

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
TODD M ZIELINSKI	09/05/2014
YONG KYUN CHO	09/05/2014
DOUGLAS HETTRICK	09/05/2014
XUSHENG ZHANG	09/04/2014
RECEIVING PARTY DATA	
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Internal Address:	Mail Stop LC340
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State/Country:	MINNESOTA
Postal Code:	55432
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	15204464
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NAME OF SUBMITTER:	SUSAN M. NIENABER
SIGNATURE:	/Susan M. Nienaber/
DATE SIGNED:	05/22/2017
Total Attachments: 3	

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ASSIGNMENT OF APPLICATION

Whereas we, the below named inventors, with residence and citizenship as indicated below, have made an invention in

**CARDIAC RESYNCHRONIZATION THERAPY OPTIMIZATION BASED ON
INTRACARDIAC IMPEDANCE AND HEART SOUNDS**

- ☐ 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. 14/158,533 was filed on January 17, 2014;
- ☐ 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 ____;

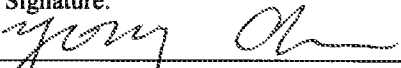
Whereas, Medtronic, Inc., a corporation organized and existing under the laws of the State of Minnesota and having a principle place of business at 710 Medtronic Parkway N.E., Minneapolis, Minnesota 55432-5604, hereinafter referred to as "Corporation," is desirous of acquiring the entire right, title 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 us 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.

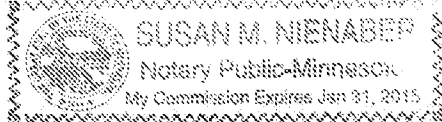
In witness whereof, we have signed our names on the day and year set forth below.

Given Name (first and middle initial [if any]): Yong Kyun		Family Name or Surname (last name): Cho	
Inventor's Signature: 		Date: <u>September 5, 2014</u>	
City and State: Excelsior, MN		Country: US	Citizenship: US

STATE OF MINNESOTA)
) ss.
COUNTY OF RAMSEY)

On this 5th day of September, 2014, 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

