

TRADEMARK ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

ETAS ID: TM438619

SUBMISSION TYPE:	NEW ASSIGNMENT		
NATURE OF CONVEYANCE:	SECURITY INTEREST		
CONVEYING PARTY DATA			
Name	Formerly	Execution Date	Entity Type
CALIX, INC.		08/07/2017	Corporation: DELAWARE
RECEIVING PARTY DATA			
Name:	SILICON VALLEY BANK		
Street Address:	3003 TASMAN DRIVE		
City:	SANTA CLARA		
State/Country:	CALIFORNIA		
Postal Code:	95054		
Entity Type:	Corporation: CALIFORNIA		
PROPERTY NUMBERS Total: 16			
Property Type	Number	Word Mark	
Registration Number:	1357966	OCCAM	
Registration Number:	1356286	OCCAM	
Registration Number:	5120659	AXOS	
Registration Number:	4973269	GIGAHUB	
Registration Number:	4968883	GIGAPOINT	
Registration Number:	4968809	GIGACENTER	
Registration Number:	4734689	FIBER FORWARD	
Registration Number:	4064466	E3	
Registration Number:	4489136	CONSUMER CONNECT	
Registration Number:	4151481	B6	
Registration Number:	4392669	COMPASS	
Registration Number:	3839295	E7	
Registration Number:	3802134	E5	
Registration Number:	3303025	C7	
Registration Number:	2707608		
Registration Number:	2789178	CALIX	
CORRESPONDENCE DATA			
Fax Number:	4048853900		
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent</i>			
TRADEMARK			

CH \$415.00 1357966

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 4048853868
Email: rusty.close@troutmansanders.com
Correspondent Name: CHRISTOPHER CLOSE
Address Line 1: TROUTMAN SANDERS LLP
Address Line 2: 600 PEACHTREE STREET NE, SUITE 5200
Address Line 4: ATLANTA, GEORGIA 30308-2216

ATTORNEY DOCKET NUMBER:	220763.002369
NAME OF SUBMITTER:	Christopher Close
SIGNATURE:	/Christopher Close/
DATE SIGNED:	08/09/2017

Total Attachments: 32

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INTELLECTUAL PROPERTY SECURITY AGREEMENT

THIS INTELLECTUAL PROPERTY SECURITY AGREEMENT (“Agreement”) is entered into as of August 7, 2017, by and between **SILICON VALLEY BANK**, a California corporation (“**Bank**”), and **CALIX, INC.**, a Delaware corporation (“**Grantor**”).

RECITALS

A. Bank has agreed to make certain advances of money and to extend certain financial accommodations 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 the date hereof (as the same may 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 or 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 and any patents and patent applications claiming the priority benefit of 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.

Notwithstanding the foregoing, the term “Intellectual Property Collateral” shall not include any of the following: (a) rights held under an inbound license in which Grantor is the licensee to the extent that such rights are not assignable by their terms without the consent of the licensor thereof (but only to the extent such restriction on assignment is enforceable under applicable law); or (b) any intent-to use Trademark applications prior to the filing of a “Statement of Use”, “Amendment to Allege Use” or similar filing with regard thereto, to the extent and solely during the period, in which the grant of a security interest therein may impair the validity or enforceability of any Trademark that may issue from such intent to use Trademark application under applicable law.

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.

3. Authorization. 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.

4. 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 the other Loan Documents, and nothing in this Agreement shall be deemed to limit such rights and remedies.

5. 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.

6. 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.

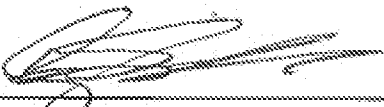
7. Governing Law. This Agreement and any claim, controversy, dispute or cause of action (whether in contract or tort or otherwise) based upon, arising out of or relating to this Agreement and the transactions contemplated hereby and thereby shall be governed by, and construed in accordance with, the 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:

CALIX, INC.

By: 
Name: Cory Sindelar
Title: Interim Chief Financial Officer

BANK:

SILICON VALLEY BANK

By: _____
Name:
Title:

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:

CALIX, INC.

