

测试报告

No. SHAEC1503781002

日期: 2015年03月24日 第1页,共9页

上海永铭电子有限公司

上海市奉贤区南桥镇杨王工业园光村路258号

以下测试之样品是由申请者所提供及确认: 铝电解电容

SGS工作编号: SP15-006418 - SH
型号: LKF
客户参考信息: LK LKF LKG LKL LK7 LKM LLK LKJ GP LKX LKZ LKB VKO VKF VKG VKL
VK7 VKM VLK VKJ VO VF VG VL V7 VM VK VJ
样品接收日期: 2015年03月12日
测试周期: 2015年03月12日 - 2015年03月16日
测试要求: 根据客户要求测试
测试方法: 请参见下一页
测试结果: 请参见下一页
结论: 基于所送样品进行的测试, 镉、铅、汞、六价铬、多溴联苯(PBBs)、多溴二苯醚(PBDEs)的测试结果符合欧盟RoHS指令2002/95/EC的重订指令2011/65/EU附录II的限值要求。

通标标准技术服务(上海)有限公司
授权签名



Marry Ma 马广媛
批准签署人

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t HL (86-21) 61402594 f HL (86-21) 61156899 e sgs.china@sgs.com

测试结果:

测试样品描述:

| 样品编号 | SGS样品ID | 描述 |
|------|------------------|--------|
| SN1 | SHA15-037810.001 | 灰色金属片 |
| SN2 | SHA15-037810.002 | 灰色金属片 |
| SN3 | SHA15-037810.003 | 银色金属 |
| SN4 | SHA15-037810.004 | 黑色固体 |
| SN5 | SHA15-037810.005 | 银色金属 |
| SN6 | SHA15-037810.006 | 黄色透明液体 |
| SN7 | SHA15-037810.007 | 浅棕色纸 |
| SN8 | SHA15-037810.008 | 黑色软固体片 |

备注:

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = 方法检测限
- (3) ND = 未检出 (< MDL)
- (4) "-" = 未规定

RoHS指令2011/65/EU

- 测试方法:
- (1) 参考IEC 62321-5:2013, 用ICP-OES测定镉的含量
 - (2) 参考IEC 62321-5:2013, 用ICP-OES测定铅的含量
 - (3) 参考IEC 62321-4:2013, 用ICP-OES测定汞的含量
 - (4) 参考IEC 62321:2008, 用紫外-可见分光光度计比色法测定六价铬的含量
 - (5) 参考IEC 62321:2008, 用GC-MS测定PBBs(多溴联苯)和PBDEs(多溴二苯醚)的含量

| 测试项目 | 限值 | 单位 | MDL | 004 | 006 | 007 |
|--------------|------|-------|-----|-----|-----|-----|
| 镉(Cd) | 100 | mg/kg | 2 | ND | ND | ND |
| 铅(Pb) | 1000 | mg/kg | 2 | ND | ND | ND |
| 汞(Hg) | 1000 | mg/kg | 2 | ND | ND | ND |
| 六价铬(CrVI) | 1000 | mg/kg | 2 | ND | ND | ND |
| 多溴联苯之和(PBBs) | 1000 | mg/kg | - | ND | ND | ND |
| 一溴联苯 | - | mg/kg | 5 | ND | ND | ND |
| 二溴联苯 | - | mg/kg | 5 | ND | ND | ND |
| 三溴联苯 | - | mg/kg | 5 | ND | ND | ND |
| 四溴联苯 | - | mg/kg | 5 | ND | ND | ND |
| 五溴联苯 | - | mg/kg | 5 | ND | ND | ND |



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测试报告

No. SHAEC1503781002

日期: 2015年03月24日 第3页,共9页

| 测试项目 | 限值 | 单位 | MDL | 004 | 006 | 007 |
|----------------|------|-------|-----|-----|-----|-----|
| 六溴联苯 | - | mg/kg | 5 | ND | ND | ND |
| 七溴联苯 | - | mg/kg | 5 | ND | ND | ND |
| 八溴联苯 | - | mg/kg | 5 | ND | ND | ND |
| 九溴联苯 | - | mg/kg | 5 | ND | ND | ND |
| 十溴联苯 | - | mg/kg | 5 | ND | ND | ND |
| 多溴二苯醚之和(PBDEs) | 1000 | mg/kg | - | ND | ND | ND |
| 一溴二苯醚 | - | mg/kg | 5 | ND | ND | ND |
| 二溴二苯醚 | - | mg/kg | 5 | ND | ND | ND |
| 三溴二苯醚 | - | mg/kg | 5 | ND | ND | ND |
| 四溴二苯醚 | - | mg/kg | 5 | ND | ND | ND |
| 五溴二苯醚 | - | mg/kg | 5 | ND | ND | ND |
| 六溴二苯醚 | - | mg/kg | 5 | ND | ND | ND |
| 七溴二苯醚 | - | mg/kg | 5 | ND | ND | ND |
| 八溴二苯醚 | - | mg/kg | 5 | ND | ND | ND |
| 九溴二苯醚 | - | mg/kg | 5 | ND | ND | ND |
| 十溴二苯醚 | - | mg/kg | 5 | ND | ND | ND |

