

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT		
NATURE OF CONVEYANCE:	NUNC PRO TUNC ASSIGNMENT		
EFFECTIVE DATE:	06/06/2014		
CONVEYING PARTY DATA			
Name			Execution Date
CARL ZEISS SMT GMBH			12/23/2016
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State/Country:	GERMANY		
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PROPERTY NUMBERS Total: 7			
Property Type	Number		
Patent Number:	6731335		
Patent Number:	6974715		
Patent Number:	7183129		
Patent Number:	7297916		
Patent Number:	8149312		
Patent Number:	8625017		
Application Number:	14147021		
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DATE SIGNED:	05/09/2017
Total Attachments: 6 source=(Public) Confirmatory NPT Assignment from Carl Zeiss SMT to Carl Zeiss AG#page1.tif source=(Public) Confirmatory NPT Assignment from Carl Zeiss SMT to Carl Zeiss AG#page2.tif source=(Public) Confirmatory NPT Assignment from Carl Zeiss SMT to Carl Zeiss AG#page3.tif source=(Public) Confirmatory NPT Assignment from Carl Zeiss SMT to Carl Zeiss AG#page4.tif source=(Public) Confirmatory NPT Assignment from Carl Zeiss SMT to Carl Zeiss AG#page5.tif source=(Public) Confirmatory NPT Assignment from Carl Zeiss SMT to Carl Zeiss AG#page6.tif	

CONFIRMATORY NUNC PRO TUNC ASSIGNMENT OF PATENT RIGHTS

By this CONFIRMATORY NUNC PRO TUNC ASSIGNMENT OF PATENT RIGHTS ("*Assignment*"), Carl Zeiss SMT GmbH ("*Assignor*"), a company incorporated and existing under the laws of Germany and having its registered address at Rudolf Eber Strasse 2, 73447 Oberkochen, Germany, for valuable consideration, the receipt and sufficiency of which are hereby acknowledged, hereby confirms that, pursuant to a Nunc Pro Tunc Assignment dated December 23, 2018, it has assigned, transferred, and conveyed, and by quitclaim hereby does assign, transfer, and convey its entire right, title, and interest in and to the Patent Rights (defined below), including without limitation the right to sue for and collect damages for activities that predate the date of this Assignment, to Carl Zeiss AG ("*Assignee*"), a corporation incorporated and existing under the laws of Germany and having its registered address at Carl Zeiss Strasse 22, 73447 Oberkochen, Germany, where such assignment is *nunc pro tunc* as of the Tarsium acquisition dates provided in Schedule 1, attached hereto.

"*Patent Rights*" are defined as:

- (a) the provisional patent applications, patent applications and patents listed in the attached Schedule 1 (the "*Patents*");
- (b) to the extent not already included in category (a), all United States patents and patent applications (i) to which any of the Patents directly or indirectly claims priority, (ii) for which any of the Patents directly or indirectly forms a basis for priority, and/or (iii) that were co-owned applications that incorporate by reference, or are incorporated by reference into, the Patents;
- (c) all United States reissues, reexaminations, extensions, continuations, continuations in part, continuing prosecution applications, requests for continuing examinations, divisions, registrations of any item in any of the foregoing categories (a) and (b);
- (d) all causes of action (whether known or unknown, and/or whether currently pending, filed, or otherwise) and other enforcement rights under, or on account of, any of the Patents and/or any item in any of the foregoing categories (b) and (c), including, without limitation, all causes of action and other enforcement rights for
 - (1) damages,
 - (2) injunctive relief,
 - (3) exclusion orders; and
 - (4) any other remedies of any kind

for past, current, and future infringement; and

- (e) all rights to collect royalties and other payments under or on account of any of the Patents and/or any item in any of the foregoing categories (b) through (d), including the right to

seek and collect past damages and other remedies for activities occurring prior to the date of this Assignment.

Assignor represents, warrants and covenants that:

(1) Assignor has the full power and authority, and has obtained all third party consents, approvals and/or other authorizations required, to enter into this Assignment and to carry out its obligations hereunder, including the assignment of the Patent Rights to Assignee; and

(2) Assignor has obtained and properly recorded or will record previously executed assignments for the Patent Rights as necessary to fully perfect its rights and title therein in accordance with governing law and regulations in each respective jurisdiction. Assignor has not conveyed any interest in any of the Patent Rights to any entity since each was acquired by Assignor. There are no actions, suits, investigations, claims or proceedings threatened, pending or in progress relating in any way to the Patent Rights. There are no existing contracts, agreements, options, commitments, proposals, bids, offers, or rights with, to, or in any person to acquire any of the Patent Rights.

Assignor hereby authorizes the respective patent office or governmental agency in each jurisdiction to issue any and all patents, certificates of invention, utility models or other governmental grants or issuances that may be granted upon any of the Patent Rights in the name of Assignee.

Assignor will, at the reasonable request of Assignee and without demanding any further consideration, do all things necessary, proper, or advisable, including without limitation, the execution, acknowledgment, and recordation of specific assignments, oaths, declarations, and other documents on a country-by-country basis, to assist Assignee in obtaining, perfecting, sustaining, and/or enforcing the Patent Rights.

The terms and conditions of this Assignment will inure to the benefit of Assignee, its respective successors, assigns, and other legal representatives and will be binding upon Assignor, its successors, assigns, and other legal representatives.

