505437347 04/19/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5484148

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
BRIAN H. MOORE	05/25/2017
WALTER JEFFREY SHAKESPEARE	06/13/2017
PHILLIP WILLIAM WALLACE	05/25/2017
VIET HOANG	05/25/2017
TOM CLEMENT	06/14/2017
ALBERTA CENTRE FOR ADVANCED MNT PRODUCTS	05/25/2017

RECEIVING PARTY DATA

Name:	HIFI ENGINEERING INC.
Street Address:	#2, 816 - 46TH AVENUE SE
City:	CALGARY, ALBERTA
State/Country:	CANADA
Postal Code:	T2G 2AG

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15532963

CORRESPONDENCE DATA

Fax Number: (503)595-5301

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: 503-595-5300

Email: christine.wolfe@klarquist.com

Correspondent Name: JEFFREY HAENDLER, KLARQUIST SPARKMAN LLP

121 SW SALMON STREET, SUITE 1600 Address Line 1:

Address Line 2: ONE WORLD TRADE CENTER Address Line 4: PORTLAND, OREGON 97204-2988

ATTORNEY DOCKET NUMBER:	3435-99078-01
NAME OF SUBMITTER:	JEFFREY B. HAENDLER
SIGNATURE:	/Jeffrey B. Haendler/
DATE SIGNED:	04/19/2019

Total Attachments: 6 source=99078-01 Assignment#page1.tif source=99078-01 Assignment#page2.tif source=99078-01 Assignment#page3.tif source=99078-01 Assignment#page4.tif source=99078-01 Assignment#page5.tif source=99078-01 Assignment#page6.tif

DEED OF ASSIGNMENT

WHEREAS the undersigned:

Brian H. MOORE having an address at 234 Ockenden Place, Edmonton, Alberta, Canada T6R 1K6:

Walter Jeffrey SHAKESPEARE having an address at 4769 Meadowview Drive, Macungie, Pennsylvania, U.S.A. 18062;

Phillip William WALLACE having an address at 169 Anderson Hill Road, Bernardsville, New Jersey, U.S.A. 07924;

Viet HOANG having an address at 1919 94 Street NW, Edmonton, Alberta, Canada T6N 1E6; and

Tom CLEMENT having an address at Unit 3, 1480 – 28 Street NE, Calgary, Alberta, Canada T2A 7W6.

(collectively, the "Inventors")

have made or contributed to the making of a certain new and useful invention (the "INVENTION") as disclosed in:

United States Patent Application No. 62/087,669, entitled **OPTICAL INTERROGATOR FOR PERFORMING INTERFEROMETRY USING FIBER BRAGG GRATINGS**, filed in the United States Patent and Trademark Office on December 4, 2014; and

United States Patent Application No. 62/207,251, entitled **OPTICAL INTERROGATOR FOR PERFORMING INTERFEROMETRY USING FIBER BRAGG GRATINGS**, filed in the United States Patent and Trademark Office on August 19, 2015; and

International Patent Application No.: PCT/CA2015/051269, entitled **OPTICAL INTERROGATOR FOR PERFORMING INTERFEROMETRY USING FIBER BRAGG GRATINGS,** filed in the Canadian Receiving Office on December 4, 2015.

(collectively, the "APPLICATIONS");

AND, WHEREAS the Inventors made or contributed to the making of the INVENTION while official and/or employees of, and in conjunction with the business of:

Alberta Centre for Advanced MNT Products, a non for profit organization having an address at 1919 - 94 Street NW, Edmonton, Alberta, Canada T6N 1E6 ("ACAMP");

V87758WOLVAN LAWY 1990874\1

AND, WHEREAS the Inventors and ACAMP made, contributed to the making of or directed the making of the INVENTION while under contract to and/or for the benefit of

Hifi Engineering Inc., a corporation having a place of business at #2, 816 – 46th Avenue SE, Calgary, Alberta, Canada T2G 2A6 ("HIFI"):

AND, WHEREAS HIFI is desirous of acquiring and of confirming that it has acquired all right, title and interest in the INVENTION and all other work product made by the Inventors and ACAMP in performing their obligations under contract to and/or for the benefit of HIFI (the "WORK PRODUCT"), including without limitation all right, title and interest in, to and under the APPLICATIONS;

NOW, THEREFORE, in consideration of the foregoing premises and for the sum of One Dollar (\$1.00) and other good and valuable consideration paid to each of the Inventors and ACAMP by HIFI (the receipt and sufficiency of which is hereby acknowledged by the Inventors and ACAMP), the Inventors and ACAMP hereby confirm that they have sold, assigned and transferred absolutely, and by these presents and by way of further assurances do hereby sell, assign and transfer absolutely to HIFI the entire right, title and interest in, to and under the INVENTION and the WORK PRODUCT in all countries and other jurisdictions of the world, including without limitation:

