503187113 02/19/2015

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3233730

SUBMISSION TYPE:	CORRECTIVE ASSIGNMENT
NATURE OF CONVEYANCE:	Corrective Assignment to correct the CONVEYING PARTY DATA IN THE EPAS COVERSHEET; THE 4TH INVENTOR'S LAST NAME SHOULD READ PATIL (NOT PATEL). previously recorded on Reel 030429 Frame 0126. Assignor(s) hereby confirms the THE 4TH INVENTOR'S LAST NAME IS PATIL

CONVEYING PARTY DATA

Name	Execution Date
HUA WANG	04/02/2013
ACHALESHWAR SAHAI	04/25/2013
ZRINKA PULJIZ	04/07/2013
SHAILESH PATIL	04/02/2013
PABLO ALEJANDRO ANIGSTEIN	04/02/2013
JUNYI LI	04/02/2013

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:	13766099

CORRESPONDENCE DATA

Fax Number: (202)857-6395

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.

Email: dcipdocket@arentfox.com

Correspondent Name: ARENT FOX, LLP **Address Line 1:** 1717 K STREET, NW

Address Line 4: WASHINGTON, D.C. 20006-5344

ATTORNEY DOCKET NUMBER:	03028403798/124119
NAME OF SUBMITTER:	RACHELE WITTWER
SIGNATURE:	/Rachele Wittwer/

PATENT 503187113 REEL: 035051 FRAME: 0874

DATE SIGNED: 02/19/2015

Total Attachments: 13

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Confirmation Receipt

Your assignment has been received by the USPTO. The coversheet of the assignment is displayed below:

PATENT ASSIGNMENT

Electronic Version v1.1

Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Hua Wang	04/02/2013
Achaleshwar Sahai	04/25/2013
Zrinka Puljiz	04/07/2013
Shailesh Patel	04/02/2013
Pablo Alejandro Anigstein	04/02/2013
Junyi Li	04/02/2013

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: 13766099		
CORRESPONDENCE DATA Fax Number: 8586582502 Email: us-docketing@qualcomm.com Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail. Correspondent Name: QUALCOMM Incorporated Address Line 1: 5775 Morehouse Drive Address Line 4: San Diego, CALIFORNIA 92121		
ATTORNEY DOCKET NUMBER:	124119	
NAME OF SUBMITTER:	Amber Oosman	
Signature:	/Amber Oosman/	
Date:	05/16/2013	
Total Attachments: 9 source=124119_ASST_signed#page1.tif source=124119_ASST_signed#page2.tif source=124119_ASST_signed#page3.tif source=124119_ASST_signed#page4.tif source=124119_ASST_signed#page5.tif source=124119_ASST_signed#page6.tif source=124119_ASST_signed#page7.tif source=124119_ASST_signed#page8.tif source=124119_ASST_signed#page9.tif		
RECEIPT INFORMATION		
EPAS ID: PAT2392193 Receipt Date: 05/16/2013 Fee Amount: \$40		

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ASSIGNMENT

WHEREAS, WE,

- 1. Hua Wang, a citizen of China, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121 and a resident of Basking Ridge, NJ,
- 2. Achaleshwar Sahai, a citizen of India, having a mailing address located at 6100 Main Street, MS-380, Houston, TX 77005 and a resident of Houston, TX,
- 3. **Zrinka Puljiz**, a citizen of Croatia, having a mailing address located at 3353B Lake Austin Boulevard, Austin, TX 78703 and a resident of Austin, TX,
- 4. Shailesh Patil, a citizen of India, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121 and a resident of Bridgewater, NJ,
- 5. Pablo Alejandro Anigstein, a citizen of Argentina, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121 and a resident of Gillette, NJ,
- 6. Junyi Li, a citizen of the United States of America, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121 and a resident of Chester, NJ,

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 METHOD AND APPARATUS FOR MANAGING INTERFERENCE IN FULL-DUPLEX COMMUNICATION (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). 13/766,099, filed February 13, 2013, Qualcomm Reference No. 124119, and all provisional applications relating thereto, (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;

AND WE HEREBY represent that WE have full and exclusive, unencumbered right to sell, assign, convey and transfer all subject matter herein, and hereby covenant that WE have not and will not execute any writing or do any act whatsoever conflicting with these presents.

