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To the Honorable Commissioner of Patent

original documents or copy thereof.

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CHUNG-SHI LIU AND CHEN-HUA YU

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

3. Nature of conveyance

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

Execution Date: 12/15/98

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

Name: Taiwan Semiconductor Manufacturing Company

Internal Address:

Street Address:

121 Park Ave. 3  
Science-Based Industrial Park  
City: Hsin-Chu Zip:  
Country: Taiwan, R.O.C.

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

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

If this document is being filed together with a new application, the execution date of the application is: 12/15/98A. 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

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Street Address: 20 MCINTOSH DRIVECity: POUGHKEEPSIE State: NY ZIP: 126036. Total no. of applications and patents involved: 17. Total fee (37 CFR 3.41): \$ 40.00 ✓☐ Enclosed☒ Authorized to be charged to deposit acct. ✓8. Deposit account number: 19-0033 ✓

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December 31, 1998

Date

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PATENT  
REEL: 9698 FRAME: 0649

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For ☒ Application or ☐ U.S. Patent

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### 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:

Chung-Shi Lin  
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#### ASSIGNEE:

**Taiwan Semiconductor Manufacturing Co. Ltd.**  
**121 Park Ave. 3**  
**Science-Based Industrial Park**  
**Hsin-Chu, Taiwan, R.O.C.**  
**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:

**Method Of Increasing The Stability Of A Copper To Copper Interconnection Process And Structure Manufactured Thereby**

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. \_\_\_\_\_ filed on \_\_\_\_\_  
(d) ☐ U.S. patent no. \_\_\_\_\_ issued \_\_\_\_\_  
(e) ☐ and any legal equivalent thereof in a foreign country, including the right to claim priority

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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.

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IN WITNESS WHEREOF, I / We have signed this

12/15/98 (Date of signing)

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Chung Shi Lin  
Signature of ASSIGNOR(S)  
[Signature]

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.