

## PATENT ASSIGNMENT COVER SHEET

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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>              |
| UNIVERSITEIT VAN AMSTERDAM  | 09/21/2018                         |
| <b>RECEIVING PARTY DATA</b>   |                                    |
| <b>Name:</b>  | QUALCOMM TECHNOLOGIES, INC.        |
| <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>                      |
| <b>Application Number:</b>  | 16039133                           |
| <b>CORRESPONDENCE DATA</b>  |                                    |
| <b>Fax Number:</b>  | (310)201-5219                      |
| <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> |                                    |
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| <b>ATTORNEY DOCKET NUMBER:</b>  | 175149                             |
| <b>NAME OF SUBMITTER:</b>   | PUYA PARTOW-NAVID                  |
| <b>SIGNATURE:</b>   | /Puya Partow-Navid/                |
| <b>DATE SIGNED:</b>   | 10/02/2019                         |
| <b>Total Attachments: 6</b>   |                                    |
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| source=175149_ASG_UVA-to-QTI_AsFiled_02October2019#page6.tif  |                                    |

## PATENT ASSIGNMENT

This Patent Assignment ("Patent Assignment") is made by the **Universiteit van Amsterdam**, a public institution (university) possessing legal personality under the laws of the Netherlands, having its principal place of business at Spui 21, 1012 WX Amsterdam, the Netherlands (hereinafter "ASSIGNOR") to **Qualcomm Technologies, Inc.**, a corporation duly organized under the laws of the State of Delaware and having its address at 5775 Morehouse Drive, San Diego, California 92121-1714, United States of America (hereinafter "ASSIGNEE").

WHEREAS, ASSIGNOR acknowledges that the Patent Items (as defined below) were made within the framework of the Collaboration Agreement (UNI-230908) between ASSIGNOR and ASSIGNEE dated May 1, 2015, which entitles ASSIGNEE to the sole ownership of the Patent Items.

WHEREAS, ASSIGNOR has agreed, subject to the terms and conditions of this Patent Assignment, to assign, transfer and sell all right, title and interest in, to and under (i) the registered patents and patent applications identified in the Exhibit attached hereto (hereinafter the "Exhibit 1"), and all provisional and priority applications relating thereto; (ii) all patents issuing on or from any patent applications identified in the Exhibit 1; (iii) all reissues, reexaminations, extensions, divisionals, renewals, continuations, continuations-in-part and counterparts (whether foreign or domestic) claiming priority to any of the foregoing items in (i) or (ii) above, along with all patents issuing therefrom; and (iv) all inventions and improvements claimed or described in any of the foregoing items (i), (ii) or (iii) (subsections (i), (ii), (iii) and (iv) hereinafter collectively referred to as the "Patent Items").

WHEREAS, ASSIGNEE has agreed, subject to the terms and conditions of this Patent Assignment, to assume, acquire and purchase the Patent Items.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

1. ASSIGNOR does hereby sell, assign, transfer, convey and deliver unto ASSIGNEE, its successors, legal representatives and assigns, all right, title and interest throughout the world in, to and under the Patent Items, including without limitation all foreign patents and any and all rights of priority under international conventions, treaties or agreements based on or relating to the Patent Items.
2. ASSIGNOR hereby authorizes and requests the Commissioner of Patents of the United States of America, and any Official of any country or countries foreign to the United States of America, whose duty it is to issue patents on applications, to record ASSIGNEE as the assignee and owner of the Patent Items and to issue all patents for the Patent Items to and in the name of ASSIGNEE, its successors, legal representatives and assigns, as the assignee to the entire interest therein, in accordance with the terms of this Patent Assignment.
3. ASSIGNOR hereby assigns, transfers, conveys and delivers to ASSIGNEE, its successors, legal representatives and assigns, all rights of enforcement, all claims for damages and all remedies arising out of, relating to or resulting from the Patent Items or any violation(s) thereof, whether accrued prior to the date of this Patent Assignment or hereafter, including but not limited to the right to sue for, seek, collect, recover and retain damages and any other relief arising out of or resulting from any past, present or future infringement or violation of any of the Patent Items, and all other rights, including common law rights, that ASSIGNOR may have relating to the Patent Items, including but not limited to any ongoing or prospective royalties to which ASSIGNOR may be entitled, or that ASSIGNOR may collect for any infringements of any of the Patent Items or from any settlement or agreement related to the Patent Items arising before or after the date of this Patent Agreement, such rights to be held and enjoyed by ASSIGNEE, its successors, legal representatives and assigns, as fully and entirely as the same would have been held and enjoyed by ASSIGNOR if this Patent Assignment had not been made.
4. ASSIGNOR hereby represents and warrants that it is the sole and exclusive owner of all right, title, and interest in, to and under the Patent Items and has full right, power and authority to sell, assign, transfer, convey and deliver all of the subject matter set forth herein, and hereby covenants and agrees that upon the

