06/07/2017 504401427

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4448124

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SEONG-IL O	05/10/2017
YOUNG-HOON SON	05/10/2017
CHAN-KYUNG KIM	05/10/2017
HO-YOUNG SONG	05/10/2017
SANG-JOON HWANG	05/10/2017
JUNG HO AHN	05/10/2017

RECEIVING PARTY DATA

SAMSUNG ELECTRONICS CO., LTD
129, SAMSUNG-RO, YEONGTONG-GU
SUWON-SI, GYEONGGI-DO
KOREA, REPUBLIC OF
16677
SNU R&DB FOUNDATION
1, GWANAK-RO, GWANAK-GU
SEOUL
SEOUL KOREA, REPUBLIC OF

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15603255

CORRESPONDENCE DATA

Fax Number: (703)757-7447

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: 7037577880

Email: pto@muirpatentlaw.com MUIR PATENT LAW, PLLC **Correspondent Name:**

Address Line 1: P.O. BOX 1213

Address Line 4: GREAT FALLS, VIRGINIA 22066

> **PATENT** REEL: 042634 FRAME: 0001

ATTORNEY DOCKET NUMBER:	SAM-54340MAS
NAME OF SUBMITTER:	BRADLEY EDELMAN, REG. NO. 57648
SIGNATURE:	/Bradley Edelman/
DATE SIGNED:	06/07/2017
Total Attachments: 8	
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PATENT REEL: 042634 FRAME: 0002

COMBINED DECLARATION (37 CFR §1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM¹ FOR MORE THAN ONE ASSIGNEE

The undersigned acknowledge 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 inventors have invented:

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for whic	ch Inve	entors are al	out to make o	or have mad	e United S	tates or Interi	national
applicat	tion fo	r patent.					
WHERE	AS, as	a below nar	ned inventor(s	i), I/(we) he	reby declar	e that:	
Section	i I. Dei	claration				**************************************	
This dec	claratio	on is directe	d to:				
		U.S. non-p	ed U.S. non-p rovisional pate	nt applicati			filed
		PCT interna	itional patent	application	number		, filed on
The abo	ove-ide	entified appl	ication was m	ade or autho	orized to be	e made by me	(us).
2. 22. 1			e are) the orig		or (original	joint inventor	s) of a claimed
I (we) h punisha both.	ereby ible un	acknowledg der 18 U.S.(e that any will 1001 by fine	ful false stat or Imprisor	ement ma iment of no	de in this dec at more than	laration is five (5) years, or
1 This fo	rm requ	nires the use o	an Application C	ata Sheet			
SEC Ref	No.	ID-201	509-03 0-1 -US0	A	torney Ref	No. SAM-54	1340 (CY4041US)
сомвім	IED DEC	CLARATION (S	37 CFR 1.63) FO	R UTILITY PA Page 1 of 8	TENT APPLIC	CATION AND A	SSIGNMENT FORM

PATENT
REEL: 042634 FRAME: 0003

SAMSUNG ELECTRONICS CO., LTD.

I (we) hereby state that I (we) have reviewed and understand the contents of the above identified application, including the claims.

I (we) acknowledge that I am (we are) aware of the duty to disclose information which is material to patentability as defined in 37 CFR § 1.56.

Section II. Assignment I

In consideration of the sum of One Dollar (\$1.00) and other good and valuable consideration paid to each of the undersigned, collectively referred to in Section II as Assignors in this section, hereby sell(s) and assign(s) to

Samsung Electronics Co., Ltd.

having an address at 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do 443-742, Republic of Korea (hereinafter designated in this Section as the Assignee), their 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,

SEC Ref No. ID-201609-030-1-US0 Attorney Ref No. SAM-54340 (CY4041US)

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM Page 2 of 8

PATENT

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 Muir Patent Law, 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.

Inventor(s)/Assignor(s) Signature(s) for Section II.

LEGAL NAME OF FIRST	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	0	SEONG-IL	
		5	*
SIGNATURE	Seonzil O	DATE	10. HAY, 2019

LEGAL NAME OF	Family Name	First Given Name	Second Given Name
SECOND INVENTOR/ASSIGNOR	SON	Young-Hoon	
J			
SIGNATURE	Young Doon Co	DATE A	(O. MAY . 2011)
e e	**	**************************************	

SEC Ref No.	ID-201609-030-1-US0	Attorney Ref No.	SAM-54340 (CV4041US)

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM
Page 3 of 8

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KIM	Chan-Kyung	
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	7	10. May , 2019.
	······································	Chankyung DATE

LEGAL NAME OF	Family Name	First Given Name	Second Given Name
FOURTH INVENTOR/ASSIGNOR	SONG	Ho-Young	
		** ** ** ** ** ** ** ** ** ** ** ** **	
SIGNATURE	Hoyony Sing	DATE	10 HAY, 2019

LEGAL NAME OF FIFTH	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	HWANG	Sang-Joon	
		22	**************************************
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SIGNATURE /	Twana Sand In	DATE	10 day 221)

SEC Ref No. ID-201609-030-1-US0 Attorney Ref No. SAM-54340 (CY4041US)

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM Page 4 of 8

Section III. Assignment II

In consideration of the sum of One Dollar (\$1.00) and other good and valuable consideration paid to each of the undersigned, collectively referred to in Section III as Assignors in this section, hereby sell(s) and assign(s) to

WISCONSIN ALUMNI RESEARCH FOUNDATION

having an address at 614 Walnut Street, Madison, Wisconsin 53726 (hereinafter designated in this Section as the Assignee), his 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, 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;

SEC Ref No.	ID-201609-030-1-US0	Attorney Ref No.	SAM-54340 (CY4041US)
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COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM
Page 5 of 8

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 **Muir Patent Law, 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.

Inventor(s)/Assignor(s) Signature(s) for Section III.

LEGAL NAME OF SIXTH	Family Name	First Given Name	Second Given Name		
INVENTOR/ASSIGNOR	KIM	Nam Sung			
		DATE			
SIGNATURE					

SEC Ref No.	ID-201609-030-1-US0	Attorney Ref No.	SAM-54340 (CY4041US)
COMBINED	DECLARATION (37 CFR 1.63) FOR UTILITY Page 6		DN AND ASSIGNMENT FORM

Section IV. Assignment III

In consideration of the sum of One Dollar (\$1.00) and other good and valuable consideration paid to each of the undersigned, collectively referred to in Section III as Assignors in this section, hereby sell(s) and assign(s) to

SNU R&DB FOUNDATION

having an address at 1, Gwanak-ro, Gwanak-gu, Seoul, 151-742, Republic of Korea (hereinafter designated in this Section as the Assignee), his 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, 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

SEC Ref No.

ID-201609-030-1-US0

Attorney Ref No. SAM-54340 (CY4041US)

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

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SAMSUNG ELECTRONICS CO., LTD.

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 Muir Patent Law, 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.

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

LEGAL NAME OF SIXTH		Family Name	Second Given Name			
INVEN	TOR/ASSIGNOR	AHN	Jung Ho			
***************************************	S					
	SIGNATURE _	orne	DATE	May 10, 2017		

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COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM Page 8 of 8

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