PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3035829

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SESHARDRI GANGULI	07/30/2014
XINLIANG LU	07/30/2014
ATIF NOORI	08/03/2014
MAITREYEE MAHAJANI	09/19/2014
SHIH CHUNG CHEN	08/17/2014
MEI CHANG	07/25/2014

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:	13525604

CORRESPONDENCE DATA

Fax Number:

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.

Email:lmurphy@dsiplaw.comCorrespondent Name:SERVILLA WHITNEY LLCAddress Line 1:33 WOOD AVENUE SOUTHAddress Line 2:SECOND FLOOR, SUITE 210Address Line 4:ISELIN, NEW JERSEY 08830

ATTORNEY DOCKET NUMBER:	016423/USA/MDP/MDP-ALD
NAME OF SUBMITTER:	ROBERT JOSEPH KROCZYNSKI
SIGNATURE:	/Robert Joseph Kroczynski, Reg. #53160/
DATE SIGNED:	09/24/2014

Total Attachments: 5

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PATENT -

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PATENT REEL: 033805 FRAME: 0663

ASSIGNMENT FOR APPLICATION FOR PATENT

WHEREAS: Names and Addresses of Inventors

1)	Seshadri Ganguli 980 Belmont Terrace #6 Sunnyvale, CA, 94086 United States of America
2)	Xinliang Lu 45 Japala Court Fremont, CA, 94539 United States of America
3)	Atif Noori 13443 Ward Way Saratoga, CA, 95070 United States of America
4)	Maitreyee Mahajani 20255 Knollwood Drive Saratoga, CA, 95070 United States of America

5)	Shih Chung Chen 10220 Vicksburg Court Cupertino, CA, 95014 United States of America
6)	Mei Chang 12881 Corte De Arguello Saratoga, CA, 95070 United States of America

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

"N-Metal Film Deposition With Initiation Layer"

for which application for Letters Patent in the United States was filed on June 18, 2012,

under Serial No. 13/525,604, 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, CA, 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 the Application), and the invention disclosed therein (hereinafter referred to as the 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 the 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 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 sald 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, 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)	7 30 2014	(INVENTOR) Seshadri Ganguli
2)	7/30/,2014	(INVENTOR) Xinliang Lu
3)	2014	(INVENTOR) Atif Noori
4)		(INVENTOR) Maitreyee Mahajani

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 division, substitution, or continuation of said Application; and (d) in and to each and every reissue or extension of any of said Patents.

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1)		(INIVENITOD) Sochodri Conquii
		(INVENTOR) Seshadri Ganguli
2)	, 2014	(INVENTOR) Visitora Lu
	4	(INVENTOR) Xinliang Lu
3)	\$\sqrt{3}, 2014	
	<i>4.</i>	(INVENTOR) All Noori
4)	, 2014	
		(INVENTOR) Maitreyee Mahajani

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 division, substitution, or continuation of said Application; and (d) in and to each and every reissue or extension of any of said Patents.

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1)	, 2014	
·		(INVENTOR) Seshadri Ganguli
2)	, 2014	(INVENTOR) Xinliang Lu
3)	, 2014	(INVENTOR) Atif Noori
4)	Sept 19, 2014	Maltige Mahajani (INVENTOR) Maitreyee Mahajani

5)	2014	(INVENTOR) Shin Chung Chea
6)	7/25	(INVENTOR) Mei Chang

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RECORDED: 09/24/2014