01/23/2015 503149019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3195631

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JAMES K. CARNEY	01/23/2015
JOSEPH A. BALLIS	01/23/2015
JAMES D. REINKE	01/23/2015
CAN CINBIS	01/23/2015
KEVIN P. KUEHN	01/23/2015
MARK A. GRIEBEL	01/23/2015

RECEIVING PARTY DATA

Name:	MEDTRONIC, INC.
Street Address:	710 MEDTRONIC PARKWY NE.
Internal Address:	MS: LC340
City:	MINNEAPOLIS
State/Country:	MINNESOTA
Postal Code:	55432

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14603938

CORRESPONDENCE DATA

Fax Number: (651)367-0471

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: 763-526-0929

Email: madonna.schroeder@medtronic.com

MICHAEL J. OSTROM **Correspondent Name:**

710 MEDTRONIC PARKWAY NE. Address Line 1:

Address Line 2: MS: MVC22

Address Line 4: MINNEAPOLIS, MINNESOTA 55432

ATTORNEY DOCKET NUMBER:	C00006987.USU1
NAME OF SUBMITTER:	MICHAEL J OSTROM
SIGNATURE:	/Michael J. Ostrom/
DATE SIGNED:	01/23/2015

PAIENI REEL: 034800 FRAME: 0774 503149019

Total Attachments: 8 source=C00006987-ALL-Assignment#page1.tif source=C00006987-ALL-Assignment#page2.tif source=C00006987-ALL-Assignment#page3.tif source=C00006987-ALL-Assignment#page4.tif source=C00006987-ALL-Assignment#page5.tif source=C00006987-ALL-Assignment#page6.tif source=C00006987-ALL-Assignment#page7.tif source=C00006987-ALL-Assignment#page8.tif

PATENT REEL: 034800 FRAME: 0775

Attorney Docket No.: C00006987.USU1

ASSIGNMENT OF APPLICATION(S)

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

TISSUE CONDUCTION COMMUNICATION (TCC) TRANSMISSION
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 ;
for which above application claims priority to U.S. Provisional Patent Application No. ; filed on ;
which application is identified as PCT International Patent Application No.; filed;
Whereas, Medironic, 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, hereinaft
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.

> Page 1 of 4 Attorney Docket No.: C00006987.USU1

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]): Far	Family Name or Surname (last name):			
James K. CA	CARNEY			
Inventor's Signature:		Date:		
inventor of organical control of the		1/2 3/2	ric y	
1/20-1		<u> </u>	273	
City and State:		Country: US	Citizenship:	
Roseville, Minnesota		US	US	
STATE OF MINNESOTA) SS. COUNTY OF RAMSEY)		Par st		
On this do day of day way		, du), before me persor	nally appeared the above-named,	
and who executed the foregoing instrument, as said per	erson's fr	ree act and deed, on the day ar	id year aforesaid.	
(Seal) MADONNA M. SCHROEDER Notary Public State of Minnesota My Commission Expires January 31, 2020		Notary Public		
£			i i	
**************************************	***************************************			
Given Name (first and middle initial [if any]): Fai	mily Na	nme or Surname (last name):		
2 *** ;	mily Na	nne or Surname (last name):		
Joseph A. BA				
		Date:	30/5	
Joseph A. Inventor's Signature:		Date: 6) /23 /6	SO / S	
Inventor's Signature: Residence (City and State):		Date: 6 / 2 3 / 3 Country:	O/S Citizenship;	
Inventor's Signature: Residence (City and State): Shoreview, Minnesota		Date: 6) /23 /6	O/S Citizenship; US	
Inventor's Signature: Residence (City and State):		Date: 6 / 2 3 / 3 Country:		
Inventor's Signature: Residence (City and State): Shoreview, Minnesota STATE OF MINNESOTA)		Date: Country: US	US	
Inventor's Signature: Residence (City and State): Shoreview, Minnesota STATE OF MINNESOTA) SS. COUNTY OPRAMSEY)		Date: Country: US	US	
Inventor's Signature: Residence (City and State): Shoreview, Minnesota STATE OF MINNESOTA) SS. COUNTY OF RAMSEY)	ALLIS	Date: Country: US , 2015, before me persor	US appeared the above-named .	

Given Name (first and middle initial [if any]): James D.	Family Name or Surname (last name): REINKE		
Inventor's Signature: Across O. Reinler		Date: 1/23/2015	
Residence (City and State): Maple Grove, Minnesota		Country: US	Citizenship: US
STATE OF MINNESOTA)) ss.			200000000000000000000000000000000000000
On this Asset day of January			ally appeared the above-named,
and who executed the foregoing instrument, as said	d person's f	ree act and deed, on the day an	d year aforesaid.
(Seal) MADONNA M. SCHROEDER Notary Public State of Minnesota My Commission Expires January 31, 2020		Notary Public	
	***************************************	······································	
Given Name (first and middle initial [if any]): Can	Family No	ame or Surname (last name):	
Inventor's Signature:		Date:	
Residence (City and State): Salt Lake City, Utah		Counitry: US	Citizenship: US
STATE OF)	, cutter and the	d	
) \$8. COUNTY OF			0.0000000000
On this day of and who executed the foregoing instrument, as sai	d person's f	before me person ree act and deed, on the day an	ally appeared the above-named, dyear aforesaid.
Asserted.			3300000000
(Seal)		Notary Public	
	*******************************		······································
Given Name (first and middle initial [if any]): Kevin P.	Family N KUEHN	ame or Surname (last name):	
Inventor's Signature:	<u> </u>	Date:	, , , , , , , , , , , , , , , , , , ,
Residence (City and State);		Country:	Citizenship:
Shoreview, Minnesota		US	US
STATE OF MINNESOTA)		<u> </u>	
COUNTY OF RAMSEY) On this day of day of and who executed the foregoing instrument, as sai	d narson's f		nally appeared the above-named,
MADONNA M. SCHROEDER Notary Public	e persons i	1 Drug Oc	a you moreown.
(Seal) State of Minnesota My Commission Expires January 31, 2020		Notary Public	

Given Name (first and middle initial [if any]):	Family Name or Surname (last nan	ne):
Mark A.	GRIEBEL	1
Inventor's Sygnature:	Date: //23	/15
Residence (City and State):	Country:	Citizenship:
New Brighton, Minnesota	US	US
STATE OF MINNESOTA) or ss. COUNTY OF RAMSEY) On this day of day of and who executed the foregoing instrument, as	JOE, before me paid person's free act and deed, on the contractions	personally appeared the above-named, day and year aforesaid.
(Seal) MADONNA M. SCHROEDE Notary Public State of Minnesota My Commission Expires		whi

Attorney Docket No.: C00006987.USU1

ASSIGNMENT OF APPLICATION(S)

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

	TISSUE CONDUCTION COMMUNICATION (TCC) TRANSMISSION	
\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 ;	
	for which above application claims priority to U.S. Provisional Patent Application No.	ŝ
	which application is identified as PCT International Patent Application No.; filed;	

Whereas, <u>Medtronic, 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.

