



## Test Report

Report No. A223010845210110

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Company Name DONG GUAN BRIGHT LED ELECTRONICS LTD

shown on Report

Address NO.8,GAO LONG EAST RD ,GAOBU TOWN,DONG GUAN CTY,GUANG DONG  
PROVINCE,CHINA 523283The following sample(s) and sample information was/were submitted and identified by/on the behalf of  
the applicant

CTI Sample ID	Final Product Name	Sample Name(s)
009	DISPLAY	Display PIN
010		Display 树脂
011		Display REF
012		Display PCB

Sample Received Date Mar. 15, 2023

Testing Period Mar. 15, 2023 to Mar. 31, 2023

Test Requested

As specified by client, to test Lead (Pb), Cadmium (Cd), Mercury (Hg),  
Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyls (PBBs),  
Polybrominated Diphenyl Ethers (PBDEs), Phthalates (DBP, BBP, DEHP,  
DIBP) in the submitted sample(s).

Test Method/Test Result(s) Please refer to the following page(s).



Approved by

Hill Zheng

Date

Mar. 31, 2023

Hill Zheng  
Technical Manager

No. R450141684

Centre Testing International Group Co., Ltd.

Inspection &amp; Testing Services

CTI Building, Xing Dong Community, Xin'an Sub-district, Bao'an District, Shenzhen City, Guangdong Province, P.R. China

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Conclusion

Tested Sample	According to standard/directive	Result
Submitted Sample	Client's limit	PASS

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CTI Sample ID	Reference Report No. - CTI Sample ID
010	A223010845210107-008

Remark

The samples with the reference information in the table above are non-tested in this report. Test results and the photos of the " CTI Sample ID " column reference to "Reference Report Number - CTI Sample ID " column.

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Test Method

Tested Item(s)	Test Method	Measured Equipment(s)
Lead (Pb)	IEC 62321-5:2013	ICP-OES
Cadmium (Cd)	IEC 62321-5:2013	ICP-OES
Mercury (Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
Hexavalent Chromium (Cr(VI))	IEC 62321-7-1:2015	UV-Vis
	IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS

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## Test Result(s)

Tested Item(s)	Result			MDL	Client's limit
	009	010	011		
Lead (Pb)	N.D.	N.D.	N.D.	2 mg/kg	1000 mg/kg
Cadmium (Cd)	N.D.	N.D.	N.D.	2 mg/kg	100 mg/kg
Mercury (Hg)	N.D.	N.D.	N.D.	2 mg/kg	1000 mg/kg
Hexavalent Chromium (Cr(VI))	--	N.D.	N.D.	8 mg/kg	1000 mg/kg
	N.D.▼	--	--	0.10 µg/cm <sup>2</sup> (LOQ)	1000 mg/kg

Tested Item(s)	Result	MDL	Client's limit
	012		
Lead (Pb)	N.D.	2 mg/kg	1000 mg/kg
Cadmium (Cd)	N.D.	2 mg/kg	100 mg/kg
Mercury (Hg)	N.D.	2 mg/kg	1000 mg/kg
Hexavalent Chromium (Cr(VI))	N.D.	8 mg/kg	1000 mg/kg
	--	0.10 µg/cm <sup>2</sup> (LOQ)	1000 mg/kg

Tested Item(s)	Result			MDL	Client's limit
	010	011	012		
Polybrominated Biphenyls (PBBs)					
Monobromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	1000 mg/kg
Dibromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Tribromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Tetrabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Pentabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Hexabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Heptabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Octabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Nonabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	
Decabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg	

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Tested Item(s)	Result			MDL	Client's limit
	010	011	012		
Polybrominated Diphenyl Ethers (PBDEs)					
Monobromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	1000 mg/kg
Dibromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Tribromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Tetrabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Pentabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Hexabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Heptabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Octabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Nonabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Decabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg	
Tested Item(s)	Result			MDL	Client's limit
	010	011	012		
Phthalates (DBP, BBP, DEHP, DIBP)					
Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	N.D.	N.D.	50 mg/kg	1000 mg/kg
Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	N.D.	N.D.	50 mg/kg	1000 mg/kg
Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	N.D.	N.D.	50 mg/kg	1000 mg/kg
Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	N.D.	N.D.	50 mg/kg	1000 mg/kg

## Sample/Part Description

No.	CTI Sample ID	Description
1	009	Metal with silvery plating
2	010	Light yellow solid
3	011	White plastic with black coating
4	012	PCB (Tested as a whole) <sup>#</sup>

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**Remark:** The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.