By: _____
Name:
Title:

BANK:

SILICON VALLEY BANK

By: Tim Gebink
Name: Tim Gebink
Title: Vice President

EXHIBIT A

Copyrights

Description	Registration Number	Application Number
None Identified		

EXHIBIT B

Patents

Description	Application Number	Registration Number
ATM Utopia Bus Snooper Switch	PCT US2002009200 (03/13/2002)	
Ethernet Based TDM Switch	PCT US2002012213 (04/17/2002)	
Free Space Optical "Backplane" (FSO)	PCT US2002012157 (04/17/2002)	
Optical Ethernet Overlay for Loop Topology Network	PCT US2002012158 (04/17/2002)	
A Generic Interface for System and Application Management	PCT US2002014532 (05/06/2002)	
Tunable Optical Add-Drop Multiplexer	PCT US2002014252 (05/03/2002)	
Virtual Local Area Network Protection Switching	PCT US2002018945 (06/11/20020)	

Description	Application Number	Registration Number
Command Line Interface Abstraction Engine	PCT US2002025166 (08/08/2002)	
System and Method to Uniformly Access Devices	PCT US2002025904 (08/13/2002)	
System and Method for Distributed Device Control	PCT US2002025903 (08/13/2002)	
An Integrated Telephony Subscriber Line Protection and Filter Device	PCT US2002032158 (10/08/2002)	
Device Monitoring Via Generalized Markup Language	PCT US2003002528 (01/28/2003)	
Configuration Management Utilizing Generalized Markup Language	PCT US2003002808 (01/29/2003)	
Multi-Stream Jitter Buffer for Packetized Voice Applications	PCT US2003001091 (01/13/2003)	
Methods and Apparatuses to Support Multiple Fiber Networking Platforms	PCT US2010062269 (12/28/2010)	

Description	Application Number	Registration Number
System and Method for Distributed Device Control	09/931,790 (08/16/2001)	
Beverage Holder Tray on Outdoor Enclosure		6,568,133 (05/27/2003)
Digital-To-Analog Converter with Temperature Compensation		6,593,864 (07/15/2003)
Fiber Guide Connected to a Heat Sink Fastener		6,661,663 (12/09/2003)
Faceplate with Integrated Light-Pipe		6,692,132 (02/17/2004)
Heat Sink with a Cutout		6,728,103 (04/27/2004)
Angled Connector		6,793,521 (09/21/2004)
Concurrent Switching of Synchronous and Asynchronous Traffic		6,798,784 (09/28/2004)

Description	Application Number	Registration Number
Optical Network Restoration		6,952,395 (10/04/2005)
Arbiter for an Input Buffered Communication Switch		6,954,811 (10/11/2005)
Space Reuse During Technology Upgrade in a Protection Area of an Outdoor Enclosure		6,980,725 (12/27/2005)
Traffic Merging System		7,006,497 (02/28/2006)
Network Address Assignment in a Passive Optical Network		7,020,157 (03/28/2006)
Backplane Bus		7,035,294 (04/26/2006)
N to One and One to One Equipment Protection Switching		7,058,011 (06/06/2006)
Asynchronous Receive and Transmit Packet Crosspoint		7,068,672 (06/27/2006)

Description	Application Number	Registration Number
Connection Rearrangement in Communication Switches		7,187,672 (03/06/2007)
Methods, Devices and Computer-Readable Storage Media for Passive Optical Network Address Association Recovery		7,318,096 (01/08/2008)
Network Address Assignment in a Passive Optical Network		7,525,980 (04/28/2009)
Backplane Bus		7,551,650 (06/23/2009)
Merging Multiple Data Flows in a Passive Optical Network		7,586,920 (09/08/2009)
Network Interface Device Communication via Power Line		7,652,390 (01/26/2010)
Pluggable Optical Diplexer/Triplexer Module		7,664,405 (02/16/2010)
Traffic Management for a Passive Optical Network Terminal		7,672,233 (03/02/2010)

Description	Application Number	Registration Number
Network Interface Device Enclosure		7,672,450 (03/02/2010)
Merging Multiple Network Data Flows		7,843,939 (11/30/2010)
Traffic Management For A Passive Optical Network Terminal		7,848,343 (12/07/2010)
Method, Device and Computer-Readable Storage Medium for Network Address Association Recovery		7,895,318 (02/22/2011)
Communication Between Network Interface Device And Subscriber Devices Via Power Supply Lines		7,923,855 (04/12/2011)
Efficient Management of Ring Networks		8,004,966 (08/23/2011)
Applying Adaptive Thresholds to Multicast Streams within Computer Networks		8,121,124 (02/21/2012)
Upgrade Resilient Multi-Transport Optical Network Terminal		8,139,605 (03/20/2012)

