PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date	
XINJIAN LEI	04/20/2018	
MATTHEW R MACDONALD	04/20/2018	
MOO-SUNG KIM	04/16/2018	
SE-WONG LEE	04/16/2018	

RECEIVING PARTY DATA

Name:	VERSUM MATERIALS US, LLC
Street Address:	8555 SOUTH RIVER PARKWAY
Internal Address:	PATENT DEPT.
City:	TEMPE
State/Country:	ARIZONA
Postal Code:	85284

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15914968

CORRESPONDENCE DATA

Fax Number: (610)514-9560

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PATENT DEPT. Address Line 2:

Address Line 4: ALLENTOWN, PENNSYLVANIA 18106-9000

ATTORNEY DOCKET NUMBER:	08020Z2P USA	
NAME OF SUBMITTER:	LINA YANG	
SIGNATURE:	/Lina Yang/	
DATE SIGNED:	04/25/2018	
	This document serves as an Oath/Declaration (37 CFR 1.63).	

PATENT REEL: 045638 FRAME: 0057

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Total Attachments: 3

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PATENT REEL: 045638 FRAME: 0058

ASSIGNMENT & DECLARATION

For value received, we, Xinjian Lei, Matthew R. MacDonald, Moo-Sung Kim and Se-Won Lee, hereby sell, assign, and transfer to **VERSUM MATERIALS US, LLC**, a corporation of the State of Delaware, having an office at 8555 South River Parkway, Tempe, AZ 85284, the entire right, title, and interest in and to the invention relating to

Formulation for Deposition of Silicon Doped Hafnium Oxide as Ferroelectric Materials

described in our application for Letters Patent of the United States (identified by Docket No. 08020Z2P USA; and/or Appl. No. 15/914,968; filed on March 7, 2018), in and to all Letters Patent which may be issued upon said application, in and to any divisional or reissue applications based thereon, and in and to all Letters Patent upon said invention or improvements which may be granted in foreign countries. We hereby also assign and convey to said VERSUM MATERIALS US, LLC, all the rights accruing to us by virtue of the International Convention for the Protection of Industrial Property (Art. 4), including the right to apply for and to have patents issued in its own name.

And we hereby authorize and request the Commissioner of Patents and Trademarks of the United States and the Officials of the Patent Offices of all other countries to issue the Letters Patent of their respective countries to said **VERSUM MATERIALS US, LLC**, as assignee of the entire right, title, and interest in and to the same.

And we hereby promise and agree to execute all papers and perform all acts necessary to secure to and vest in said **VERSUM MATERIALS US, LLC**, its successors and assigns, the rights conveyed as herein set forth.

And I hereby authorize the above-mentioned Assignee or its legal representative to insert in the instrument the application serial number of aforesaid application or any other information that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office.

And we hereby declare that the above-identified application was made or authorized to be made by me. I believe I am the original inventor or an original joint inventor of a claimed invention in the application. I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Xinjian Lei Approximation (L.S.) Date	Matthew R. MacDonald April 20 , 2018 Date
Moo-Sung Kim Date	Se-Wong Lee Date

PATENT REEL: 045638 FRAME: 0059

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Xinjian Lei	_(L.S.)	Matthew R. MacDonald		(L.S.)
Date			Date	
Moo-Sung Kim	(L.S.)	Se-Wong Lee		_(L.S.)
April 16, 20/8 Date	_		Date	

PATENT REEL: 045638 FRAME: 0060

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Xinjian Lei	(L.S.) Matthew R. MacDonald		(L.S.
	Date	<u> </u>	Date	
Moo-Sung Kim	(L.S.) ZAS Se-Wong Lee		(L.S.)
	Date	_April 16, 2018	Date	····

PATENT REEL: 045638 FRAME: 0061

RECORDED: 04/25/2018