


ATTY. DKT. NO. 2096 USA P02 / CPI / COPPER / PJS

<small>FORM PTO-155a (Rev. 6-93) OMB No. 0651-0011 (exp. 4/94)</small>		RECORDATION FORM COVER SHEET PATENTS ONLY	U.S. Department of Commerce Patent and Trademark Office
To the Honorable Commissioner of Patents and Trademarks: Please record the attached original document or copy thereof.			
1. Name of conveying party(ies): <div style="display: flex; justify-content: space-between;"> <div> PEIJUN DING ZHENG XU HONG ZHANG XIANMIN TANG PRABURAM GOPALRAJA SURAJ RENGARAJAN JOHN C. FORSTER JIANMING FU TONY CHIANG GONGDAO YAO FUSEN E. CHEN BARRY L. CHIN GENE Y. KOHARA </div> <div style="font-size: small;"> <u>Date</u> March 25, 2005 March 24, 2005 April 20, 2005 March 17, 2005 June 6, 2005 March 18, 2005 March 18, 2005 March 21, 2005 May 08, 2005 May 24, 2005 March 26, 2005 March 19, 2005 May 10, 2005 </div> </div> Additional name(s) of conveying party(ies) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2. Name and address of receiving party(ies): Name: <u>Applied Materials, Inc.</u> Internal Address: <u>P.O. Box 450-A</u> Street Address: _____ City: <u>Santa Clara</u> State: <u>CA</u> Zip: <u>95052</u> Additional name(s) & address(es) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
3. Nature of conveyance: <div style="display: flex; justify-content: space-between;"> <div><input checked="" type="checkbox"/> Assignment</div> <div><input type="checkbox"/> Merger</div> </div> <div style="display: flex; justify-content: space-between;"> <div><input type="checkbox"/> Security Agreement</div> <div><input type="checkbox"/> Change of Name</div> </div> Execution Date: <u>SEE ABOVE</u>			
4. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application is: _____ (Date of Filing) A. Patent Application No.(s) <u>11/069,348</u> Filed <u>02/28/2005</u> B. Patent No.(s) _____ Additional numbers attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
5. Name and address of party to whom correspondence concerning document should be mailed: Name: <u>Patent Counsel</u> Internal Address: <u>APPLIED MATERIALS, INC.</u> Street Address: <u>P.O. Box 450-A</u> City: <u>Santa Clara</u> State: <u>CA</u> Zip: <u>95052</u>	6. Total number of applications and patents involved: <u>1</u> 7. Total fee (37 CFR § 3.41): _____ \$ <u>40.00</u> <input type="checkbox"/> Enclosed <input checked="" type="checkbox"/> Authorized to be charged to deposit account		
8. Deposit account number: <u>50-1074</u>			
DO NOT USE THIS SPACE			
9. Statement and signature. <i>To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.</i> <div style="display: flex; justify-content: space-between;"> <div> ROBERT W. MULCAHY Reg. No. 25,326 </div> <div style="text-align: center;">  Signature </div> <div style="text-align: center;"> <u>06/10/05</u> Date </div> </div> Total number of pages including cover sheet, attachments and document: <u>23</u>			

Mail documents to be recorded with required cover sheet information to:
 Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450

CH \$40.00 601074 11069348

Attorney Docket No.: AM-2096.P2

ASSIGNMENT FOR APPLICATION FOR PATENT**WHEREAS:****Names and Addresses of Inventors:**

