PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT5608065

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
LIWEN CHU	09/18/2017
KEN KINWAH HO	09/18/2017
SEONG YONG PARK	09/17/2017
TIANAN TIM MA	09/18/2017
HONGYUAN ZHANG	09/18/2017

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:	15709186

CORRESPONDENCE DATA

(408)222-2755 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.

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

Address Line 1: 5488 MARVELL LANE

Address Line 4: SANTA CLARA, CALIFORNIA 95054

ATTORNEY DOCKET NUMBER: MP10128 NAME OF SUBMITTER: **KELVIN VIVIAN SIGNATURE:** /Kelvin Vivian/ **DATE SIGNED:** 07/08/2019

Total Attachments: 8

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PATENT REEL: 049693 FRAME: 0208

ASSIGNMENT

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

Liwen Chu, Ken Kinwah Ho, Scong Yong Park, Tianan Tim Ma, and Hongyuan Zhang

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

FRAME FORMATS FOR MULTI-USER ACKNOWLEDGMENT INFORMATION

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. 62/396,468, filed September 19, 2016, entitled "Optimization of M-BA and MU-BAR," 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, including all future 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:	
Liwen Chu	
Inventor's Signature:	Date: Month/Day/Year
Low	ost/1 3 17

Full Name of Second Inventor:	
Ken Kinwah Ho	
Inventor's Signature:	Date: Month/Day/Year
Full Name of Third Inventor:	
Seong Yong Park	
Inventor's Signature:	Date: Month/Day/Year
Full Name of Fourth Inventor:	
Tianan Tim Ma	
Inventor's Signature:	Date: Month/Day/Year
Full Name of Fifth Inventor:	
Hongyuan Zhang	
Inventor's Signature:	Date: Month/Day/Year
Kor-ZZ	9/18/17
Accepted on behalf of:	
MARVELL SEMICONDUCTOR, INC.	
By: Lenk	
Name: Kelvin Vivian	
Title: Director, Assistant General Counsel, IP Development	

Date 11 JUNE 2019

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Full Name of First Inventor:	
Liwen Chu	
Inventor's Signature:	Date: Month/Day/Year

Page 1 of 2

PATENT REEL: 049693 FRAME: 0211

Full Name of Second Inventor:	
Ken Kinwah Ho	
Inventor's Signature:/	Date: Month/Day/Year
	9/18/2017
Full Name of Third Inventor:	
Seong Yong Park	
Inventor's Signature:	Date: Month/Day/Year
Full Name of Fourth Inventor:	
Tianan Tim Ma	
Inventor's Signature:	Date: Month/Day/Year
Full Name of Fifth Inventor:	
Hongyuan Zhang	
Inventor's Signature:	Date: Month/Day/Year
Accepted on behalf of:	
MARVELL SEMICONDUCTOR INC.	
By: (1) 1/ (1)	
Name: Kelvín Vivian	
Title: Director, Assistant Genera	al Counsel, IP Development
88 m . 78.8	
Date N JUNE 2019	

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Tianan Tim Ma	
Inventor's Signature:	Date: Month/Day/Year
Full Name of Fifth Inventor:	
Hongyuan Zhang	
Inventor's Signature:	Date: Month/Day/Year
Accepted on behalf of:	
MARVELL SEMICONDUCTOR JINC.	
By: // / 5	
Name: Kelvin Vivian	Maria James Maria
Title: Director, Assistant General	Counsel, if Development
na II JUNE 2019	
Date 11 JUNE 2017	

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- / / /
Date: Month/Day/Year
Commel In David amont
Counsel, IP Development

PATENT REEL: 049693 FRAME: 0216