

## PATENT ASSIGNMENT COVER SHEET

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 Stylesheet Version v1.2

EPAS ID: PAT4994599

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
TSANN-BIM CHIOU	11/22/2016
CHENG-HSIEN HSIEH	11/22/2016
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	ASML NETHERLANDS B.V.
<b>Street Address:</b>	P.O. BOX 324
<b>City:</b>	VELDHOVEN
<b>State/Country:</b>	NETHERLANDS
<b>Postal Code:</b>	5500 AH
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15781970
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(703)770-7901
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<b>NAME OF SUBMITTER:</b>	BARBIE BEAVERS
<b>SIGNATURE:</b>	/barbie beavers/
<b>DATE SIGNED:</b>	06/06/2018
<b>Total Attachments: 2</b>	
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source=ASSIGNMENT3#page2.tif	

For Administrative Purposes		
Assignee's internal reference:	2015P00130-GN01	
Counterpart or related patent application of, or for, the assigned subject matter below:	Country, filing date & application number:	Initials of administrator and date:

## ASSIGNMENT

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

<b>NAME OF ASSIGNOR(S)</b>	(1)	<b>Tsann-Bim CHIOU</b>	(2)	<b>Cheng-Hsien HSIEH</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>NAME OF ASSIGNEE and ADDRESS</b>	ASML Netherlands B.V.
	P.O. Box 324
	5500 AH Veldhoven
	The Netherlands

and 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 to bring suit, collect damages and settle suits for past, present or future infringements thereof, known as

<b>TITLE OF THE INVENTION</b>	OPTIMIZATION OF SOURCE AND BANDWIDTH FOR NEW AND EXISTING PATTERNING DEVICES
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☐ Which is filed herewith, or

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

U.S.A.	November 17, 2016	US	62/423,362
<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 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;

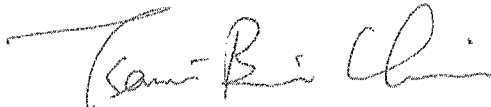
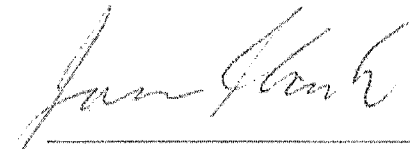
AND, where permitted by law, the ASSIGNOR(s) agree(s) that the agreement herein supersedes, modifies and/or supplements the law to the extent the agreement herein provides ASSIGNEE greater rights and protections than available under the law;


AND the ASSIGNOR(s) and ASSIGNEE irrevocably waive their rights to rescind the agreement herein, including, without limitation, on the basis of article 6: 258, 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 of competent jurisdiction in the states of Connecticut, Arizona or California 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 states of Connecticut, Arizona or California, 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>Tsann-Bim CHIOU</u>	<u>Nov. 22. 2016</u> Date
2):  Name: <u>Cheng-Hsien HSIEH</u>	<u>Nov. 22, 2016</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>19 DEC 16</u> Date