T-890 P.002/016 F-849

U.S. DEPARTMENT OF COMMERCE Form PTO-1595 (Rev. 03-09) OMB No. 0651-0027 (exp. 03/31/2009) United States Patent and Trademark Office

RECORDATION FORM COVER SHEET  PATENTS ONLY  To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.	
	Name: APPUED MATERIALS, INC.
Kaushai K. SINGH, Omkaram NALAMASU, Nety M. KRISHNA, Michael SNURE, Ashutosh, TIWARI	Internal Address:
Additional name(s) of conveying party(ies) attached? Yes X No	Other at Audience and powers weren
3. Nature of conveyance/Execution Date(s):	Street Address: 3050 BOWERS AVENUE
Execution Date(s)3/4/10, 3/4/10, 2/3/10, 2/4/10, 3/20/10	
Assignment Correct Recordation of AssignmentThe Incorrect A/N 12/630,280 and correct A/N s/b 12/643,380	City: Santa Clara
The Incorrect Atty Docket No 013627-02/US/EES/NB, and correct s/b 013627/US/EES/NBThe Incorrect Title Method and Apparatus for Performing Model-	State: CA
Based Layout Conversion for use with Dipole Illumination, and correct s/b Copper Delafossite Transparent P-Type Semiconductor Thin Film Device	Country: USZip: 95054
Other <u>from Doc ID *501132220A*, *501135812A</u>	Additional name(s) & address(es) attached? Tyes No
4. Application or patent number(s):	document is being filed together with a new application.
A. Patent Application No.(s)	B. Patent No.(s)
12/643,380 Additional numbers at	tached? □Yes [X]No
5. Name and address to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved: 1
Name: PILLSBURY WINTHROP SAHW PITTMAN LLP	7. <b>Total fee</b> (37 CFR 1.21(h) & 3.41) \$40.00
Internal Address:	
	Authorized to be charged to deposit account
Street Address: 2475 Hanover Street	Enclosed
Office / Address. 2475 Horizona Succe	None required (government interest not affecting title)
City: Palo Alto	8. Payment Information
State: <u>caZip:94304-1114</u>	
Phone Number: (650) 233-4777	Deposit Account Number 033975
Fax Number: (650) 233-4545	<del></del>
Email Address: mark.dantelson@pillsburylaw.com	Authorized User Name <u>Pillsbury Winthrop et al</u>
9. Signature:	April 13, 2010
Signature	Date
Mark J. Danielson Name of Person Signing	Total number of pages including cover sheet, attachments, and documents:

Documents to be recorded (Including cover sheet) should be faxed to (571) 273-0140, or mailed to: Mall Stop Assignment Recordation Services, Director of the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450

> **PATENT REEL: 024228 FRAME: 0006**

700434468

# PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

03/31/2010 501135812

SUBMISSION TYPE:	CORRECTIVE ASSIGNMENT
NATURE OF CONVEYANCE:	Corrective Assignment to correct the Title: COPPER DELAFOSSITE TRANSPARENT P-TYPE SEMICONDUCTOR THIN FILM DEVICES, Ser No: 12/643,380, Dkt No: 013627/US/EES/NBN previously recorded on Reel 024148 Frame 0669. Assignor(s) hereby confirms the USPTO make corrections as Indicated.

#### **CONVEYING PARTY DATA**

Name	Execution Date
Kaushal K. SINGH	03/04/2010
OMKARAM NALAMASU	03/04/2010
Nety M. KRISHNA	02/03/2010
Michael SNURE	02/04/2010
Ashutosh TIWARI	03/20/2010

#### RECEIVING PARTY DATA

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

#### PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	12843380

### CORRESPONDENCE DATA

Fax Number:

(703)770-7901

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

Phone:

703-770-7900

Email:

dianna.diaz@pillsburylaw.com

Correspondent Name:

PILLSBURY WINTHROP SHAW PITTMAN, LLP

Address Line 1:

P.O. BOX 10500

Address Line 4:

MCLEAN, VIRGINIA 22102

ATTORNEY DOCKET NUMBER:

013627/USA/EES/NBNP/ESONG

PATENT REEL: 024228 FRAME: 0007 04-13-10 01:28pm From-PILLSBURY WINTHROP SHAW PITTMAN 2WB 6502334545 T-890 P.007/016 F-849 TO:PILLSBURY WINTHROP SHAW PITTMAN, LLP COMPANY:P.O. BOX 10500

