504167040 01/06/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4213717

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
MATTHEW D BONNER	12/13/2016
TODD J SHELDON	12/13/2016
KATHRYN HILPISCH	12/13/2016
NOELLE C NEAFUS	12/15/2016
RÓNÁN WOOD	12/09/2016

RECEIVING PARTY DATA

Name:	Medtronic, Inc.	
Street Address:	710 Medtronic Parkway	
Internal Address:	Mail Stop LC340	
City:	Minneapolis	
State/Country:	MINNESOTA	
Postal Code:	55432	

PROPERTY NUMBERS Total: 3

Property Type	Number
Application Number:	15400095
Application Number:	14518087
Application Number:	62025645

CORRESPONDENCE DATA

Fax Number: (763)505-2530

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.

(700) 500

Phone: (763) 526-0929

Email: susan.m.nienaber@medtronic.com

Correspondent Name: MICHAEL J. OSTROM

Address Line 1: 710 MEDTRONIC PARKWAY

Address Line 2: MAIL STOP LC340

Address Line 4: MINNEAPOLIS, MINNESOTA 55432

ATTORNEY DOCKET NUMBER:	C00005140.USV4
NAME OF SUBMITTER:	SUSAN M. NIENABER
SIGNATURE:	/Susan M. Nienaber/

504167040 REEL: 040871 FRAME: 0646

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DATE SIGNED:	01/06/2017
Total Attachments: 8	
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PATENT REEL: 040871 FRAME: 0647

Attorney Docket No.: C00005140.USV4

ASSIGNMENT OF APPLICATION(S)

Whereas I/we, the below named inventor(s), with residence and citizenship as indicated below, have made an invention in

	INTERVENTIONAL MEDICAL SYSTEMS, TOOLS, AND METHODS OF USE
\boxtimes	for which an application for a United States Patent or a U.S. Provisional Application is being filed contemporaneously herewith;
	for which an application for a United States Patent identified as U.S. Patent Application No. ; was filed on ;
	for which an application for a U.S. Provisional Application No. ; was filed on;
\boxtimes	for which above application claims priority to U.S. Patent Application No. 14/518,087; filed on October 20, 2014;
\boxtimes	for which above application claims priority to U.S. Provisional Patent Application No. 62/025,645; filed on July 17, 2014;
	which application is identified as PCT International Patent Application No.; filed;

Whereas, <u>Medtronic</u>, <u>Inc.</u>, a corporation organized and existing under the laws of the State of Minnesota and having a principle place of business at <u>710 Medtronic Parkway N.E.</u>, <u>Minneapolis</u>, <u>Minnesota 55432-5604</u>, hereinafter referred to as "Corporation," 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 therefore;

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 Corporation, its successors and assigns, the entire right, title and interest in and to said invention and the application(s) identified above and in and to any application claiming benefit thereto 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 therefore 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 Corporation for its own use and benefit and use and benefit 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 me had this assignment and sale not been made, including the right to enforce such Letters Patent as fully and entirely as the same would have been held and enjoyed by the assignors if this assignment had not been made; together with all claims by assignors for damages by reason of past infringement or for provisional rights and including the right to sue for, and collect the same for its own use and benefit, and for the use and benefit of its successors, assigns, and other legal representatives;

AND, for the consideration aforesaid, we materially represent to Corporation, 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 Corporation, 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 Corporation, its successors or assigns, but at Corporation's expense.

I/We do hereby authorize and request the Commissioner of Patents to issue any and all Letters Patent which may be granted upon any of the said applications, to said Medtronic, Inc., as the assignee of the entire right, title, and interest therein.

In witness whereof, I/we have signed my/our name(s) on the day and year set forth below.

Matthew D.	Bonner		
Inventor's Signature:		Date: 13/2c2016	
Residence (City and State): Plymouth, Minnesota		Country: USA	Citizenship: US
STATE OF MINNESOTA) ss. COUNTY OF RAMSEY) On this day of	d person's i	before me pe ree act and deed, on the da	rsonally appeared the above-named, y and year aforesaid.
(Seal) SUSAN M. NIENABER Notary Public-Minnesota My Commission Expires Jan 31, 2020	,	Notary Public	renaber

Given Name (first and middle initial [if any]): Todd J.	Family N Sheldon	ame or Surname (last name	e):
Inventor's Signature:		Date: 13-Dec-201	b
City and State: [©] North Oaks, Minnesota		Country: USA	Citizenship: US
STATE OF MINNESOTA) SS. COUNTY OF RAMSEY On this day of			
My Commission Expires Jan 31, 2020		racially racine	

Attorney Docket No.: C00005140.USV4

Given Name (first and middle initial [if any]): Kathryn	Family Name or Surname (last name): Hilpisch		
Inventor's Signature:	Date: 13 PXC 16		
Residence (City and State): Cottage Grove, Minnesota	Country: Citizenship: USA US		
STATE OF MINNESOTA)) ss. COUNTY OF RAMSEY) On this day of	Solle, before me personally appeared the above-named, aid person's free act and deed, on the day and year aforesaid. Notary Public		
Given Name (first and middle initial [if any]): Noelle C.	Family Name or Surname (last name): Neafus		
Inventor's Signature:	Date:		

