



Test Report

No.: SHAEC23016032408

Date: Oct 12, 2023

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Client Name: CSMC TECHNOLOGIES FAB2 CO.,LTD

Client Address: 14 LIANGXI ROAD,WUXI,JIANGSU 214061,CHINA

Sample Name: 6 IN WAFER

Model No.: MEMS

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

SGS Job No.: TIC1020230928113207AETS

Sample Receiving Date: Oct 08, 2023

Testing Period: Oct 08, 2023 ~ Oct 12, 2023

Test Requested: Select 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).

| 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 |
| Halogen | See Results |
| Hexabromocyclododecane (HBCDD) | See Results |
| TBBP-A | See Results |
| Perfluorooctane Sulfonates (PFOS) and its derivatives and Perfluorooctanoic Acid (PFOA) and its salts | See Results |

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

Sue Sheng
Approved Signatory

scan to see the report





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Test Result(s):

Test Part Description

| SN ID | Sample No. | SGS Sample ID | Description |
|-------|------------|-------------------------|------------------------|
| SN1 | A3 | SHA23-0160324-0001.C003 | Colorful silicon wafer |

Remarks:

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

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 | A3 |
|------------------------------------|-------|---------|-----|----|
| 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 |
| 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 |
| Butyl Benzyl Phthalate(BBP) | 1000 | mg/kg | 50 | ND |



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| Test Item(s) | Limit | Unit(s) | MDL | A3 |
|------------------------------------|-------|---------|-----|----|
| 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.



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| Test Item(s) | CAS No. | Unit(s) | MDL | A3 |
|---|------------|---------|-------|----|
| N-methylperfluoro-1-octanesulfonamide (N-MeFOSA) | 31506-32-8 | mg/kg | 0.010 | ND |
| 2-(N-ethylperfluoro-1-octanesulfonamido) -ethanol (N-EtFOSE) | 1691-99-2 | mg/kg | 0.010 | ND |
| 2-(N-methylperfluoro-1-octanesulfonamido) -ethanol (N-MeFOSE) | 24448-09-7 | mg/kg | 0.010 | ND |
| Perfluorooctane Sulfonamide (PFOSA) | 754-91-6 | mg/kg | 0.010 | ND |
| Perfluorooctanoic Acid (PFOA) and its salts* | 335-67-1 | mg/kg | 0.010 | ND |

Notes:

(1) Perfluorooctanoic acid (PFOA) and its salts* including PFOA (CAS No. 335-67-1), APFO (CAS No. 3825-26-1), PFOA-Na (CAS No. 335-95-5), PFOA-K (CAS No. 2395-00-8), PFOA-Ag (CAS No. 335-93-3) and PFOA-F (CAS No. 335-66-0). The result of PFOA is used to represent PFOA and its salts.

(2) Perfluorooctane sulfonates (PFOS) and its salts* including PFOS (CAS No. 1763-23-1), POSF(CAS No. 307-35-7), PFOS-K (CAS No. 2795-39-3), PFOS-NH₄ (CAS No. 29081-56-9), PFOS-N(C₁₀H₂₁)₂(CH₃)₂ (CAS No. 251099-16-8), PFOS-NH₂(C₂H₄OH)₂ (CAS No. 70225-14-8), PFOS-Li (CAS No. 29457-72-5), PFOS-N(C₂H₅)₄ (CAS No. 56773-42-3) and PFOS-Na (CAS No. 4021-47-0). The result of PFOS is used to represent PFOS and its salts.

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.

