505169631 10/31/2018

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
MOHAMMAD AL-SHYOUKH	07/28/2014
ALEX KALNITSKY	07/30/2014

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:	16177001

CORRESPONDENCE DATA

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using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

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NAME OF SUBMITTER: RANDY A. NORANBROCK		
SIGNATURE:	/Randy A. Noranbrock/	
DATE SIGNED:	10/31/2018	

Total Attachments: 1

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PATENT 505169631 REEL: 047374 FRAME: 0065

Docket No. T5057-999A TSMC2013-1768-CIP

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,

- 1) Mohammad AL-SHYOUKH
- Alex KALNITSKY

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.

	essors and assigns (hereinafter designated "ASSIGNEE") the enti- ed in 35 U.S.C. 100 in the invention entitled	e right, title and interest for the United States of America			
FLIP	FLIPPED GATE VOLTAGE REFERENCE HAVING BOXING REGION AND METHOD OF				
USIN	G				
(a)	for which an application for United States Letters Patent was file United States Patent Application No. <u>14/451,920</u>	d on 2014-08-05 and identified by ; or			
(b)	for which an application for United States Letters Patent was executed on,				
all Units continue Property agrees if applicate ASSIGN applicate ASSIGN	undersigned hereby authorizes and requests the United States Co ed States Letters Patent which may be granted therefore and any ations-in-part thereof, and the right to all benefits under the fraction to the said ASSIGNEE, for its interest as ASSIGNEE, its successant the attorneys of record in said application shall hereafter act or AND the undersigned hereby agrees to transfer a like inter- tion for and obtaining original, divisional, reissued or extended Le IEE, its successors, assigns and legal representatives, and without ons for patent based thereon, growing out of or related to the IEE, its successors, assigns and legal representatives, deemed escapion hereby transferred.	and all extensions, divisions, reissues, continuations, or iternational Convention for the Protection of Industrial asors, assigns and legal representatives; the undersigned behalf of said ASSIGNEE; est, and to render all necessary assistance in making iters Patent of the United States, upon request of the said it further remuneration, in and to any improvements, and said invention; and to execute any papers by the said			
1)	on the date indicated aside my signature: Mymna Al-Shya Mohammad Al-SHYOUKH	Tuly 28, 2014 Date: Tuly 30, 2014			
Name:	Alex KALNITSKY	Date:			

PATENT REEL: 047374 FRAME: 0066

RECORDED: 10/31/2018