Description	Application Number	Registration Number
Network Interface Device Communication via Power Line		8,212,375 (07/03/2012)
Passive Optical Network Protection Switching		8,244,125 (08/14/2012)
Automatically Selecting a Clock Recovery Mode Within Optical Network Terminals		8,244,126 (08/14/2012)
Ont-Based Micronode Management		8,249,452 (08/21/2012)
Network Device Authentication		8,312,275 (11/13/2012)
Automatic Control Node Selection in Ring Networks		8,320,282 (11/27/2012)
Inline Packet Replication in Network Devices		8,325,727 (12/04/2012)
Secure DHCP Processing for Layer Two Access Networks		8,341,725 (12/25/2012)

Description	Application Number	Registration Number
Virtual Snooping Bridge in Computer Networks		8,345,540 (01/01/2013)
Joining Multiple Spanning Tree Networks Across Ring Network		8,355,348 (01/15/2013)
Optical Network Interface Devices and Methods		8,401,387 (03/19/2013)
Return Path for Upstream Communications Originating from Optical Node		8,428,465 (04/23/2013)
Optical Network Interface Devices and Methods		8,433,195 (04/30/2013)
System for Correlating a Subscriber Unit with a Particular Subscriber in a Passive Optical Network		8,451,979 (05/28/2013)
Optical Transceiver Assembly		8,463,098 (06/11/2013)
Methods and Apparatuses to Support Multiple Fiber Networking Platforms		8,472,485 (06/25/2013)

Description	Application Number	Registration Number
Cable Restraint		8,494,335 (07/23/2013)
Network Device Authentication		8,495,371 (07/23/2013)
Automated VLAN Assignment to Domain in Ring Network		8,526,443 (09/03/2013)
Protecting Optical Transports from Consecutive Identical Digits in Optical Computer Networks		8,600,057 (12/03/2013)
Multi-Card Network Device Appearing as Single Entity in Spanning Tree Network		8,625,466 (01/07/2014)
Network Interface Device Synchronization		8,630,546 (01/14/2012)
Systems And Methods for Multicast Admission Control		8,660,004 (02/25/2014)
Transparent Clock for Precision Timing Distribution		8,718,482 (05/06/2014)

Description	Application Number	Registration Number
Protecting Optical Transports from Consecutive Identical Digits in Optical Computer Networks		8,731,198 (05/20/2014)
Ethernet OAM to ATM OAM Interworking for Loopback Capability		8,824,308 (09/02/2014)
Systems and Methods for Measuring Frame Loss in Multipoint Networks		8,848,563 (09/30/2014)
Secure DHCP Processing for Layer Two Access Networks		8,862,705 (10/14/2014)
Isolation VLAN for Layer Two Access Networks		8,875,233 (10/28/2014)
Scheduling Delivery of Upstream Traffic Based On Downstream Traffic in Optical Networks		8,917,993 (12/23/2014)
Determining Quality of Experience with a Network Device		8,964,572 (02/24/2015)
System and Method For Servicing a Device Having a Matrix Barcode		8,967,460 (03/03/2015)

Description	Application Number	Registration Number
Grant Scheduler for Optical Network Devices		8,976,688 (03/10/2015)
Optical Network Device with Multi-Transport Support		8,983,308 (03/17/2015)
Systems and Methods for Measuring Frame Loss in Multipoint Networks		8,989,032 (03/24/2015)
Provisioning Network Devices in Ethernet-Based Access Networks		9,025,951 (05/05/2015)
Hybrid Ranging Using an Out of Band Signal in Optical Networks		9,048,946 (06/02/2015)
Propagating Link Status Across a Network		9,137,129 (09/15/2015)
Distributed Cache System for Optical Networks		9,137,326 (09/15/2015)
System and Method for Automated Quality of Service Configuration Through the Access Network		9,185,042 (11/10/2015)

