PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3760861

SUBMISSION TYPE:	CORRECTIVE ASSIGNMENT
NATURE OF CONVEYANCE:	Corrective Assignment to correct the LISTING OF ASSIGNED PATENTS TO REMOVE US PATENT NUMBERS 6828580 AND 6664143 previously recorded on Reel 022162 Frame 0020. Assignor(s) hereby confirms the PAGES 1 AND 2.

CONVEYING PARTY DATA

Name	Execution Date
NORTH CAROLINA STATE UNIVERSITY	05/08/2007

RECEIVING PARTY DATA

Name:	INTELLECTUAL PROPERTY VENTURES L.L.C.
Street Address:	1535 HARSTON AVENUE
City:	ORLANDO
State/Country:	FLORIDA
Postal Code:	32814

PROPERTY NUMBERS Total: 13

Property Type	Number
Patent Number:	5101247
Patent Number:	5162246
Patent Number:	5250452
Patent Number:	5336903
Patent Number:	5439850
Patent Number:	5242847
Patent Number:	5241194
Patent Number:	5229668
Patent Number:	5221411
Patent Number:	5487945
Patent Number:	5849413
Patent Number:	5021861
Patent Number:	6104253

CORRESPONDENCE DATA

Fax Number: (888)737-1649

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.

using a lax number, ii provided, ii that is unsuccessiul, it will be sent via 05 me

Phone: 9198890914

PATENT REEL: 037962 FRAME: 0627

503714220

Email: bjolive@olivelawgroup.com

Correspondent Name: BENTLEY J. OLIVE

Address Line 1: 125 EDINBURGH SOUTH DRIVE,

Address Line 2: SUITE 220

Address Line 4: CARY, NORTH CAROLINA 27511

ATTORNEY DOCKET NUMBER: 127-37

NAME OF SUBMITTER: BENTLEY J. OLIVE

SIGNATURE: /Bentley J. Olive/

DATE SIGNED: 02/29/2016

Total Attachments: 19

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PATENT REEL: 037962 FRAME: 0628

PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE: NEW ASSIGNMENT

NATURE OF CONVEYANCE:

ASSIGNMENT

CONVEYING PARTY DATA

	II Execution Date	
Name.		
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	105/08/2007	
Minish Carolina State University		

RECEIVING PARTY DATA

18	ame:	Intellectual Property Ventures L.L.C.	
Si	met Address;	1535 Harston Avenue	
	ψ:	Oriando	
8	tate/Country:	FLORIDA	
	istal Code:	32814 >	111111

PROPERTY NUMBERS Total: 15

Property Type	Number
Patent Number:	5101247
Patent Number:	5162246
Palent Number:	5242847
Patent Number:	5250452
Palent Number:	5338903
Paleni Number	5439850
Patent Number:	5241194
Patent Number:	6229068
Paleni Number:	5221411
Patent Number:	5487945
Patent Number:	5849413
Palent Number	5021861
Palent Number:	6104253
Patent Number	6664143- EQC 2/29/2016
Patent Number:	6828680 - 1295 - 2/29/2016

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PATENT REEL: 022162 FRAME: 0020

> PATENT REEL: 037962 FRAME: 0629

CORRESPONDENCE DATA

Fax Number:

(407)926-7720

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

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407-926-7707

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Correspondent Name:

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Address Line 4:

Orlando, FLORIDA 32801

ATTORNEY DOCKET NUMBER:

11305-001

NAME OF SUBMITTER:

Terry M. Sanks

Total Attachments: 14

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PATENT

REEL: 022467 ERAME: 0021

REEL: 037962 FRAME: 0630

ASSIGNMENT

THIS ASSIGNMENT, effective May 8, 2007, is by North Carolina State University ("Assignor"), located at 920 Main Campus Drive, Ste. 400, Campus Box 8210, Raleigh, NC 27695, to Intellectual Property Ventures L. L. C., a Florida limited liability company ("Assignee") having a place of business at 1535 Harston Avenue, Orlando, Florida, 32814.

WHERAS, the Assignor and Assignee have signed a License Agreement (hereinafter the "Agreement") with an Effective Date of October 29, 2004 under which Assignee is granted an exclusive license and a nonexclusive license to certain Patent Rights.

WHEREAS, the Assignor and Assignee executed an Amendment to the Agreement with an Effective Date of April 14, 2005 (the "First Amendment"), which added additional University Patent Rights not originally included in the Agreement.

