

Certificate of non-use of The Controlled Substances

Company name Littelfuse, Inc

Product Covered SIDACtor® & SIDAC DO-15 Package

Issue Date August 13, 2011

It is hereby certified by Littelfuse, LP, that there is neither RoHS (EU Directive 2011/65/EU)-restricted substance nor such use, for materials to be used for unit parts, for packing/package materials, and for additives and the like in the manufacturing processes.

In addition, it is hereby reported to you that the parts and sub-materials, the materials to be used for unit parts, the packing/package materials, and the additives and the like in the manufacturing processes, are all composed of the following components.

Issued by

< K. Yoshimoto, Senior Product Engineer, Littelfuse, Inc >

(1) Parts, sub-materials and unit parts

This document covers SIDACtor DO-15 Package products (T10A series, PxxxxGAL/GBL/VEAL/VEBL series) and SIDAC DO-15 package (KxxxxG series), manufactured by Littelfuse Wuxi plant. Please see page 2 for the complete list of part number covered by this report.

< Homogeneous Materials used >

Please see figure and table 1 on page 3 and table 2 on page 4 of this document.

(2) The analytical data on all measurable substances

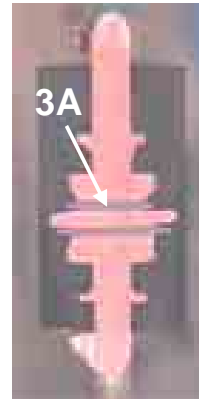
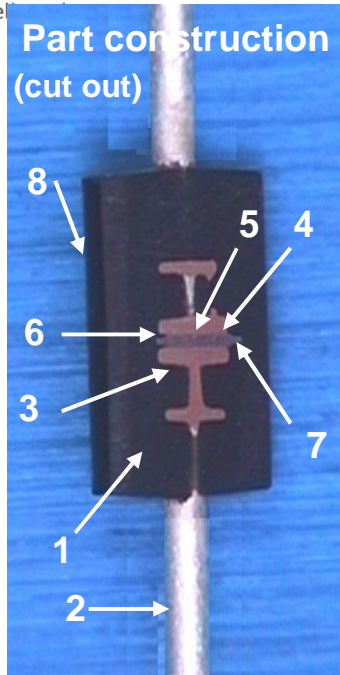
Please see annex 1 through 7, attached to this document

Remarks :

- 1. Pb (lead) contained in die bonding solder (item 4 on page 3) and passivation glass (item 7) to be categorized as exempt in RoHS Annex III 7(a) and 7(c)-I.**
- 2. Please refer to Annex 8 of this report for the extract of the applicable exemptions of RoHS (EU Directive 2011/65/EU)**

Littelfuse Part Number covered by this report

Standard (Catalog) Part Number			
K0900G	P3100GAL	T10A180E-007	P1102GBL
K1050G	P3500GAL	T10A180E-009	P1302GBL
K1100G	P1100GBL	T10A180E-010	P1502GBL
K1120G	P1300GBL	T10A180E-B	P1802GBL
K1200G	P1500GBL	T10A180E-T	P2302GBL
K1300G	P1800GBL	T10A200	P2602GBL
K1400G	P2300GBL	T10A200E-005	P3002GBL
K1500G	P2600GBL	T10A220	P3502GBL
K1800G	P3100GBL	T10A220B	
K2000G	P3500GBL	T10A220E	
K2000GH		T10A220E-T	
K2000GHU		T10A240	
K2200G	T10A060B	T10A270	
K2200GH	T10A060E	T10A270B	
K2200GHU	T10A062	T10A270E	
K2300G	T10A068	T10A270E-T	
K2300GH	T10A080B	T10A270-B01	
K2300GHU	T10A080B-B	T10A270B-B01	Special Device Part Number
K2400G	T10A080B-T	T10A270E-B01	
K2400GH	T10A080E		Any Part Number which has base part number listed in this table
K2400GHU	T10A100		
K2500G	T10A110B	Two-Chip Assembly (see Table 2A)	
K2500GH	T10A110E		
K2500GHU	T10A120	K2002G	
	T10A130	K2201G	Optional Suffix
P3100VEBL	T10A140B	K2202G	
	T10A140E	K2401G	
P1100GAL	T10A140E-B	K2402G	Part number in this table, including the special device part number, may be followed by "RP", denoting reel pack or "AP" denoting Ammo Pack.
P1300GAL	T10A140E-T	K2501G	
P1500GAL	T10A180	K2502G	
P1800GAL	T10A180B	K3002G	
P2300GAL	T10A180E	K3601G	
P2600GAL	T10A180E-004		



**Two-Chip
Assembly**

Material Used (where used)

Table 1: Homogeneous Material Used

#	Description	Name of Material	Type	ICP data
1	Molding compound	epoxy resin	plastic	Annex 1.
2	Lead finish	matte-tin	metal	Annex 2.
3	Lead frame (Axial Lead)	copper alloy	metal	Annex 3.
3A	Copper Slug	copper alloy	metal	Annex 3A.
4	Die bonding solder	solder	metal	Annex 4. Pb in this solder is exempted by RoHS Annex III 7(a). Please refer to Annex 8 for the RoHS exemption.
5	Silicon die	Silicon	metal	Annex 5. Tested as Silicon wafer + Nickel electrode.
6	Nickel electrode	Nickel	metal	
7	Passivation glass	Glass	glass	Annex 6. Pb in this glass is exempted by RoHS Annex III 7(c)-l. Please refer to Annex 8 for the RoHS exemption.
8	Marking Ink	plastic	plastic	Annex 7.

Table 2: RoHS-regulated substance in raw materials

Components	Analysis Result					
	Cd Cadmium	Cr Chromium	Hg Mercury	Pb Lead	PBB	PBDE
As Component Total ^{*1} (Values of T10A220E, as the representative of SIDACtor/SIDAC DO-15 Package)	< 2ppm	< 2ppm	< 2ppm	< 2ppm ^{*2} (1.0% ^{*3})	< 5ppm	< 5ppm
Epoxy Resin compound (epoxy resin, SiO ₂ filler and Sb ₂ O ₃ and Bromides as fire retardant) See Annex 1 for the detail.	< 2ppm	< 2ppm	< 2ppm	< 2ppm	< 5ppm	< 5ppm
Lead (Copper Alloy) See Annex 3 for the detail.	< 2ppm	< 2ppm	< 2ppm	< 2ppm	-----	-----
Outside lead finish (Matte-Tin Plated) See Annex 2 for the detail.	< 2ppm	< 2ppm	< 2ppm	68ppm ^{*6}	< 5ppm	< 5ppm
Silicon Die (Silicon + Ni electrode) See Annex 5 for the detail.	< 2ppm	< 2ppm	< 2ppm	48ppm ^{*6}	< 5ppm	< 5ppm
Passivation Glass (Glass containing PbO) See Annex 6 for the detail.	< 2ppm	< 2ppm	< 2ppm	40% ^{*4}	< 5ppm	< 5ppm
Die Bonding Solder (Pb 92.5%) See Annex 4 for the detail.	< 2ppm	< 2ppm	< 2ppm	92.5% ^{*5}	< 5ppm	< 5ppm
Marking Ink (Plastic) See Annex 7 for the detail.	< 2ppm	< 2ppm	< 2ppm	21ppm ^{*6}	< 5ppm	< 5ppm

*1 Other products may contain equal or less amount of Pb as T10A220E value shown here.

*2 Less than 2ppm Pb content overall, excluding Pb from the die bonding solder and the passivation glass on the silicon die.

*3 1.1wt% or 4.0mg of Pb (lead) content overall, including the RoHS-exempted use of Pb.

*4 Pb (lead) contained in passivation glass is exempted from restriction by Annex III 7(c)-I.

*5 Pb (lead) contained in die bonding solder is exempted from restriction by RoHS Annex III 7(a)..

*6 Pb (lead) contained in outside lead finish, silicon die and marking ink are considered as process contamination or naturally-occurring impurity in raw materials. Littelfuse does not add Pb intentionally.

Please refer to Annex 8 of this report for the applicable exemptions of RoHS (EU Directive 2011/65/EU)

Table 2A: RoHS-regulated substance in raw materials (Two-Chip Assembly)

Components	Analysis Result					
	Cd Cadmium	Cr Chromium	Hg Mercury	Pb Lead	PBB	PBDE
As Component Total ^{*1} (Values of P3002GBLRP, as the representative of SIDACtor/SIDAC DO-15 Two-Chip Package)	< 2ppm	< 2ppm	< 2ppm	< 2ppm ^{*2} (1.8% ^{*3})	< 5ppm	< 5ppm
Epoxy Resin compound (epoxy resin, SiO ₂ filler and Sb ₂ O ₃ and Bromides as fire retardant) See Annex 1 for the detail.	< 2ppm	< 2ppm	< 2ppm	< 2ppm	< 5ppm	< 5ppm
Lead and Copper Spacer (Copper Alloy) See Annex 3 & 3A for the detail.	< 2ppm	< 2ppm	< 2ppm	< 2ppm	-----	-----
Outside lead finish (Matte-Tin Plated) See Annex 2 for the detail.	< 2ppm	< 2ppm	< 2ppm	68ppm ^{*6}	< 5ppm	< 5ppm
Silicon Die (Silicon + Ni electrode) See Annex 5 for the detail.	< 2ppm	< 2ppm	< 2ppm	48ppm ^{*6}	< 5ppm	< 5ppm
Passivation Glass (Glass containing PbO) See Annex 6 for the detail.	< 2ppm	< 2ppm	< 2ppm	40% ^{*4}	< 5ppm	< 5ppm
Die Bonding Solder (Pb 92.5%) See Annex 4 for the detail.	< 2ppm	< 2ppm	< 2ppm	92.5% ^{*5}	< 5ppm	< 5ppm
Marking Ink (Plastic) See Annex 7 for the detail.	< 2ppm	< 2ppm	< 2ppm	21ppm ^{*6}	< 5ppm	< 5ppm

*1 Other products may contain equal or less amount of Pb as P3002GBLRP value shown here.

*2 Less than 2ppm Pb content overall, excluding Pb from the die bonding solder and the passivation glass on the silicon die.

*3 1.8wt% or 7.2mg of Pb (lead) content overall, including the RoHS-exempted use of Pb.

*4 Pb (lead) contained in passivation glass is exempted from restriction by Annex III 7(c)-I.

*5 Pb (lead) contained in die bonding solder is exempted from restriction by RoHS Annex III 7(a)..

*6 Pb (lead) contained in outside lead finish, silicon die and marking ink are considered as process contamination or naturally-occurring impurity in raw materials. Littelfuse does not add Pb intentionally.