1)	Peijun Ding 20297 Seagull Way Saratoga, California 95070	2)	Zheng Xu 9615 Crosby Drive Pleasanton, California. 94588
3)	Hong Zhang 818 Yakima Drive Fremont, California 94539	4)	Xianmin Tang 1600 Peterson Avenue, # 10 San Jose, California 95129
5)	Praburam Gopalraja 1305 Tea Rose Circle San Jose, California 95131	6)	Suraj Rengarajan 4819 Miramar Avenue San Jose, California 95129
7)	John C. Forster 465 Tenth Street, # 205 San Francisco, California 94103	8)	Jianming Fu 978 Clara Drive Palo Alto, California 94303
9)	Tony Chiang 1690 Civic Center Drive #503 Santa Clara, California 95050	10)	Gongda Yao 44875 Winding Lane Fremont, California 94539
11)	Fusen E. Chen 13081 La Vista Court Saratoga, California 95070	12)	Barry L. Chin 13174 Cumberland Drive Saratoga, California 95070
13)	Gene Y. Kohara 38680 Hastings Street, # A-203 Fremont, California 94536		

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

**METHOD OF DEPOSITING A TANTALUM NITRIDE / TANTALUM
DIFFUSION BARRIER LAYER SYSTEM**

for which an application for Letters Patent in the United States was filed on February 28, 2005,
under U.S. Application Serial No. ; 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 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

Attorney Docket No.: AM-2096.P2

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 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.

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 date indicated below.

1)	<u>3/25</u> , 2005	 Peijun Ding
2)	<u>3/24</u> , 2005	 Zheng Xu
3)	<u>4/20/05</u> , 2005	 Hong Zhang
4)	<u>3/17</u> , 2005	 Xianmin Tang

Attorney Docket No.: AM-2096.P2

5) _____, 2005

Praburam Gopalraja

6) March 18th, 2005
Suraj Rengarajan7) March 18th, 2005
John C. Forster8) March 21, 2005
Jianming Fu

9) _____, 2005

Tony Chiang

10) _____, 2005

Gongda Yao

11) _____, 2005

Fusen E. Chen

12) _____, 2005

Barry L. Chin

13) _____, 2005

Gene Y. Kohara

Attorney Docket No.: AM-2096.P2 CPI/COPPER

ASSIGNMENT FOR APPLICATION FOR PATENT

WHEREAS:

Names and Addresses of Inventors:

1)	Peijun Ding 20297 Seagull Way Saratoga, California 95070	2)	Zheng Xu 9615 Crosby Drive Pleasanton, California 94588
3)	Hong Zhang 818 Yakima Drive Fremont, California 94539	4)	Xianmin Tang 1600 Peterson Avenue, # 10 San Jose, California 95129
5)	Praburam Gopalraja 1305 Tea Rose Circle San Jose, California 95131	6)	Suraj Rengarajan 4819 Miramar Avenue San Jose, California 95129
7)	John C. Forster 465 Tenth Street, # 205 San Francisco, California 94103	8)	Jianming Fu 978 Clara Drive Palo Alto, California 94303
9)	Tony Chiang 1335 Westmont Avenue Campbell, California 95008	10)	Gongda Yao 44875 Winding Lane Fremont, California 94539
11)	Fusen E. Chen 13081 La Vista Court Saratoga, California 95070	12)	Barry L. Chin 13174 Cumberland Drive Saratoga, California 95070
13)	Gene Y. Kohara 38680 Hastings Street, # A-203 Fremont, California 94536		

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

METHOD OF DEPOSITING A TANTALUM NITRIDE / TANTALUM
DIFFUSION BARRIER LAYER SYSTEM

for which an application for Letters Patent in the United States was filed on February 28, 2005,
under U.S. Application Serial No. 11/069,348 ; 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 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

Attorney Docket No.: AM-2096.P2 CPI/COPPER

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 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.

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 date indicated below.

