

Test Report

No. SH9106953/CHEM

Date: Jun. 10, 2009

Page 1 of 6

NANTONG HUADA MICROELECTRONICS GROUP CO., LTD
NO.99 ZILANG ROAD NANTONG CITY JIANGSU PROVINCE

The following sample(s) was/were submitted and identified by/on behalf of the client as:

Sample Name : TO-92 ENCAPSULATION PRODUCT
SGS Ref No. : 11905627-1
Part No. : TO-92

Sample Receiving Date : Jun.04, 2009
Testing Period : Jun.04 – 10, 2009

Test Requested : (1) In accordance with the RoHS Directive 2002/95/EC, and its amendment directives
(2) To determine the Halogen- Fluorine, Chlorine, Bromine, Iodine Content in the submitted sample.

Test Method : (1-1) With reference to IEC 62321:2008 for Cadmium content.
Analysis was performed by ICP.
(1-2) With reference to IEC 62321:2008 for Lead content.
Analysis was performed by ICP and AAS.
(1-3) With reference to IEC 62321:2008 for Mercury content.
Analysis was performed by ICP.
(1-4) With reference to IEC 62321:2008 for Hexavalent Chromium by spot test / Colorimetric Method.
(1-5) With reference to IEC 62321:2008 for PBBs / PBDEs content.
Analysis was performed by GC/MS.
(2) With reference to EN 14582: 2007.
(2-1) Determination of Fluorine by Ion Chromatograph (IC) method.
(2-2) Determination of Chlorine by Ion Chromatograph (IC) method.
(2-3) Determination of Bromine by Ion Chromatograph (IC) method.
(2-4) Determination of Iodine by Ion Chromatograph (IC) method.

Test Results : Please refer to next pages

Signed for and on behalf of
SGS-CSTC Chemical Laboratory



Sandy Hao
Lab Manager

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects only the findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not liberate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.

Test Report

No. SH9106953/CHEM

Date: Jun. 10, 2009

Page 2 of 6

Test results by chemical method (Unit: mg/kg)

(1) Cadmium, Lead, Mercury, Hexavalent Chromium, PBBs / PBDEs Content

Test Item(s):	Method (refer to)	1	2*	MDL	RoHS Limit
Cadmium(Cd)	(1-1)	ND	ND	2	100
Lead (Pb)	(1-2)	ND	ND	2	1000
Mercury (Hg)	(1-3)	ND	ND	2	1000
Hexavalent Chromium (CrVI)	(1-4)	---	ND	2	1000
Hexavalent Chromium (CrVI) by Spot test / boiling water extraction	(1-4)	Negative	---	#	-
Sum of PBBs	(1-5)	---	ND	-	1000
Monobromobiphenyl		---	ND	5	-
Dibromobiphenyl		---	ND	5	-
Tribromobiphenyl		---	ND	5	-
Tetrabromobiphenyl		---	ND	5	-
Pentabromobiphenyl		---	ND	5	-
Hexabromobiphenyl		---	ND	5	-
Heptabromobiphenyl		---	ND	5	-
Octabromobiphenyl		---	ND	5	-
Nonabromobiphenyl		---	ND	5	-
Decabromobiphenyl		---	ND	5	-
Sum of PBDEs		---	ND	-	1000
Monobromodiphenyl ether		---	ND	5	-
Dibromodiphenyl ether		---	ND	5	-
Tribromodiphenyl ether		---	ND	5	-
Tetrabromodiphenyl ether		---	ND	5	-
Pentabromodiphenyl ether		---	ND	5	-
Hexabromodiphenyl ether		---	ND	5	-
Heptabromodiphenyl ether		---	ND	5	-
Octabromodiphenyl ether		---	ND	5	-
Nonabromodiphenyl ether	---	ND	5	-	
Decabromodiphenyl ether##	---	ND	5	-	

(2) Halogen- Fluorine, Chlorine, Bromine, Iodine Content

Test Item(s):	Method (refer to)	2*	MDL
Fluorine(F)	(2-1)	ND	50
Chlorine(Cl)	(2-2)	94	50
Bromine(Br)	(2-3)	ND	50
Iodine(I)	(2-4)	ND	50

Test Part Description:

1. Silvery metal pin part
2. Black solid body with printing part (mix all)

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not liberate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.

