504265872 03/09/2017

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JIANJUN YU	11/16/2016
YUANQUAN WANG	11/16/2016
XINYING LI	11/16/2016

RECEIVING PARTY DATA

Name:	ZTE CORPORATION	
Street Address:	ZTE PLAZA, NO. 55 SOUTH KEJI ROAD	
Internal Address:	HI-TECH INDUSTRIAL PARK, NANSHAN DISTRICT	
City:	SHENZHEN	
State/Country:	CHINA	
Postal Code:	518057	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15223342

CORRESPONDENCE DATA

Fax Number: (858)720-5819

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: (858) 720-5700

Email: JPayne@perkinscoie.com

Correspondent Name: BING AI

Address Line 1: PERKINS COIE LLP
Address Line 2: P.O. BOX 1247

Address Line 4: SEATTLE, WASHINGTON 98111-1247

ATTORNEY DOCKET NUMBER:	009064-8069.US01	
NAME OF SUBMITTER:	JENNIFER PAYNE	
SIGNATURE:	/Jennifer Payne/	
DATE SIGNED:	03/09/2017	
	This document serves as an Oath/Declaration (37 CFR 1.63).	

Total Attachments: 9

PATENT REEL: 041533 FRAME: 0518

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Jianjun Yu et al.

Application No.: 15/223,342

Confirmation No.: 6608

Filed: July 29, 2016

For: PHOTONIC VECTOR SIGNAL GENERATION WITHOUT PRECODING

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

DECLARATION AND ASSIGNMENT BY THE INVENTOR

I, Jianjun Yu of Basking Ridge, New Jersey, hereby declare that:

I believe I am the sole original inventor or an original joint inventor of a claimed invention in a patent application entitled:

PHOTONIC VECTOR SIGNAL GENERATION WITHOUT PRECODING

the specification of which was filed on July 29, 2016, as Application No. 15/223,342, and which claims the benefit of priority of U.S. Provisional Patent Application No. 62/199,996, filed on August 1, 2015.

I believe the following persons are additional original joint inventors of the above-identified patent application:

Yuanquan Wang of Morristown, New Jersey; and Xinying Li of Morristown, New Jersey.

The above-identified application was made or authorized to be made by me.

I have reviewed and understand the contents of the above-identified patent application including the claims.

I am aware of the duty to disclose to the U.S. Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR §1.56.

I hereby acknowledge that any willful false statement made in the above declaration is punishable under 18 USC §1001 by fine or imprisonment of not more than five (5) years, or both.

Inventor : Jianjun Yu et al. Appl. No.: 15/223,342 Filed : July 29, 2016 Page : 2 of 3

ASSIGNMENT

I hereby assign to ZTE Corporation, a corporation of P.R. China, having a place of business at ZTE Plaza, No. 55 South Keji Road, Hi-Tech Industrial Park, Nanshan District, Shenzhen 518057, P.R. China, and its successors and assigns (collectively hereinafter called "the Assignee"), the entire right, title and interest throughout the world in any and all inventions and improvements which are described in an application for United States Patent filed by me, entitled PHOTONIC VECTOR SIGNAL GENERATION WITHOUT PRECODING, filed on July 29, 2016, and assigned U.S. Application Number 15/223,342.

This assignment includes the entire right, title and interest in said application, all legal equivalents thereof in any country, any and all United States and foreign patents, utility models, and design registrations granted for any of said inventions and improvements, including, but not limited to, all divisions, continuations, reissues, reexamination certificates, any and all certificates issued in any post-grant proceeding, and extensions of said applications and patents of the United States, foreign patents, utility models, and design registrations, and the right to claim priority based on the filing date of said application under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other treaties of like purposes, and the right to seek relief and recover all damages, including, but not limited to, a reasonable royalty, by reason of infringement or any other violation of patent or patent application rights. I authorize the Assignee to apply in all countries in my name or in the name of the Assignee for patents, utility models, design registrations and like rights of exclusion and for inventors' certificates for said inventions and improvements.