written request of ASSIGNEE and without further compensation, ASSIGNOR shall execute, acknowledge, and deliver all the instruments and documents and shall take all the actions reasonably necessary or required by law to consummate and make fully effective the transaction contemplated by this Patent Assignment and will communicate promptly to ASSIGNEE, its successors, legal representatives and assigns, all facts known to ASSIGNOR respecting the Patent Items, and will testify in any legal proceeding, sign all lawful papers, transfer all file histories, make diligent effort to find or reach every inventor of the Patent Items necessary or appropriate in connection with preparation of any lawful document or proceeding relating to the Patent Items, make reasonable efforts to obtain all necessary or appropriate signed and executed documents relating to the Patent Items from every inventor named in the Patent Items, make all rightful declarations and/or oaths and generally do everything possible to aid ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce patent protection for the Patent Items on a worldwide basis in all countries and for perfecting, recording, or maintaining the title of ASSIGNEE, and ASSIGNEE'S successors and assigns, in and to each of the Patent Items in the United States and throughout the world. ASSIGNEE further covenants and agrees that it will wholly refrain from challenging the validity, enforceability or scope of the Patent Items, whether through opposition, re-examination and/or court proceedings.

5. If ASSIGNEE is unable for any reason to secure ASSIGNOR'S signature to any document required to file, prosecute, register, or memorialize the assignment of any rights under any Patent Items as provided under this Patent Assignment, ASSIGNOR hereby irrevocably designates and appoints ASSIGNEE and ASSIGNEE'S duly authorized officers and agents as ASSIGNOR'S agents and attorneys-in-fact to act for and on ASSIGNOR'S behalf and instead of ASSIGNOR to take all lawfully permitted acts to further the filing, prosecution, registration, memorialization of assignment, issuance, and enforcement of rights under such Patent Items, all with the same legal force and effect as if executed by ASSIGNOR. The foregoing is deemed a power coupled with an interest and is irrevocable.

6. ASSIGNOR represents and warrants that ASSIGNOR has not sold, assigned, transferred or granted and will not sell, assign, transfer or grant to others either (1) any rights, title or interest in and to any of the Patent Items, or (2) any rights inconsistent with the rights granted herein, including without limitation granting or allowing any lien, security interest or other encumbrance in or to such Patent Items.

7. No waiver, amendment, or modification of this Patent Assignment shall be effective against either party, unless in writing executed by a duly authorized representative of each party. This Patent Assignment shall be governed in all respects by the laws of Switzerland, canton Zurich, without giving effect to any choice or conflict of law provision or rule.

8. This Patent Assignment may be executed in multiple counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same document. A signature page delivered by electronic means will be deemed an original for all purposes.

*[Remainder of Page Intentionally Left Blank]*

IN WITNESS WHEREOF, I hereunto set my hand this 21<sup>st</sup> day of SEPTEMBER, 2018.

Universiteit van Amsterdam

By: [Signature]

Printed Name: R. Rus

Title: DIRECTOR SCIENCE FACILITY

IN WITNESS WHEREOF, acknowledged and accepted on this 26<sup>th</sup> day of November, 2018.

Qualcomm Technologies, Inc.

By: [Signature]

