

PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT4778127

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	
CONVEYING PARTY DATA		
	Name	Execution Date
	MEDTRONIC ARDIAN LLC	02/03/2012
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:	15189940
CORRESPONDENCE DATA		
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<i>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.</i>		
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ATTORNEY DOCKET NUMBER:	P0040975.USC12	
NAME OF SUBMITTER:	JEFFIE A. KOPCZYNSKI	
SIGNATURE:	/Jeffie A. Kopczynski/	
DATE SIGNED:	01/16/2018	
Total Attachments: 15		
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MEDTRONIC PATENT ASSIGNMENT

Medtronic Ardian LLC (formerly known as Ardian, Inc.), a Delaware limited liability company with its registered address at 1209 Orange Street, Wilmington, State of Delaware, USA, registered with the Delaware Secretary of State under File Number 3713062 (the "Assignor"), has delivered this instrument signed by Assignor to enable **Medtronic Ardian Luxembourg S.à r.l.**, a private limited liability company (*société à responsabilité limitée*) governed by the laws of the Grand-Duchy of Luxembourg, having its registered office at 102, rue des Maraîchers, L-2124 Luxembourg, Grand-Duchy of Luxembourg, and registered with the Luxembourg Trade and Companies Register under number 158.983 (the "Assignee") to file it with any appropriate governmental agency to indicate ownership of the intellectual property described below and for other purposes set forth in this instrument.

1. For good and valuable consideration, receipt of which the Assignor acknowledges, and by signing and delivering this instrument, the Assignor assigns, transfers, conveys, and delivers to the Assignee legal title held by the Assignor to:

(a) the patents, patent applications and invention disclosures specifically listed in Annex A to this Patent Assignment; and

(b) the following properties and rights with respect to all patents and patent applications so listed in Annex A:

(i) any patents in Europe, the United States of America and Japan and patent applications that have been or may be granted or filed, respectively, with respect to those inventions, including without limitation all foreign patents that may claim priority based on and correspond to the patents listed in Annex A, and

(ii) all divisions, renewals, reissues, continuations, extensions, and (if filed by or for Assignee) continuations-in-part of the foregoing patents.

2. The foregoing assignment of legal title will apply to the full end of the terms of the patents listed above as fully as the Assignor would have held the same in the absence of this assignment.

3. This Patent Assignment is irrevocable and effective upon its execution by the Assignor.

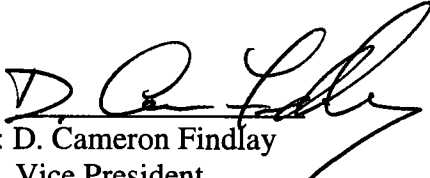
4. The validity, construction and enforceability of this Patent Assignment shall be governed by the laws of State of Delaware, excluding its conflict of laws rules.

[signature page follows]

The undersigned have signed this Medtronic Patent Assignment on February 3
2012.

Medtronic Ardian LLC (formerly known
as Ardian, Inc.)

Medtronic Ardian Luxembourg S.à r.l.

By: 
Name: D. Cameron Findlay
Title: Vice President
Date: February 3, 2012

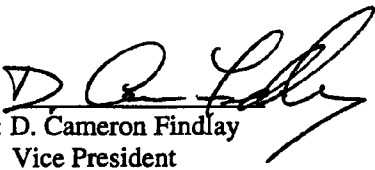
By: _____
Name: Ms. Christel Damaso
Title: Class A Manager
Date: _____

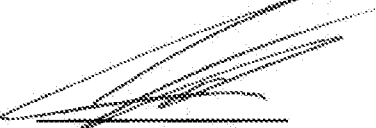
By: 
Name: Mr. Gary L. Ellis
Title: Class B Manager
Date: February 3, 2012

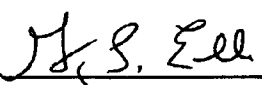
The undersigned have signed this Medtronic Patent Assignment on _____,
2012.

Medtronic Ardian LLC (formerly known
as Ardian, Inc.)

Medtronic Ardian Luxembourg S.à r.l.

