

Test Report

No. SHAEC2211405201

Date: 09 Aug 2022

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Client Name : Jiangsu Jiejie Microelectronics Co.,Ltd

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

Sample Name : SOP-8

Client Ref. Information : SOT-223、SOT-223-3L、SOT-223-2L、SOT-23、SOT-23-3L、SOT-23-6L、SOT-323、SOT-323-3L、SOT-363、SOT-363-6L、SOT-523、SOT-523-3L、SOT-563、SOT-563-6L、SOT-723、SOT-723-3L、SOT-89-3L、TO-252-5L、TSSOP-8、DFN1006-3L、DFN2020-6L、DFN2x2-6L-SD、DFN2020-6L-D、DFN2x2-3L、DFN8x8-2L、
DFN3.0x3.0-8L、DFN3.3x3.3-8L-PD、PDFN3x3-8L-D、DFN3.3x3.3-8L、DFN8x8-4L-SS、DFN8080-4L、DFN5x6-8L(Dual)、DFN5x6-8L-SS、DFN10x15-5L、DFN5x6-8L-PS、DFN2x2-6L、DFN2020-6L、PDFN3.3x3.3-8L

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

SGS Job No. : SP22-016796 - SH

Date of Sample Received : 04 Aug 2022

Testing Period : 04 Aug 2022 - 09 Aug 2022

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

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

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

Conclusion : Based on the performed tests on submitted sample(s), the results of Cadmium, Lead, Mercury, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

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

Tom Ni

Tom Ni
Approved Signatory

scan to see the report



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

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Test Result(s) :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	SHA22-114052.001	Black body
SN2	SHA22-114052.002	Silvery metal

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 : 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, AAS, UV-Vis and GC-MS.

Test Item(s)	Limit	Unit	MDL	001
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



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Test Item(s)	Limit	Unit	MDL	001
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
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
- (2) 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.

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 and IEC62321-7-1:2015, analyzed by ICP-OES, AAS and UV-Vis .

Test Item(s)	Limit	Unit	MDL	002
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	11
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	µg/cm ²	0.10	ND

Notes :

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
IEC 62321 series is equivalent to EN 62321 series
- (2)▼ = a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm².
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/cm²). The coating is considered a non-CrVI 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



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and thus Cr(VI) results represent status of the sample at the time of testing.

Halogen

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

Test Item(s)	Unit	MDL	001
Fluorine (F)	mg/kg	50	ND
Chlorine (Cl)	mg/kg	50	ND
Bromine (Br)	mg/kg	50	ND
Iodine (I)	mg/kg	50	ND

Polyvinyl chloride (PVC)

Test Method : In-house method (SHTC-CHEM-SOP-115-T), analysis was performed by FTIR/HATR.

Test Item(s)	CAS NO.	Unit	MDL	001
Polyvinyl chloride (PVC)	9002-86-2	-	-	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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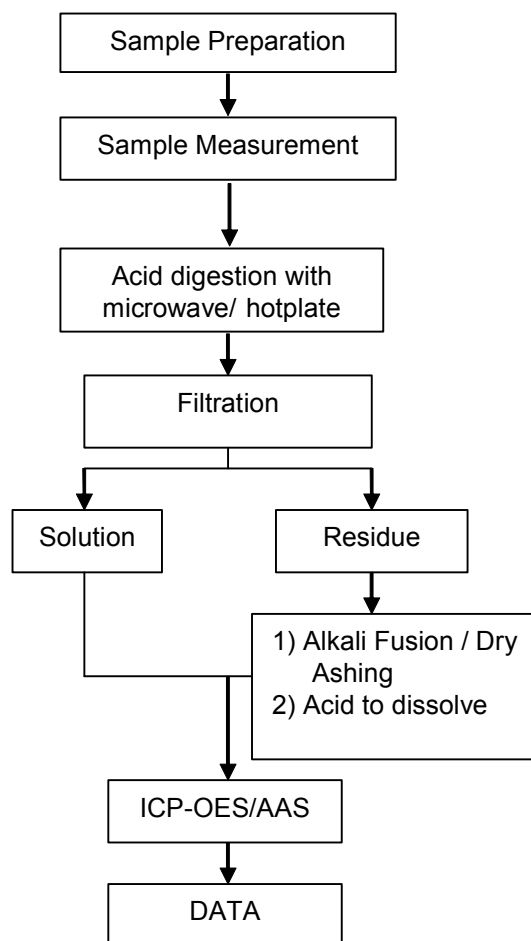
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Elements (IEC62321) Testing Flow Chart

