505351520 02/28/2019

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:		NEW ASSIGNMENT	NEW ASSIGNMENT		
NATURE OF CONVEYA	NCE:	ASSIGNMENT			
CONVEYING PARTY D	ΑΤΑ				
		Name	Execution Date		
CHUL LEE			12/13/2018		
KYUNG HO KIM			12/13/2018		
SEOK HWAN KIM			12/13/2018		
JOO YOUNG HWANG			12/13/2018		
RECEIVING PARTY DA	TA				
Name:	SAMSU	ING ELECTRONICS CO., LTD.			
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City:	SUWON-SI, GYEONGGI-DO				
State/Country:	KOREA, REPUBLIC OF				
Postal Code:	16677				
PROPERTY NUMBERS	Total: 1				
Property Type		Number			
		Number 16288633			
Property Type					
Property Type Application Number:	ATA				
Property Type Application Number: CORRESPONDENCE D Fax Number: <i>Correspondence will b</i>	DATA (e sent to	16288633			
Property Type Application Number: CORRESPONDENCE D Fax Number: <i>Correspondence will b</i> <i>using a fax number, if</i> Phone:	DATA (e sent to provided	16288633 (516)692-8889 • the e-mail address first; if that is uns !; if that is unsuccessful, it will be sen 516-692-8888			
Property Type Application Number: CORRESPONDENCE D Fax Number: <i>Correspondence will b</i> <i>using a fax number, if</i> Phone: Email:	DATA (provided)	16288633 (516)692-8889 • <i>the e-mail address first; if that is uns</i> <i>I; if that is unsuccessful, it will be sen</i> 516-692-8888 mail@chauiplaw.com			
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Property Type Application Number: CORRESPONDENCE D Fax Number: Correspondence will b using a fax number, if Phone: Email: Correspondent Name: Address Line 1: Address Line 4: ATTORNEY DOCKET NUMARE OF SUBMITTER:	DATA e sent to provided	16288633 (516)692-8889 the e-mail address first; if that is uns ; if that is unsuccessful, it will be sen 516-692-8888 mail@chauiplaw.com F. CHAU & ASSOCIATES, LLC 130 WOODBURY ROAD WOODBURY, NEW YORK 11797 8111S-651/RJN FRANK CHAU			

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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: SEMICONDUCTOR DEVICE AND SEMICONDUCTOR SYSTEM

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



U.S. non-provisional patent application number ______, filed on ______, 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.

SEC Ref NoI	D-201803-002-1-US0	Attorney Ref No.	81118-651

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 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

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COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM Page 2 of 5

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 Assignce.

The undersigned hereby grant(s) the law firm of F. Chau & Associates, LLC 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.

SEC Ref No. ID-201803-002-1-US0

Attorney Ref No. 81118-651

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM Page 3 of S

SAMSUNG ELECTRONICS CO., LTD.

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

LEGAL NAME OF FIRST	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	LEE	CNUL	
			1
SIGNATURE	<u>Ma</u>	DATE	7=18/12/13
	······		

LEGAL NAME OF SECOND	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	KIM	KYUNG HO	
		DATE 1991 N. 20204 16977	2013/12/13

LEGAL NAME O THIRD	F Family Name	First Given Name	Second Given Name	
INVENTOR/ASSIGI	VOR	SEOK HWAN		
SIGNAT	Verdense	ĐA	ME 2018/12/13	
SEC Ref No.	10-201803-002-1-050	Attorney Ref No. 8111		

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM Page 4 of 5

S/W개월원(메모리)/이철/08044937/2018-12-13 11:03

LEGAL NAME OF FOURTH	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	HWANG	JOO YOUNG	
SIGNATURE	Fregour Nway-		2418/12/13

SEC Ref No. 10-201803-002-1-US0 Attorney Ref No. 8111S-651 COMBINED DECLABATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM Page 5 of 5

PATENT REEL: 048467 FRAME: 0668

RECORDED: 02/28/2019