

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4140251

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| <b>SUBMISSION TYPE:</b>                                                                                                                                                                         | NEW ASSIGNMENT                           |
| <b>NATURE OF CONVEYANCE:</b>                                                                                                                                                                    | ASSIGNMENT                               |
| <b>CONVEYING PARTY DATA</b>                                                                                                                                                                     |                                          |
| <b>Name</b>                                                                                                                                                                                     | <b>Execution Date</b>                    |
| MICRON TECHNOLOGY, INC.                                                                                                                                                                         | 07/08/2009                               |
| <b>RECEIVING PARTY DATA</b>                                                                                                                                                                     |                                          |
| <b>Name:</b>                                                                                                                                                                                    | APTINA IMAGING CORPORATION               |
| <b>Street Address:</b>                                                                                                                                                                          | C/O CITICO TRUSTEES (CAYMAN) LIMITED     |
| <b>Internal Address:</b>                                                                                                                                                                        | REGATTA OFFICE PARK, WEST BAY ROAD       |
| <b>City:</b>                                                                                                                                                                                    | GRAND CAYMAN                             |
| <b>State/Country:</b>                                                                                                                                                                           | CAYMAN ISLANDS                           |
| <b>Postal Code:</b>                                                                                                                                                                             | Y1-1205                                  |
| <b>PROPERTY NUMBERS Total: 3</b>                                                                                                                                                                |                                          |
| <b>Property Type</b>                                                                                                                                                                            | <b>Number</b>                            |
| <b>Patent Number:</b>                                                                                                                                                                           | 7510897                                  |
| <b>Patent Number:</b>                                                                                                                                                                           | 7195947                                  |
| <b>Patent Number:</b>                                                                                                                                                                           | 7745858                                  |
| <b>CORRESPONDENCE DATA</b>                                                                                                                                                                      |                                          |
| <b>Fax Number:</b>                                                                                                                                                                              | (602)244-3169                            |
| <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>                                                                                                                                                                                   | 6022443574                               |
| <b>Email:</b>                                                                                                                                                                                   | patents@onsemi.com                       |
| <b>Correspondent Name:</b>                                                                                                                                                                      | SEMICONDUCTOR COMPONENTS INDUSTRIES, LLC |
| <b>Address Line 1:</b>                                                                                                                                                                          | 5005 E. MCDOWELL ROAD                    |
| <b>Address Line 2:</b>                                                                                                                                                                          | MAILDROP A700                            |
| <b>Address Line 4:</b>                                                                                                                                                                          | PHOENIX, ARIZONA 85008                   |
| <b>ATTORNEY DOCKET NUMBER:</b>                                                                                                                                                                  | APT2002-0034CONS_DIVS                    |
| <b>NAME OF SUBMITTER:</b>                                                                                                                                                                       | SHARRON CASTILLO                         |
| <b>SIGNATURE:</b>                                                                                                                                                                               | /Sharron Castillo/                       |
| <b>DATE SIGNED:</b>                                                                                                                                                                             | 11/14/2016                               |
| <b>Total Attachments: 8</b>                                                                                                                                                                     |                                          |
| source=APT2002-0034Cons-Divs_20161111_Assignment_MicronAptina#page1.tif                                                                                                                         |                                          |
| source=APT2002-0034Cons-Divs_20161111_Assignment_MicronAptina#page2.tif                                                                                                                         |                                          |

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## PATENT ASSIGNMENT AGREEMENT

### **1. Definitions**

(a) "Agreement" shall mean this Patent Assignment Agreement.

(b) "Assignee" shall mean **Aptina Imaging Corporation**, a Cayman Islands corporation with offices at c/o Citco Trustees (Cayman) Limited, Regatta Office Park, West Bay Road, Grand Cayman, Y1-1205, Cayman Islands.

(c) "Assignor" shall mean **Micron Technology, Inc.**, a Delaware corporation with offices at 8000 South Federal Way, Boise, ID 83707.

