TRADEMARK ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

ETAS ID: TM589665

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	SECURITY INTEREST

CONVEYING PARTY DATA

Name	Formerly	Execution Date	Entity Type
AXCELIS TECHNOLOGIES, INC.		07/31/2020	Corporation: DELAWARE

RECEIVING PARTY DATA

Name:	Silicon Valley Bank, as Administrative Agent
Street Address:	3003 TASMAN DRIVE, HF 150
City:	SANTA CLARA
State/Country:	CALIFORNIA
Postal Code:	95054
Entity Type:	Corporation: CALIFORNIA

PROPERTY NUMBERS Total: 2

Property Type	Number	Word Mark
Registration Number:	2589955	AXCELIS
Registration Number:	2652725	AXCELIS

OP $65.00 2589955

CORRESPONDENCE DATA

Fax Number: 8004947512

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: 202-370-4756
Email: ipteam@cogencyglobal.com
Correspondent Name: Jay daSilva
Address Line 1: 1025 Vermont Ave NW, Suite 1130
Address Line 2: COGENCY GLOBAL INC.
Address Line 4: Washington, D.C. 20005

ATTORNEY DOCKET NUMBER:	1250034 TM
NAME OF SUBMITTER:	Alicia Vellante
SIGNATURE:	/Alicia Vellante/
DATE SIGNED:	07/31/2020

Total Attachments: 30
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INTELLECTUAL PROPERTY SECURITY AGREEMENT

This Intellectual Property Security Agreement (this "***Agreement***") is entered into as of July 31, 2020 by and between **AXCELIS TECHNOLOGIES, INC.**, a Delaware corporation (the "***Grantor***") and **SILICON VALLEY BANK** ("***SVB"***), as administrative agent and collateral agent for the Lenders (as defined below) (together with its successors and assigns, in such capacities, the "***Administrative Agent***").

RECITALS

A. Administrative Agent, the Lenders and the other Secured Parties have agreed to make certain advances of money and to extend certain financial accommodations to Grantor and its Affiliates (the "***Loans***") in the amounts and manner set forth in that certain Credit Agreement, dated as of July 31, 2020, by and among Grantor (in its capacity as the Borrower thereunder), the Lenders party thereto from time to time, SVB as the Issuing Lender and Swingline Lender, and the Administrative Agent (as amended, restated, amended and restated, supplemented, restructured or otherwise modified from time to time, the "***Credit Agreement***"). Unless otherwise specified, capitalized terms used herein are used as defined in the Credit Agreement or the Guarantee and Collateral Agreement (as defined below), as applicable.

B. In consideration of the agreement by Administrative Agent, the Lenders and the other Secured Parties to make the Loans to Borrower under the Credit Agreement, Borrower entered into that certain Guarantee and Collateral Agreement in favor of Administrative Agent, dated as of even date herewith (as the same may be amended, modified or supplemented from time to time, the "***Guarantee and Collateral Agreement***").

C. The Secured Parties are willing to make the Loans to Grantor, but only upon the condition, among others, that Borrower and each other Guarantor shall grant to Administrative Agent, for the benefit of the Secured Parties, a security interest in certain Intellectual Property (including, without limitation, Copyrights, Copyright Licenses, Trademarks, Trademark Licenses, Patents and Patent Licenses in each case, as defined in the Guarantee and Collateral Agreement) to secure the Secured Obligations of Borrower and each other Guarantor under the Credit Agreement, the Guarantee and Collateral Agreement and the other Loan Documents.

D. Pursuant to the terms of the Credit Agreement and the Guarantee and Collateral Agreement, Borrower and each other Guarantor have granted to Administrative Agent, for the benefit of the Secured Parties, a security interest in all of Borrower's and each other Guarantor's right, title and interest, whether presently existing or hereafter acquired, in, to and under all of the Collateral.

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, and intending to be legally bound, as collateral security for the prompt and complete payment when due of the Secured Obligations, Grantor hereby represents, warrants, covenants and agrees as follows:

AGREEMENT

To secure its Secured Obligations under the Credit Agreement and the other Loan Documents, Grantor grants and pledges to Administrative Agent, for the benefit of the Secured Parties, a security interest in all of Grantor's right, title and interest in, to and under its Intellectual Property (including without limitation those Copyrights, Patents, and Trademarks listed on Exhibits A, B, and C hereto, respectively), and including without limitation all proceeds thereof (such as, by way of example but not by way of limitation, license royalties and proceeds of infringement suits) and goodwill associated therewith, the right to sue for past, present and future infringements, all rights corresponding thereto throughout the world and all re-issues, divisions continuations, renewals, extensions and continuations-in-part thereof; provided that, notwithstanding the foregoing, the security interests created by this Intellectual Property Security Agreement shall not extend to, and the term "Collateral" (including all of the individual items comprising Collateral) shall not include, any Excluded Assets.

This security interest is granted in conjunction with the security interest granted to Administrative Agent, for the benefit of the Secured Parties, under the Guarantee and Collateral Agreement and the Grantor hereby acknowledges and agrees that the rights and remedies of Administrative Agent with respect to the security interest in the Intellectual Property collateral made and granted hereby are more fully set forth in the Guarantee and Collateral Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. In the event of any conflict between any provision of the Guarantee and Collateral Agreement and any provision of this Intellectual Property Security Agreement, the provisions of the Guarantee and Collateral Agreement shall control.

This Intellectual Property Security Agreement may be executed by one or more of the parties to this Intellectual Property Security Agreement on any number of separate counterparts (including by facsimile and/or electronic mail), and all of said counterparts taken together shall be deemed to constitute one and the same instrument.

THIS INTELLECTUAL PROPERTY SECURITY AGREEMENT SHALL BE GOVERNED AND ANY CLAIM, CONTROVERSY, DISPUTE, CAUSE OF ACTION, OR PROCEEDING (WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE) BASED UPON, ARISING OUT OF, CONNECTED WITH, OR RELATING TO THIS AGREEMENT, AND THE TRANSACTIONS CONTEMPLATED HEREBY, AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HEREUNDER, SHALL BE GOVERNED BY, AND CONSTRUED AND INTERPRETED IN ACCORDANCE WITH, THE LAWS (AND NOT THE CONFLICT OF LAW RULES) OF THE STATE OF NEW YORK.

[Signature page follows.]

IN WITNESS WHEREOF, the parties have caused this Intellectual Property Security Agreement to be duly executed by its officers thereunto duly authorized as of the first date written above.

