

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT3371976

<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>
TRIUNE IP, LLC		05/13/2015
<b>RECEIVING PARTY DATA</b>		
<b>Name:</b>	HSBC BANK USA, NATIONAL ASSOCIATION	
<b>Street Address:</b>	660 S. FIGUEROA ST., SUITE 800	
<b>Internal Address:</b>	ATTN: SEMTECH RELATIONSHIP MANAGER	
<b>City:</b>	LOS ANGELES	
<b>State/Country:</b>	CALIFORNIA	
<b>Postal Code:</b>	90017	
<b>PROPERTY NUMBERS Total: 32</b>		
<b>Property Type</b>	<b>Number</b>	
Patent Number:	8768455	
Patent Number:	7827334	
Patent Number:	7808127	
Patent Number:	7859911	
Patent Number:	8102718	
Patent Number:	8441866	
Patent Number:	8693261	
Patent Number:	8300375	
Patent Number:	8743522	
Patent Number:	8102713	
Patent Number:	8552336	
Patent Number:	8461847	
Patent Number:	7982492	
Patent Number:	8408900	
Patent Number:	8687385	
Patent Number:	8704450	
Patent Number:	8584961	
Patent Number:	8664745	
Patent Number:	8964418	

PATENT

Property Type	Number
Application Number:	13489329
Application Number:	13540902
Application Number:	13540920
Application Number:	13567039
Application Number:	13616726
Application Number:	13754709
Application Number:	13851892
Application Number:	14178161
Application Number:	14267678
Application Number:	12814457
Application Number:	13855467
Application Number:	12897672
Application Number:	13193407

#### CORRESPONDENCE DATA

**Fax Number:** (213)443-2926

*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.*

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**Correspondent Name:** SHEPPARD, MULLIN, RICHTER & HAMPTON LLP

**Address Line 1:** 333 S. HOPE ST., 43RD FLOOR

**Address Line 2:** ATTN: J. CRAVITZ

**Address Line 4:** LOS ANGELES, CALIFORNIA 90071

<b>ATTORNEY DOCKET NUMBER:</b>	03VV-191423
<b>NAME OF SUBMITTER:</b>	JULIE CRAVITZ
<b>SIGNATURE:</b>	/julie cravitz/
<b>DATE SIGNED:</b>	05/27/2015

#### Total Attachments: 6

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**GRANT OF SECURITY INTEREST  
(PATENTS)**

**[TRIUNE IP, LLC]**

**THIS GRANT OF SECURITY INTEREST (PATENTS)** (this “**IP Grant**”) is dated as of May 13, 2015, and is entered into by **TRIUNE IP, LLC**, a Texas limited liability company (“**Assignor**”), in favor of **HSBC BANK USA, NATIONAL ASSOCIATION**, not in its individual capacity, but solely in its capacity as the Administrative Agent (as defined below) (in such capacity, “**Assignee**”) under the Credit Agreement (as defined below) for the benefit of the Secured Parties (as defined in the Credit Agreement).

**WHEREAS**, Semtech Corporation, a Delaware corporation (“**Borrower**”), and certain of its direct or indirect Domestic Subsidiaries, as guarantors (the “**Guarantors**”), have entered into that Credit Agreement dated as of May 2, 2013 (as amended, modified and supplemented to the date hereof and as the same may from time to time hereafter be further amended, modified, supplemented or restated, the “**Credit Agreement**”), with the financial institutions party thereto as Lenders and HSBC Bank USA, National Association, in its separate capacities as Administrative Agent, for the benefit of the Secured Parties, and as Swing Line Lender and L/C Issuer, pursuant to which the Lending Parties agree to make certain Credit Extensions to Borrower for the benefit of each Loan Party up to an initial aggregate available principal amount of \$400,000,000 on the terms and subject to the conditions set forth therein and the other Loan Documents.

**WHEREAS**, Assignor, a wholly owned indirect Subsidiary of Borrower, has executed and delivered to Assignee, for the benefit of the Secured Parties, that Joinder Agreement dated as of March 17, 2015, pursuant to which Assignor agreed to and did become a party to the Credit Agreement as a Guarantor as if originally named therein as a Guaranty.

