

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT5495073

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	SECURITY INTEREST	
CONVEYING PARTY DATA		
Name		Execution Date
IMPULSE DYNAMICS N.V.		04/24/2019
RECEIVING PARTY DATA		
Name:	KENNEDY LEWIS INVESTMENT MANAGEMENT LLC	
Street Address:	80 BROAD STREET	
Internal Address:	22ND FLOOR	
City:	NEW YORK	
State/Country:	NEW YORK	
Postal Code:	10004	
PROPERTY NUMBERS Total: 87		
Property Type	Number	
Application Number:	10411795	
Application Number:	15942637	
Application Number:	15249506	
Application Number:	13265874	
Application Number:	11283401	
Application Number:	10039845	
Application Number:	09459289	
Application Number:	14621988	
Application Number:	14181900	
Application Number:	13662775	
Application Number:	11931724	
Application Number:	11932064	
Application Number:	11931889	
Application Number:	11933168	
Application Number:	90008689	
Application Number:	90008688	
Application Number:	90008707	
Application Number:	90008312	
Application Number:	10866213	

PATENT

Property Type	Number
Application Number:	90006788
Application Number:	10672385
Application Number:	10188726
Application Number:	10116201
Application Number:	10001710
Application Number:	09841891
Application Number:	09723989
Application Number:	09563544
Application Number:	09280486
Application Number:	09237568
Application Number:	09254993
Application Number:	09254902
Application Number:	09254900
Application Number:	09254903
Application Number:	09254994
Application Number:	09101723
Application Number:	11673812
Application Number:	11932149
Application Number:	11550560
Application Number:	95000032
Application Number:	09849637
Application Number:	09720639
Application Number:	14254945
Application Number:	15136933
Application Number:	09260769
Application Number:	09831283
Application Number:	09831100
Application Number:	10800169
Application Number:	09831282
Application Number:	09320090
Application Number:	09320091
Application Number:	09320089
Application Number:	09317589
Application Number:	09378776
Application Number:	09328068
Application Number:	09768968
Application Number:	09338649
Application Number:	09782347

Property Type	Number
Application Number:	09382269
Application Number:	09276460
Application Number:	09572482
Application Number:	09980748
Application Number:	09384834
Application Number:	09980908
Application Number:	10048803
Application Number:	10048802
Application Number:	09351726
Application Number:	09359684
Application Number:	09736974
Application Number:	10111515
Application Number:	10111512
Application Number:	10111516
Application Number:	09914547
Application Number:	09624089
Application Number:	09979937
Application Number:	09713538
Application Number:	10257722
Application Number:	10549216
Application Number:	12910943
Application Number:	12155448
Application Number:	11792811
Application Number:	11919491
Application Number:	13970647
Application Number:	14641480
Application Number:	11802685
Application Number:	11991481
Application Number:	12223651
Application Number:	15190451

CORRESPONDENCE DATA

Fax Number: (914)288-0023

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: 9142880022

Email: uspto@leasonellis.com

Correspondent Name: LEASON ELLIS LLP

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PATENT

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ATTORNEY DOCKET NUMBER:	05237/811555-000
NAME OF SUBMITTER:	JORDAN GARNER
SIGNATURE:	/jordan garner/
DATE SIGNED:	04/26/2019
Total Attachments: 17 source=02203222#page1.tif source=02203222#page2.tif source=02203222#page3.tif source=02203222#page4.tif source=02203222#page5.tif source=02203222#page6.tif source=02203222#page7.tif source=02203222#page8.tif source=02203222#page9.tif source=02203222#page10.tif source=02203222#page11.tif source=02203222#page12.tif source=02203222#page13.tif source=02203222#page14.tif source=02203222#page15.tif source=02203222#page16.tif source=02203222#page17.tif	

INTELLECTUAL PROPERTY SECURITY AGREEMENT

THIS INTELLECTUAL PROPERTY SECURITY AGREEMENT (“**Agreement**”) dated as of April 24, 2019, is made by Impulse Dynamics N.V., a Curacao limited liability company (naamloze vennootschap) with statutory seat in Curacao and address at Schottegatweg Oost 10 Unit A1K, Curacao, (individually and collectively, the “**Grantor**”), in favor Kennedy Lewis Investment Management LLC (“**Agent**”) in its capacity as collateral agent for the Lenders (as defined below).

RECITALS

A. Grantor has entered into a Loan and Security Agreement with certain financial institutions party thereto (the “**Lenders**”) and Agent, in its capacity as collateral agent for itself and the Lenders, dated as of the date hereof (as amended, restated, or otherwise modified from time to time, the “**Loan Agreement**”). All capitalized terms used but not defined herein shall have the respective meanings given to them in the Loan Agreement.

B. Pursuant to the terms of the Loan Agreement, Grantor has granted to Agent for its benefit and the benefit of the Lenders a security interest in all of Grantor’s right, title and interest, whether presently existing or hereafter acquired, in, to and under all of the Collateral.

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, and intending to be legally bound, as collateral security for the prompt and complete payment when due of its obligations under the Loan Agreement, Grantor hereby represents, warrants, covenants and agrees as follows:

AGREEMENT

1. **Grant of Security Interest.** To secure its obligations under the Loan Agreement, Grantor grants and pledges to Agent for its benefit and the benefit of the Lenders a security interest in all of Grantor’s right, title and interest in, to and under its intellectual property (all of which shall collectively be called the “**Intellectual Property Collateral**”), including, without limitation, the following:

(a) Any and all copyright rights, copyright applications, copyright registrations and like protections in each work of authorship and derivative work thereof, whether published or unpublished and whether or not the same also constitutes a trade secret, now or hereafter existing, created, acquired or held, including without limitation those set forth on Exhibit A attached hereto (collectively, the “**Copyrights**”);

(b) Any and all trade secrets, and any and all intellectual property rights in computer software and computer software products now or hereafter existing, created, acquired or held;

(c) Any and all design rights that may be available to Grantor now or hereafter existing, created, acquired or held;

(d) All patents, patent applications and like protections including, without limitation, improvements, divisions, continuations, renewals, reissues, extensions, re-examination certificates, utility models, and continuations-in-part of the same, including without limitation the patents and patent applications set forth on Exhibit B attached hereto (collectively, the “**Patents**”);

(e) Any trademark and servicemark rights, whether registered or not, applications to register and registrations of the same and like protections, and the entire goodwill of the business of Grantor connected with and symbolized by such trademarks, including without limitation those set forth on Exhibit C attached hereto (collectively, the “**Trademarks**”);

(f) All mask works or similar rights available for the protection of semiconductor chips, now owned or hereafter acquired, including, without limitation those set forth on Exhibit D attached hereto (collectively, the “**Mask Works**”);

(g) Any and all claims for damages by way of past, present and future infringements of any of the rights included above, with the right, but not the obligation, to sue for and collect such damages for said use or infringement of the intellectual property rights identified above;

(h) All licenses or other rights to use any of the Copyrights, Patents, Trademarks, or Mask Works and all license fees and royalties arising from such use to the extent permitted by such license or rights;

(i) All amendments, renewals and extensions of any of the Copyrights, Trademarks, Patents, or Mask Works; and

(j) All proceeds and products of the foregoing, including without limitation all payments under insurance or any indemnity or warranty payable in respect of any of the foregoing.

