

PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT5080537

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
ZHU JI	07/30/2018
YANG LI	07/30/2018
JOHNSON O. SEBENI	07/30/2018
JUNSUNG LIM	08/02/2018
RECEIVING PARTY DATA	
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Street Address:	ONE APPLE PARK WAY
City:	CUPERTINO
State/Country:	CALIFORNIA
Postal Code:	95014
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	16050957
CORRESPONDENCE DATA	
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<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>	
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Correspondent Name:	APPLE INC. -- FKM
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Address Line 4:	NEW YORK, NEW YORK 10038
ATTORNEY DOCKET NUMBER:	30134/24602(P34073US1)
NAME OF SUBMITTER:	MICHAEL J. MARCIN
SIGNATURE:	/Michael J. Marcin/
DATE SIGNED:	08/02/2018
Total Attachments: 6	
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ASSIGNMENT

WHEREAS, I/We,

Zhu JI

Yang LI

Johnson O. SEBENI

and

Junsung LIM

(hereinafter also referred to as "ASSIGNOR"); have invented new and useful inventions and discoveries in "**Adaptive Channel Estimation for Power Optimization for Narrow Band Systems**", for which a U.S. Non-Provisional Patent Application is being filed on the same day as this Assignment; which claims priority to U.S. Provisional Application Serial No. **62/540,237**, entitled "Device, System, and Method for Adaptive Channel Estimation for Power Optimization for Narrow Band Systems," filed on August 2, 2017; and

WHEREAS, **APPLE Inc.**, a California Corporation having an office at One Apple Park Way, Mail Stop 169-3IPL, Cupertino, CA 95014, (hereinafter referred to as "ASSIGNEE"), is desirous of acquiring the entire right, title and interest in and to the application and invention therein described and claimed and any Letters Patent that may be issued upon the application or for the improvements therein contained.

NOW, THEREFORE, in consideration of One U.S. Dollar (U.S. \$1.00) and other valuable consideration furnished by Assignee to me, receipt and sufficiency of which I hereby acknowledge, I hereby, without reservations:

1. Assign, transfer, and convey to Assignee the entire right, title, and interest in and to said inventions and discoveries, said application, any and all other applications for Letters Patent on said inventions and discoveries in whatsoever countries, including all provisional, non-provisional, divisional, renewal, substitute, continuation, reissue, reexamination, design and Convention applications based in whole or in part upon said inventions or discoveries, or upon said applications, and any and all Letters Patent, reissues, and extensions of Letters Patent granted for said inventions and discoveries or upon said applications, and every priority right that is or may be predicated upon or arise from said inventions, said discoveries, said applications, and said Letters Patent.

2. Authorize Assignee to file patent applications in any or all countries for any or all of said inventions and discoveries in my name or in the name of Assignee or otherwise as Assignee may deem advisable, under any International Convention or otherwise.

3. Authorize and request the Commissioner for Patents of the United States of America and the empowered officials of all other governments to issue or transfer all said Letters Patent to Assignee, as assignee of the entire right, title, and interest therein or otherwise as Assignee may direct.

4. Warrant that I have not knowingly conveyed to others any right in said inventions, discoveries, applications, or patents or any license to use the same or to make, use, or sell anything embodying or utilizing any of said inventions or discoveries; and that I have good right to assign the same to Assignee without encumbrance.

5. Bind my heirs, legal representatives, and assigns, as well as myself, to do, upon Assignee's request and at Assignee's expense, but without additional consideration to me or them, all acts reasonably serving to assure that the said inventions and discoveries, the said patent applications, and the said Letters Patent shall be held and enjoyed by Assignee as fully and entirely as the same could have been held and enjoyed by me, my heirs, legal representatives, and assigns if this assignment had not been made; and particularly to execute and deliver to Assignee all lawful application documents including petitions, specifications, and oaths, and all assignments, disclaimers, and lawful affidavits in form and substance as may be requested by Assignee; to communicate to Assignee all facts known to us relating to said inventions and discoveries or the history thereof; and to furnish Assignee with any and all documents, photographs, models, samples, and other physical exhibits in my control or in the control of my heirs, legal representatives, or assigns which may be useful for establishing the facts of my conceptions, disclosures, and reduction to practice of said inventions and discoveries.

IN TESTIMONY WHEREOF, I have hereunto set my hands and seals this 30 day of

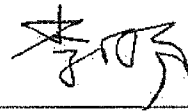
July, 2018.



Zhu Ji

IN TESTIMONY WHEREOF, I have hereunto set my hands and seals this 30 day of

July, 2018.



Yang LI

IN TESTIMONY WHEREOF, I have hereunto set my hands and seals this 30th day of

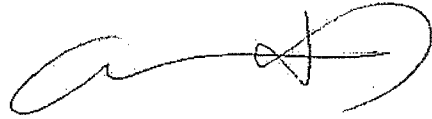
July, 2018.



Johnson O. SEBENI

IN TESTIMONY WHEREOF, I have hereunto set my hands and seals this 2 day of

Aug, 2018.

A handwritten signature in black ink, consisting of a stylized, cursive script that appears to read 'Junsung LIM'.

Junsung LIM