PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SHAOJIE XU	03/08/2013
YUKIT TANG	03/08/2013
PAO-PO HOU	03/08/2013
DEREK C. TAO	03/08/2013
ANNIE-LI-KEOW LUM	03/08/2013

RECEIVING PARTY DATA

Name:	TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD.
Street Address:	NO. 8, LI-HSIN RD. VI, HSINCHU SCIENCE PARK
City:	HSINCHU
State/Country:	TAIWAN
Postal Code:	300

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14567383

CORRESPONDENCE DATA

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NAME OF SUBMITTER:	RANDY A. NORANBROCK		
SIGNATURE:	/Randy A. Noranbrock/		
DATE SIGNED:	12/11/2014		

Total Attachments: 1

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PATENT REEL: 034480 FRAME: 0948

Docket No. T5057-856 TSMC2012-1343

ASSIGNMENT

In consideration of the premises and other good and valuable consideration in hand paid, the receipt and sufficiency of which is hereby acknowledged, the undersigned,

Shaojie XU

4) Derek C. TAO

2) Yukit TANG

5) Annie-Li-Keow LUM

3) Pao-Po HOU

who has made a certain new and useful invention, hereby sells, assigns and transfers unto TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD., having a place of business at No. 8, Li-Hsin Rd. VI, Hsinchu Science Park, Hsinchu 300, Taiwan R.O.C.

its successors and assigns (hereinafter designated "ASSIGNEE") the entire right, title and interest for the United States of America as defined in 35 U.S.C. 100 in the invention entitled

SEMICONDUCTOR CIRCUIT DESIGN METHOD, MEMORY COMPILER AND COMPUTER

PROGR/	MM. PRO	ODUCT	
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- (a) for which an application for United States Letters Patent was filed on March 13, 2013, and identified by United States Patent Application No. 13/800,751; or
- (b) for which an application for United States Letters Patent was executed on _____

and the undersigned hereby authorizes and requests the United States Commissioner of Patents and Trademarks to issue any and all United States Letters Patent which may be granted therefore and any and all extensions, divisions, reissues, continuations, or continuations-in-part thereof, and the right to all benefits under the International Convention for the Protection of Industrial Property to the said ASSIGNEE, for its interest as ASSIGNEE, its successors, assigns and legal representatives; the undersigned agrees that the attorneys of record in said application shall hereafter act on behalf of said ASSIGNEE;

AND the undersigned hereby agrees to transfer a like interest, and to render all necessary assistance in making application for and obtaining original, divisional, reissued or extended Letters Patent of the United States, upon request of the said ASSIGNEE, its successors, assigns and legal representatives, and without further remuneration, in and to any improvements, and applications for patent based thereon, growing out of or related to the said invention; and to execute any papers by the said ASSIGNEE, its successors, assigns and legal representatives, deemed essential to ASSIGNEE's full protection and title in and to the invention hereby transferred.

SIGNED on the date indicated aside my signature:

Name: Shaojie XU

2) _______ Value: Yyıkit/ΓΑΝG

Name: Pao-Po-HOU

Name: Derek C. TAO

Name: Annie-Li-Keow LUM

3/8/20/3 Date:

3/8/2013

Date:

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Date:

Date:

3/8/2013

Date:

PATENT REEL: 034480 FRAME: 0949

RECORDED: 12/11/2014