PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Peiman Amini	06/15/2010
Matthew James Fischer	06/15/2010
Vinko Erceg	07/09/2010
Joonsuk Kim	06/15/2010
Joseph Paul Lauer	06/16/2010

RECEIVING PARTY DATA

Name:	BROADCOM CORPORATION
Street Address:	5300 CALIFORNIA AVENUE
City:	IRVINE
State/Country:	CALIFORNIA
Postal Code:	92617

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	12816352

CORRESPONDENCE DATA

(888)800-6752 Fax Number:

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

512-825-1145 Phone:

Email: kam@texaspatents.com Correspondent Name: Garlick Harrison & Markison

Address Line 1: P.O. Box 160727 Address Line 4: Austin, TEXAS 78716

ATTORNEY DOCKET NUMBER:	BP20744
NAME OF SUBMITTER:	Kathryn A. McCrossen

PATENT

REEL: 024668 FRAME: 0261

501229880

Total Attachments: 4

source=BP20744_b_assignment_executed_bzip#page1.tif source=BP20744_b_assignment_executed_bzip#page2.tif source=BP20744_b_assignment_executed_bzip#page3.tif source=BP20744_b_assignment_executed_bzip#page4.tif

Docket No. BP20744

Utility Patent Appl. Serial No.:	12/816,352	
Utility Patent Appl. Filing Date: _	06-15-2010	
Patent No.:		
Patent Issue Date:		
Country: US		

ASSIGNMENT

WHEREAS, the undersigned inventor(s), hereinafter called the "Assignors", have invented a new and useful invention entitled:

CARRIER SENSE MULTIPLE ACCESS (CSMA) FOR MULTIPLE USER, MULTIPLE ACCESS, AND/OR MIMO WIRELESS COMMUNICATIONS

for which reference a full description is here made in an application for Letters Patent of the
United States filed herewith or that was filed with the United States Patent and Trademark
Office on the
himself/herself/themselves to be the original inventor(s) of the invention disclosed and claimed
in the application for Letters Patent.

WHEREAS, The entity identified immediately below having a principal office and place of business as identified, hereinafter called the "Assignee", is desirous of acquiring the entire right, title and interest in and to said invention, the application above identified, and in, to and under Letters Patent which may be obtained for said invention, as hereinafter more fully set forth;

Broadcom Corporation, a California Corporation 5300 California Avenue
Irvine, CA 92617

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN, be it known that for valuable legally sufficient consideration, the receipt of which by the Assignors from the Assignee is hereby acknowledged, the Assignors have sold, assigned and transferred, and by these presents do sell, assign and transfer unto the Assignee, its successors and assigns, the entire right, title and interest in and to the invention and the application herein above identified, any and all provisional patent applications from which the application claims priority, and all Letters Patents that may issue for the said invention, and all division, reissues, substitutions, continuations, and extensions thereof, to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns to the full end of the term for which any and all of said Letters Patents for the said invention may issue.

FURTHER, be it known that the Assignors have sold, assigned and transferred, and by these presents do sell, assign and transfer unto the Assignee, its successors and assigns, the entire foreign rights to the invention disclosed in said application, in all countries of the world, including the right to file applications and obtain patents under the terms of the International Convention, and further agrees to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such patent rights.

And the Assignors do hereby covenant and agree, for themselves and their legal representatives, that they will assist the Assignee in the prosecution of the application herein

identified; in the making and prosecution of any other applications for Letters Patent that the Assignee may elect to make covering the invention herein identified, as herein before set forth, including any application for reissue, application for reexamination, application for foreign patent rights, or any proceeding in the United States Patent and Trademark Office affecting the invention, investing in the Assignee exclusive title in and to all such other applications and Letters Patent; and in the prosecution of any interference which may arise involving said invention, or any application or Letters Patents herein contemplated; that they will promptly execute and deliver to the Assignee any and all additional papers and make all lawful oaths which may be requested by the Assignee to fully carry out the terms of this assignment; and further that they will communicate to Assignee, or to its successors, assigns, and legal representatives, and facts known respecting said invention, and at the expense of the Assignee, testify in any legal proceedings, and generally do everything possible to aid the Assignee, its successors, assigns and nominees to obtain and enforce proper patent protection for said invention in all countries.