Please refer to Annex 8 of this report for the applicable exemptions of RoHS (EU Directive 2011/65/EU)

Annex 1: Analysis Result of Molding Compound (Page 1 of 5)**Intertek**

TEST REPORT

Number : WUXH0000574101

Applicant : CONCORD SEMICONDUCTOR(WUXI) CO., LTD.
EAST 1#, ZHENFA 6 ROAD, SHUO FANG
INDUSTRIAL PARK WUXI NATIONAL HIGH-TECH
DEVELOPMENT ZONE, WUXI, JIANGSU, CHINA
Attn : ZHANG XIAOPENG

Date : Aug 08, 2011

Sample Description As Declared:

One (1) Piece Of Submitted Sample Said To Be : **Brown Epoxy Molding Compound.**

Item Name : Epoxy Molding Compound.
Vendor : Chang Chun Sb(Chang Shu) Co.,LTD.
Component Or Part No. : EME-1100RG.
Test Item : Cd, Pb, Hg, CrVI, PBBs, PBDEs.

Tests Conducted:

As Requested By The Applicant, For Details Refer To Attached Pages

Summary:

<u>Tested Sample</u>	<u>Standard</u>	<u>Result</u>
Submitted Sample	With Reference To Test Method Of IEC 62321 Edition 1.0: 2008 And Maximum Concentration Limits Quoted From RoHS Directives 2002/95/EC And Amendment 2005/618/EC	PASS

Prepared And Checked By:
For Intertek Testing Services Wuxi Ltd.



Jessica Lu
General Manager

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Annex 1: Analysis Result of Molding Compound (Page 2 of 5)



TEST REPORT

Number : WUXH0000574101

Tests Conducted (As Requested By The Applicant)

- 1 RoHS Directives Test
 - (A) Test Result Summary:

Testing Item	Result
Cadmium (Cd) Content (mg/kg)	ND
Lead (Pb) Content (mg/kg)	ND
Mercury (Hg) Content (mg/kg)	ND
Chromium (VI) (Cr ⁶⁺) Content (mg/kg)(For Non-Metal)	ND
Polybrominated Biphenyls (PBBs)(mg/kg)	
Monobrominated Biphenyls (MonoBB)	ND
Dibrominated Biphenyls (DiBB)	ND
Tribrominated Biphenyls (TriBB)	ND
Tetrabrominated Biphenyls (TetraBB)	ND
Pentabrominated Biphenyls (PentaBB)	ND
Hexabrominated Biphenyls (HexaBB)	ND
Heptabrominated Biphenyls (HeptaBB)	ND
Octabrominated Biphenyls (OctaBB)	ND
Nonabrominated Biphenyls (NonaBB)	ND
Decabrominated Biphenyl (DecaBB)	ND
Polybrominated Diphenyl Ethers (PBDEs)(mg/kg)	
Monobrominated Diphenyl Ethers (MonoBDE)	ND
Dibrominated Diphenyl Ethers (DiBDE)	ND
Tribrominated Diphenyl Ethers (TriBDE)	ND
Tetrabrominated Diphenyl Ethers (TetraBDE)	ND
Pentabrominated Diphenyl Ethers (PentaBDE)	ND
Hexabrominated Diphenyl Ethers (HexaBDE)	ND
Heptabrominated Diphenyl Ethers (HeptaBDE)	ND
Octabrominated Diphenyl Ethers (OctaBDE)	ND
Nonabrominated Diphenyl Ethers (NonaBDE)	ND
Decabrominated Diphenyl Ether (DecaBDE)	ND

Remark:

mg/kg = Milligram Per Kilogram = ppm

ND = Not Detected

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Annex 1: Analysis Result of Molding Compound (Page 3 of 5)



TEST REPORT

Number : WUXH0000574101

Tests Conducted (As Requested By The Applicant)

(B)RoHS Requirement:

Restricted Substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr ⁶⁺)	0.1% (1000 mg/kg)
Polybrominated Biphenyls (PBBs)	0.1% (1000 mg/kg)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000 mg/kg)

The Above Limits Were Quoted From 2002/95/EC And Amendment 2005/618/EC For Homogeneous Material.

(C) Test Method:

Testing Item	Testing Method	Reporting Limit
Cadmium (Cd)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Lead (Pb)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Mercury (Hg)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Chromium (VI) (Cr ⁶⁺) Content (For Non-Metal)	With Reference To IEC 62321 Edition 1.0: 2008, By Alkaline Digestion And Determined By UV-VIS Spectrophotometer	1 mg/kg
Polybrominated Biphenyls (PBBs)& Polybrominated Diphenyl Ethers (PBDEs)	With Reference To IEC 62321 Edition 1.0: 2008, By Solvent Extraction And Determined By GC-MSD And Further HPLC Confirmation When Necessary.	5 mg/kg

Date Sample Received: Aug 01, 2011

Testing Period: Aug 01, 2011 To Aug 04, 2011

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Annex 1: Analysis Result of Molding Compound (Page 4 of 5)



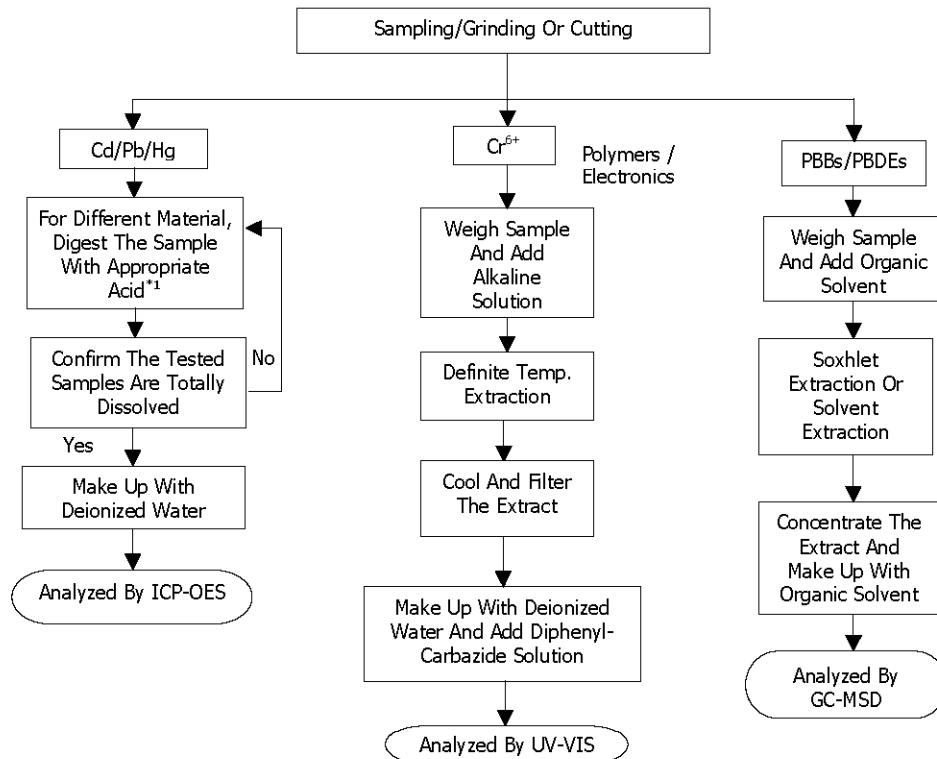
TEST REPORT

Number : WUXH0000574101

Tests Conducted (As Requested By The Applicant)

(D) Measurement Flowchart:

Reference Standard: IEC 62321 Edition 1.0: 2008


 Chemist: Inorganic (Ann Luo/Fred Wang/Ally Wan)
 Organic (Jenny Xu/Cherry Sun)

Remarks:

*1: List Of Appropriate Acid:

Material	Acid Added For Digestion
Polymers	HNO ₃ , HCL, HF, H ₂ O ₂ , H ₃ BO ₃
Metals	HNO ₃ , HCL, HF
Electronics	HNO ₃ , HCL, H ₂ O ₂ , HBF ₄

Photo

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Annex 1: Analysis Result of Molding Compound (Page 5 of 5)

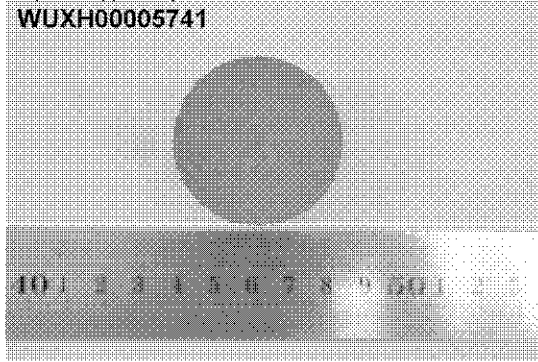
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TEST REPORT

Number : WUXH0000574101

Tests Conducted (As Requested By The Applicant)

WUXH00005741



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Annex 2: Analysis Result of Lead Finish (Page 1 of 6)

TEST REPORT

Number : WUXH00005716

Applicant : CONCORD SEMICONDUCTOR(WUXI) CO., LTD.
EAST 1#, ZHENFA 6 ROAD, SHUO FANG
INDUSTRIAL PARK WUXI NATIONAL HIGH-TECH
DEVELOPMENT ZONE, WUXI, JIANGSU, CHINA
Attn : ZHANG XIAOPENG

Date : Aug 04, 2011

Sample Description As Declared:

One (1) Piece Of Submitted Sample Said To Be : **Black Plastic With Silvery Metal Pin.**

Item Name : Tin Plating-Axial.
Vendor : Zhangjiagang Liangshen Plating Co.,.
Component Or Part No. : Pure Matte Tin.
Test Item : Cd, Pb, Hg, CrVI, F, Cl, Br, I.

Tests Conducted:

As Requested By The Applicant, For Details Refer To Attached Pages

Prepared And Checked By:
For Intertek Testing Services Wuxi Ltd.



Jessica Lu
General Manager

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Annex 2: Analysis Result of Lead Finish (Page 2 of 6)



TEST REPORT

Number : WUXH00005716

Tests Conducted (As Requested By The Applicant)

1 RoHS Directives Test

(A) Test Result Summary:

Testing Item	Result
	(1)
Cadmium (Cd) Content (mg/kg)/Plating	ND
Lead (Pb) Content (mg/kg)/Plating	68
Mercury (Hg) Content (mg/kg)/Plating	ND
Chromium (VI)(Cr ⁶⁺) Result (By Boiling Water Extraction On Metal) (mg/kg With 50cm ²)	N

Remark:

mg/kg = Milligram Per Kilogram = ppm

 mg/kg With 50cm² = Milligram Per Kilogram With 50 Square Centimeter

ND = Not Detected

N=Negative

Tested Component:

(1) Metal Pin Plating.

(B)RoHS Requirement:

Restricted Substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr ⁶⁺)	0.1% (1000 mg/kg)

The Above Limits Were Quoted From 2002/95/EC And Amendment 2005/618/EC For Homogeneous Material.

