505807964 12/06/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5854793

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|--------------|----------------|
| JUNGSIK PARK | 11/27/2019 |
| YOONJUNG KIM | 12/05/2019 |
| GYUBOK PARK | 12/05/2019 |
| DONGYEON KIM | 12/06/2019 |
| YONGHWA KIM | 11/27/2019 |
| JINWOO PARK | 11/27/2019 |
| JINHO LIM | 11/27/2019 |

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: | 16677 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 16705795 |

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: 202-293-0804

Email: usdocketing@jeffersonip.com
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: | 0210-0392 |
|-------------------------|--------------------|
| NAME OF SUBMITTER: | GEORGE C. ECKERT |
| SIGNATURE: | /George C. ECKERT/ |
| DATE SIGNED: | 12/06/2019 |

PATENT 505807964 REEL: 051204 FRAME: 0019

Total Attachments: 13 source=0210-0392 Assignment As Filed#page1.tif source=0210-0392 Assignment As Filed#page2.tif source=0210-0392 Assignment As Filed#page3.tif source=0210-0392 Assignment As Filed#page4.tif source=0210-0392 Assignment As Filed#page5.tif source=0210-0392 Assignment As Filed#page6.tif source=0210-0392 Assignment As Filed#page7.tif source=0210-0392 Assignment As Filed#page8.tif source=0210-0392 Assignment As Filed#page9.tif source=0210-0392 Assignment As Filed#page9.tif source=0210-0392 Assignment As Filed#page10.tif source=0210-0392 Assignment As Filed#page11.tif source=0210-0392 Assignment As Filed#page12.tif source=0210-0392 Assignment As Filed#page13.tif

PATENT REEL: 051204 FRAME: 0020

| RECORDATION FO | ORM 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) | 2. Name and address of receiving party(ies) | |
| 1) Jungsik PARK, 2) Yoonjung KIM, 3) Gyubok PARK 4) Dongyeon KIM, 5) Yonghwa KIM, 6) Jinwoo PARK, | Name: Samsung Electronics Co., Ltd. | |
| and 7) Jinho LIM | Internal Address: | |
| Additional name(s) of conveying party(ies) attached? Yes No 3. Nature of conveyance/Execution Date(s): Execution Date(s) 11/27/2019, 12/05/2019 and 12/06/2019 Assignment Merger | Street Address: 129, Samsung-ro, Yeongtong-gu | |
| Security Agreement Change of Name | City: Suwon-si, Gyeonggi-do | |
| ☐ Joint Research Agreement | State: | |
| Government Interest Assignment | | |
| Executive Order 9424, Confirmatory License | Country: Republic of Korea Zip: 16677 | |
| Other | Additional name(s) & address(es) attached? Yes Vo | |
| A. Patent Application No.(s) 16/705,795 Additional numbers at | B. Patent No.(s) | |
| 5. Name and address to whom correspondence | 6. Total number of applications and patents | |
| concerning document should be mailed: Name: Jefferson IP Law, LLP | involved: One | |
| <u> </u> | 7. Total fee (37 CFR 1.21(h) & 3.41) \$ | |
| Internal Address: George C. Eckert | Authorized to be charged by credit card | |
| Street Address: 1130 Connecticut Ave., NW, Suite 420 | Authorized to be charged to deposit account Enclosed None required (government interest not affecting title) | |
| City: Washington | 8. Payment Information | |
| State: District of Columbia Zip:20036 | a. Credit Card Last 4 Numbers Expiration Date | |
| Phone Number:202-293-0804 | | |
| Fax Number: 202-403-3587 | b. Deposit Account Number | |
| Email Address: usdocketing@jeffersonip.com | Authorized User Name | |
| 9 Signature: | December 2, 2012 | |
| /George C. ECKERT/ Reg. # | <u>December 6, 2019</u> Date | |
| George C. Eckert 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: 051204 FRAME: 0021

