PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
LIWEN CHU	07/24/2015
LEI WANG	07/24/2015
JINJING JIANG	07/24/2015
HONGYUAN ZHANG	07/23/2015
HUI-LING LOU	07/23/2015

RECEIVING PARTY DATA

Name:	MARVELL SEMICONDUCTOR, INC.	
Street Address:	5488 MARVELL LANE	
City:	SANTA CLARA	
State/Country:	CALIFORNIA	
Postal Code:	95054	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14808932

CORRESPONDENCE DATA

Fax Number: (408)222-2755

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: 408-222-2500
Email: sherir@marvell.com
Correspondent Name: KELVIN VIVIAN

Address Line 1: 5488 MARVELL LANE

Address Line 4: SANTA CLARA, CALIFORNIA 95054

ATTORNEY DOCKET NUMBER: MP5945

NAME OF SUBMITTER: KELVIN VIVIAN

SIGNATURE: /Kelvin Vivian/

DATE SIGNED: 07/19/2017

Total Attachments: 4

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PATENT REEL: 043048 FRAME: 0837

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> PATENT REEL: 043048 FRAME: 0838

Docket#: MP5945 PATENT

ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, I, the undersigned,

Liwen Chu, Lei Wang, Jinjing Jiang, Hongyuan Zhang, and Hui-Ling Lou

who have created a certain invention for which an application for United States Letters Patent was executed by me concurrently herewith and entitled:

GROUP ACKNOWLEDGEMENT FOR MULTIPLE USER COMMUNICATION IN A WIRELESS LOCAL AREA NETWORK

Do hereby sell, assign and transfer to Marvell Semiconductor, Inc., a corporation of California, having a place of business at 5488 Marvell Lane, Santa Clara, CA 95054, its successors, assigns, and legal representatives, the full and exclusive right to said invention and said application and to any and all inventions described in said application for the United States, its territorial possessions and all foreign countries, and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States, its territorial possessions and all foreign countries; and in and to any and all continuations-in-part, continuations, divisions, substitutes, reissues, extensions thereof, and all other applications for Letters Patent relating thereto which have been or shall be filed in the United States, its territorial possessions and/or any foreign countries, and all rights, together with all priority rights, under any of the international conventions, unions, agreements, acts, and treaties, including all future conventions, unions, agreements, acts, and treaties;

Do hereby further sell, assign and transfer to Marvell Semiconductor, Inc., its successors, assigns, and legal representatives, the full and exclusive right to United States Provisional Patent Application Nos. 62/028,559, filed July 24, 2014, entitled "Group Acknowledge Design for UL MU MIMO/OFDMA"; 62/115,371, filed February 12, 2015, entitled "Group Acknowledge Design for UL MU MIMO/OFDMA"; 62/165,789, filed May 22, 2015, entitled "Group Acknowledge Design for UL MU MIMO/OFDMA"; and to any and all inventions described in said provisional patent application(s) for the United States, its territorial possessions and all foreign countries, and the entire right, title and interest in and to any and all Letters Patent which may be entitled to the benefit thereof in the United States, its territorial possessions and all continuations-in-part, continuations, divisions, substitutes, reissues, extensions thereof, and all other applications for Letters Patent relating thereto which have been or shall be filed in the United States, its territorial possessions and/or any foreign countries, and all rights, together with all priority rights, under any of the international conventions, unions, agreements, acts, and treaties;

Agree that Marvell Semiconductor, Inc., hereinafter referred to as Assignee, may apply for and receive Letters Patent for said invention and said inventions, hereinafter referred to as said invention, in its own name, in the United States, its territorial possessions, and all foreign countries; and that, when requested to carry out in good faith the intent and purpose of this assignment, at the expense of said Assignee, its successors, assigns and legal representatives, the undersigned will execute all continuations-in-part, continuations, divisions, substitutes, reissues, extensions thereof, execute all rightful oaths, assignments, powers of attorney and other papers, testify in any legal or quasi legal proceedings; communicate to said Assignee, its successors, assigns or legal representatives all facts known to the undersigned relating to said invention and the history thereof; and generally do everything possible which said Assignee, its successors, assigns, or legal representatives shall consider desirable for aiding in securing, maintaining and enforcing proper patent protection for said invention and for vesting title to said invention and all applications for patents on said invention in said Assignee, its successors, assigns, or legal representatives; and

Covenant with said Assignee, its successors, assigns, or legal representatives that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

Docket#: MP5945 PATENT

IN TESTIMONY WHEREOF I have hereunto set MY signature on the date indicated below.

Full Name of First Inventor:	
Liwen Chu	
Inventor's Signature:	Date: Month/Day/Year
In alm	07/24/15
<u> </u>	
Full Name of Second Inventor:	
Lei Wang	
Inventor's Signature:	Date: Month/Day/Year
Full Name of Third Inventor:	1
Jinjing Jiang	tun to
Inventor's Signature:	Date: Month/Day/Year
	7/24/2015
\	
p	
Full Name of Fourth Inventor:	
Hongyuan Zhang	
Inventor's Signature:	Date: Month/Day/Year
Lann	-22-7 07/23/15
(c	
Full Name of Fifth Inventor:	
Hui-Ling Lou	
Inventor's Signature:	Date: Month/Day/Year
	7/23/15

PATENT Docket#: MP5945

ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, I, the undersigned,

Liwen Chu, Lei Wang, Jinjing Jiang, Hongyuan Zhang, and Hui-Ling Lou

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Covenant with said Assignee, its successors, assigns, or legal representatives that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

> **PATENT** REEL: 043048 FRAME: 0841

Docket#: MP5945

IN TESTIMONY WHEREOF I have hereunto set MY signature on the date indicated below.

Full Name of First Inventor:

Liwen Chu

Inventor's Signature:

Date: Month/Day/Year

Pull Name of Second Inventor:

Lei Wang

Inventor's Signature:

Date: Month/Day/Year

07/24/15

Full Name of Third Inventor:

Jinjing Jiang

Inventor's Signature:

Date: Month/Day/Year

Hongyuan Zhang
Inventor's Signature: Date: Month/Day/Year

Full Name of Fifth Inventor:

Hui-Ling Lou

Inventor's Signature:

Date: Month/Day/Year

PATENT REEL: 043048 FRAME: 0842

Full Name of Fourth Inventor: