

## PATENT ASSIGNMENT COVER SHEET

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
JONGHO OH	02/27/2018
SOON CHAN KWON	02/28/2018
DAEHOON KIM	02/27/2018
TAEYEONG KIM	02/27/2018
JUNGMIN YOON	03/20/2018
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	SAMSUNG ELECTRONICS CO., LTD.
<b>Street Address:</b>	129, SAMSUNG-RO, YEONGTONG-GU
<b>City:</b>	SUWON-SI, GYEONGGI-DO
<b>State/Country:</b>	KOREA, REPUBLIC OF
<b>Postal Code:</b>	16677
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15770143
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(972)628-3616
<i>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.</i>	
<b>Phone:</b>	972-628-3600
<b>Email:</b>	patents@munckwilson.com
<b>Correspondent Name:</b>	DOCKET CLERK
<b>Address Line 1:</b>	P.O. DRAWER 800889
<b>Address Line 4:</b>	DALLAS, TEXAS 75380
<b>ATTORNEY DOCKET NUMBER:</b>	SP16322-PCT-US
<b>NAME OF SUBMITTER:</b>	JACOB L. LACOMBE
<b>SIGNATURE:</b>	/Jacob L. LaCombe, Reg. #63,036/
<b>DATE SIGNED:</b>	04/20/2018
<b>Total Attachments: 3</b>	
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ASSIGNMENT

WHEREAS, We, **Jongho OH**, resident of Seongnam-si, Gyeonggi-do, Republic of Korea, **Soon Chan KWON**, resident of Incheon, Republic of Korea, **Daehoon KIM**, resident of Suwon-si, Gyeonggi-do, Republic of Korea, **Taeyeong KIM**, resident of Seoul, Republic of Korea, and **Jungmin YOON**, resident of Seoul, Republic of Korea, have invented certain new and useful improvements in a "**METHOD AND APPARATUS FOR CHANNEL ESTIMATION IN WIRELESS COMMUNICATION SYSTEM**" disclosed in an application for United States Letters Patent (Application Serial No. 15/770,143, filed on April 20, 2018), 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, its 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, its 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 ASSIGNEE, its successors, assigns and legal representatives.

We hereby further agree that we will communicate to said ASSIGNEE, or to its 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, its successors, assigns and legal representatives to obtain and enforce proper protection for said invention in all countries.

Date: 2018. 2. 27

  
Jongho OH


Date: 2018. 2. 28

  
Soon Chan KWON

Date: 2018. 2. 29

  
Daehoon KIM

Date: 2018. 2. 29

  
Taeycong KIM

Date: \_\_\_\_\_

\_\_\_\_\_  
Jungmin YOON

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, its successors, assigns and legal representatives to obtain and enforce proper protection for said invention in all countries.

Date: \_\_\_\_\_

\_\_\_\_\_  
Jongho OH

Date: \_\_\_\_\_

\_\_\_\_\_  
Soon Chan KWON

Date: \_\_\_\_\_

\_\_\_\_\_  
Daehoon KIM

Date: \_\_\_\_\_

\_\_\_\_\_  
Taeyeong KIM

Date: 20 March 20/8

  
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Jungmin YOON