

## Certificate of non-use of The Controlled Substances

Company name            Littelfuse, LP (Subsidiary of Littelfuse, Inc.)

Product Covered        SIDACTor<sup>®</sup> Modified TO-220 Package (A-PAK),

Issue Date                August 12, 2010

It is hereby certified by Littelfuse, Inc., that there is neither RoHS (EU Directive 2002/95/EC)-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.

It is also certified by Littelfuse, Inc., that the products listed in this report do not contain Halogens and their compounds judged per widely accepted industrial guidelines.

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, L.P.>

(1) Parts, sub-materials and unit parts

This document covers modified TO-220 (A-PAK) RoHS-Compliant products series supplied by Littelfuse, Inc. 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 5 of this document.

(2) The analytical data on all measurable substances

Please see annex 1 through 10, attached to this document

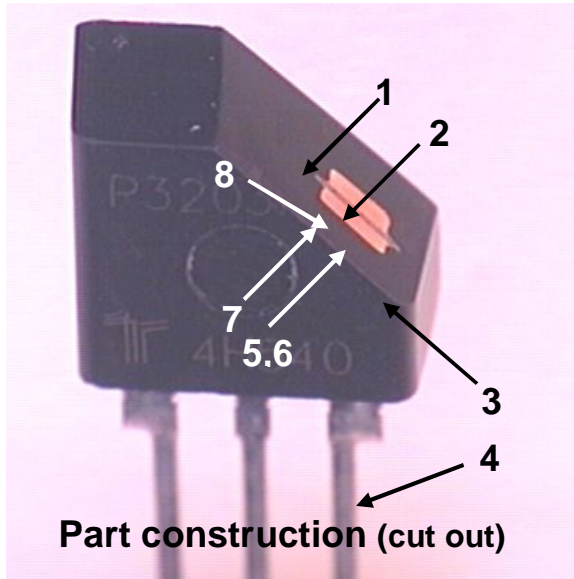
Remarks :

**1. Pb (lead) contained in die bonding solder (item 7 on page 3) and passivation glass (item 6) to be categorized as exempt in RoHS Annex 5 and 7.**

**Please refer to Annex 12 of this report for the extract of the applicable exemptions of RoHS (EU Directive 2002/95/EC)**

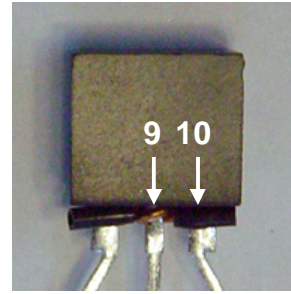
### Littelfuse Part Number covered by this report

Standard (Catalog) Part Number			SPECIAL DEVICE P/N
P2000AA61L	P1402ACL	P1553ACL	Any Special P/N which has base standard P/N listed in this table.
P2200AA61L	P1602ACL	P1803ACL	
P2400AA61L	P2202ACL	P2103ACL	
P2500AA61L	P2702ACL	P2353ACL	CR2703AA
P3000AA61L	P3002ACL	P2703ACL	
P3300AA61L	P3602ACL	P3203ACL	
	P4202ACL	P3403ACL	<b>Optional Suffix</b>
P0302AAL	P4802ACL	P5103ACL	Any P/N in this list, including special device P/N may be followed by "RP" or "TP" which denote packing options, or by "60", "61" or "69" which denote the lead-forming options.
P0302AAMCL	P6002ACL	P1553ACMCL	
P0602AAL			
P0602AAMCL	P0302ACMCL	P1803ACMCL	
P1402AAL	P0602ACMCL	P2103ACMCL	
P1602AAL	P1402ACMCL	P2353ACMCL	
P2202AAL	P1602ACMCL	P2703ACMCL	
P2702AAL	P2202ACMCL	P3203ACMCL	
P3002AAL	P2702ACMCL	P3403ACMCL	
P3602AAL	P3002ACMCL	P5103ACMCL	
P4202AAL	P3602ACMCL		<b>FS SERIES</b>
P4802AAL	P4202ACMCL	P1400ADL61	P1553AC60FS
P6002AAL	P4802ACMCL	P1800ADL61	P1602AC60FS
	P6002ACMCL	P3100ADL61	P2353AA60FS
P0302ABL		P6002ADL	P2353AB60FS
P0302ABMCL	P1553AAL		P2353ABL60FS
P0602ABL	P1803AAL		P3002ACFS
P0602ABMCL	P2103AAL		P3203AB60FS
P1402ABL	P2353AAL		P3203ABL60FS
P1602ABL	P2703AAL		P3203AC60FS
P2202ABL	P3203AAL		P3203ACFS
P2702ABL	P3403AAL		P3403AB60FS
P3002ABL			P3602AA60FS
P3602ABL	P1553ABL		P3602AB60FS
P4202ABL	P1803ABL		P4802AC60FS
P4802ABL	P2103ABL		P4802ACFS
P6002ABL	P2353ABL		<b>FS1 SERIES</b>
	P2703ABL		P2703AALFS1
P0302ACL	P3203ABL		P2703ACMCLFS1
P0602ACL	P3403ABL		P3203ACFS1
	P5103ABL		P6002ACFS1

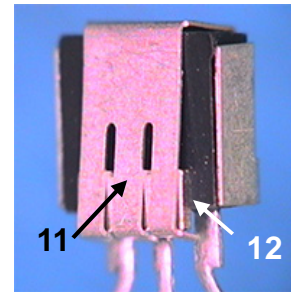


**Part construction (cut out)**

**Material Used (where used)**



**A-PAK Fail Safe (FS Series)**



**A-PAK Fail Safe (FS1 Series)**

**Table 1: Homogeneous Material Used**

#	Description	Name of Material	Type	Analysis data
1	Molding compound	epoxy resin	plastic	annex 1
2	Lead frame	copper alloy	metal	annex 2
3	Clip	copper alloy	metal	annex 2. Clip uses same copper material as lead frame
4	Lead finish	tin alloy	metal	annex 3
5	Silicon die	silicon	metal	annex 4, tested as Nickel-plated wafer.
6	Nickel electrode	nickel	metal	
7	Passivation glass	glass	glass	annex 5. Pb in this glass is exempted by RoHS Annex 7.
8	Die bonding solder	solder	metal	annex 6. Pb in this solder is exempted by RoHS Annex 5.
9	Fail Short Spring	copper alloy	metal	annex 7. Applicable to fail safe FS series only
10	Fail Safe Tube	polymer alloy	plastic	annex 8. Applicable to fail safe FS series only
11	Fail Safe Clip	copper alloy	metal	annex 9. Applicable to fail safe FS1 series only
12	Fail Safe Solder Preform	solder	metal	annex 10. Applicable to fail safe FS1 series only

**Table 2: RoHS-regulated substance in raw materials**

Components	Analysis Result						
	Cd Cadmium	Cr Chromium	Hg Mercury	Pb Lead	PBB	PBDE	TOTAL HALOGEN
<b>As Component Total</b> (Typical Value)	< 2ppm	< 2ppm	< 2ppm	<10 ppm <sup>*1</sup> (1.4% <sup>*2</sup> )	< 5 ppm	< 5 ppm	< 100ppm
<b>Epoxy Resin compound</b> (mixture of phenolix resin, epoxy resin, filler and non-brominated fire retardant) See Annex 1 for the detail.	< 2ppm	< 2ppm	< 2ppm	< 2ppm	< 5ppm	<5 ppm	100ppm
<b>Lead frame and Clip</b> (Copper Alloy KFC and CDA110)  See Annex 2 & 3 for the detail.	< 2ppm	< 2ppm	< 2ppm	11 ppm <sup>*3</sup>	< 5ppm	<5 ppm	---
<b>Outside lead finish</b> (Matte-Tin plating)  See Annex 4 for the detail.	< 2ppm	< 2ppm	< 2ppm	24 ppm <sup>*3</sup>	< 5ppm	<5 ppm	---
<b>Silicon Die</b> (Silicon + Ni electrode)  See Annex 5 for the detail	< 2ppm	< 2ppm	< 2ppm	< 2ppm	< 5ppm	<5 ppm	< 50ppm
<b>Passivation Glass</b>  See Annex 6 for the detail.	< 2ppm	< 2ppm	< 2ppm	41wt% <sup>*4</sup>	< 5ppm	<5 ppm	< 50ppm
<b>Die Bonding Solder</b> (Pb/Sn/Ag=88/10/2)  See Annex 7 & 7A for the detail	< 2ppm	< 2ppm	< 2ppm	88 wt% <sup>*5</sup>	< 5ppm	<5 ppm	240ppm

**\*1 Less than 10ppm Pb content overall, excluding Pb from the die bonding solder and the passivation glass on the silicon die.**

**\*2 1.4wt% or 17mg of Pb (lead) content overall, including the RoHS-exempted use of Pb**

**\*3 Pb (lead) contained in lead frame and outside finish is not exempted from restriction by RoHS, but considered as process contamination. Littelfuse does not add Pb (lead) intentionally.**

**\*4 Pb (lead) contained in passivation glass is exempted from restriction by RoHS Annex 5.**

**\*5 Pb (lead) contained in die bonding solder is exempted from restriction by RoHS Annex 7, first item.**

**Please refer to Annex 12 of this report for the applicable exemptions of RoHS (EU Directive 2002/95/EC)**

**Annex 1: Analysis Result of Molding Compound (Page 1 of 7)****TEST REPORT**

NUMBER: WUXH00002758

APPLICANT: CONCORD SEMICONDUCTOR (WUXI) CO., LTD.  
DATE: AUG 06, 2010  
EAST 1#, ZHENFA 6 ROAD, SHUO FANG  
INDUSTRIAL PARK WUXI NATIONAL HIGH-  
TECH DEVELOPMENT ZONE,  
WUXI, JIANGSU, CHINA  
ATTN: ZHANG XIAOPENG

## SAMPLE DESCRIPTION:

ONE (1) PIECE OF SUBMITTED SAMPLE SAID TO BE : **BLACK COMPOUND**.  
ITEM NAME : MOLDING COMPOUND.  
VENDOR : COOKSON ELECTRONICS SEMICONDUCTOR PRODUCTS.  
COMPONENT OR PART NO. : CK2000C.  
TEST ITEM : Pb, Cd, Hg, CrVI, PBB, PBDE, F, Cl, Br, I.

## TESTS CONDUCTED:

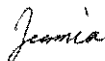
AS REQUESTED BY THE APPLICANT, FOR DETAILS REFER TO ATTACHED PAGE(S)  
\*\*\*\*\*

## 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

\*\*\*\*\*  
TO BE CONTINUED

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,  
Wuxi 214101, Jiangsu, China  
Tel: +86 510 8821 4567 Fax: +86 510 8820 0428 E-mail: consumergoods.wuxi@intertek.com

## Annex 1: Analysis Result of Molding Compound (Page 2 of 7)


**TEST REPORT**

NUMBER: WUXH00002758

## TESTS CONDUCTED

## (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 <sup>6+</sup> ) CONTENT (mg/kg) (FOR NON-METAL)	ND
POLYBROMINATED BIPHENYLS (PBBs) (mg/kg)	
MONOBROMO BIPHENYLS (MonoBB)	ND
DIBROMO BIPHENYLS (DiBB)	ND
TRIBROMO BIPHENYLS (TriBB)	ND
TETRABROMO BIPHENYLS (TetraBB)	ND
PENTABROMO BIPHENYLS (PentaBB)	ND
HEXABROMO BIPHENYLS (HexaBB)	ND
HEPTABROMO BIPHENYLS (HeptaBB)	ND
OCTABROMO BIPHENYLS (OctaBB)	ND
NONABROMO BIPHENYLS (NonaBB)	ND
DECABROMO BIPHENYL (DecaBB)	ND
POLYBROMINATED DIPHENYL ETHERS (PBDEs) (mg/kg)	
MONOBROMO DIPHENYL ETHERS (MonoBDE)	ND
DIBROMO DIPHENYL ETHERS (DiBDE)	ND
TRIBROMO DIPHENYL ETHERS (TriBDE)	ND
TETRABROMO DIPHENYL ETHERS (TetraBDE)	ND
PENTABROMO DIPHENYL ETHERS (PentaBDE)	ND
HEXABROMO DIPHENYL ETHERS (HexaBDE)	ND
HEPTABROMO DIPHENYL ETHERS (HeptaBDE)	ND
OCTABROMO DIPHENYL ETHERS (OctaBDE)	ND
NONABROMO DIPHENYL ETHERS (NonaBDE)	ND
DECABROMO DIPHENYL ETHER (DecaBDE)	ND