1)	_____	2005	_____	Peijun Ding
2)	_____	2005	_____	Zheng Xu
3)	_____	2005	_____	Hong Zhang
4)	_____	2005	_____	Xianmin Tang
5)	6/6/05	2005	_____	Praburam Gopalraja
6)	_____	2005	_____	Suraj Rengarajan

Attorney Docket No.: AM-2096.P2 CPI/COPPER

- 7) _____, 2005
John C. Forster
- 8) _____, 2005
Jianming Fu
- 9) _____, 2005
Tony Chiang
- 10) _____, 2005
Gongda Yao
- 11) _____, 2005
Fusen E. Chen
- 12) _____, 2005
Barry L. Chin
- 13) _____, 2005
Gene Y. Kohara

Attorney Docket No.: AM-2096.P2

ASSIGNMENT FOR APPLICATION FOR PATENT**WHEREAS:**

Names and Addresses of Inventors:

1)	Peijun Ding 20297 Seagull Way Saratoga, California 95070	2)	Zheng Xu 9615 Crosby Drive Pleasanton, California 94588
3)	Hong Zhang 818 Yakima Drive Fremont, California 94539	4)	Xianmin Tang 1600 Peterson Avenue, # 10 San Jose, California 95129
5)	Praburam Gopalraja 1305 Tea Rose Circle San Jose, California 95131	6)	Suraj Rengarajan 4819 Miramar Avenue San Jose, California 95129
7)	John C. Forster 465 Tenth Street, # 205 San Francisco, California 94103	8)	Jianming Fu 978 Clara Drive Palo Alto, California 94303
9)	Tony Chiang 1335 Westmont Avenue Campbell, California 95008	10)	Gongda Yao 44875 Winding Lane Fremont, California 94539
11)	Fusen E. Chen 13081 La Vista Court Saratoga, California 95070	12)	Barry L. Chin 13174 Cumberland Drive Saratoga, California 95070
13)	Gene Y. Kohara 38680 Hastings Street, # A-203 Fremont, California 94536		

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

**METHOD OF DEPOSITING A TANTALUM NITRIDE / TANTALUM
DIFFUSION BARRIER LAYER SYSTEM**for which an application for Letters Patent in the United States was filed on February 28, 2005,
under U.S. Application Serial No. ; 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 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

Attorney Docket No.: AM-2096.P2

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 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.

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 date indicated below.

1)	_____	2005	_____	Peijun Ding
2)	_____	2005	_____	Zheng Xu
3)	_____	2005	_____	Hong Zhang
4)	_____	2005	_____	Xianmin Tang

Attorney Docket No.: AM-2096.P2

- 5) _____, 2005
Praburam Gopalraja
- 6) _____, 2005
Suraj Rengarajan
- 7) _____, 2005
John C. Forster
- 8) _____, 2005
Jianming Fu
- 9) *May 08*, 2005

Tony Chiang
- 10) _____, 2005
Gongda Yao
- 11) _____, 2005
Fusen E. Chen
- 12) _____, 2005
Barry L. Chin
- 13) _____, 2005
Gene Y. Kohara

Attorney Docket No.: AM-2096.P2 CPI/COPPER

ASSIGNMENT FOR APPLICATION FOR PATENT**WHEREAS:****Names and Addresses of Inventors:**

1)	Peijun Ding 20297 Seagull Way Saratoga, California 95070	2)	Zheng Xu 9615 Crosby Drive Pleasanton, California. 94588
3)	Hong Zhang 818 Yakima Drive Fremont, California 94539	4)	Xianmin Tang 1600 Petersdn Avenue, # 10 San Jose, California 95129
5)	Praburam Gopalraja 1305 Tea Rose Circle San Jose, California 95131	6)	Suraj Rengarajan 4819 Miramar Avenue San Jose, California 95129
7)	John C. Forster 465 Tenth Street, # 205 San Francisco, California 94103	8)	Jianming Fu 978 Clara Drive Palo Alto, California 94303
9)	Tony Chiang 1335 Westmont Avenue Campbell, California 95008	10)	Gongda Yao 44875 Winding Lane Fremont, California 94539
11)	Fusen E. Chen 13081 La Vista Court Saratoga, California 95070	12)	Barry L. Chin 13174 Cumberland Drive Saratoga, California 95070
13)	Gene Y. Kohara 38680 Hastings Street, # A-203 Fremont, California 94536		

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

**METHOD OF DEPOSITING A TANTALUM NITRIDE / TANTALUM
DIFFUSION BARRIER LAYER SYSTEM**for which an application for Letters Patent in the United States was filed on February 28, 2005,
under U.S. Application Serial No. 11/069,348 ; 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 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

Attorney Docket No.: AM-2096.P2 CPI/COPPER

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 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.