WHEREAS, the Assignor and Assignee executed a second Amendment to the Agreement with an Effective Date of June 30, 2006 (the "Second Amendment"), which added additional University Patent Rights not originally included in the Agreement.

WHEREAS, the Assignor and Assignee executed a third Amendment to the Agreement (the "Third Amendment"), which provided for the assignment of patents by the Assignor to Assignee.

NOW, THEREFORE, the Parties agree as follows:

In accordance to the Agreement and Amendments thereto the North Carolina State University hereby sells, assigns and transfers its entire right and interest to Intellectual Property Ventures L. L. C., its successors, assigns, and legal representatives, its entire right, title, interest, and ownership in and for United States Letters Patents:

- U. S. Patent No. 5;162,246, Entitled: Germanium Silicon Dioxide Gate MOSFET, Issued on March 31, 1992
- U. S. Patent No. 5,162,246, Entitled: Selective Germanium Deposition on Silicon and Resulting Structures, Issued on: November 10, 1992, and
- U.S. Patent No. 5,242,847, Entitled: Selective Deposition of Doped Silicone-Germanium Alloy on Semiconductor Substrate, Issued on: September 7, 1993, and
- U.S. Patent No. 5,250,452, Entitled: Deposition of Germanium Thin Films on Silicon Dioxide Employing Interposed Polysilicon Layer, Issued on: October 5, 1993 and

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U.S. Patent No. 5.336,903, Entitled: Selective Deposition of Doped Silicone-Germanium Alloy on Semiconductor Substrate and Resulting Structures, Issued on: August 9, 1994, and

U.S. Patent No. 5,439,850, Entitled: Method for Forming a Layer of Uniform Thickness on a Semiconductor Wafer During Rapid Thermal Processing, Issued on: August 8, 1995 and

any renewal, reexamination and reissue, thereof, with all rights to enforce the assigned patents, including litigation of the assigned patents in Assignee's name, and to collect damages for past and future infringements.

North Carolina State University
By:
Billy Houghteling Interim Director Office of Technology Towns for
Date: May 8, 2007
United States of America) State of Nick Carolina }ss.: County of WMU On this & day of My , 200 7 before me personally came, Billy Hough klink to me known to be the individual described as having the authority to execute this Assignment on behalf of North Carolina State University and who executed the foregoing instrument, and acknowledged execution of the same.
Notary Public
Express on December, 21 2009

AMENDMENT

THIS AMENDMENT (hereinafter "Third Amendment"), effective May 8, 2007, is by and between NORTH CAROLINA STATE UNIVERSITY (hereinafter "NCSU"), located at 920 Main Campus Drive, Ste. 400, Campus Box 8210, Raleigh, NC 27695, and INTELLECTUAL PROPERTY VENTURES, L. L. C., a Florida limited liability company (Licensee) having a place of business at 1535 Harston Avenue, Orlando, Florida, 32814. Hereinafter NCSU and Licensee are referred to collectively as the "Parties".

WHERAS, the Parties have signed a License Agreement (hereinafter the "Agreement") with an Effective Date of October 29, 2004 under which Licensec is granted an exclusive license and a nonexclusive license to certain Patent Rights relating to inventions ("Invention") and described in NCSU Office of Technology Transfer File ##89-09, titled "Selective Germanium Deposition on Silicon and Resulting Structures", NCSU Office of Technology Transfer File #90-10, titled "Integrated Circuit Power Device with Automatic Removal of Defective Devices and Method of Fabricating Same", NCSU Office of Technology Transfer File #91-13, titled "Method for Synthesis and Processing of Continuous Monocrystalline Diamond Thin Films", NCSU Office of Technology Transfer File #92-26, titled "Selective Deposition of Doped Silicon-Germanium Alloy on Semiconductor Substrate and Resulting Structures", NCSU Office of Technology Transfer File #92-45, titled "Base Resistance Controlled Thyristor with Integrated Single-Polarity Gate Control" and NCSU Office of Technology Transfer File #92-90, titled "Method for Fabricating Oriented Diamond Films on Nondiamond Substrates and Related Structures", and a nonexclusive license to certain Know-how; and

WHEREAS, the Parties executed an Amendment to the Agreement with an Effective Date of April 14, 2005 (the "First Amendment"), which added additional University Patent Rights not originally included in the Agreement.

