Littelfuse
Expertise Applied | Answers Delivered

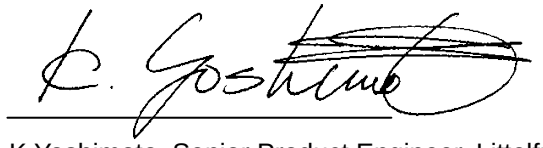
Certificate of non-use of The Controlled Substances

Company name	Littelfuse, Inc.
Product Covered	SIDACtor®, DO-214AA & COMPAK® Package SIDAC, DO-214AA Package SiBOD™, DO-214AA Package, SMTBJ series Thyristor, COMPAK® Package BATTRAX®, COMPAK® Package PLED, DO-214AA Package
Issue Date	August 13, 2011 (revised to add new part numbers, February 12, 2012)

It is hereby certified by Littelfuse, Inc., 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/packaging 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/packaging 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 DO-214AA package & COMPAK package, RoHS-Compliant and Halogen-free series manufactured by Littelfuse Concord Wuxi Plant (Wuxi, China), supplied by Littelfuse, Inc. Please see page 2-5 for the complete list of part number covered by this report.

＜Homogeneous Materials used＞

Please see figure and table 1 on page 6 and table 2 on page 7-10 of this document.

(2) The analytical data on all measurable substances

Please see annex 1 through 7, attached to this document.

Remarks：

Pb (lead) contained in die bonding solder (item 8 on page 6) and passivation glass (item 7) to be categorized as exempt in RoHS Annex III 7(a) and 7(c)-I.

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 (1/3)

SIDACtor® Standard Devices

P0080SALRP	P0722SBLRP	P1302SCLRP	P2500SALRP
P0080SAMCLRP	P0722SCLRP	P1402SALRP	P2500SBLRP
P0080SBLRP	P0900SALRP	P1402SBLRP	P2500SCLRP
P0080SBMCLRP	P0900SBLRP	P1500SALRP	P2500SCMCLRP
P0080SCLRP	P0900SCLRP	P1500SBLRP	P2600SALRP
P0080SCMCLRP	P0900SCMCLRP	P1500SCLRP	P2600SBLRP
P0080SDLRP	P0900SDLRP	P1500SCMCLRP	P2600SCLRP
P0220SALRP	P0901CA2LRP	P1500SDLRP	P2600SCMCLRP
P0220SAMCLRP	P0901SALRP	P1502SALRP	P2600SDLRP
P0220SBLRP	P0901SBLRP	P1502SBLRP	P2600STLRP
P0220SBMCLRP	P0901SCLRP	P1502SCLRP	P2602SALRP
P0220SCLRP	P0902SALRP	P1701CA2LRP	P2602SBLRP
P0220SCMCLRP	P0902SBLRP	P1701SALRP	P2602SCLRP
P0300SALRP	P0902SCLRP	P1701SBLRP	P3002SALRP
P0300SAMCLRP	P1100SALRP	P1701SCLRP	P3002SBLRP
P0300SBLRP	P1100SBLRP	P1800SALRP	P3002SCLRP
P0300SBMCLRP	P1100SCLRP	P1800SBLRP	P3100SALRP
P0300SCLRP	P1100SCMCLRP	P1800SCLRP	P3100SBLRP
P0300SCMCLRP	P1100SDLRP	P1800SCMCLRP	P3100SCLRP
P0640SALRP	P1101CA2LRP	P1800SDLRP	P3100SCMCLRP
P0640SBLRP	P1101SALRP	P1800STLRP	P3100SDLRP
P0640SCLRP	P1101SBLRP	P1802SALRP	P3100STLRP
P0640SCMCLRP	P1101SCLRP	P1802SBLRP	P3100SXLRP
P0640SDLRP	P1101SDLRP	P1802SCLRP	P3500SALRP
P0641CA2LRP	P1102SALRP	P2000SALRP	P3500SBLRP
P0641SALRP	P1102SBLRP	P2000SBLRP	P3500SCLRP
P0641SBLRP	P1102SCLRP	P2000SCLRP	P3500SCMCLRP
P0641SCLRP	P1200SALRP	P2000SCMCLRP	P3500SDLRP
P0642SALRP	P1200SBLRP	P2100SALRP	P3500STLRP
P0642SBLRP	P1200SCLRP	P2100SBLRP	P3502SALRP
P0642SCLRP	P1200SCMCLRP	P2100SCLRP	P3502SBLRP
P0720SALRP	P1300SALRP	P2100SCMCLRP	P3502SCLRP
P0720SBLRP	P1300SBLRP	P2300SALRP	P3502SCLRP
P0720SCLRP	P1300SCLRP	P2300SBLRP	P4202SALRP
P0720SCMCLRP	P1300SCMCLRP	P2300SCLRP	P4202SCLRP
P0720SDLRP	P1300SDLRP	P2300SCMCLRP	P4802SALRP
P0721CA2LRP	P1301CA2LRP	P2300SDLRP	P4802SCLRP
P0721SALRP	P1301SCLRP	P2300STLRP	P6002SALRP
P0721SBLRP	P1301SDLRP	P2302SALRP	P6002SCLRP
P0721SCLRP	P1302SALRP	P2302SBLRP	P7002SCLRP
P0722SALRP	P1302SBLRP	P2302SCLRP	

Littelfuse Part Number covered by this report (2/3)

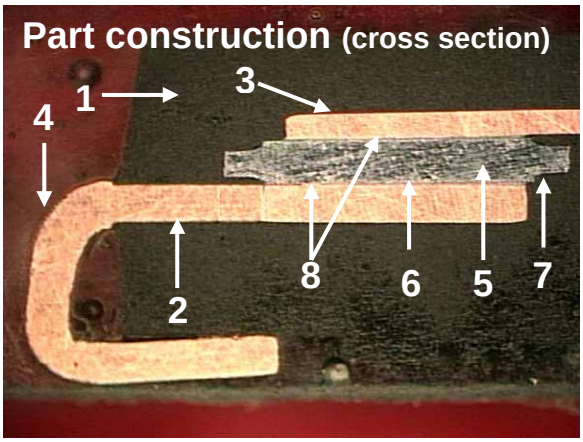
SIDACtor® Special Devices

P376P1500SCRP	P923CRP	**Special device part numbers with base part number listed in table 1/3 (standard devices) are also automatically covered.** **Their typical part number format is PxxxPxxxxSxLRP.** "L" at 3rd digit from right denotes RoHS-compliant.	
P486P3100SBRP	P923WRP		
P618P3100SCRP	P925CRP		
P640P3100SBRP	P925WRP		
P641P3100SCRP	P926CRP		
P651P3100SARP	P926WRP		
P653P2600SBRP	P927CRP		
P654P3100SBRP	P927WRP		
P654P3100SBRPH	P931CRP		
P654P3100SBRPHF	P931WRP		
P655P3500SBRP			
P658P0300SARP			
P659P0640SARP			
P674P1500SCRP			
P675P1100SARP			
P676P0640SCRP			
P677P1800SCRP			
P678P0080SBRP			
P686P2300SBRP			
P688P1100SARP			
P689P1100SCRP			
P691P0300SCMCRP			
P692P3500SDRP			
P695P0300SARP			
P697P1300SARP			
P698CRP			
P698WRP			
P707P3100SARP			
P708P2300SBRP			
P712P0640SARP			
P716P3500SARP			
P746P2600SDRP			
P760ALRP			
P760BLRP			
P760LRP			

