



# 检测报告 Test Report

报告编号 A2230331344101004E  
Report No. A2230331344101004E

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报告抬头公司名称 九江华秋电路有限公司  
Company Name JIUJIANG HUAQIU CIRCUIT CO.,LTD.

shown on Report

地 址 江西省九江市九江经济技术开发区城西港区爱民路 2 号  
Address NO.2 AIMIN ROAD, CHENGXI PORT AREA, ECONOMIC AND  
TECHNOLOGICAL DEVELOPMENT ZONE OF JIUJIANG, JIUJIANG CITY,  
JIANGXI PROVINCE, 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                 | PCB                           |
| Sample Name          | PCB                           |
| 样品接收日期               | 2023.07.06                    |
| Sample Received Date | Jul. 6, 2023                  |
| 样品检测日期               | 2023.07.06-2023.07.13         |
| Testing Period       | Jul. 6, 2023 to Jul. 13, 2023 |

## 测试内容 Test Conducted:

根据客户的申请要求，具体要求详见下一页。

As requested by the applicant. For details refer to next page(s).

批 准

郑晴涛

日 期

2023.07.13

Approved by

Date

郑晴涛

技术经理 Technical Manager

No. R158922265

华测检测认证集团股份有限公司

广东省深圳市宝安区新安街道兴东社区华测检测大楼

Certified Testing International Group Co.,Ltd.

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

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## 测试摘要 Executive Summary:

### 测试要求

#### TEST REQUEST

客户要求

Client's requirement

- 全氟烷基和多氟烷基物质  
Perfluoroalkyl and polyfluoroalkyl substances (PFAS)

### 测试结果

#### CONCLUSION

见结果页

See test result(s)

\*\*\*\*\*详细结果，请见下页\*\*\*\*\*

\*\*\*\*\* For further details, please refer to the following page(s) \*\*\*\*\*

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### 客户要求 Client's requirement

#### ▼ 全氟烷基和多氟烷基物质 Perfluoroalkyl and polyfluoroalkyl substances (PFAS)

测试方法: CEN/TS 15968:2010; 测试仪器: LC-MS-MS & GC-MS

Test Method: CEN/TS 15968:2010; Test Equipment: LC-MS-MS & GC-MS

| 序号<br>No. | 测试项目 Tested Item(s)   | CAS No.     | 结果 Result (mg/kg) | 方法检出限          |
|-----------|---|-------------|-------------------|----------------|
|           |   |             | 004               | MDL<br>(mg/kg) |
| 1         | 全氟辛烷磺酸 Perfluorooctane Sulfonates (PFOS)  | 1763-23-1   | N.D.              | 0.010          |
| 2         | 全氟辛基磺酸钾 Perfluorooctanesulfonic acid, potassium salt (PFOS-K)*  | 2795-39-3   | N.D.              | 0.010          |
| 3         | 全氟辛基磺酸锂 Perfluorooctanesulfonic acid, lithium salt (PFOS-Li)*   | 29457-72-5  | N.D.              | 0.010          |
| 4         | 全氟辛基磺酸钠<br>Sodium perfluorooctane sulfonate (PFOS-Na)*  | 4021-47-0   | N.D.              | 0.010          |
| 5         | 全氟辛基磺酸镁 1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-hepta-decafluoro-, magnesium salt (2:1) (PFOS-Mg)*         | 91036-71-4  | N.D.              | 0.020          |
| 6         | 全氟辛基磺酸铵 Perfluorooctanesulfonic acid, ammonium salt (PFOS-NH <sub>4</sub> )*  | 29081-56-9  | N.D.              | 0.010          |
| 7         | 全氟辛基磺酸二乙醇胺 Perfluorooctane sulfonate diethanolamine salt (PFOS-NH(OH) <sub>2</sub> )*                                       | 70225-14-8  | N.D.              | 0.010          |
| 8         | 全氟辛基磺酸四乙基铵 Perfluorooctanesulfonic acid, tetraethylammonium salt (PFOS-N(C <sub>2</sub> H <sub>5</sub> ) <sub>4</sub> )*    | 56773-42-3  | N.D.              | 0.010          |
| 9         | 全氟辛基磺酸二癸二甲基铵 Didecyl dimethyl ammonium perfluorooctane sulfonate (PFOS-DDA)*  | 251099-16-8 | N.D.              | 0.010          |
| 10        | 全氟辛基磺酰氟<br>Perfluoro-1-octanesulfonyl fluoride (PFOSF)*   | 307-35-7    | N.D.              | 0.010          |
| 11        | 全氟辛基磺酸哌啶 Piperidine 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-hepta-decafluoro-octanesulfonate*                                     | 71463-74-6  | N.D.              | 0.020          |
| 12        | 氟虫胺 N-Ethylperfluoro-1-octanesulfonamide (N-Et-FOSA)  | 4151-50-2   | N.D.              | 0.050          |
| 13        | 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-十七氟-N-甲基-辛磺酰胺 N-Methylperfluoro-1-octanesulfonamide (N-Me-FOSA)                           | 31506-32-8  | N.D.              | 0.050          |
| 14        | N-乙基全氟辛基磺酰乙醇 2-(N-Ethylperfluoro-1-octanesulfonamido)-ethanol (N-Et-FOSE)   | 1691-99-2   | N.D.              | 0.050          |
| 15        | 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-十七氟-N-(2-羟乙基)-N-甲基-1-辛基磺酰乙醇 2-(N-Methylperfluoro-1-octanesulfonamido)-ethanol (N-Me-FOSE) | 24448-09-7  | N.D.              | 0.050          |
| 16        | 全氟辛酸 Perfluorooctanoic acid (PFOA)  | 335-67-1    | N.D.              | 0.010          |
| 17        | 全氟辛酸铵<br>Ammonium pentadecafluorooctanoate (APFO)*  | 3825-26-1   | N.D.              | 0.010          |
| 18        | 全氟辛酸钠 Sodium perfluorooctanoate (PFOA-Na)*  | 335-95-5    | N.D.              | 0.010          |
| 19        | 全氟辛酸钾 Potassium perfluorooctanoate (PFOA-K)*  | 2395-00-8   | N.D.              | 0.010          |
| 20        | 全氟辛酸锂 Lithium perfluorooctanoate (PFOA-Li)*   | 17125-58-5  | N.D.              | 0.010          |
| 21        | 全氟辛酸银 Silver perfluorooctanoate (PFOA-Ag)*  | 335-93-3    | N.D.              | 0.010          |

