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		RECORDATION FORM COVI PATENTS ONLY				HEET U.S. Department of Commerce Patent and Trademark Office Attorney Docket No. SAM-50173							
					emark Office: ents or copy thereof.	Mail Stop Assignment Recordation Services							
1.	Name of	of conveying	ng party(le	5):		2.	Name	and	address of	receiving	party:		
2. LEE, Hyosan 3. KO, Yongsun 4. KIM, Kyounseob 5. KIM, SeokHoon 6. LEE, Kuntack 7. JUN, Yongmyung 8. CHO, Yong-Jhin				Name:	- Second Copperson	Sa	amsung Elec	tronics Co	., Ltd.		Uncertain		
Additional name(s) of conveying parties attached? ☐ Yes ☒ No				Internal A	ddress	3:							
3.	Nature	of convey	ance:			Street Ac	dress:		129, Samsu	ng-ro, Yed	ongtong-gu		
Ø	Assignme	nt		Me	rger	City:	S	uwo	n-si		*		
	Security A	\greement		Ch	ange of Name	State: Gy	eongg	-do	Country: Korea	South	Zip Code:		
	Joint Res Agreeme				vernment Interest signment	Additiona	il name	ı(\$) <i>&</i>	& Address(es	s) attached	17		
		Order 949 ory License		Oth	ner:		□ Yes	•	⊠ No	.			
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4.		ation numb the applica		itent ni	umber(s): If this docu	ment is beir	ıg filed	toge	ither with a r	ew applic	ation, the exec	utio	n
Α.	Patent	Application	Number:13	/762,95	52	B. Patent Number(s):							
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5.	Name : concer	and addres ning docu	s of party ment shou	to who Id be m	m correspondence nailed:	Total number of applications and patents involved: 1							
Nam	e: Patric	k D. Muir	(tel): 703 (fax): 703 (e-mail):			7. Total fee (37 CFR 1.21(h) and 3.41): \$ 40.00 Enclosed (Please charge deficiency or credit							
Interi	nal Address	· Muir Da	pto@mui	pto@muirpatentconsulting.com		overpayment to deposit account 50-4574)							
- (, , , , , , , , , , , , , , , , , , 	et Address:			orgetown Pike, Suite 200, Box 1213									
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State):	VA	Zip:		22066	8.	Depos	it A	ccount No.:	50-4574	****		
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				Patric	k D. Muir , Reg. No. 3:	7,403			······································		Date		
		7	Fotal numbe	er of pa	ges including cover st	neet, attach	ments :	and	documents:	13	, ·		

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: MANUFACTURING METHOD AND FLUID SUPPLY SYSTEM FOR TREATING Title: SUBSTRATE 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, or 冈 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-201109-514-1-US0 Attorney Ref No. SAM-50173 COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM

Page 1 of 6

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, Gyeonggl-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 Parls 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-

SEC Ref No.	1E-201109-514-1-US0	Attorney Ref No.	SAM-50173
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COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM
Page 2 of 6

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 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 Consulting, 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.

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

LEGAL NAME OF	Family Name	First Given Name	Second Given Name
FIRST INVENTOR/ASSIGNOR	ОН	JungMin	
SIGNATURE	JungMin oh	DATE -	2-13.1.24

SEC Ref No.	IE-201109-514-1-US0	Attorney Ref No.	SAM-50173
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COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM 070481358998974

Page 3 of 6

LEGAL NAME OF SECOND	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	LEE	HYOSAN	
SIGNATURE _		DATE 	- Specify 18 of control (MA)
LEGAL NAME OF	Family Name	First Given Name	Second Given Name
THIRD INVENTOR/ASSIGNOR	КО	YONGSUN	
SIGNATURE _	Yongsun Ko	· DATE	7013 . 1 . X
LEGAL NAME OF	Family Name	First Given Name	Second Given Name
FOURTH NVENTOR/ASSIGNOR	KIM	KYOUNGSEOB	
	-		
		DATE	

SEC Ref No.	IE-201109-514-1-US0	Attorney Ref No.	SAM-50173

SIGNATURE Kypungseob kim

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM Page 4 of 6

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LEGAL NAME OF FIFTH INVENTOR/ASSIGNOR	Family Name KIM	First Given Name SeokHoon	Second Given Name
SIGNATURE	Searttoon Kim	DATE	2013.1.25

LEGAL NAME OF	Family Name	First Given Name	Second Given Name
SIXTH INVENTOR/ASSIGNOR	LEE	KUNTACK	A A CANADA
SIGNATURE _	Kun Tack Lee	DATE	2013. 1.25

LEGAL NAME OF	Family Name	First Given Name	Second Given Name
SEVENTH INVENTOR/ASSIGNOR	JUN	YONGMYUNG	
		DATE	2013.1.25

SEC Ref No.	IE-201109-514-1-US0	Attorney Ref No.	SAM-50173

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM
Page 5 of 6 070481358928974

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LEGAL NAME OF	Family Name		First Given Name	Second Given Name	
EIGHTH INVENTOR/ASSIGNOR	сно		Yong-Jhin		
SIGNATURE	Yougzhan	Cho	DATE	2미가, 1. 건도	

SEC Ref No. IE-201109-514-1-US0 Attorney Ref No. SAM-50173

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM Page 5 of 6

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COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM Page 1 of 6

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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, divisional, renewal or substitute thereof, and as to letters patent any reissue, re-

SEC Ref No.	IE-201109-514-1-US0	Attorney Ref No.	SAM-50173

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM
Page 2 of 6

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;

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

LEGAL NAME OF FIRST	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	ОН	JungMin	
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SIGNATURE	******	DATE	ba

SEC Ref No.	1E-201109-514-1-US0	Attorney Ref No.	SAM-50173

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM
Page 3 of 6

LEGAL NAME OF SECOND	Family Name	First Given Name	Second Given Nam
INVENTOR/ASSIGNOR	LEE	HYOSAN	
SIGNATURE _	Hyo Son Lee	DATE —	2/5//3
LEGAL NAME OF	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	КО	YONGSUN	- Comment of the Assessment of the Comment of the C
SIGNATURE		DATE	
LEGAL NAME OF	Family Name	First Given Name	Second Given Name
FOURTH INVENTOR/ASSIGNOR	KIM	KYOUNGSEOB	
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SEC Ref No. IE-201	109-514-1-US0	Attorney Ref No.	SAM-50173

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM Page 4 of 6