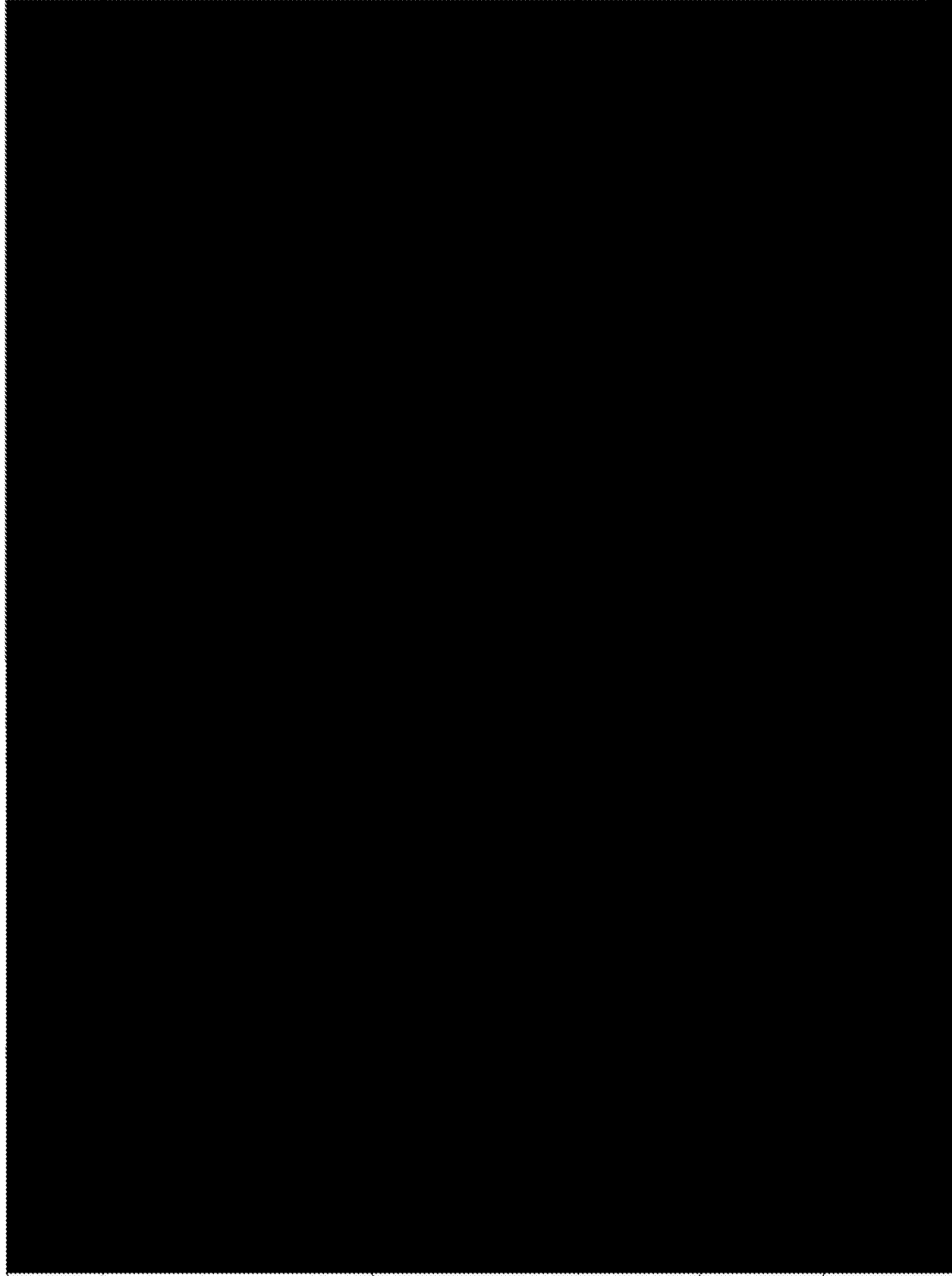
Printed Name: Akash Palkhivala

Title: Director, Chief Financial  
officer

Exhibit I  
Patent Items

| Country | Application Title   | App. No.   | Filed Date | Patent Number | Issue/Grant Date |
|---------|---|------------|------------|---------------|------------------|
|         |   |            |            |               |                  |
| US      | LEARNING GEOMETRIC DIFFERENTIALS FOR MATCHING 3D MODELS TO 2D OBJECTS | 62/534,146 | 7/18/2017  |               |                  |

| Country | Application Title  | App. No.   | Filed Date | Patent Number | Issue/Grant Date |
|---------|--|------------|------------|---------------|------------------|
| US      | LEARNING GEOMETRIC DIFFERENTIALS FOR MATCHING 3D MODELS TO OBJECTS IN A 2D IMAGE | 16/039,133 | 07/18/2018 |               |                  |



| Country    | Application Title | App. No. | Filed Date | Patent Number | Issue/Grant Date |
|------------|-------------------|----------|------------|---------------|------------------|
| [Redacted] |                   |          |            |               |                  |

*[End of Exhibit 1]*