NAME OF SUBMITTER: Dianna Diaz

Total Attachments: 9
source=099754-0146090-2010-03-30CORRASSGN#page3.tif
source=099754-0146090-2010-03-30CORRASSGN#page4.tif
source=099754-0146090-2010-03-30CORRASSGN#page5.tif
source=099754-0146090-2010-03-30CORRASSGN#page6.tif
source=099754-0146090-2010-03-30CORRASSGN#page7.tif
source=099754-0146090-2010-03-30CORRASSGN#page8.tif
source=099754-0146090-2010-03-30CORRASSGN#page8.tif
source=099754-0146090-2010-03-30CORRASSGN#page9.tif
source=099754-0146090-2010-03-31EDTASSGN#page9.tif

source=099754-0146090 -2010-03-31EDTASSGN#page2.tif

PATENT REEL: 024228 FRAME: 0008

T-890 P.010/016 F-849

Attorney Docket No.: 013627/US/EES/NBN

## ASSIGNMENT FOR APPLICATION FOR PATENT

## WHEREAS:

Name and Address of Joint Inventors:

·	
1 <sup>st</sup> Inventor	2 <sup>nd</sup> Inventor
Kaushal K. SINGH 2118 San Rafael Avenue Santa Clara, CA 95051 United States of America Citizenship: USA	Omkaram NALAMASU 2339 Bentley Ridge Drive San Jose, CA 95138 United States of America Citizenship: USA
3 <sup>rd</sup> Inventor	4 <sup>th</sup> Inventor
Nety M. KRISHNA 1345 Floyd Avenue Sunnyvale, CA 94087 United States of America Citizenship: India	Michael SNURE 805 E. Harrison Avenue Salt Lake City, Utah 84105 United States of America Citizenship: USA
5 <sup>th</sup> Inventor	
Ashutosh TIWARI 7946 Cliffside Drive Sandy, Utah 84094 United States of America Citizenship: India	

(hereinafter referred to as Assignor(s), has/have invented a certain invention entitled:

### COPPER DELAFOSSITE TRANSPARENT P-TYPE SEMICONDUCTOR THIN FILM DEVICES

for which application for Letters Patent in the United States was filed on December 21, 2009; under Serial No. 12/643,380 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, heratofore 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:

Said Assignor(s) 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

1 of 2

Attorney Oocket No.: 013627/US/EES/NBN

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 Assignor(s) 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, divisional, continuing or additional applications covering said invention; (d) for filing and prosecuting applications for reissuance of any of said Patents; (e) for invention and any application therefor 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.
- 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.
- Said Assignor(s) 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 Assignor(s) have executed and delivered this instrument to said Assignee on the dates indicated below.

Kaushal K, SINGH	March 4, 2010
Owen Nalamasu	Maria 4 2010
Nety M. KRISHNA	Date
Michael SNURE	Date
Ashutosh TIWARI	Pate

04-13-10 01:29pm From-PILLSBURY WINTHROP SHAW PITTMAN 2WB 6502334545 T-890 P.012/016 F-849

TO:PILLSBURY WINTHROP SHAW PITTMAN, LLP COMPANY:P.O. BOX 10500

Attorney Docket No.: 013627/US/EES/NBN

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 Assignor(s) 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, caths, 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 or other priority proceedings involving said invention; and (f) for legel proceedings involving said invention and any application therefor and any Patents granted thereon, including without limitation opposition proceedings, cancellation proceedings, priority contests, public uses 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.
- Said Assignor(s) 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 sald Assignor(a) have executed and delivered this instrument to said Assignee on the dates indicated below.

Kaushai K. SINGH	Date
Omkaram NALAMASU	Date
NOM ESCE KOS CO Nely M. KRISHNA	03 FEB 20/0 Date
Michael SNURE	Date
Ashutosh TiWARt	Date

2 of 2

04-13-10 01:29pm From-PILLSBURY WINTHROP SHAW PITTMAN 2WB 6502334545 T-890 P.013/016 F-849 TO:PILLSBURY WINTHROP SHAW PITTMAN, LLP COMPANY:P.O. BOX 10500

Attorney Docket No.: 013627/US/EES/NBN

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 raissue or extension of any of said Patents.