## REMARK:

mg/kg = MILLIGRAM PER KILOGRAM BASED ON DRY WEIGHT= ppm

ND = NOT DETECTED

 \*\*\*\*\*  
 TO BE CONTINUED

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 1: Analysis Result of Molding Compound (Page 3 of 7)


**TEST REPORT**

NUMBER: WUXH00002758

## TESTS CONDUCTED

(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 <sup>6+</sup> )	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 <sup>6+</sup> ) 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 02, 2010

TESTING PERIOD:AUG 02, 2010 TO AUG 05, 2010

\*\*\*\*\*

TO BE CONTINUED

PAGE 3 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 1: Analysis Result of Molding Compound (Page 4 of 7)

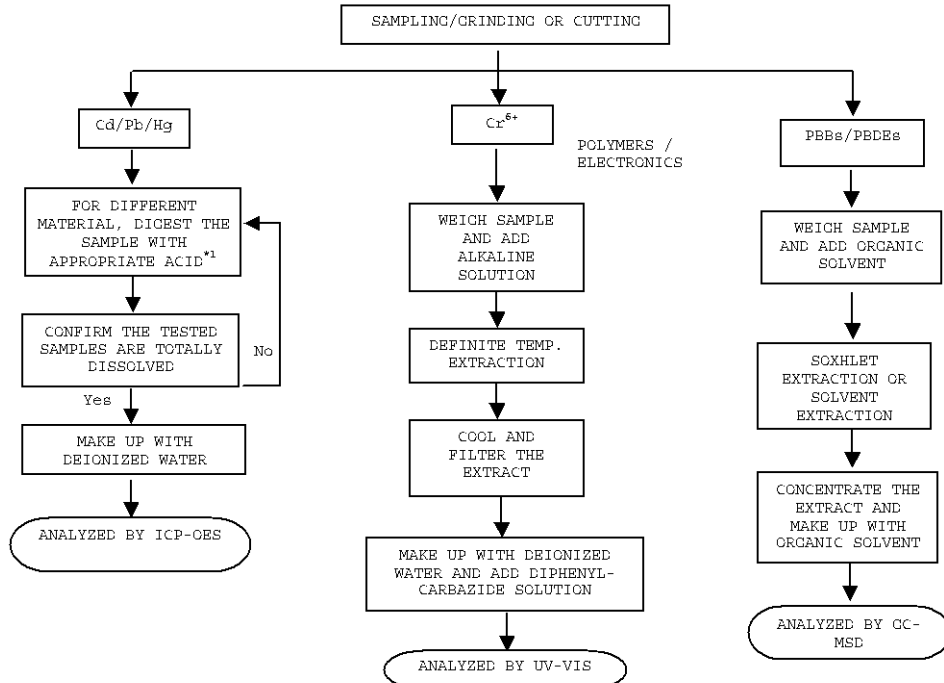


### TEST REPORT

NUMBER: WUXH00002758

#### TESTS CONDUCTED

(D) MEASUREMENT FLOWCHART:  
 TEST FOR Cd/Pb/Hg/Cr (VI)/PBBS/PBDES CONTENTS  
 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 <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
METALS	HNO <sub>3</sub> , HCl, HF
ELECTRONICS	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

\*2: IF THE RESULT OF SPOT TEST IS POSITIVE, CHROMIUM VI WOULD BE DETERMINED AS DETECTED.

\*\*\*\*\*

TO BE CONTINUED

PAGE 4 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 1: Analysis Result of Molding Compound (Page 5 of 7)


**TEST REPORT**

NUMBER: WUXH00002758

## TESTS CONDUCTED

## ( I ) TEST RESULT SUMMARY :

## HALOGEN CONTENT :

TESTING ITEM	RESULT (ppm)
FLUORINE (F) CONTENT	ND
CHLORINE (Cl) CONTENT	100
BROMINE (Br) CONTENT	ND
IODINE (I) CONTENT	ND

REMARKS : ppm = PARTS PER MILLION = mg/kg

ND = NOT DETECTED

DATE SAMPLE RECEIVE: AUG 02, 2010

TEST PERIOD: AUG 02, 2010 TO AUG 05, 2010

## ( II ) TEST METHOD :

TESTING ITEM	TESTING METHOD	REPORTING LIMIT
HALOGEN (F, Cl, Br, I) CONTENT	WITH REFERENCE TO IEC 61189-2:2006 BY COMBUSTION FLASK AND DETERMINED BY ION CHROMATOGRAPHY	50 ppm

REMARKS : REPORTING LIMIT = QUANTITATION LIMIT OF ANALYTE IN SAMPLE

\*\*\*\*\*

TO BE CONTINUED

PAGE 5 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 1: Analysis Result of Molding Compound (Page 6 of 7)



**TEST REPORT**

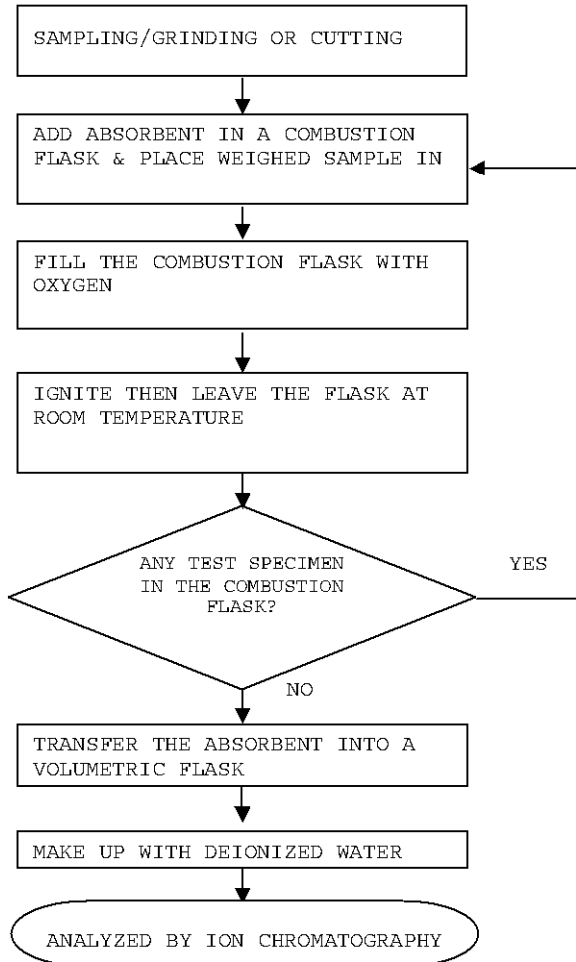
NUMBER: WUXH00002758

TESTS CONDUCTED

(III) MEASUREMENT FLOWCHART:

TEST FOR HALOGEN CONTENT

REFERENCE METHOD: IEC 61189-2 TEST 2C12



CHEMIST: FRED WANG/ ALLY WAN

\*\*\*\*\*  
TO BE CONTINUED

## Annex 1: Analysis Result of Molding Compound (Page 7 of 7)

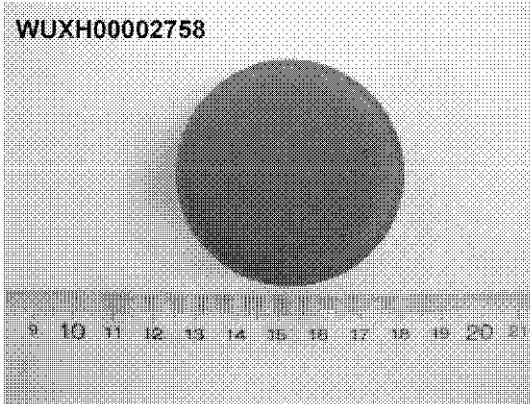


TEST REPORT

NUMBER: WUXH00002758

TESTS CONDUCTED

PHOTO



\*\*\*\*\*

END OF REPORT

PAGE 7 OF 7

**Intertek Testing Services Wuxi Ltd.**  
No.8 Fubel 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 2: Analysis Result of Lead frame (Page 1 of 4)****Test Report**

No. SHAML1008240101

Date: 21 Jun 2010

Page 1 of 4

NINGBO ESC PHOTOELECTRON CO., LTD

ECONOMIC &amp; TECHNICAL DEVELOPMENT ZONE, NO.88 YICHENG RD, BEILUN NINGBO, CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : LEAD FRAME

SGS Job No. : SC100602277 - SH  
Material and Mark : KFC  
Product Specification : TO LEA FRAME Cu SERIES  
Date of Sample Received : 12 Jun 2010  
Testing Period : 12 Jun 2010 - 21 Jun 2010  
Test Requested : Selected test(s) as requested by client.  
Test Method : Please refer to next page(s).  
Test Results : Please refer to next page(s).

Signed for and on behalf of  
SGS-CSTC Ltd.



Fan Jingjie, JJ  
Approved Signatory

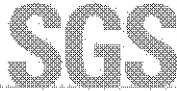
This document is issued by the Company subject to its General Conditions of Service printed hereafter, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm), and for electronic format documents subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_electronic\\_documents.htm](http://www.sgs.com/terms_electronic_documents.htm). Attention is drawn to the limitation of liability and the scope of the present issues defined therein. Any reader of this document is advised that information contained hereon reflects the Company's findings at the time of its testing and is not intended to be used within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not constitute part of a transaction. The undersigned hereby disclaims all rights and obligations under the transaction documents. This document cannot be reproduced except in full without prior written approval of the Company and authorized information. Forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. These statements, data and results shown in this test report refer only to the samples tested and such samples were retained for 30 days only.



No. 88, Block 1199, Ezei Kiang Chiao Road, Pudong District, Shanghai, CHINA 201319 | 1 (86-21) 61186300 | 1 (86-21) 68132122/68138820 | [www.sgs.com](http://www.sgs.com)  
中国 · 上海 · 浦东康桥东路1199弄69号 邮编: 201319 | 1 (86-21) 61186300 | 1 (86-21) 68132122/68138820 | [www.sgs.com](http://www.sgs.com)

Member of the SGS Group (SGS SA)

## Annex 2: Analysis Result of Lead frame (Page 2 of 4)



### Test Report

No. SHAML1008240101

Date: 21 Jun 2010

Page 2 of 4

Test Results :

#### Test Part Description :

Specimen No.	SGS Sample ID	Description
1	SHA10-082401.001	Copper metal frame

Remarks :

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

#### RoHS Directive 2002/95/EC

Test Method : With reference to IEC 62321:2008

- (1) Determination of Cadmium by ICP-OES.
- (2) Determination of Lead by ICP-OES.
- (3) Determination of Mercury by ICP-OES.
- (4) Determination of Hexavalent Chromium by Spot test / Colorimetric Method using UV-Vis.
- (5) Determination of PBBs / PBDEs by GC-MS.

Test Item(s)	Limit	Unit	MDL	001
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	11
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	-	-	◇	Negative
Sum of PBBs	1,000	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	1,000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND

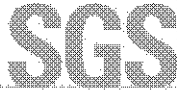
This statement is issued by the Company subject to the General Conditions of Service printed hereof, available on request or downloadable at [http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and for additional format documents subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e\\_documents.htm](http://www.sgs.com/terms_e_documents.htm). Attention is drawn to the limitation of liability, jurisdiction and arbitration clauses defined therein. Any holder of this document is advised that information contained herein reflects the Company's findings at the time of its issuance and is subject to the terms of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not constitute a part of a transaction. The Company is not liable for any damages and obligations under the contract documents. This statement can be reproduced in full without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. The test results stated in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.



No. 88, Block 1455, East Kang Qiao Road, Pudong District, Shanghai, China 201319 | Tel: 2161196300 | Fax: 2161196300 | www.sgs.com  
 中国·上海·浦东康桥东路1455弄1459号 邮编: 201319 | 电话: 2161196300 | 传真: 2161196300 | www.sgs.com

Member of the SGS Group (SGS SA)

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



### Test Report

No. SHAML1008240101

Date: 21 Jun 2010

Page 3 of 4

<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
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

#### Notes :

(1) The maximum permissible limit is quoted from the document 2005/618/EC amending RoHS directive 2002/95/EC

(2) ◊ Spot-test:

Negative = Absence of CrVI coating, Positive = Presence of CrVI coating;

The tested sample should be further verified by boiling-water-extraction method if the spot test result is Negative or cannot be confirmed.

◊ Boiling-water-extraction:

Negative = Absence of CrVI coating; Positive = Presence of CrVI coating

The detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm<sup>2</sup> sample surface area.

For corrosion protection coatings on metals: Information on storage conditions and production date of the tested sample is unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.