WHEREAS, the Parties executed a second Amendment to the Agreement with an Effective Date of June 30, 2006 (the "Second Amendment"), which added additional University Patent Rights not originally included in the Agreement.

WHEREAS, NCSU desires to have the Patent Rights enforced, developed and commercialized, by Licensee, a patent management organization having as one of its primary functions managing patented inventions, and NCSU is willing to grant license rights to Licensee for that purpose, including the assignment of the certain of the Patent Rights to Licensce.

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NOW, THEREFORE, the Parties agree as follows:

- Capitalized Terms. All capitalized terms used in this Third Amendment 1. that are not otherwise defined in this Amendment have the meanings assigned to them in the Agreement.
- Article 9.02 of the Agreement is amended to add the following: 2.
 - At the time Licensee has made an arrangement for enforcing any (c) of the Patent Rights pursuant to Article 2.01 and 2.02 by the initiation of Litigation against a potential infringer, Licensee shall identify to NCSU the specific ones of the Patent Rights to be litigated and NCSU shall in accordance with the Agreement and this Third Amendment promptly execute and provide Licensee with an assignment of the entire right, title, interest, and ownership of six (6) of the Patent Rights (hereinafter "Assignment Patents") in accordance with Exhibit A of this Third Amendment. Licensee shall be responsible for recording the assignment with the United States Patent and Trademark Office. The Parties understand and agree that any assignment of the Assignment Patents shall be subject to non-exclusive license rights previously granted to the U. S. Government and non-exclusive license rights that may have been previously granted to Semiconductor Research Corporation.
- Article 7.02 is amended to read as follows: 3.

7.02 Maintenance Fees

- (a) During the Term of this Agreement, maintenance of the Patent Rights are the responsibility of NCSU, whether such fees and costs were incurred before or after the Effective Date.
- (b) After the assignment of the Assignment Patents pursuant to Article 9.02(c), Licensee shall be responsible for the payment of the maintenance fees due on the Assignment Patents. NCSU will promptly notify Licensee of any notice of maintenance fee payment due that NCSU receives.
- Article 14.01 is amended as follows: 4.

14.01 This Agreement is binding upon and inures to the benefit of the respective successors and assigns of the Agreement.



REEL: 037962 FRAME: 0634

5. The address of License in Article 13.01 should be changed as follows:

INTELLECTUAL PROPERTY VENTURES, L.L.C. Attention: Managing Member 1535 Harston Ave. Orlando, Florida 32814

- 6. This Third Amendment is entered into in accordance with Article 22 of the Agreement.
- 7. Except as specifically amended in this Third Amendment, the Agreement remains in full force and effect in accordance with its terms.
- 8. This Third Amendment may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together constitute one and the same instrument.
- 9. This Third Amendment is binding upon and inures to the benefit of the parties and their heirs, successors and assigns.
- 10. Except as specifically modified in this Third Amendment, all other terms and conditions of the Agreement as previously amended remain in full force and effect.

IN WITNESS WHEREOF, the parties hereto have caused this Third Amendment to be executed and delivered as of the date shown above.

Name: M. (. Ca Merron

Title: May 1 / May 1

North Carolina State University

By: Billy Houghteling

Title: Jeterry Directory

Office of Teelsology Transfer

Date: May 8, 2007

EXHIBIT A

AMENDMENT

THIS AMENDMENT, effective June 30, 2006, is by and between NORTH CAROLINA STATE UNIVERSITY ("University"), located at 920 Main Campus Drive, Ste. 400, Campus Box 8210, Raleigh, NC 27695, and INTELLECTUAL PROPERTIES VENTURES, L. L. C., a Florida limited liability company (Licensee) having a place of business at 390 N. Orange Avenue, Suite 2300, Orlando, Florida 32802. Hereinafter the University and the Company are referred to collectively as the "Parties".

