504659955 11/28/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4706677

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
RAMI MOHAMMAD AL SHEIKH	11/08/2017
SHIVAN PRIYADARSHI	11/13/2017
BRANDON DWIEL	11/09/2017
DAVID JOHN PALFRAMAN	11/08/2017
DEREK HOWER	11/08/2017
MUNTAQUIM FARUK CHOWDHURY	11/13/2017

RECEIVING PARTY DATA

Name:	QUALCOMM INCORPORATED
Street Address:	5775 MOREHOUSE DRIVE
City:	SAN DIEGO
State/Country:	CALIFORNIA
Postal Code:	92121

PROPERTY NUMBERS Total: 1

Property Type	Number	
Application Number:	15683391	

CORRESPONDENCE DATA

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: 713 623 4844

Email: rross@pattersonsheridan.com, psdocketing@pattersonsheridan.com

Correspondent Name: PATTERSON & SHERIDAN, L.L.P. QUALCOMM

Address Line 1: 24 GREENWAY PLAZA, SUITE 1600

Address Line 4: HOUSTON, TEXAS 77046

NAME OF SUBMITTER:	RANDOL W. READ
SIGNATURE: /F	Randol W. Read/
DATE SIGNED: 1	11/28/2017

Total Attachments: 6

PATENT REEL: 044238 FRAME: 0481

504659955



ASSIGNMENT

WHEREAS, WE,

- 1. Rami Mohammad AL SHEIKH, a citizen of Jordan, having a mailing address located at 5775 Morehouse Drive; San Diego, California 92121-1714 and a resident of Morrisville, North Carolina.
- Shivam PRIYADARSHI, a citizen of India, having a mailing address located at 5775
 Morehouse Drive; San Diego, California 92121-1714 and a resident of Morrisville, North
 Carolina,
- 3. Brandon DWIEL, a citizen of the United States of America, having a mailing address located at 5775 Morehouse Drive; San Diego, California 92121-1714 and a resident of Jamaica Plain, Massachusetts,
- 4. David John PALFRAMAN, a citizen of the United States of America, having a mailing address located at 5775 Morehouse Drive; San Diego, California 92121-1714 and a resident of Raleigh, North Carolina,
- 5. Derek HOWER, a citizen of the United States of America, having a mailing address located at 5775 Morehouse Drive; San Diego, California 92121-1714 and a resident of Durham, North Carolina, and
- 6. Muntaquim Faruk CHOWDHURY, a citizen of the United States of America, having a mailing address located at 5775 Morehouse Drive; San Diego, California 92121-1714 and a resident of Durham, North Carolina,

have conceived of one or more processes, methods, machines, articles of manufacture, designs, compositions of matter, inventions, discoveries or new or useful improvements relating to INTELLIGENT DATA PREFETCHING USING ADDRESS DELTA PREDICTION (collectively the "INVENTIONS") for which WE have executed and/or may execute one or more patent applications therefor; and

WHEREAS, QUALCOMM Incorporated (hereinafter "ASSIGNEE"), a Delaware corporation, having a place of business at 5775 Morehouse Drive, San Diego, California 92121-1714, U.S.A., desires to acquire or otherwise obtain the entire right, title, and interest in and to said INVENTIONS, including all inventions related thereto or thereof, all patent applications therefor, and all patents that have granted or may be granted hereafter thereon, including but not limited to those identified below.

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged. WE do hereby acknowledge that WE have sold, assigned, conveyed, and transferred, and by these presents do hereby sell, assign, convey, and transfer, unto ASSIGNEE, its successors, its legal representatives, and its assigns, the entire right, title, and interest throughout the world in and to said INVENTIONS, including all patent applications therefor that may have been filed or may be filed hereafter for said INVENTIONS in the United States, or under

International Conventions, Treaties, or Agreements, U.S. Application No. 15/683,391, filed August 22, 2017, Qualcomm Reference No. 171917, and all provisional applications relating thereto, and divisional applications, renewal applications, continuation applications, continuation-in-part applications, and design applications thereof, and all issued patents of the United States which may have granted or may be granted hereafter thereon and all reissues, renewals, reexaminations, and extensions to any of the foregoing and all patents issuing thereon in the United States:

AND WE further do acknowledge and agree that WE have sold, assigned, conveyed, and transferred, and by these presents do hereby sell, assign, convey, and transfer, unto ASSIGNEE, its successors, its legal representatives, and its assigns, all rights of priority under International Conventions, Treaties, or Agreements, and the entire right, title, and interest throughout the world in said INVENTIONS, including all inventions related thereto or thereof, and all patent applications therefor that may have been filed or may be filed hereafter for said INVENTIONS in any foreign country, countries, or treaty/union organizations, and all divisional applications, renewal applications, continuation applications, continuation-in-part applications, patent of addition applications, confirmation applications, validation applications, utility model applications, and design applications thereof, and all issued patents which may have granted or may be granted hereafter for said INVENTIONS in any country or countries foreign to the United States, and all reissues, renewals, reexaminations, and extensions thereof;

AND WE DO HEREBY authorize and request the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents on applications or registrations, to issue all patents for said INVENTIONS to said ASSIGNEE, its successors, its legal representatives and its assigns, in accordance with the terms of this instrument;

AND WE DO HEREBY sell, assign, transfer, and convey to said ASSIGNEE, its successors, its legal representatives, and its assigns all claims for damages and all remedies arising out of or relating to any violation(s) of any of the rights assigned hereby that have or may have accrued prior to the date of assignment to said ASSIGNEE, or may accrue hereafter, including, but not limited to the right to sue for, seek, obtain, collect, recover, and retain damages and any ongoing or prospective royalties to which WE may be entitled, or that WE may collect for any infringement or from any settlement or agreement related to any of said patents before or after issuance;

AND WE HEREBY covenant and agree that WE will communicate promptly to said ASSIGNEE, its successors, its legal representatives, and its assigns, any facts known to us respecting said INVENTIONS, and will testify in any legal proceeding, sign all lawful papers, execute all applications and certificates, make all rightful declarations and/or oaths, and provide all lawful assistance to said ASSIGNEE, its successors, its legal representatives and its assigns, to obtain and enforce patent protection for said INVENTIONS in all countries;

AND WE HEREBY covenant that WE will not execute any writing or do any act whatsoever conflicting with these presents.

Done at	Raleigh, a	on <u>11/8/201</u> 7 DATE	Rami Mohammad AL SHEIKH
Done at	Raleijh	on 11/13/2017 DATE	Shiyam PRIYADARSHI
Done at	LOCATION , (on	Brandon DWIEL
Done at	Roleigh	on <u>11/8/17</u> DATE	David John PALFRAMAN
Done at	Caleigh, LOCATION	on	Derek HOWER
Done at	Raleigh,	on	Muntaquim Faruk CHOWDHURY

ASSIGNMENT

WHEREAS, WE,

- 1. Rami Mohammad AL SHEIKH, a citizen of Jordan, having a mailing address located at 5775 Morehouse Drive; San Diego, California 92121-1714 and a resident of Morrisville, North Carolina,
- 2. Shivam PRIYADARSHI, a citizen of India, having a mailing address located at 5775 Morehouse Drive; San Diego, California 92121-1714 and a resident of Morrisville, North Carolina.
- 3. Brandon DWIEL, a citizen of the United States of America, having a mailing address located at 5775 Morehouse Drive; San Diego, California 92121-1714 and a resident of Jamaica Plain, Massachusetts,
- 4. David John PALFRAMAN, a citizen of the United States of America, having a mailing address located at 5775 Morehouse Drive; San Diego, California 92121-1714 and a resident of Raleigh, North Carolina,
- 5. Derek HOWER, a citizen of the United States of America, having a mailing address located at 5775 Morehouse Drive; San Diego, California 92121-1714 and a resident of Durham, North Carolina, and
- 6. Muntaquim Faruk CHOWDHURY, a citizen of the United States of America, having a mailing address located at 5775 Morehouse Drive; San Diego, California 92121-1714 and a resident of Durham, North Carolina,

have conceived of one or more processes, methods, machines, articles of manufacture, designs, compositions of matter, inventions, discoveries or new or useful improvements relating to INTELLIGENT DATA PREFETCHING USING ADDRESS DELTA PREDICTION (collectively the "INVENTIONS") for which WE have executed and/or may execute one or more patent applications therefor; and

WHEREAS, QUALCOMM Incorporated (hereinafter "ASSIGNEE"), a Delaware corporation, having a place of business at 5775 Morehouse Drive, San Diego, California 92121-1714, U.S.A., desires to acquire or otherwise obtain the entire right, title, and interest in and to said INVENTIONS, including all inventions related thereto or thereof, all patent applications therefor, and all patents that have granted or may be granted hereafter thereon, including but not limited to those identified below.

