503561447 11/09/2015

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3608074

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
NAGARAJAN RAJAGOPALAN	03/06/2015
XINHAI HAN	03/10/2015
MICHAEL TSIANG	03/02/2015
MASAKI OGATA	03/12/2015
ZHIJUN JIANG	02/25/2015
JUAN CARLOS ROCHA-ALVAREZ	03/12/2015
THOMAS NOWAK	02/27/2015
JIANHUA ZHOU	02/26/2015
RAMPRAKASH SANKARAKRISHNAN	03/09/2015
GANESH BALASUBRAMANIAN	03/04/2015
AMIT KUMAR BANSAL	03/12/2015
JEONGMIN LEE	03/03/2015
TODD EGAN	02/25/2015
EDWARD BUDIARTO	03/04/2015
DMITRIY PANASYUK	02/24/2015
TERRANCE Y. LEE	02/26/2015
JIAN J. CHEN	03/04/2015
MOHAMAD A. AYOUB	03/04/2015
HEUNG LAK PARK	03/30/2015
PATRICK REILLY	03/18/2015
SHAHID SHAIKH	02/25/2015
BOK HOEN KIM	02/25/2015
SERGEY STARIK	02/26/2015

RECEIVING PARTY DATA

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

PATENT REEL: 036996 FRAME: 0390

503561447

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14422148

CORRESPONDENCE DATA

Fax Number: (713)623-4846

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: 7136234844

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Address Line 1: 24 GREENWAY PLAZA

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Address Line 4: HOUSTON, TEXAS 77046

ATTORNEY DOCKET NUMBER:	APPM/016251USP/NHOUSTON
NAME OF SUBMITTER:	KEITH M. TACKETT
SIGNATURE:	/KEITH M. TACKETT/
DATE SIGNED:	11/09/2015

Total Attachments: 16

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WHEREAS:

Names and Addresses of Inventors:

1)	Nagarajan RAJAGOPALAN 2344 Falling Water Court Santa Clara, California 95054	2)	Xinhai HAN 4889 Deep Creek Fremont, California 94555
3)	Michael TSIANG 40314 San Sebastian Place Fremont, California 94539	4)	Masaki OGATA 3500 Palmilla Drive #1012 San Jose, California 95134
5)	Zhijun JIANG 1331 S. Wolfe Road, Apt. 34 Sunnyvale, California 94087	6)	Juan Carlos ROCHA-ALVAREZ 18 Cedar Street San Carlos, California 94070
7)	Thomas NOWAK 20677 Forge Way, #217 Cupertino, California 95014	8)	Jianhua ZHOU 1640 Calado Court Campbell, California 95008
9)	Ramprakash SANKARAKRISHNAN 111 Saratoga Avenue, Apt. 2218 Santa Clara, California 95051	10)	Ganesh BALASUBRAMANIAN 1002 S. Wolfe Road, Apt. D Sunnyvale, California 94086
11)	Amit Kumar BANSAL 1063 Morse Avenue, Apt. #19-107 Sunnyvale, California 94089	12)	Jeongmin LEE 3878 Melody Lane Santa Clara, California 95051
13)	Todd EGAN 145 Hillview Drive Fremont, California 94536	14)	Edward BUDIARTO 43971 Rosemere Drive Fremont, California 94539
15)	Dmitriy PANASYUK 960 Capitola Way Santa Clara, California 95051	16)	Terrance Y. LEE 631 Haddon Road Oakland, California 94610
17)	Jian J. CHEN 41267 Carmen Street Fremont, California 94539	18)	Mohamad A. AYOUB 54 Cleland Avenue, #16 Los Gatos, California 95134
19)	Heung Lak PARK 1794 Fumia Place San Jose, California 95131	20)	Patrick REILLY 10772 Ruthven Lane Dublin, California 94568
21)	Shahid SHAIKH 1885 Cabrillo Avenue Santa Clara, California 95050	22)	Bok Hoen KIM 1116 Sterling Gate Drive San Jose, California 95120
23)	Sergey STARIK 77 Geroiv Dnipra Str., Ap. 36 Kiev 04214 UKRAINE		

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

for which application for Letters Patent in the United States was filed on October 23, 2013, under Serial No. 14/422,148, 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 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) 3/6/15 (DATE) R. N. Q. CONTENTE (DATE) Nagarajan RAJAGOPALAN

