

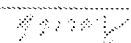
## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

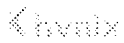
EPAS ID: PAT3613927

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
WON KYUNG CHUNG	11/06/2015
SAENG HWAN KIM	11/06/2015
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	SK HYNIX INC.
<b>Street Address:</b>	2091, GYEONGCHUNG-DAERO, BUBAL-EUB
<b>City:</b>	ICHEON-SI GYEONGGI-DO
<b>State/Country:</b>	KOREA, REPUBLIC OF
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	14939699
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(630)323-0335
<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>	
<b>Phone:</b>	6309087652
<b>Email:</b>	uspto.actions@wpapat.com
<b>Correspondent Name:</b>	WILLIAM PARK & ASSOCIATES LTD.
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<b>ATTORNEY DOCKET NUMBER:</b>	PA2503-0
<b>NAME OF SUBMITTER:</b>	WOOCHOON W. PARK
<b>SIGNATURE:</b>	/Woochoon W. Park/
<b>DATE SIGNED:</b>	11/12/2015
This document serves as an Oath/Declaration (37 CFR 1.63).	
<b>Total Attachments: 2</b>	
source=PA2503-0_Declaration_Assignment#page1.tif	
source=PA2503-0_Declaration_Assignment#page2.tif	

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION  
 USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT

Title of Invention	SEMICONDUCTOR DEVICES AND SEMICONDUCTOR SYSTEMS INCLUDING THE SAME	
Declaration	<p>As the below named inventor(s), I hereby declare that:</p> <p>The declaration is directed to:</p> <p><input checked="" type="checkbox"/> The attached application, or</p> <p><input type="checkbox"/> United States application or PCT international application number <u>PCT/KR2015/010444</u> filed on _____</p> <p>The above-identified application was made or authorized to be made by me.</p> <p>I believe that I am the original or an original joint inventor of a claimed invention in the application.</p> <p>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.</p>	
Assignment	<p>NOW, THEREFORE, in consideration of the sum of one dollar (\$1), the receipt whereof is acknowledged, and other good and valuable consideration, I, by these presents do sell, assign and transfer unto said assignee(s)</p> <p style="text-align: center;">SK hynix inc.                  2091, Gyeongchung-daero, Bubal-eub, Icheon-si, Gyeonggi-do, Republic of Korea</p> <p>and the heirs, successors, assigns and legal representatives of the assignee(s) the full and exclusive right to the said invention in the United States and in its territorial possessions and in any and all foreign countries, any and all improvements thereof, the entire rights, title and interest in and to any and all Patents which may be granted therefore in the United States. I hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue said United States Patent to said assignee(s), of the entire right, title, and interest in and to the same, for his sole use and for the use of his legal representatives, to the full end of the term for which said Patent may be granted, as fully and entirely as the same would have been held by me had this assignment and sale not been made.</p> <p>I agree promptly upon request of the assignee(s), its heirs, successors, assigns and legal representatives of the assignee(s) to communicate any facts known to it respecting the patent and the invention set forth therein, and to execute and deliver without further compensation any power of attorney, Assignment, application, whether original, confirmation, divisional or missive, or other papers that may be necessary.</p> <p>I hereby covenant that no assignment, sale agreement or encumbrance has been or will be made or entered into which would conflict with this assignment and sale.</p> <p>I further covenant that assignee(s) will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to me and will testify as to the same in any litigation related thereto and will promptly execute and deliver to assignee(s) or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.</p>	
Legal Name Of Inventor	Inventor Name (First Middle LAST):	Won Kyung CHUNG
	Inventor Signature:	
	Date:	2015/11/20

A total of 1 supplemental sheet(s) are attached hereto for additional inventors, if any.



DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION  
 USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT

Legal Name Of Joint Inventor, If Any	Inventor Name (First Middle LAST):	Seeng Hwan KIM
	Inventor Signature:	<i>Seeng Hwan Kim</i>
	Date:	06. Nov. 2015
Legal Name Of Joint Inventor, If Any	Inventor Name (First Middle LAST):	
	Inventor Signature:	
	Date:	
Legal Name Of Joint Inventor, If Any	Inventor Name (First Middle LAST):	
	Inventor Signature:	
	Date:	
Legal Name Of Joint Inventor, If Any	Inventor Name (First Middle LAST):	
	Inventor Signature:	
	Date:	
Legal Name Of Joint Inventor, If Any	Inventor Name (First Middle LAST):	
	Inventor Signature:	
	Date:	
Legal Name Of Joint Inventor, If Any	Inventor Name (First Middle LAST):	
	Inventor Signature:	
	Date:	
Legal Name Of Joint Inventor, If Any	Inventor Name (First Middle LAST):	
	Inventor Signature:	
	Date:	