WHERAS, the Parties have signed a License Agreement (hereinafter the "Agreement") with an Effective Date of October 29, 2004 under which Company is granted an exclusive license and a nonexclusive license to certain Patent Rights relating to inventions ("Invention") and described in NCSU Office of Technology Transfer File ##89-09, titled "Selective Germanium Deposition on Silicon and Resulting Structures", NCSU Office of Technology Transfer File #90-10, titled "Integrated Circuit Power Device with Automatic Removal of Defective Devices and Method of Fabricating Same", NCSU Office of Technology Transfer File #91-13, titled "Method for Synthesis and Processing of Continuous Monocrystalline Diamond Thin Films", NCSU Office of Technology Transfer File #92-26, titled "Selective Deposition of Doped Silicon-Germanium Alloy on Semiconductor Substrate and Resulting Structures", NCSU Office of Technology Transfer File #92-45, titled "Base Resistance Controlled Thyristor with Integrated Single-Polarity Gate Control" and NCSU Office of Technology Transfer File #92-90, titled "Method for Fabricating Oriented Diamond Films on Nondiamond Substrates and Related Structures", and a nonexclusive license to certain Know-how; and

WHEREAS, the Parties executed an Amendment to the Agreement with an Effective Date of April 14, 2005 (the "First Amendment"), which added additional University Patent Rights not originally included in the Agreement; and

WHEREAS, Company wishes to license and enforce additional University Patent Rights not included in the Agreement nor the First Amendment through the use of individual patent portfolios, or by grouping with patent properties of others; and

WHEREAS, University desires to have the additional Patent Rights enforced, developed and commercialized to benefit the public and is willing to grant a license to the Company for that purpose.

NOW, THEREFORE, the Parties agree as follows:

1. <u>Capitalized Terms</u>. All capitalized terms used in this Amendment that are not otherwise defined in this Amendment have the meanings assigned to them in the Agreement.

PATENT REEL: 022162 FRAME: 0028 REEL: 037962 FRAME: 0637

2. Recital A of the Agreement is amended to read as follows:

NCSU owns certain Patent Rights (defined below) relating to inventions (collectively referred to as "Invention") described in NCSU Office of Technology Transfer File #89-08, titled "Low-Pressure Chemical Vapor Deposition of Germanium on Silicon Dioxide Using an In-situ Deposited Polysilicon Layer", NCSU Office of Technology Transfer File #89-09, titled "Selective Germanium Deposition on Silicon and Resulting Structures", NCSU Office of Technology Transfer File #90-10, titled "Integrated Circuit Power Device with Automatic Removal of Defective Devices and Method of Fabricating Same", NCSU Office of Technology Transfer File #91-13, titled "Method for Synthesis and Processing of Continuous Monocrystalline Diamond Thin Films", NCSU Office of Technology Transfer File #92-26, titled "Selective Deposition of Doped Silicon-Germanium Alloy on Semiconductor Substrate and Resulting Structures", NCSU Office of Technology Transfer File #92-45, titled "Base Resistance Controlled Thyristor with Integrated Single-Polarity Gate Control", NCSU Office of Technology Transfer File #92-90, titled "Method for Fabricating Oriented Diamond Films on Nondiamond Substrates and Related Structures" NCSU Office of Technology Transfer File #91-44 titled "Method and Apparatus for High Speed Data Sampling of a Data Signal", NCSU Office of Technology Transfer File #94-46, titled "Method and Apparatus for Forming a Layer of Uniform Thickness on a Semiconductor During Rapid Thermal Processing", NCSU Office of Technology Transfer File #97-24 titled "Integrated Circuits Having Cooperative Ring Ocscillator Clock Circuits Therein to Minimize Clock Skew" and NCSU Office of Technology Transfer File #01-37 titled "A Lithography-Independent Vertical Replacement Gate Ultra-Thin-Body MOSFET", which were invented by the Inventors (defined below) and NCSU has the right to grant licenses under the Patent Rights.

3. Article 1.04 of the Agreement is amended to read as follows:

"Patent Rights" means the issued patents listed in Appendix A, including all reissues and reexaminations thereof. U.S. Patent No. 5,241,194, U.S. Patent No. 5,242,847, U.S. Patent No. 5,336,903, U.S. Patent No. 5,162,246, U.S. Patent No.5,229,668, U.S. Patent No. 5,250,452, and U.S. Patent No. 5,439,850, which are among the patents listed in Appendix A are sometimes referred to in this agreement as "the '194 Patent", "the '847 Patent", "the '903 Patent", "the '246 Patent" "the '668 Patent", "the '452 Patent" and "the '850 Patent" respectively.

