

## Test Report

No. SHAMPLP1610865103

Date: 28 May 2016

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Nanjing Ouzhuo Technology Co.,Ltd

No.28, Majia street, Gulou zero, Nanjing, Jiangsu, China

The following sample(s) was/were submitted and identified on behalf of the clients as : HALL EFFECT COMPONENTS

SGS Job No. : SHIN1605024047PC - SH

Product Specification : OH HALL IC

Client Ref. Information : OH137, OH37,OH177, OH1020, OH1024, OH137A0, OH3144, OH44, OH34,OH34N, OH4S,OH4N, OH50, OH541,OH44N,OH04E,OH541,OH441,OH540, OH340, OH3141E, OH3144E, OH3144I, OH3144L, OH44E,OH44L, OH3020, OH3040, OH3120, OH401, OH443, OH443H, OH443A,OH43F, OH43A, OH543, OH44EW,OH173, OH175 ,OH1881, U18 , OH188, OH3172, OH40, OH41, OH41F, OH137B, OH411B, OH445B, OH41A, OH413, OH413A,OH513, OH13, OH920, OH17 , OH921, OH512, OH3150, OH3175, OH3075, OH5881, OH3601,OH3503, OH49E, OH49E-S, OH49EB, OH496B, OH495A, OH495A1, OH549E , OH4913,OH9248, OH9249, OH9213, OH9253, OH9245, OH3661, OH277, OH276, OH12AF, OH14A, 12AE, 12AF, 82AE, SH12AF, 10696,119, 411, 422, 124, 101A, 108A, 520, 211, 300B, 320, 302B , W10

Date of Sample Received : 23 May 2016

Testing Period : 23 May 2016 - 27 May 2016

Test Requested : Selected test(s) as requested by client.

Test Method : Please refer to next page(s).

Test Results : Please refer to next page(s).

Signed for and on behalf of  
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.



Shelly Li  
Approved Signatory



SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.  
Testing Center-Chenmiao Laboratory

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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	SHA16-108651.001	Black body(mix all*)
SN2	SHA16-108651.002	Silver metal pin

Remarks :

- (1) 1 mg/kg = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected ( < MDL )
- (4) "-" = Not Regulated

**RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU**

- Test Method :
- (1) With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
  - (2) With reference to IEC 62321-5:2013, determination of Lead by AAS.
  - (3) With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES.
  - (4) With reference to IEC 62321:2008, determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.
  - (5) With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.

<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	ND
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	1000	mg/kg	2	ND
Sum of PBBs	1000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1000	mg/kg	-	ND

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<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Monobromodiphenyl ether	-	mg/kg	5	ND
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND

Notes :

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) On 4 June 2015, Commission Directive (EU) 2015/863 was published in the Official Journal of the European Union (OJEU) to include the phthalates BBP, DBP, DEHP and DIBP into ANNEX II of the Rohs Recast Directive. The new law restricts each phthalate to no more than 0.1% in each homogeneous material of an electrical product.
- (3) The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021.
- (4) The restriction of DEHP, BBP, DBP and DIBP shall not apply to cables or spare parts for the repair, the reuse, the updating of functionalities or upgrading of capacity of EEE placed on the market before 22 July 2019, and of medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, placed on the market before 22 July 2021.
- (5) The restriction of DEHP, BBP and DBP shall not apply to toys which are already subject to the restriction of DEHP, BBP and DBP through entry 51 of Annex XVII to Regulation (EC) No 1907/2006.

**RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU**

- Test Method :
- (1) With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
  - (2) With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.
  - (3) With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES.
  - (4) With reference to IEC 62321-7-1:2015, determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.

<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	14
Mercury (Hg)	1000	mg/kg	2	ND



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<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Hexavalent Chromium (Cr(VI))▼	-	µg/cm <sup>2</sup>	0.10	ND

Notes :

- (1)The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) ▼= a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm<sup>2</sup>. The sample coating is considered to contain CrVI
  - b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm<sup>2</sup>). The coating is considered a non-CrVI based coating
  - c. The result between 0.10 µg/cm<sup>2</sup> and 0.13 µg/cm<sup>2</sup> is considered to be inconclusive - unavoidable coating variations may influence the determination

Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

IEC 62321 series is equivalent to EN 62321 series

<http://www.cenelec.eu/dyn/www/f?>

p=104:30:1742232870351101:::FSP\_ORG\_ID,FSP\_LANG\_ID:1258637,25

Remark:

\*The sample(s) was/were analyzed on behalf of the applicant as mixing sample in one testing. The above result(s) was/were only given as the informality value and only for reference.



