



# Test Report

Report No. A220004773310111

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**Applicant** DONG GUAN BRIGHT LED ELECTRONICS LTD

**Address** NO.8,GAO LONG EAST RD ,GAOBU TOWN,DONG GUAN CTY,GUANG DONG PROVINCE,CHINA 523283

**The following sample(s) and sample information was/were submitted and identified by/on the behalf of the client**

Sample No.	Final Product Name	Sample Name(s)
001	SMD	Chip Epoxy Molding Compound
002		Chip PCB

Sample Received Date Mar. 20, 2020  
Testing Period Mar. 20, 2020 to Apr. 2, 2020

**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).

\*\*\*\*\*

**Conclusion**

Tested Sample	According to standard/directive	Result
Submitted Sample	RoHS Directive 2011/65/EU with amendment (EU) 2015/863	PASS

\*\*\*\*\*

PASS means that the results shown on the report comply with the limits set by RoHS Directive 2011/65/EU with amendment (EU) 2015/863.

Tested by Ada Zhang

Reviewed by Ophelie Wan

Approved by Hill Zheng  
Hill Zheng  
Technical Manager

Date Apr. 2, 2020

No. R262621871



Centre Testing International Group Co.,Ltd.  
Inspection & 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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## 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 62321-7-2:2017 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	Limit
	001	002		
Lead (Pb)	N.D.	N.D.	2 mg/kg	1000 mg/kg
Cadmium (Cd)	N.D.	N.D.	2 mg/kg	100 mg/kg
Mercury (Hg)	N.D.	N.D.	2 mg/kg	1000 mg/kg
Hexavalent Chromium (Cr(VI))	N.D.	N.D.	8 mg/kg	1000 mg/kg

Tested Item(s)	Result		MDL	Limit
	001	002		
<b>Polybrominated Biphenyls(PBBs)</b>				
Monobromobiphenyl	N.D.	N.D.	5 mg/kg	1000 mg/kg
Dibromobiphenyl	N.D.	N.D.	5 mg/kg	
Tribromobiphenyl	N.D.	N.D.	5 mg/kg	
Tetrabromobiphenyl	N.D.	N.D.	5 mg/kg	
Pentabromobiphenyl	N.D.	N.D.	5 mg/kg	
Hexabromobiphenyl	N.D.	N.D.	5 mg/kg	
Heptabromobiphenyl	N.D.	N.D.	5 mg/kg	
Octabromobiphenyl	N.D.	N.D.	5 mg/kg	
Nonabromobiphenyl	N.D.	N.D.	5 mg/kg	
Decabromobiphenyl	N.D.	N.D.	5 mg/kg	

Tested Item(s)	Result		MDL	Limit
	001	002		
<b>Polybrominated Diphenyl Ethers (PBDEs)</b>				
Monobromodiphenyl ether	N.D.	N.D.	5 mg/kg	1000 mg/kg
Dibromodiphenyl ether	N.D.	N.D.	5 mg/kg	
Tribromodiphenyl ether	N.D.	N.D.	5 mg/kg	
Tetrabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
Pentabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
Hexabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
Heptabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
Octabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
Nonabromodiphenyl ether	N.D.	N.D.	5 mg/kg	
Decabromodiphenyl ether	N.D.	N.D.	5 mg/kg	

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Tested Item(s)	Result		MDL	Limit
	001	002		
<b>Phthalates (DBP, BBP, DEHP, DIBP)</b>				
Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	N.D.	50 mg/kg	1000 mg/kg
Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	N.D.	50 mg/kg	1000 mg/kg
Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	N.D.	50 mg/kg	1000 mg/kg
Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	N.D.	50 mg/kg	1000 mg/kg

## Sample/Part Description

001 Transparent resin

002 PCB (Tested as a whole)<sup>#</sup>

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

-<sup>#</sup>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.

