

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT7791130

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
FAN ZHANG	12/19/2016
FENG WANG	02/09/2023
JUN LI	02/09/2023
KELAN SONG	02/09/2023
QICHAO ZHU	11/04/2021
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	HUAWEI TECHNOLOGIES CO., LTD.
<b>Street Address:</b>	HUAWEI ADMINISTRATION BUILDING, BANTIAN
<b>Internal Address:</b>	LONGGANG DISTRICT, GUANGDONG
<b>City:</b>	SHENZHEN
<b>State/Country:</b>	CHINA
<b>Postal Code:</b>	518129
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	17388651
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(703)518-5499
<i>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.</i>	
<b>Phone:</b>	703-684-1111
<b>Email:</b>	huawei@ipfirm.com
<b>Correspondent Name:</b>	HAUPTMAN HAM, LLP
<b>Address Line 1:</b>	2318 MILL ROAD
<b>Address Line 2:</b>	SUITE 1400
<b>Address Line 4:</b>	ALEXANDRIA, VIRGINIA 22314
<b>ATTORNEY DOCKET NUMBER:</b>	C6428-258
<b>NAME OF SUBMITTER:</b>	JOSHUA L. PRITCHETT
<b>SIGNATURE:</b>	/JOSHUA L. PRITCHETT/
<b>DATE SIGNED:</b>	02/10/2023

**Total Attachments: 20**

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Effective DATE January-01-2019

(1) Huawei Technologies Co., Ltd.

(2) Futurewei Technologies, Inc.

**CONTRACT RESEARCH AND DEVELOPMENT  
AGREEMENT**

THIS AGREEMENT IS MADE AND ENTERED INTO

Between

Huawei Technologies Co., Ltd., a corporation operating under the laws of the country of its principal office located at Bantian, Longgang District, Shenzhen 518129, the People's Republic of China (hereinafter referred to as "Principal").

And

Futurewei Technologies, Inc., a corporation operating under the laws of the country of its principal office located at 5700 Tennyson PKWY STE 600, Plano, TX 75024-3586 (hereinafter referred to as "Service Provider").

The Principal and Service Provider are also individually referred to as a "Party" and collectively as the "Parties".

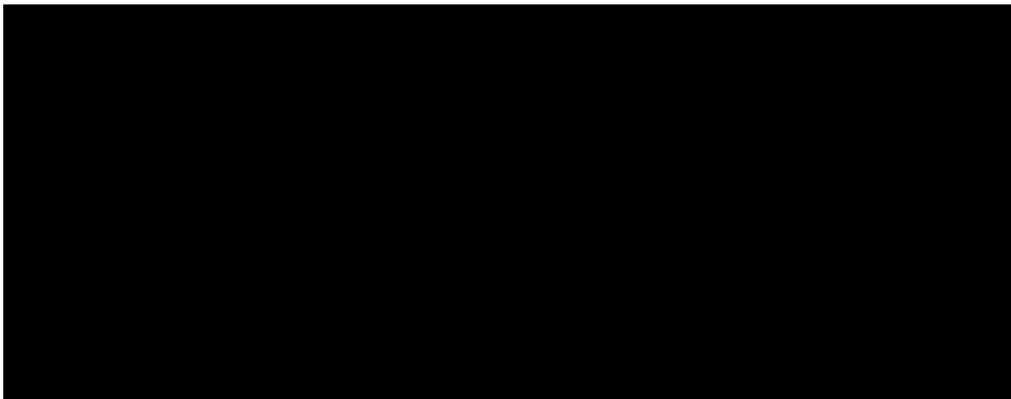
WHEREAS

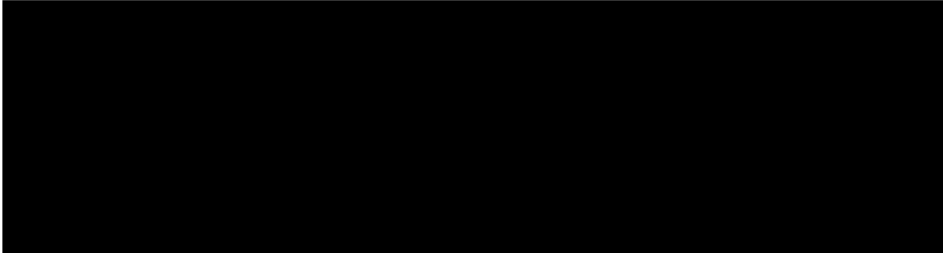
A. The Principal is a leading global Information and Communications Technology ("ICT") solutions provider, providing ICT solutions for telecom operators, enterprises and consumers. The Principal is in the business of research, development, manufacturing and marketing of ICT Solutions.

