PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT7498464

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	SECURITY INTEREST

CONVEYING PARTY DATA

Name	Execution Date
EMCORE CORPORATION	08/09/2022

RECEIVING PARTY DATA

Name:	WINGSPIRE CAPITAL LLC
Street Address:	11720 AMBER PARK DRIVE
Internal Address:	SUITE 500
City:	ALPHARETTA
State/Country:	GEORGIA
Postal Code:	30009

PROPERTY NUMBERS Total: 46

Property Type	Number
Patent Number:	7746476
Patent Number:	8823946
Patent Number:	8773665
Patent Number:	9059801
Patent Number:	9438007
Patent Number:	RE44647
Patent Number:	7095766
Patent Number:	9306372
Patent Number:	9564734
Patent Number:	10641824
Patent Number:	7463802
Patent Number:	9564733
Patent Number:	8902945
Patent Number:	7083335
Patent Number:	7634198
Patent Number:	7011455
Patent Number:	10074959
Patent Number:	8068745
Patent Number:	7136552

Property Type	Number
Patent Number:	7115896
Patent Number:	9306672
Patent Number:	9231705
Patent Number:	6938483
Patent Number:	7548318
Patent Number:	7461552
Patent Number:	7124632
Patent Number:	9188442
Patent Number:	9719168
Patent Number:	7505140
Patent Number:	7191636
Patent Number:	7481109
Patent Number:	7509857
Patent Number:	9534900
Patent Number:	8080925
Patent Number:	8881370
Patent Number:	8645063
Patent Number:	6966224
Patent Number:	8573057
Patent Number:	9581445
Patent Number:	7240552
Patent Number:	7228738
Patent Number:	7222533
Patent Number:	7523537
Application Number:	17832638
Application Number:	17832639
Application Number:	63326817

CORRESPONDENCE DATA

Fax Number:

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.

Email: laura.o'brien@hklaw.com
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Address Line 1: 10 ST. JAMES AVE.
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ATTORNEY DOCKET NUMBER:	165996.00017
NAME OF SUBMITTER:	LAURA O'BRIEN

SIGNATURE:	/Laura O'Brien/
DATE SIGNED:	08/23/2022

Total Attachments: 8
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PATENT SECURITY AGREEMENT

This PATENT SECURITY AGREEMENT, dated as of August 9, 2022 (as the same may be amended, restated, supplemented, or otherwise modified from time to time, this "Agreement"), is entered into between EMCORE CORPORATION, a New Jersey corporation (the "Grantor"), and WINGSPIRE CAPITAL LLC, as Administrative Agent (in such capacity, the "Administrative Agent").

Reference is made to (a)the Credit Agreement, dated as of August 9, 2022 (as the same may be amended, restated, supplemented, or otherwise modified from time to time, the "Credit Agreement"), by and among the Grantor, as Borrower, the other Borrowers and Guarantors from time to time party thereto, the Lenders from time to time party thereto and the Administrative Agent, and (b)the Pledge and Security Agreement, dated as of August 9, 2022 (as the same may be amended, restated, supplemented or otherwise modified from time to time, the "Security Agreement"), by and among the Grantor, the other grantors party thereto from time to time and the Administrative Agent.

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

Accordingly, the parties hereto agree as follows:

1. Terms. Capitalized terms used in this Agreement and not otherwise defined herein have the meanings specified in the Security Agreement or the Credit Agreement.

2. Grant of Security Interest. As security for the payment or performance, as applicable, in full when due (whether at the stated maturity, by acceleration or otherwise) of the Obligations, the Grantor hereby grants to the Administrative Agent, for the benefit of the Secured Parties, a security interest in, all such Grantor's right, title and interest in, to or under any and all of the following (collectively, the "Patent Collateral"):

(a) all of such Grantor's registered Patents and applications for Patents in the United States Patent and Trademark Office described on Schedule I;

(b) all reissues, continuations, divisions, continuations in part, renewals or extensions thereof and amendments thereto; and

(c) all income, fees, royalties, damages, claims and payments now or hereafter due and/or payable thereunder and with respect thereto.

3. Security Agreement. The security interests granted to the Administrative Agent herein are granted in furtherance, and not in limitation of, the security interests granted to the Administrative Agent pursuant to the Security Agreement. The Grantor hereby acknowledges and affirms that the rights and remedies of the Administrative Agent with respect to the Patent Collateral are more fully set forth in the Security Agreement, the terms and provisions of which are hereby incorporated herein by reference as if fully set forth herein. In the event of any conflict between the terms of this Agreement and the Security Agreement, the terms of the Security Agreement shall govern.

