503636833 01/06/2016

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3683464

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
WAN-DON KIM	09/22/2015
OH-SEONG KWON	09/22/2015
HOON-JOO NA	09/22/2015
HYEOK-JUN SON	09/22/2015
JAE-YEOL SONG	09/22/2015
SUNG-KEE HAN	12/04/2015
SANG-JIN HYUN	09/22/2015

RECEIVING PARTY DATA

Name:	SAMSUNG ELECTRONICS CO., LTD.
Street Address:	129, SAMSUNG-RO
Internal Address:	YEONGTONG-GU
City:	SUWON-SI, GYEONGGI-DO
State/Country:	KOREA, REPUBLIC OF
Postal Code:	443-742

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14989154

CORRESPONDENCE DATA

Fax Number: (919)854-1401

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: 919-854-1400

Email: sfreedman@myersbigel.com
Correspondent Name: SUSAN E. FREEDMAN

Address Line 1: MYERS BIGEL SIBLEY & SAJOVEC

Address Line 2: PO BOX 37428

Address Line 4: RALEIGH, NORTH CAROLINA 27627

ATTORNEY DOCKET NUMBER:	5649-4326
NAME OF SUBMITTER:	SUSAN E. FREEDMAN
SIGNATURE:	/Susan E. Freedman/

503636833 REEL: 037420 FRAME: 0725

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DATE SIGNED:	01/06/2016
Total Attachments: 10	
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PATENT REEL: 037420 FRAME: 0726

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

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.

WHEREA	WHEREAS, the undersigned, hereinafter referred to collectively as Assignor, has invented:				
	SEMICONDUCTOR DEVICES HAVING NATERIALS, AND METHODS OF FABR		FILMS AND TUNING		
for which	n Assignor is about to make or has ma nt.	de United States or Inter	national application		
WHEREA	S, as a below named inventor(s), I/(w	e) hereby declare that:			
Section I	Declaration		•		
This decl	aration is directed to:				
Σ	The attached U.S. non-provisio	nal patent application, or			
	U.S. non-provisional patent app on,		, filed		
	PCT international patent applica	tion number	, filed on		
The abov	e-identified application was made or	authorized to be made b	γ me (us).		
	ieve that I am (we are) the original in in the above-identified application.	ventor (original joint inve	entors) of a claimed		
	eby acknowledge that any willful fals le under 18 U.S.C. 1001 by fine or imp				
¹ This form	requires the use of an Application Data She	et.			
SEC Ref N	o. IE-201409-056-1-US0	Attorney Ref No.	5649-4326 SIP140191US		

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

091691442821446

PATENT REEL: 037420 FRAME: 0727 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, 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 443-742, 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,

SEC Ref No. IE-201409-056-1-US0 Attorney Ref No. 5649-4326 SIP140191US

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

Page 2 of 5

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SAMSUNG ELECTRONICS CO., LTD.

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 Myers Bigel Sibley & Sajovec, P.A. 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)

KIM	 	
KIM.	Wan-Don	
71 81 50		2015/9/22
	76 St SV	76 95 EV DATE

IE-201409-056-1-US0	Attorney Ref No.	5649-4326	
	_	SIP140191US	
	IE-201409-056-1-US0	IE-201409-056-1-USO Attorney Ref No.	3045 4326

LEGAL NAME OF SECOND	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	KWON	Oh-Seong	
		·	
SIGNATURE _	KWON Oh-SO	20ng DATE	2015/9/22

LEGAL NAME OF THIRD	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	NA A A A A A A A A A A A A A A A A A A A	Hoon-Joo	
SIGNATURE	U 27	DATE	2015/9/22

LEGAL NAME OF FOURTH	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	SON	Hyeok-Jun	
SIGNATURE	生机型	DATE	2015/9/22
-			

SEC Ref No.	IE-201409-056-1-US0	Attorney Ref No.	5649-4326
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COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM

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Page 4 of 5

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LEGAL NAME OF FIFTH	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	SONG	Jae-Yeol	
SIGNATURE _	公对是	DATE	2015/9/22
LEGAL NAME OF SIXTH	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR		Sung-Kee	
	e de la companya de l	e e	
SIGNATURE		DATE	
LEGAL NAME OF	Family Name	First Ci	
SEVENTH		First Given Name	Second Given Name
NVENTOR/ASSIGNOR	HYUN	Sang-Jin	
SIGNATURE	anjor Hyun	DATE	2015/09/22

REEL: 037420 FRAME: 0731

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

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: SEMICONDUCTOR DEVICES HAVING WORK FUNCTION METAL FILMS AND TUNING Title: MATERIALS, AND METHODS OF FABRICATING THE SAME 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: \boxtimes The attached U.S. non-provisional patent application, or U.S. non-provisional patent application number ______, filed 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. ¹ This form requires the use of an Application Data Sheet. SEC Ref No. IE-201409-056-1-US0 Attorney Ref No. 5649-4326 SIP140191US

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

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, 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 443-742**, **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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COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM
Page 2 of 5

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 Myers Bigel Sibley & Sajovec, P.A. 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
INVENTOR/ASSIGNOR	KIM	Wan-Don	
		DATE	
SIGNATURE		_	

			
SEC Ref No.	IE-201409-056-1-US0	Attorney Ref No.	5649-4326
			SIP140191US

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

LEGAL NAME O	F	Family Name	First Given Name	Second Given Name
SECOND INVENTOR/ASSIGN	IOR -	KWON	Oh-Seong	
SIGNATI	URE		DATE	
LEGAL NAME OF	= 1	Family Name	First Given Name	Second Given Name
THIRD		-		Second Given Name
INVENTOR/ASSIGN	IOR	NA	Hoon-Joo	
SIGNATU	JRE		DATE —	
LEGAL NAME OF	F	Family Name	First Given Name	Second Given Name
FOURTH INVENTOR/ASSIGN	IOR	SON	Hyeok-Jun	
SIGNATU	JRE		DATE	
SEC Ref No.	IE-20140	09-056-1-USO	Attorney Ref No.	5649-4326 SIP140191US

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

PATENT REEL: 037420 FRAME: 0735

LEGAL NAME OF	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	SONG	Jae-Yeol	
SIGNATURE _		DATE 	
LEGAL NAME OF	Family Name	First Given Name	Second Given Name
SIXTH INVENTOR/ASSIGNOR	HAN	Sung-Kee	
SIGNATURE	Slate	DATE	12/4/15
			Lo Lo
LEGAL NAME OF SEVENTH	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	HYUN	Sang-Jin	
SIGNATURE _		DATE —	

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

PATENT REEL: 037420 FRAME: 0736

RECORDED: 01/06/2016