B. The Service Provider has the personnel and facilities necessary to perform professional services relating to the research and/or development of technology and products under contract to and at the direction of the Principal.

C. The Principal desires to engage Service Provider to perform professional services and Service Provider is willing to perform professional services subject to the terms and conditions of this agreement.

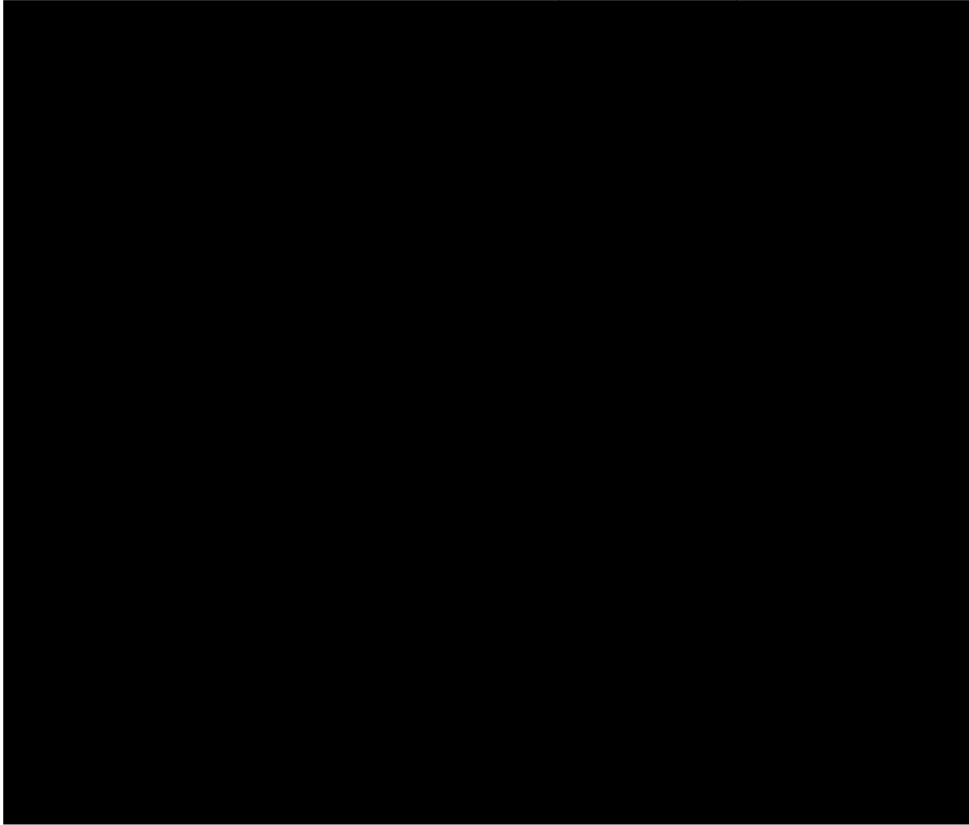
NOW, THEREFORE, the Parties have agreed as follows:






"ICT Solutions" shall mean Information and Communication Technology offerings sold to Customers, typically comprising elements of hardware products, software products and technical services which are generally highly integrated, and may include consumer electronics devices which comprise hardware and software elements;

"Intellectual Property" or "IP" shall mean all technical knowledge, inventions, creations, know-how, formulations, recipes, specifications, designs, methods, processes, techniques, data, rights, devices, drawings, instructions, expertise, trade practices, trade secrets, computer data, source code, analytical and quality control data, trademarks, copyrights, commercial information and other information relating to the ICT Solutions, whether patented, patentable or not, disclosed to Service Provider by Principal or by Affiliates, whether in written form or otherwise, prior to or during the term of this Agreement;





## 5. Intellectual Property

Principal and its licensors remain the owner of Principal's and Principal's licensors' Intellectual Property developed prior to, or during the term of this Agreement. Principal agrees to take all necessary actions in order to register, maintain, protect and defend its rights to and interests in the Intellectual Property of the Principal and its licensors.


