### PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4548665

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
CHANRO PARK	08/14/2017
RUILONG XIE	08/10/2017
MIN GYU SUNG	08/10/2017

#### **RECEIVING PARTY DATA**

Name:	GLOBALFOUNDRIES INC.
Street Address:	P.O. 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:	15676005

#### **CORRESPONDENCE DATA**

Fax Number: (713)934-7011

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: 713-934-4097

Email: nnolan@wmalaw.com **Correspondent Name:** WILLIAMS MORGAN, P.C. 710 N. POST OAK ROAD Address Line 1:

Address Line 2: SUITE 350

Address Line 4: HOUSTON, TEXAS 77024

ATTORNEY DOCKET NUMBER:	IALB257/4014.262100
NAME OF SUBMITTER:	JAISON C. JOHN
SIGNATURE:	/Jaison C. John/
DATE SIGNED:	08/14/2017
	This document serves as an Oath/Declaration (37 CFR 1.63).
	•

**Total Attachments: 3** 

**PATENT** REEL: 043283 FRAME: 0524

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PATENT REEL: 043283 FRAME: 0525

GF Ref. No.: IALB257/4014.262100

# 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, APPARATUS, AND MANUFACTURING SYSTEM FOR SELF-ALIGNED PATTERNING OF A VERTICAL TRANSISTOR	
DECLARATION		
As the below	named inventor, I hereby declare that:	
This declarat		
is directed to:	United States application or PCT international application number filed on	
The above-identified 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 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.		
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.		
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:	<u>Chanro Park</u> Date : 8/14/2011	
Signature: Lhouthuk		
Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form.  Use an additional form for each additional inventor.		

PATENT REEL: 043283 FRAME: 0526

GF Ref. No.: IALB257/4014.262100

## 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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As the below	named inventor, I hereby declare that:		
This declarati	on X The attached application, or		
	United States application or PCT international application number filed on		
The above-ide	ntified application was made or authorized to be made by me.		
I believe that	am the original inventor or an original joint inventor of a claimed invention in the application.		
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.			
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.			
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 NAM	E OF INVENTOR		
Inventor	Ruilong Xie Date: 8/10/20/		
Signature:			
Note: An applic Use an addition	ation data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form, if form for each additional inventor.		

PATENT REEL: 043283 FRAME: 0527

GF Ref. No.: IALB257/4014.262100

## 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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As the below	named inventor, I hereby declare that:	
This declaration is directed to:	on X The attached application, or	
	United States application or PCT international application number filed on	
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	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		
	Min Gyu Sung Date: 8/10/2017	
Signature: 11in Gyli Surg		
Note: An applic Use an addition	ation data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. If form for each additional inventor.	

PATENT REEL: 043283 FRAME: 0528

**RECORDED: 08/14/2017**