| 测试项目 | 限值 | 单位 | MDL | 008 |
|----------------|------|-------|-----|-----|
| 镉(Cd) | 100 | mg/kg | 2 | ND |
| 铅(Pb) | 1000 | mg/kg | 2 | ND |
| 汞(Hg) | 1000 | mg/kg | 2 | ND |
| 六价铬(CrVI) | 1000 | mg/kg | 2 | ND |
| 多溴联苯之和(PBBs) | 1000 | mg/kg | - | ND |
| 一溴联苯 | - | mg/kg | 5 | ND |
| 二溴联苯 | - | mg/kg | 5 | ND |
| 三溴联苯 | - | mg/kg | 5 | ND |
| 四溴联苯 | - | mg/kg | 5 | ND |
| 五溴联苯 | - | mg/kg | 5 | ND |
| 六溴联苯 | - | mg/kg | 5 | ND |
| 七溴联苯 | - | mg/kg | 5 | ND |
| 八溴联苯 | - | mg/kg | 5 | ND |
| 九溴联苯 | - | mg/kg | 5 | ND |
| 十溴联苯 | - | mg/kg | 5 | ND |
| 多溴二苯醚之和(PBDEs) | 1000 | mg/kg | - | ND |
| 一溴二苯醚 | - | mg/kg | 5 | ND |
| 二溴二苯醚 | - | mg/kg | 5 | ND |
| 三溴二苯醚 | - | mg/kg | 5 | ND |
| 四溴二苯醚 | - | mg/kg | 5 | ND |
| 五溴二苯醚 | - | mg/kg | 5 | ND |



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测试报告

No. SHAEC1503781002

日期: 2015年03月24日 第4页,共9页

| 测试项目 | 限值 | 单位 | MDL | 008 |
|-------|----|-------|-----|-----|
| 六溴二苯醚 | - | mg/kg | 5 | ND |
| 七溴二苯醚 | - | mg/kg | 5 | ND |
| 八溴二苯醚 | - | mg/kg | 5 | ND |
| 九溴二苯醚 | - | mg/kg | 5 | ND |
| 十溴二苯醚 | - | mg/kg | 5 | ND |

备注:

(1) 最大允许极限值引用自指令2011/65/EU附录II.

RoHS指令2011/65/EU

- 测试方法:
- (1) 参考IEC 62321-5:2013, 用ICP-OES测定镉的含量
 - (2) 参考IEC 62321-5:2013, 用AAS测定铅的含量
 - (3) 参考IEC 62321-4:2013, 用ICP-OES测定汞的含量
 - (4) 参考IEC 62321:2008, 用点测试法/紫外-可见分光光度计比色法测定六价铬的含量

| 测试项目 | 限值 | 单位 | MDL | 001 | 002 | 003 |
|-----------|------|-------|-----|-----|-----|-----|
| 镉 (Cd) | 100 | mg/kg | 2 | ND | ND | ND |
| 铅(Pb) | 1000 | mg/kg | 2 | 11 | ND | ND |
| 汞 (Hg) | 1000 | mg/kg | 2 | ND | ND | ND |
| 六价铬(CrVI) | - | - | ◇ | 阴性 | 阴性 | 阴性 |

| 测试项目 | 限值 | 单位 | MDL | 005 |
|-----------|------|-------|-----|-----|
| 镉 (Cd) | 100 | mg/kg | 2 | ND |
| 铅(Pb) | 1000 | mg/kg | 2 | 6 |
| 汞 (Hg) | 1000 | mg/kg | 2 | ND |
| 六价铬(CrVI) | - | - | ◇ | 阴性 |

备注:

(1) 最大允许极限值引用自指令2011/65/EU 附录II.

(2) ◇点测试法:

阴性= 未检测到六价铬,阳性 = 检测到六价铬;

(当点测试结果为阴性或无法确定时,将采用沸水萃取法作进一步的结果验证.)

◇沸水萃取法:

阴性= 未检测到六价铬

阳性= 检测到六价铬; 表明50 cm²表面积的被测试样品的沸水萃取液中六价铬的浓度等于或大于0.02 mg/kg
由于未获知样品的存储条件和生产日期, 样品的六价铬测试结果仅能代表测试时样品含六价铬的状态.



