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Expertise Applied | Answers Delivered

Certificate of non-use of The Controlled Substances

Company name	Littelfuse, Inc
Product Covered	Thyristor TO-220 L Package (Isolated) Thyristor TO-220 R Package (Non-isolated) Thyristor TO-263 N Package (Non-isolated)
Issue Date	August 7, 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 Thyristor TO-220 Package products supplied by Littelfuse, Inc. Please see page 2 through 4 for the complete list of part number covered by this report.

(2) The analytical data on all measurable substances

Please see annex 1 through 9, attached to this document

Remarks：

Pb (lead) contained in die bonding solder (item 8 on page 5) and passivation glass (item 7) to be categorized as exempt in RoHS Annex III 7(a) and 7(c)-I.

Please refer to Annex 10 of this report for the extract of the applicable exemptions of RoHS (EU Directive 2011/65/EU)

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Littelfuse Part Number covered by this report (1/3)

TO-220 L Package (Isolated)

Standard (Catalog) Part Number					
HQ6025LH5	LTL08-800BH	Q2016LH6	Q6012LH5	QK016LH6	S4012L
	LTL08-800CH	Q2025L6	Q6015L5	QK025L6	S4015L
	LTL08-800SH	Q2030LH5	Q6015L6		S4020L
L2004L3	LTL08-800TH	Q4004L3	Q6016LH2		S4025L
L2004L5	LTL12-600BH	Q4004L4	Q6016LH3	S0508LS3	S5015L
L2004L6	LTL12-600CH	Q4004L5	Q6016LH4	S1015L	S5020L
L2004L8	LTL12-600SH	Q4006L4	Q6016LH6	S1020L	S6006L
L2006L5	LTL12-600TH	Q4006L5	Q6025L6	S2003LS2	S6006LS2
L2006L6	LTL12-800BH	Q4006LH4	Q6025L9	S2003LS3	S6006LS3
L2006L8	LTL12-800CH	Q4008L4	Q6025LX	S2006L	S6008L
L2008L6	LTL12-800SH	Q4008L5	Q6030LH5	S2006LS2	S6008LS2
L2008L8	LTL12-800TH	Q4008LH4	Q8004L4	S2006LS3	S6008LS3
L4004L3	LTL16-600BH	Q4010L4	Q8004L5	S2008L	S6010L
L4004L5	LTL16-600CH	Q4010L5	Q8006L5	S2008LS2	S6010LS2
L4004L6	LTL16-600SH	Q4010LH5	Q8006LH4	S2008LS3	S6010LS3
L4004L8	LTL16-800BH	Q4012LH2	Q8008L5	S2010L	S6012L
L4006L5	LTL16-800CH	Q4012LH5	Q8008LH4	S2010LS2	S6015L
L4006L6	LTL16-800SH	Q4015L5	Q8010L4	S2010LS3	S6020L
L4006L8	LTL25-600BH	Q4015L6	Q8010L5	S2012L	S6025L
L4008L6	LTL25-600CH	Q4016LH2	Q8010LH5	S2015L	S8006L
L4008L8	LTL25-800BH	Q4016LH3	Q8012LH5	S2020L	S8008L
L6004L3	LTL25-800CH	Q4016LH4	Q8015L5	S2025L	S8010L
L6004L5		Q4016LH6	Q8015L6	S4003LS2	S8015L
L6004L6		Q4025L6	Q8016LH2	S4006L	S8020L
L6004L8	Q2004L3	Q4025L6B	Q8016LH3	S4006LS2	S8025L
L6006L5	Q2004L4	Q4025LX	Q8016LH4	S4006LS3	SK006L
L6006L6	Q2004L5	Q4030LH5	Q8016LH6	S4008L	SK008L
L6006L8	Q2006L4	Q5015L6	Q8025L6	S4008LS2	SK010L
L6008L6	Q2006L5	Q5025LX	Q8025LX	S4008LS3	SK015L
L6008L8	Q2006LH4	Q6004L3	QK004L4	S4010L	SK020L
	Q2008L4	Q6004L4	QK006L5	S4010LS2	SK025L
	Q2008L5	Q6004L5	QK006LH4	S4010LS3	
LTL04-600CH	Q2008LH4	Q6006L4	QK008L5		
LTL04-600SH	Q2010L4	Q6006L5	QK008LH4	**SPECIAL DEVICE P/N**	
LTL04-600TH	Q2010L5	Q6006LH4	QK010L4	Any Special P/N that has base standard P/N listed in this table	
LTL04-800CH	Q2010LH5	Q6008L4	QK010L5		
LTL04-800SH	Q2012LH2	Q6008L5	QK010LH5	**OPTIONAL SUFFIX**	
LTL04-800TH	Q2012LH5	Q6008LH4	QK012LH5	Any Part Number listed in this table, including special part numbers, may be followed by suffix for packing options, such as “RP” or “TP” , or lead form options such as “LB” or “51”.	
LTL08-600BH	Q2015L5	Q6010L4	QK015L5		
LTL08-600CH	Q2015L6	Q6010L5	QK016LH2		
LTL08-600SH	Q2016LH3	Q6010LH5	QK016LH3		
LTL08-600TH	Q2016LH4	Q6012LH2	QK016LH4		

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

TO-220 R Package (Non-isolated)

Standard (Catalog) Part Number					
L6006R5	Q2008R4	Q6008RH3	QK012RH5	S8055R	
L6006R6	Q2008R5	Q6008RH4	QK015R5	SK008R	
L6008R6	Q2008RH4	Q6010R4	QK016RH2	SK010R	
	Q2010R4	Q6010R5	QK016RH3	SK012R	
	Q2010R5	Q6010RH5	QK016RH4	SK016R	
LTR04-600CH	Q2010RH5	Q6012R5	QK016RH6	SK025R	
LTR04-600SH	Q2012R5	Q6012RH2	QK025R5	SK040R	
LTR04-600TH	Q2012RH5	Q6012RH5	QK025R6	SK055R	
LTR04-800CH	Q2015R5	Q6015R5			
LTR04-800SH	Q2016RH3	Q6015R6			
LTR04-800TH	Q2016RH4	Q6016RH2	S2008R		
LTR08-600BH	Q2016RH6	Q6016RH3	S2010R		
LTR08-600CH	Q2025R5	Q6016RH4	S2012R		
LTR08-600SH	Q2025R6	Q6016RH6	S2016R		
LTR08-600TH	Q2035RH5	Q6025R5	S2025R		
LTR08-800BH	Q4004R4	Q6025R6	S2040R		
LTR08-800CH	Q4006R4	Q6025RX	S2055R		
LTR08-800SH	Q4006R5	Q6035RH5	S4006RS2		
LTR08-800TH	Q4006RH4	Q8006R5	S4008R		
LTR12-600BH	Q4008R4	Q8006RH4	S4010R		
LTR12-600CH	Q4008R5	Q8008R5	S4012R		
LTR12-600SH	Q4008RH4	Q8008RH4	S4016R		
LTR12-600TH	Q4010R4	Q8010R4	S4025R		
LTR12-800BH	Q4010R5	Q8010R5	S4040R		
LTR12-800CH	Q4010RH5	Q8010RH5	S4040RQ		
LTR12-800SH	Q4012R5	Q8012R5	S4055R		
LTR12-800TH	Q4012RH5	Q8012RH5	S5025R		
LTR16-600BH	Q4015R5	Q8015R5	S6006RS2		
LTR16-600CH	Q4015R6	Q8015R6	S6008R		
LTR16-600SH	Q4016RH2	Q8016RH2	S6008RS2		
LTR16-800BH	Q4016RH3	Q8016RH3	S6010R		
LTR16-800CH	Q4016RH6	Q8016RH4	S6012R		
LTR16-800SH	Q4025R5	Q8016RH6	S6016R		
LTR25-600BH	Q4025R6	Q8025R5	S6025R	**SPECIAL DEVICE P/N**	
LTR25-600CH	Q4035RH5	Q8025R6	S6040R	Any Special P/N that has base standard P/N listed in this table	
LTR25-800BH	Q6006R4	QK006R5	S6055R		
LTR25-800CH	Q6006R5	QK006RH4	S8008R	**OPTIONAL SUFFIX**	
	Q6006RH4	QK008R5	S8010R	Any Part Number listed in this table, including special part numbers, may be followed by suffix for packing options, such as “RP” or “TP” , or lead form options such as “LB” or “51”.	
	Q6008R4	QK008RH4	S8012R		
Q2006R4	Q6008R5	QK010R4	S8016R		
Q2006R5	Q6008R559	QK010R5	S8025R		
Q2006RH4	Q6008R567	QK010RH5	S8040R		

