

检测报告  
Test Report报告编号 A2230688919101003E  
Report No. A2230688919101003E第 1 页 共 8 页  
Page 1 of 8报告抬头公司名称 东莞茂林电子有限公司  
Company Name EVERGREEN DONGGUAN ELECTRONICS LTD  
shown on Report  
地 址 东莞虎门镇南栅第四工业区  
Address THE 4TH INDUSTRIAL ZONE,NANSHAN, HUMEN, DONGGUAN

以下测试之样品及样品信息由申请者提供并确认

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

样品名称	无铅喷锡
Sample Name	Lead-Free HAL
材料名称	PCB Board
Material	PCB Board
样品接收日期	2023.12.29
Sample Received Date	Dec. 29, 2023
样品检测日期	2023.12.29-2024.01.03
Testing Period	Dec. 29, 2023 to Jan. 3, 2024

**检测要求** 根据客户要求, 对所提交样品中的铅 (Pb), 镉 (Cd), 汞 (Hg), 六价铬 (Cr(VI)), 多溴联苯 (PBBs), 多溴二苯醚 (PBDEs), 邻苯二甲酸酯 (DBP, BBP, DEHP, DIBP) 进行测试。

**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).

**检测依据/检测结果** 请参见下页。

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



Approved by

郑晴涛

郑晴涛

技术经理 Technical Manager

检测认证集团股份有限公司  
Inspection & Testing Services  
Centre Testing International Group Co., Ltd.

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

日 期  
Date

2024.01.03

No. R158921883

广东省深圳市宝安区新安街道兴东社区华测检测大楼

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**结论 Conclusion**

测试样品 Tested Sample	依据标准/指令 According to standard/directive	结果 Result
提交样品 Submitted Sample	欧盟RoHS指令2011/65/EU及其修订指令(EU) 2015/863 RoHS Directive 2011/65/EU with amendment (EU) 2015/863	符合 PASS

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符合表示检测结果满足欧盟RoHS指令2011/65/EU及其修订指令(EU) 2015/863要求的限值。  
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.



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检测依据 Test Method

测试项目 Test Item(s)	测试方法 Test Method	测试仪器 Measured Equipment(s)
铅 Lead (Pb)	IEC 62321-5:2013	ICP-OES
镉 Cadmium (Cd)	IEC 62321-5:2013	ICP-OES
汞 Mercury (Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
六价铬 Hexavalent Chromium (Cr(VI))	IEC 62321-7-2:2017和/或IEC 62321-5:2013测试总铬含量 IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
多溴联苯 Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015	GC-MS
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS

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**检测结果 Test Result(s)**

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
	003		
铅 Lead (Pb)	N.D.	2 mg/kg	1000 mg/kg
镉 Cadmium (Cd)	N.D.	2 mg/kg	100 mg/kg
汞 Mercury (Hg)	N.D.	2 mg/kg	1000 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	N.D.	8 mg/kg	1000 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
	003		
<b>多溴联苯 Polybrominated Biphenyls (PBBs)</b>			
一溴联苯 Monobromobiphenyl	N.D.	5 mg/kg	1000 mg/kg
二溴联苯 Dibromobiphenyl	N.D.	5 mg/kg	
三溴联苯 Tribromobiphenyl	N.D.	5 mg/kg	
四溴联苯 Tetrabromobiphenyl	N.D.	5 mg/kg	
五溴联苯 Pentabromobiphenyl	N.D.	5 mg/kg	
六溴联苯 Hexabromobiphenyl	N.D.	5 mg/kg	
七溴联苯 Heptabromobiphenyl	N.D.	5 mg/kg	
八溴联苯 Octabromobiphenyl	N.D.	5 mg/kg	
九溴联苯 Nonabromobiphenyl	N.D.	5 mg/kg	
十溴联苯 Decabromobiphenyl	N.D.	5 mg/kg	

