PATENT ASSIGNMENT COVER SHEET

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

CONVEYING PARTY DATA

| Name | Execution Date |
|-------------------|----------------|
| CHRISTOPH ERLER | 04/05/2019 |
| MIRKO RIETHMÜLLER | 04/08/2019 |
| ANDREAS LÜTZ | 04/05/2019 |
| ALEXANDRE GATTO | 04/05/2019 |
| MARIO SONDERMANN | 05/08/2019 |

RECEIVING PARTY DATA

| Name: | CARL ZEISS JENA GMBH |
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| City: | JENA |
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| Postal Code: | 07745 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 16328056 |

CORRESPONDENCE DATA

Fax Number:

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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| Total Attachments 0 | |
|-------------------------|----------------------------|
| DATE SIGNED: | 06/04/2019 |
| SIGNATURE: | /Michael D. Murphy #44958/ |
| NAME OF SUBMITTER: | MICHAEL D. MURPHY |
| ATTORNEY DOCKET NUMBER: | 1047-0017 / 30708US/HW |

Total Attachments: 2

PATENT REEL: 049355 FRAME: 0968 source=1047-0017 Assignment, signed#page1.tif source=1047-0017 Assignment, signed#page2.tif

PATENT REEL: 049355 FRAME: 0969

Attorney Docket Number: 1047-0017 / 30708US/hw

ASSIGNMENT

For good and valuable consideration, I/we,

Christoph Erler, residing at Döbereinerstr. 68 Jena, Germany 07745

Mirko Riethmüller, residing at Kleiststr. 22 Leipzig, Germany 04157

Andreas Lütz, residing at Otto-Schott-Str. 20 Jena, Germany 07745

Alexandre Gatto, residing at Salvador-Dali-Str. 8 Jena Münchenroda, Germany 07751

and

Mario Sondermann, residing at Talstr. 28 Quohren, Germany 01731

hereinafter individually or collectively referred to as "Assignor";

hereby sell, assign and transfer to Carl Zeiss Jena GmbH, having its principal place of business at Carl-Zeiss-Promenade 10, Jena, Germany 07745, hereinafter "Assignee", its successors, assigns and legal representatives, the entire right, title and interest in and for the United States and all foreign countries, in and to any and all improvements which are disclosed in the application for United States Letters Patent, which has been executed by the undersigned and

filed on

Feb 25, 2019

as US Serial No. 16/328,056

entitled:

Waveguide and Devices for Data Reflection

and in and to said application and all divisional, continuing, substitute, renewal, reissue, and all other applications for Letters Patent which have been or shall be filed in the United States and all foreign countries on any of said improvements; and in and to all original and reissued patents

Page 1 of 2

Attorney Docket Number: 1047-0017 / 30708US/hw

which have been or shall be filed in the United States and all foreign countries on said improvements;

Agree that said Assignee may apply for and receive Letters Patent for said improvements in its own name; and that, when requested, without charge to but at the expense of said Assignee, its successors, assigns and legal representatives, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all said improvements; execute all rightful oaths, assignments, powers of attorney and other papers; communicate to said Assignee, its successors, assigns, and legal representatives, all facts known to the undersigned relating to said improvements and the history thereof; and generally do everything possible which said Assignee, its successors, assigns or legal representatives shall consider desirable for aiding in securing and maintaining proper patent protection for said improvements and for vesting title to said improvements and all applications for patents and all patents on said improvements, in said Assignee, its successors, assigns and legal representatives; and

Covenant with said Assignee, it successors, assigns and legal representatives that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

| SIGNATURE: | Christoph Erler | DATE: <u>09/07/8-19</u> |
|------------|-------------------|-------------------------|
| SIGNATURE: | Nirko Riethmüller | DATE: 08,04, 2019 |
| SIGNATURE: | Andreas Lütz | DATE: 5.4.2049 |
| SIGNATURE: | Alexandre Gatto | DATE: 05.04.2019 |
| SIGNATURE: | Mario Sondermann | DATE: 08.05.70/9 |

Page 2 of 2