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PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	

CONVEYING PARTY DATA

Name	Execution Date
SHIYU SUN	05/31/2016
NAOMI YOSHIDA	05/31/2016
THERESA KRAMER GUARINI	06/07/2016
SUNG WON JUN	05/31/2016
VANESSA PENA	05/31/2016
ERROL ANTONIO C. SANCHEZ	05/31/2016
BENJAMIN COLOMBEAU	06/07/2016
MICHAEL CHUDZIK	05/31/2016
BINGXI WOOD	05/31/2016
NAM SUNG KIM	05/31/2016

RECEIVING PARTY DATA

Name: APPLIED MATERIALS, INC.	
Street Address: 3050 BOWERS AVENUE	
City:	SANTA CLARA
State/Country:	CALIFORNIA
Postal Code:	95054

PROPERTY NUMBERS Total: 1

Property Type	Number		
Application Number:	15804691		

CORRESPONDENCE DATA

Fax Number: (713)623-4846

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PATTERSON & SHERIDAN, LLP **Correspondent Name:**

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ATTORNEY DOCKET NUMBER: APPM/22984USD01

PATENT REEL: 044838 FRAME: 0142 504764034

NAME OF SUBMITTER:	KEITH TABOADA	
SIGNATURE:	/Keith Taboada/	
DATE SIGNED:	02/06/2018	
Total Attachments: 4		
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PATENT REEL: 044838 FRAME: 0143

ASSIGNMENT FOR APPLICATION FOR PATENT

WHEREAS:

Names and Addresses of Inventors:

1)	Shiyu SUN 100 Buckingham Drive, Apt. 246 Santa Clara, California 95051	2)	Naomi YOSHIDA 1369 Zurich Ter. Sunnyvale, California 94085
3)	Theresa Kramer GUARINI 3488 Glenprosen Ct San Jose, California 95148	4)	Sung Won JUN 5137 Alan Ave San Jose, California 95124
5)	Vanessa PENA Hertogstraat, 174. Bus 0001 3001 Heverlee, Flemish Brabant BELGIUM	6)	Errol Antonio C. SANCHEZ 324 Jill Drive Tracy, California 95377
7)	Benjamin COLOMBEAU 17 Centrall Street, Unit 3 Salem, Massachusetts 019701	8)	Michael CHUDZIK 1560 Layla Ct. Mountain View, California 94041
9)	Bingxi WOOD 7723 Seeber Court Cupertino, California 95014	10)	Nam Sung KIM 974 E. Arques Ave. Sunnyvale, California 94085

(hereinafter referred to as Assignors), have invented a certain invention entitled:

HORIZONTAL GATE ALL AROUND AND FINFET DEVICE ISOLATION

for which application for Letters Patent in the United States was filed on May 11, 2016, under Serial No. 15/152,273, executed on even date herewith; and

WHEREAS, Applied Materials, Inc., a corporation of the State of Delaware, having a place of business at 3050 Bowers Avenue, Santa Clara, California 95054 (hereinafter referred to as Assignee), is desirous of acquiring the entire right, title and interest in and to said application (hereinafter referred to as Application), and the invention disclosed therein (hereinafter referred to as Invention), and in and to all embodiments of the Invention, heretofore conceived, made or discovered by said Assignors, and in and to any and all patents, inventor's certificates and other forms of protection (hereinafter referred to as Patents) thereon granted in any and all countries and groups of countries.

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Assignors to have been received in full from said Assignee:

- 1. Said Assignors hereby sell, assign, transfer and convey to Assignee the full and exclusive right, title and interest (a) in and to said Application and said Invention; (b) in and to all rights to apply for patents on said Invention in any and all countries pursuant to the International Convention for the Protection of Industrial Property or otherwise; (c) in and to any and all Applications filed and any and all Patents granted on said Invention in any and all countries and groups of countries, including each and every Application filed and each and every Patent granted on any application which is a conventional, division, substitution, or continuation of said Application; and (d) in and to each and every reissue or extension of any of said Patents.
 - 2. Said Assignors hereby covenant and agree to cooperate with said Assignee to

PATENT REEL: 044838 FRAME: 0144

enable said Assignee to enjoy to the fullest extent the right, title and interest to said Invention herein conveyed in any and all countries and groups of countries. Such cooperation by said Assignors shall include prompt production of pertinent facts and documents, giving testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any of said applications; (c) for filing and prosecuting substitute, conventional, divisional, continuing or additional applications covering said Invention; (d) for filing and prosecuting applications for reissuance of any of said Patents; (e) for interference or other priority proceedings involving said Invention; and (f) for legal proceedings involving said Invention and any application therefore and any Patents granted thereon, including without limitation opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that the expense incurred by said Assignors in providing such cooperation shall be paid for by said Assignee.

- 3. The term and covenants of this agreement shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Assignors, their respective heirs, legal representatives and assigns.
- 4. Said Assignors hereby warrant and represent that they have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.

IN WITNESS WHEREOF, the said Assignors have executed and delivered this instrument to said Assignee on the dates indicated below.

1)	5/31/2016 (DATE)	9/1/n
2)	5/3//16 (DATE)	Shiyu StúN
3)	4/7/14 (DATE)	Naomi YOSHIDA Junky Ju Theresa Kramer GUARIM
4)	5/31/16 (DATE)	Sung Won JUN
5)	(DATE)	Vanessa PENA
6)	5/3/// (DATE)	Errol Antonio C. SANCHEZ
7)	6/7/16 (DATE)	Benjamjn COLOMBEAU
8)	< 31 16 (DATE)	Michael CHUDŽIK
9)	5/31//6 (DATE)	Bingxi WOOD
10)	5/4///6 (DATE)	Nam Sung KIM

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Names and Addresses of Inventors:

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 - 2. Said Assignors hereby covenant and agree to cooperate with said Assignee to

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enable said Assignee to enjoy to the fullest extent the right, title and interest to said Invention herein conveyed in any and all countries and groups of countries. Such cooperation by said Assignors shall include prompt production of pertinent facts and documents, giving testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any of said applications; (c) for filing and prosecuting substitute, conventional, divisional, continuing or additional applications covering said Invention; (d) for filing and prosecuting applications for reissuance of any of said Patents; (e) for interference or other priority proceedings involving said Invention; and (f) for legal proceedings involving said Invention and any application therefore and any Patents granted thereon, including without limitation opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that the expense incurred by said Assignors in providing such cooperation shall be paid for by said Assignee.

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1)	(DA	ATE)	Shiyu SUN
2)	(DA	ATE)	Naomi YOSHIDA
3)	(DA	ATE)	Theresa Kramer GUARINI
4)	(DA	ATE)	
5)	05/31/2016 (DA	ATE)	Sung Won JUN (V) Vanessa PENA
6)	(DA	ATE)	Errol Antonio C. SANCHEZ
7)	(DA	ATE)	Benjamin COLOMBEAU
8)	(DA	ATE)	
9)	(DA	ATE)	Michael CHUDZIK
10)	(DA	ATE)	Bingxi WOOD
			Nam Sung KIM