

## PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT4570577

| <b>SUBMISSION TYPE:</b>   | CORRECTIVE ASSIGNMENT   |               |                |                     |            |                   |            |            |            |
|---|---|---------------|----------------|---------------------|------------|-------------------|------------|------------|------------|
| <b>NATURE OF CONVEYANCE:</b>  | Corrective Assignment to correct the MAILING ADDRESS FOR THE SECOND INVENTOR, WILLIAM MCFARLAND previously recorded on Reel 041707 Frame 0676. Assignor(s) hereby confirms the NEW ADDRESS FOR WILLIAM MCFARLAND AS 312 GOLDEN HILLS DR, PORTOLA VALLEY, CALIFORNIA 94028.    |               |                |                     |            |                   |            |            |            |
| <b>RESUBMIT DOCUMENT ID:</b>  | 504442976   |               |                |                     |            |                   |            |            |            |
| <b>CONVEYING PARTY DATA</b>   |   |               |                |                     |            |                   |            |            |            |
|   | <table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>JAMES CHO</td> <td>03/01/2017</td> </tr> <tr> <td>WILLIAM MCFARLAND</td> <td>06/29/2017</td> </tr> <tr> <td>NING ZHANG</td> <td>02/22/2017</td> </tr> </tbody> </table> | Name          | Execution Date | JAMES CHO           | 03/01/2017 | WILLIAM MCFARLAND | 06/29/2017 | NING ZHANG | 02/22/2017 |
| Name  | Execution Date  |               |                |                     |            |                   |            |            |            |
| JAMES CHO   | 03/01/2017  |               |                |                     |            |                   |            |            |            |
| WILLIAM MCFARLAND   | 06/29/2017  |               |                |                     |            |                   |            |            |            |
| NING ZHANG  | 02/22/2017  |               |                |                     |            |                   |            |            |            |
| <b>RECEIVING PARTY DATA</b>   |   |               |                |                     |            |                   |            |            |            |
| <b>Name:</b>  | QUALCOMM INCORPORATED   |               |                |                     |            |                   |            |            |            |
| <b>Street Address:</b>  | 5775 MOREHOUSE DRIVE  |               |                |                     |            |                   |            |            |            |
| <b>City:</b>  | SAN DIEGO   |               |                |                     |            |                   |            |            |            |
| <b>State/Country:</b>   | CALIFORNIA  |               |                |                     |            |                   |            |            |            |
| <b>Postal Code:</b>   | 92121-1714  |               |                |                     |            |                   |            |            |            |
| <b>PROPERTY NUMBERS Total: 1</b>  |   |               |                |                     |            |                   |            |            |            |
|   | <table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>15343114</td> </tr> </tbody> </table>   | Property Type | Number         | Application Number: | 15343114   |                   |            |            |            |
| Property Type   | Number  |               |                |                     |            |                   |            |            |            |
| Application Number:   | 15343114  |               |                |                     |            |                   |            |            |            |
| <b>CORRESPONDENCE DATA</b>  |   |               |                |                     |            |                   |            |            |            |
| <b>Fax Number:</b>  | (303)473-2720   |               |                |                     |            |                   |            |            |            |
| <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> |   |               |                |                     |            |                   |            |            |            |
| <b>Phone:</b>   | 303-473-2700  |               |                |                     |            |                   |            |            |            |
| <b>Email:</b>   | bfmohler@hollandhart.com  |               |                |                     |            |                   |            |            |            |
| <b>Correspondent Name:</b>  | MICHAEL DRAPKIN   |               |                |                     |            |                   |            |            |            |
| <b>Address Line 1:</b>  | P.O. BOX 11583  |               |                |                     |            |                   |            |            |            |
| <b>Address Line 4:</b>  | SALT LAKE CITY, UTAH 84147  |               |                |                     |            |                   |            |            |            |
| <b>ATTORNEY DOCKET NUMBER:</b>  | PW075.01.02* (83043.1016)   |               |                |                     |            |                   |            |            |            |
| <b>NAME OF SUBMITTER:</b>   | MICHAEL L. DRAPKIN  |               |                |                     |            |                   |            |            |            |
| <b>SIGNATURE:</b>   | /Michael L. Drapkin/  |               |                |                     |            |                   |            |            |            |
| <b>DATE SIGNED:</b>   | 08/29/2017  |               |                |                     |            |                   |            |            |            |

