

04-05-2004

U.S. DEPARTMENT OF COMMERCE
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To the Honorable Commissioner of Patent

102711947

Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

- (1) Pai-cheng HUANG
-
- (2) Ming-Feng OU

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

2. Name and address of receiving party(ies)

Name: Taiwan Semiconductor Manufacturing Co., Ltd.

Street Address: No. 8, Li-Hsin Rd. 6,
Science-Based Industrial Park
Hsin-Chu, Taiwan 300-77,
R.O.C.Additional name(s) & address(es) attached? ☐ Yes ☒ No

3. Nature of conveyance:

- ☒
- Assignment
- ☐
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-
- ☐
- Security Agreement
- ☐
- Change of Name
-
- ☐
- Other:

Execution Date: December 12, 2003

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

10/811358

If this document is being filed together with a new application, the execution date of the application is:
December 12, 2003

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:

Daniel R. McClure
Thomas, Kayden, Horstemeyer & Risley, L.L.P.
100 Galleria Parkway, Suite 1750
Atlanta, Georgia 30339-5948

6. Total number of applications/patents involved: [1]

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

- ☐
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- Authorization to charge credit card (attached)

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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.

Daniel R. McClure

Typed Name



Signature

3-26-04

Date

Docket #: 252011-2060

Total number of pages including cover sheet, attachments, and document: [2]

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40.00 DP

PATENT
REEL: 015163 FRAME: 0510

ASSIGNMENT

WHEREAS, Pai-Cheng HUANG and Ming-Feng OU
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: METHOD AND APPARATUS FOR SELECTING TOOLS IN MANUFACTURING
SCHEDULING

Filed: _____ Serial No. _____
Executed on: December 12, 2003

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.

Pai-Cheng Huang
Pai-Cheng HUANG

2003.12.12
Date:

Ming-Feng Ou
Ming-Feng OU

2003.12.12.
Date:

TSMC2003-1000/0503-A30091US

DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY

As the below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I/We believe I/we are the original and first, and sole/joint inventor(s) of the subject matter which is claimed and for which a patent is sought on the invention entitled **METHOD AND APPARATUS FOR SELECTING TOOLS IN MANUFACTURING SCHEDULING**, the specification of which:

- ☒ is attached hereto.
☐ was filed on _____ as Application Serial No. _____.
☐ was filed on _____ under U.S. Express Mail No. _____.
☐ is set forth in PCT International Application No. _____;
filed on _____ and as amended Under PCT Article 19 on _____ (if any).

I/We hereby state that I/We have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I/We acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I/We hereby claim foreign priority benefits under Title 35, United States Code, 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or 365(a) of any PCT international application which designated at least one country other than the United States of America listed below and have also identified below any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT international application having a filing date before that of the application on which priority is claimed:

PRIOR FOREIGN APPLICATIONS: (ENTER BELOW IF APPLICABLE)			PRIORITY CLAIMED (MARK APPROPRIATE BOX BELOW)	
APP. NUMBER	COUNTRY	DAY/MONTH/YEAR FILED	YES	NO

I/We hereby appoint all attorneys of Thomas, Kayden, Horstemeyer & Risley, LLP, who are listed under the USPTO Customer Number shown below as my/our attorneys to prosecute this application and to transact all business in the United States Patent and Trademark Office connected therewith, recognizing that the specific attorneys listed under that Customer Number may be changed from time to time at the sole discretion of Thomas, Kayden, Horstemeyer & Risley, LLP, and request that all correspondence be addressed to the address filed under the same USPTO Customer Number.

24504

Please address all telephone calls, in the first instance, to **Daniel R. McClure**, at telephone number: **(770) 933-9500**.

TSMC2003-1000/0503-A30091US

Address all correspondence to:

Daniel R. McClure, Reg. No. 38,962

THOMAS, KAYDEN, HORSTEMEYER
& RISLEY, L.L.P.
100 Galleria Parkway, N.W., Suite 1750
Atlanta, Georgia 30339-5948

I/We hereby declare that all statements made herein of my/our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statement and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Inventor's Signature: Pai-Cheng Huang Date: 2003.12.12

Full Name of First or Sole Inventor: Pai-Cheng HUANG (Last name: HUANG)
Residence: 1F., NO. 4, Lane 34, Wuyi St., Lingya District, Kaohsiung City 802, Taiwan (R.O.C.)
Citizenship: Taiwan, R.O.C.
Post Office Address: Same

Inventor's Signature: Ming-Feng Ou Date: 2003.12.12.

Full Name of Second or Sole Inventor: Ming-Feng OU (Last name: OU)
Residence: No. 56, Lane 145, Bau-Shan Rd., Lin 2, Chien-Hua Li, E. District, Hsinchu, Taiwan, R.O.C.
Citizenship: Taiwan, R.O.C.
Post Office Address: Same

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RECORDED: 03/26/2004

PATENT
REEL: 015163 FRAME: 0513