

Test Report No. SH9158444-1/CHEM Date: Aug. 19, 2009 Page 1 of 14

CSMC TECHNOLOGIES FAB 1 CO., LTD 14 LIANGXI ROAD, WUXI, JIANGSU 214061, CHINA

THIS REPORT IS TO SUPERSEDE TEST REPORT NO.SH9158444/CHEM DATE:2009/08/18

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

Sample Name : WAFER SGS Ref No. : SUZ12087814

Part No : 1. METAL GATE, 2. Si-G CMOS, 3. POLYCIDE, 4. SOG-W, 5. CMP-W, 6.D-MOS

Sample Receiving Date: Aug.14, 2009 Testing Period: Aug.14-18, 2009

Test Requested : In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.

Test Method : With reference to IEC 62321:2008

(1) Determination of Cadmium by ICP-OES.(2) Determination of Lead by ICP-OES and AAS.(3) Determination of Mercury by ICP-OES.

(4) Determination of Hexavalent Chromium by Colorimetric Method.

(5) Determination of PBBs and PBDEs by GC/MS.

Test Results : Please refer to next pages

Conclusion : Based on the performed tests on submitted samples, the results comply with the

RoHS Directive 2002/95/EC and its subsequent amendments.

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)

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

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Test Item(s):	Method (refer to)	<u>4</u>	<u>5</u>	<u>6</u>	MDL	RoHS Limit
Cadmium(Cd)	(1)	ND	ND	ND	2	100
Lead (Pb)	(2)	ND	ND	ND	2	1000
Mercury (Hg)	(3)	ND	ND	ND	2	1000
Hexavalent Chromium (CrVI) by alkaline extraction	(4)	ND	ND	ND	2	1000
Sum of PBBs		ND	ND	ND	-	1000
Monobromobiphenyl		ND	ND	ND	5	-
Dibromobiphenyl		ND	ND	ND	5	-
Tribromobiphenyl		ND	ND	ND	5	-
Tetrabromobiphenyl		ND	ND	ND	5	-
Pentabromobiphenyl		ND	ND	ND	5	-
Hexabromobiphenyl		ND	ND	ND	5	-
Heptabromobiphenyl		ND	ND	ND	5	-
Octabromobiphenyl		ND	ND	ND	5	-
Nonabromobiphenyl		ND	ND	ND	5	-
Decabromobiphenyl	(E)	ND	ND	ND	5	-
Sum of PBDEs	(5)	ND	ND	ND	-	1000
Monobromodiphenyl ether		ND	ND	ND	5	-
Dibromodiphenyl ether		ND	ND	ND	5	-
Tribromodiphenyl ether		ND	ND	ND	5	-
Tetrabromodiphenyl ether		ND	ND	ND	5	-
Pentabromodiphenyl ether		ND	ND	ND	5	-
Hexabromodiphenyl ether		ND	ND	ND	5	-
Heptabromodiphenyl ether		ND	ND	ND	5	-
Octabromodiphenyl ether		ND	ND	ND	5	-
Nonabromodiphenyl ether		ND	ND	ND	5	-
Decabromodiphenyl ether ##		ND	ND	ND	5	-

Test Part Description:

SGS

- 1. Silvery-blue /golden silicon rubber sheet
- 2. Silvery-blue /golden silicon rubber sheet
- Purple/golden silicon rubber sheet 3.
- Silvery-blue /yellow silicon rubber sheet
- Silvery-blue /golden silicon rubber sheet
- Silvery/white silicon rubber sheet

Note:

- (1) mg/kg = ppm
- (2) ND = Not Detected
- (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.