Littelfuse Part Number covered by this report (3/3)

SIDAC, SiBOD™, Thyristor, BATTRAX® and PLED Devices

SIDAC	SiBOD	Thyristor	
K0820SRP	SMTBJ050A	L2N3RP	S4S3RP
K0900SRP	SMTBJ050B	L2N5RP	S4SRP
K1050SRP	SMTBJ056A-006	L2X3RP	S6N1RP
K1100SRP	SMTBJ070B	L2X5RP	S6S1RP
K1200SRP	SMTBJ100B	L4N3RP	S6S2RP
K1300SRP	SMTBJ108A-006	L4N5RP	S6S3RP
K1400SRP	SMTBJ120A	L4N6RP	S6SRP
K1500SRP	SMTBJ162A-006	L4N8RP	S813S4N1RP
K1800SRP	SMTBJ170A	L4X3RP	S827S4S2RP
K1801SRP	SMTBJ180A-006	L4X5RP	S828S4S1RP
K2000SHRP	SMTBJ200A	L4X6RP	S853S4S3RP
K2000SRP	SMTBJ200B	L4X8RP	S856S4SRP
K2200SHRP	SMTBJ216A-006	L6N3RP	S872S4S2RP
K2200SRP	SMTBJ240A	L6N5RP	S893S4SRP
K2400SHRP		L6N6RP	
K2400SRP		L6N8RP	
K2500SHRP		L6X3RP	
K2500SRP		L6X5RP	**BATTRAX®**
K222K1500SRP		L6X6RP	
K226K1500SRP		L6X8RP	B1100CALRP
K240K2500SRP		Q2N3RP	B1100CCLRP
K260K2500SRP		Q2N4RP	B1160CALRP
K282K2500SRP		Q2X3RP	B1160CCLRP
K298K1400SRP		Q2X4RP	B1200CALRP
K300K1801SRP		Q4N3RP	B1200CCLRP
K301K1500SRP		Q4N4RP	B2050CCLRP
K303K1200SRP		Q4X3RP	
K305K1500SRP		Q4X4RP	**PLED**
K306K1300SRP		Q6N3RP	
		Q6N4RP	PLED6S
		Q6X3RP	PLED9S
		Q6X4RP	PLED13S
		S2N1RP	PLED18S
		S2S1RP	PLES6US
		S2S2RP	PLED9US
		S2S3RP	PLED13US
		S2SRP	PLED18US
		S4N1RP	



Material Used (where used)

This photo is for explanation only.
Actual assembly design may be different.

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 DO-214AA package uses same raw material and same supplier as TO-220. Report is from TO-220 material.
3	Clip	copper alloy	metal	annex 3
4	Matte-Tin plating	Tin	metal	annex 4
5	Silicon die	silicon	metal	annex 5, tested as Nickel-plated wafer.
6	Nickel electrode	nickel	metal	
7	Passivation glass	glass	glass	annex 6 Pb in this glass is exempted by RoHS Annex III 7(c)-I. Please refer to Annex 8 for the RoHS exemption.
8	Die bonding solder	solder	metal	annex 7 Pb in this solder is exempted by RoHS Annex III 7(a). Please refer to Annex 8 for the RoHS exemption.

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Table 2-1: RoHS-regulated substance in raw materials

Components & Raw Materials	Analytical Test Result						
	Cd Cadmium	Cr Chromium	Hg Mercury	Pb Lead	PBB	PBDE	TOTAL HALOGEN
As Component Total Values of P3100SDLRP*[1], as representative products of all DO-214 and COMPAK package See Annex 8 for whole component test.	**< 2ppm**	**< 2ppm**	**< 2ppm**	**<10 ppm*[2] (3.0%*[3])**	**< 5ppm**	**< 5ppm**	**< 88ppm**
Epoxy Resin compound See Annex 1 for the detail.	< 2ppm	< 1ppm	< 2ppm	< 2ppm	< 5ppm	< 5ppm	88ppm
Lead frame (Copper Alloy, KFC) See Annex 2 for the detail.	< 2ppm	< 2ppm	< 2ppm	20ppm*[4]	---	---	---
Clip (Copper Alloy 110) See Annex 3 for the detail.	< 2ppm	< 2ppm	< 2ppm	< 2ppm	---	---	---
Outside lead finish (Sn 100%) See Annex 4 for the detail.	< 2ppm	< 2ppm	< 2ppm	29ppm*[4]	---	---	---
Silicon Die (Silicon + Ni electrode) See Annex 5 for the detail.	< 2ppm	< 2ppm	< 2ppm	48ppm*[4]	< 5ppm	< 5ppm	<50ppm
Passivation Glass See Annex 6 for the detail.	< 2ppm	< 2ppm	< 2ppm	40% *[5]	< 5ppm	< 5ppm	<50ppm
Die Bonding Solder (Pb/Sn=90/10) See Annex 7 for the detail.	< 2ppm	< 2ppm	< 2ppm	90% *[6]	< 5ppm	< 5ppm	<50ppm

***1 Other products may contain equal or less amount of Pb as P3100SDLRP value shown here, but not more than the value shown here.**

***2 Less than 10ppm Pb content overall, <u>excluding</u> Pb from the die bonding solder and the passivation glass on the silicon die.**

***3 Maximum 3.0wt% or 3.0mg of Pb (lead) content overall, including the RoHS-exempted use of Pb**

***4 Pb (lead) contained in lead frame, outside plating and silicon wafer is <u>not</u> exempted from restriction by RoHS, but considered as process contamination or naturally-occurring impurity in raw materials. Littelfuse does not add Pb (lead) intentionally.**

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

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

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

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

Intertek

TEST REPORT

Number : WUXH00005739

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 : **Brown Epoxy Molding Compound.**

