

**PATENT ASSIGNMENT**

Electronic Version v1.1  
 Stylesheet Version v1.1

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
Warren P. Pumyea	02/18/2011
Michael Lim	10/29/2009
Hong Lu	12/10/2009
Alexei A. Erchak	10/28/2009
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	Luminus Devices, Inc.
<b>Street Address:</b>	1100 Technology Park Drive
<b>City:</b>	Billerica
<b>State/Country:</b>	MASSACHUSETTS
<b>Postal Code:</b>	01821
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	12566642
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(617)646-8646
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>	
<b>Phone:</b>	6176468000
<b>Email:</b>	mchiusano@wolfgreenfield.com
<b>Correspondent Name:</b>	Robert H. Walat
<b>Address Line 1:</b>	600 Atlantic Avenue
<b>Address Line 2:</b>	Wolf, Greenfield & Sacks, P.C.
<b>Address Line 4:</b>	Boston, MASSACHUSETTS 02210-2206
<b>ATTORNEY DOCKET NUMBER:</b>	L0655.70097US01
<b>NAME OF SUBMITTER:</b>	Melanie L. Chiusano
Total Attachments: 15	

OP \$40.00 12566642

**501576288**

**PATENT  
 REEL: 026501 FRAME: 0343**

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## ASSIGNMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, I, the undersigned Assignor, hereby:

1. Sell, assign and transfer to Luminus Devices, Inc., a Delaware corporation having a place of business at 1100 Technology Park Drive; Billerica, Massachusetts 01821, its successors, assigns and legal representatives, all hereinafter referred to as the Assignee, my entire right, title and interest for the United States and all foreign countries, in and to any and all inventions and designs which are disclosed in the application for United States Letters Patent filed in the United States Patent and Trademark Office on September 24, 2009 under No. 12/566,642, bearing Attorney Docket No. L0655.70097US01, and entitled LIGHT-EMITTING DEVICE INCLUDING INDEPENDENTLY ADDRESSABLE ELECTRICAL REGIONS, and in and to the application and all corresponding provisional, non-provisional, divisional, continuing, substitute, renewal, reissue and all other applications for Letters Patent, utility models, industrial designs or similar intellectual property rights which have been or shall be filed in the United States, internationally, and in any foreign country, including but not limited to China, Japan and Korea, on any of the inventions; and in and to all original and reissued patents which have been or shall be issued in the United States or any other jurisdiction on the inventions, including the right to apply for patent rights in each foreign country and all rights to priority, including the right to claim priority for China, Japan and Korea, as well as the right to sue in its own name and recover damages for past infringement of any United States Letters Patent and foreign patent;
2. Agree that the Assignee may apply for and receive Letters Patent and utility model and industrial design registrations for the inventions in its own name; and when requested, without charge to but at the expense of the Assignee, I agree to carry out in good faith the intent and purpose of this assignment, by executing all non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent, utility model and industrial design applications on any and all the inventions, by executing all rightful oaths, assignments, powers of attorney and other papers, by communicating to the Assignee all facts known to me relating to the inventions and the history thereof, and generally by doing everything reasonably possible which the Assignee shall consider desirable for aiding in securing and maintaining proper protection for the inventions and for vesting title to the inventions and all applications for patents and all patents on the inventions, in the Assignee;
3. Request the Director of the United States Patent and Trademark Office and non-US patent authorities to issue the Letters Patent to the Assignee;
4. Authorize and request Wolf, Greenfield & Sacks, P.C. to supply any missing patent/application identification information or correct any errors in the patent/application identification information provided above, whether discovered prior to or after recordation;
5. Covenant with the Assignee that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by me and that full right to convey the same as herein expressed is possessed by me; and
6. Appoint Assignee, through its designee, my attorney-in-fact to execute, in my name and on my behalf, any and all documents required to effectuate this Assignment, specifically including, but not limited to, those documents specified above and any necessary corrective assignments.

This instrument is executed under seal and signed under the pains and penalties of perjury under the laws of the United States of America.

