505724820 10/16/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

SUBMISSION TYPE: NEW ASSIGNMENT

NATURE OF CONVEYANCE: ASSIGNMENT

EPAS ID: PAT5771632

CONVEYING PARTY DATA

| Name | Execution Date |
|--------------|----------------|
| Seokmin SHIN | 09/07/2018 |
| Hyungtae KIM | 09/07/2018 |
| Kijun KIM | 09/07/2018 |
| Yunjung YI | 09/07/2018 |

RECEIVING PARTY DATA

| Name: | LG ELECTRONICS INC. |
|-----------------|-----------------------------------|
| Street Address: | 128, YEOUI-DAERO, YEONGDEUNGPO-GU |
| City: | SEOUL |
| State/Country: | KOREA, REPUBLIC OF |
| Postal Code: | 07336 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 16096477 |

CORRESPONDENCE DATA

Fax Number: (877)769-7945

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: +1 (202) 626-6431

Email: stadnick@fr.com, apsi@fr.com

Correspondent Name: WON S. YOON

Address Line 1: FISH & RICHARDSON P.C.

Address Line 2: P.O.BOX 1022

Address Line 4: MINNEAPOLIS, MINNESOTA 55440-1022

| ATTORNEY DOCKET NUMBER: | 20211-0251US1 |
|-------------------------|--------------------|
| NAME OF SUBMITTER: | SHANNON STADNICK |
| SIGNATURE: | /Shannon Stadnick/ |
| DATE SIGNED: | 10/16/2019 |

Total Attachments: 5

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PATENT 505724820 REEL: 050731 FRAME: 0215

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PATENT REEL: 050731 FRAME: 0216

ASSIGNMENT

For valuable consideration, the receipt of which we acknowledge, and intending to be bound legally, we, SEOKMIN SHIN, HYUNGTAE KIM, KIJUN KIM and YUNJUNG YI, each individually assigns to LG ELECTRONICS INC., a corporation formed under the laws of Republic of Korea, and having a principal place of business at 128, Yeoui-daero, Yeongdeungpo-gu, Seoul 07336, Republic of Korea, and its successors, transferees, and assignees (collectively the "Assignee"), all of our individual and joint right, title, and interest throughout the world in the invention(s) (the "Subject Matter") described in a patent application that names us as inventors, is titled "METHOD AND APPARATUS FOR TRANSCEIVING DATA USING NON-ORTHOGONAL MULTIPLE ACCESS IN WIRELESS COMMUNICATION SYSTEM," and was or will be filed in the United States Patent and Trademark Office on _______, as application ________(the "Application"). We authorize the insertion of the filing date and application number above.

This Assignment assigns, in addition to the Subject Matter of the Application, (a) the Application and all other applications that may be made for, and all patents, utility models, design registrations, and other rights of exclusion and inventors' certificates for, any of the Subject Matter (collectively the "Applications and Granted Rights") in every country or region and under every treaty or convention, (b) the right to claim priority based on and the benefit of the filing date of any of the Applications and Granted Rights under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other applicable treaties or conventions, and (c) the right to pursue, collect, and retain in the Assignee's name or otherwise, damages and any other remedies arising from any past, present, or future infringement of the Subject Matter, the Applications and Granted Rights, and any other rights assigned by this Assignment.

We authorize the Assignee to apply for and pursue protection for any or all of the Subject Matter, the Applications and Granted Rights, and any other rights assigned by this Assignment in all countries, regions, and territories of the world, in our names or in the Assignee's name.

We represent and warrant that we have the right and power to make this Assignment and that we have not made and will not make any other assignment that conflicts with this Assignment.

Assignment Page 1 of 5

PATENT REEL: 050731 FRAME: 0217 We will communicate to the Assignee (or, at the request of the Assignee to other parties) all known facts in any form relating to the Subject Matter; will execute and provide all oaths and declarations, statements, testimony, assignments, powers of attorney, applications, and documents; and will perform all other lawful acts necessary or desirable to secure fully to the Assignee the rights, titles, and interests assigned by this Assignment.

| L 14 02 | Date: 2018. P. 7 |
|---------------|------------------|
| Seokmin SHIN | |
| Witnessed by: | |
| Signature: | Date: |
| Print Name: | |
| Signature: | Date: |
| Print Name: | |

Assignment Page 2 of 5

| % H H | Date: 2-18. 9.7 |
|---------------|-----------------|
| Hyungtae KIM | <i>D</i> 400. |
| Witnessed by: | |
| Signature: | Date: |
| Print Name: | |
| Signature: | Date: |
| Print Name: | |

1016 Sectionics

| 7/2/20 | Date: 20/8 / P/2 |
|---------------|------------------|
| Kijun KIM | |
| Witnessed by: | |
| Signature: | Date: |
| Print Name: | |
| Signature: | Date: |
| Print Name: | |



| Vimina VI | Date: 2018.92 | | |
|--|---------------|--|--|
| Yunjung YI | | | |
| Witnessed by: | | | |
| Signature: | Date: | | |
| Print Name: | | | |
| Signature: | Date: | | |
| Print Name: | | | |
| The Assignee hereby acknowledges and accepts the foregoing assignment. | | | |
| Assignee: LG ELECTRONICS INC. | | | |
| Signature: | Date; | | |
| Name: | | | |
| Title: | | | |
| | | | |

Assignment Page 5 of 5

PATENT REEL: 050731 FRAME: 0221

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