

PATENT ASSIGNMENT

Electronic Version v1.1

Stylesheet Version v1.1

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>Tyler A. Brown</td> <td>04/01/2013</td> </tr> <tr> <td>Sandeep H. Krishnamurthy</td> <td>03/20/2013</td> </tr> <tr> <td>Colin D. Frank</td> <td>03/21/2013</td> </tr> <tr> <td>Robert T. Love</td> <td>04/03/2013</td> </tr> <tr> <td>Vijay Nangia</td> <td>04/03/2013</td> </tr> </tbody> </table>		Name	Execution Date	Tyler A. Brown	04/01/2013	Sandeep H. Krishnamurthy	03/20/2013	Colin D. Frank	03/21/2013	Robert T. Love	04/03/2013	Vijay Nangia	04/03/2013
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RECEIVING PARTY DATA													
Name:	Motorola Mobility LLC												
Street Address:	600 North US Highway 45												
City:	Libertyville												
State/Country:	ILLINOIS												
Postal Code:	60048												
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>13721938</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13721938								
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CORRESPONDENCE DATA													
Fax Number:	8475232350												
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>													
Phone:	8475231276												
Email:	docketing.mobility@motorola.com												
Correspondent Name:	Motorola Mobility LLC												
Address Line 1:	600 North US Highway 45												
Address Line 4:	Libertyville, ILLINOIS 60048												
ATTORNEY DOCKET NUMBER:	CS41044												
NAME OF SUBMITTER:	Nanette B. Orr												
Signature:	/Nanette B. Orr/												

CH \$40.00 13721938

Date:

04/04/2013

Total Attachments: 7

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ASSIGNMENT AND AGREEMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, we, **TYLER A. BROWN, MUNDELEIN, ILLINOIS; SANDEEP H. KRISHNAMURTHY, MOUNTAIN VIEW, CALIFORNIA; COLIN D. FRANK, PARK RIDGE, ILLINOIS; ROBERT T. LOVE, BARRINGTON, ILLINOIS AND VIJAY NANGIA, ALGONQUIN, ILLINOIS**, have sold, assigned and transferred, and do hereby sell, assign and transfer, unto MOTOROLA MOBILITY LLC, a Limited Liability Company of the State of Delaware, having its principal office in Libertyville, State of Illinois, United States of America, and its successors, assigns, and legal representatives, the entire right, title and interest for the United States of America in and to certain inventions entitled "**Hierarchical PMI Feedback for Large Antenna Arrays for Downlink MU-MIMO**" as described, illustrated in Motorola Disclosure ID **(65210) CS41044** and as described, illustrated and claimed in the following applications:

- 1.) U.S. Application No. **13/721938**, filed on **December 20, 2012** entitled "**METHOD AND APPARATUS FOR ANTENNA ARRAY CHANNEL FEEDBACK.**"

I hereby also sell, assign and transfer unto Assignee, the entire right, title and interest in and to other applications for Letters Patent on the inventions referenced in this Assignment and Agreement, and all rights, title and interest in and to all applications for Letters Patent in respect of the invention filed under any and all international conventions and treaties together with the entire right, title and interest in and to Letters Patent which may be issued upon the application(s) or any application(s) otherwise claiming priority thereto, and upon any divisions, extensions, continuations, reissues and/or re-examinations of such application(s).

I further authorize Assignee to apply for Letters Patent directly in its own name where applicable, and to claim priority of the filing date of the application for Letters Patent filed under the laws of the applicable country and under the provisions of any and all international conventions and treaties.

I hereby authorize Assignee to request the Commissioner of Patents of the United States of America to issue any Letters Patents upon the aforesaid application, divisions, extensions, continuations, reissues or re-examinations, to Assignee, for the sole use and benefit of Assignee, to the full end of the term for which Letters Patent may be granted, the same as they would have been held and enjoyed by me had this assignment not been

made, and I hereby authorize Assignee to request the equivalent authorities in foreign countries to issue the patents of their respective countries to Assignee.