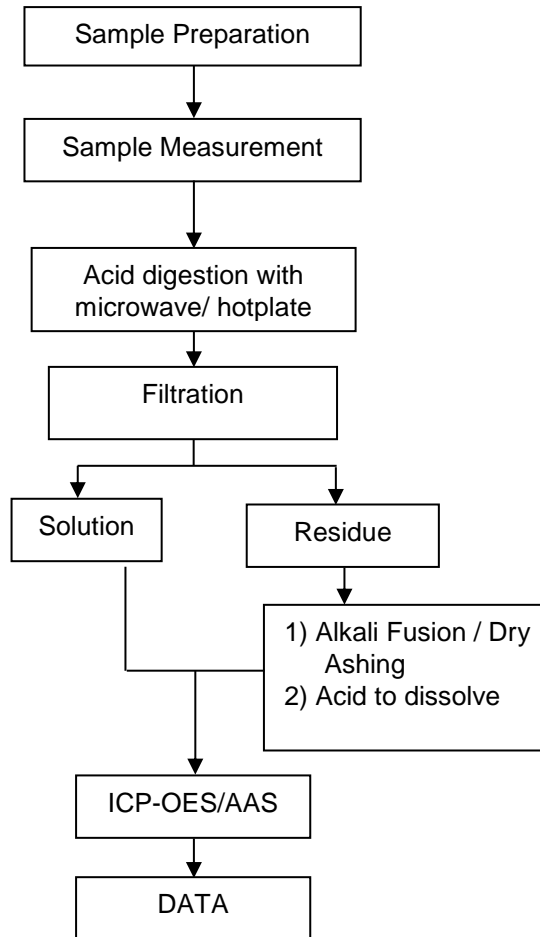
ATTACHMENTS

Elements Testing Flow Chart

Name of the person who made testing: Meria Jin/Sielina Song

Name of the person in charge of testing: Luna Xu/Bob Zhang

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

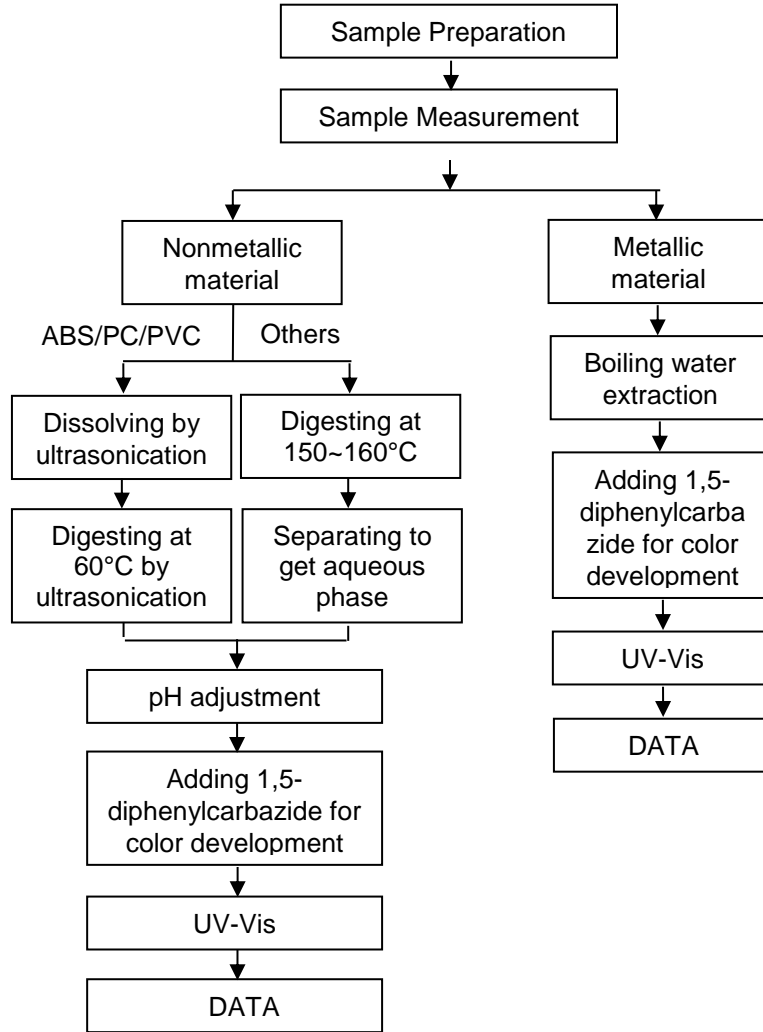


ATTACHMENTS

Hexavalent Chromium (Cr(VI)) Testing Flow Chart

