504301430 03/31/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4348111

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JAE-YEOL RYU	03/21/2017
JONG-CHUL CHOI	03/18/2017
MIKHAIL POPOV	03/21/2017
IVAN PANCHENKO	03/21/2017
JAE-HYOUNG PARK	03/17/2017
HYUN-SEOK HONG	03/18/2017
JONG-TAE KIM	03/21/2017
JIN-SUNG KIM	03/18/2017
JU-HEE KIM	03/18/2017

RECEIVING PARTY DATA

Name:	SAMSUNG ELECTRONICS CO., LTD.
Street Address:	129, SAMSUNG-RO, YEONGTONG-GU, GYEONGGI-DO
City:	SUWON-SI
State/Country:	KOREA, REPUBLIC OF
Postal Code:	16677

PROPERTY NUMBERS Total: 1

Property Type	Number		
Application Number:	15476162		

CORRESPONDENCE DATA

Fax Number: (202)293-7060

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.

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Address Line 4: WASHINGTON, D.C. 20037

ATTORNEY DOCKET NUMBER:	Q226033
NAME OF SUBMITTER:	CHRIS SOUTHCOTT

PATENT **REEL: 041814 FRAME: 0760** 504301430

SIGNATURE:	/Chris Southcott/
DATE SIGNED:	03/31/2017
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 14

source=Q226033ExecutedCombinedDeclarationandAssignment#page1.tif source=Q226033ExecutedCombinedDeclarationandAssignment#page2.tif source=Q226033ExecutedCombinedDeclarationandAssignment#page3.tif source=Q226033ExecutedCombinedDeclarationandAssignment#page4.tif source=Q226033ExecutedCombinedDeclarationandAssignment#page5.tif source=Q226033ExecutedCombinedDeclarationandAssignment#page6.tif source=Q226033ExecutedCombinedDeclarationandAssignment#page7.tif source=Q226033ExecutedCombinedDeclarationandAssignment#page8.tif source=Q226033ExecutedCombinedDeclarationandAssignment#page9.tif source=Q226033ExecutedCombinedDeclarationandAssignment#page10.tif source=Q226033ExecutedCombinedDeclarationandAssignment#page11.tif source=Q226033ExecutedCombinedDeclarationandAssignment#page12.tif source=Q226033ExecutedCombinedDeclarationandAssignment#page13.tif source=Q226033ExecutedCombinedDeclarationandAssignment#page13.tif source=Q226033ExecutedCombinedDeclarationandAssignment#page14.tif

PATENT REEL: 041814 FRAME: 0761

ASSIGNMENT WITH DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)

Whereas, I/We, the undersigned inventor(s) hereinafter called assignor(s), have invented certain improvements described in the application identified below; and

Whereas, SAMSUNG ELECTRONICS CO., LTD. of 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Republic of Korea (assignee), desires to acquire the entire right, title, and interest in the application and invention, and to any United States patents to be obtained therefor;

Now therefore, for valuable consideration, receipt whereof is hereby acknowledged,

I/We, the above named assignor(s), hereby sell, assign and transfer to the above named assignee, its successors and assigns, the entire right, title and interest in the application and the invention disclosed therein for the United States of America and all other countries, including all divisions, and continuations thereof, and all Letters Patent of the United States that may be granted thereon, and all reissues thereof, and including rights of priority under the International Convention of Paris (1883) as amended, the laws of all foreign countries, and the laws of the United States including the right to claim priority under 35 USC 119 and the right to sue for past damages, and I/we request the Director of the U.S. Patent and Trademark Office to issue any Letters Patent granted upon the invention set forth in the application to the assignee, its successors and assigns; and I/we hereby agree that the assignee may apply for foreign Letters Patent on the invention and I/we will execute without further consideration all papers deemed necessary by the assignee in connection with the United States and foreign applications when called upon to do so by the assignee.