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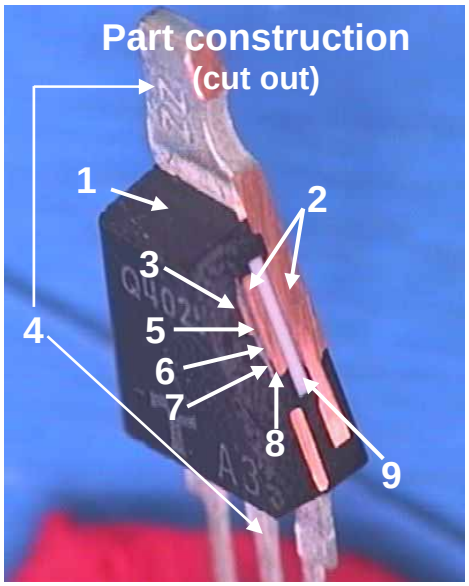
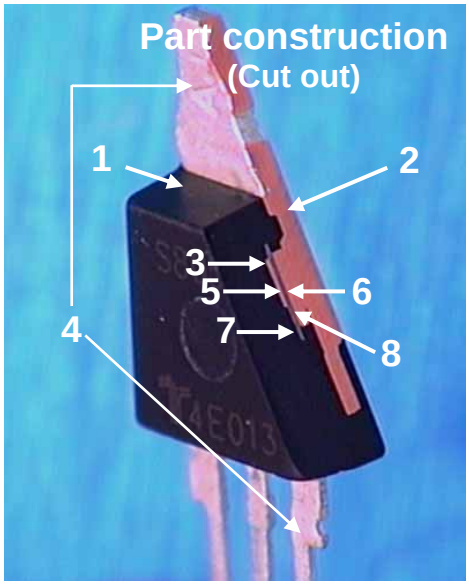
Littelfuse Part Number covered by this report (3/3)

TO-263 D^2 (N) Package (Non-isolated)

Standard (Catalog) Part Number					
LTN04-600CH	Q2010NH5	Q6025NH6	S6016N		
LTN04-600SH	Q2012NH5	Q6035NH5	S6025N		
LTN04-600TH	Q2015N5	Q8006N5	S6040N		
LTN04-800CH	Q2016NH3	Q8006NH4	S6055N		
LTN04-800SH	Q2016NH4	Q8008N5	S8016N		
LTN04-800TH	Q2016NH6	Q8008NH4	S8025N		
LTN08-600BH	Q2025N5	Q8010N4	S8040N		
LTN08-600CH	Q2025NH6	Q8010N5	S8055N		
LTN08-600SH	Q2035NH5	Q8010NH5	SK016N		
LTN08-600TH	Q4006N4	Q8012NH5	SK025N		
LTN08-800BH	Q4006N5	Q8015N5	SK040N		
LTN08-800CH	Q4006NH4	Q8016NH3	SK055N		
LTN08-800SH	Q4008N4	Q8016NH4			
LTN08-800TH	Q4008N5	Q8016NH6			
LTN12-600BH	Q4008NH4	Q8025N5			
LTN12-600CH	Q4010N4	Q8025NH6			
LTN12-600SH	Q4010N5	QK006N5			
LTN12-600TH	Q4010NH5	QK006NH4			
LTN12-800BH	Q4012NH5	QK008N5			
LTN12-800CH	Q4015N5	QK008NH4			
LTN12-800SH	Q4016NH3	QK010N4			
LTN12-800TH	Q4016NH4	QK010N5			
LTN16-600BH	Q4016NH6	QK010NH5			
LTN16-600CH	Q4025N5	QK012NH5			
LTN16-600SH	Q4025NH6	QK015N5			
LTN16-800BH	Q4035NH5	QK016NH3			
LTN16-800CH	Q6006N4	QK016NH4			
LTN16-800SH	Q6006N5	QK016NH6			
LTN25-600BH	Q6006NH4	QK025N5			
LTN25-600CH	Q6008N4	QK025NH6			
LTN25-800BH	Q6008N5				
LTN25-800CH	Q6008NH4				
	Q6010N4	S2016N			
	Q6010N5	S2025N		**SPECIAL DEVICE P/N**	
Q2006N4	Q6010NH5	S2040N		Any Special P/N that has base standard P/N listed in this table	
Q2006N5	Q6012NH5	S2055N			
Q2006NH4	Q6015N5	S4016N		**OPTIONAL SUFFIX**	
Q2008N4	Q6016NH2	S4025N		Any Part Number listed in this table, including special part numbers, may be followed by suffix for packing options, such as “RP” or “TP” , or lead form options such as “LB” or “51”.	
Q2008N5	Q6016NH3	S4040N			
Q2008NH4	Q6016NH4	S4040NQ			
Q2010N4	Q6016NH6	S4040NQ2			
Q2010N5	Q6025N5	S4055N			



TO-220 L Package (Isolated)



TO-220 R Package (shown)
TO-263 N Package
(Non-isolated)

Material Used (where used)

Photographs are provided for illustration purpose only. Actual assembly 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, Heat sink and Copper spacer	copper alloy	metal	annex 2
3	Clip	copper alloy	metal	annex 3 TO-220 packages use same raw material and same supplier as DO-214AA. Report is from DO-214AA material.
4	Outside lead finish	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 10 for the RoHS exemption.
8	Die bonding solder (2 types used)	solder	metal	annex 7 & 7A Pb in this solder is exempted by RoHS Annex III 7(a). Please refer to Annex 8 for the RoHS exemption.
9	Substrate	alumina	ceramic	annex 8 (TO-220L package only)
10	Marking Ink	polymer	plastic	annex 9 (Special P/N in TO-220L package only)

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Table 2: RoHS-regulated substance in raw materials

