

## PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT4655224

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
YUFEI WU BLANKENSHIP	04/10/2014
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	BLACKBERRY CORPORATION
<b>Street Address:</b>	1209 ORANGE STREET
<b>City:</b>	WILMINGTON
<b>State/Country:</b>	DELAWARE
<b>Postal Code:</b>	19801
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	15716027
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(972)731-2289
<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>	
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<b>ATTORNEY DOCKET NUMBER:</b>	47618-US-CNT2 4214-41606
<b>NAME OF SUBMITTER:</b>	J. ROBERT BROWN, JR.
<b>SIGNATURE:</b>	/J. Robert Brown, Jr./
<b>DATE SIGNED:</b>	10/24/2017
<b>Total Attachments: 3</b>	
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**WORLDWIDE ASSIGNMENT**

WHEREAS, I/WE, (hereinafter referred to as the "ASSIGNOR(S)"):

**BLANKENSHIP, Yufei Wu, 21910 Pine Lake Circle, Kildeer, Illinois, 60047, U.S.A.**

am an/are inventor(s) of an invention entitled **TIMING ADVANCE GROUP IN LTE SMALL CELL ENHANCEMENT** ("Invention") for which one or more applications for patent, design registration, utility model registration, or other form of protection, rights, or title have been or will be made in certain countries ("Applications"), as further described below:

**US, Application # 13/954,752 filed 30 July 2013**

AND WHEREAS, **BLACKBERRY CORPORATION**, (hereinafter referred to as the "ASSIGNEE"), a company organized under the laws of the State of Delaware, U.S.A., having a place of business at The Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware, 19801, U.S.A., is desirous of acquiring the full and exclusive right, title and interest in and to said Invention, said Applications inclusive of all ancillary rights relating thereto, any and all priority rights derived from said Applications, and all patents, design registrations, utility model registrations and other forms of protection, rights and titles relating to said Invention, in any country or countries and in respect of the whole or any part or parts of or improvements to the Invention;

NOW THEREFORE, for valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR(S) does/do hereby confirm that ASSIGNOR(S) has/have transferred, conveyed and assigned, and by way of further assurance does/do hereby transfer, convey and assign, any and all of ASSIGNOR(S)'s respective rights, title and interest in and to: the Invention; the Applications; inclusive of any and all priority rights, including the right to claim priority, derived from the Applications; any further applications for patent, design registration, utility model registration or other forms of protection, rights or titles for the whole or any part or parts of or improvements to the Invention in any country or countries ("Further Applications") together with the right to file divisional applications, substitute applications and continuation applications of any one or more of the Applications and Further Applications ("Divisionals"); the right to obtain patents, design registrations, utility model registrations and all other forms of protection, rights and titles relating to the Invention; the right in and to any patent or reissue patent relating to the Applications, Further Applications and Divisionals ("Grants"); and the right to obtain any extensions / supplementary protection certificates ("Extensions"); together with the right to bring proceedings to recover damages and/or to obtain other remedies for acts committed in respect of one or more of the aforesaid Invention, Applications, Grants, Further Applications, Divisionals and Extensions, whether such acts are committed before or after the date of this Worldwide Assignment; with the intent that the Invention, Applications,

Grants, Further Applications, Divisionals and Extensions are owned and enjoyed by ASSIGNEE absolutely to the full end of the term or terms for same.

ASSIGNOR(S) does/do hereby agree, upon request, to provide assistance and to execute any and all further documents, at the expense of ASSIGNEE and/or its successors and assigns (as applicable), which may be necessary or desirable to enable ASSIGNEE, and/or its successors and assigns (as applicable), to file, prosecute, bring proceedings and take other actions with respect to any and all of the Invention, Applications, Further Applications, Divisionals, Grants and Extensions, and any and all patents and registrations granted thereon and other forms of protection, rights and titles relating thereto, and ASSIGNOR(S) further agrees/agree to execute, upon request and at the expense of ASSIGNEE and/or its successors and assigns (as applicable), any and all further documents which may be necessary or desirable to vest or perfect the title of ASSIGNEE therein.

ASSIGNOR(S) does/do hereby authorize ASSIGNEE or its patent agents or attorneys to insert, above, the jurisdictions, application numbers, filing dates and any other indicia identifying the Applications when such information is available for the purpose of recording this assignment.

ASSIGNOR(S) does/do hereby authorize and request The Commissioner of Patents or any equivalent authority to issue to ASSIGNEE each and every patent, registration and other form of protection, right, and title granted upon the Applications, Further Applications, Divisionals and Extensions.

THIS WORLDWIDE ASSIGNMENT shall inure to the benefit of ASSIGNEE and its successors and assigns, and shall be binding upon ASSIGNOR(S) and their successors and permitted assigns.

DELIVERY of this Worldwide Assignment by copy, however transmitted, constitutes valid and effective delivery. This Worldwide Assignment may be executed in one or more counterparts, each of which when so executed and delivered shall be an original, and such counterparts shall together constitute one and the same instrument.

IN WITNESS WHEREOF, this Worldwide Assignment has been executed below by the undersigned:

Yufei Wu Blankenship Date: April 10, 2014

BLANKENSHIP, Yufei Wu,  
21910 Pine Lake Circle,  
Kildeer, Illinois, 60047,  
U.S.A.

STATEMENT BY WITNESS

I, Keith Blankenship, whose full Post Office address is

21910 Pine Lake Cir, Kildeer, IL 60047  
(Address of Witness)

hereby declare that I was personally present and did see the above named person, personally known to me to be a person named in the Worldwide Assignment, duly sign and execute same.

T. Keith Blankenship  
(Signature of Witness)

Date: 4/10/14