

## Test Report

No. : CE/2009/46629    Date : 2009/05/04    Page : 1 of 8


ON SEMICONDUCTOR  
2300 BUCKSKIN RD., POATELLO, ID 83201



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

Sample Description : 2 SILICON WAFERS  
Style/Item No. : 20684-900  
Color : SILVER  
Sample Receiving Date : 2009/04/27  
Testing Period : 2009/04/27 TO 2009/05/04

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

  
**Chenyu Kung / Operation Manager**  
**Signed for and on behalf of**  
**SGS TAIWAN LTD.**  
**Chemical Laboratory – Taipei**

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ON SEMICONDUCTOR  
2300 BUCKSKIN RD., POCATELLO, ID 83201



## Test Result(s)

PART NAME NO.1 : WAFER

Test Item (s):	Unit	Method	MDL	Result
				No.1
Cadmium (Cd)	mg/kg	With reference to IEC 62321:2008 and performed by ICP-AES.	2	n.d.
Lead (Pb)	mg/kg	With reference to IEC 62321:2008 and performed by ICP-AES.	2	n.d.
Mercury (Hg)	mg/kg	With reference to IEC 62321:2008 and performed by ICP-AES.	2	n.d.
Hexavalent Chromium Cr(VI) by alkaline extraction	mg/kg	With reference to IEC 62321:2008 and performed by UV-VIS.	2	n.d.
Antimony (Sb)	mg/kg	With reference to US EPA Method 3050B for Antimony Content. Analysis was performed by ICP-AES.	2	n.d.
Halogen-Chlorine (Cl) (CAS No.: 022537-15-1)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
Halogen-Bromine (Br) (CAS No.: 010097-32-2)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
<b>Sum of PBBs</b>	mg/kg	With reference to IEC 62321:2008 and performed by GC/MS.	-	n.d.
Monobromobiphenyl			5	n.d.
Dibromobiphenyl			5	n.d.
Tribromobiphenyl			5	n.d.
Tetrabromobiphenyl			5	n.d.
Pentabromobiphenyl			5	n.d.
Hexabromobiphenyl			5	n.d.
Heptabromobiphenyl			5	n.d.
Octabromobiphenyl			5	n.d.
Nonabromobiphenyl			5	n.d.
Decabromobiphenyl			5	n.d.

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2300 BUCKSKIN RD., POATELLO, ID 83201



Test Item (s):	Unit	Method	MDL	Result
				No.1
<b>Sum of PBDEs</b>	mg/kg	With reference to IEC 62321: 2008 and performed by GC/MS.	-	n.d.
Monobromodiphenyl ether			5	n.d.
Dibromodiphenyl ether			5	n.d.
Tribromodiphenyl ether			5	n.d.
Tetrabromodiphenyl ether			5	n.d.
Pentabromodiphenyl ether			5	n.d.
Hexabromodiphenyl ether			5	n.d.
Heptabromodiphenyl ether			5	n.d.
Octabromodiphenyl ether			5	n.d.
Nonabromodiphenyl ether			5	n.d.
Decabromodiphenyl ether			5	n.d.

- Note :
1. mg/kg = ppm; 0.1wt% = 1000ppm
  2. n.d. = Not Detected
  3. MDL = Method Detection Limit
  4. " - " = Not Regulated