Components	Analysis Result							
	Cd Cadmium	Cr Chromium	Hg Mercury	Pb Lead	PBB & PBDE	Total Halogen	Phthalates	HBCD
As Component Total (Values of Q6025L6*[1], as representative of Thyristor, TO-220 Packages)	**< 2ppm**	**< 2ppm**	**< 2ppm**	**<13ppm*[2] (1.3%*[3])**	**< 5ppm**	**< 50ppm**	**< 100ppm**	**< 10ppm**
Molding compound (mixture of phenolix resin, epoxy resin, filler and metal hydroxide as fire retardant) See Annex 1 for the detail.	< 2ppm	< 1ppm	< 2ppm	< 2ppm	< 5ppm	< 50ppm	< 100ppm	< 10ppm
Lead frame, heat sink & spacer (Copper Alloy, KFC) See Annex 2 for the detail.	< 2ppm	< 2ppm	< 2ppm	< 2ppm	---	---	---	---
Clip (Copper Alloy, CDA110) See Annex 3 for the detail.	< 2ppm	< 2ppm	< 2ppm	< 2ppm	---	---	---	---
Outside lead finish (Sn 100%) See Annex 4 for the detail.	< 2ppm	< 2ppm	< 2ppm	80ppm*[6]	---	---	---	---
Silicon die (Silicon + Ni electrode) See Annex 5 for the detail.	< 2ppm	< 1ppm	< 2ppm	31ppm*[6]	< 5ppm	---	---	---
Passivation Glass See Annex 6 for the detail.	< 2ppm	< 1ppm	< 2ppm	40% *[4]	< 5ppm	< 50ppm	---	---
Die Bonding Solder (Pb >85wt%) See Annex 7 & 7A for the detail.	< 2ppm	< 2ppm	< 2ppm	90% *[5]	< 5ppm	< 50ppm	< 100ppm	< 10ppm
Ceramic Substrate for isolation (Alumina ceramic) See Annex 8 for the detail.	< 2ppm	< 1ppm	< 2ppm	< 2ppm	< 5ppm	< 50ppm	---	---
Marking Ink (Plastic) See Annex 9 for the detail.	< 2ppm	< 1ppm	< 2ppm	< 2ppm	< 5ppm	186ppm	< 100ppm	< 10ppm

***1 Other products may contain equal or less amount of Pb as Q6025L6 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 1.3wt% or 30mg of Pb (lead) content overall, including the RoHS-exempted use of Pb**

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

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

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

<u>Please refer to Annex 10 of this report for the applicable exemptions of RoHS (EU Directive 2011/65/EU)</u>

Annex 1: Analysis Result of Molding Compound (Page 1-4 of 11)

Intertek

Number : WUXH00009770

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 : Jul 26, 2012

Sample Description As Declared:
One (1) Piece Of Submitted Sample Said To Be : **Grey Epoxy Molding Compound.**
Item Name : Epoxy Molding Compound.
Vendor :
Component Or Part No. : CK-2000A/CK-2000C.
Test Item : Cd,Pb,Hg,Cr(VI),PBBs,PBDEs,F,Cl,Br,I,Phthalate,HBCD.

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

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

Number : WUXH00009770

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

Intertek

Number : WUXH00009770

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: Jul 23, 2012
Testing Period: Jul 23, 2012 To Jul 26,,2012

Intertek Testing Services Wuxi Ltd.
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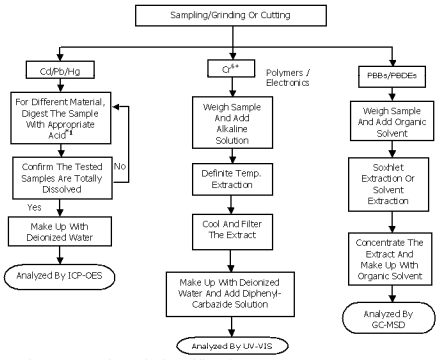
Intertek

Number : WUXH00009770

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

Intertek Testing Services Wuxi Ltd.
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Annex 1: Analysis Result of Molding Compound (Page 5-8 of 11)

Intertek

Number : WUXH00009770

Tests Conducted (As Requested By The Applicant)
2 Halogen Test
(I) Test Result Summary :
Halogen Content:

Testing Item	Result (ppm) Submitted Samples
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: Jul 23, 2012
Test Period: Jul 23, 2012 To Jul 26,2012

(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

Intertek Testing Services Wuxi Ltd.
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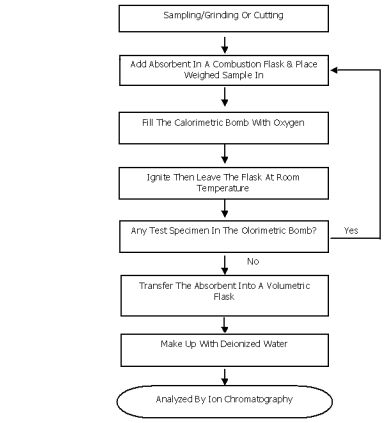
Tel: +86 510 8821 4567 Fax: +86 510 8820 0428 E-mail: consumergoods.wuxi@intertek.com

Intertek

Number : WUXH00009770

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

Intertek Testing Services Wuxi Ltd.
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Intertek

Number : WUXH00009770

Tests Conducted (As Requested By The Applicant)
3 Phthalate Content Test

With Reference To EN14372, By Gas Chromatographic-Mass Spectrometric (GC-MSD) Analysis.

Tested Compound	Result (%,W/W)	Limit(%,W/W) (Max.)
Dibutyl Phthalate (DBP)	ND	---
Diethyl Hexyl Phthalate(DEHP)	ND	---
Benzyl Butyl Phthalate (BBP)	ND	---
Sum Of Three Phthalates	ND	0.1
Di-Iso-Nonyl Phthalate (DINP)	ND	---
Di-N-Octyl Phthalate (DNOP)	ND	---
Di-Iso-Decyl Phthalate (DIDP)	ND	---
Sum Of Three Phthalates	ND	0.1

Remark : The Above Limit Was Quoted According To Annex XVII Items 51 & 52 Of The Reach Regulation (EC) No. 1907/2006 (Formerly Known As Directive 2005/84/EC) For Phthalate Content In Toys And Children Care Articles.

Detection Limit = 0.01%(W/W)
ND = Not Detected

Date Sample Received : Jul 23, 2012
Testing Period : Jul 23, 2012 To Jul 26,2012

Comment :
The Phthalate Content Test Result Of Tested Sample Did Not Exceed The Limit Of 0.1% By Weight As Stated In Annex XVII Items 51 & 52 Of The Reach Regulation (EC) No. 1907/2006 (Formerly Known As Directive 2005/84/EC) Relating To Restrictions On Phthalates In Toys And Children Care Articles.

