PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT4537964

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	SECURITY INTEREST

CONVEYING PARTY DATA

Name	Execution Date
MICROSS ADVANCED INTERCONNECT TECHNOLOGY LLC	08/07/2017

RECEIVING PARTY DATA

Name:	MIDCAP FINANCIAL TRUST
Street Address:	7255 WOODMONT AVENUE
Internal Address:	SUITE 200
City:	BETHESDA
State/Country:	MARYLAND
Postal Code:	20814

PROPERTY NUMBERS Total: 46

Property Type	Number
Patent Number:	7026602
Patent Number:	6924921
Patent Number:	6752868
Patent Number:	8198974
Patent Number:	8486765
Patent Number:	8035223
Patent Number:	7706152
Patent Number:	8975753
Patent Number:	8008134
Patent Number:	7709966
Patent Number:	8404585
Patent Number:	7999388
Patent Number:	8129834
Patent Number:	8222086
Patent Number:	7944041
Patent Number:	7831874
Patent Number:	7764498
Patent Number:	7719844
Patent Number:	7829994

Property Type	Number
Patent Number:	8361901
Patent Number:	9022649
Patent Number:	7978029
Patent Number:	8671560
Patent Number:	8541884
Patent Number:	9257335
Patent Number:	6057520
Patent Number:	6236491
Patent Number:	6972889
Patent Number:	6233088
Patent Number:	6137623
Patent Number:	6456420
Patent Number:	6271150
Patent Number:	6396620
Patent Number:	6731492
Patent Number:	6373682
Patent Number:	6377438
Patent Number:	7042306
Patent Number:	6906598
Patent Number:	6359374
Patent Number:	9437796
Application Number:	14359817
Application Number:	14167188
Application Number:	14417674
Application Number:	14408887
Application Number:	15304858
Application Number:	15223346

CORRESPONDENCE DATA

Fax Number: (310)557-2193

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.

Phone: 310-557-2900
Email: klathrop@proskauer.com
Correspondent Name: PROSKAUER ROSE LLP
Address Line 1: 2049 CENTURY PARK EAST, SUITE 3200
Address Line 2: C/O KIMBERLEY A. LATHROP
Address Line 4: LOS ANGELES, CALIFORNIA 90067

ATTORNEY DOCKET NUMBER:	51375.029

NAME OF SUBMITTER:	KIMBERLEY A. LATHROP
SIGNATURE:	/Kimberley A. Lathrop/
DATE SIGNED:	08/07/2017

Total Attachments: 12

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PATENT SECURITY AGREEMENT

THIS PATENT SECURITY AGREEMENT (this "**Patent Security Agreement**") is entered into as of August 7, 2017 among the Grantor listed on the signature pages hereof ("**Grantor**") and MIDCAP FINANCIAL TRUST, in its capacity as administrative agent for the Lenders (together with its successors and assigns in such capacity, "**Administrative Agent**").

WINESSETH:

WHEREAS, pursuant to that certain Credit and Guaranty Agreement, dated as of August 7, 2017 (as amended, restated, amended and restated, replaced, supplemented, or otherwise modified from time to time, including all annexes, exhibits and schedules thereto, the "**Credit Agreement**"), among MICROSS SOLUTIONS LLC, a Delaware limited liability company ("**Administrative Borrower**"), each other Person from time to time which joins the Credit Agreement as a "Borrower" (together with the Administrative Borrower, each, a "**Borrower**", and collectively, the "**Borrowers**"), the Subsidiaries (as defined therein) of Administrative Borrower from time to time party thereto, as Guarantors (as defined therein), the financial institutions from time to time party thereto, as Lenders (as defined therein), and Administrative Agent, Lenders have agreed to make Loans (as defined therein) to Borrowers from time to time pursuant to the terms and subject to the conditions set forth therein; and

WHEREAS, Lenders are willing to make Loans to Borrowers as provided for in the Credit Agreement, but only upon the condition, among others, that Grantor shall have executed and delivered to Administrative Agent, for the benefit of the Secured Parties (as defined in the Security Agreement, defined below), that certain Security and Pledge Agreement dated as of August 7, 2017 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, including all schedules and exhibits thereto, the "**Security Agreement**"); and

WHEREAS, pursuant to the Security Agreement, Grantor is required to execute and deliver to Administrative Agent, for the benefit of the Secured Parties, this Patent Security Agreement.