-MDL = Method Detection Limit

-N.D. = Not Detected (<MDL or LOQ)

-mg/kg = ppm = parts per million

-1000 mg/kg = 0.1%

-LOQ = Limit of Quantification, The LOQ of Hexavalent chromium is 0.10  $\mu\text{g}/\text{cm}^2$

-▼The sample is negative for Cr(VI) – The Cr(VI) concentration is below 0.10  $\mu\text{g}/\text{cm}^2$ . The coating is considered a non-Cr(VI) based coating.

-#The sample(s) was tested as a whole, because it's impossible to disassemble or separate it by current equipment and technology. The result(s) shown on this report may be different from the content of any homogeneous material.

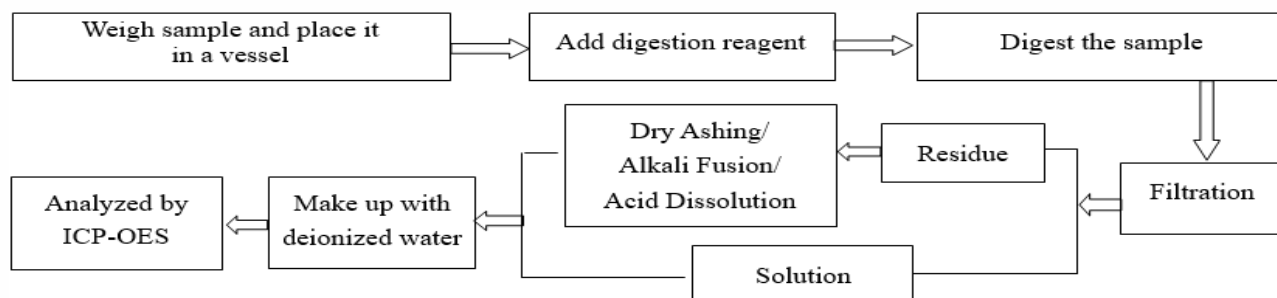
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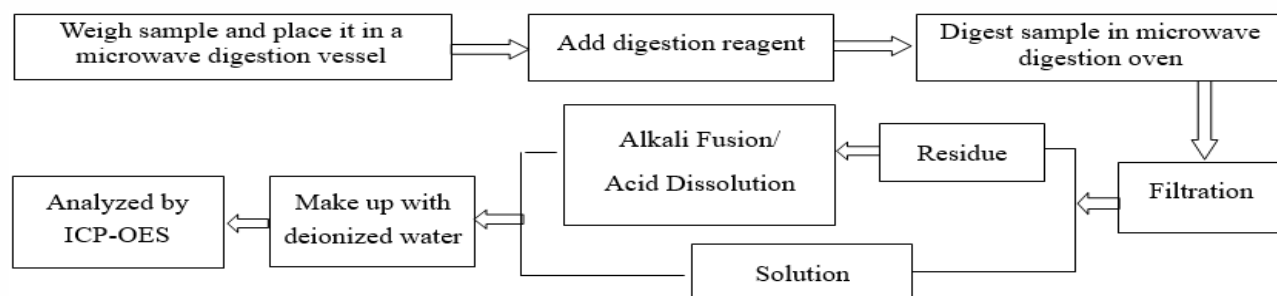
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## Test Process