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, WE do hereby acknowledge that WE have sold, assigned, conveyed, and transferred, and by these presents do hereby sell, assign, convey, and transfer, unto ASSIGNEE, its successors, its legal representatives, and its assigns, the entire right, title, and interest throughout the world in and to said INVENTIONS, including all patent applications therefor that may have been filed or may be filed hereafter for said INVENTIONS in the United States, or under

International Conventions, Treaties, or Agreements, U.S. Application No. 15/683,391, filed August 22, 2017, Qualcomm Reference No. 171917, and all provisional applications relating thereto, and divisional applications, renewal applications, continuation applications, and design applications thereof, and all issued patents of the United States which may have granted or may be granted hereafter thereon and all reissues, renewals, reexaminations, and extensions to any of the foregoing and all patents issuing thereon in the United States;

AND WE further do acknowledge and agree that WE have sold, assigned, conveyed, and transferred, and by these presents do hereby sell, assign, convey, and transfer, unto ASSIGNEE, its successors, its legal representatives, and its assigns, all rights of priority under International Conventions, Treaties, or Agreements, and the entire right, title, and interest throughout the world in said INVENTIONS, including all inventions related thereto or thereof, and all patent applications therefor that may have been filed or may be filed hereafter for said INVENTIONS in any foreign country, countries, or treaty/union organizations, and all divisional applications, renewal applications, continuation applications, continuation-in-part applications, patent of addition applications, confirmation applications, validation applications, utility model applications, and design applications thereof, and all issued patents which may have granted or may be granted hereafter for said INVENTIONS in any country or countries foreign to the United States, and all reissues, renewals, reexaminations, and extensions thereof;

AND WE DO HEREBY authorize and request the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents on applications or registrations, to issue all patents for said INVENTIONS to said ASSIGNEE, its successors, its legal representatives and its assigns, in accordance with the terms of this instrument:

AND WE DO HEREBY sell, assign, transfer, and convey to said ASSIGNEE, its successors, its legal representatives, and its assigns all claims for damages and all remedies arising out of or relating to any violation(s) of any of the rights assigned hereby that have or may have accrued prior to the date of assignment to said ASSIGNEE, or may accrue hereafter, including, but not limited to the right to sue for, seek, obtain, collect, recover, and retain damages and any ongoing or prospective royalties to which WE may be entitled, or that WE may collect for any infringement or from any settlement or agreement related to any of said patents before or after issuance;

AND WE HEREBY covenant and agree that WE will communicate promptly to said ASSIGNEE, its successors, its legal representatives, and its assigns, any facts known to us respecting said INVENTIONS, and will testify in any legal proceeding, sign all lawful papers, execute all applications and certificates, make all rightful declarations and/or oaths, and provide all lawful assistance to said ASSIGNEE, its successors, its legal representatives and its assigns, to obtain and enforce patent protection for said INVENTIONS in all countries;

AND WE HEREBY covenant that WE will not execute any writing or do any act whatsoever conflicting with these presents.

Done at	LOCATION	. 08	DATE	Rami Mohammad Al. SHEIKH
Done st	LOCATION	³ 22	DATE	Shiyam PRIYADARSIII
Done at	Some MA LOCATION	y on	<u> </u>	Brandon DW18.1.
Done at	LOCATION	, on _	DATE	David John PALFRAMAN
Done n	XOCATION	Ç GIT	DATE	Derek HOWER
Done at	LOCATION	,00	DATE:	

PATENT REEL: 044238 FRAME: 0488

RECORDED: 11/28/2017