Notwithstanding the foregoing, the Intellectual Property Collateral shall not include: (i) any lease, license, contract, property rights, joint venture interests, or agreement to which Grantor is a party or any of its rights or interests thereunder, in each case, if and only if, and solely to the extent that, the grant of a security interest therein shall constitute or result in a breach, termination, default, abandonment, unenforceability or invalidity thereunder or thereof (other than to the extent that any such term would be rendered ineffective pursuant to Sections 9-406, 9-407, 9-408 or 9-409 of the UCC of any relevant jurisdiction or any other applicable law or principles of equity); provided that immediately upon the time at which the consequences described in the foregoing clause shall no longer exist, the Collateral shall include, and Grantor shall be deemed to have granted a security interest in, all of Grantor's right, title and interest in such lease, license, contract, property rights, joint venture interests, or agreement; and (ii) any "intent-to use" application for registration of a Trademark filed pursuant to Section 1(b) of the Lanham Act, 15 U.S.C. § 1051, prior to the filing of a "Statement of Use" pursuant to Section 1(d) of the Lanham Act or an "Amendment to Allege Use" pursuant to Section 1(c) of the Lanham Act with respect thereto, solely to the extent, if any, that, and solely during the period, if any, in which, the grant of a security interest therein would impair the validity or enforceability of any registration that issues from such intent-to-use application under applicable federal law.

2. Recordation. Grantor authorizes the Commissioner for Patents, the Commissioner for Trademarks and the Register of Copyrights and any other government officials to record and register this Agreement upon request by Agent. Agent shall endeavor to promptly deliver to Grantor (a) a full copy of any document filed by it with the Commissioner for Patents, the Commissioner for Trademarks, the Register of Copyrights or any other government officials in order to record and register this Agreement; and (b) any document, certificate or the like issued by the Commissioner for Patents, the Commissioner for Trademarks, the Register of Copyrights or any other government officials which confirms the recording or register of this Agreement.

Grantor hereby authorizes Agent to (a) modify this Agreement unilaterally by amending the exhibits to this Agreement to include any Intellectual Property Collateral which Grantor obtains subsequent to the date of this Agreement and (b) file a duplicate original of this Agreement containing amended exhibits reflecting such new Intellectual Property Collateral. Agent shall endeavor to promptly provide Grantor a full copy of any such amendment to the exhibits to this Agreement.

3. Loan Documents. This Agreement has been entered into pursuant to and in conjunction with the Loan Agreement, which is hereby incorporated by reference. The provisions of the Loan Agreement shall supersede and control over any conflicting or inconsistent provision herein. The rights and remedies of Agent with respect to the Intellectual Property Collateral are as provided by the Loan Agreement and related documents, and nothing in this Agreement shall be deemed to limit such rights and remedies.

4. Execution in Counterparts. This Agreement and any amendments, waivers, consents or supplements hereto may be executed in any number of counterparts, and by different parties hereto in separate counterparts, each of which when so delivered shall be deemed an original, but all of which counterparts shall constitute but one and the same instrument. Delivery of an executed counterpart of a signature page of this Agreement by facsimile, portable document format (.pdf) or other electronic transmission will be as effective as delivery of a manually executed counterpart hereof.

5. Successors and Assigns. The provisions of this Agreement shall inure to the benefit of the parties hereto and their respective successors and assigns. Grantor shall not assign its obligations under this Agreement without Agent's express prior written consent, and any such attempted assignment shall be void and of no effect. Agent may assign, transfer, or endorse its rights hereunder pursuant to the terms of the Loan Agreement without prior notice to Grantor, and all of such rights shall inure to the benefit of Agent's successors and assigns.

6. Governing Law. THIS AGREEMENT AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HEREUNDER SHALL IN ALL RESPECTS BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH, THE INTERNAL LAWS OF THE STATE OF NEW YORK (WITHOUT REGARD TO THE CONFLICT OF LAWS PRINCIPLES THAT WOULD RESULT IN THE APPLICATION OF ANY LAW OTHER THAN THE LAW OF SUCH STATE), INCLUDING ALL MATTERS OF CONSTRUCTION, VALIDITY AND PERFORMANCE, REGARDLESS OF THE LOCATION OF THE COLLATERAL, PROVIDED, HOWEVER, THAT IF THE LAWS OF ANY JURISDICTION OTHER THAN NEW YORK SHALL GOVERN IN REGARD TO THE VALIDITY, PERFECTION OR EFFECT OF PERFECTION OF ANY LIEN OR IN REGARD TO PROCEDURAL MATTERS AFFECTING ENFORCEMENT OF ANY LIENS IN COLLATERAL, SUCH LAWS OF SUCH OTHER JURISDICTIONS SHALL CONTINUE TO APPLY TO THAT EXTENT.

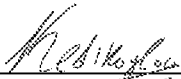
7. Permitted Uses. Nothing in this Agreement shall restrict or limit the Grantor from doing anything that it is otherwise permitted to do pursuant to Article 7 of the Loan Agreement.

[Signature page follows.]

IN WITNESS WHEREOF, the parties have caused this Intellectual Property Security Agreement to be duly executed by its officers thereunto duly authorized as of the first date written above.


GRANTOR:

Impulse Dynamics N.V.

By: 
Name: Simos Kedikoglou
Title: Chief Executive Officer

AGENT:

Kennedy Lewis Investment Management LLC, as
collateral agent

By:  _____

Name: Anthony Pasqua

Title: Authorized Signatory

[Signature Page to Intellectual Property Security Agreement]

EXHIBIT A

COPYRIGHTS

None.

EXHIBIT B

PATENTS

(See attached.)

