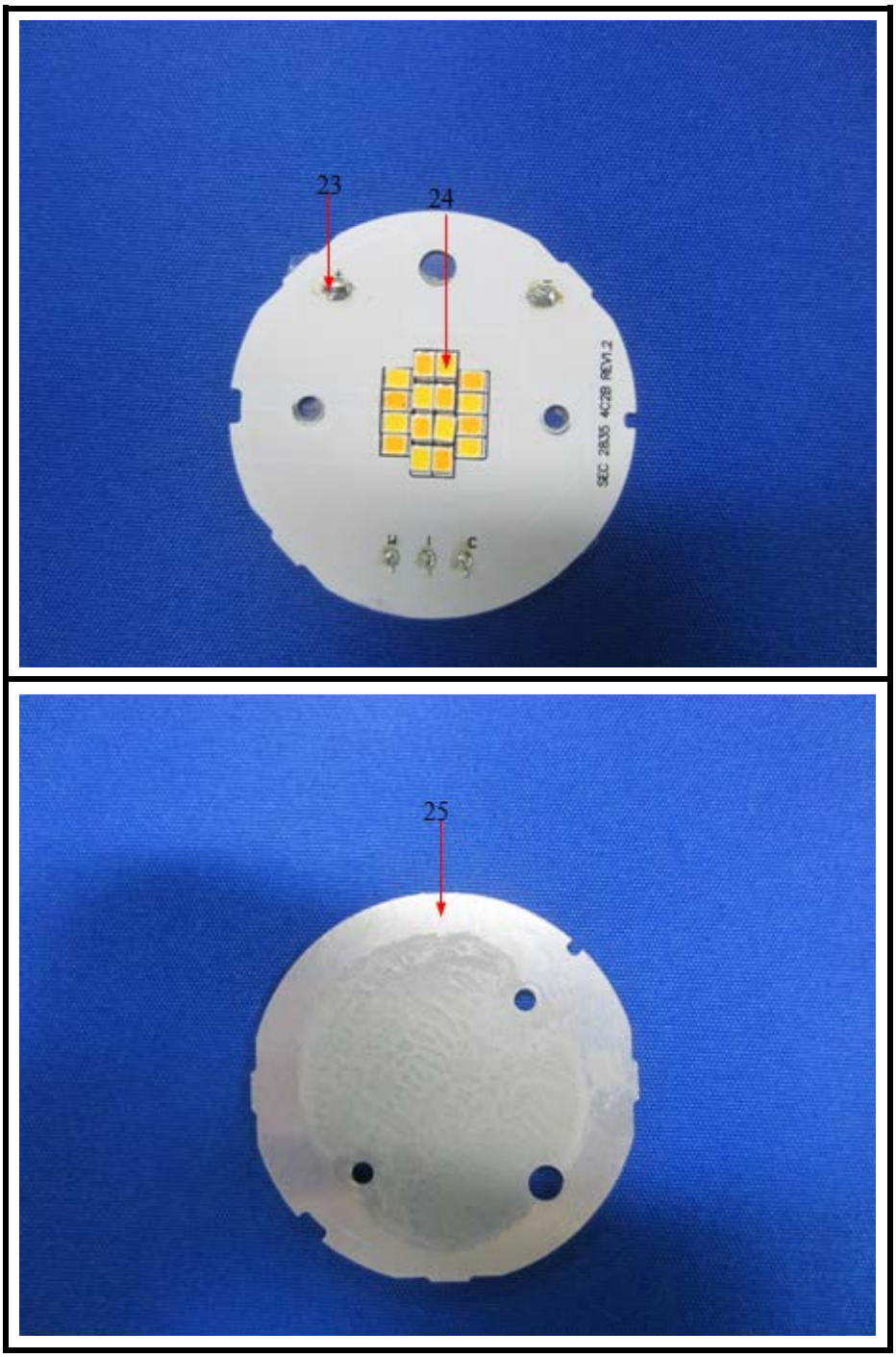
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