

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT6791858

|                                                                                                                                                                                          |                         |                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------|
| <b>SUBMISSION TYPE:</b>                                                                                                                                                                  | NEW ASSIGNMENT          |                       |
| <b>NATURE OF CONVEYANCE:</b>                                                                                                                                                             | SECURITY INTEREST       |                       |
| <b>CONVEYING PARTY DATA</b>                                                                                                                                                              |                         |                       |
| <b>Name</b>                                                                                                                                                                              |                         | <b>Execution Date</b> |
| TARANA WIRELESS, INC.                                                                                                                                                                    |                         | 06/30/2021            |
| <b>RECEIVING PARTY DATA</b>                                                                                                                                                              |                         |                       |
| <b>Name:</b>                                                                                                                                                                             | TRINITY CAPITAL INC.    |                       |
| <b>Street Address:</b>                                                                                                                                                                   | 1 N 1ST STREET, FLOOR 3 |                       |
| <b>City:</b>                                                                                                                                                                             | PHOENIX                 |                       |
| <b>State/Country:</b>                                                                                                                                                                    | ARIZONA                 |                       |
| <b>Postal Code:</b>                                                                                                                                                                      | 85004                   |                       |
| <b>PROPERTY NUMBERS Total: 16</b>                                                                                                                                                        |                         |                       |
| <b>Property Type</b>                                                                                                                                                                     | <b>Number</b>           |                       |
| Application Number:                                                                                                                                                                      | 13445861                |                       |
| Application Number:                                                                                                                                                                      | 13445863                |                       |
| Application Number:                                                                                                                                                                      | 13445869                |                       |
| Application Number:                                                                                                                                                                      | 13831535                |                       |
| Application Number:                                                                                                                                                                      | 13843399                |                       |
| Application Number:                                                                                                                                                                      | 14214229                |                       |
| Application Number:                                                                                                                                                                      | 14968700                |                       |
| Application Number:                                                                                                                                                                      | 15012615                |                       |
| Application Number:                                                                                                                                                                      | 15640980                |                       |
| Application Number:                                                                                                                                                                      | 16167457                |                       |
| Application Number:                                                                                                                                                                      | 16418782                |                       |
| Application Number:                                                                                                                                                                      | 16537413                |                       |
| Application Number:                                                                                                                                                                      | 16589019                |                       |
| Application Number:                                                                                                                                                                      | 16600088                |                       |
| Application Number:                                                                                                                                                                      | 16701099                |                       |
| Application Number:                                                                                                                                                                      | 16868180                |                       |
| <b>CORRESPONDENCE DATA</b>                                                                                                                                                               |                         |                       |
| <b>Fax Number:</b>                                                                                                                                                                       |                         |                       |
| 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. |                         |                       |

PATENT

**Email:** jgu@cooley.com  
**Correspondent Name:** JENNIFER GU  
**Address Line 1:** 3175 HANOVER STREET  
**Address Line 4:** PALO ALTO, CALIFORNIA 94304

**ATTORNEY DOCKET NUMBER:** 330658-129

**NAME OF SUBMITTER:** JENNIFER GU

**SIGNATURE:** /Jennifer Gu/

**DATE SIGNED:** 06/30/2021

**Total Attachments: 9**

source=05. Trinity\_Tarana - Intellectual Property Security Agreement [EXECUTED]#page1.tif  
source=05. Trinity\_Tarana - Intellectual Property Security Agreement [EXECUTED]#page2.tif  
source=05. Trinity\_Tarana - Intellectual Property Security Agreement [EXECUTED]#page3.tif  
source=05. Trinity\_Tarana - Intellectual Property Security Agreement [EXECUTED]#page4.tif  
source=05. Trinity\_Tarana - Intellectual Property Security Agreement [EXECUTED]#page5.tif  
source=05. Trinity\_Tarana - Intellectual Property Security Agreement [EXECUTED]#page6.tif  
source=05. Trinity\_Tarana - Intellectual Property Security Agreement [EXECUTED]#page7.tif  
source=05. Trinity\_Tarana - Intellectual Property Security Agreement [EXECUTED]#page8.tif  
source=05. Trinity\_Tarana - Intellectual Property Security Agreement [EXECUTED]#page9.tif

INTELLECTUAL PROPERTY SECURITY AGREEMENT

THIS INTELLECTUAL PROPERTY SECURITY AGREEMENT ("Agreement") dated as of June, 30, 2021, is made by TARANA WIRELESS, INC., a Delaware corporation (the "Grantor"), in favor of TRINITY CAPITAL INC., a Maryland corporation ("Lender").