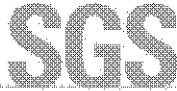
This statement is issued by the Company subject to the General Conditions of Service printed hereon, available on request or downloadable at [http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and for electronic format documents subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e\\_documents.htm](http://www.sgs.com/terms_e_documents.htm). Attention is drawn to the limitation of liability and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects the Company's findings at the time of its issuance and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not constitute parties to a transaction. The Company is not liable for any errors and omissions under the mentioned documents. This statement cannot be reproduced wholly in full without prior written approval of the Company. Any use, modification, copying or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. All test results stated in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.



No. 88, Block 1155, East Kang Qiao Road, Pudong District, Shanghai, China 201319 | Tel: 2161196300 | Fax: 2161196300 | www.sgs.com  
 中国·上海·浦东康桥东路1155弄1159号 邮编: 201319 | 电话: 2161196300 | 传真: 2161196300 | www.sgs.com

Member of the SGS Group (SGS SA)

## Annex 2: Analysis Result of Lead frame (Page 4 of 4)



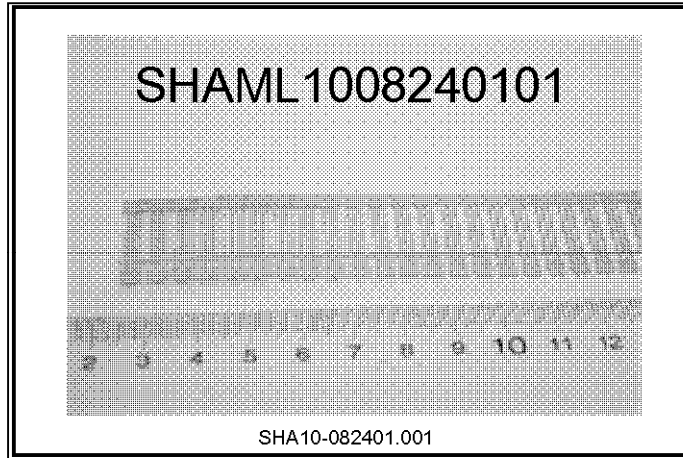
**Test Report**

No. SHAML1008240101

Date: 21 Jun 2010

Page 4 of 4

Sample photo:



SGS authenticate the photo on original report only

\*\*\* End of Report \*\*\*

This statement is issued by the Company subject to the General Conditions of Service printed hereof, available on request or downloadable at [http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and for electronic format documents subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e\\_documents.htm](http://www.sgs.com/terms_e_documents.htm). Attention is drawn to the limitation of liability, jurisdiction and arbitration clauses defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its inspection and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not constitute parties to a transaction. The Company is not liable for any rights and obligations under the transaction documents. This statement cannot be reproduced wholly in full without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Please refer to state's regulations. In this test report (refer only to the sample(s) tested and such sample(s) are retained for 30 days only).

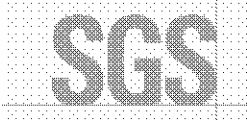


No. 88, Block 1455, East Kang Qiao Road, Pudong District, Shanghai, China 201319 | Tel: 2161196300 | Fax: 2161196320 | [www.sgs.com](http://www.sgs.com)  
中国·上海·浦东康桥东路1455弄69号 邮编: 201319 | 电话: 2161196300 | 传真: 2161196320 | [www.sgs.com](http://www.sgs.com)

Member of the SGS Group (SGS SA)



## Annex 3: Analysis Result of Lead finish (page 2 of 6)



### Test Report

No.: GZ0912123513/CHEM

Date: JAN 06, 2010

Page 2 of 6

#### Test Results:

Description for specimen 1 : Silvery metal

#### Elementary Analysis

Test Item(s)	Unit	Test Method (Reference)	Result	MDL
Cadmium (Cd)	mg/kg	IEC 62321: 2008, ICP-OES	N.D.	2
Lead (Pb)	mg/kg	IEC 62321: 2008, ICP-OES	24	2
Mercury (Hg)	mg/kg	IEC 62321: 2008, ICP-OES	N.D.	2
Hexavalent Chromium (CrVI) by boiling water extraction	-	IEC 62321: 2008, UV-Vis	Negative	◇

#### Note:

1. mg/kg = ppm

2. N.D. = Not Detected (&lt; MDL)

3. MDL = Method Detection Limit

4. ◇ = Spot test:

Negative = Absence of CrVI coating, Positive = Presence of CrVI coating;

(The tested sample should be further verified by boiling water extraction method if the spot test result is negative or cannot be confirmed.)

Boiling water extraction:

Negative = Absence of CrVI coating

 Positive = Presence of CrVI coating; the detected concentration in boiling water extraction solution is equal or greater than 0.02 mg/kg with 50 cm<sup>2</sup> sample surface area.

Storage conditions and production date of the tested sample are unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.

5. "-" = Not regulated

#### Flame Retardants

Test Item(s)	Unit	Test Method (Reference)	Result	MDL
Sum of PBBs	mg/kg	-	N.D.	-
Monobromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Dibromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Tribromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Tetrabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Pentabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Hexabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Heptabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Octabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Nonabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Decabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Sum of PBDEs	mg/kg	-	N.D.	-
Monobromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Dibromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Tribromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Tetrabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5

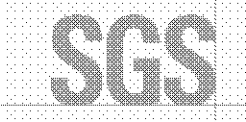
This document is issued by the Company under its General Conditions of Service which together with the applicable terms, conditions, certificates and regulations, form the basis of the relationship between the Company and its clients. Any holder of this document is advised that information contained herein is for the use of the client only and does not constitute an offer of any service. The Company's sole responsibility is to its Client and this document is not intended to be used for any other purpose. The Client's rights and obligations under the applicable regulations, certificates and regulations, and the Company's liability for any loss or damage arising from the use of this document is limited to the extent of the Company's negligence. The Client's attention is drawn to the fact that the results shown in this test report refer only to the sample submitted. The document cannot be reproduced except in full, without prior approval of the Company.



SGS Roadnet (Pty) Ltd, Eurochem Technology Development, 510007, 1 06-20 821 8888 1 86-20 8278125 www.sgsgroup.com  
 中国·广州·越秀区环市东路418号 邮编: 510663 1 06-20 821 8888 1 86-20 8278125 # sgsgroup.com

Member of the SGS Group (SGS SA)

## Annex 3: Analysis Result of Lead finish (page 3 of 6)



### Test Report

No.: GZ0912123513/CHEM

Date: JAN 06, 2010

Page 3 of 6

Pentabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Hexabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Heptabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Octabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Nonabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Decabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5

#### Note:

1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit
4. "-" = Not regulated

Remark: Results & photo(s) of this report refer to test report GZ0912123511/CHEM.

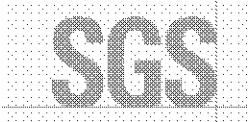
This document is issued by the Company based on the General Conditions of Service, which shall be read in relation and addressed to the SGS's conditions and conditions. All data is given to the limit of ability, identification, and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein represents only the findings of the laboratory and does not constitute a warranty. The Company's sole responsibility is to its Client and the Client shall remain liable for a transaction when concluding all legal rights and obligations under the applicable documents. Any unauthorized alteration, falsification or reproduction of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. The results shown in this test report refer only to the sample submitted. This document cannot be reproduced except in full, without prior approval of the Company.



SGS (China) Limited, P.O. Box 28, Suzhou, Jiangsu, China 215001 | Tel: 86-21-62135555 | Fax: 86-21-62135555 | www.cn.sgs.com  
 中国·苏州·苏州工业园区金鸡湖路188号 | 电话: 86-21-62135555 | 传真: 86-21-62135555 | www.cn.sgs.com

Member of the SGS Group (SGS SA)

## Annex 3: Analysis Result of Lead finish (page 4 of 6)



### Test Report

No.: GZ0912123513/CHEM

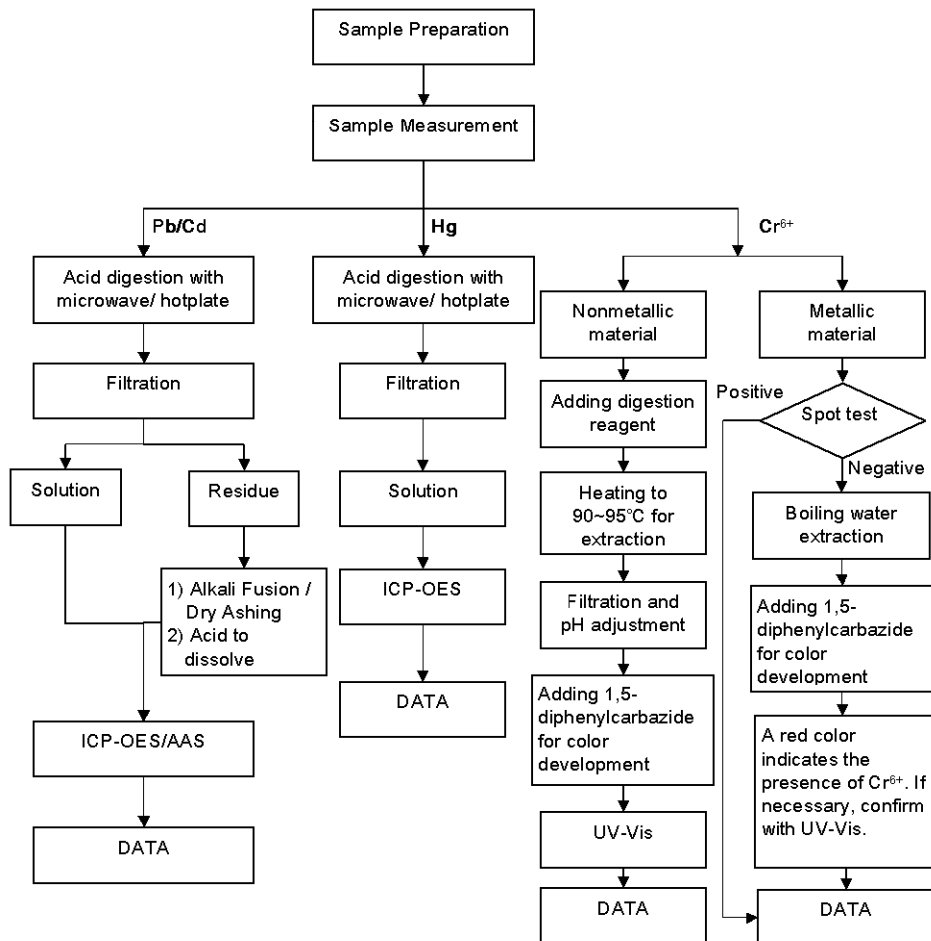
Date: JAN 06, 2010

Page 4 of 6

#### ATTACHMENTS

#### Testing Flow Chart

- 1) Name of the person who made measurement: Bella Wang
- 2) Name of the person in charge of measurement: Adams Yu



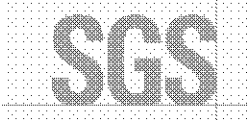
This document is issued by the Company under its General Conditions of Service, subject to their availability in respect and accessible at any time, on request, and conditions, here. Attention is drawn to the limitation of liability, indemnification, and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein is for reference only and does not constitute any offer or recommendation. If any, the Company's sole responsibility is to the Client and the Client shall remain the primary party to a transaction. Such disclaimer and obligations under the applicable documents, are incorporated by reference into this document. Any reproduction or modification of this document is prohibited and shall be prosecuted to the full extent of the law. The Client shall be responsible for the results shown in this test report, referring to the applicable standards. This document cannot be reproduced, stored in a retrieval system, or transmitted in any form or by any means, without prior approval of the Company.



SGS Analytical Services (China) Co., Ltd. | 100000 Beijing, China | Tel: +86-10-85455555 | Fax: +86-10-85455555 | www.cn.sgs.com  
 中国 (大陆) 检测技术开发区 科学城科技园 100000 | 电话: 85455555 | 传真: 85455555 | www.cn.sgs.com

Member of the SGS Group (SGS SA)

## Annex 3: Analysis Result of Lead finish (page 5 of 6)


**Test Report**

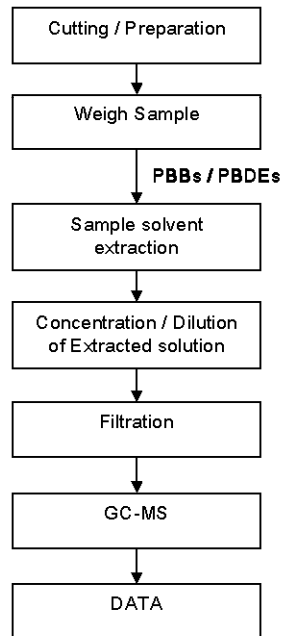
No.: GZ0912123513/CHEM

Date: JAN 06, 2010

Page 5 of 6

### Testing Flow Chart

- 1) Name of the person who made measurement: Tina Zhao
- 2) Name of the person in charge of measurement: Ryan Yang



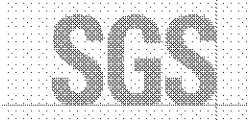
This document is issued by the Company based on the General Conditions of Service, which describe the available and applicable analytical methods, procedures, and conditions. Attention is drawn to the limitation of liability, indemnification, and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein represents only the findings of the laboratory and does not constitute a warranty of the results. The Company's sole responsibility is to its Client and this document is not intended to be used for any other purpose. All rights and obligations under the applicable documents, and the terms and conditions, shall remain in full force and effect. The Company is not responsible for the results of any other analysis performed on the sample. The results of this analysis are not intended to be used for any other purpose. The results of this analysis are not intended to be used for any other purpose. The results of this analysis are not intended to be used for any other purpose.



