PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6527472

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
XI ZHANG	04/23/2020
FENGWEI LIU	04/24/2020
MINGHUI XU	04/24/2020
LEI CHEN	01/21/2020

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:	16659310

CORRESPONDENCE DATA

Fax Number: (312)616-5700

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: (312) 616-5600

Email: assignments@leydig.com
Correspondent Name: LEYDIG, VOIT & MAYER, LTD.

correspondent Name.

Address Line 1: TWO PRUDENTIAL PLAZA, SUITE 4900

Address Line 2: 180 NORTH STETSON AVENUE Address Line 4: CHICAGO, ILLINOIS 60601-6731

ATTORNEY DOCKET NUMBER:	HW744229
NAME OF SUBMITTER:	LAURA BERNDT
SIGNATURE:	/Laura Berndt/
DATE SIGNED:	02/01/2021
	•

Total Attachments: 6

PATENT REEL: 055102 FRAME: 0162

506480696

ASSIGNMENT

WHEREAS, WE,

Xi Zhang Huawei Administration Building Bantian, Longgang District Shenzhen, 518129, Guangdong

P.R.CHINA; and

Lei Chen

Huawei Administration Building Bantian, Longgang District Shenzhen, 518129, Guangdong

P.R.CHINA; and

Fengwei Liu

Huawei Administration Building Bantian, Longgang District Shenzhen, 518129, Guangdong

P.R.CHINA; and

Minghui Xu

Huawei Administration Building Bantian, Longgang District Shenzhen, 518129, Guangdong

P.R.CHINA.

have invented and own a certain invention entitled:

PHASE TRACKING REFERENCE SIGNAL PROCESSING METHOD AND APPARATUS

for which invention we have executed an application (provisional or non-provisional) for a U.S. patent, which was filed on 2019-10-21, under U.S. Application No. 16659310 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 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	April 23, 2020	Xt Zhang	
		Xi Zhang	
Date			
		Fengwei Liu	
Date			
		Lei Chen	
Date			
		Minghui Xu	

ASSIGNMENT

WHEREAS, WE,

Xi Zhang Huawei Administration Building Bantian, Longgang District Shenzhen, 518129, Guangdong

P.R.CHINA; and

Lei Chen

Huawei Administration Building Bantian, Longgang District Shenzhen, 518129, Guangdong

P.R.CHINA; and

Fengwei Liu

Huawei Administration Building Bantian, Longgang District Shenzhen, 518129, Guangdong

P.R.CHINA; and

Minghui Xu

Huawei Administration Building Bantian, Longgang District Shenzhen, 518129, Guangdong

P.R.CHINA.

have invented and own a certain invention entitled:

PHASE TRACKING REFERENCE SIGNAL PROCESSING METHOD AND APPARATUS

for which invention we have executed an application (provisional or non-provisional) for a U.S. patent, which was filed on 2019-10-21, under U.S. Application No. 16659310 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 other writings and do such additional acts as the Assignee may deem necessary or desirable to

In re Appln. of Zhang et al. Attorney Docket No. <u>HW744229</u>

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	Xi Zhang	
Date Apr 24, 2020	Fengwei Liw Fengwei Liu	****
,	Fengwei Liu	
Date		
	Lei Chen	
Date 18pr. 24. 2020	Mirehui Xu Minghui Xu	~~~
\$	Minghui Xu	

ASSIGNMENT

WHEREAS, WE,

Xi Zhang Huawei Administration Building Bantian, Longgang District Shenzhen, 518129, Guangdong

P.R.CHINA; and

Lei Chen

Huawei Administration Building Bantian, Longgang District Shenzhen, 518129, Guangdong

P.R.CHINA; and

Fengwei Liu

Huawei Administration Building Bantian, Longgang District Shenzhen, 518129, Guangdong

P.R.CHINA; and

Minghui Xu

Huawei Administration Building Bantian, Longgang District Shenzhen, 518129, Guangdong

P.R.CHINA.

have invented and own a certain invention entitled:

PHASE TRACKING REFERENCE SIGNAL PROCESSING METHOD AND APPARATUS

for which invention we have executed an application (provisional or non-provisional) for a U.S. patent, which was filed on 2019-10-21, under U.S. Application No. 16659310 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 other writings and do such additional acts as the Assignee may deem necessary or desirable to

In re Appln. of Zhang et al. Attorney Docket No. HW744229

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	
	Xi Zhang
Date	
	Fengwei Liu
DateJan 21, 2020	Lei Chen
	Lei Chen
Date	
	Minghui Xu