

## PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT								
NATURE OF CONVEYANCE:	ASSIGNMENT								
CONVEYING PARTY DATA									
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Zexin Liu</td> <td>07/17/2013</td> </tr> <tr> <td>Lei Miao</td> <td>07/17/2013</td> </tr> </tbody> </table>		Name	Execution Date	Zexin Liu	07/17/2013	Lei Miao	07/17/2013		
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RECEIVING PARTY DATA									
<table border="1"> <tr> <td>Name:</td> <td>Huawei Technologies Co., Ltd.</td> </tr> <tr> <td>Street Address:</td> <td>Huawei Administration Building, Bantian, Longgang District,</td> </tr> <tr> <td>City:</td> <td>Shenzhen, 518129, Guangdong, P.R.</td> </tr> <tr> <td>State/Country:</td> <td>CHINA</td> </tr> </table>		Name:	Huawei Technologies Co., Ltd.	Street Address:	Huawei Administration Building, Bantian, Longgang District,	City:	Shenzhen, 518129, Guangdong, P.R.	State/Country:	CHINA
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PROPERTY NUMBERS Total: 1									
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13947778</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13947778				
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CORRESPONDENCE DATA									
Fax Number: 9726283616 <i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i> Phone: 972 628 3600 Email: patents@munckwilson.com Correspondent Name: Docket Clerk/HTCL Address Line 1: P.O. Drawer 800889 Address Line 4: Dallas, TEXAS 75380									
NAME OF SUBMITTER:	Robert D. McCutcheon								
Signature:	/robert d. mccutcheon/								
Date:	07/22/2013								
Total Attachments: 2 source=Assignment#page1.tif source=Assignment#page2.tif									

CH \$40.00 13947778

**PATENT**

Attorney Docket No. \_\_\_\_\_  
Client Reference No. 83085884U506

**ASSIGNMENT**

**WHEREAS, WE,**

Zexin LIU  
Huawei Administration Building  
Bantian, Longgang District  
Shenzhen, 518129, Guangdong  
P.R. CHINA; and

Lei MIAO  
Huawei Administration Building  
Bantian, Longgang District  
Shenzhen, 518129, Guangdong  
P.R. CHINA;

have invented and own a certain invention entitled:  
**BANDWIDTH EXPANSION METHOD AND APPARATUS**  
for which invention we have executed an application (provisional or non-provisional) for a U.S.  
patent, which was filed on \_\_\_\_\_, under U.S. Application No. \_\_\_\_\_ and

**WHEREAS, HUAWEI TECHNOLOGIES CO., LTD.**, of 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 re Appln. of Liu et al.  
Attorney Docket No. \_\_\_\_\_

IN WITNESS WHEREOF, we have hereunder set our hands on the dates shown below.

Date <u>July 17, 2013</u>	<u>Zexin LIU</u> Zexin LIU
Date <u>July 17, 2013</u>	<u>Bin WANG</u> Witness
Date <u>July 17, 2013</u>	<u>Zhe WANG</u> Witness

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Date <u>July 17, 2013</u>	<u>Lei MIAO</u> Lei MIAO
Date <u>July 17, 2013</u>	<u>Bin WANG</u> Witness
Date <u>July 17, 2013</u>	<u>Zhe WANG</u> Witness