Item Name	:	Epoxy Molding Compound.
Vendor	:	Cookson Electonics Semiconductor Products.
Component Or Part No.	:	CK-2000A/CK-2000C.
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 1: Analysis Result of Molding Compound (Page 2 of 7)

Intertek

TEST REPORT Number : WUXH00005739

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 7)

Intertek

TEST REPORT Number : WUXH00005739

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 05, 2011

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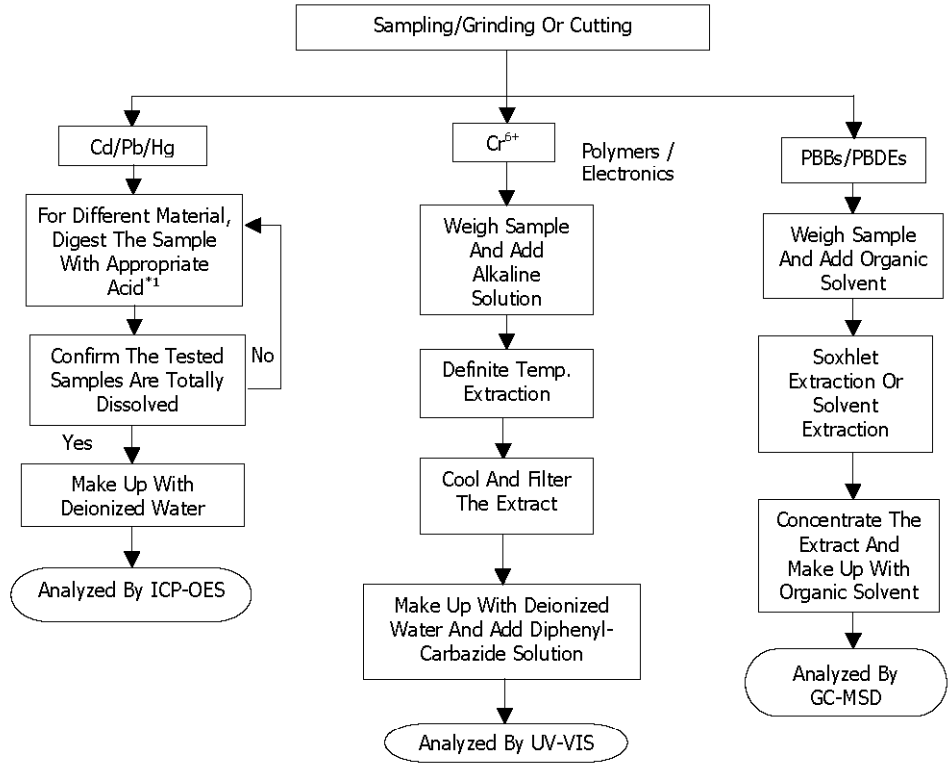
Annex 1: Analysis Result of Molding Compound (Page 4 of 7)

Intertek

TEST REPORT Number : WUXH00005739

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_2O_2,H_3BO_3
Metals	HNO_3,HCL,HF
Electronics	HNO_3,HCL,H_2O_2,HBF_4

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

Intertek

TEST REPORT Number : WUXH00005739

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	88
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 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 1: Analysis Result of Molding Compound (Page 6 of 7)

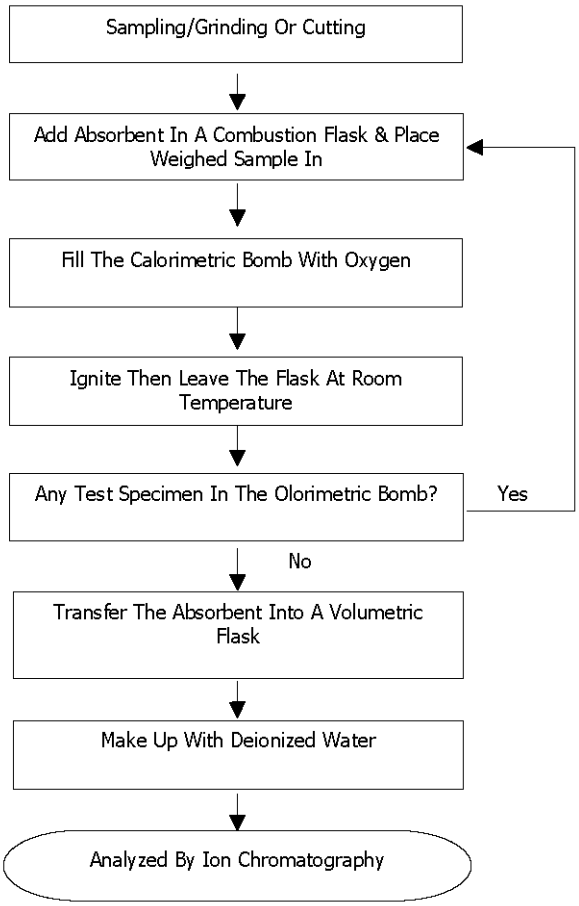
Intertek

TEST REPORT Number : WUXH00005739

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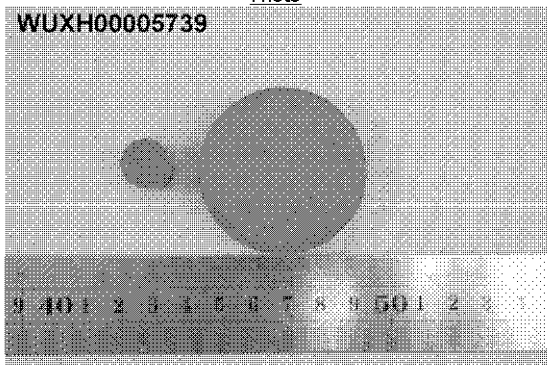
Annex 1: Analysis Result of Molding Compound (Page 7 of 7)

Intertek

TEST REPORT Number : WUXH00005739

Tests Conducted (As Requested By The Applicant)

Photo



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Annex 2: Analysis Result of Lead frame (Page 1 of 4)

Intertek

TEST REPORT

Number : WUXH00005713

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 Frame/Lead Frame Matrix/TO-220 Lead Frame/Heatsink.
Vendor	:	Jinag Jihlong Technology 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:

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 4

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

Intertek

TEST REPORT Number : WUXH00005713

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)	20
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 $50cm^2$ = 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.
No.8 Fubei Road, Xishan Economic Development Zone,
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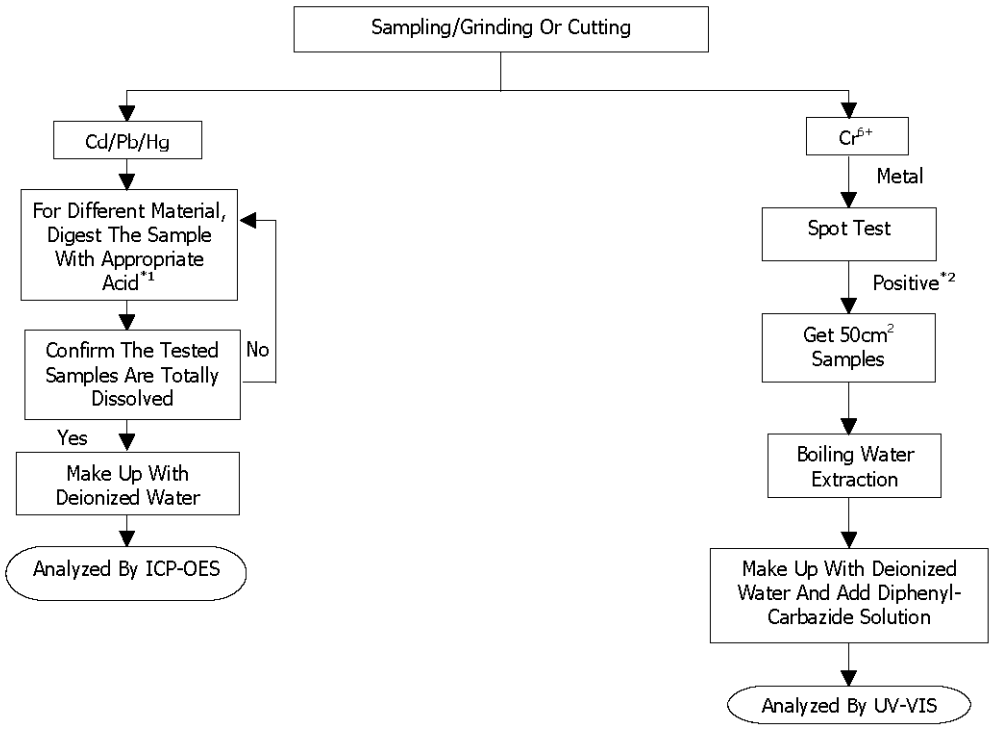
Annex 2: Analysis Result of Lead frame (Page 3 of 4)

Intertek

TEST REPORT Number : WUXH00005713

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_2O_2,H_3BO_3
Metals	HNO_3,HCL,HF
Electronics	HNO_3,HCL,H_2O_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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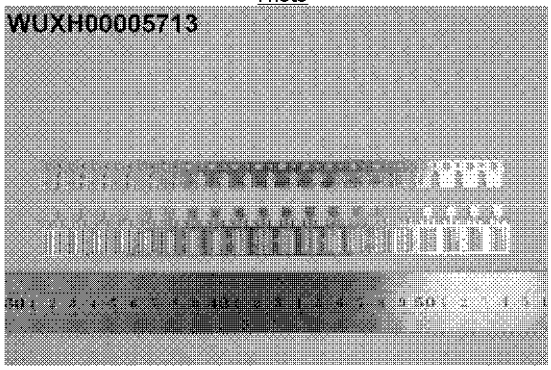
Annex 2: Analysis Result of Lead frame (Page 4 of 4)

Intertek

TEST REPORT Number : WUXH00005713

Tests Conducted (As Requested By The Applicant)

Photo



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Annex 3: Analysis Result of Clip (Page 1 of 5)

Intertek

TEST REPORT

Number : WUXH00005729S1

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 12, 2011
THIS IS TO SUPERSEDE REPORT NO. WUXH00005729 DATED AUG 04, 2011

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

Item Name	: Clip.
Vendor	: G-SHANK Precision Machinery (Suzhou)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:

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

Jessica Lu
General Manager

Page 1 Of 4

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Annex 3: Analysis Result of Clip (Page 2 of 5)

Intertek

TEST REPORT Number : WUXH00005729S1

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 $50cm^2$ = 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 04, 2011

Intertek Testing Services Wuxi Ltd.
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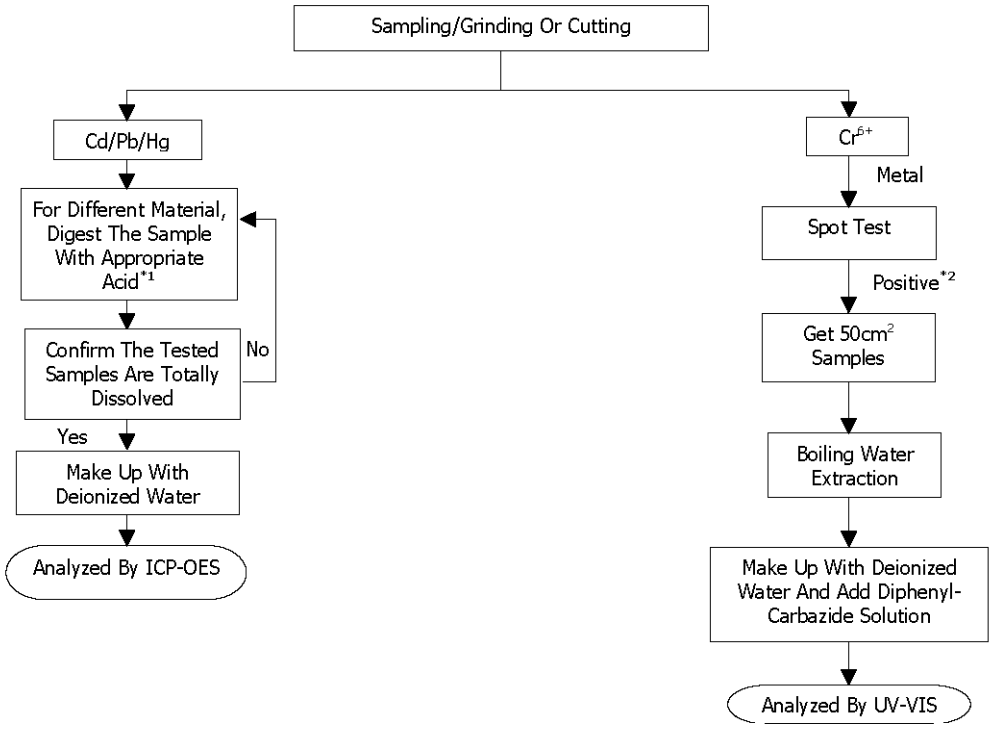
Annex 3: Analysis Result of Clip (Page 3 of 5)

