

## TRADEMARK ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

ETAS ID: TM403476

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT		
<b>NATURE OF CONVEYANCE:</b>	SECURITY INTEREST		
<b>CONVEYING PARTY DATA</b>			
<b>Name</b>	<b>Formerly</b>	<b>Execution Date</b>	<b>Entity Type</b>
CALIENT TECHNOLOGIES, INC.		08/26/2016	Corporation: DELAWARE
<b>RECEIVING PARTY DATA</b>			
<b>Name:</b>	SILICON VALLEY BANK		
<b>Street Address:</b>	3003 TASMAN DR.		
<b>City:</b>	SANTA CLARA		
<b>State/Country:</b>	CALIFORNIA		
<b>Postal Code:</b>	95054		
<b>Entity Type:</b>	Corporation: CALIFORNIA		
<b>PROPERTY NUMBERS Total: 3</b>			
<b>Property Type</b>	<b>Number</b>	<b>Word Mark</b>	
<b>Registration Number:</b>	2779898	CALIENT	
<b>Registration Number:</b>	2732594	CALIENT NETWORKS	
<b>Registration Number:</b>	2779899	CALIENT NETWORKS	
<b>CORRESPONDENCE DATA</b>			
<b>Fax Number:</b>	4088524475		
<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>	4088417195		
<b>Email:</b>	dsanchezbentz@vlplawgroup.com		
<b>Correspondent Name:</b>	Diana Sanchez Bentz		
<b>Address Line 1:</b>	VLP Law Group LLP		
<b>Address Line 4:</b>	Gilroy, CALIFORNIA 95020		
<b>NAME OF SUBMITTER:</b>	Diana Sanchez Bentz		
<b>SIGNATURE:</b>	/dsb1068/		
<b>DATE SIGNED:</b>	10/27/2016		
<b>Total Attachments: 10</b>			
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## INTELLECTUAL PROPERTY SECURITY AGREEMENT

This Intellectual Property Security Agreement (“Agreement”) is entered into as of August 26, 2016, by and between SILICON VALLEY BANK (“Bank”) and CALIENT TECHNOLOGIES, INC. (“Grantor”).

### RECITALS

A. Bank has agreed to make certain advances of money and to extend certain financial accommodation to Grantor (the “Loans”) in the amounts and manner set forth in that certain Loan and Security Agreement by and between Bank and Grantor dated as of March 12, 2012 (as the same has been and may further be amended, modified or supplemented from time to time, the “Loan Agreement”; capitalized terms used herein are used as defined in the Loan Agreement). Bank is willing to make the Loans to Grantor, but only upon the condition, among others, that Grantor shall grant to Bank a security interest in certain Copyrights, Trademarks, Patents, and Mask Works (as each term is described below) to secure the obligations of Grantor under the Loan Agreement.

B. Pursuant to the terms of the Loan Agreement, Grantor has granted to Bank 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 Bank 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 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");

(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, extensions, 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 Bank.

Grantor hereby authorizes Bank 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 Bank 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 may be executed in counterparts (and by different parties hereto in different counterparts), each of which shall constitute an original, but all of which when taken together shall constitute a single contract. Delivery of an executed counterpart of a signature page to this Agreement by facsimile or in electronic (i.e., "pdf" or "tif" format) shall be effective as delivery of a manually executed counterpart of this Agreement.

5. Successors and Assigns. This Agreement will be binding on and shall inure to the benefit of the parties hereto and their respective successors and assigns.

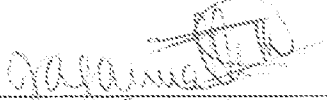
6. Governing Law. This Agreement and any claim, controversy, dispute or cause of action (whether in contract or tort or otherwise) based upon, arising out of or relating to this Agreement and the transactions contemplated hereby and thereby shall be governed by, and construed in accordance with, the laws of the United States and the State of California, without giving effect to any choice or conflict of law provision or rule (whether of the State of California or 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:

CALIENT TECHNOLOGIES, INC.