By: 
Name: D. Cameron Findlay
Title: Vice President
Date:

By: 
Name: Ms. Christel Damaso
Title: Class A Manager
Date:

By: 
Name: Mr. Gary L. Ellis
Title: Class B Manager
Date:

ANNEX A

TO MEDTRONIC PATENT ASSIGNMENT

Country SubType	App/Pat No	File/Grant Date	Title
US	60/370,190	04/08/2002	Modulation of Renal Nerve
US	7,162,303	1/9/2007	Renal Nerve Stimulation Method and Apparatus for Treatment of Patients
US	7,647,115	1/12/2010	Renal Nerve Stimulation Method and Apparatus for Treatment of Patients
US	11/145,122	6/3/2005	Renal Nerve Stimulation Method and Apparatus for Treatment of Patients
US	11/144,298	6/3/2005	Renal Nerve Stimulation Method and Apparatus for Treatment of Patients
US	11/688,178	3/19/2007	Renal Nerve Stimulation Method for Treatment of Patients
US	12/186,975	8/6/2008	Renal Nerve Stimulation Method for Treatment of Patients
US	10/900,199	7/28/2004	Methods and Devices for Renal Nerve Blocking
WO	PCT/US2004/038498	11/17/2004	Methods and Devices for Renal Nerve Blocking
CA	2,575,458	11/17/2004	Methods and Devices for Renal Nerve Blocking
CN	200480044042.X	11/17/2004	Methods and Devices for Renal Nerve Blocking
EP	04822267.3	11/17/2004	Methods and Devices for Renal Nerve Blocking
JP	2007-523531	11/17/2004	Methods and Devices for Renal Nerve Blocking
US	11/133,925	5/20/2005	Methods and Devices for Renal Nerve Blocking

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Country SubType	App/Pat No	File/Grant Date	Title
US	12/099,638	4/8/2008	Methods and Devices for Renal Nerve Blocking
JP	2011-221524	11/17/2004	Methods and Devices for Renal Nerve Blocking
US	60/616,254	10/5/2001	Renal Neuromodulation
US	60/624,793	11/2/2004	Renal Neuromodulation
US	7,653,438	1/26/2010	Methods and Apparatus for Renal Neuromodulation
WO	PCT/US2005/035757	10/5/2005	Methods and Apparatus for Renal Neuromodulation
CA	2,583,463	10/5/2005	Methods and Apparatus for Renal Neuromodulation
CN	ZL 2005 80041711.2	11/17/2010	Methods and Apparatus for Renal Neuromodulation
CN 1	201010279054.8	10/5/2005	Methods and Apparatus for Renal Neuromodulation
CN 2	201010279064.1	10/5/2005	Methods and Apparatus for Renal Neuromodulation
CN 3	201010278898.0	10/5/2005	Methods and Apparatus for Renal Neuromodulation
EP	1802370	1/5/2011	Methods and Apparatus for Renal Neuromodulation
EP 1	10190952.1	10/5/2005	Methods and Apparatus for Renal Neuromodulation
JP	2007-535766	10/5/2005	Methods and Apparatus for Renal Neuromodulation

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Country SubType	App/Pat No	File/Grant Date	Title
MX	MX/a/2007/004238	10/5/2005	Methods and Apparatus for Renal Neuromodulation
US	11/782,451	7/24/2007	Apparatuses for Renal Neuromodulation
US	12/777,892	5/11/2010	Methods for Renal Neuromodulation
EP 1	11192511.1	10/5/2005	Methods and Apparatus for Renal Neuromodulation
EP 2	11192514.5	10/5/2005	Methods and Apparatus for Renal Neuromodulation
US	11/189,563	7/25/2005	Methods and Apparatus for Renal Neuromodulation
WO	PCT/US2005/035693	10/4/2005	Methods and Apparatus for Renal Neuromodulation
CN	200580041666.0	10/4/2005	Methods and Apparatus for Renal Neuromodulation
EP	05811851.4	10/4/2005	Methods and Apparatus for Renal Neuromodulation
US	60/718,686	9/20/2005	Methods and Apparatus for Inducing, Monitoring and Controlling Renal Neuromodulation
US	11/233,814	9/23/2005	Methods and Apparatus for Inducing, Monitoring and Controlling Renal Neuromodulation
US	7,937,143	5/13/2011	Methods and Apparatus for Inducing, Monitoring and Controlling Renal Neuromodulation
WO	PCT/US2006/036120	9/14/2006	Methods and Apparatus for Inducing, Monitoring and Controlling Renal Neuromodulation

