

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4111371

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
MAURITS VAN DER SCHAAR	02/27/2014
ARIE JEFFREY DEN BOEF	03/03/2014
OMER ABUBAKER OMER ADAM	02/27/2014
TE-CHIH HUANG	03/12/2014
YOUPING ZHANG	03/07/2014
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	ASML Netherlands B.V.
<b>Street Address:</b>	De Run 6501
<b>City:</b>	Veldhoven
<b>State/Country:</b>	NETHERLANDS
<b>Postal Code:</b>	NL - 5504 DR
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	15117409
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(202)371-2540
<i>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.</i>	
<b>Phone:</b>	202 371 2600
<b>Email:</b>	jasone@skgf.com, ltillman@skgf.com
<b>Correspondent Name:</b>	STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C
<b>Address Line 1:</b>	1100 NEW YORK AVENUE, N.W.
<b>Address Line 4:</b>	WASHINGTON, D.C. 20005
<b>ATTORNEY DOCKET NUMBER:</b>	2857.4040001
<b>NAME OF SUBMITTER:</b>	JASON D. EISENBERG
<b>SIGNATURE:</b>	/Jason D. Eisenberg 43447/
<b>DATE SIGNED:</b>	10/24/2016
<b>Total Attachments: 5</b>	
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# ASSIGNMENT

In consideration of good and valuable consideration received by the ASSIGNOR(s), namely:

NAME(S) OF	(1)	Maurits VAN DER SCHAAR	(2)	Arie, Jeffrey DEN BOEF
ASSIGNOR(S)	(3)	Omer, Abubaker, Omer ADAM	(4)	Te-Chih HUANG

the receipt and sufficiency of which are acknowledged by the ASSIGNOR(s), the ASSIGNOR(s) hereby sell(s), assign(s) and transfer(s) unto:

INSERT	ASML Netherlands B.V.
NAME OF	De Run 6501
ASSIGNEE and	NL-5504 DR Veldhoven
ADDRESS	The Netherlands

its or their successors, assigns and legal representatives (together and individually hereinafter "ASSIGNEE") and to the extent already assigned or transferred to ASSIGNEE by operation of law or by a general obligation between the ASSIGNOR(s) and ASSIGNEE, the ASSIGNOR(s) hereby confirm(s) and formalize(s) the assignment and transfer to ASSIGNEE of, the entire and exclusive right, title and interest for all countries, regions, territories, and other jurisdictions throughout the world, in, to and under the invention(s), improvements thereof, and all patent applications, provisional and non-provisional, (including without limitation all patent applications claiming priority and/or benefit, including without limitation all divisional, continuation, continuation-in-part, substitute, renewal and reissue applications), patents (including without limitation extensions, reissues and renewals thereof), and other intellectual property protection (including without limitation all utility models, designs and inventor certificates, and applications, extensions, renewals and reissues for the same) therefore, together with, though not in any way of limitation, all rights of priority under the International Convention for the Protection of Industrial Property and all other laws and international agreements, the right to apply for patents in ASSIGNEE's name(s), and all rights of recovery for past, present or future infringement thereof, known as

## TITLE OF THE INVENTION

MEASURING A PROCESS PARAMETER FOR A MANUFACTURING PROCESS INVOLVING LITHOGRAPHY

for which a patent application was executed and/or filed for:

U.S.A.	February 21, 2014	US	61/943,160
Country	Date	Country abbreviation	Application number

AND the ASSIGNOR(s) hereby authorize(s) and request(s) any government agency, office or official whose duty includes issuing patents or other evidence or forms of intellectual property protection on or for the aforesaid invention(s) and application(s) (including, without limitation, all applications filed in or for China, Europe, Japan, Korea, the Netherlands, United Kingdom, Germany, France, Italy, Taiwan, Singapore and the United States), to issue the same to ASSIGNEE, as the assignee(s) of all rights, title, interests thereto and/or as the applicant(s) therefore;

AND the ASSIGNOR(s) agree(s) that the attorney of record in the aforesaid application(s) shall hereinafter act on behalf of ASSIGNEE;

AND the ASSIGNOR(s) acknowledge(s) that the aforesaid invention(s) was/were made in the framework of a specific relationship to ASSIGNEE and that in this relationship the ASSIGNOR(s) is/are bound to use specific knowledge to create inventions similar to the aforesaid invention(s);

AND the ASSIGNOR(s) acknowledge(s) that the ASSIGNOR(s)'s salary or other remuneration includes fair and reasonable compensation for the assignment hereunder of the subject matter herein assigned;