**Total Attachments: 8**

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**UNITED STATES PATENT AND TRADEMARK OFFICE**

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND  
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

July 27, 2017

PTAS

MICHAEL DRAPKIN  
P.O. BOX 11583  
SALT LAKE CITY, UT 84147



504442976

United States Patent and Trademark Office  
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The enclosed document has been examined and found non-recordable by the Assignment Recordation Branch of the U.S. Patent and Trademark Office. The reason(s) for non-recordation are stated below:

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LAZENA MARTIN  
ASSIGNMENT RECORDATION BRANCH  
PUBLIC RECORDS DIVISION

|                                      |
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| <b>PATENT ASSIGNMENT COVER SHEET</b> |
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| <b>SUBMISSION TYPE:</b>   | NEW ASSIGNMENT             |
| <b>NATURE OF CONVEYANCE:</b>  | ASSIGNMENT                 |
| <b>CONVEYING PARTY DATA</b>   |                            |
| <b>Name</b>   | <b>Execution Date</b>      |
| JAMES CHO   | 03/01/2017                 |
| WILLIAM MCFARLAND   | 03/22/2017                 |
| NING ZHANG  | 02/22/2017                 |
| <b>RECEIVING PARTY DATA</b>   |                            |
| <b>Name:</b>  | QUALCOMM INCORPORATED      |
| <b>Street Address:</b>  | 5775 MOREHOUSE DRIVE       |
| <b>City:</b>  | SAN DIEGO                  |
| <b>State/Country:</b>   | CALIFORNIA                 |
| <b>Postal Code:</b>   | 92121-1714                 |
| <b>PROPERTY NUMBERS Total: 4</b>  |                            |
| <b>Property Type</b>  | <b>Number</b>              |
| <b>Application Number:</b>  | 15343114                   |
| <b>Application Number:</b>  | 12820058                   |
| <b>Patent Number:</b>   | 7792158                    |
| <b>Application Number:</b>  | 60602723                   |
| <b>CORRESPONDENCE DATA</b>  |                            |
| <b>Fax Number:</b>  | (303)473-2720              |
| <b>Phone:</b>   | 303-473-2700               |
| <b>Email:</b>   | bfmohler@hollandhart.com   |
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| <b>Address Line 1:</b>  | P.O. BOX 11583             |
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| <b>ATTORNEY DOCKET NUMBER:</b>  | PW075.01.02* (83043.1016)  |
| <b>NAME OF SUBMITTER:</b>   | MICHAEL L. DRAPKIN         |
| <b>Signature:</b>   | /Michael L. Drapkin/       |

|   |            |
|---|------------|
| <b>Date:</b>  | 03/23/2017 |
| <b>Total Attachments: 5</b><br>source=112038D1D1_Assignment#page1.tif<br>source=112038D1D1_Assignment#page2.tif<br>source=112038D1D1_Assignment#page3.tif<br>source=112038D1D1_Assignment#page4.tif<br>source=112038D1D1_Assignment#page5.tif |            |
| <b>RECEIPT INFORMATION</b>  |            |
| <b>EPAS ID:</b>   | PAT4333875 |
| <b>Receipt Date:</b>  | 03/23/2017 |

## ASSIGNMENT

WHEREAS, WE,

1. **James Cho**, a citizen of the United States of America, having a mailing address located at 5775 Morehouse Drive, San Diego, California, 92121-1714, and a resident of Mountain View, California,
2. **William McFarland**, a citizen of the United States of America, having a mailing address located at 312 Golden Hills Dr, Portola Valley, California, 94028, and a resident of Portola Valley, California,
3. **Ning Zhang**, a citizen of the United States of America, having a mailing address located at 5775 Morehouse Drive, San Diego, California, 92121-1714, and a resident of Saratoga, CA,

have conceived of one or more processes, methods, machines, articles of manufacture, designs, compositions of matter, inventions, discoveries or new or useful improvements relating to MEDIA STREAMING SYNCHRONIZATION (collectively the "INVENTIONS") for which WE have executed and/or may execute one or more patent applications therefor; and

WHEREAS, QUALCOMM Incorporated (hereinafter "ASSIGNEE"), a Delaware corporation, having a place of business at 5775 Morehouse Drive, San Diego, California 92121-1714, U.S.A., desires to acquire or otherwise obtain the entire right, title, and interest in and to said INVENTIONS, including all inventions related thereto or thereof, all patent applications therefor, and all patents that have granted or may be granted hereafter thereon, including but not limited to those identified below.