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
	003		
<b>多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)</b>			
一溴二苯醚 Monobromodiphenyl ether	N.D.	5 mg/kg	1000 mg/kg
二溴二苯醚 Dibromodiphenyl ether	N.D.	5 mg/kg	
三溴二苯醚 Tribromodiphenyl ether	N.D.	5 mg/kg	
四溴二苯醚 Tetrabromodiphenyl ether	N.D.	5 mg/kg	
五溴二苯醚 Pentabromodiphenyl ether	N.D.	5 mg/kg	
六溴二苯醚 Hexabromodiphenyl ether	N.D.	5 mg/kg	
七溴二苯醚 Heptabromodiphenyl ether	N.D.	5 mg/kg	
八溴二苯醚 Octabromodiphenyl ether	N.D.	5 mg/kg	
九溴二苯醚 Nonabromodiphenyl ether	N.D.	5 mg/kg	
十溴二苯醚 Decabromodiphenyl ether	N.D.	5 mg/kg	

一般用途

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**检测结果 Test Result(s)**

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL	限值 Limit
	003		
<b>邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)</b>			
邻苯二甲酸二丁酯 Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸丁基苯基酯 Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸二(2-乙基)己酯 Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸二异丁酯 Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50 mg/kg	1000 mg/kg

**样品/部位描述 Sample/Part Description**

序号 No.	CTI样品ID CTI Sample ID	描述 Description
1	003	PCB (整体测试) PCB(Tested as a whole)

**备注:** 对于检测铅, 镉, 汞之样品已消解完全。  
 -按照目前手段, 样品无法进一步拆分, 样品整体测试, 测试结果不代表整体测试样品中任何一种单一材质的含量。  
 -N.D. = 未检出 (小于方法检出限)  
 -mg/kg = ppm = 百万分之一  
 -1000 mg/kg = 0.1%

**Remark:** The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.  
 -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  
 -1000 mg/kg = 0.1%

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# 检测报告 Test Report

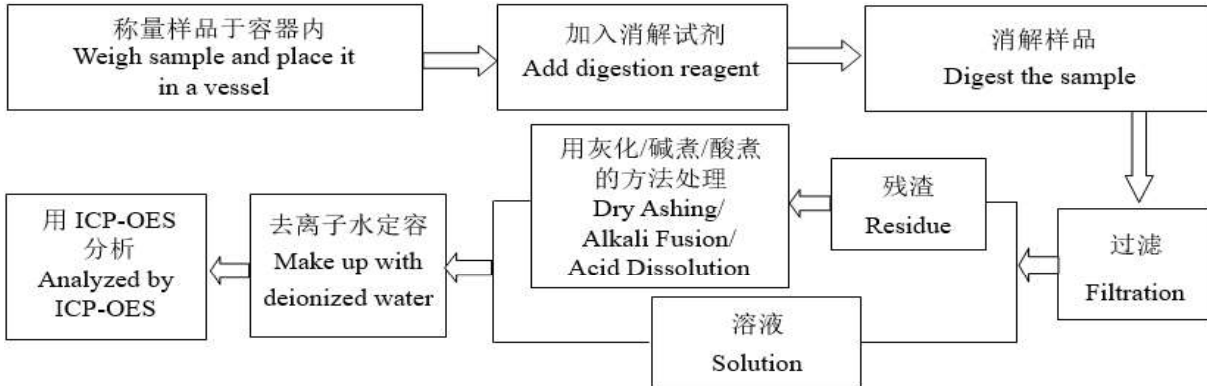
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## 检测流程 Test Process