Exhibit B - Patents

Reference	Official Title	Company	Country Name	Application No.	Registration No.	Filing Date	Registration Date	Expiration Date
*GDT 105 US CON	Cardiac rhythm management system for edema	Impulse Dynamics N.V.	United States of America	10/411,795	7,177,681	2003-04-11	2007-02-13	
54 US 1	Braided Splittable Catheter Sheath	Impulse Dynamics N.V.	United States of America	09/713,538	6,749,600	2000-11-15	2004-06-15	2020-04-15
43 US	ANTI-ARRHYTHMIC DEVICE AND A METHOD OF DELIVERING ANTI-ARRHYTHMIC CARDIAC THERAPY	Impulse Dynamics N.V.	United States of America	10/111,512	7,953,481	2000-10-25	2011-05-31	2022-07-05
41 US	CARDIAC CONTRACTILITY MODULATION DEVICE HAVING ANTI-ARRHYTHMIC CAPABILITIES AND A METHOD	Impulse Dynamics N.V.	United States of America	10/111,515	6,993,385	2000-10-24	2006-01-31	2022-03-04
51 US	Enhanced Suction-Based Cardiac Mechanical Stabilizer	Impulse Dynamics N.V.	United States of America	09/624,089	6602183	2000-07-24	2003-08-05	2020-07-24
30 US	DRUG DELIVERY DEVICE	Impulse Dynamics N.V.	United States of America	09/980,908	7,190,997	2000-06-04	2007-03-13	2021-04-14
28 US	Shockless defibrillation	Impulse Dynamics N.V.	United States of America	09/980,748	8014858	2000-05-25	2011-09-06	2020-05-25
52 US	Local cardiac motion control using applied electrical signals and mechanical force	Impulse Dynamics N.V.	United States of America	09/979,937	6973347	2000-05-25	2005-12-06	2019-05-26
90A US CON	PROTEIN ACTIVITY MODIFICATION	Impulse Dynamics N.V.	United States of America	15/942,637		2018-04-02		
90B US CON3	PROTEIN ACTIVITY MODIFICATION	Impulse Dynamics N.V.	United States of America	15/249,506		2016-08-29		
M-STK/US	Simple Control of Complex Bio-Implants	Impulse Dynamics N.V.	United States of America	15/190,451	10,188,866	2016-06-23	2019-01-29	2036-06-28
108 US CON 2	IMPLANTABLE LEAD CONNECTOR	Impulse Dynamics N.V.	United States of America	15136933	9,956,390	2016-04-24	2018-05-01	2030-04-23
74A US DIV	Apparatus & Method for Delivering Electrical Signals to Modify Gene Expression in Cardiac Tissue	Impulse Dynamics N.V.	United States of America	12/910,943	8,326,416	2010-10-25	2012-12-04	2024-03-10
108 US NP	IMPLANTABLE LEAD CONNECTOR	Impulse Dynamics N.V.	United States of America	13/265,874	8,706,230	2010-04-23	2014-04-22	2031-04-06
81 US	TRANSCUTANEOUS CHARGING DEVICE	Impulse Dynamics N.V.	United States of America	12/155,448	8,901,878	2008-06-04	2014-12-02	2032-02-23
01 US CON 10	ELECTRICAL MUSCLE CONTROLLER	Impulse Dynamics N.V.	United States of America	11/932,149	8,260,416	2007-10-31	2012-09-04	2019-11-19
90C US	PROTEIN ACTIVITY MODIFICATION	Impulse Dynamics N.V.	United States of America	11/802,685	8,352,031	2007-05-24	2013-01-08	2025-12-15
***40A US CON (I-D)	SIGNAL DELIVERY THROUGH THE RIGHT VENTRICULAR SEPTUM	Impulse Dynamics N.V.	United States of America	11/673,812	9,713,723	2007-02-12	2017-07-25	2020-05-15
99 US	ASSESSING CARDIAC ACTIVITY	Impulse Dynamics N.V.	United States of America	12/223,651	8,406,864	2007-02-04	2013-03-26	2030-03-30
01 US CON 6	ELECTRICAL MUSCLE CONTROLLER	Impulse Dynamics N.V.	United States of America	11/550,560	8,311,629	2006-10-18	2012-11-13	2019-11-16

