

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>Joonsuk Kim</td><td>08/26/2010</td></tr><tr><td>Joseph Paul Lauer</td><td>08/27/2010</td></tr><tr><td>Vinko Erceg</td><td>08/23/2010</td></tr><tr><td>Peiman Amini</td><td>08/16/2010</td></tr><tr><td>Matthew James Fischer</td><td>08/16/2010</td></tr></tbody></table>		Name	Execution Date	Joonsuk Kim	08/26/2010	Joseph Paul Lauer	08/27/2010	Vinko Erceg	08/23/2010	Peiman Amini	08/16/2010	Matthew James Fischer	08/16/2010
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<table border="1"><tr><td>Name:</td><td>BROADCOM CORPORATION</td></tr><tr><td>Street Address:</td><td>5300 CALIFORNIA AVENUE</td></tr><tr><td>City:</td><td>IRVINE</td></tr><tr><td>State/Country:</td><td>CALIFORNIA</td></tr><tr><td>Postal Code:</td><td>92617</td></tr></table>		Name:	BROADCOM CORPORATION	Street Address:	5300 CALIFORNIA AVENUE	City:	IRVINE	State/Country:	CALIFORNIA	Postal Code:	92617		
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CORRESPONDENCE DATA													
Fax Number: (888)800-6752 <i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>													
Phone: 512-825-1145													
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Address Line 4: Austin, TEXAS 78716													
ATTORNEY DOCKET NUMBER:	BP21051												
NAME OF SUBMITTER:	Kathryn A. McCrossen												

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PATENT  
REEL: 024904 FRAME: 0855

Total Attachments: 5

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Utility Patent Appl. Serial No.: 12/856,474  
Utility Patent Appl. Filing Date: 08-13-2010  
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:

**BEAMFORMING FEEDBACK FRAME FORMATS WITHIN 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 13th day of August, 2010. The Assignors believe 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

Docket No. HP21051

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):**

*Joonsuk Kim* 8/26/10  
Joonsuk Kim Date

\_\_\_\_\_  
Joseph Paul Lauer Date

\_\_\_\_\_  
Vinko Erceg Date

\_\_\_\_\_  
Peiman Amini Date

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Matthew James Fischer Date

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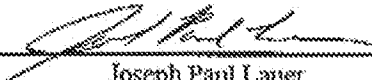
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_____ Vinko Erceg Date	_____ Peiman Amini Date
_____ Matthew James Fischer Date	_____ Date
_____ Date	_____ Date
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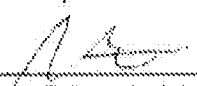
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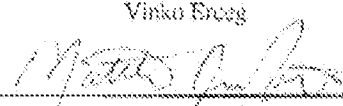
Inventor(s):

Joonsuk Kim \_\_\_\_\_ Date \_\_\_\_\_

Joseph Paul Lauer \_\_\_\_\_ Date \_\_\_\_\_

Vinko Brceg \_\_\_\_\_ Date \_\_\_\_\_

 8/16/2010  
Pejman Amini \_\_\_\_\_ Date \_\_\_\_\_

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Matthew James Fischer \_\_\_\_\_ Date \_\_\_\_\_

\_\_\_\_\_ Date \_\_\_\_\_

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**PATENT****RECORDED: 08/30/2010****REEL: 024904 FRAME: 0861**