

Test Report Date: 14 Nov 2023 No. TAOEC2307955111 Page 1 of 10

JINAN JINGHENG ELECTRONICS CO., LTD. Client Name:

Client Address: NO.13856 JINGSHIXI ROAD, CHANGQING, JINAN, SHANDONG, CHINA

Sample Name: **DB3 CHIP**

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

SGS Job No.: QDP23-001753 - QD

Date of Sample Received: 30 Oct 2023

Testing Period: 30 Oct 2023 - 07 Nov 2023

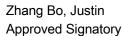
Test Requested: Selected test(s) as requested by the client.

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

Result Summary:

Test Requested	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
Alkanes C14-C17, chloro (Medium-chain Chlorinated Paraffins) (MCCP)	See Results
Tetrabromobisphenol A (TBBP-A)	See Results

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







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Test Result(s):

Test Part Description:

Specimen No. SGS Sample ID Description SN₁ TAO23-079551.006 silvery chip

Remarks:

- (1) 1 mg/kg = 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)

With reference to IEC 62321-5:2013, IEC 62321-4:2013+AMD1:2017, IEC 62321-7-2:2017, IEC Test Method: 62321-6:2015 and IEC 62321-8:2017, analyzed by ICP-OES, UV-Vis and GC-MS.

Test Item(s)	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>006</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	97986▲
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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Test Item(s)	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>006</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	
Bis (2-ethylhexyl) 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.
- (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.
- (4) According to the declaration from the client, Lead (Pb) in No.006 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.
- (5) The test result(s) of Lead is(are) only for reference.

Halogen

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

Test Item(s)	<u>Unit</u>	<u>MDL</u>	<u>006</u>
Fluorine (F)	mg/kg	20	ND
Chlorine (CI)	mg/kg	50	ND
Bromine (Br)	mg/kg	50	ND
Iodine (I)	mg/kg	50	ND

Alkanes C14-C17, chloro (Medium-chain Chlorinated Paraffins) (MCCP)

Test Method: With reference to ISO 22818:2021, analysis was performed by GC-NCI-MS.



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Test Item(s)UnitMDL006Medium Chain Chlorinated Paraffin(C14-C17)mg/kg50ND

(MCCP)

Tetrabromobisphenol A (TBBP-A)

Test Method: With reference to US EPA 3550C - ULTRASONIC EXTRACTION: 2007, analysis was performed

by LC-MS.

 Test Item(s)
 Unit
 MDL
 006

 Tetrabromobisphenol A (TBBP-A)
 mg/kg
 10
 ND

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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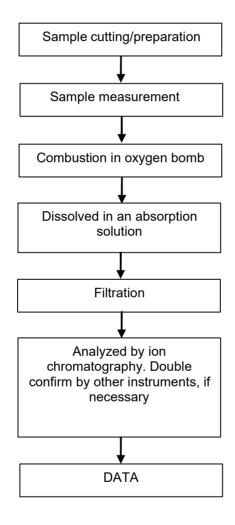
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Halogen Testing Flow Chart





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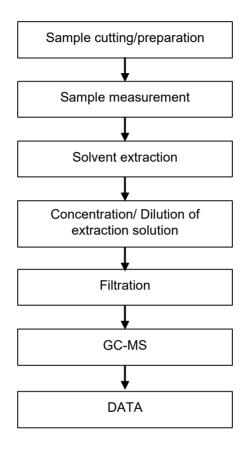
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PBBs/PBDEs Testing Flow Chart





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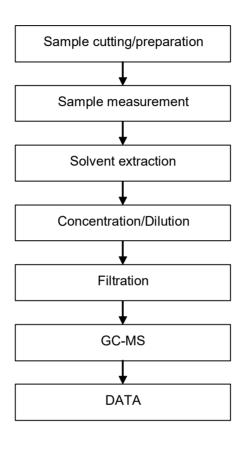
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Phthalates Testing Flow Chart





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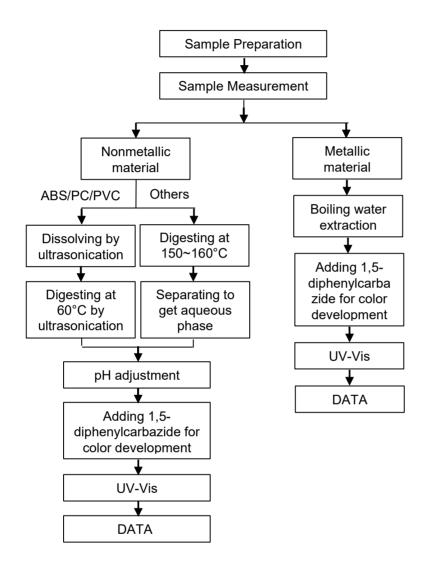
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Hexavalent Chromium (Cr(VI)) Testing Flow Chart





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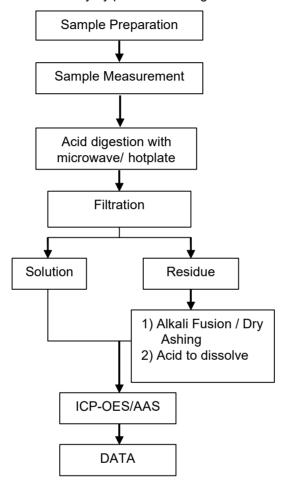
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Elements (IEC62321) Testing Flow Chart

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





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Sample photo:



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*** End of Report ***



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