(C) Test Method:

Testing Item	Testing Method	Reporting Limit
Cadmium (Cd)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Lead (Pb)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Mercury (Hg)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Chromium (VI) (Cr ⁶⁺) Content (For Metal)	With Reference To IEC 62321 Edition 1.0: 2008, By Boiling Water Extraction And Determined By UV-VIS Spectrophotometer	0.02mg/kg With 50cm ² (In Testing Solution)

Date Sample Received: Aug 01, 2011

Testing Period: Aug 01, 2011 To Aug 04, 2011

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Annex 2: Analysis Result of Lead Finish (Page 3 of 6)



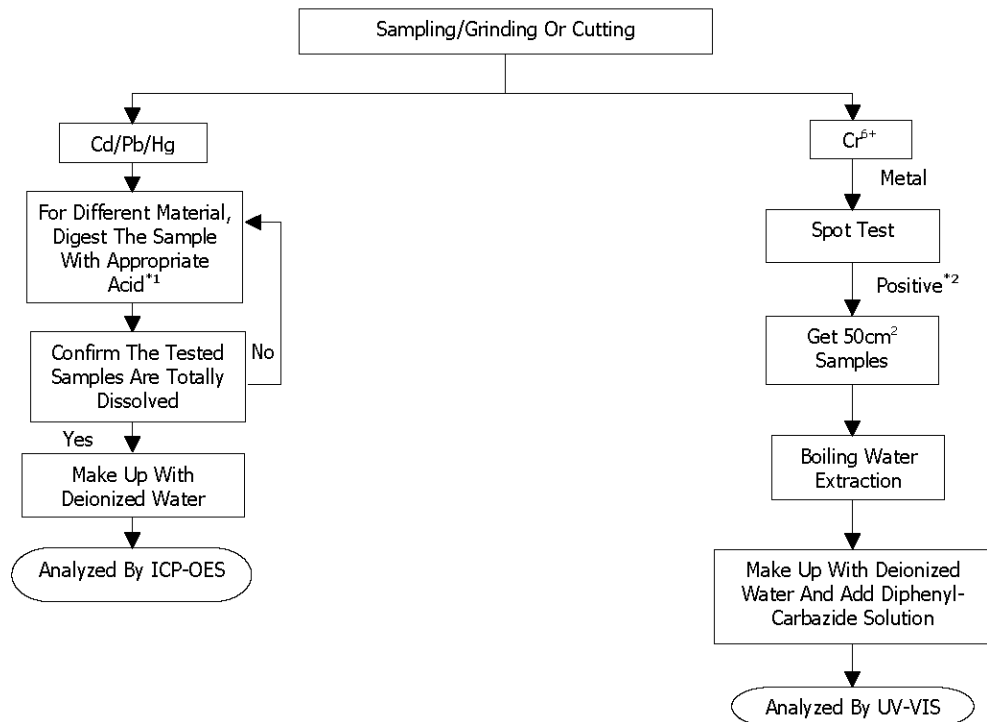
TEST REPORT

Number : WUXH00005716

Tests Conducted (As Requested By The Applicant)

(D) Measurement Flowchart:

Reference Standard: IEC 62321 Edition 1.0: 2008



Chemist: Inorganic (Ann Luo/Fred Wang/Ally Wan)

Remarks:

*1: List Of Appropriate Acid:

Material	Acid Added For Digestion
Polymers	HNO ₃ , HCL, HF, H ₂ O ₂ , H ₃ BO ₃
Metals	HNO ₃ , HCL, HF
Electronics	HNO ₃ , HCL, H ₂ O ₂ , HBF ₄

*2: If The Result Of Spot Test Is Positive, Chromium VI Would Be Determined As Detected.

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Annex 2: Analysis Result of Lead Finish (Page 4 of 6)



TEST REPORT

Number : WUXH00005716

Tests Conducted (As Requested By The Applicant)

- 2 Halogen Test
 (I) Test Result Summary :
 Halogen Content:

<u>Testing Item</u>	<u>Result (ppm)</u>
	(2)
Fluorine (F) Content	ND
Chlorine (Cl)Content	94
Bromine (Br) Content	ND
Iodine (I) Content	ND

Remarks : ppm = Parts Per Million = mg/kg
 ND = Not Detected

Tested Component:
 (2) Black Plastic.

Date Sample Received: Aug 01, 2011
 Testing Period: Aug 01, 2011 To Aug 04, 2011

(II) Test Method :

<u>Testing Item</u>	<u>Testing Method</u>	<u>Reporting Limit</u>
Halogen (F,Cl, Br,I) Content	With Reference To EN 14582:2007 By Combustion In A Calorimetric Bomb And Determined By Ion Chromatography	50 ppm

Remarks : Reporting Limit = Quantitation Limit Of Analyte In Sample

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Annex 2: Analysis Result of Lead Finish (Page 5 of 6)

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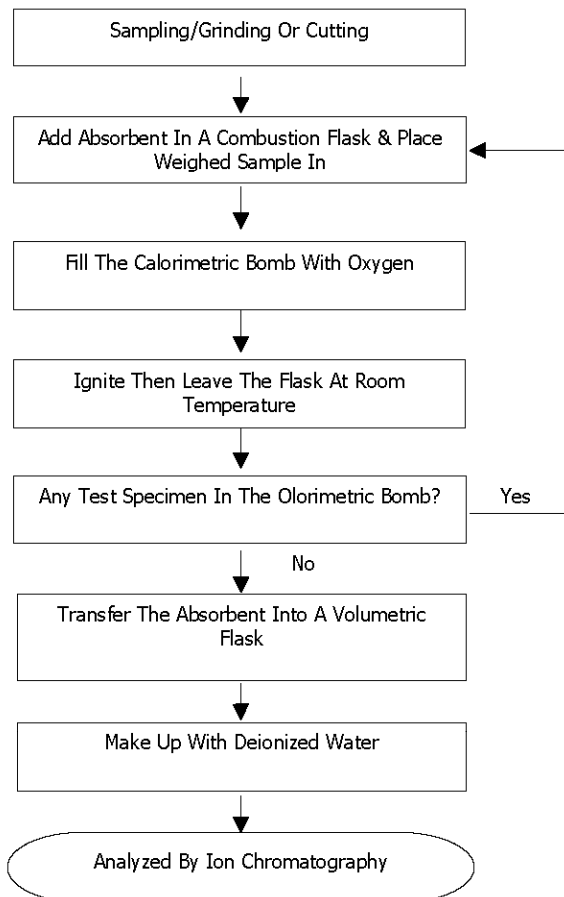
TEST REPORT

Number : WUXH00005716

Tests Conducted (As Requested By The Applicant)

(III) Measurement Flowchart:

Test For Halogen Content Reference Method: EN 14582:2007



Chemist: Fred Wang/ Ally Wan Ally Wan

Page 5 Of 6

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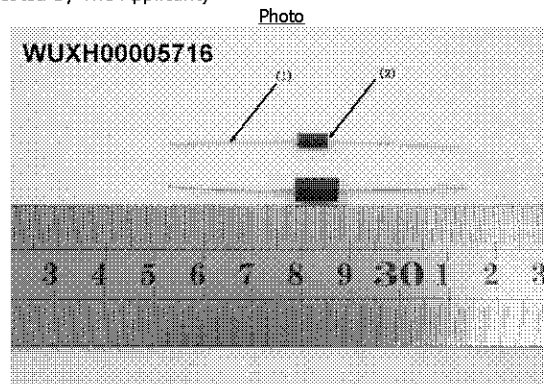
Annex 2: Analysis Result of Lead Finish (Page 6 of 6)

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TEST REPORT

Number : WUXH00005716

Tests Conducted (As Requested By The Applicant)



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Annex 3: Analysis Result of Lead (Page 1 of 4)**Intertek**

TEST REPORT

Number : WUXH00005708

Applicant : CONCORD SEMICONDUCTOR(WUXI) CO., LTD.
EAST 1#,ZHENFA 6 ROAD, SHUO FANG INDUSTRIAL PARK
WUXI NATIONAL HIGH-TECH DEVELOPMENT ZONE,
WUXI,JIANGSU,CHINA
Attn : ZHANG XIAOPENG

Date : Aug 04, 2011

Sample Description As Declared:

One (1) Piece Of Submitted Sample Said To Be : **Golden Yellow Metal.**

Item Name : Lead Wire.
Vendor : Shanghai Bontech Enterprise.
Component Or Part No. : Alloy Copper.
Test Item : Cd,Pb,Hg,CrVI.

Tests Conducted:

As Requested By The Applicant, For Details Refer To Attached Pages

Summary:

<u>Tested Sample</u>	<u>Standard</u>	<u>Result</u>
Submitted Sample	With Reference To Test Method Of IEC 62321 Edition 1.0: 2008 And Maximum Concentration Limits Quoted From RoHS Directives 2002/95/EC And Amendment 2005/618/EC	PASS

Prepared And Checked By:
For Intertek Testing Services Wuxi Ltd.



Jessica Lu
General Manager

Page 1 Of 4

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Annex 3: Analysis Result of Lead (Page 2 of 4)



TEST REPORT

Number : WUXH00005708

Tests Conducted (As Requested By The Applicant)

- 1 RoHS Directives Test
(A) Test Result Summary:

Testing Item	Result
Cadmium (Cd) Content (mg/kg)	ND
Lead (Pb) Content (mg/kg)	ND
Mercury (Hg) Content (mg/kg)	ND
Chromium (VI)(Cr ⁶⁺) Result (By Boiling Water Extraction On Metal) (mg/kg With 50cm ²)	N

Remark:

mg/kg = Milligram Per Kilogram = ppm

 mg/kg With 50cm² = Milligram Per Kilogram With 50 Square Centimeter

ND = Not Detected

N=Negative

(B)RoHS Requirement:

Restricted Substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr ⁶⁺)	0.1% (1000 mg/kg)

The Above Limits Were Quoted From 2002/95/EC And Amendment 2005/618/EC For Homogeneous Material.

(C) Test Method:

Testing Item	Testing Method	Reporting Limit
Cadmium (Cd)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Lead (Pb)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Mercury (Hg)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Chromium (VI) (Cr ⁶⁺) Content (For Metal)	With Reference To IEC 62321 Edition 1.0: 2008, By Boiling Water Extraction And Determined By UV-VIS Spectrophotometer	0.02mg/kg With 50cm ² (In Testing Solution)

Date Sample Received: Aug 01, 2011

Testing Period: Aug 01, 2011 To Aug 03, 2011

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Intertek Testing Services Wuxi Ltd.