RECITALS

A. Grantor has entered into a Loan and Security Agreement with Lender, dated as of the date hereof (as amended, restated, or otherwise modified from time to time, the "Loan Agreement"). All capitalized terms used but not defined herein shall have the respective meanings given to them in the Loan Agreement.

B. Pursuant to the terms of the Loan Agreement, Grantor has granted to Lender for its benefit a security interest in all of Grantor's right, title and interest, whether presently existing or hereafter acquired, in, to and under all of the Collateral.

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, and intending to be legally bound, as collateral security for the prompt and complete payment when due of its obligations under the Loan Agreement, Grantor hereby represents, warrants, covenants and agrees as follows:

AGREEMENT

1. Grant of Security Interest. To secure its obligations under the Loan Agreement, Grantor grants and pledges to Lender for its benefit a security interest in all of Grantor's right, title and interest in, to and under its intellectual property (all of which shall collectively be called the "Intellectual Property Collateral"), including, without limitation, the following:

(a) Any and all copyright rights, copyright applications, copyright registrations and like protections in each work of authorship and derivative work thereof, whether published or unpublished and whether or not the same also constitutes a trade secret, now or hereafter existing, created, acquired or held, including without limitation those set forth on Exhibit A attached hereto (collectively, the "Copyrights");

(b) Any and all trade secrets, and any and all intellectual property rights in computer software and computer software products now or hereafter existing, created, acquired or held;

(c) Any and all design rights that may be available to Grantor now or hereafter existing, created, acquired or held;

(d) All patents, patent applications and like protections including, without limitation, improvements, divisions, continuations, renewals, reissues, extensions, re-examination certificates, utility models, and continuations-in-part of the same, including without limitation the patents and patent applications set forth on Exhibit B attached hereto (collectively, the "Patents");

(e) Any trademark and servicemark rights, whether registered or not, applications to register and registrations of the same and like protections, and the entire goodwill of the business of Grantor connected with and symbolized by such trademarks, including without limitation those set forth on Exhibit C attached hereto (collectively, the "Trademarks"); provided that Trademarks shall not include any "intent-to-use" trademark at all times prior to the first use thereof, whether by the actual use thereof in commerce, the recording of a statement of use with the United States Patent and Trademark Office or otherwise, but only to the extent and solely during such period that granting a security interest in the "intent-to-use" trademarks would be contrary to applicable law or may interfere with Grantor's rights to obtain and maintain such trademarks;

(f) All mask works or similar rights available for the protection of semiconductor chips, now owned or hereafter acquired, including, without limitation those set forth on Exhibit D attached hereto (collectively, the "Mask Works");

(g) Any and all claims for damages by way of past, present and future infringements of any of the rights included above, with the right, but not the obligation, to sue for and collect such damages for said use or infringement of the intellectual property rights identified above;

(h) All licenses or other rights to use any of the Copyrights, Patents, Trademarks, or Mask Works and all license fees and royalties arising from such use to the extent permitted by such license or rights;

(i) All amendments, renewals and extensions of any of the Copyrights, Trademarks, Patents, or Mask Works; and

(j) All proceeds and products of the foregoing, including without limitation all payments under insurance or any indemnity or warranty payable in respect of any of the foregoing.

2. Recordation. Grantor authorizes the Commissioner for Patents, the Commissioner for Trademarks and the Register of Copyrights and any other government officials to record and register this Agreement upon request by Lender.

Grantor hereby authorizes Lender to (a) modify this Agreement unilaterally by amending the exhibits to this Agreement to include any Intellectual Property Collateral which Grantor obtains subsequent to the date of this Agreement and (b) file a duplicate original of this Agreement containing amended exhibits reflecting such new Intellectual Property Collateral.

