PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT2805842

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
WEI-SHENG LEI	04/04/2014
PRABHAT KUMAR	04/04/2014
JAMES S. PAPANU	04/04/2014
AJAY KUMAR	04/04/2014
BRAD EATON	04/07/2014

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:	14248165

CORRESPONDENCE DATA

Fax Number: (503)439-6073

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via

US Mail.

Phone: (503) 439-8778

Email: gigi_hoover@bstz.com
Correspondent Name: JUSTIN K. BRASK

Address Line 1: 1279 OAKMEAD PARKWAY

Address Line 4: SUNNYVALE, CALIFORNIA 94085-4040

ATTORNEY DOCKET NUMBER:	4887.P1133
NAME OF SUBMITTER:	JUSTIN K. BRASK
SIGNATURE:	/Justin K. Brask/
DATE SIGNED:	04/08/2014

Total Attachments: 6

source=4887P1133_Assignment_040814#page1.tif source=4887P1133 Assignment 040814#page2.tif

PATENT 502759246 REEL: 032630 FRAME: 0629

source=4887P1133_Assignment_040814#page3.tif source=4887P1133_Assignment_040814#page4.tif source=4887P1133_Assignment_040814#page5.tif source=4887P1133_Assignment_040814#page6.tif

> PATENT REEL: 032630 FRAME: 0630

ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, we, the below-named inventor(s):

Wei-Sheng Lei; Prabhat Kumar; James S. Papanu; Ajay Kumar; Brad Eaton

hereby sell, assign, and transfer to

Applied Materials, Inc.

a Corporation of Delaware, having a principal place of business at 3050 Bowers Avenue, Santa Clara, California 95054 United States ("Assignee"), and its successors, assigns, and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions or improvements that are disclosed in the application (provisional or non-provisional) for the United States patent which for the non-provisional application may have a declaration executed by the undersigned prior hereto or concurrently herewith and which application (provisional or non-provisional) is entitled

RESIDUE REMOVAL FROM SINGULATED DIE SIDEWALL

said patent application also identified as follows (when known):

[I/we hereby authorize an attorney or agent for said Assignee to insert below the application number and filing date of said patent application when known.]

United States Patent Application Number 14/248,165, filed April 8, 2014.

and in and to said application (provisional or non-provisional) and all provisional applications, non-provisional applications, utility applications, design applications, divisional applications, continuation applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, and all other patent applications that have been or shall be filed in the United States and all foreign countries on any of said inventions or improvements; and in and to all original patents, reissued patents, reexamination certificates, and extensions, that have been or shall be issued in the United States and all foreign countries on said inventions or improvements; and in and to all rights of priority resulting from the filing of said United States application;

agree that said Assignee may apply for and receive a patent or patents for said inventions or improvements in its own name; and that, when requested, without charge to, but at the expense of, said Assignee, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all provisional applications, non-provisional applications, utility applications, design applications, divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, and all other patent applications on any and all said inventions or improvements; execute all rightful oaths, assignments, powers of attorney, and other papers; communicate to said Assignee, its successors, assigns, and legal representatives all facts known to the undersigned relating to said inventions or improvements and the history thereof; and generally assist said Assignee, its successors, assigns, or legal representatives in securing and maintaining proper patent protection for said inventions or improvements and for vesting title to said inventions or improvements, and all applications for patents and all patents on said inventions or improvements, in said Assignee, its successors, assigns, and legal representatives; and

021591/ETCHMMESAMURAI/MDD

Page 1 of 2

covenant with said Assignee, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

Each Inventor: Please Sign and Date Below:

4/4/2014 Date	West
Date	Name: Wei-Sheng Lei
4/4/2014.	Joseleht Kenny
Date	Name: Prabhat Kumar
	V
Date	Name: James S. Papanu
4/4/2014	Janon
Date 1	Name: Ajay Kumar
Date	Name: Brad Eaton
Date	Name:
Date	Name:
- Colo	

ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, we, the below-named inventor(s):

Wei-Sheng Lei; Prabhat Kumar; James S. Papanu; Ajay Kumar; Brad Eaton

hereby sell, assign, and transfer to

Applied Materials, Inc.

a Corporation of Delaware, having a principal place of business at 3050 Bowers Avenue, Santa Clara, California 95054 United States ("Assignee"), and its successors, assigns, and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions or improvements that are disclosed in the application (provisional or non-provisional) for the United States patent which for the non-provisional application may have a declaration executed by the undersigned prior hereto or concurrently herewith and which application (provisional or non-provisional) is entitled

RESIDUE REMOVAL FROM SINGULATED DIE SIDEWALL

said patent application also identified as follows (when known):

[I/we hereby authorize an attorney or agent for said Assignee to insert below the application number and filing date of said patent application when known.]