SGS Analytical Services (Shanghai) Co., Ltd. | 100000 | 100-2000000000 | 100-2000000000 | www.cn.sgs.com  
 中国·上海·浦东新区开发区科苑路100号 | 邮编: 200000 | 100-2000000000 | 100-2000000000 | www.cn.sgs.com

Member of the SGS Group (SGS SA)

### Annex 3: Analysis Result of Lead finish (page 6 of 6)



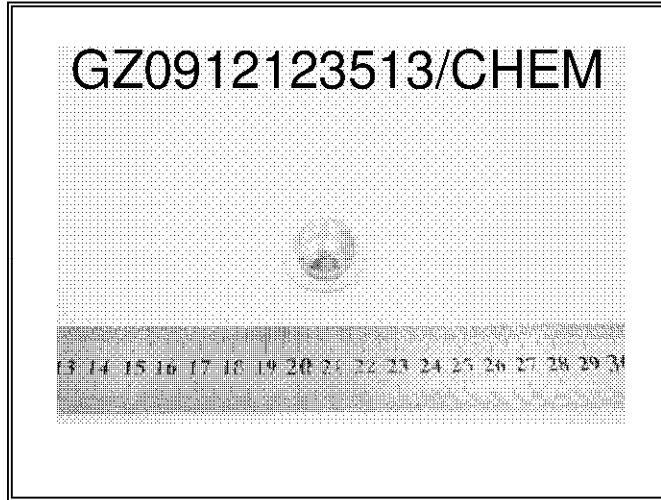
**Test Report**

No.: GZ0912123513/CHEM

Date: JAN 06, 2010

Page 6 of 6

Sample photo :



SGS authenticate the photo on original report only

\*\*\* End of Report \*\*\*

This document is issued by the Company based on the General Conditions of Service, which shall be that of the applicable order and applicable terms, conditions, and procedures. All other is drawn to the attention of liability, indemnification, and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein represents the findings of the inspection only and does not constitute a warranty. The Company's sole responsibility is to its Client and the Client shall remain the primary party to a transaction with the Company. All rights and obligations under the applicable documents, any standardized conditions, terms, and conditions of the contract of purchase of this document is transferred and shall remain the property of the Client. Any reproduction or distribution of this document is prohibited and shall be prosecuted to the full extent of the law. The results shown on this test report refer only to the sample submitted. This document cannot be reproduced except in full, without prior approval of the Company.



SGS (China) Limited, P.O. Box 111, 100020 Beijing, China  
中国·广州·越秀区技术开发区科丰路111号

Member of the SGS Group (SGS SA)

**Annex 4: Analysis Result of Ni-plated Wafer (Page 1 of 7)****TEST REPORT**

NUMBER: WUXH00002719

APPLICANT: CONCORD SEMICONDUCTOR(WUXI) CO., DATE: AUG 06, 2010  
LTD.  
EAST 1#, ZHENFA 6 ROAD, SHUO FANG  
INDUSTRIAL PARK WUXI NATIONAL HIGH-  
TECH DEVELOPMENT ZONE,  
WUXI, JIANGSU, CHINA  
ATTN: ZHANG XIAOPENG

## SAMPLE DESCRIPTION:

ONE(1)PIECE OF SUBMITTED SAMPLE SAID TO BE :**SILVER GREY METAL.**  
ITEM NAME : SILICON WAFER WITH NICKEL PLATING.  
VENDOR : CONCORD.  
COMPONENT OR PART NO. : SILICON+NICKEL.  
TEST ITEM : Pb, Cd, Hg, CrVI, PBB, PBDE, F, Cl, Br, I.

## TESTS CONDUCTED:

AS REQUESTED BY THE APPLICANT, FOR DETAILS REFER TO ATTACHED PAGE(S)

## 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

TO BE CONTINUED

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,  
Wuxi 214101, Jiangsu, China  
Tel: +86 510 8821 4567 Fax: +86 510 8820 0428 E-mail: consumergoods.wuxi@intertek.com

## Annex 4: Analysis Result of Ni-plated Wafer (Page 2 of 7)


**TEST REPORT**

NUMBER: WUXH00002719

## TESTS CONDUCTED

## (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 <sup>6+</sup> ) RESULT (BY BOILING WATER EXTRACTION ON METAL) (mg/kg WITH 50cm <sup>2</sup> )	ND
POLYBROMINATED BIPHENYLS (PBBs) (mg/kg)	
MONOBROMO BIPHENYLS (MonoBB)	ND
DIBROMO BIPHENYLS (DiBB)	ND
TRIBROMO BIPHENYLS (TriBB)	ND
TETRABROMO BIPHENYLS (TetraBB)	ND
PENTABROMO BIPHENYLS (PentaBB)	ND
HEXABROMO BIPHENYLS (HexaBB)	ND
HEPTABROMO BIPHENYLS (HeptaBB)	ND
OCTABROMO BIPHENYLS (OctaBB)	ND
NONABROMO BIPHENYLS (NonaBB)	ND
DECABROMO BIPHENYL (DecaBB)	ND
POLYBROMINATED DIPHENYL ETHERS (PBDEs) (mg/kg)	
MONOBROMO DIPHENYL ETHERS (MonoBDE)	ND
DIBROMO DIPHENYL ETHERS (DiBDE)	ND
TRIBROMO DIPHENYL ETHERS (TriBDE)	ND
TETRABROMO DIPHENYL ETHERS (TetraBDE)	ND
PENTABROMO DIPHENYL ETHERS (PentaBDE)	ND
HEXABROMO DIPHENYL ETHERS (HexaBDE)	ND
HEPTABROMO DIPHENYL ETHERS (HeptaBDE)	ND
OCTABROMO DIPHENYL ETHERS (OctaBDE)	ND
NONABROMO DIPHENYL ETHERS (NonaBDE)	ND
DECABROMO DIPHENYL ETHER (DecaBDE)	ND

## REMARK:

mg/kg = MILLIGRAM PER KILOGRAM BASED ON DRY WEIGHT= ppm

ND = NOT DETECTED

 mg/kg WITH 50cm<sup>2</sup> = MILLIGRAM PER KILOGRAM WITH 50 SQUARE CENTIMETER

\*\*\*\*\*

TO BE CONTINUED

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 5: Analysis Result of Ni-plated Wafer (Page 3 of 7)


**TEST REPORT**

NUMBER: WUXH00002719

## TESTS CONDUCTED

## (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 <sup>6+</sup> )	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 <sup>6+</sup> ) 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 <sup>2</sup> (IN TESTING SOLUTION)
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 02, 2010

TESTING PERIOD:AUG 02, 2010 TO AUG 05, 2010

\*\*\*\*\*

TO BE CONTINUED

PAGE 3 OF 7

**Intertek Testing Services Wuxi Ltd.**

 No.8 Fubel 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 5: Analysis Result of Ni-plated Wafer (Page 4 of 7)

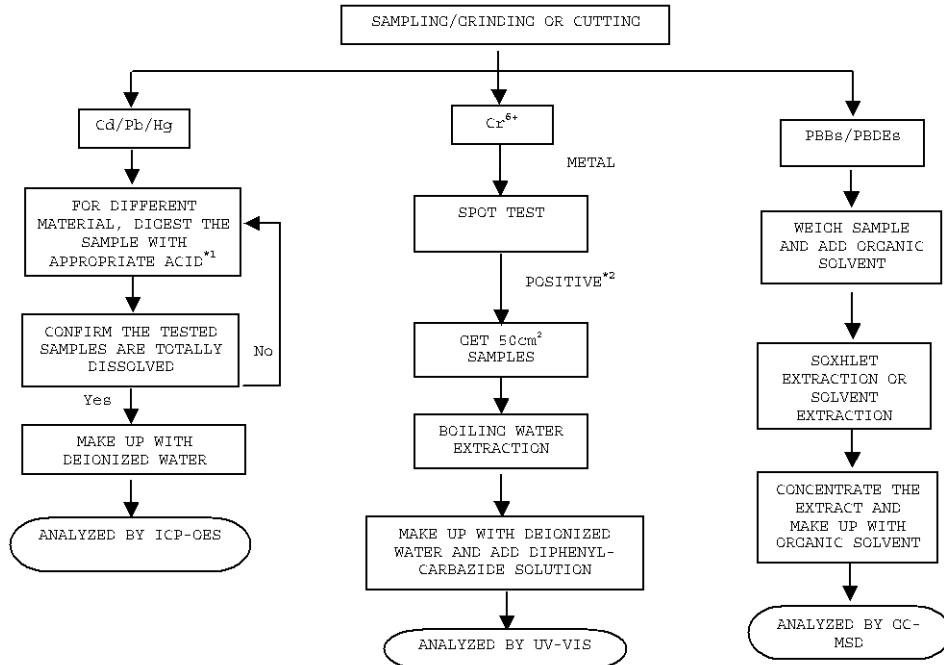


### TEST REPORT

NUMBER: WUXH00002719

#### TESTS CONDUCTED

(D) MEASUREMENT FLOWCHART:  
 TEST FOR Cd/Pb/Hg/Cr (VI)/PBBs/PBDEs CONTENTS  
 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 <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
METALS	HNO <sub>3</sub> , HCl, HF
ELECTRONICS	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

\*2: IF THE RESULT OF SPOT TEST IS POSITIVE, CHROMIUM VI WOULD BE DETERMINED AS DETECTED.

\*\*\*\*\*

TO BE CONTINUED

PAGE 4 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 5: Analysis Result of Ni-plated Wafer (Page 5 of 7)


**TEST REPORT**

NUMBER: WUXH00002719

## TESTS CONDUCTED

( I ) TEST RESULT SUMMARY :

HALOGEN CONTENT :

<u>TESTING ITEM</u>	<u>RESULT (ppm)</u>
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 RECEIVE: AUG 02, 2010

TEST PERIOD: AUG 02, 2010 TO AUG 05, 2010

( II ) TEST METHOD :

<u>TESTING ITEM</u>	<u>TESTING METHOD</u>	<u>REPORTING LIMIT</u>
HALOGEN (F, Cl, Br, I) CONTENT	WITH REFERENCE TO IEC 61189-2:2006 BY COMBUSTION FLASK AND DETERMINED BY ION CHROMATOGRAPHY	50 ppm

REMARKS : REPORTING LIMIT = QUANTITATION LIMIT OF ANALYTE IN SAMPLE

\*\*\*\*\*

TO BE CONTINUED

PAGE 5 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 5: Analysis Result of Ni-plated Wafer (Page 6 of 7)



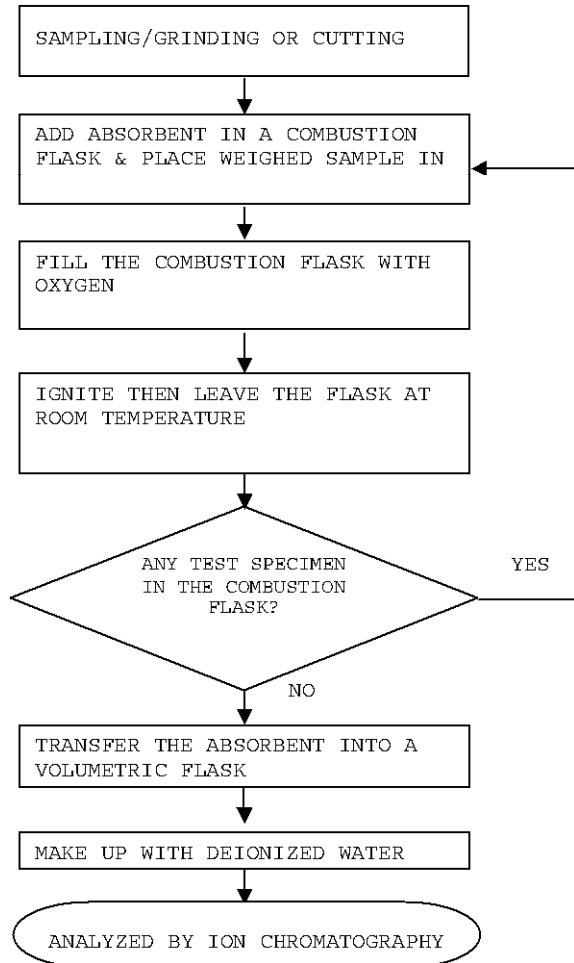
**TEST REPORT**

NUMBER: WUXH00002719

TESTS CONDUCTED

(III) MEASUREMENT FLOWCHART:

TEST FOR HALOGEN CONTENT  
REFERENCE METHOD: IEC 61189-2 TEST 2C12



CHEMIST: FRED WANG/ ALLY WAN

\*\*\*\*\*

TO BE CONTINUED

PAGE 6 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 5: Analysis Result of Ni-plated Wafer (Page 7 of 7)

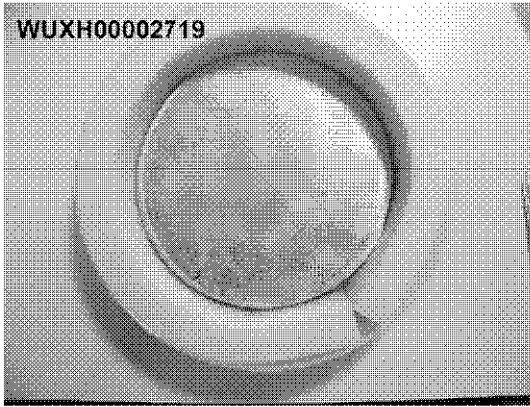
**Intertek**

TEST REPORT

NUMBER: WUXH00002719

TESTS CONDUCTED

PHOTO



\*\*\*\*\*  
END OF REPORT

PAGE 7 OF 7

**Intertek Testing Services Wuxi Ltd.**  
No.8 Fubel 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 1 of 7)**TEST REPORT

NUMBER: WUXH00002721

APPLICANT: CONCORD SEMICONDUCTOR(WUXI) CO., DATE: AUG 06, 2010  
LTD.  
EAST 1#,ZHENFA 6 ROAD, SHUO FANG  
INDUSTRIAL PARK WUXI NATIONAL HIGH-  
TECH DEVELOPMENT ZONE,  
WUXI,JIANGSU,CHINA  
ATTN: ZHANG XIAOPENG

## SAMPLE DESCRIPTION:

ONE(1)PIECE OF SUBMITTED SAMPLE SAID TO BE :WHITE POWDER.

ITEM NAME : WAFER PASSIVATION.

VENDOR : PROPRIETY.

COMPONENT OR PART NO. : PROPRIETY.


TEST ITEM : Pb,Cd,Hg,CrVI,PBB PBDE,F,Cl,Br,I.

## TESTS CONDUCTED:

AS REQUESTED BY THE APPLICANT, FOR DETAILS REFER TO ATTACHED PAGE(S)

\*\*\*\*\*  
TO BE CONTINUED

PREPARED AND CHECKED BY:  
FOR INTERTEK TESTING SERVICES WUXI LTD.



JESSICA LU  
GENERAL MANAGER

**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

PAGE 1 OF 7

## Annex 6: Analysis Result of Passivation Glass (Page 2 of 7)


**TEST REPORT**

NUMBER: WUXH00002721

## TESTS CONDUCTED

## (A) TEST RESULT SUMMARY:

TESTING ITEM	RESULT
CADMIUM (Cd) CONTENT (mg/kg)	ND
LEAD (Pb) CONTENT (mg/kg)	207400
MERCURY (Hg) CONTENT (mg/kg)	ND
CHROMIUM (VI) (Cr <sup>6+</sup> ) CONTENT (mg/kg) (FOR NON-METAL)	ND
POLYBROMINATED BIPHENYLS (PBBs) (mg/kg)	
MONOBROMO BIPHENYLS (MonoBB)	ND
DIBROMO BIPHENYLS (DiBB)	ND
TRIBROMO BIPHENYLS (TriBB)	ND
TETRABROMO BIPHENYLS (TetraBB)	ND
PENTABROMO BIPHENYLS (PentaBB)	ND
HEXABROMO BIPHENYLS (HexaBB)	ND
HEPTABROMO BIPHENYLS (HeptaBB)	ND
OCTABROMO BIPHENYLS (OctaBB)	ND
NONABROMO BIPHENYLS (NonaBB)	ND
DECABROMO BIPHENYL (DecaBB)	ND
POLYBROMINATED DIPHENYL ETHERS (PBDEs) (mg/kg)	
MONOBROMO DIPHENYL ETHERS (MonoBDE)	ND
DIBROMO DIPHENYL ETHERS (DiBDE)	ND
TRIBROMO DIPHENYL ETHERS (TriBDE)	ND
TETRABROMO DIPHENYL ETHERS (TetraBDE)	ND
PENTABROMO DIPHENYL ETHERS (PentaBDE)	ND
HEXABROMO DIPHENYL ETHERS (HexaBDE)	ND
HEPTABROMO DIPHENYL ETHERS (HeptaBDE)	ND
OCTABROMO DIPHENYL ETHERS (OctaBDE)	ND
NONABROMO DIPHENYL ETHERS (NonaBDE)	ND
DECABROMO DIPHENYL ETHER (DecaBDE)	ND

## REMARK:

mg/kg = MILLIGRAM PER KILOGRAM BASED ON DRY WEIGHT= ppm

ND = NOT DETECTED

# = THE RESULT IS FOR REFERENCE ONLY

\*\*\*\*\*

TO BE CONTINUED

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: WUXH00002721

## TESTS CONDUCTED

## (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 <sup>6+</sup> )	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 <sup>6+</sup> ) 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 02, 2010

TESTING PERIOD:AUG 02, 2010 TO AUG 05, 2010

\*\*\*\*\*

TO BE CONTINUED

PAGE 3 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

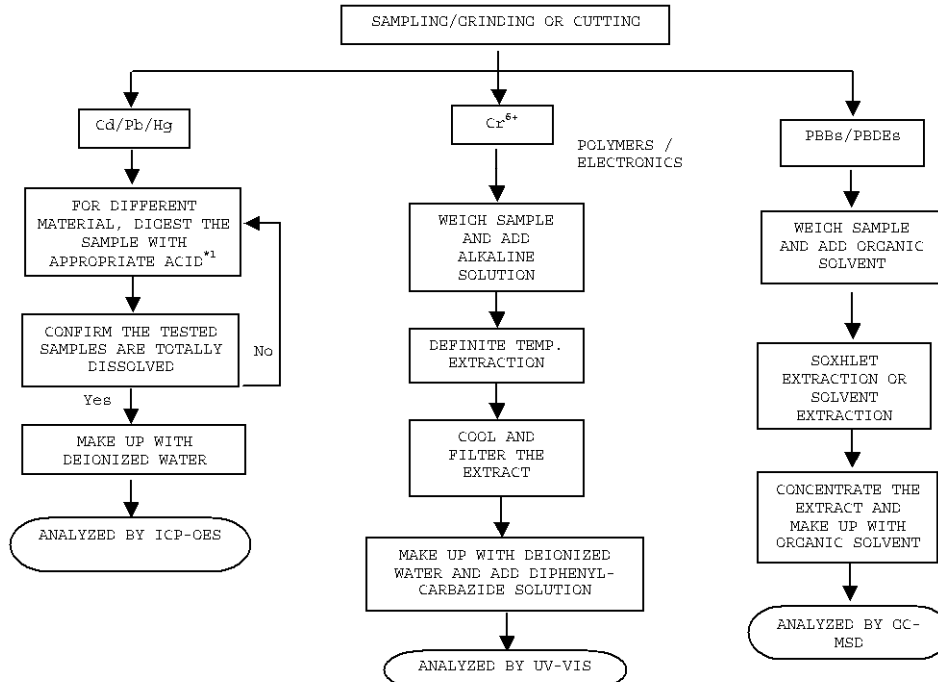
## Annex 6: Analysis Result of Passivation Glass (Page 4 of 7)


**TEST REPORT**

NUMBER: WUXH00002721

## TESTS CONDUCTED

(D) MEASUREMENT FLOWCHART:  
 TEST FOR Cd/Pb/Hg/Cr (VI)/PBBs/PBDEs CONTENTS  
 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 <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
METALS	HNO <sub>3</sub> , HCl, HF
ELECTRONICS	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

\*2: IF THE RESULT OF SPOT TEST IS POSITIVE, CHROMIUM VI WOULD BE DETERMINED AS DETECTED.

\*\*\*\*\*

TO BE CONTINUED

PAGE 4 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 5 of 7)


**TEST REPORT**

NUMBER: WUXH00002721

## TESTS CONDUCTED

( I ) TEST RESULT SUMMARY :

HALOGEN CONTENT :

<u>TESTING ITEM</u>	<u>RESULT (ppm)</u>
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 RECEIVE: AUG 02, 2010

TEST PERIOD: AUG 02, 2010 TO AUG 05, 2010

( II ) TEST METHOD :

<u>TESTING ITEM</u>	<u>TESTING METHOD</u>	<u>REPORTING LIMIT</u>
HALOGEN (F,Cl, Br,I) CONTENT	WITH REFERENCE TO IEC 61189-2:2006 BY COMBUSTION FLASK AND DETERMINED BY ION CHROMATOGRAPHY	50 ppm

REMARKS : REPORTING LIMIT = QUANTITATION LIMIT OF ANALYTE IN SAMPLE

\*\*\*\*\*

TO BE CONTINUED

PAGE 5 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 6 of 7)



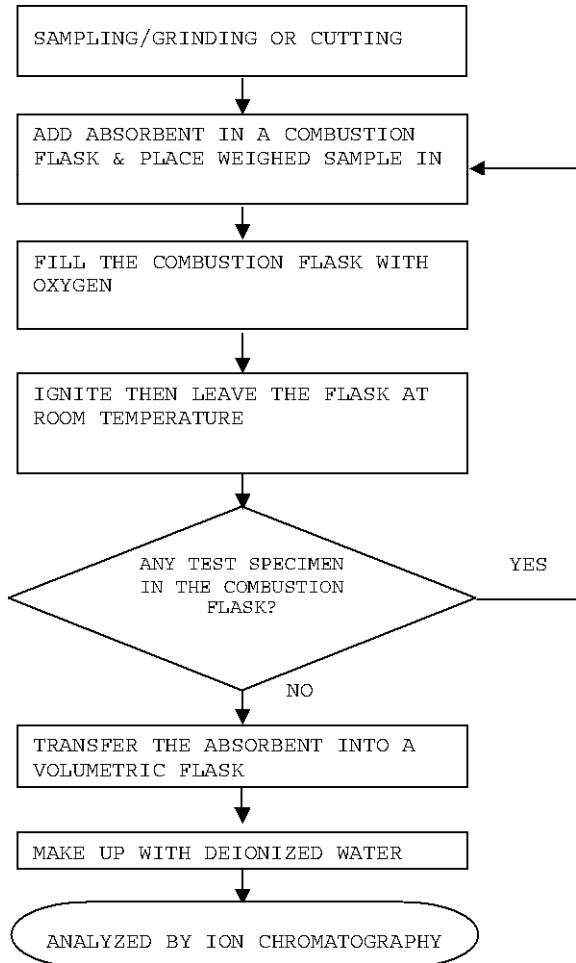
**TEST REPORT**

NUMBER: WUXH00002721

TESTS CONDUCTED

(III) MEASUREMENT FLOWCHART:

TEST FOR HALOGEN CONTENT  
REFERENCE METHOD: IEC 61189-2 TEST 2C12



CHEMIST: FRED WANG/ ALLY WAN

\*\*\*\*\*

TO BE CONTINUED

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

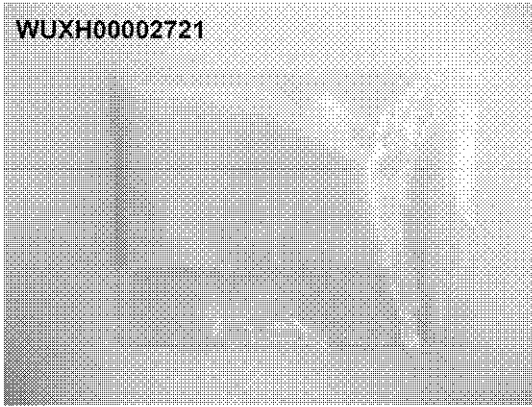


**TEST REPORT**

NUMBER: WUXH00002721

TESTS CONDUCTED

PHOTO



\*\*\*\*\*

END OF REPORT

PAGE 7 OF 7

**Intertek Testing Services Wuxi Ltd.**  
No.8 Fubel Road, Xishan Economic Development Zone,  
Wuxi 214 101, Jiangsu, China  
Tel: +86 510 8821 4567 Fax: +86 510 8820 0428 E-mail: consumergoods.wuxi@intertek.com