98 US	APPARATUS AND METHOD FOR DELIVERING ELECTRICAL SIGNALS TO A HEART	Impulse Dynamics N.V.	United States of America	11/991,481	7,966,067	2006-09-06	2011-06-21	2028-02-29
90B US	PROTEIN ACTIVITY MODIFICATION	Impulse Dynamics N.V.	United States of America	11/919,491	8,548,583	2006-05-04	2013-10-01	2026-10-10
90A US	PROTEIN ACTIVITY MODIFICATION	Impulse Dynamics N.V.	United States of America	11/792,811	9,931,503	2005-12-09	2018-04-03	2033-03-26
41 US CON	CARDIAC CONTRACTILITY MODULATION DEVICE HAVING ANTI-ARRHYTHMIC CAPABILITIES AND METHOD OF OPERATING THEREOF	Impulse Dynamics N.V.	United States of America	11/283,401	7,647,102	2005-11-18	2010-01-12	2021-06-07
13 US CON	Regulation of excitable tissue control of the heart based on physiological input	Impulse Dynamics N.V.	United States of America	10/800,169	7310555	2004-03-10	2007-12-18	2019-11-04
74 US	APPARATUS AND METHOD FOR DELIVERING ELECTRICAL SIGNALS TO MODIFY GENE EXPRESSION IN CARDIAC TISSUE	Impulse Dynamics N.V.	United States of America	10/549,216	7,940,262	2004-03-10	2010-11-23	2025-05-15
01 US CON2-Reexam	Re-Examination Of US Patent No. 6,330,476 ELECTRICAL MUSCLE CONTROLLER USING A NON-EXCITATORY ELECTRIC FIELD	Impulse Dynamics N.V.	United States of America	95/000,032	6,330,476 C1	2003-12-31	2009-09-08	
01 US CON 3	Heart activity control apparatus using synchronized non-excitatory pre-stimulation	Impulse Dynamics N.V.	United States of America	10/039,845	9,289,618	2001-10-23	2016-03-22	2021-02-16
13 US	Regulation of excitable tissue control of the heart based on physiological input	Impulse Dynamics N.V.	United States of America	09/831,100	6725093	2001-09-10	2004-04-20	2019-11-04
44 US	DEVICE FOR CARDIAC THERAPY	Impulse Dynamics N.V.	United States of America	10/111,516	7,027,863	2001-05-10	2006-04-11	2021-07-18
09 US	MULTI-ELECTRODE LEAD	Impulse Dynamics N.V.	United States of America	09/849,637	7,412,289	2001-05-04	2008-08-12	2019-11-04
55 US	Method and Device for Inserting Leads into Coronary veins	Impulse Dynamics N.V.	United States of America	10/257,722	7195637	2001-04-17	2007-03-27	2022-11-20
24A US CON	APPARATUS AND METHOD FOR SETTING THE PARAMETERS OF AN ALERT WINDOW USED FOR TIMING THE DELIVERY OF ETC SIGNALS TO A HEART UNDER VARYING CARDIAC CONDITIONS	Impulse Dynamics N.V.	United States of America	09/782,347	6,597,952	2001-02-12	2003-07-22	2019-07-17
24 US CON	APPARATUS AND METHOD FOR COLLECTING DATA USEFUL FOR DETERMINING THE PARAMETERS OF AN ALERT WINDOW FOR TIMING DELIVERY OF ETC SIGNALS TO A HEART UNDER VARYING CARDIAC CONDITIONS	Impulse Dynamics N.V.	United States of America	09/768,968	6,459,928	2001-01-24	2002-10-01	2019-06-08
49 US	FIELD DELIVERY SAFETY SYSTEM USING DETECTION OF ATYPICAL ECG	Impulse Dynamics N.V.	United States of America	09/914,547	6,480,737	2000-12-28	2002-11-12	2020-12-28
37 US	Fluid Phase Electrode Lead	Impulse Dynamics N.V.	United States of America	09/736974	6529778	2000-12-14	2003-03-04	2020-12-04
30B US	DRUG DELIVERY DEVICE	Impulse Dynamics N.V.	United States of America	10/048,802	7,092,753	2000-12-14	2006-08-15	2022-05-27
30A US	DRUG DELIVERY DEVICES	Impulse Dynamics N.V.	United States of America	10/048,803	7,171,263	2000-12-13	2007-01-30	2021-04-14
18 US	Multi-electrode intravascular lead	Impulse Dynamics N.V.	United States of America	09/459,289	6662055	1999-12-17	2003-12-09	2019-12-17
12 US	Sensor based regulation of excitable tissue control of the heart	Impulse Dynamics N.V.	United States of America	09/831,283	6,675,043	1999-11-04	2004-01-06	2019-11-04
14 US	TRIGGER-BASED REGULATION OF EXCITABLE TISSUE CONTROL OF THE HEART	Impulse Dynamics N.V.	United States of America	09/831,282	6587721	1999-11-04	2003-07-01	2019-11-04
29 US	High Capacitance Myocardial Electrodes	Impulse Dynamics N.V.	United States of America	09/384,834	6,292,704	1999-08-27	2001-09-18	2019-08-27