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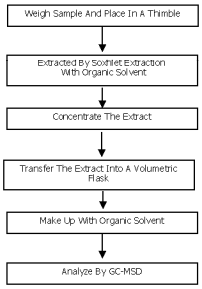
Intertek

Number : WUXH00009770

Tests Conducted (As Requested By The Applicant)

Measurement Flowchart:

Test For Phthalates Contents



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

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Annex 1: Analysis Result of Molding Compound (Page 9-11 of 11)

Intertek

Number : WUXH00009770

Tests Conducted (As Requested By The Applicant)
4 HBCD (Hexabromocyclododecane)
(A) Test Result Summary:

Testing Item	Result(ppm)
HBCD (Hexabromocyclododecane)	ND

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

(B) Test Method :

Testing Item	Testing Method	Reporting Limit
HBCD (Hexabromocyclododecane)	With Reference To US EPA 3540C, By Solvent Extraction And Determined By GC-MSD	10 ppm

Date Sample Received : Jul 23, 2012
Testing Period : Jul 23, 2012 To Jul 26,2012

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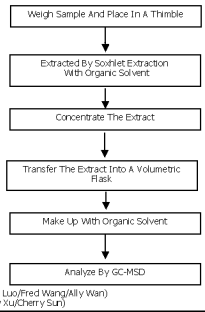
Intertek

Number : WUXH00009770

Tests Conducted (As Requested By The Applicant)
Measurement Flowchart:
Test For HBCD (Hexabromocyclododecane) Content



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

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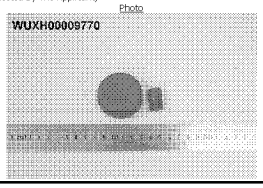
Intertek

Number : WUXH00009770

Tests Conducted (As Requested By The Applicant)

Photo



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Littelfuse
Expertise Applied | Answers Delivered

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

Intertek

Number : WUXH00009747

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 : Jul 26, 2012

Sample Description As Declared:
One (1) Piece Of Submitted Sample Said To Be : **Copper Metal.**
Item Name : Lead Frame/Lead Frame Matrix/TO-220 Lead Frame/Heatsink/Copper Slug.
Vendor :
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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Intertek

Number : WUXH00009747

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: Jul 23, 2012
Testing Period: Jul 23, 2012 To Jul 26,2012

Page 2 Of 4

Intertek Testing Services Wuxi Ltd.
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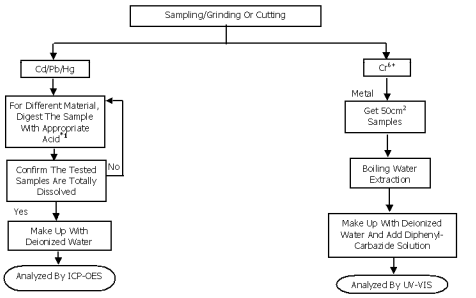
Intertek

Number : WUXH00009747

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

Page 3 Of 4

Intertek Testing Services Wuxi Ltd.
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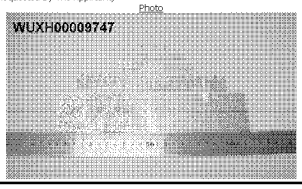
Intertek

Number : WUXH00009747

Tests Conducted (As Requested By The Applicant)

Photo



Page 4 Of 4

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Annex 3: Analysis Result of Clip (Page 1-4 of 4)

Intertek

Number : WUXH00009752

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 : Jul 26, 2012

Sample Description As Declared:
One (1) Piece Of Submitted Sample Said To Be : **Copper Metal.**
Item Name : Clip.
Vendor :
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

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Wuxi 214101, Jiangsu, China
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Intertek

Number : WUXH00009752

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: Jul 23, 2012
Testing Period: Jul 23, 2012 To Jul 26,2012

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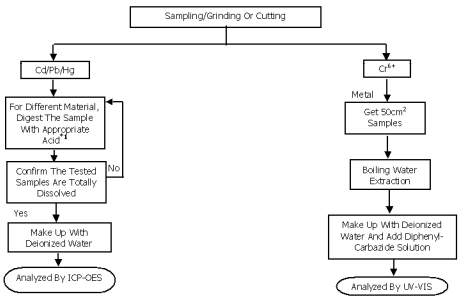
Intertek

Number : WUXH00009752

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

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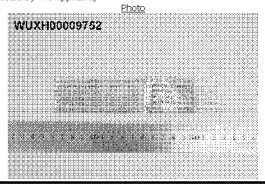
Intertek

Number : WUXH00009752

Tests Conducted (As Requested By The Applicant)

Photo



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Annex 4: Analysis Result of Outside lead finish (page 1-4 of 4)

Intertek

Number : WUXH00009779

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 : Jul 27, 2012

Sample Description As Declared:
One (1) Piece Of Submitted Sample Said To Be : **Black Plastic With Silvery Metal Pin.**
Item Name : Tin Plating(TO-220).
Vendor :
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

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Intertek

Number : WUXH00009779

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

Testing Item	Result
Cadmium (Cd) Content (mg/kg)/ Plating	ND
Lead (Pb) Content (mg/kg)/ Plating	80
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
The Result Is For Reference Only.
Tested Component: 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: Jul 23, 2012
Testing Period: Jul 23, 2012 To Jul 26,2012

Page 2 Of 4

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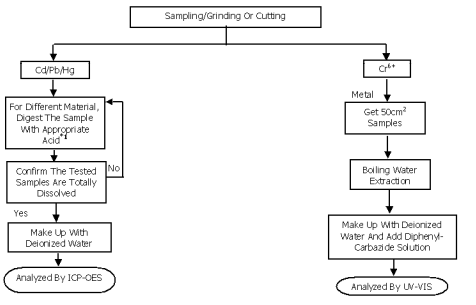
Intertek

Number : WUXH00009779

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

Page 3 Of 4

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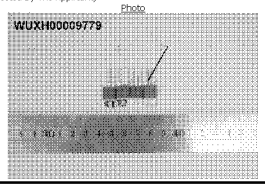
Intertek

Number : WUXH00009779

Tests Conducted (As Requested By The Applicant)

Photo



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Expertise Applied | Answers Delivered

Annex 5: Analysis Result of Ni-plated Wafer (Page 1-4 of 5)

Intertek

Number : WUXH00009738

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 : Jul 26, 2012

Sample Description As Declared:
One (1) Piece Of Submitted Sample Said To Be : **Silvery Grey Metal.**
Item Name : Silicon Wafer With Nickel Plating.
Vendor :
Component Or Part No. : Silicon+Nickel.
Test Item : Cd,Pb,Hg,Cr VI ,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

Intertek Testing Services Wuxi Ltd.
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Intertek

Number : WUXH00009738

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)	31
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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Intertek

Number : WUXH00009738

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: Jul 23, 2012
Testing Period: Jul 23, 2012 To Jul 26,2012

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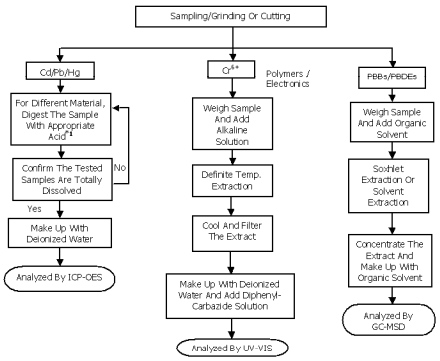
Wuxi 214101, Jiangsu, China
Tel: +86 510 8821 4567 Fax: +86 510 8820 0428 E-mail: consumergoods.wuxi@intertek.com

Intertek

Number : WUXH00009738

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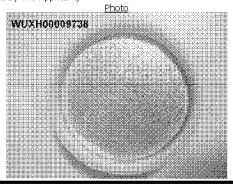
Annex 5: Analysis Result of Ni-plated Wafer (Page 5 of 5)

Intertek

Number : WUXH00009738

Tests Conducted (As Requested By The Applicant)

Photo



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Annex 6: Analysis Result of Passivation Glass (Page 1-4 of 7)

Intertek

Number : WUXH00009741

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 : Jul 26, 2012

Sample Description As Declared:
One (1) Piece Of Submitted Sample Said To Be : **White Powder.**
Item Name : Wafer Passivation.
Vendor :
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

