

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT5102518

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
WEI XIONG	04/07/2016
MICHAEL C. LARSON	04/16/2016
PAUL COLBOURNE	04/06/2016
SHELDON MCLAUGHLIN	04/06/2016
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	LUMENTUM OPERATIONS LLC
<b>Street Address:</b>	400 NORTH MCCARTHY BLVD.
<b>City:</b>	MILPITAS
<b>State/Country:</b>	CALIFORNIA
<b>Postal Code:</b>	95035
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16100769
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	
<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>Email:</b>	hhodul@harrityllp.com
<b>Correspondent Name:</b>	HARRITY & HARRITY LLP
<b>Address Line 1:</b>	11350 RANDOM HILLS ROAD
<b>Address Line 2:</b>	SUITE 600
<b>Address Line 4:</b>	FAIRFAX, VIRGINIA 22030
<b>ATTORNEY DOCKET NUMBER:</b>	0100-0105C1
<b>NAME OF SUBMITTER:</b>	PAUL M. GURZO
<b>SIGNATURE:</b>	/Paul M. Gurzo, Reg. No. 67,478/
<b>DATE SIGNED:</b>	08/22/2018
<b>Total Attachments: 6</b>	
source=0100-0105C1_Assignment#page1.tif	
source=0100-0105C1_Assignment#page2.tif	
source=0100-0105C1_Assignment#page3.tif	

source=0100-0105C1\_Assignment#page4.tif  
source=0100-0105C1\_Assignment#page5.tif  
source=0100-0105C1\_Assignment#page6.tif

**ASSIGNMENT  
(Joint)  
Worldwide Rights**

THIS ASSIGNMENT, by Wei XIONG, Michael C. LARSON, Paul COLBOURNE, and Sheldon MCLAUGHLIN, with offices at at 6F, Resources Tech Bldg No.1 Songpingshan Rd N. Bldg, Shenzhen High-Tech Industrial Park N. Block, Nanshan District Shenzhen 44, 518057, China; 400 North McCarthy Boulevard, Milpitas CA, 95035, USA; 61 Bill Leatham Drive, Ottawa, ON, K2J 0P7, Canada; and 61 Bill Leatham Drive, Ottawa, ON, K2J 0P7, Canada (hereinafter referred to as "the Assignors"), respectively, witnesseth:

WHEREAS, the Assignors have invented certain new and useful improvements in WAVELENGTH LOCKER USING MULTIPLE FEEDBACK CURVES TO WAVELENGTH LOCK A BEAM set forth in an application for Letters Patent of the United States,

- (1)  which is a provisional application
  - (a)  filed herewith; or
  - (b)  bearing Application No. \_\_\_\_\_, and filed on \_\_\_\_\_; or
- (2)  which is a non-provisional application
  - (a)  bearing Application No. 15/132,797, and filed on April 19, 2016; or
  - (b)  filed herewith; and

We hereby authorize Applicants' representative to fill in the preceding information relating to the filing date and/or serial number, as appropriate.

WHEREAS, Lumentum Operations LLC, a corporation duly organized under and pursuant to the laws of Delaware and having its principal place of business at 400 North McCarthy Blvd, Milpitas, CA 95035 (hereinafter referred to as "the Assignee"), is desirous of acquiring the entire right, title, and interest in and to said inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications, including any previously or subsequently filed provisional applications, for Letters Patent of the United States or other countries claiming priority to said application or from which said application claims priority, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon.

NOW, THEREFORE, be it known that for good and sufficient consideration, the receipt of which is hereby acknowledged, the Assignors have sold, assigned, transferred, and set over, and by these presents do sell, assign, transfer, and set over, unto the Assignee, its successors, legal representatives, and assigns the entire right, title, and interest in and to the above-mentioned inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications for Letters Patent of the United States or other countries claiming priority to said applications, and any and all Letters Patent or Patents of the United States of America and all foreign countries that may be granted therefor and thereon, and in and to any and all applications claiming priority to said applications, provisional applications, divisions, continuations, and continuations-in-part of said applications, and reissues and extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by the Assignee, for its own use and behalf and the use and behalf of its successors, legal representatives, and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted as fully and entirely as the same would have been held and enjoyed by the Assignors had this sale and assignment not been made;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, the Assignors are the sole and lawful owners of the entire right, title, and interest in and to the inventions set forth in said applications and said applications, including provisional applications, above-mentioned, and that the same are unencumbered, and that the Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns that the Assignors will, whenever counsel of the Assignee, or the counsel of its successors, legal representatives, and assigns, shall advise that any proceeding in connection with said inventions or said applications for Letters Patent or Patents, or any proceeding in connection with Letters Patent or Patents for said inventions in any country, including interference proceedings, is lawful and desirable, or that any application claiming priority to said application, division, continuation, or continuation-in-part of any applications for Letters Patent or Patents, or any reissue or extension of any Letters Patent or Patents to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement, and defense of Letters Patent or Patents for said inventions, without charge to the Assignee, its successors, legal representatives, and assigns, but at the cost and expense of the Assignee, its successors, legal representatives, and assigns;

AND the Assignors hereby request the Commissioner of Patents to issue any and all said Letters Patent of the United States to the Assignee as the Assignee of said inventions, the Letters Patent to be issued for the sole use and behalf of the Assignee, its successors, legal representatives, and assigns.