### 1. Lead (Pb), Cadmium (Cd), Chromium(Cr)

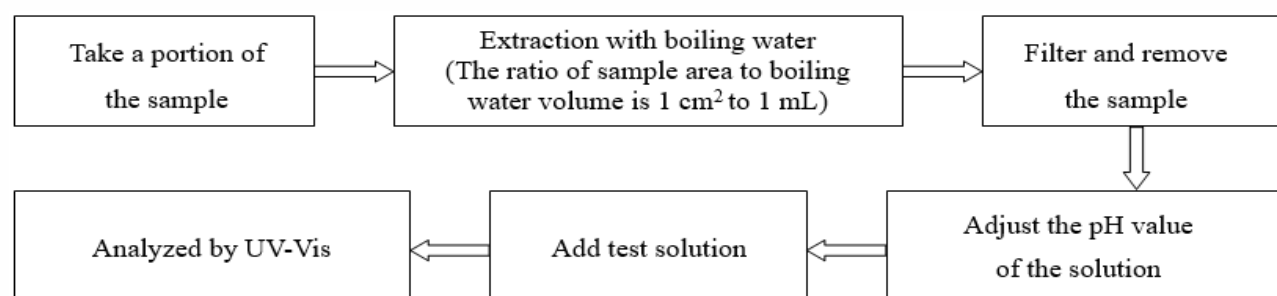


### 2. Mercury (Hg)

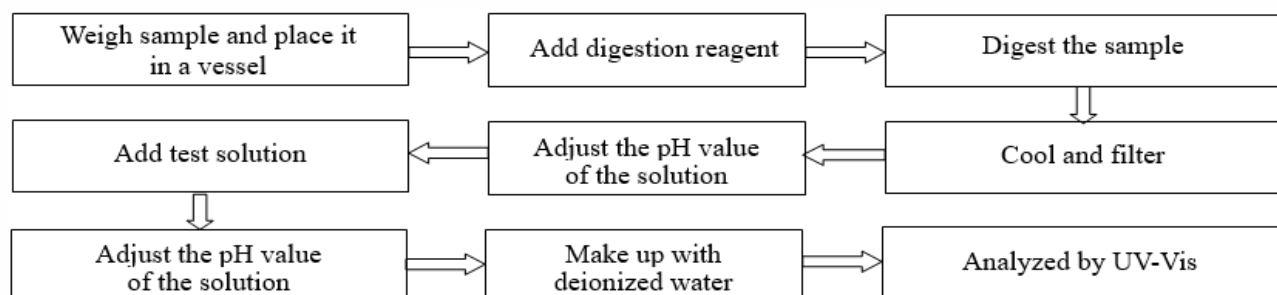


### 3. Hexavalent Chromium (Cr(VI))

#### (1) IEC 62321-7-1:2015



#### (2) IEC 62321-7-2:2017



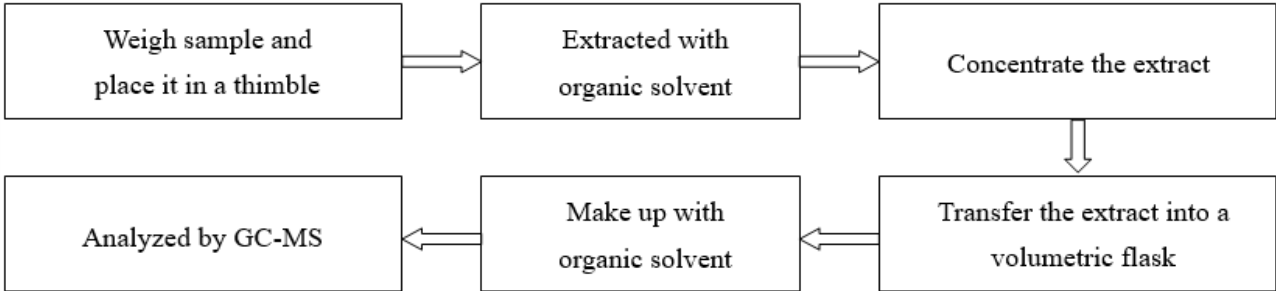


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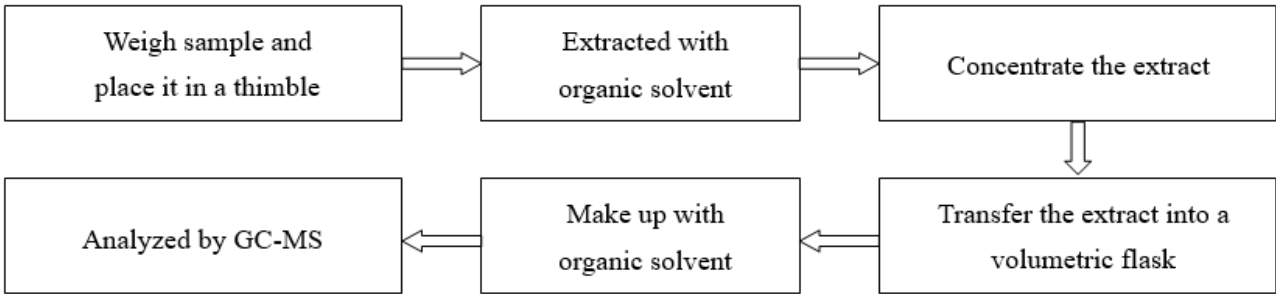
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4. Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs)



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

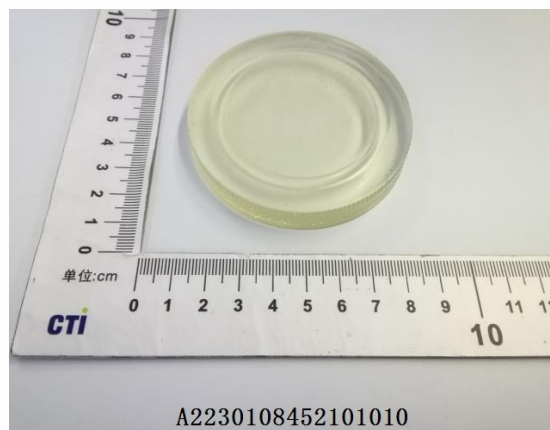


