

#### Test Report Date: 17 Jul 2018 No. SHAEC1815469601

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NANJING SART SCIENCE & TECHNOLOGY DEVELOPMENT CO., LTD. MAQUN SCIENCE & TECHNOLOGY PARK, QINGMA ROAD 6#, NANJING, CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : SMD FUSE SGS Job No. : SP18-023816 - SH Model No. : Blue Bottom- Black Mark Date of Sample Received : 12 Jul 2018 Testing Period : 12 Jul 2018 - 17 Jul 2018 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.

Dora Hu

Dora Hu Approved Signatory





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No. SHAEC1815469601

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	SHA18-154696.001	White/blue solid with silvery metal with black printing(mix all*)

#### Remarks :

(1) 1 mg/kg = 1 ppm = 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 : With reference to IEC 62321-4:2013+AMD1:2017, IEC62321-5:2013, IEC62321-7-2:2017, IEC 62321-6:2015 and IEC62321-8:2017, analyzed by ICP-OES, UV-Vis and 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	8	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
Monobromodiphenyl ether	-	mg/kg	5	ND
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND



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<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>	
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	
Di-butyl Phthalate (DBP)	1000	mg/kg	50	ND	
Benzyl Butyl Phthalate (BBP)	1000	mg/kg	50	ND	
Di-2-Ethyl Hexyl Phthalate (DEHP)	1000	mg/kg	50	ND	
Diisobutyl Phthalates (DIBP)	1000	mg/kg	50	ND	

Notes :

- (1)The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863. 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
- (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.

#### <u>Halogen</u>

Test Method : With reference to EN 14582: 2016 , analysis was performed by IC.

<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Fluorine (F)	mg/kg	50	ND
Chlorine (Cl)	mg/kg	50	ND
Bromine (Br)	mg/kg	50	ND



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<u>Test Item(s)</u> Iodine (I)	r	<u>Unit</u> mg/kg	<u>MDL</u> 50	<u>001</u> ND	

#### Element(s)

Test Method : With reference to US EPA 3052:1996, analysis was performed by ICP-OES.

<u>Test Item(s)</u>	<u>Unit</u>	MDL	<u>001</u>
Antimony (Sb)	mg/kg	10	ND
Beryllium (Be)	mg/kg	5	ND

#### PFOS (Perfluorooctane Sulfonates) and PFOA (Perfluorooctanoic Acid)

Test Method : With reference to US EPA 3550C: 2007, analysis was performed by HPLC-MS.

<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	MDL	<u>001</u>
Perfluorooctanesulfonate (PFOS)^	1000	mg/kg	10	ND
Perfluorooctanoic Acid (PFOA)	-	mg/kg	10	ND

#### Notes :

(1) Max. limit specified by commission regulation (EU) No. 757/2010 amending regulation (EC) No 850/2004

(2)^ PFOS refer to Perfluoroctanesulfonic acid and its derivatives including Perfluoroctanesulfonic acid, Perfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamidoethanol and N-Ethylperfluoroctane sulfonamidoethanol.

\*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

# Pb/Cd/Hg/Cr<sup>6+</sup>/PBBs/PBDEs Testing Flow Chart

1) Name of the person who made testing: Meria Jin/Gary Xu/ Xiaolong Yang/Sielina Song

2) Name of the person in charge of testing: Jan Shi/Myra Ma/Luna Xu/Shara Wang

3) These samples were dissolved totally by pre-conditioning method according to below flow chart.  $(Cr^{6+} \text{ and PBBs/PBDEs test method excluded})$ 

Sample Preparation Sample Measurement Cr<sup>6+</sup> Pb/Cd/Hg/Cr **PBBs/PBDEs** Sample solvent Metallic Acid digestion with Nonmetallic microwave / hotplate extraction material material ABS/PC/PVC Others ╈ Concentration/ Boiling water Filtration Dilution of extraction extraction Digesting at Dissolving by solution 150~160°C ultrasonication ¥ Adding 1,5-Solution Residue Filtration diphenvlcarba Digesting at Separating to zide for color 60°C by ¥ get aqueous development ultrasonication phase 1) Alkali Fusion / Dry GC-MS Ashing 2) Acid to dissolve UV-Vis DATA pH adjustment ₽ DATA **ICP-OES/AAS** Adding 1,5diphenylcarbazide for color development DATA UV-Vis ₽ DATA



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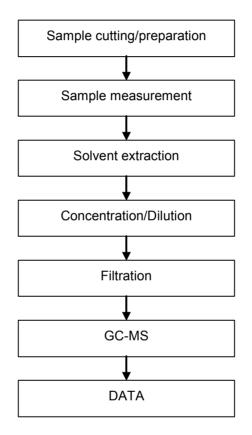
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### **Phthalates Testing Flow Chart**

- 1) Name of the person who made testing: Sherlock Gao
- 2) Name of the person in charge of testing: Jessy Huang





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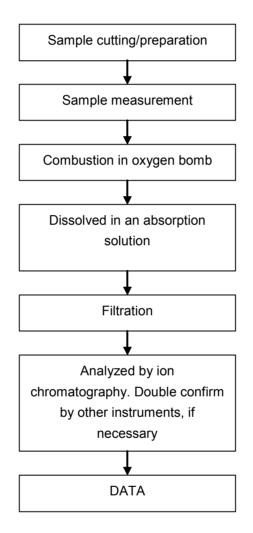
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**Test Report** 

#### Halogen Testing (oxygen bomb) Flow Chart

- 1) Name of the person who made testing: Kevin Xu
- 2) Name of the person in charge of testing: Anne Huang





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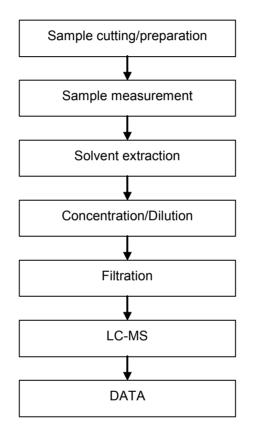
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#### **PFOS/PFOA Testing Flow Chart**

- 1) Name of the person who made testing: Richer Yu
- 2) Name of the person in charge of testing: Jessy Huang





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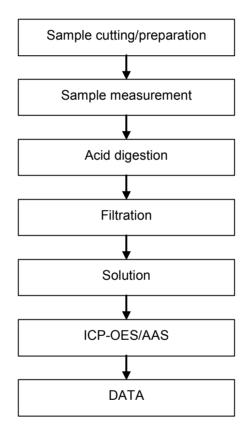
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### **Elements Testing Flow Chart**

- 1) Name of the person who made testing: Meria Jin/Sielina Song
- 2) Name of the person in charge of testing: Luna Xu/Jan Shi





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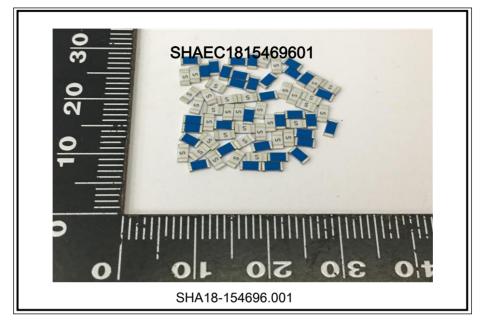
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