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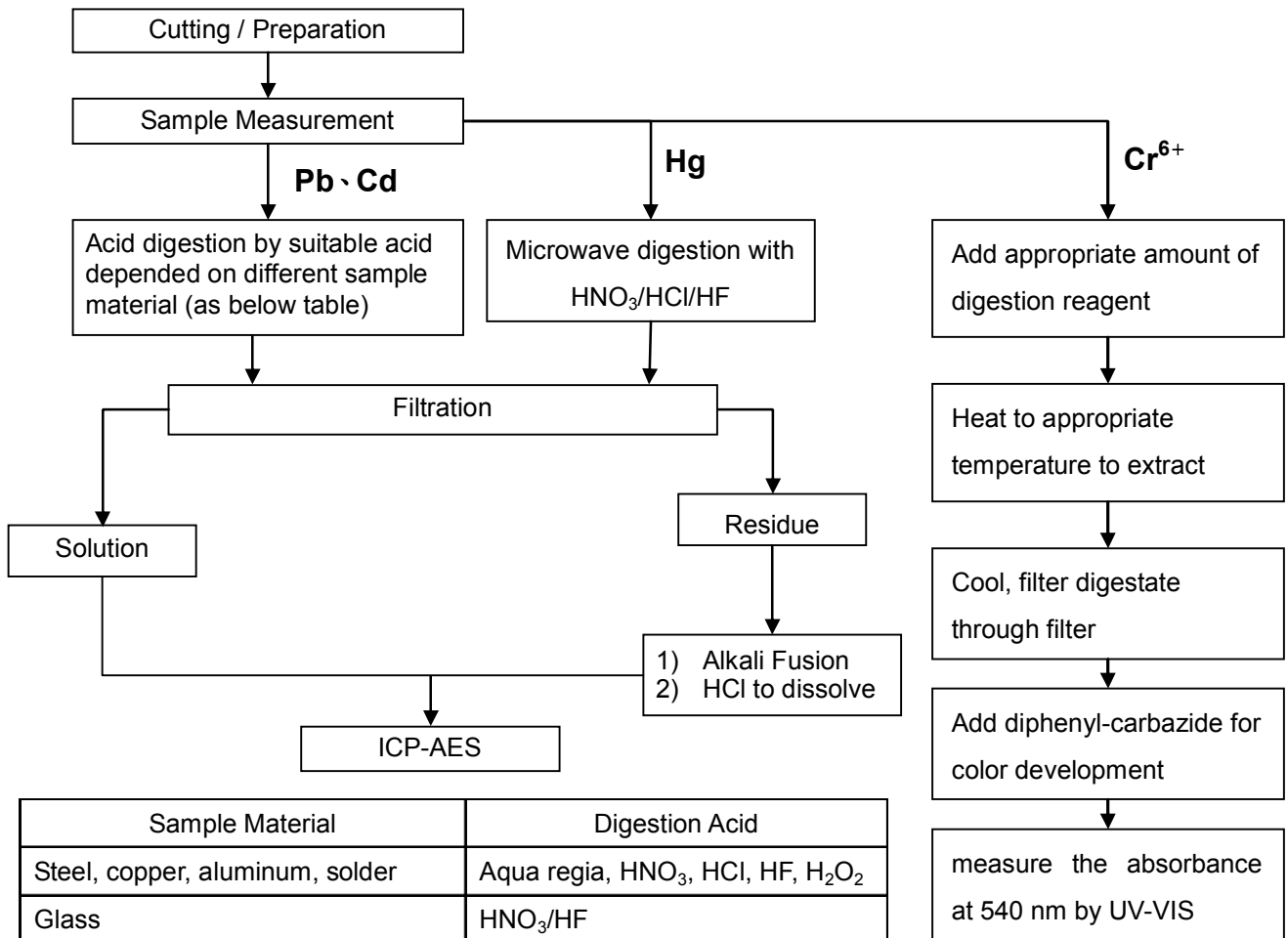
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ON SEMICONDUCTOR  
2300 BUCKSKIN RD., POCATELLO, ID 83201



- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.  
(Cr<sup>6+</sup> test method excluded)
- 2) Name of the person who made measurement: Climbgreat Yang
- 3) Name of the person in charge of measurement: Troy Chang



Sample Material	Digestion Acid
Steel, copper, aluminum, solder	Aqua regia, HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub>
Glass	HNO <sub>3</sub> /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO <sub>3</sub>
Plastic	H <sub>2</sub> SO <sub>4</sub> , H <sub>2</sub> O <sub>2</sub> , HNO <sub>3</sub> , HCl
Others	Any acid to total digestion