1795582.1

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Warren P. Pumyea

Address: 41 Moran Street

Gardner, Massachusetts 01440

Citizenship: US

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF \_\_\_\_\_:

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned notary public, personally appeared \_\_\_\_\_ Warren P. Pumyea \_\_\_\_\_, proved to me through satisfactory evidence of identification, which were \_\_\_\_\_, to be the person who signed the preceding or attached document in my presence and swore or affirmed to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

\_\_\_\_\_  
Notary Public

My commission expires: \_\_\_\_\_

10/29/2009  
Date

Michael Y. Lim  
Inventor: Michael Lim  
Address: 25 Aberdeen Avenue  
Unit 3  
Cambridge, Massachusetts 02138  
Citizenship: US

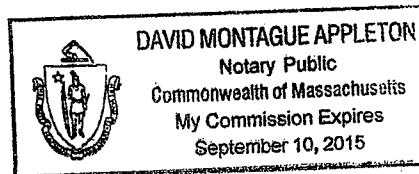
COMMONWEALTH OF MASSACHUSETTS  
COUNTY OF MIDDLESEX:

On this 29<sup>th</sup> day of OCTOBER, 2009, before me, the undersigned notary public, personally appeared Michael Lim, proved to me through satisfactory evidence of identification, which were Personally Known, to be the person who signed the preceding or attached document in my presence and swore or affirmed to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

David Montague Appleton  
Notary Public

My commission expires: 9/10/2015



\_\_\_\_\_  
 Date

\_\_\_\_\_  
 Inventor: Hong Lu

\_\_\_\_\_  
 Address: 19 Winslow Road  
 Belmont, Massachusetts 02478

\_\_\_\_\_  
 Citizenship: People's Republic of China

COMMONWEALTH OF MASSACHUSETTS

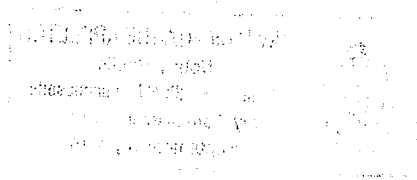
COUNTY OF \_\_\_\_\_:

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned notary public,  
 personally appeared \_\_\_\_\_ Hong Lu \_\_\_\_\_, proved to me through satisfactory evidence of  
 identification, which were \_\_\_\_\_,  
 to be the person who signed the preceding or attached document in my presence and swore or affirmed  
 to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge  
 and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.


SEAL

\_\_\_\_\_  
Notary Public

My commission expires: \_\_\_\_\_



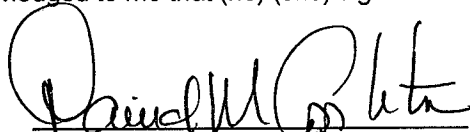
Date 10/22/09

Inventor:   
Alexei A. Erchak  
Address: 10 Museum Way, Unit #1422  
Cambridge, Massachusetts 02141  
Citizenship: US

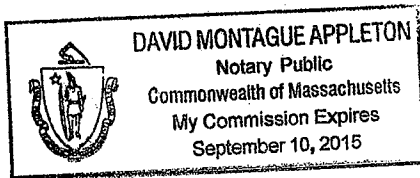
COMMONWEALTH OF MASSACHUSETTS  
COUNTY OF MIDDLESEX

On this 22<sup>nd</sup> day of OCTOBER, 2009, before me, the undersigned notary public, personally appeared Alexei A. Erchak, proved to me through satisfactory evidence of identification, which were PERSONALLY KNOWN, to be the person who signed the preceding or attached document in my presence and swore or affirmed to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

  
Notary Public

My commission expires: \_\_\_\_\_



**ASSIGNMENT**

For good and valuable consideration, the receipt of which is hereby acknowledged, I, the undersigned Assignor, hereby:

1. Sell, assign and transfer to Luminus Devices, Inc., a Delaware corporation having a place of business at 1100 Technology Park Drive; Billerica, Massachusetts 01821, its successors, assigns and legal representatives, all hereinafter referred to as the Assignee, my entire right, title and interest for the United States and all foreign countries, in and to any and all inventions and designs which are disclosed in the application for United States Letters Patent filed in the United States Patent and Trademark Office on September 24, 2009 under No. 12/566,642, bearing Attorney Docket No. L0655.70097US01, and entitled LIGHT-EMITTING DEVICE INCLUDING INDEPENDENTLY ADDRESSABLE ELECTRICAL REGIONS, and in and to the application and all corresponding provisional, non-provisional, divisional, continuing, substitute, renewal, reissue and all other applications for Letters Patent, utility models, industrial designs or similar intellectual property rights which have been or shall be filed in the United States, internationally, and in any foreign country, including but not limited to China, Japan and Korea, on any of the inventions; and in and to all original and reissued patents which have been or shall be issued in the United States or any other jurisdiction on the inventions, including the right to apply for patent rights in each foreign country and all rights to priority, including the right to claim priority for China, Japan and Korea, as well as the right to sue in its own name and recover damages for past infringement of any United States Letters Patent and foreign patent;
2. Agree that the Assignee may apply for and receive Letters Patent and utility model and industrial design registrations for the inventions in its own name; and when requested, without charge to but at the expense of the Assignee, I agree to carry out in good faith the intent and purpose of this assignment, by executing all non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent, utility model and industrial design applications on any and all the inventions, by executing all rightful oaths, assignments, powers of attorney and other papers, by communicating to the Assignee all facts known to me relating to the inventions and the history thereof, and generally by doing everything reasonably possible which the Assignee shall consider desirable for aiding in securing and maintaining proper protection for the inventions and for vesting title to the inventions and all applications for patents and all patents on the inventions, in the Assignee;
3. Request the Director of the United States Patent and Trademark Office and non-US patent authorities to issue the Letters Patent to the Assignee;
4. Authorize and request Wolf, Greenfield & Sacks, P.C. to supply any missing patent/application identification information or correct any errors in the patent/application identification information provided above, whether discovered prior to or after recordation;
5. Covenant with the Assignee that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by me and that full right to convey the same as herein expressed is possessed by me; and
6. Appoint Assignee, through its designee, my attorney-in-fact to execute, in my name and on my behalf, any and all documents required to effectuate this Assignment, specifically including, but not limited to, those documents specified above and any necessary corrective assignments.