  
By: V. P. SETLUK  
Title: COO & CFO

BANK:

SILICON VALLEY BANK

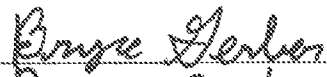
  
By: Bryce Gerber  
Title: Vice President

EXHIBIT A

Copyrights

Description

Registration/  
Application  
Number

Registration/  
Application  
Date

NONE

EXHIBIT B

Patents

<u>Description</u>	<u>Registration/ Application Number</u>	<u>Registration/ Application Date</u>
OPTICAL CIRCUIT SWITCH WITH INTEGRAL CIRCULATORS	9,366,824	06/14/2016
	14705746	05/06/2015
MAKING CONNECTIONS THROUGH AN OPTICAL CIRCUIT SWITCH	9,213,143	12/15/2005
	14322021	07/02/2014
COMPOUND OPTICAL CIRCUIT SWITCH	9,207,404	12/08/2015
	20150098678	
	14046825	10/04/2013
MAKING LIGHTLESS CONNECTIONS IN AN OPTICAL CIRCUIT SWITCH	9,151,903	10/06/2015
	20150035972	
	13958872	08/05/2013
MIRROR DRIFT COMPENSATION IN AN OPTICAL CIRCUIT SWITCH	9,063,295	06/23/2015
	20150036973	
	13958889	08/05/2013
OPTICAL CIRCUIT SWITCH WITH INTEGRAL CIRCULATORS	9,063,288	06/23/2015
	13904915	05/29/2013
COMPOUND OPTICAL CIRCUIT SWITCH WITH SHARED OPTICAL POWER MEASUREMENTS	8,929,696	01/06/2015
	14047728	10/07/2013
MIRROR DRIFT COMPENSATION IN AN OPTICAL CIRCUIT SWITCH	8,712,239	04/29/2014
	14040437	09/27/2013
MAKING LIGHTLESS CONNECTIONS IN AN OPTICAL CIRCUIT SWITCH	8,682,117	03/25/2014
	14040448	09/27/2013
MICROELECTROMECHANICAL SYSTEM WITH BALANCED CENTER OF MASS	8,982,440	03/17/2015
	13106693	05/12/2011
MULTICHANNEL OPTICAL POWER METER USING FREE SPACE BEAM SAMPLING	8,822,906	09/02/2014
	13296126	11/14/2011
MICROELECTROMECHANICAL SYSTEM WITH A CENTER OF MASS BALANCED BY A MIRROR SUBSTRATE	8,705,159	04/22/2014
	13106709	05/12/2011
PRECISION DRIVER CIRCUITS FOR MICRO-ELECTRO-MECHANICAL SYSTEM	8,680,894	03/25/2014
	13787621	03/06/2013
WAVELENGTH DEPENDENT OPTICAL SWITCH	8,639,069	01/28/2014
	10880382	06/28/2004



MAKING MASS CONNECTIONS IN AN OPTICAL CIRCUIT SWITCH	9,438,968	09/06/2016
	13/938,008	07/09/2013
MULTICHANNEL OPTICAL POWER METER USING A SYNCHRONOUS SCANNER	9,436,002	09/06/2016
	20150055202	
	14038431	09/26/2013
OPTICAL SWITCH FABRIC WITH REDUNDANCY	6,882,766	04/19/2005
APPARATUS FOR CREATING AN OPTICAL FIBER LINK	6,540,409	04/01/2003
FEEDBACK STABILIZATION OF A LOSS OPTIMIZED SWITCH	6,456,751	09/24/2002
HIGH UNIFORMITY LENS ARRAYS HAVING LENS CORRECTION AND METHODS FOR FABRICATING THE SAME	6,449,098	
MICRO-ELECTRO-MECHANICAL-SYSTEM (MEMS) MIRROR DEVICE HAVING LARGE ANGLE OUT OF PLANE MOTION USING SHAPED COMBED FINGER ACTUATORS AND METHOD FOR FABRICATING THE SAME	6,628,041	
MICROMACHINED APPARATUS FOR IMPROVED REFLECTION OF LIGHT	6,585,383	
DUAL REFRACTION INDEX COLLIMATOR FOR AN OPTICAL SWITCH	6,483,961	
OPTICAL CROSS-CONNECT SWITCH WITH INTEGRATED OPTICAL SIGNAL TAP	6,668,108	
PASSIVE ALIGNMENT METHOD AND APPARATUS FOR FABRICATING A MEMS DEVICE	6,504,967	
OPTICAL SWITCH HAVING MIRRORS ARRANGED TO ACCOMMODATE FREEDOM OF MOVEMENT	6,560,384	
POSITIONING A MOVABLE REFLECTOR IN AN OPTICAL SWITCH	6,610,974	
SAFE PROCEDURE FOR MOVING MIRRORS IN AN OPTICAL CROSS-CONNECT SWITCH	6,728,016	
MAINTAINING PATH INTEGRITY IN AN OPTICAL SWITCH	6,587,611	
OPTICAL SWITCH HAVING SWITCH MIRROR ARRAYS CONTROLLED BY SCANNING BEAMS	6,643,425	
SHAPED ELECTRODES FOR MICRO-ELECTRO-MECHANICAL-SYSTEM (MEMS) DEVICES TO IMPROVE ACTUATOR PERFORMANCE AND METHODS FOR FABRICATING THE SAME	6,825,967	
ELECTROSTATIC ACTUATOR FOR MICROELECTROMECHANICAL SYSTEMS	6,753,638	
OPTICAL SWITCH WITH INTERNAL MONITORING	6,792,177	
WAVELENGTH POWER EQUALIZATION BY ATTENUATION IN AN OPTICAL SWITCH	6,697,547	
OPTICAL SWITCH PACKAGE	6,819,824	
WAVELENGTH SELECTIVE OPTICAL SWITCH WITH ALIGNED INPUT AND OUTPUT SUBSTRATES	6,778,739	
METHOD AND APPARATUS FOR MONITORING OPTICAL SWITCHES	6,950,215	
MICROMACHINED APPARATUS FOR IMPROVED REFLECTION OF LIGHT	6,612,706	
MICRO-ELECTRO-MECHANICAL-SYSTEM (MEMS) MIRROR DEVICE AND METHODS FOR FABRICATING THE SAME	6,563,106	
A METHOD OF FABRICATING SEMICONDUCTOR WAFERS HAVING MULTIPLE HEIGHT SUBSURFACE LAYERS	6,544,863	
MICROMACHINED APPARATUS FOR IMPROVED REFLECTION OF LIGHT	6,578,974	

