502582087 11/25/2013

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JIYOUNG KIM	10/29/2013
SUNGHO JANG	10/29/2013
KANG-UK KIM	10/29/2013
KYUNG-EUN KIM	10/29/2013
DAEIK KIM	10/29/2013
HYOUNGSUB KIM	10/29/2013
NAKJIN SON	10/29/2013
DONG JIN LEE	10/29/2013
YOOSANG HWANG	10/29/2013
JIHYE HWANG	10/29/2013

RECEIVING PARTY DATA

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

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14089356

CORRESPONDENCE DATA

502582087

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PATENT

REEL: 031672 FRAME: 0027

Address Line 4: RALEIGH,	NORTH CAROLINA 27627
ATTORNEY DOCKET NUMBER:	5649-3689
NAME OF SUBMITTER:	TRACY WALLACE
Signature:	/tw/
Date:	11/25/2013
	This document serves as an Oath/Declaration (37 CFR 1.63).
Total Attachments: 6 source=5649_3689_dec_assignment#page2 source=5649_3689_dec_assignment#page2 source=5649_3689_dec_assignment#page2 source=5649_3689_dec_assignment#page2 source=5649_3689_dec_assignment#page2 source=5649_3689_dec_assignment#page2	2.tif 3.tif 4.tif 5.tif

PATENT REEL: 031672 FRAME: 0028

COMBINED DECLARATION (37 CFR §1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM¹

The undersigned acknowledges that this document is being used both as an assignment of the invention and as the declaration (37 CFR 1.63) for a Utility or Design Application.

WHEREAS, the undersigned, hereinafter referred to collectively as Assignor, has invented:

Title:	SEMI	CONDUCTOR DEVICE AND ME	THOD OF FABRICATING THE	SAME
for whic	h Assi	ignor is about to make or has r	made United States or Intern	national application
for pate	nt.			
WHEREA	AS, as	a below named inventor(s), I/	(we) hereby declare that:	
Section	I. De	claration	·	
This dec	larati	on is directed to:		
[\boxtimes	The attached U.S. non-prov	isional patent application, or	
[U.S. non-provisional patent on	application number , or	filed
1			plication number	
The abo	ve-id	entified application was made		y me (us).
I (we) b inventio	elieve on in	e that I am (we are) the origina the above-identified application	al inventor (original joint inve on.	entors) of a claimed
I (we) h punisha both.	ereb able u	y acknowledge that any willful Inder 18 U.S.C. 1001 by fine or	false statement made in this imprisonment of not more	s declaration is than five (5) years, or
l hereb	y stat	e that I have reviewed and un	derstand the contents of the	e above identified
applica	tion,	including the claims.		
1 This fo	orm re	quires the use of an Application Dat	a Sheet.	
SEC Re	f No.	IE-201211-034-1	Attorney Ref No.	5649-3689
		DECLARATION (37 CFR 1.63) FOR	UTILITY PATENT APPLICATION A	AND ASSIGNMENT FORM

PATENT REEL: 031672-FRAME: 0029 SAMSUNG ELECTRONICS CO., LTD.

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 443-742, 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 aforesald 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, 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;

CEC Pof No	IE-201211-034-1	Attorney Ref No.	5649-3689
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			GOLGALAGAT CODA

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM Page ${f 2}$ of ${f 6}$

PATENT REEL: 031672 FRAME: 0030 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 Myers Bigel Sibley & Sajovec, P.A. 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)

Second Given Name	First Given Name	Family Name	LEGAL NAME OF
	Jiyoung	Kim	FIRST INVENTOR/ASSIGNOR
			· · · · · · · · · · · · · · · · · · ·
oct. 29, 2013	DATE	Typer This	SIGNATURE
	DATE —		SIGNATURE _

SEC Ref No.	IE-201211-034-1	Attorney Ref No.	5649-3689

LEGAL NAME OF	Family Name	First Given Name	Second Given Name
SECOND NVENTOR/ASSIGNOR	Jang	Sungho	
SIGNATURE	Sunho Tay	DATE	2013-10-29
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THIRD INVENTOR/ASSIGNOR	Kim	Kang-Uk	
LEGAL NAME OF	Family Name	First Given Name	Second Given Name
LEGAL NAME OF FOURTH INVENTOR/ASSIGNOR	Family Name Kim	First Given Name Kyung-Eun	Second Given Name
FOURTH INVENTOR/ASSIGNOR	<u> </u>	Kyung-Eun	

Page **4** of **6**

PATENT REEL: 031672-FRAME: 0032

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SIGNATURE/	Mu)	DATE	oct 29 20/3
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			Second Given Name
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LEGAL NAME OF SEVENTH INVENTOR/ASSIGNOR	Family Name	First Given Name Nakjin	F .

PATENT REEL: 031672 FRAME: 0033

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EIGHTH NVENTOR/ASSIGNOR	Lee	Dong Jin	
SIGNATURE		DATE _	2013,10,29
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NINTH INVENTOR/ASSIGNOR	Hwang	Yoosang	
SIGNATURE (Henry	DAT	ZO13.10.29
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/			2013.10.29
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LEGAL NAME OF TENTH INVENTOR/ASSIGNOR	Family Name Hwang	First Given Name Jihye	Second Given Name

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