

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT4913940

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
WENTING CHANG	05/11/2016
YUSHU ZHANG	05/11/2016
YUAN ZHU	05/11/2016
HUANING NIU	05/18/2016
JONG-KAE FWU	05/11/2016
RECEIVING PARTY DATA	
Name:	INTEL IP CORPORATION
Street Address:	2200 MISSION COLLEGE BOULEVARD
City:	SANTA CLARA
State/Country:	CALIFORNIA
Postal Code:	95054
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	15752764
CORRESPONDENCE DATA	
Fax Number:	
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
Email:	request@slwip.com
Correspondent Name:	SCHWEGMAN LUNDBERG & WOESSNER, P.A.
Address Line 1:	P.O. BOX 2938
Address Line 4:	MINNEAPOLIS, MINNESOTA 55402
ATTORNEY DOCKET NUMBER:	4884.466US1
NAME OF SUBMITTER:	CAITLIN SIPE
SIGNATURE:	/Caitlin Sipe/
DATE SIGNED:	04/13/2018
Total Attachments: 7	
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RECORDATION FORM COVER SHEET
PATENTS ONLY

Atty Ref/Docket No.: 4884.466WO1

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):

Wenting Chang, Yushu Zhang, Yuan Zhu, Huaning Niu,
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: May 11, 2016, May 11, 2016, May 11,
2016, May 18, 2016, May 11, 2016

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

Name: Intel IP Corporation

Street Address: 2200 Mission College Boulevard

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)

Serial No. PCT/US2016/025622

Serial No. 15/752,764

B. Patent No.(s)

Additional numbers attached? Yes No

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

Name: Vadim Braginsky

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): \$ 0.00

Enclosed

Authorized to be charged to deposit account
504238

8. Please charge any additional fees or credit any over payments to our Deposit Account No.: 504238

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.

Vadim Braginsky/Reg. No. 58,031

Name of Person Signing

/Vadim Braginsky/

Signature

12 April 2018

Date

Total number of pages including cover sheet: 7

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: 045531 FRAME: 0016

ASSIGNMENT

In consideration of good and valuable consideration, the receipt of which is hereby acknowledged, we, the undersigned inventor(s):

<Wenting Chang, Yushu Zhang, Yuan Zhu, Huaning Niu, Jong-Kae Fwu>

hereby sell, assign, and transfer to:

Intel IP Corporation

a corporation of Delaware, having a principal place of business at 2200 Mission College Boulevard, Santa Clara, California, 95054 USA ("Assignee"), and its successors, assigns, and legal representatives, the entire right, title, and interest for the United States and all other countries, in and to any and all inventions and improvements that are disclosed in the application for the patent entitled:

REFERENCE SIGNAL FOR RECEIVE BEAM REFINEMENT IN CELLULAR SYSTEMS

(I hereby authorize and request any attorney having appropriate authority from the assignee to insert on the designated lines below, the filing date and application number of said application when known.)

which was filed on April 1, 2016 as

PCT Application Number PCT/US2016/025622

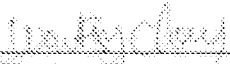
which has been executed by the undersigned prior hereto or concurrently herewith on the date(s) indicated below,

and in and to said application and all Additional Applications, and all other patent applications that have been or shall be filed in the United States and all other countries and international filing offices on any of said inventions and improvements; and in and to all original and reissued patents that have been or shall be issued in the United States and all other countries and international filing offices on said inventions and improvements; and in and to all rights of priority resulting from the filing of said applications; as used herein "Additional Applications" includes but is not limited to design, utility, utility model, divisional, continuing, continuation-in-part, substitute, renewal, reissue, and national phase applications on said inventions and improvements;

and agree that said Assignee may apply for and receive a patent or patents for said inventions and improvements in its own name; and that, when requested, without charge to, but at the expense of, said Assignee, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all Additional Applications, and all other patent applications on any and all said inventions and improvements; execute all rightful oaths, assignments, powers of attorney, and other papers; communicate to said Assignee, its successors, assigns, and legal representatives all facts known to the undersigned relating to said inventions and improvements and

the history thereof, and generally assist said Assignee, its successors, assigns, or legal representatives in securing and maintaining proper patent protection for said inventions and improvements and for vesting title to said inventions and improvements, and all applications for patents and all patents on said improvements, in said Assignee, its successors, assigns, and legal representatives; and

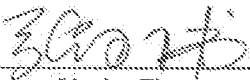
covenant with said Assignee, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.



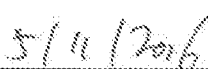
Wenting Chang



Date Signed




Yushu Zhang



Date Signed



Yuan Zhu



Date Signed

Huaning Niu

Date Signed

Jong-Kae Fwu

Date Signed

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REFERENCE SIGNAL FOR RECEIVE BEAM REFINEMENT IN CELLULAR SYSTEMS

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PCT Application Number PCT/US2016/025622

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the history thereof; and generally assist said Assignee, its successors, assigns, or legal representatives in securing and maintaining proper patent protection for said inventions and improvements and for vesting title to said inventions and improvements, and all applications for patents and all patents on said improvements, in said Assignee, its successors, assigns, and legal representatives; and

covenant with said Assignee, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

Wenting Chang

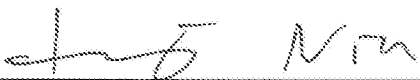
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Yushu Zhang

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Wenting Chang

Date Signed

Yushu Zhang

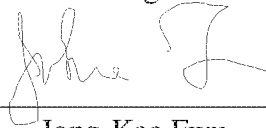
Date Signed

Yuan Zhu

Date Signed

Huaning Niu

Date Signed



Jong-Kae Fwu

05/11/2016
Date Signed