Name of the person who made testing: Alex Wang

Name of the person in charge of testing: Xiaolong Yang

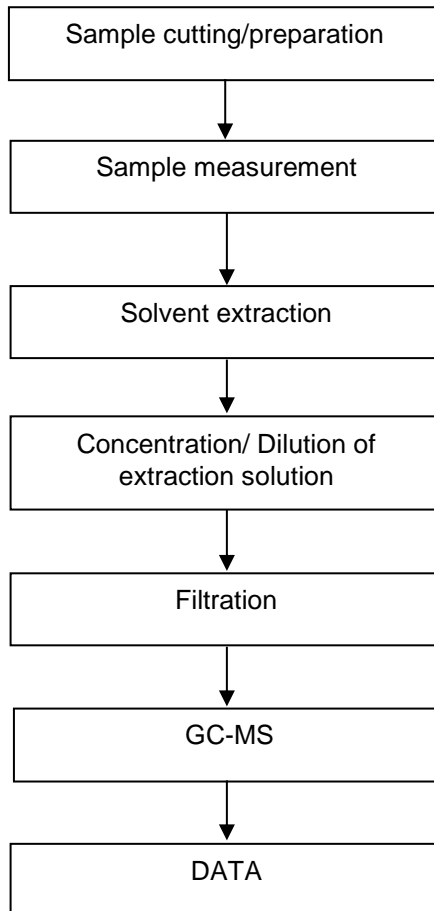


ATTACHMENTS

PBBs/PBDEs Testing Flow Chart

Name of the person who made testing: Lucky Liu

Name of the person in charge of testing: Sherry Shi

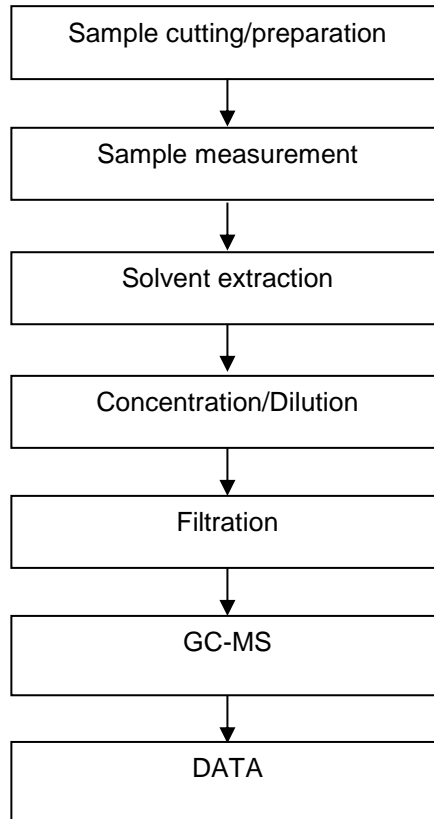


ATTACHMENTS

Phthalates Testing Flow Chart

Name of the person who made testing: Lucky Liu