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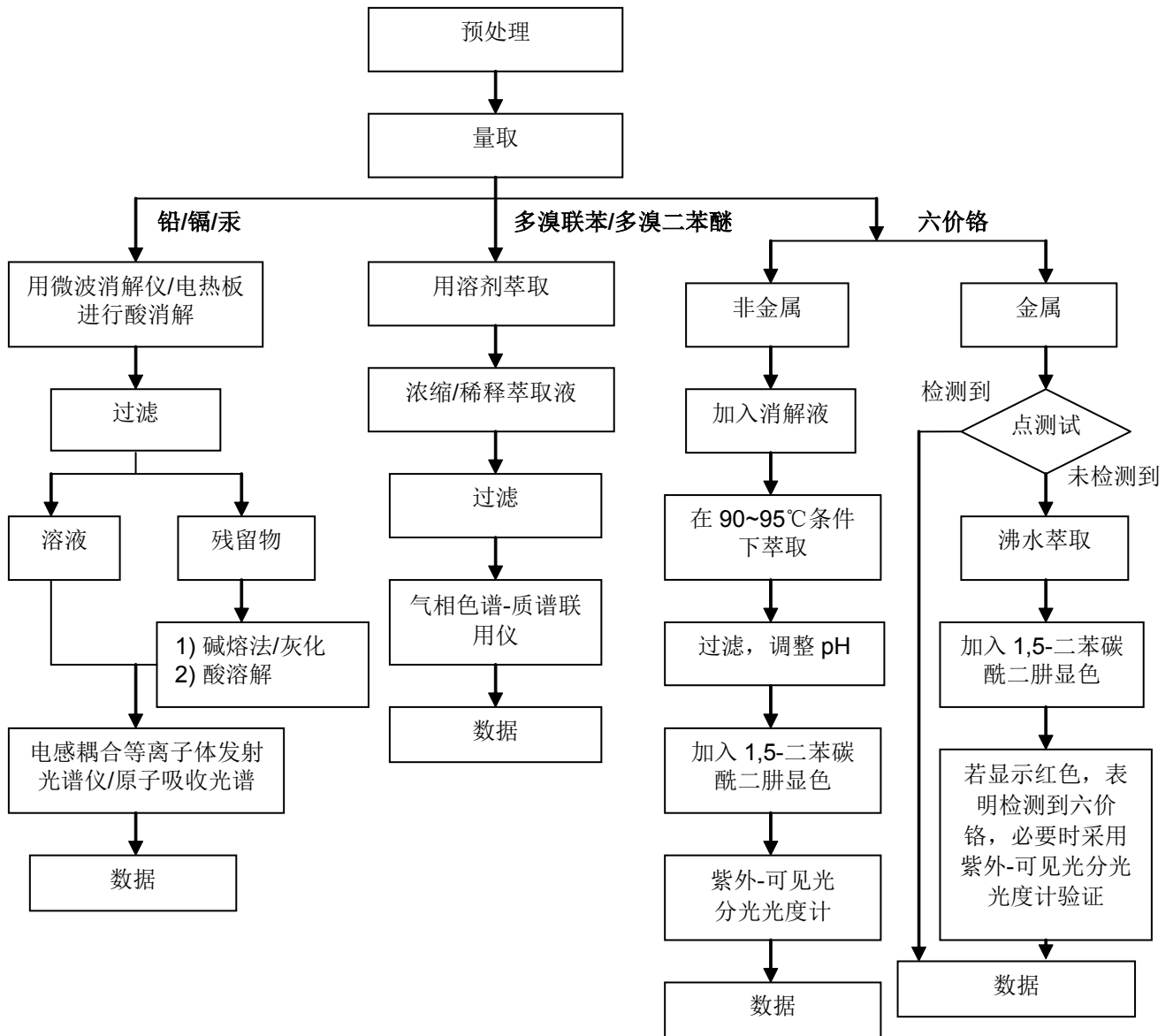
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附件

