

PATENT ASSIGNMENT COVER SHEET

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| SUBMISSION TYPE: | NEW ASSIGNMENT |
| NATURE OF CONVEYANCE: | ASSIGNMENT |
| CONVEYING PARTY DATA | |
| Name | Execution Date |
| Michael Patra | 06/02/2016 |
| Ralf Mueller | 06/23/2016 |
| RECEIVING PARTY DATA | |
| Name: | CARL ZEISS SMT GMBH |
| Street Address: | RUDOLF-EBER-STRASSE 2 |
| City: | OBERKOCHEN |
| State/Country: | GERMANY |
| Postal Code: | 73447 |
| PROPERTY NUMBERS Total: 1 | |
| Property Type | Number |
| Application Number: | 15152670 |
| CORRESPONDENCE DATA | |
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| ATTORNEY DOCKET NUMBER: | 21070-0154001 |
| NAME OF SUBMITTER: | ALISSA TIZZANO |
| SIGNATURE: | /Alissa/ |
| DATE SIGNED: | 06/27/2016 |
| Total Attachments: 3 | |
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| source=P20539WOUS_Assignment#page3.tif | |

ASSIGNMENT

For valuable consideration, the receipt of which we acknowledge, and intending to be bound legally, we, MICHAEL PATRA, and RALF MUELLER, each individually assign to CARL ZEISS SMT GMBH, a corporation formed under the laws of Germany and having a principal place of business at Rudolf-Eber-Strasse 2, 73447 Oberkochen, Germany, and its successors, transferees, and assignees (collectively the "Assignee"), all of our individual and joint right, title, and interest throughout the world in the subject matter (the "Subject Matter") of a patent application that names us as inventors, is titled "ILLUMINATION SYSTEM FOR EUV PROJECTION LITHOGRAPHY," and was filed in the United States Patent and Trademark Office on May 12, 2016, as application 15/152,670 (the "Application").

This Assignment assigns (a) the Application and all other applications that may be made for, and all patents, utility models, design registrations, and other rights of exclusion and inventors' certificates for, any of the Subject Matter (collectively the "Applications and Granted Rights") in every country or region, (b) the right to claim priority based on and the benefit of the filing date of any of the Applications and Granted Rights under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other applicable treaties or conventions, and (c) the right to pursue, collect, and retain in the Assignee's name or otherwise, damages and any other remedies arising from any past, present, or future infringement of the Subject Matter, the Applications and Granted Rights, and any other rights assigned by this Assignment.

We authorize the Assignee to apply for and pursue protection for any or all of the Subject Matter, the Applications and Granted Rights, and any other rights assigned by this Assignment in all countries, regions, and territories of the world, in our names or in the Assignee's name.

We represent and warrant that we have the right and power to make this Assignment and that we have not made and will not make any other assignment that conflicts with this Assignment.

We will communicate to the Assignee (or at the request of the Assignee to other parties) all known facts in any form relating to the Subject Matter, will execute and provide all oaths and declarations, statements, testimony, assignments, powers of attorney, applications, and

documents, and will perform all other lawful acts necessary or desirable to secure fully to the Assignee the rights, titles, and interests assigned by this Assignment.

Michael Patra
Michael Patra

Date: June 2nd, 2016

Witnessed by:

Signature: [Signature]

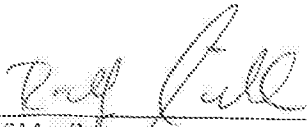
Date: June 2, 2016

Print Name: EDITH SORL

Signature: _____

Date: _____

Print Name: _____


Ralf Mueller

Date: June, 23rd 2016

Witnessed by:

Signature: _____

Date: _____

Print Name: _____

Signature: _____

Date: _____

Print Name: _____

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