

## PATENT ASSIGNMENT COVER SHEET

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 Stylesheet Version v1.2

EPAS ID: PAT3954443

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
YAOCHUNG CHEN	07/06/2016
VINCENT GAMBIN	07/06/2016
XIANGLIN ZENG	07/06/2016
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	Northrop Grumman Systems Corporation
<b>Street Address:</b>	2980 Fairview Park Drive
<b>City:</b>	Falls Church
<b>State/Country:</b>	VIRGINIA
<b>Postal Code:</b>	22042-4511
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15206041
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(248)858-4201
<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>	2488584200
<b>Email:</b>	cardin@milleripgroup.com
<b>Correspondent Name:</b>	JOHN A MILLER, MILLER IP GROUP, PLC
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<b>Address Line 4:</b>	BLOOMFIELD HILLS, MICHIGAN 48304
<b>ATTORNEY DOCKET NUMBER:</b>	NGC-00203(007576-0030)
<b>NAME OF SUBMITTER:</b>	JOHN A. MILLER
<b>SIGNATURE:</b>	/John A. Miller/
<b>DATE SIGNED:</b>	07/08/2016
<b>Total Attachments: 4</b>	
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source=Assignment_NGC-00203#page4.tif	

## ASSIGNMENT

WHEREAS, We, Yaochung Chen, Vincent Gambin and Xianglin Zeng, hereinafter referred to as Assignors, have invented certain new and useful improvements in **VERTICAL CAVITY SURFACE EMITTING LASER WITH COMPOSITE REFLECTORS**, described in an application for United States Letters Patent, executed by us on the date as stated below;

WHEREAS, Northrop Grumman Systems Corporation, a Delaware corporation, having its principal place of business at

2980 Fairview Park Drive  
Falls Church, VA 22042-4511  
United States of America,

hereinafter referred to as Assignee, is desirous of acquiring the entire right, title and interest in, to and under said improvements and said application:

NOW, THEREFORE, in consideration of Assignors' obligations to Northrop Grumman Systems Corporation, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Assignors have sold, assigned, transferred and set over, and by these presents does hereby sell, assign, transfer and set over, unto Assignee, its successors, legal representatives and assigns, Assignors' entire right, title and interest in, to and under said improvements, and said application and all divisions, renewals, continuations, and continuations-in-part thereof, and all United States Letters Patent that may be granted thereon and all reissues and extensions thereof, and all applications for Letters Patent that may hereafter be filed for said improvements in any country or countries foreign to the United States, including the full right to claim for any such application the priority benefits of the International Convention for the Protection of Industrial Property and other priority-conferring treaties, and all Letters Patent that may be granted for said improvements in any country or countries foreign to the United States and all extensions, divisions, continuations, continuations-in-part, renewals and reissues thereof; and Assignors hereby authorize and request the Commissioner of Patents and Trademarks of the United States, and any official of any country or countries foreign to the United States, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said improvements to said Assignee, its successors, legal representatives and assigns, in accordance with the terms of this instrument;

Assignors hereby acknowledge that at the time of making the improvements herein identified, Assignor was under an obligation to assign to Assignee, Assignor's entire right, title and interest in, to and under said improvements;

Assignors hereby covenant that Assignor has full right to convey the interest herein assigned, and that Assignors have not executed, and will not execute, any agreement in conflict herewith and that Assignee, Northrop Grumman Systems Corporation, its successors, assigns and other legal representatives shall have the right to hold and enjoy for its and their own use and benefit, to the end of the term or terms for which such Letters Patent shall or may be granted, reissued or extended as fully and completely as the same right could have been held and enjoyed by Assignors had this Assignment not been made.

Assignors hereby further covenant and agree to communicate to Assignee, its successors, legal representatives and assigns, any and all facts known to Assignor respecting said improvements; to promptly provide Assignee with all documents relating to said improvements, said invention, and said Letters Patent as may be known or accessible to Assignors; to testify as to the same in any interference or litigation or other legal proceedings related thereto; to sign all lawful papers, execute all extensions, continuations, continuations-in-part, divisional and reissue applications; and to make all rightful oaths or declarations and generally do everything possible to aid Assignee, its successors, legal representatives and assigns in obtaining and enforcing all the rights herein conveyed for said improvements in all countries without further compensation, but at the expense of Assignee, its successors, legal representatives and assigns.

PATENT

REEL: 039113 FRAME: 0036

IN WITNESS WHEREOF, the undersigned has executed and delivered this instrument this SIX day of July, 2016, and has executed the referenced patent application on the SIX day of July, 2016.

  
Yaochung Chen


A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

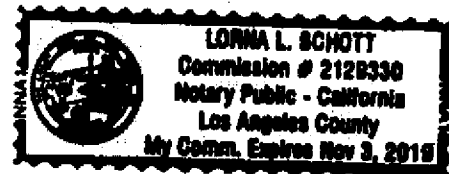
STATE OF CALIFORNIA     )  
  ) ss  
COUNTY OF LOS ANGELES   )

On July 6, 2016 before me, Lorna L. Schott, Notary Public, personally appeared Yaochung Chen, proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to this instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument to be the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

  
Notary's Signature



(Seal)

IN WITNESS WHEREOF, the undersigned has executed and delivered this instrument this 6 day of July, 2016, and has executed the referenced patent application on the 6 day of July, 2016.

  
\_\_\_\_\_  
Vincent Gambin

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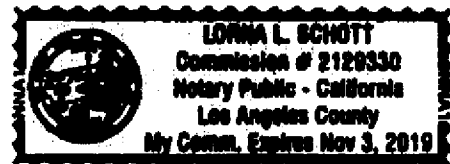
STATE OF CALIFORNIA       )  
  ) ss  
COUNTY OF LOS ANGELES   )

On July \_\_\_\_\_, 2016 before me, Lorna L. Schott, Notary Public, personally appeared Vincent Gambin, proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to this instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument to be the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

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WITNESS my hand and official seal

  
\_\_\_\_\_  
Notary's Signature



(Seal)

IN WITNESS WHEREOF, the undersigned has executed and delivered this instrument this 6 day of July, 2016, and has executed the referenced patent application on the 6 day of July, 2016.

  
Xianglin Zeng

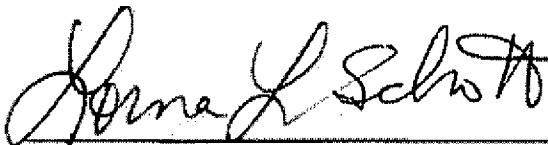
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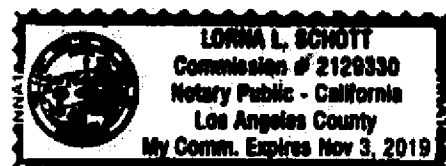
STATE OF CALIFORNIA     )  
  ) ss  
COUNTY OF LOS ANGELES    )

On July 6, 2016 before me, Lorna L. Schott, Notary Public, personally appeared Xianglin Zeng, proved to me on the basis of satisfactory evidence to be the person(~~s~~) whose name(~~s~~) is/~~are~~ subscribed to this instrument and acknowledged to me that he/~~she~~/they executed the same in his/~~her~~/their authorized capacity(~~ies~~), and that by his/~~her~~/their signature(~~s~~) on the instrument to be the person(~~s~~), or the entity upon behalf of which the person(~~s~~) acted, executed the instrument.

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(Seal)