504638299 11/13/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 EPAS ID: PAT4685017 Stylesheet Version v1.2

 SUBMISSION TYPE:
 NEW ASSIGNMENT

 NATURE OF CONVEYANCE:
 ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
HYO SUN LEE	10/19/2017
HO YOUNG KIM	10/20/2017
SANG WON BAE	10/19/2017

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:	15809597	

CORRESPONDENCE DATA

Fax Number: (703)668-8200

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: 703-668-8000

Email: dcmailroom@hdp.com

Correspondent Name: HARNESS, DICKEY & PIERCE, P.L.C.

Address Line 1: P.O. BOX 8910

Address Line 4: RESTON, VIRGINIA 20195

ATTORNEY DOCKET NUMBER:	2677-000421-US
NAME OF SUBMITTER:	GARY D. YACURA, REG. NO. 35,416
SIGNATURE: /Gary D. Yacura/	
DATE SIGNED:	11/13/2017

Total Attachments: 6

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PATENT REEL: 044101 FRAME: 0256

COMBINED DECLARATION (37 CFR §1 63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM 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: Title: ETCHING COMPOSITION AND METHOD FOR FABRICATING SEMICONDUCTOR DEVICE BY USING THE SAME for which inventors are 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, or U.S. non-provisional patent application number PCT international patent application number , filed on The above-identified application was made or authorized to be made by me (us). I (we) believe that I am (we are) the original inventor (original joint inventors) of a claimed invention in the above-identified application. 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. This form requires the use of an Application Data Sheet. SEC Ref No. IE-201609-034-1-US0 Attorney Ref No. 2677-000421-US

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM
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SAMSUNG ELECTRONICS CO., LTD.

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, 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 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,

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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 setiforth;

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 Harness, Dickey & Pierce, P.L.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.

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

LEGAL NAME OF FIRST	Family Name		First Given Name	Second Given Name
INVENTOR/ASSIGNOR			Hyo Sun	
SIGNATURE		(DATE	17.70.79

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SEC RELINO.	IE-201609-034-1-US0	Attorney Ref No.	2677-000421-US
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LEGAL NAME OF SECOND	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	KIM	Ho Young	
SIGNATURE _		" DÁTE	lŋ. (°. 20
LEGAL NAME OF	Family Name	First Given Name	Second Given Name
SECOND INVENTOR/ASSIGNOR	BAE	Sang Won	

SIGNATURE BAT CAHGE WON

Section III. Assignment

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

Soulbrain Co., Ltd.

having an address at 34, Pangyo-ro, 255beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, 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

IE-201609-034-1-US0 SEC Ref No. Attorney Ref No. 2677-000421-US

LEGAL NAME OF	Family Name	First Given Name	Second Given Name
FOURTH	Andreas and an antique of the state of the s	Min Goo	2552718 07557 75577
INVENTOR/ASSIGNOR	KiM	3480 500	
SIGNATURE	경 의 구	DATE -	2017. 5. 16
LEGAL NAME OF	Family Name	First Given Name	Second Given Name
FIFTH	Life	Jung Kun	
INVENTOR/ASSIGNOR	rzen:	30018 42000	
Signature	Q 76	OATE	2017. C. H
LEGAL NAME OF	Family Name	First Given Name	Second Given Name
SIXTH INVENTOR/ASSIGNOR	CHOI	Yong Jae	
SIGNATURE		DATE	
3\$4347.1			
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LEGAL NAME OF	Family Name	First Given Name	Second Given Name
FOURTH INVENTOR/ASSIGNOR	KIM	Min Goo	
		:	
SIGNATURE		DATE	,
LEGAL NAME OF	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	LIM	nuH gnuL	
SIGNATURE		DATE	
LEGAL NAME OF	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	CHOI	Yong Jae	
SIGNATURE	à] 3 H	DATE	20(1). 6. /
3154947.1			
SEC Ref No. IE-2016	509-034-1-US0	Attorney Ref No.	2677-000421-US
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