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(Rev. 10/02) OMB No. 0651-0027 (exp. 6.30.2005)	U.S. Patent and Trademark Office
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To the Honorable Commissioner of Patents and Trademarks: P 1. Name of conveying party(ies):	lease record the attached original documents or copy thereof. 2. Name and address of receiving party(ies)
Lee Cheng Hung	Name: Taiwan Semiconductor Manufacturing Co., Ltd.
Additional name(s) of conveying party(ies) attached? ☐ Yes ☒No	Internal Address:
3. Nature of conveyance:	
Assignment □ Merger	<u></u>
☐ Security Agreement ☐ Change of Name	Street Address: No. 8, Li-Hsin Road 6
□ Other	Science Based Industrial Park
Execution Date:	City: Hsin-Chu State: Taiwan Zip: 300-77 Additional name(s) & address(es) attached?
	☐ Yes ☒ No
A. Patent Application No.(s) B. Patent No.(s) ———————————————————————————————————	
Name and address of party to whom correspondence concerning document should be mailed:	Total number of applications and patents involved: 1
Name: Howard Chen, Esq.	7. Total fee (37 CFR 3.41)\$ 40.00
Internal Address:	
	⊠ Enclosed
	☐ Authorized to be charged to deposit account
Street Address: Preston Gates & Ellis LLP	
55 Second Street, Suite 1700	O. Danasit annum turum barr
City: San Francisco State: CA Zip: 94105	8. Deposit account number:
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9. Signature: Ting-Mao Chao 11/17/05	
Name of Person Signing Signature Date	
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PATENT

REEL: 017234 FRAME: 0630

PATENT ATTY DOCKET NO.: TSMC2005-0161

Express Mail Label: EV 689735214 US Attorney Reference: 52604-00079

ASSIGNMENT AND AGREEMENT

For value received, I/we Lee Cheng Hung, 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 LATCH		
TYPE SENSE AMPLIFIER described in an application for Letters Patent of the United		
States filed on November 17, 2005 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.		
44 WHITE TO THE TOTAL TO THE TO		

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.

Assignment and Agreement - Page 1

PATENT REEL: 017234 FRAME: 0631 Express Mail Label: EV 689735214 US

PATENT ATTY DOCKET NO.: TSMC2005-0161

Attorney Reference: 52604-00079

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.

- chang Hung
leng Hung
chu county, Taiman, ROC

Citizenship: Taiwan (ROC)

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RECORDED: 11/17/2005