GRANTOR:

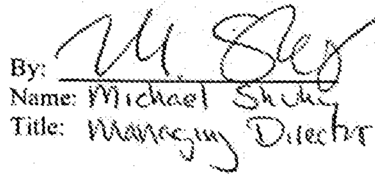
AXCELIS TECHNOLOGIES, INC.,
a Delaware limited liability company

By: ____________________
Name: Mary G. Puma
Title: President and Chief Executive Officer

Signature Page to Intellectual Property Security Agreement

ADMINISTRATIVE AGENT

SILICON VALLEY BANK



By: ______________________
Name: Michael Shuhy
Title: Managing Director

Signature Page to Intellectual Property Security Agreement

EXHIBIT A

RIGHTS OF THE GRANTORS RELATING TO COPYRIGHTS

Registered Copyrights

None.

Pending Copyright Applications

None.

Registered Copyrights and Pending Copyright Applications Licensed to Grantors

None.

EXHIBIT B

RIGHTS OF THE GRANTORS RELATING TO PATENTS

Issued Patents

US PATENT NO.	FILED/ ISSUED	TITLE
6,428,262	08/10/2000 08/06/2002	COMPACT LOAD SYSTEM FOR ION BEAM PROCESSING OF FOUPS
6,476,399	9/1/00 11/05/02	SYSTEM AND METHOD FOR REMOVING CONTAMINANT PARTICLES RELATIVE TO AN ION BEAM
6,485,534	12/20/00 11/26/02	CONTAMINANT COLLECTOR TRAP FOR ION IMPLANTER
6,541,781	7/25/00 2/25/03	WAVEGUIDE FOR MICROWAVE EXCITATION OF PLASMA IN AN ION BEAM GUIDE
6,583,421	10/11/2001 6/24/2003	CHARGED MEASURING DEVICE WITH WIDE DYNAMIC RANGE
6,583,429	8/21/02 6/24/03	METHOD AND APPARATUS FOR IMPROVED ION BUNCHING IN AN ION IMPLANTATION SYSTEM
6,583,544	8/07/00 6/24/03	ION SOURCE HAVING REPLACEABLE AND SPUTTERABLE SOLID SOURCE MATERIAL
6,600,163	12/22/2000 7/29/2003	IN-PROCESS WAFER CHARGE MONITOR AND CONTROL SYSTEM FOR ION IMPLANTER
6,608,315	11/10/2000 8/19/2003	MECHANISM FOR PREVENTION OF NEUTRON RADIATION IN ION IMPLANTER BEAMLINE
6,635,890	8/21/02 10/21/03	SLIT DOUBLE GAP BUNCHER AND METHOD FOR IMPROVED ION BUNCHING IN AN ION IMPLANTATION SYSTEM
6,653,643	12/26/01 11/25/03	METHOD AND APPARATUS FOR IMPROVED ION ACCELERATION IN AN ION IMPLANTATION SYSTEM
6,653,803	5/30/00	INTEGRATED RESONATOR AND AMPLIFIER SYSTEM

US PATENT NO.	FILED/ ISSUED	TITLE
	11/25/03	
6,657,209	1/29/01 12/2/03	METHOD AND SYSTEM FOR DETERMINING PRESSURE COMPENSATION FACTORS IN AN ION IMPLANTER
6,661,016	6/22/2001 12/9/2003	ION IMPLANTATION UNIFORMITY CORRECTION USING BEAM CURRENT CONTROL
6,663,333	7/13/01 12/16/03	WAFER TRANSPORT APPARATUS
6,677,598	5/29/03 1/13/04	BEAM UNIFORMITY AND ANGULAR DISTRIBUTION MEASUREMENT SYSTEM
6,703,628	8/18/2003 7/4/2006	MEMS BASED MULTI-POLAR ELECTROSTATIC CHUCK
6,710,360	07/10/02 3/23/04	ADJUSTABLE IMPLANTATION ANGLE WORKPIECE SUPPORT STRUCTURE FOR AN ION BEAM IMPLANTER
6,734,439	10/25/2001 5/11/2004	WAFER PEDESTAL TILT MECHANISM AND COOLING SYSTEM
6,735,378	5/29/03 5/11/04	PRESSURE CONTROLLED HEAT SOURCE AND METHOD FOR USING SUCH FOR RTP
6,740,894	2/21/03 5/21/04	ADJUSTABLE IMPLANTATION ANGLE WORKPIECE SUPPORT STRUCTURE FOR AN ION BEAM IMPLANTER UTILIZING A LINEAR SCAN MOTOR
6,759,098	7/16/01 7/06/04	PLASMA CURING OF MSQ-BASED POROUS LOW-K FILM MATERIALS
6,759,665	5/24/01 7/06/04	METHOD AND SYSTEM FOR ION BEAM CONTAINMENT IN AN ION BEAM GUIDE
6,768,121	3/11/03 9/27/04	ION SOURCE HAVING REPLACEABLE AND SPUTTERABLE SOLID SOURCE MATERIAL
6,770,888	6/25/03	HIGH MASS RESOLUTION MAGNET FOR RIBBON

US PATENT NO.	FILED/ ISSUED	TITLE
	8/3/04	BEAM ION IMPLANTERS
6,774,377	6/26/03 8/10/04	ELECTROSTATIC PARALLELIZING LENS FOR ION BEAMS
6,774,378	10/08/03 8/10/04	METHOD OF TUNING ELECTROSTATIC QUADRUPOLE ELECTRODES OF AN ION BEAM IMPLANTER
6,777,696	2/21/03 8/17/04	DEFLECTING ACCELERATION/DECELERATION GAP
6,828,572	4/1/03 12/7/04	ION BEAM INCIDENT ANGLE DETECTOR FOR ION IMPLANT SYSTEMS
6,835,930	1/8/04 12/28/04	HIGH MASS RESOLUTION MAGNET FOR RIBBON BEAM ION IMPLANTERS
6,872,953	5/20/04 3/29/05	TWO DIMENSIONAL STATIONARY BEAM PROFILE AND ANGULAR
6,881,966	6/13/03 4/19/05	HYBRID MAGNETIC/ELECTROSTATIC DEFLECTOR FOR ION IMPLANTATION SYSTEMS
6,903,350	6/10/04 6/7/05	ION BEAM SCANNING SYSTEMS AND METHODS FOR IMPROVED ION IMPLANTATION UNIFORMITY
6,921,907	7/12/04 7/26/05	SUBSTRATE POSITIONING SYSTEM
6,940,079	12/8/04 9/6/05	METHOD OF CORRECTION FOR WAFER CRYSTAL CUT ERROR IN SEMICONDUCTOR PROCESSING
6,946,403	10/28/03 9/20/05	METHOD OF MAKING A MEMS ELECTROSTATIC CHUCK
6,947,274	9/8/03 9/20/05	CLAMPING AND DE-CLAMPING SEMICONDUCTOR WAFERS ON AN ELECTROSTATIC CHUCK USING WAFER INERTIAL CONFINEMENT BY APPLYING A SINGLE-PHASE SQUARE WAVE AC CLAMPING