I agree that, when requested, I will, without charge to Assignee, but at its expense, sign all papers, take all rightful oaths, and do all acts which may be necessary, desirable or convenient for securing, maintaining and enforcing patents for the inventions in any and all countries and for vesting title thereto in Assignee.

I covenant with Assignee that the interest and property hereby conveyed is free from all prior assignment, grant, mortgage, license or other encumbrance.

Tyler A. Brown

TYLER A. BROWN

DATE: 4/11/2013

STATE OF ILLINOIS)
COUNTY OF Wabash)ss

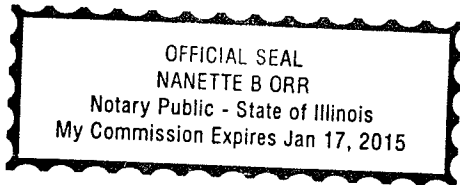
The undersigned Notary Public in and for the County and State aforesaid, do hereby certify that TYLER A. BROWN whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that they signed, sealed and delivered the instrument as their free and voluntary act and deed for the uses and purposes therein set forth.

Given under my hand and notarial seal this 1st day of April, 2013.

My commission expires:

Nanette B. Orr
Notary Public Signature

Nanette B. Orr
Printed Name of Notary Public




Sandeep H. Krishnamurthy

DATE: 3/20/13

Signed In:

City: SUNNYVALE

Country: USA


Witness No.1 Signature

Date: 3/20/2013

PEYMAN HADIZAD
Witness No.1 Name

REDWOOD CITY, CA
Witness No.1 Residential Address

Witness No.1 Residential Address


Witness No.2 Signature

Date: 3/20/2013

KATARZYNA BARADZIEJ-QUIRO
Witness No.2 Name

SUNNYVALE CA
Witness No.2 Residential Address

Witness No.2 Residential Address

Colin D. Frank

COLIN D. FRANK

DATE: March 21, 2013

STATE OF ILLINOIS)
COUNTY OF Wake)ss

The undersigned Notary Public in and for the County and State aforesaid, do hereby certify that COLIN D. FRANK whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that they signed, sealed and delivered the instrument as their free and voluntary act and deed for the uses and purposes therein set forth.

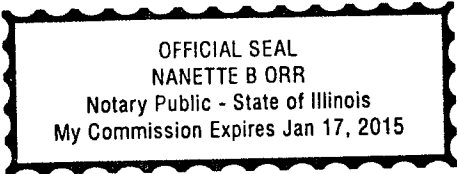
Given under my hand and notarial seal this 21st day of March, 2013.

My commission expires:

Nanette B Orr

Notary Public Signature
Nanette B. Orr

Printed Name of Notary Public



Robert T Love
ROBERT T. LOVE

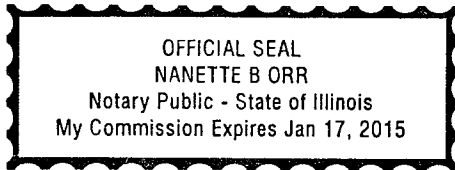
DATE: 3 April 2013

STATE OF ILLINOIS)
COUNTY OF hake)ss

The undersigned Notary Public in and for the County and State aforesaid, do hereby certify that ROBERT T. LOVE whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that they signed, sealed and delivered the instrument as their free and voluntary act and deed for the uses and purposes therein set forth.

Given under my hand and notarial seal this 3rd day of April, 2013.

My commission expires:



Nanette B Orr
Notary Public Signature
Nanette B Orr
Printed Name of Notary Public

Vijay Nangia
VIJAY NANGIA

DATE: April 3, 2013.

STATE OF ILLINOIS)
)ss
COUNTY OF Whe)

The undersigned Notary Public in and for the County and State aforesaid, do hereby certify that VIJAY NANGIA whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that they signed, sealed and delivered the instrument as their free and voluntary act and deed for the uses and purposes therein set forth.

Given under my hand and notarial seal this 3rd day of April, 2013.

My commission expires:

Nanette B Orr
Notary Public Signature
Nanette B Orr
Printed Name of Notary Public

