

检测报告  
Test Report报告编号 A2240272057101001E  
Report No. A2240272057101001E第 1 页 共 9 页  
Page 1 of 9报告抬头公司名称 如皋市大昌电子有限公司  
Company Name RUGAO DACHANG ELECTRONICS CO., LTD  
shown on Report  
地 址 江苏省如皋市柴湾工业园区  
Address CHAIWAN INDUSTRIAL PARK, RUGAO, JIANGSU, CHINA

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 玻封二极管  
Sample Name Glass Sealed Diode  
样品型号 LL34  
Model No. LL34  
样品接收日期 2024.05.14  
Sample Received Date May 14, 2024  
样品检测日期 2024.05.14-2024.05.17  
Testing Period May 14, 2024 to May 17, 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).

陈凯敏

陈凯敏  
实验室经理 Lab Manager日 期  
Date

2024.05.17

No. R475312045

上海市闵行区万芳路1351号

No.1351, Wanfang Road, Minhang District, Shanghai, China

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结论 Conclusion

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

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

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检测结果 Test Result(s)

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| 测试项目 Tested Item(s)              | 结果 Result     | 方法检出限 MDL | 限值 Limit   |
|----------------------------------|---------------|-----------|------------|
|                                  | 001           |           |            |
| 铅 Lead (Pb)                      | 203499 mg/kg* | 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   |
|--------------------------------------|-----------|-----------|------------|
|                                      | 001       |           |            |
| 多溴联苯 Polybrominated Biphenyls (PBBs) |           |           |            |
| 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   |
|----------------------------------------------|-----------|-----------|------------|
|                                              | 001       |           |            |
| 多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs) |           |           |            |
| 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   |            |

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| 测试项目 Tested Item(s)                                                | 结果 Result | 方法检出限 MDL | 限值 Limit   |
|--------------------------------------------------------------------|-----------|-----------|------------|
|                                                                    | 001       |           |            |
| 邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)                           |           |           |            |
| 邻苯二甲酸二丁酯 Dibutyl phthalate (DBP)<br>CAS#:84-74-2                   | N.D.      | 50 mg/kg  | 1000 mg/kg |
| 邻苯二甲酸丁基苄基酯 Butyl benzyl phthalate (BBP)<br>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)<br>CAS#:117-81-7 | N.D.      | 50 mg/kg  | 1000 mg/kg |
| 邻苯二甲酸二异丁酯 Diisobutyl phthalate (DIBP)<br>CAS#:84-69-5              | N.D.      | 50 mg/kg  | 1000 mg/kg |

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**样品/部位描述 Sample/Part Description**

| 序号<br>No. | CTI样品ID<br>CTI Sample ID | 描述<br>Description                                        |
|-----------|--------------------------|----------------------------------------------------------|
| 1         | 001                      | 电子元器件（整体测试）<br>Electronic components (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。

\*=根据客户声明, 样品中的铅来自于高温融化焊料。高温熔融焊料中的铅(即: 铅基合金中铅含量 $\geq 85\%$  (Wt)), 根据欧盟指令2011/65/EU附录III豁免项第7(a)条, 是符合豁免的; 根据客户声明, 样品涉及欧盟RoHS指令2011/65/EU豁免项第7(c)-I条: 电气电子元件的玻璃或陶瓷中的铅, 电容器的介电陶瓷除外, 如压电玻璃或陶瓷装置。

-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.

-\*=According to the client's statement, lead mainly comes from the high melting temperature type solders. Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead) is exempted from the restriction, with reference to EU Directive 2011/65/EU annex III Exemption Applications 7(a); According to the client's statement, the material of the sample(s) fall into exemption items 7(c)-I according to EU Directive 2011/65/EU: Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound.