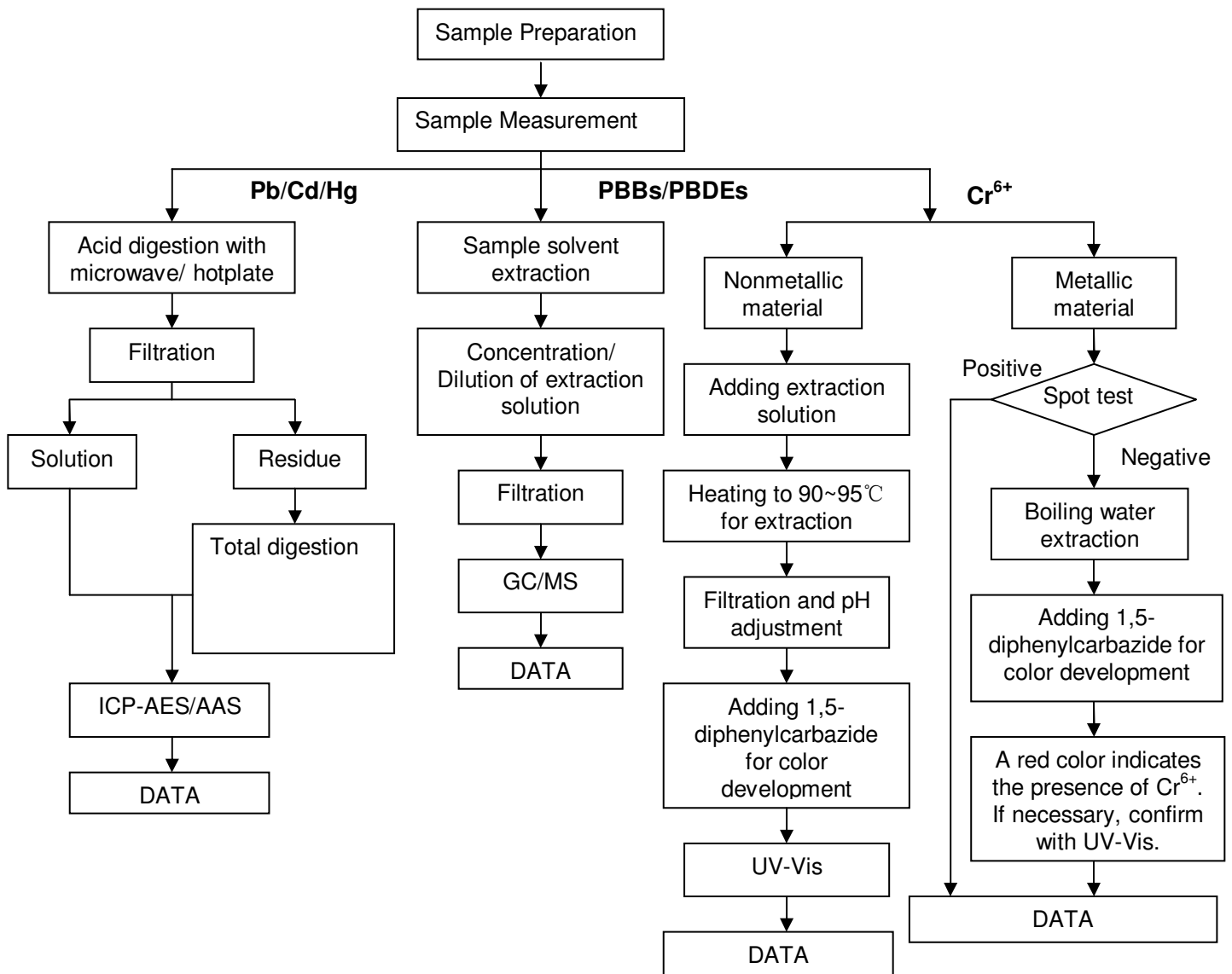
Note:

- (1) mg/kg = ppm
- (2) ND = Not Detected
- (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 cm² sample surface area.
 - For corrosion protection coatings on metals: Information on storage conditions and production date of the tested sample is unavailable and thus results of Cr(VI) represent status of the sample at the time of testing
- (5) ##=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.
- (6) "-" = Not Regulated
- (7) "---" = Not Conducted
- (8) The maximum permissible limit is quoted from the document 2005/618/EC amending RoHS directive 2002/95/EC
- (9) *The sample(s) was/were analyzed on behalf of the applicant as mixing sample in one testing. The above result(s) was/were only given as the informality value.