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Country SubType	App/Pat No	File/Grant Date	Title
US	7,756,583	7/13/2010	Methods and Apparatus for Intravascularly-Induced Neuromodulation
WO	PCT/US2006/041889	10/26/2006	Methods and Apparatus for Intravascularly-Induced Neuromodulation
US	12/827,700	6/30/2010	Methods and Apparatus for Intravascularly-Induced Neuromodulation
US	60/813,589	12/29/2005	Methods and Apparatus for Pulsed Electric Field Neuromodulation Via an Intra-to-Extravascular Approach
US	7,620,451	11/17/2009	Methods and Apparatus for Pulsed Electric Field Neuromodulation Via an Intra-to-Extravascular Approach
US	7,873,417	1/18/2011	Methods and Apparatus for Pulsed Electric Field Neuromodulation Via an Intra-to-Extravascular Approach
WO	PCT/US2006/048822	12/21/2006	Methods and Apparatus for Pulsed Electric Field Neuromodulation Via an Intra-to-Extravascular Approach
CA	2,633,666	12/21/2006	Methods and Apparatus for Pulsed Electric Field Neuromodulation Via an Intra-to-Extravascular Approach
CN	200680050078.8	12/21/2006	Methods and Apparatus for Pulsed Electric Field Neuromodulation Via an Intra-to-Extravascular Approach
EP	06847926.0	12/21/2006	Methods and Apparatus for Pulsed Electric Field Neuromodulation Via an Intra-to-Extravascular Approach
JP	2008-548632	12/21/2006	Methods and Apparatus for Pulsed Electric Field Neuromodulation Via an Intra-to-Extravascular Approach
US	13/007370	1/19/2011	Methods and Apparatus for Pulsed Electric Field Neuromodulation Via an Intra-to-Extravascular Approach

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Country SubType	App/Pat No	File/Grant Date	Title
US	11/368,836	3/6/2006	Methods and Apparatus for Bilateral Neuromodulation
WO	PCT/US2007/063322	3/5/2007	Methods and Apparatus for Bilateral Neuromodulation
CA	2,645,035	3/5/2007	Methods and Apparatus for Bilateral Neuromodulation
CN	200780015021.9	3/5/2007	Methods and Apparatus for Bilateral Neuromodulation
EP	07757925.8	3/5/2007	Methods and Apparatus for Bilateral Neuromodulation
JP	2008-558490	3/5/2007	Methods and Apparatus for Bilateral Neuromodulation
US	11/368,553	3/6/2006	Methods and Treating a Condition or Disease Associated with Cardio-Renal Function
US	11/368,577	3/6/2006	Methods for Renal Neuromodulation
US	11/368,971	3/6/2006	Apparatus for Intravascular Renal Neuromodulation
US	11/368,949	3/6/2006	Methods and Apparatus for Treating End-Stage Renal Disease
US	11/368,809	3/6/2006	Methods and Apparatus for Treating Contrast Nephropathy
WO	PCT/US2006/063234	3/5/2007	Methods and Apparatus for Treating Congestive Heart Failure, Hypertension, Acute Myocardial Infarction, End-Stage Renal Disease, and/or Contrast Nephropathy
US	11/403,329	4/13/2006	Methods and Apparatus for Monopolar Renal Neuromodulation

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Country SubType	App/Pat No	File/Grant Date	Title
WO	PCT/US2007/066539	4/12/2007	Methods and Apparatus for Monopolar Renal Neuromodulation
US	7,853,333	12/14/2010	Methods and Apparatus for Multi-Vessel Renal Neuromodulation
WO	PCT/US2007/070799	6/8/2007	Methods and Apparatus for Multi-Vessel Renal Neuromodulation
CA	2,655,099	6/8/2007	Methods and Apparatus for Multi-Vessel Renal Neuromodulation
CN	200780027198.0	6/8/2007	Methods and Apparatus for Multi-Vessel Renal Neuromodulation
EP	07798341.9	6/8/2007	Methods and Apparatus for Multi-Vessel Renal Neuromodulation
JP	2009-515580	6/8/2007	Methods and Apparatus for Multi-Vessel Renal Neuromodulation
US	12/966,897	12/13/2010	Methods and Apparatus for Multi-Vessel Renal Neuromodulation
US	60/816,999	6/28/2006	Methods and Apparatus for Thermally-Induced Renal Neuromodulation
US	7,617,005	11/10/2009	Methods and Apparatus for Thermally-Induced Renal Neuromodulation
US	7,717,948	5/18/2010	Methods and Apparatus for Thermally-Induced Renal Neuromodulation
US	12/700,524	2/4/2010	Apparatuses for Thermally-Induced Renal Neuromodulation
US	12/754,337	4/5/2010	Ultrasound Apparatuses for Thermally-Induced Renal Neuromodulation