**WHEREAS**, in order to secure their Obligations to Administrative Agent and the other Secured Parties under the Credit Agreement and the other Loan Documents, Borrower and each of the Guarantors party to the Credit Agreement have entered into that Security Agreement dated as of dated as of May 2, 2013 (as amended, modified and supplemented to the date hereof and as the same may from time to time hereafter be further amended, modified, supplemented or restated, the “**Security Agreement**”), in favor of Assignee, for the benefit of the Secured Parties, pursuant to which, among other things, each Assignor has granted to Assignee a security interest in all of such Assignor’s respective right, title and interest, whether presently existing or hereafter arising or acquired, in, to and under all of the “**Collateral**,” as defined in the Security Agreement.

**WHEREAS**, Assignor has executed and delivered to Assignee, for the benefit of the Secured Parties, that Security Agreement Supplement dated as of March 17, 2015, pursuant to which Assignor agreed to and did join and become bound by the Security Agreement as a new “Grantor” thereunder as if originally named therein as a Grantor.

**WHEREAS**, the Lending Parties are willing to make, extend and maintain the credit to Borrower under the Credit Agreement and the other Loan Documents for the benefit of each Loan Party, but only upon the condition, among others, that Assignor will grant a security interest in and assign for security purposes (and not as an absolute assignment) in favor of and to Assignee, for the benefit of the Secured Parties, in and to, all of such Assignor's respective right, title and interest in and to all Patents (as defined and described below) to secure its payment and performance of the Secured Obligations (as such term is defined in the Security Agreement).

**NOW, THEREFORE**, for good and valuable consideration, receipt of which is hereby acknowledged, as collateral security for the prompt and complete payment and performance when due of the Secured Obligations, Assignor hereby agrees as follows:

1. Unless otherwise defined herein, capitalized terms used herein shall have the same meaning when used herein as given to them in the Credit Agreement.

2. As security for the full, complete and final payment and performance when due (whether at stated maturity, by acceleration or otherwise) of all the Secured Obligations and in order to induce Administrative Agent and the Lending Parties to make, extend and maintain the Credit Extensions under the Credit Agreement to Borrower for the benefit of Borrower and each Guarantor upon the terms and subject to the conditions thereof, Assignor hereby assigns, conveys, mortgages, pledges, hypothecates and transfers to Assignee, as Administrative Agent for the benefit of the Secured Parties, and hereby grants to Assignee, as Administrative Agent for the benefit of the Secured Parties, a security interest in and to all of Assignor's rights, title and interests in, to and under all Patents (as defined in the Security Agreement), including, without limitation, each registered patent and each application for the registration of a patent listed on **Schedules A** and **B** hereto, including, without limitation, all reissues, continuations, continuations-in-part and renewals thereof.

Assignor does hereby further acknowledge and affirm that the rights and remedies of Assignee with respect to the assignment of and security interest in the Collateral made and granted hereby are more fully set forth in the Security Agreement, the terms and provisions of which are hereby incorporated herein by reference.

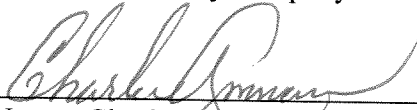
Following the termination of the Security Agreement in accordance with its terms, the Patents and any and all financing statements filed on behalf of Assignee will be automatically terminated, released, and/or reassigned to Assignor, and Assignee shall execute such instruments as may be reasonably requested to evidence such termination, release, and/or reassignment.

*[remainder of page intentionally left blank]*

**IN WITNESS WHEREOF**, each of the parties has caused this Grant of Security Interest (Patents) to be duly executed as of the date first written above.


**ASSIGNOR:**

**TRIUNE IP, LLC,**  
a Texas limited liability company

By:   
Name: Charles B. Ammann  
Title: Officer of Triune Systems, L.L.C.,  
as Sole Manager of Triune IP, LLC

