505135312 10/10/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5182075

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
GAVIN BERNARD HORN	01/15/2015
STEFANO FACCIN	01/15/2015
OSOK SONG	02/05/2015

RECEIVING PARTY DATA

Name:	QUALCOMM INCORPORATED
Street Address:	5775 MOREHOUSE DRIVE
City:	SAN DIEGO
State/Country:	CALIFORNIA
Postal Code:	92121-1714

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16156611

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: 303-473-2700

Email: dlwilliams@hollandhart.com

Correspondent Name: HOLLAND & HART LLP/QUALCOMM

Address Line 1: P.O. BOX 11583

Address Line 4: SALT LAKE CITY, UTAH 84147

ATTORNEY DOCKET NUMBER: PQ293.01.01 (81679.4488)			
NAME OF SUBMITTER:	MICHAEL S. TONKINSON		
SIGNATURE:	/MICHAEL S. TONKINSON/		
DATE SIGNED:	10/10/2018		

Total Attachments: 9

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> PATENT REEL: 047124 FRAME: 0804

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ASSIGNMENT

WHEREAS, WE,

- 1. **Gavin Bernard Horn**, 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 La Jolla, California
- 2. **Stefano Faccin,** 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 Hayward, California,
- 3. Osok Song, a citizen of the Republic of Korea, having a mailing address located at 5775 Morehouse Drive, San Diego, California, 92121-1714, and a resident of San Diego, California

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 WIRELESS NETWORK PAGE TRANSMISSION AND RESPONSE (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, including but not limited to U.S. Application No(s). 14/597,711, filed January 15, 2015, Qualcomm Reference No. 146433, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). 62/040,953, filed August 22, 2014, Qualcomm Reference No. 146433P1, (and do hereby authorize ASSIGNEE and its representative to hereafter add herein such application number(s) and/or filing date(s) when known), and all 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;

Osok Song

Done at _____, on _______DATE

AND WE HEREBY covenant that WE will not execute any writing or do any act

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- Gavin Bernard (tern, 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 La Jolla. California
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NOW, THEREFORE, or 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, utto ASSIGNEE, its successors, its legal representatives, and its assigns, the entire right, tile, 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, including but not limited to U.S. Application No(s) 14/597.711, filed January 15, 2015. Qualcomm Reference No. 144433, and all provisional applications relating thereto, together with U.S. Provisional Application No(s) 62/040.953, filed August 22, 214. Qualcomm Reference No. 1464331. (and do hereby authorize ASSIGNEE and its representative to hereafter add herein such applications number(s) and/or filing date(s) when mown), and all divisional applications reneval 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 dracknowledge and agree that WE have seld, assigned, conveyed, and transferred, and by these presents do bereby sell, assign, convey, and transfer, unto ASSIGNEE, its successors, its legal representatives, and its assigns, all rights of priority under International Conventions, Treaties or greements, and the entire right, title, and interest throughout the world in said INVENTIONS, including all inventions related thereto or thereof, and all patent applications therefore part may have been filed or may be filed hereafter for aid INVENTIONS in any foreign country, countries, or treaty/union organizations, and all divisional applications, renewal applications continuation, unformation, applications, patent of addition applications continuation, applications, unfitty model applications, and design applications thereof, and all issued patents which may have granted or may be granted hereafter or said INVENTIONS in any country or countries foreign to the United States, and all eissues renewals, reexaminations, and extensions thereof.

AND WE DO HEREBY authorize and request the Commissione of Patents of the United States, and an 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 ASSIGNED, its successors, its legal representatives and its assigns, in accordance with the terms of this instrument.

AND WE DO HEXEBY sell, assign, transfer, and convey to said ASSIGNEE, its successors, its legal perpenditives, 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 see for, seek, obtain, collect, recover, and retain damages and any ongoing or prospective toyalties 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/o oaths, and provide all lawful assistance to said ASSIGNEE, its successors, its legal representatives and its assigns, to obtain and enforce extern protection for said INVENTIONS in all countries.

PATENT

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

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Done at MADILA	. (1)	01510		annangan da sa
POUTATRE.		/18A#8	Stefano Faccio	
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AND WE HEREBY covenant that WE will not execute any writing or do any act whatsoever conflicting with these presents.

Done at ______, on ______ Gavin Bernard Horn

LOCATION DATE Gavin Bernard Horn

Done at ______, on ______ Stefano Faccin

Done at $\frac{Som 0 i cso}{LOCATION}$, on $\frac{3/5}{DATE}$

Osok Song

PATENT REEL: 047124 FRAME: 0814

RECORDED: 10/10/2018