This instrument is executed under seal and signed under the pains and penalties of perjury under the laws of the United States of America.

1795582.1

**PATENT**  
**REEL: 026501 FRAME: 0350**



\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Warren P. Pumyea

Address: 41 Moran Street  
Gardner, Massachusetts 01440

Citizenship: US

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF \_\_\_\_\_:

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned notary public, personally appeared \_\_\_\_\_ Warren P. Pumyea \_\_\_\_\_, proved to me through satisfactory evidence of identification, which were \_\_\_\_\_,

to be the person who signed the preceding or attached document in my presence and swore or affirmed to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

\_\_\_\_\_  
Notary Public

My commission expires: \_\_\_\_\_

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Michael Lim

Address: 25 Aberdeen Avenue

Unit 3

Cambridge, Massachusetts 02138

Citizenship: US

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF \_\_\_\_\_:

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned notary public, personally appeared \_\_\_\_\_ Michael Lim \_\_\_\_\_, proved to me through satisfactory evidence of identification, which were \_\_\_\_\_,

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SEAL

\_\_\_\_\_  
Notary Public

My commission expires: \_\_\_\_\_

12/10/2009  
Date

*Hong Lu*  
Inventor: Hong Lu  
Address: 19 Winslow Road  
Belmont, Massachusetts 02478  
Citizenship: People's Republic of China

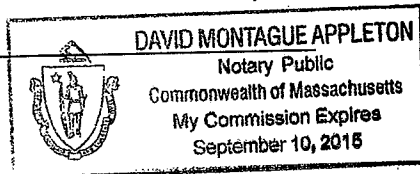
COMMONWEALTH OF MASSACHUSETTS  
COUNTY OF MIDDLESEX:

On this 10<sup>th</sup> day of DECEMBER, 2009, before me, the undersigned notary public, personally appeared Hong Lu, proved to me through satisfactory evidence of identification, which were MASS DRIVER LICENSE, to be the person who signed the preceding or attached document in my presence and swore or affirmed to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

*David M. Appleton*  
Notary Public

My commission expires:



Date \_\_\_\_\_

Inventor: Alexei A. Erchak

Address: 10 Museum Way, Unit #1422  
Cambridge, Massachusetts 02141

Citizenship: US

COMMONWEALTH OF MASSACHUSETTS  
COUNTY OF \_\_\_\_\_:

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned notary public, personally appeared Alexei A. Erchak, proved to me through satisfactory evidence of identification, which were \_\_\_\_\_, to be the person who signed the preceding or attached document in my presence and swore or affirmed to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

\_\_\_\_\_  
Notary Public

My commission expires: \_\_\_\_\_

**ASSIGNMENT**

For good and valuable consideration, the receipt of which is hereby acknowledged, I, the undersigned Assignor, hereby:

1. Sell, assign and transfer to Luminus Devices, Inc., a Delaware corporation having a place of business at 1100 Technology Park Drive; Billerica, Massachusetts 01821, its successors, assigns and legal representatives, all hereinafter referred to as the Assignee, my entire right, title and interest for the United States and all foreign countries, in and to any and all inventions and designs which are disclosed in the application for United States Letters Patent filed in the United States Patent and Trademark Office on September 24, 2009 under No. 12/566,642, bearing Attorney Docket No. L0655.70097US01, and entitled LIGHT-EMITTING DEVICE INCLUDING INDEPENDENTLY ADDRESSABLE ELECTRICAL REGIONS, and in and to the application and all corresponding provisional, non-provisional, divisional, continuing, substitute, renewal, reissue and all other applications for Letters Patent, utility models, industrial designs or similar intellectual property rights which have been or shall be filed in the United States, internationally, and in any foreign country, including but not limited to China, Japan and Korea, on any of the inventions; and in and to all original and reissued patents which have been or shall be issued in the United States or any other jurisdiction on the inventions, including the right to apply for patent rights in each foreign country and all rights to priority, including the right to claim priority for China, Japan and Korea, as well as the right to sue in its own name and recover damages for past infringement of any United States Letters Patent and foreign patent;
2. Agree that the Assignee may apply for and receive Letters Patent and utility model and industrial design registrations for the inventions in its own name; and when requested, without charge to but at the expense of the Assignee, I agree to carry out in good faith the intent and purpose of this assignment, by executing all non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent, utility model and industrial design applications on any and all the inventions, by executing all rightful oaths, assignments, powers of attorney and other papers, by communicating to the Assignee all facts known to me relating to the inventions and the history thereof, and generally by doing everything reasonably possible which the Assignee shall consider desirable for aiding in securing and maintaining proper protection for the inventions and for vesting title to the inventions and all applications for patents and all patents on the inventions, in the Assignee;
3. Request the Director of the United States Patent and Trademark Office and non-US patent authorities to issue the Letters Patent to the Assignee;
4. Authorize and request Wolf, Greenfield & Sacks, P.C. to supply any missing patent/application identification information or correct any errors in the patent/application identification information provided above, whether discovered prior to or after recordation;
5. Covenant with the Assignee that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by me and that full right to convey the same as herein expressed is possessed by me; and
6. Appoint Assignee, through its designee, my attorney-in-fact to execute, in my name and on my behalf, any and all documents required to effectuate this Assignment, specifically including, but not limited to, those documents specified above and any necessary corrective assignments.

This instrument is executed under seal and signed under the pains and penalties of perjury under the laws of the United States of America.

1795582.1

2/18/11  
Date

Warren P. Pumyea  
Inventor: Warren P. Pumyea  
Address: 41 Moran Street  
Gardner, Massachusetts 01440  
Citizenship: US

COMMONWEALTH OF MASSACHUSETTS  
COUNTY OF Middlesex :

On this 18<sup>th</sup> day of February, 2011, before me, the undersigned notary public, personally appeared Warren P. Pumyea, proved to me through satisfactory evidence of identification, which were Drivers License, to be the person who signed the preceding or attached document in my presence and swore or affirmed to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

Carol A. Moore  
Notary Public

My commission expires:



**CAROL A. MOORE**  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
February 27, 2015

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Michael Lim

Address: 25 Aberdeen Avenue

Unit 3

Cambridge, Massachusetts 02138

Citizenship: US

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF \_\_\_\_\_:

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned notary public, personally appeared \_\_\_\_\_ Michael Lim \_\_\_\_\_, proved to me through satisfactory evidence of identification, which were \_\_\_\_\_,

to be the person who signed the preceding or attached document in my presence and swore or affirmed to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

\_\_\_\_\_  
Notary Public

My commission expires: \_\_\_\_\_

\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Hong Lu

Address: 19 Winslow Road

Belmont, Massachusetts 02478

Citizenship: People's Republic of China

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF \_\_\_\_\_:

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned notary public, personally appeared Hong Lu, proved to me through satisfactory evidence of identification, which were \_\_\_\_\_, to be the person who signed the preceding or attached document in my presence and swore or affirmed to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

\_\_\_\_\_  
Notary Public

My commission expires: \_\_\_\_\_



\_\_\_\_\_  
Date

\_\_\_\_\_  
Inventor: Alexei A. Erchak

Address: 10 Museum Way, Unit #1422

Cambridge, Massachusetts 02141

Citizenship: US

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF \_\_\_\_\_:

On this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, before me, the undersigned notary public, personally appeared \_\_\_\_\_ Alexei A. Erchak \_\_\_\_\_, proved to me through satisfactory evidence of identification, which were \_\_\_\_\_,

to be the person who signed the preceding or attached document in my presence and swore or affirmed to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge and belief and acknowledged to me that (he) (she) signed it voluntarily for its stated purpose.

SEAL

\_\_\_\_\_  
Notary Public

My commission expires: \_\_\_\_\_