4. Recordation. This Agreement has been executed and delivered by the Grantor for the purpose of recording the grant of security interest herein with the United States Patent and Trademark Office. The Grantor authorizes and requests that the Commissioner for Patents of the United States Patent and Trademark Office record this Agreement.

5 Counterparts. This Agreement may be executed in counterparts (and by different parties hereto in different counterparts), each of which shall constitute an original, but all of which when taken together shall constitute a single contract. Delivery of an executed counterpart of a signature page of this Agreement by facsimile or in electronic (e.g., "pdf" or "tif") format shall be effective as delivery of a manually executed counterpart of this Agreement.

6. Governing Law. This Agreement, and the rights and obligations of the parties hereunder, shall be governed by, and construed in accordance with, the laws of the State of New York.

[Continued on the following page.]

IN WITNESS WHEREOF, the parties hereto have duly executed this Patent Security Agreement as of the day and year first above written.

EMCORE CORPORATION

By: _____
Name: _____
Title: _____

WINGSPIRE CAPITAL LLC, as Administrative Agent

By: _____
Name: _____
Title: _____

IN WITNESS WHEREOF, the parties hereto have duly executed this Patent Security Agreement as of the day and year first above written.

EMCORE CORPORATION

By: _____
Name: _____
Title: _____

WINGSPIRE CAPITAL LLC, as Administrative Agent

By: _____
Name: _____
Title: _____

SCHEDULE I

PATENTS

Owner	Title	US Patent No.	Issue Date
EMCORE Corporation	FIBER OPTIC GYROSCOPE	US PAT 7746476	June 29, 2010
EMCORE Corporation	MULTI-AXIS FIBER OPTIC GYROSCOPE WITH SINGLE LIGHT SOURCE	US PAT 8823946	September 2, 2014
EMCORE Corporation	COMPACT FIBER OPTIC GYROSCOPE	US PAT 8773665	July 8, 2014
EMCORE Corporation	OPTICAL MODULATOR	US PAT 9059801	June 16, 2015
EMCORE Corporation	OPTICAL MODULATOR	US PAT 9438007	September 6, 2016
EMCORE Corporation	DIRECTLY MODULATED LASER OPTICAL TRANSMISSION SYSTEM WITH PHASE MODULATION	US PAT RE44647	December 17, 213
EMCORE Corporation	MECHANICAL PROTECTION FOR SEMICONDUCTOR EDGE-EMITTING RIDGE WAVEGUIDE LASERS	US PAT 7095766	August 22, 2006
EMCORE Corporation	METHOD OF FABRICATING AND OPERATING AN OPTICAL MODULATOR	US PAT 9306372	April 5, 2016
EMCORE Corporation	METHOD OF FABRICATING AND OPERATING AN OPTICAL MODULATOR	US PAT 9564734	February 7, 2017
EMCORE Corporation	ELECTRICALLY CONDUCTIVE METAL FILM FOR A SEMICONDUCTOR DEVICE	US PAT 10641824	May 5, 2020
EMCORE Corporation	INTEGRATED CIRCUIT FOR ADJUSTING BIAS IN OPTICAL TRANSMITTER WITH EXTERNAL MODULATOR	US PAT 7463802	December 9, 2008
EMCORE Corporation	METHOD OF FABRICATING AND OPERATING AN OPTICAL MODULATOR	US PAT 9564733	February 7, 2017
EMCORE Corporation	SEMICONDUCTOR LASER GAIN DEVICE WITH MODE FILTER	US PAT 8902945	December 2, 2014

Owner	Title	US Patent No.	Issue Date
EMCORE Corporation	STRENGTH ADDED EPOXY FIBER BONDING IN NON-HERMETIC FIBER OPTIC PACKAGING	US PAT 7083335	August 1, 2006
EMCORE Corporation	IN-LINE DISTORTION CANCELLATION CIRCUITS FOR LINEARIZATION OF ELECTRONIC AND OPTICAL SIGNALS WITH PHASE AND FREQUENCY ADJUSTMENT	US PAT 7634198	December 15, 2009
EMCORE Corporation	OPTO-ELECTRONIC TO-PACKAGE AND METHOD FOR LASER	US PAT 7011455	March 14, 2006
EMCORE Corporation	MODULATED LASER SOURCE AND METHODS OF ITS FABRICATION AND OPERATION	US PAT 10074959	September 11, 2018
EMCORE Corporation	RF SIGNAL POWER REGULATION IN OPTICAL TRANSMITTERS	US PAT 8068745	November 29, 2011
EMCORE Corporation	TO-PACKAGED OPTIC-FIBER RECEIVING INTERFACE AND METHOD	US PAT 7136552	November 14, 2006
EMCORE Corporation	SEMICONDUCTOR STRUCTURES FOR GALLIUM NITRIDE-BASED DEVICES	US PAT 7115896	October 3, 2006
EMCORE Corporation	METHOD OF FABRICATING AND OPERATING AN OPTICAL MODULATOR	US PAT 9306672	April 5, 2016
EMCORE Corporation	COMMUNICATION SYSTEM WITH QAM MODULATION	US PAT 9231705	January 5, 2016

