505285294 01/18/2019

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SOWMYA BALLAKUR	11/29/2011
ROBERT J. BEETEL	11/29/2011
PAUL FRIEDRICHS	11/29/2011
ANDREW WU	11/29/2011
DENISE ZARINS	11/29/2011
DAVID HERZFELD	12/30/2011
MARK S. LEUNG	12/07/2011

RECEIVING PARTY DATA

Name:	MEDTRONIC ARDIAN LUXEMBOURG S.A.R.L.
Street Address:	102 RUE DES MARAICHERS
City:	LUXEMBOURG
State/Country:	LUXEMBOURG
Postal Code:	L2124

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16219856

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: rs.vasciplegal@medtronic.com **Correspondent Name:** MEDTRONIC VASCULAR, INC.

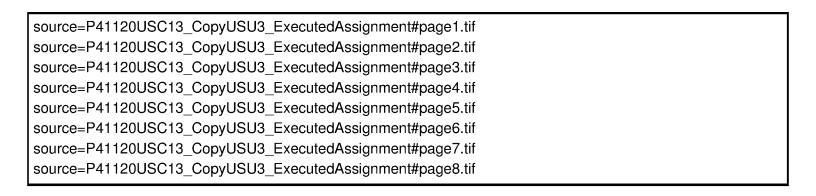
Address Line 1: 3576 UNOCAL PLACE

Address Line 4: SANTA ROSA, CALIFORNIA 95403

ATTORNEY DOCKET NUMBER:	P0041120.US01CON
NAME OF SUBMITTER:	ALANA T. BERGMAN
SIGNATURE:	/Alana T. Bergman/
DATE SIGNED:	01/18/2019

Total Attachments: 8

PATENT REEL: 048055 FRAME: 0369



PATENT REEL: 048055 FRAME: 0370

ASSIGNMENT

WHEREAS, we, SOWMYA BALLAKUR; ROBERT J. BEETEL; PAUL FRIEDRICHS; ANDREW WU; DENISE ZARINS; DAVID HERZFELD; and MARK S. LEUNG, are the inventors of "DEVICES, SYSTEMS AND METHODS FOR EVALUATION AND FEEDBACK OF NEUROMODULATION TREATMENT", filed on October 25, 2011, U.S. Application, Serial No. 13/281,269 executed by the undersigned on the dates written below; and

WHEREAS, <u>MEDTRONIC ARDIAN LUXEMBOURG S.a.r.l.</u> having a place of business at <u>102 rue des Maraichers, Luxembourg, Luxembourg L2124</u> hereinafter referred to as "ASSIGNEE," is desirous of acquiring the entire right, title and interest in and to said invention for the United States and for all foreign countries and in and to any and all foreign and domestic Letters Patent which may be granted therefor;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, we have sold, assigned, transferred and set over and by these presents do sell, assign, transfer and set over unto ASSIGNEE, its successors and assigns, the entire right, title and interest in and to said invention and the entire right, title and interest in and to any and all Letters Patent of the United States and any foreign countries which may be granted therefor including our rights under the International Convention for the Protection of Industrial Property, and in and to any and all extensions, divisions, continuations, continuations-in-part or reissues of said Letters Patent that may be granted, the same to be held and enjoyed by ASSIGNEE for its own use and behoof and use and behoof of its successors and assigns to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held and enjoyed by us had this assignment and sale not been made;

AND, for the consideration aforesaid, we materially represent to ASSIGNEE, its successors and assigns, that at the time of the execution and delivery of these presents, we are the sole lawful owners of the entire right, title and interest in and to the invention, application and Letters Patent above mentioned, and that the same are unencumbered, and that we have good right and lawful authority to sell and convey the same in the manner herein set forth;

AND, for the consideration aforesaid, we hereby individually covenant and agree to and with ASSIGNEE, its successors and assigns, that whenever its counsel or the counsel of its successors or assigns, learned in the law, shall advise that an amendment or division of, or continuation or any continuation-in-part thereof, or any other proceeding in connection with the filing or prosecution of said domestic or foreign patent applications, including interference proceedings, is lawful and desirable, or that a reissue of extension of said Letters Patent is lawful and desirable, we, or our executors, administrators or assigns will sign all papers and drawings, take all rightful oaths, and do all acts necessary or required to be done for the procurement of valid Letters Patent for said invention, or for the reissue or extension of the same, without charge to ASSIGNEE, its successors or assigns, but at ASSIGNEE'S expense.

We hereby request the Honorable Commissioner of Patents and Trademarks to issue the Letters Patent to Corporation in accordance with this instrument.

