505817357 12/12/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5864187

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SEUNG-MIN RYU	08/08/2019
YOUNSOO KIM	08/08/2019
GYU-HEE PARK	08/08/2019
JAESOON LIM	08/08/2019
YOUNJOUNG CHO	08/08/2019

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:	16677

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16711845

CORRESPONDENCE DATA

Fax Number: (703)207-0003

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: 703-207-0008

Email: eoa@lee-iplaw.com

Correspondent Name: LEE & MORSE, P.C.

Address Line 1: 3141 FAIRVIEW PARK DRIVE

Address Line 2: SUITE 500

Address Line 4: FALLS CHURCH, VIRGINIA 22042

ATTORNEY DOCKET NUMBER:	239/1259_00
NAME OF SUBMITTER:	EUGENE M. LEE
SIGNATURE:	/Eugene M. Lee/
DATE SIGNED:	12/12/2019
	This document serves as an Oath/Declaration (37 CFR 1.63).

PATENT REEL: 051267 FRAME: 0687

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Total Attachments: 4

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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.

wnei	KEAS, II	ië undersigned, hereinafter i	reterred to collective	ly as Assignor, has invented:	
Title:	MET	HOD OF MANUFACTUE	UNG SEMICONDU	UCTOR DEVICE	
for wh patent.	ich Assi	gnor is about to make or ha	s made United States	or International application for	
WHEI	REAS, as	s a below named inventor(s)	, I/(we) bereby decla	are that:	
Sectio	n I. Dec	daration			
This d follow	eclaratio	n is directed to the attached arked:	U.S. non-provisiona	l patent application, unless the	
		U.S. non-provisional patent	application number,	, filed o	n
		PCT international patent a	pplication number	, filed on	
	- *** 	as amended by the Preli	minary Amendment	attached hereto.	
		as amended by the Preli	minary Amendment	filed on	
The at	ove-idei	tified application was made	or authorized to be	made by me (us).	
		that I am (we are) the origin above-identified application		joint inventors) of a claimed	
I (we) under	hereby a 18 U.S.C	cknowledge that any willfu C 1001 by fine or imprisonn	I false statement mad nent of not more than	le in this declaration is punishat n five (5) years, or both.	ile
		hat I have reviewed and und duding the claims (as amend			
		that I am aware of the duty defined in 37 CFR § 1.56.	to disclose informati	on which is material to	
¹ This:	form requ	fres the use of an Application Dat	a Sheet.		
SEC R	ef No.	IE-201810-012-1-US0	Attorney Ref No.	239/1259_00	

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM Page 1 of 4

SAMSUNG ELECTRONICS CO., LTD.

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-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

SEC Ref No.	IE-201810-012-1-US0	Attorney Ref No.	239/1259_00
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COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM

Page 2 of 4

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 LEE & MORSE, P.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	RYU	Seung-min	
i		<u>. t</u>	
SIGNATURE _	Sturgmin Ryu	DATE	Aug. f. 2019
			× >

LEGAL NAME OF SECOND	Family Na	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	KIM	Younsoo	
	.e		S. A
	Younso c	DATE	Aug.d. 2019

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

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Page 3 of 4

SAMSUNG ELECTRONICS CO., LTD.

2 4 72 77		₹
PARK	Gyu-hee	
erite en		
e Park	DATE	8.8.2019
	e Park	e Park DATE

LEGAL NAME OF	Family Name	First Given I	Name Second Giv	en Name
FOURTH INVENTOR/ASSIGNOR	LIM	Jaesoon		
		<u> </u>		
· ·				
SIGNATURE _	Jackson 120	% \$	DATE	•
**************************************	*			

LEGAL NAME OF	Family Name		First Given Name	Second Given Name
FIFTH INVENTOR/ASSIGNOR	CHO		Younjoung	
				1
				* *
SIGNATURE _	Your Toury	cha	DATE	8.8.2019
	<u> </u>			

SEC Ref.No.	IE-201810-012-1-US0	Attorney Ref No.	239/1259_00

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