



## ICP Test Report Certification Packet

Company name: Littelfuse, Inc.

Product Series: SMBJ, P6SMB, SACB, 3T, 1KSMB Series

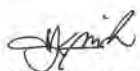
Product #: TVS Diode

Issue Date: August 13, 2010

It is hereby certified by Littelfuse, Inc. that there is neither RoHS (EU Directive 2002/95/EC)-restricted substance nor such use, for materials to be used for unit parts, for packing/packaging materials, and for additives and the like in the manufacturing processes.

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

Issued by:

  
KRISTEEN BACILA

<Global EHS Engineer>

(1) Parts, sub-materials and unit parts

This document covers the SMBJ, P6SMB, SACB, 3T, 1KSMB RoHS-Compliant series products manufactured by Littelfuse, Inc.

< Raw Materials Used

Please see Table 1

(2) The ICP data on all measurable substances

Please see appropriate pages as identified in Table 1

Remarks : **RoHS Exemptions 5 and 7a apply to these products.**

**Table 1: List of Raw Materials covered by this report**

<b>Total Parts</b>	<b>Raw Material Part Number</b>	<b>Raw Material Description</b>	<b>Page(s)</b>
1	NA	Chip	3-9
2	NA	Silicon Wafer	10-16
3	NA	Wafer Passivation	17-23
4	NA	Lead Frame Matrix	24-28
5	NA	Lead Frame	29-33
6	NA	Solder Paster	34-40
7	NA	Epoxy Molding Compound	41-47
8	NA	Tin Plating	48-54
9	NA	Clip	55-59

**TEST REPORT**

NUMBER: WUXH00002722

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 06, 2010

**SAMPLE DESCRIPTION:**

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

ITEM NAME : CHIP.

VENDOR : LITTELFUSE CONCORD.

COMPONENT OR PART NO. : SILICON+NICKEL+GLASS.

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

\*\*\*\*\*

**TESTS CONDUCTED:**

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

\*\*\*\*\*

TO BE CONTINUED

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



JESSICA LU  
GENERAL MANAGER

**Intertek Testing Services Wuxi Ltd.**

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

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

# TEST REPORT

NUMBER: WUXH00002722

## TESTS CONDUCTED

### (A) TEST RESULT SUMMARY:

TESTING ITEM	RESULT
CADMIUM (Cd) CONTENT (mg/kg)	ND
LEAD (Pb) CONTENT (mg/kg)	53180
MERCURY (Hg) CONTENT (mg/kg)	ND
CHROMIUM (VI) (Cr <sup>6+</sup> ) CONTENT (mg/kg) (FOR NON-METAL)	ND
POLYBROMINATED BIPHENYLS (PBBs) (mg/kg)	
MONOBROMO BIPHENYLS (MonoBB)	ND
DIBROMO BIPHENYLS (DiBB)	ND
TRIBROMO BIPHENYLS (TriBB)	ND
TETRABROMO BIPHENYLS (TetraBB)	ND
PENTABROMO BIPHENYLS (PentaBB)	ND
HEXABROMO BIPHENYLS (HexaBB)	ND
HEPTABROMO BIPHENYLS (HeptaBB)	ND
OCTABROMO BIPHENYLS (OctaBB)	ND
NONABROMO BIPHENYLS (NonaBB)	ND
DECABROMO BIPHENYL (DecaBB)	ND
POLYBROMINATED DIPHENYL ETHERS (PBDEs) (mg/kg)	
MONOBROMO DIPHENYL ETHERS (MonoBDE)	ND
DIBROMO DIPHENYL ETHERS (DiBDE)	ND
TRIBROMO DIPHENYL ETHERS (TriBDE)	ND
TETRABROMO DIPHENYL ETHERS (TetraBDE)	ND
PENTABROMO DIPHENYL ETHERS (PentaBDE)	ND
HEXABROMO DIPHENYL ETHERS (HexaBDE)	ND
HEPTABROMO DIPHENYL ETHERS (HeptaBDE)	ND
OCTABROMO DIPHENYL ETHERS (OctaBDE)	ND
NONABROMO DIPHENYL ETHERS (NonaBDE)	ND
DECABROMO DIPHENYL ETHER (DecaBDE)	ND

#### REMARK:

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

ND = NOT DETECTED

# = THE RESULT IS FOR REFERENCE ONLY

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



# TEST REPORT

NUMBER: WUXH00002722

TESTS CONDUCTED

(B) RoHS REQUIREMENT:

RESTRICTED SUBSTANCES	LIMITS
CADMIUM (Cd)	0.01% (100 mg/kg)
LEAD (Pb)	0.1% (1000 mg/kg)
MERCURY (Hg)	0.1% (1000 mg/kg)
CHROMIUM (VI) (Cr <sup>6+</sup> )	0.1% (1000 mg/kg)
POLYBROMINATED BIPHENYLS (PBBs)	0.1% (1000 mg/kg)
POLYBROMINATED DIPHENYL ETHERS (PBDEs)	0.1% (1000 mg/kg)

THE ABOVE LIMITS WERE QUOTED FROM 2002/95/EC AND AMENDMENT 2005/618/EC FOR HOMOGENEOUS MATERIAL.

(c) TEST METHOD:

TESTING ITEM	TESTING METHOD	REPORTING LIMIT
CADMIUM (Cd) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP-OES	2 mg/kg
LEAD (Pb) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP-OES	2 mg/kg
MERCURY (Hg) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP-OES	2 mg/kg
CHROMIUM (VI) (Cr <sup>6+</sup> ) CONTENT (FOR NON-METAL)	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ALKALINE DIGESTION AND DETERMINED BY UV-VIS SPECTROPHOTOMETER	1 mg/kg
POLYBROMINATED BIPHENYLS (PBBs) & POLYBROMINATED DIPHENYL ETHERS (PBDEs)	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS AND FURTHER HPLC CONFIRMATION WHEN NECESSARY.	5 mg/kg

DATE SAMPLE RECEIVED:AUG 02, 2010

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

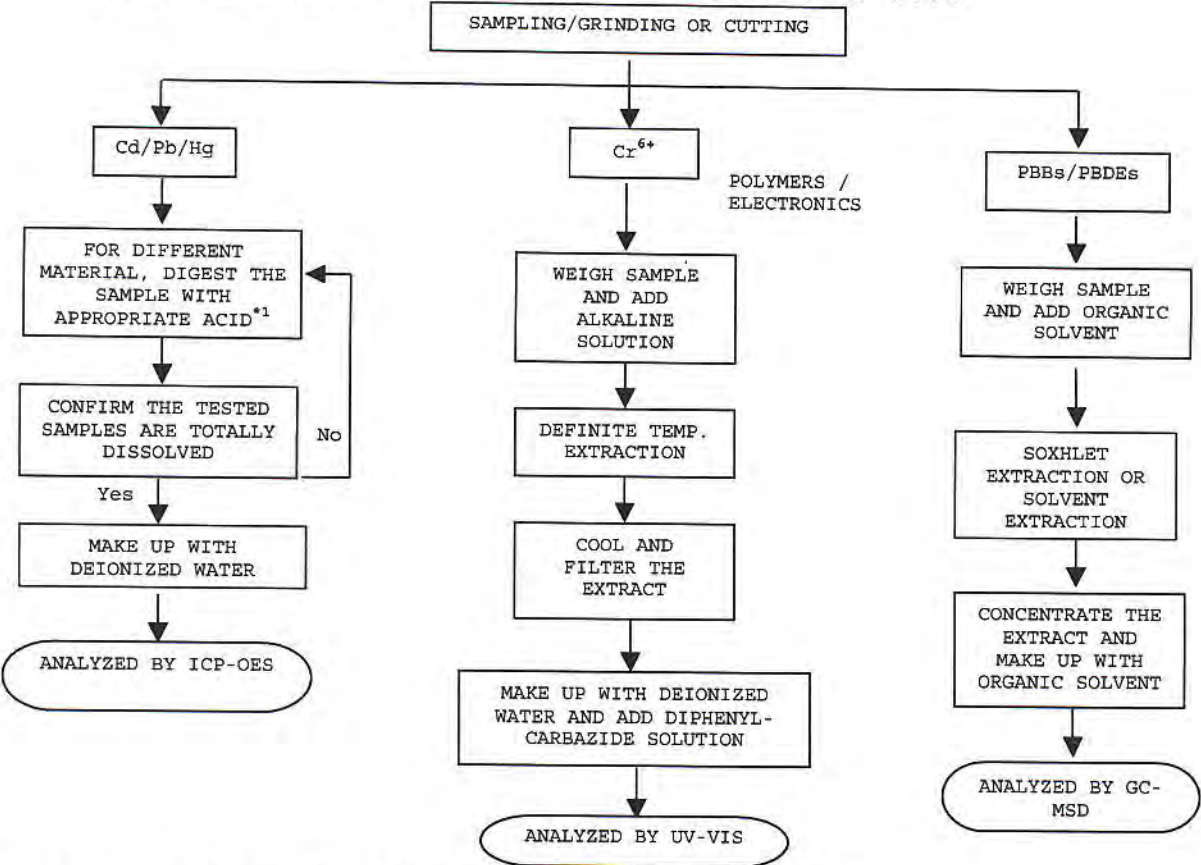
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TO BE CONTINUED

TEST REPORT

NUMBER: WUXH00002722

TESTS CONDUCTED

(D) MEASUREMENT FLOWCHART:  
TEST FOR Cd/Pb/Hg/Cr (VI)/PBBs/PBDEs CONTENTS  
REFERENCE STANDARD: IEC 62321 EDITION 1.0: 2008



CHEMIST: INORGANIC (ANN LUO/FRED WANG/ALLY WAN)  
ORGANIC (JENNY XU/CHERRY SUN)

REMARKS:

\*1: LIST OF APPROPRIATE ACID:

MATERIAL	ACID ADDED FOR DIGESTION
POLYMERS	HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
METALS	HNO <sub>3</sub> , HCl, HF
ELECTRONICS	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

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

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TO BE CONTINUED

**TEST REPORT**

NUMBER: WUXH00002722

TESTS CONDUCTED

( 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 RECEIVE: AUG 02, 2010

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

( II ) TEST METHOD :

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

REMARKS : REPORTING LIMIT = QUANTITATION LIMIT OF ANALYTE IN SAMPLE

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



**TEST REPORT**

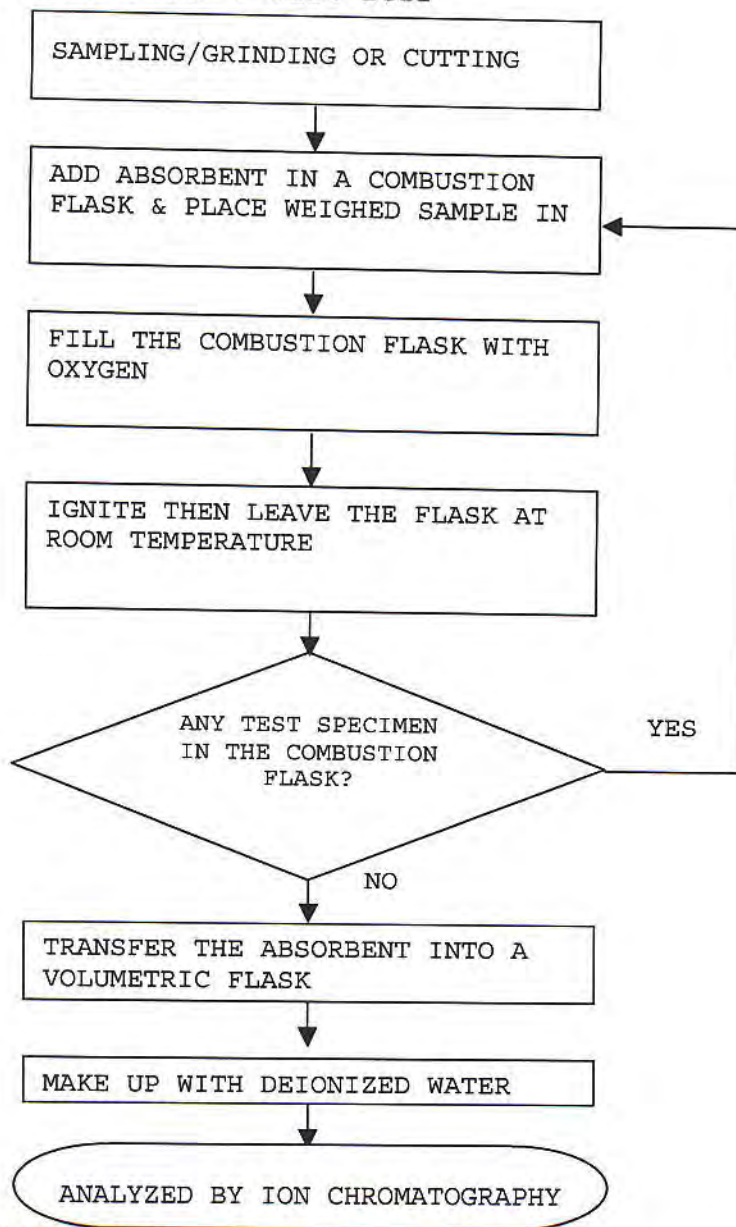
NUMBER: WUXH00002722

TESTS CONDUCTED

(III) MEASUREMENT FLOWCHART:

TEST FOR HALOGEN CONTENT

REFERENCE METHOD: IEC 61189-2 TEST 2C12



CHEMIST: FRED WANG/ ALLY WAN

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TO BE CONTINUED

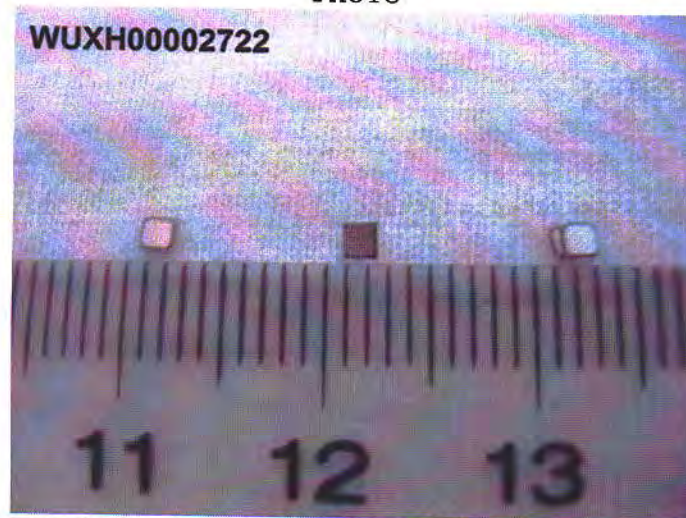


**TEST REPORT**

NUMBER: WUXH00002722

TESTS CONDUCTED

PHOTO



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END OF REPORT

**TEST REPORT**

NUMBER: WUXH00002719

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 06, 2010

**SAMPLE DESCRIPTION:**

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

ITEM NAME : SILICON WAFER WITH NICKEL PLATING.

VENDOR : CONCORD.

COMPONENT OR PART NO. : SILICON+NICKEL.

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

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**TESTS CONDUCTED:**

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

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**SUMMARY:**

<u>TESTED SAMPLE</u>	<u>STANDARD</u>	<u>RESULT</u>
SUBMITTED SAMPLE	WITH REFERENCE TO TEST METHOD OF IEC 62321 EDITION 1.0: 2008 AND MAXIMUM CONCENTRATION LIMITS QUOTED FROM RoHS DIRECTIVES 2002/95/EC AND AMENDMENT 2005/618/EC	PASS

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TO BE CONTINUED

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



JESSICA LU  
 GENERAL MANAGER

# **TEST REPORT**

NUMBER: WUXH00002719

## TESTS CONDUCTED

### (A) TEST RESULT SUMMARY:

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

### REMARK:

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

ND = NOT DETECTED

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

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TO BE CONTINUED



# TEST REPORT

NUMBER: WUXH00002719

## TESTS CONDUCTED

### (B) RoHS REQUIREMENT:

RESTRICTED SUBSTANCES	LIMITS
CADMIUM (Cd)	0.01% (100 mg/kg)
LEAD (Pb)	0.1% (1000 mg/kg)
MERCURY (Hg)	0.1% (1000 mg/kg)
CHROMIUM (VI) (Cr <sup>6+</sup> )	0.1% (1000 mg/kg)
POLYBROMINATED BIPHENYLS (PBBs)	0.1% (1000 mg/kg)
POLYBROMINATED DIPHENYL ETHERS (PBDEs)	0.1% (1000 mg/kg)

THE ABOVE LIMITS WERE QUOTED FROM 2002/95/EC AND AMENDMENT 2005/618/EC FOR HOMOGENEOUS MATERIAL.

### (c) TEST METHOD:

TESTING ITEM	TESTING METHOD	REPORTING LIMIT
CADMIUM (Cd) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP-OES	2 mg/kg
LEAD (Pb) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP-OES	2 mg/kg
MERCURY (Hg) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP-OES	2 mg/kg
CHROMIUM (VI) (Cr <sup>6+</sup> ) CONTENT (FOR METAL)	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY BOILING WATER EXTRACTION AND DETERMINED BY UV-VIS SPECTROPHOTOMETER	0.02mg/kg WITH 50cm <sup>2</sup> (IN TESTING SOLUTION)
POLYBROMINATED BIPHENYLS (PBBs) & POLYBROMINATED DIPHENYL ETHERS (PBDEs)	WITH REFERENCE TO IEC IEC 62321 EDITION 1.0: 2008, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS AND FURTHER HPLC CONFIRMATION WHEN NECESSARY.	5 mg/kg

DATE SAMPLE RECEIVED:AUG 02, 2010

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

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TO BE CONTINUED

**TEST REPORT**

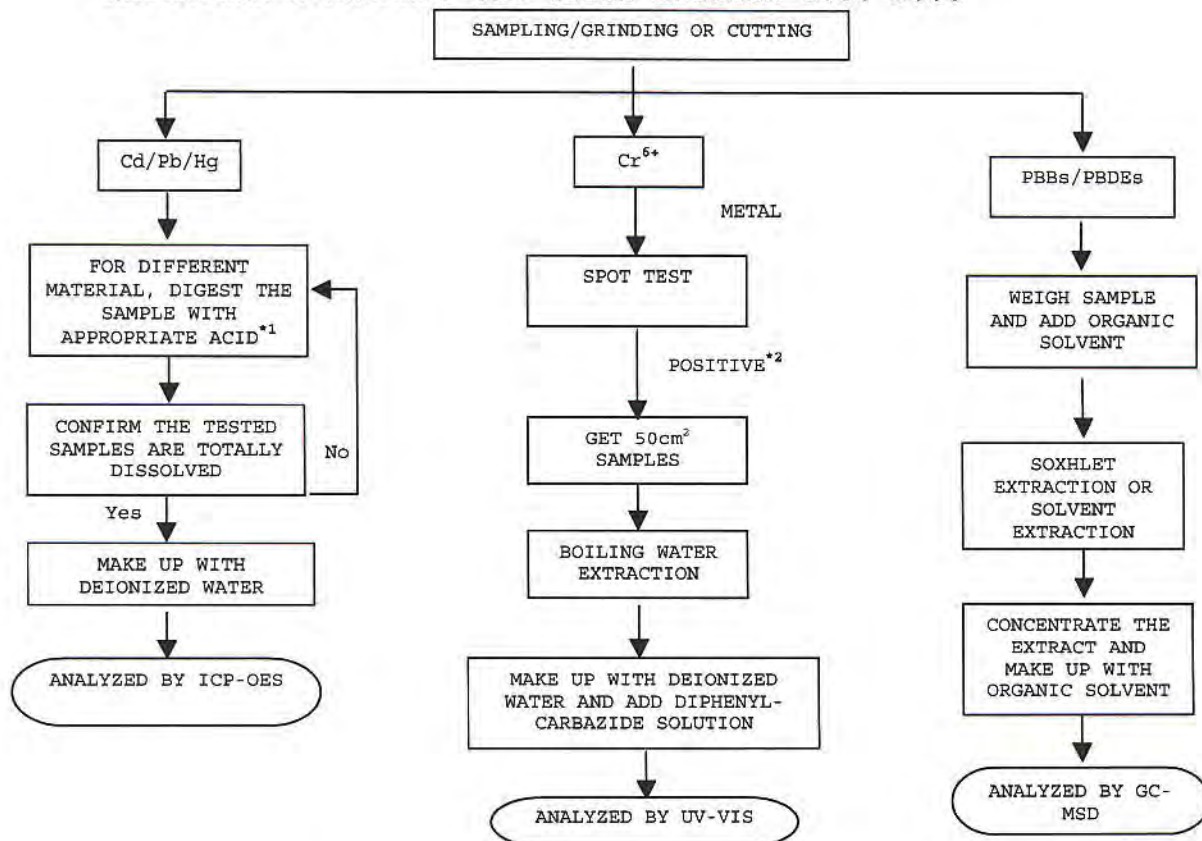
NUMBER: WUXH00002719

TESTS CONDUCTED

(D) MEASUREMENT FLOWCHART:

TEST FOR Cd/Pb/Hg/Cr (VI)/PBBs/PBDEs CONTENTS

REFERENCE STANDARD: IEC 62321 EDITION 1.0: 2008



CHEMIST: INORGANIC (ANN LUO/FRED WANG/ALLY WAN)  
ORGANIC (JENNY XU/CHERRY SUN)

REMARKS:

\*1: LIST OF APPROPRIATE ACID:

<u>MATERIAL</u>	<u>ACID ADDED FOR DIGESTION</u>
POLYMERS	HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
METALS	HNO <sub>3</sub> , HCl, HF
ELECTRONICS	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

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

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TO BE CONTINUED

**TEST REPORT**

NUMBER: WUXH00002719

TESTS CONDUCTED

( I ) TEST RESULT SUMMARY :

HALOGEN CONTENT :

<u>TESTING ITEM</u>	<u>RESULT (ppm)</u>
FLUORINE (F) CONTENT	ND
CHLORINE (Cl) CONTENT	ND
BROMINE (Br) CONTENT	ND
IODINE (I) CONTENT	ND

REMARKS : ppm = PARTS PER MILLION = mg/kg

ND = NOT DETECTED

DATE SAMPLE RECEIVE: AUG 02, 2010

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

( II ) TEST METHOD :

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

REMARKS : REPORTING LIMIT = QUANTITATION LIMIT OF ANALYTE IN SAMPLE

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



**TEST REPORT**

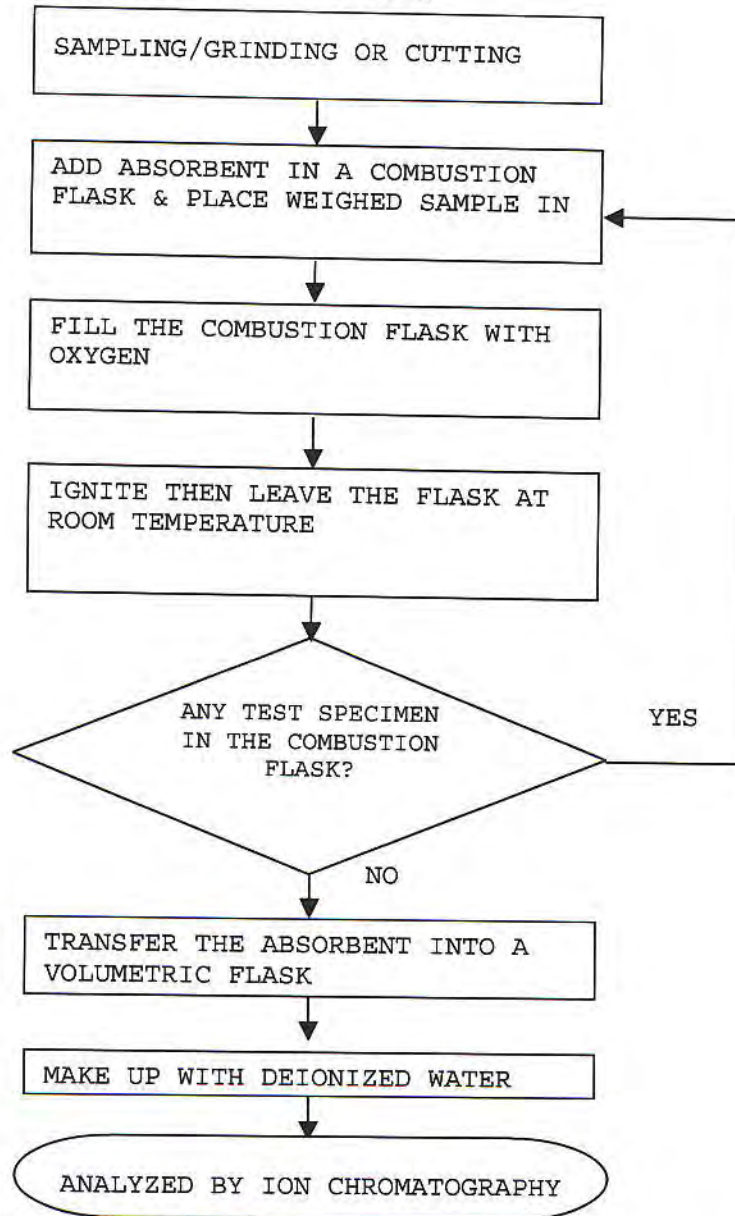
NUMBER: WUXH00002719

TESTS CONDUCTED

(III) MEASUREMENT FLOWCHART:

TEST FOR HALOGEN CONTENT

REFERENCE METHOD: IEC 61189-2 TEST 2C12



CHEMIST: FRED WANG/ ALLY WAN

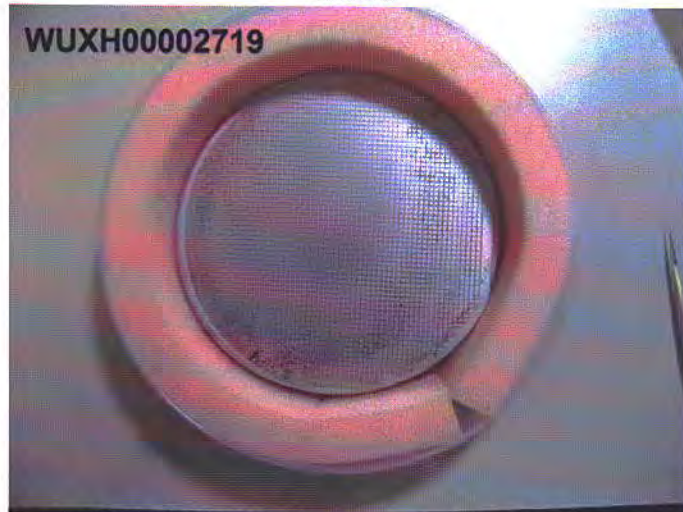
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TO BE CONTINUED

**TEST REPORT**

NUMBER: WUXH00002719

TESTS CONDUCTED

PHOTO



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END OF REPORT

**TEST REPORT**

NUMBER: WUXH00002721

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 06, 2010

## SAMPLE DESCRIPTION:

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

ITEM NAME : WAFER PASSIVATION.

VENDOR : PROPRIETY.

COMPONENT OR PART NO. : PROPRIETY.

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

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## TESTS CONDUCTED:

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

\*\*\*\*\*

TO BE CONTINUED

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



JESSICA LU  
GENERAL MANAGER

**Intertek Testing Services Wuxi Ltd.**

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



**TEST REPORT**

NUMBER: WUXH00002721

## TESTS CONDUCTED

## (A) TEST RESULT SUMMARY:

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

## REMARK:

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

ND = NOT DETECTED

# = THE RESULT IS FOR REFERENCE ONLY

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

**TEST REPORT**

NUMBER: WUXH00002721

TESTS CONDUCTED

(B) RoHS REQUIREMENT:

RESTRICTED SUBSTANCES	LIMITS
CADMIUM (Cd)	0.01% (100 mg/kg)
LEAD (Pb)	0.1% (1000 mg/kg)
MERCURY (Hg)	0.1% (1000 mg/kg)
CHROMIUM (VI) (Cr <sup>6+</sup> )	0.1% (1000 mg/kg)
POLYBROMINATED BIPHENYLS (PBBs)	0.1% (1000 mg/kg)
POLYBROMINATED DIPHENYL ETHERS (PBDEs)	0.1% (1000 mg/kg)

THE ABOVE LIMITS WERE QUOTED FROM 2002/95/EC AND AMENDMENT 2005/618/EC FOR HOMOGENEOUS MATERIAL.

(c) TEST METHOD:

TESTING ITEM	TESTING METHOD	REPORTING LIMIT
CADMIUM (Cd) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP-OES	2 mg/kg
LEAD (Pb) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP-OES	2 mg/kg
MERCURY (Hg) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP-OES	2 mg/kg
CHROMIUM (VI) (Cr <sup>6+</sup> ) CONTENT (FOR NON-METAL)	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ALKALINE DIGESTION AND DETERMINED BY UV-VIS SPECTROPHOTOMETER	1 mg/kg
POLYBROMINATED BIPHENYLS (PBBs) & POLYBROMINATED DIPHENYL ETHERS (PBDEs)	WITH REFERENCE TO IEC IEC 62321 EDITION 1.0: 2008, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS AND FURTHER HPLC CONFIRMATION WHEN NECESSARY.	5 mg/kg

DATE SAMPLE RECEIVED:AUG 02, 2010

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

\*\*\*\*\*

TO BE CONTINUED



# TEST REPORT

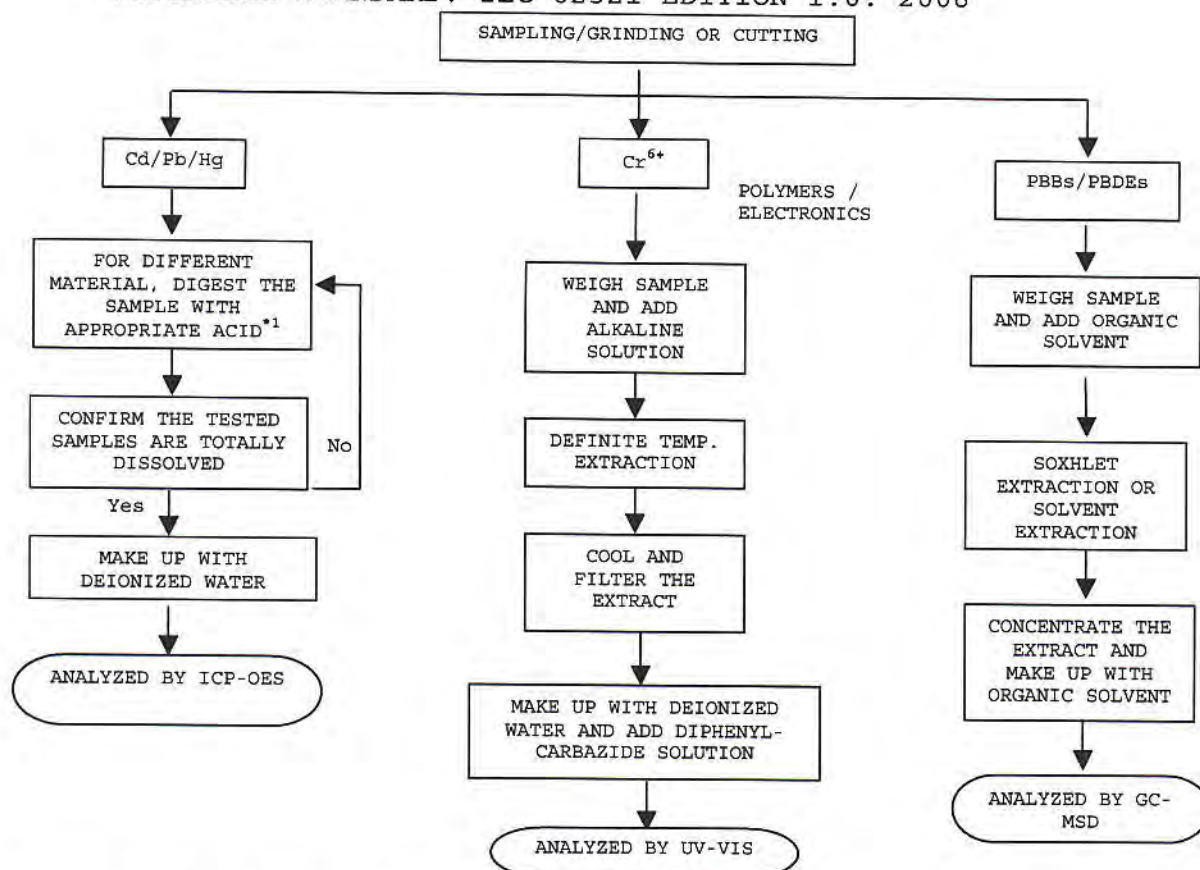
NUMBER: WUXH00002721

## TESTS CONDUCTED

(D) MEASUREMENT FLOWCHART:

TEST FOR Cd/Pb/Hg/Cr (VI) /PBBs/PBDEs CONTENTS

REFERENCE STANDARD: IEC 62321 EDITION 1.0: 2008



CHEMIST: INORGANIC (ANN LUO/FRED WANG/ALLY WAN)  
ORGANIC (JENNY XU/CHERRY SUN)

## REMARKS:

\*1: LIST OF APPROPRIATE ACID:

<u>MATERIAL</u>	<u>ACID ADDED FOR DIGESTION</u>
POLYMERS	HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
METALS	HNO <sub>3</sub> , HCl, HF
ELECTRONICS	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

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

\*\*\*\*\*

TO BE CONTINUED



**TEST REPORT**

NUMBER: WUXH00002721

TESTS CONDUCTED

( 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 RECEIVE: AUG 02, 2010

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

( II ) TEST METHOD :

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

REMARKS : REPORTING LIMIT = QUANTITATION LIMIT OF ANALYTE IN SAMPLE

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

**TEST REPORT**

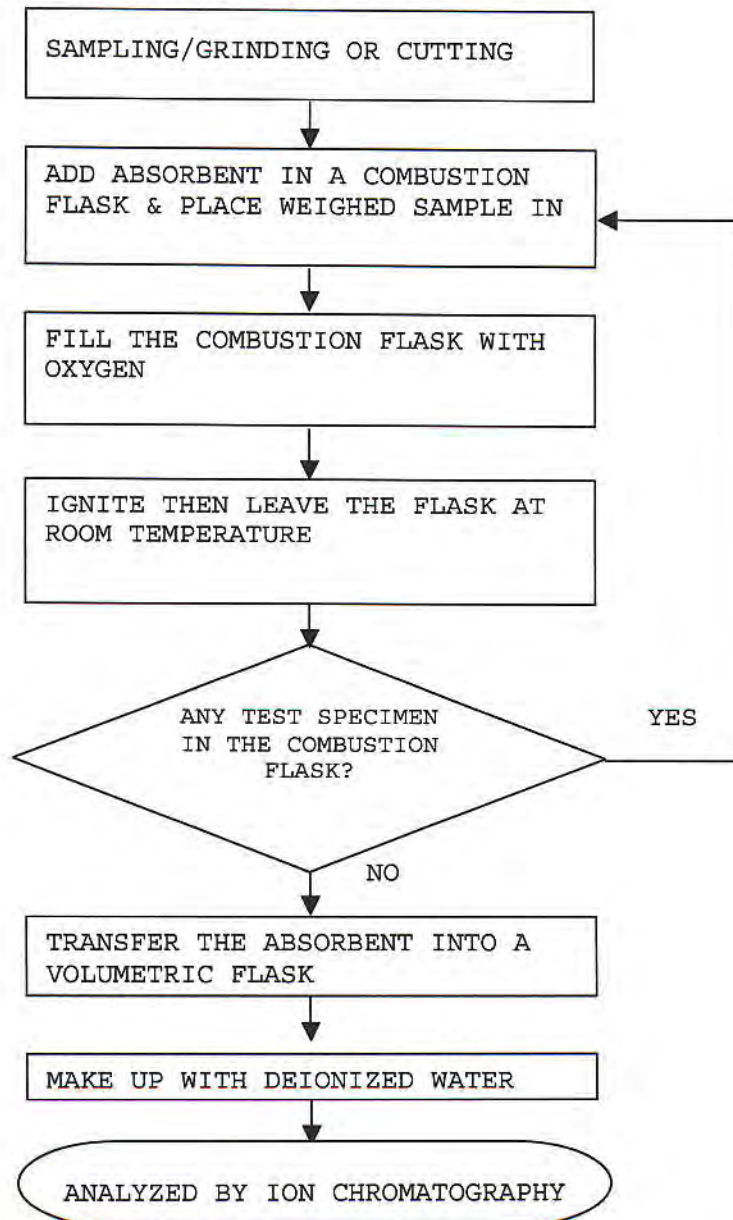
NUMBER: WUXH00002721

TESTS CONDUCTED

(III) MEASUREMENT FLOWCHART:

TEST FOR HALOGEN CONTENT

REFERENCE METHOD: IEC 61189-2 TEST 2C12



CHEMIST: FRED WANG/ ALLY WAN

\*\*\*\*\*

TO BE CONTINUED

**TEST REPORT**

NUMBER: WUXH00002721

TESTS CONDUCTED

PHOTO



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END OF REPORT



**TEST REPORT**

NUMBER: WUXH00002729

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 06, 2010

**SAMPLE DESCRIPTION:**

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

ITEM NAME : LEAD FRAME MATRIX/TO-220 LEAD FRAME/COPPER  
 SPACER.

