## 502661738 01/31/2014

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT2708346

| SUBMISSION TYPE:      | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT     |

## **CONVEYING PARTY DATA**

| Name                   | Execution Date |
|------------------------|----------------|
| BARRY L. CHIN          | 07/23/2001     |
| ALFRED W. MAK          | 07/25/2001     |
| LAWRENCE CHUNG-LAI LEI | 07/24/2001     |
| MING XI                | 07/24/2001     |
| HUA CHUNG              | 07/25/2001     |
| KEN KAUNG LAI          | 07/23/2001     |
| JEONG SOO BYUN         | 07/24/2001     |

### 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: | 14149560 |

## **CORRESPONDENCE DATA**

Fax Number: (713)623-4846 Phone: 7136234844

Email: DWEDDERBURN@PATTERSONSHERIDAN.COM, PSDOCKETING@PATTERSONSHERIDAN.COM

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

Correspondent Name: PATTERSON & SHERIDAN, LLP

Address Line 1: 3040 POST OAK BLVD

Address Line 2: SUITE 1500

Address Line 4: HOUSTON, TEXAS 77056

502661738 REEL: 032107 FRAME: 0122

**PATENT** 

| ATTORNEY DOCKET NUMBER:   | APPM/005017USC5    |
|---|--------------------|
| NAME OF SUBMITTER:  | KEITH M. TACKETT   |
| Signature:  | /KEITH M. TACKETT/ |
| Date:   | 01/31/2014         |
| Total Attachments: 14 source=005017USC5_Assignment#page1.tif source=005017USC5_Assignment#page2.tif source=005017USC5_Assignment#page3.tif source=005017USC5_Assignment#page4.tif source=005017USC5_Assignment#page5.tif source=005017USC5_Assignment#page6.tif source=005017USC5_Assignment#page7.tif source=005017USC5_Assignment#page8.tif source=005017USC5_Assignment#page9.tif source=005017USC5_Assignment#page9.tif source=005017USC5_Assignment#page10.tif source=005017USC5_Assignment#page11.tif source=005017USC5_Assignment#page12.tif source=005017USC5_Assignment#page12.tif source=005017USC5_Assignment#page13.tif |                    |

PATENT REEL: 032107 FRAME: 0123



# ASSIGNMENT FOR APPLICATION FOR PATENT

#### WHEREAS:

Names and Addresses of Inventors:

- Barry L. Chin
   13174 Cumberland Drive
   Saratoga, CA 95070
- 2) Alfred W. Mak 32722 Fellows Court Union City, CA 94587
- Lawrence Chung-Lai Lei
   1594 Country Club Drive
   Milpitas, CA 95035
- 4) Ming Xi 151 Churchill Avenue Palo Alto, California 94306

- 5) Hua Chung 4645 Piper Drive San Jose, CA 95129
- 6) Ken Kaung Lai 1354 Terra Alta Drive Milpitas, CA 95035
- Jeong Soo Byun
   20975 Valley Green Drive #257
   Cupertino, CA 95014

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

## ATOMIC LAYER DEPOSITION APPARATUS

for which application for Letters Patent in the United States was 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, 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 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. Sald 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 filling and prosecuting substitute, divisional, continuing or additional applications covering said Invention; (d) for filling 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.

| 1)   | July 23 , 2001 | Barry CHIN             |
|------|----------------|------------------------|
| 2)   | , 2001         | ALFRED W. MAK          |
| 3)   | , 2001         | LAWRENCE CHUNG-LAI LEI |
| 4)   | , 2001         | MING XI                |
| 5)   | , 2001         | HUA CHUNG              |
| 6)   |                | KEN KAUNG LAI          |
| 7) . | , 2001         | JEONG SOO BYUN         |



## ASSIGNMENT FOR APPLICATION FOR PATENT

#### WHEREAS:

Names and Addresses of Inventors:

- Barry L. Chin
   13174 Cumberland Drive
   Saratoga, CA 95070
- 2) Alfred W. Mak 32722 Fellows Court Union City, CA 94587
- Lawrence Chung-Lai Lei
   1594 Country Club Drive
   Milpitas, CA 95035
- 4) Ming Xi 151 Churchill Avenue Palo Alto, California 94306

- 5) Hua Chung 4645 Piper Drive San Jose, CA 95129
- 6) Ken Kaung Lai 1354 Terra Alta Drive Milpitas, CA 95035
- Jeong Soo Byun
   20975 Valley Green Drive #257
   Cupertino, CA 95014

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

## ATOMIC LAYER DEPOSITION APPARATUS

for which application for Letters Patent in the United States was 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, 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 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.

