504697819 12/20/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4744541

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JUN-IK JANG	12/14/2017
YE-HOON KIM	12/18/2017
SO-JUNG YUN	12/14/2017
JIN-HO LEE	12/18/2017
DO-JUN YANG	12/18/2017
HAN-SUNG LEE	12/15/2017
SOON-HYUK HONG	12/15/2017

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

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15848901

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.

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Correspondent Name: JEFFERSON IP LAW, LLP

Address Line 1: 1130 CONNECTICUT AVE., NW, SUITE 420

Address Line 4: WASHINGTON, D.C. 20036

ATTORNEY DOCKET NUMBER:	0502-0358
NAME OF SUBMITTER:	WONKI PARK
SIGNATURE:	/Wonki PARK/
DATE SIGNED:	12/20/2017

Total Attachments: 4

PATENT REEL: 044451 FRAME: 0314

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PATENT REEL: 044451 FRAME: 0315

RECORDATION FO	RM COVER SHEET			
PATENT	S ONLY			
To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.				
1. Name of conveying party(ies) 1) Jun-ik JANG; 2) Ye-hoon KIM; 3) So-jung YUN; 4) Jin-ho LEE; 5) Do-jun YANG; 6) Han-sung LEE; 7) Soon-hyuk HONG	2. Name and address of receiving party(ies) Name: Samsung Electronics Co., Ltd. Internal Address:			
Additional name(s) of conveying party(ies) attached? Yes No 3. Nature of conveyance/Execution Date(s): Execution Date(s) 12/14/2017; 12/15/2017; 12/18/2017 Assignment Merger Security Agreement Change of Name Joint Research Agreement Government Interest Assignment Executive Order 9424, Confirmatory License Other 4. Application or patent number(s): This A. Patent Application No.(s) 15/848,901	Street Address: 129, Samsung-ro, Yeongtong-gu City: Suwon-si, Gyeonggi-do State: Country: Republic of Korea Zip: Additional name(s) & address(es) attached? Yes No document is being filed together with a new application. B. Patent No.(s)			
Additional numbers att	ached? Yes V No			
5. Name and address to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved: One			
Name: Jefferson IP Law, LLP	7. Total fee (37 CFR 1.21(h) & 3.41) \$			
Internal Address: Wonki Park	Authorized to be charged by credit card Authorized to be charged to deposit account			
Street Address: 1130 Connecticut Ave., NW, Suite 420	Enclosed None required (government interest not affecting title)			
City: Washington	8. Payment Information			
State: <u>DC</u> Zip:20036	a. Credit Card Last 4 Numbers Expiration Date			
Phone Number: <u>202-293-0804</u>				
Fax Number: <u>202-403-3587</u>	b. Deposit Account Number Authorized User Name			
Email Address: usdocketing@jeffersonip.com				
9. Signature: /Wonki PARK/ Reg. No. 38	3,991 <u>December 20, 2017</u> Date			
Wonki Park Name of Person Signing	Total number of pages including cover sheet, attachments, and documents:			

Documents to be recorded (including cover sheet) should be faxed to (571) 273-0140, or mailed to: Mail Stop Assignment Recordation Services, Director of the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450

REEL: 044451 FRAME: 0316

DOCKET NO.: 0502-0358

CLIENT REF.: SH-55350-US-DMC SAMSUNG REF.: GN-201708-008-1-US0

Assignment

WHEREAS, the following inventors, namely 1) Jun-ik JANG, 2) Ye-hoon KIM, 3) So-jung YUN, 4) Jin-ho LEE, 5) Do-jun YANG, 6) Hun-sung LEE, and 7) Soon-hyuk HONG (hereinafter called "Assignors"), having made or discovered certain new, useful and non-obvious improvements in an invention having a working title of:

ELECTRONIC APPARATUS AND METHOD OF OPERATING THE SAME,

for which a United States Patent Application is being filed concurrently herewith or, if not being concurrently filed, was filed on December 20, 2017, and assigned Serial No. 15/848,901; and,

WHEREAS, Samsung Electronics Co., Ltd., a corporation duly organized under the laws of the Republic of Korea, located and doing business at 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea, 16677 (hereinafter called "Assignee"), is desirous of acquiring the entire right, title and interest therein;