(a) The Service Provider agrees that all Intellectual Property developed pursuant to or in the course of providing the Services, are and shall remain at all times the exclusive property of the Principal and its licensors. Any improvements or other Intellectual Property arising out of this Agreement shall be owned by the Principal or its licensors.

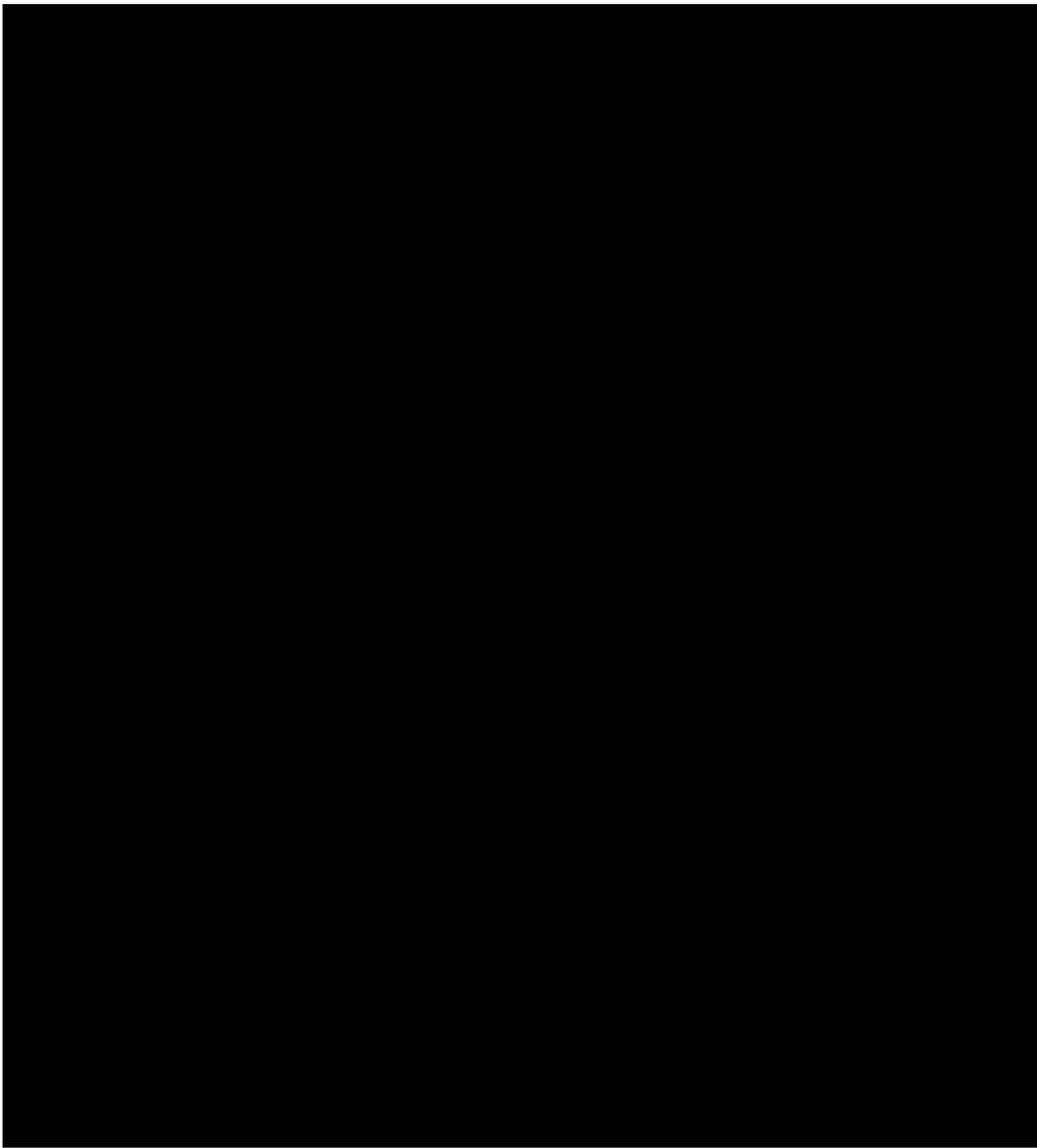
(b) Except as specified in this Agreement, Service Provider shall acquire no rights whatsoever in, or to, any Intellectual Property. Without limiting the foregoing, except as provided herein, this Agreement does not constitute a license, sale or any other transfer of the Principal's Intellectual Property or the Intellectual Property of its licensors. Service Provider shall not take any action that may adversely affect or impair Principal's rights, titles or interests in or to the Intellectual Property or of its licensors.