Page 1 of 4 Attorney Docket No.: C00006987.USU1

Assignment

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]): James K.		imily Name or Surname (last name): ARNEY			
	CARITE	S Y			
Inventor's Signature:	e de la companya de l	Date:			
	ar are a record				
City and State:		Country:	Citizenship:		
Roseville, Minnesota		US	US		
STATE OF MINNESOTA) \$\) \(\					
COUNTY OF RAMSEY)					
On thisday of		, before m	e personally appeared the above-named,		
On thisday of and who executed the foregoing instrument, as sa	id person's f	ree act and deed, on th	e day and year aforesaid.		
CS Street					
(Seal)		Notary Public			
		inotally Fublic			
Given Name (first and middle initial [if any]):	1 .	ame or Surname (last i	name):		
Given Name (first and middle initial [if any]): Joseph A.	Family N BALLIS	ame or Surname (last i	name):		
	1 .	ame or Surname (last i	name):		
Joseph A.	1 .	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	name):		
Joseph A. Inventor's Signature: Residence (City and State):	1 .	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	name): Citizenship:		
Joseph A. Inventor's Signature:	1 .	Date:			
Joseph A. Inventor's Signature: Residence (City and State): Shoreview, Minnesota	1 .	Date: Country:	Citizenship:		
Joseph A. Inventor's Signature: Residence (City and State):	1 .	Date: Country:	Citizenship:		
Joseph A. Inventor's Signature: Residence (City and State): Shoreview, Minnesota STATE OF MINNESOTA)	1 .	Date: Country:	Citizenship:		
Joseph A. Inventor's Signature: Residence (City and State): Shoreview, Minnesota STATE OF MINNESOTA) SS. COUNTY OF RAMSEY) On this day.of	BALLIS	Date: Country: US	Citizenship: US the personally appeared the above-named ,		
Joseph A. Inventor's Signature: Residence (City and State): Shoreview, Minnesota STATE OF MINNESOTA) COUNTY OF RAMSEY)	BALLIS	Date: Country: US	Citizenship: US the personally appeared the above-named ,		
Joseph A. Inventor's Signature: Residence (City and State): Shoreview, Minnesota STATE OF MINNESOTA) SS. COUNTY OF RAMSEY) On this day.of	BALLIS	Date: Country: US	Citizenship: US the personally appeared the above-named ,		
Joseph A. Inventor's Signature: Residence (City and State): Shoreview, Minnesota STATE OF MINNESOTA) SS. COUNTY OF RAMSEY) On this day of and who executed the foregoing instrument, as sa	BALLIS	Date: Country: US	Citizenship: US the personally appeared the above-named ,		
Joseph A. Inventor's Signature: Residence (City and State): Shoreview, Minnesota STATE OF MINNESOTA) SS. COUNTY OF RAMSEY) On this day.of	BALLIS	Date: Country: US	Citizenship: US the personally appeared the above-named ,		

Given Name (first and middle initial [if any]): James D.	Family Na REINKE	ime or Surname (last name):		
Inventor's Signature:		Date:		
Residence (City and State): Maple Grove, Minnesota	, and the state of	Country: US	Citizenship: US	
STATE OF MINNESOTA) COUNTY OF RAMSEY)		1 0		
On this day of and who executed the foregoing instrument, as sa	id person's f		nally appeared the above-named, and year aforesaid.	
(Seal)	000000000000000000000000000000000000000	Notary Public		
Given Name (first and middle initial [if any]): Can	Family Na	ame or Surname (last name):		
Inventor's Signature:		Date: 1/23/20	15	
Residence (City and State): Salt Lake City, Utah		Country: US	Citizenship: US	
STATE OF NUCLOON) COUNTY OF LAMSUA, On this Brothauf January		245 hefore me perso	nally appeared the above-named ,	
and who executed the foregoing instrument, sista MADONNA M. SCHROEDE Notary Public State of Minnesots My Commission Expire January 31, 2020	R			
Given Name (first and middle initial [if any]):	Family N	ame or Surname (last name):		
Kevin P.	KUEHN			
Inventor's Signature:		Date:		
Residence (City and State): Shoreview, Minnesota	: The second second	Country: US	Citizenship: US	
STATE OF MINNESOTA)) ss.				
COUNTY OF RAMSEY) On this day of		. before me nersc	mally appeared the above-named.	
On thisday 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		

Assignment

Page 3 of 4 Medtronic, Inc., 710 Medtronic Parkway, Minneapolis, MN 55432

Attorney Docket No.: C00006987,USU1

Given Name (first and middle initial [if any]): Mark A.	Family Name or Surname (last name): GRIEBEL		
Inventor's Signature:		Date:	
Residence (City and State): New Brighton, Minnesota	James and the same of the same	Country: US	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)			
(3000)	Notary Public		

Assignment

RECORDED: 01/23/2015

Page 4 of 4 Medtronic, Inc., 710 Medtronic Parkway, Minneapolis, MN 55432

Attorney Docket No.: C00006987.USU1