AND the ASSIGNOR(s) agree(s), without further remuneration, to communicate to ASSIGNEE any facts known to the ASSIGNOR(s) respecting the aforesaid invention(s), and all related patent applications, patents, and other intellectual property protection mentioned above, and to testify in any legal proceeding, sign any lawful papers, execute any applications, make any rightful oaths or declarations, and generally provide all assistance, cooperation and information reasonably necessary for ASSIGNEE to perfect title in, prepare, complete, prosecute, obtain, maintain, preserve, enforce and/or defend the aforesaid invention(s) and all related patent applications, patents and other intellectual property protection mentioned above, and grant(s) ASSIGNEE a perpetual and irrevocable power of attorney to execute and sign in the name(s) and on behalf of the ASSIGNOR(s) any documents of any nature in pursuit of the aforesaid;

AND the ASSIGNOR(s) agree(s) not to contest or aid in contesting the validity, enforceability or ownership of the aforesaid invention(s) and all related patent applications, patents, and other intellectual property protection mentioned above;

AND the ASSIGNOR(s) represent(s) and warrant(s) to have the full right to convey the subject matter herein assigned, to have obtained the consent, if applicable, of all joint owners and all inventors to the subject matter assigned herein, to have not made and will not make any agreement or license in conflict herewith, and to have not encumbered and will not encumber by any grant, license or right the subject matter herein assigned;

AND the ASSIGNOR(s) has/have not disclosed and will not disclose the aforesaid invention(s) to any third party, except with the prior written consent of ASSIGNEE, prior to the date of earliest publication of the aforesaid application(s);

AND the ASSIGNOR(s) hereby authorize(s) any attorneys or other representatives of ASSIGNEE to insert hereon any further identification necessary or desirable for recordation of this document, including without limitation any applicable patent or patent application number;

AND, to the extent there is a conflict between the agreement herein and any previous agreement between ASSIGNEE and any or all of the ASSIGNOR(s), the ASSIGNOR(s) agree(s) that the agreement herein controls and supersedes any such conflicting previous agreement;

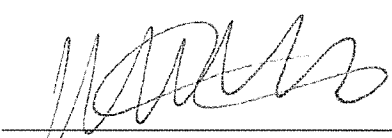
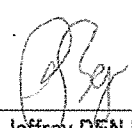
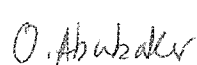
AND, where permitted by law, the ASSIGNOR(s) agree(s) that the agreement herein supersedes, modifies and/or supplements the law to the extent the agreement herein provides ASSIGNEE greater rights and protections than available under the law;

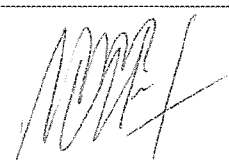
AND the ASSIGNOR(s) and ASSIGNEE irrevocably waive their rights to rescind the agreement herein, including, without limitation, on the basis of article 6: 285, 265, or 270 of the Dutch Civil Code;

AND the ASSIGNOR(s) agree(s) that the agreement herein shall be exclusively construed under and governed by the laws of the Netherlands with the exclusion of conflicts of law rules;

AND the ASSIGNOR(s) agree(s) that any dispute arising from or in relation to the agreement herein shall be submitted to the exclusive jurisdiction and venue of the competent court in 's-Hertogenbosch, the Netherlands, unless ASSIGNEE in its sole discretion prefer(s) to submit such dispute to an arbitration, whereby the arbitral tribunal shall be composed of one arbitrator, the place of arbitration shall be within the Netherlands, and the arbitral procedure shall be conducted in the English language;

AND the ASSIGNOR(s) and ASSIGNEE agree that if any provision of the agreement herein is deemed to be unenforceable, void, illegal or invalid, it shall be modified so as to make it valid and enforceable, and as so modified the agreement herein shall remain in full force and effect.

ASSIGNOR(S)	DATE SIGNED
1):  Name: <u>Maartits VAN DER SCHAAER</u>	<u>27/02/2014</u> Date
2):  Name: <u>Arie, Jeffrey DEN BOEF</u>	<u>3/3/2014</u> Date
3):  Name: <u>Omer, Abubaker, Omer ADAM</u>	<u>27/02/2014</u> Date
4):  Name: <u>Te-Chih HUANG</u>	  Date

ASSIGNEE	DATE SIGNED
 Company: <u>ASML Netherlands B.V.</u> Signor <u>Antonius J.M. van Hoef</u> Name: <u>Vice President and Chief IP Counsel</u>	<u>01 APR 14</u> Date

AND the ASSIGNOR(s) hereby authorize(s) any attorneys or other representatives of ASSIGNEE to insert hereon any further identification necessary or desirable for recordation of this document, including without limitation any applicable patent or patent application number;