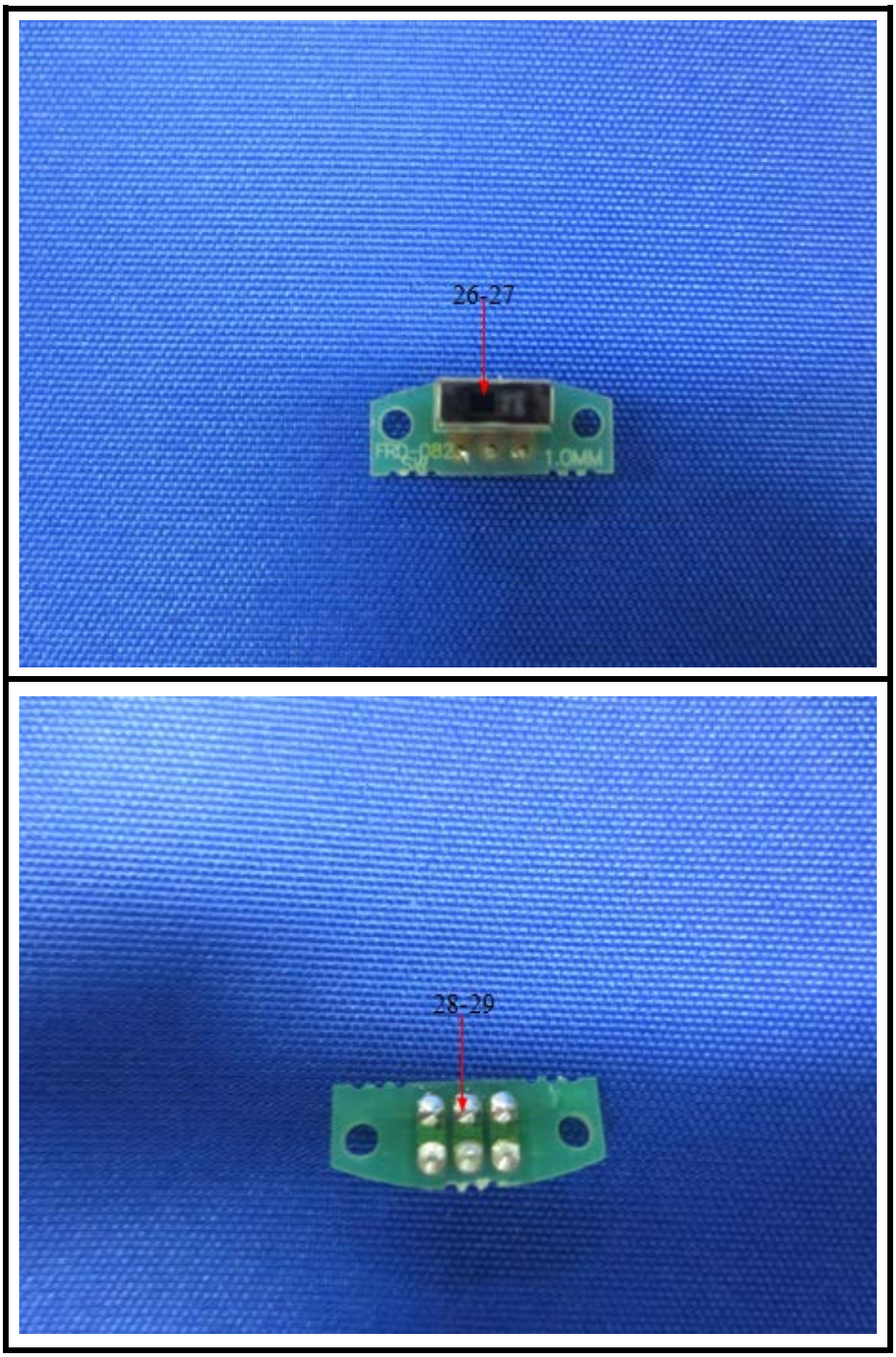
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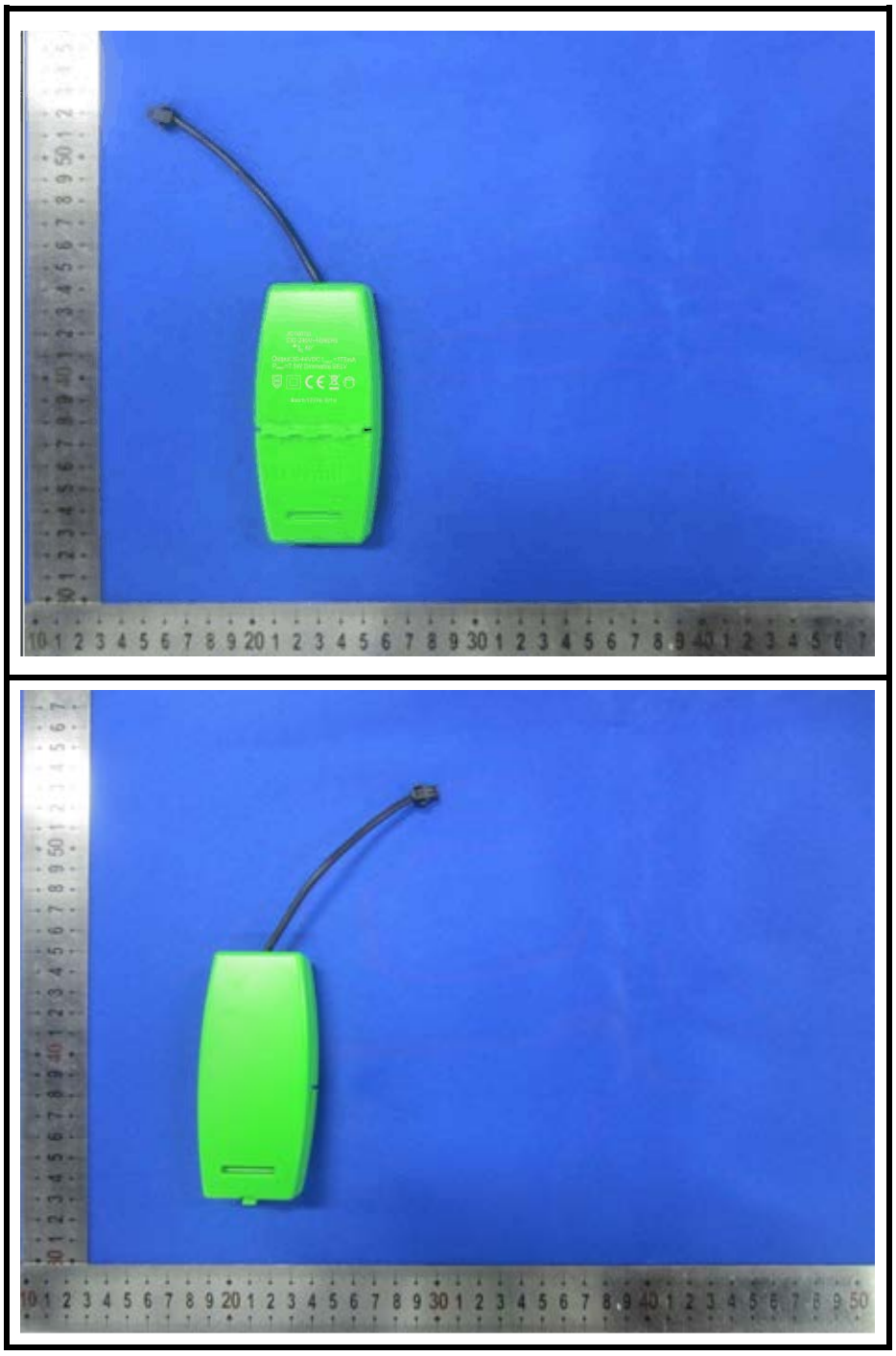

