

## PATENT ASSIGNMENT COVER SHEET

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 Stylesheet Version v1.2

EPAS ID: PAT5501698

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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>  |
| JAY KUMAR SUNDARARAJAN  | 09/05/2017   |
| NAGA BHUSHAN  | 09/07/2017   |
| HAITONG SUN   | 09/13/2017   |
| TINGFANG JI   | 09/06/2017   |
| YU ZHANG  | 09/04/2017   |
| WANSHI CHEN   | 09/06/2017   |
| <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>  |  |
| <b>Property Type</b>  | <b>Number</b>  |
| Application Number:   | 16324653   |
| <b>CORRESPONDENCE DATA</b>  |  |
| <b>Fax Number:</b>  | (713)623-4846  |
| <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>   | 713-623-4844   |
| <b>Email:</b>   | sdominguez@pattersonsheridan.com,<br>psdocketing@pattersonsheridan.com |
| <b>Correspondent Name:</b>  | PATTERSON + SHERIDAN, LLP  |
| <b>Address Line 1:</b>  | 24 GREENWAY PLAZA  |
| <b>Address Line 2:</b>  | SUITE 1600   |
| <b>Address Line 4:</b>  | HOUSTON, TEXAS 77046   |
| <b>ATTORNEY DOCKET NUMBER:</b>  | 164842USP  |
| <b>NAME OF SUBMITTER:</b>   | MARCUS W. HAMMACK  |
| <b>SIGNATURE:</b>   | /Marcus W. HAMMACK/  |
| <b>DATE SIGNED:</b>   | 05/01/2019   |

**Total Attachments: 7**

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| ASSIGNMENT   | 转让协议  |
|--|---|
| <p>WHEREAS, WE</p> <ol style="list-style-type: none"> <li>1. <u>SUNDARARAJAN, Jay Kumar</u>, a citizen of <u>IN</u>, having a mailing address located at <u>5775 Morehouse Drive, San Diego, California 92121-1714, U.S.A.</u>; and a resident of <u>US</u>,</li> <li>2. <u>BHUSHAN, Naga</u> a citizen of <u>US</u>, having a mailing address located at <u>5775 Morehouse Drive, San Diego, California 92121-1714, U.S.A.</u>; and a resident of <u>US</u>,</li> <li>3. <u>SUN, Haitong</u>, a citizen of <u>CN</u>, having a mailing address located at <u>5775 Morehouse Drive, San Diego, California 92121-1714, U.S.A.</u>; and a resident of <u>US</u>,</li> <li>4. <u>Ji, Tingfang</u>, a citizen of <u>CN</u>, having a mailing address located at <u>5775 Morehouse Drive, San Diego, California 92121-1714, U.S.A.</u>; and a resident of <u>US</u>,</li> <li>5. <u>ZHANG, Yu</u>, a citizen of <u>CN</u>, having a mailing address located at <u>5775 Morehouse Drive, San Diego, California 92121-1714, U.S.A.</u>; and a resident of <u>CN</u>,</li> <li>6. <u>CHEN, Wanshi</u>, a citizen of <u>CN</u>, having a mailing address located at <u>5775 Morehouse Drive, San Diego, California 92121-1714, U.S.A.</u>; and a resident of <u>US</u>,</li> </ol> <p>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 <u>UPLINK MULTIPLE-INPUT MULTIPLE-OUTPUT (MIMO) SCHEDULING USING BEAMFORMED REFERENCE SIGNALS</u> (collectively the "INVENTIONS") for which WE have executed and/or may execute one or more</p> | <p>鉴于, 我们</p> <ol style="list-style-type: none"> <li>1. <u>J • K • 孙达拉拉詹</u>, <u>印度</u> 的公民, 邮寄地址 <u>美国加利福尼亚州圣地亚哥魔豪斯道 5775 号</u> 和 <u>美国</u> 的居民,</li> <li>2. <u>N • 布尚</u>, <u>美国</u> 的公民, 邮寄地址 <u>美国加利福尼亚州圣地亚哥魔豪斯道 5775 号</u> 和 <u>美国</u> 的居民,</li> <li>3. <u>H • 孙</u>, <u>中国</u> 的公民, 邮寄地址 <u>美国加利福尼亚州圣地亚哥魔豪斯道 5775 号</u> 和 <u>美国</u> 的居民,</li> <li>4. <u>季庭方</u>, <u>中国</u> 的公民, 邮寄地址 <u>美国加利福尼亚州圣地亚哥魔豪斯道 5775 号</u> 和 <u>美国</u> 的居民,</li> <li>5. <u>Y • 张</u>, <u>中国</u> 的公民, 邮寄地址 <u>美国加利福尼亚州圣地亚哥魔豪斯道 5775 号</u> 和 <u>中国</u> 的居民,</li> <li>6. <u>W • 陈</u>, <u>中国</u> 的公民, 邮寄地址 <u>美国加利福尼亚州圣地亚哥魔豪斯道 5775 号</u> 和 <u>美国</u> 的居民,</li> </ol> <p>产生了一个或多个与 <u>UPLINK MULTIPLE-INPUT MULTIPLE-OUTPUT (MIMO) SCHEDULING USING BEAMFORMED REFERENCE SIGNALS</u> 有关的过程、方法、机器、制品、设计、物质成分、发明、发现, 或者新的或有用的改进 (统称 "发明"), 我们对这种发明提出和/或可能</p> |