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

Intertek

Number : WUXH00009741

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)	142100
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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Intertek

Number : WUXH00009741

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: Jul 23, 2012
Testing Period: Jul 23, 2012 To Jul 26, 2012

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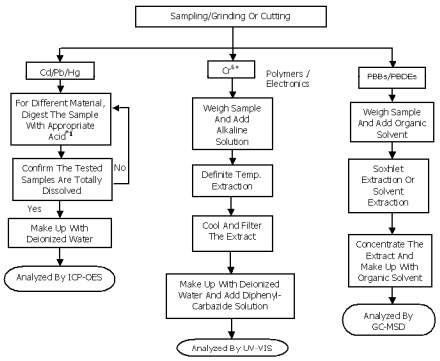
Intertek

Number : WUXH00009741

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

Intertek

Number : WUXH00009741

Tests Conducted (As Requested By The Applicant)
2 Halogen Test
(I) Test Result Summary :
Halogen Content:

Testing Item	Result (ppm)
	Submitted Samples
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: Jul 23, 2012
Test Period: Jul 23, 2012 To Jul 26,2012

(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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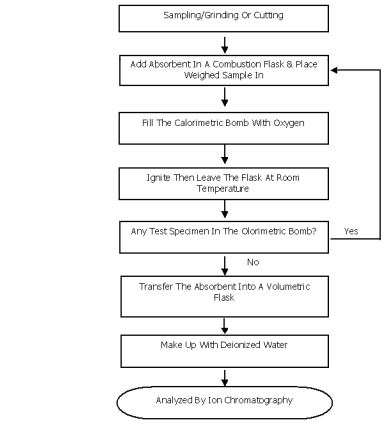
Intertek

Number : WUXH00009741

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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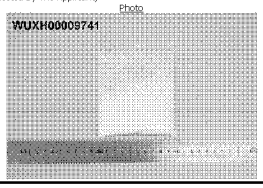
Intertek

Number : WUXH00009741

Tests Conducted (As Requested By The Applicant)

Photo



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Annex 7: Analysis Result of Die Bonding Solder (Page 1-4 of 11)

Intertek

Number : WUXH00009761

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 : Jul 27, 2012

Sample Description As Declared:
One (1) Piece Of Submitted Sample Said To Be : **Gray Paste.**
Item Name : Solder Paste.
Vendor :
Component Or Part No. : F3675N10-85D4.
Test Item : Cd,Pb,Hg,CrVI ,PBBs ,PBDEs ,F ,Cl ,Br ,I ,Phthalate ,HBCD.

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

Intertek Testing Services Wuxi Ltd.
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Wuxi 214101, Jiangsu, China
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Intertek

Number : WUXH00009761

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)	874900
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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Intertek

Number : WUXH00009761

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: Jul 23, 2012
Testing Period: Jul 23, 2012 To Jul 26, 2012

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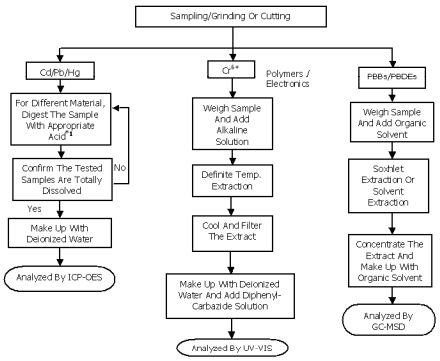
Intertek

Number : WUXH00009761

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 5-8 of 11)

Intertek

Number : WUXH00009761

Tests Conducted (As Requested By The Applicant)
2 Halogen Test
(I) Test Result Summary :
Halogen Content:

Testing Item	Result (ppm) Submitted Samples
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: Jul 23, 2012
Test Period: Jul 23, 2012 To Jul 26,2012

(II) Test Method :

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

Remarks : Reporting Limit = Quantitation Limit Of Analyte In Sample

Page 5 Of 11

Intertek Testing Services Wuxi Ltd.
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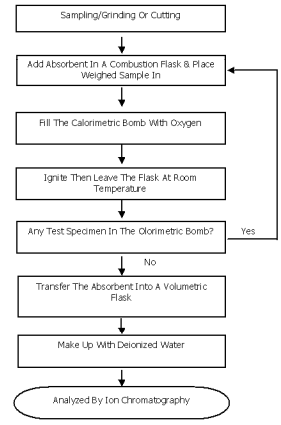
Intertek

Number : WUXH00009761

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 11

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Intertek

Number : WUXH00009761

Tests Conducted (As Requested By The Applicant)
3 Phthalate Content Test

With Reference To EN14372, By Gas Chromatographic-Mass Spectrometric (GC-MSD) Analysis.

Tested Compound	Result (%.W/W)	Limit(%.W/W) (Max.)
Dibutyl Phthalate (DBP)	ND	---
Diethyl Hexyl Phthalate(DEHP)	ND	---
Benzyl Butyl Phthalate (BBP)	ND	---
Sum Of Three Phthalates	ND	0.1
Di-Iso-Nonyl Phthalate (DINP)	ND	---
Di-N-Octyl Phthalate (DNOP)	ND	---
Di-Iso-Decyl Phthalate (DIDP)	ND	---
Sum Of Three Phthalates	ND	0.1

Remark : The Above Limit Was Quoted According To Annex XVII Items 51 & 52 Of The Reach Regulation (EC) No. 1907/2006 (Formerly Known As Directive 2005/84/EC) For Phthalate Content In Toys And Children Care Articles.

Detection Limit = 0.01%(W/W)
ND = Not Detected

Date Sample Received : Jul 23, 2012
Testing Period : Jul 23, 2012 To Jul 26, 2012

Comment :
The Phthalate Content Test Result Of Tested Sample Did Not Exceed The Limit Of 0.1% By Weight As Stated In Annex XVII Items 51 & 52 Of The Reach Regulation (EC) No. 1907/2006 (Formerly Known As Directive 2005/84/EC) Relating To Restrictions On Phthalates In Toys And Children Care Articles.

Page 7 Of 11

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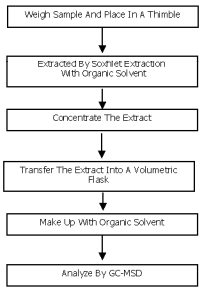
Intertek

Number : WUXH00009761

Tests Conducted (As Requested By The Applicant)

Measurement Flowchart:

Test For Phthalates Contents



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

Page 8 Of 11

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Annex 7: Analysis Result of Die Bonding Solder (Page 9-11 of 11)

Intertek

Number : WUXH00009761

Tests Conducted (As Requested By The Applicant)
4 HBCD (Hexabromocyclododecane)
(A) Test Result Summary:

Testing Item	Result(ppm)
HBCD (Hexabromocyclododecane)	ND

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

(B) Test Method :

Testing Item	Testing Method	Reporting Limit
HBCD (Hexabromocyclododecane)	With Reference To US EPA 3540C, By Solvent Extraction And Determined By GC-MSD	10 ppm

Date Sample Received : Jul 23, 2012
Testing Period : Jul 23, 2012 To Jul 26,2012

Page 9 Of 11

Intertek Testing Services Wuxi Ltd.
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Wuxi 214101, Jiangsu, China
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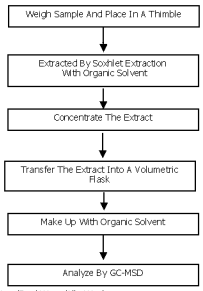
Intertek