Name of the person in charge of testing: Sherry Shi

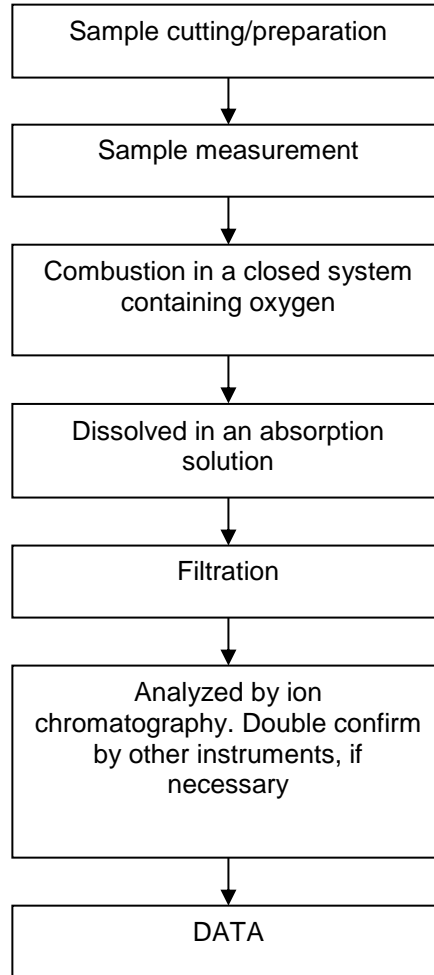


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Halogen Testing Flow Chart

Name of the person who made testing: Andy Zhang

Name of the person in charge of testing: Allen Chen

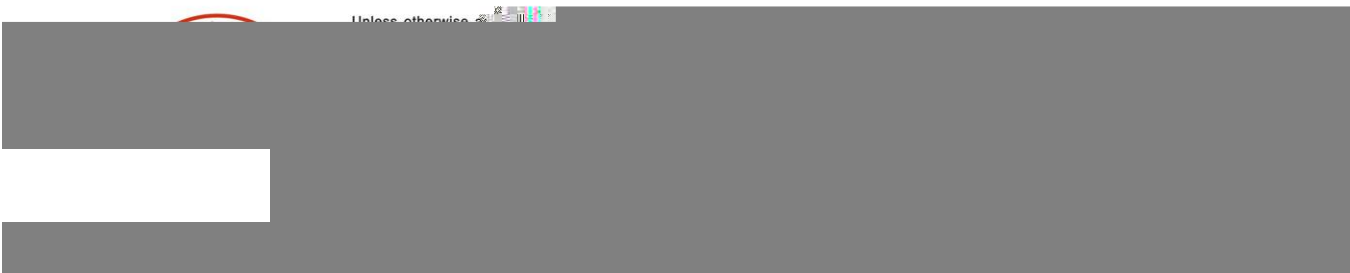
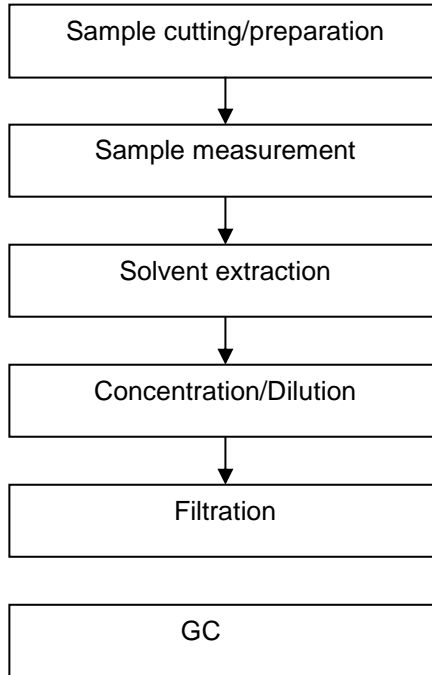