## Annex 7: Analysis Result of Die Bonding Solder (Page 2 of 7)



### Test Report

No. CANEC1001775101

Date: 29 Apr 2010

Page 2 of 7

#### Test Results:

ID for specimen 1 : CAN10-017751.001  
 Description for specimen 1 : Grey paste

#### A:RoHS Directive 2002/95/EC

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium (Cd)	mg/kg	IEC 62321:2008, ICP-OES	N.D.	2	100
Lead (Pb)	mg/kg	IEC 62321:2008, ICP-OES	891100 <sup>&lt;1&gt;</sup>	2	1000
Mercury (Hg)	mg/kg	IEC 62321:2008, ICP-OES	N.D.	2	1000
Hexavalent Chromium (CrVI) by alkaline extraction	mg/kg	IEC 62321:2008, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	-	N.D.	-	1000
Monobromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Dibromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Tribromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Tetrabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Pentabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Hexabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Heptabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Octabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Nonabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Decabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Sum of PBDEs	mg/kg	-	N.D.	-	1000
Monobromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Dibromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Tribromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Tetrabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Pentabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Hexabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Heptabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Octabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Nonabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Decabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	

#### Note:

1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit
4. "-" = Not regulated
5. The results of Pb shown are only for reference
6. The result(s) shown is/are of the total weight of dried sample.
7. Remark<1>: According to the declaration from client, the source of Lead in specimen could be from the high melting temperature type solder, while Lead in high melting temperature type solders is exempted by RoHS

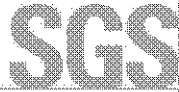
This document is owned by the Company and is intended for internal use only. It is not to be distributed outside the Company without the prior written consent of the Company. The Company is not responsible for any damage or loss of data caused by the use of this document. The Company is not responsible for any damage or loss of data caused by the use of this document. The Company is not responsible for any damage or loss of data caused by the use of this document.



東莞：廣州：松山湖清溪安瀾路利達路15號 電話：010650 1 33-20 00 3555 1 33-20 00 7112 P. sgs.com.cn

Member of the SGS Group (SGS SA)

## Annex 7: Analysis Result of Die Bonding Solder (Page 3 of 7)



### Test Report

No. CANEC1001775101

Date: 29 Apr 2010

Page 3 of 7

regulatory (Directive 2002/95/EC of the European Parliament and of the council of 27 January 2003).

#### B:Halogen

Test Item(s)	Unit	Test Method (Reference)	Result	MDL
Fluorine (F)	mg/kg	BS EN 14582:2007, IC	N.D.	50
Chlorine (Cl)	mg/kg	BS EN 14582:2007, IC	N.D.	50
Bromine (Br)	mg/kg	BS EN 14582:2007, IC	240	50
Iodine (I)	mg/kg	BS EN 14582:2007, IC	N.D.	50

#### Note:

1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit
4. The result(s) shown is/are of the total weight of wet sample.

Remark1: For Halogen tests, specimen is/are extracted by organic solvent and subsequently burned in oxygen bomb.

Remark2: Results and photo(s) of this report refer to test report CANEC1001467301.

Remark3: Results and photo(s) of test report CANEC1001467301 refer to test report CANEC1001261801.

This document is issued by the Company in compliance with the National Regulations of the People's Republic of China. The test results are based on the test results of the samples provided by the customer. The Company is not responsible for the results of the test items not included in the test report. The Company is not responsible for the results of the test items not included in the test report. The Company is not responsible for the results of the test items not included in the test report. The Company is not responsible for the results of the test items not included in the test report.



東莞：廣州：松山湖清溪寮步石塘洲鎮莞邑路55號 電話：0106950 138-2010-3888 138-2010-7711 E:sgs@sgs.com

Member of the SGS Group (SGS SA)









**Annex 8: Analysis Result of Fail Short Spring (Page 1 of 5)**TEST REPORT

NUMBER: WUXH00002774

APPLICANT: CONCORD SEMICONDUCTOR(WUXI) CO.,LTD. DATE: AUG 06, 2010  
EAST 1#,ZHENFA 6 ROAD, SHUO FANG  
INDUSTRIAL PARK WUXI NATIONAL HIGH-  
TECH DEVELOPMENT ZONE,  
WUXI,JIANGSU,CHINA  
ATTN: ZHANG XIAOPENG

## SAMPLE DESCRIPTION:

ONE(1)PIECE OF SUBMITTED SAMPLE SAID TO BE :COPPER METAL.  
ITEM NAME : SPRING.  
VENDOR : WESTERN SPRING AND WIRE.  
COMPONENT OR PART NO. : COPPER ALLOY.  
TEST ITEM : Pb,Cd,Hg,CrVI,PBB PBDE.

\*\*\*\*\*  
TESTS CONDUCTED:

AS REQUESTED BY THE APPLICANT, FOR DETAILS REFER TO ATTACHED PAGE(S)  
\*\*\*\*\*

## 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

\*\*\*\*\*  
TO BE CONTINUED

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 Fubel 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 8: Analysis Result of Fail Short Spring (Page 2 of 5)


**TEST REPORT**

NUMBER: WUXH00002774

## TESTS CONDUCTED

## (A) TEST RESULT SUMMARY:

TESTING ITEM	RESULT
CADMIUM (Cd) CONTENT (mg/kg)	ND
LEAD (Pb) CONTENT (mg/kg)	101
MERCURY (Hg) CONTENT (mg/kg)	ND
CHROMIUM (VI) (Cr <sup>6+</sup> ) RESULT (BY BOILING WATER EXTRACTION ON METAL) (mg/kg WITH 50cm <sup>2</sup> )	ND
POLYBROMINATED BIPHENYLS (PBBs) (mg/kg)	
MONOBROMO BIPHENYLS (MonoBB)	ND
DIBROMO BIPHENYLS (DiBB)	ND
TRIBROMO BIPHENYLS (TriBB)	ND
TETRABROMO BIPHENYLS (TetraBB)	ND
PENTABROMO BIPHENYLS (PentaBB)	ND
HEXABROMO BIPHENYLS (HexaBB)	ND
HEPTABROMO BIPHENYLS (HeptaBB)	ND
OCTABROMO BIPHENYLS (OctaBB)	ND
NONABROMO BIPHENYLS (NonaBB)	ND
DECABROMO BIPHENYL (DecaBB)	ND
POLYBROMINATED DIPHENYL ETHERS (PBDEs) (mg/kg)	
MONOBROMO DIPHENYL ETHERS (MonoBDE)	ND
DIBROMO DIPHENYL ETHERS (DiBDE)	ND
TRIBROMO DIPHENYL ETHERS (TriBDE)	ND
TETRABROMO DIPHENYL ETHERS (TetraBDE)	ND
PENTABROMO DIPHENYL ETHERS (PentaBDE)	ND
HEXABROMO DIPHENYL ETHERS (HexaBDE)	ND
HEPTABROMO DIPHENYL ETHERS (HeptaBDE)	ND
OCTABROMO DIPHENYL ETHERS (OctaBDE)	ND
NONABROMO DIPHENYL ETHERS (NonaBDE)	ND
DECABROMO DIPHENYL ETHER (DecaBDE)	ND

## REMARK:

mg/kg = MILLIGRAM PER KILOGRAM BASED ON DRY WEIGHT= ppm

ND = NOT DETECTED

 mg/kg WITH 50cm<sup>2</sup> = MILLIGRAM PER KILOGRAM WITH 50 SQUARE CENTIMETER

\*\*\*\*\*

TO BE CONTINUED

PAGE 2 OF 5

**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 8: Analysis Result of Fail Short Spring (Page 3 of 5)


**TEST REPORT**

NUMBER: WUXH00002774

## TESTS CONDUCTED

## (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 <sup>6+</sup> )	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 <sup>6+</sup> ) 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 <sup>2</sup> (IN TESTING SOLUTION)
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 02, 2010

TESTING PERIOD:AUG 02, 2010 TO AUG 05, 2010

\*\*\*\*\*  
TO BE CONTINUED

PAGE 3 OF 5

**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 8: Analysis Result of Fail Short Spring (Page 4 of 5)

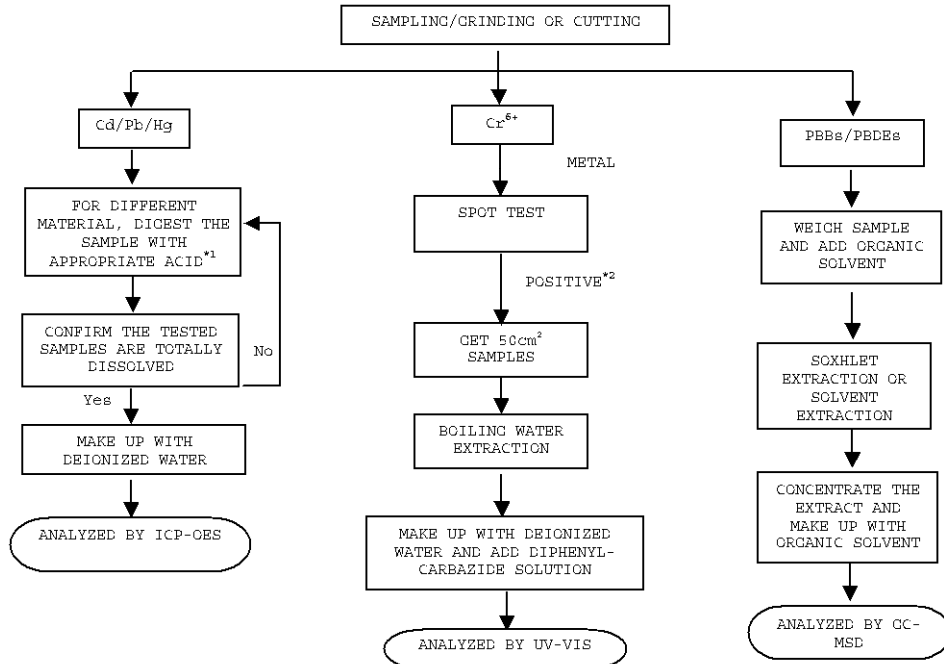


### TEST REPORT

NUMBER: WUXH00002774

#### TESTS CONDUCTED

(D) MEASUREMENT FLOWCHART:

 TEST FOR Cd/Pb/Hg/Cr (VI)/PBBs/PBDEs CONTENTS  
 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 <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
METALS	HNO <sub>3</sub> , HCl, HF
ELECTRONICS	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

\*2: IF THE RESULT OF SPOT TEST IS POSITIVE, CHROMIUM VI WOULD BE DETERMINED AS DETECTED.

\*\*\*\*\*

TO BE CONTINUED

PAGE 4 OF 5

**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 8: Analysis Result of Fail Short Spring (Page 5 of 5)

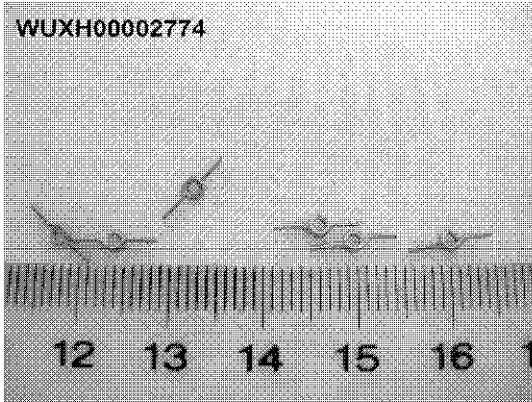


TEST REPORT

NUMBER: WUXH00002774

TESTS CONDUCTED

PHOTO



\*\*\*\*\*

END OF REPORT

**Annex 9: Analysis Result of Fail Safe Tube (Page 1 of 5)**TEST REPORT

NUMBER: WUXH00002773

APPLICANT: CONCORD SEMICONDUCTOR(WUXI) CO.,LTD. DATE: AUG 06, 2010  
EAST 1#,ZHENFA 6 ROAD, SHUO FANG  
INDUSTRIAL PARK WUXI NATIONAL HIGH-  
TECH DEVELOPMENT ZONE,  
WUXI,JIANGSU,CHINA  
ATTN: ZHANG XIAOPENG

## SAMPLE DESCRIPTION:

ONE(1)PIECE OF SUBMITTED SAMPLE SAID TO BE :**BLACK PLASTIC**.

ITEM NAME : TUBE.  
VENDOR : PVC INSULTAB.  
COMPONENT OR PART NO. : PLASTIC.  
TEST ITEM : Pb,Cd,Hg,CrVI,PBB PBDE.

