#### PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4811778

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
RUILONG XIE	02/14/2017
CHUN-CHEN YEH	02/16/2017
TENKO YAMASHITA	02/16/2017
KANGGUO CHENG	02/16/2017

#### **RECEIVING PARTY DATA**

Name:	GLOBALFOUNDRIES INC.
Street Address:	PO BOX 309
Internal Address:	UGLAND HOUSE
City:	GRAND CAYMAN
State/Country:	CAYMAN ISLANDS
Postal Code:	KY1-1104

#### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	15889654

#### **CORRESPONDENCE DATA**

**Fax Number:** (713)434-6671

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.

**Phone:** 7134346674

**Email:** mpaul@amersoniplaw.com

Correspondent Name: SCOTT F. DIRING

Address Line 1: 2500 FONDREN ROAD, SUITE 220

Address Line 4: HOUSTON, TEXAS 77063

ATTORNEY DOCKET NUMBER:	2162.276296/IALB155C
NAME OF SUBMITTER:	SCOTT F. DIRING
SIGNATURE:	/Scott F. Diring/
DATE SIGNED:	02/06/2018
	This document serves as an Oath/Declaration (37 CFR 1.63).
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**Total Attachments: 4** 

PATENT REEL: 044843 FRAME: 0468

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# COMBINED DECLARATION and ASSIGNMENT (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	METHODS OF FORMING VERTICAL TRANSISTOR DEVICES WITH DIFFERENT EFFECTIVE GATE LENGTHS AND THE RESULTING DEVICES
	DECLARATION
As the below	named inventor, I hereby declare that:
This declaration is directed to:	The attached application, or
	United States application or PCT international application numberfiled on
The above-ide	ntified 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 application.
I hereby ackno fine or impriso	wledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by oment of not more than five (5) years, or both.
I have reviewed Trademark Off	and understand the contents of the application and am aware of the duty to disclose to the US Patent and ce all information known to me to be material to patentability as defined in 37 CFR § 1.56.
	ASSIGNMENT
Grand Cayman the invention list iny foreign countries there are the foreign countries there and Applications are the foreign as in the foreign as in the foreign as in the foreign are the foreign are in t	nd valuable consideration, the receipt, sufficiency and adequacy of which are hereby acknowledged, I gn, transfer, to GLOBALFOUNDRIES Inc. having a business address of PO Box 309, Ugland House, KY1-1104 its successors and assigns, absolutely and forever, my entire right, title and interest in and to ted above, together with the Application, any and all Patents that may issue in the United States and/or stries, and any reissues, re-examinations, renewals, continuations, continuation-in-parts, divisionals or of that may be issued or granted, and all right, title and interest to the inventions contained in said Patents is, for the United States and all foreign countries, and all the rights and privileges relating thereto thimited to the priority rights arising from said Applications, the right to recover and take all such may be necessary for the recovery of damages or otherwise in respect of past, present and future determined to apply for, take and maintain patents on said inventions.
f any portion o hall neverthele	f this Combined Declaration or Assignment is held unenforceable, then remaining portions hereof ss remain in full force and effect.
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
EGAL NAME	OF INVENTOR
Inventor: RI	9LONG XIE Date: 2//4/20/7
Signature:	
de: An application al fo	ns data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form.