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# Test Report

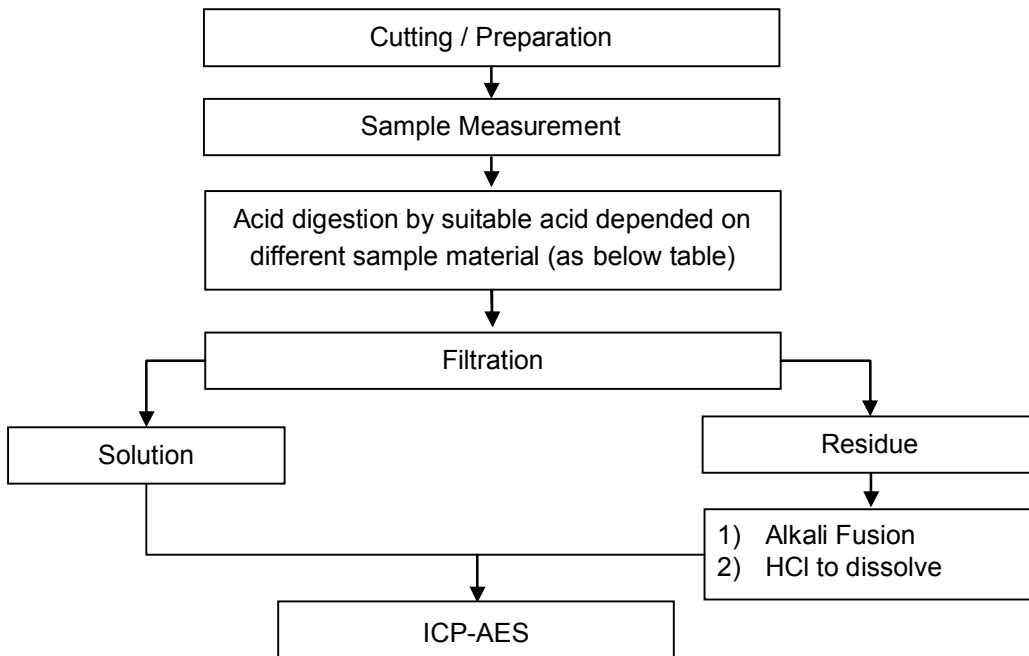
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ON SEMICONDUCTOR  
2300 BUCKSKIN RD., POCATELLO, ID 83201



- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.
- 2) Name of the person who made measurement: Climbgreat Yang
- 3) Name of the person in charge of measurement: Troy Chang

### Flow Chart of digestion for the elements analysis performed by ICP-AES



Steel, copper, aluminum, solder	Aqua regia, HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub>
Glass	HNO <sub>3</sub> /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO <sub>3</sub>
Plastic	H <sub>2</sub> SO <sub>4</sub> , H <sub>2</sub> O <sub>2</sub> , HNO <sub>3</sub> , HCl
Others	Any acid to total digestion

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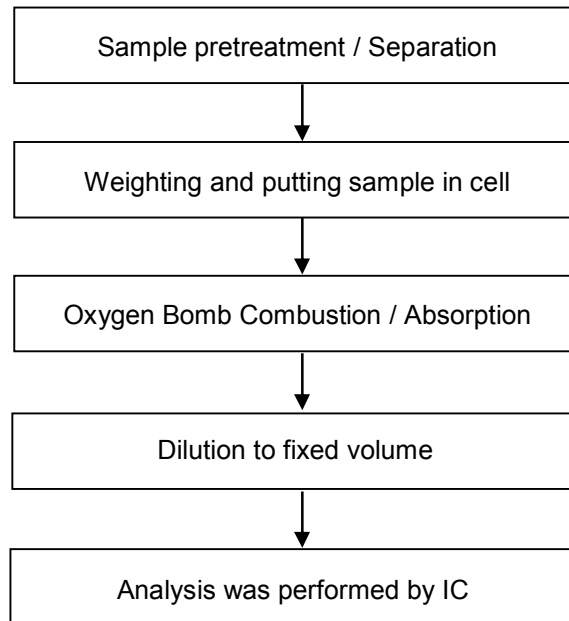
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### Analytical flow chart of halogen content

- 1) Name of the person who made measurement: Alan Chen
- 2) Name of the person in charge of measurement: Troy Chang



