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PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
MURALI KRISHNAN	11/05/2015
QING GUO	11/05/2015
SAMINA CHOWDHURY	11/05/2015
FEI ZHU	11/06/2015
YU SHENG BAI	11/05/2015

RECEIVING PARTY DATA

Name:	Futurewei Technologies, Inc.	
Street Address:	5340 Legacy Drive	
Internal Address:	Suite 175	
City:	Plano	
State/Country:	TEXAS	
Postal Code:	75024	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14954473

CORRESPONDENCE DATA

Fax Number: (972)731-2289

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: 972-731-2288

Email: dallaspatents@dfw.conleyrose.com

Correspondent Name: GRANT RODOLPH

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ATTORNEY DOCKET NUMBER:	4502-11800 (84592947US01)
NAME OF SUBMITTER:	JONATHAN K. POLK
SIGNATURE:	/Jonathan K. Polk/
DATE SIGNED:	12/31/2015

Total Attachments: 3

PATENT REEL: 037388 FRAME: 0593

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> PATENT REEL: 037388 FRAME: 0594

ASSIGNMENT

WHEREAS, I/We, the undersigned inventor(s) (or one of the undersigned joint inventors), of residence as listed below, having invented certain new and useful improvements as below entitled, for which application for United States Letters Patent is made, the said application having been executed on the date set forth below; and

WHEREAS, Futurewei Technologies, Inc. ("Assignee"), a corporation organized and existing under the laws of Texas, with its principal office at 5340 Legacy Drive, Suite 175, Plano, TX 75024 is desirous of acquiring my/our entire right, title and interest in the said invention, and to the said application and any Letters Patent that may issue thereon in the United States and all other countries throughout the world;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I/we will assign, and hereby assign and transfer to the Assignee and the Assignee's legal representatives, successors and assigns the full and exclusive right, title and interest in and to the invention in the United States 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, divisional, 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 I/we do hereby authorize and request the Commissioner for Patents to issue U.S. patents for said invention, or patent resulting therefrom, insofar as my interest is concerned, to the Assignee agreeably with the terms of this assignment document.

I also hereby agree to sell and to assign, and sell and assign to Assignee, its successors and assigns, my foreign rights to the invention disclosed in said application, in all countries of the world, including, but not limited to, the right to file applications and obtain patents under the terms of the International Convention, and further agree to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such patent rights.

I hereby further agree that I will communicate to Assignee, or its successors, assigns, and legal representative, any facts known to me respecting said invention or the file history thereof, and at the expense of said assignee company, testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, reissue and substitute applications, make all lawful oaths, and generally do everything possible to aid such Futurewei, its successors, assigns and nominees to obtain and enforce proper patent protection for said invention in all countries.

Futurewei Technologies, Inc. Patent Reference No. 84592947US01 Conley Rose File: 4502-11800 Page 1 of 2

IN WITNESS WHEREOF, I hereunto set my hand and seal this day and year;

Title of Invention	Frequency Domain Optical Channel Estimation	
	Appl. No. 14/954,473	Filing Date: November 30, 2015
Signature of Inventor	flerali-le	1.0veinder 30, 2013
Inventor Name	Murali Krishnan	Fei Zhu
Date	11/5/2015	
Residence (City/State)	San Diego, California	San Jose, California
Signature of Inventor	17/	196
Inventor Name	Qing Guo	Yu Sheng Bai
Date	Nov5, 2015	11/5/2015
Residence (City/State)	Dublin, California	Los Altos Hills, California
Signature of Inventor	Soulding	
Inventor Name	Samina Chowdhury	7
Date	11 5 2015	
Residence (City/State)	San Jose, California	

Futurewei Technologies, Inc. Patent Reference No. 84592947US01 Conley Rose File: 4502-11800

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ASSIGNMENT

aid such Futurewei, its successors, assigns and nominees to obtain and enforce proper patent protection for said invention in all countries.

IN WITNESS WHEREOF, I hereunto set my hand and seal this day and year;

	Title of Invention	Frequency Domain Optical Channel Estimation	
		Appl. No.	Filing Date:
	***************************************	14/954,473	November 30, 2015
-	Signature of		
-	Inventor		
	Inventor Name	Murali Krishnan	Fei Zhu
-p	Date		2 21 11/06/2015
Page:	Residence	San Diego, California	Coral Gables, Florida
N	(City/State)		Corai Gables, Florida
of 2	Signature of		
	Inventor		
	Inventor Name	Qing Guo	Yu Sheng Bai
	Date		
	Residence	Dublin, California	Los Altos Hills California
	(City/State)		Los Altos Hills, California
	Signature of		
	Inventor		
	Inventor Name	Samina Chowdhury	
	Date		
	Residence (City/State)	San Jose, California	

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PATENT REEL: 037388 FRAME: 0597

RECORDED: 12/31/2015