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not operate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.

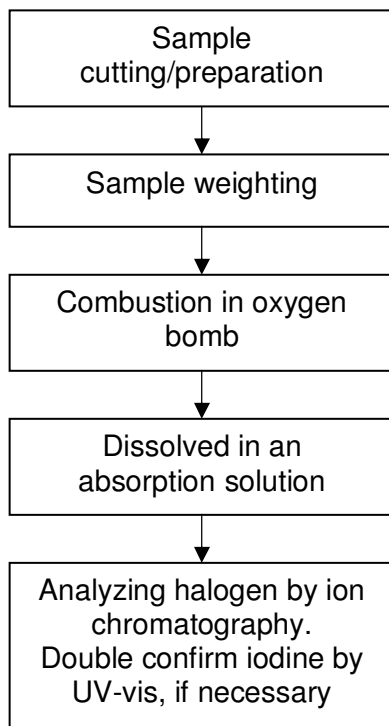
ATTACHMENTS

- 1) Name of the person who made measurement: Jeff Zhang/Chaven Lian/Frank Fang/Elim Lin
- 2) Name of the person in charge of measurement: Terry Wang/Phoebe Shen
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ and PBBs/PBDEs test method excluded)



This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.

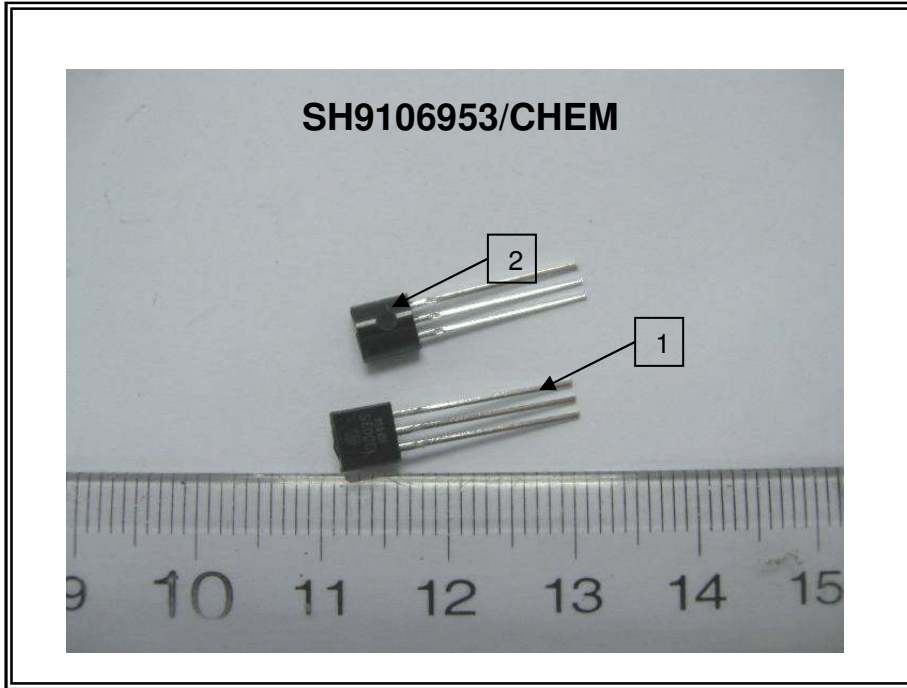
Halogen Measurement Flowchart for sample



Tested by : Daisy Gong
 Checked by : Alex Jiang

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.

Sample photo:



SGS authenticate the photo on original report only

*** End of Report ***

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.