VENDOR : JIH LIN TECHNOLOGY CO.,LTD.

COMPONENT OR PART NO. : COPPER.

TEST ITEM : Pb,Cd,Hg,CrVI.

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**TESTS CONDUCTED:**

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

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**SUMMARY:**

<u>TESTED SAMPLE</u>	<u>STANDARD</u>	<u>RESULT</u>
SUBMITTED SAMPLE	WITH REFERENCE TO TEST METHOD OF IEC 62321 EDITION 1.0: 2008 AND MAXIMUM CONCENTRATION LIMITS QUOTED FROM ROHS DIRECTIVES 2002/95/EC AND AMENDMENT 2005/618/EC	PASS

\*\*\*\*\*

TO BE CONTINUED

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



JESSICA LU  
 GENERAL MANAGER

**TEST REPORT**

NUMBER: WUXH00002729

TESTS CONDUCTED

(A) TEST RESULT SUMMARY:

TESTING ITEM	RESULT
CADMIUM (Cd) CONTENT (mg/kg)	ND
LEAD (Pb) CONTENT (mg/kg)	25
MERCURY (Hg) CONTENT (mg/kg)	ND
CHROMIUM (VI) (Cr <sup>6+</sup> ) RESULT (BY BOILING WATER EXTRACTION ON METAL) (mg/kg WITH 50cm <sup>2</sup> )	ND

REMARK:

mg/kg = MILLIGRAM PER KILOGRAM BASED ON DRY WEIGHT= ppm  
 mg/kg WITH 50cm<sup>2</sup> = MILLIGRAM PER KILOGRAM WITH 50 SQUARE CENTIMETER  
 ND = NOT DETECTED

(B) RoHS REQUIREMENT:

RESTRICTED SUBSTANCES	LIMITS
CADMIUM (Cd)	0.01% (100 mg/kg)
LEAD (Pb)	0.1% (1000 mg/kg)
MERCURY (Hg)	0.1% (1000 mg/kg)
CHROMIUM (VI) (Cr <sup>6+</sup> )	0.1% (1000 mg/kg)

THE ABOVE LIMITS WERE QUOTED FROM 2002/95/EC AND AMENDMENT 2005/618/EC FOR HOMOGENEOUS MATERIAL.

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



**TEST REPORT**

NUMBER: WUXH00002729

TESTS CONDUCTED

(c) TEST METHOD:

<u>TESTING ITEM</u>	<u>TESTING METHOD</u>	<u>REPORTING LIMIT</u>
CADMIUM (Cd) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP- OES	2 mg/kg
LEAD (Pb) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP- OES	2 mg/kg
MERCURY (Hg) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP- OES	2 mg/kg
CHROMIUM (VI) (Cr <sup>6+</sup> ) CONTENT (FOR METAL)	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY BOILING WATER EXTRACTION AND DETERMINED BY UV-VIS SPECTROPHOTOMETER	0.02mg/kg WITH 50cm <sup>2</sup> (IN TESTING SOLUTION)

DATE SAMPLE RECEIVED:AUG 02, 2010

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

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TO BE CONTINUED



**TEST REPORT**

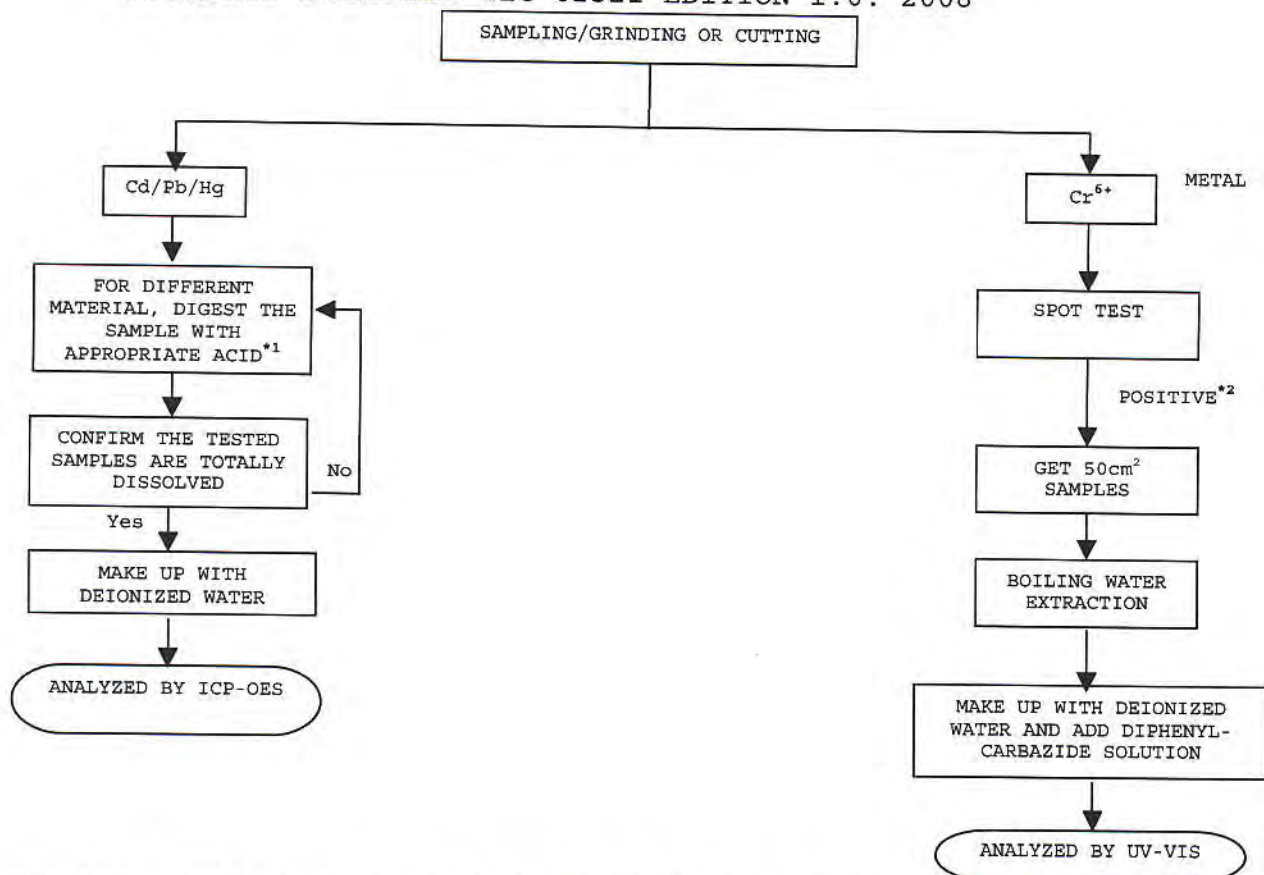
NUMBER: WUXH00002729

**TESTS CONDUCTED**

(D) MEASUREMENT FLOWCHART:

TEST FOR Cd/Pb/Hg/Cr (VI) CONTENTS

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 <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
METALS	HNO <sub>3</sub> , HCl, HF
ELECTRONICS	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

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

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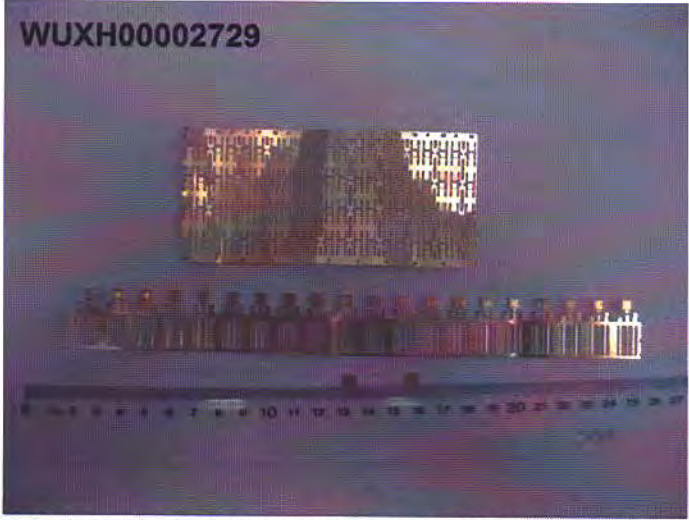
TO BE CONTINUED

PHOTO

**TEST REPORT**

NUMBER: WUXH00002729

TESTS CONDUCTED



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END OF REPORT



**TEST REPORT**

NUMBER: WUXH00002730

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 06, 2010

**SAMPLE DESCRIPTION:**

ONE(1)PIECE OF SUBMITTED SAMPLE SAID TO BE :**COPPER METAL.**  
ITEM NAME : LEAD FRAME/LEAD FRAME MATRIX/TO-220 LEAD  
FRAME/HEATSINK.  
VENDOR : JINAN JIHLONG TECHNOLOGY CO.,LTD.  
COMPONENT OR PART NO. : COPPER.  
TEST ITEM : Pb,Cd,Hg,CrVI.

**TESTS CONDUCTED:**

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

**SUMMARY:**

<b><u>TESTED SAMPLE</u></b>	<b><u>STANDARD</u></b>	<b><u>RESULT</u></b>
SUBMITTED SAMPLE	WITH REFERENCE TO TEST METHOD OF IEC 62321 EDITION 1.0: 2008 AND MAXIMUM CONCENTRATION LIMITS QUOTED FROM RoHS DIRECTIVES 2002/95/EC AND AMENDMENT 2005/618/EC	PASS

TO BE CONTINUED

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

JESSICA LU  
GENERAL MANAGER





**TEST REPORT**

NUMBER: WUXH00002730

TESTS CONDUCTED

(A) TEST RESULT SUMMARY:

TESTING ITEM	RESULT
CADMIUM (Cd) CONTENT (mg/kg)	ND
LEAD (Pb) CONTENT (mg/kg)	23
MERCURY (Hg) CONTENT (mg/kg)	ND
CHROMIUM (VI) (Cr <sup>6+</sup> ) RESULT (BY BOILING WATER EXTRACTION ON METAL) (mg/kg WITH 50cm <sup>2</sup> )	ND

REMARK:

mg/kg = MILLIGRAM PER KILOGRAM BASED ON DRY WEIGHT= ppm  
mg/kg WITH 50cm<sup>2</sup> = MILLIGRAM PER KILOGRAM WITH 50 SQUARE CENTIMETER  
ND = NOT DETECTED

(B) RoHS REQUIREMENT:

RESTRICTED SUBSTANCES	LIMITS
CADMIUM (Cd)	0.01% (100 mg/kg)
LEAD (Pb)	0.1% (1000 mg/kg)
MERCURY (Hg)	0.1% (1000 mg/kg)
CHROMIUM (VI) (Cr <sup>6+</sup> )	0.1% (1000 mg/kg)

THE ABOVE LIMITS WERE QUOTED FROM 2002/95/EC AND AMENDMENT 2005/618/EC FOR HOMOGENEOUS MATERIAL.