-MDL = Method Detection Limit

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

-mg/kg = ppm = parts per million

-1000 mg/kg = 0.1%

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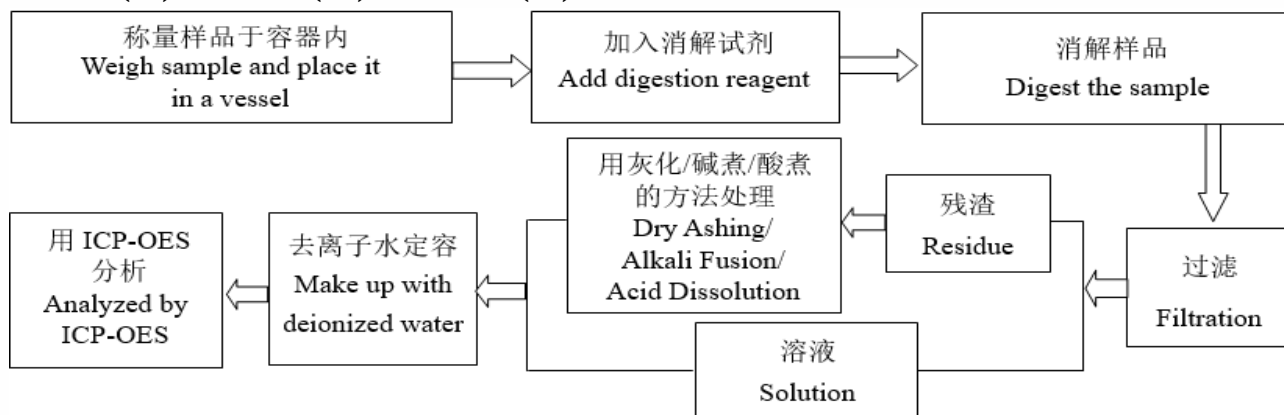
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## 检测流程 Test Process

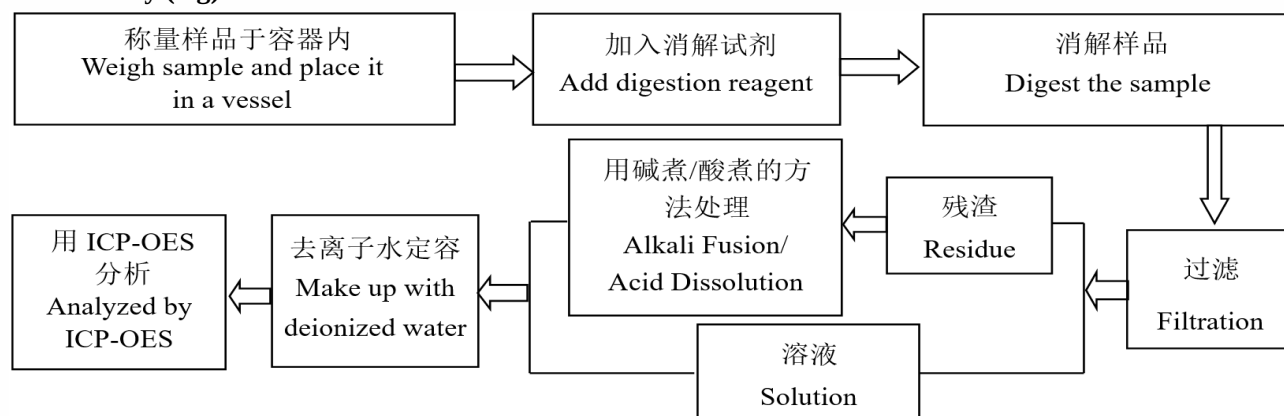
### 1. 铅(Pb), 镉(Cd), 铬(Cr)

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



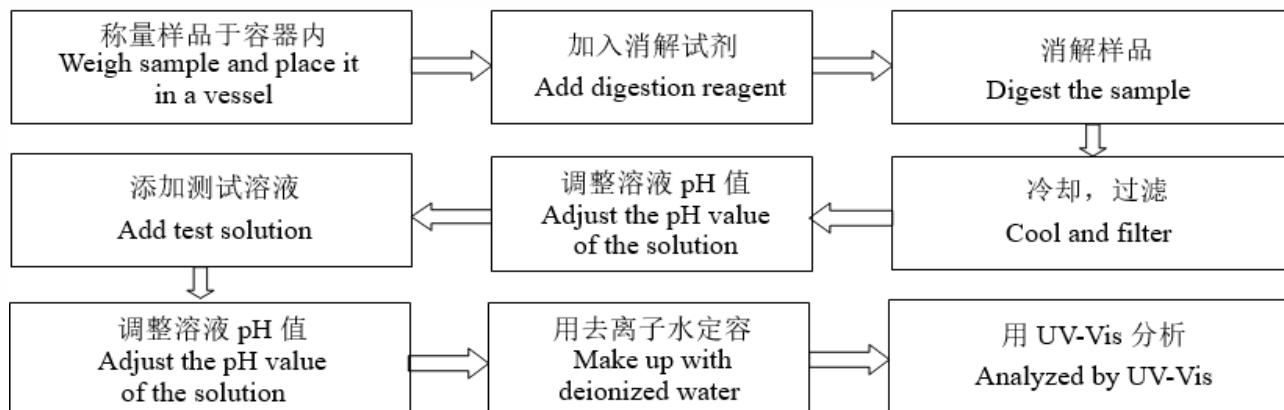
### 2. 汞(Hg)