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 date indicated below.

1)	_____, 2005	Peijun Ding
2)	_____, 2005	Zheng Xu
3)	_____, 2005	Hong Zhang
4)	_____, 2005	Xianmin Tang
5)	_____, 2005	Praburam Gopalraja
6)	_____, 2005	Suraj Rengarajan

Attorney Docket No.: AM-2096.P2 CPI/COPPER

7) _____, 2005

John C. Forster

8) _____, 2005

Jianming Fu

9) _____, 2005

Tony Chiang

10) *May 24* _____, 2005*Gongda Yao*
Gongda Yao

11) _____, 2005

Fusen E. Chen

12) _____, 2005

Barry L. Chin

13) _____, 2005

Gene Y. Kohara

Attorney Docket No.: AM-2096.P2

ASSIGNMENT FOR APPLICATION FOR PATENT**WHEREAS:**

Names and Addresses of Inventors:

1)	Peijun Ding 20297 Seagull Way Saratoga, California 95070	2)	Zheng Xu 9815 Crosby Drive Pleasanton, California. 94588
3)	Hong Zhang 818 Yakima Drive Fremont, California 94539	4)	Xianmin Tang 1600 Peterson Avenue, # 10 San Jose, California 95129
5)	Praburam Gopalraja 1305 Tea Rose Circle San Jose, California 95131	6)	Suraj Rengarajan 4819 Miramar Avenue San Jose, California 95129
7)	John C. Forster 465 Tenth Street, # 205 San Francisco, California 94103	8)	Jianming Fu 978 Clara Drive Palo Alto, California 94303
9)	Tony Chiang 1690 Civic Center Drive #503 Santa Clara, California 95050	10)	Gongda Yao 44875 Winding Lane Fremont, California 94539
11)	Fusen E. Chen 13081 La Vista Court Saratoga, California 95070	12)	Barry L. Chin 13174 Cumberland Drive Saratoga, California 95070
13)	Gene Y. Kohara 38680 Hastings Street, # A-203 Fremont, California 94536		

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

**METHOD OF DEPOSITING A TANTALUM NITRIDE / TANTALUM
DIFFUSION BARRIER LAYER SYSTEM**for which an application for Letters Patent in the United States was filed on February 28, 2005,
under U.S. Application Serial No. ; 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 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

Attorney Docket No.: AM-2096.P2

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 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.

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 date indicated below.

1)	_____	2005	_____	Peijun Ding
2)	_____	2005	_____	Zheng Xu
3)	_____	2005	_____	Hong Zhang
4)	_____	2005	_____	Xianmin Tang

Attorney Docket No.: AM-2096.P2

5) _____, 2005

Praburam Gopalraja

6) _____, 2005

Suraj Rengarajan

7) _____, 2005

John C. Forster

8) _____, 2005

Jianming Fu

9) _____, 2005

Tony Chiang

10) _____, 2005

Gongda Yao

11) 3/26/05, 2005
Fusen E. Chen

12) _____, 2005

Barry L. Chin

13) _____, 2005

Gene Y. Kohara

Attorney Docket No.: AM-2096.P2

ASSIGNMENT FOR APPLICATION FOR PATENT**WHEREAS:****Names and Addresses of Inventors:**