**ASSIGNEE:**

**HSBC BANK USA, NATIONAL ASSOCIATION,**  
as Administrative Agent

By:   
Name: ECLIFF JACKMAN  
Title: VICE PRESIDENT

**SCHEDULE A**

**U.S. PATENTS**

**RECORD OWNER: TRIUNE IP, LLC**

<b>Recorded Owner</b>	<b>Title</b>	<b>Application No.</b>	<b>Filing Date</b>	<b>Pub No./ Registration No.</b>	<b>Pub. Date/ Issue Date</b>	<b>Status</b>
Triune IP L.L.C.	Topical Applicator	13495219	6/13/2012	8768455	7/1/2014	In Force
Triune IP L.L.C.	Protocol Method Apparatus and System for the Interconnection of Electronic Systems	12146474	10/13/2010	7827334	11/2/2010	In Force
Triune IP L.L.C.	Multiple Input Channel Power Control Circuit	12185306	9/15/2010	7808127	10/5/2010	In Force
Triune IP L.L.C.	Circuit and System for Programming a Floating Gate	12363232	1/30/2009	7859911	12/28/2010	In Force
Triune IP L.L.C.	Method for Programming a Floating Gate	12901702	1/4/2012	8102718	1/24/2012	In Force
Triune IP L.L.C.	Method for Programming a Floating Gate	13327364	12/15/2011	8441866	5/14/2013	In Force
Triune IP L.L.C.	Method for Programming a Floating Gate	13867757	4/22/2013	8693261	4/18/2014	In Force
Triune IP L.L.C.	Monitoring Method, Circuit, and System	12363095	10/10/2012	8300375	10/30/2012	Reissued
Triune IP L.L.C.	Monitoring Method, Circuit, and System	13663111	4/24/2013	8743522	6/3/2014	In Force
Triune IP L.L.C.	Non-Volatile Memory Monitor	12492091	1/4/2012	8102713	1/24/2012	In Force
Triune IP L.L.C.	Micro Matrix Data Marking	12646509	12/23/2009	8552336	10/8/2013	In Force
Triune IP L.L.C.	Electrical Interconnect Status Monitoring System	12710307	2/22/2010	8461847	6/11/2013	In Force
Triune IP L.L.C.	Adaptive Termination	12813180	6/10/2010	7982492	7/19/2011	In Force

Triune IP L.L.C.	Electro-Chemical System to Evaluate and Prevent Tooth Decay	12832519	7/8/2010	8408900	4/2/2013	In Force
Triune IP L.L.C.	Low Power Converter	12954635	11/25/2010	8687385	4/1/2014	In Force
Triune IP L.L.C.	Flash LED Controller	13037353	2/28/2011	8704450	4/22/2014	In Force
Triune IP L.L.C.	Marking Verification System	13051529	3/18/2011	8584961	11/19/2013	In Force
Triune IP L.L.C.	Integrated Inductor	13187403	7/20/2011	8664745	11/4/2014	In Force
Triune IP L.L.C.	Ultra-Low Power Converter	13540883	7/3/2012	8964418	2/24/2015	In Force

**SCHEDULE B**

**PENDING U.S. PATENTS**

**RECORD OWNER: TRIUNE IP, LLC**

<b>Recorded Owner</b>	<b>Title</b>	<b>Application No.</b>	<b>Filing Date</b>	<b>Pub No./ Registration No.</b>	<b>Pub. Date/ Issue Date</b>	<b>Status</b>
Triune IP L.L.C.	Electric Line Interface System	13489329	6/5/2012			Pending
Triune IP L.L.C.	Voltage Transient Protection Circuitry	13540902	7/3/2012			Pending
Triune IP L.L.C.	Pop and Click Noise Reduction	13540920	7/3/2012			Pending
Triune IP L.L.C.	Current Mode Regulator	13567039	8/4/2012			Pending
Triune IP L.L.C.	Tunable Synchronous Rectifier	13616726	9/14/2012			Pending
Triune IP L.L.C.	Method and System of Wireless Power Transfer Foreign Object Detection	13754709	1/30/2013			Pending
Triune IP L.L.C.	Resonant Circuit Dynamic Optimization System and Method	13851892	3/27/2013			Pending
Triune IP L.L.C.	High-Frequency Wireless Power System	14178161	2/11/2014			Pending
Triune IP L.L.C.	Electronic-Based Biosensor	14267678	5/1/2014			Pending
Triune IP L.L.C.	Dynamic Biasing for Regulator Circuits	12814457	6/13/2010			Pending
Triune IP L.L.C.	Electrochemical Dispensing Apparatus and Method	13855467	13855467			Pending
Triune IP L.L.C.	Biosensor to Detect Pathogens in Liquid	12897672	10/4/2010			Pending
Triune IP L.L.C.	Battery Charger	13193407	7/28/2011			Pending

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