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Annex 3: Analysis Result of Lead (Page 3 of 4)



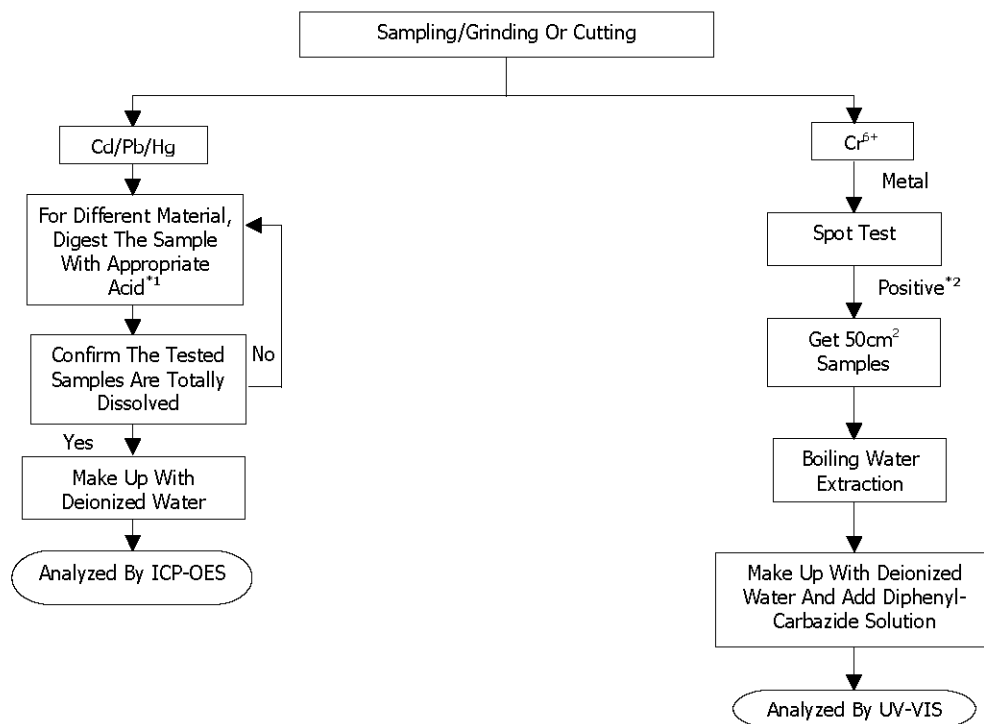
TEST REPORT

Number : WUXH00005708

Tests Conducted (As Requested By The Applicant)

(D) Measurement Flowchart:

Reference Standard: IEC 62321 Edition 1.0: 2008



Chemist: Inorganic (Ann Luo/Fred Wang/Ally Wan)

Remarks:

*1: List Of Appropriate Acid:

Material	Acid Added For Digestion
Polymers	HNO ₃ , HCL, HF, H ₂ O ₂ , H ₃ BO ₃
Metals	HNO ₃ , HCL, HF
Electronics	HNO ₃ , HCL, H ₂ O ₂ , HBF ₄

*2: If The Result Of Spot Test Is Positive, Chromium VI Would Be Determined As Detected.

Page 3 Of 4

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Annex 3: Analysis Result of Lead (Page 4 of 4)

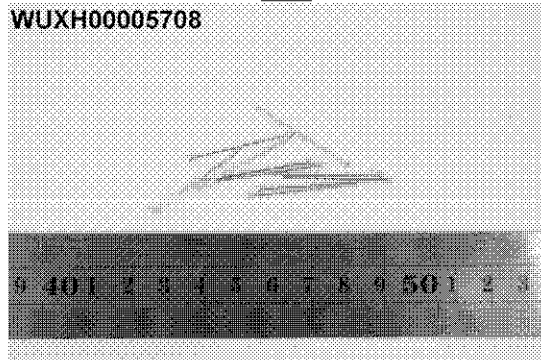
Intertek

TEST REPORT

Number : WUXH00005708

Tests Conducted (As Requested By The Applicant)

Photo



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Annex 3A: Analysis Result of Copper spacer (Page 1 of 4)**Intertek**

TEST REPORT

Number : WUXH00005722

Applicant : CONCORD SEMICONDUCTOR(WUXI) CO., LTD.
EAST 1#,ZHENFA 6 ROAD, SHUO FANG INDUSTRIAL PARK
WUXI NATIONAL HIGH-TECH DEVELOPMENT ZONE,
WUXI,JIANGSU,CHINA
Attn : ZHANG XIAOPENG

Date : Aug 04, 2011

Sample Description As Declared:

One (1) Piece Of Submitted Sample Said To Be : **Golden Yellow Metal.**

Item Name : Copper Spacer.
Vendor : Mou Ih Metal Preform CO., LTD.
Component Or Part No. : Copper.
Test Item : Cd,Pb,Hg,CrVI.

Tests Conducted:

As Requested By The Applicant, For Details Refer To Attached Pages

Summary:

<u>Tested Sample</u>	<u>Standard</u>	<u>Result</u>
Submitted Sample	With Reference To Test Method Of IEC 62321 Edition 1.0: 2008 And Maximum Concentration Limits Quoted From RoHS Directives 2002/95/EC And Amendment 2005/618/EC	PASS

Prepared And Checked By:
For Intertek Testing Services Wuxi Ltd.



Jessica Lu
General Manager

Page 1 Of 4

Intertek Testing Services Wuxi Ltd.No.8 Fubei Road, Xishan Economic Development Zone,
Wuxi 214101, Jiangsu, China

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Annex 3A: Analysis Result of Copper spacer (Page 2 of 4)



TEST REPORT

Number : WUXH00005722

Tests Conducted (As Requested By The Applicant)
1 RoHS Directives Test
 (A) Test Result Summary:

Testing Item	Result
Cadmium (Cd) Content (mg/kg)	ND
Lead (Pb) Content (mg/kg)	ND
Mercury (Hg) Content (mg/kg)	ND
Chromium (VI)(Cr ⁶⁺) Result (By Boiling Water Extraction On Metal) (mg/kg With 50cm ²)	N

Remark:

mg/kg = Milligram Per Kilogram = ppm

 mg/kg With 50cm² = Milligram Per Kilogram With 50 Square Centimeter

ND = Not Detected

N=Negative

(B)RoHS Requirement:

Restricted Substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr ⁶⁺)	0.1% (1000 mg/kg)

The Above Limits Were Quoted From 2002/95/EC And Amendment 2005/618/EC For Homogeneous Material.

(C) Test Method:

Testing Item	Testing Method	Reporting Limit
Cadmium (Cd)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Lead (Pb)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Mercury (Hg)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Chromium (VI) (Cr ⁶⁺) Content (For Metal)	With Reference To IEC 62321 Edition 1.0: 2008, By Boiling Water Extraction And Determined By UV-VIS Spectrophotometer	0.02mg/kg With 50cm ² (In Testing Solution)

Date Sample Received: Aug 01, 2011

Testing Period: Aug 01, 2011 To Aug 03, 2011

Page 2 Of 4

Intertek Testing Services Wuxi Ltd.

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Annex 3A: Analysis Result of Copper spacer (Page 3 of 4)



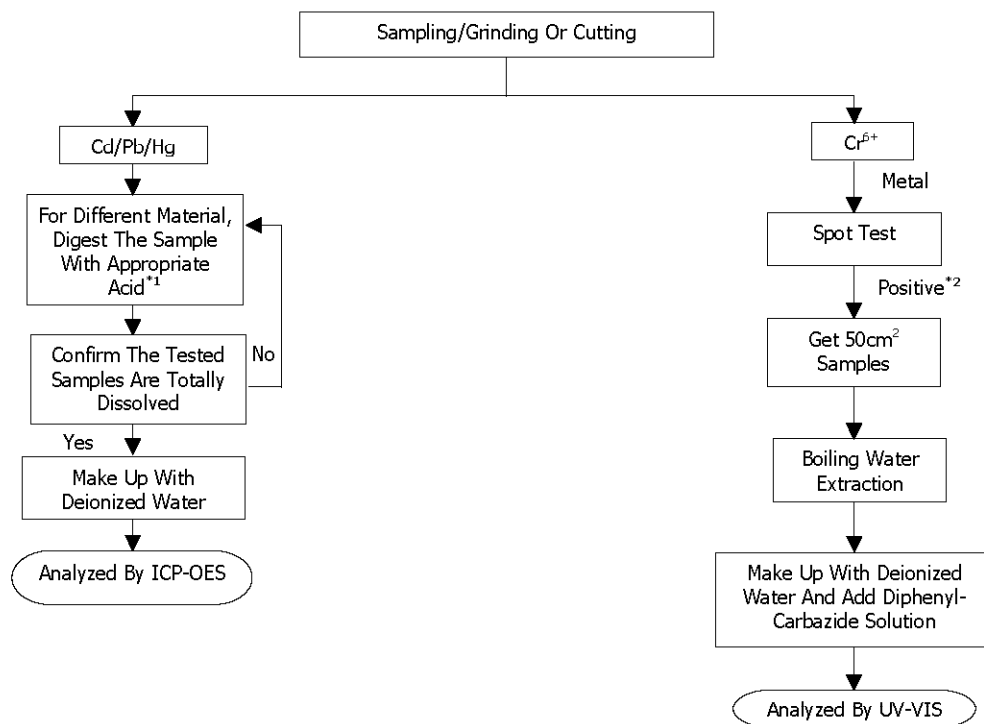
TEST REPORT

Number : WUXH00005722

Tests Conducted (As Requested By The Applicant)

(D) Measurement Flowchart:

Reference Standard: IEC 62321 Edition 1.0: 2008



Chemist: Inorganic (Ann Luo/Fred Wang/Ally Wan)

Remarks:

*1: List Of Appropriate Acid:

Material	Acid Added For Digestion
Polymers	HNO ₃ , HCL, HF, H ₂ O ₂ , H ₃ BO ₃
Metals	HNO ₃ , HCL, HF
Electronics	HNO ₃ , HCL, H ₂ O ₂ , HBF ₄

*2: If The Result Of Spot Test Is Positive, Chromium VI Would Be Determined As Detected.

Page 3 Of 4

Intertek Testing Services Wuxi Ltd.

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Annex 3A: Analysis Result of Copper spacer (Page 4 of 4)

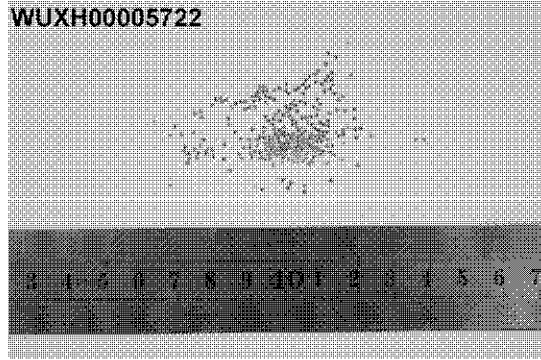
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TEST REPORT

Number : WUXH00005722

Tests Conducted (As Requested By The Applicant)

Photo



Page 4 Of 4

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Annex 4: Analysis Result of Die Bonding Solder (page 1 of 6)

TEST REPORT

Number : WUXH00005736

Applicant : CONCORD SEMICONDUCTOR(WUXI) CO., LTD.
EAST 1#, ZHENFA 6 ROAD, SHUO FANG
INDUSTRIAL PARK WUXI NATIONAL HIGH-TECH
DEVELOPMENT ZONE, WUXI, JIANGSU, CHINA
Attn : ZHANG XIAOPENG

Date : Aug 05, 2011

Sample Description As Declared:

One (1) Piece Of Submitted Sample Said To Be : **Silver Metal.**

Item Name : Solder Wafer.
Vendor : Coining Inc.
Component Or Part No. : Pb:Sn=90:10.
Test Item : Cd, Pb, Hg, CrVI, F, Cl, Br, I.