Number : WUXH00009761

Tests Conducted (As Requested By The Applicant)
Measurement Flowchart:
Test For HBCD (Hexabromocyclododecane) Content



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

Page 10 Of 11

Intertek Testing Services Wuxi Ltd.
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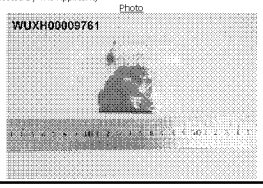
Intertek

Number : WUXH00009761

Tests Conducted (As Requested By The Applicant)

Photo



Page 11 Of 11

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Littelfuse
Expertise Applied | Answers Delivered

Annex 7A: Analysis Result of Die Bonding Solder 2 (Page 1-4 of 11)

Intertek

Number : WUXH00009760

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 : Jul 27, 2012

Sample Description As Declared:
One (1) Piece Of Submitted Sample Said To Be : **Gray Paste.**
Item Name : Solder Paste.
Vendor :
Component Or Part No. : F3675N3-90M3.
Test Item : Cd,Pb,Hg,Cr(VI),PBBs,PBDEs,F,Cl,Br,I,Phthalate,HBCD.

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

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

Intertek

Number : WUXH00009760

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)	885700
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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Intertek

Number : WUXH00009760

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: Jul 23, 2012
Testing Period: Jul 23, 2012 To Jul 26, 2012

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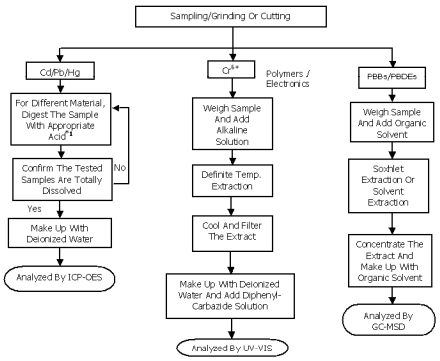
Intertek

Number : WUXH00009760

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 7A: Analysis Result of Die Bonding Solder 2 (Page 5-8 of 11)

Intertek

Number : WUXH00009760

Tests Conducted (As Requested By The Applicant)
2 Halogen Test
(I) Test Result Summary :
Halogen Content:

Testing Item	Result (ppm) Submitted Samples
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: Jul 23, 2012
Test Period: Jul 23, 2012 To Jul 26,2012

(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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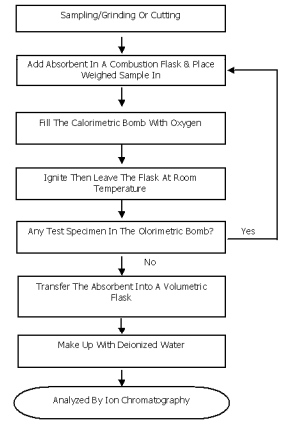
Intertek

Number : WUXH00009760

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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Intertek

Number : WUXH00009760

Tests Conducted (As Requested By The Applicant)
3 Phthalate Content Test

With Reference To EN14372, By Gas Chromatographic-Mass Spectrometric (GC-MSD) Analysis.

Tested Compound	Result (%,W/W)	Limit(%,W/W) (Max.)
Dibutyl Phthalate (DBP)	ND	---
Diethyl Hexyl Phthalate(DEHP)	ND	---
Benzyl Butyl Phthalate (BBP)	ND	---
Sum Of Three Phthalates	ND	0.1
Di-Iso-Nonyl Phthalate (DINP)	ND	---
Di-N-Octyl Phthalate (DNOP)	ND	---
Di-Iso-Decyl Phthalate (DIDP)	ND	---
Sum Of Three Phthalates	ND	0.1

Remark : The Above Limit Was Quoted According To Annex XVII Items 51 & 52 Of The Reach Regulation (EC) No. 1907/2006 (Formerly Known As Directive 2005/84/EC) For Phthalate Content In Toys And Children Care Articles.

Detection Limit = 0.01%(W/W)
ND = Not Detected

Date Sample Received : Jul 23, 2012
Testing Period : Jul 23, 2012 To Jul 26,2012

Comment :
The Phthalate Content Test Result Of Tested Sample Did Not Exceed The Limit Of 0.1% By Weight As Stated In Annex XVII Items 51 & 52 Of The Reach Regulation (EC) No. 1907/2006 (Formerly Known As Directive 2005/84/EC) Relating To Restrictions On Phthalates In Toys And Children Care Articles.

Page 7 Of 11

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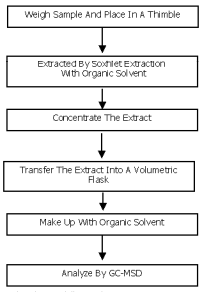
Number : WUXH00009760

Tests Conducted (As Requested By The Applicant)
Measurement Flowchart:
Test For Phthalates Contents



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

Page 8 Of 11

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Annex 7A: Analysis Result of Die Bonding Solder 2 (Page 9-11 of 11)

Intertek

Number : WUXH00009760

Tests Conducted (As Requested By The Applicant)
4 HBCD (Hexabromocyclododecane)
(A) Test Result Summary:

Testing Item	Result(ppm)
HBCD (Hexabromocyclododecane)	ND

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

(B) Test Method :

Testing Item	Testing Method	Reporting Limit
HBCD (Hexabromocyclododecane)	With Reference To US EPA 3540C, By Solvent Extraction And Determined By GC-MSD	10 ppm

Date Sample Received : Jul 23, 2012
Testing Period : Jul 23, 2012 To Jul 26,2012

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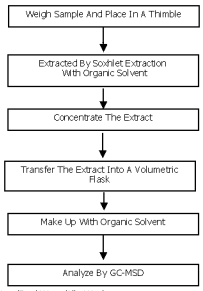
Intertek

Number : WUXH00009760

Tests Conducted (As Requested By The Applicant)
Measurement Flowchart:
Test For HBCD (Hexabromocyclododecane) Content



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

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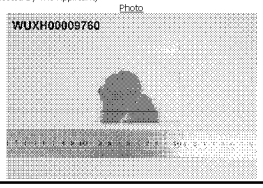
Intertek

Number : WUXH00009760

Tests Conducted (As Requested By The Applicant)

Photo



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Littelfuse
Expertise Applied | Answers Delivered

Annex 8: Analysis Result of Ceramic Substrate (Page 1-4 of 7)

Intertek

Number : WUXH00009777

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 : Jul 27, 2012

Sample Description As Declared:
One (1) Piece Of Submitted Sample Said To Be : **Light Grey /White Ceramic.**
Item Name : Ceramic.
Vendor :
Component Or Part No. : Ceramic.
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

Intertek Testing Services Wuxi Ltd.
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Intertek

Number : WUXH00009777

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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Intertek

Number : WUXH00009777

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: Jul 23, 2012
Testing Period: Jul 23, 2012 To Jul 26, 2012

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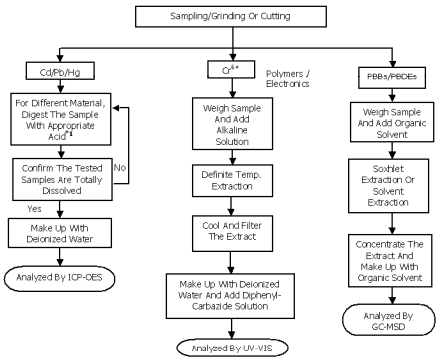
Number : WUXH00009777

