503024177 10/17/2014

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3070777

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JUNGRAE PARK	10/09/2014
WEI-SHENG LEI	10/09/2014
JAMES S. PAPANU	10/10/2014
BRAD EATON	10/10/2014
AJAY KUMAR	10/10/2014

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:	14517287

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 using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: (503) 439-8778

Email: lisa puccinelli@bstz.com

Correspondent Name: JUSTIN K. BRASK

Address Line 1: 1279 OAKMEAD PARKWAY

Address Line 4: SUNNYVALE, CALIFORNIA 94085-4040

ATTORNEY DOCKET NUMBER:	4887.P1182
NAME OF SUBMITTER:	JUSTIN K. BRASK
SIGNATURE:	/Justin K. Brask/
DATE SIGNED:	10/17/2014

Total Attachments: 4

source=4887P1182_Assignment_all_inventors_10-17-14#page1.tif source=4887P1182_Assignment_all_inventors_10-17-14#page2.tif

PATENT 503024177 REEL: 033975 FRAME: 0427

source=4887P1182_Assignment_all_inventors_10-17-14#page3.tif source=4887P1182_Assignment_all_inventors_10-17-14#page4.tif

PATENT REEL: 033975 FRAME: 0428 Attorney's Docket No.: 022251/ETCHMMESAMURAIMDD

ASSIGNMENT

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

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

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

HYBRID WAFER DICING APPROACH USING A BESSEL BEAM SHAPER LASER SCRIBING PROCESS AND PLASMA ETCH PROCESS

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 14/517,287 filed October 17, 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

022251/ETCHMMESAMURAIMDD Page 1 of 2

PATENT REEL: 033975 FRAME: 0429 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.

WILL KOOD WIMII OIIM	
10/9/14	
Date	Name: Jungrae Park
Date /	Name: Wei-Sheng Lei
10/10/14	4-80
Date / 0 / 4	Name: James S. Papanu
Date 7 0/16	Name: Brad Eaton
16 15 14 Date	Name: Ajay Kumar
Date	Name:

ASSIGNMENT

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

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

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

HYBRID WAFER DICING APPROACH USING A BESSEL BEAM SHAPER LASER SCRIBING PROCESS AND PLASMA ETCH PROCESS

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 14/517,287 filed October 17, 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

022251/ETCHMMESAMURAIMDD

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: Jungrae Park
10-9-2014	Credo.
Date	Name: Wei-Sheng Lei
Date	Name: James S. Papanu
Date	Name: Brad Eaton
Date	Name: Ajay Kumar
Date	Name:
Date	Name:
Date	Name:
Date	Name;
Date	Name:
Date	Name:
Date	Name:

022251/ETCHMMESAMURAIMDD

RECORDED: 10/17/2014

Page 2 of 2