US PATENT NO.	FILED/ ISSUED	TITLE
		VOLTAGE
6,947,665	2/10/03 9/20/05	RADIANT HEATING SOURCE WITH REFLECTIVE CAVITY SPANNING AT LEAST TWO HEATING ELEMENTS
6,949,895	9/3/03 9/27/05	UNIPOLAR ELECTROSTATIC QUADRUPOLE LENS AND SWITCHING METHODS FOR CHARGED BEAM TRANSPORT
6,953,942	9/20/04 10/11/05	ION BEAM UTILIZATION DURING SCANNED ION IMPLANTATION
6,956,225	4/1/04 10/18/05	METHOD AND APPARATUS FOR SELECTIVE PRE-DISPERSION OF EXTRACTED ION BEAMS IN ION IMPLANTATION SYSTEMS
6,958,481	8/22/01 10/25/05	DECABORANE ION SOURCE
6,984,832	4/15/04 1/10/06	BEAM ANGLE CONTROL IN A BATCH ION IMPLANTATION SYSTEM
6,987,269	12/16/02 1/17/06	APPARATUS AND PROCESS FOR MEASURING LIGHT INTENSITIES
6,987,272	3/5/04 1/17/06	WORK PIECE TRANSFER SYSTEM FOR AN ION BEAM IMPLANTER
6,989,545	7/7/04 1/24/06	DEVICE AND METHOD FOR MEASUREMENT OF BEAM ANGLE AND DIVERGENCE
6,992,308	2/27/04 1/31/06	MODULATING ION BEAM CURRENT
6,992,309	8/13/04 1/31/06	ION BEAM MEASUREMENT SYSTEMS AND METHODS FOR ION IMPLANT DOSE AND UNIFORMITY CONTROL
6,992,310	8/13/04 1/31/06	SCANNING SYSTEMS AND METHODS FOR PROVIDING IONS FROM AN ION BEAM TO A WORKPIECE
6,992,311	1/18/05	IN-SITU CLEANING OF BEAM DEFINING

US PATENT NO.	FILED/ ISSUED	TITLE
	1/31/06	APERTURES IN AN ION IMPLANTER
7,010,388	5/22/03 3/7/06	WORK-PIECE TREATMENT SYSTEM HAVING LOAD LOCK AND BUFFER
7,011,868	5/24/03 3/14/06	FLUORINE-FREE PLASMA CURING PROCESS FOR POROUS LOW-K MATERIALS
7,019,314	10/18/04 3/28/06	SYSTEMS AND METHODS FOR ION BEAM FOCUSING
7,022,984	1/31/05 4/4/06	BIASED ELECTROSTATIC DEFLECTOR
7,030,395	8/6/04 4/18/06	WORKPIECE SUPPORT STRUCTURE FOR AN ION BEAM IMPLANTER FEATURING SPHERICAL SLIDING SEAL VACUUM FEEDTHROUGH
7,064,340	12/15/04 6/20/06	METHOD AND APPARATUS FOR ION BEAM PROFILING
7,072,165	8/18/03 7/4/06	MEMS BASED MULTI-POLAR ELECTROSTATIC CHUCK
7,072,166	9/12/03 7/4/06	CLAMPING AND DE-CLAMPING SEMICONDUCTOR WAFERS ON A J-R ELECTROSTATIC CHUCK HAVING A MICROMACHINED SURFACE BY USING FORCE DELAY IN APPLYING A SINGLE-PHASE SQUARE WAVE AC CLAMPING VOLTAGE
7,078,707	1/4/05 7/18/06	ION BEAM SCANNING CONTROL METHODS AND SYSTEMS FOR ION IMPLANTATION UNIFORMITY
7,078,712	3/18/04 7/18/06	IN-SITU MONITORING ON AN ION IMPLANTER
7,102,146	6/3/04 9/5/06	DOSE CUP LOCATED NEAR BEND IN FINAL ENERGY FILTER OF SERIAL IMPLANTER FOR CLOSED LOOP DOSE CONTROL
7,105,840	2/3/05	ION SOURCE FOR USE IN AN ION IMPLANTER

US PATENT NO.	FILED/ ISSUED	TITLE
	9/12/06	
7,112,809	7/19/04 9/26/06	ELECTROSTATIC LENS FOR ION BEAMS
7,135,691	4/5/05 11/14/06	RECIPROCATING DRIVE FOR SCANNING A WORKPIECE THROUGH AN ION BEAM
7,141,809	4/5/05 1/28/06	METHOD FOR RECIPROCATING A WORKPIECE THROUGH AN ION BEAM
7,151,658	4/22/03 12/19/06	HIGH-PERFORMANCE ELECTROSTATIC CLAMP COMPRISING A RESISTIVE LAYER, MICRO-GROOVES, AND DIELECTRIC LAYER
7,227,160	9/13/06 6/5/07	SYSTEMS AND METHODS FOR BEAM ANGLE ADJUSTMENT IN ION IMPLANTERS
7,239,242	1/26/05 7/3/07	PARTS AUTHENTICATION EMPLOYING RADIO FREQUENCY IDENTIFICATION
7,246,985	4/16/04 7/24/07	WORK-PIECE PROCESSING SYSTEM
7,247,863	10/19/2001 7/24/2007	SYSTEM AND METHOD FOR RAPIDLY CONTROLLING THE OUTPUT OF AN ION SOURCE FOR ION IMPLANTATION
7,321,299	6/8/05 1/22/08	WORKPIECE HANDLING ALIGNMENT SYSTEM
7,323,695	4/5/05 1/29/08	RECIPROCATING DRIVE FOR SCANNING A WORKPIECE
7,329,882	11/29/05 2/12/08	ION IMPLANTATION BEAM ANGLE CALIBRATION
7,344,352	9/2/05 3/18/08	WORKPIECE TRANSFER DEVICE
7,358,508	01NO2005 15AP2008	ION IMPLANTER WITH CONTAMINANT COLLECTING SURFACE

