505028672 07/31/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5075422

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SHANGHAI HUAWEI TECHNOLOGIES CO., LTD.	04/09/2018
LEILU	05/17/2017
YAN CHEN	04/13/2017

RECEIVING PARTY DATA

Name:	HUAWEI TECHNOLOGIES CO., LTD.
Street Address:	HUAWEI ADMINISTRATION BUILDING
Internal Address:	BANTIAN, LONGGANG DISTRICT
City:	SHENZHEN, GUANGDONG
State/Country:	CHINA
Postal Code:	518129

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15443187

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.

Email: nahmad@s-n-h.com

Correspondent Name: STAAS & HALSEY, LLP

Address Line 1: 1201 NEW YORK AVENUE, N.W.

Address Line 2: SUITE 700

Address Line 4: WASHINGTON, D.C. 20005

ATTORNEY DOCKET NUMBER:	2520.1180
NAME OF SUBMITTER:	GENE M. GARNER, II, REG. NO. 34,172
SIGNATURE:	/Gene M. Garner II/
DATE SIGNED:	07/31/2018

Total Attachments: 5

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> PATENT REEL: 046512 FRAME: 0255

ASSIGNMENT AGREEMENT

WHEREAS, SHANGHAI HUAWEI TECHNOLOGIES CO., LTD., of No.2222, Pudong New Area, Jinqiao Road, Shanghai, P.R. China, hereinafter referred to as "Assignor" is the owner of the invention described and set forth in the below-identified application for United States Letters Patent:

Title of Invention: DATA TRANSMISSION METHOD AND DEVICE

Filing Date: 2/27/2017 Application No.: 15443187

WHEREAS, HUAWEI TECHNOLOGIES CO., LTD., a corporation of China, located at Huawei Administration Building, Bantian, Longgang District, Shenzhen, 518129, Guangdong, P.R. China, hereinafter referred to as "Assignee", is desirous of acquiring an interest in the invention and application and in any U.S. Letters Patent and Registrations which may be granted on the same;

For good and valuable considerations, receipt of which is hereby acknowledged by Assignor, Assignor has assigned, and by these presents do assign to Assignee all right, title, and interest in and to the invention and application and to all foreign counterparts (including patent, utility mode and industrial designs), and in and to any Letters Patent and Registrations which may hereafter be granted on the same in the United States and all countries throughout the world, and to claim the priority from the application as provided by the Paris Convention. The right, title and interest is to be held and enjoyed by Assignee and Assignee's successors and assigns as fully and exclusively as it would have been held and enjoyed by Assignor had this Assignment not been made, for the full term of any Letters Patent and Registrations which may be granted thereon, or of any division, renewal, continuation in whole or in part, substitution, conversion, reissue, prolongation or extension thereof.

Assignor further agrees that it will, without charge to Assignee, but at Assignee's expense, (a) cooperate with Assignee in the prosecution of U.S. Patent applications and foreign counterparts on the invention and any improvements, (b) execute, verify, acknowledge and deliver all such further papers, including patent applications and instruments of transfer, and (c) perform such other acts as Assignee lawfully may request to obtain or maintain Letters Patent and Registrations for the invention and improvements in any and all countries, and to vest title thereto in Assignee, or Assignee's successors and assigns.

This ASSIGNMENT AGREEMENT is hereby agreed by both Assignce and Assignor, and comes into effect on the date when the Assignce signs this ASSIGNMENT AGREEMENT, or the date when the Assignor signs This ASSIGNMENT AGREEMENT, whichever is later.

For and on behalf of Assignor by

Date: Apr 9, 2018

Yafang SUN
Title: President of SHANGIAI HUAWEI TECHNOLOGIES CO., LTD.

For and on behalf of Assignee by:

Date: Apr 9, 2018

Yafang SUN

Title: President of HUAWEI TECHNOLOGIES CO., LTD.

Attorney Docket No. Client Reference No. 84133846US04

ASSIGNMENT

WHEREAS, WE,

Shunqing Zhang Huawei Administration Building Bantian, Longgang District Shenzhen, 518129, Guangdong P.R.CHINA; and

Yan Chen Huawei Administration Building Bantian, Longgang District Shenzhen, 518129, Guangdong P.R.CHINA. Lei Lu Huawei Administration Building Bantian, Longgang District Shenzhen, 518129, Guangdong P.R.CHINA; and

have invented and own a certain invention entitled:

DATA TRANSMISSION METHOD AND DEVICE

for which invention we have executed an application (provisional or non-provisional) for a U.S. patent, which was filed on 2017-02-27, under U.S. Application No. 15443187 and

WHEREAS, HUAWEI TECHNOLOGIES CO.,LTD., Huawei Administration Building Bantian, Longgang District Shenzhen, 518129, Guangdong P.R.CHINA;, hereinafter referred to as Assignee, is desirous of acquiring the entire domestic and foreign right, title, and interest in and under the invention described in the patent application.