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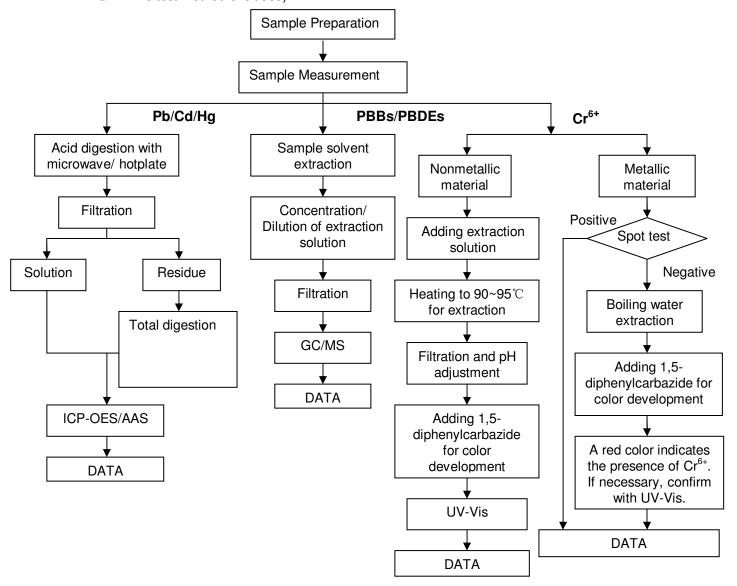
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- (5) "-" = Not Regulated
- (6) The maximum permissible limit is quoted from the document 2005/618/EC amending RoHS directive 2002/95/EC

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)



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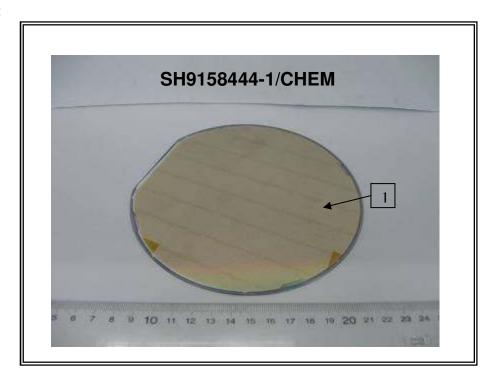


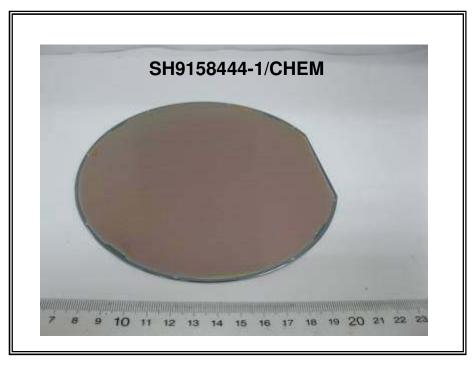
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Sample photo:





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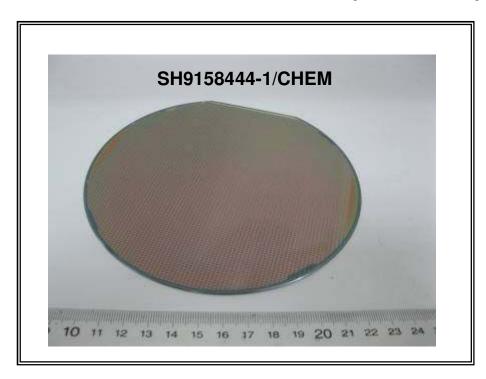
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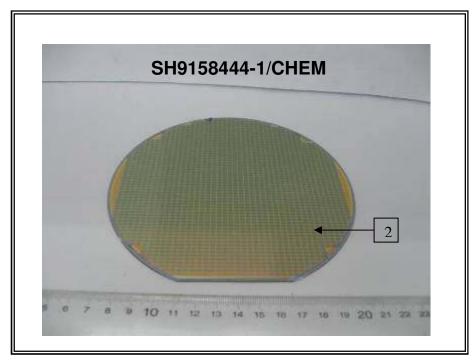