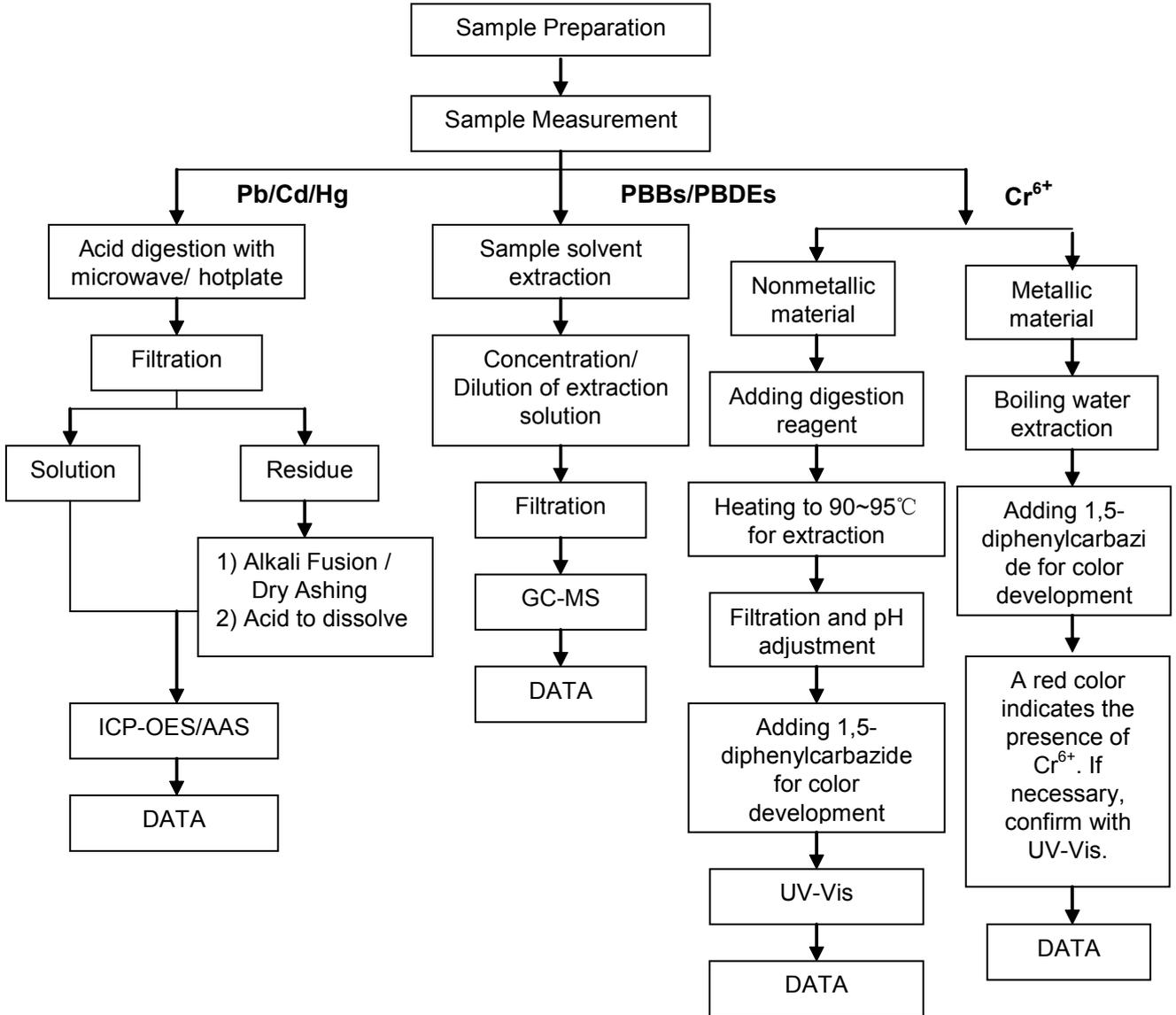
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ATTACHMENTS