METHOD AND APPARATUS FOR INDIRECT ADJUSTMENT OF OPTICAL SWITCH REFLECTORS	6,819,815
OPTICAL TAP FOR AN OPTICAL SWITCH	6,597,825
MULTIPURPOSE TESTING SYSTEM FOR OPTICAL CROSS CONNECT DEVICES	6,959,126
METHOD AND APPARATUS FOR HERMETICALLY SEALING FIBER ARRAY BLOCKS	6,681,473
METHOD AND APPARATUS FOR INTERNAL MONITORING AND CONTROL OF REFLECTORS IN AN OPTICAL SWITCH	6,788,842
METHOD AND APPARATUS TO PROVIDE ALTERNATIVE PATHS FOR OPTICAL PROTECTION PATH SWITCH ARRAYS	7,110,633
OPTICAL AMPLIFICATION IN PHOTONIC SWITCHED CROSSCONNECT SYSTEMS	7,379,668
BOUNDARY ISOLATION FOR MICROELECTROMECHANICAL DEVICES	7,728,339
FEEDBACK STABILIZATION OF A LOSS OPTIMIZED SWITCH	6,728,433
AUTOMATIC STATISTICAL TEST SEQUENCE GENERATOR AND METHODS THEREOF	6,792,377
OPTICAL SYSTEM FOR SELECTABLE DELAY	7,146,069
OPTICAL SWITCH WITH ADJUSTABLE OPTICAL LOSS	6,904,195
ELECTROSTATIC ACTUATOR FOR MICROELECTROMECHANICAL SYSTEMS AND METHODS OF FABRICATION	7,261,826
ELECTROSTATIC ACTUATOR FOR MICROELECTROMECHANICAL SYSTEMS AND METHODS OF FABRICATION	7,098,571
WAVELENGTH ROUTING OPTICAL SWITCH	7,254,293
WAVELENGTH DEPENDENT OPTICAL SWITCH	7,142,744
WAVELENGTH POWER EQUALIZATION BY ATTENUATION IN AN OPTICAL SWITCH	7,248,760
OPTICAL SWITCH FABRIC WITH REDUNDANCY	7,496,252
OPTICAL SWITCH FABRIC WITH REDUNDANCY	7,127,137
OPTICAL SWITCH WITH ADJUSTABLE OPTICAL LOSS	7,676,125
METHOD AND APPARATUS TO PROVIDE MULTI-CHANNEL BULK FIBER OPTICAL POWER DETECTION	7,529,441
BOUNDARY ISOLATION FOR MICROELECTROMECHANICAL DEVICES	7,728,339

EXHIBIT C

Trademarks

<u>Description</u>	Registration/ Application <u>Number</u>	Registration/ Application <u>Date</u>
CALIENT	2779898	11/04/2003
CALIENT NETWORKS	2732594	07/01/2003
CALIENT NETWORKS	2779899	11/04/2003

EXHIBIT D

Mask Works

Description

Registration/  
Application  
Number

Registration/  
Application  
Date

NONE