Assignee agrees to be bound by all continuing obligations of Assignor as set forth in the agreements pursuant to which Assignor acquired the Patents.

IN WITNESS WHEREOF this Assignment is executed at Oriskany on Dec 23, 2016

ASSIGNOR:

Carl Zeiss SMT GmbH

By: ppa. L Zeiler

Name: ppa. Dr. Andreas Zeiler

Title: VP Intellectual Property

i.v. Dr. Thomas Okon

i.V. Dr. Thomas Okon

Authorized Clerk

ASSIGNEE:

Carl Zeiss AG

By: K. Gnatzig

Name: ppa. Klaus Gnatzig

Title: Senior Director Patent Department

i.v. Dr. Alexander Kohl

i.V. Dr. Alexander Kohl

Authorized Clerk

SCHEDULE 1

<u>Country</u>	<u>Application No.</u>	<u>Filing Date</u>	<u>Patent No.</u>	<u>Issue Date</u>	<u>Title of Patent</u>	<u>Inventor(s)</u>	<u>Patent Group</u>	<u>Issuance acquisition date</u>
US	09/130,572	08/07/1998	6,301,020	10/09/2001	Appliance and method for capturing images having a user error interface	James C. Dow <i>et al.</i>	Hewlett-Packard Development Company, L.P. and Hewlett-Packard Company	10/26/2012
US	09/549,023	04/13/2000	6,301,440	10/09/2001	System and method for automatically setting image acquisition controls	Rudolf M. Bolle <i>et al.</i>	MediaTek, Inc.	11/10/2014
US	09/229,052	01/11/1999	6,463,163	10/08/2002	System and method for face detection using candidate image region selection	Renato Kriesch	Hewlett-Packard Development Company, L.P. and Hewlett-Packard Company	10/26/2012
US	09/842,553	04/25/2001	6,714,241	03/30/2004	Efficient dark current subtraction in an image sensor	Richard L. Baer	Hewlett-Packard Development Company, L.P. and Hewlett-Packard Company	10/26/2012
US	09/305,758	05/06/1999	6,731,335	05/04/2004	CMOS image sensor having common outputting transistors and method for driving the same	Hyun Eun Kim <i>et al.</i>	Intellectual Ventures Fund 99 LLC	06/06/2014
US	09/596,133	06/16/2000	6,834,128	12/21/2004	Image mosaicing system and method adapted to mass-market hand-held digital cameras	Yucel Altunbasak <i>et al.</i>	Hewlett-Packard Development Company, L.P. and Hewlett-Packard Company	10/26/2012
US	10/053,206	01/18/2002	6,972,792	12/06/2005	Appliance and method for capturing images having a user error interface	James C. Dow <i>et al.</i>	Hewlett-Packard Development Company, L.P. and Hewlett-Packard Company	10/26/2012

US	10/669,996	09/24/2003	6,974,715	12/13/2005	Method for manufacturing CMOS image sensor using spacer etching barrier film	Ju-Il Lee	Intellectual Ventures Fund 99 LLC	06/06/2014
US	10/669,996	03/06/2002	6,992,707	01/31/2006	Delayed encoding based joint video and still image pipeline with still burst mode	Pere Obrador	Hewlett-Packard Development Company, L.P. and Hewlett-Packard Company	10/26/2012
US	11/244,512	10/05/2005	7,183,129	02/27/2007	Method for manufacturing CMOS image sensor using spacer etching barrier film	Ju-Il Lee	Intellectual Ventures Fund 99 LLC	06/06/2014
US	10/342,586	01/15/2003	7,209,167	04/24/2007	Method and apparatus for capture of sensory data in association with image data	Norman C. Pyle et al.	Hewlett-Packard Development Company, L.P. and Hewlett-Packard Company	10/26/2012
US	10/238,126	09/10/2002	7,234,106	06/19/2007	System for and method of generating image annotation information	Steven J. Simske	Hewlett-Packard Development Company, L.P. and Hewlett-Packard Company	10/26/2012
US	11/064,346	02/22/2005	7,297,916	11/20/2007	Optically improved CMOS imaging sensor structure to lower imaging lens requirements	Chen Feng	Intellectual Ventures Fund 99 LLC	06/06/2014
US	10/681,816	10/08/2003	7,352,390	04/01/2008	A digital camera for capturing image data with rapid response between activating a capture trigger and capturing image data	Patrick F. Gonzalez	Hewlett-Packard Development Company, L.P. and Hewlett-Packard Company	10/26/2012
US	10/681,801	10/08/2003	7,414,650	08/19/2008	System and method for capturing image data	Patrick F. Gonzalez	Hewlett-Packard Development Company, L.P. and	10/26/2012

US	11/767,739	06/25/2007	7,933,454	04/26/2011	Class-based image enhancement system	Marco Bressan et al.	Hewlett-Packard Company Xerox Corporation	12/19/2012
US	11/345,207	01/31/2006	8,149,312	04/03/2012	CMOS image sensor with shared sensing mode	Oh-Bong Kwon	Intellectual Ventures Fund 99 LLC	08/06/2014
US	13/410,875	03/02/2012	8,625,017	01/07/2014	CMOS image sensor with shared sensing mode	Oh-Bong Kwon	Intellectual Ventures Fund 99 LLC	06/06/2014
US	14/147,021	01/03/2014			CMOS image sensor with shared sensing mode	Oh-Bong Kwon	Intellectual Ventures Fund 99 LLC	06/06/2014