## TESTS CONDUCTED:

AS REQUESTED BY THE APPLICANT, FOR DETAILS REFER TO ATTACHED PAGE(S)  
\*\*\*\*\*

## 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

\*\*\*\*\*  
TO BE CONTINUED

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 Fubel 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 9: Analysis Result of Fail Safe Tube (Page 2 of 5)


**TEST REPORT**

NUMBER: WUXH00002773

## TESTS CONDUCTED

## (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 <sup>6+</sup> ) CONTENT (mg/kg) (FOR NON-METAL)	ND
POLYBROMINATED BIPHENYLS (PBBs) (mg/kg)	
MONOBROMO BIPHENYLS (MonoBB)	ND
DIBROMO BIPHENYLS (DiBB)	ND
TRIBROMO BIPHENYLS (TriBB)	ND
TETRABROMO BIPHENYLS (TetraBB)	ND
PENTABROMO BIPHENYLS (PentaBB)	ND
HEXABROMO BIPHENYLS (HexaBB)	ND
HEPTABROMO BIPHENYLS (HeptaBB)	ND
OCTABROMO BIPHENYLS (OctaBB)	ND
NONABROMO BIPHENYLS (NonaBB)	ND
DECABROMO BIPHENYL (DecaBB)	ND
POLYBROMINATED DIPHENYL ETHERS (PBDEs) (mg/kg)	
MONOBROMO DIPHENYL ETHERS (MonoBDE)	ND
DIBROMO DIPHENYL ETHERS (DiBDE)	ND
TRIBROMO DIPHENYL ETHERS (TriBDE)	ND
TETRABROMO DIPHENYL ETHERS (TetraBDE)	ND
PENTABROMO DIPHENYL ETHERS (PentaBDE)	ND
HEXABROMO DIPHENYL ETHERS (HexaBDE)	ND
HEPTABROMO DIPHENYL ETHERS (HeptaBDE)	ND
OCTABROMO DIPHENYL ETHERS (OctaBDE)	ND
NONABROMO DIPHENYL ETHERS (NonaBDE)	ND
DECABROMO DIPHENYL ETHER (DecaBDE)	ND

## REMARK:

mg/kg = MILLIGRAM PER KILOGRAM BASED ON DRY WEIGHT= ppm

ND = NOT DETECTED

\*\*\*\*\*

TO BE CONTINUED

PAGE 2 OF 5

**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 9: Analysis Result of Fail Safe Tube (Page 3 of 5)


**TEST REPORT**

NUMBER: WUXH00002773

## TESTS CONDUCTED

## (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 <sup>6+</sup> )	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 <sup>6+</sup> ) 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 02, 2010

TESTING PERIOD:AUG 02, 2010 TO AUG 05, 2010

\*\*\*\*\*

TO BE CONTINUED

PAGE 3 OF 5

**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 9: Analysis Result of Fail Safe Tube (Page 4 of 5)

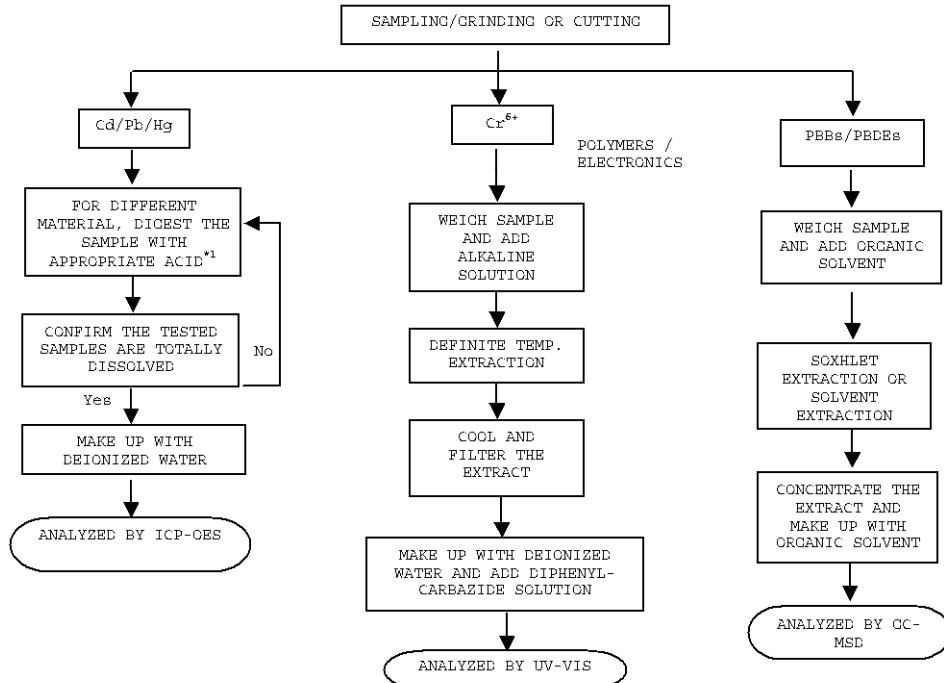


### TEST REPORT

NUMBER: WUXH00002773

#### TESTS CONDUCTED

(D) MEASUREMENT FLOWCHART:

 TEST FOR Cd/Pb/Hg/Cr (VI)/PBBs/PBDEs CONTENTS  
 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 <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
METALS	HNO <sub>3</sub> , HCl, HF
ELECTRONICS	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

\*2: IF THE RESULT OF SPOT TEST IS POSITIVE, CHROMIUM VI WOULD BE DETERMINED AS DETECTED.

\*\*\*\*\*

TO BE CONTINUED

PAGE 4 OF 5

**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 9: Analysis Result of Fail Safe Tube (Page 5 of 5)



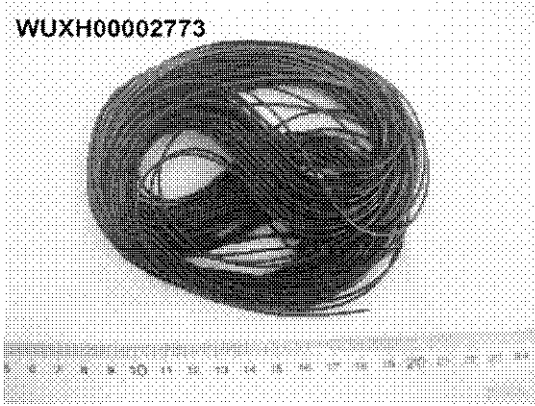
TEST REPORT

NUMBER: WUXH00002773

TESTS CONDUCTED

PHOTO

WUXH00002773



\*\*\*\*\*

END OF REPORT

**Annex 10: Analysis Result of Fail Safe Clip (Page 1 of 5)****TEST REPORT**

NUMBER: WUXH00002772

APPLICANT: CONCORD SEMICONDUCTOR(WUXI) CO.,LTD. DATE: AUG 06, 2010  
EAST 1#,ZHENFA 6 ROAD, SHUO FANG  
INDUSTRIAL PARK WUXI NATIONAL HIGH-  
TECH DEVELOPMENT ZONE,  
WUXI,JIANGSU,CHINA  
ATTN: ZHANG XIAOPENG

## SAMPLE DESCRIPTION:

ONE(1)PIECE OF SUBMITTED SAMPLE SAID TO BE :**SILVER METAL.**

ITEM NAME : CLIP.

VENDOR : G-SHANK.

COMPONENT OR PART NO. : COPPER WITH TIN PLATING.

TEST ITEM : Pb,Cd,Hg,CrVI,PBB PBDE.

TEST MODE : AS PER CLIENT'S REQUEST, THE TESTED SAMPLE  
WAS TESTED AS A WHOLE AND SAMPLED.\*\*\*\*\*  
TESTS CONDUCTED:

AS REQUESTED BY THE APPLICANT, FOR DETAILS REFER TO ATTACHED PAGE(S)

\*\*\*\*\*  
TO BE CONTINUED

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 Fubel 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 10: Analysis Result of Fail Safe Clip (Page 2 of 5)


**TEST REPORT**

NUMBER: WUXH00002772

## TESTS CONDUCTED

## (A) TEST RESULT SUMMARY:

TESTING ITEM	RESULT
CADMIUM (Cd) CONTENT (mg/kg)	ND
LEAD (Pb) CONTENT (mg/kg)	46
MERCURY (Hg) CONTENT (mg/kg)	ND
CHROMIUM (VI) (Cr <sup>6+</sup> ) RESULT (BY BOILING WATER EXTRACTION ON METAL) (mg/kg WITH 50cm <sup>2</sup> )	ND
POLYBROMINATED BIPHENYLS (PBBs) (mg/kg)	
MONOBROMO BIPHENYLS (MonoBB)	ND
DIBROMO BIPHENYLS (DiBB)	ND
TRIBROMO BIPHENYLS (TriBB)	ND
TETRABROMO BIPHENYLS (TetraBB)	ND
PENTABROMO BIPHENYLS (PentaBB)	ND
HEXABROMO BIPHENYLS (HexaBB)	ND
HEPTABROMO BIPHENYLS (HeptaBB)	ND
OCTABROMO BIPHENYLS (OctaBB)	ND
NONABROMO BIPHENYLS (NonaBB)	ND
DECABROMO BIPHENYL (DecaBB)	ND
POLYBROMINATED DIPHENYL ETHERS (PBDEs) (mg/kg)	
MONOBROMO DIPHENYL ETHERS (MonoBDE)	ND
DIBROMO DIPHENYL ETHERS (DiBDE)	ND
TRIBROMO DIPHENYL ETHERS (TriBDE)	ND
TETRABROMO DIPHENYL ETHERS (TetraBDE)	ND
PENTABROMO DIPHENYL ETHERS (PentaBDE)	ND
HEXABROMO DIPHENYL ETHERS (HexaBDE)	ND
HEPTABROMO DIPHENYL ETHERS (HeptaBDE)	ND
OCTABROMO DIPHENYL ETHERS (OctaBDE)	ND
NONABROMO DIPHENYL ETHERS (NonaBDE)	ND
DECABROMO DIPHENYL ETHER (DecaBDE)	ND

## REMARK:

mg/kg = MILLIGRAM PER KILOGRAM BASED ON DRY WEIGHT= ppm

ND = NOT DETECTED

 mg/kg WITH 50cm<sup>2</sup> = MILLIGRAM PER KILOGRAM WITH 50 SQUARE CENTIMETER

\*\*\*\*\*

TO BE CONTINUED

PAGE 2 OF 5

**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 10: Analysis Result of Fail Safe Clip (Page 3 of 5)


**TEST REPORT**

NUMBER: WUXH00002772

## TESTS CONDUCTED

## (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 <sup>6+</sup> )	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 <sup>6+</sup> ) 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 <sup>2</sup> (IN TESTING SOLUTION)
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 02, 2010

TESTING PERIOD:AUG 02, 2010 TO AUG 05, 2010

 \*\*\*\*\*  
 TO BE CONTINUED

PAGE 3 OF 5

**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 10: Analysis Result of Fail Safe Clip (Page 4 of 5)

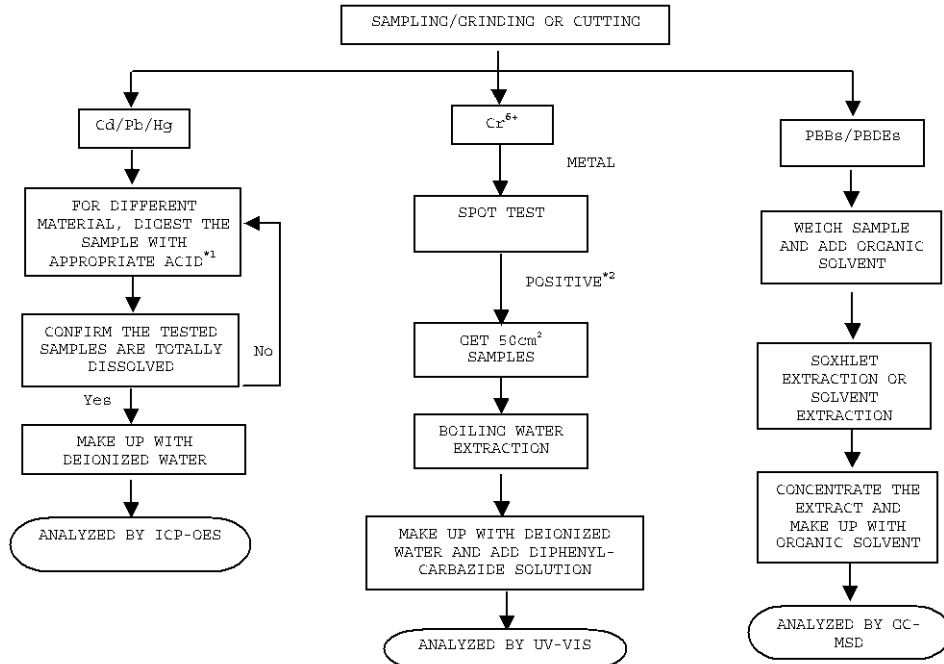


### TEST REPORT

NUMBER: WUXH00002772

#### TESTS CONDUCTED

(D) MEASUREMENT FLOWCHART:

 TEST FOR Cd/Pb/Hg/Cr (VI)/PBBs/PBDEs CONTENTS  
 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 <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
METALS	HNO <sub>3</sub> , HCl, HF
ELECTRONICS	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

\*2: IF THE RESULT OF SPOT TEST IS POSITIVE, CHROMIUM VI WOULD BE DETERMINED AS DETECTED.