Tests Conducted:

As Requested By The Applicant, For Details Refer To Attached Pages

Prepared And Checked By:
For Intertek Testing Services Wuxi Ltd.



Jessica Lu
General Manager

Page 1 Of 6

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Annex 4: Analysis Result of Die Bonding Solder (page 2 of 6)



TEST REPORT

Number : WUXH00005736

Tests Conducted (As Requested By The Applicant)

1 RoHS Directives Test

(A) Test Result Summary:

Testing Item	Result
Cadmium (Cd) Content (mg/kg)	ND
Lead (Pb) Content (mg/kg)	908500
Mercury (Hg) Content (mg/kg)	ND
Chromium (VI)(Cr ⁶⁺) Result (By Boiling Water Extraction On Metal) (mg/kg With 50cm ²)	N

Remark:

mg/kg = Milligram Per Kilogram = ppm

 mg/kg With 50cm² = Milligram Per Kilogram With 50 Square Centimeter

ND = Not Detected

N=Negative

#=The Result Is For Reference Only.

(B)RoHS Requirement:

Restricted Substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr ⁶⁺)	0.1% (1000 mg/kg)

The Above Limits Were Quoted From 2002/95/EC And Amendment 2005/618/EC For Homogeneous Material.

(C) Test Method:

Testing Item	Testing Method	Reporting Limit
Cadmium (Cd)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Lead (Pb)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Mercury (Hg)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Chromium (VI) (Cr ⁶⁺) Content (For Metal)	With Reference To IEC 62321 Edition 1.0: 2008, By Boiling Water Extraction And Determined By UV-VIS Spectrophotometer	0.02mg/kg With 50cm ² (In Testing Solution)

Date Sample Received: Aug 01, 2011

Testing Period: Aug 01, 2011 To Aug 05, 2011

Page 2 Of 6

Intertek Testing Services Wuxi Ltd.

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Annex 4: Analysis Result of Die Bonding Solder (page 3 of 6)



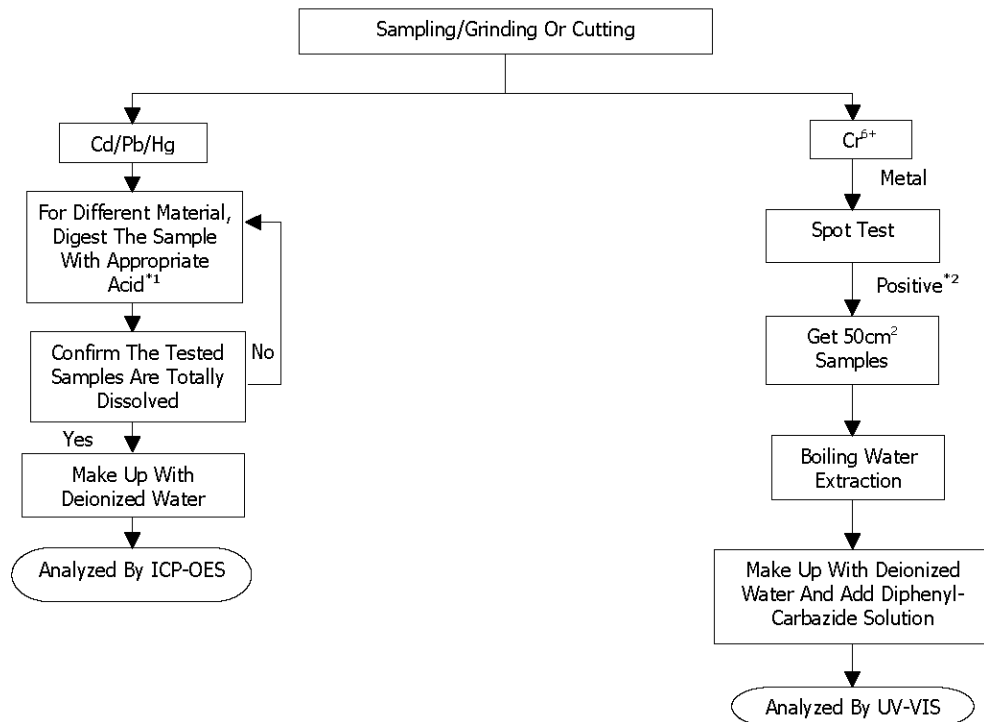
TEST REPORT

Number : WUXH00005736

Tests Conducted (As Requested By The Applicant)

(D) Measurement Flowchart:

Reference Standard: IEC 62321 Edition 1.0: 2008



Chemist: Inorganic (Ann Luo/Fred Wang/Ally Wan)

Remarks:

*1: List Of Appropriate Acid:

Material	Acid Added For Digestion
Polymers	HNO ₃ , HCL, HF, H ₂ O ₂ , H ₃ BO ₃
Metals	HNO ₃ , HCL, HF
Electronics	HNO ₃ , HCL, H ₂ O ₂ , HBF ₄

*2: If The Result Of Spot Test Is Positive, Chromium VI Would Be Determined As Detected.

Page 3 Of 6

Intertek Testing Services Wuxi Ltd.

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Annex 4: Analysis Result of Die Bonding Solder (page 4 of 6)



TEST REPORT

Number : WUXH00005736

Tests Conducted (As Requested By The Applicant)

- 2 Halogen Test
 (I) Test Result Summary :
 Halogen Content:

Testing Item	Result (ppm)
Fluorine (F) Content	ND
Chlorine (Cl)Content	ND
Bromine (Br) Content	ND
Iodine (I) Content	ND

Remarks : ppm = Parts Per Million = mg/kg
 ND = Not Detected

Date Sample Received: Aug 01, 2011
 Testing Period: Aug 01, 2011 To Aug 04, 2011

(II) Test Method :

Testing Item	Testing Method	Reporting Limit
Halogen (F,Cl, Br,I) Content	With Reference To EN 14582:2007 By Combustion In A Calorimetric Bomb And Determined By Ion Chromatography	50 ppm

Remarks : Reporting Limit = Quantitation Limit Of Analyte In Sample

Page 4 Of 6

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Annex 4: Analysis Result of Die Bonding Solder (page 5 of 6)**Intertek**

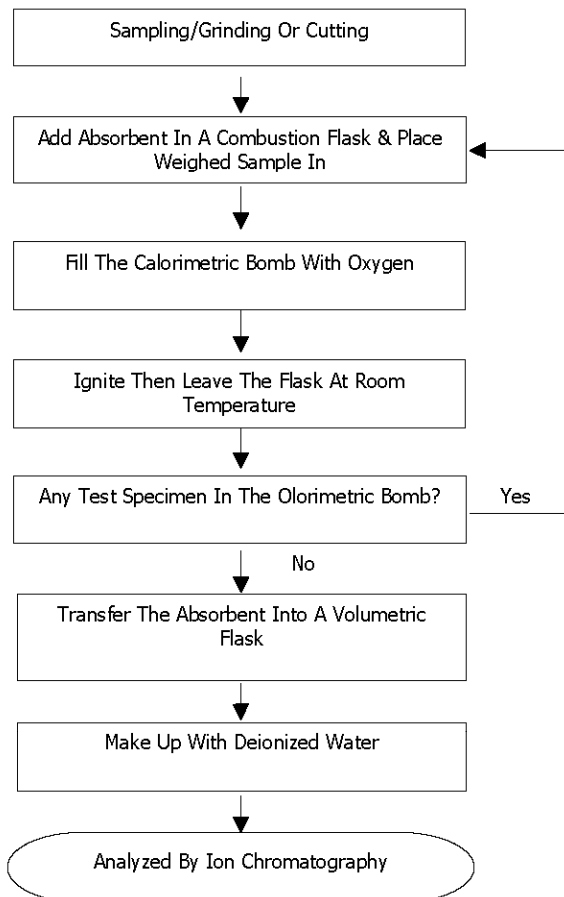
TEST REPORT

Number : WUXH00005736

Tests Conducted (As Requested By The Applicant)

(III) Measurement Flowchart:

Test For Halogen Content Reference Method: EN 14582:2007



Chemist: Fred Wang/ Ally Wan Ally Wan

Page 5 Of 6

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Annex 4: Analysis Result of Die Bonding Solder (page 6 of 6)

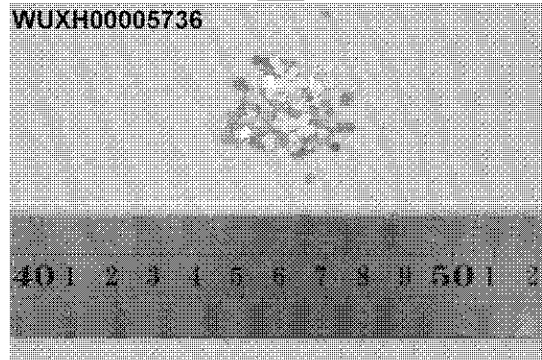
Intertek

TEST REPORT

Number : WUXH00005736

Tests Conducted (As Requested By The Applicant)

Photo



Page 6 Of 6

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Annex 5: Analysis Result of Ni-plated Wafer (Page 1 of 5)**Intertek**

TEST REPORT

Number : WUXH00005703

Applicant : CONCORD SEMICONDUCTOR(WUXI) CO., LTD.
EAST 1#, ZHENFA 6 ROAD, SHUO FANG
INDUSTRIAL PARK WUXI NATIONAL HIGH-TECH
DEVELOPMENT ZONE, WUXI, JIANGSU, CHINA
Attn : ZHANG XIAOPENG

Date : Aug 04, 2011

Sample Description As Declared:

One (1) Piece Of Submitted Sample Said To Be : **Silvery Grey Metal.**

Item Name : Silicon Wafer With Nickel Plating.

Vendor : Concord.

Component Or Part No. : Silicon + Nickel.

Test Item : Cd, Pb, Hg, CrVI, PBBs, PBDEs.

Remark : As Requested By The Applicant, Tested As A Whole And Sampled Randomly.

Tests Conducted:

As Requested By The Applicant, For Details Refer To Attached Pages

Prepared And Checked By:
For Intertek Testing Services Wuxi Ltd.



