# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5003345

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
USAME CEYLAN	02/19/2016
VINEET GOEL	03/08/2016
JURAJ OBERT	03/30/2016
LIANG LI	03/15/2016

#### **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:	16006502

## **CORRESPONDENCE DATA**

**Fax Number:** (651)735-1102

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:** 651 735 1100

Email: pairdocketing@ssiplaw.com

Correspondent Name: SHUMAKER & SIEFFERT, P. A.

Address Line 1: 1625 RADIO DRIVE, SUITE 100

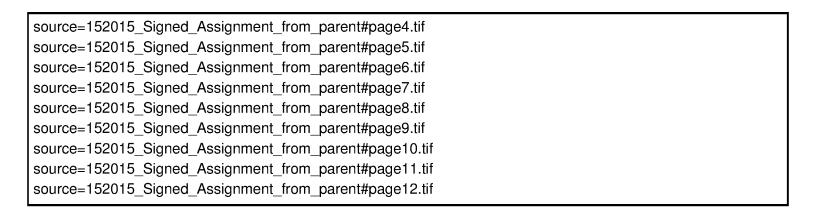
Address Line 4: WOODBURY, MINNESOTA 55125

ATTORNEY DOCKET NUMBER:	1414-146US02/152015C1
NAME OF SUBMITTER:	PATRICIA CYGAN
SIGNATURE:	/Patricia Cygan/
DATE SIGNED:	06/12/2018

## **Total Attachments: 12**

source=152015\_Signed\_Assignment\_from\_parent#page1.tif source=152015\_Signed\_Assignment\_from\_parent#page2.tif source=152015\_Signed\_Assignment\_from\_parent#page3.tif

PATENT 504956598 REEL: 046061 FRAME: 0500



WHEREAS, WE,

- 1. **Usame CEYLAN**, a citizen of Turkey, having a mailing address located at 5775 Morehouse Drive, San Diego, California 92121-1714 and a resident of San Diego, California,
- 2. **Vineet GOEL,** a citizen of 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,
- 3. **Juraj OBERT**, a citizen of Slovakia, having a mailing address located at 2408 Fabry Circle, Orlando, Florida 32817 and a resident of Orlando, Florida
- 4. **Liang LI,** a citizen of China, 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 **MULTI-STEP TEXTURE PROCESSING WITH FEEDBACK IN TEXTURE UNIT** (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. **15/047,472** filed **February 18, 2016**, Qualcomm Reference No. **152015**, (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 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;

# PATENT QUALCOMM Ref. No. 152015 Page 3 of 3

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

Done at	LOCATION	on <u>U19/16</u> DATE	Usame CEYLAN
Done at _	LOCATION	on	Vineet GOEL
Done at _	LOCATION	, on	Juraj OBERT
Done at _	LOCATION	_, on	Liang LI

WHEREAS, WE,

- 1. **Usame CEYLAN**, a citizen of Turkey, having a mailing address located at 5775 Morehouse Drive, San Diego, California 92121-1714 and a resident of San Diego, California,
- 2. **Vineet GOEL,** a citizen of 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,
- 3. **Juraj OBERT**, a citizen of Slovakia, having a mailing address located at 2408 Fabry Circle, Orlando, Florida 32817 and a resident of Orlando, Florida
- 4. **Liang LI,** a citizen of China, 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 **MULTI-STEP TEXTURE PROCESSING WITH FEEDBACK IN TEXTURE UNIT** (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. **15/047,472** filed **February 18, 2016**, Qualcomm Reference No. **152015**, (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 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;

## PATENT QUALCOMM Ref. No. 152015 Page 3 of 3

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

Done at	on'		and the second s
•	LOCATION	DATE	Usame CEYLAN
Done at	San dieze, on	3/8/2016	Vintag
	LOCATION	DATE	Vinect GOEL
Done at			
	LOCATION	DATE.	Juraj OBERT
Done at	s on		
	LOCATION	DATE	Liang LI

WHEREAS, WE,

- 1. **Usame CEYLAN**, a citizen of Turkey, having a mailing address located at 5775 Morehouse Drive, San Diego, California 92121-1714 and a resident of San Diego, California,
- 2. **Vineet GOEL,** a citizen of 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,
- 3. **Juraj OBERT**, a citizen of Slovakia, having a mailing address located at 2408 Fabry Circle, Orlando, Florida 32817 and a resident of Orlando, Florida
- 4. **Liang LI,** a citizen of China, 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 **MULTI-STEP TEXTURE PROCESSING WITH FEEDBACK IN TEXTURE UNIT** (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. **15/047,472** filed **February 18, 2016**, Qualcomm Reference No. **152015**, (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 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	, or	<u>}</u>	
	LOCATION	DATE	Usame CEYLAN
Done at	***************************************	***************************************	
	LOCATION	DATE	Vincet GOEL
Done at	084,000,82, or	yladod 1	ONST
	LOCATION	DATE	Juraj OBERT
Done at	, or	l	
	LOCATION	DATE	Liang LI

WHEREAS, WE,

- 1. **Usame CEYLAN**, a citizen of Turkey, having a mailing address located at 5775 Morehouse Drive, San Diego, California 92121-1714 and a resident of San Diego, California,
- 2. **Vineet GOEL,** a citizen of 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,
- 3. **Juraj OBERT**, a citizen of Slovakia, having a mailing address located at 2408 Fabry Circle, Orlando, Florida 32817 and a resident of Orlando, Florida
- 4. **Liang LI,** a citizen of China, 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 **MULTI-STEP TEXTURE PROCESSING WITH FEEDBACK IN TEXTURE UNIT** (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. **15/047,472** filed **February 18, 2016**, Qualcomm Reference No. **152015**, (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 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;

PATENT
QUALCOMM Ref. No. 152015
Page 3 of 3

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

Done at	·····	, on			
	LOCATION	DA	TE TE	Usame CEYLAN	
Done at _		on			
	LOCATION	DAT	TE .	Vinect GOEL	
Done at		, on			
_	LOCATION	DAT	E	Juraj OBERT	
Done at _	San Diego	_, on3/(s/	w16		
	LOCATION	DÀT		Freedow 8 B	

PATENT REEL: 046061 FRAME: 0513

**RECORDED: 06/12/2018**