2) 3/10/15 (DATE) Xinhai HAN

	i	ty DKt No.: 016251/25P/DSM/TAHOE-DSM BLANKET/AC
3)	3/2/15 (DATE)	Michael TSIANG
1)	3/12/15 (DATE)	Masaki OGATA
5)	02/25/20(S (DATE)	Zhijun Ji'ag Zhijun JIANG
3)	03/12/2015 (DATE)	Juan Caylos ROCHA-ALVAREZ/
7)	2/27/2015 (DATE)	Thomas NOWAK
3)	2/26/15 (DATE)	Ji Ju
9)	03 08 15 (DATE)	Jiannua ZHOU Rempehent
10)	3 4 (S (DATE)	Ramprakash SANKARAKRISHNAN
11)	3 12 15 (DATE)	Ganesi BALASUBRAMANIAN
12)	313/2015 (DATE)	Amir Kumar BANSAL
13)	02/25/2015 (DATE)	Jeongmin LEE
14)	03/04/2015 (DATE)	Follower gub in to Edward BUDIARTO
15)	(DATE)	
16)	2/26/15 (DATE)	Dmitriy PANASYUK
17)	03/04/15 (DATE)	Perrance Y LEE
18)	3/4/15(DATE)	Jiank CHEN Mohamad A. AYOUB
19)	(DATE)	
20)	3/18/15 (DATE)	Heung Lak PARK
21)	2/25/15 (DATE)	Patrick REILLY
22)	2/25/16 (DATE)	Shahid SHAIKH
	′	Bok i.⊞ een KIM

	Atty [Okt No.: 016251/USP/DSM/TAHOE-DSM BLANKET/AG
23)	(DATE)	
		Sergey STARIK

WHEREAS:

Names and Addresses of Inventors:

1)	Nagarajan RAJAGOPALAN 2344 Falling Water Court Santa Clara, California 95054	2)	Xinhai HAN 4889 Deep Creek Fremont, California 94555
3)	Michael TSIANG 40314 San Sebastian Place Fremont, California 94539	4)	Masaki OGATA 3500 Palmilla Drive #1012 San Jose, California 95134
5)	Zhijun JIANG 1331 S. Wolfe Road, Apt. 34 Sunnyvale, California 94087	6)	Juan Carlos ROCHA-ALVAREZ 18 Cedar Street San Carlos, California 94070
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21)	Shahid SHAIKH 1885 Cabrillo Avenue Santa Clara, California 95050	22)	Bok Hoen KIM 1116 Sterling Gate Drive San Jose, California 95120
23)	Sergey STARIK 77 Geroiv Dnipra Str., Ap. 36 Kiev 04214 UKRAINE		

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for which application for Letters Patent in the United States was filed on October 23, 2013, under Serial No. 14/422,148, executed on even date herewith; and

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- 2. Said Assignors hereby covenant and agree to cooperate with said Assignee to 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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IN WITNESS WHEREOF, the said Assignors have executed and delivered this instrument to said Assignee on the dates indicated below.

1)	(DATE)	Nagarajan RAJAGOPALAN	
2)	(DATE)	Xinhai HAN	

3)		_ (DATE)	Michael TSIANG
4)		_ (DATE)	Masaki OGATA
5)		_ (DATE)	Zhijun JIANG
6)		_ (DATE)	Juan Carlos ROCHA-ALVAREZ
7)		_ (DATE)	Thomas NOWAK
8)		_ (DATE)	Jianhua ZHOU
9)		_ (DATE)	Ramprakash SANKARAKRISHNAN
10)		_ (DATE)	Ganesh BALASUBRAMANIAN
11)		_ (DATE)	Amit Kumar BANSAL
12)		_ (DATE)	Jeongmin LEE
13)		_ (DATE)	Todd EGAN
14)		_ (DATE)	Edward BUDIARTO
15)	2/24/15	_ (DATE)	Dmitfiy PANDSXUK
16)		_ (DATE)	Terrance Y. LEE
17)		_ (DATE)	Jian J. CHEN
18)		_ (DATE)	Mohamad A. AYOUB
19)		_ (DATE)	Heung Lak PARK
20)		_ (DATE)	Patrick REILLY
21)		_ (DATE)	Shahid SHAIKH
22)		_ (DATE)	Bok Hoen KIM

	Atty [Dkt No.: 016251/USP/DSM/TAHOE-DSM BLANKET/AG
23)	(DATE)	Sergey STARIK

WHEREAS:

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1)	(DATE)	Nagarajan RAJAGOPALAN
2)	(DATE)	Xinhai HAN

Atty Dkt No.: 016251/USP/DSM/TAHOE-DSM BLANKET/AG

3)	(DATE)	Michael TSIANG
4)	(DATE)	Masaki OGATA
5)	(DATE)	Zhijun JIANG
6)	(DATE)	Juan Carlos ROCHA-ALVAREZ
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18)	(DATE)	Mohamad A. AYOUB
19)	3/30/2015 (DATE)	Heung Tak PARK
20)	(DATE)	Patrick REILLY
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2)	(DATE)		
	,	Xinhai HAN	

Atty Dkt No.: 016251/USP/DSM/TAHOE-DSM BLANKET/AG

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16)	(DATE)	Terrance Y. LEE
17)	(DATE)	Jian J. CHEN
18)	(DATE)	Mohamad A. AYOUB
19)	(DATE)	Heung Lak PARK
20)	(DATE)	Patrick REILLY
21)	(DATE)	Shahid SHAIKH
22)	(DATE)	Bok Hoen KIM

Atty Dkt No.: 016251/USP/DSM/TAHOE-DSM BLANKET/AG

23) 02/26/2015 (DATE)

Sergey STARIK