

## PATENT ASSIGNMENT COVER SHEET

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| <b>SUBMISSION TYPE:</b>   | NEW ASSIGNMENT                                  |                       |
| <b>NATURE OF CONVEYANCE:</b>  | ASSIGNMENT                                      |                       |
| <b>CONVEYING PARTY DATA</b>   |   |                       |
|   | <b>Name</b>                                     | <b>Execution Date</b> |
|   | JONG CHUL LEE                                   | 06/18/2018            |
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| <b>City:</b>  | ICHEON  |                       |
| <b>State/Country:</b>   | KOREA, REPUBLIC OF                              |                       |
| <b>PROPERTY NUMBERS Total: 1</b>  |   |                       |
|   | <b>Property Type</b>                            | <b>Number</b>         |
|   | <b>Application Number:</b>                      | 16019346              |
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| <b>NAME OF SUBMITTER:</b>   | KEVIN W. RAUDEBAUGH                             |                       |
| <b>SIGNATURE:</b>   | /KEVIN W. RAUDEBAUGH/                           |                       |
| <b>DATE SIGNED:</b>   | 06/27/2018                                      |                       |
| <b>Total Attachments: 1</b>   |   |                       |
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**ASSIGNMENT OF PATENT APPLICATION**

WHEREAS, the below named individual(s), hereinafter referred to as "Assignors," are the inventor(s) of the invention described and set forth in the below-identified application for United States Letters Patent:

Title of Invention: SEMICONDUCTOR MEMORY DEVICE  
INCLUDING A SELECTION ELEMENT  
PATTERN CONFINED TO A HOLE

Filing Date: June 26, 2018

Application No.: 16/019,346

WHEREAS, SK hynix Inc. of 2091, Gyeongchung-daero, Bubal-eub, Icheon-si, Gyeonggi-do, Republic of Korea, hereinafter referred to as "ASSIGNEE," is desirous of acquiring ASSIGNORS' interest in the said invention and application and in any U.S. Letters Patent which may be granted on the same;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN: Be it known that, for good and valuable consideration, receipt of which is hereby acknowledged by Assignors, Assignors have sold, assigned and transferred, and by these presents do sell, assign and transfer unto the said Assignees, and Assignees' successors and assigns, all their right, title and interest in and to the said invention and application 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, the said interest to be held and enjoyed by said Assignees as fully and exclusively as it would have been held and enjoyed by said Assignors had this Assignment and transfer not been made, to the full end and term of any Letters Patent which may be granted thereon, or of any division, renewal, continuation in whole or in part, substitution, conversion, reissue, prolongation or extension thereof.

Assignors further agree that they will, 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.

Assignors hereby authorize and request AMPACC Law Group, PLLC, 6100 219<sup>th</sup> Street SW, Suite 580, Mountlake Terrace, WA 98043, to insert herein above, the application number and filing date of said application when known.

IN TESTIMONY WHEREOF, Assignors have signed their names on the dates indicated.

June 18, 2018  
Date:

LEE, Jong Chul  
Name: LEE, Jong Chul