PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE: NEW ASSIGNMENT

NATURE OF CONVEYANCE: ASSIGNMENT

EPAS ID: PAT4021246

CONVEYING PARTY DATA

Name	Execution Date
HARRY-HAK-LAY CHUANG	12/16/2014
CHANG-MING WU	12/16/2014
SHIH-CHANG LIU	12/16/2014

RECEIVING PARTY DATA

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PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15245539

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NAME OF SUBMITTER:	MATTHEW W. GLAUSE
SIGNATURE:	/Matthew W. Glause/
DATE SIGNED:	08/24/2016

Total Attachments: 5

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PATENT 503974590 REEL: 039523 FRAME: 0231

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PATENT ASSIGNMENT

PARTIES TO THE ASSIGNMENT

Assignor(s):

Harry-Hak-Lay Chuang 51 Paya Lebar Crescent Singapore 536191 Singapore

Assignor(s):

Chang-Ming Wu No. 16, 327 Ave., Yuan Sun Rd. Chun Ho Div. New Taipei City Taiwan (R.O.C.)

Assignor(s):

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Assignee:

Taiwan Semiconductor Manufacturing Co., Ltd. No. 8, Li-Hsin Rd. 6, Hsin-Chu Science Park Hsin-Chu, Taiwan 300-77 Republic of China

AGREEMENT

WHEREAS, ASSIGNOR(S) (listed above) are inventor(s) of an invention entitled

"A METHOD FOR FORMING A SPLIT-GATE FLASH MEMORY CELL DEVICE WITH A LOW POWER LOGIC DEVICE" for which:

a r	non-provisional	application	for	United	States	Letters	Patent:
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\boxtimes	was executed on even date preparatory to filing (each inventor should sign this
	Assignment on the same day as he/she signs the Declaration); or
	was filed on and accorded U.S. Serial No; or

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Attachment 15a

I hereby author	ize and	request r	ny attorne	y associate	d with	Customer	No.
<u>107476</u> , to inser	t on the	designate	d lines bel	ow the filin	g date	and applic	ation
number of said application when known:							
U.S. Serial No.			-	_1			•
filed on			······································	_'			•

WHEREAS, ASSIGNEE (listed above), a corporation of the Republic of China is desirous of acquiring the entire right, title and interest in and to the invention and in and to the any letters patent that may be granted therefore in the United States and in any and all foreign countries;

NOW, THEREFORE, in exchange for good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR(S) hereby sell, assign and transfer unto ASSIGNEE its successors and assigns, the entire right, title and interest in and to said invention and improvements, said application and any and all letters patent which may be granted for said invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all divisions, reissues, re-examinations and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said United States application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said invention, application and all letters patent on said invention to be held and enjoyed by ASSIGNEE and its successors and assigns for their use and benefit and of their successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR(S) had this assignment, transfer and sale not been made. ASSIGNOR(S) hereby authorize and request the Commissioner of Patents and Trademarks to issue all letters patent on said invention to ASSIGNEE. ASSIGNOR(S) agree to execute all instruments and documents required for the making and prosecution of applications for

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TSMC Docket No. P20141165US00 Docket No. TSMCP507US

United States and foreign letters patent on said invention, for litigation regarding said letters patent, or for the purpose of protecting title to said invention or letters patent therefore.

1/2/16/2014 Date

Name 1st Inventor Harry-Hak-Lay Chuang

TSMC Docket No. P20141165US00 Docket No. TSMCP507US

V. 2014. 12.16

Date

Name 2nd Inventor Chang-Ming Wu

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2014.12.16 Date

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