NOW, THEREFORE, in consideration of the premises and mutual covenants herein contained and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Grantor hereby agrees as follows:

1. DEFINED TERMS. All capitalized terms used but not otherwise defined herein have the meanings given to them in the Security Agreement or the Credit Agreement.

2. GRANT OF SECURITY INTEREST IN PATENT COLLATERAL. Grantor hereby grants to Administrative Agent, for the benefit of the Secured Parties, a valid and continuing first priority security interest in and Lien on all of Grantor's right, title and interest in, to and under the following, whether presently existing or hereafter created or acquired (collectively, the "**Patent Collateral**"):

(a) all of Grantor's Patent registrations, Patent applications and Patent Licenses, including, without limitation, those referred to on Schedule 1 hereto;

(b) all reissues, divisionals, continuations, continuations in part, substitutes, extensions, modifications or renewals of and improvements on the foregoing; and

(c) all products and proceeds of the foregoing, including any claim by Grantor against third parties for past, present or future infringement, misappropriation or dilution of any Patent.

3. SECURITY FOR OBLIGATIONS. This Patent Security Agreement and the security interest created hereby secure the payment and performance of all the Secured Obligations of Grantor, whether now existing or arising hereafter. Without limiting the generality of the foregoing, this Patent Security Agreement secures the payment of all amounts which constitute part of the Obligations and would be owed by Grantor, or any of them, to Administrative Agent, the other Secured Parties, or any of them, whether or not they are unenforceable or not allowable due to the existence of an insolvency proceeding involving Grantor.

4. SECURITY AGREEMENT. The security interests granted pursuant to this Patent Security Agreement are granted in conjunction with and in furtherance of the security interests and Liens granted to Administrative Agent, for the benefit of the Secured Parties, pursuant to the Security Agreement. Grantor hereby acknowledges and affirms that the rights and remedies of Administrative Agent with respect to the security interest in the Patent Collateral made and granted hereby are more fully set forth in the Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein, and to the extent a conflict exists, the terms of the Security Agreement control.

5. AUTHORIZATION TO SUPPLEMENT. If Grantor shall obtain rights to any new patentable inventions or become entitled to the benefit of any patent application or patent for any reissue, division, or continuation, of any patent, the provisions of this Patent Security Agreement shall automatically apply thereto. Without limiting Grantor's obligations under this Section 5, Grantor hereby authorizes Administrative Agent (but Administrative Agent shall be under no obligation) to unilaterally modify this Patent Security Agreement by amending Schedule 1 hereto to include any such new patent rights of Grantor, which become part of the Patent Collateral under the Security Agreement. Notwithstanding the foregoing, no delay or failure to so modify this Patent Security Agreement or amend Schedule 1 hereto shall in any way affect, invalidate or detract from Administrative Agent's valid and continuing security interest in all Collateral (including without limitation the Patent Collateral), whether or not listed on Schedule 1 hereto.

6. SUCCESSORS IN INTEREST. This Patent Security Agreement shall be binding upon Grantor, its successors and assigns and shall insure, together with the rights and remedies of Administrative Agent and the other Secured Parties hereunder, to the benefit of Administrative Agent and the other Secured Parties and their respective successors and assigns.

7. COUNTERPARTS; INTEGRATION. This Patent Security Agreement (or any amendments, waivers, consents, or supplements hereto) may be executed in any number of counterparts, each of which shall be deemed an original with the same effect as if the signatures thereto and hereto were upon the same instrument. This Patent Security Agreement and the other

Financing Documents constitute the entire agreement and understanding among the parties hereto and supersede any and all prior agreements and understandings, oral or written, relating to the subject matter hereof. Delivery of an executed signature page of this Patent Security Agreement (or any amendments, waivers, consents, or supplements hereto) by facsimile transmission or electronic transmission shall be as effective as delivery of a manually executed counterpart hereof or thereof.

