

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT8213782

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	INTELLECTUAL PROPERTY AGREEMENT SUPPLEMENT
CONVEYING PARTY DATA	
Name	Execution Date
MKS INSTRUMENTS, INC.	10/10/2023
ELECTRO SCIENTIFIC INDUSTRIES, INC.	10/10/2023
RECEIVING PARTY DATA	
Name:	JPMORGAN CHASE BANK, N.A., AS COLLATERAL AGENT
Street Address:	10 SOUTH DEARBORN STREET
Internal Address:	FLOOR L2N
City:	CHICAGO
State/Country:	ILLINOIS
Postal Code:	60603
PROPERTY NUMBERS Total: 9	
Property Type	Number
Application Number:	63538556
Application Number:	18471278
Application Number:	18475515
Application Number:	63583249
Application Number:	63581292
Application Number:	18448791
Application Number:	18449488
Application Number:	63516148
Application Number:	18547807
CORRESPONDENCE DATA	
Fax Number:	
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
Phone:	212.318.6000
Email:	JeffreyNegron@PaulHastings.com
Correspondent Name:	JEFFREY NEGRON
Address Line 1:	PAUL HASTINGS LLP
Address Line 2:	200 PARK AVENUE
Address Line 4:	NEW YORK, NEW YORK 10166

NAME OF SUBMITTER:	JEFFREY M. NEGRON
SIGNATURE:	/s/ Jeffrey M. Negron
DATE SIGNED:	10/10/2023
Total Attachments: 9 source=10.2023 - IP Supplement_Patents#page1.tif source=10.2023 - IP Supplement_Patents#page2.tif source=10.2023 - IP Supplement_Patents#page3.tif source=10.2023 - IP Supplement_Patents#page4.tif source=10.2023 - IP Supplement_Patents#page5.tif source=10.2023 - IP Supplement_Patents#page6.tif source=10.2023 - IP Supplement_Patents#page7.tif source=10.2023 - IP Supplement_Patents#page8.tif source=10.2023 - IP Supplement_Patents#page9.tif	

INTELLECTUAL PROPERTY AGREEMENT SUPPLEMENT

This **INTELLECTUAL PROPERTY SECURITY AGREEMENT SUPPLEMENT** (this "IP Security Agreement Supplement") dated October 10, 2023, is made by the Person listed on the signature page hereof (the "Grantor") in favor of JPMORGAN CHASE BANK, N.A., as collateral agent (the "Collateral Agent") for the Secured Parties (as defined in the Credit Agreement referred to below).

WHEREAS, MKS INSTRUMENTS, INC., a Massachusetts corporation (the "Parent Borrower") and certain Subsidiaries of the Parent Borrower from time to time party thereto have entered into the Credit Agreement dated as of August 17, 2022 (as amended, amended and restated, supplemented or otherwise modified from time to time, the "Credit Agreement"), with the Lenders, the L/C Issuers and the Administrative Agent and the other parties thereto. Capitalized terms defined in the Credit Agreement or in the Security Agreement (as defined below) and not otherwise defined herein are used herein as defined in the Credit Agreement or the Security Agreement, as the case may be (and in the event of a conflict, the applicable definition shall be the one given to such term in the Security Agreement).

WHEREAS, pursuant to the Credit Agreement, the Grantors have executed and delivered or otherwise become bound by that certain Security Agreement dated August 17, 2022 (as amended, amended and restated, supplemented or otherwise modified from time to time, the "Security Agreement") and that certain Intellectual Property Security Agreement dated August 17, 2022 (as amended, amended and restated, supplemented or otherwise modified from time to time, the "IP Security Agreement").

