

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT3979461

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
HARI V. MALLELA	07/01/2016
ROBERT RUSSELL ROBISON	07/01/2016
REINALDO ARIEL VEGA	07/01/2016
RAJASEKHAR VENIGALLA	07/01/2016
<b>RECEIVING PARTY DATA</b>	
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<b>State/Country:</b>	NEW YORK
<b>Postal Code:</b>	10504
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15199550
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(703)761-2375
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<b>ATTORNEY DOCKET NUMBER:</b>	YOR.1026
<b>NAME OF SUBMITTER:</b>	SAM S. SAHOTA
<b>SIGNATURE:</b>	/SAM S. SAHOTA/
<b>DATE SIGNED:</b>	07/26/2016
This document serves as an Oath/Declaration (37 CFR 1.63).	
<b>Total Attachments: 4</b>	
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**DECLARATION (37 C.F.R. 1.63) FOR UTILITY PATENT APPLICATION USING AN  
APPLICATION DATA SHEET (37 C.F.R. 1.76) AND ASSIGNMENT**

Title of Invention: SUBTRACTIVE VFET PROCESS FLOW WITH REPLACEMENT METAL  
GATE AND METALLIC SOURCE/DRAIN

As a below named inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

☒ United States application or PCT international application number 15/199,550 filed on  
June 30, 2016.

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 have reviewed and understand the contents of the application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information  
known to me to be material to patentability as defined in 37 CFR Section 1.56.

Whereas, the undersigned inventor(s) has/have made certain inventions, improvements, and discoveries  
(herein referred to as the "Invention") disclosed in the above-identified patent application and further  
identified by the IBM Docket Number provided above in the header of this document;

Whereas, International Business Machines Corporation, a corporation of New York having a place of  
business at Armonk, New York (herein referred to as "IBM"), desires to acquire, and each undersigned  
inventor desires to grant to IBM, the entire worldwide right, title, and interest in and to the Invention and  
in and to any and all patent applications and patents directed thereto;

Now, therefore, for good and valuable consideration, the receipt and sufficiency thereof being hereby  
acknowledged, each undersigned inventor ("ASSIGNOR") hereby sells or has sold, assigns or has  
assigned, and otherwise transfers or has transferred to IBM (the "ASSIGNEE"), its successors, legal  
representatives, and assigns, the entire worldwide right, title, and interest in and to the Invention, the  
above-identified United States patent application, and any and all other patent applications and patents for  
the Invention which may be applied for or granted therefor in the United States and in all foreign  
countries and jurisdictions, including all divisions, continuations, reissues, reexaminations, renewals,  
extensions, counterparts, substitutes, and extensions thereof, and all rights of priority resulting from the  
filing of such applications and granting of such patents. In addition, each undersigned inventor hereby  
authorizes and requests the Director of the United States Patent and Trademark Office to issue any United  
States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to IBM,  
its successors, legal representatives, and assigns, the entire worldwide right, title, and interest in and to the  
same to be held and enjoyed by IBM, its successors, legal representatives, and assigns to the full end of  
the terms for which any and all such patents may be granted, as fully and entirely as would have been  
held and enjoyed by the undersigned had this Assignment not been made; and each undersigned inventor  
agrees to execute any and all documents and instruments and perform all lawful acts reasonably related to  
recording this Assignment or perfecting title to the Invention and all related patents and applications, in  
IBM, its successors, legal representatives, and assigns, whenever requested by IBM, its successors, legal  
representatives, or assigns.

Each undersigned inventor acknowledges their prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to IBM and is unaware of any reason why they may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and has not executed, and will not execute, any document or instrument in conflict herewith. Each undersigned inventor also hereby grants IBM, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification (including, but not limited to, patent Application Number) which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of New York, and any disputes will be resolved in a New York state court or federal court sited in New York.

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.

(1) Legal Name of Inventor: Hari V. Mallela

Signature:  Date: 07/01/2016

(2) Legal Name of Inventor: Robert Russell Robison

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(3) Legal Name of Inventor: Reinaldo Ariel Vega

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(4) Legal Name of Inventor: Rajasekhar Venigalla

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Each undersigned inventor acknowledges their prior and ongoing obligations to sell, assign, and transfer the rights under this Assignment to IBM and is unaware of any reason why they may not have the full and unencumbered right to sell, assign, and transfer the rights hereby sold, assigned, and transferred, and has not executed, and will not execute, any document or instrument in conflict herewith. Each undersigned inventor also hereby grants IBM, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification (including, but not limited to, patent Application Number) which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of New York, and any disputes will be resolved in a New York state court or federal court sited in New York.

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(1) Legal Name of Inventor: Hari V. Mallela

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(2) Legal Name of Inventor: Robert Russell Robison

Signature: RR Robison Date: 7-1-16

(3) Legal Name of Inventor: Reinaldo Ariel Vega

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(4) Legal Name of Inventor: Rajasekhar Venigalla

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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(1) Legal Name of Inventor: Hari V. Mallela

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(2) Legal Name of Inventor: Robert Russell Robison

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

(3) Legal Name of Inventor: Reinaldo Ariel Vega

Signature: Reinaldo Vega Date: 7/1/16

(4) Legal Name of Inventor: Rajasekhar Venigalla

Signature: V. Raj Date: 1<sup>st</sup> JULY 2016