(c) Service Provider on behalf of itself and (to the extent it is able to do so) its staff hereby assigns and agrees to assign to Principal any right, title or interest Service Provider and/or any of its staff may have in know-how, improvements, or other matters developed in or related to, the Services. Principal and Service Provider (on behalf of itself and members of its staff) agree that all know-how or copyrightable works developed as part of providing the Services shall be "works made for hire" whose ownership shall vest with the Principal. To the extent they may not, by operation of law, constitute "works made for hire" Service Provider (on behalf of itself and members of its Staff) hereby assigns and agrees to assign to Principal (for no charge) all right, title and interest it and/or (to the extent it is able to do so) any of its staff may have in and to such improvements.

(d) In respect of protectable Intellectual Property which is assigned to Principal, assignment will take effect from the filing date of patent protection or similar rights application with competent authority.

(e) Service Provider shall promptly notify Principal (a) of any claims or objections that its use of the Intellectual Property in connection with its Services may or will infringe the patent, copyright, trademark or other proprietary right of any other Person, and (b) of any and all infringements, imitations, illegal use, any act of unfair competition, piracy, or misuse, by any Person, of the Intellectual Property which come to its attention.





CONFIDENTIALITY, PROPRIETARY INFORMATION  
AND INVENTIONS AGREEMENT

THIS CONFIDENTIALITY, PROPRIETARY INFORMATION AND INVENTIONS ("Agreement") is effective as of this 19<sup>th</sup> day of December, 2016 ("Effective Date"), by and between FUTUREWEI TECHNOLOGIES, INC., a Texas corporation ("Company"), and FAN ZHANG ("Employee").

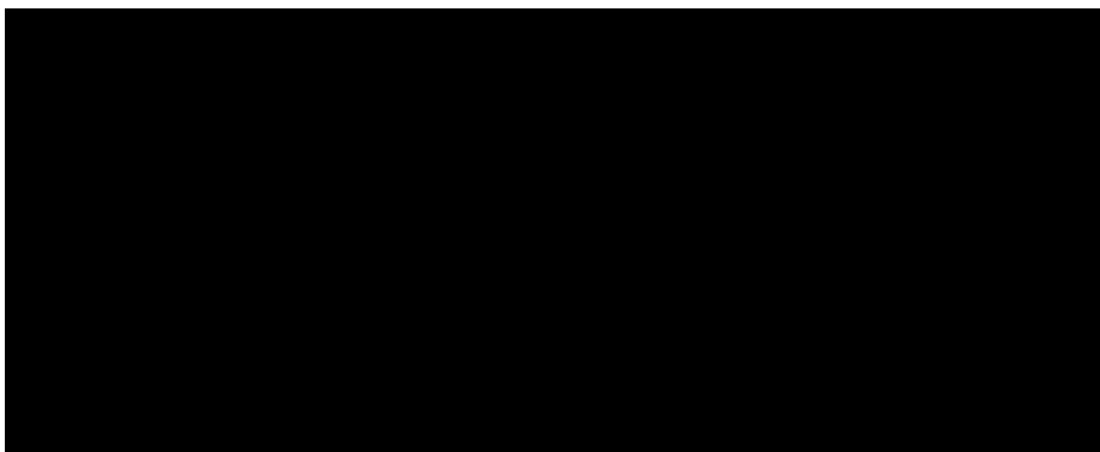
**RECITALS**

WHEREAS, Employee desires to become an employee of Company in a position that may require or include contributing to or accessing Proprietary Information as an integral part thereof, and Company is willing to hire Employee in an at-will position as set forth in Section 11(f) of this Agreement on the condition that Employee enters into this Agreement, fully performs all required duties, and strictly observes all obligations set forth in this Agreement;

