## 503861815 06/08/2016

# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3908464

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

### **CONVEYING PARTY DATA**

Name	Execution Date
HAE KANG JUNG	05/24/2016
YONG BIN KIM	05/26/2016

## **RECEIVING PARTY DATA**

Name:	SK HYNIX INC.
Street Address:	2091, GYEONGCHUNG-DAERO, BUBAL-EUB, GYEONGGI-DO
City:	ICHEON
State/Country:	KOREA, REPUBLIC OF
Postal Code:	17336
Name:	NORTHEASTERN UNIVERSITY
Name: Street Address:	NORTHEASTERN UNIVERSITY 360 HUNTINGTON AVE.
Street Address:	360 HUNTINGTON AVE.

## **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	15169295

### CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER:	K100BK-066800US
NAME OF SUBMITTER:	STEVE Y. CHO
SIGNATURE:	/STEVE Y. CHO/

PATENT 503861815 REEL: 038844 FRAME: 0235

DATE SIGNED:	06/08/2016
Total Attachments: 3	
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PATENT REEL: 038844 FRAME: 0236

Attorney Docket No.: K100BK-066800US Client Reference No.: 2016-OPH-8028/US/JWR

#### DECLARATION AND ASSIGNMENT OF PATENT APPLICATION

As a below named inventor, I hereby declare that:

This declaration is directed to the application attached hereto, or if not attached hereto, the below-identified application:

Title of Invention: IMPEDANCE CALIBRATION DEVICE FOR

SEMICONDUCTOR DEVICE

Filing Date: May 31, 2016

Application No.: 15/169,295

Attorney Docket No.: K100BK-066800US

The application was made or authorized to be made by me;

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statements 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.

WHEREAS, the below named individual(s), hereinafter referred to as "Assignors," are the inventor(s) of the invention described and set forth in the above-identified application for United States Letters Patent:

WHEREAS, **SK Hynix Inc.**, located at 2091, Gyeongchung-daero, Bubal-eub, Icheon-si, Gyeonggi-do 17336, Korea, and Northeastern University, located at 360 Huntington Ave., Boston, Massachusetts 02115, U.S. A, hereinafter referred to as "ASSIGNEES," are desirous of acquiring ASSIGNORS' interest in the said invention and application and in any U.S. Letters Patent which may be granted on the same;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN: Be it known that, for good and valuable consideration, receipt of which is bereby acknowledged by Assignors, Assignors have sold, assigned and transferred, and by these presents do sell, assign and transfer unto the said Assignee, and Assignee's successors and assigns, all their right, title and interest in and to the said invention and application including any corresponding foreign application, and in and to any Letters Patent which may hereafter be granted on the same in the United States and any corresponding foreign application, the said interest to be held and enjoyed by said Assignee as fully and exclusively as it would have been held and enjoyed by said Assignors had this Assignment and transfer not been made, to the full end and term of any Letters Patent which may be granted thereon, or of any division, renewal, continuation in whole or in part, substitution, conversion, reissue, prolongation or extension thereof.

Assignors further agree that they will, without charge to Assignee, but at Assignee's expense, cooperate with Assignee in the prosecution of said application and/or applications, execute, verify, acknowledge and deliver all such further papers, including applications for Letters Patent and for the reissue thereof, and instruments of assignment and transfer thereof, and will perform such other acts as Assignee lawfully may request, to obtain or maintain Letters Patent for said invention and improvement, and to yest title thereto in Assignee, or Assignee's successors and assigns.

Attorney Docket No.: K100BK-066800US Client Reference No.: 2016-OPH-8028/US/JWR

Assignors hereby authorize and request AMPACC Law Group, PLLC, 6100 219<sup>th</sup> Street SW, Suite 580, Mountlake Terrace, WA 98043, to insert herein above the title, application number, and filing date of said application when known.

IN TESTIMONY WHEREOF, each below named inventor, collectively Assignors, has signed on the dates indicated.

May 24, 2016	Hackard Jung
Date:	Inventor's Name: Hae Kang JUNG
Date:	Inventor's Name: Yong Bin KIM

Attorney Docket No.: K100BK-066800US Client Reference No.: 2016-OPH-8028/US/JWR

Assignors hereby authorize and request AMPACC Law Group, PLLC, 6100 219<sup>th</sup> Street SW, Suite 580, Mountlake Terrace, WA 98043, to insert herein above the title, application number, and filing date of said application when known.

IN TESTIMONY WHEREOF, each below named inventor, collectively Assignors, has signed on the dates indicated.		
Date:	Inventor's Name: Hae Kang JUNG	
May 26, 2016	Inventor's Name: Yong Bin KIM	