In addition, I hereby confirm the sale, assignment, and transfer to the Assignee of the entire right, title and interest throughout the world in said inventions and improvements that occurred by operation of an employment agreement between me and the Assignee existing at the time said inventions and improvements were made. Should I have any remaining interest, I hereby sell, assign, and transfer any right, title and interest I may have in said inventions and improvements anywhere in the world to the Assignee.

The foregoing assignments, sale and transfer have been made for good and valuable consideration in accordance with the aforementioned employment agreement.

I hereby represent and covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into that would conflict with the assignment of said inventions and improvements to the Assignee.

I further covenant for myself and my respective heirs, legal representatives and assigns, to assist the Assignee in handling various procedures, tasks and documentation in connection with this assignment, including, but not limited to, providing to the Assignee promptly upon the request of the Assignee all pertinent facts and documents relating to said invention and improvements, and said patents, said legal equivalents or other legal instrument as may be

Inventor : Jianjun Yu et al. Appl. No. : 15/223,342 Filed : July 29, 2016

Page: 3 of 3

known and accessible to me and testifying as to the same in any interference, litigation, or proceeding relating thereto, and promptly executing and delivering to the Assignee or its legal representative any and all papers, documents, instruments or affidavits in connection with obtaining, maintaining, issuing or enforcing said application, said inventions and improvements, and said patents, said equivalents and other legal instrument which may be necessary or desirable to carry out the purposes thereof.

I hereby authorize and request the Commissioner of Patents and Trademarks to issue one or more patents in the United States for said inventions and improvements to <u>ZTE Corporation</u> as assignee of the entire interest, for the sole use and benefit of Assignee, its successors and assigns.

I am competent to execute the above declaration and assignment. I hereby have duly executed the declaration and assignment below with my name.

Full name of inventor: JIANJUN YU

Inventor's signature:_

Date:

Perkins Coie LLP P.O. Box 1247

Seattle, Washington 98111-1247

Telephone: (858) 720-5700 Facsimile: (206) 359-7198

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Jianjun Yu et al.

Application No.: 15/223,342

Confirmation No.: 6608

Filed: July 29, 2016

For: PHOTONIC VECTOR SIGNAL GENERATION WITHOUT PRECODING

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

DECLARATION AND ASSIGNMENT BY THE INVENTOR

I, Yuanquan Wang of Morristown, New Jersey, hereby declare that:

I believe I am the sole original inventor or an original joint inventor of a claimed invention in a patent application entitled:

PHOTONIC VECTOR SIGNAL GENERATION WITHOUT PRECODING

the specification of which was filed on July 29, 2016, as Application No. 15/223,342, and which claims the benefit of priority of U.S. Provisional Patent Application No. 62/199,996, filed on August 1, 2015.

I believe the following persons are additional original joint inventors of the aboveidentified patent application:

<u>Jianjun Yu</u> of <u>Basking Ridge</u>, <u>New Jersey</u>; and Xinying Li of <u>Morristown</u>, <u>New Jersey</u>.

The above-identified application was made or authorized to be made by me.

I have reviewed and understand the contents of the above-identified patent application including the claims.

I am aware of the duty to disclose to the U.S. Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR §1.56.

I hereby acknowledge that any willful false statement made in the above declaration is punishable under 18 USC §1001 by fine or imprisonment of not more than five (5) years, or both.

Inventor: Jianjun Yu et al. Appl. No.: 15/223,342 Filed: July 29, 2016

Page : 2 of 3

ASSIGNMENT

I hereby assign to <u>ZTE Corporation</u>, a corporation of P.R. China, having a place of business at ZTE Plaza, No. 55 South Keji Road, Hi-Tech Industrial Park, Nanshan District, Shenzhen 518057, P.R. China, and its successors and assigns (collectively hereinafter called "the Assignee"), the entire right, title and interest throughout the world in any and all inventions and improvements which are described in an application for United States Patent filed by me, entitled *PHOTONIC VECTOR SIGNAL GENERATION WITHOUT PRECODING*, filed on July 29, 2016, and assigned U.S. Application Number 15/223,342.