\*\*\*\*\*

TO BE CONTINUED

PAGE 4 OF 5

**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 10: Analysis Result of Fail Safe Clip (Page 5 of 5)

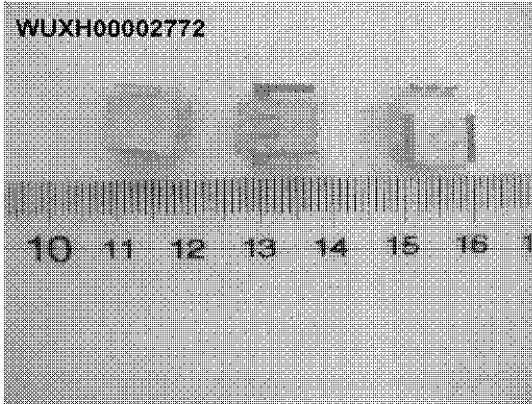


TEST REPORT

NUMBER: WUXH00002772

TESTS CONDUCTED

PHOTO



\*\*\*\*\*

END OF REPORT

PAGE 5 OF 5

**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 11: Analysis Result of Fail Solder Preform (Page 1 of 5)**TEST REPORT

NUMBER: WUXH00002775

APPLICANT: CONCORD SEMICONDUCTOR(WUXI) CO.,LTD. DATE: AUG 06, 2010  
EAST 1#,ZHENFA 6 ROAD, SHUO FANG  
INDUSTRIAL PARK WUXI NATIONAL HIGH-  
TECH DEVELOPMENT ZONE,  
WUXI,JIANGSU,CHINA  
ATTN: ZHANG XIAOPENG

## SAMPLE DESCRIPTION:

ONE(1)PIECE OF SUBMITTED SAMPLE SAID TO BE :**SILVER METAL**.  
ITEM NAME : SOLDER PREFORM.  
VENDOR : INDIUM CORPORATION OF AMERICA.  
COMPONENT OR PART NO. : SOLDER.  
TEST ITEM : Pb,Cd,Hg,CrVI,PBB PBDE.

\*\*\*\*\*

## TESTS CONDUCTED:

AS REQUESTED BY THE APPLICANT, FOR DETAILS REFER TO ATTACHED PAGE(S)  
\*\*\*\*\*

## 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

\*\*\*\*\*

TO BE CONTINUED

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 Fubel 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 11: Analysis Result of Fail Solder Preform (Page 2 of 5)


**TEST REPORT**

NUMBER: WUXH00002775

## TESTS CONDUCTED

## (A) TEST RESULT SUMMARY:

TESTING ITEM	RESULT
CADMIUM (Cd) CONTENT (mg/kg)	ND
LEAD (Pb) CONTENT (mg/kg)	166
MERCURY (Hg) CONTENT (mg/kg)	ND
CHROMIUM (VI) (Cr <sup>6+</sup> ) RESULT (BY BOILING WATER EXTRACTION ON METAL) (mg/kg WITH 50cm <sup>2</sup> )	ND
POLYBROMINATED BIPHENYLS (PBBs) (mg/kg)	
MONOBROMO BIPHENYLS (MonoBB)	ND
DIBROMO BIPHENYLS (DiBB)	ND
TRIBROMO BIPHENYLS (TriBB)	ND
TETRABROMO BIPHENYLS (TetraBB)	ND
PENTABROMO BIPHENYLS (PentaBB)	ND
HEXABROMO BIPHENYLS (HexaBB)	ND
HEPTABROMO BIPHENYLS (HeptaBB)	ND
OCTABROMO BIPHENYLS (OctaBB)	ND
NONABROMO BIPHENYLS (NonaBB)	ND
DECABROMO BIPHENYL (DecaBB)	ND
POLYBROMINATED DIPHENYL ETHERS (PBDEs) (mg/kg)	
MONOBROMO DIPHENYL ETHERS (MonoBDE)	ND
DIBROMO DIPHENYL ETHERS (DiBDE)	ND
TRIBROMO DIPHENYL ETHERS (TriBDE)	ND
TETRABROMO DIPHENYL ETHERS (TetraBDE)	ND
PENTABROMO DIPHENYL ETHERS (PentaBDE)	ND
HEXABROMO DIPHENYL ETHERS (HexaBDE)	ND
HEPTABROMO DIPHENYL ETHERS (HeptaBDE)	ND
OCTABROMO DIPHENYL ETHERS (OctaBDE)	ND
NONABROMO DIPHENYL ETHERS (NonaBDE)	ND
DECABROMO DIPHENYL ETHER (DecaBDE)	ND

## REMARK:

mg/kg = MILLIGRAM PER KILOGRAM BASED ON DRY WEIGHT= ppm

ND = NOT DETECTED

 MG/KG WITH 50CM<sup>2</sup> = MILLIGRAM PER KILOGRAM WITH 50 SQUARE CENTIMETER

\*\*\*\*\*

TO BE CONTINUED

PAGE 2 OF 5

**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 11: Analysis Result of Fail Solder Preform (Page 3 of 5)


**TEST REPORT**

NUMBER: WUXH00002775

## TESTS CONDUCTED

## (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 <sup>6+</sup> )	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 <sup>6+</sup> ) 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 <sup>2</sup> (IN TESTING SOLUTION)
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 02, 2010

TESTING PERIOD:AUG 02, 2010 TO AUG 05, 2010

\*\*\*\*\*  
TO BE CONTINUED

PAGE 3 OF 5

**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 11: Analysis Result of Fail Solder Preform (Page 4 of 5)

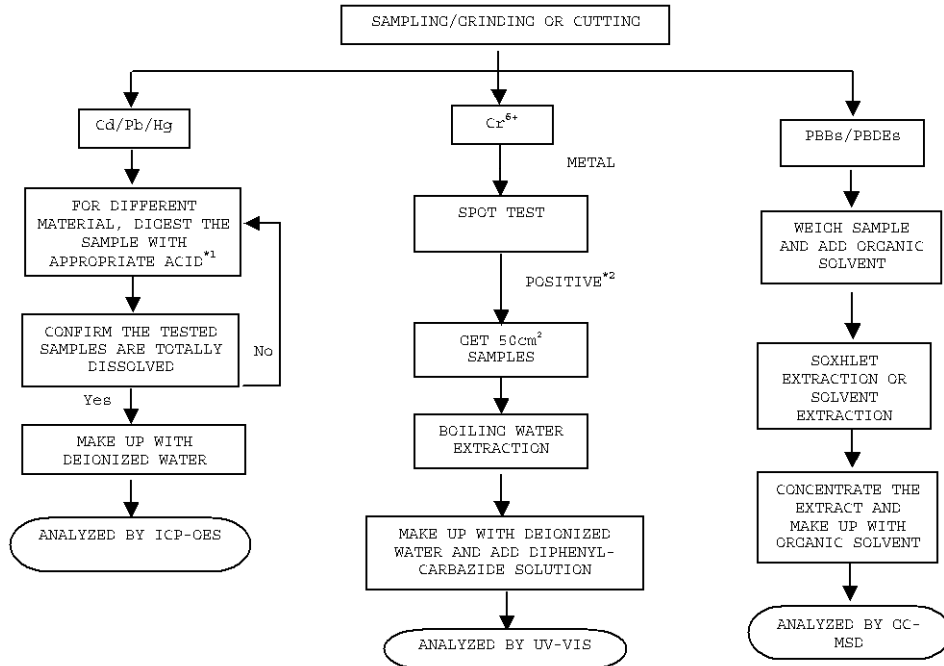


### TEST REPORT

NUMBER: WUXH00002775

#### TESTS CONDUCTED

(D) MEASUREMENT FLOWCHART:  
 TEST FOR Cd/Pb/Hg/Cr (VI)/PBBs/PBDEs CONTENTS  
 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 <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
METALS	HNO <sub>3</sub> , HCl, HF
ELECTRONICS	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

\*2: IF THE RESULT OF SPOT TEST IS POSITIVE, CHROMIUM VI WOULD BE DETERMINED AS DETECTED.

\*\*\*\*\*

TO BE CONTINUED

PAGE 4 OF 5

**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 11: Analysis Result of Fail Solder Preform (Page 5 of 5)

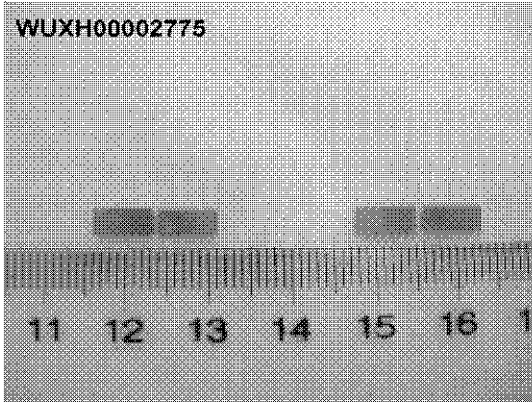


TEST REPORT

NUMBER: WUXH00002775

TESTS CONDUCTED

PHOTO



\*\*\*\*\*

END OF REPORT

## Annex 12: Applicable RoHS exemptions

13.2.2003	EN	Official Journal of the European Union	L 37/19						
<b>DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment</b>									
13.2.2003	EN	Official Journal of	to be protected and an overall strategy that in particular restricts the use of cadmium and stimulates research into substitutes should therefore be implemented. The Reso-						
<p style="text-align: center;">Article 4</p> <p style="text-align: center;"><b>Prevention</b></p> <p>1. Member States shall ensure that, from 1 July 2006, new electrical and electronic equipment put on the market does not contain lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE). National measures restricting or prohibiting the use of these substances in electrical and electronic equipment which were adopted in line with Community legislation before the adoption of this Directive may be maintained until 1 July 2006.</p>									
13.2.2	<p>2. Paragraph 1 shall not apply to the applications listed in the Annex.</p>		of the European Union L 37/23						
<p>ANNEX</p> <p><b>Applications of lead, mercury, cadmium and hexavalent chromium, which are exempted from the requirements of Article 4(1)</b></p> <ol style="list-style-type: none"> <li>1. Mercury in compact fluorescent lamps not exceeding 5 mg per lamp.</li> <li>2. Mercury in straight fluorescent lamps for general purposes not exceeding:       <table style="margin-left: 20px; border: none;"> <tr> <td>— halophosphate</td> <td style="text-align: right;">10 mg</td> </tr> <tr> <td>— triphosphate with normal lifetime</td> <td style="text-align: right;">5 mg</td> </tr> <tr> <td>— triphosphate with long lifetime</td> <td style="text-align: right;">8 mg.</td> </tr> </table> </li> <li>3. Mercury in straight fluorescent lamps for special purposes.</li> <li>4. Mercury in other lamps not specifically mentioned in this Annex.</li> <li>5. Lead in glass of cathode ray tubes, electronic components and fluorescent tubes.</li> <li>6. Lead as an alloying element in steel containing up to 0,35 % lead by weight, aluminium containing up to 0,4 % lead by weight and as a copper alloy containing up to 4 % lead by weight.</li> <li>7. — Lead in high melting temperature type solders (i.e. tin-lead solder alloys containing more than 85 % lead),       <ul style="list-style-type: none"> <li>— lead in solders for servers, storage and storage array systems (exemption granted until 2010),</li> <li>— lead in solders for network infrastructure equipment for switching, signalling, transmission as well as network management for telecommunication,</li> <li>— lead in electronic ceramic parts (e.g. piezoelectronic devices).</li> </ul> </li> <li>8. Cadmium plating except for applications banned under Directive 91/338/EEC (*) amending Directive 76/769/EEC (**) relating to restrictions on the marketing and use of certain dangerous substances and preparations.</li> </ol>				— halophosphate	10 mg	— triphosphate with normal lifetime	5 mg	— triphosphate with long lifetime	8 mg.
— halophosphate	10 mg								
— triphosphate with normal lifetime	5 mg								
— triphosphate with long lifetime	8 mg.								