

## PATENT ASSIGNMENT COVER SHEET

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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>KAI-YUAN TING</td> <td>01/07/2014</td> </tr> <tr> <td>SANDEEP KUMAR GOEL</td> <td>01/07/2014</td> </tr> <tr> <td>ASHOK MEHTA</td> <td>01/07/2014</td> </tr> </tbody> </table>		Name	Execution Date	KAI-YUAN TING	01/07/2014	SANDEEP KUMAR GOEL	01/07/2014	ASHOK MEHTA	01/07/2014		
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<table border="1"> <tr> <td>Name:</td> <td>TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD.</td> </tr> <tr> <td>Street Address:</td> <td>NO. 8, LI-HSIN RD. 6, 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 COMPANY, LTD.	Street Address:	NO. 8, LI-HSIN RD. 6, SCIENCE-BASED INDUSTRIAL PARK	City:	HSIN-CHU	State/Country:	TAIWAN	Postal Code:	300-77
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PROPERTY NUMBERS Total: 1											
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CORRESPONDENCE DATA											
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NAME OF SUBMITTER:	LINDA INGRAM										
Signature:	/Linda Ingram/										

Date:

01/10/2014

Total Attachments: 2

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## ASSIGNMENT

WHEREAS, we,

- |     |                    |    |   |
|-----|--------------------|----|---|
| (1) | Kai-Yuan Ting      | of | 3150 Balmoral Drive<br>San Jose, CA 95132, USA      |
| (2) | Sandeep Kumar Goel | of | 3420 Finnian Way, Unit 404<br>Dublin, CA 94568, USA |
| (3) | Ashok Mehta        | of | 501 Pine Wood Lane<br>Los Gatos, CA 95032, USA      |

have invented certain improvements in

### SYSTEM AND METHOD OF ADAPTIVE VOLTAGE FREQUENCY SCALING

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

\_\_\_\_\_ of even date filed herewith; and  
  X   filed on January 10, 2014, and assigned application number 14/152,607; 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 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 invention to the 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.

Docket No.: 2013-1294 / 24061.2679

Customer No.: 000042717

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: Kai-Yuan Ting

Residence Address: 3150 Balmoral Drive, San Jose, CA 95132, USA

Date: Kai-Yuan Ting 01/07/2014 Kai-Yuan Ting  
Inventor Signature

Inventor Name: Sandeep Kumar Goel

Residence Address: 3420 Finnian Way, Unit 404, Dublin, CA 94568, USA

Date: [Signature] 01/07/2014 [Signature]  
Inventor Signature

Inventor Name: Ashok Mehta

Residence Address: 501 Pine Wood Lane, Los Gatos, CA 95032, USA

Date: Jan. 7, 2014 [Signature]  
Inventor Signature