505385611 03/20/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5432404

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
PENGYU ZHANG	03/17/2019
DINESH BHARADIA	03/11/2019
KIRAN JOSHI	03/18/2019
SACHIN KATTI	03/18/2019

RECEIVING PARTY DATA

Name:	THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY
Street Address:	3000 EL CAMINO REAL, BUILDING FIVE
Internal Address:	SUITE 300
City:	PALO ALTO
State/Country:	CALIFORNIA
Postal Code:	94306-2100

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15676474

CORRESPONDENCE DATA

Fax Number: (650)838-2001

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: (650) 838-2000

Email:sharyl.brown@alston.comCorrespondent Name:ALSTON & BIRD LLP

Address Line 1: BANK OF AMERICA PLAZA

Address Line 2: 101 SOUTH TRYON STREET, SUITE 4000 CHARLOTTE, NORTH CAROLINA 28280-4000

ATTORNEY DOCKET NUMBER:	021606-500463
NAME OF SUBMITTER:	ARDESHIR TABIBI
SIGNATURE:	/Ardeshir Tabibi/
DATE SIGNED:	03/20/2019

Total Attachments: 6

PATENT REEL: 048653 FRAME: 0851

505385611



PATENT REEL: 048653 FRAME: 0852

ASSIGNMENT

WHEREAS Pengyu ZHANG, residing at Palo Alto, California, the United States of America, Dinesh BHARADIA, residing at Menlo Park, California, the United States of America, Kiran JOSHI, residing at Sunnyvale, California, the United States of America and Sachin KATTI, residing at Palo Alto, California, the United States of America, hereinafter referred to as "Assignors," are the inventors of the invention described and set forth in the below-identified patent application(s):

Title of Invention:

Backscatter Communication Among Commodity WiFi

Radios

U.S. Application No.: 15/676,474

Filing Date:

August 14, 2017

WHEREAS, The Board of Trustees of the Leland Stanford Junior University, a corporation incorporated under and pursuant to the laws of California, and having its principal place of business at 3000 El Camino Real, Building Five, Suite 300, Palo Alto, CA 94306-2100, the United States of America, hereinafter referred to as "Assignee," is desirous of acquiring all of Assignors' right, title, and interest in and to said invention, the right to file applications on said invention, and the right, title and interest in and to any applications, including provisional applications, for Letters Patent of the United States or other countries claiming priority to said applications, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefore and thereon;

NOW, THEREFORE, for good and valuable consideration, receipt of which are hereby acknowledged by Assignors, Assignors have assigned, transferred and set over, and by these presents does assign, transfer and set over unto Assignee, and Assignee's successors, legal representatives, and assigns, all of Assignors' right, title and interest in and to the above-mentioned invention and application, the right to file applications on said invention, and the right, title and interest in and to any such applications, including provisional applications, and any applications claiming priority from said applications for Letters Patent of the United States or other countries (including patent, utility model and industrial designs), and in and to any Letters Patent or Patents of the United States of America and all foreign countries that have been or may be granted therefor and thereon, and in and to any and all divisions, renewals, substitutions, conversions, continuations, and continuations-in-part of said applications, and reissues, prolongations and extensions of said Letters Patent or Patents, and all rights under the Paris Convention for the Protection of Industrial Property, including the right to claim priority, the same to be held and enjoyed by Assignee, for its own use and behalf and the use and behalf of Assignee's successors, legal representatives, and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted as fully and entirely as the same would have been held and enjoyed by Assignors had this Assignment not been made;

> PATENT REEL: 048653 FRAME: 0853

Attorney Docket No. 021606-500463 (001710US)

Client Reference No. S16-279

Assignment
Page 2

AND for the same consideration, Assignors hereby covenant and agree to and with Assignee, its successors, legal representatives, and assigns, that Assignor shall, whenever counsel of Assignee, or the counsel of its successors, legal representatives, and assigns, advises that any proceeding in connection with said invention or said applications for Letters Patent or Patents, or any proceeding in connection with Letters Patent or Patents for said invention in any country, including interference proceedings, is lawful and desirable, or that any application claiming priority to said application, division, continuation, continuation-in-part, substitution or conversion of any applications for Letters Patent or Patents, or any reissue, prolongation or extension of any Letters Patent or Patents to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent or Patents for said invention, without charge to Assignee, its successors, legal representatives, and assigns, but at the cost and expense of Assignee, its successors, legal representatives, and assigns;

AND Assignors hereby request the Commissioner of Patents to issue any and all said Letters Patent or Patents of the United States to Assignee as the assignee of said invention and the Letters Patent or Patents issued and to be issued thereon for the use and behalf of Assignee, its successors, legal representatives, and assigns;

AND the undersigned hereby grant(s) an authorized representative of Assignee the power to insert in this Assignment the application number and filing date and any further identification that may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

IN TESTIMONY WHEREOF, Assignors have signed their name on the dates indicated.