PATENT REEL: 022162 FRAME: 0029 REEL: 037962 FRAME: 0638 4. Article 1.13 is amended to read as follows:

"Inventors" means Jagdish Narayan, Peichun Yang, Wei Zhu, Jeffery T. Glass, Bantval J. Baliga, Mehmet C. Ozturk, Douglas T. Grider, Mahesh K. Sanganeria, Stanton P. Ashburn, Jimmie J. Wortman, Lester Crossman Hall, S. Mark Clements, Wentai Liu, Griff L. Bilbro, Zhibo Zhang, Thomas A. Hughes, Jr., Carl T. Gray, and Ralph K. Cavin, III.

- 5. Article 2 is amended to read as follows:
 - 2.01 Except for the Patent Rights represented by the '194 Patent, the '847 Patent, the '903 Patent '264 Patent, the '668 Patent, the '452 Patent and the '850 Patent and subject to the terms and conditions of this Agreement, NCSU grants to Licensee and Licensee accepts from NCSU an exclusive license, subject to rights of the US Government as set forth herein, to (a) make, have made, use, lease, import, and/or sell Licensed Products and (b) to sell, use and/or practice Licensed Services, both in the Field of Use in the Territory, and the right to solicit and negotiate Sublicense arrangements for the same purposes with any third parties. With respect to such Sublicense arrangements, the Licensee is granted the right to enforce the Sublicense agreements, to collect and distribute Sublicensing income, and carry out Litigation of the Patent Rights, as provided herein.
 - 2.02 Subject to the terms and conditions of this Agreement, NCSU grants to Licensee and Licensee accepts from NCSU a nonexclusive license subject to rights of the US Government as set forth herein) to (a) make, have made, use, lease, import, and/or sell Licensed Products that include any use of the '194 Patent and (b) to sell, use and/or practice Licensed Services that include any use of the '194 Patent, both in the Field of Use in the Territory, and the right to solicit and negotiate Sublicense arrangements for the same purposes with any third parties. With respect to such Sublicense arrangements, the Licensee is granted the right to enforce the Sublicense agreements, to collect and distribute Sublicensing income, and carry out Litigation of the Patent Rights, as provided herein.
 - 2.03 Subject to the terms and conditions of this Agreement, NCSU grants to Licensee and Licensee accepts from NCSU an exclusive license, except to the extent that Semiconductor Research Corporation has granted sublicenses to its member companies pursuant to the terms of the Contract for Research Services 87-SJ-081 entered into by Semiconductor Research Corporation and NCSU, and subject to rights of the US Government as set forth herein, to (a) make, have made, use, lease, import, and/or sell Licensed Products that include any use of the '847 Patent, the '903 Patent, or the '246 Patent and (b) to sell, use and/or practice Licensed Services

PATENT REEL: 022162 **PRARM** F0030 REEL: 037962 FRAME: 0639 that include any use of the '847 Patent, the '903 Patent or the '246 Patent, both in the Field of Use in the Territory, and the right to solicit and negotiate Sublicense arrangements for the same purposes with any third parties. With respect to such Sublicense arrangements, the Licensee is granted the right to enforce the Sublicense agreements, to collect and distribute Sublicensing income, and carry out Litigation of the Patent Rights, as provided herein.

- grants to Licensee and Licensee accepts from NCSU an exclusive license, except to the extent that Semiconductor Research Corporation has granted sublicenses to its member companies pursuant to the terms of the Contract for Research Services 1988-DJ-090 entered into by Semiconductor Research Corporation and NCSU, and subject to rights of the US Government as set forth herein, to (a) make, have made, use, lease, import, and/or sell Licensed Products that include any use of the '668 Patent and (b) to sell, use and/or practice Licensed Services that include any use of the '668 Patent, both in the Field of Use in the Territory, and the right to solicit and negotiate Sublicense arrangements for the same purposes with any third parties. With respect to such Sublicense arrangements, the Licensee is granted the right to enforce the Sublicense agreements, to collect and distribute Sublicensing income, and carry out Litigation of the Patent Rights, as provided herein.
- 2.05 Subject to the terms and conditions of this Agreement, NCSU grants to Licensee and Licensee accepts from NCSU an exclusive license, except to the extent that Semiconductor Research Corporation has granted sublicenses to its member companies pursuant to the terms of the Contract for Research Services 1989-SJ-081 entered into by Semiconductor Research Corporation and NCSU, and subject to rights of the US Government as set forth herein, to (a) make, have made, use, lease, import, and/or sell Licensed Products that include any use of the '452 Patent and (b) to sell, use and/or practice Licensed Services that include any use of the '452 Patent, both in the Field of Use in the Territory, and the right to solicit and negotiate Sublicense arrangements for the same purposes with any third parties. With respect to such Sublicense arrangements, the Licensee is granted the right to enforce the Sublicense agreements, to collect and distribute Sublicensing income, and carry out Litigation of the Patent Rights, as provided herein.
- 2.06 Subject to the terms and conditions of this Agreement, NCSU grants to Licensee and Licensee accepts from NCSU an exclusive license, except to the extent that Semiconductor Research Corporation has granted sublicenses to its member companies pursuant to the terms of the Contract for Research Services 1991-MP-132 entered into by Semiconductor Research Corporation and NCSU, and subject to rights of the US

