PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT7773137

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SHENG-HSIUNG WANG	03/05/2018
TUNG-HENG HSIEH	03/05/2018
BAO-RU YOUNG	03/05/2018

RECEIVING PARTY DATA

Name:	TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD.
Street Address:	8, LI-HSIN RD. 6
Internal Address:	HSINCHU SCIENCE PARK
City:	HSINCHU
State/Country:	TAIWAN
Postal Code:	300-78

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	18162841

CORRESPONDENCE DATA

Fax Number: (214)200-0853

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Email: IPDOCKETING@HAYNESBOONE.COM
Correspondent Name: HAYNES AND BOONE, LLP
Address Line 1: 2323 VICTORY AVENUE
Address Line 4: DALLAS, TEXAS 75219

ATTORNEY DOCKET NUMBER:	2016-2067/24061.3531US04
NAME OF SUBMITTER:	KENNEDY A. BROWN
SIGNATURE:	/Kennedy A. Brown/
DATE SIGNED:	02/01/2023

Total Attachments: 5

source=24061.3531US04 - EXECUTED Assignment and Declaration#page1.tif
source=24061.3531US04 - EXECUTED Assignment and Declaration#page2.tif
source=24061.3531US04 - EXECUTED Assignment and Declaration#page3.tif
source=24061.3531US04 - EXECUTED Assignment and Declaration#page4.tif

Docket No.: P20162067US00/24061.3531US01
Customer No.: 000042717

ASSIGNMENT

WHEREAS, we,

(1) Sheng-Hsiung Wang of Hsinchu County 302, Taiwan (R.O.C.)

(2) Tung-Heng Hsieh of Hsinchu County 310, Taiwan (R.O.C.)

(3) Bao-Ru Young of Hsinchu County 302, Taiwan (R.O.C.)

have invented certain improvements in

METHOD AND IC DESIGN WITH NON-LINEAR POWER RAILS

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

__X__ of even date filed herewith; and
______ filed on 08/25/2017 and assigned application number 15/686,336; 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 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: Sheng-Hsiung Wang

Residence Address: No. 72, Fuxing 7th Rd.
Zhubei City, Hsinchu County 302, Taiwan (R.O.C.)

Dated: 2018/3/5

Sheng-Hsiung Wang
Inventor Signature

Inventor Name: Tung-Heng Hsieh

Residence Address: No. 22, Lane 11, Jinfu St.
Zhudong Town, Hsinchu County 310, Taiwan (R.O.C.)

Dated: 2018/3/5

Tung Heng Hsieh
Inventor Signature

Inventor Name: Bao-Ru Young

Residence Address: No. 7, Lane 1, Liujia 2nd St.
Zhubei City, Hsinchu County 302, Taiwan (R.O.C.)

Dated: 2018/3/5

Bao Ru Young
Inventor Signature

TL Ⓢ

MP-21438-0-US-B4

Docket No.: P20162067US00/ 24061.3531US01
Customer No.: 42717

INVENTOR'S DECLARATION FOR PATENT APPLICATION

As below named inventor, I hereby declare that:

The below-mentioned application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the below-mentioned application.

METHOD AND IC DESIGN WITH NON-LINEAR POWER RAILS

the specification of which (check one):

__X__ is attached hereto.

______ was filed on August 25, 2017
under Attorney's Docket Number P20162067US000/ 24061.3531US01
as Application Serial No. 15/686,336
and was amended on________________ (if applicable).

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

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability of this application in accordance with 37 CFR 1.56, material information which became available between the filing date of the application and issuance thereof, including any continuation, divisional and/or continuation-in-part.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

FULL NAME OF INVENTOR: SHENG-HSIUNG WANG

INVENTOR'S SIGNATURE: SHENG-HSIUNG WANG DATED: 2018/03/05

16483576_1

Docket No.: P20162067US00/ 24061.3531US01
Customer No.: 42717

INVENTOR'S DECLARATION FOR PATENT APPLICATION

As below named inventor, I hereby declare that:

The below-mentioned application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the below-mentioned application.

METHOD AND IC DESIGN WITH NON-LINEAR POWER RAILS

the specification of which (check one):

__X__ is attached hereto.

______ was filed on August 25, 2017
under Attorney's Docket Number P20162067US000/ 24061.3531US01
as Application Serial No. 15/686,336
and was amended on ________________ (if applicable).

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

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability of this application in accordance with 37 CFR 1.56, material information which became available between the filing date of the application and issuance thereof, including any continuation, divisional and/or continuation-in-part.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

FULL NAME OF INVENTOR: TUNG-HENG HSIEH

INVENTOR'S SIGNATURE: Tungheng Hsieh DATED: 2018/3/5

Docket No.: P20162067US00/ 24061.3531US01
Customer No.: 42717

INVENTOR'S DECLARATION FOR PATENT APPLICATION

As below named inventor, I hereby declare that:

The below-mentioned application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the below-mentioned application.

METHOD AND IC DESIGN WITH NON-LINEAR POWER RAILS

the specification of which (check one):

_X_ is attached hereto.

____ was filed on August 25, 2017
under Attorney's Docket Number P20162067US000/ 24061.3531US01
as Application Serial No. 15/686,336
and was amended on __________ (if applicable).

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

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability of this application in accordance with 37 CFR 1.56, material information which became available between the filing date of the application and issuance thereof, including any continuation, divisional and/or continuation-in-part.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

FULL NAME OF INVENTOR: BAO-RU YOUNG

INVENTOR'S SIGNATURE: Bao Ru Young DATED: 2018/3/5