

TEST REPORT

CheckCode:340413
Report No.:C202411292384-11E

Company Name: Shanghai Eastsoft Microelectronics Co.,Ltd.
Address: 3rd Floor, Building 12,Phoenix Park, No.1515 Gumei Road, Xuhui District,Shanghai.

The following sample information is provided by the client and responsible for its authenticity

Sample Name: QFN Chip
Material: QFN32
Sample State: Normal

Date of Receipt: Dec. 6, 2024 **Test Period:** Dec. 6, 2024 – Dec. 13, 2024

Test Request:

- 1) As specified by client, to determine the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium [Cr(VI)], Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP), Diisobutyl phthalate (DIBP) content in the submitted sample(s).

Judge Standard:

- 1) RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.
- 2) EN 61249-2-21:2003

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

Conclusion:

- 1) Based on the performed test on submitted sample, the result(s) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.
- 2) Based on the performed test on submitted sample, the result(s) comply with the limits as set by EN 61249-2-21:2003.

Edited by Guo Yiyang Reviewed by Zhang Lina Approved by Zhang Xiaojing



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Issue date:Dec.13,2024

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Laboratory Add: No. 31, Nanxiang 2nd Road, Science City, Huangpu District, Guangzhou, P.R.China
Tel: 4006020999 Fax: +86-020-38698685 Website: <http://www.grgttest.com>

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Sample description:

Sample No.	Description
1	Black / silvery body with It-brown printing

Remark: 1) mg/kg = ppm
2) MDL = Method Detection Limit
3) "N.D." = Not Detected (Below Method Detection Limit)

Test result(s):

1) RoHS

Test method:

Test Item(s)	Test Method	Measuring Instrument	Limit
Lead (Pb)	IEC 62321-5:2013	ICP-OES/AAS	1000mg/kg
Cadmium (Cd)	IEC 62321-5:2013	ICP-OES	100mg/kg
Mercury (Hg)	IEC 62321-4:2013 +AMD1:2017	ICP-OES	1000mg/kg
Hexavalent Chromium [Cr (VI)]	IEC 62321-7-2:2017	UV-Vis	1000mg/kg
Polybrominated biphenyls (PBBs)	IEC 62321-6:2015	GC-MS	1000mg/kg
Polybrominated diphenyl ethers (PBDEs)	IEC 62321-6:2015	GC-MS	1000mg/kg
Bis(2-ethylhexyl) phthalate (DEHP)	IEC 62321-8:2017	GC-MS	1000mg/kg
Butyl benzyl phthalate (BBP)	IEC 62321-8:2017	GC-MS	1000mg/kg
Dibutyl phthalate (DBP)	IEC 62321-8:2017	GC-MS	1000mg/kg
Diisobutyl phthalate (DIBP)	IEC 62321-8:2017	GC-MS	1000mg/kg

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Test Item	Sample	Unit	MDL
	1		
Lead (Pb)	N.D.	mg/kg	2
Cadmium (Cd)	N.D.	mg/kg	2
Mercury (Hg)	N.D.	mg/kg	2
Hexavalent Chromium [Cr(VI)]	N.D.	mg/kg	8

Test Item	Sample	Unit	MDL
	1		
Sum of PBBs	N.D.	mg/kg	---
Monobromobiphenyl	N.D.	mg/kg	50
Dibromobiphenyl	N.D.	mg/kg	50
Tribromobiphenyl	N.D.	mg/kg	50
Tetrabromobiphenyl	N.D.	mg/kg	50
Pentabromobiphenyl	N.D.	mg/kg	50
Hexabromobiphenyl	N.D.	mg/kg	50
Heptabromobiphenyl	N.D.	mg/kg	50
Octabromobiphenyl	N.D.	mg/kg	50
Nonabromobiphenyl	N.D.	mg/kg	50
Decabromobiphenyl	N.D.	mg/kg	50
Sum of PBDEs	N.D.	mg/kg	---
Monobromodiphenyl ether	N.D.	mg/kg	50
Dibromodiphenyl ether	N.D.	mg/kg	50
Tribromodiphenyl ether	N.D.	mg/kg	50
Tetrabromodiphenyl ether	N.D.	mg/kg	50
Pentabromodiphenyl ether	N.D.	mg/kg	50
Hexabromodiphenyl ether	N.D.	mg/kg	50
Heptabromodiphenyl ether	N.D.	mg/kg	50