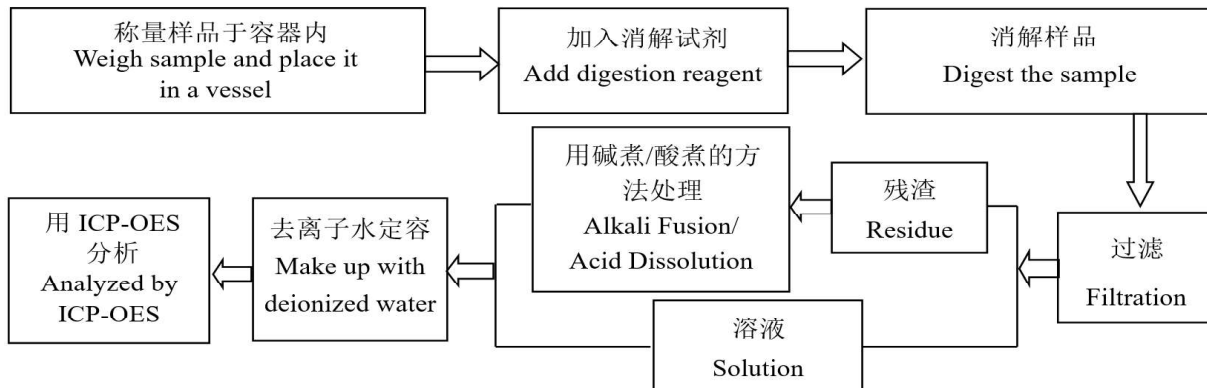
### 1. 铅(Pb), 镉(Cd), 铬(Cr)

Lead (Pb), Cadmium (Cd), Chromium (Cr)



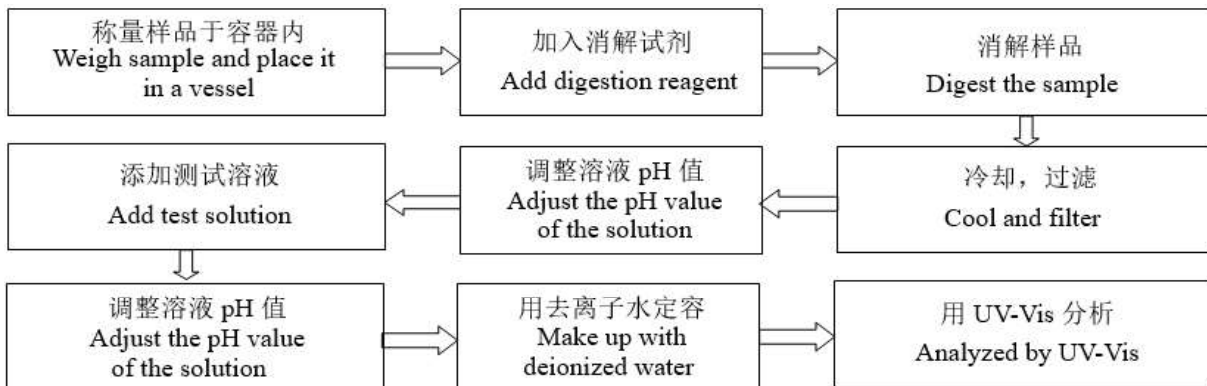
### 2. 汞(Hg)

Mercury (Hg)



### 3. 六价铬(Cr(VI))

Hexavalent Chromium (Cr(VI))