Jessica Lu
General Manager

Page 1 Of 5

Intertek Testing Services Wuxi Ltd.No.8 Fubei Road, Xishan Economic Development Zone,
Wuxi 214101, Jiangsu, China

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Annex 5: Analysis Result of Ni-plated Wafer (Page 2 of 5)



TEST REPORT

Number : WUXH00005703

Tests Conducted (As Requested By The Applicant)
1 RoHS Directives Test
(A) Test Result Summary:

Testing Item	Result
Cadmium (Cd) Content (mg/kg)	ND
Lead (Pb) Content (mg/kg)	48
Mercury (Hg) Content (mg/kg)	ND
Chromium (VI) (Cr ^{VI}) Content (mg/kg)(For Non-Metal)	ND
Polybrominated Biphenyls (PBBs)(mg/kg)	
Monobrominated Biphenyls (MonoBB)	ND
Dibrominated Biphenyls (DiBB)	ND
Tribrominated Biphenyls (TriBB)	ND
Tetrabrominated Biphenyls (TetraBB)	ND
Pentabrominated Biphenyls (PentaBB)	ND
Hexabrominated Biphenyls (HexaBB)	ND
Heptabrominated Biphenyls (HeptaBB)	ND
Octabrominated Biphenyls (OctaBB)	ND
Nonabrominated Biphenyls (NonaBB)	ND
Decabrominated Biphenyl (DecaBB)	ND
Polybrominated Diphenyl Ethers (PBDEs)(mg/kg)	
Monobrominated Diphenyl Ethers (MonoBDE)	ND
Dibrominated Diphenyl Ethers (DiBDE)	ND
Tribrominated Diphenyl Ethers (TriBDE)	ND
Tetrabrominated Diphenyl Ethers (TetraBDE)	ND
Pentabrominated Diphenyl Ethers (PentaBDE)	ND
Hexabrominated Diphenyl Ethers (HexaBDE)	ND
Heptabrominated Diphenyl Ethers (HeptaBDE)	ND
Octabrominated Diphenyl Ethers (OctaBDE)	ND
Nonabrominated Diphenyl Ethers (NonaBDE)	ND
Decabrominated Diphenyl Ether (DecaBDE)	ND

Remark:

mg/kg = Milligram Per Kilogram = ppm

ND = Not Detected

Page 2 Of 5

Intertek Testing Services Wuxi Ltd.

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Annex 5: Analysis Result of Ni-plated Wafer (Page 3 of 5)



TEST REPORT

Number : WUXH00005703

Tests Conducted (As Requested By The Applicant)

(B)RoHS Requirement:

Restricted Substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr ⁶⁺)	0.1% (1000 mg/kg)
Polybrominated Biphenyls (PBBs)	0.1% (1000 mg/kg)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000 mg/kg)

The Above Limits Were Quoted From 2002/95/EC And Amendment 2005/618/EC For Homogeneous Material.

(C) Test Method:

Testing Item	Testing Method	Reporting Limit
Cadmium (Cd)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Lead (Pb)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Mercury (Hg)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Chromium (VI) (Cr ⁶⁺) Content (For Non-Metal)	With Reference To IEC 62321 Edition 1.0: 2008, By Alkaline Digestion And Determined By UV-VIS Spectrophotometer	1 mg/kg
Polybrominated Biphenyls (PBBs) & Polybrominated Diphenyl Ethers (PBDEs)	With Reference To IEC IEC 62321 Edition 1.0: 2008, By Solvent Extraction And Determined By GC/MS And Further HPLC Confirmation When Necessary.	5 mg/kg

Date Sample Received: Aug 01, 2011

Testing Period: Aug 01, 2011 To Aug 04, 2011

Page 3 Of 5

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Annex 5: Analysis Result of Ni-plated Wafer (Page 4 of 5)



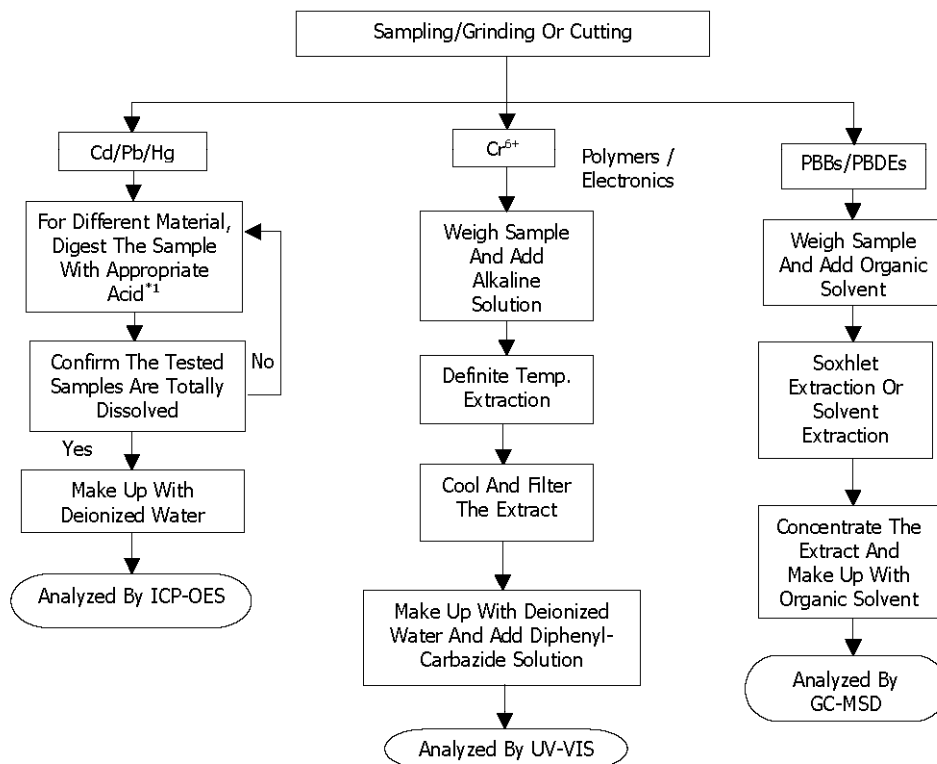
TEST REPORT

Number : WUXH00005703

Tests Conducted (As Requested By The Applicant)

(D) Measurement Flowchart:

Reference Standard: IEC 62321 Edition 1.0: 2008


 Chemist: Inorganic (Ann Luo/Fred Wang/Ally Wan)
 Organic (Jenny Xu/Cherry Sun)

Remarks:

*1: List Of Appropriate Acid:

Material	Acid Added For Digestion
Polymers	HNO ₃ , HCL, HF, H ₂ O ₂ , H ₃ BO ₃
Metals	HNO ₃ , HCL, HF
Electronics	HNO ₃ , HCL, H ₂ O ₂ , HBF ₄

Page 4 Of 5

Intertek Testing Services Wuxi Ltd.

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Annex 5: Analysis Result of Ni-plated Wafer (Page 5 of 5)

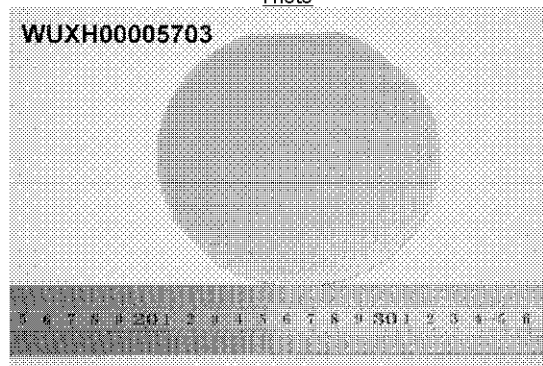
Intertek

TEST REPORT

Number : WUXH00005703

Tests Conducted (As Requested By The Applicant)

Photo



Page 5 Of 5

Intertek Testing Services Wuxi Ltd.
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Annex 6: Analysis Result of Passivation Glass (Page 1 of 7)**Intertek**

TEST REPORT

Number : WUXH00005704

Applicant : CONCORD SEMICONDUCTOR(WUXI) CO., LTD.
EAST 1#, ZHENFA 6 ROAD, SHUO FANG
INDUSTRIAL PARK WUXI NATIONAL HIGH-TECH
DEVELOPMENT ZONE, WUXI, JIANGSU, CHINA
Attn : ZHANG XIAOPENG

Date : Aug 05, 2011

Sample Description As Declared:

One (1) Piece Of Submitted Sample Said To Be : **White Power.**

Item Name : Wafer Passivation.
Vendor : Propriety.
Component Or Part No. : Propriety.
Test Item : Cd, Pb, Hg, CrVI, PBBs, PBDEs, F, Cl, Br, I.

Tests Conducted:

As Requested By The Applicant, For Details Refer To Attached Pages

Prepared And Checked By:
For Intertek Testing Services Wuxi Ltd.



Jessica Lu
General Manager

Page 1 Of 7

Intertek Testing Services Wuxi Ltd.No.8 Fubei Road, Xishan Economic Development Zone,
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Annex 6: Analysis Result of Passivation Glass (Page 2 of 7)



TEST REPORT

Number : WUXH00005704

Tests Conducted (As Requested By The Applicant)

- 1 RoHS Directives Test
 - (A) Test Result Summary:

Testing Item	Result
Cadmium (Cd) Content (mg/kg)	ND
Lead (Pb) Content (mg/kg)	185100
Mercury (Hg) Content (mg/kg)	ND
Chromium (VI) (Cr ^{VI}) Content (mg/kg)(For Non-Metal)	ND
Polybrominated Biphenyls (PBBs)(mg/kg)	
Monobrominated Biphenyls (MonoBB)	ND
Dibrominated Biphenyls (DiBB)	ND
Tribrominated Biphenyls (TriBB)	ND
Tetrabrominated Biphenyls (TetraBB)	ND
Pentabrominated Biphenyls (PentaBB)	ND
Hexabrominated Biphenyls (HexaBB)	ND
Heptabrominated Biphenyls (HeptaBB)	ND
Octabrominated Biphenyls (OctaBB)	ND
Nonabrominated Biphenyls (NonaBB)	ND
Decabrominated Biphenyl (DecaBB)	ND
Polybrominated Diphenyl Ethers (PBDEs)(mg/kg)	
Monobrominated Diphenyl Ethers (MonoBDE)	ND
Dibrominated Diphenyl Ethers (DiBDE)	ND
Tribrominated Diphenyl Ethers (TriBDE)	ND
Tetrabrominated Diphenyl Ethers (TetraBDE)	ND
Pentabrominated Diphenyl Ethers (PentaBDE)	ND
Hexabrominated Diphenyl Ethers (HexaBDE)	ND
Heptabrominated Diphenyl Ethers (HeptaBDE)	ND
Octabrominated Diphenyl Ethers (OctaBDE)	ND
Nonabrominated Diphenyl Ethers (NonaBDE)	ND
Decabrominated Diphenyl Ether (DecaBDE)	ND

Remark:
 mg/kg = Milligram Per Kilogram = ppm
 ND = Not Detected
 # = The Result Is For Reference Only.

Page 2 Of 7

Intertek Testing Services Wuxi Ltd.

 No.8 Fubei Road, Xishan Economic Development Zone,
 Wuxi 214101, Jiangsu, China

Tel: +86 510 8821 4567 Fax: +86 510 8820 0428 E-mail: consumergoods.wuxi@intertek.com

Annex 6: Analysis Result of Passivation Glass (Page 3 of 7)



TEST REPORT

Number : WUXH00005707

Tests Conducted (As Requested By The Applicant)

(B)RoHS Requirement:

Restricted Substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr ⁶⁺)	0.1% (1000 mg/kg)
Polybrominated Biphenyls (PBBs)	0.1% (1000 mg/kg)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000 mg/kg)

The Above Limits Were Quoted From 2002/95/EC And Amendment 2005/618/EC For Homogeneous Material.