- (a) all right, title and interest in, to and under the APPLICATIONS, including all right, title and interest in, to and under all patents granted on or as a result of the APPLICATIONS, and any renewals, re-examinations, reissues or extensions thereof;
- (b) all right, title and interest in any and all existing or future substitute, divisional, continuation or continuation-in-part patent applications deriving directly or indirectly either in whole or in part from the APPLICATIONS, including all right, title and interest in, to and under all patents granted on or as a result of such derivative applications, and any renewals, re-examinations, reissues or extensions thereof;
- (c) the right to file additional patent or other applications on the INVENTION or any WORK PRODUCT in all countries and other jurisdictions of the world, and to do so in its own name wherever such right may be legally exercised, and all right, title and interest in, to and under all patents and other rights granted on or as a result of any such additional applications, and any renewals, re-examinations, reissues or extensions thereof;
- (d) the right to claim available benefits under the International Convention For The Protection of Industrial Property, and any like treaties or laws;
- (e) all additional proprietary rights and interest in, to or associated with the INVENTION or the WORK PRODUCT, including copyrights, trade secrets, data rights, utility models, personal property rights, design rights and goodwill; and

V87758WOAVAN LAWA 100087401

(f) the exclusive right to bring or participate in any proceeding for past infringement or any other actionable right under all of the foregoing and to receive all remedies that arise therefrom,

the same to be owned, held and enjoyed by HIFI, its successors, assigns and legal representatives, as fully and exclusively as it would have been held and enjoyed by the Inventors and ACAMP had this sale, assignment and transfer not been made.

Each of the Inventors and ACAMP hereby agree to sign and deliver all lawful papers and to take all other lawful steps which HIFI, or its successors, assigns or legal representatives, may request to give full effect to the intention expressed in this deed and to enforce its or their rights in the INVENTION and the WORK PRODUCT against others, including, without limitation:

- (a) to promptly execute all original, substitute, divisional, reissue, continuation, continuation-in-part, extension and other patent applications on the INVENTION and WORK PRODUCT, and all lawful documents requested by HIFI, or its successors, assigns or legal representatives, to further the prosecution of any patent applications;
- (b) to co-operate to the best of their ability in the execution of all lawful documents, the production of evidence and providing any additional assistance reasonably required in any reissue, extension, nullification, impeachment or infringement proceedings involving the INVENTION or the WORK PRODUCT; and
- (c) to do such further acts and things and execute and deliver to HIFI. or its successors, assigns or legal representatives, such further instruments, specific assignments and other documents as HIFI, or its successors, assigns or legal representatives, acting reasonably, requires to vest, effect, perfect, register, record, verify, evidence, enforce or protect its or their rights and interests in the INVENTION or the WORK PRODUCT.

Each of the Inventors and ACAMP hereby agree that this assignment shall be binding upon their respective heirs, successors, assigns and legal representatives.

The undersigned hereby authorize the firm of Gowling Lafleur Henderson LLP to correct errors in this assignment or to insert any further identification or other information necessary or desirable to make this assignment suitable for recordal in any country.

This Assignment may be executed in one or more counterparts, by original signature or electronic copy thereof, each of which will be deemed to be an original, and all such counterparts will together constitute a single instrument.

[THE REMAINDER OF THIS PAGE IS INTENTIONALLY BLANK]

V87758WO(VAN LAW) 199087401

IN WITNESS WHEREOF, the Inventors, ACAMP, and HIFI have caused this Deed of Assignment to be executed on the respective dates and at the respective places written below.

EXECUTED at	Edmonton f	Mberta	, this Q'	E day	æ
\sim	. 2014.7				
Witness:		Inventor:			
Ronli		K.	4		
[Signature of Witne	•	[signature of Bria	m H. Moore]		
Print Name: K	OSEMIN AMLAN	BRIAN H. MOO	RE		
EXECUTED at	Macualgie PA	4 USA	this 1	S^{rk} day ç	of`
Witness:	, 2030, 8	Inventor:	An -	24 24 34	,
Goding Manus of Witne.	kypere	Isignature of Wali	W Jeffrey Shak	www.oral	
Print Name (YWH)	A J SHAKESPEARE	WALTER JEFFI			
EXECUTED at	E0,000-700,	AB	this 25	day o	f
Witness:		Inventor:			
Signature of Witnes		Isignature of Phill	in William Wal	Tacel	
Print Name: R	INDMA GMB29	PHILLIP WILLI			

V87758WOLVAN LAWI 19908744

EXECUTED at Edmonton 6	AB this 25 day of
EXECUTED at Edmonton, f	, dis w day of
Witness:	Inventor:
Rlong.	Viethforms
[Signature of Witness]	[signature of Viet Hoang]
Print Name: Rosemin Amiani	VIET HOANG
FREE ENGINEER	
EXECUTED at 2.86464858	day of
Witness:	Inventor:
2/2/	T Wan IA
[Signature of Wimess]	[signature of Tom Clement]
Print Name: ELDON RAWLEIGH	TOM CLEMENT
EXECUTED at EDMONTON MAY , 2018.7	, ALBERTA this 25 day of
Witness:	ALBERTA CENTRE FOR ADVANCED MNT PRODUCTS
[Signature of Witness]	By: pp. Rowling Authorized Signatory
Print Name Andrew Carroll	Print Name VENNETH BRIZEL

V87758WOTVAN_LAW\ 1990874\1

EXECUTED at Calgary Al	this /5 day of
June 2016.2	
Witness:	HIFI ENGINEERING INC.
222	By:
[Signature of Wilness]	Authorized Signatory
Print Name: Eldon Reader gh	Print Name: Steven Coles

V87758WO\VAN_LAW\ 1990874\]

PATENT REEL: 048942 FRAME: 0008

RECORDED: 04/19/2019