

PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT2571433

SUBMISSION TYPE:	NEW ASSIGNMENT												
NATURE OF CONVEYANCE:	ASSIGNMENT												
CONVEYING PARTY DATA													
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>EDDY LAY</td> <td>08/19/2013</td> </tr> <tr> <td>SHIH-MIN TSENG</td> <td>08/19/2013</td> </tr> <tr> <td>SHENG-WEI WU</td> <td>08/20/2013</td> </tr> <tr> <td>JEN-CHUNG CHEN</td> <td>08/20/2013</td> </tr> <tr> <td>SHIH-FANG CHEN</td> <td>08/19/2013</td> </tr> </tbody> </table>		Name	Execution Date	EDDY LAY	08/19/2013	SHIH-MIN TSENG	08/19/2013	SHENG-WEI WU	08/20/2013	JEN-CHUNG CHEN	08/20/2013	SHIH-FANG CHEN	08/19/2013
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SHIH-FANG CHEN	08/19/2013												
RECEIVING PARTY DATA													
Name:	TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD												
Street Address:	NO.8, LI-HSIN RD.6, SCIENCE-BASED INDUSTRIAL PARK												
City:	HSINCHU												
State/Country:	TAIWAN												
Postal Code:	300												
PROPERTY NUMBERS Total: 1													
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13974366</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13974366								
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Application Number:	13974366												
CORRESPONDENCE DATA													
Fax Number:	(480)464-5692												
Phone:	480-464-1111												
Email:	slaureanti@jacksonwhitelaw.com												
<i>Correspondence will be sent via US Mail when the email attempt is unsuccessful.</i>													
Correspondent Name:	STEVEN J. LAUREANTI												
Address Line 1:	40 NORTH CENTER STREET, SUITE 200												
Address Line 4:	MESA, ARIZONA 85201												
ATTORNEY DOCKET NUMBER:	28503-014												
NAME OF SUBMITTER:	STEVEN J. LAUREANTI												

Signature:	/Steven J. Laureanti/
Date:	10/09/2013
Total Attachments: 2 source=NP-13875-US-B-executed Assignment#page1.tif source=NP-13875-US-B-executed Assignment#page2.tif	

ASSIGNMENT

This assignment agreement is applicable to an invention entitled (Invention Title) _____
Vertical Furnace for Improving Wafer Uniformity

The PATENT RIGHTS referred to in this agreement are:

- (check one) a patent application for this invention, executed by the ASSIGNOR(S) concurrently with this assignment.
- U.S. patent application Serial No. 13/974,366, filed on August 23, 2013
- a U.S. patent application based on PCT International Application No. _____ filed on (date) _____ (U.S. patent application Serial No. _____, if known).
- U.S. patent No. _____, issued _____.

The PATENT RIGHTS also include all divisions, reissues, continuations and extensions of the patents and patent applications identified above.

The PATENT RIGHTS assigned under this agreement are:

- (check one) U.S. patent rights only.
- Worldwide patent rights. In this case, the assignee shall have the right to claim the benefit of the filing date of any U.S. or foreign patent application for this invention.

The ASSIGNOR(S) referred to in this agreement is (or are) the inventor(s) whose signatures appear on page 2 of this Assignment and any Supplemental Sheet(s).

The ASSIGNEE referred to in this agreement is:

(Name of Assignee) TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.
 (Address) NO.8, LI-HSIN RD.6, SCIENCE-BASED INDUSTRIAL PARK, HSINCHU, TAIWAN 300, R.O.C.

The ASSIGNEE is:

- (check one) An individual.
- A Partnership.
- A Corporation of TAIWAN, R.O.C. (specify state or country)
- (other) _____

The ASSIGNOR(S), in consideration of \$10.00 paid by the ASSIGNEE, and other good and valuable consideration, receipt of which is acknowledged, hereby assign(s) the following rights to the ASSIGNEE, its successors and assigns:

the full and exclusive right to the invention;

the entire right, title and interest in and to the PATENT RIGHTS;

the right to sue and recover for any past infringement; and

the right to claim priority under 35 USC 119, 35 USC 120, or any other applicable provisions, based on any earlier patent applications for this invention.

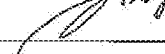
NP-13875-US-B
TSMC-2-13-0598

THIS IS PAGE 2 OF AN ASSIGNMENT FROM THE INVENTOR(S) TO
ASSIGNEE: TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.
INVENTION TITLE: Vertical Furnace for Improving Wafer Uniformity

As to all U.S. patent applications assigned under this agreement, the ASSIGNOR(S) hereby authorize(s) and request(s) the Commissioner of Patents and Trademark to issue all Letters Patent to the ASSIGNEE as the assignee of the entire right, title and interest, for the sole use and enjoyment of said ASSIGNEE, its successors and assigns,

Further, the ASSIGNOR(S) agree(s) to communicate to said ASSIGNEE, or its representatives, any fact known to the ASSIGNOR(S) with respect to said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal, reexamination and reissue applications, execute all necessary assignment papers to cause and all Letter Patent to be issued to said ASSIGNEE, make all rightful oaths and generally do everything necessary or desirable to aid said ASSIGNEE, its successors and assigns, to obtain and enforce proper protection for said invention.

The ASSIGNOR(S) authorize(s) the attorneys and agents who have the power of attorney in this application to check any appropriate boxes and to insert the Serial Number and filing date in this document after it has been executed.

<u>Eddy LAY</u> Name of sole or first inventor	 Signature	<u>2013/08/19</u> Date
<u>Shih-Min TSENG</u> Name of second inventor, if any	<u>Shih-Min Tseng</u> Signature	<u>2013.08.19</u> Date
<u>Sheng-Wei WU</u> Name of third inventor, if any	<u>Sheng-Wei Wu</u> Signature	<u>2013.08.20</u> Date
<u>Jen-Chung CHEN</u> Name of fourth inventor, if any	<u>J.C. Chen</u> Signature	<u>2013.08.20.</u> Date
<u>Shih-Fang CHEN</u> Name of fifth inventor, if any	<u>Shih-Fang Chen</u> Signature	<u>2013.8.19</u> Date