### PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT5496870

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
DUCK HOI KOO	04/16/2019
SOONG SUN SHIN	04/16/2019
SANG HYUN KIM	04/16/2019

#### **RECEIVING PARTY DATA**

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

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

Property Type	Number
Application Number:	16397041

#### 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.

Phone: 5713275450

Email: ipntlaw@ipntlaw.com IP & T GROUP LLP **Correspondent Name:** Address Line 1: 8230 LEESBURG PIKE

Address Line 2: SUITE 650

Address Line 4: VIENNA, VIRGINIA 22182

ATTORNEY DOCKET NUMBER:	OPX18229-119US
NAME OF SUBMITTER:	MYUNG SOO KIM
SIGNATURE:	/Myung Soo KIM/
<b>DATE SIGNED:</b> 04/29/2019	
	This document serves as an Oath/Declaration (37 CFR 1.63).

#### **Total Attachments: 2**

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**PATENT REEL: 049019 FRAME: 0500** 505450069

Attorney Docket No.:

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

WHEREAS KOO, Duck Hoi et al., hereinafter referred to collectively as the as	ssignor and inventor, has invented a
certain improvement relating to	S MAN
CONTROLLER, MEMORY SYSTEM AND OPERATING METHOD THEREOF	
[X] said application being attached hereto; [] said application having been filed in the United States Patent and Trademark Officon	e on, and was amended
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 bynix Inc.	
hereinafter referred to as the assignee or applicant, is desirous of acquiring the entire rapplication, including any and all divisions and continuations thereof and in and in	ght title and interest in and to and
application, including any and all divisions and continuations thereof, and in and to sai which may be granted therefor, including any and all renewals, reissues and prolongation.  NOW THIS WITNESSETH, that for and in consideration of One Dollar consideration paid by said assigned to said assigned the receipt of which is been all the said assigned to said assigned the receipt of which is been applicable.	d myention and any and all patents ons thereof;
consideration paid by said assignee to said assignor, the receipt of which is hereby assigns, sells and transfers to said assignee, and said assignee's successors and assigns interest in and to said application, including any and all divisions and continuations the any and all patents which may be granted therefor, including any and all renewals, re assignee, and said assignee's successors and assigns, to have, hold, exercise and enjoy to all divisions and continuations thereof, and the said invention and any and all patential divisions and continuations thereof, and the said invention and any and all patential divisions and any and all renewals, reissues and prolongations thereof, with all the rights, anywise arising from or appertaining thereto, for and during the term or terms of an including any and all renewals, reissues and prolongations thereof, for the use an assignee's successors and assigns, in as ample and beneficial a manner as the said as enjoyed the same, if this assignment had not been made.  AND said assignor hereby agrees to perform, upon the request of said assigns, any and all acts relating to the obtaining or to the asserting of said patents, including any and all acts relating to the obtaining or to the asserting of Patents and Tall and prolongations thereof.  AND said assignor authorizes and requests the Commissioner of Patents and Tall application, and on any and all divisions and continuations thereof, to said assigneessigns, in accordance herewith.	s, the full and exclusive right, title and creof, and in and to said invention and issues and prolongations thereof; said the said application, including any and ents which may be granted therefor, powers, privileges and advantages in y and all such patents when granted, d benefit of said assignce, and said ssignor might or could have held and there, or said assignee's successors or cluding any and all renewals, reissues
As an above-named inventor, I hereby declare that the above-identified application 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 by fine or imprisonment of not more than five (5) years, or both.	is punishable under 18 U.S.C. 1001
ASSIGNOR (INVENTOR):	
Signature: Kon Duck Hoi Date: April 16, 2019	
Printed or Typed Name: KOO, Duck Hoi	
ALVI	

SNK;OPX18229-119US PTPUS201800829

PATENT REEL: 04901915RAME: 0501

**SK** hynix

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

Signature: Shin Soon Sucr	Date: <u>April 16, 2019</u>
Printed or Typed Name: SHIN, Soong, Sun	
Signature: 76 Cb Da	Date: April 16, 2019
Printed or Typed Name: KIM, Sang Hyun	

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