504585950 10/09/2017 PATENT ASSIGNMENT COVER SHEET

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| SUBMISSION TYPE: | | NEW ASSIGNMENT | | | |
|--|--|--|----------------|--|--|
| NATURE OF CONVEYAN | ICE: | ASSIGNMENT | | | |
| CONVEYING PARTY DA | ТА | | | | |
| | | Name | Execution Date | | |
| JUNG-MIN MOON | | | 09/27/2017 | | |
| SEUNG-HOON PARK | | | 09/27/2017 | | |
| JUNG-SOO JUNG | | | 09/27/2017 | | |
| SUN-HEUI RYOO | | | 09/27/2017 | | |
| BYOUNG-HOON JUNG | | | 09/27/2017 | | |
| RECEIVING PARTY DA | ГА | | | | |
| Name: SAMSUNG ELECTRONICS CO., LTD. | | | | | |
| Street Address: | 129, SAMS | 129, SAMSUNG-RO, YEONGTONG-GU | | | |
| City: | SUWON-S | SUWON-SI, GYEONGGI-DO | | | |
| State/Country: | KOREA, RI | EPUBLIC OF | | | |
| Postal Code: | 16677 | | | | |
| | | | | | |
| PROPERTY NUMBERS | Total: 1 | | | | |
| Property Type | | Number | | | |
| | | | | | |
| Application Number: | 155 | 65399 | | | |
| Application Number: | | 65399 | | | |
| | ATA | | | | |
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| Application Number: CORRESPONDENCE D Fax Number: Correspondence will be using a fax number, if p Phone: Email: Correspondent Name: Address Line 1: | ATA (972 e sent to the provided; if 972 pate DOC P.O | 2)628-3616 e e-mail address first; if that is unsu that is unsuccessful, it will be sent -628-3600 ents@munckwilson.com CKET CLERK . DRAWER 800889 | | | |
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| Application Number: CORRESPONDENCE D Fax Number: Correspondence will be using a fax number, if p Phone: Email: Correspondent Name: Address Line 1: Address Line 4: | ATA (972 e sent to the provided; if 972 pate DOC P.O DAL | 2)628-3616 e e-mail address first; if that is unsu that is unsuccessful, it will be sent -628-3600 ents@munckwilson.com CKET CLERK . DRAWER 800889 -LAS, TEXAS 75380 | | | |
| Application Number: CORRESPONDENCE D. Fax Number: <i>Correspondence will be</i> <i>using a fax number, if p</i> Phone: Email: Correspondent Name: Address Line 1: Address Line 4: ATTORNEY DOCKET NU | ATA (972 e sent to the provided; if 972 pate DOC P.O DAL | 2)628-3616 e e-mail address first; if that is unsu that is unsuccessful, it will be sent -628-3600 ents@munckwilson.com CKET CLERK - DRAWER 800889 -LAS, TEXAS 75380 P21849-US1 (SAMS05-21849) | | | |

DATE SIGNED:

Total Attachments: 2

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10/09/2017

PATENT REEL: 043817 FRAME: 0637

DOCKET NO. P21849-US1 Client Ref. No. MJ-201504-025-1-US1

PATENT

ASSIGNMENT

WHEREAS, WE, Jung-Min MOON, resident of Suwon-si, Gyeonggi-do, Republic of Korea, citizen of Republic of Korea, Seung-Hoon PARK, resident of Seoul, Republic of Korea, citizen of Republic of Korea, Jung-Soo JUNG, resident of Seongnam-si, Gyeonggi-do, Republic of Korea, citizen of Republic of Korea, Sun-Heui RYOO, resident of Yongin-si, Gyeonggi-do, Republic of Korea, citizen of Republic of Korea, Byoung-Hoon JUNG, resident of Seoul, Republic of Korea, citizen of Republic of Korea, Byoung-Hoon JUNG, resident of Seoul, Republic of Korea, citizen of Republic of Korea have invented certain new and useful improvements in "METHOD FOR SUPPORTING HARQ IN COMMUNICATION SYSTEM USING UNLICENSED FREQUENCY BAND AND DEVICE HAVING APPLIED SAME" disclosed in an application for United States Letters Patent (Application Serial No. __/____, filed on ______, said application having been executed concurrently herewith;

WHEREAS, SAMSUNG ELECTRONICS CO., LTD, a corporation organized under the laws of the Republic of Korea, having a place of business at 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Republic of Korea(hereinafter referred to as "ASSIGNEE"), is desirous of acquiring our entire right, title and interest in and to the invention, and in and to the said application and any Letters Patent that may issue thereon;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, we do hereby sell, assign and transfer unto said ASSIGNEE, their successors, assigns and legal representatives, the full and exclusive right, title and interest in and to said invention and in and to said application and all patents which may be granted therefor, and all divisions, reissues, substitutions, continuations, continuations-in-part and extensions thereof; We authorize William A. Munck of Munck Wilson Mandala, LLP. to insert in the parenthesis above the application number and filing date of said application when known; and we hereby authorize and request the Commissioner of Patents and Trademarks to issue all patents for said invention, or patents resulting therefrom, insofar as our interest is concerned, to the said ASSIGNEE of our entire right, title and interest.

We also hereby sell and assign to said ASSIGNEE, their successors, assigns and legal representatives the full and exclusive rights, title and interest to the invention disclosed in said application throughout the world, including the right to file applications and obtain patents, utility models, industrial models and designs for said invention in its own name throughout the world including all rights of priority, all rights to publish cautionary notices reserving ownership of said invention and all rights to register said invention in appropriate registries; and we further agree to execute any and all powers of attorney, applications, assignments, declarations, affidavits, and any other papers in connection therewith necessary to perfect such rights, title and interest in

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DOCKET NO. P21849-US1 Client Ref. No. MJ-201504-025-1-US1 ASSIGNEE, their successors, assigns and legal representatives.

We hereby further agree that we will communicate to said ASSIGNEE, or to their successors, assigns and legal representatives, any facts known to us respecting any improvements; and, at the expense of said ASSIGNEE, to testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, continuation-in-part, reissue and substitute applications, and make all lawful oaths, and generally do everything possible to vest title in said ASSIGNEE and to aid said ASSIGNEE, their successors, assigns and legal representatives to obtain and enforce proper protection for said invention in all countries.

| Date: | September 27, 2017 | Jungmin Moon |
|--------|--------------------|------------------------------------|
| | | Jung-Min MOON |
| Date: | September 27, 2017 | Seung-Hoon Park Seung-Hoon PARK |
| Date: | September 27, 2017 | Jung-Soo JUNG |
| Date:_ | September 27, 2017 | Gunheri (Uyuo Sun-Heui RYOO |

Date: September 27, 2017

| Byounghoon | JUNG | |
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| Byounghoon | JNNG | |

Byoung-Hoon JUNG

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RECORDED: 10/09/2017