506383465 12/03/2020

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6430221

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
PAUL ZACHARY WIRTH	09/23/2020
KIYKI-SHIY SHANG	03/31/2020
MIKHAIL TARABOUKHINE	12/02/2020

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:	16867362

CORRESPONDENCE DATA

Fax Number: (650)328-2799

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

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

Phone: 9735972500

Email: CNascimento@lowenstein.com **Correspondent Name:** LOWENSTEIN SANDLER LLP Address Line 1: ONE LOWENSTEIN DRIVE

Address Line 4: **ROSELAND, NEW JERSEY 07068**

ATTORNEY DOCKET NUMBER:	36119.673 (L0673)
NAME OF SUBMITTER:	AUDREY G. OGURCHAK
SIGNATURE:	/Audrey G. Ogurchak/
DATE SIGNED:	12/03/2020

Total Attachments: 4

source=36119-673 L0673 AssignmentFiled 03DEC2020#page1.tif source=36119-673_L0673_AssignmentFiled_03DEC2020#page2.tif source=36119-673 L0673 AssignmentFiled 03DEC2020#page3.tif source=36119-673 L0673 AssignmentFiled 03DEC2020#page4.tif

PATENT REEL: 054534 FRAME: 0531 506383465

Case No. 36119-673 (L0673)

PATENT APPLICATION ASSIGNMENT

w	н	⊏	₽	⊏	Δ	9	•
vv		_	$\overline{}$	_	_	o	_

Names and Addresses of Inventors:

(1) Paul Zachary Wirth 3050 Bowers Ave. Santa Clara, CA 95054 (2) Kiyki-Shiy Shang 3050 Bowers Ave. Santa Clara, CA 95054

(3) Mikhail Taraboukhine 3050 Bowers Ave. Santa Clara, CA 95054

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

METHODS AND SYSTEMS FOR TEMPERATURE CONTROL FOR A SUBSTRATE

for which for which a patent application of the United States has been filed on May 5, 2020 as Serial No. 16/867,362; 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.

Atty. Docket No. 36119-673(L0673) 1 of 2

PATENT REEL: 054534 FRAME: 0532

Case No. 36119-673 (L0673)

- 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 dates indicated below.

amm Docu Signed by

9/23/2020	, 2020	Port Divin
(date)		Paul Zachary Wirth
	2020	
(date) , 2020	Kiyki-Shiy Shang	
	, 2020	
(date)		Mikhail Taraboukhine

Atty. Docket No. 36119-673(L0673)

2 of 2

- 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 dates indicated below.

(date) . 2020	Paul Zechary Wirth
MARCH 31 2020	KITKI Shiy Shang
	Control Control

Case No. 36119-673 (L0673)

- 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.

IN WITNESS WHEREOF, the said Assignors have executed and delivered this instrument to said Assignee on the dates indicated below.

2020 (date)	Paul Zachary Wirth
, 2020 (date)	Kiyki-Shiy Shang
<u>/2. </u>	Mikhail Taraboukhine

Atty. Docket No. 36119-673(L0673)

2 of 2