Title	Application Number	Filing Date	Patent Number	Issue Date
A PHASE-LOCKED MECHANICAL RESONATOR PAIR AND ITS APPLICATION IN MICROMACHINED VIBRATION GYROSCOPE	10/708847	28-Mar-04	6938483	6-Sep-2005
DITHERING MECHANISM FOR ELIMINATING ZERO-RATE BIAS IN A GYROSCOPE	11/734983	13-Apr-07	7548318	16-Jun-2009
DUAL AXIS RATE SENSOR	11/552006	23-Oct-06	7461552	9-Dec-2008
ELECTRONICALLY CONFIGURABLE RATE SENSOR CIRCUIT AND METHOD	10/900056	26-Jul-04	7124632	24-Oct-2006

Title	Application Number	Filing Date	Patent Number	Issue Date
GYROSCOPE AND DEVICES WITH STRUCTURAL COMPONENTS COMPRISING HF02-TI02 MATERIAL	13/419186	12-Mar-12	9188442	17-Nov-2015
GYROSCOPE AND DEVICES WITH STRUCTURAL COMPONENTS COMPRISING HfO2-TiO2 MATERIAL	14/882006	13-Oct-15	9719168	1-Aug-2017
INDEXING DITHERING MECHANISM AND METHOD	11/735014	13-Apr-07	7505140	17-Mar-2009
INERTIAL MEASUREMENT SYSTEM AND METHOD WITH SENSOR BIAS CANCELLATION	11/072064	04-Mar-05	7191636	20-Mar-2007
INERTIAL MEASUREMENT SYSTEM AND METHOD WITH SENSOR BIAS CANCELLATION	11/726404	20-Mar-07	7481109	27-Jan-2009
INERTIAL MEASUREMENT SYSTEM AND METHOD WITH SENSOR BIAS CANCELLATION	11/726389	20-Mar-07	7509857	31-Mar-2009
INERTIAL NAVIGATION SCULLING ALGORITHM	13/985644	08-Jan-14	9534900	3-Jan-2017
INERTIAL SENSOR WITH DUAL CAVITY PACKAGE AND METHOD OF FABRICATION	12/236156	23-Sep-08	8080925	20-Dec-2011
INERTIAL SENSOR WITH DUAL CAVITY PACKAGE AND METHOD OF FABRICATION	12/888870	23-Sep-10	8881370	11-Nov-2014
METHOD AND SYSTEM FOR INITIAL QUATERNION AND ATTITUDE ESTIMATION	12/976603	22-Dec-10	8645063	4-Feb-2014
MICROMACHINED VIBRATORY GYROSCOPE WITH ELECTROSTATIC COUPLING	10/792043	02-Mar-04	6966224	22-Nov-2005
SENSOR MOUNT VIBRATION REDUCTION	13/096450	28-Apr-11	8573057	5-Nov-2013
TORSIONAL RATE MEASURING GYROSCOPE	14/405,746	04-Dec-14	9581445	28-Feb-2017
TORSIONAL RATE SENSOR WITH MOMENTUM BALANCE AND MODE DECOUPLING	11/146310	06-Jun-05	7240552	10-Jul-2007
TORSIONAL RATE SENSOR WITH MOMENTUM BALANCE AND MODE DECOUPLING	11/146294	06-Jun-05	7228738	12-Jun-2007
TORSIONAL RATE SENSOR WITH MOMENTUM BALANCE AND MODE DECOUPLING	11/146401	06-Jun-05	7222533	29-May-2007
METHOD OF MANUFACTURING A TUNING FORK WITH REDUCED QUADRATURE ERRROR AND SYMMETRICAL MASS BALANCING	09/615294	July 13, 2000	7523537	April 28, 2009
RESONANTLY VIBRATING ACCELEROMETER WITH CROSS-COUPLING SIGNAL SUPPRESSION	17/832,638	04-Jun-22		

Title	Application Number	Filing Date	Patent Number	Issue Date
RESONANTLY VIBRATING ACCELEROMETER DRIVEN IN MULTIPLE VIBRATIONAL MODES	17/832,639	04-Jun-22		
RESONANTLY VIBRATING ACCELEROMETER	63/326,817	02-Apr-22		