PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT		
NATURE OF CONVEYANCE:	ASSIGNMENT		

CONVEYING PARTY DATA

Name	Execution Date
Jonathan L. Kuhn	06/23/2011
Jonathan P. Roberts	06/30/2011
James D. Reinke	07/05/2011
Richard J. O'Brien	07/05/2011
Michael B. Terry	06/21/2011
Kamal Deep Mothilal	06/28/2011

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: 1

Property Type	Number		
Application Number:	13176018		

CORRESPONDENCE DATA

501585323

Fax Number: (763)505-2530

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

Phone: 763-526-0938

Email: carrie.m.arcand@medtronic.com

Correspondent Name: Michael C. Soldner Address Line 1: 710 Medtronic Parkway Address Line 2: Mail Stop LC340

Address Line 4: Minneapolis, MINNESOTA 55432

ATTORNEY DOCKET NUMBER: P0022546.00

REEL: 026543 FRAME: 0162

PATENT

NAME OF SUBMITTER:	Carrie M. Arcand
Total Attachments: 8 source=P0022546-00-Assignment-ALL#pag source=P0022546-00-Assignment-ALL#pag source=P0022546-00-Assignment-ALL#pag source=P0022546-00-Assignment-ALL#pag source=P0022546-00-Assignment-ALL#pag source=P0022546-00-Assignment-ALL#pag source=P0022546-00-Assignment-ALL#pag source=P0022546-00-Assignment-ALL#pag source=P0022546-00-Assignment-ALL#pag	ge2.tif ge3.tif ge4.tif ge5.tif ge6.tif ge7.tif

PATENT REEL: 026543 FRAME: 0163

Attorney Docket No.: P0022546.00

ASSIGNMENT OF APPLICATION

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

	Moment Fraction Computation for Sensors	
\boxtimes	for which an application for a United States Patent is being filed contemporaneously herewith;	
	for which an application for a United States Patent identified as U.S. Patent Application No. ; was filed or	n
\boxtimes	; for which above application claims priority to U.S. Provisional Patent Application No. 61/467,172 ; filed on Ma l	rch
	24, 2011;	0
	which application is identified as PCT International Patent Application No.; filed;	
	M. V I	1

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 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. Family Name or Surname (last name): Given Name (first and middle initial [if any]): Jonathan L. Kuhn Inventor's Signature: Date: Citizenship: City and State: US USA Ham Lake, Minnesota STATE OF MINNESOTA) SS. COUNTY OF RAMSEY , 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. Notary Public-Minneso (Seal) My Commission Expires Jan 31, 2015 Notary Public Family Name or Surname (last name): Given Name (first and middle initial [if any]): Roberts Jonathan P. Date: Inventor's Signature: 30 June 2011 Country: Citizenship: Residence (City and State): US **USA** Coon Rapids, Minnesota STATE OF MINNESOTA) SS. COUNTY OF RAMSEY 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. Notary Public-Minnesota (Seal) My Commission Expires Jan 31, 2015

Given Name (first and middle initial [if any]): James D.	Family Name or Surname (last name): Reinke					
Inventor's Signature:	Date: 7/5/11					
Resine (City and State): Maple Grove, Minnesota	Country: USA		Citizenship: US			
STATE OF MINNESOTA)) ss.						
On this day of d						
(Seal) MADONNA M. SCHROED Notary Public-Minnesot My Commission Expires Jan 31, 21	ER \$ a \$	Notary Public	<u>Ku</u>			
Given Name (first and middle initial [if any]): Richard J.	Family N O'Brien	ame or Surname (la	nst name):	·		
Inventor's signatures	<u></u>	Date:	5201	<i>'</i> /		
Residence (City and State)// Hugo, Minnesota	:::::::::::::::::::::::::::::::::::::::	Country: USA		Citizenship: US		
STATE OF MINNESOTA) ss. COUNTY OF RAMSEY On this day of day o						
Given Name (first and middle initial [if any]): Michael B.	Family N	lame or Surname (1	ast name):			
Inventor's Signature:		Date:	i i ni ingani ingani ngi inga			
Residence (City and State): Camas, Washington		Country: USA		Citizenship: US		
STATE OF) ss.						
On this day of and who executed the foregoing instrument, as sa	aid person's	,, befo	re me person on the day an	ally appeared the above-named, d year aforesaid.		
(Seal)		Notary Public				

Given Name (first and middle initial [if any]): Kamal Deep	Family Name or S Mothilal	urname (last name	e):	
Inventor's Signature:	Date:	06/28/11		
Residence (City and State):	Countr	у:	Citizenship:	
Minneapolis, Minnesota	USA		IN	
STATE OF (Seal)) ss. COUNTY OF (Annual Section 1) ss. On this (Annual Section 1) ss. On this (Annual Section 1) ss. MADONNA M, SCHROEE (Seal) (S	MANA JER S	nd deed, on the da	ersonally appeared the above ny and year aforesaid.	-named ,

Attorney Docket No.: P0022546.00

ASSIGNMENT OF APPLICATION

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

	Moment Fraction Computation for Sensors
\boxtimes	for which an application for a United States Patent is being filed contemporaneously herewith;
	for which an application for a United States Patent identified as U.S. Patent Application No. ; was filed on
\boxtimes	for which above application claims priority to U.S. Provisional Patent Application No. 61/467,172; filed on March 24, 2011;
	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

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 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. Given Name (first and middle initial [if any]): Family Name or Surname (last name): Kuhn Jonathan L. Inventor's Signature: Date: Citizenship: Country: City and State: US **USA** Ham Lake, Minnesota STATE OF MINNESOTA) COUNTY OF RAMSEY , before me personally appeared the above-named , On this day of 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): Roberts Jonathan P. Inventor's Signature: Date: Citizenship: Residence (City and State): Country: US USA Coon Rapids, Minnesota STATE OF MINNESOTA) COUNTY OF RAMSEY , before me personally appeared the above-named , day of 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]): James D.	Family N Reinke	y Name or Surname (last name):			
Inventor's Signature:		Date:			
Residence (City and State): Maple Grove, Minnesota		Country: USA		Citizenship: US	
STATE OF MINNESOTA)) ss. COUNTY OF RAMSEY) On this day of and who executed the foregoing instrument, as sa	aid person's	befor free act and deed, o	e me person n the day an	nally appeared the above-named, ally appeared the above-named,	
(Seal)		Notary Public			
Given Name (first and middle initial [if any]): Richard J.	Family N O'Brien	fame or Surname (la	ast name):		
Inventor's Signature:		Date:	***************************************		
Residence (City and State): Hugo, Minnesota		Country: USA		Citizenship: US	
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]): Michael B.	Family N Terry	lame or Surname (1	ast name):		
Inventor's Signature: Multiple State Stat		Date: 6/2/ Country: USA	1201	Citizenship: US	
STATE OF WASI+) COUNTY OF CLARK) On this 2/ day of TUNC and who executed washington (Seal) TERESA A WHEAT MY COMMISSION EXPIRES Systember 28, 2014	said person's	, 20//, before free act and deed, of Notary Public	on the day at	8	

Assignment

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

Given Name (first and middle initial [if any]): Kamal Deep					
Inventor's Signature:	Date:				
Residence (City and State):	Country:	Citizenship:			
Minneapolis, Minnesota	USA	IN			
STATE OF) ss. COUNTY OF 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				

Assignment

RECORDED: 07/05/2011

Page 4 of 4 Medtronic, Inc., 710 Medtronic Parkway, Minneapolis, MN 55432 Attorney Docket No.: P0022546.00

PATENT REEL: 026543 FRAME: 0171