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|-----------|---|-------------|-------------------|----------------|
|           |   |             | 004               | MDL<br>(mg/kg) |
| 22        | 全氟辛氟 Perfluorooctanoyl fluoride (PFOA-F)*   | 335-66-0    | N.D.              | 0.010          |
| 23        | 全氟辛酸甲酯 Methyl perfluorooctanoate (Me-PFOA)  | 376-27-2    | N.D.              | 0.500          |
| 24        | 全氟辛酸乙酯 Ethyl perfluorooctanoate (Et-PFOA)   | 3108-24-5   | N.D.              | 0.500          |
| 25        | 全氟正辛基碘烷 Perfluorooctyl iodide (PFOI)  | 507-63-1    | N.D.              | 0.500          |
| 26        | 1H,1H,2H,2H-全氟-1-癸醇<br>1H,1H,2H,2H-Perfluoro-1-decanol (8:2 FTOH)   | 678-39-7    | N.D.              | 0.200          |
| 27        | 1H,1H,2H,2H-全氟癸磺酸<br>1H,1H,2H,2H-perfluorodecane sulfonic acid (8:2 FTS)  | 39108-34-4  | N.D.              | 0.200          |
| 28        | 丙烯酸 1H,1H,2H,2H-十七氟癸酯<br>1,1,2,2-Tetrahydroperfluorodecyl acrylate (8:2 FTAC)   | 27905-45-9  | N.D.              | 0.200          |
| 29        | 2-(全氟辛基)乙基甲基丙烯酸酯<br>2-Propenoic acid,2-methyl-,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester (8:2 FTMA) | 1996-88-9   | N.D.              | 0.200          |
| 30        | 1H,1H,2H,2H-全氟癸基三乙氧基硅烷<br>1H,1H,2H,2H-Perfluorodecyltriethoxysilane (PFSI)  | 101947-16-4 | N.D.              | 0.200          |
| 31        | 1-碘-1H,1H,2H,2H-全氟癸烷 Decane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8- heptadecafluoro-10-iodo- (8:2 FTI)                        | 2043-53-0   | N.D.              | 0.200          |
| 32        | 双(2-(全氟乙基))磷酸<br>8:2 Fluorotelomer phosphate diester (8:2diPAP)   | 678-41-1    | N.D.              | 0.200          |
| 33        | 双(2-(全氟乙基))磷酸钠 Sodium<br>bis(1H,1H,2H,2H-perfluorodecyl)phosphate (8:2diPAP-Na)*  | 114519-85-6 | N.D.              | 0.060          |
| 34        | 全氟辛基磺酰胺 Perfluorooctanesulfonamide (PFOSA)  | 754-91-6    | N.D.              | 0.010          |
| 35        | 全氟辛基磺酰胺锂盐(1:1)<br>Perfluorooctanesulfonamide lithium salt (1:1) (PFOSA-Li)*   | 76752-79-9  | N.D.              | 0.010          |
| 36        | 全氟己酸 Perfluorohexanoic acid (PFHxA)   | 307-24-4    | N.D.              | 0.010          |
| 37        | 全氟己酸钠<br>Sodium undecafluorohexanoate (PFHxA-Na)*   | 2923-26-4   | N.D.              | 0.020          |
| 38        | 全氟己酸钾 Hexanoic acid, undecafluoro-, potassium salt (PFHxA-K)*   | 3109-94-2   | N.D.              | 0.020          |
| 39        | 全氟己酸锂 Lithium perfluorohexanoate (PFHxA-Li)*  | 90430-61-8  | N.D.              | 0.010          |
| 40        | 全氟己酸银 Silver perfluorohexanoate (PFHxA-Ag)*   | 336-02-7    | N.D.              | 0.020          |
| 41        | 全氟己酸铵<br>Ammonium perfluorohexanoate (PFHxA-NH <sub>4</sub> )*  | 21615-47-4  | N.D.              | 0.010          |
| 42        | 全氟正庚酸 Perfluoroheptanoic acid (PFHpA)   | 375-85-9    | N.D.              | 0.010          |
| 43        | 十三氟代庚酸钠 Sodium perfluoroheptanoate (PFHpA-Na)*  | 20109-59-5  | N.D.              | 0.020          |
| 44        | 全氟庚酸钾 Potassium perfluoroheptanoate (PFHpA-K)*  | 21049-36-5  | N.D.              | 0.020          |
| 45        | 全氟庚酸锂 Lithium perfluoroheptanoate (PFHpA-Li)*   | 60871-90-1  | N.D.              | 0.010          |
| 46        | 全氟庚酸银 Silver perfluoroheptanoate (PFHpA-Ag)*  | 424-05-5    | N.D.              | 0.020          |
| 47        | 全氟庚酸铯 Cesium perfluoroheptanoate (PFHpA-Cs)*  | 171198-24-6 | N.D.              | 0.020          |