United States Patent Application Number 14/248,165, filed April 8, 2014.

and in and to said application (provisional or non-provisional) and all provisional applications, non-provisional applications, utility applications, design applications, divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, and all other patent applications that have been or shall be filed in the United States and all foreign countries on any of said inventions or improvements; and in and to all original patents, reissued patents, reexamination certificates, and extensions, that have been or shall be issued in the United States and all foreign countries on said inventions or improvements; and in and to all rights of priority resulting from the filing of said United States application;

agree that said Assignee may apply for and receive a patent or patents for said inventions or improvements in its own name; and that, when requested, without charge to, but at the expense of, said Assignee, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all provisional applications, non-provisional applications, utility applications, design applications, divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, and all other patent applications on any and all said inventions or improvements; execute all rightful oaths, assignments, powers of attorney, and other papers; communicate to said Assignee, its successors, assigns, and legal representatives all facts known to the undersigned relating to said inventions or improvements and the history thereof; and generally assist said Assignee, its successors, assigns, or legal representatives in securing and maintaining proper patent protection for said inventions or improvements and for vesting title to said inventions or improvements, and all applications for patents and all patents on said inventions or improvements, in said Assignee, its successors, assigns, and legal representatives; and

021591/ETCHMMESAMURAI/MDD

Page 1 of 2

covenant with said Assignee, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

Each Inventor: Please Sign and Date Below:
--

Date	Name: Wei-Sheng Lei
Date 4/4/2014 Date	Name: Prabhat Kumar Name: James S. Papanu
Date	Name: Ajay Kumar
Date	Name: Brad Eaton
Date	Name:
	Name:

ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, we, the below-named inventor(s):

Wei-Sheng Lei; Prabhat Kumar; James S. Papanu; Ajay Kumar; Brad Eaton

hereby sell, assign, and transfer to

Applied Materials, Inc.

a Corporation of Delaware, having a principal place of business at 3050 Bowers Avenue, Santa Clara, California 95054 United States ("Assignee"), and its successors, assigns, and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions or improvements that are disclosed in the application (provisional or non-provisional) for the United States patent which for the non-provisional application may have a declaration executed by the undersigned prior hereto or concurrently herewith and which application (provisional or non-provisional) is entitled

RESIDUE REMOVAL FROM SINGULATED DIE SIDEWALL

said patent application also identified as follows (when known):

[I/we hereby authorize an attorney or agent for said Assignee to insert below the application number and filing date of said patent application when known.]

United States Patent Application Number 14/248,165, filed April 8, 2014.

and in and to said application (provisional or non-provisional) and all provisional applications, non-provisional applications, utility applications, design applications, divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, and all other patent applications that have been or shall be filled in the United States and all foreign countries on any of said inventions or improvements; and in and to all original patents, reissued patents, reexamination certificates, and extensions, that have been or shall be issued in the United States and all foreign countries on said inventions or improvements; and in and to all rights of priority resulting from the filing of said United States application;

agree that said Assignee may apply for and receive a patent or patents for said inventions or improvements in its own name; and that, when requested, without charge to, but at the expense of, said Assignee, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all provisional applications, non-provisional applications, utility applications, design applications, divisional applications, continuation applications, continued prosecution applications, continuation-in-part applications, substitute applications, renewal applications, reissue applications, reexaminations, extensions, and all other patent applications on any and all said inventions or improvements; execute all rightful oaths, assignments, powers of attorney, and other papers; communicate to said Assignee, its successors, assigns, and legal representatives all facts known to the undersigned relating to said inventions or improvements and the history thereof; and generally assist said Assignee, its successors, assigns, or legal representatives in securing and maintaining proper patent protection for said inventions or improvements and for vesting title to said inventions or improvements, and all applications for patents and all patents on said inventions or improvements, in said Assignee, its successors, assigns, and legal representatives; and

021591/ETCHMMESAMURAI/MDD

Page 1 of 2

covenant with said Assignee, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

Each Inventor: Please Sign and Date Below:

Date	Name: Wei-Sheng Lei
Date	Name: Prabhat Kumar
Date	Name: James S. Papanu
Date	Name: Ajay Kumar
	Name: Brad Eaton
Date	Name:
 Date	Name:
Date	Name:

021591/ETCHMMESAMURAI/MDD

Page 2 of 2