AND, to the extent there is a conflict between the agreement herein and any previous agreement between ASSIGNEE and any or all of the ASSIGNOR(s), the ASSIGNOR(s) agree(s) that the agreement herein controls and supersedes any such conflicting previous agreement;

AND, where permitted by law, the ASSIGNOR(s) agree(s) that the agreement herein supersedes, modifies and/or supplements the law to the extent the agreement herein provides ASSIGNEE greater rights and protections than available under the law;

AND the ASSIGNOR(s) and ASSIGNEE irrevocably waive their rights to rescind the agreement herein, including, without limitation, on the basis of article 6: 285, 265, or 270 of the Dutch Civil Code;

AND the ASSIGNOR(s) agree(s) that the agreement herein shall be exclusively construed under and governed by the laws of the Netherlands with the exclusion of conflicts of law rules;

AND the ASSIGNOR(s) agree(s) that any dispute arising from or in relation to the agreement herein shall be submitted to the exclusive jurisdiction and venue of the competent court in 's-Hertogenbosch, the Netherlands, unless ASSIGNEE in its sole discretion prefer(s) to submit such dispute to an arbitration, whereby the arbitral tribunal shall be composed of one arbitrator, the place of arbitration shall be within the Netherlands, and the arbitral procedure shall be conducted in the English language;

AND the ASSIGNOR(s) and ASSIGNEE agree that if any provision of the agreement herein is deemed to be unenforceable, void, illegal or invalid, it shall be modified so as to make it valid and enforceable, and as so modified the agreement herein shall remain in full force and effect.

ASSIGNOR(S)	DATE SIGNED
1):	
Name: <u>Maurits VAN DER SCHAAR</u>	<u>                    </u> Date
2):	
Name: <u>Arie, Jeffrey DEN BOEF</u>	<u>                    </u> Date
3):	
Name: <u>Omer, Abubaker, Omer ADAM</u>	<u>                    </u> Date
4):	
Name: <u>Te-Chih HUANG</u>	<u>3/12, 2014</u> Date

ASSIGNEE	DATE SIGNED
Company: <u>ASML Netherlands B.V.</u>	<u>                    </u> Date
Signor: <u>Antonius J.M. van Hoef</u>	
Name: <u>Vice President and Chief IP Counsel</u>	

**ASSIGNMENT**

In consideration of the sum of Ten Dollars (\$10.00) and/or other good and valuable consideration paid to the ASSIGNOR(s), namely:

<b>NAME OF ASSIGNOR(S)</b>	<b>(1)</b>	<b>Youping ZHANG</b>		

the receipt and sufficiency of which are acknowledged by the ASSIGNOR(s), the ASSIGNOR(s) hereby sell(s), assign(s) and transfer(s) unto:

<b>INSERT NAME OF ASSIGNEE and ADDRESS</b>	<b>ASML Netherlands B.V.</b>
	<b>De Run 6501</b>
	<b>5504 DR Veldhoven</b>
	<b>The Netherlands</b>

its or their successors, assigns and legal representatives (together and individually hereinafter "ASSIGNEE") and to the extent already assigned or transferred to ASSIGNEE by operation of law or by a general obligation between the ASSIGNOR(s) and ASSIGNEE, the ASSIGNOR(s) hereby confirm(s) and formalize(s) the assignment and transfer to ASSIGNEE of, the entire and exclusive right, title and interest for all countries, regions, territories, and other jurisdictions throughout the world, in, to and under the invention(s), improvements thereof, and all patent applications, provisional and non-provisional, (including without limitation all patent applications claiming priority and/or benefit, including without limitation all divisional, continuation, continuation-in-part, substitute, renewal and reissue applications), patents (including without limitation extensions, reissues and renewals thereof), and other intellectual property protection (including without limitation all utility models, designs and inventor certificates, and applications, extensions, renewals and reissues for the same) therefore, together with, though not in any way of limitation, all rights of priority under the International Convention for the Protection of Industrial Property and all other laws and international agreements, the right to apply for patents in ASSIGNEE's name(s), and all rights of recovery for past, present or future infringement thereof, known as

**TITLE OF THE  
INVENTION**

**MEASURING A PROCESS PARAMETER FOR A MANUFACTURING PROCESS  
INVOLVING LITHOGRAPHY**

for which a patent application was executed and/or filed for:

<b>U.S.A.</b>	<b>February 21, 2014</b>	<b>US</b>	<b>61/943,160</b>
<b>Country</b>	<b>Date</b>	<b>Country abbreviation</b>	<b>Application number</b>

