

## PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT5467440

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
Markus Koch	02/27/2019
Dirk Hellweg	02/25/2019
Renzo Capelli	04/05/2019
Martin Dietzel	02/21/2019
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	CARL ZEISS SMT GMBH
<b>Street Address:</b>	RUDOLF-EBER-STRASSE 2
<b>City:</b>	OBERKOCHEN
<b>State/Country:</b>	GERMANY
<b>Postal Code:</b>	73447
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	16280469
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(877)769-7945
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<b>ATTORNEY DOCKET NUMBER:</b>	30623-0069001
<b>NAME OF SUBMITTER:</b>	CHERYL A. FORREST
<b>SIGNATURE:</b>	/Cheryl A. Forrest/
<b>DATE SIGNED:</b>	04/10/2019
<b>Total Attachments: 5</b>	
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### ASSIGNMENT

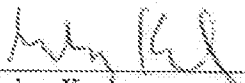
For valuable consideration, the receipt of which we acknowledge, and intending to be bound legally, we, MARKUS KOCH, DIRK HELLWEG, RENZO CAPELLI, and MARTIN DIETZEL, each individually assign to CARL ZEISS SMT GMBH, a corporation formed under the laws of Germany and having a principal place of business 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 invention(s) (the "Subject Matter") described in a patent application that names us as inventors, is titled "METHOD FOR DETERMINING A STRUCTURE-INDEPENDENT CONTRIBUTION OF A LITHOGRAPHY MASK TO A FLUCTUATION OF THE LINEWIDTH," and was filed in the United States Patent and Trademark Office on February 20, 2019, as application 16/280,469 (the "Application").

This Assignment assigns, in addition to the Subject Matter of the Application, (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 and under every treaty or convention, (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.

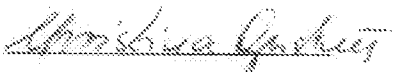
We represent and warrant that we have the right and power to make this Assignment and that we have not made and will not make any other assignment that conflicts with this Assignment.

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.

  
Markus Koch

Date: February 27, 2013

Witnessed by:

Signature:   
Print Name: Christina Gerstung

Date: February 27, 2013

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Print Name: \_\_\_\_\_

Dirk Hellweg  
Dirk Hellweg

Date: February 25<sup>th</sup>, 2015

Witnessed by:

Signature: Christina Gerslitz

Date: February 25, 2015

Print Name: Christina Gerslitz

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Print Name: \_\_\_\_\_

  
Renzo Capelli

Date: April 5, 2019

Witnessed by:

Signature: Christina Goring

Date: April 5, 2019

Print Name: Christina Goring

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Print Name: \_\_\_\_\_

M. Dietzel  
Martin Dietzel

Date: February 21, 2019

Witnessed by:

Signature: Christina Gerstung Date: February 21, 2019

Print Name: Christina Gerstung

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Print Name: \_\_\_\_\_

The Assignee hereby acknowledges and accepts the foregoing assignment.

Assignee: CARL ZEISS SMT GMBH

Signature: [Signature] O. Sanger Date: Apr. 5<sup>th</sup> 2019

Name: Olaf Dittmann INGO SÄNGER

Title: authorized clerk authorized

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