RoHS Testing Flow Chart

- 1) Name of the person who made testing: David Lee/Gary Xu/Shimin Zhang/ Jing Zhang
- 2) Name of the person in charge of testing: Jan Shi/Luna Xu/Jessy Huang/Stone Chen
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> and PBBs/PBDEs test method excluded)

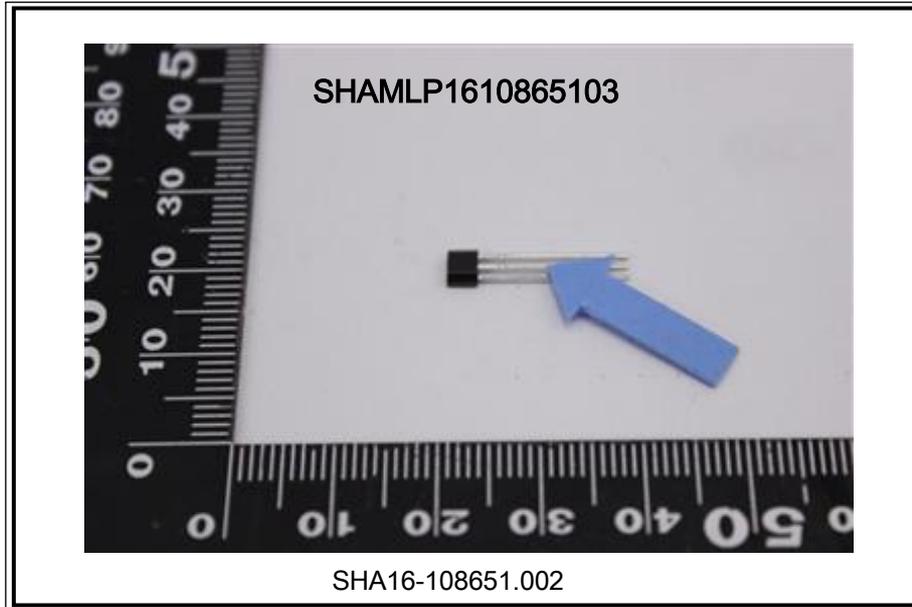


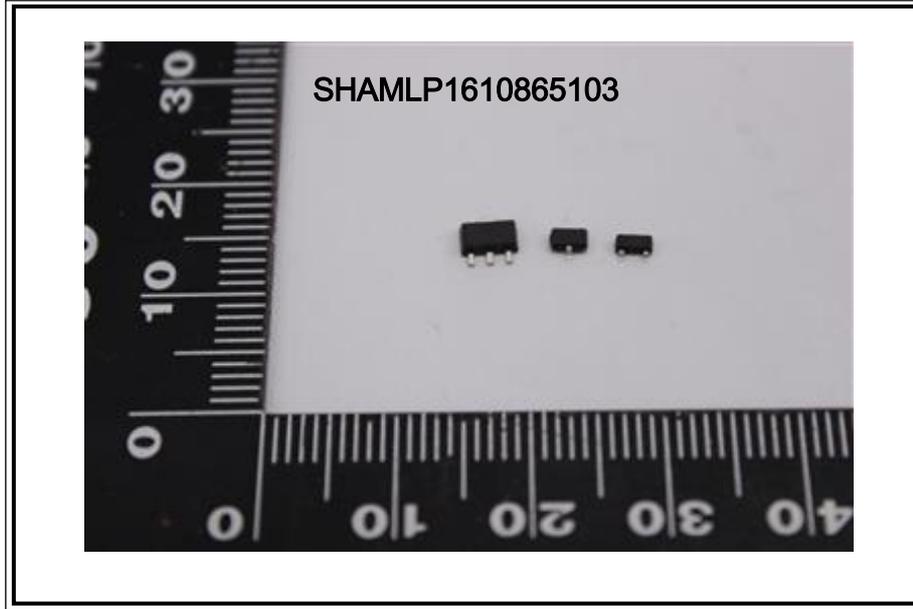
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