

Test Report

No.: SZXEC23002073603

Date: Sep 05, 2023

Page 1 of 9

Client Name: TONGXIN TECHNOLOGY (GUANGDONG) CO., LTD

Client Address: ROOM 8906, NO. 39, JINLONG STREET, SHILONGKENG, LIAOBU TOWN, DONGGUAN CITY, GUANGDONG PROVINCE

Sample Name: Semiconductor device

Model No.: Semiconductor Device

Client Ref. Information: Please see attachment

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

SGS Job No.: SZP23-016604

Sample Receiving Date: Aug 29, 2023

Testing Period: Aug 29, 2023 ~ Sep 04, 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

Signed for and on behalf of
SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch



Mescal Ye
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	A1	SZX23-0020736-0001.C001	"Semiconductor device"

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	34178▲
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
Benzyl Butyl Phthalate(BBP)	1000	mg/kg	50	ND



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Test Item(s)	Limit	Unit(s)	MDL	A1
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.

Remark ▲: According to the declaration from the client, Lead (Pb) in No.A1 is exempted by EU RoHS directive 2011/65/EU based on [ANNEX III 7(c)-I]: Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound.

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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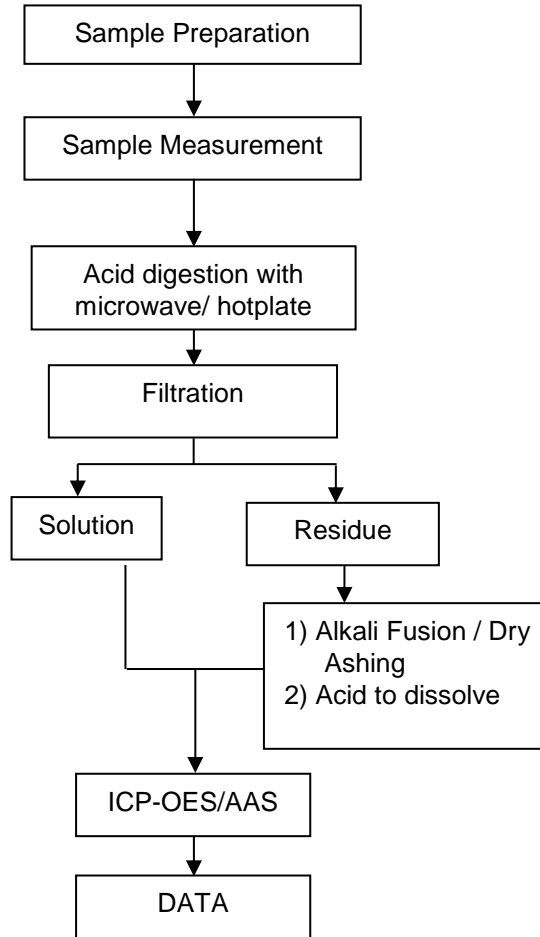
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Elements Testing Flow Chart

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



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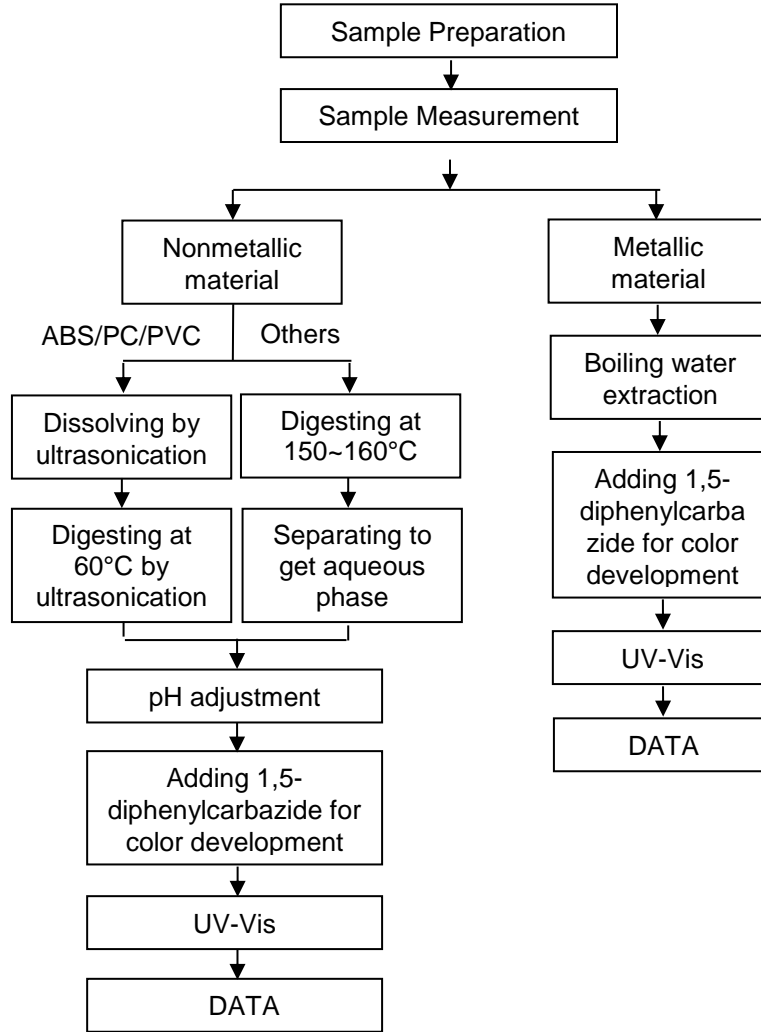
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ATTACHMENTS