(d) "Assigned Patents" shall mean those patents identified in ATTACHMENT "A" hereto, including, without limitation, all divisions, continuations, continuations-in-part, reissues, reexaminations, and all foreign counterparts thereof, and which may issue thereon or in connection therewith after the Effective Date of this Agreement.

(e) "Assigned Patent Applications" shall mean those filed patent applications identified in ATTACHMENT "B" hereto, including, without limitation, all patents, divisions, continuations, continuations-in-part, reissues, reexaminations, and all foreign counterparts which may issue thereon or in connection therewith after the Effective Date of this Agreement.

(f) "Effective Date" shall mean July 10, 2009.

(g) "Intellectual Property" shall mean any or all of the following and all rights in, arising out of, or associated therewith: (i) patents and utility models and applications therefor and all reissues, divisions, renewals, extensions, provisionals, continuations and continuations-in-part thereof (ii) all inventions, developments and discoveries (whether patentable or not), improvements, trade secrets, proprietary information, know how, technology, software, technical data, and all documentation embodying or evidencing any of the foregoing, (iii) copyrights, copyright registrations and applications therefor, (iv) mask works, mask work registrations and applications therefor, and any equivalent or similar rights in semiconductor masks, layouts, architectures or topology, (v) industrial designs and any registrations and applications therefor, (vi) databases and data collections, (vii) any similar, corresponding or equivalent rights to any of the foregoing anywhere in the world, but excluding any rights in trademarks, service marks, trade names, trade dress, domain names, logos and similar rights, and the goodwill associated therewith, whether registered or unregistered.

(h) "Subsidiary" shall mean any entity which is directly or indirectly more than fifty percent (50%) owned by Assignor, whether such entity exists as of the Effective Date of this Agreement or is hereafter created.

### **2. Covenants**

(a) Subject to the terms and conditions of this Agreement, and subject to the rights of others existing as of the Effective Date of this Agreement if any, Assignor, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, hereby sells, assigns, and transfers to Assignee its entire right, title and interest in and to the Assigned Patents, including all rights to causes of action and remedies related thereto (including the right to sue for past, present or future infringement of rights related to the foregoing and the right to collect damages therefor). Assignor hereby authorizes and requests the Commissioner of Patents of the United States, and any other official of the United States and any country foreign to the United States whose duty it is to issue or record patents, to issue the Assigned Patents to Assignee and to record assignment of the Assigned Patents to Assignee.

(b) Subject to the terms and conditions of this Agreement, and subject to the rights of others existing as of the Effective Date of this Agreement if any, Assignor, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, hereby sells, assigns, and transfers to Assignee its entire right, title and interest in and to the Intellectual Property rights in the Assigned Patent Applications. Assignor hereby authorizes and requests the Commissioner of Patents of the United States, and any other official of the United States and any country foreign to the United States whose duty it is to issue or record patents, to record assignment of the Assigned Patent Applications to Assignee.

**3. Further Assurances**

At the request of the Assignee and at Assignee's expense, Assignor shall execute and deliver or cause to be delivered, any other instruments of transfer, and shall take or cause to be taken all such other actions as Assignee may reasonably deem necessary or desirable in order to carry out any assignments hereunder or perfect any rights hereunder; provided however, that notwithstanding the foregoing, or anything herein to the contrary, as of the Effective Date, and unless otherwise expressly agreed to by Assignor in a separate written agreement, all responsibilities and obligations related to or in connection with any prosecution and/or other activities involved in perfecting any rights hereunder or otherwise pursuing registration of any rights in relation to any of the Assigned Patents and Assigned Patent Applications shall rest solely with Assignee.

**4. License**

Assignee hereby grants to Assignor and its Subsidiaries a non-exclusive, non-sublicenseable, royalty-free, fully paid-up, irrevocable, perpetual, world-wide license under the Assigned Patents and Assigned Patent Applications for any and all purposes and applications and to practice any and all methods and processes.