Description	Application Number	Registration Number
Distributed System and Method for Flow Identification in an Access Network		9,240,938 (01/19/2016)
Applying Heuristics to Manage Multicast Subscriptions within Computer Networks		9,294,534 (03/22/2016)
System and Method of Compensating for Spectral Excursion		9,306,697 (04/05/2016)
Methods and Apparatuses for Network Flow Analysis and Control		9,319,293 (04/19/2016)
System and Method for Secure Network Communications		9,369,432 (06/14/2016)
Methods and Apparatuses for Distributed Packet Flow Control		9,391,903 (07/12/2016)
Rogue Optical Network Interface Device Detection		9,496,952 (11/15/2016)
Rogue Optical Network Interface Device Detection		9,515,725 (12/06/2016)

Description	Application Number	Registration Number
Network Latency Testing		9,515,908 (12/06/2016)
Optical Network Device with Integrated Port Mirroring		9,591,386 (03/07/2017)
Methods and Apparatuses for Dynamic Backhaul Bandwidth Management in Wireless Networks		9,642,145 (05/02/2017)
Rogue Optical Network Interface Device Detection		9,692,505 (06/27/2017)
Universal Demarcation Point		RE37,125 (04/03/2001)
Multicast to Unicast Traffic Conversion in a Network	11/046,198 (01/28/2005)	
System for Correlating a Subscriber Unit with a Particular Subscriber in a Passive Optical Network	11/065,323 (02/24/2005)	
Optical Network Terminal with Wide Input Range Power Converter	11/313,234 (12/20/2005)	

Description	Application Number	Registration Number
Power Supply Housing for Network Interface Device	11/313,240 (12/20/2005)	
Return Path Compliance in Networks	12/260,665 (10/29/2008)	
Communication Among Network Devices at Subscriber Premises	13/188,023 (07/21/2011)	
Detecting and Communicating Potential Optical Fiber Issues in Optical Networks	13/595,444 (08/27/2012)	
Laser Power Control Using Bias and Modulation Current Feedback	13/725,317 (12/21/2012)	
Network Activation Testing	13/791,560 (03/08/2013)	
Service Utilization Browser Plug-In	13/959,490 (08/05/2013)	
System and Method for Advertisement of SLA Attributes of a Service and the Test Capability of the Endpoint Device	14/013,963 (08/29/2013)	

Description	Application Number	Registration Number
Network Activation Testing	14/208,930 (03/13/2014)	
Network and Service Layers for Next Generation Access Networks	14/272,860 (05/08/2014)	
Compensator for Wavelength Drift Due to Variable Laser Injection Current and Temperature in a Directly Modulated Burst Mode Laser	14/465,621 (08/21/2014)	
System and Method for Delivering Subscriber Services	14/539,178 (11/12/2014)	
System and Method for Locating Nodes Within a Wireless Network		9,716,979 (07/25/2017)
Provisioning Network Devices in Ethernet-Based Access Networks	14/687,495 (04/15/2015)	
Self-Calibrating Tunable Laser for Optical Network	14/749,262 (06/24/2015)	
Distributed System and Method for Flow Identification in an Access Network	14/990,120 (01/07/2016)	

Description	Application Number	Registration Number
	15/198,781	
	15/234,424	
Optical Network Terminal Wavelength Notification	15/240,017 (08/18/2016)	
	15/251,084	
	15392813	
Optical Network Device with Integrated Port Mirroring	15/417,965 (01/27/2017)	
	15/467,255	
	15/7487,794	

Description	Application Number	Registration Number
	15/488,111	
	15/601,231	
	15/652,352	
Tunable Optical Add-Drop Multiplexer		6,486,462 (11/26/2002)
Free Space Optical "Backplane" (FSO)		6,526,211 (02/25/2003)
Pseudo Master/Slave Decoupling of High Speed Bus Communications Timing		6,553,434 (04/22/2003)
Method and Apparatus to Perform Cell Synchronization in an Asynchronous Transfer Mode Network		6,580,774 (06/17/2003)
Integrated Telephony Subscriber Line Protection and Filter Device		6,606,231 (08/12/2003)

