

**Test Report** No.: SHAEC23010796701 **Date**: Jul 27, 2023 Page 1 of 11

Client Name: Jiangsu JieJie Microelectronics Co.,Ltd.

Client Address: 3000 Qiantangjiang Road, Economic Development Zone, Qidong, Jiangsu, China

Sample Name: SOP-8

Client Ref. Information: 2510 、0402 、0603 、DFN0603-2L 、DFN1006-2L 、DFN1006-3L 、

DFN10x15-5L 、DFN10x15-5L-XX 、DFN1610-2L 、DFN1610-6L 、

723-XX 、SOT-82 、SOT-89-XX 、 SOT-89R-XX 、SSOP-16 、SSOP-4 、 TO-252-XX、TSSOP-8 、WSOP-6

The above sample(s) and information were provided by the client.

SGS Job No.: SHP23-008300 Sample Receiving Date: Jul 21, 2023

Testing Period: Jul 21, 2023 ~ Jul 27, 2023

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

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

Signed for and on behalf of

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

Jenny Lan

Approved Signatory





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

Test Requirement	Conclusion
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)	Pass
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium and Hexavalent chromium	Pass
Halogen	See Results
Polyvinyl chloride (PVC)	See Results

#### Test Result(s):

Test Part Description:

SN ID	Sample No.	SGS Sample ID	Description
SN1	A1	SHA23-0107967-0001.C001	Black body
SN2	A2	SHA23-0107967-0001.C002	Silvery metal pin

#### Remarks:

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

EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)

Test Method: With reference to IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013, IEC 62321-7-2:2017,

IEC 62321-6:2015 and IEC 62321-8:2017, analysis was performed by ICP-OES, UV-Vis

and GC-MS.

Test Item(s)	Limit	Unit(s)	MDL	A1
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
Polybromobiphenyl (PBBs)	1000	mg/kg	•	ND
Monobromobiphenyl (MonoBB)	•	mg/kg	5	ND
Dibromobiphenyl (DiBB)	•	mg/kg	5	ND
Tribromobiphenyl (TriBB)	•	mg/kg	5	ND
Tetrabromobiphenyl (TetraBB)	•	mg/kg	5	ND
Pentabromobiphenyl (PentaBB)	•	mg/kg	5	ND
Hexabromobiphenyl (HexaBB)	•	mg/kg	5	ND
Heptabromobiphenyl (HeptaBB)	•	mg/kg	5	ND
Octabromobiphenyl (OctaBB)		mg/kg	5	ND
Nonabromobiphenyl (NonaBB)	-	mg/kg	5	ND



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Test Item(s)	Limit	Unit(s)	MDL	A1
Decabromobiphenyl (DecaBB)	-	mg/kg	5	ND
Polybromodiphenyl ether(PBDEs)	1000	mg/kg	-	ND
Monobromodiphenylether (MonoBDE)	-	mg/kg	5	ND
Dibromodiphenylether (DiBDE)	-	mg/kg	5	ND
Tribromodiphenylether (TriBDE)	-	mg/kg	5	ND
Tetrabromodiphenylether (TetraBDE)	-	mg/kg	5	ND
Pentabromodiphenylether (PentaBDE)	-	mg/kg	5	ND
Hexabromodiphenylether (HexaBDE)	-	mg/kg	5	ND
Heptabromodiphenylether (HeptaBDE)	-	mg/kg	5	ND
Octabromodiphenylether (OctaBDE)	-	mg/kg	5	ND
Nonabromodiphenylether (NonaBDE)	-	mg/kg	5	ND
Decabromodiphenylether (DecaBDE)	-	mg/kg	5	ND
Dibutyl Phthalate(DBP)	1000	mg/kg	50	ND
Benzyl Butyl Phthalate(BBP)	1000	mg/kg	50	ND
Bis-(2-ethylhexyl) Phthalate(DEHP)	1000	mg/kg	50	ND
Diisobutyl Phthalate(DIBP)	1000	mg/kg	50	ND

#### Notes:

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series.
- (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.

#### EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, **Cadmium and Hexavalent chromium**

Test Method: With reference to IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013 and IEC 62321-7-1:2015, analysis was performed by ICP-OES, AAS and UV-Vis.

Test Item(s)	Limit	Unit(s)	MDL	A2
Cadmium(Cd)	100	mg/kg	2	ND
Lead(Pb)	1000	mg/kg	2	8
Mercury(Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI)) ▼	-	μg/cm²	0.10	ND

#### Notes:

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series.
- a. The sample is positive for Cr(VI) if the Cr(VI)concentration is greater than 0.13 μg/cm<sup>2</sup>. The sample coating is considered to contain Cr(VI)
  - b. The sample is negative for Cr(VI) if Cr(VI) is ND (concentration less than 0.10 μg/cm²). The coating is considered a non-Cr(VI) based coating
  - c. The result between 0.10 μg/cm² and 0.13 μg/cm² 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.