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|-----------|---|-------------|-------------------|----------------|
|           |   |             | 004               | MDL<br>(mg/kg) |
| 48        | 全氟庚酸铵 Ammonium perfluoroheptanoate (PFHpA-NH <sub>4</sub> )*  | 6130-43-4   | N.D.              | 0.010          |
| 49        | 全氟丁基磺酸 Perfluorobutane sulfonic acid (PFBS)   | 375-73-5    | N.D.              | 0.010          |
| 50        | 全氟丁基磺酸钠 Sodium perfluorobutanesulfonate (PFBS-Na)*  | 60453-92-1  | N.D.              | 0.020          |
| 51        | 全氟丁基磺酸钾 Perfluorobutanesulfonate K-salt (PFBS-K)*   | 29420-49-3  | N.D.              | 0.010          |
| 52        | 全氟丁基磺酸锂 Lithium perfluorobutanesulfonate (PFBS-Li)*   | 131651-65-5 | N.D.              | 0.010          |
| 53        | 全氟丁基磺酸镁 Magnesium perfluorobutanesulfonate (PFBS-Mg)*   | 507453-86-3 | N.D.              | 0.025          |
| 54        | 全氟丁基磺酸水合物 Perfluorobutane sulfonic acid hydrate (PFBS-H <sub>2</sub> O)*  | 59933-66-3  | N.D.              | 0.010          |
| 55        | 全氟丁基磺酰氟 1-Butanesulfonyl fluoride, 1,1,2,2,3,3,4,4,4-nonafluoro- (PFBSF)*   | 375-72-4    | N.D.              | 0.010          |
| 56        | 全氟丁基磺酰氯 Nonafluoro-1-butanesulfonyl chloride (PFBSCL)*  | 2991-84-6   | N.D.              | 0.020          |
| 57        | 全氟丁基磺酸四乙基铵 N,N,N-Triethyl-1-[(1,1,2,2,3,3,4,4,4-nonafluorobutane-1-sulfonyl)oxy]ethan-1-aminium (PFBS-N(CH <sub>3</sub> CH <sub>2</sub> ) <sub>4</sub> )* | 25628-08-4  | N.D.              | 0.010          |
| 58        | 全氟丁基磺酸铵 Ammonium perfluorobutanesulfonate (PFBS-NH <sub>4</sub> )*  | 68259-10-9  | N.D.              | 0.010          |
| 59        | 全氟己基磺酸 Perfluorohexanesulfonic acid (PFHxS)   | 355-46-4    | N.D.              | 0.010          |
| 60        | 全氟己基磺酸钠 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, sodium salt (PFHxS-Na)*  | 82382-12-5  | N.D.              | 0.010          |
| 61        | 全氟己基磺酸钾 Potassium perfluorohexane-1-sulphonate (PFHxS-K)*   | 3871-99-6   | N.D.              | 0.010          |
| 62        | 全氟己基磺酸锂 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, lithium salt(1:1) (PFHxS-Li)*  | 55120-77-9  | N.D.              | 0.010          |
| 63        | 全氟己基磺酸锌 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, zinc salt (PFHxS-Zn)*  | 70136-72-0  | N.D.              | 0.010          |
| 64        | 全氟己基磺酸镓盐(9CI) 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, gallium salt (9CI) (PFHxS-Ga)*   | 341035-71-0 | N.D.              | 0.035          |
| 65        | 全氟己基磺酸钪盐(3:1) 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, scandium(3+) salt (3:1) (PFHxS-Sc)*  | 350836-93-0 | N.D.              | 0.035          |
| 66        | 全氟己基磺酸钕盐(3:1) 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, neodymium(3+) salt (3:1) (PFHxS-Nd)*                                       | 41184-65-0  | N.D.              | 0.035          |
| 67        | 全氟己基磺酸钇盐(3:1) 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, yttrium(3+) salt (3:1) (PFHxS-Y)*  | 41242-12-0  | N.D.              | 0.035          |

