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To the Honorable Commissioner of Patents

102695777

Original documents or copy thereof.

1. Name of conveying party(ies):

CHUN HSIEN LIN, AI-SEN LIU, SUNNY WU,  
YU-LIANG LIN, HENRY LO, MEI-SHENG ZHOU

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

3. Nature of conveyance

- Assignment  Merger
- Security Agreement  Change of Name
- other \_\_\_\_\_

Execution Date: 10/31/03

2. Name and address of receiving party(ies):

Name: Taiwan Semiconductor Manufacturing Company

Internal Address:

Street Address:

No. 8, Li-Hsin Rd. 6  
Science-Based Industrial Park  
Hsin-Chu, Taiwan 300-77  
Taiwan, R.O.C.

OPR/FINANCE  
MAR 11 AM 8:11

Additional name & address attached?  Yes  No

4. Application number(s) or patent number(s): 10/723,236

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

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:

Name: GEORGE O. SAILE

Internal Address: \_\_\_\_\_

Street Address: 28 DAVIS AVENUE

City: POUGHKEEPSIE State: NY ZIP: 12603

6. Total no. of applications and patents involved: 1

7. Total fee (37 CFR 3.41): \$ 40.00

Enclosed

Authorized to be charged to deposit acct.

8. Deposit account number: 19-0033

(Attach duplicate copy of this page if paying by deposit account)

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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

STEPHEN B. ACKERMAN

Name of Person Signing

Signature

3/9/04

Date

03/15/2004 EC00PER 00000138 190033 10723236

01 FC-8021 40.00 DA

For  U.S. and/or  Foreign Rights

For  Application or  U.S. Patent

By  Inventor(s) or  Present Owner

### ASSIGNMENT OF INVENTION

In consideration of the payment by ASSIGNEE to ASSIGNOR of the sum of One Dollar (\$1.00), the receipt of which is hereby acknowledged, and for other good and valuable consideration,

#### ASSIGNOR:

<b>CHUN HSIEN LIN</b> Type or print name of ASSIGNOR	<b>AI-SEN LIU</b> Type or print name of ASSIGNOR
<u>NO. 20, Kung-Fu Rd., Sec. 1,</u> Address	<u>5F-1, No. 286, Gong-Yuan Rd.,</u> Address
<u>Hsin Chu, Taiwan</u>	<u>Hsinchu, Taiwan</u>
<u>R.O.C, Republic of China</u> Nationality	<u>Republic of China, Taiwan</u> Nationality
<u>Taiwan</u>	

<b>SUNNY WU</b> Type or print name of ASSIGNOR	<b>YU-LIANG LIN</b> Type or print name of ASSIGNOR
<u>Sunny Wu</u> Address	<u>Yu-Liang Lin</u> Address
<u>6E, No. 222, Bei Ping Rd., Doulou</u> Address	<u>No. 23, Lane 590, Chun-Shin Rd. 4, Chi-Tung, Hsin-Chu.</u> Address
<u>City, Yunlin County 640, Taiwan.</u> Nationality	<u>Taiwan, R.O.C., Republic of China</u> Nationality
<u>Republic of China</u>	

#### ASSIGNEE:

**Taiwan Semiconductor Manufacturing Co.**  
**No. 6, Li-Hsin Rd. 6**  
**Science Based Industrial Park**  
**Hsin-Chu Taiwan 300-77**  
**R.O.C.**  
 Nationality

and the successors, assigns and legal representatives of the ASSIGNEE

(complete one of the following)

- the entire right, title and interest
- an undivided \_\_\_\_\_ percent (\_\_\_%) interest for the United States and its territorial possessions  
(check the following box if foreign rights are also to be assigned)
- and in all foreign countries

in and to any and all improvements which are disclosed in the invention entitled:

**An Advanced Process Control Approach For Cu Interconnect Wiring Sheet Resistance Control**

For  U.S. and/or  Foreign Rights

For  Application or  U.S. Patent

By  Inventor(s) or  Present Owner

### ASSIGNMENT OF INVENTION

In consideration of the payment by ASSIGNEE to ASSIGNOR of the sum of One Dollar (\$1.00), the receipt of which is hereby acknowledged, and for other good and valuable consideration,