25 US	APPARATUS AND METHOD FOR DETERMINING A MECHANICAL PROPERTY OF AN ORGAN OR BODY CAVITY BY IMPEDANCE DETERMINATION	Impulse Dynamics N.V.	United States of America	09/382,269	6,360,123	1999-08-24	2002-03-19	2019-08-24
23 US 1	APPARATUS AND METHOD FOR CONTROLLING THE DELIVERY OF CONTRACTILITY MODULATING NON-EXCITATORY SIGNALS TO THE HEART	Impulse Dynamics N.V.	United States of America	09/378,776	6,360,126	1999-08-20	2002-03-19	2019-08-20
34 US	Electro Optically Driven Solid State Relay System	Impulse Dynamics N.V.	United States of America	09/359,684	6,355,538	1999-07-23	2002-01-01	2019-07-23
10 US	Pacing with hemodynamic enhancement	Impulse Dynamics N.V.	United States of America	09/720,639	7,460,907	1999-07-18	2008-12-02	2019-07-18
33 US	Catheter with Distal End Engaging Means	Impulse Dynamics N.V.	United States of America	09/351,726	6,348,045	1999-07-12	2002-02-19	2019-07-12
24A US	APPARATUS AND METHOD FOR SETTING THE PARAMETERS OF AN ALERT WINDOW USED FOR TIMING THE DELIVERY OF ETC SIGNALS TO A HEART UNDER VARYING CARDIAC CONDITIONS	Impulse Dynamics N.V.	United States of America	09/338,649	6,233,487	1999-06-23	2001-05-15	2019-06-08
24 US 1	APPARATUS AND METHOD FOR COLLECTING DATA USEFUL FOR DETERMINING THE PARAMETERS OF AN ALERT WINDOW FOR TIMING DELIVERY OF ETC. SIGNALS TO A HEART UNDER VARYING CARDIAC CONDITIONS	Impulse Dynamics N.V.	United States of America	09/328,068	6,223,072	1999-06-08	2001-04-24	2019-06-08
15 US 1	Local cardiac motion control using applied electrical signals	Impulse Dynamics N.V.	United States of America	09/320,090	6,442,424	1999-05-26	2002-08-27	2019-05-26
16 US 1	Induction of Cardioplegia using Applied Electrical Signals	Impulse Dynamics N.V.	United States of America	09/320,091	6,304,777	1999-05-26	2001-10-16	2019-05-26
17 US 1	Muscle contraction assist device	Impulse Dynamics N.V.	United States of America	09/320,089	6,285,906	1999-05-26	2001-09-04	2019-05-26
21 US 1	Method and Device for Dragging and Positioning a member within a duct in a body	Impulse Dynamics N.V.	United States of America	09/317,589	6,254,610	1999-05-24	2001-07-03	2019-05-24
90B US CON2	PROTEIN ACTIVITY MODIFICATION	Impulse Dynamics N.V.	United States of America	14/641,480	9,440,080	2015-03-09	2016-09-13	2024-03-10
108 US CON	IMPLANTABLE LEAD CONNECTOR	Impulse Dynamics N.V.	United States of America	14/254,945	9,320,886	2014-04-17	2016-04-26	2030-04-23
90B US CON	PROTEIN ACTIVITY MODIFICATION	Impulse Dynamics N.V.	United States of America	13/970,647	8,977,353	2013-08-20	2015-03-10	2026-05-04
01 US CON 13	ELECTRICAL MUSCLE CONTROLLER	Impulse Dynamics N.V.	United States of America	14/621,988	9,186,514	2015-02-13	2015-11-17	2017-01-08
01 US CON 12	ELECTRICAL MUSCLE CONTROLLER	Impulse Dynamics N.V.	United States of America	14/181,900	8,958,872	2014-02-17	2015-02-17	2017-01-08
01 US CON 11	ELECTRICAL MUSCLE CONTROLLER	Impulse Dynamics N.V.	United States of America	13/662,775	8,655,444	2012-10-29	2014-02-18	2017-01-08
01 US CON 7	Heart activity control apparatus using synchronized non-excitatory pre-stimulation	Impulse Dynamics N.V.	United States of America	11/931,724	8,306,616	2007-10-31	2012-11-06	2018-12-22
01 US CON 9	Heart activity control apparatus using synchronized non-excitatory pre-stimulation	Impulse Dynamics N.V.	United States of America	11/932,064	8,306,617	2007-10-31	2012-11-06	2018-02-13
01 US CON 8	ELECTRICAL MUSCLE CONTROLLER	Impulse Dynamics N.V.	United States of America	11/931,889	8,301,247	2007-10-31	2012-10-30	2017-06-12
***10A US CIP (I-D)	Pacing with hemodynamic enhancement	Impulse Dynamics N.V.	United States of America	11/933,168	8,321,013	2007-10-31	2012-11-27	2017-12-07
01 US-Reexam	Re-Examination of US Patent No. 6,317,631 CONTROLLING HEART PERFORMANCE USING A NON-EXCITATORY ELECTRIC FIELD	Impulse Dynamics N.V.	United States of America	90/008,689	6,317,631 C1	2007-08-20	2009-06-23	2016-02-01
01 US CON-Reexam	Re-Examination of US Patent No. 6,363,279 ELECTRICAL MUSCLE CONTROLLER	Impulse Dynamics N.V.	United States of America	90/008,688	6,363,279 C1	2007-08-20	2009-07-14	2017-01-08
03 US-Reexam	DRUG-DEVICE COMBINATION FOR CONTROLLING THE CONTRACTILITY OF MUSCLES	Impulse Dynamics N.V.	United States of America	90/008,707	6,236,887 C1	2007-06-13	2009-06-23	2017-07-09
07-US Reexam	Cardiac Output Enhanced Pacemaker	Impulse Dynamics N.V.	United States of America	90/008,312	6,463,324 C1	2006-11-01	2008-04-29	2017-07-09
01 US CON 5	ELECTRICAL MUSCLE CONTROLLER	Impulse Dynamics N.V.	United States of America	10/866,213	7,167,748	2004-06-10	2007-01-23	2017-01-08
06-US-Reexam	Cardiac Output Controller	Impulse Dynamics N.V.	United States of America	90/006,788	6,298,268 C1	2003-10-10	2006-03-07	2017-07-09
40A US	Signal delivery through the right ventricular septum	Impulse Dynamics N.V.	United States of America	10/672,385	7,187,970	2003-09-26	2007-03-06	2016-02-01
04 US CON	FENCING OF CARDIAC MUSCLES	Impulse Dynamics N.V.	United States of America	10/188,726	7,218,963	2002-07-02	2007-05-15	2017-07-09
38 US	MODULATION OF INTRACELLULAR CALCIUM CONCENTRATION USING NON-EXCITATORY ELECTRICAL SIGNALS APPLIED TO THE TISSUE	Impulse Dynamics N.V.	United States of America	10/116,201	8,825,152	2002-04-03	2014-09-02	2016-02-01
01 US CON 4	ELECTRICAL MUSCLE CONTROLLER	Impulse Dynamics N.V.	United States of America	10/001,710	7,062,318	2001-10-31	2006-06-13	2017-01-08
26 US CON	APPARATUS AND METHOD FOR TIMING THE DELIVERY OF NON-EXCITATORY ETC SIGNALS TO A HEART	Impulse Dynamics N.V.	United States of America	09/841,991	6,424,866	2001-04-25	2002-07-23	2018-11-19
01 US CON 2	ELECTRICAL MUSCLE CONTROLLER USING A NON-EXCITATORY ELECTRIC FIELD	Impulse Dynamics N.V.	United States of America	09/723,899	6,330,476	2000-11-28	2001-12-11	2016-02-01
26A US	APPARATUS AND METHOD FOR CONTROLLING THE DELIVERY OF NON-EXCITATORY CARDIAC CONTRACTILITY MODULATING SIGNALS TO A HEART	Impulse Dynamics N.V.	United States of America	09/572,482	6,370,430	2000-05-16	2002-04-09	2019-03-25
01 US CON	Heart activity control apparatus using synchronized non-excitatory pre-stimulation	Impulse Dynamics N.V.	United States of America	09/563,544	6,363,279	2000-05-01	2002-03-26	2016-02-01
19 US 1	Bipolar Sensor for Muscle Tissue Action Potential Duration Estimation	Impulse Dynamics N.V.	United States of America	09/280,486	6,523,904	1999-03-30	2003-02-18	2019-03-30
26 US	APPARATUS AND METHOD FOR TIMING THE DELIVERY OF NON-EXCITATORY ETC SIGNALS TO A HEART	Impulse Dynamics N.V.	United States of America	09/276,460	6,263,242	1999-03-25	2001-07-17	2019-03-25
11 US	CONTRACTILITY ENHANCEMENT USING EXCITABLE TISSUE CONTROL AND MULTI-SITE PACING	Impulse Dynamics N.V.	United States of America	09/260,769	6,292,693	1999-03-02	2001-09-18	2019-03-02
22 US 1	APPARATUS AND METHOD FOR CHRONIC MEASUREMENT OF MONOPHASIC ACTION POTENTIALS	Impulse Dynamics N.V.	United States of America	09/237,568	6,152,882	1999-01-26	2000-11-28	2019-01-26
03 US	DRUG-DEVICE COMBINATION FOR CONTROLLING THE CONTRACTILITY OF MUSCLES	Impulse Dynamics N.V.	United States of America	09/254,993	6,236,887	1997-07-09	2001-05-22	2017-07-09
06 US	CARDIAC OUTPUT CONTROLLER	Impulse Dynamics N.V.	United States of America	09/254,902	6,298,268	1997-07-09	2001-10-02	2017-07-09
07 US	CARDIAC OUTPUT ENHANCED PACEMAKER	Impulse Dynamics N.V.	United States of America	09/254,900	6,463,324	1997-07-09	2002-10-08	2017-07-09
04 US	FENCING OF CARDIAC MUSCLES	Impulse Dynamics N.V.	United States of America	09/254,903	6,415,178	1997-07-09	2002-07-02	2017-07-09
02 US	APPARATUS AND METHOD FOR CONTROLLING THE CONTRACTILITY OF MUSCLES	Impulse Dynamics N.V.	United States of America	09/254,994	6,233,484	1997-07-09	2001-05-15	2017-07-09
01 US	CONTROLLING HEART PERFORMANCE USING A NON-EXCITATORY ELECTRIC FIELD	Impulse Dynamics N.V.	United States of America	09/101,723	6,317,631	1997-01-08	2001-11-13	2016-02-01
***40A US CON (I-D)	SIGNAL DELIVERY THROUGH THE RIGHT VENTRICULAR SEPTUM	Impulse Dynamics N.V.	United States of America	11/673,812	9,713,723	2007-02-12	2017-07-25	2020-05-15
01 US CON 10	ELECTRICAL MUSCLE CONTROLLER	Impulse Dynamics N.V.	United States of America	11/932,149	8,260,416	2007-10-31	2012-09-04	2019-11-19
01 US CON 3	Heart activity control apparatus using synchronized non-excitatory pre-stimulation	Impulse Dynamics N.V.	United States of America	10/039,845	9,289,618	2001-10-23	2016-03-22	2021-02-16
01 US CON 6	ELECTRICAL MUSCLE CONTROLLER	Impulse Dynamics N.V.	United States of America	11/550,560	8,311,629	2006-10-18	2012-11-13	2019-11-16