Intertek

TEST REPORT Number : WUXH0005729S1

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_2O_2, H_3BO_3
Metals	HNO_3, HCL, HF
Electronics	HNO_3, HCL, H_2O_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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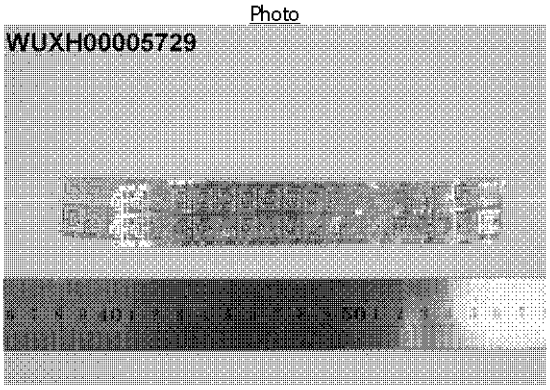
Annex 3: Analysis Result of Clip (Page 4 of 5)

Intertek

TEST REPORT Number : WUXH00005729S1

Tests Conducted (As Requested By The Applicant)

Photo



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Annex 3: Analysis Result of Clip (Page 5 of 5)

Intertek

To : CONCORD SEMICONDUCTOR(WUXI) CO., LTD.
Attention : ZHANG XIAOPENG Date : Aug 12, 2011

Re : Report Revision Notification

Labtest Report Number WUXH00005729 date AUG 04, 2011

Please be informed that all the content recorded in the above captioned report will be void. This captioned report is now superseded by a revised Labtest Report, Number WUXH0000572951 , issued on Aug 12, 2011 .

Thank you for your attention

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
無錫天祥質量技術服務有限公司
中國江蘇無錫錫山經濟開發區福北路8號 郵政編碼:214101
Tel: +86 510 8821 4567 Fax: +86 510 8820 0428 E-mail: consumergoods.wuxi@intertek.com

Annex 4: Analysis Result of Matte-Tin plating (page 1 of 4)

Intertek

TEST REPORT

Number : WUXH00005709

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-SMD.
Vendor	: Bandl (Kunshan) International Co.,.
Component Or Part No.	: Pure Matte Tin.
Test Item	: Cd,Pb,Hg,CrVI.

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 4

Intertek Testing Services Wuxi Ltd.
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Annex 4: Analysis Result of Matte-Tin plating (page 2 of 4)

Intertek

TEST REPORT Number : WUXH00005709

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	29
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 $50cm^2$ = 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

Page 2 Of 4

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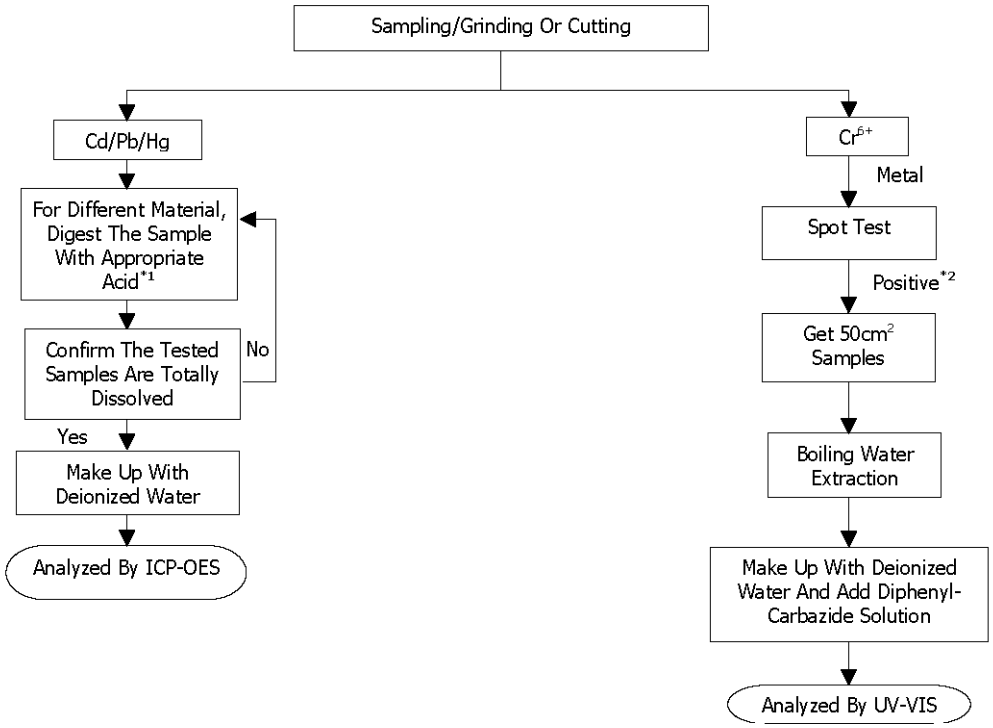
Annex 4: Analysis Result of Matte-Tin plating (page 3 of 4)

Intertek

TEST REPORT Number : WUXH00005709

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_2O_2,H_3BO_3
Metals	HNO_3,HCL,HF
Electronics	HNO_3,HCL,H_2O_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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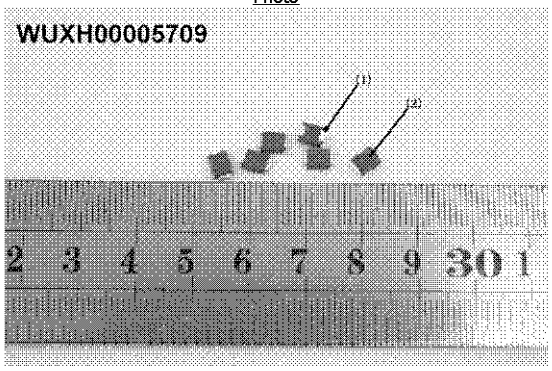
Annex 4: Analysis Result of Matte-Tin plating (page 4 of 4)

Intertek

TEST REPORT Number : WUXH00005709

Tests Conducted (As Requested By The Applicant)

