### 04/25/2016 503798687

# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3845334

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

### **CONVEYING PARTY DATA**

Name	Execution Date
JINWOO KIM	02/11/2016
SEONG YEON KIM	02/12/2016
JAEGEUN PARK	02/11/2016
HYO-DEOK SHIN	02/11/2016
YOUNGGEUN LEE	02/11/2016
YOUNGJIN CHO	02/11/2016

### **RECEIVING PARTY DATA**

Name:	SAMSUNG ELECTRONICS CO., LTD.
Street Address:	129, SAMSUNG-RO, YEONGTONG-GU
City:	SUWON-SI, GYEONGGI-DO
State/Country:	KOREA, REPUBLIC OF
Postal Code:	443-742

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

Property Type	Number
Application Number:	15083834

### **CORRESPONDENCE DATA**

Fax Number: (571)283-0740

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: 5712830720

Email: aloomis@volentine.com

**VOLENTINE & WHITT, PLLC Correspondent Name:** 

11951 FREEDOM DRIVE, SUITE 1300 Address Line 1:

Address Line 4: RESTON, VIRGINIA 20190

ATTORNEY DOCKET NUMBER:	SEC.3966
NAME OF SUBMITTER:	ADAM C. VOLENTINE
SIGNATURE:	/ADAM C. VOLENTINE/
DATE SIGNED:	04/25/2016
	This document serves as an Oath/Declaration (37 CFR 1.63).

**PATENT REEL: 038377 FRAME: 0160** 

# Total Attachments: 5 source=Declaration\_Assignment\_Form#page1.tif source=Declaration\_Assignment\_Form#page2.tif source=Declaration\_Assignment\_Form#page3.tif source=Declaration\_Assignment\_Form#page4.tif source=Declaration\_Assignment\_Form#page5.tif

PATENT REEL: 038377 FRAME: 0161

# COMBINED DECLARATION (37 CFR §1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM<sup>1</sup>

ine unde	rsigned acknowledges that this doci	ument is being used bot	h as an assignment of
the inver	tion and as the declaration (37 CFR	1.63) for a Utility or Des	ign Application.
WHEREA	5, the undersigned, hereinafter refe	rred to collectively as As	signor, has invented:
Title: I	IONVOLATILE MEMORY DEVICE AN		
for which for paten	Assignor is about to make or has m	ade United States or Int	ernational application
WHEREA:	5, as a below named inventor(s), I/(v	ve) hereby declare that:	
Section I.	Declaration		
This decl	ration is directed to:		
Σ	The attached U.S. non-provision	onal patent application,	or:
	U.S. non-provisional patent ap on		filed
	PCT international patent applic	cation number	, filed on
The abov	e-identified application was made o	r authorized to be made	by me (us).
	ieve that I am (we are) the original in the above-identified application.		ventors) of a claimed
	eby acknowledge that any willful fal e under 18 U.S.C. 1001 by fine or im		
<sup>1</sup> This forn	requires the use of an Application Data Sh	CC.	27×17088×457000000000000000000000000000000000000
SEC Ref N	o. ID-201508-049-1-US0	Attorney Ref No.	ID-250477-US SEC.3966

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Fax Number: 03180963274(63274) Page,002/003

SAMSUNG ELECTRONICS CO., LTD.

I hereby state that I have reviewed and understand the contents of the above identified application, including the claims.

I acknowledge that I am aware of the duty to disclose information which is material to patentability as defined in 37 CFR § 1.56.

### Section II. Assignment

In consideration of the sum of One Dollar (\$1.00) and other good and valuable consideration paid to each of the undersigned, the undersigned hereby sell(s) and assign(s) to

Samsung Electronics Co., Ltd.

having an address at 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do 16677, Republic of Korea (hereinafter designated as the Assignee), the entire (100%) right, title and interest for the United States as defined in 35 USC §100, in the invention described in the application identified in Section I of this document.

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, sell, assign and transfer 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 Assignor 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,

SEC Ref No.

ID-201508-049-1-US0

Attorney Ref No.

LD-250477-US SEC.3966

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SAMSUNG ELECTRONICS CO., LTD.

divisional, renewal or substitute thereof, and as to letters patent any reissue, reexamination, 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 entered into which would conflict with this Assignment; and

Assignor hereby requests the United States Patent and Trademark Office to issue the Letters Patent of the United States of America to Assignee, and requests that any official of any country or countries foreign to the United States, whose duty it is to issue or grant patents and applications as aforesaid, to issue the Letters Patent, Utility Model Registration or other similar right to Assignee.

The undersigned hereby grant(s) the law firm of **VOLENTINE & WHITT, PLLC** the power to insert on this Declaration and Assignment any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office for recordation of this document.

## Section III. Inventor(s)/Assignor(s) Signature(s)

LEGAL NAME OF	Family Name	First Given Name	Second Given Name
FIRST INVENTOR/ASSIGNOR	KIM	COWNIL	
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SAMSUNG ELECTRONICS CO., LTD.

LEGAL NAME OF	Family Name	First Given Name	Second Given Name
SECOND INVENTOR/ASSIGNOR	KIM	SEONG YEON	
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	SIL NY	DATE	Soll FEB 12

LEGAL NAME OF	Family Name	First Given Name	Second Given Name
THIRD INVENTOR/ASSIGNOR	PARK	JAEGEUN	
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	and the second		
	and the second of the second o	- DATE	

LEGAL NAME	OF	Family Name	First Given Name	Second Given Name
FOURTH INVENTOR/ASSI		SHIN	HYO-DEOK	
SIGNA	TURE	5-0	DATE	2014 Feb 11
SEC Ref No.	ID-2015	08-049-1-US0	Attorney Ref No.	ID-250477-US SEC.3966

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Fax Number: 03180963274(63274)

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SAMSUNG ELECTRONICS CO., LTD.

Family Name	First Given Name	Second Given Name
LEE:	YOUNGGEUN	
1		<u> </u>
منين مستنسب والمتعارض والم	DATE	
	ja pilya siapiniya ja taatii ka pasaida ka ja ja ja ta ta ta ja ja ja ta ka ja ja ka ta ta ja ja ja ta ta ja j	LEE YOUNGGEUN

LEGAL NAME OF	Family Name	First Given Name	Second Given Name
SIXTH NVENTOR/ASSIGNOR	СНО	YOUNGIIN	
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	vi-		

SEC Ref No. ID-201508-049-1-US0 Attorney Ref No. ID-250477-US SEC.3966

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**RECORDED: 04/25/2016**