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

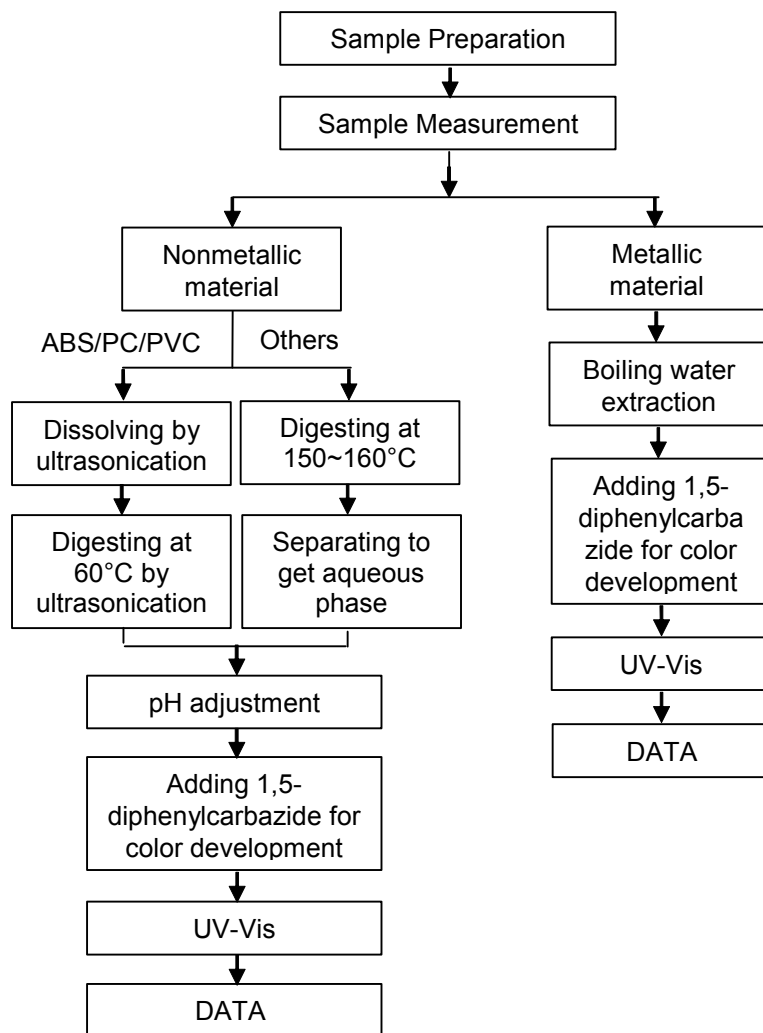


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Hexavalent Chromium (Cr(VI)) Testing Flow Chart



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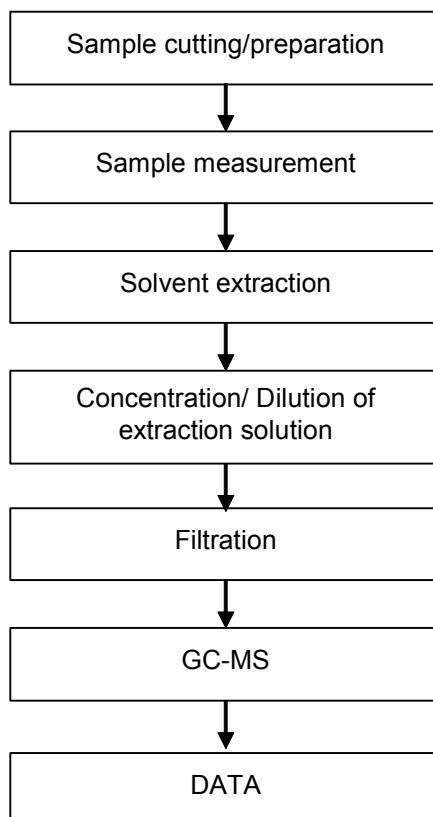
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PBBs/PBDEs Testing Flow Chart