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Test Item	Sample	Unit	MDL
	1		
Octabromodiphenyl ether	N.D.	mg/kg	50
Nonabromodiphenyl ether	N.D.	mg/kg	50
Decabromodiphenyl ether	N.D.	mg/kg	50

Test Item	Sample	Unit	MDL
	1		
Bis(2-ethylhexyl) phthalate (DEHP)	N.D.	mg/kg	50
Butyl benzyl phthalate (BBP)	N.D.	mg/kg	50
Dibutyl phthalate (DBP)	N.D.	mg/kg	50
Diisobutyl phthalate (DIBP)	N.D.	mg/kg	50

2) Halogen

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

Test Item	Sample	Unit	MDL	Limit	Conclusion
	1				
Fluorine (F)	N.D.	mg/kg	25	---	---
Chlorine (Cl)	N.D.	mg/kg	25	≤900	Comply
Bromine (Br)	N.D.	mg/kg	25	≤900	Comply
Iodine (I)	N.D.	mg/kg	25	---	---
Sum of Cl & Br	N.D.	mg/kg	---	≤1500	Comply

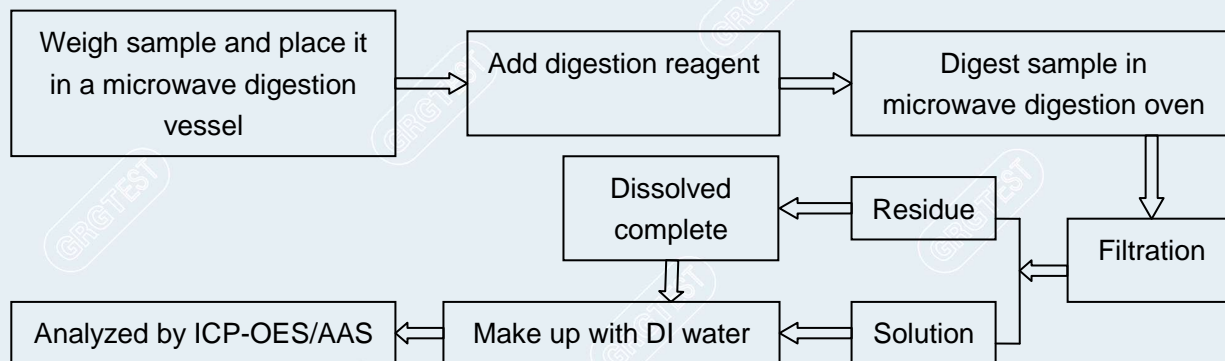
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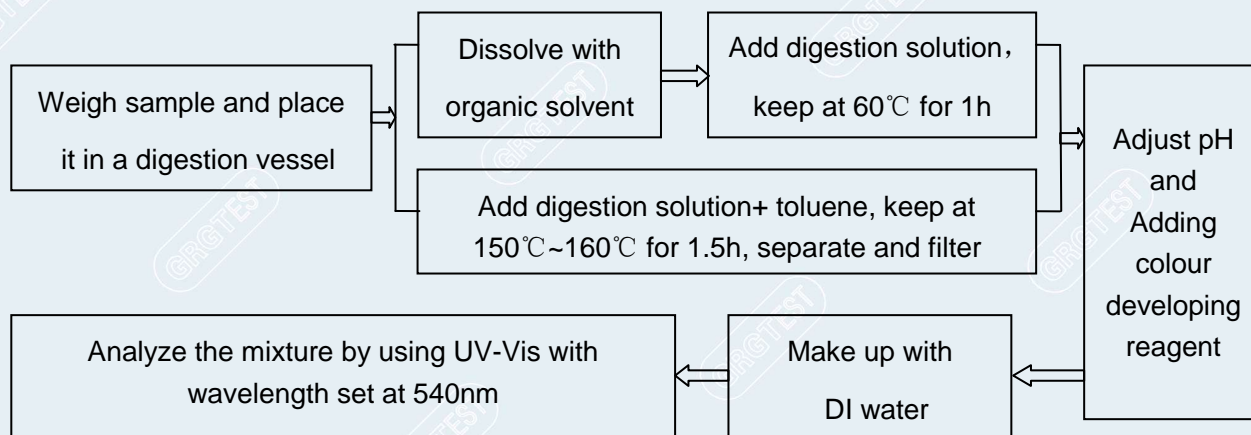
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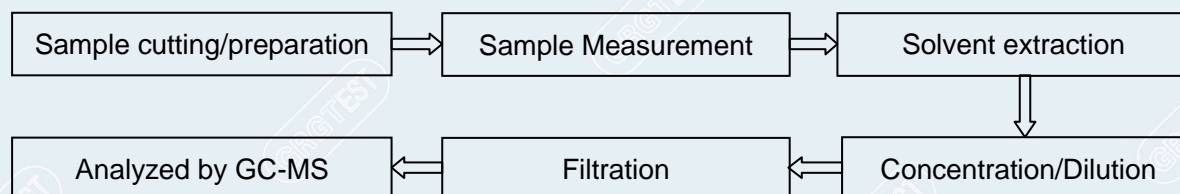
Test Process for Pb / Cd / Hg