01 US CON2-Reexam	Re-Examination Of US Patent No. 6,330,476 ELECTRICAL MUSCLE CONTROLLER USING A NON-EXCITATORY ELECTRIC FIELD	Impulse Dynamics N.V.	United States of America	95/000,032	6,330,476 C1	2003-12-31	2009-09-08	
09 US	MULTI-ELECTRODE LEAD	Impulse Dynamics N.V.	United States of America	09/849,637	7,412,289	2001-05-04	2008-08-12	2019-11-04
10 US	Pacing with hemodynamic enhancement	Impulse Dynamics N.V.	United States of America	09/720,639	7460907	1999-07-18	2008-12-02	2019-07-18
108 US CON	IMPLANTABLE LEAD CONNECTOR	Impulse Dynamics N.V.	United States of America	14/254,945	9320886	2014-04-17	2016-04-26	2030-04-23
108 US CON 2	IMPLANTABLE LEAD CONNECTOR	Impulse Dynamics N.V.	United States of America	15136933	9,956,390	2016-04-24	2018-05-01	2030-04-23
108 US NP	IMPLANTABLE LEAD CONNECTOR	Impulse Dynamics N.V.	United States of America	13/265,874	8,705,230	2010-04-23	2014-04-22	2031-04-06
11 US	CONTRACTILITY ENHANCEMENT USING EXCITABLE TISSUE CONTROL AND MULTI-SITE PACING	Impulse Dynamics N.V.	United States of America	09/260,769	6,292,693	1999-03-02	2001-09-18	2019-03-02
12 US	Sensor-based regulation of excitable tissue control of the heart	Impulse Dynamics N.V.	United States of America	09/831,283	6,675,043	1999-11-04	2004-01-06	2019-11-04
13 US	Regulation of excitable tissue control of the heart based on physiological input	Impulse Dynamics N.V.	United States of America	09/831,100	6725093	2001-09-10	2004-04-20	2019-11-04
13 US CON	Regulation of excitable tissue control of the heart based on physiological input	Impulse Dynamics N.V.	United States of America	10/800,169	7310555	2004-03-10	2007-12-18	2019-11-04
14 US	TRIGGER-BASED REGULATION OF EXCITABLE TISSUE CONTROL OF THE HEART	Impulse Dynamics N.V.	United States of America	09/831,282	6587721	1999-11-04	2003-07-01	2019-11-04
15 US 1	Local cardiac motion control using applied electrical signals	Impulse Dynamics N.V.	United States of America	09/320,090	6442424	1999-05-26	2002-08-27	2019-05-26
16 US 1	Induction of Cardioplegia using Applied Electrical Signals	Impulse Dynamics N.V.	United States of America	09/320,091	6304777	1999-05-26	2001-10-16	2019-05-26
17 US 1	Muscle contraction assist device	Impulse Dynamics N.V.	United States of America	09/320,089	6,285,906	1999-05-26	2001-09-04	2019-05-26
18 US	Multi-electrode intravascular lead	Impulse Dynamics N.V.	United States of America	09/459,289	6662055	1999-12-17	2003-12-09	2019-12-17
19 US 1	Bipolar Sensor for Muscle Tissue Action Potential Duration Estimation	Impulse Dynamics N.V.	United States of America	09/280,486	6522904	1999-03-30	2003-02-18	2019-03-30
21 US 1	Method and Device for Dragging and Positioning a member within a duct in a body	Impulse Dynamics N.V.	United States of America	09/317,589	6,254,610	1999-05-24	2001-07-03	2019-05-24
23 US 1	APPARATUS AND METHOD FOR CONTROLLING THE DELIVERY OF CONTRACTILITY MODULATING NON-EXCITATORY SIGNALS TO THE HEART	Impulse Dynamics N.V.	United States of America	09/378,776	6,360,126	1999-08-20	2002-03-19	2019-08-20
24 US 1	APPARATUS AND METHOD FOR COLLECTING DATA USEFUL FOR DETERMINING THE PARAMETERS OF AN ALERT WINDOW FOR TIMING DELIVERY OF ETC. SIGNALS TO A HEART UNDER VARYING CARDIAC CONDITIONS	Impulse Dynamics N.V.	United States of America	09/328,068	6,223,072	1999-06-08	2001-04-24	2019-06-08
24 US CON	APPARATUS AND METHOD FOR COLLECTING DATA USEFUL FOR DETERMINING THE PARAMETERS OF AN ALERT WINDOW FOR TIMING DELIVERY OF ETC. SIGNALS TO A HEART UNDER VARYING CARDIAC CONDITIONS	Impulse Dynamics N.V.	United States of America	09/768,968	6,459,928	2001-01-24	2002-10-01	2019-06-08
24A US	APPARATUS AND METHOD FOR SETTING THE PARAMETERS OF AN ALERT WINDOW USED FOR TIMING THE DELIVERY OF ETC SIGNALS TO A HEART UNDER VARYING CARDIAC CONDITIONS	Impulse Dynamics N.V.	United States of America	09/338,649	6,233,487	1999-06-23	2001-05-15	2019-06-08
24A US CON	APPARATUS AND METHOD FOR SETTING THE PARAMETERS OF AN ALERT WINDOW USED FOR TIMING THE DELIVERY OF ETC SIGNALS TO A HEART UNDER VARYING CARDIAC CONDITIONS	Impulse Dynamics N.V.	United States of America	09/782,347	6,597,952	2001-02-12	2003-07-22	2019-07-17
25 US	APPARATUS AND METHOD FOR DETERMINING A MECHANICAL PROPERTY OF AN ORGAN OR BODY CAVITY BY IMPEDANCE DETERMINATION	Impulse Dynamics N.V.	United States of America	09/382,269	6,360,123	1999-08-24	2002-03-19	2019-08-24
26 US	APPARATUS AND METHOD FOR TIMING THE DELIVERY OF NON-EXCITATORY ETC SIGNALS TO A HEART	Impulse Dynamics N.V.	United States of America	09/276,460	6,263,242	1999-03-25	2001-07-17	2019-03-25
26A US	APPARATUS AND METHOD FOR CONTROLLING THE DELIVERY OF NON-EXCITATORY CARDIAC CONTRACTILITY MODULATING SIGNALS TO A HEART	Impulse Dynamics N.V.	United States of America	09/572,482	6,370,430	2000-05-16	2002-04-09	2019-03-25
28 US	Shockless defibrillation	Impulse Dynamics N.V.	United States of America	09/980,748	8014858	2000-05-25	2011-09-06	2020-05-25
29 US	High Capacitance Myocardial Electrodes	Impulse Dynamics N.V.	United States of America	09/384,834	6,292,704	1999-08-27	2001-09-18	2019-08-27
30 US	DRUG DELIVERY DEVICE	Impulse Dynamics N.V.	United States of America	09/980,908	7,190,997	2000-06-04	2007-03-13	2021-04-14
30A US	DRUG DELIVERY DEVICES	Impulse Dynamics N.V.	United States of America	10/048,803	7,171,263	2000-12-13	2007-01-30	2021-04-14
30B US	DRUG DELIVERY DEVICE	Impulse Dynamics N.V.	United States of America	10/048,802	7,092,753	2000-12-14	2006-08-15	2022-05-27
33 US	Catheter with Distal End Engaging Means	Impulse Dynamics N.V.	United States of America	09/351,726	6348045	1999-07-12	2002-02-19	2019-07-12
34 US	Electro Optically Driven Solid State Relay System	Impulse Dynamics N.V.	United States of America	09/359,684	6335538	1999-07-23	2002-01-01	2019-07-23
37 US	Fluid Phase Electrode Lead	Impulse Dynamics N.V.	United States of America	09/736974	6529778	2000-12-14	2003-03-04	2020-12-04
41 US	CARDIAC CONTRACTILITY MODULATION DEVICE HAVING ANTI-ARRHYTHMIC CAPABILITIES AND A METHOD OF OPERATING THEREOF	Impulse Dynamics N.V.	United States of America	10/111,515	6,993,385	2000-10-24	2006-01-31	2022-03-04
41 US CON	CARDIAC CONTRACTILITY MODULATION DEVICE HAVING ANTI-ARRHYTHMIC CAPABILITIES AND METHOD OF OPERATING THEREOF	Impulse Dynamics N.V.	United States of America	11/283,401	7,647,102	2005-11-18	2010-01-12	2021-06-07
43 US	ANTI-ARRHYTHMIC DEVICE AND A METHOD OF DELIVERING ANTI-ARRHYTHMIC CARDIAC THERAPY	Impulse Dynamics N.V.	United States of America	10/111,512	7,953,481	2000-10-25	2011-05-31	2022-07-05
44 US	DEVICE FOR CARDIAC THERAPY	Impulse Dynamics N.V.	United States of America	10/111,516	7,027,863	2001-05-10	2006-04-11	2021-07-18
49 US	FIELD DELIVERY SAFETY SYSTEM USING DETECTION OF ATYPICAL ECG	Impulse Dynamics N.V.	United States of America	09/914,547	6,480,737	2000-12-28	2002-11-12	2020-12-28
51 US	Enhanced Suction-Based Cardiac Mechanical Stabilizer	Impulse Dynamics N.V.	United States of America	09/624,089	6602183	2000-07-24	2003-08-05	2020-07-24