US PATENT NO.	FILED/ ISSUED	TITLE
7,361,914	30NO2005 22NO2008	MEANS TO ESTABLISH ORIENTATION OF ION BEAM TO WAFER AND CORRECT ANGLE ERRORS
7,361,915	30NO2005 22AP2008	BEAM CURRENT STABILIZATION UTILIZING GAS FEED CONTROL LOOP
7,375,355	12MY2006 20MY2008	RIBBON BEAM ION IMPLANTER CLUSTER TOOL
7,381,969	24AP2006 03JE2008	LOAD LOCK CONTROL
7,381,977	27SE2005 03JE2008	ION BEAM PROFILER
7,402,821	18JA2006 22JL2008	APPLICATION OF DIGITAL FREQUENCY AND PHASE SYNTHESIS FOR CONTROL OF ELECTRODE VOLTAGE PHASE IN A HIGH-ENERGY ION IMPLANTATION MACHINE, AND A MEANS FOR ACCURATE CALIBRATION OF ELECTRODE VOLTAGE PHASE
7,417,242	27MR2006 26AU2008	METHOD OF MEASURING ION BEAM POSITION
7,423,277	14MR2006 09SE2008	ION BEAM MONITORING IN AN ION IMPLANTER USING AN IMAGING DEVICE
7,435,971	19MY2006 14OC2008	ION SOURCE
7,435,977	12DE2005 14OC2008	ION BEAM ANGLE MEASUREMENT SYSTEMS AND METHODS FOR ION IMPLANTATION SYSTEMS
7,453,074	06DE2005 18NO2008	ION IMPLANTER WITH IONIZATION CHAMBER ELECTRODE DESIGN
7,453,160	23AP2004 18NO2008	SIMPLIFIED WAFER ALIGNMENT
7,473,909	04DE2006	USE OF ION INDUCED LUMINSCENCE IIL AS

US PATENT NO.	FILED/ ISSUED	TITLE
	06JA2009	FEEDBACK CONTROL FOR ION IMPLANTATION
7,476,855	9/19/2006 1/13/2009	BEAM TUNING WITH AUTOMATICALLY MAGNET POLE ROTATION FOR ION IMPLANTERS
7,476,876	21DE2005 13JA2009	ION BEAM ANGLE MEASUREMENT DEVICES FOR ION IMPLANT SYSTEMS
7,507,977	26MY2006 24MR2009	A SYSTEM AND METHOD OF ION BEAM CONTROL IN RESPONSE TO A BEAM GLITCH
7,507,978	29SE2006 24MR2009	BEAM LINE ARCHITECTURE FOR ION IMPLANTER
7,511,287	14NO2005 31MR2009	SYSTEMS AND METHODS THAT MITIGATE CONTAMINATION AND MODIFY SURFACE CHARACTERISTICS DURING ION IMPLANTATION PROCESSES
7,528,390	29SE2006 05MY2009	BROAD BEAM ION IMPLANTATION ARCHITECTURE
7,531,819	29SE2006 12MY2009	IMPROVED METHOD OF NF3 CLEANING OF AN ION SOURCE
7,547,898	02JE2006 16JE2009	PARTICULATE PREVENTION IN ION IMPLANTATION
7,547,899	02JE2006 16JE2009	CHARGED BEAM DUMP AND PARTICLE ATTRACTOR
7,550,751	09AP2007 23JE2009	ION BEAM SCANNING CONTROL METHODS AND SYSTEMS FOR ION IMPLANTATION UNIFORMITY
7,557,363	02JE2006 07JL2009	CLOSED LOOP DOSE CONTROL FOR ION IMPLANTATION
7,560,705	17AU2006 14JL2009	WORKPIECE SCAN ARM FOR ION IMPLANTATION SYSTEM
7,566,886	14AU2006	THROUGHPUT ENHANCEMENT FOR SCANNED BEAM ION IMPLANTERS

US PATENT NO.	FILED/ ISSUED	TITLE
	28JL2009	
7,566,887	03JA2007 28JL2009	METHODS OF REDUCING PARTICLE CONTAMINATION FOR ION IMPLANTATION
7,579,604	02JE2006 25AU2009	BEAM STOP AND BEAM TUNING METHODES
7,586,111	31JL2007 08SE2009	ION IMPLANTER HAVING A COMBINED HYBRID AND DOUBLE MECHANICAL SCAN ARCHITECTURE
7,589,333	29SE2006 15SE2009	METHOD FOR RAPIDLY SWITCHING OFF THE OUTPUT OF AN ION SOURCE
7,598,495	26AP2006 06OC2009	METHOD AND APPARATUS FOR COMBINED TRAPPING OF ION BEAM PARTICLES AND FOCUSING OF THE ION BEAM
7,598,505	08MR2005 06OC2009	MULTICHANNEL ION GUN
7,615,763	19SE2006 10NO2009	SYSTEM FOR MAGNETIC SCANNING AND CORRECTION OF AN ION BEAM
7,629,272	07JE2005 08DE2009	ULTRAVIOLET ASSISTED POROGEN REMOVAL AND/OR CURING PROCESSES FOR FORMING POROUS LOW-K DIELECTRICS
7,629,597	18AU2006 08DE2009	DEPOSITION REDUCTION SYSTEM FOR AN ION IMPLANTER
7,655,930	3/22/2007 2/2/2010	ION SOURCE ARC CHAMBER SEAL
7,678,682	12NO2004 16MR2004	ULTRAVIOLET ASSISTED PORE SEALING OF POROUS LOW K DIELECTRIC FILMS
7,683,348	11/548,295 2/23/2010	SENSOR FOR ION IMPLANTER
7,692,164	24AP2007	DOSE UNIFORMITY CORRECTION TECHNIQUE

US PATENT NO.	FILED/ ISSUED	TITLE
	06AP2010	
7,696,494	01JE2007 13AP2010	BEAM ANGLE ADJUSTMENT IN ION IMPLANTERS
7,699,574	20JE2007 20AP2010	WORK-PIECE PROCESSING SYSTEM
7,701,230	30AP2007 20AP2010	METHOD AND SYSTEM FOR ION BEAM PROFILING
7,704,872	05FE2007 27AP2010	ULTRAVIOLET ASSISTED PORE SEALING OF POROUS LOW K DIELECTRIC FILMS
7,705,328	31OC2007 27AP2010	BROAD RIBBON BEAM ION IMPLANTER ARCHITECTURE WITH HIGH MASS-ENERGY CAPABILITY
7,709,814	17JE2005 04MY2010	APPARATUS AND PROCESS FOR TREATING DIELECTRIC MATERIALS
7,714,406	25OC2007 11MY2010	LOW-COST ELECTROSTATIC CLAMP WITH FAST DE-CLAMP TIME
7,728,293	29NO2007 01JE2010	STRUCTURES AND METHODS FOR MEASURING BEAM ANGLE IN AN ION IMPLANTER
7,748,344	06NO2003 06JL2010	SEGMENTED RESONANT ANTENNA FOR RADIO FREQUENCY INDUCTIVELY COUPLED PLASMA
7,750,314	31JL2008 06JL2010	CONSTANT TEMPERATURE ION SOURCE
7,750,320	22DE2006 06JL2010	SYSTEM AND METHOD FOR TWO-DIMENSIONAL BEAM SCAN ACROSS A WORKPIECE OF AN ION IMPLANTER
7,751,172	18OC2006 06JL2010	SLIDING WAFER RELEASE GRIPPER/WAFER PEELING GRIPPER
7,759,657	19JE2008 20JL2010	METHODS FOR IMPLANTING $B_{22}H_x$ AND ITS IONIZED LOWER MASS PRODUCTS

