## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5092674

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
HO-JIN SONG	08/08/2018
WONBIN HONG	08/08/2018
YOONYOUNG CHUNG	08/08/2018
SUNGMIN CHO	08/08/2018

#### **RECEIVING PARTY DATA**

Name:	POSTECH ACADEMY-INDUSTRY FOUNDATION
Street Address:	77, CHEONGAM-RO, NAM-GU
City:	POHANG-SI, GYEONGSANGBUK-DO
State/Country:	KOREA, REPUBLIC OF

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

Property Type	Number
Application Number:	16100765

#### **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.

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ATTORNEY DOCKET NUMBER:	0202-1478
NAME OF SUBMITTER:	WONKI PARK
SIGNATURE:	/Wonki PARK/
DATE SIGNED:	08/10/2018

#### **Total Attachments: 4**

source=0202-1478 Assignment As Filed#page1.tif source=0202-1478 Assignment As Filed#page2.tif source=0202-1478 Assignment As Filed#page3.tif source=0202-1478 Assignment As Filed#page4.tif

PATENT 505045921 REEL: 046615 FRAME: 0768

RECORDATION FORM COVER SHEET				
To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.				
To the Director of the U.S. Patent and Trademark Office: Pleas  1. Name of conveying party(ies)	2. Name and address of receiving party(ies)			
1) Ho-Jin SONG, 2) Wonbin HONG	Name: POSTECH ACADEMY-INDUSTRY FOUNDATION			
3) Yoonyoung CHÚNG, and 4) Sungmin CHO	Internal Address:			
Additional name(s) of conveying party(ies) attached? Yes No  3. Nature of conveyance/Execution Date(s):  Execution Date(s) August 8, 2018  Assignment Merger  Security Agreement Change of Name  Joint Research Agreement  Government Interest Assignment  Executive Order 9424, Confirmatory License  Other  4. Application or patent number(s):  A. Patent Application No.(s)  16/100,765	Street Address: 77, Cheongam-ro, Nam-gu  City: Pohang-si, Gyeongsangbuk-do  State:  Country: Republic of Korea  Zip:  Additional name(s) & address(es) attached? Yes No document is being filed together with a new application.  B. Patent No.(s)			
Additional numbers att	ached? Yes No			
5. Name and address to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved: One			
Name: Jefferson IP Law, LLP	7. Total fee (37 CFR 1.21(h) & 3.41) \$			
Internal Address: Wonki Park	Authorized to be charged by credit card  Authorized to be charged to deposit account			
Street Address: 1130 Connecticut Ave., NW, Suite 420	Enclosed  None required (government interest not affecting title)			
City: Washington	8. Payment Information			
State: DC 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: /Wonki PARK/ Reg. No. 38 Signature	Date Total number of pages including cover			
Wonki Park Name of Person Signing	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

DOCKET NO.: 0202-1478 CLIENT REF.: KP17001-US

### <u>Assignment</u>

WHEREAS, the following inventors, namely 1) Ho-Jin SONG, 2) Wonbin HONG.

3) Younyoung CHUNG, and 4) Sungmin CHO (hereinafter called "Assignors"), having made or discovered certain new, useful and non-obvious improvements in an invention having a working title of:

# APPARATUS AND METHOD FOR CONTROLLING BEAM IN WIRELESS COMMUNICATION SYSTEM.

for which a United States Patent Application is being filed concurrently herewith or, if not being concurrently filed, was filed on <u>August 10, 2018</u>, and assigned Serial No. 16/100,765; and,

WHEREAS, POSTECH ACADEMY-INDUSTRY FOUNDATION, a corporation duly organized under the laws of the Republic of Korea, located and doing business at 77, Cheongam-ro, Nam-gu, Pohang-si, Gyeongsangbuk-do, Republic of Korea (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 Assignce'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

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PATENT REEL: 046615 FRAME: 0770 DOCKET NO.: 0202-1478 CLIENT REF.: KP17001-US

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.

Assignors hereby grant to the law firm of Jefferson IP Law, LLP of Washington, DC and its attorneys and agents as associated with Customer No. 68103 the authority and power to insert on this instrument any further identification which may be necessary or desirable for purposes of recordation in the United States Patent and Trademark Office or a Patent Office of any foreign country.

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