52 US	Local cardiac motion control using applied electrical signals and mechanical force	Impulse Dynamics N.V.	United States of America	09/979,937	6973347	2000-05-25	2005-12-06	2019-05-26
54 US 1	Braided Splittable Catheter Sheath	Impulse Dynamics N.V.	United States of America	09/713,538	6,749,600	2000-11-15	2004-06-15	2020-04-15
55 US	Method and Device for Inserting Leads into Coronary veins	Impulse Dynamics N.V.	United States of America	10/257,722	7195637	2001-04-17	2007-03-27	2022-11-20
74 US	APPARATUS AND METHOD FOR DELIVERING ELECTRICAL SIGNALS TO MODIFY GENE EXPRESSION IN CARDIAC TISSUE	Impulse Dynamics N.V.	United States of America	10/549,216	7,940,262	2004-03-10	2010-11-23	2025-05-15
74A US DIV	Apparatus & Method for Delivering Electrical Signals to Modify Gene Expression in Cardiac Tissue	Impulse Dynamics N.V.	United States of America	12/910,943	8,326,416	2010-10-25	2012-12-04	2024-03-10
91 US	TRANSCUTANEOUS CHARGING DEVICE	Impulse Dynamics N.V.	United States of America	12/155,448	8,901,878	2008-06-04	2014-12-02	2032-02-28
90A US	PROTEIN ACTIVITY MODIFICATION	Impulse Dynamics N.V.	United States of America	11/792,811	9,931,503	2005-12-09	2018-04-03	2033-03-26
90B US	PROTEIN ACTIVITY MODIFICATION	Impulse Dynamics N.V.	United States of America	11/919,491	8,548,583	2006-05-04	2013-10-01	2026-10-10
90B US CON	PROTEIN ACTIVITY MODIFICATION	Impulse Dynamics N.V.	United States of America	13/970,647	8,977,353	2013-08-20	2015-03-10	2026-05-04
90B US CON2	PROTEIN ACTIVITY MODIFICATION	Impulse Dynamics N.V.	United States of America	14/641,480	9,440,080	2015-03-09	2016-09-13	2024-03-10
90C US	PROTEIN ACTIVITY MODIFICATION	Impulse Dynamics N.V.	United States of America	11/802,685	8,352,031	2007-05-24	2013-01-08	2025-12-15
98 US	APPARATUS AND METHOD FOR DELIVERING ELECTRICAL SIGNALS TO A HEART	Impulse Dynamics N.V.	United States of America	11/991,481	7,966,067	2006-09-06	2011-06-21	2028-02-29
99 US	ASSESSING CARDIAC ACTIVITY	Impulse Dynamics N.V.	United States of America	12/223,651	8,406,864	2007-02-04	2013-03-26	2030-03-30
M-STK/US	Simple Control of Complex Bio-Implants	Impulse Dynamics N.V.	United States of America	15/190,451	10,189,866	2016-06-23	2019-01-29	2036-06-28