PATENT REEL: 022163 FEAME: 0031 REEL: 037962 FRAME: 0640 Government as set forth herein, to (a) make, have made, use, lease, import, and/or sell Licensed Products that include any use of the '850 Patent and (b) to sell, use and/or practice Licensed Services that include any use of the '850 Patent, both in the Field of Use in the Territory, and the right to solicit and negotiate Sublicense arrangements for the same purposes with any third parties. With respect to such Sublicense arrangements, the Licensee is granted the right to enforce the Sublicense agreements, to collect and distribute Sublicensing income, and carry out Litigation of the Patent Rights, as provided herein.

- 2.05 Notwithstanding anything to the contrary in this Agreement, NCSU retains the right to practice under the Patent Rights for its own educational, research and clinical purposes without restriction and without payment of royalties or other fees, including the right (a) to provide the Patent Rights to governmental laboratories and to other institutions of higher learning to perform research and clinical studies for non-commercial purposes and (b) to perform research for non-commercial purposes without restriction and without payment of royalties or other fees. In doing so, NCSU will not grant any for-profit party any rights to Patent Rights in the Field of Use which are licensed to Licensee under this Agreement.
- 2.06 For avoidance of doubt, it is understood and acknowledged that nothing in this Agreement restricts NCSU from using the Know-how as it see fit which shall include, but shall not be limited to, the transferring of Know-how to any third party, however any such transfer of Know-how shall not convey, directly or indirectly, any rights to use the Patent Rights except as provided in Article 2.02.
- 2.07 Except as specifically provided in this Agreement, the license granted hereunder does not confer any rights upon Licensee by implication, estoppel or otherwise as to any technology or intellectual property (including, but not limited to, know-how, patent applications, patents, and the like) held by NCSU.
- 2.08 The research leading to the Patent Rights was funded in part by the U.S. Government, and the parties agree that, notwithstanding any use of terms such as "exclusive" in Article 2.01 and elsewhere in this Agreement, the U.S. Government has certain rights in the Patent Rights as set forth in 37 CFR 401. Licensee agrees to comply with all obligations resulting from such government rights, including, but not limited to, the requirement that any products sold in the United States based upon such

PATENT REEL: 022162 **PRATEN**:T0032 REEL: 037962 FRAME: 0641 Patent Rights must be substantially manufactured in the United States to the extent required by 35 U.S.C. Sec. 204, if such statute is applicable.

- 6. Article 3.01 is amended to read as follows:
 - 3.01 NCSU grants to Licensee, and Licensee accepts from NCSU, the exclusive right to Sublicense the Patent Rights, except for the '194 Patent, the '847 Patent, the '903 Patent, the '246 Patent and the '688 Patent (which are dealt with in 3.02, below), to third parties along terms and conditions determined by Licensee, including the right to grant Grouping Sublicenses and Field of Use Sublicenses. Grouped patents shall be licensed on a world wide, non-exclusive, non-discriminatory, non-sublicensable basis. Licensee must provide NCSU with a copy of any and all Sublicenses of rights granted under this Agreement within thirty (30) days of execution of each subject Sublicense agreement.
- 7. Article 3.02 is amended to read as follows:
 - 3.02 NCSU grants to Licensee, and Licensee accepts from NCSU, the nonexclusive right to Sublicense the '194 Patent, the '847 Patent, the '903 Patent, the '246 Patent, the '688 Patent, the '452 Patent and the '850 Patent to third parties along terms and conditions determined by Licensee, including the right to grant Grouping Sublicenses and Field of Use Sublicenses. Grouped patents shall be licensed on a world wide, non-exclusive, non-discriminatory, non-sublicensable basis. Licensee must provide NCSU with a copy of any and all Sublicenses of rights granted under this Agreement within thirty (30) days of execution of each subject Sublicense agreement.
- 8. Appendix A is amended to read as follows:
 - U.S. Patent No. 5,221,411, "Method for Synthesis and Processing of Continuous Monocrystalline Diamond Thin Films", issued June 22, 1993.
 - U.S. Patent No. 5,487,945, "Diamond Films on Nondiamond Substrates", issued January 30, 1996.
 - U.S. Patent No. 5,849,413, "Oriented Diamond Film Structures on Nondiamond Substrates". Issued December 15, 1998.
 - U.S. Patent No. 5,021,861, "Integrated Circuit Power Device With Automated Removal of Defective Devices and Method of Fabricating Same", issued June 4, 1991