ATTACHMENTS

HBCDD Testing Flow Chart

Name of the person who made testing: Lucky Liu

Name of the person in charge of testing: Sherry Shi

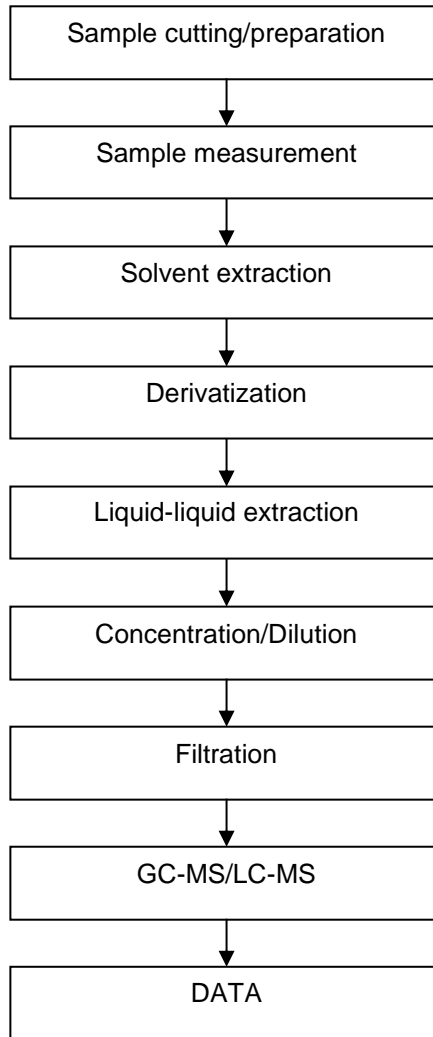


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TBBP-A Testing Flow Chart

Name of the person who made testing: Lucky Liu

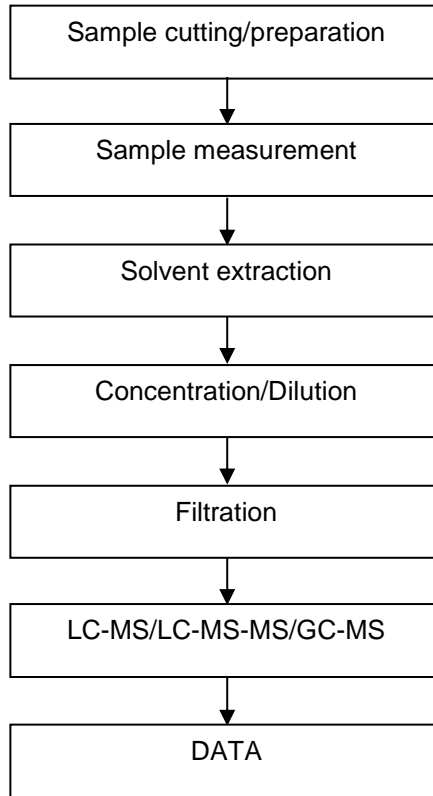
Name of the person in charge of testing: Sherry Shi



ATTACHMENTS

PFASs/ PFOS/PFOA Testing Flow Chart

Name of the person who made testing: Richer Yu
Name of the person in charge of testing: Richer Yu



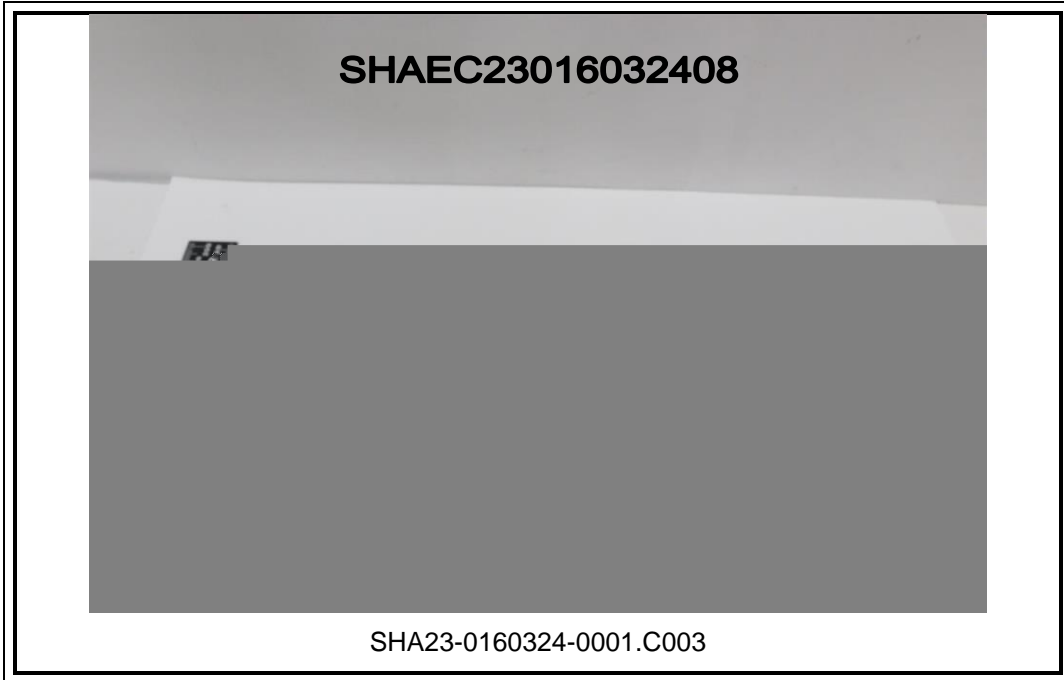
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Sample Photo:



SGS authenticate the photo on original report only
*** End of Report ***