3. Loan Documents. This Agreement has been entered into pursuant to and in conjunction with the Loan Agreement, which is hereby incorporated by reference. The provisions of the Loan Agreement shall supersede and control over any conflicting or inconsistent provision herein. The rights and remedies of Lender with respect to the Intellectual Property Collateral are as provided by the Loan Agreement and related documents, and nothing in this Agreement shall be deemed to limit such rights and remedies.

4. Execution in Counterparts. This Agreement and any amendments, waivers, consents or supplements hereto may be executed in any number of counterparts, and by different parties hereto in separate counterparts, each of which when so delivered shall be deemed an original, but all of which counterparts shall constitute but one and the same instrument. Delivery of an executed counterpart of a signature page of this Agreement by facsimile, portable document format (.pdf) or other electronic transmission will be as effective as delivery of a manually executed counterpart hereof.

5. Successors and Assigns. The provisions of this Agreement shall inure to the benefit of the parties hereto and their respective successors and assigns. Grantor shall not assign its obligations under this Agreement without Lender's express prior written consent, and any such attempted assignment shall be void and of no effect. Lender may assign, transfer, or endorse its rights hereunder pursuant to the terms of the Loan Agreement without prior notice to Grantor, and all of such rights shall inure to the benefit of Lender's successors and assigns.

6. Governing Law. This Agreement has been negotiated and delivered to Lender in the State of California, and shall have been accepted by Lender in the State of California. This Agreement shall be governed by, and construed and enforced in accordance with, the laws of the State of California, excluding conflict of laws principles that would cause the application of laws of any other jurisdiction.

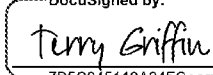
*[Signature page follows.]*

IN WITNESS WHEREOF, the parties have caused this Intellectual Property Security Agreement to be duly executed by its officers thereunto duly authorized as of the first date written above.

**GRANTOR:**

**TARANA WIRELESS, INC.,**  
a Delaware corporation

DocuSigned by:

By: 

Name: Terence Griffin

Title: Chief Financial Officer

**LENDER:**

**TRINITY CAPITAL INC.,**  
a Maryland corporation

By: \_\_\_\_\_

Name: Sarah Stanton

Title: General Counsel and Secretary

IN WITNESS WHEREOF, the parties have caused this Intellectual Property Security Agreement to be duly executed by its officers thereunto duly authorized as of the first date written above.

**GRANTOR:**

**TARANA WIRELESS, INC.,**  
a Delaware corporation

By: \_\_\_\_\_  
Name: Terence Griffin  
Title: Chief Financial Officer

**LENDER:**

**TRINITY CAPITAL INC.,**  
a Maryland corporation

By: Sarah Stanton  
Name: Sarah Stanton  
Title: General Counsel and Secretary

EXHIBIT A

**COPYRIGHTS**

None.