US PATENT NO.	FILED/ ISSUED	TITLE
7,789,443	16MR2007 07SE2010	IMPACT DAMPENING/COMPLIANT IDC WAFER CLAMP CHUCK
7,800,083	06NO2007 21SE2010	PLASMA ELECTRON FLOOD FOR RIBBON BEAM IMPLANTER
7,828,504	12MY2006 09NO2010	COMBINATION LOAD LOCK FOR HANDLING OF SEMICONDUCTOR WAFERS OR SUBSTRATES
7,842,931	25SE2008 30NO2010	EXTRACTION ELECTRODE MANIPULATOR
7,858,955	25JE2008 28DE2010	METHOD FOR CONTROL BROAD BEAM UNIFORMITY
7,897,944	21JL2008 01MR2011	METHOD AND APPARATUS FOR MEASUREMENT OF BEAM ANGLE IN ION IMPLANTATION
7,888,661	13FE2008 02FE2011	INCORPORATION OF A SURFACE TREATMENT/PASSIVATION PROCESS INSITU TO AN ION IMPLANTATION SYSTEM
7,915,597	18MR2008 29MR2011	EXTRACTION ELECTRODE SYSTEM FOR HIGH CURRENT ION IMPLANTER
7,924,159	30JA2008 12AP2011	REMOTE WAFER PRESENCE DETECTION WITH PASSIVE RFID
7,947,966	07/31/08 05/24/2011	DOUBLE PLASMA ION SOURCE
7,949,425	12/6/06 05/24/2011	HIGH THROUGHPUT WAFER NOTCH ALIGNER
7,952,851	10/31/08 05/31/2011	WAFER GROUNDING METHOD FOR ELECTROSTATIC CLAMPS
7,973,290	13AU2008 05JL2011	SYSTEM AND METHOD OF BEAM ENERGY IDENTIFICATION FOR SINGLE WAFER ION IMPLANTATION
7,977,628	25J32008	SYSTEM AND METHOD FOR REDUCING

US PATENT NO.	FILED/ ISSUED	TITLE
	12JL2011	PARTICLES AND CONTAMINATION BY MATCHING BEAM COMPLEMENTARY APERTURE SHAPES TO BEAM SHAPES
7,982,195	14SE2004 19JL2011	CONTROLLED DOSE ON ION IMPLANTATION
7,994,487	29MY2009 09AU2011	CONTROL OF PARTICLES ON SEMICONDUCTOR WAFERS WHEN IMPLANTING BORON HYDRIDES
7,994,488	24AP2008 09AU2011	LOW CONTAMINATION, LOW ENERGY BEAMLINE ARCHITECTURE FOR HIGH CURRENT ION IMPLANTATON
8,008,636	18DE2008 30AU2011	ION IMPLANTATOIN WITH DIMINISHED SCANNING FILED EFFECTS
8,023,247	10DE2008 20SE2011	ELECTROSTATIC CHUCK WITH COMPLIANT COAT
8,035,080	10/31/2009 10/11/2011	METHOD AND SYSTEM FOR INCREASING BEAM CURRENT ABOVE A MAXIMUM ENERGY FOR A CHARGE STATE
8,071,451	29JL2009 06DE2011	METHOD AND APPARAUS FOR CONFORMAL DOPING OF SEMICONDUCTORS USING HYDROGEN ACTIVATION PRINCIPLE
8,071,964	01MY2008 06DE2011	METHOD OF PERFORMING UNIFORM DOSE IMPLANTATIONUNDER ADVERSE CONDITIONS
8,080,814	04MR2010 20DE2011	METHOD FOR IMPROVING IMPLANT UNIFORMITY DURING PHOTORESIST OUTGASSING
8,089,052	24AP2008 03JA2012	METHOD FOR ION SURFACE OPERATION OVER A VERY LARGE PERVEANCE RANGE
8,124,946	03JE2009 28FE2012	POST DECEL MAGNETIC ENERGY FILTER FOR ION IMPLANTATION
8,124,947	04SE2009 28FE2012	ION IMPLANTER HAVING COMBINED HYBRID AND DOUBLE MECHANICAL

US PATENT NO.	FILED/ ISSUED	TITLE
8,138,484	28AP2010 20MR2012	MAGNETIC SCANNER DESIGN WITH IMPROVED EFFICIENCY
8,168,941	22JA2009 01MY2012	ION BEAM ANGLE CALIBRATION SYSTEM
8,193,513	31JL2008 05JE2012	HYBRID/ION SOURCE/MULTIMODE ION SOURCE
8,226,142	23JL2008 24JL2012	WORKPIECE GRIPPING INTEGRITY SENSOR
8,227,768	18JE2009 24JL2012	LOW INERTIA MULTI-AXIS MULTI-DIRECTIONAL MECHANICALLY SCANNED IMPLANTER SYSTEM
8,227,773	29JL2010 24JL2012	VERSATILE BEAM GLITCH DETECTION SYSTEM
8,228,658	08FE2007 24JL2012	VARIABLE FREQUENCY ELECTROSTATIC CLAMPING
8,237,135	22JA2009 08AU2012	ENHANCED LOW ENERGY ION BEAM TRANSPORT IN ION IMPLANTATION
8,241,425	23JA2009 14AU2012	NON-CONDENSING THERMOS CHUCK
8,242,469	13Jl2010 14AU2012	ADJUSTABLE LOUVERED PLASMA ELECTRON FLOOD ENCLOSURE
8,524,584	20JA2010 03SE2013	METHANE CO-GAS FOR CARBONE IMPLANTS
8,270,142	10DE2008 18SE2012	MECHANICALLY ASSISTED ACTIVE DECLAMP
8,278,634	20OC2012 08JE2010	SYSTEM AND METHOD FOR ION IMPLANTATION WITH IMPROVED PRODUCTIVITY AND UNIFORMITY
8,330,129	11DE2012	Uniformity of a scanned ion beam