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|-----------|--|-------------------------|-------------------|----------------|
|           |  |                         | 004               | MDL<br>(mg/kg) |
| 68        | 全氟己基磺酸铯 Cesium Perfluorohexanesulfonate (PFHxS-Cs)*  | 92011-17-1              | N.D.              | 0.020          |
| 69        | 全氟己基磺酸铵 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, ammonium salt (1:1) (PFHxS-NH <sub>4</sub> )* | 68259-08-5              | N.D.              | 0.010          |
| 70        | 全氟己基磺酰氟 1-Hexanesulfonyl fluoride, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro- (PFHxSF)*                                  | 423-50-7                | N.D.              | 0.010          |
| 71        | 全氟庚烷磺酸 Perfluoroheptanesulfonic acid (PFHpS)   | 375-92-8                | N.D.              | 0.010          |
| 72        | 全氟庚烷磺酸钠 Perfluoroheptanesulfonate NA-salt (PFHpS-Na)*  | 21934-50-9              | N.D.              | 0.010          |
| 73        | 全氟庚烷磺酸钾 Potassium Perfluoroheptanesulfonate (PFHpS-K)*   | 60270-55-5              | N.D.              | 0.010          |
| 74        | 全氟庚烷磺酸锂 Lithium perfluoroheptanesulfonate (PFHpS-Li)*  | 117806-54-9             | N.D.              | 0.010          |
| 75        | 全氟庚烷磺酸铵 Ammonium perfluoroheptanesulfonate (PFHpS-NH <sub>4</sub> )*   | 68259-07-4              | N.D.              | 0.010          |
| 76        | 全氟十一烷酸 Perfluoroundecanoic acid (PFUnDA)   | 2058-94-8               | N.D.              | 0.010          |
| 77        | 全氟十一烷酸钠 Sodium perfluoroundecanoate (PFUnDA-Na)*   | 60871-96-7              | N.D.              | 0.010          |
| 78        | 全氟十一烷酸钾 Potassium perfluoroundecanoate (PFUnDA-K)*   | 30377-53-8              | N.D.              | 0.020          |
| 79        | 全氟十一烷酸铵 Ammonium perfluoroundecanoate (PFUnDA-NH <sub>4</sub> )*   | 4234-23-5               | N.D.              | 0.010          |
| 80        | 全氟十二烷酸 Perfluorododecanoic acid (PFDoDA)   | 307-55-1                | N.D.              | 0.010          |
| 81        | 全氟十二烷酸钠 Sodium perfluorododecanoate (PFDoDA-Na)*   | 60872-01-7              | N.D.              | 0.010          |
| 82        | 全氟十二烷酸铵 Ammonium tricosafuorododecanoate (PFDoDA-NH <sub>4</sub> )*  | 3793-74-6               | N.D.              | 0.010          |
| 83        | 全氟十三烷酸 Perfluorotridecanoic acid (PFTTrDA)   | 72629-94-8              | N.D.              | 0.010          |
| 84        | 全氟十三烷酸铵 Ammonium perfluorotridecanoate (PFTTrDA-NH <sub>4</sub> )*   | 4288-72-6               | N.D.              | 0.010          |
| 85        | 全氟十四烷酸 Perfluorotetradecanoic acid (PFTeDA)  | 376-06-7                | N.D.              | 0.010          |
| 86        | 全氟癸烷磺酸 Henicosafuorodecanesulphonic acid (PFDS)  | 335-77-3<br>126105-34-8 | N.D.              | 0.010          |
| 87        | 全氟癸烷磺酸钠 Perfluorodecanesulfonate NA-salt (PFDS-Na)*  | 2806-15-7               | N.D.              | 0.010          |
| 88        | 全氟癸烷磺酸钾 Perfluorodecanesulfonate K-salt (PFDS-K)*  | 2806-16-8               | N.D.              | 0.010          |
| 89        | 全氟癸烷磺酸铵 Ammonium henicosafuorodecanesulphonate (PFDS-NH <sub>4</sub> )*  | 67906-42-7              | N.D.              | 0.010          |
| 90        | 1H,1H,2H,2H-全氟辛磺酸 1H,1H,2H,2H-Perfluoro-octane-sulphonic acid (6:2FTS)   | 27619-97-2              | N.D.              | 0.010          |
| 91        | 全氟正丁酸 Perfluoro-butanoic acid (PFBA)   | 375-22-4                | N.D.              | 0.010          |
| 92        | 七氟丁酸钠 Sodium heptafluorobutyrate (PFBA-Na)*  | 2218-54-4               | N.D.              | 0.020          |

