

PATENT ASSIGNMENT COVER SHEET

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Stylesheet Version v1.2

EPAS ID: PAT3692557

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
KIEN TRUNG TRUONG	10/27/2015
ROBERT WENDELL HEATH JR.	10/28/2015
HOSEIN NIKOPOUR	11/04/2015
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:	14925588
CORRESPONDENCE DATA	
Fax Number:	(972)732-9218
<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>	
Phone:	(972)732-1001
Email:	docketing@slater-matsil.com
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Address Line 1:	17950 PRESTON ROAD
Address Line 2:	SUITE 1000
Address Line 4:	DALLAS, TEXAS 75252
ATTORNEY DOCKET NUMBER:	HW 84586190US01
NAME OF SUBMITTER:	ANNETTE ARMSTRONG
SIGNATURE:	/Annette Armstrong/
DATE SIGNED:	01/12/2016
Total Attachments: 4	
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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, Huawei Technologies Canada Co., Ltd. ("Assignee"), a corporation organized and existing under the laws of Canada, having a place of business at 303 Terry Fox Drive, Suite 400, Kanata, Ontario, Canada K2K 3J1, 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 other 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 other 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/our interest is concerned, to the Assignee agreeably with the terms of this assignment document.

I/we also hereby agree to sell and to assign, and sell and assign to Assignee, its successors and assigns, my/our international 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 any 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/we hereby further agree that I/we will communicate to Assignee, or its successors, assigns, and legal representative, any facts known to me/us 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 documents required for divisional, continuation, reissue and substitute applications, make all lawful oaths, and generally do everything possible to aid such Assignee, its successors, assigns and nominees to obtain and enforce proper patent protection for said

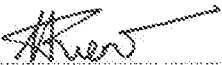
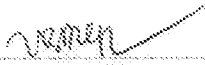
ASSIGNMENT

invention in all countries.

I/we hereby authorize Assignee to modify this Assignment at a later date for the purpose of adding information to better identify the invention, such as the application serial number, and filing date of a patent application filed thereon.

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

Title of Invention	Method and Apparatus for Downlink Channel Estimation in Massive MIMO	
	Appl. No.	Filing Date:

Signature of Inventor:		
Inventor Name:	Kien Trung Truong	Date <i>October 27, 2015</i>
Residence (City/State):	Hanoi	
Signature of Witness:		
Witness Name:	Diep Thi Bich Truan	Date <i>October 27, 2015</i>
Residence (City/State):	Hanoi	

Signature of Inventor:	_____	
Inventor Name:	Robert Wendell Heath, Jr.	Date _____
Residence (City/State):	Austin, TX	
Signature of Witness:	_____	
Witness Name:	_____	Date _____
Residence (City/State):	_____	

Signature of Inventor:	_____	
Inventor Name:	Hosein Nikopour	Date _____
Residence (City/State):	San Jose, CA	
Signature of Witness:	_____	
Witness Name:	_____	Date _____
Residence (City/State):	_____	

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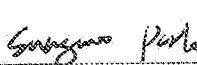
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	Appl. No.	Filing Date:

Signature of Inventor:		
Inventor Name:	Kien Trung Truong	Date
Residence (City/State):	Hanoi	
Signature of Witness:		
Witness Name:		Date
Residence (City/State):		

Signature of Inventor: 		
Inventor Name:	Robert Wendell Heath, Jr.	Date
Residence (City/State):	Austin, TX	
Signature of Witness: 		
Witness Name:	Sungwoo Park	Date
Residence (City/State):	Austin, TX	

Signature of Inventor:		
Inventor Name:	Hosein Nikopour	Date
Residence (City/State):	San Jose, CA	
Signature of Witness:		
Witness Name:		Date
Residence (City/State):		

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invention in all countries.


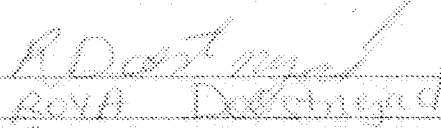
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	Appl. No.	Filing Date:

Signature of Inventor:		
Inventor Name:	Kien Trung Truong	Date
Residence (City/State):	Hanoi	
Signature of Witness:		
Witness Name:		Date
Residence (City/State):		

Signature of Inventor:		
Inventor Name:	Robert Wendell Heath, Jr.	Date
Residence (City/State):	Austin, TX	
Signature of Witness:		
Witness Name:		Date
Residence (City/State):		

Signature of Inventor:		
Inventor Name:	Hosein Nikopour	Date Nov. 9, 2015
Residence (City/State):	San Jose, CA	
Signature of Witness:		
Witness Name:	ROYA Dabestani	Date Nov. 14, 2015
Residence (City/State):	San Jose	