

# Test Report

**Report No.** A2180031921101001

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**Applicant** SHANGHAI JINPEI ELECTRONICS CO., LTD.

**Address** 3A,BUILDING A, NO.168 CHENG NAN ROAD,PUDONG DISTRICT , SHANGHAI,  
CHINA. 201300

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

**Sample Name** multilayer ceramic chip capacitor

**Part No.** MLCC

**Sample Received Date** Sep. 3, 2024

**Testing Period** Sep. 3, 2024 to Sep. 9, 2024

**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** Please refer to the following page(s).

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



Tested by

Zhu Jie

Approved by

Su Hongwei

Su Hongwei

Senior Laboratory Manager

Centre Testing International Pimbiao(Shanghai) Co., Ltd.

Reviewed by

Dong Yong min

Date

Sep. 9, 2024

No. R131271629

No.1996, Ximinqiao Road, Pudong New District, Shanghai, China

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**Test Method**

| Test 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                                                              | 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     |
|-----------------------------------------------|--------|---------|
| Lead(Pb)                                      | N.D.   | 2 mg/kg |
| Cadmium(Cd)                                   | N.D.   | 2 mg/kg |
| Mercury(Hg)                                   | N.D.   | 2 mg/kg |
| Hexavalent Chromium(Cr(VI))                   | N.D.   | 8 mg/kg |
| Tested Item(s)                                | Result | MDL     |
| <b>Polybrominated Biphenyls(PBBs)</b>         |        |         |
| Monobromobiphenyl                             | N.D.   | 5 mg/kg |
| Dibromobiphenyl                               | N.D.   | 5 mg/kg |
| Tri bromobiphenyl                             | N.D.   | 5 mg/kg |
| Tetrabromobiphenyl                            | N.D.   | 5 mg/kg |
| Pentabromobiphenyl                            | N.D.   | 5 mg/kg |
| Hexabromobiphenyl                             | N.D.   | 5 mg/kg |
| Heptabromobiphenyl                            | N.D.   | 5 mg/kg |
| Octabromobiphenyl                             | N.D.   | 5 mg/kg |
| Nonabromobiphenyl                             | N.D.   | 5 mg/kg |
| Decabromobiphenyl                             | N.D.   | 5 mg/kg |
| Tested Item(s)                                | Result | MDL     |
| <b>Polybrominated Diphenyl Ethers (PBDEs)</b> |        |         |
| Monobromodiphenyl ether                       | N.D.   | 5 mg/kg |
| Dibromodiphenyl ether                         | N.D.   | 5 mg/kg |
| Tri bromodiphenyl ether                       | N.D.   | 5 mg/kg |
| Tetrabromodiphenyl ether                      | N.D.   | 5 mg/kg |
| Pentabromodiphenyl ether                      | N.D.   | 5 mg/kg |
| Hexabromodiphenyl ether                       | N.D.   | 5 mg/kg |
| Heptabromodiphenyl ether                      | N.D.   | 5 mg/kg |
| Octabromodiphenyl ether                       | N.D.   | 5 mg/kg |
| Nonabromodiphenyl ether                       | N.D.   | 5 mg/kg |
| Decabromodiphenyl ether                       | N.D.   | 5 mg/kg |

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**Test Result(s)**

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

**Tested Sample/Part Description**

Electronic components (Tested as a whole)

