PATENT ASSIGNMENT COVER SHEET

SUBMISSION TYPE: NEW ASSIGNMENT

NATURE OF CONVEYANCE: ASSIGNMENT

CONVEYING PARTY DATA

<table>
<thead>
<tr>
<th>Name</th>
<th>Execution Date</th>
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</thead>
<tbody>
<tr>
<td>CHEN-TUNG LIN</td>
<td>06/05/2004</td>
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<tr>
<td>CHIH-WEI CHANG</td>
<td>06/05/2004</td>
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<tr>
<td>CHII-MING WU</td>
<td>06/05/2004</td>
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<tr>
<td>MEI-YUN WANG</td>
<td>06/05/2004</td>
</tr>
<tr>
<td>CHIANG-MING CHUANG</td>
<td>06/21/2004</td>
</tr>
<tr>
<td>SHAU-LIN SHUE</td>
<td>06/05/2004</td>
</tr>
</tbody>
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RECEIVING PARTY DATA

Name: TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD.
Street Address: NO. 8, LI-HSIN RD. 6
Internal Address: SCIENCE-BASED INDUSTRIAL PARK
City: HSIN-CHU
State/Country: TAIWAN
Postal Code: 300-77

PROPERTY NUMBERS Total: 1

<table>
<thead>
<tr>
<th>Property Type</th>
<th>Number</th>
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<tr>
<td>Application Number</td>
<td>12861358</td>
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CORRESPONDENCE DATA

Fax Number: Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.
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ATTORNEY DOCKET NUMBER: 24061.1637
NAME OF SUBMITTER: DENISE WILSON
SIGNATURE: /Denise Wilson/
DATE SIGNED: 09/23/2014
ASSIGNMENT

WHEREAS, we,

(1) Chen-Tung Lin of Hsin-Chu City, Taiwan, R.O.C.
(2) Chih-Wei Chang of Hsin-Chu City, Taiwan, R.O.C.
(3) Chii-Ming Wu of Hsin-Chu City, Taiwan, R.O.C.
(4) Mei-Yun Wang of Hsin-Chu City, Taiwan, R.O.C.
(5) Chiang-Ming Chuang of Hsin-Chu City, Taiwan, R.O.C.
(6) Shau-Lin Shue of Hsin-Chu City, Taiwan, R.O.C.

have invented certain improvements in

METHODS OF MANUFACTURING METAL-SILICIDE FEATURES

for which we have executed an application for Letters Patent of the United States of America,

 filed on June 18, 2004 and assigned application number 10/872,343; and

WHEREAS, we authorize the attorney of record to update this document to include Patent Office information as deemed necessary (i.e., filing date, serial number, etc.);

WHEREAS, Taiwan Semiconductor Manufacturing Company, Ltd., (“TSMC”), No. 8, Li-Hsin Rd. 6, Science-Based Industrial Park Hsin-Chu, Taiwan 300-77, Republic of China, is desirous of obtaining the entire right, title, and interest in, to and under the said invention and the said application in the United States of America and in any and all countries foreign thereto;

NOW, THEREFORE, for One Dollar ($1.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and other good and valuable consideration, we have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said TSMC, its successors, legal representatives, and assigns, the entire right, title, and interest in, to and under the said invention, and the said application, and all divisional, renewal, substitutional, and continuing applications thereof, and all Letters Patent of the United States of America which may be granted thereon and all reissues and extensions thereof, and all applications for Letters Patent which may be filed for said invention in any country or countries foreign to the United States of America, and all extensions, renewals, and reissues thereof, and all prior patents and patent applications from which a filing priority of the above-described patent application may be obtained, including the right to collect past damages; and we hereby authorize and request the Commissioner of Patents of the United States of America, and any official of any country or countries foreign to the United States of America, whose duty
it is to issue patents on applications as aforesaid, to issue all Letters Patent for said TSMC, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

AND WE HEREBY further covenant and agree that we will communicate to said TSMC, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, renewal, substitutional, continuing, and reissue applications, make all rightful declarations and/or oaths and generally do everything possible to aid the said TSMC, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for said invention in all countries.

Inventor Name: Chen-Tung Lin
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Dated: 06/08/2004

Inventor Name: Chih-Wei Chang
Residence Address: 7F., No. 108, Sec. 4, Chuang-Hsin Rd., Hsin-Chu, R.O.C.
Dated: 06/05/2004

Inventor Name: Chii-Ming Wu
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Dated: 06/05/2004
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Taiwan, R.O.C.
Dated: 6/5, 2004

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Taiwan, R.O.C.
Dated: 6/1, 2004

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Residence Address: (address)
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Taiwan, R.O.C.
Dated: 6/5, 2004