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TO BE CONTINUED

**TEST REPORT**

NUMBER: WUXH00002730

## TESTS CONDUCTED

## (c) TEST METHOD:

<u>TESTING ITEM</u>	<u>TESTING METHOD</u>	<u>REPORTING LIMIT</u>
CADMIUM (Cd) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP- OES	2 mg/kg
LEAD (Pb) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP- OES	2 mg/kg
MERCURY (Hg) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP- OES	2 mg/kg
CHROMIUM (VI) (Cr <sup>6+</sup> ) CONTENT (FOR METAL)	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY BOILING WATER EXTRACTION AND DETERMINED BY UV-VIS SPECTROPHOTOMETER	0.02mg/kg WITH 50cm <sup>2</sup> (IN TESTING SOLUTION)

DATE SAMPLE RECEIVED:AUG 02, 2010

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

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TO BE CONTINUED

**TEST REPORT**

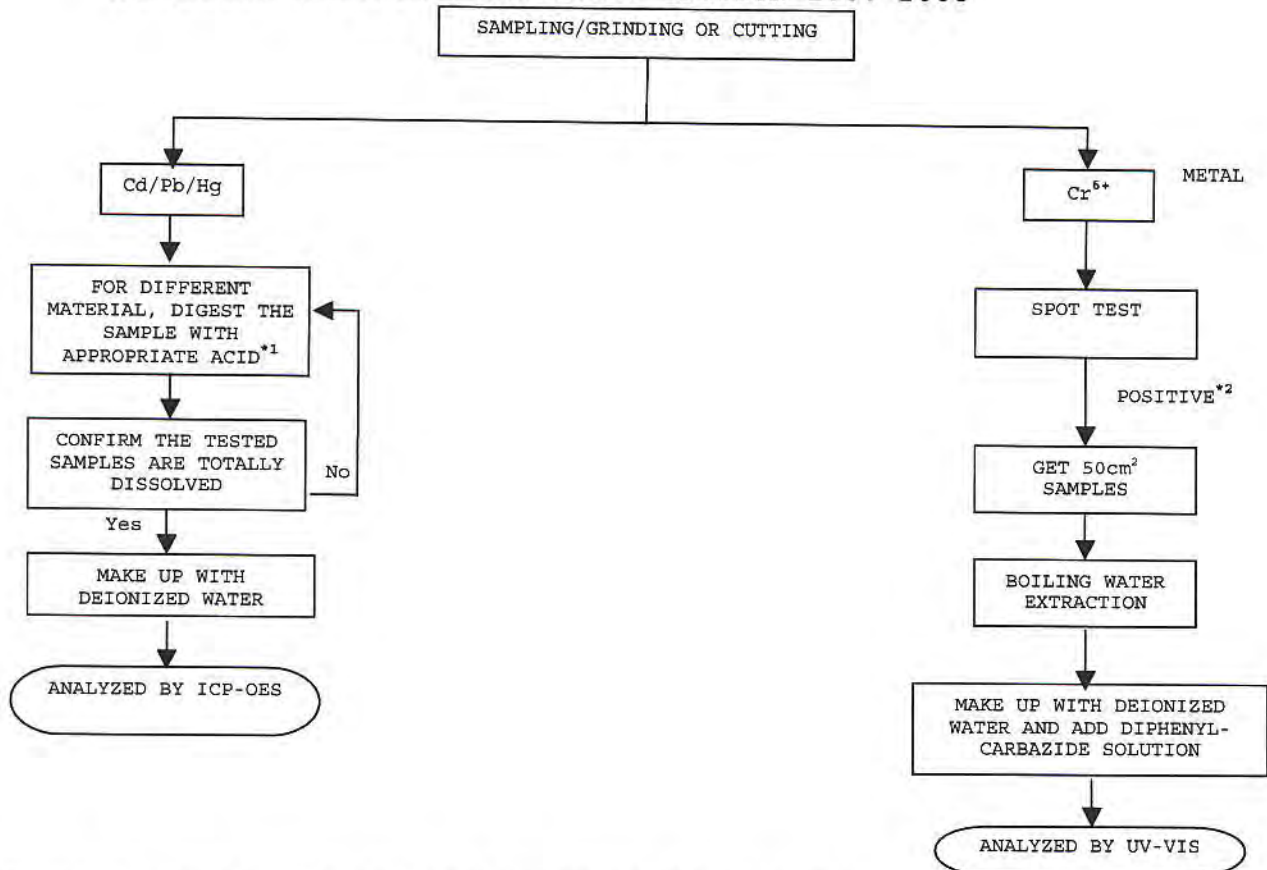
NUMBER: WUXH00002730

TESTS CONDUCTED

(D) MEASUREMENT FLOWCHART:

TEST FOR Cd/Pb/Hg/Cr (VI) CONTENTS

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 <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
METALS	HNO <sub>3</sub> , HCl, HF
ELECTRONICS	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

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

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TO BE CONTINUED

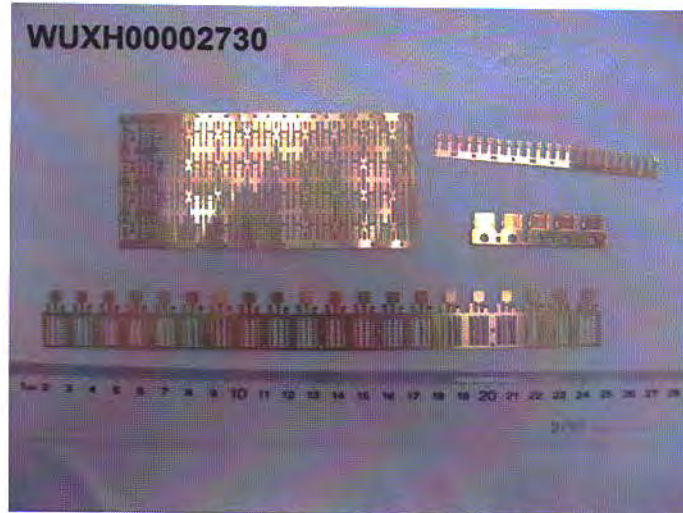
PHOTO



**TEST REPORT**

NUMBER: WUXH00002730

TESTS CONDUCTED



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END OF REPORT

**TEST REPORT**

NUMBER: WUXH00002745

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 06, 2010

**SAMPLE DESCRIPTION:**

ONE(1)PIECE OF SUBMITTED SAMPLE SAID TO BE :**GREY PASTE.**

ITEM NAME : SOLDER PASTER.

VENDOR : HERAEUS MATERIALS TECHNOLOGY SHANGHAI LTD.

COMPONENT OR PART NO. : F367SN10-90PB.

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

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**TESTS CONDUCTED:**

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

\*\*\*\*\*

TO BE CONTINUED

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



JESSICA LU  
GENERAL MANAGER

# TEST REPORT

NUMBER: WUXH00002745

## TESTS CONDUCTED

### (A) TEST RESULT SUMMARY:

TESTING ITEM	RESULT
CADMIUM (Cd) CONTENT (mg/kg)	ND
LEAD (Pb) CONTENT (mg/kg)	932600
MERCURY (Hg) CONTENT (mg/kg)	ND
CHROMIUM (VI) (Cr <sup>6+</sup> ) CONTENT (mg/kg) (FOR NON-METAL)	ND
POLYBROMINATED BIPHENYLS (PBBs) (mg/kg)	
MONOBROMO BIPHENYLS (MonoBB)	ND
DIBROMO BIPHENYLS (DiBB)	ND
TRIBROMO BIPHENYLS (TriBB)	ND
TETRABROMO BIPHENYLS (TetraBB)	ND
PENTABROMO BIPHENYLS (PentaBB)	ND
HEXABROMO BIPHENYLS (HexaBB)	ND
HEPTABROMO BIPHENYLS (HeptaBB)	ND
OCTABROMO BIPHENYLS (OctaBB)	ND
NONABROMO BIPHENYLS (NonaBB)	ND
DECABROMO BIPHENYL (DecaBB)	ND
POLYBROMINATED DIPHENYL ETHERS (PBDEs) (mg/kg)	
MONOBROMO DIPHENYL ETHERS (MonoBDE)	ND
DIBROMO DIPHENYL ETHERS (DiBDE)	ND
TRIBROMO DIPHENYL ETHERS (TriBDE)	ND
TETRABROMO DIPHENYL ETHERS (TetraBDE)	ND
PENTABROMO DIPHENYL ETHERS (PentaBDE)	ND
HEXABROMO DIPHENYL ETHERS (HexaBDE)	ND
HEPTABROMO DIPHENYL ETHERS (HeptaBDE)	ND
OCTABROMO DIPHENYL ETHERS (OctaBDE)	ND
NONABROMO DIPHENYL ETHERS (NonaBDE)	ND
DECABROMO DIPHENYL ETHER (DecaBDE)	ND

#### REMARK:

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

ND = NOT DETECTED

# = THE RESULT IS FOR REFERENCE ONLY

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



# TEST REPORT

NUMBER: WUXH00002745

## TESTS CONDUCTED

### (B) RoHS REQUIREMENT:

RESTRICTED SUBSTANCES	LIMITS
CADMIUM (Cd)	0.01% (100 mg/kg)
LEAD (Pb)	0.1% (1000 mg/kg)
MERCURY (Hg)	0.1% (1000 mg/kg)
CHROMIUM (VI) (Cr <sup>6+</sup> )	0.1% (1000 mg/kg)
POLYBROMINATED BIPHENYLS (PBBs)	0.1% (1000 mg/kg)
POLYBROMINATED DIPHENYL ETHERS (PBDEs)	0.1% (1000 mg/kg)

THE ABOVE LIMITS WERE QUOTED FROM 2002/95/EC AND AMENDMENT 2005/618/EC FOR HOMOGENEOUS MATERIAL.

### (c) TEST METHOD:

TESTING ITEM	TESTING METHOD	REPORTING LIMIT
CADMIUM (Cd) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP-OES	2 mg/kg
LEAD (Pb) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP-OES	2 mg/kg
MERCURY (Hg) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP-OES	2 mg/kg
CHROMIUM (VI) (Cr <sup>6+</sup> ) CONTENT (FOR NON-METAL)	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ALKALINE DIGESTION AND DETERMINED BY UV-VIS SPECTROPHOTOMETER	1 mg/kg
POLYBROMINATED BIPHENYLS (PBBs) & POLYBROMINATED DIPHENYL ETHERS (PBDEs)	WITH REFERENCE TO IEC IEC 62321 EDITION 1.0: 2008, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS AND FURTHER HPLC CONFIRMATION WHEN NECESSARY.	5 mg/kg

DATE SAMPLE RECEIVED:AUG 02, 2010

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

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TO BE CONTINUED

**TEST REPORT**

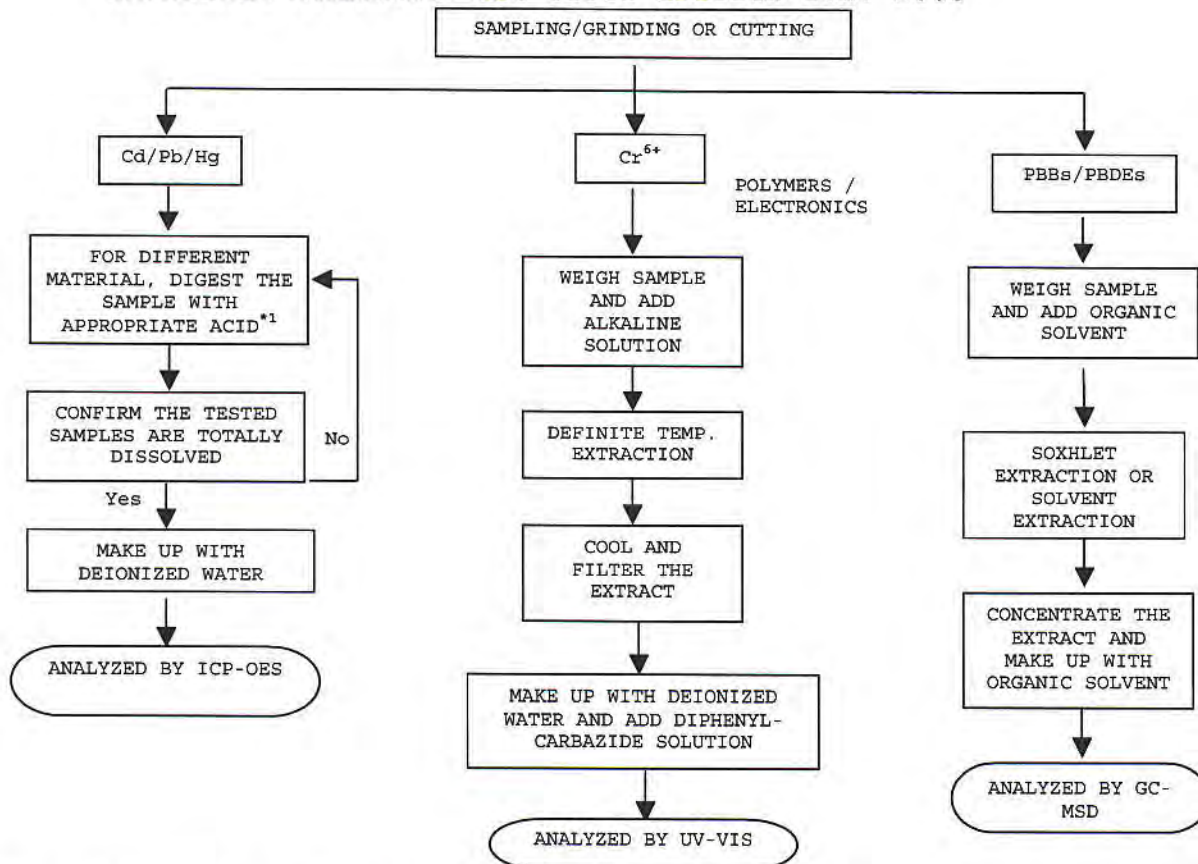
NUMBER: WUXH00002745

TESTS CONDUCTED

(D) MEASUREMENT FLOWCHART:

TEST FOR Cd/Pb/Hg/Cr (VI)/PBBs/PBDEs CONTENTS

REFERENCE STANDARD: IEC 62321 EDITION 1.0: 2008



CHEMIST: INORGANIC (ANN LUO/FRED WANG/ALLY WAN)  
ORGANIC (JENNY XU/CHERRY SUN)

REMARKS:

\*1: LIST OF APPROPRIATE ACID:

MATERIAL	ACID ADDED FOR DIGESTION
POLYMERS	HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
METALS	HNO <sub>3</sub> , HCl, HF
ELECTRONICS	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

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

\*\*\*\*\*

TO BE CONTINUED



**TEST REPORT**

NUMBER: WUXH00002745

TESTS CONDUCTED

( I ) TEST RESULT SUMMARY :

HALOGEN CONTENT :

<u>TESTING ITEM</u>	<u>RESULT (ppm)</u>
FLUORINE (F) CONTENT	ND
CHLORINE (Cl) CONTENT	ND
BROMINE (Br) CONTENT	ND
IODINE (I) CONTENT	ND

REMARKS : ppm = PARTS PER MILLION = mg/kg

ND = NOT DETECTED

DATE SAMPLE RECEIVE: AUG 02, 2010

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

( II ) TEST METHOD :

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

REMARKS : REPORTING LIMIT = QUANTITATION LIMIT OF ANALYTE IN SAMPLE

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



**TEST REPORT**

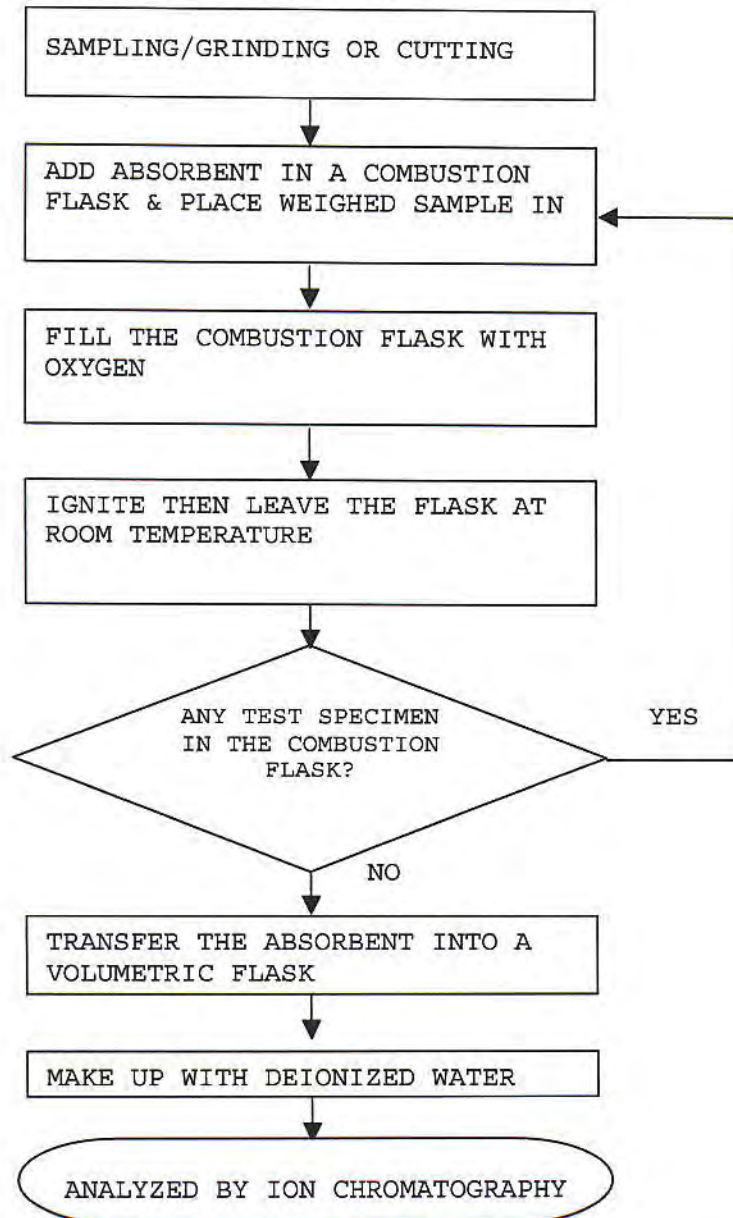
NUMBER: WUXH00002745

TESTS CONDUCTED

(III) MEASUREMENT FLOWCHART:

TEST FOR HALOGEN CONTENT

REFERENCE METHOD: IEC 61189-2 TEST 2C12



CHEMIST: FRED WANG/ ALLY WAN

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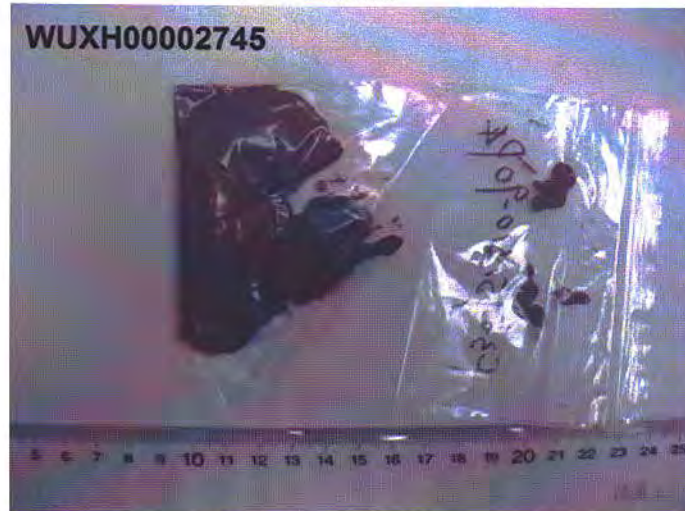
TO BE CONTINUED

## TEST REPORT

NUMBER: WUXH00002745

TESTS CONDUCTED

PHOTO



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END OF REPORT

TEST REPORT

NUMBER: WUXH00002757

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 06, 2010

## SAMPLE DESCRIPTION:

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

ITEM NAME : EPOXY MOLDING COMPOUND.

VENDOR : COOKSON ELECTRONICS SEMICONDUCTOR PRODUCTS.

COMPONENT OR PART NO. : CK-2000A.

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

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

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

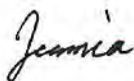
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## SUMMARY:

<u>TESTED SAMPLE</u>	<u>STANDARD</u>	<u>RESULT</u>
SUBMITTED SAMPLE	WITH REFERENCE TO TEST METHOD OF IEC 62321 EDITION 1.0: 2008 AND MAXIMUM CONCENTRATION LIMITS QUOTED FROM ROHS DIRECTIVES 2002/95/EC AND AMENDMENT 2005/618/EC	PASS

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

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



JESSICA LU  
GENERAL MANAGER

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



**TEST REPORT**

NUMBER: WUXH00002757

## TESTS CONDUCTED

## (A) TEST RESULT SUMMARY:

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

## REMARK:

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

ND = NOT DETECTED

\*\*\*\*\*

TO BE CONTINUED

# **TEST REPORT**

NUMBER: WUXH00002757

## TESTS CONDUCTED

### (B) RoHS REQUIREMENT:

RESTRICTED SUBSTANCES	LIMITS
CADMIUM (Cd)	0.01% (100 mg/kg)
LEAD (Pb)	0.1% (1000 mg/kg)
MERCURY (Hg)	0.1% (1000 mg/kg)
CHROMIUM (VI) (Cr <sup>6+</sup> )	0.1% (1000 mg/kg)
POLYBROMINATED BIPHENYLS (PBBs)	0.1% (1000 mg/kg)
POLYBROMINATED DIPHENYL ETHERS (PBDEs)	0.1% (1000 mg/kg)

THE ABOVE LIMITS WERE QUOTED FROM 2002/95/EC AND AMENDMENT 2005/618/EC FOR HOMOGENEOUS MATERIAL.

### (c) TEST METHOD:

TESTING ITEM	TESTING METHOD	REPORTING LIMIT
CADMIUM (Cd) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP-OES	2 mg/kg
LEAD (Pb) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP-OES	2 mg/kg
MERCURY (Hg) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP-OES	2 mg/kg
CHROMIUM (VI) (Cr <sup>6+</sup> ) CONTENT (FOR NON-METAL)	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ALKALINE DIGESTION AND DETERMINED BY UV-VIS SPECTROPHOTOMETER	1 mg/kg
POLYBROMINATED BIPHENYLS (PBBs) & POLYBROMINATED DIPHENYL ETHERS (PBDEs)	WITH REFERENCE TO IEC IEC 62321 EDITION 1.0: 2008, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS AND FURTHER HPLC CONFIRMATION WHEN NECESSARY.	5 mg/kg

DATE SAMPLE RECEIVED:AUG 02, 2010

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

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TO BE CONTINUED



**TEST REPORT**

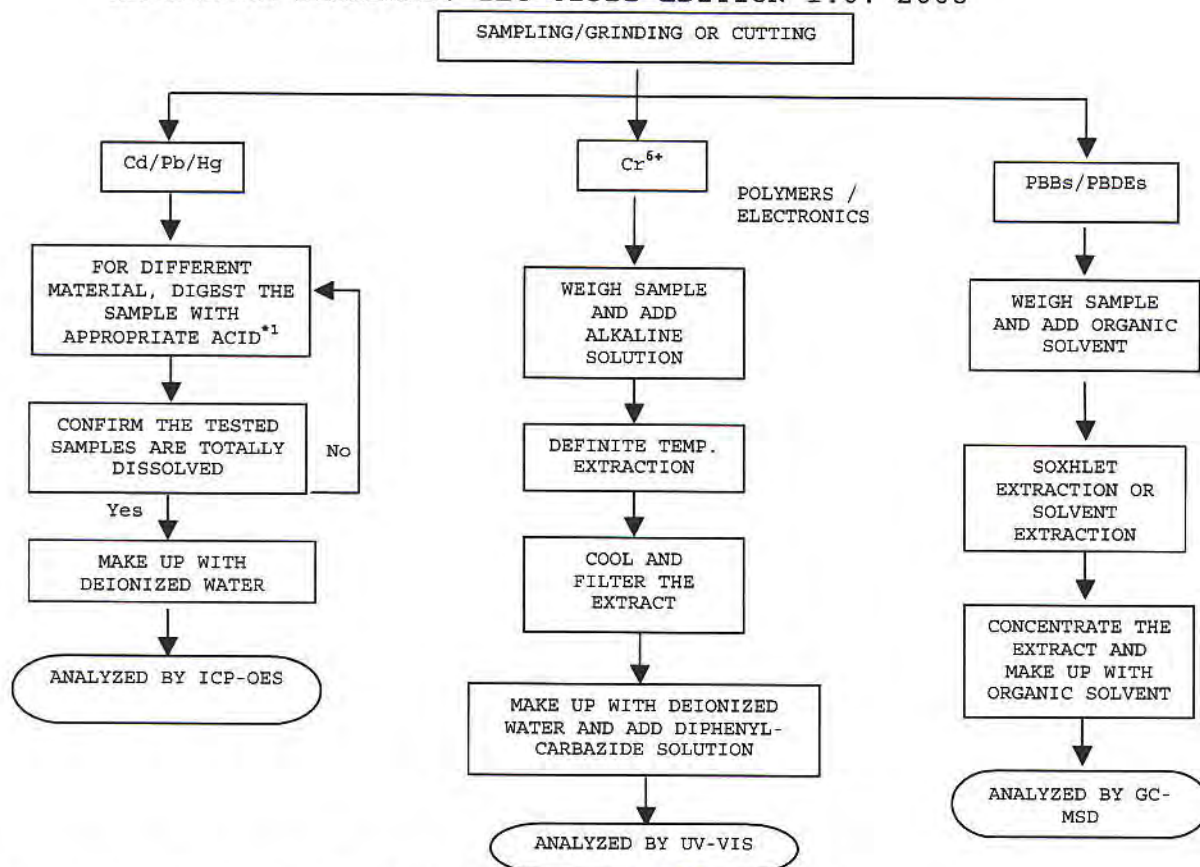
NUMBER: WUXH00002757

TESTS CONDUCTED

(D) MEASUREMENT FLOWCHART:

TEST FOR Cd/Pb/Hg/Cr (VI)/PBBs/PBDEs CONTENTS

REFERENCE STANDARD: IEC 62321 EDITION 1.0: 2008



CHEMIST: INORGANIC (ANN LUO/FRED WANG/ALLY WAN)  
ORGANIC (JENNY XU/CHERRY SUN)

REMARKS:

\*1: LIST OF APPROPRIATE ACID:

MATERIAL	ACID ADDED FOR DIGESTION
POLYMERS	HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
METALS	HNO <sub>3</sub> , HCl, HF
ELECTRONICS	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

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

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TO BE CONTINUED



**TEST REPORT**

NUMBER: WUXH00002757

TESTS CONDUCTED

( I ) TEST RESULT SUMMARY :

HALOGEN CONTENT :

<u>TESTING ITEM</u>	<u>RESULT (ppm)</u>
FLUORINE (F) CONTENT	ND
CHLORINE (Cl) CONTENT	105
BROMINE (Br) CONTENT	ND
IODINE (I) CONTENT	ND

REMARKS : ppm = PARTS PER MILLION = mg/kg

ND = NOT DETECTED

DATE SAMPLE RECEIVE: AUG 02, 2010

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

( II ) TEST METHOD :

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

REMARKS : REPORTING LIMIT = QUANTITATION LIMIT OF ANALYTE IN SAMPLE

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TO BE CONTINUED

**TEST REPORT**

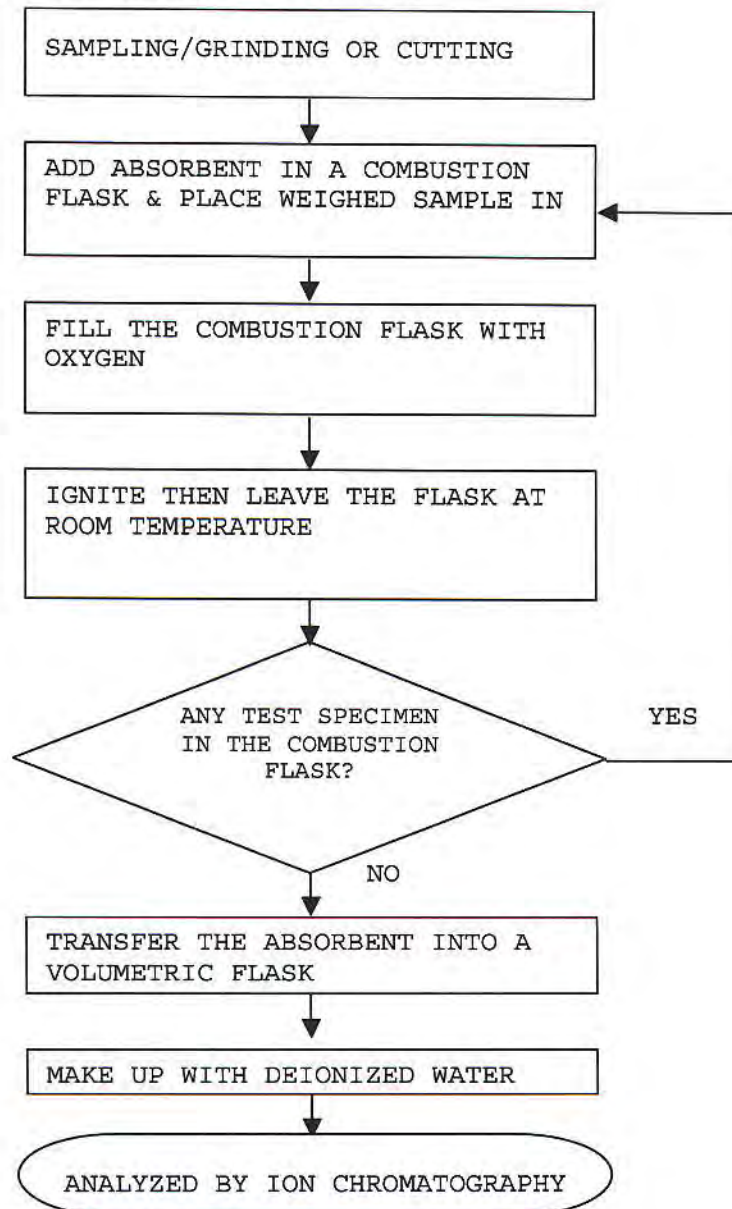
NUMBER: WUXH00002757

TESTS CONDUCTED

(III) MEASUREMENT FLOWCHART:

TEST FOR HALOGEN CONTENT

REFERENCE METHOD: IEC 61189-2 TEST 2C12



CHEMIST: FRED WANG/ ALLY WAN

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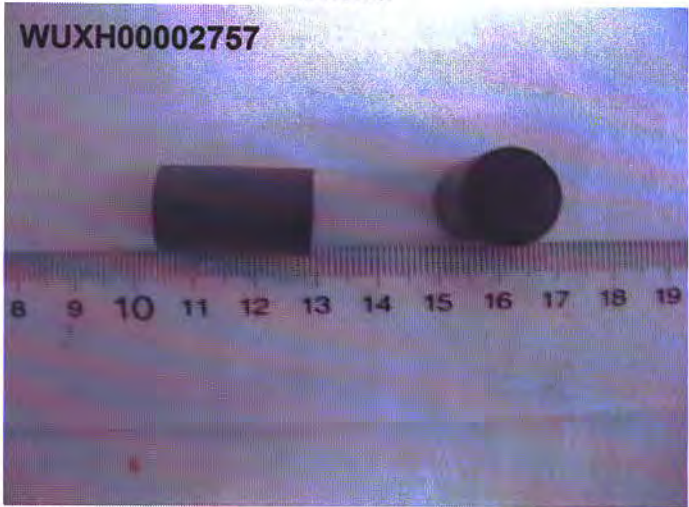
TO BE CONTINUED

**TEST REPORT**

NUMBER: WUXH00002757

TESTS CONDUCTED

PHOTO



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END OF REPORT



**TEST REPORT**

NUMBER: WUXH00002766

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 06, 2010

**SAMPLE DESCRIPTION:**

ONE(1)PIECE OF SUBMITTED SAMPLE SAID TO BE :**SILVER METAL PIN AND BLACK PLASTIC BODY.**

ITEM NAME : TIN PLATING-SMD.  
VENDOR : BANDL (KUNSHAN) INTERNATIONAL CO.,  
COMPONENT OR PART NO. : PURE MATTE TIN.  
TEST ITEM : Pb,Cd,Hg,CrVI,F,Cl,Br,I.

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**TESTS CONDUCTED:**

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

\*\*\*\*\*

TO BE CONTINUED

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



JESSICA LU  
GENERAL MANAGER

**Intertek Testing Services Wuxi Ltd.**

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

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

**TEST REPORT**

NUMBER: WUXH00002766

TESTS CONDUCTED

(A) TEST RESULT SUMMARY:

TESTING ITEM	RESULT
CADMIUM (Cd) CONTENT (mg/kg) / PLATING	ND
LEAD (Pb) CONTENT (mg/kg) / PLATING	47
MERCURY (Hg) CONTENT (mg/kg) / PLATING	ND
CHROMIUM (VI) (Cr <sup>6+</sup> ) RESULT (BY BOILING WATER EXTRACTION ON METAL) (mg/kg WITH 50cm <sup>2</sup> )	ND

REMARK:

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

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

ND = NOT DETECTED

TEST COMPONENT : SILVER 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 <sup>6+</sup> )	0.1% (1000 mg/kg)

THE ABOVE LIMITS WERE QUOTED FROM 2002/95/EC AND AMENDMENT 2005/618/EC FOR HOMOGENEOUS MATERIAL.

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TO BE CONTINUED

**TEST REPORT**

NUMBER: WUXH00002766

TESTS CONDUCTED

(c) TEST METHOD:

<b><u>TESTING ITEM</u></b>	<b><u>TESTING METHOD</u></b>	<b><u>REPORTING LIMIT</u></b>
CADMIUM (Cd) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP- OES	2 mg/kg
LEAD (Pb) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP- OES	2 mg/kg
MERCURY (Hg) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP- OES	2 mg/kg
CHROMIUM (VI) (Cr <sup>6+</sup> ) CONTENT (FOR METAL)	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY BOILING WATER EXTRACTION AND DETERMINED BY UV-VIS SPECTROPHOTOMETER	0.02mg/kg WITH 50cm <sup>2</sup> (IN TESTING SOLUTION)

DATE SAMPLE RECEIVED:AUG 02, 2010

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

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TO BE CONTINUED



**TEST REPORT**

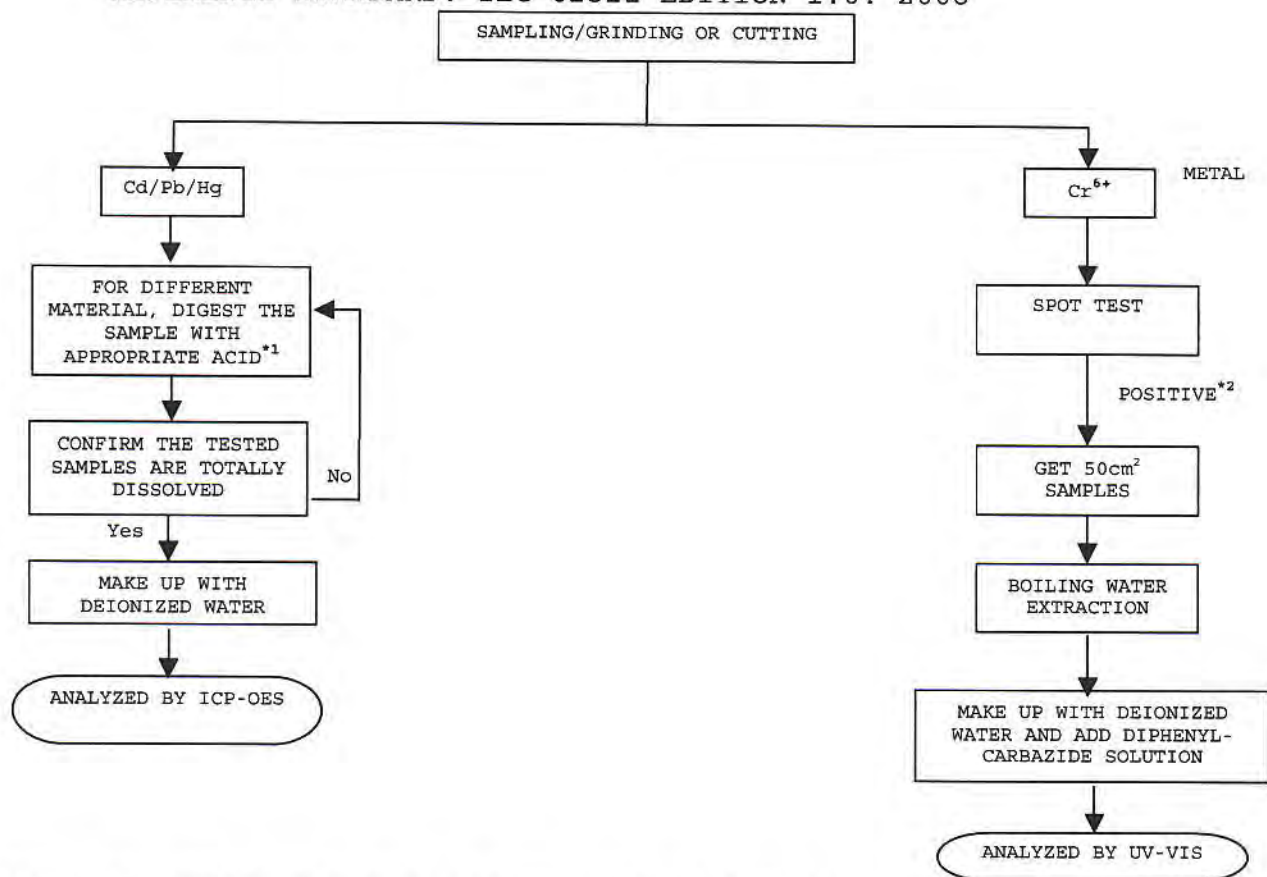
NUMBER: WUXH00002766

## TESTS CONDUCTED

(D) MEASUREMENT FLOWCHART:

TEST FOR Cd/Pb/Hg/Cr (VI) CONTENTS

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 <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
METALS	HNO <sub>3</sub> , HCl, HF
ELECTRONICS	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