(Leganzation not required for recording	g but	is prima facie evidence of execution under 35 USC 261)
As the below named inventor, I hereby	/ decia	are that:
This assignment with declaration is directed to:	Ø	The attached application, or
andrea w.		United States Application or PCT International Application Number filed on (Confirmation No).
The application is entitled:		(COMMING NO.
ELECTRONIC DEVICE INCLUDI	NG L	IGHT-EMITTING ELEMENTS AND METHOD OF OPERATING ELECTRONIC DEVICE
The above identified application was n	nade o	r was authorized to be made by me.
I believe that I am the original inventor	roran	original joint inventor of a claimed invention in the application.
I have reviewed and understand the co	ntents	of the application for which this assignment with declaration is being submitted.
I am aware of the duty to disclose to th	e Offi	ce all information known to me to be material to patentability as defined in 37 CFR 1.56.
I hereby acknowledge that any willful inversorment of not more than five (5)	false s	tatement made in this assignment with declaration is punishable under 18 USC 1001 by fine or

NAME OF SOLE OR FIRST INVENTOR:	
Given Name	
(first and middle (if any)) Jac-yeo)	Family Name or Surname RYU
Inventor's signature 루자열	Date 2017,03,21
Residence: Moscow, Russia	
Mailing Address: 125018 Office 1501, Dvintsev, 12 Moscow, Ru	ssìa
NAME OF SECOND INVENTOR:	
Given Name (first and middle [if any]) Jong-chul	Family Name or Surname CHOI
Inventor's signature	Date
Residence: Suwon-si, Republic of Korea	
Mailing Address: 66-1004, 346, Maeyeong-ro, Yeongtong-gu, Sw	won-si, Gyeonggi-do, Republic of Korea
NAME OF THIRD INVENTOR:	Province and the second
Given Name (first and middle [if any]) Mikhail	Family Name or Surname POPOV
Inventor's signature (lleng)	Date 2017.03.21
Residence: Moscow, Russia	
Mailing Address: 125018 Office 1501, Dvintsev, 12 Moscow, Rus	sia
NAME OF FOURTH INVENTOR:	AND
Given Name (first and middle [if any]) Ivan	Family Name or Surname PANCHENKO
Inventor's signature	Date 2017.03.21
Residence: Moscow, Russia	
Mailing Address: 125018 Office 1501, Dvintsev, 12 Moscow, Russia	a
NAME OF FIFTH INVENTOR:	**************************************
Given Name (first and middle [if any]) Jae-hyoung	Family Name or Surname PARK
Inventor's signature	Date
Residence: Yongin-si, Republic of Korea	
Mailing Address: 401-404, 10, Geumhwa-ro 58beon-gil, Giheung-gu	ı, Yongin-si, Gyconggi-do, Republic of Korea
NAME OF SIXTH INVENTOR:	
Given Name (first and middle [if any]) Hyun-seok	Family Name or Surname HONG
Inventor's signature	Date
Residence: Suwon-si, Republic of Korea	
Mailing Address: 204. 4-57, Ingye-ro 264bcon-git, Yeongtong-gu, Su	twon-si, Gyeonggi-do, Republic of Korea

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This assignment with declaration is directed to:	Ø	The attached application, or			
		United States Application or PCT International Application Number filed on (Confirmation No.).			
The application is entitled:					
ELECTRONIC DEVICE INCLUDING LIGHT-EMITTING ELEMENTS AND METHOD OF OPERATING ELECTRONIC DEVICE					
The above identified application was made or was authorized to be made by me.					

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I hereby acknowledge that any willful false statement made in this assignment with declaration is punishable under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both.