8. CONSTRUCTION. Unless the context of this Patent Security Agreement or any other Financing Document clearly requires otherwise, references to the plural include the singular, references to the singular include the plural, the terms "includes" and "including" are not limiting, and the term "or" has, except where otherwise indicated, the inclusive meaning represented by the phrase "and/or." The words "hereof," "herein," "hereby," "hereunder," and similar terms in this Patent Security Agreement or any other Financing Document refer to this Patent Security Agreement or such other Financing Document, as the case may be, as a whole and not to any particular provision of this Patent Security Agreement or such other Financing Document, as the case may be. Section, subsection, clause, schedule, and exhibit references herein are to this Patent Security Agreement unless otherwise specified. Any reference in this Patent Security Agreement or in any other Financing Document to any agreement, instrument, or document shall include all alterations, amendments, changes, extensions, modifications, renewals, replacements, substitutions, joinders, and supplements, thereto and thereof, as applicable (subject to any restrictions on such alterations, amendments, changes, extensions, modifications, renewals, replacements, substitutions, joinders, and supplements set forth herein). Any reference herein or in any other Financing Document to the satisfaction or repayment in full of the Obligations shall mean the repayment in full in cash in accordance with the terms of the Credit Agreement (or cash collateralization in accordance with the terms thereof) of all Obligations other than unasserted Contingent Obligations. Any reference herein to any Person shall be construed to include such Person's successors and assigns. Any requirement of a writing contained herein or in any other Financing Document shall be satisfied by the transmission of a Record, and any Record so transmitted shall constitute a representation and warranty as to the accuracy and completeness of the information contained therein.

9. GOVERNING LAW. THIS PATENT SECURITY AGREEMENT SHALL BE GOVERNED BY, AND SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK, WITHOUT REGARD TO CONFLICTS OF LAWS PRINCIPLES OTHER THAN SECTION 5-1401 AND 5-1402 OF THE NEW YORK GENERAL OBLIGATIONS LAW.

10. MISCELLANEOUS. The terms and provisions of Article **9** (*Expenses and Indemnity*), Sections **12.1** (*Survival*), **12.2** (*No Waivers*), **12.3** (*Notices*), **12.5** (*Amendments and Waivers*), **12.7** (*Headings*), **12.10** (*SUBMISSION TO JURISDICTION*) **12.11** (*WAIVER OF JURY TRIAL*) **12.4** (*Integration*) and **12.15** (*No Strict Construction*) of the Credit Agreement are hereby incorporated herein by reference and shall apply to this Patent Security Agreement, *mutatis mutandis*, as if fully set forth herein, and the parties hereto agree to such terms.

11. FINANCING DOCUMENT. This Patent Security Agreement constitutes a "Financing Document" under and as defined in the Credit Agreement and is subject to the terms and provisions therein regarding Financing Documents.

[*Signature pages follow*]

IN WITNESS WHEREOF, Grantor has caused this Patent Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

GRANTOR:

MICROSS ADVANCED INTERCONNECT TECHNOLOGY LLC

By:____________________________
Name: Victor L. Vescovo
Title: Chairman of the Board

By:____________________________
Name: Warren Bonham
Title: Executive Director

[Signature Page to Patent Security Agreement]

ACCEPTED AND ACKNOWLEDGED:

MIDCAP FINANCIAL TRUST,
as Administrative Agent

By: Apollo Capital Management, L.P.,
its investment manager

By: Apollo Capital Management GP, LLC,
its general partner

By:______________________________
Name: Maurice Amsellem
Title: Authorized Signatory

[Signature Page to Patent Security Agreement]