**5. Representations and Warranties Disclaimer**

ASSIGNOR DISCLAIMS ANY AND ALL REPRESENTATIONS AND WARRANTIES, EXPRESS OR IMPLIED, WHATSOEVER WITH RESPECT TO ANY OF THE ASSIGNED PATENTS AND ASSIGNED PATENT APPLICATIONS. WITHOUT LIMITING THE FOREGOING, ASSIGNOR DOES NOT MAKE ANY REPRESENTATION OR WARRANTY WHATSOEVER WITH RESPECT TO THE UTILITY, VALIDITY OR ENFORCEABILITY OF ANY OF THE ASSIGNED PATENTS OR ASSIGNED PATENT APPLICATIONS. NOR DOES ASSIGNOR MAKE ANY REPRESENTATION OR WARRANTY THAT THE COMMERCIAL EXPLOITATION THEREOF WILL NOT INFRINGE UPON THE RIGHTS OF ANY THIRD PARTY(IES).

**6. General**

This Agreement shall be effective as of the Effective Date hereof and shall be binding on the respective heirs, assigns, representatives, and successors of Assignor and of Assignee.

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Agreed to by:

REVIEWED  
MTI LEGAL

Micron Technology, Inc.

Signed: Dm Dm

SPA

Date: July 8, 2009

Notarization

State of Idaho

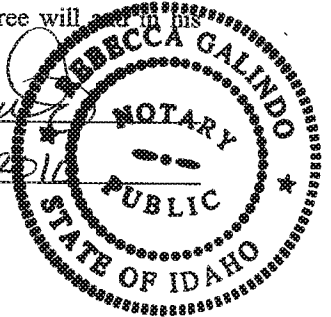
County of Ada

On 7/8/2009, before me, Rebecca Galindo, personally appeared the above-named D. Mark Durcan,  
(date) (notary name)

who executed this Assignment in my presence and acknowledged to me that he did so of his own free will and in his  
authorized capacity for the purposes set forth herein.

Signed: Rebecca Galindo

My commission expires: 6/17/2010



Agreed to by:

Aptina Imaging Corporation

Signed: Thomas L. Law

Date: 7/9/09, 2009

Notarization

State of Idaho

County of Ada

On 7/9/09, before me, Rebecca Galindo, personally appeared the above-named Thomas L. Law,  
(date) (notary name)

who executed this Assignment in my presence and acknowledged to me that he did so of his own free will and in his  
authorized capacity for the purposes set forth herein.

Signed: Rebecca Galindo

My commission expires: 6/17/2010



[Signature page to the Patent Assignment Agreement]