NAME OF SOLE OR FIRST INVENTO	R:	THE RESERVE THE PROPERTY OF TH	WB900099chologochianasymmung	MAANAN JANGARAN MARKATAN MARKA
Given Name			***************************************	
(first and middle [if any]) J	ac-yeol	Family Name or Surna	ime	RYU
Inventor's signature			Date	
Residence: Moscow, Russia		WAAAA		
Mailing Address: 125018 Office 1501, D	Ovintsev, 12 Moscow, Russia			
NAME OF SECOND INVENTOR:		AND THE RESERVE OF THE PARTY OF	OUCONA A SON A CANADA C	Nation Programme Annie Andrews Annie
Given Name (first and middle [if any]) Je	ong-chul	Family Name or Surna	me	СНОІ
Inventor's signature 5	J-chil Chos	Machine and July 1997	Date	2017.03.18.
Residence: Suwon-si, Republic of Kores	3	(~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
Mailing Address: 666-1004, 346, Maeyed	ong-ro, Yeongtong-gu, Suwor	ı-si. Gveonggi-do. Renubl	ic of Kore	я
NAME OF THIRD INVENTOR:	recollection of the second of			ile 1930-i Abinanananan (1947-1948-1948-1948-1948-1948-1948-1948-1948
Given Name (first and middle [if any]) M	likhail	Family Name or Surna	me :	POPOV
Inventor's signature			Date	
Residence: Moscow, Russia	7/10/ 1/10/10/10/10/10/10/10/10/10/10/10/10/10			
	vintsev, 12 Moscow, Russia	THE STATE OF THE S	·	
NAME OF FOURTH INVENTOR:		PANA TO THE PARA PARA PARA PARA PARA PARA PARA PAR	******************	
Given Name (first and middle [if any]) Ivan	1	Family Name or Surname	e PA	ANCHENKO
Inventor's signature		- Augustian Company	Date	
Residence: Moscow, Russia		The same of the sa	waaaaaaaaa	
Mailing Address: 125018 Office 1501, Dvii	itsev, 12 Moscow, Russia			
NAME OF FIFTH INVENTOR:				
Given Name (first and middle [if any]) Jae-I	hyoung	Family Name or Surname	e PA	NRK.
Inventor's signature	The state of the s		Date	
Residence: Yongin-si, Republic of Korea				
Mailing Address: 401-404, 10, Geumhwa-ro	58beon-gil, Giheung-gu, Yo	ngin-si, Gyeonggi-do, Re	public of k	Korea
NAME OF SIXTH INVENTOR:		TO THE REAL PROPERTY OF THE PR	The state of the s	**************************************
Given Name (first and middle [if any]) Hyur	1-seok	Pamily Name or Surname	: НС	DNG
Inventor's signature			Date	
Residence: Suwon-si, Republic of Korea				A CONTRACTOR OF THE CONTRACTOR
Mailing	on-gil, Yeongtong-gu, Suwor	-si, Gyeonggi-do, Republ	ic of Kore	a
	The state of the s		************	

BEWEIGHTEN BUT FRANCE BY THE COMMUNICATION OF CONTROL OF STREET

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NAME OF SOLE OR FIRST INVENT	OR:	Yvy na ny za onav nach alaka alaka alaka anananananan						
Given Name								
(first and middle [if any])	Jac-yeol	Family Name or Surna	ime RYU					
Inventor's signature			Date					
Residence: Moscow, Russia								
Mailing Address: 125018 Office 1501,	, Dvintsev, 12 Moscow, Russia							
NAME OF SECOND INVENTOR:								
Given Name (first and middle [if any])	Jong-chul	Family Name or Surna	те СНОІ					
Inventor's signature	—		Date					
Residence: Suwon-si, Republic of Ko	rca							
Mailing Address: 66-1004, 346, Maeyo	cong-ro, Yeongtong-gu, Suwon-	si. Gveonggi-do, Republic	c of Korea					
NAME OF THIRD INVENTOR:		nes en er en						
Given Name (first and middle [if any])	Mikhail	Family Name or Surna	me · POPOV					
Inventor's signature			Date					
Residence: Moscow, Russia	TOWN 16-THE SECOND SECO							
Mailing Address: 125018 Office 1501,	, Dvintsev, 12 Moscow, Russia	WARRANGO W						
NAME OF FOURTH INVENTOR:			OCCUPATION OF THE PROPERTY OF					
Given Name (first and middle [if any]) Is	van	Family Name or Surnam	ne PANCHENKO					
Inventor's signature	7-7-8-7-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	The second secon	Date					
Residence: Moscow, Russia	Residence: Moscow, Russia							
Mailing Address: 125018 Office 1501, E	Dvintsev, 12 Moscow, Russia							
NAME OF FIFTH INVENTOR:			THE STATE OF THE S					
Given Name (first and middle [if any]) Ja	ac-hyoung	Family Name or Surnam	ie PARK					
Inventor's signature Ja	ne hyang Park		Date 2019 03 17					
Residence: Yongin-si, Republic of Koren								
Mailing Address: 401-404, 10, Geumhwa-ro 58beon-gil, Giheung-gu, Yongin-si, Gyeonggi-do, Republic of Korea								
NAME OF SIXTH INVENTOR:								
Given Name (first and middle [if any]) H	lyun-seok	Family Name or Surnam	ie HONG					
Inventor's signature	The state of the s		Date					
Residence: Suwon-si, Republic of Korea								
Mailing Address: 204, 4-57, Ingye-ro 266	4beon-gil, Yeongtong-gu, Suwoi	n-si, Gyconggi-do, Repub	olic of Korea					

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[Page 1]

NAME OF SOLE OR FIRST INVENTOR:	
Given Name	
(first and middle [if any]) Jae-yeol	Family Name or Surname RYU
Inventor's signature	Date
Residence: Moscow, Russia	
Mailing Address: 125018 Office 1501, Dvintsev, 12 Moscow, Russia	
NAME OF SECOND INVENTOR:	
Given Name (first and middle [if any]) Jong-chul	Family Name or Surname CHOI
Inventor's signature	Date
Residence: Suwon-si, Republic of Korea	15.00
Mailing Address: 66-1004, 346, Maeyeong-ro, Yeongtong-gu, Suwon-s	i, Gyeonggi-do, Republic of Korea
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Given Name (first and middle [if any]) Mikhail	Family Name or Surname POPOV
Inventor's signature	Date
Residence: Moscow, Russia	
Mailing Address: 125018 Office 1501, Dvintsev, 12 Moscow, Russia	
NAME OF FOURTH INVENTOR:	
Given Name	Family Name or Surname PANCHENKO
Inventor's signature	Date
Residence: Moscow, Russia	
Mailing	
Address: 125018 Office 1501, Dvintsey, 12 Moscow, Russia	
NAME OF FIFTH INVENTOR:	
Given Name (first and middle [if any]) Jae-hyoung	Family Name or Surname PARK
Inventor's signature	Date
Residence: Yongin-si, Republic of Korea	
Mailing Address: 401-404, 10, Geumhwa-ro 58beon-gil, Giheung-gu, You	ngin-si, Gyeonggi-do, Republic of Korea
NAME OF SIXTH INVENTOR:	
Given Name (first and middle [if any]) Hyun-seok	Family Name or Surname HONG
Inventor's signature	Date March 18,2017
Residence: Suwon-si, Republic of Korea	<i>f</i>
Mailing Address: 204, 4-57, Ingye-ro 264beon-gil, Yeongtong-gu, Suwon	ni Grannori do Danublio of Voyas
reacess. Lot, Tot, higgerio zonocon-gn, i congiong-gu, buwon	rai, Oyconggrao, Republic of Roles

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[Page 1]

NAME OF SEVENTH INVENTOR:				
Given Name (first and middle [if any]) Jong-tae	Family Name or Surname KIM			
Inventor's signature	Date 2017.03.2/			
Residence: Suwon-si, Republic of Korea				
Mailing Address: 102-803, 25, Maetan-ro, Gwonseon-gu, Suwon-si, Gyeonggi-do, Republic of Korea				
NAME OF EIGHTH INVENTOR:				
Given Name (first and middle [if any]) Jin-sung	Family Name or Surname KIM			
Inventor's signature	Date			
Residence: Seoul, Republic of Korea				
Mailing Address: 302, 67-6, Yangjae-daero 124-gil, Gangdong-gu, Seoul, Republic of Korea				
NAME OF NINTH INVENTOR:				
Given Name (first and middle [if any]) Ju-hee	Family Name or Surname KIM			
Inventor's signature	Date			
Residence: Suwon-si, Republic of Korea				
Mailing Address: 405-1702, 81, Cheongmyeongbuk-ro, Yeongtong-gu,	Suwon-si, Gyeonggi-do, Republic of Korea			