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| patent applications therefor; and   | 提出一个或多个专利申请; 及   |
| <p>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 patent applications therefore, and all patents that have granted or may be granted hereafter thereon, including but not limited to those identified below.</p>  | <p>鉴于, 高通公司(以下简称“受让人”), 一家特拉华州的公司, 营业地在美国加利福尼亚州圣地亚哥魔豪斯道 5775 号, 邮编 92121-1714, 希望获得或以其他方式取得所述发明的所有权利、所有权和权益, 包括其所有专利申请和所有已授权或此后由其可能被授权的专利, 包括但不限于下面确定的那些专利。</p>  |
| <p>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 including but not limited to International Patent Cooperation Treaty Application No(s). <u>PCT/CN2016/094956</u>, filed on <u>August 12, 2016</u>, Docket No. <u>164842WO1</u>, (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 rights of priority under International Conventions, Treaties, and Agreements, all utility applications, national phase applications, utility model applications, divisional applications, renewal applications, continuation applications, continuation-in-part applications, patent of addition applications, confirmation applications, validation applications, and design applications thereof, and all issued patents 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;</p> | <p>因此, 基于我们确认收到的有价值的对价, 我们在此认可, 我们已经出售、转让、转送、转移, 以及据此陈述确实出售、转让、转送以及转移所述发明的在全世界的<sup>所有权利、所有权和权益</sup>予受让人、其继任者、其合法代表人、及其受让人, 包括所有基于所述发明可能已提交或随后可能提交的专利申请, 包括但不限于申请于 <u>2016 年 8 月 12 日</u> 的, 编号为 <u>PCT/CN2016/094956</u> 的国际专利合作条约申请, 案卷号: <u>164842WO1</u>, (我们并在此授权受让人及其代表在此后知道有关该发明的申请时, 添加这些申请号和/申请时间; 以及根据国际公约、条约和协定, 所有的实用申请、国家阶段的申请、实用新型申请、分案申请、续展申请、继续申请、部分继续申请、附属申请专利、证实申请、有效申请和外观设计申请, 以及所有已颁专利及随后所有可能的就此发明的再颁、更新、复审、以及对上述所有此类专利的任何续展的所有优先权;</p> |
| AND WE DO HEREBY authorize and request any Official of any country or countries   | 我们在此授权并请求任何国家的任  |

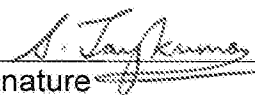
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| whose duty it is to issue patents on applications or registrations, to issue all patents for said INVENTIONS to said ASSIGNEE, its successors, its legal representatives and its assigns, in accordance with the terms of this instrument;  | 何公务人员，其职责是对提交的申请颁发专利或注册的，基于本法律文书的条款，颁发所述发明的所有专利给所述受让人、其继任者、其合法代表人及其受让人；   |
| 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; | 我们在此出售、转让、转送、并转移给所述受让人、其继任者、其合法代表人及其受让人，由于妨碍在此转让的权利（在转让给所述受让人日之前已产生的或可能已产生的、或可能随后所产生的）而产生的或与其有关的，要求全部损害的赔偿或补偿的权利，包括但不限于起诉寻求、获取、收集、恢复、持有损害赔偿及任何正在进行或预期的许可使用费的权利，这些损害赔偿及许可使用费是我们可能有权或我们可能收取的与任何所述专利有关的在其颁发前或颁发后由于侵权或来自任何调解或和解的损害赔偿及许可使用费； |
| 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;   | 我们在此承诺并同意，我们将就我们所知的关于所述发明的任何事实与所述受让人、其继任者、其合法代表人、及其受让人及时沟通，并在任何需要的法律程序中作证、签署全部合法文件、签署所有申请书和证书、做出所有正确的声明和/或宣誓、并向所述受让人、其继任者、其合法代表人、及其受让人提供一切合法的援助，以在所有国家获得和实施所述发明的专利保护；   |
| AND WE HEREBY covenant that WE will not execute any writing or do any act whatsoever conflicting with these presents;   | 我们在此承诺，我们不会签署任何与这些陈述相冲突的书面文件或有任何与这些陈述相冲突的行为；  |
| AND WE agree this ASSIGNMENT shall be interpreted under the laws of the State of California,  | 我们同意，本转让协议依据美国加利福尼亚州法律解释。如果本协议的中  |

and that in case of a discrepancy between the English version and the Chinese version of this agreement, the English version shall prevail.