**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

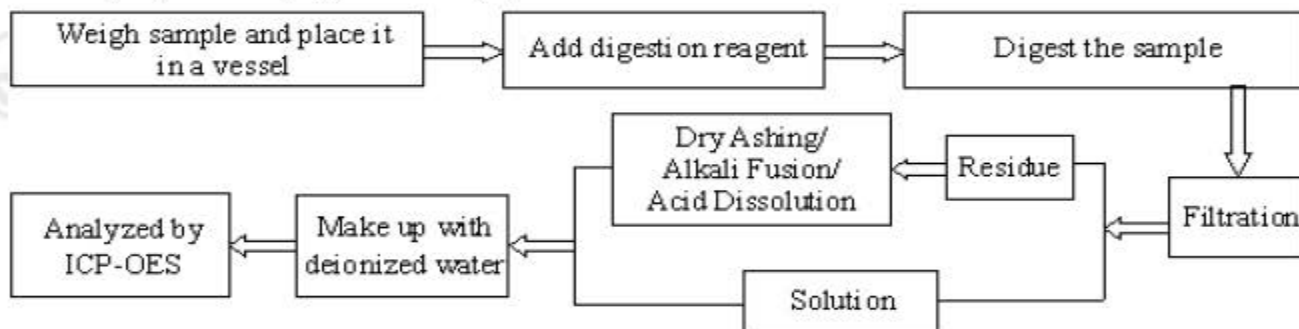
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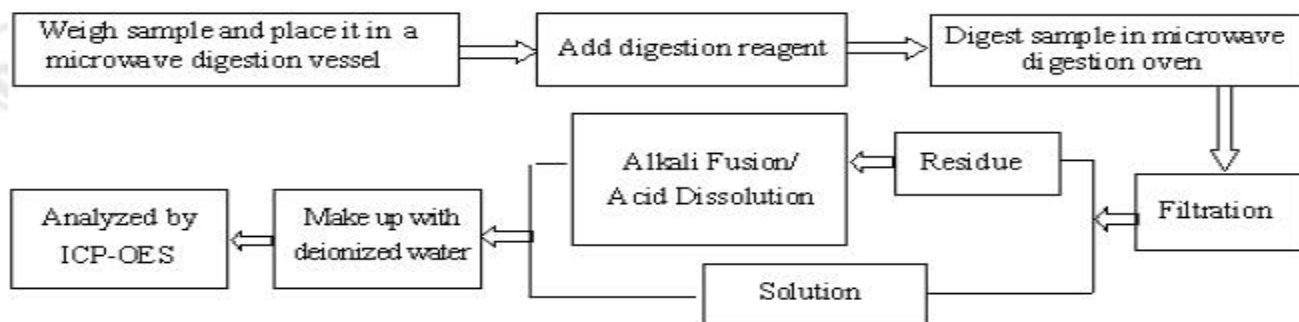
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## Test Process

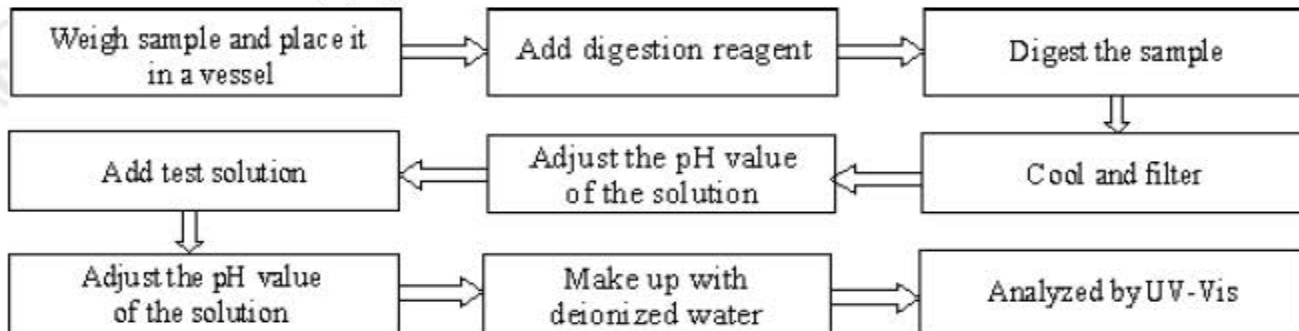
### 1. Lead(Pb), Cadmium(Cd), Chromium(Cr)



