504565624 09/26/2017

PATENT ASSIGNMENT COVER SHEET

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| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|----------------|----------------|
| SHAHRNAZ AZIZI | 11/16/2015 |
| ROBERT STACEY | 11/19/2015 |

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: | 15610131 |

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| ATTORNEY DOCKET NUMBER: | P71590C |
|-------------------------|--------------|
| NAME OF SUBMITTER: | KIM DEVEAU |
| SIGNATURE: | /Kim DeVeau/ |
| DATE SIGNED: | 09/26/2017 |

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PATENT 504565624 REEL: 044013 FRAME: 0836

Attorney Docket No.: P71590

ASSIGNMENT

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

<Shahrnaz Azizi; Robert Stacey>

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:

<SUBCARRIER ALLOCATIONS FOR OPERATION IN MIXED BANDWIDTH ENVIRONMENTS>

| (I hereby authorize and request any attorney having appropriate auth | hority from | the assionee to | invert on the |
|--|-------------|--------------------------------|---------------|
| designated lines below, the filing date and application number of said | application | when known) | moest on the |
| | | ** ***** ********************* | |

| which was filed on | 12/23/2014 | | as | |
|--------------------|-------------------|--------------------|------------|-----|
| COUNTRY or Int | lemational Office | Application Number | 14/581.989 | and |

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 Page 1 of 2

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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.

| Shaborol Aczi | 11116 2015 |
|--------------------|-------------|
| Shahrnaz Azizi O D | Date signed |
| | |
| Robert Stacey | Date signed |

Attorney Docket No.: P71590

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.

| Shahrnaz Azizi | Date signed |
|----------------|-------------|
| | 11/19/2015 |
| Robert Stacey | Date signed |