PARTMENT OF COMMERCE Patent and Trademark Office
<u> </u>
: Please record the attached original documents or copy thereof.
Name and address of receiving party(ies) Name: Taiwan Semiconductor Manufacturing Co., Ltd Internal Address:
Street Address: No. 8, Li-Hsin Road 6,
Science Based Industrial Park
City: Hsin-Chu State: Zip: Country: Taiwan 300-77, R.O.C. Additional name(s) & address(es) attached? Yes No
/ 0733855 lication, the execution date of the application is:12/03/2003
B. Patent No.(s)
tached? Yes No
6. Total number of applications and patents involved:
7. Total fee (37 CFR 3.41)\$\frac{40.00}{}
Enclosed
Authorized to be charged to deposit account
8. Deposit account number:
THIS SPACE
Signature December 11 2003 Date

02 FC:**8021**

PATENT REEL: 014795 FRAME: 0114 EXPRESS MAIL LABEL NO. EV 306256909 US

ATTORNEY DOCKET NO.: N1085-00140 [TSMC2002-1188]

ASSIGNMENT AND AGREEMENT

For value received, I. Hsien-Pi Chuang, hereby sell, assign and transfer to Taiwan Semiconductor Manufacturing Co., Ltd., with its principal place of business located at No. 8, Li-Hsin Road 6, Science-Based Industrial Park, Hsin-Chu, Taiwan 300-77, Republic of China, and its successors, assigns and legal representatives, the entire right, title and interest, for the United States of America, in and to certain inventions related to METHOD AND DATABASE STRUCTURE FOR MANAGING TECHNOLOGY FILES FOR SEMICONDUCTOR MANUFACTURING OPERATIONS described in an application for Letters Patent of the United States and all the rights and privileges in said application and under any and all Letters Patent and any divisions, continuations, continuations-in-part, reexamination certificates, reissues, and extensions thereof that may be granted in the United States for said inventions; and I also concurrently hereby sell, assign and transfer to Taiwan Semiconductor Manufacturing Co., Ltd. the entire right, title and interest in and to said inventions for all countries foreign to the United States, including all rights of priority arising from the application aforesaid, and all the rights and privileges under any and all forms of protection, including Letters Patent, that may be granted in said countries foreign to the United States for said inventions.

I authorize Taiwan Semiconductor Manufacturing Co., Ltd. to make application for such protection in its own name and maintain such protection in any and all countries foreign to the United States, and to invoke and claim for any application for patent or other form of protection for said inventions, without further authorization from me, any and all benefits, including the right of priority provided by any and all treaties, conventions, or agreements.

I hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of Taiwan Semiconductor Manufacturing Co., Ltd. to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

I request that any and all patents for said inventions be issued to Taiwan Semiconductor Manufacturing Co., Ltd. in the United States and in all countries foreign to the United States, or to such nominees as Taiwan Semiconductor Manufacturing Co., Ltd. may designate.

PH1\1141125.1 1

ысы Р**АТЕ**МТ®02-эес-60 REEL: 014795 FRAME: 0115 EXPRESS MAIL LABEL NO. EV 306256909 US

ATTORNEY DOCKET NO.: N1085-00140

[TSMC2002-I188]

I agree that, when requested, I shall, without charge to Taiwan Semiconductor Manufacturing Co., Ltd. but at its expense, sign all papers, and do all acts which may be necessary, desirable or convenient in connection with said applications, patents, or other forms of protection.

Inventor No. 1

Dated: 17 3 759

Hsien-Pi Chuang

Residence:

Hisinchy, Taiwan, R.O.C.

PHI\1141125.1 2

20'd 02016265121200 01
RECORDED: 12/11/2003