

PATENT ASSIGNMENT

Electronic Version v1.1
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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>Alexey Vladimirovich Khoryaev</td> <td>11/16/2012</td> </tr> <tr> <td>Andrey Chervyakov</td> <td>11/16/2012</td> </tr> <tr> <td>Jong-Kae Fwu</td> <td>11/26/2012</td> </tr> </tbody> </table>		Name	Execution Date	Alexey Vladimirovich Khoryaev	11/16/2012	Andrey Chervyakov	11/16/2012	Jong-Kae Fwu	11/26/2012		
Name	Execution Date										
Alexey Vladimirovich Khoryaev	11/16/2012										
Andrey Chervyakov	11/16/2012										
Jong-Kae Fwu	11/26/2012										
RECEIVING PARTY DATA											
<table border="1"> <tr> <td>Name:</td> <td>Intel Corporation</td> </tr> <tr> <td>Street Address:</td> <td>2200 Mission College Blvd</td> </tr> <tr> <td>City:</td> <td>Santa Clara</td> </tr> <tr> <td>State/Country:</td> <td>CALIFORNIA</td> </tr> <tr> <td>Postal Code:</td> <td>95054</td> </tr> </table>		Name:	Intel Corporation	Street Address:	2200 Mission College Blvd	City:	Santa Clara	State/Country:	CALIFORNIA	Postal Code:	95054
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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>13682950</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13682950						
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Application Number:	13682950										
CORRESPONDENCE DATA											
<p>Fax Number: 6123393061 <i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i></p> <p>Phone: 612-373-6900 Email: saustin@slwip-rc.com Correspondent Name: Schwegman, Lundberg, & Woessner P.A. Address Line 1: PO Box 2938 Address Line 4: Minneapolis, MINNESOTA 55402</p>											
ATTORNEY DOCKET NUMBER:	884.L80US1										
NAME OF SUBMITTER:	Sally Austin										
<p>Total Attachments: 11 source=884L80US1ASSNXMITsigned#page1.tif source=884L80US1ASSNXMITsigned#page2.tif</p>											

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RECORDATION FORM COVER SHEET
PATENTS ONLY

Atty Ref/Docket No.: 884.L80US1

Patent and Trademark Office

To the Director of the U.S. Patent and Trademark Office: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

Alexey Vladimirovich Khoryaev, Andrey Chervyakov,
Jong-Kae Fwu

Additional name(s) of conveying party(ies) attached?

☐ Yes ☒ No

3. Nature of conveyance:

☒ Assignment

☐ Merger

☐ Security Agreement ☐ Change of Name

☐ Other

Execution Date: November 16, 2012, November 16,
2012, November 26, 2012

2. Name and address of receiving party(ies):

Name: Intel Corporation

Street Address: 2200 Mission College Blvd.

City: Santa Clara State: CA Zip: 95054

Country: United States of America

Additional name(s) & address(es) attached? ☐ Yes ☒ No

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is:

A. Patent Application No.(s)

B. Patent No.(s)

Serial No. 13/682,950, filed November 21, 2012

Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence
concerning document should be mailed:

Name: Theresa R. Stadheim

Address:

Schwegman, Lundberg & Woessner, P.A.

P.O. Box 2938

Minneapolis, MN 55402--0938

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41):\$ 40.00

☐ Enclosed

☒ Authorized to be charged to deposit account
19-0743

8. Please charge any additional fees or credit any over
payments to our Deposit Account No.: 19-0743

DO NOT USE THIS SPACE

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.

Theresa R. Stadheim/Reg. No. 67,464

Name of Person Signing

/Theresa R. Stadheim/ November 26, 2012

Signature

Date

Total number of pages including cover sheet: 11

Mail documents to be recorded with required cover sheet information to:

Commissioner of Patents and Trademarks

Mail Stop Assignment Recordation Services

P.O. Box 1450

Alexandria, VA 22313-1450

PATENT
REEL: 029349 FRAME: 0743

ASSIGNMENT

WHEREAS, Alexey Vladimirovich Khoryaev, Andrey Chervyakov and Jong-Kae Fwu (hereinafter the "Undersigned") have made one or more inventions and other subject matter (hereinafter collectively referred to as the "Invention") which are described in a patent application filed on November 21, 2012, which application was assigned US patent application serial number 13/682,950, and which is titled EVOLVED NODE B, USER EQUIPMENT, AND METHOD FOR OPERATION OF NARROW BANDWIDTH USER EQUIPMENT IN WIDE BANDWIDTH BROADBAND NETWORKS; which are described in a patent application filed on April 13, 2012, which application was assigned US application serial number 61/624,185, and which is titled ePDCCH spatial diversity and definition of distributed PRB.