WHEREAS, Company may provide Employee with special knowledge, including Proprietary Information of Company and Company's parent, subsidiaries and affiliates (collectively "Huawei"), as well as customers and suppliers of any of the foregoing in connection with Employee's employment; and

WHEREAS, Employee's access to, receipt and knowledge of Proprietary Information will present Employee with the opportunity to benefit himself or herself and others wrongly at the expense of Company, Huawei and any of their respective customers and suppliers if Employee fails to abide by the terms of this Agreement;

THEREFORE, in consideration of Employee's employment, the foregoing premises and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, Employee agrees with Company as follows:



4. Ownership of Subject Ideas and Inventions

(a) Ownership. All right, title, and interest in and to all Subject Ideas and Inventions, including but not limited to all registrable and patentable rights throughout the world which may subsist therein, shall be held and owned solely by Company. Further, all Copyrighted Works created by Employee within the scope of, or in connection with, his or her employment with Company shall be considered works made for hire under the federal copyright laws of the United States and shall be the exclusive property of Company, which shall be considered the author of such Copyrighted Works.

(b) Assignment. Employee will assign and does hereby assign to Company, without further consideration of any kind, Employee's entire right, title and interest in and to all Subject Ideas and Inventions. Employee understands that such assignment obligations do not apply to any Invention which qualifies fully under the provisions of California Labor Code Section 2870 (attached hereto as Exhibit B). Employee will advise Company promptly in writing of any Inventions that Employee believes meet the criteria in California Labor Code Section 2870 and not otherwise disclosed on Exhibit A.

(c) Assistance

(i) Employee agrees to promptly disclose to Company, without further consideration of any kind, any and all Subject Ideas and Inventions that Employee may conceive, develop or reduce to practice, either solely or jointly with others, during the period of his or her employment with Company.

(ii) Employee agrees, without further consideration of any kind, to assist Company, as Company may deem necessary or desirable, to perfect, maintain or defend Company's rights in all Subject Ideas and Inventions including, without limitation: (1) assisting Company to apply for, obtain and vest in the name of Company alone (unless Company otherwise directs) letters patent, copyright, trademark or other analogous protection in any country throughout the world, and when so obtained or vested, to assist Company to renew and restore the same; (2) assisting Company to defend any challenge associated with such letters patent, copyright, trademark or other analogous protection, including rendering of assistance to Company in any opposition, reexamination or revocation proceeding associated with such letters patent, copyright, trademark or other analogous protection; and (3) promptly executing all documents necessary or desirable in connection with such challenges, actions, or proceedings.

(iii) Employee agrees, without further consideration of any kind, to assist Company, as Company may deem necessary or desirable, in any enforcement or infringement activities or proceedings with respect to such letters patent, copyright, trademark or other analogous protection.