**ATTACHMENT "A"**

**ASSIGNED PATENTS**

| Patent Number | File Number     | Title                                                                                                      | Country Name             | Issue Date        |
|---------------|-----------------|------------------------------------------------------------------------------------------------------------|--------------------------|-------------------|
| 6307243       | 1998-0121.00/US | MICROLENS ARRAY WITH IMPROVED FILL FACTOR                                                                  | United States of America | October 23, 2001  |
| 6960796       | 2001-1118.00/US | CMOS IMAGER PIXEL DESIGNS                                                                                  | United States of America | November 1, 2005  |
| 7531379       | 2001-1118.01/US | METHOD OF FORMING CMOS IMAGER PIXEL DESIGNS                                                                | United States of America | May 12, 2009      |
| 7102180       | 2001-1118.02/US | CMOS IMAGER PIXEL DESIGNS                                                                                  | United States of America | September 5, 2006 |
| 7525134       | 2001-1118.03/US | CMOS IMAGER PIXEL DESIGNS                                                                                  | United States of America | April 28, 2009    |
| 6969631       | 2002-0034.00/US | METHOD OF FORMING PHOTODIODE WITH SELF ALIGNED IMPLANTS FOR HIGH QUANTUM EFFICIENCY                        | United States of America | November 29, 2005 |
| 7195947       | 2002-0034.01/US | PHOTODIODE WITH SELF ALIGNED IMPLANTS FOR HIGH QUANTUM EFFICIENCY AND METHOD OF FORMATION                  | United States of America | March 27, 2007    |
| 7510897       | 2002-0034.03/US | PHOTODIODE WITH SELF ALIGNED IMPLANTS FOR HIGH QUANTUM EFFICIENCY AND METHOD OF FORMATION                  | United States of America | March 31, 2009    |
| 10-709854     | 2002-0497.00/KR | METHOD AND APPARATUS FOR REAL TIME IDENTIFICATION AND CORRECTION OF PIXEL DEFECTS FOR IMAGE SENSOR ARRAYS  | Republic of Korea        | April 13, 2007    |
| 108422        | 2002-0497.00/SG | METHOD AND APPARATUS FOR ON-THE-FLY IDENTIFICATION AND CORRECTION OF PIXEL DEFECTS FOR IMAGE SENSOR ARRAYS | Singapore                | November 30, 2006 |
| 7202894       | 2002-0497.00/US | METHOD AND APPARATUS FOR REAL TIME IDENTIFICATION AND CORRECTION OF PIXEL DEFECTS FOR IMAGE SENSOR ARRAYS  | United States of America | April 10, 2007    |

| Patent Number | File Number     | Title                                                                                                                                  | Country Name             | Issue Date        |
|---------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------|
| 7382407       | 2002-0611.00/US | HIGH INTRASCENE DYNAMIC RANGE IN NTSC AND PAL IMAGER                                                                                   | United States of America | June 3, 2008      |
| 7420233       | 2002-0951.00/US | AN OPTIMIZED PHOTODIODE PROCESS FOR IMPROVED TRANSFER GATE LEAKAGE                                                                     | United States of America | September 2, 2008 |
| 6908839       | 2002-0952.00/US | MASKED SPACER ETCHING FOR IMAGERS                                                                                                      | United States of America | June 21, 2005     |
| 7211848       | 2002-0952.01/US | MASKED SPACER ETCHING FOR IMAGERS                                                                                                      | United States of America | May 1, 2007       |
| 7355229       | 2002-0952.02/US | MASKED SPACER ETCHING FOR IMAGERS                                                                                                      | United States of America | April 8, 2008     |
| 4157083       | 2003-1231.00/JP | IMAGE SENSOR WITH ON-CHIP SEMI-COLUMN-PARALLEL PIPELINE ADCS                                                                           | Japan                    | July 18, 2008     |
| 4161295       | AVGO-0033.00/JP | SYSTEM AND METHOD FOR CAPTURING COLOR IMAGES THAT EXTENDS THE DYNAMIC RANGE OF AN IMAGE SENSOR USING FIRST AND SECOND GROUPS OF PIXELS | Japan                    | August 1, 2008    |
| 6924841       | AVGO-0033.00/US | SYSTEM AND METHOD FOR CAPTURING COLOR IMAGES THAT EXTENDS THE DYNAMIC RANGE OF AN IMAGE SENSOR USING FIRST AND SECOND GROUPS OF PIXELS | United States of America | August 2, 2005    |
| 60218585.8    | AVGO-0039.00/DE | METHOD AND APPARATUS FOR IMPROVING IMAGE QUALITY IN DIGITAL CAMERAS                                                                    | Germany                  | March 7, 2007     |
| 1286553       | AVGO-0039.00/EP | METHOD AND APPARATUS FOR IMPROVING IMAGE QUALITY IN DIGITAL CAMERAS                                                                    | European Patent Office   | March 7, 2007     |
| EP 1286553    | AVGO-0039.00/GB | METHOD AND APPARATUS FOR IMPROVING IMAGE QUALITY IN DIGITAL CAMERAS                                                                    | United Kingdom           | March 7, 2007     |
| 6822657       | AVGO-0039.00/US | METHOD AND APPARATUS FOR IMPROVING IMAGE QUALITY IN DIGITAL CAMERAS                                                                    | United States of America | November 23, 2004 |
| 6611288       | PBIT-0002.00/US | DEAD PIXEL CORRECTION BY ROW/COLUMN SUBSTITUTION                                                                                       | United States of America | August 26, 2003   |