Description	Application Number	Registration Number
ATM Utopia Bus Snooper Switch		6,618,376 (09/09/2003)
Optical Ethernet Overlay for Loop Topology Network		6,623,186 (09/23/2003)
Upstream Scrambler Seeding System and Method in a Passive Optical Network		6,700,903 (03/02/2004)
Generic Interface for System and Application Management		6,725,233 (04/20/2004)
Expanded Addressing for Traffic Queues and Prioritization		6,732,206 (05/04/2004)
System and Method for Selecting Internet Service Providers From a Workstation that is Connected to a Local Area Network		6,748,439 (06/08/2004)
Method and Apparatus for Distributing a Clock in a Network		6,754,745 (06/22/2004)
Fast Threshold Determination for Packet-Multiplexed Digital Communication		6,785,344 (08/31/2004)

Description	Application Number	Registration Number
Ranging Cell Detection in a Noisy Environment		6,801,547 (10/05/2004)
Virtual Local Area Network Protection Switching		6,834,056 (12/21/2004)
Stratum Traceable Clock Driver for Voice Dejittering and Control		6,856,615 (02/15/2005)
Command Line Interface Abstraction Engine		6,907,572 (06/14/2005)
System and Method to Uniformly Access Devices		6,952,830 (10/04/2005)
Adaptive Bit Rate Transponder		6,996,123 (02/07/2006)
Ethernet Based TDM Switch		6,999,450 (02/14/2006)
System and Method for Synchronization of Devices Across a Packet Network		7,103,072 (09/05/2006)

Description	Application Number	Registration Number
Configuration Management Utilizing Generalized Markup Language		7,155,496 (12/26/2006)
Filtering Subscriber Traffic to Prevent Denial-of-Service Attacks		7,379,423 (05/27/2008)
Multi-Stream Jitter Buffer for Packetized Voice Applications		7,463,598 (12/09/2008)
Controlling ARP Traffic to Enhance Network Security and Scalability in TCP/IP Networks		7,490,351 (02/10/2009)
Broadband Loop Carrier System		7,492,761 (02/17/2009)
Controlling ARP Packet Traffic to Enhance Network Security and Scalability in TCP/IP Networks		7,596,693 (09/29/2009)
Device Monitoring via Generalized Markup Language		7,685,508 (03/23/2010)
Fiber Optic Parking Dust Cover		7,706,657 (04/27/2010)

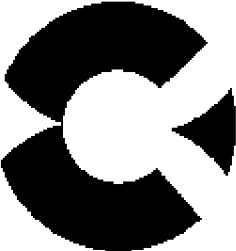
Description	Application Number	Registration Number
On-Hook Signal Detector		7,756,105 (07/13/2010)
Method and System to Facilitate Management of a Distributed Network		7,836,153 (11/16/2010)
Class Loader for Managing a Network		8,010,973 (08/30/2011)
Communication Between Network Interface and Subscriber Devices via Power Supply Lines		8,338,981 (12/25/2012)
Merging Multiple Network Data Flows		8,559,440 (10/15/2013)
Inline Packet Replication in Network Devices		8,837,481 (09/16/2014)
Network Interface Device Synchronization		9,178,613 (11/03/2015)
Transparent Clock for Precision Timing Distribution		9,391,768 (07/12/2016)

Description	Application Number	Registration Number
Efficient Management of Ring Networks		9,686,098 (06/20/2017)
	61/870,637	
	61,936,039	
	61/990,610	
	62/018,467	
	62/245,605	
	62/322,321	

EXHIBIT C

Trademarks

Description	Serial Number	Registration Number
OCCAM		1,357,966 (09/03/1985)
OCCAM		1,356,286 (08/27/1985)
AXOS		5,120,659 (01/10/2017)
GIGIHUB		4,973,269 (07/07/2016)
GIGIPOINT		4,968,883 (05/31/2016)
GIGICENTER		4,968,809 (05/31/2016)
FIBER FORWARD		4,734,689 (05/12/2015)

Description	Serial Number	Registration Number
E3		4,064,466 (11/29/2011)
CONSUMER CONNECT		4,489,136 (02/25/2014)
B6		4,151,481 (05/29/2012)
COMPASS		4,392,669 (08/27/2013)
E7		3,839,295 (08/24/2010)
E5		3,802,134 (06/15/2010)
C7		3,303,025 (10/02/2007)
		2,707,608 (04/15/2003)

Description	Serial Number	Registration Number
CALIX		2,789,178 (12/02/2003)

EXHIBIT D

Mask Works

Description	Application	Registration
None Identified		