US PATENT NO.	FILED/ ISSUED	TITLE
	24AU2011	
8,350,236	12JA2010 08JA2013	AROMATIC MOLECULAR CARBON IMPLANTATION PROCESSES
8,344,337	21AP2010 01JA2013	SILBORANE IMPLANTATION PROCESSES
8,378,313	31MR2011 19FE2013	Uniformity of a scanned ion beam
8,421,039	31MR2011 16AP2013	Method and apparatus for improved uniformity control with dynamic beam shaping
8,422,193	19DE2006 16AP2013	ANNULUS CLAMPING AND BACKSIDE GAS COOL ELECTROSTATIC CHUCK
8,450,701	19AP2011 28MY2013	Vacuum system cold trap filter
8,481,969	01JE2011 09JL2013	Effective algorithm for warming a twist axis for cold ion implantations
8,500,382	22MY2007 06AU2013	AIRFLOW MANAGEMENT SYSTEM FOR PARTICLE ABATEMENT IN SEMICONDUCTOR MANUFACTURING EQUIPMENT
8,502,173	24SE2012 06AU2013	System and method for ion implantation with improved productivity and uniformity
8,524,584	20JA2010 03SE2013	METHANE CO-GAS FOR CARBON IMPLANTS
8,604,418	06AP2010 10DE2013	IN VACUUM BEAM DEFINING APERTURE
8,637,838	13DE2011 28JA2014	SYSTEM AND METHOD FOR ION IMPLANTATION WITH IMPROVED UNIFORMITY

US PATENT NO.	FILED/ ISSUED	TITLE
8,653,486	13DE2012 18FE2014	METHOD AND APPARATUS FOR IMPROVED UNIFORMITY CONTROL WITH DYNAMIC BEAM SHAPING
8,669,517	24MY2011 11MR2014	MASS ANALYZER VARIABLE
8,692,215	26MY2011 08AP2014	HEATED ROTARY SEAL AND BEARING FOR CHILLED ION IMPLANTATION SYSTEM
8,760,054	21JA2011 24JE2014	MICROWAVE PLASMA ELECTRON FLOOD
8,779,395	01DE2011 15JL2014	AUTOMATIC CONTROL SYSTEM FOR SELECTING AND OPTIMIZING COGAS FLOW LEVELS FOR IN-SITU ION SOURCE CLEANING
8,797,706	07JE2011 05AU2014	HEATED ANNULUS CHUCK
8,803,110	29SE2006 12AU2014	METHOD FOR BEAM CURRENT MODULATION BY ION SOURCE PARAMETER MODULATION
8,902,560	31OC2008 02DE2014	ELECTROSTATIC CHUCK GROUND PATCH
8,932,430	06MY2011 13JA2015	UTILIZING AN INTEGRATED POWER OSCILLATOR FOR A RADIO FREQUENCY
8,933,424	21NO2013 13JA2015	METHOD OF MEASURING TRANSVERSE BEAM INTENSITY DISTRIBUTION
8,941,968	03JE2011 27JA2015	HEATED ELECTROSTATIC CHUCK INCLUDING MECHANICAL CLAMP CAPABILITIY AT HIGH TEMPERATURES
8,963,107	12JA2012 24FE2015	BEAMLINE DESIGN METHOD TO REDUCE ENERGY CONTAMINATION

US PATENT NO.	FILED/ ISSUED	TITLE
9,006,690	03MY2013 14AP2015	EXTRACTION ELECTRODE ASSEMBLY VOLTAGE MODULATION IN AN ION IMPLANTATION SYSTEM
9,036,326	30AP2008 19MY2015	AIR BEARING ELECTROSTATIC CHUCK
9,048,276	26MY2011 02JE2015	MATCHED COEFFICIENT OF THERMAL EXPANSION FOR AN ELECTROSTATIC CHUCK
9,064,673	11JE2013 23JE2015	EDGE GRIP WAFER CARRIER
9,111,719	30JA2014 18AU2015	METHOD FOR ENHANCING BEAM UTILIZATION ON A SCANNED BEAM ION IMPLANTER
9,147,554	29JE2010 29SE2015	USE OF BEAM SCANNING TO IMPROVE UNIFORMITY AND PRODUCTIVITY OF A 2D MECHANICAL SCAN IMPLANTER
9,218,941	29DE2014 22DE2015	ION IMPLANTATION SYSTEM AND METHOD WITH VARIABLE ENERGY CONTROL
9,236,216	03AU2012 12JA2016	IN VACUUM HIGH SPEED PRE-CHILL AND POST HEAT STATIONS
9,281,227	28JE2013 08MR2016	MULTI-RESISTIVITY JOHNSEN-RAHBEK ELECTROSTATIC CLAMP
9,318,302	31MR2015 19AP2016	INTEGRATED EXTRACTION ELECTRODE MANIPULATOR FOR ION SOURCE
9,378,992	27JE2014 28JE2016	HOT IMPLANTATION WAFER PREHEAT STATION
9,443,698	06OC2008 13SE2016	HYBRID SCANNING FOR ION IMPLANTATION
9,455,116	21AP2015 27SE2016	ANGULAR SCANNING USING ANGULAR ENERGY FILTER

US PATENT NO.	FILED/ ISSUED	TITLE
9,490,185	29AU2013 08NO2016	IMPLANT-INDUCED DAMAGE CONTROL IN ION IMPLANTATION
9,502,207	26AU2015 22NO2016	CAM ACTUATED FILAMENT CLAMP
9,543,110	20DE2013 10JA2017	IMPROVED OXIDATION RESISTANCE OF ION SOURCE COMPONENTS WHEN CONSTRUCTED USING SINTERED CONDUCTIVE SILICON CARBIDE
9,558,914	25FE2015 31JA2017	BIPOLAR WAFER CHARGE MONITOR SYSTEM AND ION IMPLANTATION SYSTEM COMPRISING SAME
9,558,980	17MR2010 31JA2017	IDEAL VAPOR COMPRESSION REFRIGERATION CHUCK
9,607,803	04AU2015 28MR2017	HIGH THROUGHPUT COOLED ION IMPLANTATION METHOD
9,611,540	22DE2008 04AP2017	ELECTROSTATIC CHUCK SHIELDING MECHANISM
9,620,327	22DE2015 11AP2017	COMBINED MULTIPOLE MAGNET AND DIPOLE SCANNING MAGNET
9,711,329	26DE2014 18JL2017	SYSTEM AND METHOD TO IMPROVE PRODUCTIVITY OF HYBRID SCAN ION BEAM IMPLANTERS
9,633,885	12FE2014 25AP2017	VARIABLE ELECTRODE PATTERN FOR VERSATILE ELECTROSTATIC CLAMP
9,679,739	26DE2014 13JE2017	COMBINED ELECTROSTATIC LENS SYSTEM FOR ION IMPLANTATION
9,711,324	31MY2012 18JU2017	INSERT ATMOSPHERIC PRESSURE PRE-CHILL AND POST HEAT
9,711,328	17DE2014	METHOD OF MEASURING VERTICAL BEAM