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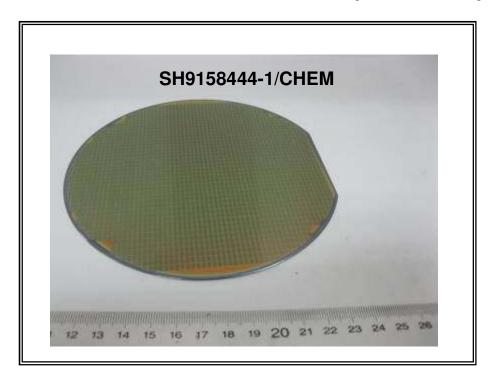


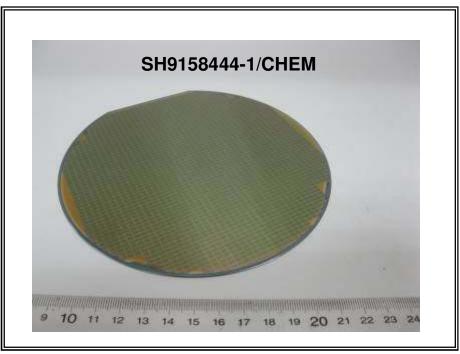
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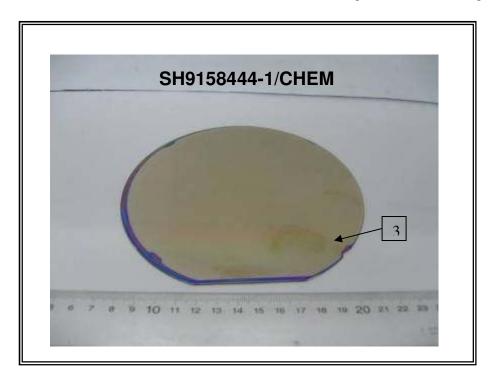
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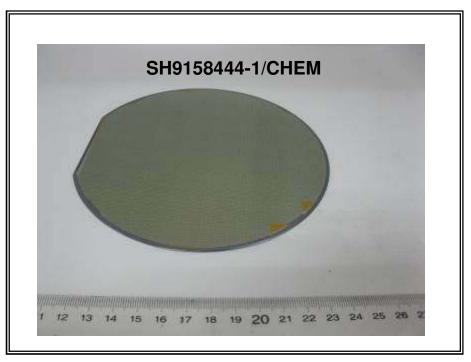


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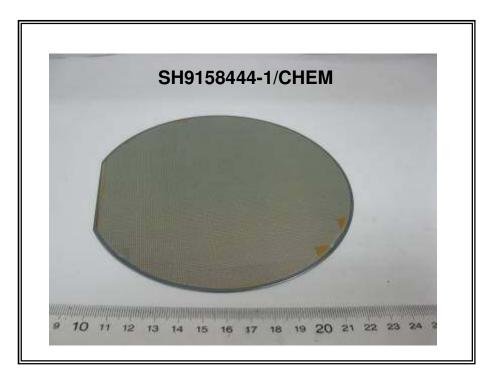
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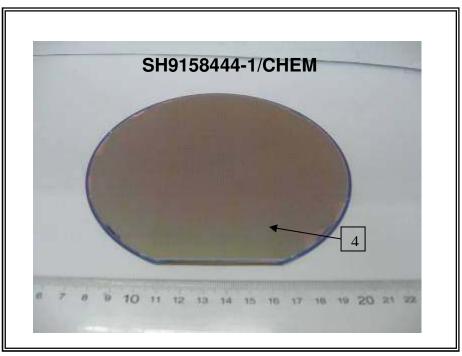


