# 504823521 03/16/2018

# PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
HOON-DONG NOH	02/06/2018
JANG-WON LEE	01/29/2018
YOUN-SUN KIM	02/06/2018
HYUN-SUK LEE	01/26/2018
YOUNG-WOO KWAK	02/06/2018
SEOK-JAE MOON	01/29/2018

## **RECEIVING PARTY DATA**

Name:	SAMSUNG ELECTRONICS CO., LTD.
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
Name:	INDUSTRY-ACADEMIC COOPERATION FOUNDATION, YONSEI UNIVERSITY
Street Address:	50, YONSEI-RO, SEODAEMUN-GU
City:	SEOUL
State/Country:	KOREA, REPUBLIC OF
Postal Code:	03722

### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	15899870

## **CORRESPONDENCE DATA**

**Fax Number:** (516)228-8475

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:** 5162283565

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Correspondent Name: PAUL J. FARRELL

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PATENT REEL: 045254 FRAME: 0670

504823521

Address Line 4: ME	LVILLE, NEW YORK 11747	
ATTORNEY DOCKET NUMBER:	678-5542	
NAME OF SUBMITTER:	PAUL J. FARRELL	
SIGNATURE:	/pjf/	
DATE SIGNED:	03/16/2018	
Total Attachments: 4		
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PATENT REEL: 045254 FRAME: 0671

Docket No. 678-5542 Client Ref.: P23753-US (MJ-201606-004-1-US0)

#### **ASSIGNMENT**

AS A BELOW NAMED INVENTOR, I, and each of us, individually hereby declare that: IN CONSIDERATION of the sum of TEN (\$10.00) dollars or the equivalent thereof, and other good and valuable consideration, the receipt of which from the hereinafter named Assignee is hereby acknowledged, I do hereby sell, assign and forever grant and convey unto:

ASSIGNEE: Samsung Electronics Co., Ltd.

ADDRESS: 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Republic of Korea

ASSIGNEE: Industry-Academic Cooperation Foundation, Yonsel University

ADDRESS: 50, Yonsel-ro, Seodaemun-gu, Seoul, 03722, Republic of Korea

Who is my Assignee, and to the successes and assigns of my Assignee, all my right, title and interest, in and for the United States of America and all other countries, including all rights of priority, in and to the invention entitled:

TITLE: INTERFACE DEVICE AND METHOD IN WIRELESS COMMUNICATION NETWORK

invented by me (If only one inventor is named below) or us (if more than one inventor is named below) and described in an application for a United States patent the specification of which is either attached hereto or otherwise accompanies this Assignment or indicates an attorney docket no. 678-5542 or is more particularly identified as:

X	executed on even date herewith, or	
	Serial No. $15/899,870$ filled in the U.S.	Patent & Trademark Office on 2/20/2018 or
	executed on	

and in and to all United States patents which may be granted thereon and therefore, and in and to all certificates of corrections, divisions, continuations, continuations-in-part, reissued and re-examined patents, and to any extensions thereof, said interest being the entire ownership of the patent when granted, to be held and enjoyed by said SAMSUNG ELECTRONICS CO., LTD., and INDUSTRY-ACADEMIC COOPERATION FOUNDATION, YONSEI UNIVERSITY my Assignee, its successors, assigns or other legal representatives, to the full end of the term, terms, or any extension or renewal thereof, for which said patent or patents may be granted, as fully and entirely as the same would have been held and enjoyed by me or us if this assignment, sale and conveyance had not been made;

AND I hereby covenant and agree to sign and execute any further documents or instruments which may from time-to-time be either necessary, lawful, proper or requested by the Assignee, in the prosecution of the above-named application or in the preparation and prosecution of any certificate of correction, division, continuation, continuation-in-part, reissue, re-examination, in any amendment, extension, or interference proceeding, whether administrative or judicial, or otherwise, to secure the title hereto in said Assignee;

AND I do hereby authorize and request the Commissioner of Patents and Trademarks to issue said Patent or Patents to the Assignee, and I hereby appoint as my, or our attorney, and authorize and request Paul J. Farrell. Reg. No. 33,494, to insert on this Assignment any further identification or to complete such identification which may be either necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

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And I further covenant that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to ASSIGNOR and will testify as to the same in any interference, litigation or proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.