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency, and adequacy of which are hereby acknowledged by the Undersigned, the Undersigned do hereby irrevocably and unconditionally:

CONVEY, ASSIGN, AND TRANSFER to Intel Corporation (the "Assignee"), a corporation of the State of Delaware, having a place of business at 2200 Mission College Blvd., Santa Clara, CA 95054, the Undersigned's entire right, title, and interest for the United States and all foreign countries and jurisdictions in and to:

- the Invention which is disclosed in the above-identified application or applications;

- such application or applications, and all divisional, continuing (including continuation-in-part), substitute, renewal, reissue, and all other applications for a patent or patents which have been or shall be filed in the United States (including all provisional and non-provisional applications), and in all foreign countries and jurisdictions based in whole or in part on any of such Invention (including any application for a utility model or an innovation patent application);

- all original and reissued patents which have been or shall be issued in the United States and all foreign countries and jurisdictions based in whole or in part on any of such Invention;

- including the right to claim priority to the above-identified patent application or applications in relation to subject matter based in whole or in part on the above-identified patent application or applications and any of the foregoing including the right to file foreign applications under the provisions of any convention or treaty;

- and including the right to all causes of action, remedies, and other enforcement rights related to the above-identified application or applications, including without limitation the right to sue for past, present, or future infringement, misappropriation, or violation of any and all rights related to the above-identified patent application or applications and any of the foregoing, including the right to obtain and collect damages for past, present, or future infringement;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such Invention to the Assignee;

Assignment

Assignors: Aleksey Vladimirovich Khoryaev et al.

Title: EVOLVED NODE B USER EQUIPMENT, AND METHOD FOR OPERATION OF NARROW BANDWIDTH USER EQUIPMENT IN WIDE BANDWIDTH BROADCAST NETWORKS

Page 2 of 5

Docket No: 884,LE0031

Client Ref. No. P46871

AUTHORIZE AND REQUEST that any attorney associated with U.S. Patent and Trademark Office (USPTO) Customer No. 45457 may (directly or through his/her designee) delete, insert, or alter any information related to the above-identified patent application or applications or any of the foregoing, after execution of this Assignment;

WARRANT AND COVENANT that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been or shall be made to others by the Undersigned, and that the full right to convey the same as herein expressed is possessed by the Undersigned;

COVENANT, that when requested and without compensation, but at the expense of the Assignee, in order to carry out in good faith the intent and purpose of this Assignment, the Undersigned shall (1) execute all provisional, non-provisional, divisional, continuing (including continuation-in-part), substitute, renewal, reissue, and all other patent applications for the invention; (2) execute all rightful oaths, declarations, assignments, powers of attorney and other papers for the invention; (3) communicate to the Assignee all facts known to the Undersigned relating to the invention and the history thereof; (4) cooperate with the Assignee in any interference, reexamination, reissue, opposition, dispute, or litigation involving any of the applications or patents for the invention; and (5) take such further actions as the Assignee shall reasonably consider necessary or desirable for vesting title to such invention in the Assignee, or for securing, maintaining and enforcing proper patent protection for the invention;

COVENANT, that should any provision of this agreement be held unenforceable by an authority of competent jurisdiction, such a ruling shall not affect the validity and enforceability of the remaining provisions. To the extent that any such provision is found to be unenforceable, the Undersigned, when requested and without compensation shall act in good faith to substitute for such provision a new provision with content and purpose as close as possible to the provision deemed unenforceable.

THIS AGREEMENT IS TO BE BINDING on the heirs, assigns, representatives, and successors of the Undersigned, and is to extend to the benefit of the successors, assigns, and nominees of the Assignee.

AGREED as of the date of my signature below:

Assignment

Assignor: Alexey Vladimirovich Khoryaev et al.

Docket No. 854,680US1

Client Ref. No. P46871

Title: EVOLVED NODE B USER EQUIPMENT, AND METHOD FOR OPERATION OF NARROW BANDWIDTH USER EQUIPMENT IN
WIDE BANDWIDTH BROADBAND NETWORKS

Page 1 of 5

Assignor:

(Signature):


Name: Alexey Vladimirovich Khoryaev

City/State: Dzerzhinsk, Russian Federation

Date: November 16, 2012

Assignment

Assignor: Alexey Vladimirovich Khoryaev et al.

