PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Michael Patra	09/10/2012
Stig Bieling	09/11/2012
Markus Deguenther	09/26/2012
Frank Schlesener	09/14/2012
Markus Schwab	09/11/2012

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:	15299562

CORRESPONDENCE DATA

Fax Number: (877)769-7945

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: (650) 839-5070
Email: apsi@fr.com
Correspondent Name: KA-LO YEH

Address Line 1: FISH & RICHARDSON P.C.

Address Line 2: P.O.BOX 1022

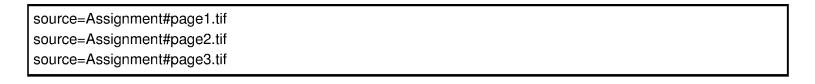
Address Line 4: MINNEAPOLIS, MINNESOTA 55440-1022

NAME OF SUBMITTER: ALISSA TIZZANO SIGNATURE: /Alissa/ DATE SIGNED: 10/31/2016	ATTORNEY DOCKET NUMBER:	18239-0091003	
	NAME OF SUBMITTER:	ALISSA TIZZANO	
DATE SIGNED: 10/31/2016	SIGNATURE:	/Alissa/	
	DATE SIGNED:	10/31/2016	

Total Attachments: 3

PATENT REEL: 040173 FRAME: 0223

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PATENT REEL: 040173 FRAME: 0224

Attorney's Docket No.: 18239-0091001 / 15464.3

ASSIGNMENT

For valuable consideration, we, MICHAEL PATRA of Schubartweg 41, 73447

Oberkochen, Germany, STIG BIELING of Im Unterfeld 18, 73434 Aalen, Germany, MARKUS

DEGUENTHER of Langackerweg 20, 73432 Aalen, Germany, FRANK SCHLESENER of

Nelkenweg 2, D-73447 Oberkochen, Germany, MARKUS SCHWAB of Limesstrasse 47/2,

73434 Aalen, Germany, hereby assign to: Carl Zeiss SMT GmbH, a corporation of Germany
having a place of business at:

Rudolf-Eber-Strasse 2 73447 Oberkochen Germany; and

its successors and assigns (collectively hereinafter called "the Assignee"), the entire right, title and interest throughout the world in the inventions and improvements which are subject of an application for United States Patent signed by us, entitled ILLUMINATION SYSTEM OF A MICROLITHOGRAPHIC PROJECTION EXPOSURE APPARATUS, filed 9/5/2012, and assigned U.S. Serial Number 13/604.296, this assignment including said application, any and all United States and foreign patents, utility models, and design registrations granted for any of said inventions or improvements, and the right to claim priority based on the filing date of said application under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other treaties of like purposes; and we authorize the Assignee to apply in all countries in our name or in its own name for patents, utility models, design registrations and like rights of exclusion and for inventors' certificates for said inventions and improvements; and we agree for ourselves and our respective heirs, legal representatives and assigns, without further compensation to perform such lawful acts and to sign such further applications, assignments, Preliminary Statements and other lawful documents as the Assignee may reasonably request to effectuate fully this assignment.

Assignment Page 1 of 3

PATENT REEL: 040173 FRAME: 0225

Attorney's Docket No.: 18239-0091001 / 15464.3

Date: 50 10 44, 20 12	Milad Potton	
,	MICHAEL PATRA	
Witnessed by:		
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Name:	Date:	
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Name: <u>EUL Ja</u>	Date: <u>September 114, 20</u> 42	\$
Name:	Date:	
Date: Sophisto 75 fr, 2012	MARKUS DEGUENTHER	
Witnessed by:		
Name: Amistica Groting	Date: September 26,201	2
Name:		
Date: September 14th, 2012	FRANK SCHLESENER	
Witnessed by:		
Name: <i>Avristica Gereku</i> z	Date: <u>September 14,7012</u>	
Name:	Date:	

Assignment Page 2 of 3

Attorney's Docket No.: 18239-0091001 / 15464.3

Date: 09/11/2012 MARKIE SCHWAR

Witnessed by:

Name: <u>Edell de</u> Date: <u>Septemble 11, 20</u>12

Name: _____ Date: ____

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RECORDED: 10/31/2016

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PATENT REEL: 040173 FRAME: 0227