State of California	
County of Santa CLARA	
On Monoger 29, 2011 before me,	ATM M- WOKL , Notary Public,
personally appeared SOWMYA BALLAKUF	R, who proved to me on the basis of
satisfactory evidence to be the person(s) wh	ose names(s)(is)are subscribed to the
within instrument and acknowledged to me t	hat he same in
his/lentheir authorized capacity(iss), and the	at by his/hei/their signature(s) on the
instrument the person(s), or the entity upon	behalf of which the person(s) acted,
executed the instrument.	
I certify under PENALTY OF PERJURY und	er the laws of the State of <u>California</u> that the
foregoing paragraph is true and correct.	
WITNESS my hand and official seal.	CATHY M. WONG COMM. #1888578 Notary Public - California Santa Clara County Mr. Comm. Expues Jun. 4, 2014
Signature	(Seal)

IN WITNESS WHEREOF, I have hereunto set my hand on this $\frac{29}{20}$ day of $\frac{\text{NOVEMBQ}}{20}$ 2011.

State of <u>California</u>
County of Same CLARA
On November 29 2011 before me, CATHY M. WOLL , Notary Public,
personally appeared ROBERT J. BEETEL, who proved to me on the basis of
satisfactory evidence to be the person(s) whose names(s)(is) are subscribed to the
within instrument and acknowledged to me that he/she/they executed the same in
his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the
instrument the person(s), or the entity upon behalf of which the person(s) acted,
executed the instrument.
I certify under PENALTY OF PERJURY under the laws of the State of California that the
foregoing paragraph is true and correct.
WITNESS my hand and official seal. CATHY M: Wong COMM. #1888578 Notary Public - California Santa Clara County McCumn. Expires Jun. 4, 2014
Signature (Seal)

IN WITNESS WHEREOF, I have hereunto set my hand on this 29 day of www.by 2011.

State of <u>California</u>
County of Short trans
On November 29, 2011 before me, CATHY M, WONLY , Notary Public,
personally appeared PAUL FRIEDRICHS, who proved to me on the basis of
satisfactory evidence to be the person(s) whose names(s) is/are subscribed to the
within instrument and acknowledged to me that he/she/they executed the same in
(nis/her/their authorized capacity(ies), and that by his/her/their signature(s) on the
instrument the person(s), or the entity upon behalf of which the person(s) acted,
executed the instrument.
I certify under PENALTY OF PERJURY under the laws of the State of California that the
foregoing paragraph is true and correct.
WITNESS my hand and official seal. CATHY M. Wong COMM. #1888578 Notary Public · California Santa Clara County My Comm. Expires Jun. 4, 2014
Signature (Seal)

IN WITNESS WHEREOF, I have hereunto set my hand on this 29 day of 1000 day of 1000 day. 2011.

State of California
County of SOMA CLANG
On Missible 29, 2011 before me, Min m. Work, Notary Public, personally appeared ANDREW WU, who proved to me on the basis of satisfactory evidence to be the person(s) whose names(s) is are subscribed to the within instrument and acknowledged to me that Deshe/they executed the same in his her/their authorized capacity(ies), and that by his her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.
I certify under PENALTY OF PERJURY under the laws of the State of California that the
foregoing paragraph is true and correct.
WITNESS my hand and official seal. CATHY M. WONG COMM. #1888578 Notary Public - California Santa Clara County My Comm. Expires Jun. 4, 2014
Signature (Seal)

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IN WITNESS WHEREOF, I have hereunto set my hand on this 29 day of 300, 2011.

State of California
County of SANA CLARA
On Manage 29, 2011 before me, CATHAM M. WORLD, Notary Public, personally appeared DENISE ZARINS , who proved to me on the basis of satisfactory evidence to be the person(s) whose names(s) share subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/he/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.
I certify under PENALTY OF PERJURY under the laws of the State of <u>California</u> that the
foregoing paragraph is true and correct.
WITNESS my hand and official seal. CATHY M. WONG COMM. #1888578 Notary Public - California Santa Clara County My Comm. Expues Jun. 4, 2014
Signature(Seal)

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IN WITNESS WHEREOF, I have hereunto set my hand on this $2q^{\frac{1}{12}}$ day of $N_{ovember}$, 2011.

State of Maylor County of Baltinon

On December 35, 2011 before me, Andrey A. It's Notary Public, personally appeared DAVID HERZFELD, who proved to me on the basis of satisfactory evidence to be the person(s) whose names(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of Maylor that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature A. A. (Seal)

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IN WITNESS WHEREOF, I have hereunto set my hand on this <u>30</u> day of <u>Reconher</u>, 2011.

IN WITNESS WHEREOF, I have hereunto set my hand on this $\overline{2}$ day of $\underline{2}$, 2011.

MARK S. LEUNG

WITNESS BY:

Michelle Hollington
Name