PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4849853

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
YIBING MICHELLE WANG	07/07/2015
ILIA OVSIANNIKOV	07/07/2015
YONG-HWA PARK	07/15/2015

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:	443-742

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15911153

CORRESPONDENCE DATA

Fax Number:

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: 503-419-6425

Email: pto@renaissanceiplaw.com

Correspondent Name: RENAISSANCE IP LAW GROUP LLP (SSI)

Address Line 1: 9600 SW OAK STREET

Address Line 2: SUITE 560

Address Line 4: PORTLAND, OREGON 97223

ATTORNEY DOCKET NUMBER:	1535-154CON
NAME OF SUBMITTER:	HOSOON LEE
SIGNATURE:	/Hosoon Lee/
DATE SIGNED:	03/04/2018
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 8

source=1535-154CON_WB-201409-024-1-US1_Declaration_Assignment_parent#page1.tif source=1535-154CON WB-201409-024-1-US1 Declaration Assignment parent#page2.tif

PATENT 504803121 REEL: 045100 FRAME: 0848

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PATENT REEL: 045100 FRAME: 0849

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:

Title:	IMAGING DEVICES WITH OPTICA	AL SHUTTERS AND LOW-	POWER DRIVERS
for which Ass patent.	ignor is about to make or has ma	de United States or Inter	national application for
WHEREAS, as	a below named inventor(s), I/(w	e) hereby declare that:	
Section I. De		The state of the s	
This declarat	ion is directed to:		
\boxtimes	The attached U.S. non-provisio	nal patent application, o	r
	U.S. non-provisional patent app	olication number	, filed on
	PCT international patent applic	ation number	, filed on
The above-id	entified application was made or	authorized to be made b	oy me (us).
	e that I am (we are) the original in the above-identified application.	ventor (original joint inv	entors) of a claimed
	acknowledge that any willful fal nder 18 U.S.C. 1001 by fine or im		
¹ This form red	quires the use of an Application Data Sh	eet.	
SEC Ref No.	WB-201409-024-1	Attorney Ref No.	1535-154
COMBINED	DECLARATION (37 CFR 1.63) FOR UT	ILITY PATENT APPLICATION	I AND ASSIGNMENT FORM

Page 1 of 4

PATENT REEL: 045100 FRAME: 0850 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;

SEC Ref No.	WB-201409-024-1	Attorney Ref No.	1535-154

REEL: 045100 FRAME: 0851

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 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 Renaissance IP Law Group LLP 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	WANG	Yibing	M.
SIGNATURE	144	DATE	7/7/2015

SEC Ref No.	MID 204400 024 4	Attorney Ref No.	1000 100
DEL NEI NO.	WB-201409-024-1	Attorney yer no.	1535-154

LEGAL NAME OF	Family Name	First Given Name	Second Given Name	
SECOND INVENTOR/ASSIGNOR	OVSIANNIKOV	Ilia		
SIGNATURE	CEC.	DATE	7/7/201	, e

LEGAL NAME OF	Family Name	First Given Name	Second Given Name
THIRD INVENTOR/ASSIGNOR	PARK	Yong-Hwa	
SIGNATURE		DATE	

SEC Ref No.	WB-201409-024-1	Attorney Ref No.	1535-154

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:

Title:	tle: IMAGING DEVICES WITH OPTICAL SHUTTERS AND LOW-POWER DRIVERS THEREFOR				
for which Ass for patent.	for which Assignor is about to make or has made United States or International application for patent.				
WHEREAS, as	s a below named inventor(s), I/(we) h	nereby declare that:			
Section I. De	Section I. Declaration				
This declarat	This declaration is directed to:				
\boxtimes	The attached U.S. non-provisional	patent application, or	-		
	U.S. non-provisional patent applica	ition number	, filed		
	PCT international patent application	on number	, filed on		
The above-id	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.					
I hereby state that I have reviewed and understand the contents of the above identified					
application, including the claims.					
¹ This form requires the use of an Application Data Sheet.					
SEC Ref No.	WB-201409-024-1	Attorney Ref No.	1535-154		

COMBINED DECLARATION (37 CFR 1.63) FOR UTILITY PATENT APPLICATION AND ASSIGNMENT FORM
Page 1 of 4

PATENT REEL: 045100 FRAME: 0854 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, 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.	WB-201409-024-1	Attorney Ref No.	1535-154

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 **Renaissance IP Law Group LLP** 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 INVENTOR/ASSIGNOR	Family Name	First Given Name	Second Given Name
	WANG	Yibing	M.
SIGNATURE		DATE -	

LEGAL NAME OF SECOND	Family Name	First Given Name	Second Given Name
INVENTOR/ASSIGNOR	OVSIANNIKOV	Ilia	
SIGNATURE		DATE	

SEC Ref No.	WB-201409-024-1	Attorney Ref No.	1535-154

SAMSUNG ELECTRONICS CO., LTD.

LEGAL NAME OF	Family Name	First Given Name	Second Given Name
THIRD INVENTOR/ASSIGNOR	PARK	Yong-Hwa	
SIGNATURE :	Nymk	DATE	<u> </u>

Attorney Ref No. SEC Ref No. WB-201409-024-1 1535-154

RECORDED: 03/04/2018

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