504684026 12/12/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4730748

SUBMISSION TYPE:	BMISSION TYPE: NEW ASSIGNMENT					
NATURE OF CONVEYANCE:		ASSIGNMENT	ASSIGNMENT			
CONVEYING PARTY DA	ATA					
		Name		Execution Date		
HSIEN-HUANG LIAO				10/26/2017		
TUNG-HENG HSIEH				10/26/2017		
BAO-RU YOUNG			10/26/2017			
YUNG FENG CHANG				10/26/2017		
RECEIVING PARTY DA	ТА					
Name:	TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.					
Street Address:	8, LI-H	SIN RD. 6				
Internal Address:	HSINC	HSINCHU SCIENCE PARK				
City:	HSINCHU					
State/Country:	TAIWAN					
Postal Code:	300-78	}				
PROPERTY NUMBERS	Total: 1	l				
Property Type		Number				
Application Number: 1568		15689472]		
CORRESPONDENCE DATA Fax Number: (214)		(214)200-0853				
	e sent t	o the e-mail address first; if th	at is un	successful. it will be sent		
		d; if that is unsuccessful, it wi				
		2146515000				
Email:	ipdocketing@haynesboone.con					
Correspondent Name:				N		
Address Line 1:	2323 VICTORY AVENUE					
Address Line 2:	SUITE 700					
Address Line 4:		DALLAS, TEXAS 75219				
	IMBER:	· · · · · · · · · · · · · · · · · · ·	S01			
Address Line 4:	IMBER:	· · · · · · · · · · · · · · · · · · ·	S01			
Address Line 4: ATTORNEY DOCKET NU	IMBER:	2017-0236/24061.3556U	S01			
Address Line 4: ATTORNEY DOCKET NU NAME OF SUBMITTER: BIGNATURE:	IMBER:	2017-0236/24061.3556U BRIAN D. GRAHAM	S01			
Address Line 4: ATTORNEY DOCKET NU NAME OF SUBMITTER:	IMBER:	2017-0236/24061.3556U BRIAN D. GRAHAM /Brian D. Graham/	S01			

source=3556US01 - Assignment#page1.tif source=3556US01 - Assignment#page2.tif

ASSIGNMENT

WHEREAS, we,

httaw 17/10/25 15:58:40

(1)	Hsien-Huang Liao	of	Hsinchu City, Taiwan (R.O.C.)
(2)	Tung-Heng Hsieh	of	Hsinchu County, Taiwan (R.O.C.)
(3)	Bao-Ru Young	of	Hsinchu County, Taiwan (R.O.C.)
(4)	Yung Feng Chang	of	Hsinchu City, Taiwan (R.O.C.)

have invented certain improvements in

INTEGRATED CIRCUIT LAYOUTS WITH LINE-END EXTENSIONS

for which we have executed an application for Letters Patent of the United States of America,

of even date filed herewith; and

filed on 08-29-2017 and assigned application number 15/689,472; and

WHEREAS, we authorize the attorney of record to update this document to include Patent Office information as deemed necessary (i.e., filing date, serial number, etc.);

WHEREAS, Taiwan Semiconductor Manufacturing Co., Ltd., ("TSMC"), 8, Li-Hsin Rd. 6, Hsinchu Science Park, Hsinchu, Taiwan 300-78, Republic of China. is desirous of obtaining the entire right, title, and interest in, to and under the said invention and the said application in the United States of America and in any and all countries foreign thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and other good and valuable consideration, we have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said TSMC, its successors, legal representatives, and assigns, the entire right, title, and interest in, to and under the said invention, and the said application, and all divisional, renewal, substitutional, and continuing applications thereof, and all Letters Patent of the United States of America which may be granted thereon and all reissues and extensions thereof, and all applications for Letters Patent which may be filed for said invention in any country or countries foreign to the United States of America, and all extensions, renewals, and reissues thereof, and all prior patents and patent applications from which a filing priority of the above-described patent application may be obtained, including the right to collect past damages; and we hereby authorize and request the Commissioner of Patents of the United States of America, and any official of any country or countries foreign to the United States of America, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said invention to the said TSMC, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith.

AND WE HEREBY further covenant and agree that we will communicate to said TSMC, its successors, legal representatives and assigns, any facts known to us respecting said invention, and

PATENT REEL: 044373 FRAME: 0627

Docket No.: P20170236US00/24061.3556US01 Customer No.: 000042717

testify in any legal proceedings, sign all lawful papers, execute all divisional, renewal, substitutional, continuing, and reissue applications, make all rightful declarations and/or oaths and generally do everything possible to aid the said TSMC, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for said invention in all countries.

Inventor Name:	Hsien-Huang Liao		
Residence Address:	2F3, No. 419-2, Sec. 2, Gongdao 5th Rd., East District Hsinchu City 300, Taiwan, (R.O.C.)		
Dated: <u>>017.10</u>	<u>, 516-</u>	<u>Hsien-Huang Liao</u> Inventor Signature	
Inventor Name:	Tung-Heng Hsieh		
Residence Address:	No. 22, Lane 11, Jinfu St. Zhudong Town, Hsinchu Count	y 310, Taiwan, (R.O.C.)	
Dated: <u>20 17 , (</u> »	<u></u>	<u>Thing King Krich</u> Inventor Signature	
Inventor Name:	Bao-Ru Young		
Residence Address:	No. 7, Lane 1, Liujia 2nd St. Zhubei City, Hsinchu County 3	02, Taiwan, (R.O.C.)	
Dated: <u>>017</u> 10.	<u>sb</u>	<u>Bao - Ru</u> Youry Inventor Signature	
Inventor Name:	Yung Feng Chang		
Residence Address:	8, Lì-Hsin Rd. 6, Hsinchu Scier Hsinchu, Taiwan 300-78, (R.O.		
Dated: <u>>∞(?), [¢ ,</u>	7/L	<u>Yung - Forg</u> drang Inventor Signatuke	

-2-

16489307_1

RECORDED: 12/12/2017