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

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

Test Item(s)	Unit(s)	MDL	A1
Fluorine(F)	mg/kg	20	ND
Chlorine(CI)	mg/kg	50	ND
Bromine(Br)	mg/kg	50	ND
lodine(I)	mg/kg	50	ND

### Polyvinyl chloride (PVC)

Test Method: With reference to SGS in house method, analysis was performed by FTIR/HATR.

Test Item(s)	A1
Polyvinyl chloride (PVC)	Negative

#### Notes:

(1) Negative=Undetectable, Positive=Detectable

Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019.



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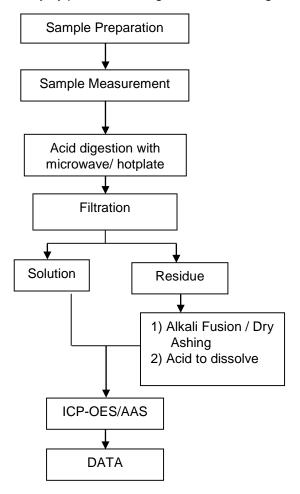
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**ATTACHMENTS** 

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### **Elements Testing Flow Chart**

These samples were dissolved totally by pre-conditioning method according to below flow chart.





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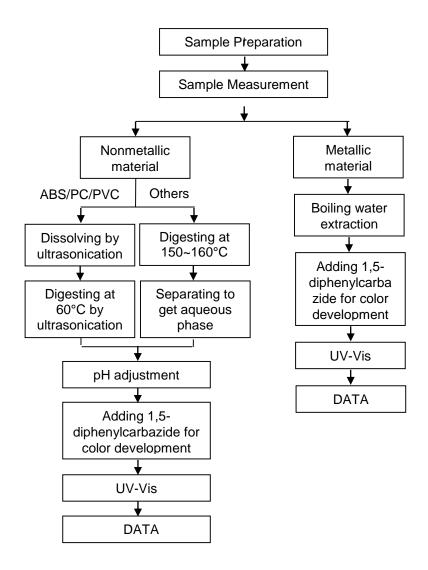
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### **Hexavalent Chromium (Cr(VI)) Testing Flow Chart**





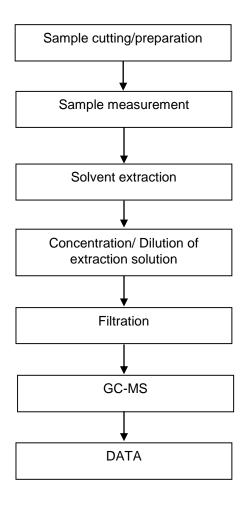
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### **PBBs/PBDEs Testing Flow Chart**





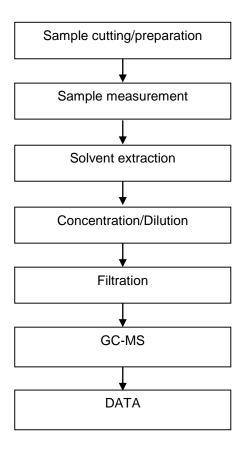
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#### **Phthalates Testing Flow Chart**





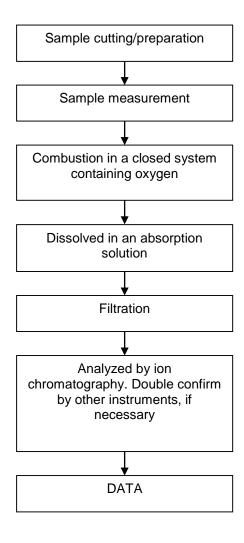
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### **Halogen Testing Flow Chart**





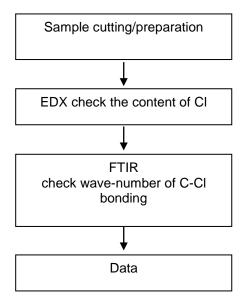
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### **PVC Testing Flow Chart**





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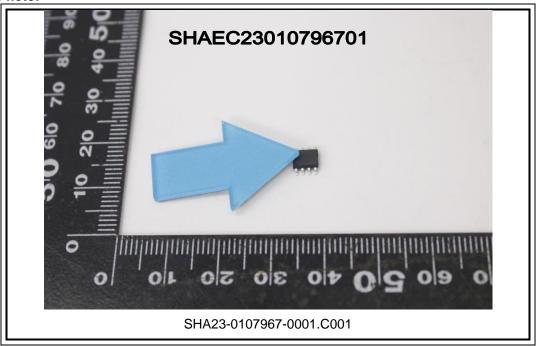
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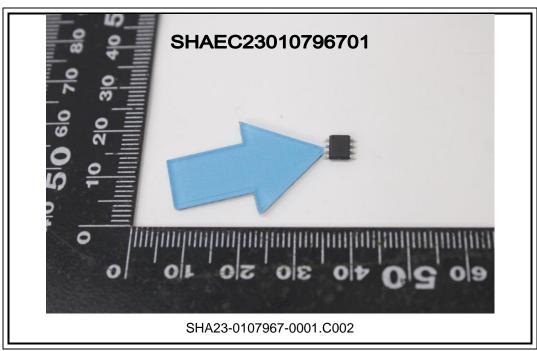
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Sample Photo:





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