PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5440425

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
DEOK HAN BAE	01/18/2019
JIN WOOK KIM	01/18/2019

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:	16364551

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:	285/1141_00
NAME OF SUBMITTER:	EUGENE M. LEE
SIGNATURE:	/Eugene M. Lee/
DATE SIGNED: 03/26/2019	
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 3

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> **PATENT REEL: 048699 FRAME: 0320** 505393631

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

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.

Title:	SEMICONDUCTOR DEVICE AND METHOD OF MANUFACTURING THE SAME
for whi patent.	ch Assigner is about to make or has made United States or International application for
WHER	2AS, as a below named inventor(s), I/(we) hereby declare that:
Section	I. Declaration
This de following	plaration is directed to the attached U.S. non-provisional patent application, unless the ug is marked:
	U.S. non-provisional patent application number, filed or, 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 abo	re-identified application was made or authorized to be made by me (us).
f (we) be inventio	lieve that I am (we are) the original inventor (original joint inventors) of a claimed in the above-identified application.
f (we) be under 18	reby acknowledge that any willful false statement made in this declaration is punishable U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.
hereby pplicati	state that I have reviewed and understand the contents of the above identified on, including the claims (as amended by any amendment referred to above),
acknow patentab	ledge that I am aware of the duty to disclose information which is material to lity as defined in 37 CFR § 1.56.
This for	n requires the use of an Application Data Sheet.
SEC Ref	No. 1F-201805-004-1-US0 Attorney Ref No. 285/1141_00
COM	BINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND

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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

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SAMSUNG ELECTRONICS CO., LTD.

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 FIRST	Family Name	First Given Name	Second Given Name
NVENTOR/ASSIGNOR	BAE	Deok Han	
managan da		hamman and a second	
	DedHan B	. مرات	1/18/2019

LEGAL NAME OF SECOND	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	KIM	Jin Wook	
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SIGNATURE	Ju 1000	DATE	V18/2019

SEC Ref No.	JF-201805-004-1-US0	Attorney Ref No.	285/1141_00
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RECORDED: 03/26/2019