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, WE do hereby acknowledge that WE have sold, assigned, conveyed, and transferred, and by these presents do hereby sell, assign, convey, and transfer, unto ASSIGNEE, its successors, its legal representatives, and its assigns, the entire right, title, and interest throughout the world in and to said INVENTIONS, including all patent applications therefor that may have been filed or may be filed hereafter for said INVENTIONS in the United States, including but not limited to U.S. Application No(s). 15/343,114 filed November 3, 2016, Qualcomm Reference No. 112038D1D1, divisional U.S. Application No 12/820,058 filed June 21, 2010, Qualcomm Reference No. 112038D1, U.S Application No. 11/197,773, filed August 3, 2005, Qualcomm Reference No. 112038, and all provisional applications relating thereto, together with U.S. Provisional Application No(s). 60/602,723, filed August 18, 2004, Qualcomm Reference No. 112038P1, (and do hereby authorize ASSIGNEE and its representative to hereafter add herein such application number(s) and/or filing date(s) when known), and all divisional applications, renewal applications, continuation applications, continuation-in-part applications, and design applications thereof, and all issued patents of the United States which may have granted or may be granted hereafter thereon and all reissues, renewals, reexaminations, and extensions to any of the foregoing and all patents issuing thereon in the United States;

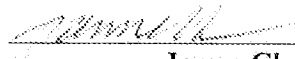
AND WE further do acknowledge and agree that WE have sold, assigned, conveyed, and transferred, and by these presents do hereby sell, assign, convey, and transfer, unto ASSIGNEE, its successors, its legal representatives, and its assigns, all rights of priority under International Conventions, Treaties, or Agreements, and the entire right, title, and interest throughout the world in said INVENTIONS, including all inventions related thereto or thereof, and all patent applications therefor that may have been filed or may be filed hereafter for said INVENTIONS in any foreign country, countries, or treaty/union organizations, and all divisional applications, renewal applications, continuation applications, continuation-in-part applications, patent of addition applications, confirmation applications, validation applications, utility model applications, and design applications thereof, and all issued patents which may have granted or may be granted hereafter for said INVENTIONS in any country or countries foreign to the United States, and all reissues, renewals, reexaminations, and extensions thereof;

AND WE DO HEREBY authorize and request the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents on applications or registrations, to issue all patents for said INVENTIONS to said ASSIGNEE, its successors, its legal representatives and its assigns, in accordance with the terms of this instrument;

AND WE DO HEREBY sell, assign, transfer, and convey to said ASSIGNEE, its successors, its legal representatives, and its assigns all claims for damages and all remedies arising out of or relating to any violation(s) of any of the rights assigned hereby that have or may have accrued prior to the date of assignment to said ASSIGNEE, or may accrue hereafter, including, but not limited to the right to sue for, seek, obtain, collect, recover, and retain damages and any ongoing or prospective royalties to which WE may be entitled, or that WE may collect for any infringement or from any settlement or agreement related to any of said patents before or after issuance;

AND WE HEREBY covenant and agree that WE will communicate promptly to said ASSIGNEE, its successors, its legal representatives, and its assigns, any facts known to us respecting said INVENTIONS, and will testify in any legal proceeding, sign all lawful papers, execute all applications and certificates, make all rightful declarations and/or oaths, and provide all lawful assistance to said ASSIGNEE, its successors, its legal representatives and its assigns, to obtain and enforce patent protection for said INVENTIONS in all countries;

AND WE HEREBY covenant that WE will not execute any writing or do any act whatsoever conflicting with these presents.

Done at San Jose, CA, on March 1, 2017   
LOCATION DATE **James Cho**


Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE **William McFarland**

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE **Ning Zhang**



AND WE HEREBY covenant that WE will not execute any writing or do any act whatsoever conflicting with these presents.

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE James Cho

Done at Palo Alto, CA, on 6/29/17  
LOCATION DATE   
William McFarland

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE Ning Zhang

AND WE HEREBY covenant that WE will not execute any writing or do any act whatsoever conflicting with these presents.

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE James Cho

Done at \_\_\_\_\_, on \_\_\_\_\_  
LOCATION DATE William McFarland

Done at San Jose, on 2/22/17  
LOCATION DATE Ning Zhang