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

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TO BE CONTINUED

**TEST REPORT**

NUMBER: WUXH00002766

TESTS CONDUCTED

( I ) TEST RESULT SUMMARY :

HALOGEN CONTENT :

<u>TESTING ITEM</u>	<u>RESULT (ppm)</u>
FLUORINE (F) CONTENT	ND
CHLORINE (Cl) CONTENT	ND
BROMINE (Br) CONTENT	ND
IODINE (I) CONTENT	ND

REMARKS : ppm = PARTS PER MILLION = mg/kg

ND = NOT DETECTED

DATE SAMPLE RECEIVE: AUG 02, 2010

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

( II ) TEST METHOD :

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

REMARKS : REPORTING LIMIT = QUANTITATION LIMIT OF ANALYTE IN SAMPLE

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TO BE CONTINUED

**TEST REPORT**

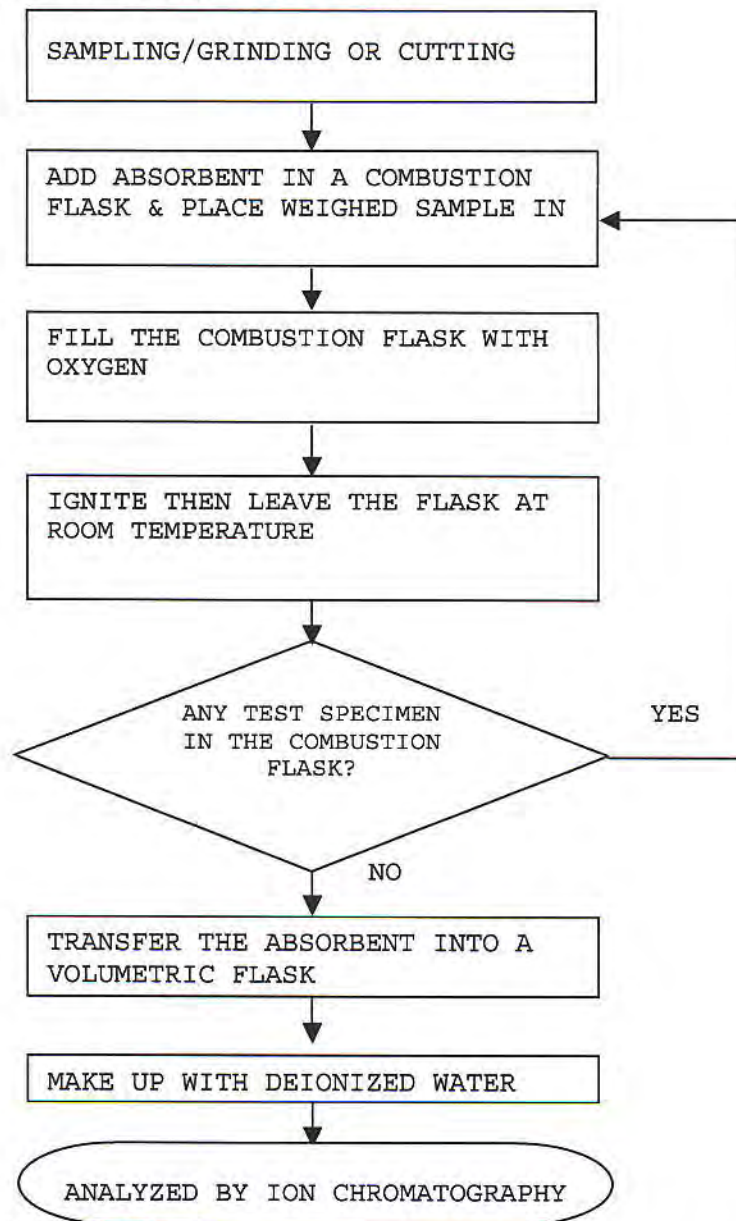
NUMBER: WUXH00002766

TESTS CONDUCTED

(III) MEASUREMENT FLOWCHART:

TEST FOR HALOGEN CONTENT

REFERENCE METHOD: IEC 61189-2 TEST 2C12



CHEMIST: FRED WANG/ ALLY WAN

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TO BE CONTINUED

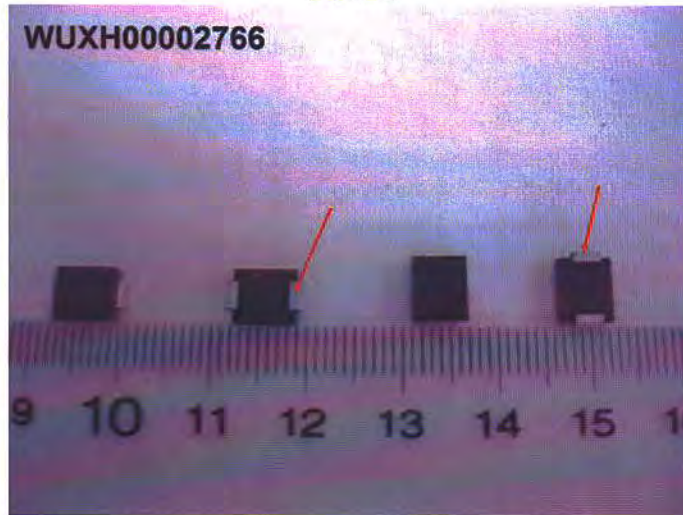


**TEST REPORT**

NUMBER: WUXH00002766

TESTS CONDUCTED

PHOTO



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END OF REPORT

**TEST REPORT**

NUMBER: WUXH00002736

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 06, 2010

**SAMPLE DESCRIPTION:**

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

ITEM NAME : CLIP.

VENDOR : G-SHANK PRECISION MACHINERY  
 (SUZHOU) CO., LTD.

COMPONENT OR PART NO. : COPPER.

TEST ITEM : Pb, Cd, Hg, CrVI.

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**TESTS CONDUCTED:**

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

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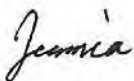
**SUMMARY:**

<u>TESTED SAMPLE</u>	<u>STANDARD</u>	<u>RESULT</u>
SUBMITTED SAMPLE	WITH REFERENCE TO TEST METHOD OF IEC 62321 EDITION 1.0: 2008 AND MAXIMUM CONCENTRATION LIMITS QUOTED FROM ROHS DIRECTIVES 2002/95/EC AND AMENDMENT 2005/618/EC	PASS

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TO BE CONTINUED

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



JESSICA LU  
 GENERAL MANAGER

**TEST REPORT**

NUMBER: WUXH00002736

## TESTS CONDUCTED

## (A) TEST RESULT SUMMARY:

TESTING ITEM	RESULT
CADMIUM (Cd) CONTENT (mg/kg)	ND
LEAD (Pb) CONTENT (mg/kg)	12
MERCURY (Hg) CONTENT (mg/kg)	ND
CHROMIUM (VI) (Cr <sup>6+</sup> ) RESULT (BY BOILING WATER EXTRACTION ON METAL) (mg/kg WITH 50cm <sup>2</sup> )	ND

## REMARK:

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

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

ND = NOT DETECTED

## (B) RoHS REQUIREMENT:

RESTRICTED SUBSTANCES	LIMITS
CADMIUM (Cd)	0.01% (100 mg/kg)
LEAD (Pb)	0.1% (1000 mg/kg)
MERCURY (Hg)	0.1% (1000 mg/kg)
CHROMIUM (VI) (Cr <sup>6+</sup> )	0.1% (1000 mg/kg)

THE ABOVE LIMITS WERE QUOTED FROM 2002/95/EC AND AMENDMENT 2005/618/EC FOR HOMOGENEOUS MATERIAL.

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TO BE CONTINUED



**TEST REPORT**

NUMBER: WUXH00002736

TESTS CONDUCTED

(c) TEST METHOD:

<u>TESTING ITEM</u>	<u>TESTING METHOD</u>	<u>REPORTING LIMIT</u>
CADMIUM (Cd) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP- OES	2 mg/kg
LEAD (Pb) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP- OES	2 mg/kg
MERCURY (Hg) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY ACID DIGESTION AND DETERMINED BY ICP- OES	2 mg/kg
CHROMIUM (VI) (Cr <sup>6+</sup> ) CONTENT (FOR METAL)	WITH REFERENCE TO IEC 62321 EDITION 1.0: 2008, BY BOILING WATER EXTRACTION AND DETERMINED BY UV-VIS SPECTROPHOTOMETER	0.02mg/kg WITH 50cm <sup>2</sup> (IN TESTING SOLUTION)

DATE SAMPLE RECEIVED:AUG 02, 2010

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

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TO BE CONTINUED

**TEST REPORT**

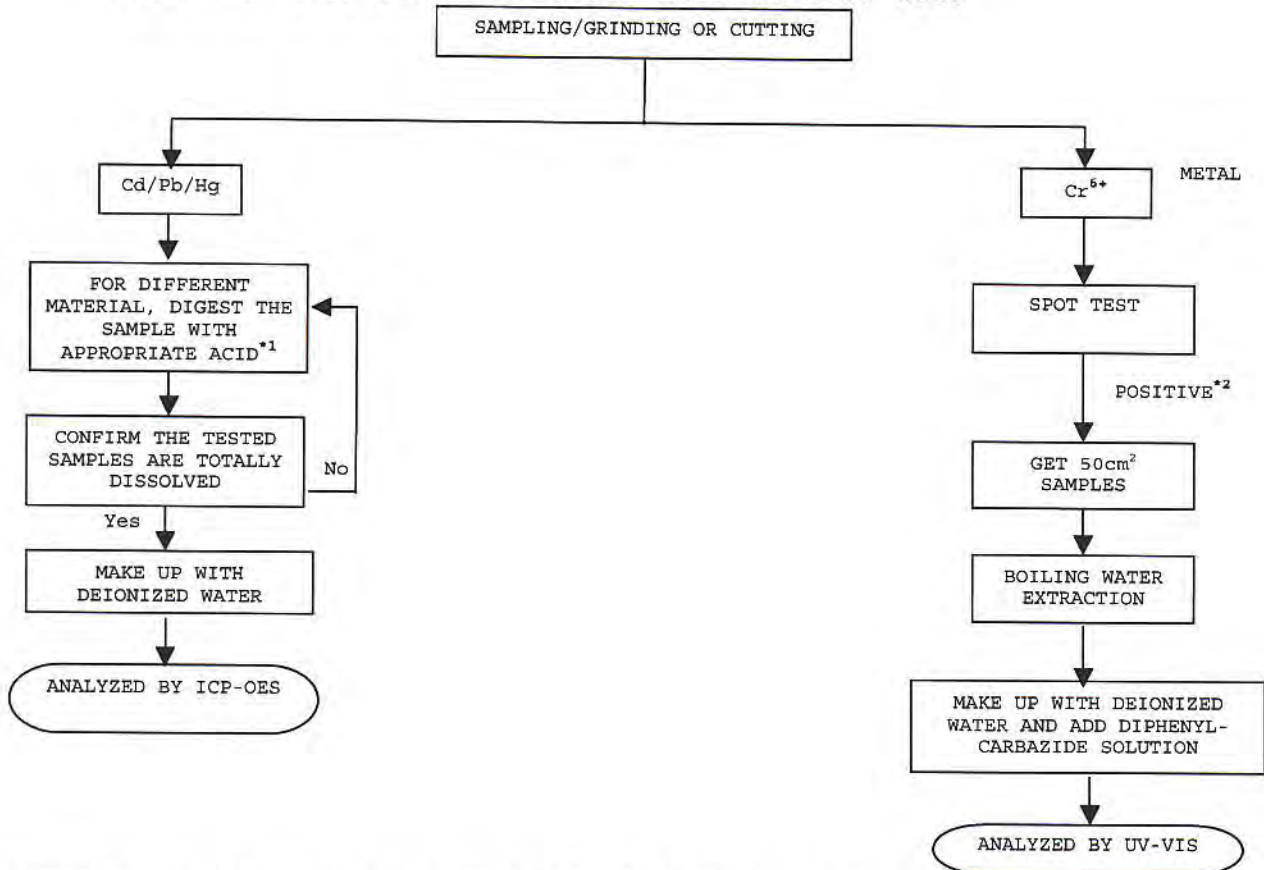
NUMBER: WUXH00002736

TESTS CONDUCTED

(D) MEASUREMENT FLOWCHART:

TEST FOR Cd/Pb/Hg/Cr (VI) CONTENTS

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 <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
METALS	HNO <sub>3</sub> , HCl, HF
ELECTRONICS	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

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

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

PHOTO

**TEST REPORT**

NUMBER: WUXH00002736

TESTS CONDUCTED



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END OF REPORT