Wei Xiong  
Wei XIONG

Date: Apr. 7, 2016

\_\_\_\_\_  
Michael C. LARSON

Date: \_\_\_\_\_

\_\_\_\_\_  
Paul COLBOURNE

Date: \_\_\_\_\_

\_\_\_\_\_  
Sheldon MCLAUGHLIN

Date: \_\_\_\_\_

[Handwritten Signature]  
Witness Signature

WANG QIANG  
Witness Name

\_\_\_\_\_  
Witness Signature

\_\_\_\_\_  
Witness Name

\_\_\_\_\_  
Witness Signature

\_\_\_\_\_  
Witness Name

\_\_\_\_\_  
Witness Signature

\_\_\_\_\_  
Witness Name

**ASSIGNMENT  
(Joint)  
Worldwide Rights**

THIS ASSIGNMENT, by Wei XIONG, Michael C. LARSON, Paul COLBOURNE, and Sheldon MCLAUGHLIN, with offices at at 6F, Resources Tech Bldg No.1 Songpingshan Rd N. Bldg, Shenzhen High-Tech Industrial Park N. Block, Nanshan District Shenzhen 44, 518057, China; 400 North McCarthy Boulevard, Milpitas CA, 95035, USA; 61 Bill Leatham Drive, Ottawa, ON, K2J 0P7, Canada; and 61 Bill Leatham Drive, Ottawa, ON, K2J 0P7, Canada (hereinafter referred to as "the Assignors"), respectively, witnesseth:

WHEREAS, the Assignors have invented certain new and useful improvements in WAVELENGTH LOCKER USING MULTIPLE FEEDBACK CURVES TO WAVELENGTH LOCK A BEAM set forth in an application for Letters Patent of the United States,

- (1)  which is a provisional application  
(a)  filed herewith; or  
(b)  bearing Application No. \_\_\_\_\_, and filed on \_\_\_\_\_; or
- (2)  which is a non-provisional application  
(a)  bearing Application No. 15/132,797, and filed on April 19, 2016; or  
(b)  filed herewith; and

We hereby authorize Applicants' representative to fill in the preceding information relating to the filing date and/or serial number, as appropriate.

WHEREAS, Lumentum Operations LLC, a corporation duly organized under and pursuant to the laws of Delaware and having its principal place of business at 400 North McCarthy Blvd, Milpitas, CA 95035 (hereinafter referred to as "the Assignee"), is desirous of acquiring the entire right, title, and interest in and to said inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications, including any previously or subsequently filed provisional applications, for Letters Patent of the United States or other countries claiming priority to said application or from which said application claims priority, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon.

NOW, THEREFORE, be it known that for good and sufficient consideration, the receipt of which is hereby acknowledged, the Assignors have sold, assigned, transferred, and set over, and by these presents do sell, assign, transfer, and set over, unto the Assignee, its successors, legal representatives, and assigns the entire right, title, and interest in and to the above-mentioned inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications for Letters Patent of the United States or other countries claiming priority to said applications, and any and all Letters Patent or Patents of the United States of America and all foreign countries that may be granted therefor and thereon, and in and to any and all applications claiming priority to said applications, provisional applications, divisions, continuations, and continuations-in-part of said applications, and reissues and extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by the Assignee, for its own use and behalf and the use and behalf of its successors, legal representatives, and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted as fully and entirely as the same would have been held and enjoyed by the Assignors had this sale and assignment not been made;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, the Assignors are the sole and lawful owners of the entire right, title, and interest in and to the inventions set forth in said applications and said applications, including provisional applications, above-mentioned, and that the same are unencumbered, and that the Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns that the Assignors will, whenever counsel of the Assignee, or the counsel of its successors, legal representatives, and assigns, shall advise that any proceeding in connection with said inventions or said applications for Letters Patent or Patents, or any proceeding in connection with Letters Patent or Patents for said inventions in any country, including interference proceedings, is lawful and desirable, or that any application claiming priority to said application, division, continuation, or continuation-in-part of any applications for Letters Patent or Patents, or any reissue or extension of any Letters Patent or Patents to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement, and defense of Letters Patent or Patents for said inventions, without charge to the Assignee, its successors, legal representatives, and assigns, but at the cost and expense of the Assignee, its successors, legal representatives, and assigns;

AND the Assignors hereby request the Commissioner of Patents to issue any and all said Letters Patent of the United States to the Assignee as the Assignee of said inventions, the Letters Patent to be issued for the sole use and behalf of the Assignee, its successors, legal representatives, and assigns.