Hexavalent Chromium (Cr(VI)) Testing Flow Chart



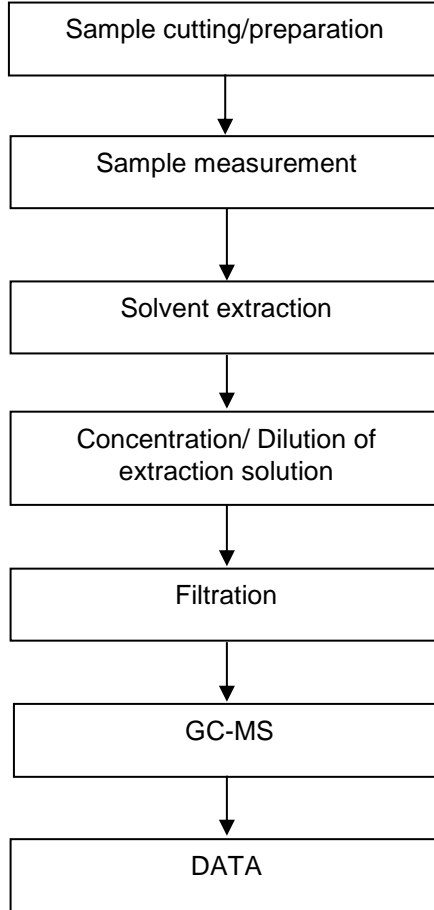
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PBBs/PBDEs Testing Flow Chart



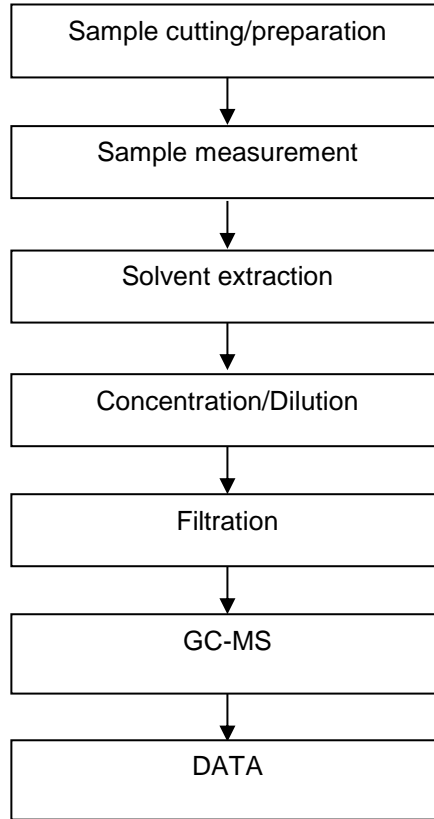
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Phthalates Testing Flow Chart