(C) Test Method:

Testing Item	Testing Method	Reporting Limit
Cadmium (Cd)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Lead (Pb)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Mercury (Hg)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Chromium (VI) (Cr ⁶⁺) Content (For Non-Metal)	With Reference To IEC 62321 Edition 1.0: 2008, By Alkaline Digestion And Determined By UV-VIS Spectrophotometer	1 mg/kg
Polybrominated Biphenyls (PBBs) & Polybrominated Diphenyl Ethers (PBDEs)	With Reference To IEC IEC 62321 Edition 1.0: 2008, By Solvent Extraction And Determined By GC/MS And Further HPLC Confirmation When Necessary.	5 mg/kg

Date Sample Received: Aug 01, 2011

Testing Period: Aug 01, 2011 To Aug 04, 2011

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Annex 6: Analysis Result of Passivation Glass (Page 4 of 7)



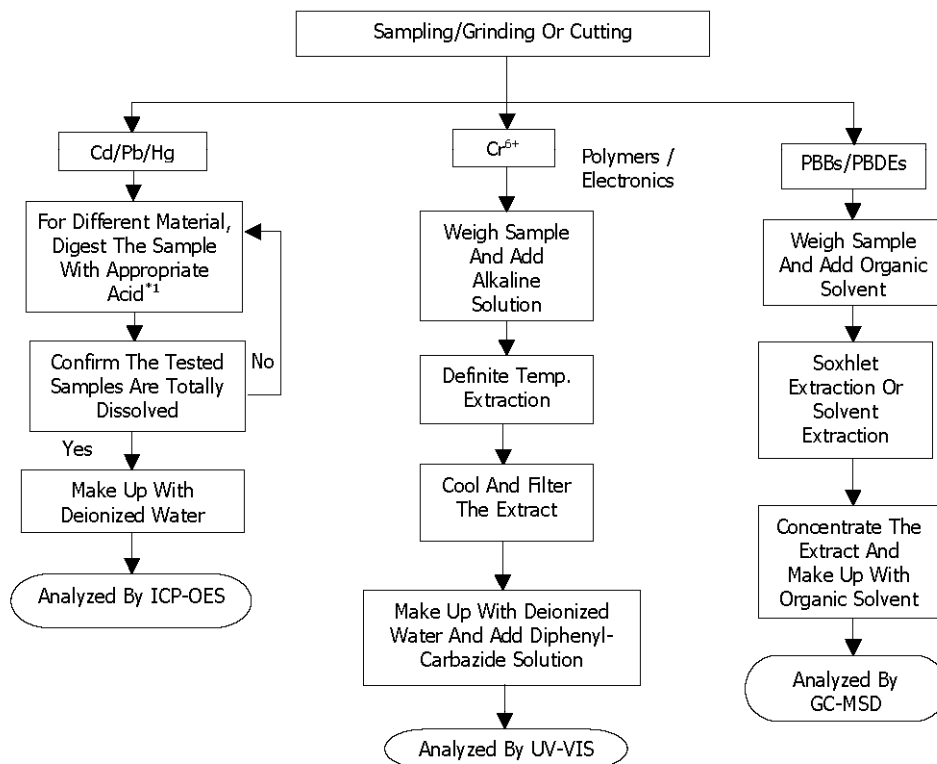
TEST REPORT

Number : WUXH00005704

Tests Conducted (As Requested By The Applicant)

(D) Measurement Flowchart:

Reference Standard: IEC 62321 Edition 1.0: 2008


 Chemist: Inorganic (Ann Luo/Fred Wang/Ally Wan)
 Organic (Jenny Xu/Cherry Sun)

Remarks:

*1: List Of Appropriate Acid:

Material	Acid Added For Digestion
Polymers	HNO ₃ , HCL, HF, H ₂ O ₂ , H ₃ BO ₃
Metals	HNO ₃ , HCL, HF
Electronics	HNO ₃ , HCL, H ₂ O ₂ , HBF ₄

 2 Halogen Test
 (I) Test Result Summary :

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Annex 6: Analysis Result of Passivation Glass (Page 5 of 7)



TEST REPORT

Number : WUXH00005704

Tests Conducted (As Requested By The Applicant)

Halogen Content:

Testing Item	Result (ppm)
Fluorine (F) Content	ND
Chlorine (Cl) Content	ND
Bromine (Br) Content	ND
Iodine (I) Content	ND

 Remarks : ppm = Parts Per Million = mg/kg
 ND = Not Detected

 Date Sample Received: Aug 01, 2011
 Testing Period: Aug 01, 2011 To Aug 05, 2011

(II) Test Method :

Testing Item	Testing Method	Reporting Limit
Halogen (F, Cl, Br, I) Content	With Reference To EN 14582:2007 By Combustion In A Calorimetric Bomb And Determined By Ion Chromatography	50 ppm

Remarks : Reporting Limit = Quantitation Limit Of Analyte In Sample

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Annex 6: Analysis Result of Passivation Glass (Page 6 of 7)**Intertek**

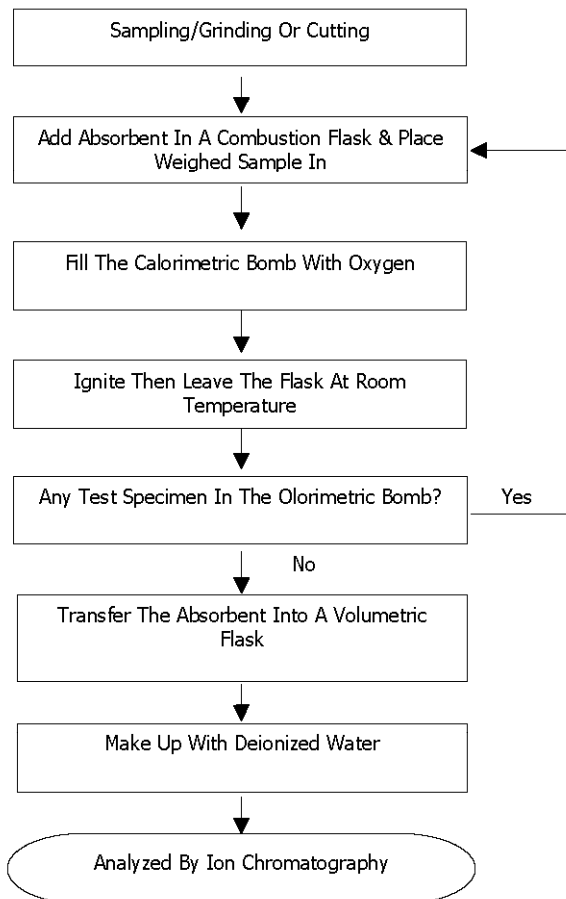
TEST REPORT

Number : WUXH00005704

Tests Conducted (As Requested By The Applicant)

(III) Measurement Flowchart:

Test For Halogen Content Reference Method: EN 14582:2007



Chemist: Fred Wang/ Ally Wan Ally Wan

Page 6 Of 7

Intertek Testing Services Wuxi Ltd.No.8 Fubei Road, Xishan Economic Development Zone,
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Annex 6: Analysis Result of Passivation Glass (Page 7 of 7)

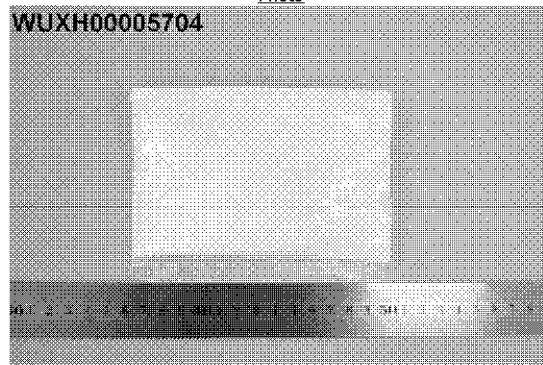
Intertek

TEST REPORT

Number : WUXH00005704

Tests Conducted (As Requested By The Applicant)

Photo



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Annex 7: Analysis Result of Marking Ink (Page 1 of 7)**Intertek**

TEST REPORT

Number : WUXH00005743

Applicant : CONCORD SEMICONDUCTOR(WUXI) CO., LTD.
EAST 1#, ZHENFA 6 ROAD, SHUO FANG
INDUSTRIAL PARK WUXI NATIONAL HIGH-TECH
DEVELOPMENT ZONE, WUXI, JIANGSU, CHINA
Attn : ZHANG XIAOPENG

Date : Aug 05, 2011

Sample Description As Declared:

One (1) Piece Of Submitted Sample Said To Be : **Silvery Ink.**

Item Name : UV Ink.

Vendor : Bon Mark.

Test Item : Cd, Pb, Hg, CrVI, PBBs, PBDEs, F, Cl, Br, I.

Tests Conducted:

As Requested By The Applicant, For Details Refer To Attached Pages

Summary:

Tested Sample	Standard	Result
Submitted Sample	With Reference To Test Method Of IEC 62321 Edition 1.0: 2008 And Maximum Concentration Limits Quoted From RoHS Directives 2002/95/EC And Amendment 2005/618/EC	PASS

Prepared And Checked By:
For Intertek Testing Services Wuxi Ltd.



Jessica Lu
General Manager

Page 1 Of 7

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Annex 7: Analysis Result of Marking Ink (Page 2 of 7)



TEST REPORT

Number : WUXH00005743

Tests Conducted (As Requested By The Applicant)

- 1 RoHS Directives Test
 - (A) Test Result Summary:

Testing Item	Result
Cadmium (Cd) Content (mg/kg)	ND
Lead (Pb) Content (mg/kg)	21
Mercury (Hg) Content (mg/kg)	ND
Chromium (VI) (Cr ^{VI}) Content (mg/kg)(For Non-Metal)	ND
Polybrominated Biphenyls (PBBs)(mg/kg)	
Monobrominated Biphenyls (MonoBB)	ND
Dibrominated Biphenyls (DiBB)	ND
Tribrominated Biphenyls (TriBB)	ND
Tetrabrominated Biphenyls (TetraBB)	ND
Pentabrominated Biphenyls (PentaBB)	ND
Hexabrominated Biphenyls (HexaBB)	ND
Heptabrominated Biphenyls (HeptaBB)	ND
Octabrominated Biphenyls (OctaBB)	ND
Nonabrominated Biphenyls (NonaBB)	ND
Decabrominated Biphenyl (DecaBB)	ND
Polybrominated Diphenyl Ethers (PBDEs)(mg/kg)	
Monobrominated Diphenyl Ethers (MonoBDE)	ND
Dibrominated Diphenyl Ethers (DiBDE)	ND
Tribrominated Diphenyl Ethers (TriBDE)	ND
Tetrabrominated Diphenyl Ethers (TetraBDE)	ND
Pentabrominated Diphenyl Ethers (PentaBDE)	ND
Hexabrominated Diphenyl Ethers (HexaBDE)	ND
Heptabrominated Diphenyl Ethers (HeptaBDE)	ND
Octabrominated Diphenyl Ethers (OctaBDE)	ND
Nonabrominated Diphenyl Ethers (NonaBDE)	ND
Decabrominated Diphenyl Ether (DecaBDE)	ND

Remark:
 mg/kg = Milligram Per Kilogram = ppm
 ND = Not Detected

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Annex 7: Analysis Result of Marking Ink (Page 3 of 7)



TEST REPORT

Number : WUXH00005743

Tests Conducted (As Requested By The Applicant)

(B)RoHS Requirement:

Restricted Substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr ⁶⁺)	0.1% (1000 mg/kg)
Polybrominated Biphenyls (PBBs)	0.1% (1000 mg/kg)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000 mg/kg)

The Above Limits Were Quoted From 2002/95/EC And Amendment 2005/618/EC For Homogeneous Material.

