

**Test Report** No. CANEC1300498708 Date: 16 Jan 2013 Page 1 of 7

SHENZHEN KAWADA METAL TECHNOLOGY CO.,LTD

LONGHUA TOWN, SHENZHEN CITY, GUANGDONG PROVINCE SCIENCE AND TECHNOLOGY ROAD HEPING INDUSTRIAL PARK, BUILDING A, 3RD FLOOR

The following sample(s) was/were submitted and identified on behalf of the clients as: Environmentally friendly lead-free solder paste

SGS Job No. : CP13-001332 - SZ
Tested Sample Info. : KWD-LF2000-3A

Client Ref. Info.: KWD-LF2000-3A&3B&3M&3H

KWD-HF2000-3A&3B&3M&3H

Main Substance : Sn42/Bi58

Date of Sample Received : 10 Jan 2013

Testing Period: 10 Jan 2013 - 16 Jan 2013

Test Requested: Selected test(s) as requested by client.

Test Method : Please refer to next page(s).

Test Results : Please refer to next page(s).

Conclusion: Based on the performed tests on submitted samples, the results of Lead,

Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE) comply with the limits as set by RoHS

Directive 2011/65/EU Annex II; recasting 2002/95/EC.

Signed for and on behalf of SGS-CSTC Ltd.

Marco liang

Approved Signatory

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Test Results:

#### **Test Part Description:**

**Specimen No.**1

SGS Sample ID
CAN13-004987.008

Grey paste

#### Remarks:

(1) 1 mg/kg = 1 ppm = 0.0001%

(2) MDL = Method Detection Limit

(3) ND = Not Detected ( < MDL)

(4) "-" = Not Regulated

### RoHs Directve 2011/65/EU

Test Method: With reference to IEC 62321:2008

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

Test Item(s)	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>008</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	26
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	1,000	mg/kg	2	ND
Sum of PBBs	1,000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1,000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND

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Julius of the content of the sample(s) tested.

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Test Item(s)	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>008</u>	
Dibromodiphenyl ether	-	mg/kg	5	ND	
Tribromodiphenyl ether	-	mg/kg	5	ND	
Tetrabromodiphenyl ether	-	mg/kg	5	ND	
Pentabromodiphenyl ether	-	mg/kg	5	ND	
Hexabromodiphenyl ether	-	mg/kg	5	ND	
Heptabromodiphenyl ether	-	mg/kg	5	ND	
Octabromodiphenyl ether	-	mg/kg	5	ND	
Nonabromodiphenyl ether	-	mg/kg	5	ND	
Decabromodiphenyl ether	-	mg/kg	5	ND	

#### Notes:

(1) The maximum permissible limit is quoted from directive 2011/65/EU, Annex II

### Hexabromocyclododecane(HBDD)

Test Method: Determination of HBCDD by GC-MS based on IEC 62321:2008.

Test Item(s)	<u>Unit</u>	<u>MDL</u>	<u>008</u>
Hexabromocyclododecane (HBCDD)	mg/kg	10	ND

#### Notes:

(1) Reference Information: Directive 2011/65/EU recasting RoHS directive 2002/95/EC: Hexabromocyclododecane (HBCDD) is considered as a priority for risk evaluation and substance restriction.

#### **Phthalata**

Test Method: Determination of phthalates by GC-MS based on EN 14372:2004.

Test Item(s)	<u>Unit</u>	<u>MDL</u>	<u>008</u>
Dibutyl Phthalate (DBP)	% (w/w)	0.003	ND
Benzylbutyl Phthalate (BBP)	% (w/w)	0.003	ND
Bis-(2-ethylhexyl) Phthalate (DEHP)	% (w/w)	0.003	ND

### Notes:

(1) Reference Information: Directive 2011/65/EU recasting RoHS directive 2002/95/EC: Bis (2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP) and Dibutyl phthalate (DBP) are considered as a priority for risk evaluation and substance restriction.

Remark: The result(s) shown is/are of the total weight of wet sample.

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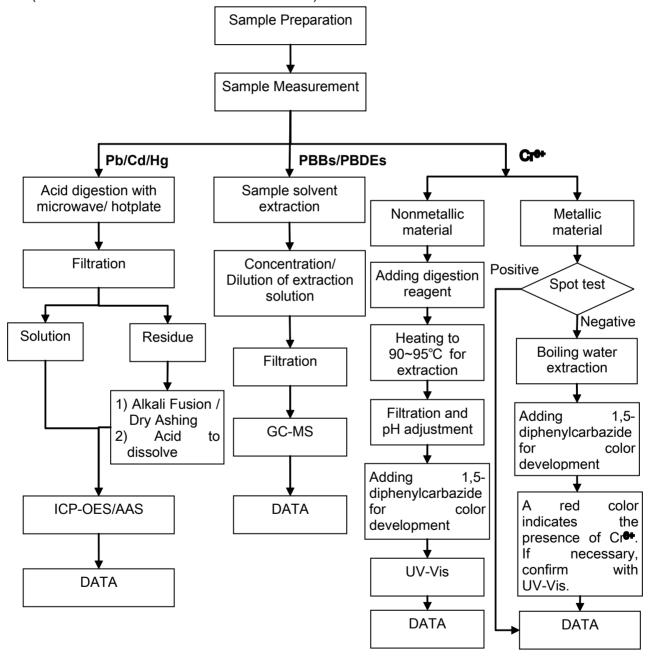
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### **ATTACHMENTS**

#### **RoHS Testing Flow Chart**

- 1) Name of the person who made testing: Michael Tso / Cutey Yu
- 2) Name of the person in charge of testing: Adams Yu / Yolanda Wei
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart (Cr<sup>6+</sup> and PBBs/PBDEs test method excluded).



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The company is a stated the results shown in this test report refer only to the sample(s) tested.

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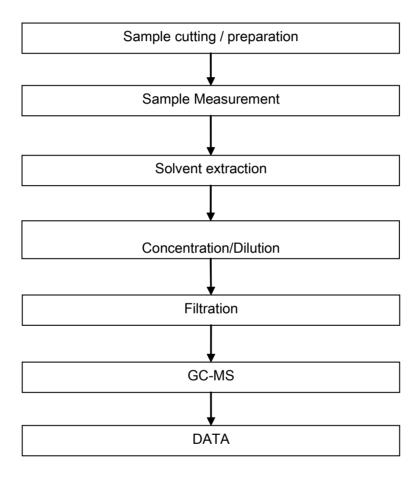
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### **ATTACHMENTS**

## **Phthalates Testing Flow Chart**

- 1) Name of the person who made testing: Liu Qiong
- 2) Name of the person in charge of testing: Yolanda Wei



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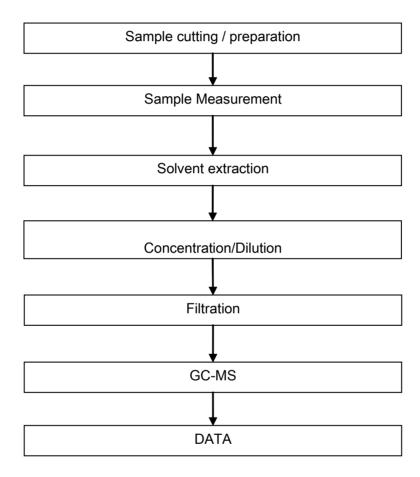


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### **ATTACHMENTS**

## **HBCDD Testing Flow Chart**

- 1) Name of the person who made testing: Cutey Yu
- 2) Name of the person in charge of testing: Yolanda Wei



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Sample photo:



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