**EXHIBIT B****PATENTS**

| <b>No.</b> | <b>Title</b>                                                                                                                                                                     | <b>Application Number<br/>Application Date</b> | <b>Publication Number<br/>Publication Date</b> | <b>Owner</b>          |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|------------------------------------------------|-----------------------|
| 1          | Non-line of sight wireless communication system and method                                                                                                                       | 13445861<br>4/12/2012                          | US9325409B1<br>4/26/2016                       | Tarana Wireless, Inc. |
| 2          | Non-line of sight wireless communication system and method                                                                                                                       | 13445863<br>4/12/2012                          | US9252908B1<br>2/2/2016                        | Tarana Wireless, Inc. |
| 3          | Non-line of sight wireless communication system and method                                                                                                                       | 13445869<br>4/12/2012                          | US9456354B2<br>9/27/2016                       | Tarana Wireless, Inc. |
| 4          | Precision array processing using semi-coherent transceivers                                                                                                                      | 13831535<br>3/14/2013                          | US10110270B2<br>10/23/2018                     | Tarana Wireless, Inc. |
| 5          | Distributed capacity base station architecture for broadband access with enhanced in-band GPS co-existence                                                                       | 13843399<br>3/15/2013                          | US10499456B1<br>12/3/2019                      | Tarana Wireless, Inc. |
| 6          | System architecture for optimizing the capacity of adaptive array systems                                                                                                        | 14214229<br>3/14/2014                          | US9735940B1<br>8/15/2017                       | Tarana Wireless, Inc. |
| 7          | System architecture and method for enhancing wireless networks with mini-satellites and pseudolites and adaptive antenna processing                                              | 14968700<br>12/14/2015                         | US10348394B1<br>7/9/2019                       | Tarana Wireless, Inc. |
| 8          | Non-line of sight wireless communication system and method                                                                                                                       | 15012615<br>2/1/2016                           | US10432275B2<br>10/1/2019                      | Tarana Wireless, Inc. |
| 9          | System architecture for optimizing the capacity of adaptive array systems                                                                                                        | 15640980<br>7/3/2017                           | US11025394B1<br>6/1/2021                       | Tarana Wireless, Inc. |
| 10         | PRECISION ARRAY PROCESSING USING SEMI-COHERENT TRANSCEIVERS                                                                                                                      | 16167457<br>10/22/2018                         | US20190068235A1<br>2/28/2019                   | Tarana Wireless, Inc. |
| 11         | Methods for creating check codes, and systems for wireless communication using check codes                                                                                       | 16418782<br>5/21/2019                          | US11032023B1<br>6/8/2021                       | Tarana Wireless, Inc. |
| 12         | Systems and methods for wireless network discovery and synchronization using spatial whiteners, matched filters, and adaptive beamformers to identify reference signal waveforms | 16537413<br>8/9/2019                           | US10756939B1<br>8/25/2020                      | Tarana Wireless, Inc. |
| 13         | NON-LINE OF SIGHT WIRELESS COMMUNICATION SYSTEM AND METHOD                                                                                                                       | 16589019<br>9/30/2019                          | US20200106499A1<br>4/2/2020                    | Tarana Wireless, Inc. |

| <b>No.</b> | <b>Title</b>                                                                                                                                                                  | <b>Application<br/>Number<br/>Application<br/>Date</b> | <b>Publication<br/>Number<br/>Publication Date</b> | <b>Owner</b>          |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------|-----------------------|
| 14         | Systems and methods for calculating frequency-localized adaptive beamformer weights using weighted overlapping beamform and add techniques applied to adjacent subbands       | 16600088<br>10/11/2019                                 | US10778308B1<br>9/15/2020                          | Tarana Wireless, Inc. |
| 15         | DISTRIBUTED CAPACITY BASE STATION ARCHITECTURE FOR BROADBAND ACCESS WITH ENHANCED IN-BAND GPS CO-EXISTENCE                                                                    | 16701099<br>12/2/2019                                  | US20200214085A1<br>7/2/2020                        | Tarana Wireless, Inc. |
| 16         | Interference resistant method for in-situ operational calibration and compensation of gain and phase variations in antenna array receiver RF and analog front-end electronics | 16868180<br>5/6/2020                                   | US10931362B1<br>2/23/2021                          | Tarana Wireless, Inc. |

**EXHIBIT C**

**TRADEMARKS**

| <b>No.</b> | <b>Trademark</b> | <b>Database</b> | <b>Status</b>                                                          | <b>Application<br/>Number<br/>Application<br/>Date</b> | <b>Registration<br/>Number<br/>Registration<br/>Date</b> | <b>Owner Name</b>        |
|------------|------------------|-----------------|------------------------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------|--------------------------|
| 1          | TARANA WIRELESS  | U.S.<br>Federal | REGISTERED<br>Intent to Use - Filed<br>USE<br>APPLICATION -<br>CURRENT | 85597316<br>04/13/2012                                 | 4572850<br>07/22/2014                                    | TARANA<br>WIRELESS, INC. |
| 2          | TARANA TOPOLOGY  | U.S.<br>Federal | REGISTERED<br>Intent to Use - Filed<br>USE<br>APPLICATION -<br>CURRENT | 85597315<br>04/13/2012                                 | 4973370<br>06/07/2016                                    | TARANA<br>WIRELESS, INC. |

EXHIBIT D

**MASK WORKS**

None.