#### ASSIGNOR:

HENRY LO  
Type or print name of ASSIGNOR  
Henry Lo  
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7F-6, No. 39, Chien Chung Rd. I,  
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Nationality  
Republic of China

MEI-SHENG ZHOU  
Type or print name of ASSIGNOR  
36 Verde Crescent  
Address  
Singapore 68839/Singapore  
Singapore  
Nationality

#### ASSIGNEE:

**Taiwan Semiconductor Manufacturing Co. Ltd**  
**No. 6, Li-Hsin Rd. 6**  
**Science-Based Industrial Park**  
**Hsin-Chu, Taiwan 300-77**  
**Taiwan, R.O.C.**  
Nationality

and the successors, assigns and legal representatives of the ASSIGNEE

(complete one of the following)

- the entire right, title and interest  
 an undivided \_\_\_\_\_ percent (\_\_\_%) interest for the United States and its territorial possessions  
(check the following box if foreign rights are also to be assigned)  
 and in all foreign countries

in and to any and all improvements which are disclosed in the invention entitled:

**An Advanced Process Control Approach For Cu Interconnect Wiring Sheet Resistance Control**

and which is found in

- (a)  U.S. patent application executed on even date herewith
- (b)  U.S. patent application executed on \_\_\_\_\_
- (c)  U.S. application serial no. 10/723,236 filed on 11/26/03
- (d)  U.S. patent no. \_\_\_\_\_ issued \_\_\_\_\_  
*(also check (e) if foreign application(s) is also being assigned)*
- (e)  and any legal equivalent thereof in a foreign country, including the right to claim priority

and, in and to, all Letters Patent to be obtained for said invention by the above application or any continuation, division, renewal, or substitute, thereof, and as to letters patent any re-issue or re-examination thereof.

ASSIGNOR hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

ASSIGNOR further covenants that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to ASSIGNOR and will testify as to the same in any interference, litigation or proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.

IN WITNESS WHEREOF, I / We have signed this

Chen Hsion Lin 10/31/2003 (Date of signing)

WARNING Date of signing must be the same as the date of execution of the application if item (a) was checked above.

Chen Hsion Lin  
Signature of ASSIGNOR(S)

Sunny Wu.

Yu-Liang Lin

If ASSIGNOR is a legal entity complete the following information

\_\_\_\_\_  
Type or print the name of the above person authorized to sign on behalf of ASSIGNOR

\_\_\_\_\_  
Title

Note: No witnessing, notarization or legalization is necessary, if the assignment is notarized or legalized then it will only be prima facie evidence (35 USC 261). Use next page if notarization is desired.

\_\_\_\_\_  
Notarization of Legalization Page Added.

and which is found in

- (a)  U.S. patent application executed on even date herewith
- (b)  U.S. patent application executed on \_\_\_\_\_
- (c)  U.S. application serial no. 10/723236 filed on 11/26/03
- (d)  U.S. patent no. \_\_\_\_\_ issued \_\_\_\_\_  
(also check (e) if foreign application(s) is also being assigned)
- (e)  and any legal equivalent thereof in a foreign country, including the right to claim priority

and, in and to, all Letters Patent to be obtained for said invention by the above application or any continuation, division, renewal, or substitute, thereof, and as to letters patent any re-issue or re-examination thereof.

ASSIGNOR hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

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IN WITNESS WHEREOF, I / We have signed this

Chun Hsin Lin 10/31/03 (Date of signing)

WARNING Date of signing must be the same as the date of execution of the application if Item (a) was checked above.

Henry Lo  
 Signature of ASSIGNOR(S)  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

If ASSIGNOR is a legal entity complete the following information

\_\_\_\_\_  
Type or print the name of the above person authorized to sign on behalf of ASSIGNOR

\_\_\_\_\_  
Title

Note: No witnessing, notarization or legalization is necessary, if the assignment is notarized or legalized then it will only be prima facie evidence (35 USC 261). Use next page if notarization is desired.

\_\_\_\_\_  
Notarization or Legalization Page Added.