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**FORM PTO-1595** TI-72062 103659654

HEET

ereof.

S. Department of Commerce Patent and Trademark Office

To the Commissioner for Pater

1. Name of conveying party(ies):

Runhua Chen **Anthony Edet Ekpenyong** Eko Onggosanusi Ralf Matthias Bendlin

3. Nature of Conveyance:

X\_\_ Assignment

Other

Docket No: TI-72062

A, Patent Application No.(s)

document should be mailed:

**Dallas** 

TX

City

State:

S.N. 13/851,949

Security Agreement

Execution Date: 03/27/2013

2. Name and Address of receiving party(les):

Name: TEXAS INSTRUMENTS INCORPORATED

Address: P.O. Box 655474, MS 3999

Dallas City:

State:

Zip: 75265

TX Additional name(s) & address(es) attached? \_\_\_\_ Yes \_X\_ No Merger Change of Name 4. Application number(s) or patent number(s). This document is being filed together with a new application. Execution date of the application: 03/27/2013 Title: METHOD AND APPARATUS FOR CHANNEL STATE INFORMATION FEEDBACK IN A COORDINATED MULTI-POINT COMMUNICATION SYSTEM B. Patent No.(s) XXX,XXX,X Yes \_\_X\_ No Additional numbers attached? Additional numbers attached? 5. Name and address of party to whom correspondence concerning Number of applications and patents involved: 1 W. James Brady, Reg. No. 32,080 Texas Instruments Incorporated Address: P.O. Box 655474, MS 3999 Zip: 75265 7. Amount of fee enclosed or authorized to be charged: \$40 8. Deposit Account No: 20-0668 (Attach duplicate copy If paying by deposit account)

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9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

March 27, 2013

Robert N. Rountree

Reg. No. 39,347

Date

Total Number of Pages Including Cover Shoet, Attachments and Document: 4

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# MAR 2 7 2013

ATTORNEY DOCKET NO.

PAGE 03/05

#### ASSIGNMENT

WHEREAS. I, the undersigned inventor (or one of the undersigned joint inventors), of residence as listed, 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, TEXAS INSTRUMENTS INCORPORATED, a corporation organized and existing under the laws of the State of Delaware, having a place of business at 12500 TI Blvd., MS 3999, Dallas, Texas 75243, P.O. Box 655474, MS 3999, Dallas, Texas 75265, is desirous of acquiring my entire right, title and interest in and to the said invention, and to the said application and any Letters Patent that may issue thereon;

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I hereby sell and assign to the said TEXAS INSTRUMENTS INCORPORATED, its successors and assigns, my entire right, title and interest in and to the said invention and in to the said application and all parents which may be granted therefor, and all divisions, reissues, substitutions, continuations, and extensions thereof, and I hereby authorize and request the Commissioner of Patents and Trademarks to issue all patents for said invention, or patent resulting therefrom, insofar as my interest is concerned, to the said TEXAS INSTRUMENTS INCORPORATED, as assignee of my entire right, title and interest.

I also hereby sell and assign to TEXAS INSTRUMENTS INCORPORATED, its successors and assigns, my 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 for the Protection of Industrial Property, and of the European Patent 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 hereby further agree that I will communicate to said TEXAS INSTRUMENTS INCORPORATED, or to its successors, assigns, and legal representatives, any facts known to me respecting said invention, and at the expense of said assignee company, testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, reissue and substitute applications, make all lawful oaths, and generally do everything possible to aid said TEXAS INSTRUMENTS INCORPORATED, its successors, assigns and nominees to obtain and enforce proper patent protection for said invention in all countries.

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

TITLE OF INVENTION	METHOD AND APPARATUS FOR CHANNEL STATE INFORMATION FEEDBACK IN A COORDINATED MULTI-POINT COMMUNICATION SYSTEM		
SIGNATURE. OF INVENTOR AND NAME	Runhua Chen	Anthony Edet Ekpenyong	Eko Onggosanusi
DATE	03/26/2013		
RESIDENCE (City, State)	Plano, Texas	Farmers Branch, Texas	Allen, TX
DATE APPLICATION EXECUTED	3/27/2013	3/27/2013	3/27/2013

After recordation, please return Assignment to:

Jim Brady, Esq.
Texas Instruments Incorporated
P.O. Box 655474, M/S 3999
Dallas, TX 75265

REEL: 030714 FRAME: 0126

## MAR 2 7 2013

ATTORNEY DOCKET NO.				
T1-72062				

#### ASSIGNMENT

WHEREAS. I, the undersigned inventor (or one of the undersigned joint inventors), of residence as listed, 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

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NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I hereby sell and assign to the said TEXAS INSTRUMENTS INCORPORATED, its successors and assigns, my entire right, title and interest in and to the said invention and in to the said application and all patents which may be granted therefor, and all divisions, reissues, substitutions, continuations, and extensions thereof; and I hereby authorize and request the Commissioner of Patents and Trademarks to issue all patents for said invention, or patent resulting therefrom, insofar as my interest is concerned, to the said TEXAS INSTRUMENTS INCORPORATED, as assignce of my entire right, title and interest.

I also hereby sell and assign to TEXAS INSTRUMENTS INCORPORATED, its successors and assigns, my 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 for the Protection of Industrial Property, and of the European Patent 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 hereby further agree that I will communicate to said TEXAS INSTRUMENTS INCORPORATED, or to its successors, assigns, and legal representatives, any facts known to me respecting said invention, and at the expense of said assigned company, testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, reissue and substitute applications, make all lawful oaths, and generally do everything possible to aid said TEXAS INSTRUMENTS INCORPORATED, its successors, assigns and nominees to obtain and enforce proper patent protection for said invention in all countries.

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

TITLE OF INVENTION	METHOD AND APPARATUS FOR CHANNEL STATE INFORMATION FEEDBACK IN A COORDINATED MULTI-POINT COMMUNICATION SYSTEM		
SIGNATURE OF INVENTOR AND NAME	Rimhua Chen	Anthony Edet Ekpenyong	Eko Onggosanusi
DATE		03/26/2013	
RESIDENCE (City, State)	Plano, Texas	Houston, Texas	Allen, TX
DATE APPLICATION EXECUTED	3/27/2013	3/27/2013	3/27/2013

After recordation, please return Assignment to:

Jim Brady, Esq.
Texas Instruments Incorporated
P.O. Box 655474, M/S 3999
Dallas, TX 75265

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ATTORNEY DOCKET NO.
TI-72062

#### ASSIGNMENT

WHEREAS, I, the undersigned inventor (or one of the undersigned joint inventors), of residence as listed, 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

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

TITLE OF INVENTION	METHOD AND APPARATUS FOR CHANNEL STATE INFORMATION FEEDBACK IN A COORDINATED MULTI-POINT COMMUNICATION SYSTEM		
SIGNATURE OF INVENTOR AND NAME	Ralf Bendlin		
DATE	3/26/2012		
RESIDENCE (City, State)	Plano, Texas		
DATE APPLICATION EXECUTED	3/27/2013		

After recordation, please return Assignment to:

Jim Brady, Esq.
Texas Instruments Incorporated
P.O. Box 655474, M/S 3999
Dallas, TX 75265

PAGE 5/5 \* RCVD AT 3/27/2013 11:50:40 PM [Eastern Daylight Time] \* SVR:W-PTOFAX-002/11 \* DNIS:2738300 \* CSID:7197830990 \* DURATION (mm-ss):02-04

**PATENT** 

RECORDED: 03/27/2013 REEL: 030714 FRAME: 0128