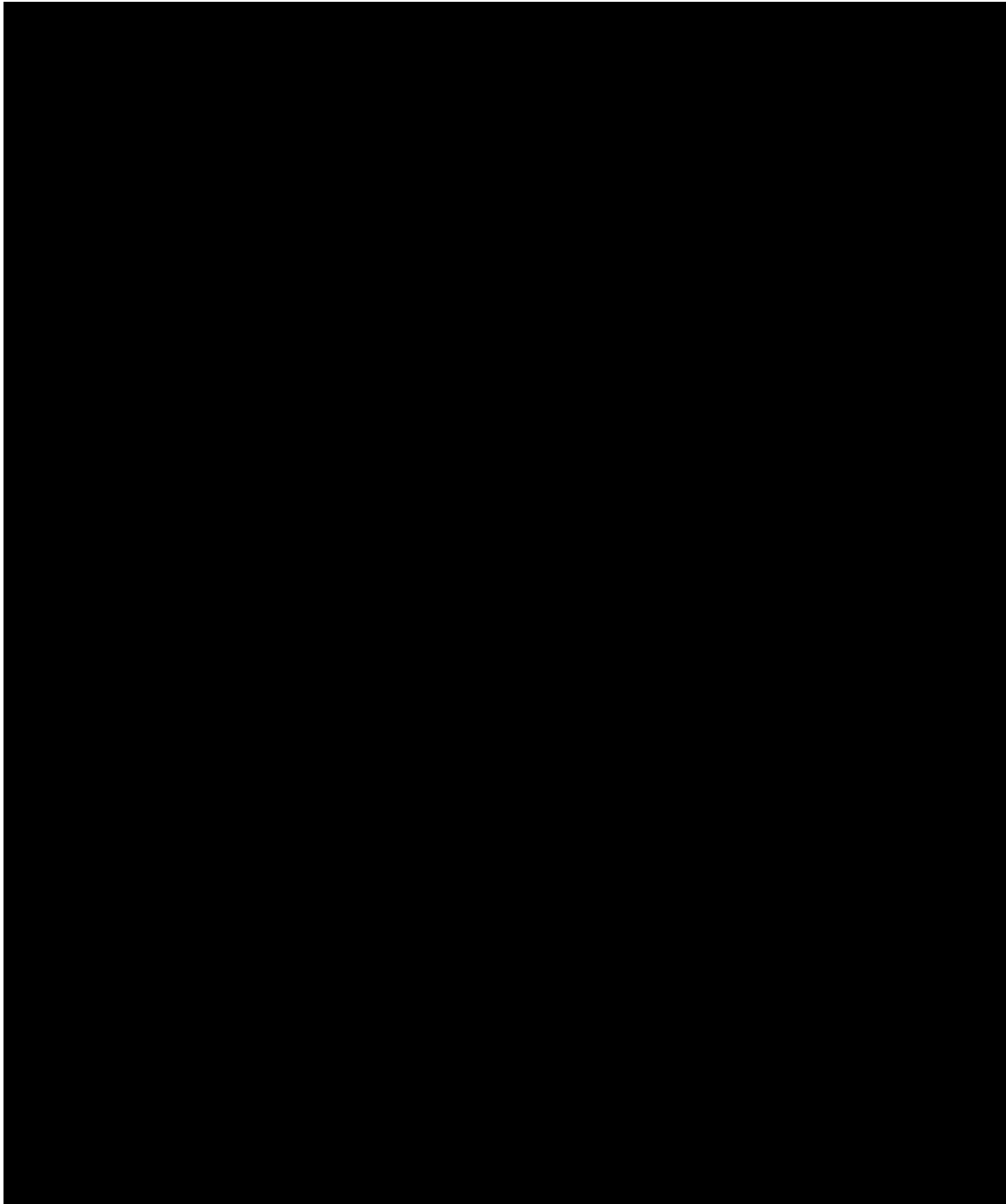
(iv) If Company is unable, after reasonable effort, to secure Employee's signature on any patent, copyright, trademark or other analogous protection relating to a Subject Idea and Invention, Employee hereby irrevocably designates and appoints Company and its duly authorized officers and agents as Employee's agent and attorney-in-fact, to act for and on Employee's behalf and stead to execute and file any such application(s) or other documents and to do all other lawfully permitted acts to further the prosecution, issuance, and enforcement of letters patent, copyright, trademark or other analogous protection thereon, or to perfect record ownership by Company with the same legal force and effect as if executed by Employee.

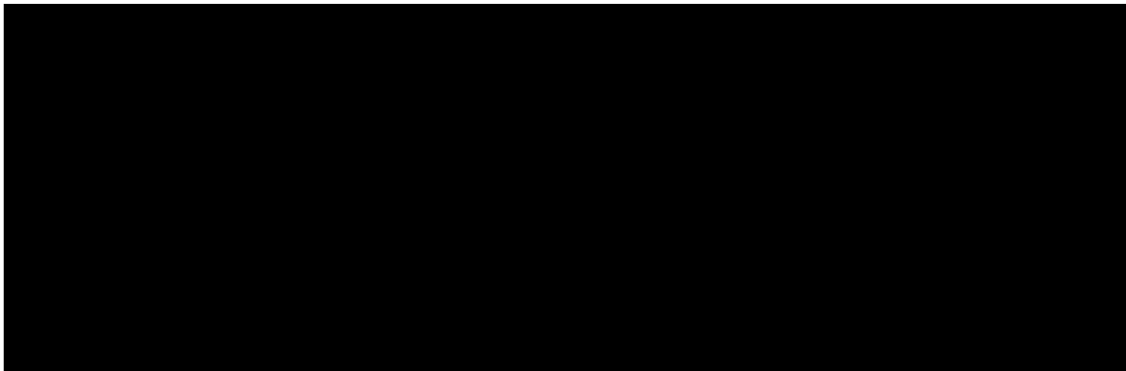
(v) Employee acknowledges and agrees that Employee's obligation to assist Company in obtaining, maintaining, defending and enforcing such letters patent, copyright, trademark or other analogous protection for Subject Ideas and Inventions shall continue beyond the termination of Employee's relationship with Company.

