

## PATENT ASSIGNMENT

Electronic Version v1.1

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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>Chao-Chieh Li</td> <td>08/19/2013</td> </tr> <tr> <td>Shyh-An Chi</td> <td>08/23/2013</td> </tr> <tr> <td>Ruey-Bin Sheen</td> <td>08/19/2013</td> </tr> <tr> <td>Chih-Hsien Chang</td> <td>08/21/2013</td> </tr> </tbody> </table>		Name	Execution Date	Chao-Chieh Li	08/19/2013	Shyh-An Chi	08/23/2013	Ruey-Bin Sheen	08/19/2013	Chih-Hsien Chang	08/21/2013
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Shyh-An Chi	08/23/2013										
Ruey-Bin Sheen	08/19/2013										
Chih-Hsien Chang	08/21/2013										
RECEIVING PARTY DATA											
Name:	Taiwan Semiconductor Manufacturing Company Limited										
Street Address:	No. 8, Li-Hsin Road, VI										
Internal Address:	Hsinchu Science Park										
City:	Hsinchu										
State/Country:	TAIWAN										
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>14012378</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	14012378						
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CORRESPONDENCE DATA											
Fax Number:	2127557306										
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>											
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ATTORNEY DOCKET NUMBER:	181877-625021										
NAME OF SUBMITTER:	Matthew W. Johnson										
Signature:	/Matthew W. Johnson/										

Date:

08/28/2013

Total Attachments: 2

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JOINT

## ASSIGNMENT

WHEREAS, WE, CHAO CHIEH LI, SHYH-AN CHI, RUEY-BIN SHEEN and CHIH-HSIEN CHANG citizen of the Republic of China, having the mailing addresses listed as below.

CHAO CHIEH LI having a mailing address of No.3, Aly. 6, Ln. 67, Minzu Rd., East Dist., Hsinchu City 300, Taiwan residing at Hsinchu City, Taiwan;

SHYH-AN CHI having a mailing address of 4F., No.72-11, Lane 531, Sec. 1, Guangfu Rd., Hsinchu City 300, Taiwan residing at Hsinchu City, Taiwan;

RUEY-BIN SHEEN having a mailing address of 7F.-2, No.28-5, Sec. 1, Ziyou Rd., West Dist., Taichung City 403, Taiwan residing at Taichung City, Taiwan;

CHIH-HSIEN CHANG having a mailing address of 2F, 235, Yung-Jed Rd. Chung-Ho Dist., New Taipei City, Taiwan residing at New Taipei City, Taiwan,

ASSIGNORS, are the inventors of the invention in "Structures and Methods for Ring Oscillator Fabrication" for which we have executed an application for a Patent of the United States

- which is executed on  even date herewith or  [DATE]
- which is identified by Jones Day docket no. 181877-625021
- which was filed on August \_\_\_\_, 2013, Application No. \_\_\_\_\_.
- We hereby authorize and request attorney(s) at Jones Day, to insert here in parentheses (Application number \_\_\_\_\_, filed \_\_\_\_\_) the filing date and application number of said application when known.

and WHEREAS, Taiwan Semiconductor Manufacturing Company Limited, a corporation organized and existing under the laws of Republic of China, and having an office for the transaction of business at No. 8, Li-Hsin Rd. VI, Hsinchu Science Park, Hsinchu, Taiwan, ASSIGNEE, is desirous of obtaining our entire right, title and interest in, to and under the said invention and the said application:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, we, the said ASSIGNORS, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, our entire right, title and interest in, to and under the said invention, and the said United States application and all divisions, renewals and continuations thereof, and all Patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may be filed for said invention in any country or countries foreign to the United States, together with the right to file such applications and the right to claim for the same the priority rights derived from said United States application under the Patent Laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable; and all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and all right to sue for infringement including past infringement.

AND WE HEREBY authorize and request the Commissioner for Patents and any Official of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree 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 the said ASSIGNEE, its successors, legal representatives and assigns, any facts known to us respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing, reissue and foreign applications, make all rightful oaths, and generally do everything possible to aid the said ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper protection for said invention in all countries.

IN TESTIMONY WHEREOF, We hereunto set our hands and seals the day and year set opposite our respective signatures.

Date 08/19, 2013

CHAO CHIEH LI L.S.  
CHAO CHIEH LI

Date 8/23, 2013

Shyh An Chi L.S.  
SHYH-AN CHI

Date 08/19, 2013

Ruey-bin Sheen L.S.  
RUEY-BIN SHEEN

Date 2013/8/21, 2013

Chih-Hsien Chang L.S.  
CHIH-HSIEN CHANG