**ATTACHMENT "B"**

**ASSIGNED PATENT APPLICATIONS**

| File Number     | Title                                                                                                      | Status  | Country Name             | Application Number | Date Filed        |
|-----------------|------------------------------------------------------------------------------------------------------------|---------|--------------------------|--------------------|-------------------|
| 2001-1118.04/US | CMOS IMAGER PIXEL DESIGNS                                                                                  | Pending | United States of America | 12/349,968         | January 7, 2009   |
| 2002-0034.02/US | PHOTODIODE WITH SELF ALIGNED IMPLANTS FOR HIGH QUANTUM EFFICIENCY AND METHOD OF FORMATION                  | Pending | United States of America | 11/636,979         | December 12, 2006 |
| 2002-0497.00/CN | METHOD AND APPARATUS FOR ON-THE-FLY IDENTIFICATION AND CORRECTION OF PIXEL DEFECTS FOR IMAGE SENSOR ARRAYS | Pending | China                    | 03818753.1         | February 4, 2005  |
| 2002-0497.00/EP | METHOD AND APPARATUS FOR REAL TIME IDENTIFICATION AND CORRECTION OF PIXEL DEFECTS FOR IMAGE SENSOR ARRAY   | Pending | European Patent Office   | 03736817.2         | June 4, 2003      |
| 2002-0497.00/JP | METHOD AND APPARATUS FOR REAL TIME IDENTIFICATION AND CORRECTION OF PIXEL DEFECTS FOR IMAGE SENSOR ARRAYS  | Pending | Japan                    | 510,229/2004       | December 6, 2004  |
| 2002-0497.01/US | METHOD AND APPARATUS FOR ON-THE-FLY IDENTIFICATION AND CORRECTION OF PIXEL DEFECTS FOR IMAGE SENSOR ARRAYS | Pending | United States of America | 11/598,804         | November 14, 2006 |
| 2002-0611.01/US | HIGH INTRASCENE DYNAMIC RANGE IN NTSC AND PAL IMAGER                                                       | Pending | United States of America | 12/081,302         | April 14, 2008    |
| 2002-0951.01/US | OPTIMIZED PHOTODIODE PROCESS FOR IMPROVED TRANSFER GATE LEAKAGE                                            | Pending | United States of America | 11/094,363         | March 31, 2005    |
| 2003-1231.00/US | IMAGE SENSOR WITH ON-CHIP SEMI-COLUMN-PARALLEL PIPELINE ADCS                                               | Allowed | United States of America | 10/957,724         | October 5, 2004   |
| 2004-0162.00/US | SUPPRESSION OF ROW WISE NOISE IN AN IMAGER                                                                 | Pending | United States of America | 10/834,844         | April 30, 2004    |
| 2004-1019.00/CN | EFFICIENT CHARGE TRANSFERRING IN CMOS IMAGERS                                                              | Pending | China                    | 200680038652.8     | August 25, 2006   |