PATENT
REEL: 022162 FRAME: 0033
REEL: 037962 FRAME: 0642

- U.S. Patent No. 5,241,194, "Base Resistance Controlled Thyristor With Integrated Single-Polarity Gate Control, issued August 31, 1993.
- U.S. Patent No. 5,242,847, "Selective Deposition of Doped Silion-Germanium Alloy on Semiconductor Substrate", issued September 7, 1993.
- U.S. Patent No. 5,336,903, "Selective Deposition of Doped Silicon-Germanium Alloy on Semiconductor Substrate, and Resulting Structures", issued August 9, 1994.
- U.S. Patent No. 5,162,246, "Selective Germanium Deposition on Silicon and Resulting Structures", issued November 10,1992.
- U.S. Patent No.5,229,668, "Method and Apparatus for High Speed Digital Sampling of a Data Signal", issued July 20, 1993.
- U.S. Patent No.6,104,253, "Integrated Circuits Having Cooperative Ring Oscillator Clock Circuits Therein to Minimize Clock Skew", issued August 15, 2000.
- U.S. Patent No.6,664,143, "Methods of Fabricating Vertical Field Effect Transistors by Conformal Channel Layer Deposition on Sidewalls", issued December 16, 2003.
- U.S. Patent No. 6,828,580, "Vertical Field Effect Transistors Including Conformal Monocrystalline Silicon Layer on Trench Sidewall", issued December 7, 2004.
- U.S. Patent No. 5,439,850, "Method for Forming a Layer of Uniform Thickness on a Semiconductor Wafer During Rapid Thermal Processing", issued August 8, 1995.
- U.S. Patent No. 5,250,452, "Deposition of Germanium Thin Films on Silicon Dioxide Employing Interposed Polysilicon Layer", issued October 5, 1993.
- 9. <u>Validity</u>. This Amendment is entered into in accordance with Article 22 of the Agreement.
- 10. <u>No Other Amendment</u>. Except as specifically amended in this Amendment, the Agreement remains in full force and effect in accordance with its terms.

PATENT
REEL: 022162 **PRATIDIS**:T0034
REEL: 037962 FRAME: 0643

- 11. <u>Counterparts</u>. This Amendment may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together constitute one and the same instrument.
 - 12. This Amendment is binding upon and inures to the benefit of the parties and their heirs, successors and assigns
- 13. Except as specifically modified in this Amendment, all other terms and conditions of the Agreement remain in full force and effect.

IN WITNESS WHEREOF, the parties hereto have caused the Amendment to be executed and delivered as of the date shown above.

INTELLECTUAL PROPERTIES VENTURES, L. L. C.

By: oh coc
Name: M.C. Cancon
Title: Managen Mantes
Date 1 5 2006
-11) 7

NORTH CAROLINA STATE UNIVERSITY

By: Brief Univers @

David Winwood Associate Vice Chancellor for Technology Development and Innovation Office of Technology Transfer

Date: July 14, 2006

PATENT

REEL: 022162/FRAME: 0035

REEL: 037962 FRAME: 0644

RECORDED: 01/27/2009

Office of Technology Transfer 1021 Main Campus Drive Campus Box 8210 Raleigh, NC 27695-8210

919.515.7199 919.515.3773 (fax)

Courier Address Office of Technology Transfer 1021 Main Campus Drive Rateigh, NC 27606

August 28, 2013

INTELLECTUAL PROPERTIES VENTURES, L.L.C. Attention: President 9525 Pontbury Drive Orlando, Florida 32836 USA

Dear President,

North Carolina State University ("NCSU"), during its review of United States Patent and Trademark Office ("USPTO") records related to U.S. Patent No's 6,828,850; 6,664,143; 6,104,253 and 5,487,945 ("Subject Patents"), has determined that these Subject Patents were improperly recorded as assigned from NCSU to Intellectual Property Ventures LLC ("IPV").

