#### 504528316 08/31/2017

#### PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4575022

| SUBMISSION TYPE:      | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT     |

#### **CONVEYING PARTY DATA**

| Name                   | Execution Date |
|------------------------|----------------|
| JOHN J. ELLIS-MONAGHAN | 08/30/2017     |
| SEBASTIAN VENTRONE     | 08/29/2017     |
| VIBHOR JAIN            | 08/29/2017     |
| YVES NGU               | 08/29/2017     |

#### **RECEIVING PARTY DATA**

| Name:             | GLOBALFOUNDRIES INC. |
|-------------------|----------------------|
| Street Address:   | PO BOX 309           |
| Internal Address: | UGLAND HOUSE         |
| City:             | GRAND CAYMAN         |
| State/Country:    | CAYMAN ISLANDS       |
| Postal Code:      | KY1-1104             |

#### **PROPERTY NUMBERS Total: 1**

| Property Type       | Number   |
|---------------------|----------|
| Application Number: | 15692136 |

#### **CORRESPONDENCE DATA**

**Fax Number:** (937)443-6635

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.

**Phone:** 937-443-6600

**Email:** ipdocket@thompsonhine.com

Correspondent Name: THOMPSON HINE LLP
Address Line 1: 10050 INNOVATION DRIVE

Address Line 2: SUITE 400

Address Line 4: DAYTON, OHIO 45342-4934

| ATTORNEY DOCKET NUMBER: | JBUR018-US-NP      |
|-------------------------|--------------------|
| NAME OF SUBMITTER:      | WILLIAM R. ALLEN   |
| SIGNATURE:              | /William R. Allen/ |
| DATE SIGNED:            | 08/31/2017         |
|                         | •                  |

**Total Attachments: 4** 

PATENT REEL: 043462 FRAME: 0356

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GF Ref. No.: JBUR018-US-NP

## COMBINED DECLARATION and ASSIGNMENT (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

| Title of<br>Invention   | III-V LASERS WITH ON-CHIP INTEGRATION   |
|---|---|
|   | DECLARATION   |
| As the below  | named inventor, I hereby declare that:  |
| This declarati  | V V   |
| та инестеч ю.   | United States application or PCT international application number filed on  |
|   | •   |
| The above-id  | entified application was made or authorized to be made by me.   |
| I believe that  | I am the original inventor or an original joint inventor of a claimed invention in the application.   |
| I hereby ackn<br>fine or impris   | owledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by comment of not more than five (5) years, or both.   |
| I have review<br>Trademark O  | red and understand the contents of the application and am aware of the duty to disclose to the US Patent and ffice all information known to me to be material to patentability as defined in 37 CFR § 1.56. |
|   | ASSIGNMENT  |
| For good and valuable consideration, the receipt, sufficiency and adequacy of which are hereby acknowledged, I hereby sell, assign, transfer, to GLOBALFOUNDRIES Inc. having a business address of PO Box 309, Ugland House, Grand Cayman KY1-1104 its successors and assigns, absolutely and forever, my entire right, title and interest in and to the invention listed above, together with the Application, any and all Patents that may issue in the United States and/or any foreign countries, and any reissues, re-examinations, renewals, continuations, continuation-in-parts, divisionals or extensions thereof that may be issued or granted, and all right, title and interest to the inventions contained in said Patents and Applications, for the United States and all foreign countries, and all the rights and privileges relating thereto including but not limited to the priority rights arising from said Applications, the right to recover and take all such proceedings as may be necessary for the recovery of damages or otherwise in respect of past, present and future infringement, and the right to apply for, take and maintain patents on said inventions. |   |
| If any portions shall neverth   | on of this Combined Declaration or Assignment is held unenforceable, then remaining portions hereof neless remain in full force and effect.   |
|   |   |
| LEGAL NAI   | ME OF INVENTOR  John J. Ellis-Monaghan  Date: 8/30/2017   |
| Signature   | Jhn Selly Mungh   |
| Note: An app  | lication data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form.  nal form for each additional inventor.  |

GF Ref. No.: JBUR018-US-NP

### COMBINED DECLARATION and ASSIGNMENT (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

| Title of<br>Invention   | HI-V LASERS WITH ON-CHIP INTEGRATION   |
|---|--|
| - Inches  | DECLARATION  |
| As the below  | named inventor, I hereby declare that:   |
| This declarati  | I/ N   |
| is the close to,  | United States application or PCT International application numberfiled on  |
|   |  |
| The above-id  | entified application was made or authorized to be made by me.  |
| I believe that  | I am the original inventor or an original joint inventor of a claimed invention in the application.  |
| I hereby ackn<br>fine or impris   | nowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by somment of not more than five (5) years, or both,   |
| I have review<br>Tradenark O  | red and understand the contents of the application and am aware of the duty to disclose to the US Patent and office all information known to me to be material to patentiality as defined in 37 CFR § 1.56.  |
|   | ASSIGNMEN'T  |
| hereby sell, a<br>Grand Caym<br>the invention<br>any foreign c<br>extensions to<br>and Applicat<br>including but<br>proceedings<br>infringement | I and valuable consideration, the receipt, sufficiency and adequacy of which are hereby acknowledged, I ssign, transfer, to GLOBALFOUNDRIES Inc. having a business address of PO Box 309, Ugland House, an KY1-1104 its successors and assigns, absolutely and forever, my entire right, title and interest in and to listed above, together with the Application, any and all Putents that may issue in the United States and/or countries, and any reissues, re-examinations, renewals, continuations, continuation-in-parts, divisionals or ereof that may be issued or granted, and all right, title and interest to the inventions contained in said Patents ions, for the United States and all foreign countries, and all the rights and privileges relating thereto not limited to the priority rights arising from said Applications, the right to recover and take all such as may be necessary for the recovery of damages or otherwise in respect of past, present and future, and the right to apply for, take and maintain patents on said inventions.   |
|   | on of this Combined Declaration or Assignment is held uncuforceable, then remaining portions hereof<br>heless remain in full force and effect.   |
| LEGAL NA  | ME OF INVENTOR Schooling Ventrone Date: 8/2 4//  |
| Inventor:   | FFWSTP111444 F WHITE IN THE PROPERTY OF THE PR |
| Signature   |  |
|   | lication data shoot (PTC/SB/14 or equivalent), including naming the entire inventive entiry, must seconitismly this form.  |