英文文本内容不一致，以英文文本为准。

**1. SUNDARARAJAN, Jay Kumar**

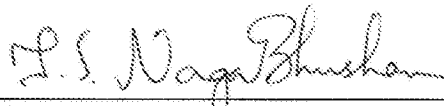
Done at San Diego, CA [City, State] this 5<sup>th</sup> day of September, 2017.

  
Signature

于\_\_\_\_年\_\_\_\_月\_\_\_\_日签署于\_\_\_\_  
(州, 市)。

**2. BHUSHAN, Naga**

Done at SAN DIEGO [City, State] this 7<sup>TH</sup> day of SEPT, 2017.

  
Signature

于\_\_\_\_年\_\_\_\_月\_\_\_\_日签署于\_\_\_\_  
(州, 市)。

**3. SUN, Haitong**

Done at \_\_\_\_ [City, State] this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

Signature

于\_\_\_\_年\_\_\_\_月\_\_\_\_日签署于\_\_\_\_  
(州, 市)。

**4. JI, Tingfang**

Done at San Diego, CA [City, State] this 6<sup>th</sup> day of Sept, 2017.

  
Signature

于\_\_\_\_年\_\_\_\_月\_\_\_\_日签署于\_\_\_\_  
(州, 市)。

**5. ZHANG, Yu**

Done at \_\_\_\_ [City, State] this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

Signature

于\_\_\_\_年\_\_\_\_月\_\_\_\_日签署于\_\_\_\_  
(州, 市)。

and that in case of a discrepancy between the English version and the Chinese version of this agreement, the English version shall prevail.

英文文本内容不一致，以英文文本为准。

**1. SUNDARARAJAN, Jay Kumar**

Done at \_\_\_\_ [City, State] this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

Signature

于\_\_\_\_年\_\_\_\_月\_\_\_\_日签署于\_\_\_\_  
(州, 市)。

**2. BHUSHAN, Naga**

Done at \_\_\_\_ [City, State] this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

Signature

于\_\_\_\_年\_\_\_\_月\_\_\_\_日签署于\_\_\_\_  
(州, 市)。

**3. SUN, Haitong**

Done at CA [City, State] this 13 day of Sept., 2017.

Signature

于\_\_\_\_年\_\_\_\_月\_\_\_\_日签署于\_\_\_\_  
(州, 市)。

**4. JI, Tingfang**

Done at \_\_\_\_ [City, State] this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

Signature

于\_\_\_\_年\_\_\_\_月\_\_\_\_日签署于\_\_\_\_  
(州, 市)。

**5. ZHANG, Yu**

Done at \_\_\_\_ [City, State] this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

Signature

于\_\_\_\_年\_\_\_\_月\_\_\_\_日签署于\_\_\_\_  
(州, 市)。

and that in case of a discrepancy between the English version and the Chinese version of this agreement, the English version shall prevail.

英文文本内容不一致，以英文文本为准。

**1. SUNDARARAJAN, Jay Kumar**

Done at \_\_\_\_ [City, State] this \_\_\_\_ day of \_\_\_\_\_.

Signature

于\_\_\_\_年\_\_\_\_月\_\_\_\_日签署于\_\_\_\_  
(州, 市)。

**2. BHUSHAN, Naga**

Done at \_\_\_\_ [City, State] this \_\_\_\_ day of \_\_\_\_\_.

Signature

于\_\_\_\_年\_\_\_\_月\_\_\_\_日签署于\_\_\_\_  
(州, 市)。

**3. SUN, Haitong**

Done at \_\_\_\_ [City, State] this \_\_\_\_ day of \_\_\_\_\_.

Signature

于\_\_\_\_年\_\_\_\_月\_\_\_\_日签署于\_\_\_\_  
(州, 市)。

**4. JI, Tingfang**

Done at \_\_\_\_ [City, State] this \_\_\_\_ day of \_\_\_\_\_.

Signature

于\_\_\_\_年\_\_\_\_月\_\_\_\_日签署于\_\_\_\_  
(州, 市)。

**5. ZHANG, Yu**

Done at Beijing [City, State] this 4th day of September, 2017.

Signature

于2017年9月4日签署于Beijing  
(州, 市)。



6. CHEN, Wanshi

Done at San Diego, CA this 6th day of Sept, 2017.

Signature

于\_\_\_\_年\_\_\_\_月\_\_\_\_日签署于\_\_\_\_  
(州, 市)。