\_\_\_\_\_  
Wei XIONG

Date: \_\_\_\_\_

  
\_\_\_\_\_  
Michael C. LARSON

Date: 16 APRIL 2016

\_\_\_\_\_  
Paul COLBOURNE

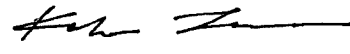
Date: \_\_\_\_\_

\_\_\_\_\_  
Sheldon MCLAUGHLIN

Date: \_\_\_\_\_

\_\_\_\_\_  
Witness Signature

\_\_\_\_\_  
Witness Name

  
\_\_\_\_\_  
Witness Signature

KOKO LARSON

Witness Name

\_\_\_\_\_  
Witness Signature

\_\_\_\_\_  
Witness Name

\_\_\_\_\_  
Witness Signature

\_\_\_\_\_  
Witness Name

**ASSIGNMENT  
(Joint)  
Worldwide Rights**

THIS ASSIGNMENT, by Wei XIONG, Michael C. LARSON, Paul COLBOURNE, and Sheldon MCLAUGHLIN, with offices at at 6F, Resources Tech Bldg No.1 Songpingshan Rd N. Bldg, Shenzhen High-Tech Industrial Park N. Block, Nanshan District Shenzhen 44, 518057, China; 400 North McCarthy Boulevard, Milpitas CA, 95035, USA; 61 Bill Leatham Drive, Ottawa, ON, K2J 0P7, Canada; and 61 Bill Leatham Drive, Ottawa, ON, K2J 0P7, Canada (hereinafter referred to as "the Assignors"), respectively, witnesseth:

WHEREAS, the Assignors have invented certain new and useful improvements in WAVELENGTH LOCKER USING MULTIPLE FEEDBACK CURVES TO WAVELENGTH LOCK A BEAM set forth in an application for Letters Patent of the United States,

- (1)  which is a provisional application
  - (a)  filed herewith; or
  - (b)  bearing Application No. \_\_\_\_\_, and filed on \_\_\_\_\_; or
  
- (2)  which is a non-provisional application
  - (a)  bearing Application No. 15/132,797, and filed on April 19, 2016 ;  
or
  - (b)  filed herewith; and

We hereby authorize Applicants' representative to fill in the preceding information relating to the filing date and/or serial number, as appropriate.

WHEREAS, Lumentum Operations LLC, a corporation duly organized under and pursuant to the laws of Delaware and having its principal place of business at 400 North McCarthy Blvd, Milpitas, CA 95035 (hereinafter referred to as "the Assignee"), is desirous of acquiring the entire right, title, and interest in and to said inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications, including any previously or subsequently filed provisional applications, for Letters Patent of the United States or other countries claiming priority to said application or from which said application claims priority, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon.

NOW, THEREFORE, be it known that for good and sufficient consideration, the receipt of which is hereby acknowledged, the Assignors have sold, assigned, transferred, and set over, and by these presents do sell, assign, transfer, and set over, unto the Assignee, its successors, legal representatives, and assigns the entire right, title, and interest in and to the above-mentioned inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications for Letters Patent of the United States or other countries claiming priority to said applications, and any and all Letters Patent or Patents of the United States of America and all foreign countries that may be granted therefor and thereon, and in and to any and all applications claiming priority to said applications, provisional applications, divisions, continuations, and continuations-in-part of said applications, and reissues and extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by the Assignee, for its own use and behalf and the use and behalf of its successors, legal representatives, and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted as fully and entirely as the same would have been held and enjoyed by the Assignors had this sale and assignment not been made;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, the Assignors are the sole and lawful owners of the entire right, title, and interest in and to the inventions set forth in said applications and said applications, including provisional applications, above-mentioned, and that the same are unencumbered, and that the Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns that the Assignors will, whenever counsel of the Assignee, or the counsel of its successors, legal representatives, and assigns, shall advise that any proceeding in connection with said inventions or said applications for Letters Patent or Patents, or any proceeding in connection with Letters Patent or Patents for said inventions in any country, including interference proceedings, is lawful and desirable, or that any application claiming priority to said application, division, continuation, or continuation-in-part of any applications for Letters Patent or Patents, or any reissue or extension of any Letters Patent or Patents to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement, and defense of Letters Patent or Patents for said inventions, without charge to the Assignee, its successors, legal representatives, and assigns, but at the cost and expense of the Assignee, its successors, legal representatives, and assigns;

AND the Assignors hereby request the Commissioner of Patents to issue any and all said Letters Patent of the United States to the Assignee as the Assignee of said inventions, the Letters Patent to be issued for the sole use and behalf of the Assignee, its successors, legal representatives, and assigns.

\_\_\_\_\_  
Wei XIONG

Date: \_\_\_\_\_

\_\_\_\_\_  
Michael C. LARSON

Date: \_\_\_\_\_

Paul Colbourne  
Paul COLBOURNE

Date: April 6, 2016

Sheldon Mclaughlin  
Sheldon MCLAUGHLIN

Date: April 6, 2016

\_\_\_\_\_  
Witness Signature

\_\_\_\_\_  
Witness Name

\_\_\_\_\_  
Witness Signature

\_\_\_\_\_  
Witness Name

Sheldon Mclaughlin  
Witness Signature

Sheldon Mclaughlin  
Witness Name

Paul Colbourne  
Witness Signature

Paul Colbourne  
Witness Name