PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT5113764

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JONG-KYU RYU	05/25/2018
MIN-SU KIM	05/25/2018
YONG-GEOL KIM	05/25/2018
DAE-SEONG LEE	05/25/2018

RECEIVING PARTY DATA

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

PROPERTY NUMBERS Total: 1

Property Type	Number	
Application Number:	16105165	

CORRESPONDENCE DATA

Fax Number: (202)293-7860

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: 2022937060

Email: cannes@sughrue.com, sughrue@sughrue.com

SUGHRUE MION, PLLC **Correspondent Name:**

Address Line 1: 2100 PENNSYLVANIA AVENUE, N.W.

Address Line 2: SUITE 800

Address Line 4: WASHINGTON, D.C. 20037

ATTORNEY DOCKET NUMBER:	Q239345
NAME OF SUBMITTER:	CHRISTOPHER ANNES
SIGNATURE:	/Christopher Annes/ TEAMS Dept.
DATE SIGNED:	08/28/2018
	This document serves as an Oath/Declaration (37 CFR 1.63).
T	·

Total Attachments: 5

PATENT REEL: 046726 FRAME: 0025

505067008



PATENT REEL: 046726 FRAME: 0026

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

The undersi	gned acknowledges that this do	cument is being used bot	h as an assignment of
the invention	on and as the declaration (37 CFF	R 1.63) for a Utility or Des	ign Application.
WHEREAS, t	he undersigned, hereinafter refi	erred to collectively as As	signor, has invented:
SEA	MICONDUCTOR DEVICES, METHO MICONDUCTOR DEVICES AND MI MICES	ODS OF DESIGNING LAYO ETHODS OF FABRICATIN	DUTS OF G SEMICONDUCTOR
for which As	ssignor is about to make or has n	nade United States or Int	ernational application
for patent.			
WHEDE VC	enhalousnamend inscription of the	Same Change he was a sub- was a live	anna wa 2000 a
Section I. D			
This declarat	tion is directed to	D/ 2/35-7 /10460618	
\boxtimes	The attached U.S. non-provis		or
	U.S. non-provisional patent ap	pplication number _, or	, filed
	PCT international patent appl	ication number	, filed on
The above-ic	lentified application was made o	or authorized to be made	by me (us).
	e that I am (we are) the original the above-identified application		ventors) of a claimed
¹ This form rec	quires the use of an Application Data S	heet:	,
SEC Ref No.	IB-201709-004-1-US 0	Attorney Ref No.	Q239345 (CY5073US)

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

Page 1 of 5

PATENT REEL: 046726 FRAME: 0027 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 applications, patents, utility models, or other similar rights, resulting therefrom, and the copyright rights;

***************************************	***************************************	00000000000000000000000000000000000000	
SEC Ref No.	IB-201709-004-1-US0	Attorney Ref No.	Q239345 (CY5073US)

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

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;

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 **Sughrue Mion**, **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.

기념설계립(SLSD)/유종규/10460618

SEC Ref No.	IB-201709-004-1-US0	Attorney Ref No.	Q239345
		*******	(CY5073US)

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

LEGAL NAME OF FIRST	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	RYU	Jong-Kyu	
SIGNATURE	AT -	DATE	30/8.05.25
		-	

LEGAL NAME OF	Family Name	First Given Name	Second Given Name
SECOND NVENTOR/ASSIGNOR	KIM	Min-Su	
		- DATE	

LEGAL NAME OF THIRD	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	KIM	Yong-Geol	
SIGNATURE	Gong-Groul	DATE	2018.05.25

SEC Ref No. IB-201709-004-1-US0 Attorney Ref No. Q239345 (CY5073US)

LEGAL NAME OF FOURTH	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	LEE	Dae-Seong	
			1
SIGNATURE	95	DATE	20 8.05.25



기번설계目(\$LSI)/유종규/10460618

SEC Ref No. IB-201709-004-1-US0 Attorney Ref No. Q239345 (CY5073US)

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