(d) Maintenance of Records. Employee agrees to keep and maintain adequate and current written records of all Subject Ideas and Inventions and their development made by Employee (solely or jointly with others) during the term of Employee's employment with Company. These records will be in the form of notes, sketches, drawings, and any other format that may be specified by Company, and shall be stored and maintained in a manner as directed by Company. These records will remain the sole property of Company.

(e) Access. Because of the potential difficulty of establishing when any Subject Ideas or Inventions are first conceived by Employee, or whether they result from Employee's access to any Proprietary Information or Company materials, Employee agrees that any Subject Idea and

Invention shall be deemed to have resulted from Employee's access to Company materials if it arose or resulted from Employee's work with Company.





IN WITNESS WHEREOF, the parties have executed this Agreement as of the Effective Date.

COMPANY:

By: \_\_\_\_\_

Print Name: Jason Chan

Title: President

EMPLOYEE:

By: \_\_\_\_\_

Print Name: FAN ZHANG

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**SUBSTITUTE STATEMENT IN LIEU OF AN OATH OR DECLARATION FOR UTILITY  
OR DESIGN PATENT APPLICATION (35 U.S.C. 115(d) AND 37 CFR 1.64)**

<b>Title of Invention</b>	RENDERING METHOD AND APPARATUS		
This statement is directed to:  <input type="checkbox"/> The attached application,  OR  <input checked="" type="checkbox"/> United States application or PCT international application number <u>17388651</u> filed on <u>2021-07-29</u> .			
<b>LEGAL NAME of inventor to whom this substitute statement applies:</b> (E.g., Given Name (first and middle (if any)) and Family Name or Surname) <b>Fan Zhang</b>			
Residence (except for a deceased or legally incapacitated inventor):			
City <b>Shenzhen</b>	State <b>Guangdong</b>	Country <b>CN</b>	
Mailing Address (except for a deceased or legally incapacitated inventor): Huawei Administration Building Bantian, Longgang District			
City <b>Shenzhen</b>	State <b>Guangdong</b>	Zip <b>518129</b>	Country <b>CN</b>
I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application.  The above-identified application was made or authorized to be made by me.  I hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.			
Relationship to the inventor to whom this substitute statement applies:  <input type="checkbox"/> Legal Representative (for deceased or legally incapacitated inventor only), <input type="checkbox"/> Assignee, <input checked="" type="checkbox"/> Person to whom the inventor is under an obligation to assign, <input type="checkbox"/> Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.46 is required), or <input type="checkbox"/> Joint Inventor.			

[Page 1 of 2]

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9198.

**PATENT**  
**REEL: 062703 FRAME: 0575**

**SUBSTITUTE STATEMENT**

Circumstances permitting execution of this substitute statement:

- ☐ Inventor is deceased,
- ☐ Inventor is under legal incapacity,
- ☒ Inventor cannot be found or reached after diligent effort, or
- ☐ Inventor has refused to execute the oath or declaration under 37 CFR 1.63.

If there are joint inventors, please check the appropriate box below:

- ☒ An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) naming the entire inventive entity has been or is currently submitted.

OR

- ☐ An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) has not been submitted. Thus, a Substitute Statement Supplemental Sheet (PTO/AIA/11 or equivalent) naming the entire inventive entity and providing inventor information is attached. See 37 CFR 1.64(b).

**WARNING:**

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

**PERSON EXECUTING THIS SUBSTITUTE STATEMENT:**

Name: Xiaoqing Liu Date (Optional):

Signature: Xiaoqing Liu**APPLICANT NAME AND TITLE OF PERSON EXECUTING THIS SUBSTITUTE STATEMENT:**

If the applicant is a juristic entity, list the applicant name and the title of the signer:

Huawei Technologies Co., Ltd.

Applicant Name:

Title of Person Executing This Substitute Statement: Supervisor of System Platform & Process Dept.

The signer, whose title is supplied above, is authorized to act on behalf of the applicant.