IN WITNESS WHEREOF, I and we have set our hands and seals on the dates written beside my and our respective names:

INVENTOR(S)	Date Signed	Witness(es)
Hoon-Dong NOH	(Seal) Feb. 6. 2018	
	(000)	
2) Jang-Won LEE		
your Sun KIM	(Seal) Febb, rolf	T
•		
4) Hyun-Suk LEE	(Seal)	
<i>7/L</i>	(Seal) Fdb 6. 2018	
Young-Woo KWAK		
6)Seok-Jae MOON	(Seal)	

Docket No. 678-5542 Client Ref.: P23753-US (MJ-201606-004-1-US0)

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AS A BELOW NAMED INVENTOR, I, and each of us, individually hereby declare that: IN CONSIDERATION of the sum of TEN (\$10.00) dollars or the equivalent thereof, and other good and valuable consideration, the receipt of which from the hereinafter named Assignee is hereby acknowledged, I do hereby sell, assign and forever grant and convey unto:

ASSIGNEE: Samsung Electronics Co., Ltd.

ADDRESS: 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Republic of Korea

ASS/GNEE: Industry-Academic Cooperation Foundation, Yonsel University

ADDRESS: 50, Yonsel-ro, Seodaemun-gu, Seoul, 03722, Republic of Korea

Who is my Assignee, and to the successes and assigns of my Assignee, all my right, title and interest, in and for the United States of America and all other countries, including all rights of priority, in and to the invention entitled:

TITLE: INTERFACE DEVICE AND METHOD IN WIRELESS COMMUNICATION NETWORK

invented by me (if only one inventor is named below) or us (if more than one inventor is named below) and described in an application for a United States patent the specification of which is either attached hereto or otherwise accompanies this Assignment or indicates an attorney docket no. 678-5542 or is more particularly identified as:

X	executed on even date herewith, or	
	Serial No. $15/899,870$ filed in the U	.S. Patent & Trademark Office on 2/20/2018
0	executed on	

and in and to all United States patents which may be granted thereon and therefore, and in and to all certificates of corrections, divisions, continuations, continuations-in-part, reissued and re-examined patents, and to any extensions thereof, said interest being the entire ownership of the patent when granted, to be held and enjoyed by said SAMSUNG ELECTRONICS CO., LTD., and INDUSTRY-ACADEMIC COOPERATION FOUNDATION, YONSEI UNIVERSITY my Assignee, its successors, assigns or other legal representatives, to the full end of the term, terms, or any extension or renewal thereof, for which said patent or patents may be granted, as fully and entirely as the same would have been held and enjoyed by me or us if this assignment, sale and conveyance had not been made;

AND I hereby covenant and agree to sign and execute any further documents or instruments which may from time-to-time be either necessary, lawful, proper or requested by the Assignee, in the prosecution of the above-named application or in the preparation and prosecution of any certificate of correction, division, continuation, continuation-in-part, reissue, re-examination, in any amendment, extension, or interference proceeding, whether administrative or judicial, or otherwise, to secure the title hereto in said Assignee;

AND I do hereby authorize and request the Commissioner of Patents and Trademarks to issue said Patent or Patents to the Assignee, and I hereby appoint as my, or our attorney, and authorize and request Paul J. Farrell. Reg. No. 33,494, to insert on this Assignment any further identification or to complete such identification which may be either necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

Page 1 of 2

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IN WITNESS WHEREOF, I and we have set our hands and seals on the dates written beside my and our respective names:

INVENTOR(S)	Date Signed	Witness(es)
1) Hoon-Dong NOH	(Seal)	***************************************
2) Jang-Win LEE	(Seal) 01/19/1017	
3) Youn-Sun KIM	(Seal)	***************************************
1) 6/ 3/3/4/5 Hyun-Suk LEE		
5)		
Spok-lee MOON		

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