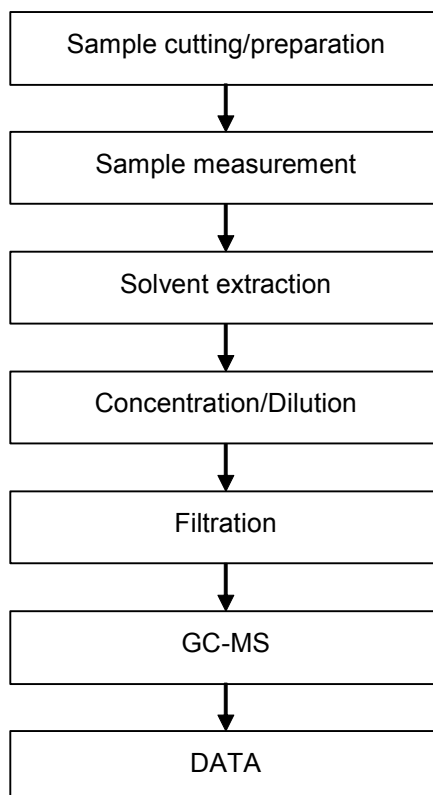


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Phthalates Testing Flow Chart

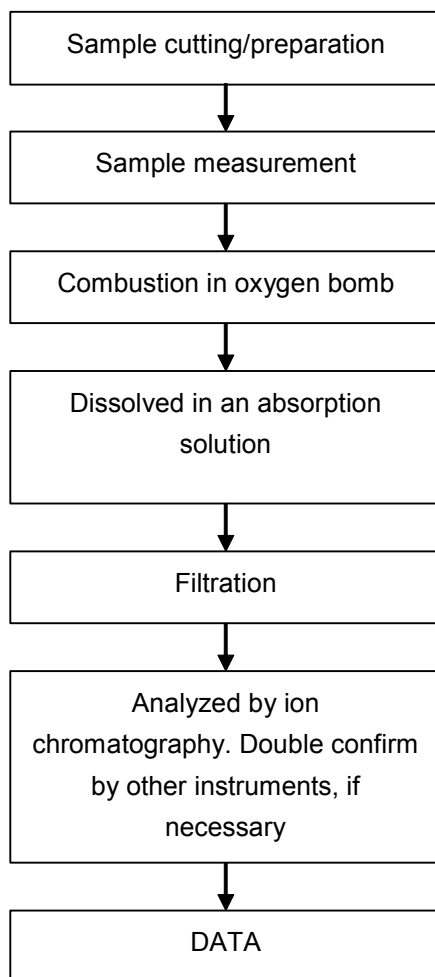


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Halogen Testing (oxygen bomb) Flow Chart



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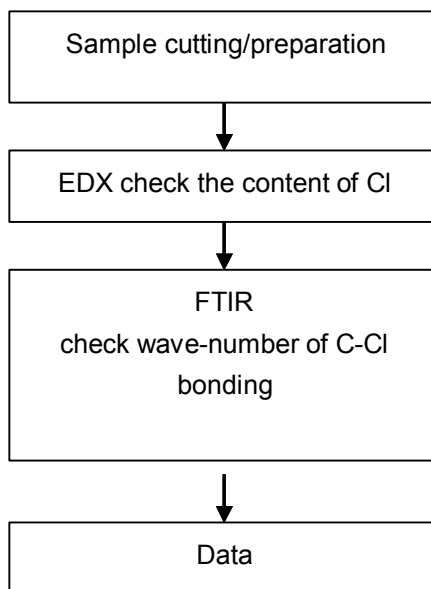
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PVC Testing Flow Chart