Done at 1820/02	200 4 - 200 4	2-2013	5-12
LOCA	TION	DATE	Hua Wang
Done at LOCA	, on	DATE	Achaleshwar Sahai
Done atLOCA	, on	DATE	Zrinka Puljiz
Done at <u>Code &</u> LOCA	∆; \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	/-2-2018 DATE	Shailesh Patil
Done at Bodge LOCA	NIT VATER , on 4:	<u> </u>	Pablo Alejandro Anigstein
Done at <u>Rodo</u> LOCA	ecoates, on 4	ー⊋ー急の { 3	Jupy Li

ASSIGNMENT

WHEREAS, WE,

- 1. Hua Wang, a citizen of China, having a mailing address located at 5775 Morehouse Drive, San Diego. CA 92121 and a resident of Basking Ridge, NJ,
- 2. Achaleshwar Sahaí, a citizen of India, having a mailing address located at 6100 Main Street, MS-380, Houston, TX 77005 and a resident of Houston, TX,
- 3. **Zrinka Puljiz**, a citizen of Croatia, having a mailing address located at 3353B Lake Austin Boulevard, Austin, TX 78703 and a resident of Austin, TX,
- 4. Shailesh Patil, a citizen of India, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121 and a resident of Bridgewater, NJ,
- 5. Pable Alejandro Anigstein, a citizen of Argentina, having a mailing address located at 5775 Morehouse Drive, San Diego. CA 92121 and a resident of Gillette, NJ,
- 6. **Junyi Li,** a citizen of the United States of America, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121 and a resident of Chester, NJ,

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 METHOD AND APPARATUS FOR MANAGING INTERFERENCE IN FULL-DUPLEX COMMUNICATION (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). 13/766,099, filed February 13, 2013, Qualcomm Reference No. 124119, and all provisional applications relating thereto, (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;

AND WE HEREBY represent that WE have full and exclusive, unencumbered right to sell, assign, convey and transfer all subject matter herein, and hereby covenant that WE have not and will not execute any writing or do any act whatsoever conflicting with these presents.

Done at		• on	
-	LOCATION	DATE	Hua Wang
Done at	Houston	04/25/2013	
Done at	LOCATION	DATE	Achaleshwar Sahai
Elana at		on	
Done at _	LOCATION		Zrinka Puljiz
Done at		, 00	
	LOCATION	, on	Shailesh Patil
Done at		, on	
	LOCATION	DATE	Pablo Alejandro Anigstein
Done at _		, on	491
	LOCATION	DATE	Junyi Li

ASSIGNMENT

WHEREAS, WE,

- 1. Hua Wang, a citizen of China, having a mailing address located at 5775 Morehouse Drive, San Diego, CA 92121 and a resident of Basking Ridge, NJ,
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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). 13/766,099, filed February 13, 2013, Qualcomm Reference No. 124119, and all provisional applications relating thereto, (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;

AND WE HEREBY represent that WE have full and exclusive, unencumbered right to sell, assign, convey and transfer all subject matter herein, and hereby covenant that WE have not and will not execute any writing or do any act whatsoever conflicting with these presents.

Done at		, OB	
	LOCATION	DATE	Xua Wang
	LOCATION	on	Achaleshwar Sahai
		·	
Thomas out	Auska	~~ 04/or/2013	
and and and	LOCATION	_, on <u>0407/2013</u> DATE	Zrinka Puljia
Done at		, os	
	LOCATION	DATE	Shailesh Patii
Done at		on	
	LOCATION	DATE	Pablo Alejandro Anigstein
Done at	riska, strajskih, sa slaženskima sa sla mba lanskima sa sa sa	on DATE	
	LOCATION	DATE	Jonyi Li

PATENT REEL: 035051 FRAME: 0886

RECORDED: 02/19/2015