WHEREAS, under the terms of the Security Agreement, the Grantor has agreed to grant to the Collateral Agent, for the benefit of the Secured Parties, a security interest in any after-acquired intellectual property collateral of the Grantor and has agreed in connection therewith to execute this IP Security Agreement Supplement for recording with the USPTO and/or the USCO, as applicable.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Grantor agrees as follows:

Section 1. Grant of Security. Each Grantor hereby collaterally assigns and pledges to the Collateral Agent, for the benefit of the Secured Parties, and each Grantor hereby grants to the Collateral Agent, for the benefit of the Secured Parties, a security interest in all of such Grantor's right, title and interest in and to the following (the "Additional Collateral"):

- (i) the patents and patent applications set forth in Schedule A hereto (the "Patents");
- (ii) the trademark and service mark registrations and applications set forth in Schedule B hereto (provided that no security interest shall be granted in United States intent-to-use trademark applications to the extent that, and so long as creation of a security interest therein or the assignment thereof would result in the loss of any material rights therein), together with the goodwill symbolized thereby (the "Trademarks");
- (iii) the copyright registrations and applications and exclusive copyright licenses set forth in Schedule C hereto (the "Copyrights");
- (iv) all reissues, divisions, continuations, continuations-in-part, extensions, renewals and reexaminations of any of the foregoing, all rights in the foregoing provided by international treaties or conventions, all rights corresponding thereto throughout the

world and all other rights of any kind whatsoever of such Grantor accruing thereunder or pertaining thereto;

(v) any and all claims for damages and injunctive relief for past, present and future infringement, dilution, misappropriation, violation, misuse or breach with respect to any of the foregoing, with the right, but not the obligation, to sue for and collect, or otherwise recover, such damages; and

(vi) any and all proceeds of, collateral for, income, royalties and other payments now or hereafter due and payable with respect to, and supporting obligations relating to, any and all of the foregoing or arising from any of the foregoing;

provided that, notwithstanding anything to the contrary contained in the foregoing clauses (i) through (vi), the security interest created hereby shall not extend to, and the term “Additional Collateral,” shall not include any Excluded Assets.

Section 2. Supplement to Security Agreement. Schedule III to the Security Agreement is, effective as of the date hereof, hereby supplemented to add to such Schedule the Additional Collateral.

Section 3. Security for Obligations. The grant of a security interest in the Additional Collateral by the Grantor under this IP Security Agreement Supplement secures the payment of all Secured Obligations of the Grantor now or hereafter existing under or in respect of the Secured Documents (as such Secured Documents may be amended, amended and restated, supplemented, replaced, refinanced or otherwise modified from time to time (including any increases of the principal amount outstanding thereunder)), whether direct or indirect, absolute or contingent, and whether for principal, reimbursement obligations, interest, premiums, penalties, fees, indemnifications, contract causes of action, costs, expenses or otherwise. Without limiting the generality of the foregoing, this IP Security Agreement Supplement secures the payment of all amounts that constitute part of the Secured Obligations that would be owed by the Grantor to any Secured Party under the Secured Documents but for the fact that they are unenforceable or not allowable due to the existence of a bankruptcy, reorganization or similar proceeding involving a Loan Party.

Section 4. Recordation. The Grantor authorizes and requests that the Register of Copyrights, the Commissioner for Patents and the Commissioner for Trademarks record this IP Security Agreement Supplement.

Section 5. Execution in Counterparts. Delivery of an executed signature page to this IP Security Agreement Supplement by telecopier or in .pdf or similar format by electronic mail shall be effective as delivery of an original executed signature page of this IP Security Agreement Supplement.

Section 6. Grants, Rights and Remedies. This IP Security Agreement Supplement has been entered into in conjunction with the provisions of the Security Agreement. The Grantor does hereby acknowledge and confirm that the grant of the security interest hereunder to, and the rights and remedies of, the Collateral Agent with respect to the Additional Collateral are more fully set forth in the Security Agreement, the terms and provisions of which are incorporated herein by reference as if fully set forth herein. In the event of any conflict between the terms of this IP Security Agreement Supplement and the terms of the Security Agreement, the terms of the Security Agreement shall govern.

Section 7. Governing Law; Jurisdiction; Etc.

(a) THIS IP SECURITY AGREEMENT SUPPLEMENT AND ANY CLAIMS, CONTROVERSY, DISPUTE OR CAUSE OF ACTION (WHETHER IN CONTRACT, TORT OR OTHERWISE) ARISING OUT OF OR RELATING TO THIS IP SECURITY AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAW OF THE STATE OF NEW YORK.

(b) EACH PARTY HERETO IRREVOCABLY AND UNCONDITIONALLY SUBMITS, FOR ITSELF AND ITS PROPERTY, TO THE EXCLUSIVE JURISDICTION OF THE COURTS OF THE STATE OF NEW YORK SITTING IN NEW YORK CITY IN THE BOROUGH OF MANHATTAN AND OF THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF NEW YORK SITTING IN THE BOROUGH OF MANHATTAN, AND ANY APPELLATE COURT FROM ANY THEREOF, IN ANY ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THIS IP SECURITY AGREEMENT SUPPLEMENT, OR FOR RECOGNITION OR ENFORCEMENT OF ANY JUDGMENT, AND EACH OF THE PARTIES HERETO IRREVOCABLY AND UNCONDITIONALLY AGREES THAT ALL CLAIMS IN RESPECT OF ANY SUCH ACTION OR PROCEEDING MAY BE HEARD AND DETERMINED IN SUCH NEW YORK STATE COURT OR, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, IN SUCH FEDERAL COURT. EACH OF THE PARTIES HERETO AGREES THAT A FINAL JUDGMENT IN ANY SUCH ACTION OR PROCEEDING SHALL BE CONCLUSIVE AND MAY BE ENFORCED IN OTHER JURISDICTIONS BY SUIT ON THE JUDGMENT OR IN ANY OTHER MANNER PROVIDED BY LAW. NOTHING IN THIS IP SECURITY AGREEMENT SUPPLEMENT SHALL AFFECT ANY RIGHT THAT ANY AGENT, ANY LENDER OR ANY L/C ISSUER MAY OTHERWISE HAVE TO BRING ANY ACTION OR PROCEEDING RELATING TO THIS IP SECURITY AGREEMENT OR THE RECOGNITION OR ENFORCEMENT OF ANY JUDGMENT AGAINST ANY LOAN PARTY OR ITS PROPERTIES IN THE COURTS OF ANY JURISDICTION.

(c) EACH PARTY HERETO IRREVOCABLY AND UNCONDITIONALLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY OBJECTION THAT IT MAY NOW OR HEREAFTER HAVE TO THE LAYING OF VENUE OF ANY ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THIS IP SECURITY AGREEMENT SUPPLEMENT IN ANY COURT REFERRED TO IN PARAGRAPH (b) OF THIS SECTION. EACH OF THE PARTIES HERETO HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, THE DEFENSE OF AN INCONVENIENT FORUM TO THE MAINTENANCE OF SUCH ACTION OR PROCEEDING IN ANY SUCH COURT.

(d) EACH PARTY HERETO IRREVOCABLY CONSENTS TO SERVICE OF PROCESS IN THE MANNER PROVIDED FOR NOTICES IN SECTION 10.02 OF THE CREDIT AGREEMENT. NOTHING IN THIS IP SECURITY AGREEMENT SUPPLEMENT WILL AFFECT THE RIGHT OF ANY PARTY HERETO TO SERVE PROCESS IN ANY OTHER MANNER PERMITTED BY APPLICABLE LAW.

(e) EACH PARTY TO THIS IP SECURITY AGREEMENT SUPPLEMENT HEREBY EXPRESSLY WAIVES ANY RIGHT TO TRIAL BY JURY OF ANY CLAIM, DEMAND, ACTION OR CAUSE OF ACTION ARISING UNDER THIS IP SECURITY AGREEMENT SUPPLEMENT OR IN ANY WAY CONNECTED WITH OR RELATED OR INCIDENTAL TO THE DEALINGS OF THE PARTIES HERETO OR ANY OF THEM WITH

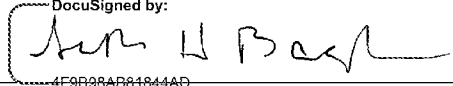
RESPECT TO THIS IP SECURITY AGREEMENT SUPPLEMENT, OR THE TRANSACTIONS RELATED THERETO, IN EACH CASE WHETHER NOW EXISTING OR HEREAFTER ARISING, AND WHETHER FOUNDED IN CONTRACT OR TORT OR OTHERWISE; AND EACH PARTY HEREBY AGREES AND CONSENTS THAT ANY SUCH CLAIM, DEMAND, ACTION OR CAUSE OF ACTION SHALL BE DECIDED BY COURT TRIAL WITHOUT A JURY, AND THAT ANY PARTY TO THIS IP SECURITY AGREEMENT SUPPLEMENT MAY FILE AN ORIGINAL COUNTERPART OR A COPY OF THIS SECTION 7(e) WITH ANY COURT AS WRITTEN EVIDENCE OF THE CONSENT OF THE SIGNATORIES HERETO TO THE WAIVER OF THEIR RIGHT TO TRIAL BY JURY.

[Signature Pages Follow]

IN WITNESS WHEREOF, the Grantor has caused this IP Security Agreement Supplement to be duly executed and delivered by its officer thereunto duly authorized as of the date first written above.

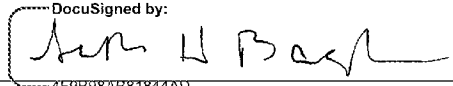
MKS INSTRUMENTS, INC.,

as a Grantor

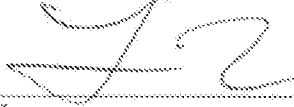
By:  DocuSigned by:
4F9B98AB81844AD...
Name: Seth H. Bagshaw
Title: Executive Vice President, Chief Financial Officer and Treasurer

ELECTRO SCIENTIFIC INDUSTRIES, INC.

as a Grantor

By:  DocuSigned by:
4F9B98AB81844AD...
Name: Seth H. Bagshaw
Title: President and Treasurer

JPMORGAN CHASE BANK, N.A.
as the Collateral Agent

By: 
Name: Timothy D. Lee
Title: Executive Director

[Signature Page to Intellectual Property Security Agreement Supplement]

Schedule A

UNITED STATES PATENTS AND PATENT APPLICATIONS

Ref.	Case	Owner	Title	Status	Appl. No.	Filed	Patent No.	Issued
3197-000150-US-PS2		MKS Instruments, Inc.	PULSED RF PLASMA GENERATOR WITH HIGH DYNAMIC RANGE	Filed	63/538,556	9/15/2023		
5089.3110-001		MKS Instruments, Inc.	Method and Apparatus for Mass Flow Control	Filed	18/471,278	9/20/2023		
5089.3100-008		MKS Instruments, Inc.	LOAD-LOCK GAUGE	Filed	18/475,515	9/27/2023		
E324-P1		MKS Instruments, Inc.	RADICAL SPECIES DETECTION VIA PARAMAGNETIC GAS PROPERTIES	Filed	63/583,249	9/16/2023		
E323-P2		MKS Instruments, Inc.	CONFIGURATION OF A POINT OF USE INVERTED TOROIDAL PLASMA SOURCE	Filed	63/581,292	9/8/2023		
5089.3112-000		MKS Instruments, Inc.	Method and Apparatus for Automatic Self Calibration of Mass Flow Controller	Filed	18/448,791	8/11/2023		
5089.3108-001		MKS Instruments, Inc.	METHODS AND SYSTEMS FOR ENDPOINT DETECTION IN FORELINE OF CHAMBER CLEAN AND FORELINE CLEAN PROCESSES	Filed	18/449,488	8/14/2023		
E321-P1		Electro Scientific Industries, Inc.	MAGNIFICATION-COMPENSATED RELAY FOR CONTROL OF AN IMAGE LOCATION	Pending	63/516,148	7/28/2023		
E299-US1		Electro Scientific Industries, Inc.	LASER-PROCESSING APPARATUS, METHOD OF OPERATING THE SAME, AND METHODS OF PROCESSING WORKPIECES USING THE SAME	Pending	18/547,807	8/24/2023		

Schedule B

**UNITED STATES TRADEMARK AND SERVICE MARK REGISTRATIONS AND
APPLICATIONS**

None.

Schedule C

**UNITED STATES COPYRIGHT REGISTRATIONS AND APPLICATIONS AND EXCLUSIVE
COPYRIGHT LICENSES**

None.