506373408 11/25/2020

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6420164

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JUYOUN KIM	11/09/2020
SEULGI YUN	11/04/2020
SEKI HONG	11/14/2020

RECEIVING PARTY DATA

Name:	SAMSUNG ELECTRONICS CO., LTD.	
Street Address:	treet Address: 129, SAMSUNG-RO, YEONGTONG-GU	
City:	SUWON-SI, GYEONGGI-DO	
State/Country:	y: KOREA, REPUBLIC OF	
Postal Code:	16677	

PROPERTY NUMBERS Total: 1

Property Type	Number	
Application Number:	17101472	

CORRESPONDENCE DATA

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using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

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ATTORNEY DOCKET NUMBER:	17612-000054-US	
NAME OF SUBMITTER:	JOHN A. CASTELLANO, REG. NO. 35,094	
SIGNATURE:	/John A. Castellano/	
DATE SIGNED:	11/25/2020	

Total Attachments: 4

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PATENT 506373408 REEL: 054470 FRAME: 0858

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:	itle: SEMICONDUCTOR DEVICES INCLUDING WORK FUNCTION LAYERS				
for which Ass	gnor is about to make or has n	nade United States or Int	ernational application		
WHEREAS, as	a below named inventor(s), I/(we) hereby declare that:			
Section I. De	daration				
This declaration	on is directed to: The attached U.S. non-provis	ional patent application,	or		
	U.S. non-provisional patent ap		, filed		
	PCT international patent appli	cation number	, filed on		
The above-ide	ntified application was made c	r authorized to be made	by me (us).		
	that I am (we are) the original ne above-identified application		eventors) of a claimed		
	acknowledge that any willful fa der 18 U.S.C. 1001 by fine or ir				
¹ This form requ	ires the use of an Application Data Si				
SEC Ref No.	IF-202003-013-1-US0	Attorney Ref No.	17612-000054-US		
COMBINED DEC	LARATION (37 CFR 1.63) FOR UTI	LITY PATENT APPLICATION	AND ASSIGNMENT FORM		

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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, divisional, renewal or substitute thereof, and as to letters patent any reissue, re-

SEC Ref No. 1F-202003-013-1-US8 Attorney Ref No. 17612-000054-US

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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.

The undersigned hereby grant(s) the law firm of Harness, Dickey & Pierce, P.L.C. 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	Juyoun	
	PA1 El(Founday	/김무송/19014541	
SIGNATURE	7/70	DAT	E 20.11 9

LEGAL NAME OF SECOND	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	YUN	Seulgi	
SIGNATURE	## 1 <u> </u>	DATE	20,11/4

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SAMSUNG ELECTRONICS CO., LTD.

LEGAL NAME OF THIRD	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	HONG	Seki	
	· /		
SIGNATURE	<u> </u>	DATE	2011/4



PA1됨(Foundry)/정두황/19014541

SEC Ref No. IF-202003-013-1-US0 Attorney Ref No. 17612-000054-US

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

RECORDED: 11/25/2020