The assignment documents in question are located at 022162/0020 (Reel/Frame) at the USPTO (see attached document). These documents indicate that NCSU only assigned 6 of the 15 patents recorded patents to IPV. The assigned patents include: U.S. Patent No's 5,101,247; 5,162,246; 5,242,847; 5,250,452; 5,336,903 and 5,439,850 but do not include assignments of the Subject Patents. Furthermore, there are no other records that could be located either at the USPTO or at NCSU indicating an assignment of the Subject Patents from NCSU to IPV. In addition, the license of the Subject Patents (see attached License Agreement) terminated on December 6, 2010 (see attached Termination Letter), and thus, accordingly we have determined that IPV has no further rights in the Subject Patents.

NCSU now intends to move forward with correcting title to the Subject Patents. If you have any objections, please notify NCSU by September 28, 2013. Likewise, if you wish to discuss this further or have any other questions, please feel free to contact Brian Eller, a licensing associate at NCSU Office of Technology Transfer, via email at brian eller@incsu.edu or by phone at (919) 515-7199

Sincerely,

Kelly B. Sexton, Ph.D.

Director, Office of Technology Transfer

North Carolina State University

Enclosures: 022162/0020 (Reel/Frame); Original License Agreement; Termination Letter

File: 05123MA

PATENT REEL: 037962 FRAME: 0645

Office of Technology Transfer 1021 Main Campus Drive Campus Box 8210 Raleigh, NC 27695-8210

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Courier Address Office of Technology Transfer 1021 Main Campus Drive Raleigh, NC 27606

November 2, 2010

INTELLECTUAL PROPERTIES VENTURES, L.L.C.

Attention: President 9525 Portbury Drive Orlando, Florida 32836 USA

RE:

License Agreement between North Carolina State University ("NCSU") and Intellectual

Property Ventures, LLC ("IPV") effective October 29th, 2004

Dear President:

During review of NCSU records associated with the above referenced License Agreement, I have found that IPV has been missing vital diligence requirements critical for our operations.

NCSU records indicate that IPV has never submitted an annual progress report to NCSU. Article 5.03 requires IPV to submit an annual progress report by February 28th of each year. IPV has missed 6 annual progress reports.

In accordance with Article 6.02 IPV has an obligation to provide reports that provide the status of development of each Licensed Product or Licensed Service by February 28th of each year. IPV has missed 6 licensed product – status of development reports.

In accordance with Article 5.01(a) IPV had an obligation to place the Patent Rights in a Grouping for Sublicensing or Litigation Purposes prior to April 29th, 2005. NCSU Records indicate IPV did not meet this milestone.

In accordance with Article 5.01(b) IPV had an obligation to have begun Substantial Negotiations (for Sublicensing the Patent Rights) prior to April 29th, 2006. NCSU Records indicate IPV did not meet this milestone.

In accordance with Article 5.01(c) IPV had an obligation to have a Sublicense or Litigation executed that would provide income to NCSU prior to October 29th, 2008. NCSU Records indicate IPV did not meet this milestone.

IPV's failure to submit the reports and meet the milestones referenced above indicate that IPV has not diligently developed and used the Patent Rights in Licensed Products and/or Licensed Services as required by Article 5.02.

PATENT REEL: 037962 FRAME: 0646 Failure to submit these reports and meet the outstanding milestones of the License Agreement are breaches of the License Agreement. North Carolina State University uses these reports to ensure that licensed technology is being developed for the benefit of the citizens of the state of North Carolina and other consumers.

In accordance with Article 11.03 NCSU is notifying IPV of breach of the License Agreement. Please notify me by December 6, 2010 whether you desire to meet to discuss your default as provided in Article 11.03. If we do not hear from you before that date, we will assume that you do not intend to discuss a cure, that you do not wish to mediate, and we will consider the License Agreement terminated.

Do not hesitate to contact me should you have any additional questions.

Sincerely;

Jeffrey M. Bissette

Assistant Director for Business & Licensing Compliance

Office of Technology Transfer North Carolina State University

cc: Robert Whitehead, Ph.D.

NCSU File Number: 05123MA

PATENT REEL: 037962 FRAME: 0647

RECORDED: 02/29/2016