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|-----------|---|-------------|-------------------|----------------|
|           |   |             | 004               | MDL<br>(mg/kg) |
| 93        | 全氟丁酸钾 Potassium heptafluorobutanoate (PFBA-K)*  | 2966-54-3   | N.D.              | 0.020          |
| 94        | 全氟丁酸锂 Lithium perfluorobutanoate (PFBA-Li)*   | 4146-76-3   | N.D.              | 0.010          |
| 95        | 全氟丁酸银 Silver perfluorobutanoate (PFBA-Ag)*  | 3794-64-7   | N.D.              | 0.020          |
| 96        | 全氟丁酸铵 Ammonium perfluorobutanoate (PFBA-NH <sub>4</sub> )*  | 10495-86-0  | N.D.              | 0.010          |
| 97        | 全氟正戊酸 Perfluoropentanoic acid (PFPeA)   | 2706-90-3   | N.D.              | 0.010          |
| 98        | 全氟戊酸钠 Sodium perfluorovalerate (PFPeA-Na)*  | 2706-89-0   | N.D.              | 0.020          |
| 99        | 全氟戊酸钾 Potassium nonafluoropentanoate (PFPeA-K)*   | 336-23-2    | N.D.              | 0.020          |
| 100       | 全氟戊酸锂 Lithium perfluoropentanoate (PFPeA-Li)*   | 198482-22-3 | N.D.              | 0.010          |
| 101       | 全氟戊酸银 Silver perfluoropentanoate (PFPeA-Ag)*  | 2795-30-4   | N.D.              | 0.020          |
| 102       | 全氟戊酸铵 Ammonium perfluoropentanoate (PFPeA-NH <sub>4</sub> )*  | 68259-11-0  | N.D.              | 0.010          |
| 103       | 全氟壬酸 Perfluorononanoic acid (PFNA)  | 375-95-1    | N.D.              | 0.010          |
| 104       | 全氟壬酸钠 Sodium heptadecafluorononanoate (PFNA-Na)*  | 21049-39-8  | N.D.              | 0.010          |
| 105       | 全氟壬酸钾 Potassium perfluorononanoate (PFNA-K)*  | 21049-38-7  | N.D.              | 0.010          |
| 106       | 全氟壬酸锂 Lithium heptadecafluorononanoate (PFNA-Li)*   | 60871-92-3  | N.D.              | 0.010          |
| 107       | 全氟壬酸银 Silver perfluorononanoate (PFNA-Ag)*  | 7358-16-9   | N.D.              | 0.020          |
| 108       | 全氟壬酸铵 Perfluorononanoate ammounium salt (PFNA-NH <sub>4</sub> )*  | 4149-60-4   | N.D.              | 0.010          |
| 109       | 全氟癸酸 Perfluorodecanoic acid (PFDA)  | 335-76-2    | N.D.              | 0.010          |
| 110       | 全氟癸酸钠 Sodium nonadecafluorodecanoate (PFDA-Na)*   | 3830-45-3   | N.D.              | 0.010          |
| 111       | 全氟癸酸钾 Potassium perfluorodecanoate (PFDA-K)*  | 51604-85-4  | N.D.              | 0.020          |
| 112       | 全氟癸酸锂 Lithium perfluorodecanoate (PFDA-Li)*   | 84743-32-8  | N.D.              | 0.010          |
| 113       | 全氟癸酸银 Silver perfluorodecanoate (PFDA-Ag)*  | 5784-82-7   | N.D.              | 0.020          |
| 114       | 全氟癸酸铵 Perfluorodecanoate ammonium salt (APFDA)*   | 3108-42-7   | N.D.              | 0.010          |
| 115       | 全氟-3,7-二甲基辛酸 Perfluoro-3,7-dimethyloctanoic acid (PF-3,7-DMOA)  | 172155-07-6 | N.D.              | 0.010          |
| 116       | 7H-十二氟庚酸 7H-Dodecafluoro heptane acid (HPFH <sub>p</sub> A)   | 1546-95-8   | N.D.              | 0.010          |
| 117       | 7H-十二氟庚酸钠 Sodium 7H-perfluoroheptanoate (HPFH <sub>p</sub> A-Na)*   | 2264-25-7   | N.D.              | 0.020          |
| 118       | 四丁基磷 2H,2H-全氟癸酸酯 Tetrabutylphosphonium 2H,2H-Perfluorodecanoate (H <sub>2</sub> PFDA-P(C <sub>4</sub> H <sub>9</sub> ) <sub>4</sub> ) | 882489-14-7 | N.D.              | 0.010          |
| 119       | 2H,2H,3H,3H-全氟十一酸<br>2H,2H,3H,3H-Perfluoroundecanoic acid (H <sub>4</sub> PFUnA)  | 34598-33-9  | N.D.              | 0.010          |
| 120       | 3-(全氟辛基)丙酸钾 Potassium<br>3-(perfluorooctyl)propanoate (H <sub>4</sub> PFUnA-K)*   | 83310-58-1  | N.D.              | 0.020          |