-MDL = Method Detection Limit

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

-mg/kg = ppm = parts per million

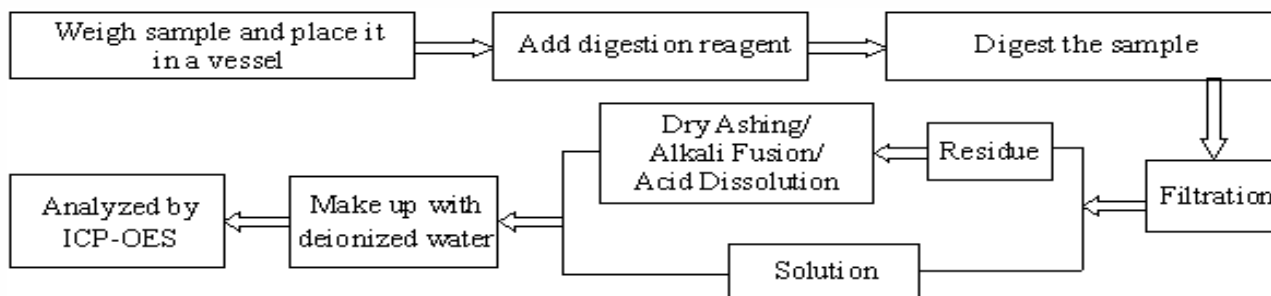
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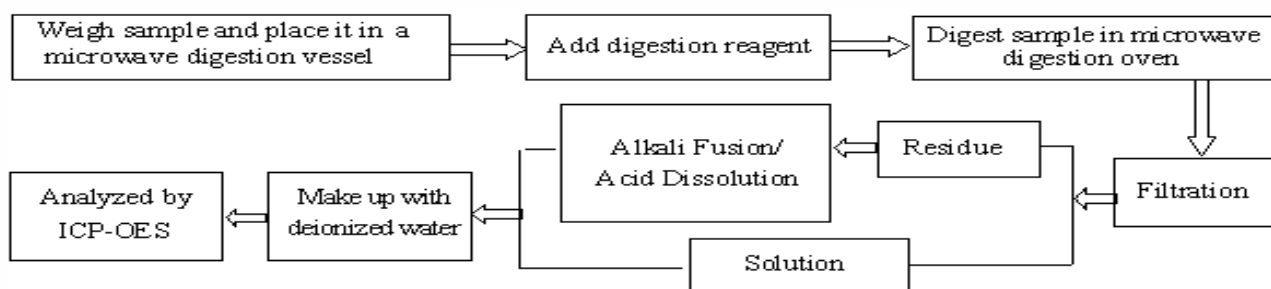
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## Test Process

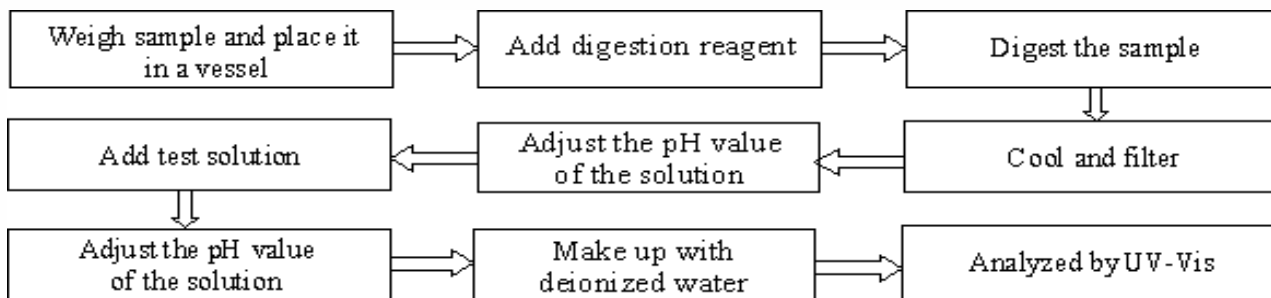
### 1. Lead(Pb), Cadmium(Cd), Chromium(Cr)