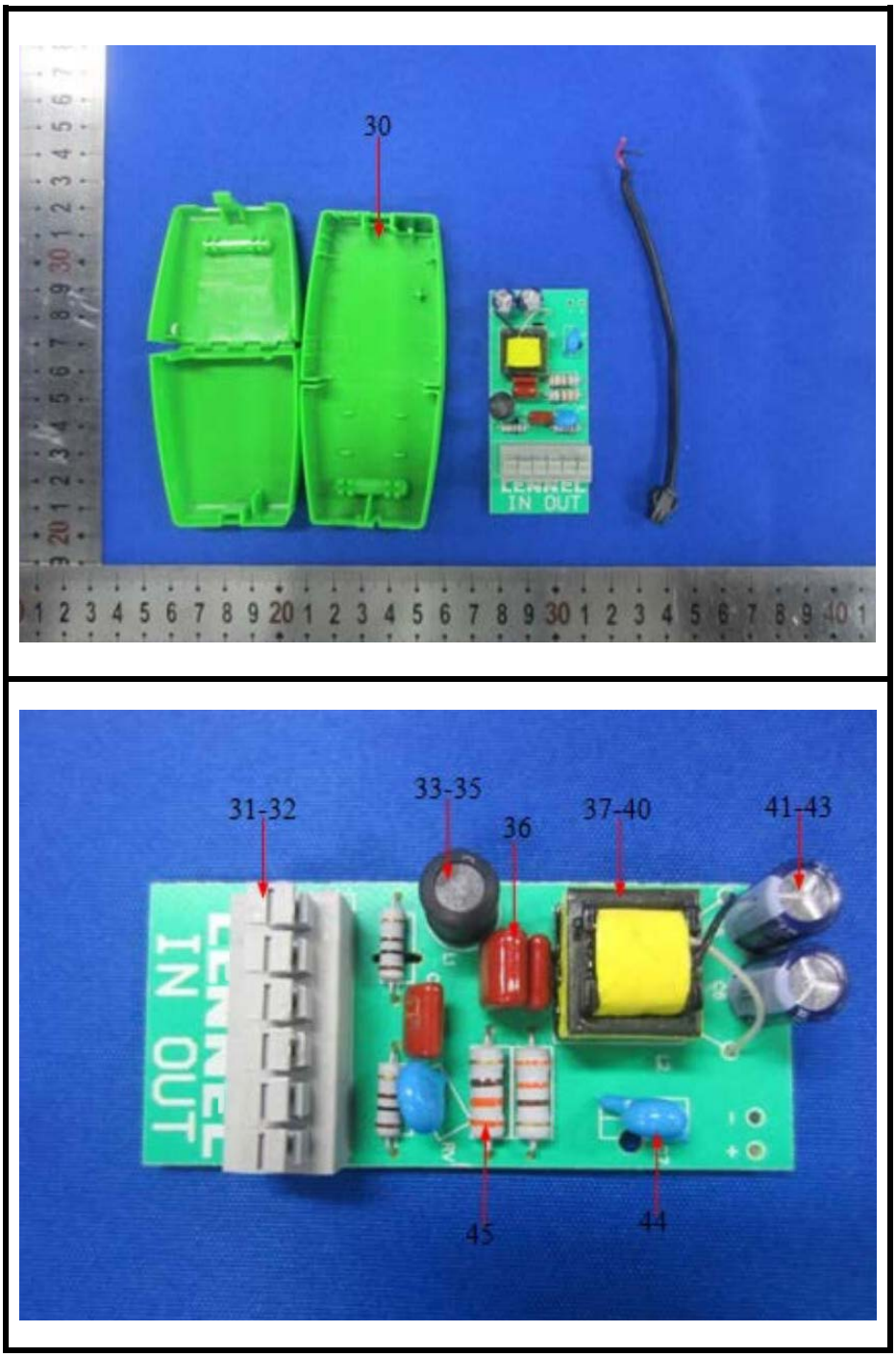
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