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DO-34(GLASS),DO-35(GLASS),DO-41(GLASS),DO-213AA,DO-213AB,DO-218AB,LL-34,LL-41,
MiniMELF,
SOT-23,SOT-23-3L,,SOT-23-5L,SOT-23-6L,SOT-323,SOT-343,SOT-353,SOT-363,SOT-523,SOT-553,
SOT-563,SOT-723,SOT-223-2L,SOT-223-3L,SOT-89-2L,SOT-89-3L,SOT-89-5L,SOT-252,SOT-143,SOT-883,
0402,0603,SOD-123,SOD-123FL,SOD-123H1,SOD-123HT,SOD-123S,SOD-123T,SOD-123W,SOD-126,
SOD-323,SOD-323FLSOD-323W,SOD-523,SOD-723,SOD-923,SOD-882,SC-59,SC-89.SOPseries,DFNseries,
PDFNseries,QFNseries,WQFNseries,ESOPseries,TOLLA-8,TSSOP-8.DSMA/DO-214AC,SMA/DO-214AC,
SMA-HST,SMA-L,SMA-S,SMB/DO-214AA,SMF,SMAF,SMBF,SMCF,SMB-HS,SMB-S,SMC/DO-214AB.
TO-220AB,ITO-220AB,TO-220AC,ITO-220AC,TO-220A,TO-220B,TO-220C,TO-220K,TO-220S, TO-220,
TO-220F,TO-220ABW,TO-227A,TO-220FP-2L,TO-220FP-3L,TO-251CW,TO-220CW,TO-220FCW,TO-220FW, TO-
247AC,TO-247AB,TO-247S,TO-247-2L,TO-247-4L,TO-247Plus,TO-3P,TO-251,TO-251S,TO-251W,
TO-252,TO-252K,TO-252W,TO-252-3L,TO-252-4L,TO-253,TO-262,TO-262C,TO-263,TO-263W,TO-263AB,
TO-263C-2L,TO-263C-3L,TO-263S-2L,TO-263S-3L,TO-263-3L,TO-263-5L,TO-263-6L,TO-277B,TO-92,
TO-92S,TO-92L,TO-92LK,TO-92L,TO-92MOD,TO-126F,TO-126P,TO-126H,TO-126T,TO-126B4,TO-126B5.
ABF,ABS,DBF,LB,TMBF,DBM,DBS,DFS,TBS,D3K,DB-1 ,MBS,MSB ,MSBL,MBF ,MBM,UMB,UMSB,STSB,
D3K,HBS,GBJ,GBL,GBP,GBPC,GBPC-W,GBU,KBU,KBJ,KBL,KBP,KBPC,KBPC-3,KBPC-35,KBPC-50,KBPC-6,KBPC-
8,WOB,WOBM, SKBPC,RS-4,RS-6,BR-L,HVM,HV.



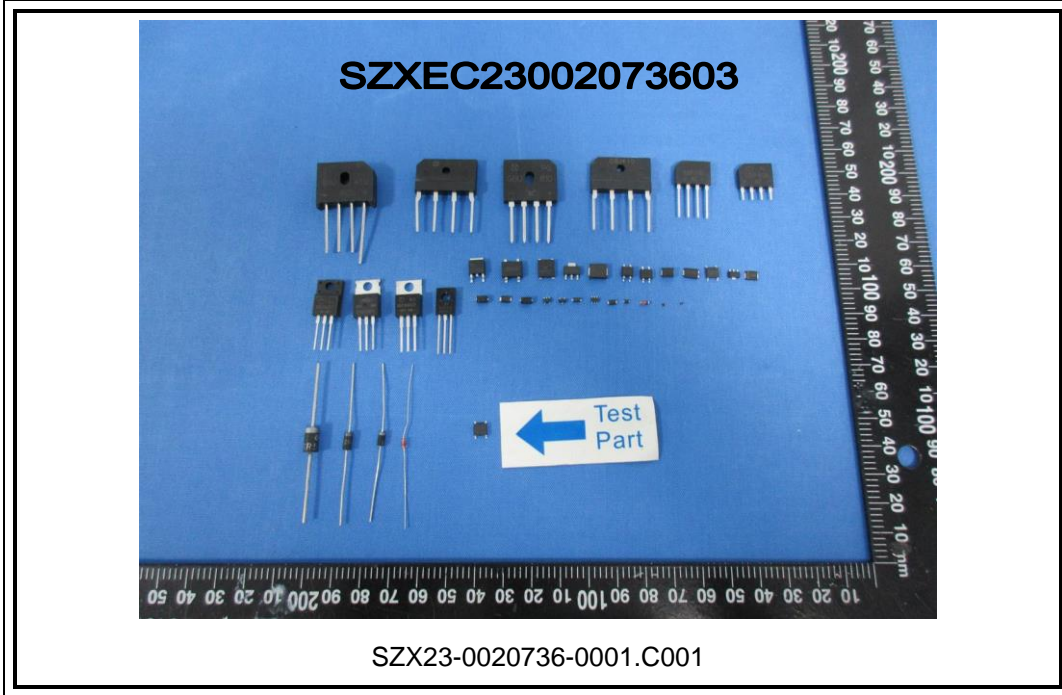
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