



## Test Report

No.: GZ0904034284/CHEM

Date: APR 22, 2012

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SHENZHEN CENTURY TIANCHUANG TECHNOLOGY CO.,LTD.  
LINTONG COLLEGE ROAD NO. 1, 771 IC PACKAGING FACTORY IN CHINA'S SPACE

The following sample(s) was/were submitted and identified on behalf of the applicant as TO-220-3

SGS Job No. : GZ11737184EC

SGS Internal Reference No. : 15.15

Date of Sample Received : APR 09, 2012

Testing Period : APR 09, 2012 TO APR 14, 2012

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

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

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

Conclusion : Based on the performed tests on submitted sample(s), the results **comply with** the RoHS Directive 2002/95/EC and its subsequent amendments.

Signed for and on behalf of  
SGS-CSTC Ltd.

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SGS-CSTC Ltd.

Sunny Huang  
Lab Sr. Supervisor

Jane He  
Tech. Manager

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Member of the SGS Group (SGS SA)

**Test Results:**

Description for specimen 1 : Black body w/ brown printing (mixed)

**RoHS Directive 2002/95/EC**

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium (Cd)	mg/kg	IEC 62321: 2008, ICP-OES	N.D.	2	100
Lead (Pb)	mg/kg	IEC 62321: 2008, ICP-OES	629 <sup>[1]</sup>	2	1000
Mercury (Hg)	mg/kg	IEC 62321: 2008, ICP-OES	N.D.	2	1000
Hexavalent Chromium (CrVI) by alkaline extraction	mg/kg	IEC 62321: 2008, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	-	N.D.	-	1000
Monobromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Dibromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Tribromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Tetrabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Pentabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Hexabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Heptabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Octabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Nonabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Decabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Sum of PBDEs	mg/kg	-	N.D.	-	1000
Monobromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Dibromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Tribromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Tetrabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Pentabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Hexabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Heptabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Octabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Nonabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Decabromodiphenyl ether ##	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	

**Note:**

1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit
4. ## = The exemption of DecaBDE in polymeric application according 2005/717/EC was overruled by the European Court of Justice by its decision of 01.04.2008. Subsequently DecaBDE is included in the sum of PBDE after 01.07.2008
5. "-" = Not regulated

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Description for specimen 2 : Silvery metal pin

**RoHS Directive 2002/95/EC**

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium (Cd)	mg/kg	IEC 62321 : 2008, ICP-OES	N.D.	2	100
Lead (Pb)	mg/kg	IEC 62321 : 2008, ICP-OES	15	2	1000
Mercury (Hg)	mg/kg	IEC 62321 : 2008, ICP-OES	N.D.	2	1000
Hexavalent Chromium (CrVI) by boiling water extraction	-	IEC 62321 : 2008, UV-Vis	Negative	◇	#

**Note:**

1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit
4. ◇ = Spot test:  
 Negative = Absence of CrVI coating, Positive = Presence of CrVI coating;  
 (The tested sample should be further verified by boiling water extraction method if the spot test result is negative or cannot be confirmed.)  
 Boiling water extraction:  
 Negative = Absence of CrVI coating  
 Positive = Presence of CrVI coating; the detected concentration in boiling water extraction solution is equal or greater than 0.02 mg/kg with 50 cm<sup>2</sup> sample surface area.  
 Storage conditions and production date of the tested sample are unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.
5. # = Positive indicates the presence of CrVI on the tested area.  
 Negative indicates the absence of CrVI on the tested area.
6. "-" = Not regulated

Remark[1]: According to the declaration from client, the source of Lead of specimen 1 could be from the high melting temperature type solder, while Lead in high melting temperature type solders is exempted by RoHS regulatory (Directive 2002/95/EC of the European Parliament and of the council of 27 January 2003).

Remark[2] : As requested by client, the test of specimen 1 was conducted as whole / part sample, for the sample can't be disjointed.

Remark[3]: Results & photo(s) of this report refer to test report GZ0904029065/CHEM.

