504973356 06/22/2018

# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5020102

SUBMISSION TYPE: NEW ASSIGNMENT

NATURE OF CONVEYANCE: ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
HYUNG SIK WON	06/18/2018

## **RECEIVING PARTY DATA**

Name:	SK HYNIX INC.
Street Address:	2091, GYEONGCHUNG-DAERO, BUBAL-EUB, ICHEON-SI
City:	GYEONGGI-DO
State/Country:	KOREA, REPUBLIC OF

# **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	16015808

## **CORRESPONDENCE DATA**

**Fax Number:** (571)327-5452

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.

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Address Line 4: VIENNA, VIRGINIA 22182

ATTORNEY DOCKET NUMBER:	OPX17227-120US
NAME OF SUBMITTER:	JUN JEONG PARK
SIGNATURE:	/Jun Jeong Park/
DATE SIGNED:	06/22/2018
	This document serves as an Oath/Declaration (37 CFR 1.63).

**Total Attachments: 1** 

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PATENT REEL: 046417 FRAME: 0240

Atto			

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

improvement relating to  SEMICONDUCTOR MEMORY DEVICE  [X] said application being attached hereto; [J said application having been filed in the United States Patent and Frademark Office on	WHEREAS WON, Hyung Sik , hereinafter referred to collectively as the assignor and inventor, has invented a certain
SEMICONDUCTOR MEMORY DEVICE  [X] said application being attached hereto; [] said application having been filed in the United States Patent and Trademark Office on	그 그리고 그 문자, 협상적인 마음이 생각을 들었다. 이 교육 이 교육적인 이미를 다 다시 사람이 생각으로 그 나타와 일이 다양을 했다.
[] I said application having been filed in the United States Patent and Trademark Office on as Application Serial No. (if applicable); [] the specification of which was filed under the Patent Cooperation Treaty on Serial No. (if applicable); [] the specification of which was filed under the Patent Cooperation Treaty on Serial No. (if applicable); [] the specification of which was filed under the Patent Cooperation Treaty on Serial No. (if application is the Cooperation Treaty on Serial No. (if application is the Cooperation Treaty on Serial No. (if application is the Cooperation of North Interest in and to said invention and 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, resisues and prolongations thereof, as fall and exclusive right, title and interest in and to said invention and any and all patents which may be granted therefor, including any and all divisions and continuations thereof, and in the said invention, and any and all patents which may be granted therefor, including any and all patents which may be granted therefor, including any and all patents which may be granted therefor, including any and all patents which may be granted therefor, including any and all patents which may be granted therefor, including any and all patents which may be granted therefor, including any and all patents which may be granted therefor, including 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 including any and all renewals, reissues and prolongations thereof, for the use and benefit of said assignee, and said assignee, and said assignee and said patents which may be granted therefor an analysis of the said assignee and said assignee, or said assignee and anywas and all dea	SEMICONDUCTOR MEMORY DEVICE
AND WHEREAS SK hynix Inc. 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 assignee, the receipt of which is hereby acknowledged, said assigner hereby assigns, sells and transfers to said assignee, and said assignees 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 assignees 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 appetralning 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, and said assignees are said assigns, in as aimple and benefit all a manner as the said assignee, or said assignee, and said any and all enewals, reissues and prolongations thereof.  AND said assigner 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, or said assignee's successors and assigns, in accor	[ ] said application having been filed in the United States Patent and Trademark Office on as Application Serial No. , and was amended
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hereinafter referred to as the assignee or applicant, is desirous of acquiring the entire right, little 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 furthy acknowledged, said assignee 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 apportaining thereto, for and digning 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 benefitial a manner as the 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 benefit of a patents and trademarks to issue Letters Patent on said application, and on any and all divisions and continuations thereof, to said assignee, or said ass	AND WHEREAS SK bynis Inc
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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:  Date: June 18, 2018	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,
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:  Date: June 18, 2018	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.
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:   Date: June 18, 2018	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.
by fine or imprisonment of not more than five (5) years, or both.  ASSIGNOR (INVENTOR):  Signature: Wone Hyung Sik Date: June 18, 2018	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.
Signature: Wan, Hyung Sik Date: June 18, 2018	
. 이 등 이 등 있는데 말이 사용하는 것이 되었습니다. 그는 것이 없는데 없었습 - 이 가는 것이 되었습니다. 이 사용하는 것이 되었습니다. 그는 것이 되었습니다.	ASSIGNOR (INVENTOR):
Printed or Typed Name: WON, Hyung Sik	Signature: Wen, Hyung Sik Date: June 18, 2018
	Printed or Typed Name: WON, Hyung Sik
	되는 그리고 말을 가장하는 이 얼마나 살아가고 있다면 그 그들은 그렇게 되는 그리고 있다. 그리고 말했다.

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