# COMBINED DECLARATION and ASSIGNMENT (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

| Title of<br>Invention  | III-V LASERS WITH ON-CHIP INTEGRATION  |
|--|--|
| Invention  |  |
|  |  |
| As the below   | DECLARATION named inventor, I hereby declare that:   |
|  | Service of the control of the contro |
| This declarati   |  |
|  | United States application or PCT international application number filed on   |
|  |  |
| The above-ide  | entified application was made or authorized to be made by me.  |
|  | and application was made or authorized to be made by me.   |
| I believe that   | I am the original inventor or an original joint inventor of a claimed invention in the application.  |
| I hereby ackn<br>fine or impris  | owledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by onment of not more than five (5) years, or both.   |
| I have review<br>Trademark O   | ed and understand the contents of the application and am aware of the duty to disclose to the US Patent and ffice all information known to me to be material to patentability as defined in 37 CFR § 1.56.   |
|  | ASSIGNMENT   |
| hereby sell, as<br>Grand Cayma<br>the invention<br>any foreign or<br>extensions the<br>and Application<br>including but<br>proceedings a | and valuable consideration, the receipt, sufficiency and adequacy of which are hereby acknowledged, I ssign, transfer, to GLOBALFOUNDRIES Inc. having a business address of PO Box 309, Ugland House, in KY1-1104 its successors and assigns, absolutely and forever, my entire right, title and interest in and to listed above, together with the Application, any and all Patents that may issue in the United States and/or puntries, and any reissues, re-examinations, renewals, continuations, continuation-in-parts, divisionals or ereof that may be issued or granted, and all right, title and interest to the inventions contained in said Patents ons, for the United States and all foreign countries, and all the rights and privileges relating thereto not limited to the priority rights arising from said Applications, the right to recover and take all such s may be necessary for the recovery of damages or otherwise in respect of past, present and future and the right to apply for, take and maintain patents on said inventions.   |
|  | n of this Combined Declaration or Assignment is held unenforceable, then remaining portions hereof eless remain in full force and effect.  |
|  |  |
| LEGAL NAM Inventor: Signature:   | Date: 98/29/2017   |
|  | cation data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form.   |

GF Ref. No.: JBUR018-US-NP

## COMBINED DECLARATION and ASSIGNMENT (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

| Title of   | III-V LASERS WITH ON-CHIP INTEGRATION  |
|--|--|
| Invention  |  |
|  |  |
|  | DECLARATION  |
| As the below   | named inventor, I hereby declare that:   |
| This declaration The attached application, or is directed to:  |  |
|  | United States application or PCT international application number filed on   |
| The above-ide  | entified application was made or authorized to be made by me.  |
| I believe that !   | I am the original inventor or an original joint inventor of a claimed invention in the application.  |
| I hereby acknown fine or imprise   | owledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by onment of not more than five (5) years, or both.   |
| I have reviewe<br>Trademark Of   | ed and understand the contents of the application and am aware of the duty to disclose to the US Patent and ffice all information known to me to be material to patentability as defined in 37 CFR § 1.56.   |
|  | ASSIGNMENT   |
| hereby sell, as: Grand Caymar the invention I any foreign co extensions ther and Applicatio including but r proceedings as | and valuable consideration, the receipt, sufficiency and adequacy of which are hereby acknowledged, I ssign, transfer, to GLOBALFOUNDRIES Inc. having a business address of PO Box 309, Ugland House, in KY1-1104 its successors and assigns, absolutely and forever, my entire right, title and interest in and to listed above, together with the Application, any and all Patents that may issue in the United States and/or puntries, and any reissues, re-examinations, renewals, continuations, continuation-in-parts, divisionals or ereof that may be issued or granted, and all right, title and interest to the inventions contained in said Patents cons, for the United States and all foreign countries, and all the rights and privileges relating thereto mot limited to the priority rights arising from said Applications, the right to recover and take all such is may be necessary for the recovery of damages or otherwise in respect of past, present and future and the right to apply for, take and maintain patents on said inventions. |
| If any portion shall neverthe  | n of this Combined Declaration or Assignment is held unenforceable, then remaining portions hereof eless remain in full force and effect.  |
| Inventor: Signature:   | TE OF INVENTOR  Yves Ngu  Date: 8/29/20/7  Cation data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form.  |

PATENT REEL: 043462 FRAME: 0361

**RECORDED: 08/31/2017**