- Said Assignes 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.

| 1) | 2001        |                        |
|----|-------------|------------------------|
|    |             | BARRY L. CHIN          |
| 2) | 7 25 , 2001 | ALFRED W MAK           |
| 3) | , 2001      |                        |
|    |             | LAWRENCE CHUNG-LAI LEI |
| 4) | 2001        | MING XI                |
| 5) | , 2001      |                        |
|    |             | HUA CHUNG              |
| 6) |             | KEN KAUNG LAI          |
| 7) | , 2001      |                        |
|    |             | IEONC COO BYUN         |



## ASSIGNMENT FOR APPLICATION FOR PATENT

### WHEREAS:

Names and Addresses of Inventors:

- Barry L. Chin
   13174 Cumberland Drive
   Saratoga, CA 95070
- 2) Alfred W. Mak 32722 Fellows Court Union City, CA 94587
- Lawrence Chung-Lai Lei
   1594 Country Club Drive
   Milpitas, CA 95035
- 4) Ming Xi 151 Churchill Avenue Palo Alto, California 94306

- 5) Hua Chung 4645 Piper Drive San Jose, CA 95129
- 6) Ken Kaung Lai 1354 Terra Alta Drive Milpitas, CA 95035
- 7) Jeong Soo Byun 20975 Valley Green Drive #257 Cupertino, CA 95014

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

## ATOMIC LAYER DEPOSITION APPARATUS

for which application for Letters Patent in the United States was 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, 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 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.

- Said Assigner 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 tegal 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. Sald Assignors hereby warrant and represent that they have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.

| 1) | , 2001        | BARRY L. CHIN         |
|----|---------------|-----------------------|
| 2) | , 2001        | ALFRED W. MAK         |
| 3) | July 24, 2001 | LAWRENCE CHUNG-LAI LE |
| 4) | , 2001        | MING XI               |
| 5) | , 2001        | HUA CHUNG             |
| 6) | , 2001        | KEN KAUNG LAI         |
| 7) | , 2001        | IFONG SOO RYINI       |



## ASSIGNMENT FOR APPLICATION FOR PATENT

### WHEREAS:

Names and Addresses of Inventors:

- 1) Barry L. Chin 13174 Cumberland Drive Saratoga, CA 95070
- 2) Alfred W. Mak 32722 Fellows Court Union City, CA 94587
- Lawrence Chung-Lai Lei 1594 Country Club Drive Milpitas, CA 95035
- 4) Ming Xi 151 Churchill Avenue Palo Alto, California 94306

- 5) Hua Chung 4645 Piper Drive San Jose, CA 95129
- 6) Ken Kaung Lai 1354 Terra Alta Drive Milpitas, CA 95035
- Jeong Soo Byun
   20975 Valley Green Drive #257
   Cupertino, CA 95014

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

### ATOMIC LAYER DEPOSITION APPARATUS

for which application for Letters Patent in the United States was 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, 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 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. Sald Assignors hereby covenant and agree to cooperate with said Assignee to enable sald 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.

| 1) | , 2001           | BARRY L. CHIN          |
|----|------------------|------------------------|
| 2) | , 2001           | ALFRED W. MAK          |
| 3) | , 2001           | LAWRENCE CHUNG-LAI LEI |
| 4) | July 24 th, 2001 | MING XI                |
| 5) | , 2001           | HUA CHUNG              |
| 6) | 2001             | KEN KAUNG LAI          |
| 7) | , 2001           | JEONG SOO BYUN         |



## ASSIGNMENT FOR APPLICATION FOR PATENT

### WHEREAS:

Names and Addresses of Inventors:

- Barry L. Chin
   13174 Cumberland Drive
   Saratoga, CA 95070
- Alfred W. Mak
   32722 Fellows Court
   Union City, CA 94587
- Lawrence Chung-Lai Lei 1594 Country Club Drive Milpitas, CA 95035
- 4) Ming Xi 151 Churchill Avenue Palo Alto, California 94306

- 5) Hua Chung 4645 Piper Drive San Jose, CA 95129
- Ken Kaung Lai
   1354 Terra Alta Drive
   Milpitas, CA 95035
- 7) Jeong Soo Byun 20975 Valley Green Drive #257 Cupertino, CA 95014

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

## ATOMIC LAYER DEPOSITION APPARATUS

for which application for Letters Patent in the United States was 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, 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 Patents) thereon granted in any and all countries and groups of countries.

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Assigners 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 sald 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.

| 1) | 2001      | BARRY L. CHIN          |
|----|-----------|------------------------|
| 2) | , 2001    | ALFRED W. MAK          |
| 3) | , 2001    | LAWRENCE CHUNG-LAI LEI |
| 4) | , 2001    | MING XI                |
| 5) | 2/>5 2001 | HUA CHUNG              |
| 6) | , 2001    | KEN KAUNG LAI          |
| 7) | , 2001    | JEONG SOO BYUN         |



# ASSIGNMENT FOR APPLICATION FOR PATENT

#### WHEREAS:

Names and Addresses of Inventors:

- 1) Barry L. Chin 13174 Cumberland Drive Saratoga, CA 95070
- 2) Aifred W. Mak 32722 Fellows Court Union City, CA 94587
- Lawrence Chung-Lal Lei 1594 Country Club Drive Milpitas, CA 95035
- 4) Ming XI 151 Churchill Avenue Palo Alto, California 94306

- 5) Hua Chung 4645 Piper Drive San Jose, CA 95129
- 6) Ken Kaung Lal 1354 Terra Alta Drive Milpitas, CA 95035
- Jeong Soo Byun
   20975 Valley Green Drive #257
   Cupertino, CA 95014

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

## **ATOMIC LAYER DEPOSITION APPARATUS**

for which application for Letters Patent in the United States was executed on even date herewith;

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, 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 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 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.

| 1)        | , 2001          | BARRY L. CHIN          |
|-----------|-----------------|------------------------|
| 2)        | , 2001          | ALFRED W. MAK          |
| 3)        | , 2001          | LAWRENCE CHUNG-LAI LEI |
| 4)        | , 2001          | MING XI                |
| 5)        | , 2001          | HUA CHUNG              |
| <b>6)</b> | July 23th, 2001 | KEN KAUNG LAI          |
| 7)        | , 2001          | FONC SOO DVI IN        |



### ASSIGNMENT FOR APPLICATION FOR PATENT

#### WHEREAS:

Names and Addresses of Inventors:

- 1) Barry L. Chin 13174 Cumberland Drive Saratoga, CA 95070
- 2) Aifred W. Mak 32722 Fellows Court Union City, CA 94587
- Lawrence Chung-Lai Lei
   1594 Country Club Drive
   Milpitas, CA 95035
- 4) Ming Xi 151 Churchill Avenue Palo Alto, California 94306

- 5) Hua Chung 4645 Piper Drive San Jose, CA 95129
- 6) Ken Kaung Lai 1354 Terra Alta Drive Milpitas, CA 95035
- 7) Jeong Soo Byun 20975 Valley Green Drive #257 Cupertino, CA 95014

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

## **ATOMIC LAYER DEPOSITION APPARATUS**

for which application for Letters Patent in the United States was 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, 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 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 sald 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.

| 1) | , 2001    | BARRY L. CHIN          |
|----|-----------|------------------------|
| 2) | , 2001    | ALFRED W. MAK          |
| 3) | , 2001    | LAWRENCE CHUNG-LAI LEI |
| 4) | , 2001    | MING XI                |
| 5) | , 2001    | HUA CHUNG              |
| 6) | , 2001    | KEN KAUNG LAI          |
| 7) | 1/24,2001 | J. S. By The           |

2 of 2