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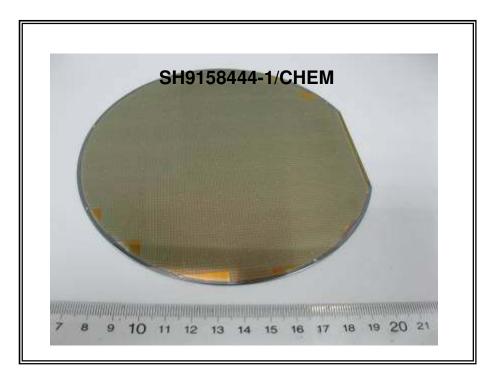
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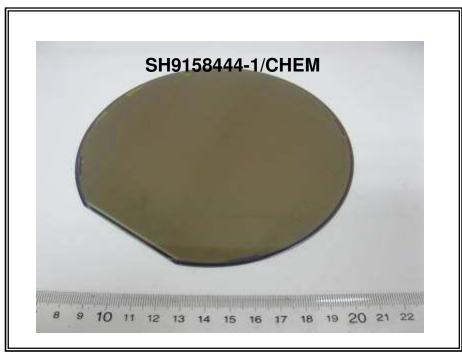


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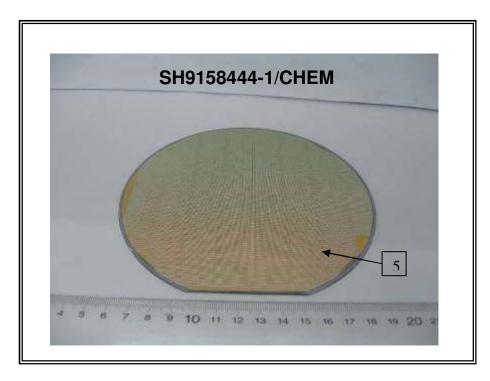
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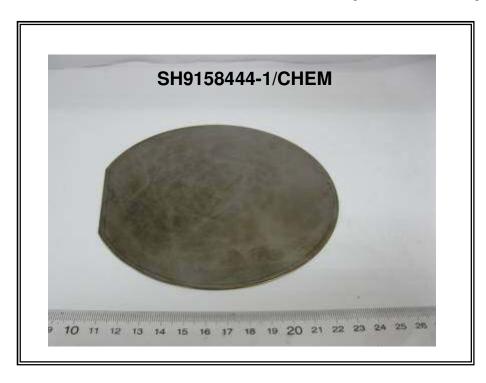


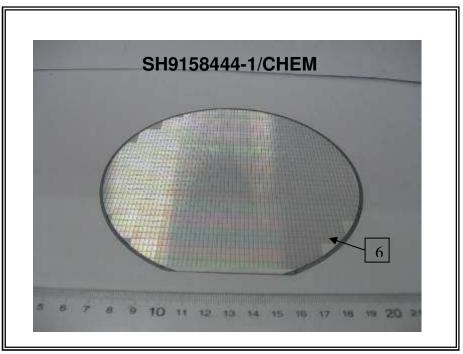
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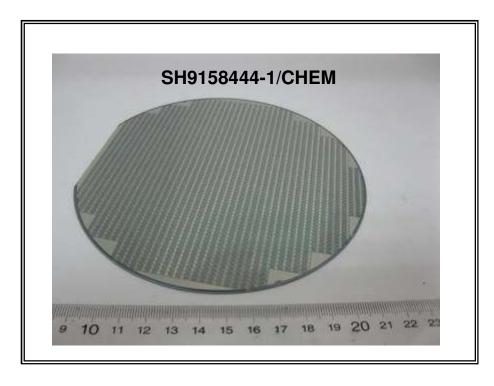
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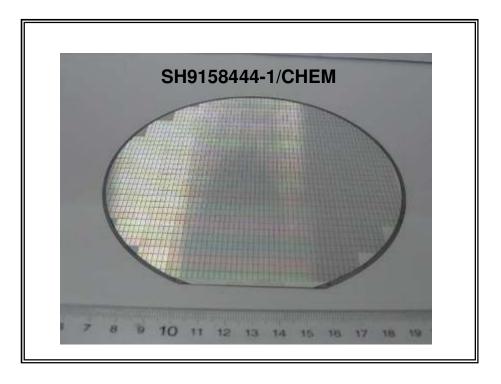
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