PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4971498

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
FAN ZHANG	04/18/2018
TAN LIU	04/18/2018

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:	15076350

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

Correspondent Name: IP & T GROUP LLP

Address Line 1: 8230 LEESBURG PIKE

Address Line 2: SUITE 650

Address Line 4: VIENNA, VIRGINIA 22182

ATTORNEY DOCKET NUMBER:	SKHYP083
NAME OF SUBMITTER:	MYUNG SOO KIM
SIGNATURE:	/Myung Soo KIM/
DATE SIGNED:	05/22/2018
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 2

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PATENT 504924752 REEL: 045867 FRAME: 0643

Attorney Docket No.: SKHYP083

ASSIGNMENT OF AND DECLARATION FOR APPLICATION FOR UNITED STATES LETTERS PATENT

WHEREAS Fan ZHANG , hereinafter referred to collectively as the assignor and
inventor, has invented a certain improvement relating to
SCALABLE SPOR ALGORITHM FOR FLASH MEMORIES .
[] said application being attached hereto; [X] said application having been filed in the United States Patent and Trademark Office on
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 assignor, the receipt of which is hereby acknowledged, said assignor 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): 4/18/18
Signature: Date:
Printed or Typed Name: Fan ZHANG



Fan Zhang/SKHMS

Attorney Docket No.: SKHYP083

ASSIGNMENT OF AND DECLARATION FOR APPLICATION FOR UNITED STATES LETTERS PATENT

WHEREAS	lan LUU	beroinafter referred to collectively as the assignor and inventor, has
invented a centain im-	provement relating to	
	CALABLE SPOR A	LCORITHM FOR FLASH MEMORUES
Mar 21, 2016 44 applicable); [] the specification (aving been filed in th Application Social No Mobile was filed und	e United States Patent and Trademark Office on 5. <u>15/976,359</u> , and was amended on (d let the Patent Cooperation Treaty on
herematics referred to said application, incli	cas the assignee or ap iding any and all divi	nix Inc. plicant, is desirous of acquiring the entire right, title and interest in and to stress and continuations thereof, and in and to said invention and any and including any and all renewals, reissues and prolongations thereof,
valuable consideration assigner bereby assignment bereby assignment of the control of the contro	as paid by said assigness sells and transfers and micross as and to a vention and any and a strong thereof, said as plication, including a which may be grante rights, powers, privile terms of any and al for the use and be I a manner as the s	in for and in consideration of One Dollar (\$1.00), and other good and see to said assignor, the receipt of which is hereby acknowledged, said to said assigned, and said assigned's successors and assigned, the fall and asid application, including any and all divisions and continuations thereof, it patents which may be granted therefor, including any and all renewals, signed, and said assigned's successors and assigns, to have, hold, exercise my and all divisions and continuations thereof, and the said invention and all therefor, including any and all renewals, ressues and prolongations are and advantages in anywise arising from it appertaining thereto, for I such patents when granted, including any and all renewals, reissues and neit of said assigned, and early and assigner might or could have held and enjoyed the same, if this
successors or assigns		es to perform, upon the request of said assignee, or said assignee's ling to the obtaining or to the asserting of said patents, including any and reof
	cation, and on any a	d requests the Commissioner of Patents and Trademarks to issue Letters and all divisions and continuations thereof, to said assignee, and said lance herewith
		reby declare that the above -identified application was made or authorized inal inventor or an original joint inventor of a claimed invention in the
		willful false statement made in this declaration is punishable under 18 I more than five (5) years, or both.
ASSIGNOR (INVES		
Signature:		Date 4//8/2018
Printed or Typed Nar	ne <u>Tan U</u>	<u>u</u>

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PATENT REEL: 045867 FRAME: 0645