

## Test Report

No. SH9209198/CHEM

Date: Oct. 30, 2009

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NANTONG FUJITSU MICROELECTRONIC CO., LTD  
NO.288, CHONGCHUAN ROAD, NANTONG, JIANGSU, CHINA

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

Sample Name : PLATING DIP18NT  
SGS Ref No. : SUZ12223333-2

Sample Receiving Date : Oct.27, 2009  
Testing Period : Oct.27 – 30, 2009

Test Requested : (1) In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.  
(2) To determine the PFOS (Perfluorooctane Sulfonates) and PFOA (Perfluorooctanoic Acid) content of the submitted samples.

Test Method : (1-1) With reference to IEC 62321:2008 for Cadmium content.  
Analysis was performed by ICP-OES.  
(1-2) With reference to IEC 62321:2008 for Lead content.  
Analysis was performed by ICP-OES and AAS.  
(1-3) With reference to IEC 62321:2008 for Mercury content.  
Analysis was performed by ICP-OES.  
(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 EPA 3550C: 2007.  
Analysis was performed by High Performance Liquid Chromatograph-Mass Spectrometer (HPLC-MS).

Test Results : Please refer to next pages

Signed for and on behalf of  
SGS-CSTC Chemical Laboratory



Sandy Hao  
Lab Manager

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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) PFOS (Perfluorooctane Sulfonates) and PFOA (Perfluorooctanoic Acid) Content

Test Items	Test method (refer to)	1	2*	MDL
Perfluorooctane Sulfonates (PFOS) PFOS – Acid PFOS – Metal Salt PFOS – Amide	(2)	ND	ND	10
Perfluorooctyl Acid (PFOA)		ND	ND	10

PFOS Reference Information: Entry 53 of Regulation (EC) No 552/2009 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Directive 2006/122/EC)

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- (i) May not be placed on the market or used as a substance or constituent of preparations in a concentration equal to or higher than 0.005 % by mass.
- (ii) May not be placed on the market in semi-finished products or articles, or parts thereof, if the concentration of PFOS is equal to or higher than 0.1 % by mass calculated with reference to the mass of structurally or microstructurally distinct parts that contain PFOS or, for textiles or other coated materials, if the amount of PFOS is equal to or higher than  $1\mu\text{g}/\text{m}^2$  of the coated material.