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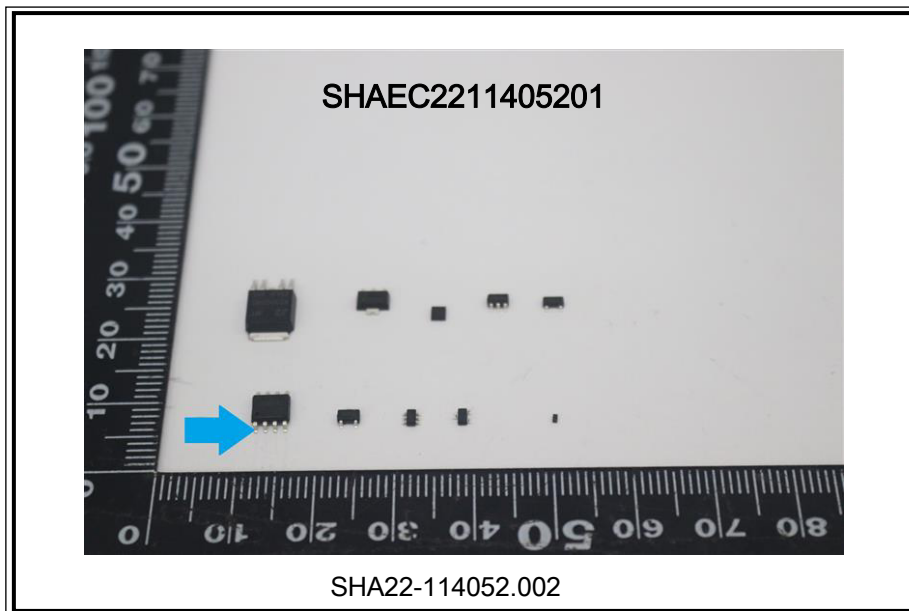
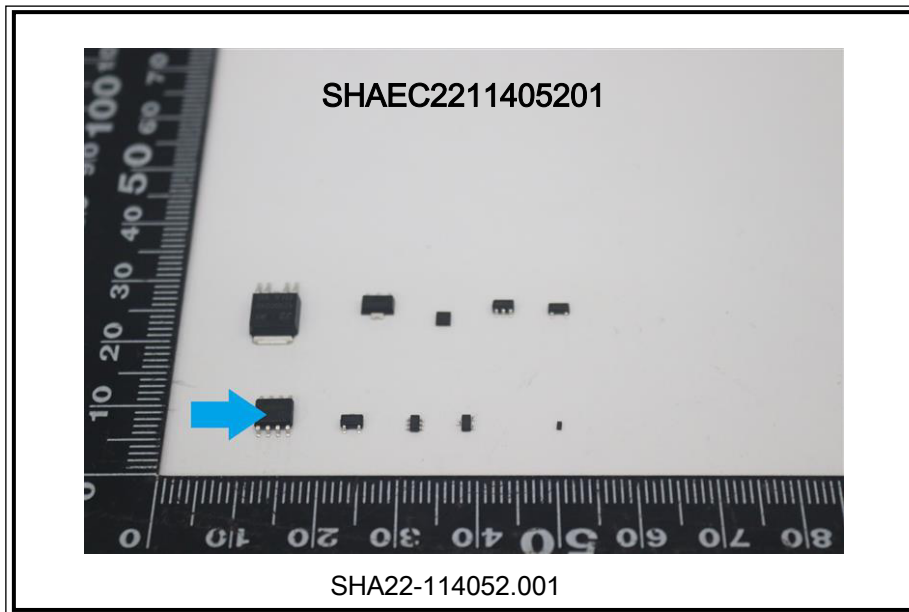
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