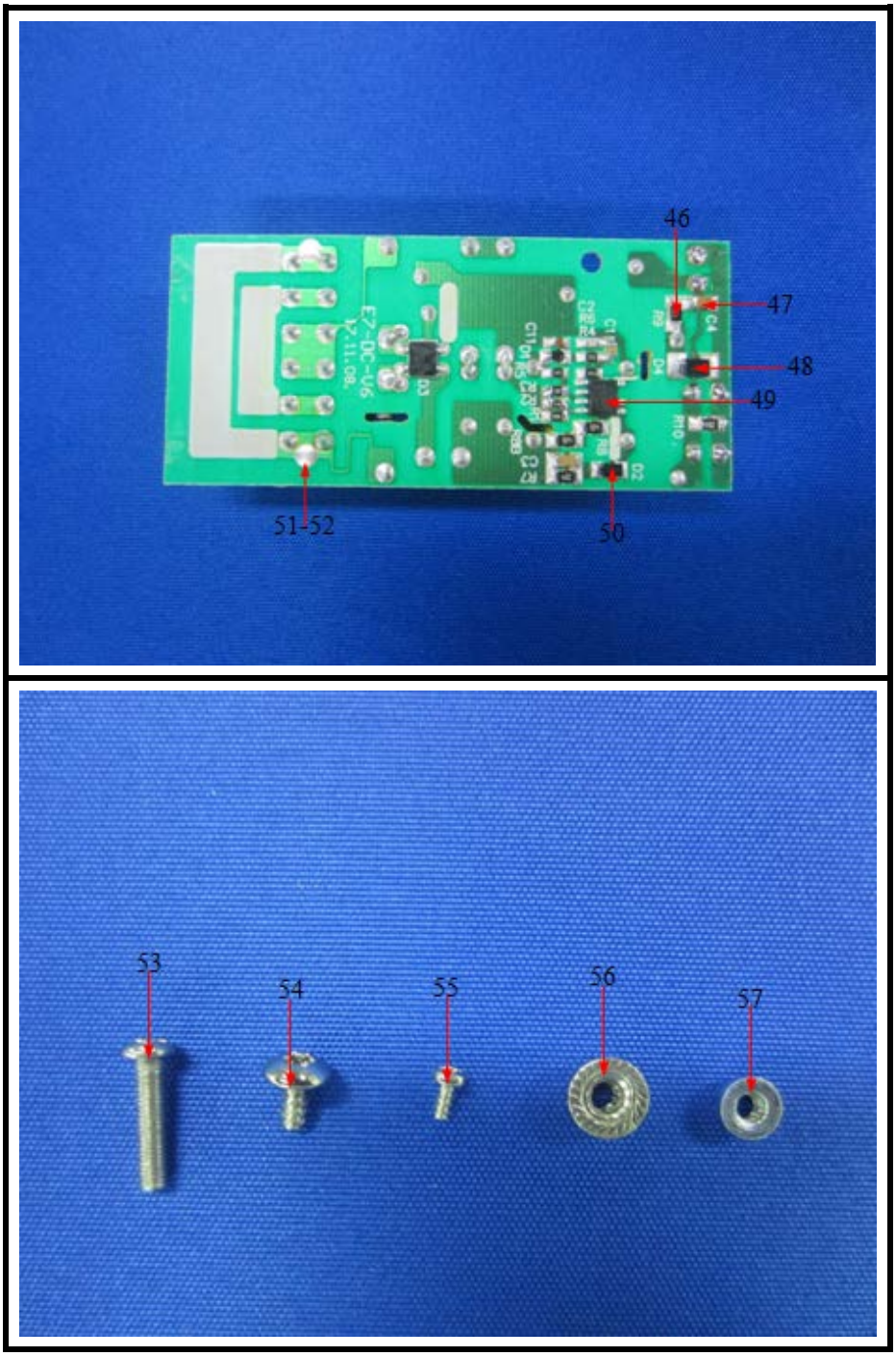
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