RoHS 测试流程图

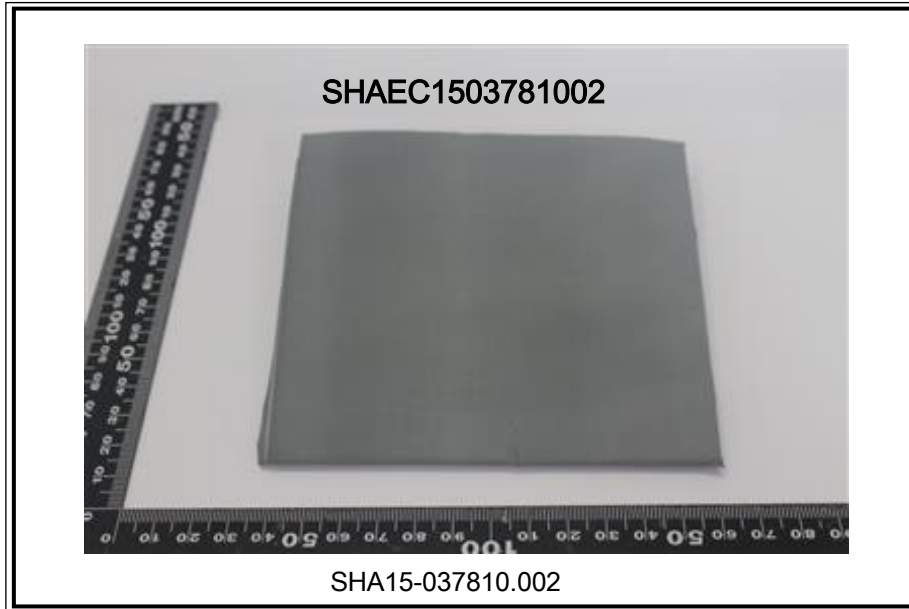
- 1) 分析人员: 张小波/徐刚/陈怀磊/秦兴章
- 2) 项目负责人: 施青/金黎霞/黄婷
- 3) 样品按照下述流程被完全消解(六价铬和多溴联苯/多溴二苯醚测试除外)。



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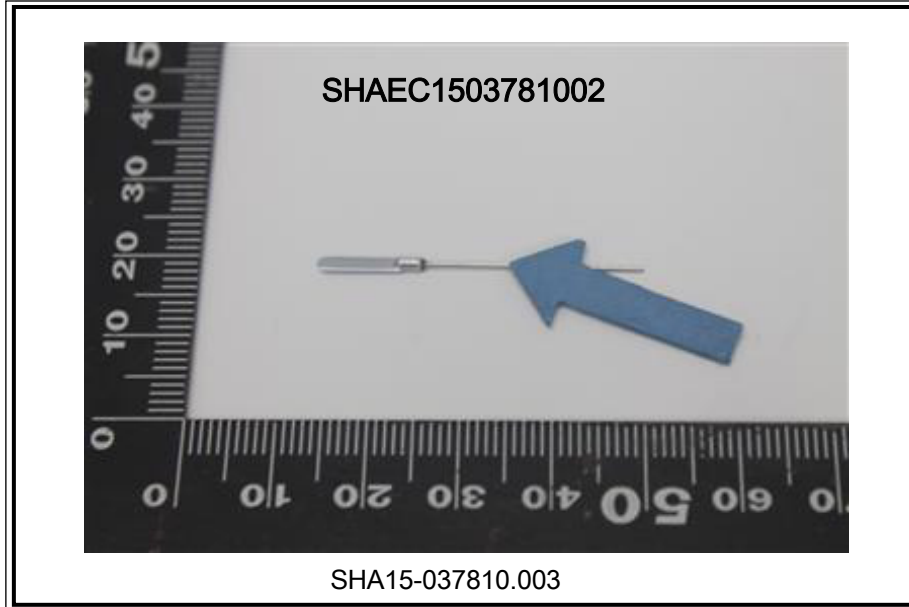
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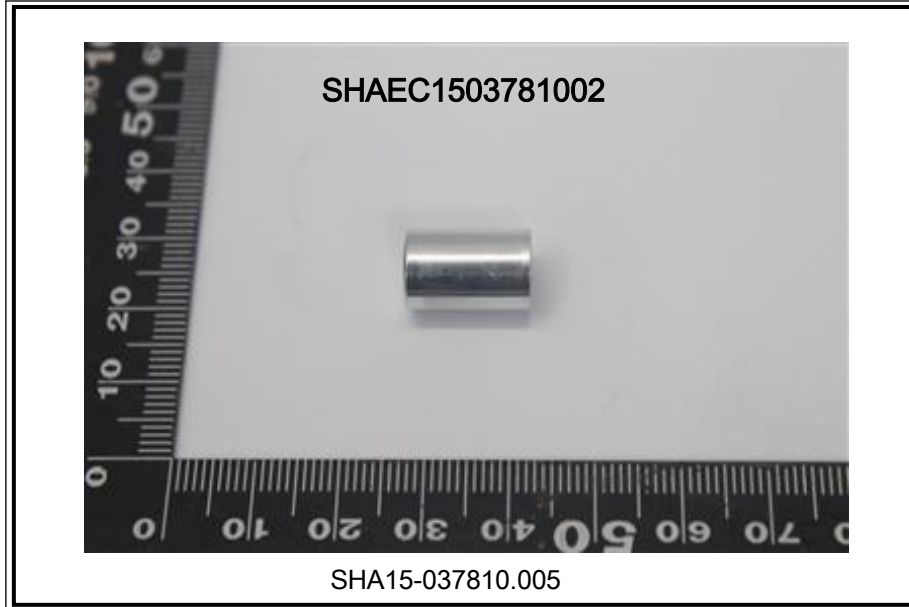
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