- 2. Said Assignor(s) hereby coverant 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 partinent facts and documents, giving testimony, execution of petitions, caths, 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 epplications covering said Invention; (d) for filing and prosecuting applications for relasuance 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 therefor 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 intere to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon eaid Assignors, their respective heirs, legal representatives and assigns.
- Said Assignor(s) hereby warrant and represent that they have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.

IN VATNESS WHEREOF, the said Assignor(s) have executed and delivered this instrument to said Assignee on the dates indicated below.

Kaushal K. SINGH	Date
Omkaram NALAMASU	Date
Nety M. KRISHNA	Date
Michael SNURE	2/64/10 Date
Ashutosh TiWARI	Date

- 04-13-10 - 01:29pm From-PILLSBURY WINTHROP SHAW PITTMAN 2WB - 6502334545 - T-890 P.014/016 F-849
TO:PILLSBURY WINTHROP SHAW PITTMAN, LLP COMPANY:P.O. FOA 10000

Attorney Docket No.: 013627AUS/EES/NBN

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.

- Said Assignor(s) 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, 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 therefor 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.
- Said Assignor(s) 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 Assignor(s) have executed and delivered this instrument to said Assignee on the dates indicated below.

Kaushal K. SINGH	Date
Omkaram NALAMASU	Date
Nety M. KRISHNA	Date
Michael SNURE	Date
Ashulosh Than' Ashulosh TiWARI	03-20-10 Date



### UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE



\*501135812A\*

APRIL 01, 2010

5

PTAS
PILLSBURY WINTHROP SHAW PITTMAN, LLP
P.O. BOX 10500
MCLEAN, VA 22102

UNITED STATES PATENT AND TRADEMARK OFFICE NOTICE OF NON-RECORDATION OF DOCUMENT

DOCUMENT ID NO.: 501135812

THE ENCLOSED DOCUMENT HAS BEEN EXAMINED AND FOUND NON-RECORDABLE BY THE ASSIGNMENT DIVISION OF THE U.S. FATENT AND TRADEMARK OFFICE. THE REASON(S) FOR NON-RECORDATION ARE STATED BELOW. DOCUMENTS BEING RESUBMITTED FOR RECORDATION MUST BE ACCOMPANIED BY A NEW COVER SHEET REFLECTING THE CORRECT INFORMATION TO BE RECORDED AND THE DOCUMENT ID NUMBER REFERENCED ABOVE.

THE ORIGINAL DATE OF FILING OF THIS ASSIGNMENT DOCUMENT WILL BE MAINTAINED IF RESUBMITTED WITH THE APPROPRIATE CORRECTION(S) WITHIN 30 DAYS FROM THE DATE OF THIS NOTICE AS OUTLINED UNDER 37 CFR 3.51. THE RESUBMITTED DOCUMENT MUST INCLUDE A STAMP WITH THE OFFICIAL DATE OF RECEIPT UNDER 37 CFR 3. APPLICANTS MAY USE THE CERTIFIED PROCEDURES UNDER 37 CFR 1.8 OR 1.10 FOR RESUBMISSION OF THE RETURNED PAPERS, IF THEY DESIRE TO HAVE THE BENEFIT OF THE DATE OF DEPOSIT IN THE UNITED STATES POSTAL SERVICE.

SEND DOCUMENTS TO: U.S. PATENT AND TRADEMARK OFFICE,
MAIL STOP: ASSIGNMENT SERVICES BRANCH, P.O. BOX 1450, ALEXANDRIA, VA 22313.
IF YOU HAVE ANY QUESTIONS REGARDING THIS NOTICE,
YOU MAY CONTACT THE INDIVIDUAL WHOSE NAME APPEARS ON THIS NOTICE AT
571-272-3350.

1. PLEASE PROVIDE THE INCORRECT SERIAL NUMBER IN YOUR NATURE OF CONVEYANCE, IN COMPARISON TO THE CORRECT NUMBER LISTED IN THE PROPERTY FIELD. WE WILL THEN GO TO THE ORIGINAL REEL AND MAKE THE CORRECTION. FAX ALL DOCUMENTS BACK TO 571 273 0140 TO AVOID ADDITIONAL CHARGES.

PAULA MCCRAY-STANLEY, EXAMINER

P.O. Box 1450, Alexandria, Virginia 22313-1450 - www.userto.gov

PATENT REEL: 024228 FRAME: 0014

**RECORDED: 04/13/2010**