And the Commissioner of the United States Patent and Trademark Office is hereby authorized and requested to issue all Letters Patent to the Assignee in accordance with the terms of the assignment.

IN TESTIMONY WHEREOF, the Assignors have hereunto set their hands on the date indicated below. The undersigned hereby authorizes and requests the attorneys and/or agents of record in the application above identified, and in, to and under Letters Patent which may be obtained for said invention, to insert in this assignment the filing date and serial number of said application (and/or issue date and patent number of said corresponding Letters Patent) when officially known, if applicable.

Inventor(s):			6/18/2016
11/1	615/2010	MARLIN (55	_!!/15/ b >/\
Péiman Ansini	Date	Maithew James Eischer	Date 6/15/15
Vinko Ereeg	Date	Joonsuk Kim	Date
Joseph Paul Lauer	Date		Date
	Date		Date
	Date		Date

Docket No. BP20744

identified; in the making and prosecution of any other applications for Letters Patent that the Assignee may elect to make covering the invention herein identified, as herein before set forth, including any application for reissue, application for reexamination, application for foreign patent rights, or any proceeding in the United States Patent and Trademark Office affecting the invention, investing in the Assignee exclusive title in and to all such other applications and Letters Patent; and in the prosecution of any interference which may arise involving said invention, or any application or Letters Patents herein contemplated; that they will promptly execute and deliver to the Assignee any and all additional papers and make all lawful oaths which may be requested by the Assignee to fully carry out the terms of this assignment; and further that they will communicate to Assignee, or to its successors, assigns, and legal representatives, and facts known respecting said invention, and at the expense of the Assignee, testify in any legal proceedings, and generally do everything possible to aid the Assignee, its successors, assigns and nominees to obtain and enforce proper patent protection for said invention in all countries.

And the Commissioner of the United States Patent and Trademark Office is hereby authorized and requested to issue all Letters Patent to the Assignee in accordance with the terms of the assignment.

IN TESTIMONY WHEREOF, the Assignors have hereunto set their hands on the date indicated below. The undersigned hereby authorizes and requests the attorneys and/or agents of record in the application above identified, and in, to and under Letters Patent which may be obtained for said invention, to insert in this assignment the filing date and serial number of said application (and/or issue date and patent number of said corresponding Letters Patent) when officially known, if applicable.

Inventor(s):

Peiman Amini Varles Lary	Date 7/9/2018	Matthew James Fischer	Date
Vinko Erceg	Date	Joonsuk Kim	Date
Joseph Paul Lauer	Date		Date
	Date		Date
		 	Date

Assignee may elect to make covering the invention herein identified, as herein before set forth, including any application for reissue, application for reexamination, application for foreign patent rights, or any proceeding in the United States Patent and Trademark Office affecting the invention, investing in the Assignee exclusive title in and to all such other applications and Letters Patent; and in the prosecution of any interference which may arise involving said invention, or any application or Letters Patents herein contemplated; that they will promptly execute and deliver to the Assignee any and all additional papers and make all lawful oaths which may be requested by the Assignee to fully carry out the terms of this assignment; and further that they will communicate to Assignee, or to its successors, assigns, and legal representatives, and facts known respecting said invention, and at the expense of the Assignee, testify in any legal proceedings, and generally do everything possible to aid the Assignee, its successors, assigns and nominees to obtain and enforce proper patent protection for said invention in all countries.

And the Commissioner of the United States Patent and Trademark Office is hereby authorized and requested to issue all Letters Patent to the Assignee in accordance with the terms of the assignment.

IN TESTIMONY WHEREOF, the Assignors have hereunto set their hands on the date indicated below. The undersigned hereby authorizes and requests the attorneys and/or agents of record in the application above identified, and in, to and under Letters Patent which may be obtained for said invention, to insert in this assignment the filing date and serial number of said application (and/or issue date and patent number of said corresponding Letters Patent) when officially known, if applicable.

Inventor(s):

RECORDED: 07/12/2010

Peiman Araini Date Matthew James Fischer Date Vinko Erceg Date Joonsuk Kiro Date Joseph Paul Linuer Date Date Date Date Date Date