Photo



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

Intertek

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

Intertek

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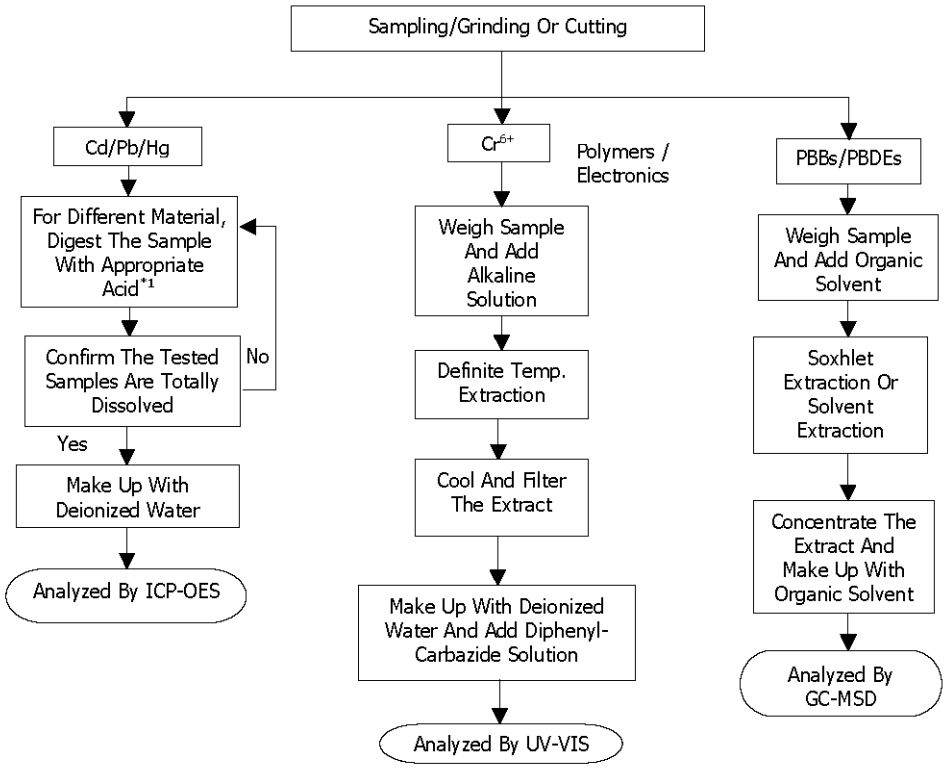
Annex 5: Analysis Result of Ni-plated Wafer (Page 4 of 5)

Intertek

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_2O_2,H_3BO_3
Metals	HNO_3,HCL,HF
Electronics	HNO_3,HCL,H_2O_2,HBF_4

Page 4 Of 5

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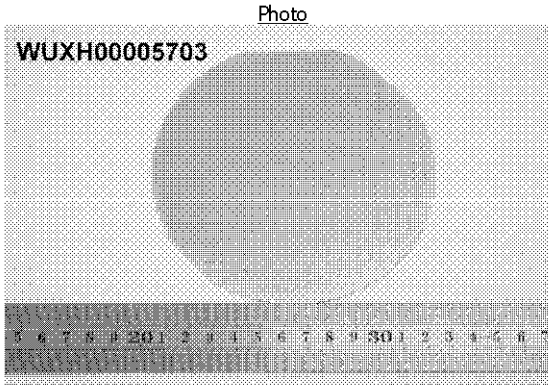
Annex 5: Analysis Result of Ni-plated Wafer (Page 5 of 5)

Intertek

TEST REPORT Number : WUXH00005703

Tests Conducted (As Requested By The Applicant)

Photo



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

Intertek

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^{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
#=The Result Is For Reference Only.

Page 2 Of 7

Intertek Testing Services Wuxi Ltd.
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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)

Intertek

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

Page 3 Of 7

Intertek Testing Services Wuxi Ltd.
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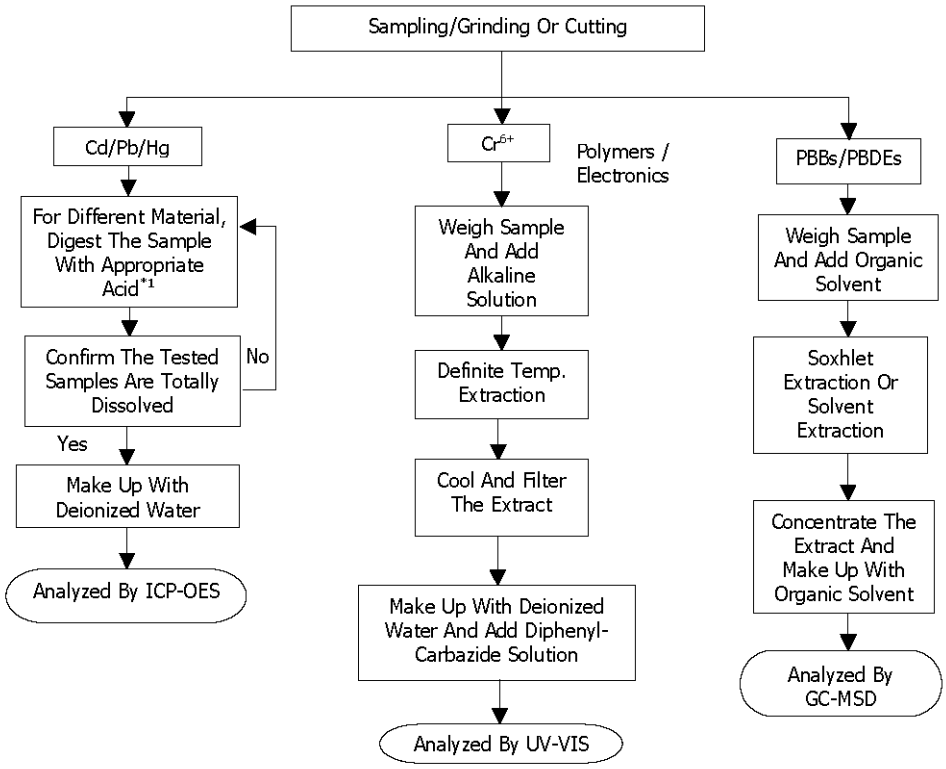
Annex 6: Analysis Result of Passivation Glass (Page 4 of 7)

Intertek

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_2O_2,H_3BO_3
Metals	HNO_3,HCL,HF
Electronics	HNO_3,HCL,H_2O_2,HBF_4

2 Halogen Test
(I) Test Result Summary :

Page 4 Of 7

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

Intertek

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)

