

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT7057412

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
JAE HYUN HAN	12/01/2021
RECEIVING PARTY DATA	
Name:	SK HYNIX INC.
Street Address:	2091, GYEONGCHUNG-DAERO, BUBAL-EUB
Internal Address:	GYEONGGI-DO
City:	ICHEON-SI
State/Country:	KOREA, REPUBLIC OF
Postal Code:	17336
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	17542886
CORRESPONDENCE DATA	
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<i>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.</i>	
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ATTORNEY DOCKET NUMBER:	SH20920AJ
NAME OF SUBMITTER:	JAMES Y KIM
SIGNATURE:	/James Y Kim/
DATE SIGNED:	12/06/2021
This document serves as an Oath/Declaration (37 CFR 1.63).	
Total Attachments: 3	
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COMBINED DECLARATION AND ASSIGNMENT FOR PATENT APPLICATION

DECLARATION

As a below named inventor, I hereby declare that:

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application for which a patent is sought on the invention entitled:

**THREE-DIMENSIONAL SEMICONDUCTOR DEVICE HAVING A
VARIABLE RESISTANCE STRUCTURE**

which application is attached hereto, or if not attached hereto, identified by United States application number or PCT international application number 17/542,886 filed on December 6, 2021.

The above identified application was made or authorized to be made by me.

I have reviewed and understand the content of the above identified application including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information that became available between the filing date of the prior application and the national or PCT international filing date of the continuation -in-part 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.

If the filing date and/or application number are not entered above at the time I execute this document, and if such information is deemed necessary, I hereby authorize and request the registered practitioners of AGORA Law, LLC, associated with the Customer Number 146269, to insert the filing date and/or application number of the application above.

ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, I (hereinafter referred to as "Assignor") hereby assign to:

SK hynix Inc., located at 2091, Gyeongschung-daero, Bubal-eub, Icheon-si, Gyeonggi-do, Republic of Korea 17336, and its successors and assigns, collectively hereinafter referred to as "Assignee", the entire right, title and interest in and to the said invention and application identified in the above **DECLARATION** 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.

Assignor hereby confirms any prior assignment to Assignee, and to the extent that Assignor has not already done so, agrees to assign, and hereby does, sells, assigns and transfers unto Assignee and its successors in interest, the full and exclusive right, title and interest in the United States of America and throughout the world, including the right to claim priority under the laws of the United States, the Paris Convention, and any foreign countries, to the inventions as described in the aforesaid application, to the aforesaid application itself, and all divisions, continuations,

continuations-in-part, or other applications claiming priority directly or indirectly from the aforesaid application, and any United States or foreign Letters Patent, utility model, or other similar rights which may be granted thereon, including reissues, reexaminations and extensions thereof, and all copyright rights throughout the world in the aforesaid application and the subject matter disclosed therein, these rights, title and interest to be held and enjoyed by Assignee to the full end of the term for which the Letters Patent, utility model, or other similar rights, are granted and any extensions thereof as fully and entirely as the same would have been held by the undersigned had this assignment and sale not been made, and the right to sue for, and recover for past infringements of, or liabilities for, any of the rights relating to any of the applications, patents, utility models, or other similar rights, resulting therefrom, and the copyright rights;

Assignor hereby covenants and agrees to execute all instruments or documents required or requested for the making and prosecution of any applications of any type for patent, utility model, or other similar rights, and for copyright, in the United States and in all foreign countries including, but not limited to, any provisional, continuation, continuation-in-part, divisional, renewal or substitute thereof, and as to letters patent any reissue, re-examination, or extension thereof, and for litigation regarding, or for the purpose of protecting title and to the said invention, the United States application for patent, or Letters Patent therefor, and to testify in support thereof, for the benefit of Assignee without further or other compensation than that above set forth;

Assignor hereby covenants that no assignment, sale, license, agreement or encumbrance has been or will be made which would conflict with this Assignment.

Assignor further agrees to, 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 vest title thereto in Assignee, or Assignee's successors and assigns.

Assignor hereby authorizes and requests the registered practitioners of AGORA Law, LLC, associated with the Customer Number 146269, to insert herein above the title, application number, and filing date of said application if such information is deemed necessary.

IN TESTIMONY WHEREOF, I, as a below named inventor and Assignor, intending to legally bound, have signed on the date indicated below.

HAN, Tae Hyun

Legal Name of Inventor: HAN, Jae Hyun

12.1.2021

Date