#### Mercury (Hg)



### 3. 六价铬(Cr(VI))

#### Hexavalent Chromium (Cr(VI))



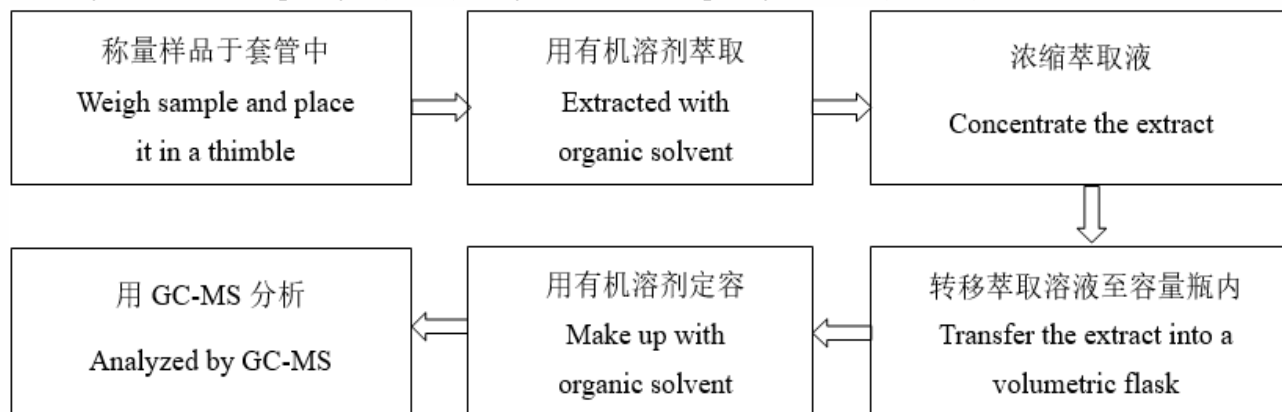
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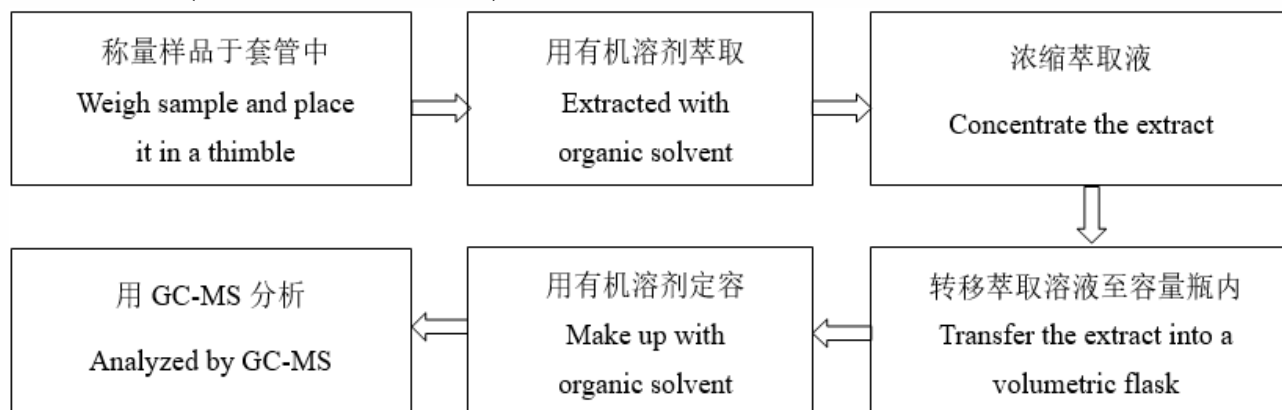
## 4. 多溴联苯(PBBs), 多溴二苯醚(PBDEs)

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



## 5. 邻苯二甲酸酯(DBP, BBP, DEHP, DIBP)

Phthalates (DBP, BBP, DEHP, DIBP)



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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 \*\*\*

## 附录Appendix

### 客户参考信息Client Reference Information

DO34, DO41, DO35, LL41

### 声明Statement:

1. 附录内容由申请者提供，申请者应对其真实性负责，CTI未核实其真实性。  
The Appendix Information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.
2. 附录内容为A2240272057101001E报告的补充。  
The Appendix Information is/are the supplement(s) for the Report A2240272057101001E.