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NAME OF SEVENTH INVENTOR:				
Given Name (first and middle [if any]) Jong-tae	Family Name or Surname	KIM		
Inventor's signature	I	Date		
Residence: Suwon-si, Republic of Korea				
Mailing Address: 102-803, 25, Maetan-ro, Gwonseon-gu, Suwon-si, Gyeonggi-do, Republic of Korea				
NAME OF EIGHTH INVENTOR:				
Given Name (first and middle [if any]) Jin-sung	Family Name or Surname	KIM		
Inventor's signature insuration	<u> </u>	Date March 18th 2019		
Residence: Scoul, Republic of Korea				
Mailing Address: 302, 67-6, Yangjac-daero 124-gil, Gangdong-gu, Seoul, Republic of Korea				
NAME OF NINTH INVENTOR:		A PARTICIPATION OF THE PARTICI		
Given Name (first and middle [if any]) Ju-hee	Family Name or Surname	: KIM		
Inventor's signature	I	Date		
Residence: Suwon-si, Republic of Korea				
Mailing Address: 405-1702, 81, Cheongmyeongbuk-ro, Yeongtong-gu,	Suwon-si, Gyconggi-do, Re	epublic of Korea		

ASSIGNMENT WITH DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)

Whereas, I/We, the undersigned inventor(s) hereinafter called assignor(s), have invented certain improvements described in the application identified below; and

Whereas, SAMSUNG ELECTRONICS CO., LTD. of 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Republic of Korea (assignee), desires to acquire the entire right, title, and interest in the application and invention, and to any United States patents to be obtained therefor;

Now therefore, for valuable consideration, receipt whereof is hereby acknowledged,

I/We, the above named assignor(s), hereby sell, assign and transfer to the above named assignee, its successors and assigns, the entire right, title and interest in the application and the invention disclosed therein for the United States of America and all other countries, including all divisions, and continuations thereof, and all Letters Patent of the United States that may be granted thereon, and all reissues thereof, and including rights of priority under the International Convention of Paris (1883) as amended, the laws of all foreign countries, and the laws of the United States including the right to claim priority under 35 USC 119 and the right to sue for past damages, and I/we request the Director of the U.S. Patent and Trademark Office to issue any Letters Patent granted upon the invention set forth in the application to the assignee, its successors and assigns; and I/we hereby agree that the assignee may apply for foreign Letters Patent on the invention and I/we will execute without further consideration all papers deemed necessary by the assignee in connection with the United States and foreign applications when called upon to do so by the assignee.

(Legalization not required for recording but is prima facie evidence of execution under 35 USC 261)

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This assignment with declaration is directed to:	Ø	The attached application, or
		United States Application or PCT International Application Number [application no filed on [application_date] (Confirmation No. [confirmation_no]).
The application is entitled:		

ELECTRONIC DEVICE INCLUDING LIGHT-EMITTING ELEMENTS AND METHOD OF OPERATING ELECTRONIC DEVICE

The above identified application was made or was authorized to be made by me.

As the below named inventor, I hereby declare that:

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application,

I have reviewed and understand the contents of the application for which this assignment with declaration is being submitted.

I am aware of the duty to disclose to the Office all information known to me to be material to patentability as defined in 37 CFR 1.56.

I hereby acknowledge that any willful false statement made in this assignment with declaration is punishable under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both.

[Page 1]

NAME OF SEVENTH INVENTOR:	The Control of the Secretary and secre			
Given Name (first and middle [if any]) Jong-tae	Family Name or Surname KIM			
Allow with same to Market Mark	Tamily Panic of Surface Color			
Inventor's signature	Date			
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NAME OF EIGHTH INVENTOR:	manus magagan na manus maganan na manus ma			
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Inventor's signature	Date			
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Mailing Address: 302, 67-6, Yangjae-daero 124-gil, Gangdong-gu, Scoul, Republic of Korea				
NAME OF NINTH INVENTOR:				
Given Name (first and middle [if any]) Ju-hee	Family Name or Surname KIM			
Inventor's signature 7132	Date 2017, 03,18			
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