AND the ASSIGNOR(s) hereby authorize(s) and request(s) any government agency, office or official whose duty includes issuing patents or other evidence or forms of intellectual property protection on or for the aforesaid invention(s) and application(s) (including, without limitation, all applications filed in or for China, Europe, Japan, Korea, the Netherlands, United Kingdom, Germany, France, Italy, Taiwan, Singapore and the United States), to issue the same to ASSIGNEE, as the assignee(s) of all rights, title, interests thereto and/or as the applicant(s) therefore;

AND the ASSIGNOR(s) agree(s) that the attorney of record in the aforesaid application(s) shall hereinafter act on behalf of ASSIGNEE;

AND the ASSIGNOR(s) acknowledge(s) that the aforesaid invention(s) was/were made in the framework of a specific relationship to ASSIGNEE and that in this relationship the ASSIGNOR(s) is/are bound to use specific knowledge to create inventions similar to the aforesaid invention(s);

AND the ASSIGNOR(s) acknowledge(s) that the ASSIGNOR(s)'s salary or other remuneration includes fair and reasonable compensation for the assignment hereunder of the subject matter herein assigned;

AND the ASSIGNOR(s) agree(s), without further remuneration, to communicate to ASSIGNEE any facts known to the ASSIGNOR(s) respecting the aforesaid invention(s), and all related patent applications, patents, and other intellectual property protection mentioned above, and to testify in any legal proceeding, sign any lawful papers, execute any applications, make any rightful oaths or declarations, and generally provide all assistance, cooperation and information reasonably necessary for ASSIGNEE to perfect title in, prepare, complete, prosecute, obtain, maintain, preserve, enforce and/or defend the aforesaid invention(s) and all related patent applications, patents and other intellectual property protection mentioned above, and grant(s) ASSIGNEE a perpetual and irrevocable power of attorney to execute and sign in the name(s) and on behalf of the ASSIGNOR(s) any documents of any nature in pursuit of the aforesaid;

AND the ASSIGNOR(s) agree(s) not to contest or aid in contesting the validity, enforceability or ownership of the aforesaid invention(s) and all related patent applications, patents, and other intellectual property protection mentioned above;

AND the ASSIGNOR(s) represent(s) and warrant(s) to have the full right to convey the subject matter herein assigned, to have obtained the consent, if applicable, of all joint owners and all inventors to the subject matter assigned herein, to have not made and will not make any agreement or license in conflict herewith, and to have not encumbered and will not encumber by any grant, license or right the subject matter herein assigned;

AND the ASSIGNOR(s) has/have not disclosed and will not disclose the aforesaid invention(s) to any third party, except with the prior written consent of ASSIGNEE, prior to the date of earliest publication of the aforesaid application(s);

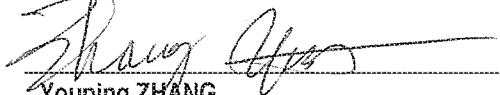
AND, where permitted by law, the ASSIGNOR(s) agree(s) that the agreement herein supersedes, modifies and/or supplements the law to the extent the agreement herein provides ASSIGNEE greater rights and protections than available under the law;

AND the ASSIGNOR(s) and ASSIGNEE irrevocably waive their rights to rescind the agreement herein, including, without limitation, on the basis of article 6: 285, 265, or 270 of the Dutch Civil Code;

AND the ASSIGNOR(s) agree(s) that the agreement herein shall be exclusively construed under and governed by United States federal law and the laws of Delaware with the exclusion of conflicts of law rules;

AND the ASSIGNOR(s) agree(s) that any dispute arising from or in relation to the agreement herein shall be submitted to the exclusive jurisdiction and venue of a court in the state of Connecticut or the state of Arizona in the United States of America, unless ASSIGNEE in its sole discretion prefer(s) to submit such dispute to an arbitration, whereby the arbitral tribunal shall be composed of one arbitrator, the place of arbitration shall be state of Connecticut or the state of Arizona, and the arbitral procedure shall be conducted in the English language;

AND the ASSIGNOR(s) and ASSIGNEE agree that if any provision of the agreement herein is deemed to be unenforceable, void, illegal or invalid, it shall be modified so as to make it valid and enforceable, and as so modified the agreement herein shall remain in full force and effect.

ASSIGNOR(S)	DATE SIGNED
1):	
 Name: Youping ZHANG	<u>3/7/14</u> Date

ASSIGNEE	DATE SIGNED
	<u>01 APR 14</u>
Company: <b>ASML Netherlands B.V.</b>	Date
Signor <b>Antonius J.M. van Hoef</b>	
Name: <b>Vice President and Chief IP Counsel</b>	