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### Photo(s) of the sample(s)



#### Statement:

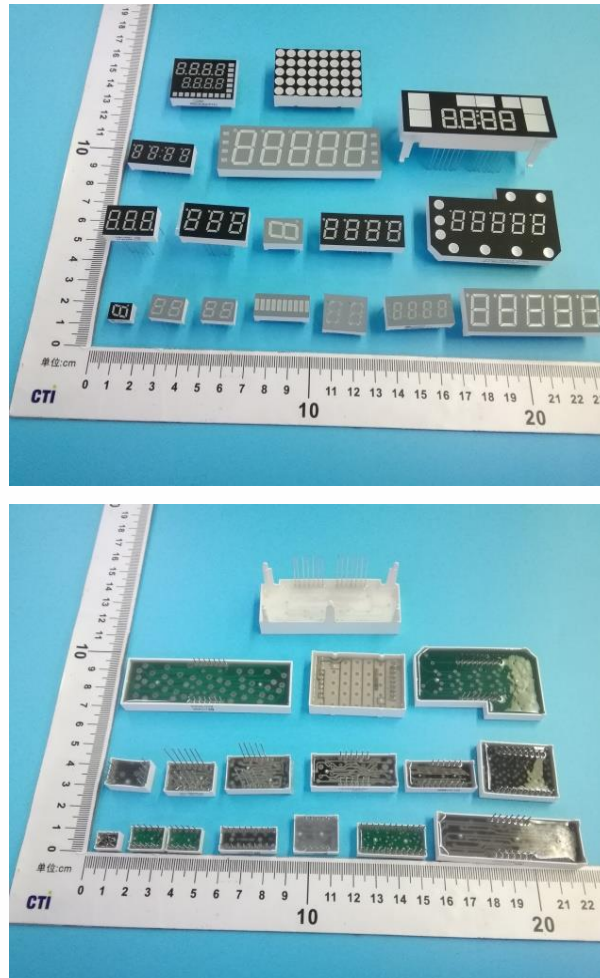
1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Without written approval of CTI, this report can't be reproduced except in full;
5. In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

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

## Appendix

### Client Reference Photo (Non-tested sample)

Final Product



#### Statement:

1. The Appendix Information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.
2. The Appendix Information is/are the supplement(s) for the Report A223010845210110.