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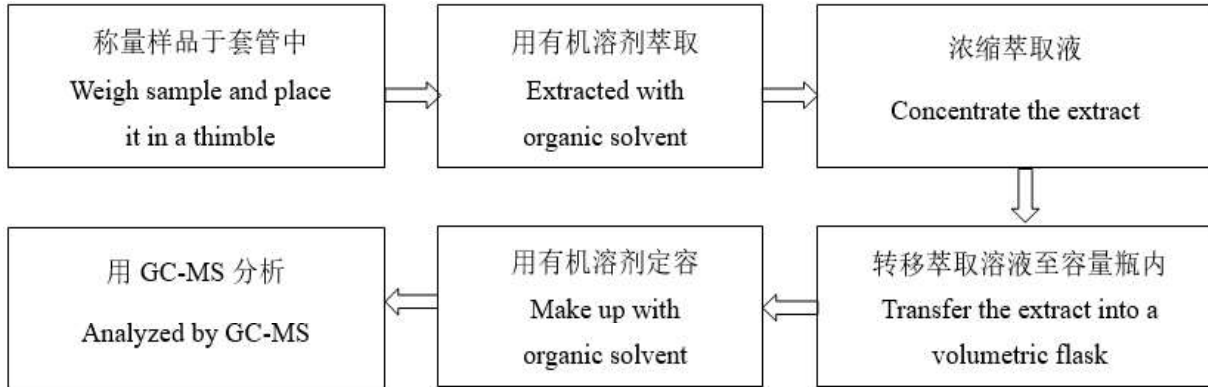
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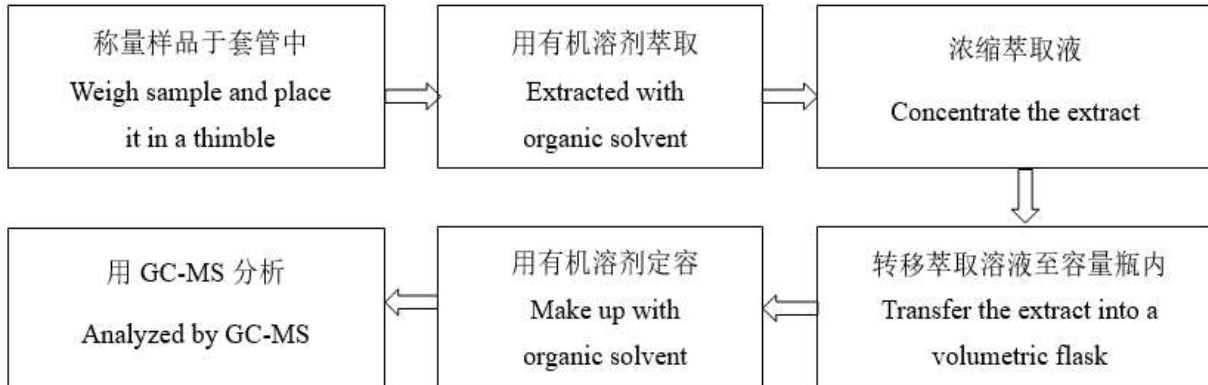
## 4. 多溴联苯(PBBs), 多溴二苯醚(PBDEs)

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



## 5. 邻苯二甲酸酯 (DBP, BBP, DEHP, DIBP)

Phthalates (DBP, BBP, DEHP, DIBP)



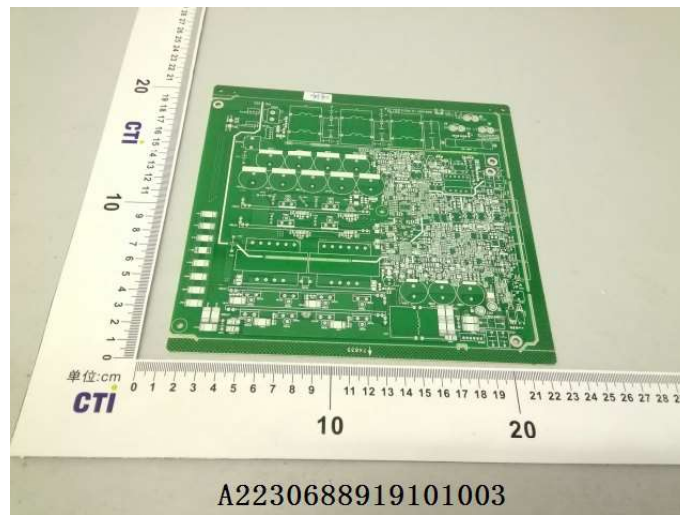
CTI 华测检测

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## 样品图片 Photo(s) of the sample(s)



### 声明Statement:

1. 检测报告无批准人签字、“专用章”及报告骑缝章无效;  
This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. 报告抬头公司名称及地址、样品及样品信息由申请者提供, 申请者应对其真实性负责, CTI未核实其真实性;  
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. 本报告检测结果仅对受测样品负责;  
The result(s) shown in this report refer(s) only to the sample(s) tested;
4. 除非另有说明, 报告参照ILAC-G8:09/2019 / CNAS-GL015:2022使用简单接受(w=0)二元判定规则进行符合性判定;  
Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019 / CNAS-GL015:2022;
5. 未经CTI书面同意, 不得部分复制本报告;  
Without written approval of CTI, this report can't be reproduced except in full;
6. 如检测报告中的英文内容与中文内容有差异, 以中文为准。  
In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

\*\*\*报告结束\*\*\*

\*\*\* End of report \*\*\*