SCHEDULE 1
TO
PATENT SECURITY AGREEMENT

REGISTERED PATENTS

Grantor	Country	Title	Registration Number	Issue Date
Micross Advanced Interconnect Technology LLC	US	Electromagnetic Radiation Detectors Having a Micromachined Electrostatic Shutter Device	7,026,602	April 11, 2006
Micross Advanced Interconnect Technology LLC	US	Layered Photonic Crystals	6,924,921[1]	August 2, 2005
Micross Advanced Interconnect Technology LLC	US	Layer-by-Layer Assembly of Photonic Crystals	6,752,868	June 22, 2004
Micross Advanced Interconnect Technology LLC	US	Flexible Electrostatic Actuator	8,198,974	June 12, 2012
Micross Advanced Interconnect Technology LLC	US	Structure and Process for Electrical Interconnect & Thermal Management	8,486,765	July 16, 2013
Micross Advanced Interconnect Technology LLC	US	Structure and Process for Electrical Interconnect and Thermal Management	8,035,223	October 11, 2011
Micross Advanced Interconnect Technology LLC	US	DC DC Converter for Low Voltage Power Source	7,706,152	April 27, 2010
Micross Advanced Interconnect Technology LLC	US	Three Dimensional Interconnect Structure and Method Thereof	8,975,753	March 10, 2015
Micross Advanced Interconnect	US	Large Substrate Structural Vias	8,008,134	August 30, 2011

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1. [1] Patent Nos. 6,924,921 and 6,752,868: The owner of record of these two patents is MCNC Research and Development Institute ("***MCNC-RDI***"). Seller purchased the majority of the assets being sold to Buyer, including these patents, from MCNC-RDI. If necessary, Seller believes that it will be able to record an assignment of the patent without further signature of MCNC-RDI by virtue of the purchase agreement with MCNC-RDI.

Grantor	Country	Title	Registration Number	Issue Date
Technology LLC				
Micross Advanced Interconnect Technology LLC	US	Large Substrate Structural Vias	7,709,966	May 4, 2010
Micross Advanced Interconnect Technology LLC	US	Preventing Breakage of Long Metal Signal Conductors on Semiconductor Substrates	8,404,585	March 26, 2013
Micross Advanced Interconnect Technology LLC	US	Preventing Breakage of Long Metal Signal Conductors on Semiconductor Substrates	7,999,388	August 16, 2011
Micross Advanced Interconnect Technology LLC	US	Integral Metal Structure With Conductive Post Portions	8,129,834	March 6, 2012
Micross Advanced Interconnect Technology LLC	US	Integrated Semiconductor Substrate Structure Using Incompatible Processes	8,222,086[2]	July 17, 2012
Micross Advanced Interconnect Technology LLC	US	Integrated Semiconductor Substrate Structure Using Incompatible Processes	7,944,041	May 17, 2011
Micross Advanced Interconnect Technology LLC	US	Local Defect Memories on Semiconductor Substrates In a Stack Computer	7,831,874	November 9, 2010
Micross Advanced Interconnect Technology LLC	US	Comb-Shaped Power Bus Bar Assembly Structure Having Integrated Capacitors	7,764,498	July 27, 2010
Micross Advanced Interconnect Technology LLC	US	Stackable Self-Aligning Insulative Guide Tray for Holding Semiconductor Substrates	7,719,844	May 18, 2010

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[2] Patent No. 8,222,086: There is a missing link in assignment recordation chain (no assignment from Seller to BEECO, Inc., which later assigned to Sixis who then assigned back to Seller). Because the break begins and ends with Seller, this is immaterial