US PATENT NO.	FILED/ ISSUED	TITLE
	18JL2017	PROFILE IN AN ION IMPLANTATION SYSTEM
9,711,329	12DE2014 11AP2017	COMBINED MULTIPOLE MAGNET AND DIPOLE SCANNING MAGNET
9,805,912	17NO2010 31OC2017	HYDROGEN CO-GAS FOR CARBON IMPLANTS
9,842,752	21JE2013 12DE2017	LIGHT SOURCE WITH RESTRICTED WAVELENGTHS FOR PROCESS HEATING
9,847,240	12FE2014 19DE2017	CONSTANT MASS FLOW MULTILEVEL COOLANT PATH ELECTROSTATIC CHUCK
9,870,893	19JA2016 16JA2018	MULTI-PIECE ELECTRODE APERATURE
9,871,473	16SE2015 16JA2018	SYSTEM AND METHOD FOR E LECTROSTATIC CLAMPING OF WORKPIECES
9,911,636	30SE2016 06MR2018	MULTIPLE DIAMETER INVACCUM WAFER HANDLING
9,941,087	19JA2016 10AP2018	IMPROVED ION SOURCE CATHODE SHIELD
9,953,801	29NO2016 24AP2018	TWO AXIS VARIABLE WITH MASS RESOLVING APERATURE WITH FAST ACTING SHUTTER MOTION
9,978,555	05NO2015 22MY2018	ION SOURCE LINER WITH A LIP
9,978,599	02JE2016 22MY2018	WAFER COOLING METHOD
9,984,855	17NO2010 05MY2018	IMPLIMENTATION OF CO-GASESFOR GERANIUM ION IMPLANTS
10,024,825	26DE2014 17JL2018	WAFER CLAMP DETECTION BASED ON VIBRATION OR ACOUSTIC CHARACTERISTIC ANALYSIS

US PATENT NO.	FILED/ ISSUED	TITLE
10,037,877	29JE2017 31JL2018	SYSTEMS AND METHODS FOR BEAM ANGLE ADJUSTMENT IN ION IMPLANTERS WITH BEAM DECELERATION
10,041,789	30SE2016 08JL2018	INTEGRATED EMISSIVITY SENSOR ALIGNMENT CHARACTERIZATION
10,074,508	10NO2015 11SE2018	LOW CONDUCTANCE, SELF SHIELDING INSULATOR
10,087,520	14AU2018 14JA2020	IMPLANTATION USING SOLID ALUMINUM IODIDE (AL13) FOR PRODUCING ATOMIC ALUMINUM IONS AND INSITU CLEANING OF ALUMINUM IODIDE AND ASSOCIATED BY-PRODUCTS
10,128,084	18SE2017 13NO2018	WAFER TEMPERATURE CONTROL WITH CONSIDERATION TO BEAM POWER INPUT
10,170,286	30SE2016 01JA2019	H202 AS A CO-GAS TO A PRIMARY DOPANT AND AS A PURGE GAS TO MINIMIZE CARBON DEPOSITS IN AN ION SOURCE
10,186,446	30SE2016 22JA2019	ADJUSTABLE CIRCUMFERENCE ELECTROSTATIC CLAMP
10,227,693	31JA2018 12MR2019	OUTGASSING IMPACT ON PROCESS CHAMBER REDUCTION VIA CHAMBER PUMP AND PURGE
10,256,069	24NO2016 09AP2019	PHOSPHOROUS TRIFLUIORIDE CO-GAS FOR CARBON IMPLANTS
10,324,121	28DE2012 18JE2019	CHARGE INTEGRATION BASED ELECTROSTATIC CLAMP HEALTH MONITOR
10,342,114	07SE2018 02JL2019	RF RESONATOR FOR ION BEAM ACCELERATION
10,361,069	04AP2016 23JL2019	IMPROVE ION SOURCE REPELLER SHIELD
10,361,081	24NO2016	PHOSPHINE CO-GAS FOR CARBON IMPLANTS

US PATENT NO.	FILED/ ISSUED	TITLE
	23JL2019	
10,395,889	07SE2016 27AU2019	REAL TIME IMPLANT MONITORING OF BEAM SHAPE INDICATORS
10,395,891	01MR2018 27AU2019	TWO-AXIS VARIABLE WITH MASS RESOLVING APERTURE WITH FAST ACTING SHUTTER MOTION
10,403,503	12AP2018 03MR2019	WAFER COOLING METHOD
10,483,086	26DE2014 19NO2019	BEAM PROFILING SPEED ENHANCEMENT FOR SCANNED BEAM IMPLANTERS
10,515,780	19DE2018 24DE2019	DYNAMIC THRESHOLD SETTING FOR ARC DETECTION CIRCUIT
10,535,498	14AU2018 14JA2020	LANTHANATED TUNGSTEN ION SOURCE AND BEAMLINE COMPONENTS
10,553,392	13DE2018 04FE2020	SCAN AND CORRECTOR MAGNET DESIGNS FOR HIGH THROUGHPUT SCANNED BEAM IMPLANTER
10,573,485	20DE2018 25FE2020	SIMPLIFIED TETRODE EXTRACTION DESIGN
10,573,541	28NO2016 25FE2020	SYSTEM FOR SEMICONDUCTOR WAFER RETENTION AND SENSING IN A VACUUM LOAD LOCK
10,580,616	05OC2018 03MR2020	SYSTEM AND METHOD FOR IN-SITU BEAMLINE FILM STABILIZATION OR REMOVAL IN THE AEF REGION
10,676,370	05JE2017 09JE2020	HYDROGEN CO-GAS WHEN USING ALUMINUM IODIDE AS AN ION SOURCE MATERIAL
10,679,818	10AU2018 09JE2020	LOW CONDUCTANCE, SELF SHIEDING INSULATOR
10,689,752	16NO2018	FILM STABILIZATION THROUGH NOVEL MATERIALS MODIFICATION OF BEAMLINE

US PATENT NO.	FILED/ ISSUED	TITLE
	23JE2020	COMPONENTS
10,692,749	05DE2017 12JE2020	A METHOD TO PROVIDE CONSISTENT ELECTROSTATIC WAFER CLAMPING THROUGH REAL TIME CONTROL OF ELECTRONIC CHARGE DEPOSITION IN THE CHUCK-WAFER SYSTEM
10,714,296	12DE2018 14JL2020	ION SOURCE WITH TAILORED EXTRACTION SHAPE
10,714,317	04JA2019 14JL2020	REDUCTION OF CONDENSED GASES ON CHAMBER WALLSVIA HEATED CHAMBER HOUSING FOR SEMICODUCTOR PROCESSING EQUIPMENT
10,720,354	28AU2018 21JY2020	SYSTEM AND METHOD FOR ALIGNING LIGHT-TRANSMITTING BIREFRINGENT WORKPIECES