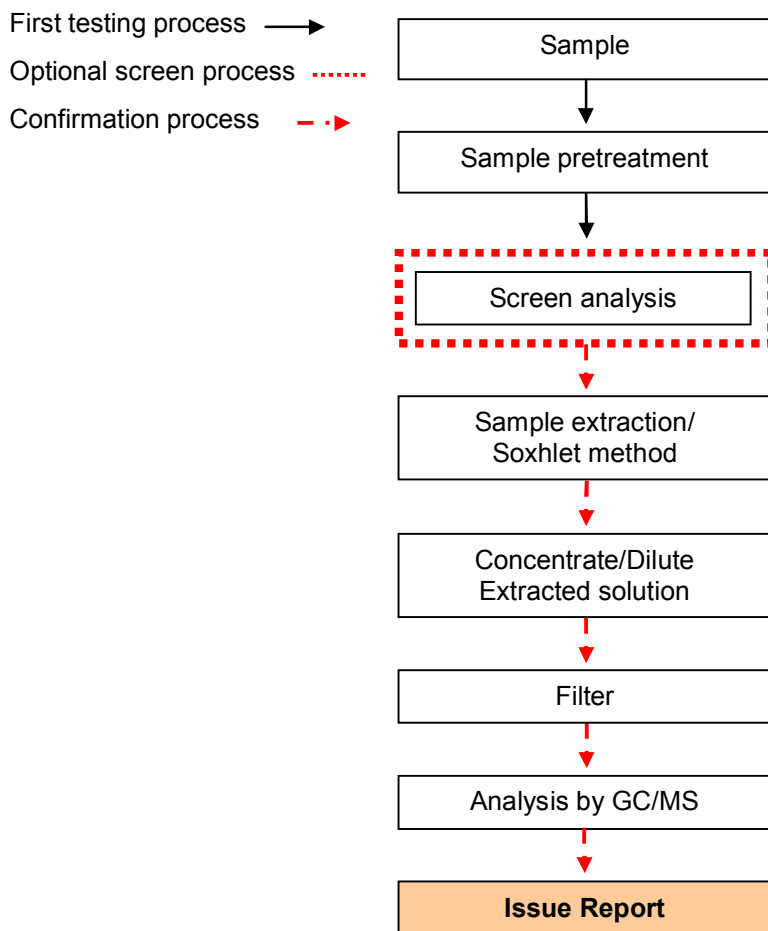
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### PBB/PBDE analytical FLOW CHART

- 1) Name of the person who made measurement: Roman Wong
- 2) Name of the person in charge of measurement: Shinjyh Chen



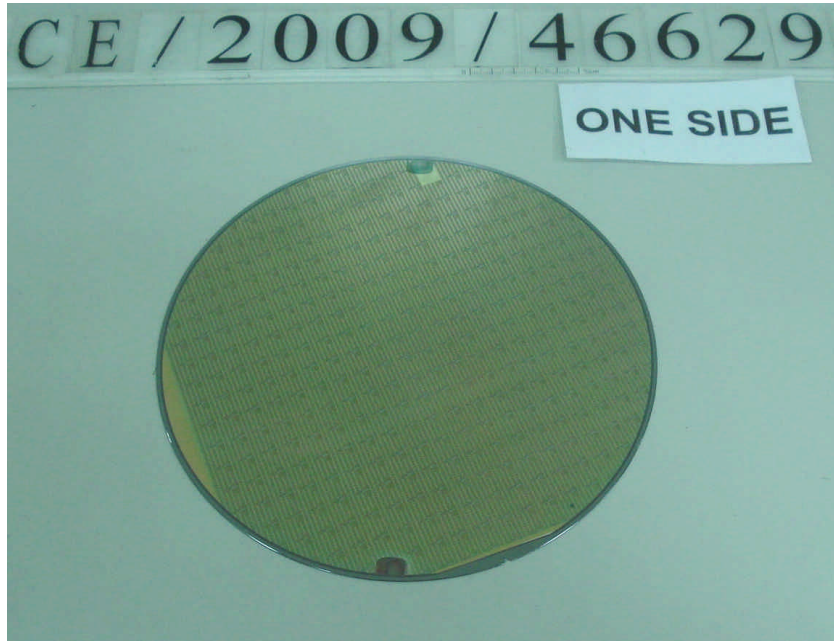
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**\*\* End of Report \*\***

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