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Country SubType	App/Pat No	File/Grant Date	Title
US	12/777,995	5/11/2010	Apparatuses for Inhibiting Renal Nerve Activity Via and Intra-to-Extravascular Approach
US	11/599,882	11/14/2006	Apparatus for Thermal Modulation of Nerves Contributing to Renal Function
US	12/25,375	3/16/2010	Apparatus for Thermal Modulation of Nerves Contributing to Renal Function
WO	PCT/US2007/084705	11/14/07	Methods for Treating Heart Arrhythmia
US	13/047,094	3/14/2011	Apparatus for Thermal Modulation of Nerves Contributing to Renal Function
US	11/599,890	11/14/2006	Methods and Apparatus for Performing a Non-Continuous Circumferential Treatment of a Body Lumen
WO	PCT/US2007/084708	11/14/2007	Methods and Apparatus for Performing a Non-Continuous Circumferential Treatment of a Body Lumen
CN	200780049646.6	11/14/2007	Methods and Apparatus for Performing a Non-Continuous Circumferential Treatment of a Body Lumen
EP	07868755.5	11/14/2007	Methods and Apparatus for Performing a Non-Continuous Circumferential Treatment of a Body Lumen
JP	2009-537332	11/14/2007	Methods and Apparatus for Performing a Non-Continuous Circumferential Treatment of a Body Lumen
US	12/539,390	8/11/2009	Methods and Apparatus for Performing a Non-Continuous Circumferential Treatment of a Body Lumen

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Country SubType	App/Pat No	File/Grant Date	Title
US	11/599,723	11/14/2006	Methods and Apparatus for Intravascularly-Induced Neuromodulation or Denervation
WO	PCT/US007/084701	11/14/2007	Methods and Apparatus for Intravascularly-Induced Neuromodulation or Denervation
US	11/599,723	11/14/2006	Methods and Apparatus for Thermally-Induced Renal Neuromodulation
US	13/046,595	3/14/2011	Methods and Apparatus for Thermally-Induced Renal Neuromodulation
US	60/880,340	1/12/2007	Methods and Apparatus for Controlling Thermally-Induced Renal Neuromodulation
US	60/946,934	6/28/07	Methods and Systems for Thermally-Induced Renal Neuromodulation
WO	PCT/US2007/072396	6/28/2007	Methods and Systems for Thermally-Induced Renal Neuromodulation
US 371	12/159,306	6/28/2007	Methods and Systems for Thermally-Induced Renal Neuromodulation
US	12/147,154	6/28/2008	Methods and Systems for Thermally-Induced Renal Neuromodulation
US	12/147,191	6/26/2008	Methods and Systems for Thermally-Induced Renal Neuromodulation
CN	2007-80031879.4	6/28/2007	Methods and Systems for Thermally-Induced Renal Neuromodulation
EP	2037840	12/7/2011	Methods and Systems for Thermally-Induced Renal Neuromodulation
EP	2092957	1/5/2011	Methods and Systems for Thermally-Induced Renal Neuromodulation

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Country SubType	App/Pat No	File/Grant Date	Title
EP	10159584.1	6/28/2007	Methods and Systems for Thermally-Induced Renal Neuromodulation
IN	600DELNP2009	6/28/2007	Methods and Systems for Thermally-Induced Renal Neuromodulation
EP	11191392.7	6/28/2007	Methods and Systems for Thermally-Induced Renal Neuromodulation
EP	11191394.3	6/28/2007	Methods and Systems for Thermally-Induced Renal Neuromodulation
US	61/142,128	12/31/2008	Apparatus, Systems and Methods for Achieving Intravascular-Induced Renal Neuromodulation
US	12/495,691	6/30/2009	Apparatus, Systems and Methods for Achieving Intravascular-Induced Renal Neuromodulation
US	12/545,648	8/21/2009	Apparatus, Systems and Methods for Achieving Intravascular-Induced Renal Neuromodulation
EP	09167937.3	8/14/2009	Apparatus, Systems and Methods for Achieving Intravascular-Induced Renal Neuromodulation
EP	09168202.1	8/14/2009	Apparatus, Systems and Methods for Achieving Intravascular-Induced Renal Neuromodulation
EP	09168204.7	8/14/2009	Apparatus, Systems and Methods for Achieving Intravascular-Induced Renal Neuromodulation
WO	PCT/US2009/069334	12/22/2009	Apparatus, Systems and Methods for Achieving Intravascular-Induced Renal Neuromodulation
US	12/910,631	10/22/2010	Apparatus, Systems and Methods for Achieving Intravascular-Induced Renal Neuromodulation
US	12/759,641	4/13/2010	Handle Assemblies for Intravascular Treatment Devices and Associated Systems and Methods