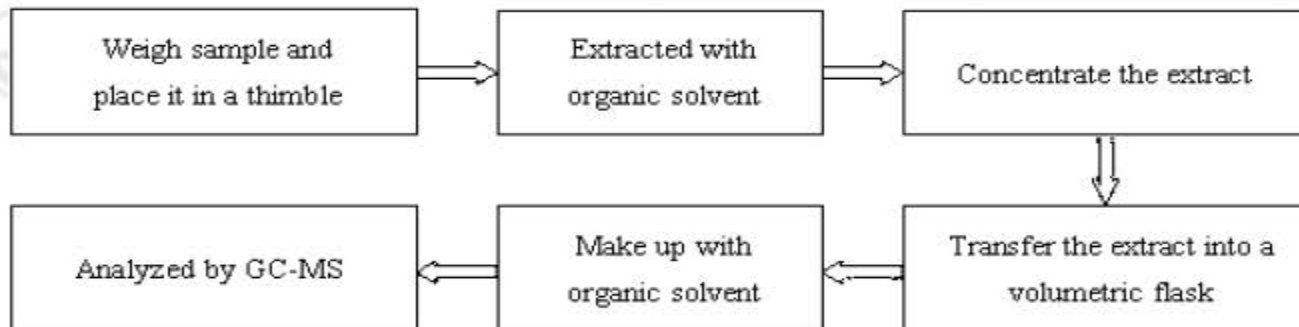
### 2. Mercury(Hg)



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



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

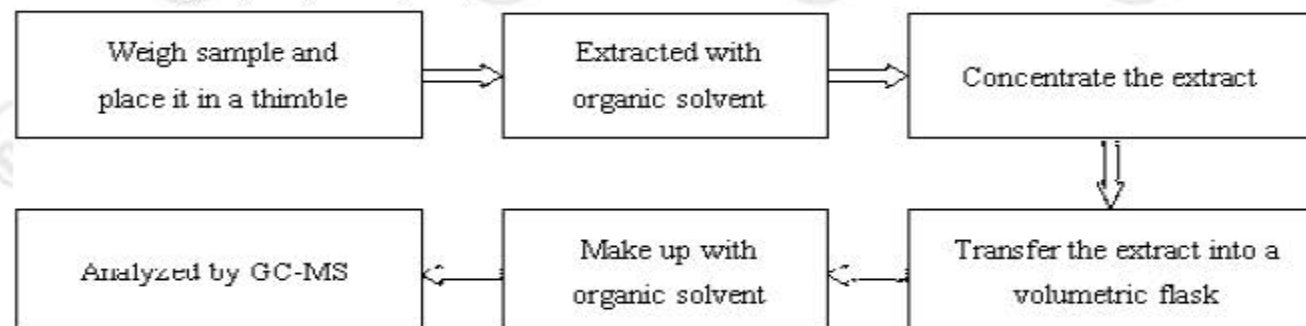


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### 5. Phthalates (DBP, BBP, DEHP, DIBP)

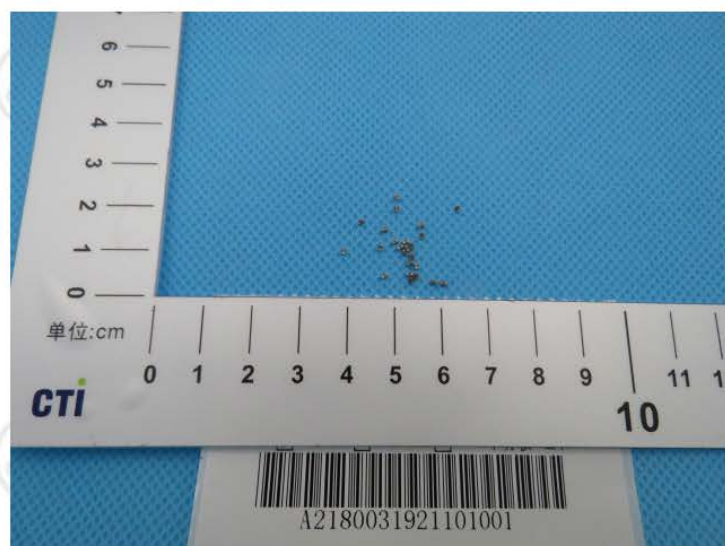


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Photo(s) of the sample(s)



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

Statement:

1. This report is considered invalidated without approval 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.