505528102 06/17/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5574908

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE	ASSIGNMENT	
CONVEYING PARTY DATA	N	
	Name	Execution Date
SOON GYU HWANG		05/13/2019
KYOUNG WOO LEE		05/13/2019
YOUNGWOO CHO		05/13/2019
IL SUP KIM		05/13/2019
SU HYUN BARK		05/13/2019
YOUNG-JU PARK		05/13/2019
JONG MIN BAEK		05/14/2019
MIN HUH		05/14/2019
RECEIVING PARTY DATA		
Name: SA	AMSUNG ELECTRONICS CO., LTD.	
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Cit y (

City:	SUWON-SI, GYEONGGI-DO
State/Country:	KOREA, REPUBLIC OF
Postal Code:	16677

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16441042

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER		SAM-57298		
NAME OF SUBMITTER:		PAUL MARSHALL TICER		
SIGNATURE:		/ P. Marshall Ticer /		

DATE SIGNED:	06/17/2019	
Total Attachments: 5		
source=SAM-57298 Oath and Declaration	on#page1.tif	
source=SAM-57298 Oath and Declaration	on#page2.tif	
source=SAM-57298 Oath and Declaration#page3.tif		
source=SAM-57298 Oath and Declaration#page4.tif		
source=SAM-57298 Oath and Declaration	on#page5.tif	

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 individually and collectively as Assignor, has invented:

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SEMICONDUCTOR DEVICE

for which Assignor is about to make or has made United States or International application for patent.

WHEREAS, as a below named inventor(s), I/(we) hereby declare that:

Section I. Declaration

This declaration is directed to:

The attached U.S. non-provisional patent application, or

, or

PCT international patent application number______, filed on

The above-identified application was made or authorized to be made by me (us).

I (we) believe that I am (we are) the original inventor (original joint inventors) of a claimed invention in the above-identified application.

I (we) 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.

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

I (we) acknowledge that I (we) am (are) aware of the duty to disclose information which is material to patentability as defined in 37 C.F.R. § 1.56.

¹ This form requires the use of an Application Data Sheet.

SEC Ref No. IE-201810-037-1-US0

Logic TD팀(반도체연)/황순규/15026490/2019-05-13 08:39

Attorney Ref No.

SAM-57298

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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 U.S.C. § 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, 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 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.

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The undersigned hereby grant(s) the law firm of Muir Patent Law, 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	HWANG	Soon Gyu	
	anna an ann an ann ann ann ann ann ann		1
SIGNATURE	36M	DATE	19/5/13

LEGAL NAME OF SECOND INVENTOR/ASSIGNOR	Family Name	First Given Name Kyoung Woo	Second Given Name
SIGNATURE	o/m	DATE	19/5/13

LEGAL NAME OF	Family Name	First Given Name	Second Given Name
THIRD INVENTOR/ASSIGNOR	СНО	YoungWoo	
SIGNATURE	Impros	DATE	19/5/13

SEC Ref No. _______ IE-201810-037-1-US0 Attorney Ref No. _______ SAM-57298 COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM Page 3 of 5

SAMSUNG ELECTRONICS CO., LTD.

LEGAL NAME OF FOURTH	Family Name KIM	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	Kimilsup	DATE	19.05,13

LEGAL NAME OF FIFTH INVENTOR/ASSIGNOR	Family Name BARK	First Given Name Su Hyun	Second Given Name
SIGNATURE	43 F 222	DATE	19.05.13

LEGAL NAME OF SIXTH INVENTOR/ASSIGNOR	Family Name PARK	First Given Name Young-Ju	Second Given Name
SIGNATURE	반 영구	DATE	19.05.13

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LEGAL NAME OF	Family Name	First Given Name	Second Given Name
SEVENTH INVENTOR/ASSIGNOR	BAEK	Jong Min	
			<u>A </u>
SIGNATURE	Back Jong Min	DATE	19.05.14

LEGAL NAME OF	Family Name	First Given Name	Second Given Name
EIGHT INVENTOR/ASSIGNOR	НИН	Min	
			ala
	Der	DATE	19.05.14
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SEC Ref No. IE-201810-037-1-US0 Attorney Ref No. SAM-57298

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RECORDED: 06/17/2019