CLIENT REF.: 2019-OPSE-2746/US SAMSUNG REF.: GM-201806-016-1-US0

Assignment

WHEREAS, the following inventors, namely 1) Jungsik PARK, 2) Yoonjung KIM, 3) Gyubok PARK, 4) Dongyeon KIM, 5) Yonghwa KIM, 6) Jinwoo PARK, and 7) Jinho LIM (hereinafter called "Assignors"), having made or discovered certain new, useful and non-obvious improvements in an invention having a working title of:

ELECTRONIC DEVICE COMPRISING ANTENNA FOR WIRELESS COMMUNICATION

for which a United States Patent Application is being filed concurrently herewith or, if not being concurrently filed, was filed on <u>December 6, 2019</u>, and assigned Serial No. 16/705,795; 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 provisionals 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

1

CLIENT REF.: 2019-OPSE-2746/US SAMSUNG REF.: GM-201806-016-1-US0

proceeding relating to said invention, said application and any divisional, continuing, substitute or reissue application thereof;

- c. 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.

CLIENT REF.: 2019-OPSE-2746/US

SAMSUNG REF.: GM-201806-016-1-US0

| Signature of Inventor: | | |
|-------------------------|-----------------------------|--------------|
| orgulature of inventor. | | 2019, 11, 2% |
| | Jungsik PARK | Date |
| | | |
| Signature of Inventor: | | |
| | Yoonjung KIM | Date |
| | | |
| Signature of Inventor: | | |
| | Gyubok PARK | Date |
| | | |
| Signature of Inventor: | | |
| | Dongyeon KIM | Date |
| Signature of Inventor: | Kim yong huw Yonghwa KIM | 2019,11.27 |
| | Yonghwa KIM | Date |
| or a gr | | |
| Signature of Inventor: | 479 | 2019 11 27 |
| | Jinwoo PARK | Date |
| | | |
| Signature of Inventor: | | 2019-11-27) |
| | Jinho LIM | Date |
| | | |

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WHEREAS, the following inventors, namely 1) Jungsik PARK, 2) Yoonjung KIM, 3) Gyubok PARK, 4) Dongyeon KIM, 5) Yonghwa KIM, 6) Jinwoo PARK, and 7) Jinho LIM (hereinafter called "Assignors"), having made or discovered certain new, useful and non-obvious improvements in an invention having a working title of:

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for which a United States Patent Application is being filed concurrently herewith or, if not being concurrently filed, was filed on <u>December 6, 2019</u>, and assigned Serial No. 16/705,795; 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 provisionals 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.

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| Signature of Inventor: | | |
|------------------------|--------------|---------|
| | Jungsik PARK | Date |
| Signature of Inventor: | MM. | 19.12.5 |
| | Yoonjung KIM | Date |
| Signature of Inventor: | | |
| | Gyubok PARK | Date |
| Signature of inventor: | | |
| | Dongyeon KIM | Date |
| Signature of Inventor: | | |
| | Yonghwa KIM | Date |
| Signature of Inventor: | | |
| | Jinwoo PARK | Date |
| Signature of inventor: | | |
| | Jinho LIM | Date |

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| Signature of Inventor: | | |
|------------------------|--------------|-------------|
| | Jungsik PARK | Date |
| Signature of Inventor: | | |
| | Yoonjung KIM | Date |
| Signature of Inventor: | (G) | Dec. 5,2018 |
| | Gyubok PARK | Date |
| Signature of Inventor: | | |
| | Dongyeon KIM | Date |
| Signature of Inventor: | | |
| | Yonghwa KIM | Date |
| Signature of Inventor: | | |
| | Jinwoo PARK | Date |
| Signature of Inventor: | | |
| | Jinho LIM | Date |

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| Signature of Inventor: | | |
|------------------------|--------------|----------------------------|
| | Jungsik PARK | Date |
| Signature of Inventor: | | |
| | Yoonjung KIM | Date |
| Signature of Inventor: | | |
| | Gyubok PARK | Date |
| Signature of Inventor: | Dongyéon KIM | 6. <u>Dec. 70/</u> Date |
| Signature of Inventor: | | |
| | Yonghwa KIM | Date |
| Signature of Inventor: | | |
| | Jinwoo PARK | Date |
| Signature of Inventor: | | |
| | Jinho LIM | Date |