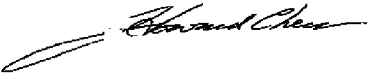


Form PTO-1595 (Rev. 10/02) OMB No. 0651-0027 (exp. 6.30.2005)	RECORDATION FORM COVER SHEET PATENTS ONLY	U.S. DEPARTMENT OF COMMERCE U.S. Patent and Trademark Office
To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.		
1. Name of conveying party(ies): Chien-Chao Huang and Fu-Liang Yang Additional name(s) of conveying party(ies) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2. 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: Taiwan Zip: 300-77 Additional name(s) & address(es) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
3. Nature of conveyance: <input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger <input type="checkbox"/> Security Agreement <input type="checkbox"/> Change of Name <input type="checkbox"/> Other _____ Execution Date: April 29, 2008		
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: February 22, 2008 <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> A. Patent Application No.(s) 12/036,063 </div> <div style="width: 45%;"> B. Patent No.(s) _____ </div> </div> <div style="text-align: center; margin-top: 10px;"> Additional numbers attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </div>		
5. Name and address of party to whom correspondence concerning document should be mailed: Name: Howard Chen, Esq. Internal Address: _____ _____ _____ Street Address: Kirkpatrick & Lockhart Preston Gates Ellis LLP 55 Second Street, Suite 1700 City: San Francisco State: CA Zip: 94105	6. Total number of applications and patents involved: 1 7. Total fee (37 CFR 3.41)\$ 40.00 <div style="text-align: center; margin: 10px 0;"> Enclosed X Authorized to be charged to deposit account </div> 8. Deposit account number: 50-3414	
DO NOT USE THIS SPACE		
9. Signature: <div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="width: 60%;"> Howard Chen, Esq. Reg. No. 46,615 Name of Person Signing </div> <div style="width: 35%; text-align: center;">  Signature </div> <div style="width: 5%; text-align: center;"> 5/13/2008 Date </div> </div> <div style="text-align: center; margin-top: 20px;"> Total number of pages including cover sheet, attachments, and documents: </div>		

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

CH \$40.00 503414 12036063

Patent Attorney Docket No.: TSMC2004-1075 DIV

Attorney Reference No.: 52604-00309

ASSIGNMENT AND AGREEMENT

For value received, I/we **Chia-Chao Huang** and **Fu-Liang Yang**, hereby equally 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 their successors, assigns and legal representatives, the entire right, title and interest, for the United States of America, in and to certain inventions related to A **PROGRAMMING OPTICAL DEVICE** described in U.S. Application Number **12/036,063** for Letters Patent of the United States filed on **February 22, 2008** 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/we 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/We 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 make and claim for any application for patent or other form of protection for said inventions without further authorization from me/us, any and all benefits, including the right of priority provided by any and all treaties, conventions, or agreements.

I/We 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/We 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.

Patent Attorney Docket No.: TSMC2004-1075 DIV

Attorney Reference No.: 52604-00309

I/We agree that, when requested, I/we 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: Apr. 29, 2008

Chien-Chao Huang
Chien-Chao Huang

Mailing and Residence: 6F-1, No. 32, St. Ti-Yu, Hsin-Chu City, 300 Taiwan

Citizenship: Taiwan

Inventor No. 2:

Dated: Apr. 29, 2008

Fu-Liang Yang
Fu-Liang Yang

Mailing and Residence: 7F-1, No. 68, University Road, Hsin-Chu City, 300 Taiwan

Citizenship: Taiwan

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