NOW, THEREFORE, BE IT KNOWN that for and in good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Assignors do hereby sell, assign and transfer unto said Assignee the entire and exclusive worldwide right, title and interest in and to all said inventions and discoveries disclosed in said application, and in and to said application, any and all substitutions, divisions, provisionals, conversions of previsionals and continuations thereof, and in and to all Letters Patent. United States and all other foreign countries, that may be granted for said inventions and discoveries, and in and to all extensions, renewals and reissues thereof; and the right to file any other foreign country application and/or claim priority under the provisions of any international treaty or convention arising from this application or any divisional, continuing, substitute or reissue application therefrom. The aforesaid assignment includes the right in and to all income, royalties, damages and payments, now or hereafter due or payable with respect to any Letters Patent which may be granted, and in and to all causes of action (either in law or in equity), and the right to sue, counterclaim, and recover for past, present and future infringement of the rights assigned or to be assigned under this Assignment, as fully and entirely as the same would have been held and enjoyed by Assignors if this sale, assignment and transfer had not been made.

Assignors covenant and agree, without further compensation to said Assignors but at Assignee's expense:

- a. to execute:
 - all papers to be used in connection with this application and any divisional, continuing, substitute or reissue application thereof, as the Assignee may deem necessary or expedient, and
 - all papers in connection with any interference, litigation, mediation, arbitration or other proceeding relating to this application or any divisional, continuing, substitute or reissue application thereof, as may be necessary or expedient;
- to cooperate with the Assignee in every way possible in obtaining evidence and going forward in any interference, litigation, mediation, arbitration or other

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PATENT REEL: 044451 FRAME: 0317 DOCKET NO.: 0502-0358

CLIENT REF.: SH-55350-US-DMC SAMSUNG REF.: GN-201708-008-1-US0

- proceeding relating to said invention, said application and any divisional, continuing, substitute or reissue application thereof;
- to communicate to the Assignee any facts relating to said invention, said application and any divisional, continuing, substitute or reissue application thereof, including evidence for any interference, litigation, mediation, arbitration or other proceeding relating to said invention, whenever requested;
- d. to testify in any interference, litigation, mediation, arbitration or other proceeding relating to said invention, said application and any divisional, continuing, substitute or reissue application thereof whenever requested; and
- e. to perform all other affirmative acts which may be necessary or desirable to secure full and complete protection of the inventions and discoveries or that may be necessary or desirable to vest in Assignee the complete title to the inventions and discoveries and Letters Patent hereby conveyed and to enable Assignee to record title.

Assignors hereby authorize and request the United States Patent and Trademark Office or any other issuing authority to issue any and all Letters Patent that may be granted upon this invention and/or this application or any divisional, continuing, substitute or reissue application thereof to the Assignee, its legal representatives, successors and assigns.

Assignors each hereby represents, covenants and warrants that he or she has the full right to convey the entire right, title and interest by this instrument, free of any encumbrances and that no other agreement has been or will be executed in conflict herewith.

The provisions of this Assignment are binding upon Assignors' heirs, legal representatives and/or administrators and assigns.

Assignors hereby grant to the law firm of Jefferson IP Law, LLP of Washington, DC and its attorneys and agents as associated with Customer No. 68103 the authority and power to insert on this instrument any further identification which may be necessary or desirable for purposes of recordation in the United States Patent and Trademark Office or a Patent Office of any foreign country.

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DOCKET NO.: 9502-0358.

CLIENT REF.; SH-55350-US-DMC SAMSUNG REF.: GN-201708-008-1-US0

Signature of Inventor:	(2)	12/14/2017
	Jun-ik JANG	Date
Signature of Inventor:	A	18. Pec. 2018
	Ye-hoon KIM	Date
Signature of Inventor:	AJ	12/14/2011
	So-jung YUN	Date
Signature of Inventor:	op~ 2,	18 DEC 2019
	Jin-he LEE	Date
Signature of Inventor:		1808001
	Do-jun YANG	Date
Signature of Inventor:	a)	15, 0ec. 2017
	Han-sung LEÉ	Date
Signature of Inventor:	(Tilling)	15.000.2019
	Soon-hynk HONG	Date