#### 504421192 06/20/2017

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4467892

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
JEONG-SEOK HA	06/12/2017
DAE-SUNG KIM	04/25/2017

### **RECEIVING PARTY DATA**

Name:	SK HYNIX INC.	
Street Address:	2091, GYEONGCHUNG-DAERO, BUBAL-EUB, ICHEON-SI	
City:	GYEONGGI-DO	
State/Country:	KOREA, REPUBLIC OF	
	LYONEA ARVANIOER MOTITUTE OF COLEMON AND TECHNICACON	
Name:	KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY	
Street Address:	KAIST 291 DAEHAK-RO, YUSEONG-GU	

### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	15627541

#### **CORRESPONDENCE DATA**

(571)327-5452 Fax Number:

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

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Email: ipntlaw@ipntlaw.com **Correspondent Name:** IP & T GROUP LLP

Address Line 1: 8230 LEESBURG PIKE SUITE 650

Address Line 4: VIENNA, VIRGINIA 22182

	This document serves as an Oath/Declaration (37 CFR 1.63).
DATE SIGNED:	06/20/2017
SIGNATURE:	/Jun Jeong PARK/
NAME OF SUBMITTER:	JUN JEONG PARK
ATTORNEY DOCKET NUMBER:	P16H0232/US

Total Attachments: 2

**PATENT** REEL: 042754 FRAME: 0352  $source=IVX000139231\_P16H0232US\_ASSIGNMENT\&DECLARATION\#page1.tif\\ source=IVX000139231\_P16H0232US\_ASSIGNMENT\&DECLARATION\#page2.tif\\$ 

PATENT REEL: 042754 FRAME: 0353

Attorney Docket No.:

ASSIGNMENT OF AND DECLARATION FOR APPLICATION FOR UNITED STATES LETTERS PATENT
WHEREAS_HA, Jeong-Seok , hereinafter
referred to collectively as the assignor and inventor, has invented a certain improvement relating to
MEMORY CONTROLLER, SEMICONDUCTOR MEMORY SYSTEM AND OPERATING METHOD THEREOF,
<ul> <li>[X] said application being attached hereto;</li> <li>[ ] said application having been filed in the United States Patent and Trademark Office on         <ul> <li>as Application Serial No.</li> <li>and was amended</li> </ul> </li> </ul>
on(if applicable); [ ] the specification of which was filed under the Patent Cooperation Treaty on,
I the specification of which was filed under the Patent Cooperation Treaty on,   Serial No, the United States of America being designated.
AND WHEREAS SK hynix Inc. and Korea Advanced Institute of Science and Technology hereinafter referred to as the assignee or applicant, is desirous of acquiring the entire right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof;
NOW THIS WITNESSETH, that for and in consideration of One Dollar (\$1.00), and other good and valuable consideration paid by said assignee to said assignor, the receipt of which is hereby acknowledged, said assigner hereby assigns, sells and transfers to said assignee, and said assignee's successors and assigns, the full and exclusive right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof; said assignee, and said assignee's successors and assigns, to have, hold, exercise and enjoy the said application, including any and all divisions and continuations thereof, and the said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such patents when granted, including any and all renewals, reissues and prolongations thereof, for the use and benefit of said assignee, and said assignee's successors and assigns, in as ample and beneficial a manner as the said assignor might or could have held and enjoyed the same, if this assignment had not been made.
AND said assignor hereby agrees to perform, upon the request of said assignee, or said assignee's successors or assigns, any and all acts relating to the obtaining or to the asserting of said patents, including any and all renewals, reissues and prolongations thereof.
AND said assignor authorizes and requests the Commissioner of Patents and Trademarks to issue Letters Patent on said application, and on any and all divisions and continuations thereof, to said assignee, and said assignee's successors and assigns, in accordance herewith.
As an above-named inventor, I hereby declare that the above-identified application was made or authorized to be made by me, and 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 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.
ASSIGNOR (INVENTOR):
Signature:

Page 1 of 1

Printed or Typed Name: HA, Jeong-Seok

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Attorney Docket	Nos
	304, 30

# ASSIGNMENT OF AND DECLARATION FOR APPLICATION FOR UNITED STATES LETTERS PATENT

WHEREAS KIM Dgo-Sung hereinafter
referred to collectively as the assignme and inventor, has invented a sectain improvement relating to MEMORY CONTROLLER, SEMICONDUCTOR MEMORY SYSTEM AND OPERATING METHOD THEREOF.
[X] said application being attached herein; [ ] said application having been filed in the United States Patent and Trademark Office on
, as Application Serial No
on(if applicable).  [ ] the specification of which was filed under the Patent Cooperation Treaty on
Serial No, the United States of America being designated.
AND WHEREAS SK hymix Inc. and Kurea Advanced Institute of Science and Evolutology hereinafter referred to as the assignee or applicant, is desirous of acquiring the entire right, lite and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof:
NOW THIS WITNESSETH, that for and in consideration of One Dollar (\$1.00), and other good and valuable consideration paid by said assignee to said assignee, the receipt of which is hereby acknowledged, said assigner hereby assigns, sells and transfers to said assignee, and said assignee's successors and assigns, the full and exclusive right, litle and interest in and to said application, including any and all devisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof; said assignee, and said assignee's successors and assigns, to have, held, exercise and enjoy the said application, including any and all divisions and continuations thereof, and the said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such patents when granted, including any and all renewals, reissues and prolongations thereof, for the use and benefit of said assignee, and said assignee's successors and assigns, in as ample and beneficial a manner as the said assigner might or could have held and enjoyed the same, if this assignment had not been made:
AND said assignor hereby agrees to perform, upon the request of said assignee, or said assignee's successors or assigns, any and all acts relating to the dataining or to the asserting of said patents, including any and all renewals, reissues and prolongations thereof.
AND said assignor authorizes and requests the Commissioner of Patents and Trademarks to issue Letters Patent on said application, and on any and all divisions and continuations thereof, to said assignee, and said assignee's successors and assigns, in accordance herewith.
As an above-named inventor, I hereby declare that the above-identified application was made or authorized to be usually me, and 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 statement made in this declaration is punishable order 18 U.S.C. 1901 by fine or imprisonment of not more than five (3) years, or both.
ASSIGNOR (INVENTOR):
that it is
Signature: 20/9/04/25
Printed or Typed Name: KIM, Dae-Sung
Page 16PT

PATENT REEL: 042754 FRAME: 0355

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