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U.S. DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office



103074193

8-29-05

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):

Shih-I YANG

Additional name(s) of conveying party(ies) attached?  Yes  No

2. Name and address of receiving party(ies)

Name: TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.

Internal Address:

Street Address:

No. 8, Li-Hsin Rd. 6,  
Science-Based Industrial Park

City: Hsin-Chu

State:

Country: Taiwan ROC Zip: 300-77

Additional name(s) & address(es) attached?  Yes  No

3. Nature of conveyance/Execution Date(s):

Execution Date(s): August 11, 2005

Assignment  Merger  Change of Name

Security Agreement  Joint Research Agreement

Government Interest Assignment

Executive Order 9424, Confirmatory License

Other

4. Application or patent number(s):

A. Patent Application No.(s)

NEW

This document is being filed together with a new application.

B. Patent No.(s)

Additional numbers attached?  Yes  No

5. Name and address to whom correspondence concerning document should be mailed:

Name: Joe McKinney Muncy  
BIRCH, STEWART, KOLASCH & BIRCH, LLP

Internal Address: Atty. Dkt.: 0941-1310PUS1

Street Address: 8110 Gatehouse Rd  
Suite 100 East  
P.O. Box 747

City: Falls Church

State: VA Zip: 22040-0747

Phone Number: (703) 205-8026

Fax Number: (703) 205-8050

Email Address: mailroom@bskb.com

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 \_\_\_\_\_  
Expiration Date \_\_\_\_\_

b. Deposit Account Number \_\_\_\_\_  
Authorized User Name \_\_\_\_\_

9. Signature:

Signature

August 29, 2005

Date

Joe McKinney Muncy - 32,334

Name of Person Signing

Total number of pages including cover sheet, attachments, and documents:

2

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11/212739



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08/31/2005 DTESSEM1 00000004 11212739

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**ASSIGNMENT**

WHEREAS, Shih-I YANG 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: VERTICAL FLASH MEMORY

Filed: 8/29/05

Serial No. NEW

Executed on: August 11, 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

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

*Shih-I Yang*

*2005/8/11*

Shih-I YANG

Date:

TSMC2003-0786/0503-9725US

**PATENT**

**RECORDED: 08/29/2005**

**REEL: 016940 FRAME: 0992**