(C) Test Method:

Testing Item	Testing Method	Reporting Limit
Cadmium (Cd)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Lead (Pb)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Mercury (Hg)Content	With Reference To IEC 62321 Edition 1.0: 2008, By Acid Digestion And Determined By ICP-OES	2 mg/kg
Chromium (VI) (Cr ⁶⁺) Content (For Non-Metal)	With Reference To IEC 62321 Edition 1.0: 2008, By Alkaline Digestion And Determined By UV-VIS Spectrophotometer	1 mg/kg
Polybrominated Biphenyls (PBBs)& Polybrominated Diphenyl Ethers (PBDEs)	With Reference To IEC IEC 62321 Edition 1.0: 2008, By Solvent Extraction And Determined By GC/MS And Further HPLC Confirmation When Necessary.	5 mg/kg

Date Sample Received: Aug 01, 2011

Testing Period: Aug 01, 2011 To Aug 04, 2011

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Annex 7: Analysis Result of Marking Ink (Page 4 of 7)



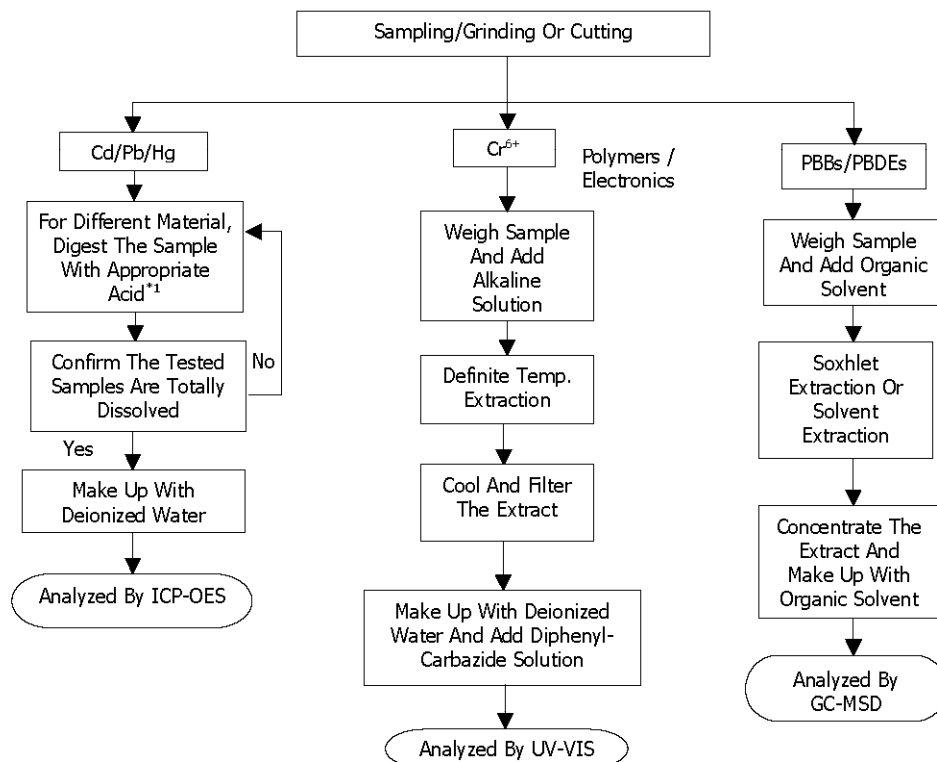
TEST REPORT

Number : WUXH00005743

Tests Conducted (As Requested By The Applicant)

(D) Measurement Flowchart:

Reference Standard: IEC 62321 Edition 1.0: 2008


 Chemist: Inorganic (Ann Luo/Fred Wang/Ally Wan)
 Organic (Jenny Xu/Cherry Sun)

Remarks:

*1: List Of Appropriate Acid:

Material	Acid Added For Digestion
Polymers	HNO ₃ , HCL, HF, H ₂ O ₂ , H ₃ BO ₃
Metals	HNO ₃ , HCL, HF
Electronics	HNO ₃ , HCL, H ₂ O ₂ , HBF ₄

- 2 Halogen Test
 (I) Test Result Summary :

Page 4 Of 7

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Annex 7: Analysis Result of Marking Ink (Page 5 of 7)



TEST REPORT

Number : WUXH00005743

Tests Conducted (As Requested By The Applicant)

Halogen Content:

Testing Item	Result (ppm)
Fluorine (F) Content	126
Chlorine (Cl) Content	ND
Bromine (Br) Content	ND
Iodine (I) Content	ND

 Remarks : ppm = Parts Per Million = mg/kg
 ND = Not Detected

 Date Sample Received: Aug 01, 2011
 Testing Period: Aug 01, 2011 To Aug 05, 2011

(II) Test Method :

Testing Item	Testing Method	Reporting Limit
Halogen (F,Cl, Br,I) Content	With Reference To EN 14582:2007 By Combustion In A Calorimetric Bomb And Determined By Ion Chromatography	50 ppm

Remarks : Reporting Limit = Quantitation Limit Of Analyte In Sample

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Annex 7: Analysis Result of Marking Ink (Page 6 of 7)**Intertek**

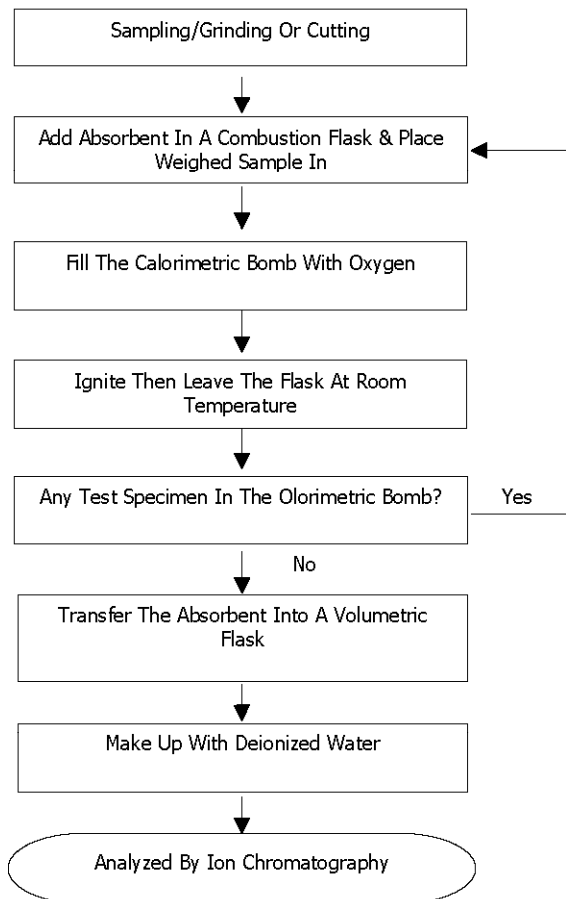
TEST REPORT

Number : WUXH00005743

Tests Conducted (As Requested By The Applicant)

(III) Measurement Flowchart:

Test For Halogen Content Reference Method: EN 14582:2007



Chemist: Fred Wang/ Ally Wan Ally Wan

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Annex 7: Analysis Result of Marking Ink (Page 7 of 7)

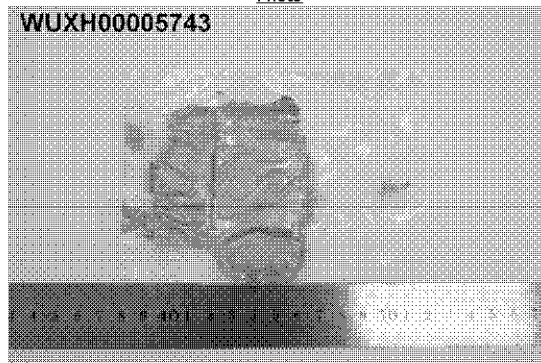
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TEST REPORT

Number : WUXH00005743

Tests Conducted (As Requested By The Applicant)

Photo



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Annex 8: Applicable RoHS exemptions (2011/65/EU Annex III)

1.7.2011

EN

Official Journal of the European Union

L 174/103

Exemption		Scope and dates of applicability
6(a)	Lead as an alloying element in steel for machining purposes and in galvanised steel containing up to 0,35 % lead by weight	
6(b)	Lead as an alloying element in aluminium containing up to 0,4 % lead by weight	
6(c)	Copper alloy containing up to 4 % lead by weight	
7(a)	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)	
7(b)	Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission, and network management for telecommunications	
7(c)-I	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectric devices, or in a glass or ceramic matrix compound	
7(c)-II	Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher	
7(c)-III	Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC	Expires on 1 January 2013 and after that date may be used in spare parts for FEE placed on the market before 1 January 2013
8(a)	Cadmium and its compounds in one shot pellet type thermal cut-offs	Expires on 1 January 2012 and after that date may be used in spare parts for FEE placed on the market before 1 January 2012
8(b)	Cadmium and its compounds in electrical contacts	
9	Hexavalent chromium as an anticorrosion agent of the carbon steel cooling system in absorption refrigerators up to 0,75 % by weight in the cooling solution	
9(b)	Lead in bearing shells and bushes for refrigerant-containing compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications	
11(a)	Lead used in C-press compliant pin connector systems	May be used in spare parts for FEE placed on the market before 24 September 2010
11(b)	Lead used in other than C-press compliant pin connector systems	Expires on 1 January 2013 and after that date may be used in spare parts for FEE placed on the market before 1 January 2013
12	Lead as a coating material for the thermal conduction module C-ring	May be used in spare parts for FEE placed on the market before 24 September 2010
13(a)	Lead in white glasses used for optical applications	
13(b)	Cadmium and lead in filter glasses and glasses used for reflectance standards	
14	Lead in solders consisting of more than two elements for the connection between the pins and the package of microprocessors with a lead content of more than 80 % and less than 85 % by weight	Expired on 1 January 2011 and after that date may be used in spare parts for FEE placed on the market before 1 January 2011