DocId: 88418051

Client Ref. No. P46671

Title: EVOLVED NODE B, USER EQUIPMENT, AND METHOD FOR OPERATION OF NARROW BANDWIDTH USER EQUIPMENT IN WIDE BANDWIDTH BROADBAND NETWORKS

Page 4 of 5

Assignor:

(Signature):

Name: Andrey Chervyskov

City/State: Nizhny Novgorod, Russian Federation

Date:

November 16, 2012

Assignment

Assignors: Alexey Vladimirovich Khryasov et al.

Docket No. 884.130031

Client Ref. No. P46871

Title: INVOLVED NODE B, USER EQUIPMENT, AND METHOD FOR OPERATION OF NARROW BANDWIDTH USER EQUIPMENT IN WIDE BANDWIDTH BROADBAND NETWORKS

Page 7 of 5

Assignor:

(Signature): _____

Name: Jong-Kai Fwu

City/State: Sunnyvale, CA

Date: _____

ASSIGNMENT

WHEREAS, Alexey Vladimirovich Khoryaev, Andrey Chervyakov and Jong-Kae Fwu (hereinafter the "Undersigned") have made one or more inventions and other subject matter (hereinafter collectively referred to as the "Invention") which are described in a patent application filed on November 21, 2012, which application was assigned US patent application serial number 13/682,950, and which is titled EVOLVED NODE B, USER EQUIPMENT, AND METHOD FOR OPERATION OF NARROW BANDWIDTH USER EQUIPMENT IN WIDE BANDWIDTH BROADBAND NETWORKS; which are described in a patent application filed on April 13, 2012, which application was assigned US application serial number 61/624,185, and which is titled ePDCCH spatial diversity and definition of distributed PRB.

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- and including the right to all causes of action, remedies, and other enforcement rights related to the above-identified application or applications, including without limitation the right to sue for past, present, or future infringement, misappropriation, or violation of any and all rights related to the above-identified patent application or applications and any of the foregoing, including the right to obtain and collect damages for past, present, or future infringement;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such invention to the Assignee;

Assignment

Assignors: Alexey Vladimirovich Khoryaev et al.

Title: EVOLVED NODE B USER EQUIPMENT, AND METHOD FOR OPERATION OF NARROW BANDWIDTH USER EQUIPMENT IN WIDE BANDWIDTH BROADBAND NETWORKS

Page 2 of 5

Docket No: 884.180US1

Client Ref. No. P46871

AUTHORIZE AND REQUEST that any attorney associated with U.S. Patent and Trademark Office (USPTO) Customer No. 45457 may (directly or through his/her designee) delete, insert, or alter any information related to the above-identified patent application or applications or any of the foregoing, after execution of this Assignment;

WARRANT AND COVENANT that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been or shall be made to others by the Undersigned, and that the full right to convey the same as herein expressed is possessed by the Undersigned;

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AGREED as of the date of my signature below:

Assignment

Assignors: Alexey Vladimirovich Khoryaev et al.

Docket No. 884 L890281

Client Ref. No. P46871

Title: EVOLVED NODE B, USER EQUIPMENT, AND METHOD FOR OPERATION OF NARROW BANDWIDTH USER EQUIPMENT IN WIDE BANDWIDTH BROADBAND NETWORKS

Page 3 of 5

Assignor:

(Signature): _____

Name: Alexey Vladimirovich Khoryaev

City/State: Dzerzhinsk, Russian Federation

Date: _____

Assignment

Assignors: Alexey Vladimirovich Chervyakov et al.

Docket No. 284 L59US1

Client Ref. No. P46871

Title: EVOLVED NODE B, USER EQUIPMENT, AND METHOD FOR OPERATION OF NARROW BANDWIDTH USER EQUIPMENT IN WIDE BANDWIDTH BROADBAND NETWORKS

Page 4 of 5

Assignor:

(Signature): _____

Name: Andrey Chervyakov

City/State: Nizhny Novgorod, Russian Federation

Date: _____

Assignment

Assignors: Alexey Vladimirovich Khoryaev et al.

Docket No. 884 LS00US1

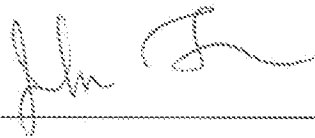
Client Ref. No. P46871

Title: EVOLVED NODE B, USER EQUIPMENT, AND METHOD FOR OPERATION OF NARROW BANDWIDTH USER EQUIPMENT IN WIDE BANDWIDTH BROADBAND NETWORKS

Page 5 of 5

Assignor:

(Signature):



Name: Jong-Kae Fwu

City/State: Sunnyvale, CA

Date:

11/26/2012