Given Name (first and middle initial [if any]): Noelle C.	Family Nar Neafus	me or Surname (last	name):	
Inventor's Signature:		Date:		
Nolle C Neafus		15 Dec	201	6
Residence (City and State):		Country:		Citizenship:
Lino Lakes, Minnesota		USA		US
STATE OF MINNESOTA) on this day of tage and who executed the foregoing instrument, as sa				
(Scal) SUSAN M. NIENABER Notary Public-Minnesota	, , ,	Notary Public	1	eraber
800000000000000000000000000000000000000				

Given Name (first and middle initial [if any]): Rónán	Family Name or Surname (last name): Wood		
Inventor's Signature:		Date:	
Residence (City and State): Co. na gaillimhe		Country: Ireland	Citizenship: IE
Witness Signature		Witness Signature	
Witness Printed Name		Witness Printed Name	

Attorney Docket No.: C00005140.USV4

Attorney Docket No.: C00005140.USV4

ASSIGNMENT OF APPLICATION(S)

Whereas I/we, the below named inventor(s), with residence and citizenship as indicated below, have made an invention in

	INTERVENTIONAL MEDICAL SYSTEMS, TOOLS, AND METHODS OF USE
\boxtimes	for which an application for a United States Patent or a U.S. Provisional Application is being filed contemporaneously herewith;
	for which an application for a United States Patent identified as U.S. Patent Application No. ; was filed on ;
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\boxtimes	for which above application claims priority to U.S. Provisional Patent Application No. 62/025,645; filed on July 17, 2014;
	which application is identified as PCT International Patent Application No.; filed;

Whereas, Medtronic, Inc., a corporation organized and existing under the laws of the State of Minnesota and having a principle place of business at 710 Medtronic Parkway N.E., Minneapolis, Minnesota 55432-5604, hereinafter referred to as "Corporation," 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 therefore;

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 Corporation, its successors and assigns, the entire right, title and interest in and to said invention and the application(s) identified above and in and to any application claiming benefit thereto 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 therefore 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 Corporation for its own use and benefit and use and benefit 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 me had this assignment and sale not been made, including the right to enforce such Letters Patent as fully and entirely as the same would have been held and enjoyed by the assignors if this assignment had not been made; together with all claims by assignors for damages by reason of past infringement or for provisional rights and including the right to sue for, and collect the same for its own use and benefit, and for the use and benefit of its successors, assigns, and other legal representatives;

AND, for the consideration aforesaid, we materially represent to Corporation, 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 Corporation, 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

Medtronic, Inc., 710 Medtronic Parkway, Minneapolis, MN 55432

PATENT REEL: 040871 FRAME: 0652 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 Corporation, its successors or assigns, but at Corporation's expense.

I/We do hereby authorize and request the Commissioner of Patents to issue any and all Letters Patent which may be granted upon any of the said applications, to said Medtronic, Inc., as the assignee of the entire right, title, and interest therein.

In witness whereof, I/we have signed my/our name(s) on the day and year set forth below.

Given Name (first and middle initial [if any]): Matthew D.	Family Name or Surname (last name): Bonner						
Inventor's Signature:		Date:					
Residence (City and State): Plymouth, Minnesota		Country: USA	Citizenship: US				
STATE OF MINNESOTA)) ss. COUNTY OF RAMSEY)							
On this day of, before me personally appeared the above-named, and who executed the foregoing instrument, as said person's free act and deed, on the day and year aforesaid.							
(Seal)		Notary Public					
Given Name (first and middle initial [if any]): Family Name or Surname (last name): Sheldon							
Inventor's Signature:		Date:					
City and State: North Oaks, Minnesota		Country: USA	Citizenship: US				
STATE OF MINNESOTA)) ss. COUNTY OF RAMSEY)		- 55					
On this day of,, before me personally appeared the above-named, and who executed the foregoing instrument, as said person's free act and deed, on the day and year aforesaid.							
(Seal)		Notary Public					

Attorney Docket No.: C00005140.USV4

Given Name (first and middle initial [if any]): Kathryn	Family Name or Surname (last name): Hilpisch						
Inventor's Signature:		Date:					
Residence (City and State): Cottage Grove, Minnesota		Country: USA	Citizenship: US				
STATE OF MINNESOTA)) ss. COUNTY OF RAMSEY)			4 4				
On this day of,, before me personally appeared the above-named, and who executed the foregoing instrument, as said person's free act and deed, on the day and year aforesaid.							
(Seal)		Notary Public					
Given Name (first and middle initial [if any]): Noelle C.							
Inventor's Signature:		Date:	*				
Residence (City and State): Lino Lakes, Minnesota		Country: USA	Citizenship: US				
STATE OF MINNESOTA)) ss. COUNTY OF RAMSEY) On this day of,, before me personally appeared the above-named , and who executed the foregoing instrument, as said person's free act and deed, on the day and year aforesaid.							
(Seal)		Notary Public					

Attorney Docket No.: C00005140.USV4
PATENT

Given Name (first and middle initial [if any]): Rónán	Family Name or Surname (last name):				
Inventor's Signature:	Wood Date: 9 - Date:	16			
Residence (City and State): Co. na gaillimhe	Country: Ireland	Citizenship: IE			
Eoin Munchy Witness Signature Eoin Munchy Witness Printed Name	Witness Signa Adria Witness Printe	1 Noone			

RECORDED: 01/06/2017