505707015 10/03/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5753825

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JINJING JIANG	04/16/2018
LIWEN CHU	04/16/2018
LEI WANG	09/24/2017
HONGYUAN ZHANG	04/17/2018
HUI-LING LOU	04/16/2018

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:	15706519

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: MP10135

NAME OF SUBMITTER: KELVIN VIVIAN

SIGNATURE: /Kelvin Vivian/

DATE SIGNED: 10/03/2019

Total Attachments: 6

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PATENT REEL: 050622 FRAME: 0570

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PATENT REEL: 050622 FRAME: 0571

ASSIGNMENT

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

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

who have created a certain invention for which an application for United States Letters Patent was filed as U.S. Patent Application No. 15/706,519, on September 15, 2017 and entitled:

GROUP ADDRESSING FOR BEAMFORMING TRAINING

Does 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;

Does 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 No. 62/395,003, filed September 15, 2016, entitled "DL MU-MIMO Beamforming Using Generic Control Frame in 11ay," 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 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;

Agrees 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

Covenants 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.

IN TESTIMONY WHEREOF we have hereunto set our signatures on the date(s) indicated below.

	Full Name of First Inventor			
	Jinjing Jiang			
**********	Inventor's Signature:		Date: Month/Day/Year	******
**********	Am	the	4116/2018	
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Page 1 of 2

Full Name of Second Inventor:	
Liwen Chu	
Inventor's Signature:	Date: Month/Day/Year
Land	04/16/2018
Full Name of Third Inventor:	
Lei Wang	
Inventor's Signature:	Date: Month/Day/Year
Full Name of Fourth Inventor:	
Hongyuan Zhang	
Inventor's Signature:	Date: Month/Day/Year
Full Name of Fifth Inventor:	
Hui-Ling Lou	
Inventor's Signature:	Date: Month/Day/Year
popular Land	4/16/2018
Accepted on behalf of:	
MARVELL SEMICONDUCTOR, INC.	
By: January Windows	
Name: Kelvin Vivian Director, Assistant Genera	1 Counsel. IP Development
Title: DITECTOR, MSSISCARE CONTACT	
Date AUGUST 28 2019	
Date AUGUST CO CUIT	

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IN TESTIMONY WHEREOF we have hereunto set our signatures on the date(s) indicated below.

Full Name of First Inventor:	
Jinjing Jiang	÷
Inventor's Signature:	Date: Month/Day/Year

PATENT REEL: 050622 FRAME: 0574

Full Name of Second Inventor:	
Liwen Chu	
Inventor's Signature:	Date: Month/Day/Year
Full Name of Third Inventor:	
Lei Wang	
Inventor's Signature:	Date: Month/Day/Year
	09/24/2017
Full Name of Fourth Inventor:	
Hongyuan Zhang	
Inventor's Signature:	Date: Month/Day/Year
Full Name of Fifth Inventor:	
Hui-Ling Lou	
Inventor's Signature:	Date: Month/Day/Year
Accepted on behalf of:	
MARVELL SEMICONDUSTOR, INC.	
By: July S	
Name: Kelvin Vivian	
Title: Director, Assistant General	l Counsel, IP Development
Date <u>AUBVST</u> 28 2019	

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IN TESTIMONY WHEREOF we have hereunto set our signatures on the date(s) indicated below.

Full Name of First Inventor:	
Jinjing Jiang	
Inventor's Signature:	Date: Month/Day/Year

PATENT REEL: 050622 FRAME: 0576

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Full Name of Second Inventor:	
Liwen Chu	
Inventor's Signature:	Date: Month/Day/Year
Lul	04/16/2018
Full Name of Third Inventor:	
Lei Wang	
Inventor's Signature:	Date: Month/Day/Year
Full Name of Fourth Inventor:	
Hongyuan Zhang	
Inventor's Signature:	Date: Month/Day/Year
Hunton	4/17/2018
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Full Name of Fifth Inventor:	
Hui-Ling Lou	
Inventor's Signature:	Date: Month/Day/Year
***************************************	
Accepted on behalf of:	
MARVELL SEMICONDUCTOR, INC.	
By: Liely Co	
Name: Kelvin Vivian	
Title: Director, Assistant General	Counsel, IP Development
Date AUGUST 28 2019	
The second contract of	

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**RECORDED: 10/03/2019**