### 505949397 03/04/2020

# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5996101

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

# **CONVEYING PARTY DATA**

Name	Execution Date
MOON SEUNG YANG	12/05/2019
EUN HYE CHOI	02/19/2020
SEUNG MO KANG	12/05/2019
YONG SEUNG KIM	12/05/2019
JUNG TAEK KIM	12/05/2019
MIN-HEE CHOI	12/05/2019

# **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:	16808857

# **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 LEE IP LAW, P.C. **Correspondent Name:** 

3141 FAIRVIEW PARK DRIVE Address Line 1:

Address Line 2: SUITE 500

Address Line 4: FALLS CHURCH, VIRGINIA 22042

ATTORNEY DOCKET NUMBER:	275/1157_00
NAME OF SUBMITTER:	EUGENE M. LEE
SIGNATURE:	/Eugene M. Lee/
DATE SIGNED:	03/04/2020

# Total Attachments: 5 source=Combined\_Decl\_and\_Assignment#page1.tif source=Combined\_Decl\_and\_Assignment#page2.tif source=Combined\_Decl\_and\_Assignment#page3.tif source=Combined\_Decl\_and\_Assignment#page4.tif source=Combined\_Decl\_and\_Assignment#page5.tif

# COMBINED DECLARATION (37 CFR §1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM $^{\rm t}$

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
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, unless the following is marked:
U.S. non-provisional patent application number, filed on, or
PCT international patent application number, filed on
as amended by the Preliminary Amendment attached hereto.  as amended by the Preliminary Amendment filed on
The above-identified application was made or authorized to be made by me (us).
(we) believe that I am (we are) the original inventor (original joint inventors) of a claimed nvention in the above-identified application.
(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.
hereby state that I have reviewed and understand the contents of the above identified pplication, including the claims (as amended by any amendment referred to above).
acknowledge that I am aware of the duty to disclose information which is material to atentability as defined in 37 CFR § 1.56.
This form requires the use of an Application Data Sheet.
EC Ref No. 1E-201902-068-1-US0 Attorney Ref No. 275/1157_00
COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM
Page 1 of 5

공정개발2팀(반도체연)/양문승/08026311/2019-12-05 13:29

# 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 (hereinaster 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-201902-068-1-US0	Attorney Ref No.	275/1157	
-------------	---------------------	------------------	----------	--

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

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
INVENTOR/ASSIGNOR	YANG	Moon Seung	
AND TO SECURE AND THE SECURE AND ASSESSED AS A SECURE AS A SECURITIES.		977-00-00-00-00-00-00-00-00-00-00-00-00-0	The state of the s
	1 Par Day St.	a	- 10 D. F
SIGNATURE	Many 100	DATE DATE	7019 Dec. 5

LEGAL NAME OF	Family Name	First Given Name	Second Given Name
SECOND INVENTOR/ASSIGNOR	CHOI	Eun Hye	American de American ( ) andre de menerope de como esperante proprieta de la proprieta de la proprieta de la p
. 1		<u> </u>	

SEC Ref No.	IE-201902-068-1-US0	Attorney Ref No.	275/1157_00
-------------	---------------------	------------------	-------------

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM
Page 3 of 5

LEGAL NAME OF THIRD	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	KANG	Seung Mo	
			I .
SIGNATURE _	7882	DATE	2017, Dec. 5
SIGNATURE _	7692	DATE	2017, Dec. 5

LEGAL NAME OF FOURTH	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	KIM	Yong Seung	
	~! ~ !		
SIGNATURE _	1336	DATE	2019, 12.5

LEGAL NAME OF FIFTH INVENTOR/ASSIGNOR	Family Name KIM	First Given Name Jung Tack	Second Given Name
SIGNATURE	at Way	DATE	2019. Pec. 5

SEC Ref No.	IE-201902-068-1-US0	Attorney Ref No.	275/1157_00
-------------	---------------------	------------------	-------------

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

LEGAL NAME OF	Family Name	First Given Name	Second Given Name
SIXTH INVENTOR/ASSIGNOR	СНОІ	Min-Hee	
-			
SIGNATURE	m.		2019. DEC.5

OPO DECM	TE 201002 070 1 TIOO	A 64 a D C N I	2000111000000
SEC Ref No.	IE-201902-068-1-US0	Attorney Ref No.	275/1157 00

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

공정개발2팀(반도체연)/앙문승/08026311/2019-12-05 13:29

RECORDED: 03/04/2020