Pending Patent Applications

US APPLICATION NUMBER	FILING DATE	TITLE
14/178,681	12FE2014	MULTI FLUID COOLING SYSTEM FOR LARGE TEMPERATURE RANGE CHUCK
15/391,086	27DE2016	HIGH THROUGHPUT SERIAL WAFER HANDLING END STATION
62/352,673 15/627,989	21JE2016 20JE2017	ALUMINUM ION IMPLANTATION USING ALUMINUM IODIDE (AlI3) SOLID SOURCE MATERIAL FOR THE PURPOSE OF PRODUCING ATOMIC ALUMINUM IONS TO ELECTRICALLY DOPE SILICON, CILICON CARBIDE, OR OTHER SEMICONDUCTOR SUBSTRATES AT CARIOUS TEMPERATURES,RANGING UP TO 1000C
62/444,620 15/866,209	10JA2017 10JA2018	ACTIVE WAFER COOLING OR WAFER HEATING ION IMPLANTATION SYSTEM
16/106,745	21AU2018	SCANNING MAGNET POLES PIECES WITH ENHANCED EFFICIENCY

16/114,745	28AU2018	METHOD OF ALIGNING LIGHT-TRANSMITTING BIREFRIGENT WAFERS
62/576,791 16/170,085	25OC2017 25OC2018	SHALLOW ANGLE, MULTL-WAVELENGTH, MULTI-RECEIVER, ADJUSTABLE SENSITIVITY ALIGNER SENSOR FOR SEMICONDUCTOR MANUFACTURING EQUIPMENT
16/217,664	12DE2018	TAILORED ARC SLIT SHAPE TO IMPROVE UNIFORMITIY OF INJECTED BEAM CURRENT
16/227,399	20DE2018	WAFER SOAK TEMPERATURE READ BACK AND CONTROL VIA T EMBEDED END EFFETORS FOR SEMICONDUCTOR MANUFACTURING EQUIPMENT
16/229,572	21DE2018	METHOD FOR DECREASING COOL DOWN TIME WITH HEATED SYSTEM FOR SEMICONDUCTOR MANUFACTURING EQUIPMENT
16/239,995	04JA2019	REDUCTION OF CONDENSED GASSES ON CHAMBER WALLS VIA HEATED CHAMBER HOUSING FOR SEMICONDUCTOR MANUFACTURING EQUIPMENT
16/240,071	04JA2019	REDUCTION OF CONDENSED GASSES ON CHAMBER WALLS VIA N2 PURGE DILUTION AND EVACUATION FOR SEMICONDUCTOR MANUFACTURING EQUIPMENT
62/620,144 16/252,884	22JA2018 21JA2019	HYDROGEN GENERATOR FOR AN ION IMPLANTER
62/650,832 16/367,948	31MR2018 28MR2019	IN-SITU WAFER TEMPERATUR MEASUREMENT AND CONTROL
62/670,307 16/409,423	11MY2018 10MY2019	HYDROGEN BLEED GAS INTO AN ION SOURCE HOUSING
16/509,915	12JL2019	TOXIC OUTGAS CONTROL POST PROCESS
16/544,000	19AU2019	METHOD OF ENHANCING THE ENERGY AND BEAM CURRENT ON RF BASED IMPLANTER
62/722,359 16/549,239	24AU2018 23AU2019	SUBSTRATE SUPPORT HAVING CUSTOMIZABLE AN REPLACEABLE FEATURES FOR ENHANCED BACKSIDE CONTAMINATION PERFORMANCE
16/720,499	19DE2019	SCAN AND CORRECTOR MAGNET DESIGNS FOR HIGH THROUGHOUT SCANNED BEAM IMPLANTER
62/806,173	15FE2019	A METHOD OF MIXING UPSTREAM AND DOWNSTREAM CURRENT MEASUREMENTS FOR

16/791,308	14FE2020	INTERENCE OF THE BEAM CURRENT AT THE BEND OF AN OPTICAL ELEMENT FOR REALTIME DOSE CONTROL
62/822,313 16/824,069	22MR2019 19MR2020	LIQUID METAL ION SOURCE
62/834,667 16/850,066	16AP2019 16AP2020	MULTIPLE ARC CHAMBER SOURCE
62/841,272 16/860,386	01MY2019 28AP2020	HIGH POWER WAFER COOLING
62/853,945 16/887,446	29MY2019 29MY2020	IMPROVED CHARGE STRIPPING
62/857,883 16/887,571	06JE2019 29MY2020	METHOD OF OPERATING AN ION SOURCE FOR EXTENDED LIFETIME OF AN ION SOURCE OBJECT FOR MOLECULAR CARBON IMPLANTS
62/971/473	07FE2020	APPARATUS AND METHOD FOR METAL CONTAMINATION CONTROL IN AN ION IMPLANTATION SYSTEM USING CHARGE STRIPPING MECHANISM
63/040,131	17JE2020	TUNING APPARATUS FOR MINIMUM DIVERGENCE BEAM
63/040,724	18JE2020	STEPPED INDIRECTLY HEATED CATHODE WITH IMPROVED SHIELDING

Issued Patents and Pending Patent Applications Licensed to Grantors

None.

TRADEMARK
REEL: 007012 FRAME: 0353

EXHIBIT C

RIGHTS OF THE GRANTORS RELATING TO TRADEMARKS

Registered Trademarks

TRADEMARK DESCRIPTION	SERIAL NO.	REG. NO.	STATUS
AXCELIS (and Design) (CL. 9, 37)	78032739	2589955	Registered
AXCELIS (CL. 9, 37)	78006112	2652725	Registered

Domain Names

Grantor	Domain Name
Axcelis Technologies, Inc.	axcelis-technologies.com
Axcelis Technologies, Inc.	axcelis.com
Axcelis Technologies, Inc.	axcelis.info
Axcelis Technologies, Inc.	axcelis.net
Axcelis Technologies, Inc.	axcelis.org
Axcelis Technologies, Inc.	axceliscareers.com
Axcelis Technologies, Inc.	axcelistech.com
Axcelis Technologies, Inc.	axcelistech.info
Axcelis Technologies, Inc.	axcelistech.net
Axcelis Technologies, Inc.	axcelistech.us
Axcelis Technologies,	axcelistechnologies.com

Grantor	Domain Name
Inc.	
Axcelis Technologies, Inc.	axcelistechnologies.info
Axcelis Technologies, Inc.	axcelistechnologies.net
Axcelis Technologies, Inc.	axcelistechnologies.us
Axcelis Technologies, Inc.	axcelistechnologiesinc.com
Axcelis Technologies, Inc.	axcelistechnologiesinc.info
Axcelis Technologies, Inc.	axcelistechnologiesinc.net
Axcelis Technologies, Inc.	axcelistechnologiesinc.us
Axcelis Technologies, Inc.	investor.axcelis.com
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Pending Trademark Applications

N/A

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None.