This assignment includes the entire right, title and interest in said application, all legal equivalents thereof in any country, any and all United States and foreign patents, utility models, and design registrations granted for any of said inventions and improvements, including, but not limited to, all divisions, continuations, reissues, reexamination certificates, any and all certificates issued in any post-grant proceeding, and extensions of said applications and patents of the United States, foreign patents, utility models, and design registrations, and the right to claim priority based on the filing date of said application under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other treaties of like purposes, and the right to seek relief and recover all damages, including, but not limited to, a reasonable royalty, by reason of infringement or any other violation of patent or patent application rights. I authorize the Assignee to apply in all countries in my name or in the name of the Assignee for patents, utility models, design registrations and like rights of exclusion and for inventors' certificates for said inventions and improvements.

In addition, I hereby confirm the sale, assignment, and transfer to the Assignee of the entire right, title and interest throughout the world in said inventions and improvements that occurred by operation of an employment agreement between me and the Assignee existing at the time said inventions and improvements were made. Should I have any remaining interest, I hereby sell, assign, and transfer any right, title and interest I may have in said inventions and improvements anywhere in the world to the Assignee.

The foregoing assignments, sale and transfer have been made for good and valuable consideration in accordance with the aforementioned employment agreement.

I hereby represent and covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into that would conflict with the assignment of said inventions and improvements to the Assignee.

I further covenant for myself and my respective heirs, legal representatives and assigns, to assist the Assignee in handling various procedures, tasks and documentation in connection with this assignment, including, but not limited to, providing to the Assignee promptly upon the request of the Assignee all pertinent facts and documents relating to said invention and improvements, and said patents, said legal equivalents or other legal instrument as may be

Inventor: Jianjun Yu et al. Appl. No.: 15/223,342 Filed: July 29, 2016

Page: 3 of 3

known and accessible to me and testifying as to the same in any interference, litigation, or proceeding relating thereto, and promptly executing and delivering to the Assignee or its legal representative any and all papers, documents, instruments or affidavits in connection with obtaining, maintaining, issuing or enforcing said application, said inventions and improvements, and said patents, said equivalents and other legal instrument which may be necessary or desirable to carry out the purposes thereof.

I hereby authorize and request the Commissioner of Patents and Trademarks to issue one or more patents in the United States for said inventions and improvements to <u>ZTE Corporation</u> as assignee of the entire interest, for the sole use and benefit of Assignee, its successors and assigns.

I am competent to execute the above declaration and assignment. I hereby have duly executed the declaration and assignment below with my name.

Perkins Coie LLP P.O. Box 1247

Seattle, Washington 98111-1247

Telephone: (858) 720-5700 Facsimile: (206) 359-7198

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Jianjun Yu et al.

Application No.: 15/223,342

Confirmation No.: 6608

Filed: July 29, 2016

For: PHOTONIC VECTOR SIGNAL GENERATION

WITHOUT PRECODING

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

DECLARATION AND ASSIGNMENT BY THE INVENTOR

I, Xinying Li of Morristown, New Jersey, hereby declare that:

I believe I am the sole original inventor or an original joint inventor of a claimed invention in a patent application entitled:

PHOTONIC VECTOR SIGNAL GENERATION WITHOUT PRECODING

the specification of which was filed on July 29, 2016, as Application No. 15/223,342, and which claims the benefit of priority of U.S. Provisional Patent Application No. 62/199,996, filed on August 1, 2015.

I believe the following persons are additional original joint inventors of the aboveidentified patent application:

<u>Jianjun Yu</u> of <u>Basking Ridge</u>, <u>New Jersey</u>; and Yuanguan Wang of Morristown, <u>New Jersey</u>.

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Inventor : Jianjun Yu et al. Appl. No. : 15/223,342 Filed : July 29, 2016

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Inventor : Jianjun Yu et al. Appl. No. : 15/223,342 Filed : July 29, 2016

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I am competent to execute the above declaration and assignment. I hereby have duly executed the declaration and assignment below with my name.

Full name of inventor	: XINYING LI	
Inventor's signature:_	XZNYZM 12	
Date:	11/16/2016	

Perkins Coie LLP P.O. Box 1247 Seattle, Washington 98111-1247 Telephone: (858) 720-5700

Facsimile: (206) 359-7198