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Patent and Trademark Office

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To the Honorable Commissioner of Patents and Trademarks

attached original documents or copy thereof.

1 Name of conveying party(ies):

Jeng-Yang Pan  
Chin-Te Huang  
Cheng-Yi Huang  
Sheng-Wen Chen

05/15/02

2 Name and address of receiving party(ies):

Taiwan Semiconductor Manufacturing Co. Ltd.  
No. 121 Park Avenue 3  
Science-Based Industrial Park  
Hsin-Chu, Taiwan, R.O.C.

3 Nature of conveyance:

- Assignment  Merger
- Security Agreement  Change of Name
- Other:

Execution Date: Jan. 3, 2002

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

4 Application number(s) or patent number(s):

10/146864

If this document is being filed together with a new application, the execution date of the application is: 01-03-02

A. Patent Application No(s).

B. Patent No(s)

Additional numbers attached?  Yes  No

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

RANDY W. TUNG  
Tung & Associates  
838 W. Long Lake Road  
Suite 120  
Bloomfield Hills, Michigan 48302

6 Total number of applications and patents involved:

1

7 Total fee (37 CFR 3.41)

\$40.00

- Enclosed
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8 Deposit Account Number: 50-0484

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9 Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Randy W. Tung  
Name of Person Signing  
Registration No. 31,311

Signature

May 15, 2002  
Date

Total number of pages including cover sheet, attachments, and document: 3

Mail documents to be recorded with required cover sheet information to:  
Commissioner of Patents & Trademarks, Box Assignments  
Washington, D.C. 20231

PATENT  
REEL: 012918 FRAME: 0730

JCS95 U.S. PRO  
10/146864  
05/15/02

ASSIGNMENT

WHEREAS, we, JENG-YANG PAN, CHIN-TE HUANG, CHENG-YI HUANG and SHEN-WEN CHEN, have invented certain improvements in

METHOD AND SYSTEM FOR REDUCING WAFER EDGE

TUNGSTEN RESIDUE UTILIZING A SPIN ETCH

for which we are about to make application for Letters Patent of the United States; and

WHEREAS, TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD. of No. 121, Park Avenue 3, Science-Based Industrial Park, Hsin-Chu, Taiwan, R.O.C, is desirous of acquiring the entire right, title and interest in and to said invention;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, we, JENG-YANG PAN, CHIN-TE HUANG, CHENG-YI HUANG and <sup>SHEN-WEN</sup> SHEN-WEN CHEN, by these presents, do hereby sell, assign and transfer unto the said corporation and its assigns, for the territory of the United States of America and all foreign countries, the entire right, title and interest, including all priority rights under the International Convention associated with each country of the Union, in and to said invention as described in the patent application executed by us on the 3<sup>th</sup> day of Jan, <sup>2002</sup> 2001, preparatory to obtaining Letters Patent of the United States thereon, and in and to said application and any Letters Patent that may be granted in pursuance of said application

and any divisional, continuation or continuation-in-part application thereof, and in and to any reissue of any such patent, and in and to any patent applications which may be filed on said invention in countries foreign to the United States and any Letters Patent granted thereon.

We further authorize said corporation to apply for foreign patents on said invention in its own name or through its designees, including subsidiaries, related companies or assignees, under the International Convention or otherwise, and we further agree to execute all papers, including those required for the United States and foreign applications, and to perform such other proper acts as said corporation or its designees the rights herein assigned.

Jeng-Yang Pan  
JENG-YANG PAN

Chin-Te Huang  
CHIN-TE HUANG

Cheng-Yi Huang  
CHENG-YI HUANG

Sheng-Wen Chen  
SHENG-WEN CHEN

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