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| 序号<br>No. | 测试项目 Tested Item(s)  | CAS No.     | 结果 Result (mg/kg) | 方法检出限          |
|-----------|--|-------------|-------------------|----------------|
|           |  |             | 004               | MDL<br>(mg/kg) |
| 121       | 1H,1H,2H,2H-全氟-1-己醇<br>1H,1H,2H,2H-Perfluoro-1-hexanol (4:2 FTOH)  | 2043-47-2   | N.D.              | 0.500          |
| 122       | 1H,1H,2H,2H-全氟-1-辛醇<br>1H,1H,2H,2H-Perfluoro-1-octanol (6:2 FTOH)  | 647-42-7    | N.D.              | 0.500          |
| 123       | 1H,1H,2H,2H-全氟辛醇丙烯酸酯<br>1H,1H,2H,2H-Perfluoro octyl acrylate (6:2 FTA)   | 17527-29-6  | N.D.              | 0.500          |
| 124       | 1H,1H,2H,2H-全氟-1-十二烷醇<br>1H,1H,2H,2H-Perfluoro-1-dodecanol (10:2 FTOH)   | 865-86-1    | N.D.              | 0.200          |
| 125       | 1H,1H,2H,2H-全氟十二烷基丙烯酸酯<br>1H,1H,2H,2H-Tetrahydroperfluorododecyl acrylate (10:2 FTA)                                       | 17741-60-5  | N.D.              | 0.200          |
| 126       | 2,3,3,3-四氟-2-(七氟丙氧基)丙酸 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propanoic acid (HFPO)                                     | 13252-13-6  | N.D.              | 0.010          |
| 127       | 2,3,3,3-四氟-2-(七氟丙氧基)丙酸钾<br>Potassium 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy) propionate (HFPO-K)*                       | 67118-55-2  | N.D.              | 0.050          |
| 128       | 2,3,3,3-四氟-2-(七氟丙氧基)丙酸铵 Propanoic acid, 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)-, ammoniumsalt (HFPO-NH <sub>4</sub> )* | 62037-80-3  | N.D.              | 0.050          |
| 129       | 2,3,3,3-四氟-2-(七氟丙氧基)丙酰氟<br>2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionyl fluoride (HFPO-F)*                          | 2062-98-8   | N.D.              | 0.050          |
| 130       | 全氟正十八酸 Perfluorooctadecanoic acid (PFODA)  | 16517-11-6  | N.D.              | 0.010          |
| 131       | 全氟正十六酸 Perfluoropalmitic acid (PFHxDA)   | 67905-19-5  | N.D.              | 0.010          |
| 132       | 2H,2H-全氟癸酸 2H,2H-Perfluorodecanoate (H <sub>2</sub> PFDA)  | 27854-31-5  | N.D.              | 0.010          |
| 133       | 1H,1H,2H,2H-全氟辛基甲基丙烯酸酯 1H,1H,2H,2H-Perfluorooctyl methacrylate (6:2 FTMAC)   | 2144-53-8   | N.D.              | 0.500          |
| 134       | N-(十七氟辛基磺酰基)-N-甲基甘氨酸<br>N-Methyl perfluorooctanesulfonamidoacetic acid (N-Me-FOSAA)  | 2355-31-9   | N.D.              | 0.050          |
| 135       | N-乙基-N-((十七氟辛基)磺酰基)甘氨酸<br>N-ethyl-N-[(heptadecafluorooctyl)sulphonyl] glycine (N-Et-FOSAA)                                 | 2991-50-6   | N.D.              | 0.050          |
| 136       | 1H,1H,2H,2H-全氟己烷磺酸<br>1H,1H,2H,2H-Perfluorohexane Sulfonate (4:2FTS)   | 757124-72-4 | N.D.              | 0.050          |
| 137       | 1H,1H,2H,2H-全氟十二烷磺酸 1H,1H,2H,2H-Perfluorododecanesulphonicacid (10:2FTS)   | 120226-60-0 | N.D.              | 0.010          |
| 138       | 11H-全氟十一烷酸<br>11H-Perfluoroundecanoic acid (11H-PFUnDA)  | 1765-48-6   | N.D.              | 0.050          |
| 139       | 11H-全氟十一烷酸钾 Potassium 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11-icosafafluoroundecanoate (11H-PFUnDA-K)*                 | 307-71-1    | N.D.              | 0.050          |
| 140       | 1-碘全氟癸烷 Perfluorodecyl iodide (PFDI)   | 423-62-1    | N.D.              | 0.200          |
| 141       | 1-碘全氟十二烷 Perfluorododecyl iodide (PFDol)   | 307-60-8    | N.D.              | 0.200          |