Residence of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent):

City Shenzhen State Guangdong Country CN

Mailing Address of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent)

Huawei Administration Building  
Bantian, Longgang District

City Shenzhen State Guangdong Zip 518129 Country CN

Note: Use an additional PTO/AIA/02 form for each inventor who is deceased, legally incapacitated, cannot be found or reached after diligent effort, or has refused to execute the oath or declaration under 37 CFR 1.63.

**ASSIGNMENT**

**WHEREAS, WE,**

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

Feng Wang  
Huawei Administration Building,  
Bantian, Longgang District,  
Shenzhen, 518129, Guangdong,  
P.R. China; and

Jun Li  
Huawei Administration Building,  
Bantian, Longgang District,  
Shenzhen, 518129, Guangdong,  
P.R. China; and

Kelan Song  
Huawei Administration Building,  
Bantian, Longgang District,  
Shenzhen, 518129, Guangdong,  
P.R. China; and

Qichao Zhu  
Huawei Administration Building,  
Bantian, Longgang District,  
Shenzhen, 518129, Guangdong,  
P.R. China.

have invented and own a certain invention entitled:

**RENDERING METHOD AND APPARATUS**

for which invention we have executed an application (provisional or non-provisional) for a U.S. patent, which was filed on 2021-07-29, under U.S. Application No. 17388651 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.

In re Appln. of Zhang et al.  
Attorney Docket No. C6428-258

**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 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 \_\_\_\_\_  
Fan Zhang

Date Feb 9, 2023  
Feng Wang  
Feng Wang

Date \_\_\_\_\_  
Jun Li

Date \_\_\_\_\_  
Kelan Song

Date \_\_\_\_\_  
Qichao Zhu

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**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.

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Date \_\_\_\_\_

\_\_\_\_\_  
Fan Zhang

Date \_\_\_\_\_

\_\_\_\_\_  
Feng Wang

Date Feb 9, 2023

Jun Li  
\_\_\_\_\_  
Jun Li

Date \_\_\_\_\_

\_\_\_\_\_  
Kelan Song

Date \_\_\_\_\_

\_\_\_\_\_  
Qichao Zhu

**ASSIGNMENT**

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Bantian, Longgang District,  
Shenzhen, 518129, Guangdong,  
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for which invention we have executed an application (provisional or non-provisional) for a U.S. patent, which was filed on 2021-07-29, under U.S. Application No. 17388651 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.

In re Appln. of Zhang et al.  
Attorney Docket No. C6428-258

**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 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 \_\_\_\_\_

\_\_\_\_\_  
Fan Zhang

Date \_\_\_\_\_

\_\_\_\_\_  
Feng Wang

Date \_\_\_\_\_

\_\_\_\_\_  
Jun Li

Date Feb 9, 2023

  
\_\_\_\_\_  
Kelan Song

Date \_\_\_\_\_

\_\_\_\_\_  
Qichao Zhu

**ASSIGNMENT**

**WHEREAS, WE,**

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

Feng Wang  
Huawei Administration Building,  
Bantian, Longgang District,  
Shenzhen, 518129, Guangdong,  
P.R. China; and

Jun Li  
Huawei Administration Building,  
Bantian, Longgang District,  
Shenzhen, 518129, Guangdong,  
P.R. China; and

Kelan Song  
Huawei Administration Building,  
Bantian, Longgang District,  
Shenzhen, 518129, Guangdong,  
P.R. China; and

Qichao Zhu  
Huawei Administration Building,  
Bantian, Longgang District,  
Shenzhen, 518129, Guangdong,  
P.R. China.

have invented and own a certain invention entitled:

**RENDERING METHOD AND APPARATUS**

for which invention we have executed an application (provisional or non-provisional) for a U.S. patent, which was filed on 2021-07-29, under U.S. Application No. 17388651 and

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**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.

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Date \_\_\_\_\_

\_\_\_\_\_  
Fan Zhang

Date \_\_\_\_\_

\_\_\_\_\_  
Feng Wang

Date \_\_\_\_\_

\_\_\_\_\_  
Jun Li

Date \_\_\_\_\_

\_\_\_\_\_  
Kelan Song

Date NOV. 4. 2021

Qichao Zhu  
Qichao Zhu