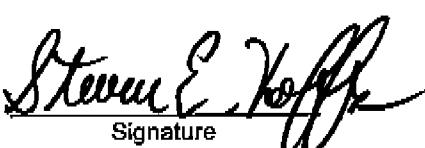


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Form PTO-1595 (Rev. 10/02) OMB No. 0651-0027 (exp. 6/30/2005) Tab settings ⇨ ⇨ ⇨ ▼ ▼ ▼ ▼ ▼ ▼ ▼		RECORDATION FORM COVER SHEET PATENTS ONLY		U.S. DEPARTMENT OF COMMERCE U.S. Patent and Trademark Office	
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Additional name(s) of conveying party(ies) 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: 02/25/2005					
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: _____ A. Patent Application No.(s) 11/069,146 B. Patent No.(s) _____ _____ Additional numbers attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
5. Name and address of party to whom correspondence concerning document should be mailed: Name: Steven E. Koffs Internal Address: _____ _____ _____ Street Address: Duane Morris LLP One Liberty Place City: Philadelphia State: PA Zip: 19103-7396			6. Total number of applications and patents involved: 1 7. Total fee (37 CFR 3.41).....\$ 40.00 <input type="checkbox"/> Enclosed <input checked="" type="checkbox"/> Authorized to be charged to deposit account 8. Deposit account number: 04-1679		
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9. Signature. <div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div> Steven E. Koffs Name of Person Signing </div> <div style="text-align: center;">  Signature </div> <div> August 29, 2005 Date </div> </div> <div style="text-align: right; margin-top: 10px;"> Total number of pages including cover sheet, attachments, and documents: 6 </div>					

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To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

Chih-Chiang Chang

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

3. Nature of conveyance:



Assignment



Merger



Security Agreement



Change of Name



Other

Execution Date: 02/25/2005

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:

Zip:

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: 02/25/2005

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: William H. Murray

Internal Address:

Street Address: Duane Morris LLP

One Liberty Place

City: Philadelphia State: PA Zip: 19103-7396

6. Total number of applications and patents involved: 1

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



Enclosed



Authorized to be charged to deposit account

8. Deposit account number:

04-1679

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9. Signature.

Steven E. Koffs

Signature

March 1, 2005

Date

03/10/2005

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PATENT

REEL: 016673 FRAME: 0782

Serial No. 11/069,146 Filed 03/01/2005

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ATTORNEY DOCKET NO. 2004.0564/1280-01330

ASSIGNMENT AND AGREEMENT

For value received, I/we, **Chih Chiang Chang**, 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 **NEGATIVE FEEDBACK SYSTEM WITH AN ERROR COMPENSATION SCHEME** 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/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 invoke 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.

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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:

2/25/2005

Chih-Chiang Chang
CHIH-CHIANG CHANG

CHIH-CHIANG CHANG

Residence: 5F.-1, No.18, Lane 77, Sec.4, Xinhai Rd., Wenshan District, Taipei City 116, Taiwan(R.O.C.)

Citizenship: Taiwan