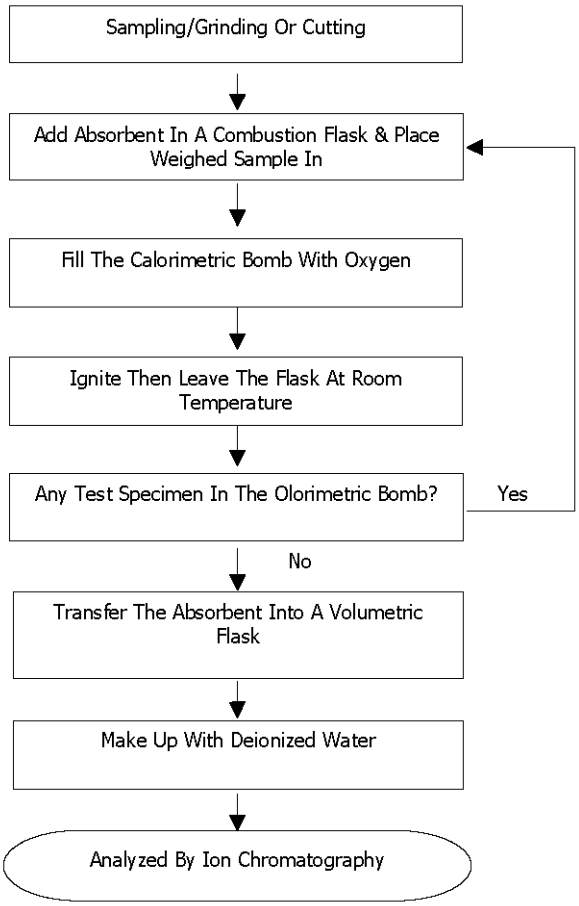
Intertek

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

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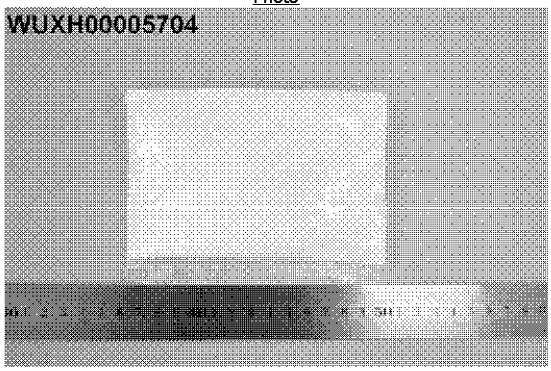
Annex 6: Analysis Result of Passivation Glass (Page 7 of 7)

Intertek

TEST REPORT Number : WUXH00005704

Tests Conducted (As Requested By The Applicant)

Photo



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Annex 7: Analysis Result of Die Bonding Solder (Page 1 of 8)

Intertek

TEST REPORT Number : WUXH00005720S1

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 12, 2011
THIS IS TO SUPERSEDE REPORT
NO. WUXH00005720 DATED
AUG 05, 2011

Sample Description As Declared:
One (1) Piece Of Submitted Sample Said To Be : **Gray Paste.**

Item Name	: Solder Paste.
Vendor	: Heraeus Materials Technology Shanghai Ltd.
Component Or Part No.	: F367SN10-90Pb.
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.
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Annex 7: Analysis Result of Die Bonding Solder (Page 2 of 8)

Intertek

TEST REPORT Number : WUXH00005720S1

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)	912000
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
# = The Result Is For Reference Only.

Page 2 Of 7

Intertek Testing Services Wuxi Ltd.
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Annex 7: Analysis Result of Die Bonding Solder (Page 3 of 8)

Intertek

TEST REPORT Number : WUXH00005720S1

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 05, 2011

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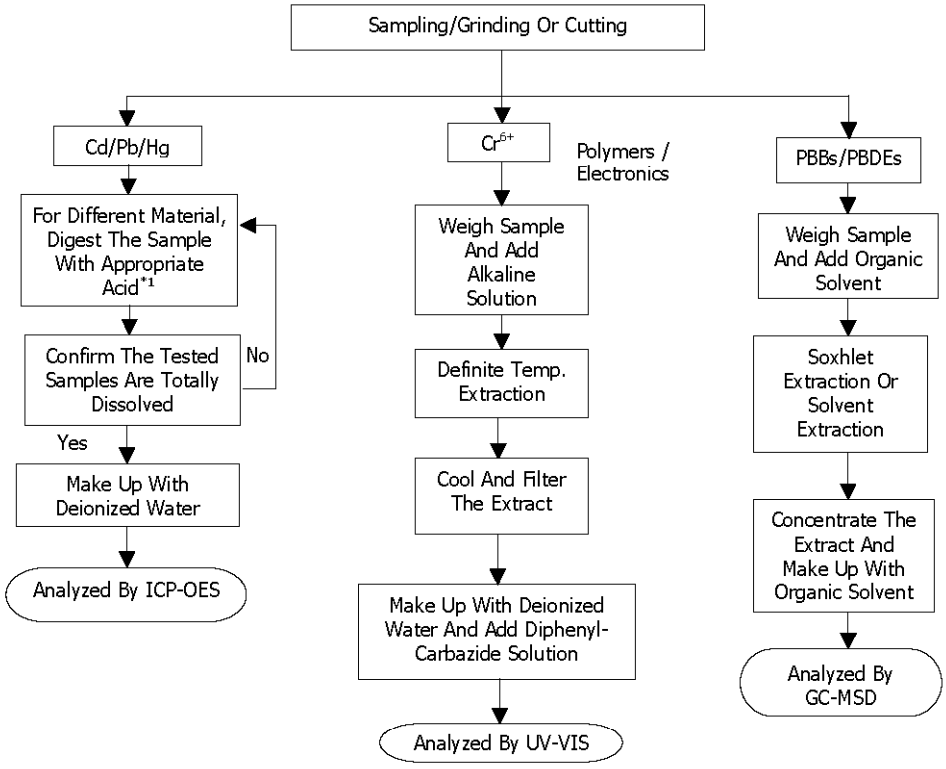
Annex 7: Analysis Result of Die Bonding Solder (Page 4 of 8)

Intertek

TEST REPORT Number : WUXH00005720S1

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_2O_2,H_3BO_3
Metals	HNO_3,HCL,HF
Electronics	HNO_3,HCL,H_2O_2,HBF_4

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Annex 7: Analysis Result of Die Bonding Solder (Page 5 of 8)

Intertek

TEST REPORT Number : WUXH00005720S1

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 05, 2011

(II) Test Method :

Testing Item	Testing Method	Reporting Limit
Halogen (F,Cl, Br,I) Content	With Reference 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 Die Bonding Solder (Page 6 of 8)