03/17/2019			Pengyu Zhang	
Date		8:	Pengyu ZHANG	
Date	•••••	:::	Dinesh BHARADIA	
Date			Kîran JOSHI	•
Date	***************************************		Sachin KATTI	

PATENT REEL: 048653 FRAME: 0854

ASSIGNMENT

WHEREAS Pengyu ZHANG, residing at Palo Alto, California, the United States of America, Dinesh BHARADIA, residing at San Diego, California, the United States of America, Kiran JOSHI, residing at Sunnyvale, California, the United States of America and Sachin KATTI, residing at Palo Alto, California, the United States of America, hereinafter referred to as "Assignors," are the inventors of the invention described and set forth in the below-identified patent application(s):

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NOW, THEREFORE, for good and valuable consideration, receipt of which are hereby acknowledged by Assignors, Assignors have assigned, transferred and set over, and by these presents does assign, transfer and set over unto Assignee, and Assignee's successors, legal representatives, and assigns, all of Assignors' right, title and interest in and to the above-mentioned invention and application, the right to file applications on said invention, and the right, title and interest in and to any such applications, including provisional applications, and any applications claiming priority from said applications for Letters Patent of the United States or other countries (including patent, utility model and industrial designs), and in and to any Letters Patent or Patents of the United States of America and all foreign countries that have been or may be granted therefor and thereon, and in and to any and all divisions, renewals, substitutions, conversions, continuations, and continuations-in-part of said applications, and reissues, prolongations and extensions of said Letters Patent or Patents, and all rights under the Paris Convention for the Protection of Industrial Property, including the right to claim priority, the same to be held and enjoyed by Assignee, for its own use and behalf and the use and behalf of Assignee's successors, legal representatives, and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted as fully and entirely as the same would have been held and enjoyed by Assignors had this Assignment not been made;

PATENT REEL: 048653 FRAME: 0855

Attorney Docket No. 021606-500463 (001710US)

Client Reference No. S16-279

Assignment
Page 2

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AND Assignors hereby request the Commissioner of Patents to issue any and all said Letters Patent or Patents of the United States to Assignee as the assignee of said invention and the Letters Patent or Patents issued and to be issued thereon for the use and behalf of Assignee, its successors, legal representatives, and assigns;

AND the undersigned hereby grant(s) an authorized representative of Assignee the power to insert in this Assignment the application number and filing date and any further identification that may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

IN TESTIMONY WHEREOF, Assignors have signed their name on the dates indicated.

Date	Pengyu ZHANG
03/11/2019	Organia de la companya della company
Date	Dinesh BHARADIA
3/18/2019	W.
Date	Kiran JOSHI
Date	Sachin KATTI

ASSIGNMENT

WHEREAS Pengyu ZHANG, residing at Palo Alto, California, the United States of America, Dinesh BHARADIA, residing at Menlo Park, California, the United States of America, Kiran JOSHI, residing at Sunnyvale, California, the United States of America and Sachin KATTI, residing at Palo Alto, California, the United States of America, hereinafter referred to as "Assignors," are the inventors of the invention described and set forth in the below-identified patent application(s):

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NOW, THEREFORE, for good and valuable consideration, receipt of which are hereby acknowledged by Assignors, Assignors have assigned, transferred and set over, and by these presents does assign, transfer and set over unto Assignee, and Assignee's successors, legal representatives, and assigns, all of Assignors' right, title and interest in and to the above-mentioned invention and application, the right to file applications on said invention, and the right, title and interest in and to any such applications, including provisional applications, and any applications claiming priority from said applications for Letters Patent of the United States or other countries (including patent, utility model and industrial designs), and in and to any Letters Patent or Patents of the United States of America and all foreign countries that have been or may be granted therefor and thereon, and in and to any and all divisions, renewals, substitutions, conversions, continuations, and continuations-in-part of said applications, and reissues, prolongations and extensions of said Letters Patent or Patents, and all rights under the Paris Convention for the Protection of Industrial Property, including the right to claim priority, the same to be held and enjoyed by Assignee, for its own use and behalf and the use and behalf of Assignee's successors, legal representatives, and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted as fully and entirely as the same would have been held and enjoyed by Assignors had this Assignment not been made;

AND for the same consideration, Assignors hereby covenant and agree to and with Assignee, its successors, legal representatives, and assigns, that Assignor shall, whenever counsel

PATENT REEL: 048653 FRAME: 0857

Attorney Docket No. 021606-500463 (001710US) Client Reference No. S16-279 Assignment Page 2

of Assignee, or the counsel of its successors, legal representatives, and assigns, advises that any proceeding in connection with said invention or said applications for Letters Patent or Patents, or any proceeding in connection with Letters Patent or Patents for said invention in any country, including interference proceedings, is lawful and desirable, or that any application claiming priority to said application, division, continuation, continuation-in-part, substitution or conversion of any applications for Letters Patent or Patents, or any reissue, prolongation or extension of any Letters Patent or Patents to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent or Patents for said invention, without charge to Assignee, its successors, legal representatives, and assigns, but at the cost and expense of Assignee, its successors, legal representatives, and assigns;

AND Assignors hereby request the Commissioner of Patents to issue any and all said Letters Patent or Patents of the United States to Assignee as the assignee of said invention and the Letters Patent or Patents issued and to be issued thereon for the use and behalf of Assignee, its successors, legal representatives, and assigns;

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IN TESTIMONY WHEREOF, Assignors have signed their name on the dates indicated.

Date	Pengyu ZHANG
Date	Dinesh BHARADIA
# #	
Date	
_3/18/2019 Date	Sachin KATTI

PATENT REEL: 048653 FRAME: 0858

RECORDED: 03/20/2019