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 8: Analysis Result of Ceramic Substrate (Page 5-7 of 7)

Intertek

Number : WUXH00009777

Tests Conducted (As Requested By The Applicant)

2 Halogen Test

(I) Test Result Summary :

Halogen Content:

Testing Item	Result (ppm)
	Submitted Samples
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: Jul 23, 2012
Test Period: Jul 23, 2012 To Jul 26,2012

(II) Test Method :

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

Remarks : Reporting Limit = Quantitation Limit Of Analyte In Sample

Page 5 Of 7

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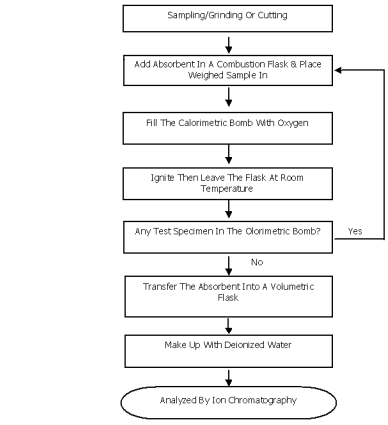
Intertek

Number : WUXH00009777

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

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Intertek

Number : WUXH00009777

Tests Conducted (As Requested By The Applicant)

Photo

Page 7 Of 7

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Annex 9: Analysis Result of Marking Ink (Page 1-4 of 11)

Intertek

Number : WUXH00009774

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 : Jul 27, 2012

Sample Description As Declared:
One (1) Piece Of Submitted Sample Said To Be : **Silvery Grey Ink.**
Item Name : UV Ink.
Vendor :
Test Item : Cd,Pb,Hg,CrVI,PBBs,PBDEs,F,Cl,Br,I,Phthalate,HBCD.

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

Intertek Testing Services Wuxi Ltd.
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Intertek

Number : WUXH00009774

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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Intertek

Number : WUXH00009774

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: Jul 23, 2012
Testing Period: Jul 23, 2012 To Jul 26,2012

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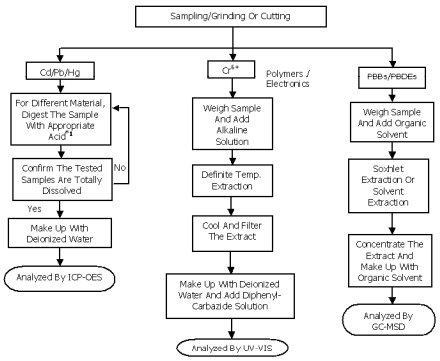
Intertek

Number : WUXH00009774

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 9: Analysis Result of Marking Ink (Page 5-8 of 11)

Intertek

Number : WUXH00009774

Tests Conducted (As Requested By The Applicant)
2 Halogen Test
(I) Test Result Summary :
Halogen Content:

Testing Item	Result (ppm)
	Submitted Samples
Fluorine (F) Content	ND
Chlorine (Cl)Content	186
Bromine (Br) Content	ND
Iodine (I) Content	ND

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

Date Sample Receive: Jul 23, 2012
Test Period: Jul 23, 2012 To Jul 26,2012

(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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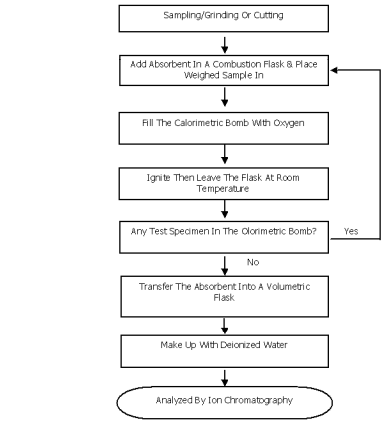
Tests Conducted (As Requested By The Applicant)
(III) Measurement Flowchart:
Test For Halogen Content Reference Method: EN 14582:2007



Chemist: Fred Wang/ Ally Wan Ally Wan

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Tests Conducted (As Requested By The Applicant)
3 Phthalate Content Test

With Reference To EN14372, By Gas Chromatographic-Mass Spectrometric (GC-MSD) Analysis.

Tested Compound	Result (%.W/W)	Limit(%.W/W) (Max.)
Dibutyl Phthalate (DBP)	ND	---
Diethyl Hexyl Phthalate(DEHP)	ND	---
Benzyl Butyl Phthalate (BBP)	ND	---
Sum Of Three Phthalates	ND	0.1
Di-Iso-Nonyl Phthalate (DINP)	ND	---
Di-N-Octyl Phthalate (DNOP)	ND	---
Di-Iso-Decyl Phthalate (DIDP)	ND	---
Sum Of Three Phthalates	ND	0.1

Remark : The Above Limit Was Quoted According To Annex XVII Items 51 & 52 Of The Reach Regulation (EC) No. 1907/2006 (Formerly Known As Directive 2005/84/EC) For Phthalate Content In Toys And Children Care Articles.

Detection Limit = 0.01%(W/W)
ND = Not Detected

Date Sample Received : Jul 23, 2012
Testing Period : Jul 23, 2012 To Jul 26, 2012

Comment :The Phthalate Content Test Result Of Tested Sample Did Not Exceed The Limit Of 0.1% By Weight As Stated In Annex XVII Items 51 & 52 Of The Reach Regulation (EC) No. 1907/2006 (Formerly Known As Directive 2005/84/EC) Relating To Restrictions On Phthalates In Toys And Children Care Articles.

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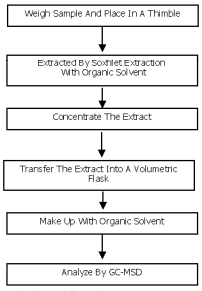
Number : WUXH00009774

Tests Conducted (As Requested By The Applicant)

Measurement Flowchart:

Test For Phthalates Contents



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

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Annex 9: Analysis Result of Marking Ink (Page 9-11 of 11)

Intertek

Number : WUXH00009774

Tests Conducted (As Requested By The Applicant)
4 HBCD (Hexabromocyclododecane)
(A) Test Result Summary:

Testing Item	Result(ppm)
HBCD (Hexabromocyclododecane)	ND

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

(B) Test Method :

Testing Item	Testing Method	Reporting Limit
HBCD (Hexabromocyclododecane)	With Reference To US EPA 3540C, By Solvent Extraction And Determined By GC-MSD	10 ppm

Date Sample Received : Jul 23, 2012
Testing Period : Jul 23, 2012 To Jul 26,2012

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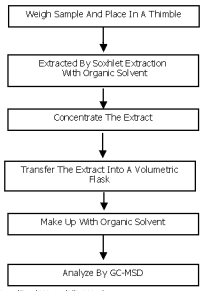
Intertek

Number : WUXH00009774

Tests Conducted (As Requested By The Applicant)
Measurement Flowchart:
Test For HBCD (Hexabromocyclododecane) Content



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

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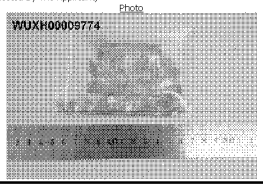
Intertek

Number : WUXH00009774

Tests Conducted (As Requested By The Applicant)

Photo



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Annex 10: Applicable RoHS exemptions (2011/65/EU Annex III)

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)
(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 114 thereof,

Having regard to the proposal from the European Commission,

Having regard to the opinion of the European Economic and Social Committee (1),

Having regard to the opinion of the Committee of Regions (2),

Acting in accordance with the ordinary legislative procedure (3),

Whereas:

(1) A number of substantial changes are to be made to 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 (4). In the interest of clarity, that Directive should be recast.