Test Process for Cr (VI) (Nonmetal)



Test Process for PBBs & PBDEs



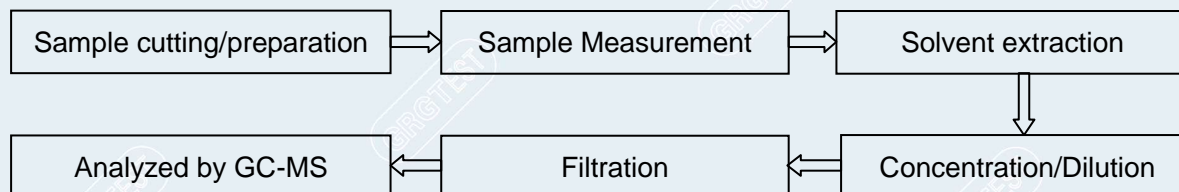
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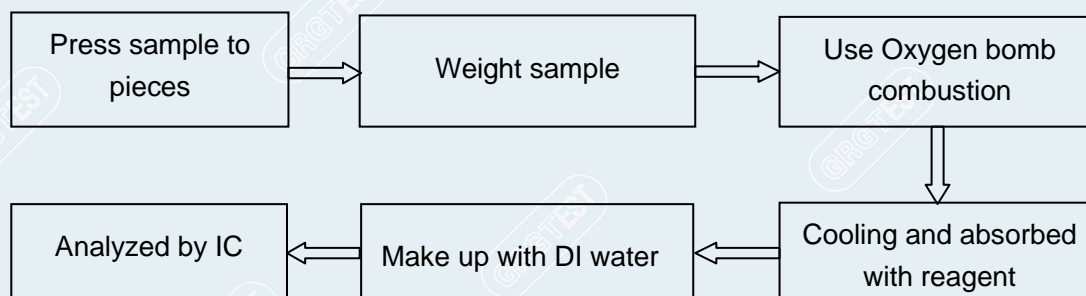
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Test Process for Phthalates



Halogen test process:



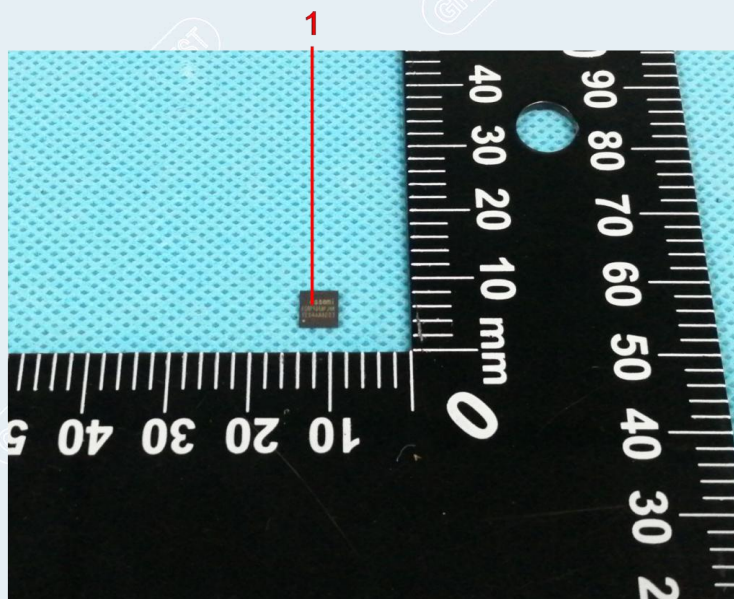
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Photo of Sample



-----End of Report-----

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