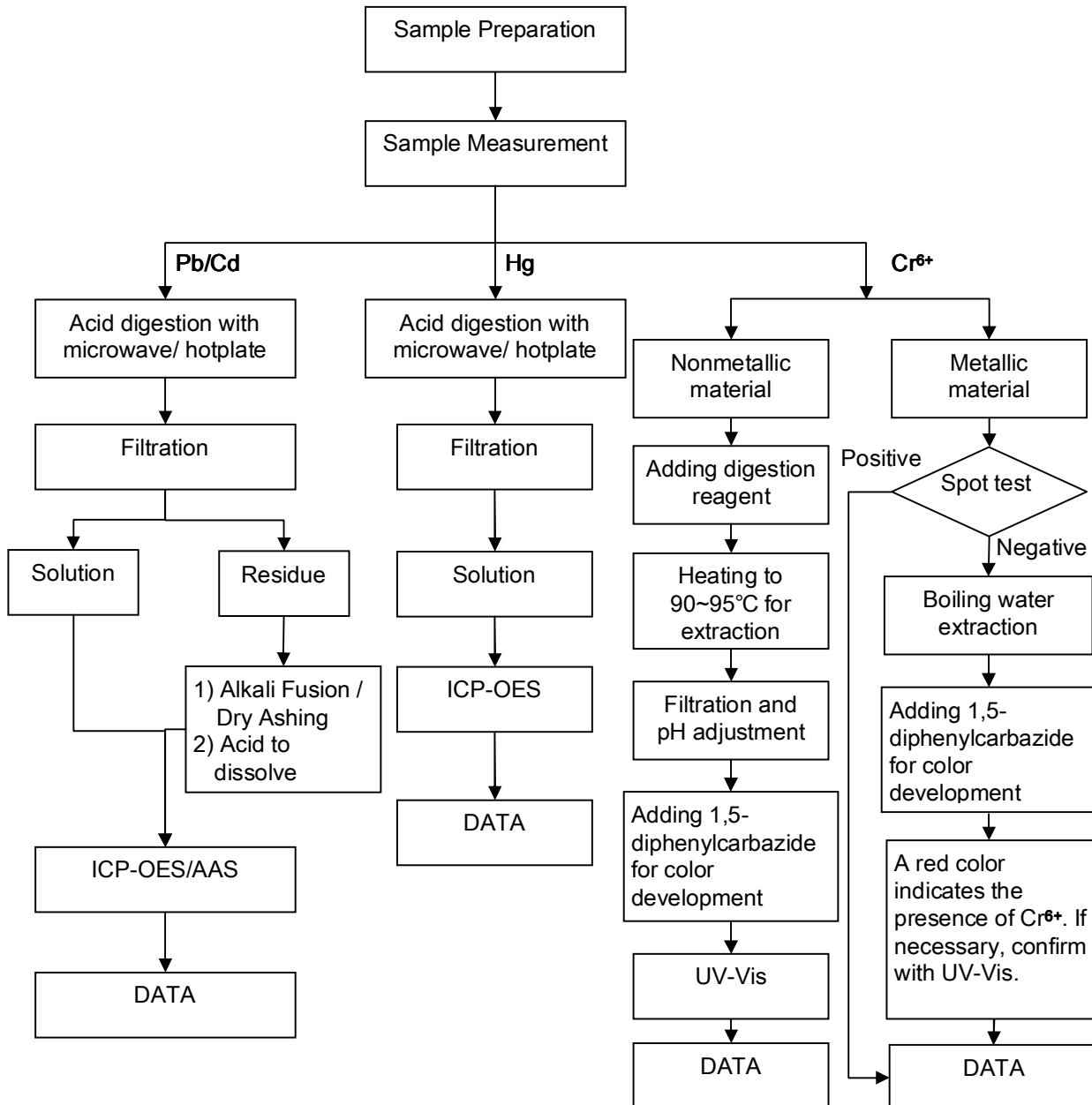
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ATTACHMENTS

Testing Flow Chart

- 1) Name of the person who made measurement: Luke Xu / Lily Lee
- 2) Name of the person in charge of measurement: Adams Yu / Leo Wang
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart (Cr<sup>6+</sup> test method excluded).

