

PATENT ASSIGNMENT

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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>Chia-Ming HO</td> <td>07/23/2013</td> </tr> <tr> <td>Kun-Ting TSAI</td> <td>07/23/2013</td> </tr> <tr> <td>Tsung-Han WU</td> <td>07/23/2013</td> </tr> </tbody> </table>		Name	Execution Date	Chia-Ming HO	07/23/2013	Kun-Ting TSAI	07/23/2013	Tsung-Han WU	07/23/2013				
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<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>Hsinchu Science 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:	Hsinchu Science Park	City:	Hsin-Chu	State/Country:	TAIWAN	Postal Code:	300-77
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CORRESPONDENCE DATA													
<p>Fax Number: 2156894905 <i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i></p> <p>Phone: 215-979-1000 Email: jsjulianti@duanemorris.com Correspondent Name: DUANE MORRIS LLP (TSMC) IP DEPARTMENT Address Line 1: 30 SOUTH 17TH STREET Address Line 4: PHILADELPHIA, PENNSYLVANIA 19103-4196</p>													
ATTORNEY DOCKET NUMBER:	2013.0488/1085.01265												
NAME OF SUBMITTER:	Steven E. Koffs												
Signature:	/Steven E. Koffs/												

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Date:

07/31/2013

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Serial No. 13/955,313

filed July 31, 2013

ATTORNEY DOCKET NO.: 2013.0488/1085.01265**ASSIGNMENT AND AGREEMENT**

For value received, we, **Chia-Ming HO, Kun-Ting TSAI, Tsung-Han WU, Ke-Ying SU, and Hsien-Hsin Sean LEE**, hereby transfer to **Taiwan Semiconductor Manufacturing Co., Ltd.**, with its principal place of business located at No. 8, Li-Hsin Road 6, Hsinchu Science Park, Hsin-Chu 300-77, Taiwan, Republic of China, and its successors, assigns and legal representatives, the entire right, title and interest, for the United States of America, in and to certain inventions related to **MULTI-PATTERNING MASK DECOMPOSITION METHOD AND SYSTEM**, described in non-provisional patent application, and under any and all Letters Patent and any divisions, continuations, continuations-in-part, reexamination certificates, reissues, and extensions thereof, or claiming priority therefrom that may be granted in the United States for said inventions; and we also concurrently hereby sell, assign and transfer to Taiwan Semiconductor Manufacturing Co., Ltd. the entire right, title and interest in and to said inventions for all countries foreign to the United States, including all rights of priority arising from the application aforesaid, and all the rights and privileges under any and all forms of protection, including Letters Patent, that may be granted in said countries foreign to the United States for said inventions.

We authorize Taiwan Semiconductor Manufacturing Co., Ltd. to make application for such protection in its own name and maintain such protection in any and all countries foreign to the United States, and to invoke and claim for any application for patent or other form of protection for said inventions, without further authorization from us, any and all benefits, including the right of priority provided by any and all treaties, conventions, or agreements.

We hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of Taiwan Semiconductor Manufacturing Co., Ltd. to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

We request that any and all patents for said inventions be issued to Taiwan Semiconductor Manufacturing Co., Ltd. in the United States and in all countries foreign to the United States, or to such nominees as Taiwan Semiconductor Manufacturing Co., Ltd. may designate.

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We agree that, when requested, we shall, without charge to Taiwan Semiconductor Manufacturing Co., Ltd. but at its expense, sign all papers, and do all acts which may be necessary, desirable or convenient in connection with said applications, patents, or other forms of protection.

Inventor No. 1

Dated: 2013/9/23

Chia-Ming HO
Chia-Ming HO

Residence:

7F., No. 123, Lane 19, Guanxin Road, East District, Hsinchu City 300, Taiwan, R.O.C.

Inventor No. 2

Dated: 2013/7/23

Kun-Ting TSAI
Kun-Ting TSAI

Residence:

2nd Floor, No. 101, Xinzhuang Street, Hsinchu City, Taiwan, R.O.C.

Inventor No. 3

Dated: 2013/9/23

Tsung-Han WU
Tsung-Han WU

Residence:

5F.-1, No. 38-8, Lane 72, Guanghua 2nd Street, North District, Hsinchu City 300, Taiwan, R.O.C.

ATTORNEY DOCKET NO.: 2013.0488/1085.01265

Inventor No. 4

Dated: 2013.7.23

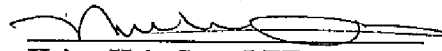

Ke-Ying SU

Residence:

16F-1., No. 16, Lane 68, Xingzhong Road, Nangang District, Taipei City 115, Taiwan,
R.O.C.

Inventor No. 5

Dated: 7/24/2013


Hsien-Hsin Sean LEE

Residence:

4675 Westchester Court, Duluth, GA 30096, United States of America