(2) The disparities between the laws or administrative measures adopted by the Member States regarding the restriction of the use of hazardous substances in electrical and electronic equipment (EEE) could create barriers to trade and distort competition in the Union and may thereby have a direct impact on the establishment and functioning of the internal market. It therefore appears necessary to lay down rules in this field and to contribute to the protection of human health and the environmentally sound recovery and disposal of waste EEE.

(3) Directive 2002/95/EC provides that the Commission shall review the provisions of that Directive, in particular, in order to include in its scope equipment which falls within certain categories and to study the need to adapt the list of restricted substances on the basis of scientific progress, taking into account the precautionary principle, as endorsed by Council Resolution of 4 December 2000.

(4) Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste (5) gives first priority to prevention in waste legislation. Prevention is defined, inter alia, as measures that reduce the content of harmful substances in materials and products.

(5) Council Resolution of 25 January 1988 on a Community action programme to combat environmental pollution by cadmium (6) invited the Commission to pursue without delay the development of specific measures for such a programme. Human health also has 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 Resolution stresses that the use of cadmium should be limited to cases where suitable alternatives do not exist.

(6) Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants (7) recalls that the objective of protecting the environment and human health from persistent organic pollutants cannot be sufficiently achieved by the Member States, owing to the transboundary effects of those pollutants, and can therefore be better achieved at Union level. Pursuant to that Regulation, releases of persistent organic pollutants, such as dioxins and furans, which are unintentional by-products of industrial processes, should be identified and reduced as soon as possible with the ultimate aim of elimination, where feasible.

(7) The available evidence indicates that measures on the collection, treatment, recycling and disposal of waste EEE as set out in Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment (WEEE) (8) are necessary to reduce the waste management problems associated with the heavy metals and flame retardants concerned. In spite of those measures, however, significant parts of waste EEE will continue to be found in the current disposal routes inside or outside the Union. Even if waste EEE were collected separately and submitted to recycling processes, to content of mercury, cadmium, lead, chromium VI, polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE) would be likely to pose risks to health or the environment, especially when treated in less than optimal conditions.

(1) OJ C 106, 16.12.2009, p. 36.
(2) OJ C 141, 29.5.2010, p. 55.
(3) Position of the European Parliament of 24 November 2010 (not yet published in the Official Journal) and decision of the Council of 27 May 2011.
(4) OJ L 37, 13.2.2003, p. 19.
(5) OJ L 312, 22.11.2008, p. 3.
(6) OJ C 30, 4.2.1988, p. 1.
(7) OJ L 158, 30.4.2004, p. 7.
(8) OJ L 37, 13.2.2003, p. 24.

3. Paragraph 1 shall apply to medical devices and monitoring and control instruments which are placed on the market from 22 July 2014, to in vitro diagnostic medical devices which are placed on the market from 22 July 2016 and to industrial monitoring and control instruments which are placed on the market from 22 July 2017.

4. Paragraph 1 shall not apply to cables or spare parts for the repair, the reuse, the updating of functionalities or upgrading of capacity of the following:

(a) EEE placed on the market before 1 July 2006;

(b) medical devices placed on the market before 22 July 2014;

(c) in vitro diagnostic medical devices placed on the market before 22 July 2016;

(d) monitoring and control instruments placed on the market before 22 July 2014;

(e) industrial monitoring and control instruments placed on the market before 22 July 2017;

(f) EEE which benefited from an exemption and which was placed on the market before that exemption expired as far as that specific exemption is concerned.

5. Paragraph 1 shall not apply to reused spare parts, recovered from EEE placed on the market before 1 July 2006 and used in equipment placed on the market before 1 July 2016, provided that reuse takes place in auditable closed-loop business-to-business return systems, and that the reuse of parts is notified to the consumer.

6. Paragraph 1 shall not apply to the applications listed in Annexes III and IV.

Article 5

Adaptation of the Annexes to scientific and technical progress

1. For the purposes of adapting Annexes III and IV to scientific and technical progress, and in order to achieve the objectives set out in Article 1, the Commission shall adopt by means of individual delegated acts in accordance with Article 20 and subject to the conditions laid down in Articles 21 and 22, the following measures:

(a) inclusion of materials and components of EEE for specific applications in the lists in Annexes III and IV, provided that such inclusion does not weaken the environmental and health protection afforded by Regulation (EC) No 1907/2006 and where any of the following conditions is fulfilled:

— their elimination or substitution via design changes or materials and components which do not require any of the materials or substances listed in Annex II is scientifically or technically impracticable,

— the reliability of substitutes is not ensured,

— the total negative environmental, health and consumer safety impacts caused by substitution are likely to outweigh the total environmental, health and consumer safety benefits thereof.

Decisions on the inclusion of materials and components of EEE in the lists in Annexes III and IV and on the duration of any exemptions shall take into account the availability of substitutes and the socioeconomic impact of substitution. Decisions on the duration of any exemptions shall take into account any potential adverse impacts on innovation. Life-cycle thinking on the overall impacts of the exemption shall apply, where relevant;

(b) deletion of materials and components of EEE from the lists in Annexes III and IV where the conditions set out in point (a) are no longer fulfilled.

2. Measures adopted in accordance with point (a) of paragraph 1 shall, for categories 1 to 7, 10 and 11 of Annex I, have a validity period of up to 5 years and, for categories 8 and 9 of Annex I, a validity period of up to 7 years. The validity periods are to be decided on a case-by-case basis and may be renewed.

For the exemptions listed in Annex III as at 21 July 2011, the maximum validity period, which may be renewed, shall, for categories 1 to 7 and 10 of Annex I, be 5 years from 21 July 2011 and, for categories 8 and 9 of Annex I, 7 years from the relevant dates laid down in Article 4(3), unless a shorter period is specified.

For the exemptions listed in Annex IV as at 21 July 2011, the maximum validity period, which may be renewed, shall be 7 years from the relevant dates laid down in Article 4(3), unless a shorter period is specified.

3. An application for granting, renewing or revoking an exemption shall be made to the Commission in accordance with Annex V.

4. The Commission shall:

(a) acknowledge receipt of an application in writing within 15 days of its receipt. The acknowledgement shall state the date of receipt of the application;

(b) inform the Member States of the application without delay and make the application and any supplementary information supplied by the applicant available to them;

(c) make a summary of the application available to the public;

(d) evaluate the application and its justification.

5. An application for renewal of an exemption shall be made no later than 18 months before the exemption expires.

The Commission shall decide on an application for renewal of an exemption no later than 6 months before the expiry date of the existing exemption unless specific circumstances justify other deadlines. The existing exemption shall remain valid until a decision on the renewal application is taken by the Commission.

ANNEX II

Restricted substances referred to in Article 4(1) and maximum concentration values tolerated by weight in homogeneous materials

Lead (0,1 %)
Mercury (0,1 %)
Cadmium (0,01 %)
Hexavalent chromium (0,1 %)
Polybrominated biphenyls (PBB) (0,1 %)
Polybrominated diphenyl ethers (PBDE) (0,1 %)

	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