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DEPARTMENT OF COMMERCE

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	States Patent and Trademark Office								
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To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.									
1. Name of conveying party(ies)	2. Name and address of receiving party(ies)								
1) Hung-Wen SU 2) Shih-Wei CHOU	Name: Taiwan Semiconductor Manufacturing Co., Ltd.								
3) Ming-Hsing TSAI	Internal Address:								
Additional name(s) of conveying party(ies) attached?	- S								
3. Nature of conveyance/Execution Date(s):	Street Address: No. 8, Li-Hsin Rd. 6								
Execution Date(s) August 15, 2005	Science-Based Industrial Park								
Assignment Merger	Science-based industrial Lark								
Security Agreement Change of Name	City: Hsin-Chu								
☐ Joint Research Agreement	State:								
Government Interest Assignment									
Executive Order 9424, Confirmatory License	Country: Taiwan, R.O.C. Zip: 300-77								
Other	Additional name(s) & address(es) attached? Yes No								
4. Application or patent number(s):	document is being filed together with a new application.								
A. Patent Application No.(s)	B. Patent No.(s)								
05 JBALINAN 00000087 11210226									
ſ\	ached? Yes VNo								
Additional numbers att 5. Name and address to whom correspondence	ached? Yes No 6. Total number of applications and patents								
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Additional numbers att 5. Name and address to whom correspondence	6. Total number of applications and patents								
5. Name and address to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved: 1								
5. Name and address to whom correspondence concerning document should be mailed: Name: Daniel R. McClure	6. Total number of applications and patents involved: 1 7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00								
Additional numbers att 5. Name and address to whom correspondence concerning document should be mailed: Name: Daniel R. McClure Internal Address: Thomas, Kayden, Horstemeyer &	6. Total number of applications and patents involved: 1 7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00 ✓ Authorized to be charged by credit card								
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Additional numbers att 5. Name and address to whom correspondence concerning document should be mailed: Name: Daniel R. McClure Internal Address: Thomas, Kayden, Horstemeyer & Risley, LLP Street Address: 100 Galleria Parkway	6. Total number of applications and patents involved: 1 7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00 Authorized to be charged by credit card Authorized to be charged to deposit account Enclosed								
5. Name and address to whom correspondence concerning document should be mailed: Name: Daniel R. McClure Internal Address: Thomas, Kayden, Horstemeyer & Risley, LLP Street Address: 100 Galleria Parkway Suite 1750 City: Atlanta	6. Total number of applications and patents involved: _1 7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00 ✓ Authorized to be charged by credit card — Authorized to be charged to deposit account — Enclosed — None required (government interest not affecting title) 8. Payment Information a. Credit Card Last 4 Numbers 1009								
Additional numbers att 5. Name and address to whom correspondence concerning document should be mailed: Name: Daniel R. McClure Internal Address: Thomas, Kayden, Horstemeyer & Risley, LLP Street Address: 100 Galleria Parkway Suite 1750 City: Atlanta State: Georgia Zip:30339	6. Total number of applications and patents involved: 1 7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00 ✓ Authorized to be charged by credit card — Authorized to be charged to deposit account — Enclosed — None required (government interest not affecting title) 8. Payment Information								
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Documents to be recorded (including cover sheet) should be faxed to (703) 306-5995, or mailed to: Mail Stop Assignment Recordation Services, Director of the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450

Daniel R. McClure

Name of Person Signing

sheet, attachments, and documents:

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ASSIGNMENT

WHEREAS, Hung-Wen SU, Shih-Wei CHOU and Ming-Hsing TSAI 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: _	SEMICO	NDUCTOR	DEVICE	AND	METHOD	FOR	FORMING	THE	SAME		
Filed:						Seri	al No			 	
Execute	ed on: A	ugust 15,	2005							 	

WHEREAS, Taiwan Semiconductor Manufacturing Co., Ltd. of No. 8, Li-Hsin Rd. 6, Science-Based Industrial Park, Hsin-Chu, Taiwan 300-77, R.O.C. hereinafter referred to as ASSIGNEE, 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.

TSMC2004-0010/0503-A30564US

PATENT REEL: 016928 FRAME: 0430

	8/15/65/
Hung-Wen Su Hung-Wen SU	S/15/65' Date:
-/</td <td>8/15/2017</td>	8/15/2017

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

Ming Idsing Tsai

Ming-Hsing TSAI

Date:

TSMC2004-0010/0503-A30564US

RECORDED: 08/23/2005

PATENT REEL: 016928 FRAME: 0431