Grantor	Country	Title	Registration Number	Issue Date
Micross Advanced Interconnect Technology LLC	US	Semiconductor Substrate Elastomeric Stack	7,829,994	November 9, 2010
Micross Advanced Interconnect Technology LLC	US	Die Bonding Utilizing a Patterned Adhesion Layer	8,361,901	January 29, 2013
Micross Advanced Interconnect Technology LLC	US	Fluorescence Based Thermometry	9,022,649	May 5, 2015
Micross Advanced Interconnect Technology LLC	US	Multiple-Layer Signal Conductor	7,978,029	July 12, 2011
Micross Advanced Interconnect Technology LLC	US	In System Reflow of Low Temperature Eutectic Bond Balls	8,671,560	March 18, 2014
Micross Advanced Interconnect Technology LLC	US	Through-Substrate Via Having a Strip-Shaped Through-Hole Signal	8,541,884	September 24, 2013
Micross Advanced Interconnect Technology LLC	US	Electronic Devices Utilizing Contact Pads with Protrusions and Methods for Fabrication	9,257,335	February 9, 2016
Micross Advanced Interconnect Technology LLC	US	Arc Resistant High Voltage Micromachined Electronic Switch	6,057,520	May 2, 2000
Micross Advanced Interconnect Technology LLC	US	Micromachined Electrostatic Actuator with Air Gap	6,236,491	May 22, 2001
Micross Advanced Interconnect Technology LLC	US	MEMS Electrostatically Actuated Optical Display Device and Associated Arrays	6,972,889	December 6, 2005
Micross Advanced Interconnect Technology LLC	US	Methods for Modulating a Radiation Signal	6,233,088	May 15, 2001
Micross Advanced Interconnect Technology LLC	US	Modulatable Reflectors and Methods for Using Same	6,137,623	October 24, 2000
Micross Advanced Interconnect Technology LLC	US	Microelectromechanical Elevating Structures	6,456,420	September 24, 2002

Grantor	Country	Title	Registration Number	Issue Date
Micross Advanced Interconnect Technology LLC	US	Methods of Raising Reflow Temperature of Glass Alloys by Thermal Treatment in Steam, and Microelectronic Structures Formed Thereby	6,271,150[3]	August 7, 2001
Micross Advanced Interconnect Technology LLC	US	Electrostatically Actuated Electromagnetic Radiation Shutter	6,396,620	May 28, 2002
Micross Advanced Interconnect Technology LLC	US	Overdrive Structures for Flexible Electrostatic Switch	6,731,492[4]	May 4, 2004
Micross Advanced Interconnect Technology LLC	US	Electrostatically Controlled Variable Capacitor	6,373,682	April 16, 2002
Micross Advanced Interconnect Technology LLC	US	In System Reflow of Low Temperature Eutectic Bond Balls	20140144971	May 29, 2014
Micross Advanced Interconnect Technology LLC	US	Hybrid Microelectromechanical System Tunable Capacitor and Associated Fabrication Methods	6,377,438	April 23, 2002
Micross Advanced Interconnect Technology LLC	US	Three Dimensional Multi-Mode and Optical Coupling Devices	7,042,306	May 9, 2006
Micross Advanced Interconnect Technology LLC	US	Three Dimensional Multimode and Optical Coupling Devices	6,906,598	June 14, 2005
Micross Advanced Interconnect Technology LLC	US	Miniature Electrical Relays Using a Piezoelectric Thin Film as an Actuating Element	6,359,374	March 19, 2002

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[3] Patent No. 6,271,150: Co-owned with North Carolina State University.

[4] Patent No. 6,731,492: There is no recorded assignment from the inventor, Scott Goodwin. Seller will endeavor post-Closing to obtain an assignment from Scott Goodwin to Seller (or Buyer as requested).

Grantor	Country	Title	Registration Number	Issue Date
Micross Advanced Interconnect Technology LLC	US	Rare Earth-Doped Materials With Enhanced Thermoelectric Figure of Merit	9,437,796	September 6, 2016

PATENT APPLICATIONS

Grantor	Country	Title	Application Number	Filing Date
Micross Advanced Interconnect Technology LLC	US	Nanoparticle Compact Materials for Thermoelectric Application	14/359,817	May 21, 2014
Micross Advanced Interconnect Technology LLC	US	In System Reflow of Low Temperature Eutectic Bond Balls	14/167,188	January 29, 2014
Micross Advanced Interconnect Technology LLC	US	Location of Sensors in Well Formations	14/417,674	January 27, 2015
Micross Advanced Interconnect Technology LLC	US	Three-Dimensional Electronic Packages Utilizing Unpatterned Adhesive Layer	14/408,887	December 17, 2014
Micross Advanced Interconnect Technology LLC	US	Electronic Packages with Three-Dimensional Conductive Planes, and Methods for Fabrication	15/304,858	October 17, 2016
Micross Advanced Interconnect Technology LLC	US	Detection of Corrosion Using Dispersible Embedded Sensors	15/223346	July 29, 2016

LICENSES

None.