Please refer to Regulation (EC) No 552/2009 to get more detail information

**Test Part Description:**

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

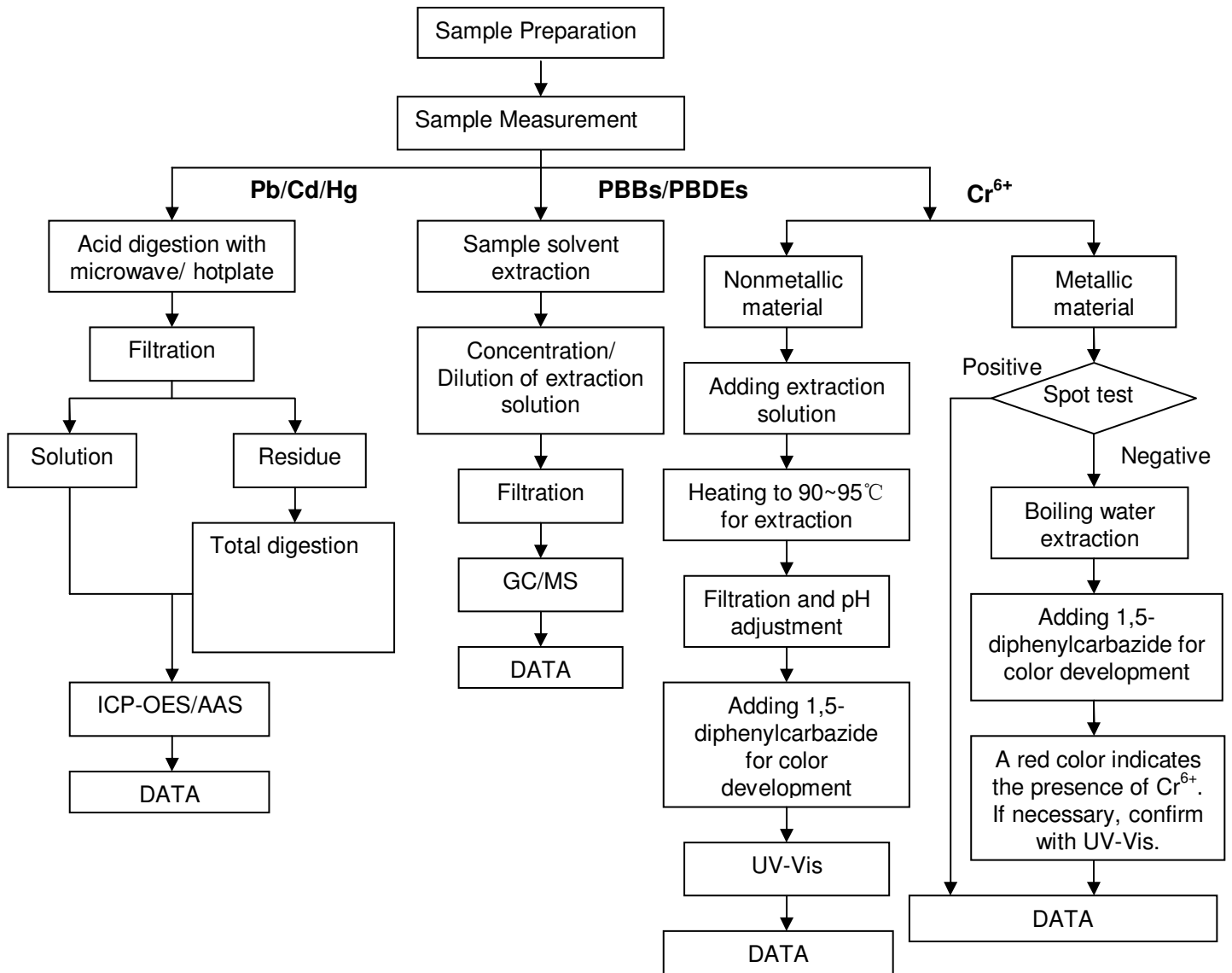
**Note:**

- (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  $50\text{ cm}^2$  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.

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**ATTACHMENTS**

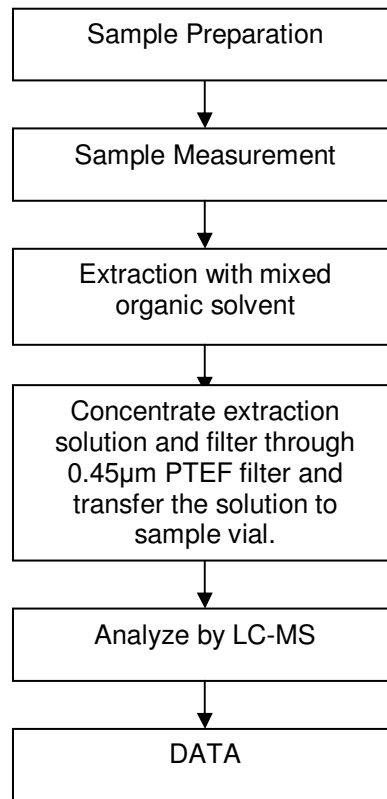
- 1) Name of the person who made measurement: Jeff Zhang/Even Xu/Frank Fang/Elim Lin
- 2) Name of the person in charge of measurement: Terry Wang/Phoebe Shen
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> and PBBs/PBDEs test method excluded)



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PFOS/PFOA Measurement Flowchart for sample

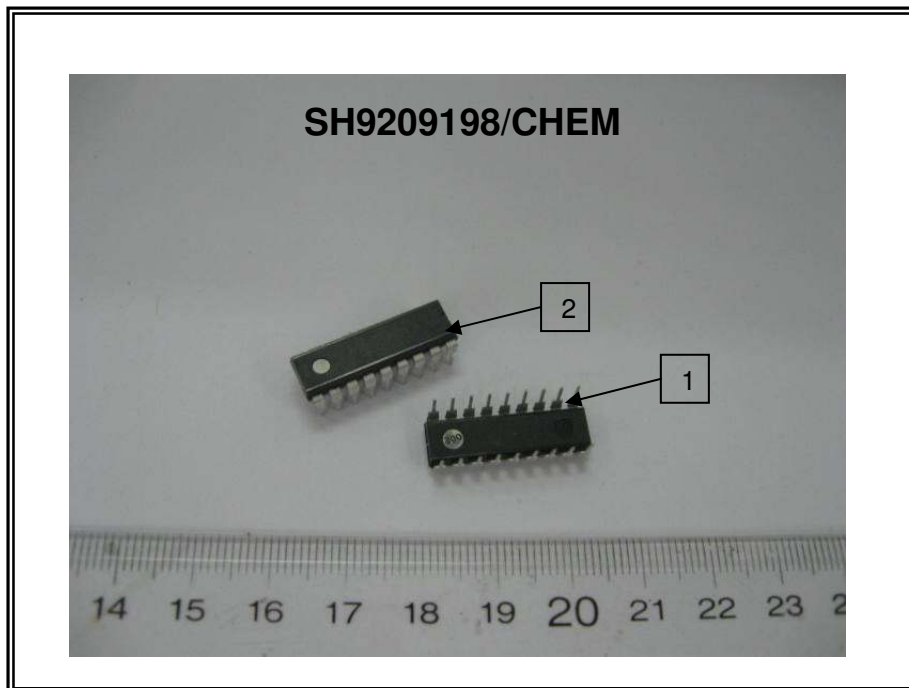


Tested by : Judy Li  
 Checked by : Nancy Du

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Sample photo:



SGS authenticate the photo on original report only

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

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