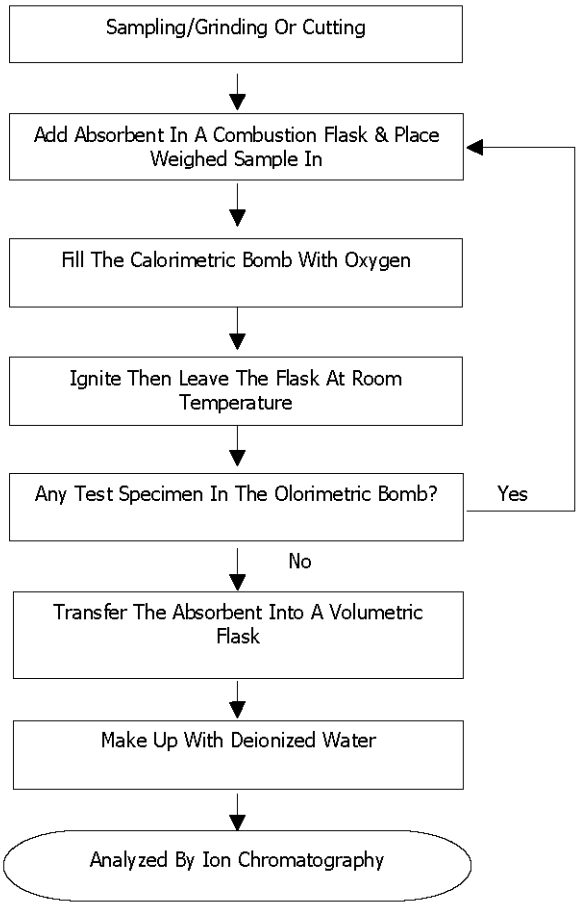
Intertek

TEST REPORT Number : WUXH00005720S1

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.
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Annex 7: Analysis Result of Die Bonding Solder (Page 7 of 8)

Intertek

TEST REPORT Number : WUXH00005720S1

Tests Conducted (As Requested By The Applicant)

Photo

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Annex 7: Analysis Result of Die Bonding Solder (Page 8 of 8)

Intertek

To : CONCORD SEMICONDUCTOR(WUXI) CO., LTD.
Attention : ZHANG XIAOPENG Date : Aug 12, 2011

Re : Report Revision Notification

Labtest Report Number WUXH00005720 date Aug 05, 2011

Please be informed that all the content recorded in the above captioned report will be void. This captioned report is now superseded by a revised Labtest Report, Number WUXH0000572OS1 , issued on Aug 12, 2011 .

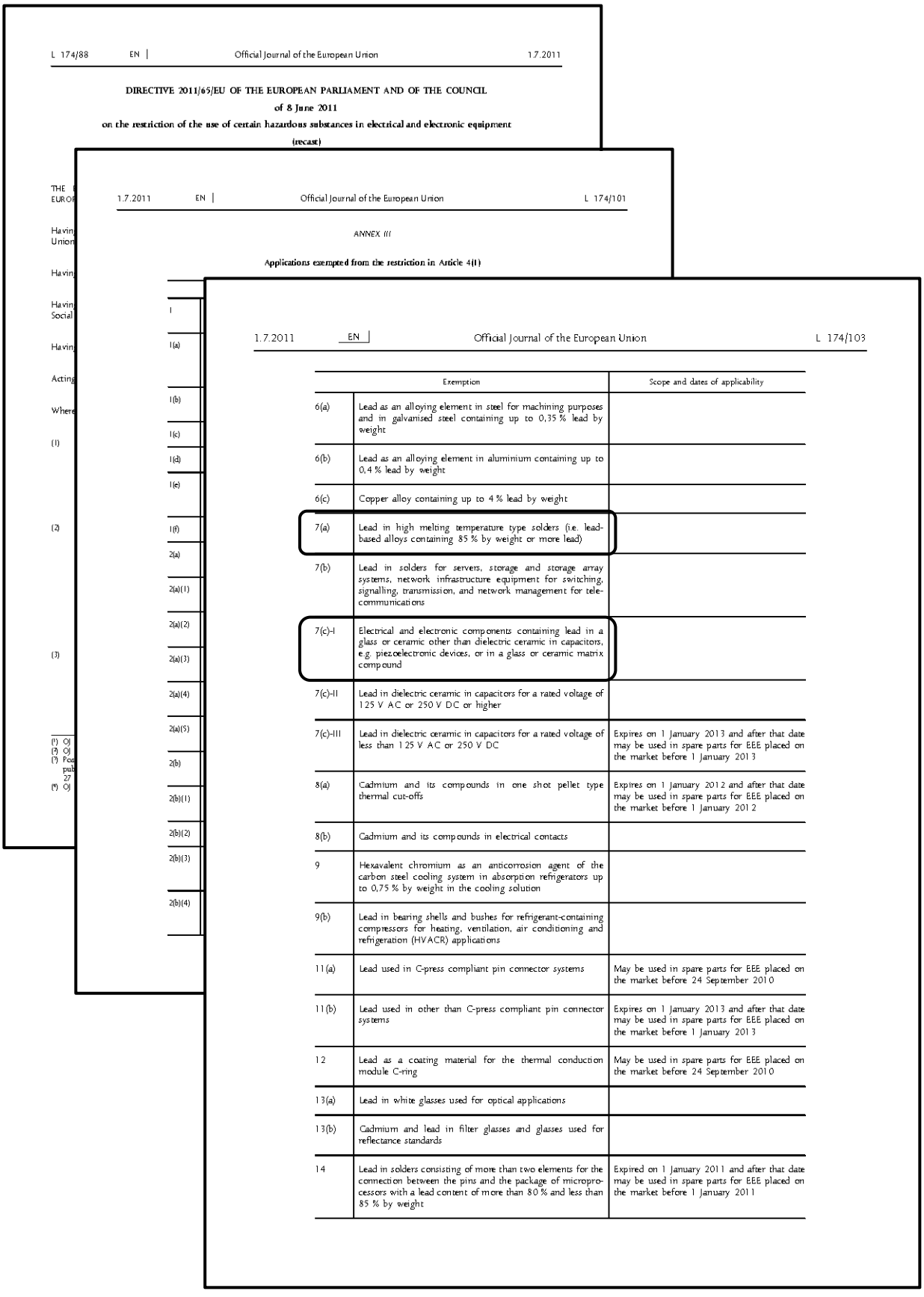
Thank you for your attention

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
無錫天祥質量技術服務有限公司
中國江蘇無錫錫山經濟開發區福北路8號 郵政編碼:214101
Tel: +86 510 8821 4567 Fax: +86 510 8820 0428 E-mail: consumergoods.wuxi@intertek.com

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



L 174/88 EN | Official Journal of the European Union 1.7.2011

DIRECTIVE 2011/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 8 June 2011
on the restriction of the use of certain hazardous substances in electrical and electronic equipment
(recast)

1.7.2011 EN | Official Journal of the European Union L 174/101

ANNEX III

Applications exempted from the restriction in Article 4(1)

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. piezoelectronic 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 EEE 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 EEE 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 EEE 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 EEE 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 EEE 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 EEE placed on the market before 1 January 2011