Now, THEREFORE, for good and valuable considerations, the receipt and sufficiency of which are hereby acknowledged, we assign and transfer to the Assignee and the Assignee's legal representatives, successors and assigns the full and exclusive rights in and to the invention in the U.S. and every foreign country and the entire right, title, and interest in and to the patent application and other such applications (e.g., provisional applications, non-provisional applications, continuations, continuations-in-part, divisionals, reissues, reexaminations, National phase applications, including petty patent applications, and utility model applications) that may be filed in the United States and every foreign country on the invention, and the patents, extensions, or derivations thereof, both foreign and domestic, that may issue thereon, and we do hereby authorize and request the Commissioner of Patents to issue U.S. patents to the above-mentioned Assignee agreeably with the terms of this assignment document.

WE HEREBY AUTHORIZE the Assignee to insert in this assignment document the filing date and application number of the application if the date and number are unavailable at the time this document is executed.

WE DO HEREBY COVENANT and agree with the Assignee that we will not execute any writing or do any act whatsoever conflicting with the terms of this assignment document set forth herein, and that we will at any time upon request, without further or additional consideration, but at the expense of the Assignee, execute such additional assignments and

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other writings and do such additional acts as the Assignee may deem necessary or desirable to perfect the Assignee's enjoyment of this assignment, and render all necessary assistance in making application for and obtaining original, continuation, continuation-in-part, divisional, reissued, reexamined, and National phase patents of the U.S. or of any and all foreign countries on the invention, and in enforcing any rights or chooses in action accruing as a result of such applications or patents, and by executing statements and other affidavits, it being understood that the foregoing covenant and agreement shall bind, and inure to the benefit of, the assigns and legal representatives of all parties hereto.

IN WITNESS WHEREOF, We have hereunder set our hands on the dates shown below.

Date	Shunqing Zhang
Date May 17, 2017	<u>Lei Ly</u> Lei Lu
Date	Yan Chen

Attorney Docket No. Client Reference No. 84133846US04

ASSIGNMENT

WHEREAS, WE,

Shunqing Zhang Huawei Administration Building Bantian, Longgang District Shenzhen, 518129, Guangdong P.R.CHINA; and

Yan Chen Huawei Administration Building Bantian, Longgang District Shenzhen, 518129, Guangdong P.R.CHINA. Lei Lu Huawei Administration Building Bantian, Longgang District Shenzhen, 518129, Guangdong P.R.CHINA; and

have invented and own a certain invention entitled:

DATA TRANSMISSION METHOD AND DEVICE

for which invention we have executed an application (provisional or non-provisional) for a U.S. patent, which was filed on 2017-02-27, under U.S. Application No. 15443187 and

WHEREAS, HUAWEI TECHNOLOGIES CO.,LTD., Huawei Administration Building Bantian, Longgang District Shenzhen, 518129, Guangdong P.R.CHINA;, hereinafter referred to as Assignee, is desirous of acquiring the entire domestic and foreign right, title, and interest in and under the invention described in the patent application.

Now, Therefore, for good and valuable considerations, the receipt and sufficiency of which are hereby acknowledged, we assign and transfer to the Assignee and the Assignee's legal representatives, successors and assigns the full and exclusive rights in and to the invention in the U.S. and every foreign country and the entire right, title, and interest in and to the patent application and other such applications (e.g., provisional applications, non-provisional applications, continuations, continuations-in-part, divisionals, reissues, reexaminations, National phase applications, including petty patent applications, and utility model applications) that may be filed in the United States and every foreign country on the invention, and the patents, extensions, or derivations thereof, both foreign and domestic, that may issue thereon, and we do hereby authorize and request the Commissioner of Patents to issue U.S. patents to the above-mentioned Assignee agreeably with the terms of this assignment document.

WE HEREBY AUTHORIZE the Assignee to insert in this assignment document the filing date and application number of the application if the date and number are unavailable at the time this document is executed.

WE DO HEREBY COVENANT and agree with the Assignee that we will not execute any writing or do any act whatsoever conflicting with the terms of this assignment document set forth herein, and that we will at any time upon request, without further or additional consideration, but at the expense of the Assignee, execute such additional assignments and

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other writings and do such additional acts as the Assignee may deem necessary or desirable to perfect the Assignee's enjoyment of this assignment, and render all necessary assistance in making application for and obtaining original, continuation, continuation-in-part, divisional, reissued, reexamined, and National phase patents of the U.S. or of any and all foreign countries on the invention, and in enforcing any rights or chooses in action accruing as a result of such applications or patents, and by executing statements and other affidavits, it being understood that the foregoing covenant and agreement shall bind, and inure to the benefit of, the assigns and legal representatives of all parties hereto.

IN WITNESS WHEREOF, We have hereunder set our hands on the dates shown below.

Date	
	Shunqing Zhang
Date	
	Lei Lu
Date Spr 13, 2017	Yan Chn
*	Yan Chen