| File Number     | Title                                                             | Status  | Country Name             | Application Number | Date Filed      |
|-----------------|-------------------------------------------------------------------|---------|--------------------------|--------------------|-----------------|
| 2004-1019.00/EP | EFFICIENT CHARGE TRANSFERRING IN CMOS IMAGERS                     | Pending | European Patent Office   | 06802461.1         | August 25, 2006 |
| 2004-1019.00/JP | EFFICIENT CHARGE TRANSFERRING IN CMOS IMAGERS                     | Pending | Japan                    | 2008-529159        | August 25, 2006 |
| 2004-1019.00/KR | EFFICIENT CHARGE TRANSFERRING IN CMOS IMAGERS                     | Pending | Republic of Korea        | 10-2008-7007592    | August 25, 2006 |
| 2004-1019.00/SG | EFFICIENT CHARGE TRANSFERRING IN CMOS IMAGERS                     | Pending | Singapore                | 200801548-9        | August 25, 2006 |
| 2004-1019.00/TW | EFFICIENT CHARGE TRANSFERRING IN 5T CMOS IMAGER                   | Pending | Taiwan R.O.C.            | 095131899          | August 30, 2006 |
| 2004-1019.00/US | EFFICIENT CHARGE TRANSFERRING IN 5T CMOS IMAGER                   | Pending | United States of America | 11/213,815         | August 30, 2005 |
| 2004-1086.00/CN | PIXEL INDIVIDUAL ANTI-ECLIPSE CIRCUIT AND ITS OPERATION MANNER    | Pending | China                    | PCTUS200623437     | June 15, 2006   |
| 2004-1086.00/EP | PIXEL INDIVIDUAL ANTI-ECLIPSE CIRCUIT AND ITS OPERATION MANNER    | Pending | European Patent Office   | 06773319.6         | June 15, 2006   |
| 2004-1086.00/JP | PIXEL INDIVIDUAL ANTI-ECLIPSE CIRCUIT AND ITS OPERATION MANNER    | Pending | Japan                    | 173861/2005        | June 14, 2005   |
| 2004-1086.00/KR | PIXEL INDIVIDUAL ANTI-ECLIPSE CIRCUIT AND ITS OPERATION MANNER    | Pending | Republic of Korea        | 10-2008-7001042    | June 15, 2006   |
| 2004-1086.00/SG | PIXEL INDIVIDUAL ANTI-ECLIPSE CIRCUIT AND ITS OPERATION MANNER    | Pending | Singapore                | PCTUS200623437     | June 15, 2006   |
| 2004-1086.00/TW | PIXEL INDIVIDUAL ANTI-ECLIPSE CIRCUIT AND ITS OPERATION MANNER    | Pending | Taiwan R.O.C.            | 2007-14045         | June 14, 2006   |
| 2004-1086.00/US | PIXEL INDIVIDUAL ANTI-ECLIPSE CIRCUIT AND ITS OPERATION MANNER    | Pending | United States of America | 11/179,632         | July 13, 2005   |
| 2004-1086.01/JP | PIXEL INDIVIDUAL ANTI-ECLIPSE CIRCUIT AND ITS OPERATION MANNER    | Pending | Japan                    | 2008-517129        | June 14, 2006   |
| 2006-0729.00/PC | IMAGING APPARATUS, METHOD, AND SYSTEM HAVING REDUCED DARK CURRENT | Pending | PCT                      | 2008/112489        | March 6, 2008   |

| File Number     | Title                                                                                                                                  | Status  | Country Name             | Application Number | Date Filed    |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------|---------|--------------------------|--------------------|---------------|
| 2006-0729.00/TW | IMAGING APPARATUS, METHOD, AND SYSTEM HAVING REDUCED DARK CURRENT                                                                      | Pending | Taiwan R.O.C.            | 097108231          | March 7, 2008 |
| 2006-0729.00/US | IMAGING APPARATUS, METHOD, AND SYSTEM HAVING REDUCED DARK CURRENT                                                                      | Pending | United States of America | 11/715,885         | March 9, 2007 |
| AVGO-0033.00/EP | SYSTEM AND METHOD FOR CAPTURING COLOR IMAGES THAT EXTENDS THE DYNAMIC RANGE OF AN IMAGE SENSOR USING FIRST AND SECOND GROUPS OF PIXELS | Pending | European Patent Office   | 02005049.8         | March 6, 2002 |
| AVGO-0039.00/JP | METHOD AND APPARATUS FOR IMPROVING IMAGE QUALITY IN DIGITAL CAMERAS                                                                    | Pending | Japan                    | 2002-213318        | July 23, 2002 |