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| 序号<br>No. | 测试项目 Tested Item(s)   | CAS No.      | 结果 Result (mg/kg) | 方法检出限          |
|-----------|---|--------------|-------------------|----------------|
|           |   |              | 004               | MDL<br>(mg/kg) |
| 142       | 1H,1H,2H,2H-全氟十二烷基碘<br>1H,1H,2H,2H-perfluorododecyl iodide (10:2FTI)  | 2043-54-1    | N.D.              | 0.200          |
| 143       | 1H,1H,2H,2H-全氟十四烷基碘<br>1H,1H,2H,2H-perfluorotetradecyl iodide (12:2FTI)   | 30046-31-2   | N.D.              | 0.200          |
| 144       | 2-(全氟癸基)乙基甲基丙烯酸酯<br>2-(Perfluorodecyl)ethyl methacrylate (10:2FTMA)   | 2144-54-9    | N.D.              | 0.200          |
| 145       | 1H,1H,2H,2H-全氟-1-十四烷醇<br>1H,1H,2H,2H-perfluorotetradecan-1-ol (12:2 FTOH)   | 39239-77-5   | N.D.              | 0.200          |
| 146       | 全氟辛烷磺酰氨基乙酸<br>Glycine, N-[(heptadecafluorooctyl)sulfonyl]- (FOSAA)  | 2806-24-8    | N.D.              | 0.050          |
| 147       | 全氟壬烷磺酸 Perfluorononane sulfonic acid (PFNS)   | 68259-12-1   | N.D.              | 0.010          |
| 148       | 全氟-1-壬烷磺酸钠<br>Sodium Perfluoro-1-nonanesulfonate (PFNS-Na)*   | 98789-57-2   | N.D.              | 0.010          |
| 149       | 全氟壬基磺酸铵 Ammonium<br>perfluorononanesulfonate (PFNS-NH <sub>4</sub> )*   | 17202-41-4   | N.D.              | 0.010          |
| 150       | 1,1,2,2,3,3,4,4,4-九氟-N-(2-羟乙基)-N-甲基丁烷-1-磺<br>酰胺 1,1,2,2,3,3,4,4,4-Nonafluoro-N-(2-hydroxyethyl)-<br>N-methylbutane-1-sulfonamide (N-Et-N-Me-FBSA) | 34454-97-2   | N.D.              | 0.500          |
| 151       | 全氟辛基乙烯 1-Decene,3,3,4,4,5,5,6,6,7,7,8,8,9,9,<br>10,10,10-heptadecafluoro- (PFOE)  | 21652-58-4   | N.D.              | 0.200          |
| 152       | 全氟十一烷磺酸<br>Perfluoroundecane sulfonic acid (PFUnS)  | 749786-16-1  | N.D.              | 0.010          |
| 153       | 全氟-1-十一烷磺酸钠<br>Sodium perfluoro-1-undecanesulfonate (PFUnS-Na)*   | -            | N.D.              | 0.010          |
| 154       | 全氟-1-十三烷磺酸<br>Perfluorotridecanesulfonic acid (PFTrDS)  | 791563-89-8  | N.D.              | 0.010          |
| 155       | 全氟-1-十三烷磺酸钠<br>Sodium perfluorotridecanesulfonate (PFTrDS-Na)*  | 174675-49-1  | N.D.              | 0.010          |
| 156       | 全氟戊烷磺酸 1-Pentanesulfonic acid,<br>1,1,2,2,3,3,4,4,5,5,5-undecafluoro- (PFPe)  | 2706-91-4    | N.D.              | 0.010          |
| 157       | 全氟-1-戊烷磺酸钠<br>Sodium perfluoropentanesulfonate (PFPe-Na)*   | 630402-22-1  | N.D.              | 0.010          |
| 158       | 全氟戊烷磺酸钾 Potassium perfluorohexane-1-<br>sulphonate (PFPe-K)*  | 3872-25-1    | N.D.              | 0.020          |
| 159       | 全氟戊烷磺酸锂 Lithium perfluoropentane sulfonate<br>(PFPe-Li)*  | 1046864-81-6 | N.D.              | 0.010          |
| 160       | 全氟戊烷磺酸铵 Ammonium<br>perfluoropentanesulfonate (PFPe-NH <sub>4</sub> )*  | 68259-09-6   | N.D.              | 0.010          |
| 161       | 全氟己基磺酰胺 1-Hexane-sulfonamide,<br>1,1,2,2,3,3,4,4,5,5,6,6,6- tridecafluoro- (FHxSA)  | 41997-13-1   | N.D.              | 0.010          |
| 162       | 全氟-1-十二烷磺酸<br>Perfluorododecane sulfonic acid (PFDODs)  | 79780-39-5   | N.D.              | 0.010          |
| 163       | 全氟-1-十二烷磺酸钠<br>Sodium perfluoro-1-dodecanesulfonate (PFDODS-Na)*  | 1260224-54-1 | N.D.              | 0.010          |