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Country SubType	App/Pat No	File/Grant Date	Title
WO	PCT/US2011/030496	3/30/2011	Handle Assemblies for Intravascular Treatment Devices and Associated Systems and Methods
US	60/572,458	5/18/2004	System and Methods for Selective Heart Dysrhythmias
US	11/133,088	5/18/2005	System and Methods for Selective Heart Dysrhythmias
US	60/701,747	7/22/2005	Systems and Methods for Neuromodulation for Treatment of Pain and Other Disorders Associated with Nerve Conduction
US	11/459,582	7/24/2006	Systems and Methods for Neuromodulation for Treatment of Pain and Other Disorders Associated with Nerve Conduction
US	12/567,521	9/25/2009	Systems and Methods for Neuromodulation for Treatment of Pain and Other Disorders Associated with Nerve Conduction
US	61,296,417	1/19/2010	Methods and Apparatus for Renal Neuromodulation Via Stereotactic Radiotherapy
US	13/009,748	1/19/2011	Methods and Apparatus for Renal Neuromodulation Via Stereotactic Radiotherapy
WO	PCT/US2011/021757	1/19/2011	Methods and Apparatus for Renal Neuromodulation Via Stereotactic Radiotherapy
US	61/307,633	2/24/2010	Methods for Therapeutic Renal Neuromodulation
US	61/385,870	9/23/2010	Methods for Therapeutic Renal Neuromodulation
US	13/034,595	2/24/2011	Methods for Therapeutic Renal Neuromodulation

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Country SubType	App/Pat No	File/Grant Date	Title
US	13/034,602	2/24/2011	METHODS FOR TREATING INSULIN RESISTANCE, DIABETES AND METABOLIC SYNDROME VIA RENAL DENERVATION
US	13/034,610	2/24/2011	METHODS FOR TREATING SLEEP APNEA VIA RENAL DENERVATION
US	61/258,824	11/06/2009	Sonication of Renal Nerves
US	12/940,922	11/5/2010	High Intensity Focused Ultrasound Catheter Apparatuses, Systems and Methods for Renal Neuromodulation
WO	PCT/US2011/059342	11/4/2011	High Intensity Focused Ultrasound Catheter Apparatuses, Systems and Methods for Renal Neuromodulation
US	61/328,105	4/26/2010	Catheter Apparatuses, Systems, and Methods for Renal Neuromodulation
US	12/790,639	5/28/2010	Catheter Apparatuses, Systems, and Methods for Renal Neuromodulation
US	12/871,457	8/30/2010	Multi-Directional Deflectable Catheter Apparatuses, System and Methods for Renal Neuromodulation
US	61/405,472	10/21/2010	Catheter Apparatuses, Systems, and Methods for Renal Neuromodulation
WO	PCT/US2011/033491	4/21/2011	Catheter Apparatuses, Systems, and Methods for Renal Neuromodulation
WO	PCT/US2011/057402	10/21/2011	Catheter Apparatuses, Systems, and Methods for Renal Neuromodulation

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TO MEDTRONIC PATENT ASSIGNMENT

Country SubType	App/Pat No	File/Grant Date	Title
US	61/371110	8/5/2010	CRYOABLATION APPARATUSES, SYSTEMS AND METHODS FOR RENAL NEUROMODULATION
US	61/406,968	10/26/2010	CRYOABLATION APPARATUSES, SYSTEMS AND METHODS FOR RENAL NEUROMODULATION
US	61/405,117	10/20/2010	CATHETER APPARATUSES, SYSTEMS AND METHODS FOR REINAL NEUROMODULATION
US	61/406,531	10/25/2010	EVALUATION AND FEEDBACK FOR RADIOFREQUENCY TREATMENT
US	61/528,108	8/26/2011	EVALUATION AND FEEDBACK FOR RADIOFREQUENCY TREATMENT
US	61/406,960	10/26/2010	CATHETER APPARATUSES, SYSTEMS AND METHODS FOR RENAL NEUROMODULATION
US	61/406,534	10/25/2010	MICROWAVE CATHETER APPARATUSES FOR RENAL NEUROMODULATION
US	61/414,499	11/17/2010	THERAPEUTIC RENAL NEUROMODULATOIN FOR TREATING DYSPNEA