505257464 12/31/2018

PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT5304236

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
NA ZHANG	12/21/2018
KEVIN P. DOCKERY	12/21/2018
ZHAO LIU	12/21/2018
ROMAN A. IVANOV	12/28/2018

RECEIVING PARTY DATA

Name:	CABOT MICROELECTRONICS CORPORATION
Street Address:	870 NORTH COMMONS DRIVE
City:	AURORA
State/Country:	ILLINOIS
Postal Code:	60504

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16236962

CORRESPONDENCE DATA

Fax Number: (630)499-2654

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: 630-375-2033

Email: CMC PROSECUTION@CABOTCMP.COM

THOMAS OMHOLT PATENT PROSECUTION AGENT **Correspondent Name:**

Address Line 1: CABOT MICROELECTRONICS CORPORATION

Address Line 2: 870 NORTH COMMONS DRIVE

Address Line 4: AURORA, ILLINOIS 60504

ATTORNEY DOCKET NUMBER:	100710	
NAME OF SUBMITTER:	PATRICIA ROMANELLI	
SIGNATURE:	/Patricia Romanelli/	
DATE SIGNED:	12/31/2018	

Total Attachments: 2

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> **PATENT REEL: 047875 FRAME: 0997** 505257464

Docket No. 100710

ASSIGNMENT

WHEREAS, we, Na Zhang of Naperville, Illinois, Kevin P. Dockery of Aurora, Illinois, Zhao Liu of Naperville, Illinois and Roman A. Ivanov of Aurora, Illinois, have invented and own a certain invention entitled COMPOSITION FOR TUNGSTEN CMP for which invention we have executed an application (provisional or non-provisional) for a United States patent, filed on December 31, 2018, under Application No. 16/236,962; and

WHEREAS, Cabot Microelectronics Corporation, of 870 North Commons Drive, Aurora, Illinois, 60504, (hereinafter referred to as Assignee), is desirous of acquiring the entire domestic and foreign right, title, and interest in and under the invention described in the patent application;

NOW, THEREFORE, for good and valuable considerations, the receipt and sufficiency of which are hereby acknowledged, we assign and transfer to the Assignee and the Assignee's legal representatives, successors and assigns the full and exclusive rights in and to the invention in the United States and every foreign country and the entire right, title, and interest in and to the patent application and other such applications (e.g., provisional applications, non-provisional applications, continuations, continuations-in-part, divisionals, reissues, renewals, and extensions) that may be filed in the United States and every foreign country on the invention, and the patents or extensions thereof, both foreign and domestic, that may issue thereon, and we do hereby authorize and request the Commissioner of Patents and Trademarks to issue United States patents to the above-mentioned Assignee agreeably with the terms of this assignment document.

WE HEREBY AUTHORIZE the Assignee to insert in this assignment document the filing date and serial number of the application if the date and number are unavailable at the time this document is executed.

UPON SAID CONSIDERATION, we convey to the Assignee the right to make application in its own behalf for protection of the invention in countries foreign to the United States and to claim under the International Convention and/or other international arrangement for any such application the date of the United States application (or any other application on the invention) to gain priority with respect to other applications.

PATENT REEL: 047875 FRAME: 0998 Assignment Docket No. 100710

WE DO HEREBY COVENANT and agree with the Assignee that we will not execute any writing or do any act whatsoever conflicting with the terms of this assignment document set forth herein, and that we will at any time upon request, without further or additional consideration, but at the expense of the Assignee, execute such additional assignments and other writings and do such additional acts as the Assignee may deem necessary or desirable to perfect the Assignee's enjoyment of this assignment, and render all necessary assistance in making application for and obtaining original, continuation, continuation-in-part, divisional, reissued, renewal, or extended patents of the United States or of any and all foreign countries on the invention, and in enforcing any rights or choses in action accruing as a result of such applications or patents, and by executing statements and other affidavits, it being understood that the foregoing covenant and agreement shall bind, and inure to the benefit of, the assigns and legal representatives of all parties hereto.

IN WITNESS WHEREOF, we have hereunder set our hands on the dates shown below.

Na Zhang Na Zhang (Dec 21, 2018)	12/21/2018
Na Zhang	Date
Kovin P. Dockory / Kevin P. Dockery (Dec 21, 2018)	12/21/2018
Kevin P. Dockery	Date
Zhao Liu / ^{Zhao Liu} (Dec 21, 2018)	12/21/2018
Zhao Liu	Date
Roman A. Avanov Roman A. Ivanov (Dec 28, 2018)	12/28/2018
Roman A. Ivanov	Date

(Neither notarization nor legalization is required for this document)

PATENT REEL: 047875 FRAME: 0999