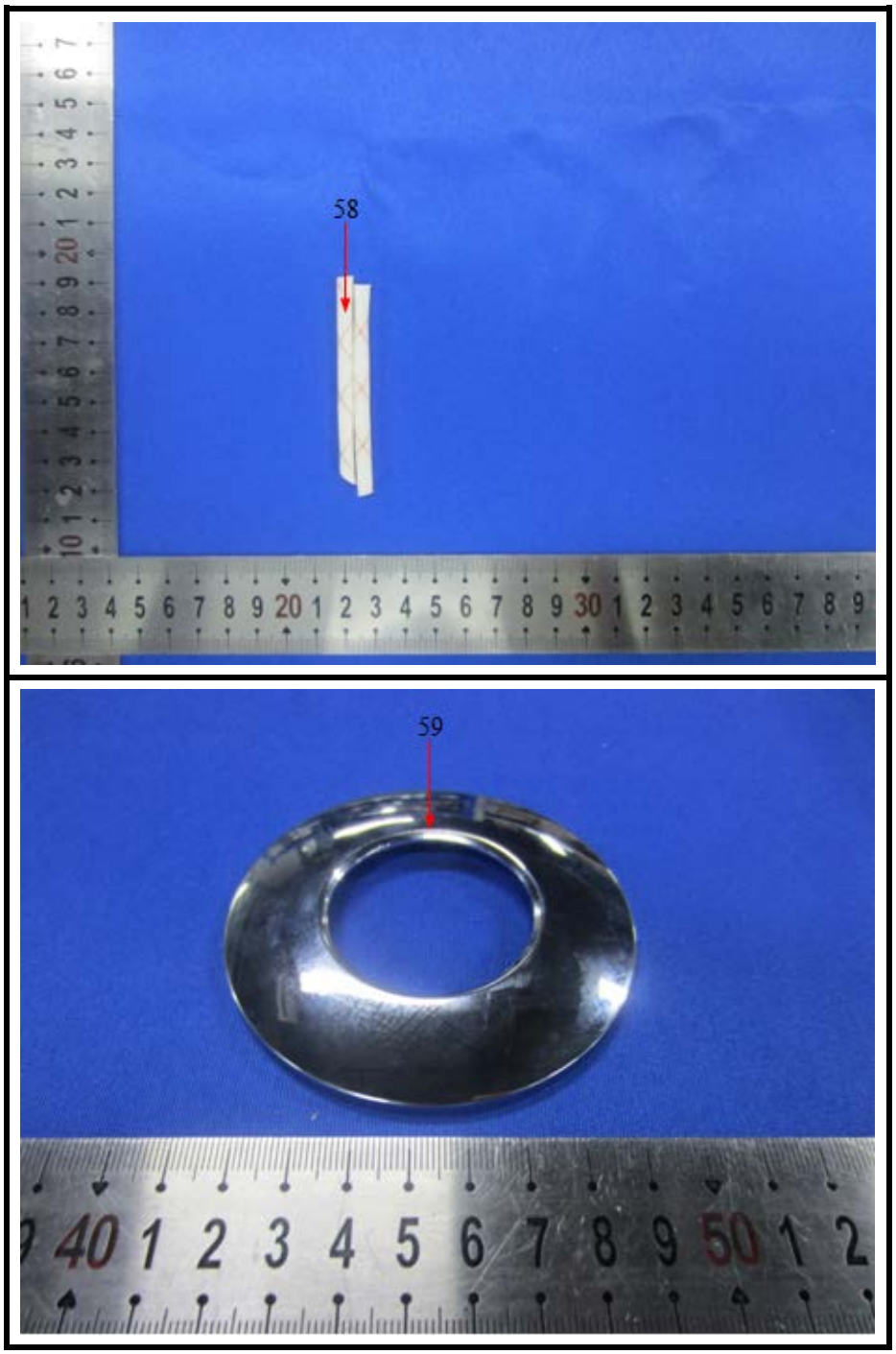
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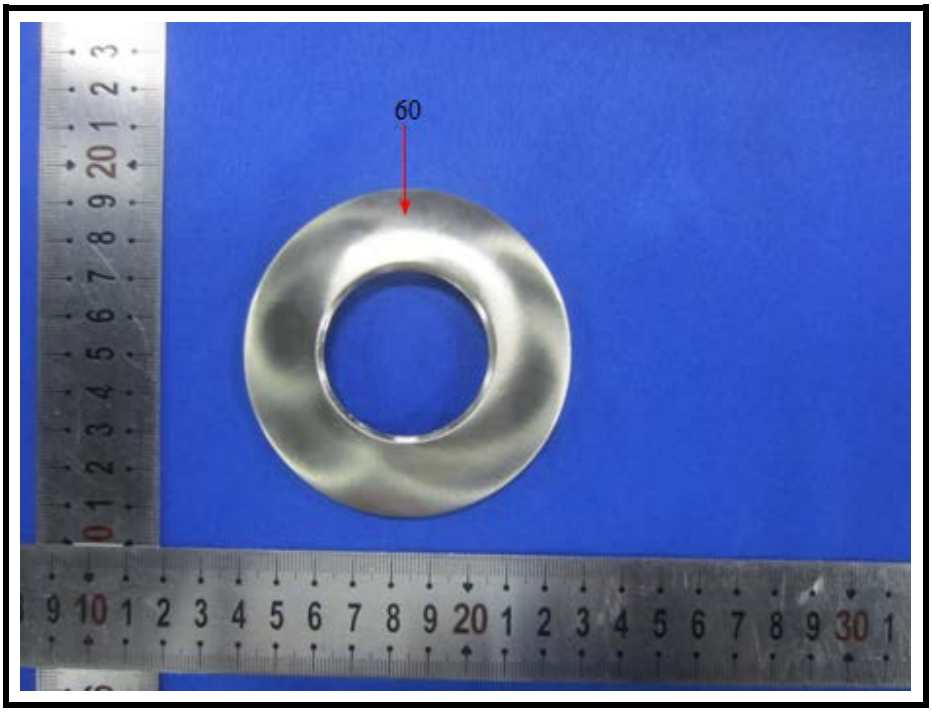

LCS authenticate the photo on original report only

********** End of Report **********