# COMBINED DECLARATION and ASSIGNMENT (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

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I have reviewe Trademark Of	d and understand the contents of the application and am aware of the duty to disclose to the US Patent and fice all information known to me to be material to patentability as defined in 37 CFR § 1.56.
	ASSIGNMENT
Grand Cayman the invention li any foreign cou extensions ther and Application including but n proceedings as	and valuable consideration, the receipt, sufficiency and adequacy of which are hereby acknowledged, I sign, transfer, to GLOBALFOUNDRIES Inc. having a business address of PO Box 309, Ugland House, KY1-1104 its successors and assigns, absolutely and forever, my entire right, title and interest in and to sted above, together with the Application, any and all Patents that may issue in the United States and/or antries, and any reissues, re-examinations, renewals, continuations, continuation-in-parts, divisionals or eof that may be issued or granted, and all right, title and interest to the inventions contained in said Patents ans, for the United States and all foreign countries, and all the rights and privileges relating thereto ot limited to the priority rights arising from said Applications, the right to recover and take all such may be necessary for the recovery of damages or otherwise in respect of past, present and future and the right to apply for, take and maintain patents on said inventions.
If any portion shall neverthe	of this Combined Declaration or Assignment is held unenforceable, then remaining portions hereof less remain in full force and effect.
LEGAL NAME	E OF INVENTOR
Inventor: C	CHUN-CHEN YEH Date: >/(L/>)
Signature:	
lote: An applica Jse an additional	tion data sheet (PTO/SB/f4 or equivalent), including naming the entire inventive entity, must accompany this form. form for each additional inventor.

## COMBINED DECLARATION and ASSIGNMENT (37 CFR L63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	METHODS OF FORMING VERTICAL TRANSISTOR DEVICES WITH DIFFERENT EFFECTIVE GATE LENGTHS AND THE RESULTING DEVICES
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I believe that I	am the original inventor or an original joint inventor of a claimed invention in the application.
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	ed and understand the contents of the application and am aware of the duty to disclose to the US Patent and fice all information known to me to be material to patentability as defined in 37 CFR § 1.56.
	ASSIGNMENT
For good and valuable consideration, the receipt, sufficiency and adequacy of which are hereby acknowledged, I hereby sell, assign, transfer, to GLOBALFOUNDRIES Inc. having a business address of PO Box 309, Ugland House, Grand Cayman KY1-1104 its successors and assigns, absolutely and forever, my entire right, title and interest in and to the invention listed above, together with the Application, any and all Patents that may issue in the United States and/or any foreign countries, and any reissues, re-examinations, renewals, continuations, continuation-in-parts, divisionals or extensions thereof that may be issued or granted, and all right, title and interest to the inventions contained in said Patents and Applications, for the United States and all foreign countries, and all the rights and privileges relating thereto including but not limited to the priority rights arising from said Applications, the right to recover and take all such proceedings as may be necessary for the recovery of damages or otherwise in respect of past, present and future infringement, and the right to apply for, take and maintain patents on said inventions.	
If any portion of this Combined Declaration or Assignment is held unenforceable, then remaining portions hereof shall nevertheless remain in full force and effect.	
LEGAL NAME OF INVENTOR	
Inventor:	TENKO YAMASHITA Date: 2/16/2017
Signature:	Jahr-
Note: An applic Use an additiona	ation data sheet (PTOEB/14 or equivalent), including naming the entire inventive entity, must accompany this form. Il form for each additional inventor.

### COMBINED DECLARATION and ASSIGNMENT (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

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This declarati	on
	United States application or PCT international application number filed on
The above-id	entified 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 application.
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I have reviewed and understand the contents of the application and am aware of the duty to disclose to the US Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR § 1.56.	
	ASSIGNMENT
For good and valuable consideration, the receipt, sufficiency and adequacy of which are hereby acknowledged, I hereby sell, assign, transfer, to GLOBALFOUNDRIES Inc. having a business address of PO Box 309, Ugland House, Grand Cayman KY1-1104 its successors and assigns, absolutely and forever, my entire right, title and interest in and to the invention listed above, together with the Application, any and all Patents that may issue in the United States and/or any foreign countries, and any reissues, re-examinations, renewals, continuations, continuation-in-parts, divisionals or extensions thereof that may be issued or granted, and all right, title and interest to the inventions contained in said Patents and Applications, for the United States and all foreign countries, and all the rights and privileges relating thereto including but not limited to the priority rights arising from said Applications, the right to recover and take all such proceedings as may be necessary for the recovery of damages or otherwise in respect of past, present and future infringement, and the right to apply for, take and maintain patents on said inventions.	
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LEGAL NAME OF INVENTOR	
Inventor:	KANGGUO CHENG Date: 2/16/2017
Signature:	
	cation data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form.

PATENT REEL: 044843 FRAME: 0473

**RECORDED: 02/06/2018**