

PATENT ASSIGNMENT

Electronic Version v1.1
 Stylesheet Version v1.1

| 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>Ching-Fa CHEN</td> <td>09/11/2013</td> </tr> <tr> <td>Hung-Wen CHEN</td> <td>09/11/2013</td> </tr> <tr> <td>Mei-Wei WU</td> <td>09/11/2013</td> </tr> </tbody> </table> | | Name | Execution Date | Ching-Fa CHEN | 09/11/2013 | Hung-Wen CHEN | 09/11/2013 | Mei-Wei WU | 09/11/2013 | | | | |
| Name | Execution Date | | | | | | | | | | | | |
| Ching-Fa CHEN | 09/11/2013 | | | | | | | | | | | | |
| Hung-Wen CHEN | 09/11/2013 | | | | | | | | | | | | |
| Mei-Wei WU | 09/11/2013 | | | | | | | | | | | | |
| RECEIVING PARTY DATA | | | | | | | | | | | | | |
| <table border="1"> <tr> <td>Name:</td> <td>Taiwan Semiconductor Manufacturing Co., Ltd</td> </tr> <tr> <td>Street Address:</td> <td>No.8, Li-Hsin Road. 6</td> </tr> <tr> <td>Internal Address:</td> <td>Science-Based Industrial Park</td> </tr> <tr> <td>City:</td> <td>Hsin-Chu</td> </tr> <tr> <td>State/Country:</td> <td>TAIWAN</td> </tr> <tr> <td>Postal Code:</td> <td>300-77</td> </tr> </table> | | Name: | Taiwan Semiconductor Manufacturing Co., Ltd | Street Address: | No.8, Li-Hsin Road. 6 | Internal Address: | Science-Based Industrial Park | City: | Hsin-Chu | State/Country: | TAIWAN | Postal Code: | 300-77 |
| Name: | Taiwan Semiconductor Manufacturing Co., Ltd | | | | | | | | | | | | |
| Street Address: | No.8, Li-Hsin Road. 6 | | | | | | | | | | | | |
| Internal Address: | Science-Based Industrial Park | | | | | | | | | | | | |
| City: | Hsin-Chu | | | | | | | | | | | | |
| State/Country: | TAIWAN | | | | | | | | | | | | |
| Postal Code: | 300-77 | | | | | | | | | | | | |
| 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>14023741</td> </tr> </tbody> </table> | | Property Type | Number | Application Number: | 14023741 | | | | | | | | |
| Property Type | Number | | | | | | | | | | | | |
| Application Number: | 14023741 | | | | | | | | | | | | |
| CORRESPONDENCE DATA | | | | | | | | | | | | | |
| <p>Fax Number: 4045214286 <i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i></p> <p>Phone: 678-483-8899 Email: dan.mcclure@mqlaw.com Correspondent Name: McClure, Qualey & Rodack, LLP Address Line 1: 400 INTERSTATE NORTH PARKWAY SE Address Line 2: SUITE 200 Address Line 4: ATLANTA, GEORGIA 30339</p> | | | | | | | | | | | | | |
| ATTORNEY DOCKET NUMBER: | 252011-4630 | | | | | | | | | | | | |
| NAME OF SUBMITTER: | Daniel R. McClure | | | | | | | | | | | | |
| Signature: | /Daniel R. McClure/ | | | | | | | | | | | | |

PATENT

Date:

09/11/2013

Total Attachments: 2

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ASSIGNMENT

WHEREAS, Ching-Fa CHEN, Hung-Wen CHEN, and Mei-Wei WU
hereafter referred to as ASSIGNOR, has/have invented certain new and useful improvements as
described and set forth in the below identified application for United States Letters Patent:

Title: MECHANISMS FOR CLEANING LOAD PORTS OF SEMICONDUCTOR
PROCESS TOOLS

Filed: _____ Serial No. _____

Executed on: _____

WHEREAS, Taiwan Semiconductor Manufacturing Co., Ltd. of No.8, Li-Hsin Road, 6,
Science-Based Industrial Park, Hsin-Chu, Taiwan 300-77, R.O.C. hereinafter referred to as
ASSIGNEES, is desirous of acquiring ASSIGNOR'S interest in the said invention and application
and in any U.S. Letters Patent which may be granted on the same;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN: Be it known that, for good and
valuable consideration, receipt of which is hereby acknowledged by Assignor, Assignor has/have
sold, assigned and transferred, and by these presents does/do sell, assign and transfer unto the said
Assignee, and Assignee's successors and assigns, all his/her/their rights, title and interest in and to
the said invention and application and all future improvements thereon, and in and to any Letters
Patent which may hereafter be granted on the same in the United States, the said interest to be held
and enjoyed by said Assignee as fully and exclusively as it would have been held and enjoyed by
said Assignor had this Assignment and transfer not been made, to the full end and term of any
Letters Patent which may be granted thereon, or of any division, renewal, continuation in whole or
in part, substitution, conversion, reissue, prolongation or extension thereof.

Assignor further agrees/agree that he/she/they will, without charge to said Assignee,
but at Assignee's expense, cooperate with Assignee in the prosecution of said application and/or
applications, execute, verify, acknowledge and deliver all such further papers, including
applications for Letters Patent and for the reissue thereof, and instruments of assignment and
transfer thereof, and will perform such other acts as Assignee lawfully may request, to obtain or
maintain Letters Patent for said invention and improvement, and to vest title thereto in said
Assignee, or Assignee's successors and assigns.

IN TESTIMONY WHEREOF, Assignor has/have signed his/her/their name(s) on the date(s)
indicated.

ASSIGNMENT

9/11 '13 Ching-Ja Chen.
Date Name: Ching-Ja CHEN (Last name: CHEN)

9/11, 2013 Hung-wen Chen
Date Name: Hung-Wen CHEN (Last name: CHEN)

9/11.13 Mei-Wei Wu
Date Name: Mei-Wei WU (Last name: WU)