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| 序号<br>No. | 测试项目 Tested Item(s)  | CAS No.      | 结果 Result (mg/kg) | 方法检出限          |
|-----------|--|--------------|-------------------|----------------|
|           |  |              | 004               | MDL<br>(mg/kg) |
| 164       | 全氟癸基三氯硅烷 Perfluorooctylethyltrichlorosilane (FDTS)   | 78560-44-8   | N.D.              | 0.500          |
| 165       | 全氟癸基三甲氧硅烷<br>Perfluorooctylethyltrimethoxysilane (FDTMOS)  | 83048-65-1   | N.D.              | 0.500          |
| 166       | 三氯(3,3,4,4,5,5,6,6,7,7,8,8,8-十三氟辛基)硅烷<br>Trichloro(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)silane (FOTS)                    | 78560-45-9   | N.D.              | 0.500          |
| 167       | N-甲基全氟己烷磺酰胺<br>N-methylperfluorohexanesulfonamide (MeFHxSA)  | 68259-15-4   | N.D.              | 0.500          |
| 168       | 全氟十五烷酸 Pentadecanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,15-nonacosafuoro- (PFPeDA)        | 141074-63-7  | N.D.              | 0.010          |
| 169       | 2-全氟己基乙酸 2-Perfluorohexyl ethanoic acid (6:2 FTCA)   | 53826-12-3   | N.D.              | 0.010          |
| 170       | 3-全氟戊基丙酸 3-Perfluoropentyl propanoic acid (5:3 FTCA)   | 914637-49-3  | N.D.              | 0.010          |
| 171       | 二十一氟十二烷基磷酸二氢酯 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-Henicosafuorododecyl dihydrogen phosphate (10:2 monoPAPS)         | 57678-05-4   | N.D.              | 0.200          |
| 172       | 二十一氟十二烷基磷酸二氢酯环己铵盐<br>3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-Henicosafuorododecyl dihydrogen phosphate cyclohexylamine* | 2514858-66-1 | N.D.              | 0.200          |
| 173       | 五氟丙酸 Pentafluoropropionate acid (PFPrA)  | 422-64-0     | N.D.              | 0.010          |
| 174       | 五氟丙酸钠 Sodium pentafluoropropionate (PFPrA-Na)*   | 378-77-8     | N.D.              | 0.020          |
| 175       | 五氟丙酸钾 Potassium pentafluoropropionate (PFPrA-K)*   | 378-76-7     | N.D.              | 0.020          |
| 176       | 五氟丙酸银 Silver Pentafluoropropionate (PFPrA-Ag)*   | 509-09-1     | N.D.              | 0.020          |
| 177       | 全氟己基乙烯(Perfluorohexyl)ethylene   | 25291-17-2   | N.D.              | 0.010          |
| 178       | 双[2-(全氟癸基)乙基]磷酸酯<br>Bis[2-(perfluorodecyl)ethyl] Phosphate (10:2diPAP)   | 1895-26-7    | N.D.              | 0.500          |
| 179       | 2,2-二氯-1,1,1-三氟乙烷<br>2,2-dichloro-1,1,1-trifluoroethane (HCFC-123)   | 306-83-2     | N.D.              | 0.500          |
| 180       | 1,1,1,2-四氟-2-氯乙烷<br>1-chloro-1,2,2,2-tetrafluoroethane (HCFC- 124)   | 2837-89-0    | N.D.              | 0.500          |
| 181       | 五氟乙烷 Pentafluoroethane (HFC- 125)  | 354-33-6     | N.D.              | 0.500          |
| 182       | 1,1,1,2-四氟乙烷 Norflurane (HFC- 134a)  | 811-97-2     | N.D.              | 0.500          |
| 183       | 全氟丁基磺酰胺 Perfluorobutylsulphonamide (FBSA)  | 30334-69-1   | N.D.              | 0.010          |
| 184       | 三氟乙酸 Trifluoroacetic Acid (TFA)  | 76-05-1      | N.D.              | 0.010          |

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### 备注 Remark:

- MDL = 方法检出限 Method Detection Limit
- N.D. = 未检出 Not Detected (小于方法检出限 <MDL)
- mg/kg = ppm = 百万分之一 parts per million
- \*该物质的结果由其特定化合物的结果换算而来。

Result(s) shown of the substance(s) is/ are converted from the result(s) of certain compound(s).

- 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。

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.

### 样品/部位描述 Sample/Part Description

| 序号  | CTI 样品 ID     | 描述                      |
|-----|---------------|-------------------------|
| No. | CTI Sample ID | Description             |
| 1   | 004           | PCB (整体测试)              |
|     |               | PCB (Tested as a whole) |

### 注释 Note:

- 本报告中的数据结果供科研、教学、企业内部质量控制、企业产品研发等目的用。

The testing data and result(s) in this report is(are) just for scientific research, education, internal quality control and product development etc.

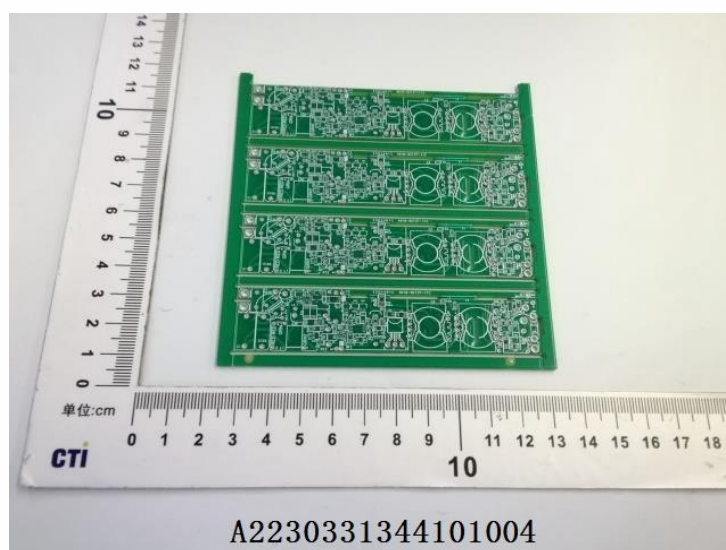
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## 样品图片

## 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;

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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;

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\*\*\* 报告结束 \*\*\*

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