1)	Peijun Ding 20297 Seagull Way Saratoga, California 95070	2)	Zheng Xu 9615 Crosby Drive Pleasanton, California. 94588
3)	Hong Zhang 818 Yakima Drive Fremont, California 94539	4)	Xianmin Tang 1600 Peterson Avenue, # 10 San Jose, California 95129
5)	Praburam Gopalraja 1305 Tea Rose Circle San Jose, California 95131	6)	Suraj Rengarajan 4819 Miramar Avenue San Jose, California 95129
7)	John C. Forster 465 Tenth Street, # 205 San Francisco, California 94103	8)	Jianming Fu 978 Clara Drive Palo Alto, California 94303
9)	Tony Chiang 1690 Civic Center Drive #503 Santa Clara, California 95050	10)	Gongda Yao 44875 Winding Lane Fremont, California 94539
11)	Fusen E. Chen 13081 La Vista Court Saratoga, California 95070	12)	Barry L. Chin 13174 Cumberland Drive Saratoga, California 95070
13)	Gene Y. Kohara 38680 Hastings Street, # A-203 Fremont, California 94536		

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

**METHOD OF DEPOSITING A TANTALUM NITRIDE / TANTALUM
DIFFUSION BARRIER LAYER SYSTEM**for which an application for Letters Patent in the United States was filed on February 28, 2005,
under U.S. Application Serial No. ; 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 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

Attorney Docket No.: AM-2096.P2

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 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.

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 date indicated below.

1) _____, 2005

Peijun Ding

2) _____, 2005

Zheng Xu

3) _____, 2005

Hong Zhang

4) _____, 2005

Xianmin Tang

Attorney Docket No.: AM-2096.P2

- 5) _____, 2005
Praburam Gopalraja
- 6) _____, 2005
Suraj Rengarajan
- 7) _____, 2005
John C. Forster
- 8) _____, 2005
Jianming Fu
- 9) _____, 2005
Tony Chiang
- 10) _____, 2005
Gongda Yao
- 11) _____, 2005
Fusen E. Chen
- 12) March 19, 2005
Barry L. Chin
Barry L. Chin
- 13) _____, 2005
Gene Y. Kohara

Attorney Docket No.: AM-2096.P2

ASSIGNMENT FOR APPLICATION FOR PATENT**WHEREAS:****Names and Addresses of Inventors:**

1)	Peijun Ding 20297 Seagull Way Saratoga, California 95070	2)	Zheng Xu 9615 Crosby Drive Pleasanton, California 94588
3)	Hong Zhang 818 Yakima Drive Fremont, California 94539	4)	Xianmin Tang 1600 Peterson Avenue, # 10 San Jose, California 95129
5)	Praburam Gopalraja 1305 Tea Rose Circle San Jose, California 95131	6)	Suraj Rengarajan 4819 Miramar Avenue San Jose, California 95129
7)	John C. Forster 465 Tenth Street, # 205 San Francisco, California 94103	8)	Jianming Fu 978 Clara Drive Palo Alto, California 94303
9)	Tony Chiang 1690 Civic Center Drive #503 Santa Clara, California 95050	10)	Gongda Yao 44875 Winding Lane Fremont, California 94539
11)	Fusen E. Chen 13081 La Vista Court Saratoga, California 95070	12)	Barry L. Chin 13174 Cumberland Drive Saratoga, California 95070
13)	Gene Y. Kohara 38680 Hastings Street, # A-203 Fremont, California 94536		

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

**METHOD OF DEPOSITING A TANTALUM NITRIDE / TANTALUM
DIFFUSION BARRIER LAYER SYSTEM**for which an application for Letters Patent in the United States was filed on February 28, 2005,
under U.S. Application Serial No. ; 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 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

Attorney Docket No.: AM-2096.P2

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 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.

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 date indicated below.

1)	_____, 2005	Peijun Ding
2)	_____, 2005	Zheng Xu
3)	_____, 2005	Hong Zhang
4)	_____, 2005	Xianmin Tang

Attorney Docket No.: AM-2096.P2

5)	_____	2005	Praburam Gopalraja
6)	_____	2005	Suraj Rengarajan
7)	_____	2005	John C. Forster
8)	_____	2005	Jianming Fu
9)	_____	2005	Tony Chiang
10)	_____	2005	Gongda Yao
11)	_____	2005	Fusen E. Chen
12)	_____	2005	Barry L. Chin
13)	5/10	2005	 Gene Y. Kohara