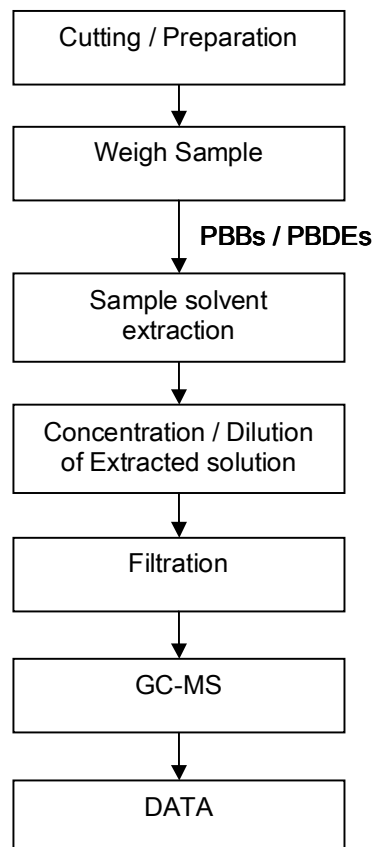


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### Testing Flow Chart

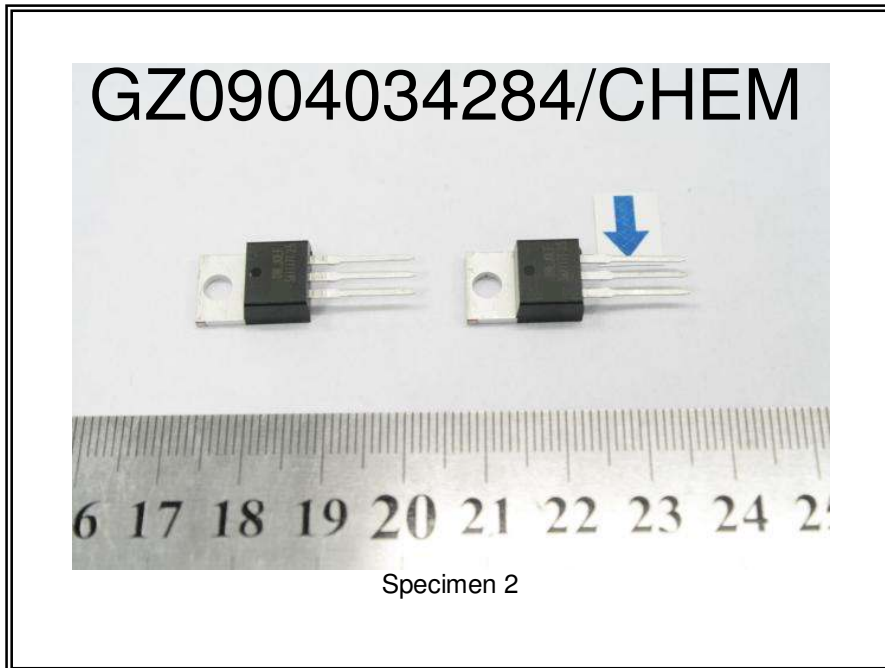
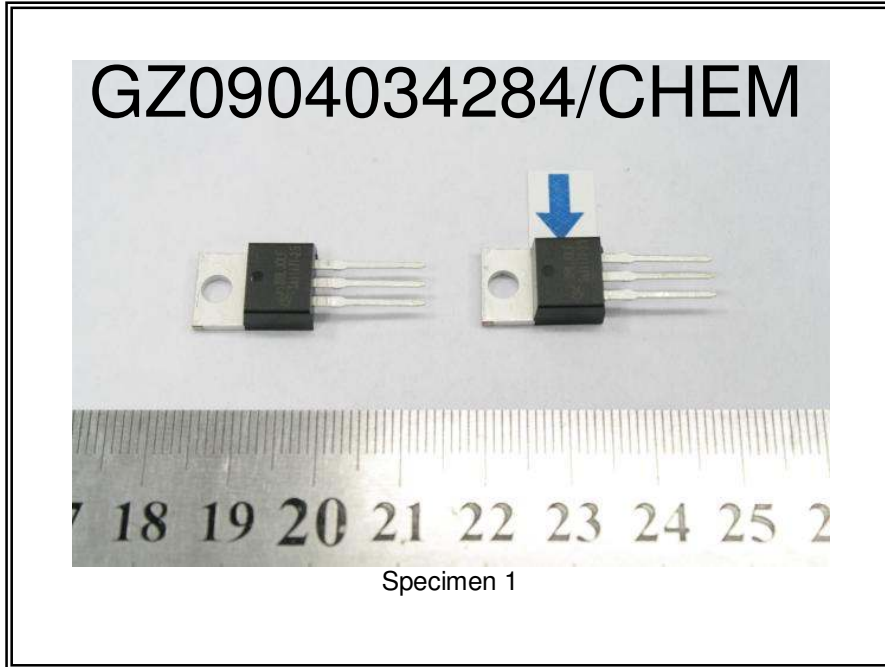
- 1) Name of the person who made measurement: Lina Tang
- 2) Name of the person in charge of measurement: Tina Zhao



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Sample photo :



SGS authenticate the photo on original report only

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

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