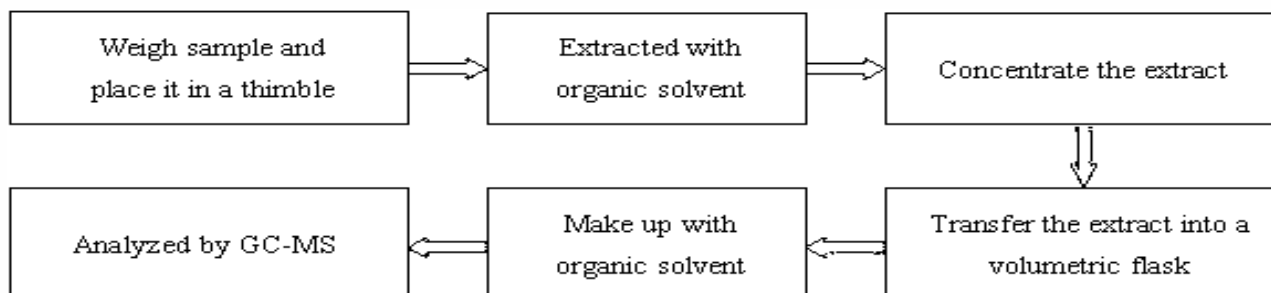
### 2. Mercury(Hg)



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



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

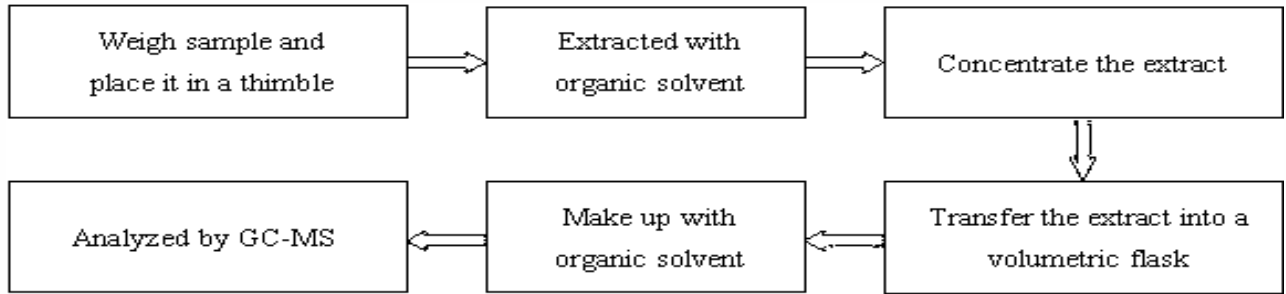


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## 5. Phthalates (DBP, BBP, DEHP, DIBP)



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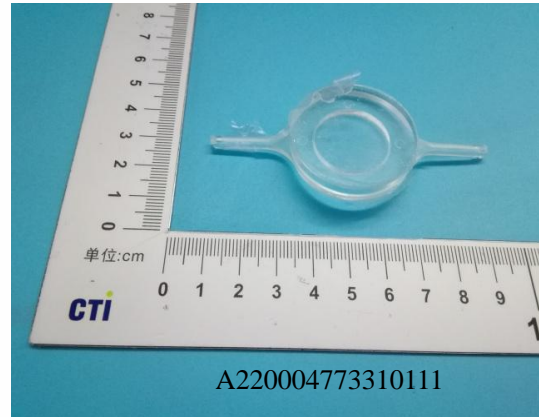
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## Photo(s) of the sample(s)

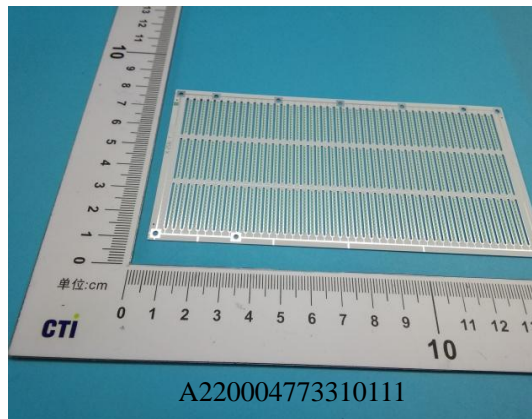
Final Product



001



002



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

### Statement:

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The sample(s) and sample information was/were provided by the client 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.