Reference	Official Title	Company	Country Name	Case Type	Case Status	Application No	Filing Date
115 US/PROV	Secure Communication Based on a Short Range Link	Impulse Dynamics N.V.	United States of America	Provisional	Pending	62/683,677	2018-06-12
117 US PROV	DISCRIMINATION OF SUPRAVENTRICULAR TACHYCARDIAS IN COMBINED CCM-ICD DEVICE	Impulse Dynamics N.V.	United States of America	Provisional	Pending	62/795,612	2019-01-23
90A US CON	PROTEIN ACTIVITY MODIFICATION	Impulse Dynamics N.V.	United States of America	Continuation	Pending	15/942,637	2018-04-02
90B US CON3	PROTEIN ACTIVITY MODIFICATION	Impulse Dynamics N.V.	United States of America	Continuation	Pending	15/249,506	2016-08-29
90B US CON4	PROTEIN ACTIVITY MODIFICATION	Impulse Dynamics N.V.	United States of America	Continuation	Pending	16/232,088	2018-12-26
98 EP	APPARATUS AND METHOD FOR DELIVERING ELECTRICAL SIGNALS TO A HEART	Impulse Dynamics N.V.	European Patent	PCT National Entry	Pending	06780471.6	2006-09-06
M-STK/US CON	Simple Control of Complex Bio-Implants	Impulse Dynamics N.V.	United States of America	Continuation	Pending	16/257,125	2019-01-25
114 US PROV	SECURE SHORT-RANGE COMMUNICATIONS LINK	Impulse Dynamics N.V.	United States of America	Provisional	Pending	62/816,982	2019-03-12
01 US CON 14	Heart activity control apparatus using synchronized non-excitatory pre-stimulation	Impulse Dynamics N.V.	United States of America	Continuation	Pending	14/941,791	2015-11-16
10 US CON	Pacing with hemodynamic enhancement	Impulse Dynamics N.V.	United States of America		Unfiled		
116 US PROV	CCM-D DEVICE WITH HIGH LONGEVITY	Impulse Dynamics N.V.	United States of America		Unfiled		
118 US PROV	IMPLANTABLE CCM/ICD WITH PAINLESS HIGH VOLTAGE LEAD INTEGRITY TEST	Impulse Dynamics N.V.	United States of America		Unfiled		
M-STK/US Prov	Simple Control of Complex Bio-Implants	Impulse Dynamics N.V.	United States of America			62/183,848	2015-06-24

Reference	Official Title	License	Company	Country Name	Application No	Registration No	Filing Date	Registration Date	Expiration Date
*GDT 105 US	Cardiac rhythm management system for edema	Cardiac Pacemakers (Licensed Via Guidant Settlement)	Impulse Dynamics N.V.	United States of America	09/919,483	7,191,000	2001-07-31	2007-03-13	
*GDT 105 US CON	Cardiac rhythm management system for edema	Cardiac Pacemakers (Licensed Via Guidant Settlement)	Impulse Dynamics N.V.	United States of America	10/411,795	7,177,681	2003-04-11	2007-02-13	
*GDT 105 US CON3	CARDIAC RHYTHM MANAGEMENT SYSTEM FOR EDEMA	Cardiac Pacemakers (Licensed Via Guidant Settlement)	Impulse Dynamics N.V.	United States of America	12/152,099	9,265,950	2008-05-12	2016-02-23	2024-02-22
*GDT 106 US	APPARATUS FOR SPATIALLY AND TEMPORALLY DISTRIBUTING CARDIAC ELECTRICAL STIMULATION	Cardiac Pacemakers (Licensed Via Guidant Settlement)	Impulse Dynamics N.V.	United States of America	09/544,363	6,640,135	2000-04-06	2003-10-28	
*GDT 106 US CON1	APPARATUS FOR SPATIALLY AND TEMPORALLY DISTRIBUTING CARDIAC ELECTRICAL STIMULATION	Cardiac Pacemakers (Licensed Via Guidant Settlement)	Impulse Dynamics N.V.	United States of America	10/634,232	7,292,887	2003-08-05	2007-11-06	
*GDT 106 US CON2	APPARATUS FOR SPATIALLY AND TEMPORALLY DISTRIBUTING CARDIAC ELECTRICAL STIMULATION	Cardiac Pacemakers (Licensed Via Guidant Settlement)	Impulse Dynamics N.V.	United States of America	11/931,718	8,090,442	2007-10-31	2012-01-03	
*GDT 106 US CON3	APPARATUS FOR SPATIALLY AND TEMPORALLY DISTRIBUTING CARDIAC ELECTRICAL STIMULATION	Cardiac Pacemakers (Licensed Via Guidant Settlement)	Impulse Dynamics N.V.	United States of America	11/931,779	8,560,067	2007-10-31	2013-10-15	2027-05-05
*GDT 107 US	METHOD AND SYSTEM FOR TREATMENT OF NEUROCARDIOGENIC SYNCOPE	Cardiac Pacemakers (Licensed Via Guidant Settlement)	Impulse Dynamics N.V.	United States of America	09/917,259	6,748,271	2001-07-27	2004-06-08	
*GDT 107 US CON 2	METHOD AND SYSTEM FOR TREATMENT OF NEUROCARDIOGENIC SYNCOPE	Cardiac Pacemakers (Licensed Via Guidant Settlement)	Impulse Dynamics N.V.	United States of America	13/235,599	8,498,703	2011-09-19	2013-07-30	2021-07-27
*GDT 107 US CON1	METHOD AND SYSTEM FOR TREATMENT OF NEUROCARDIOGENIC SYNCOPE	Cardiac Pacemakers (Licensed Via Guidant Settlement)	Impulse Dynamics N.V.	United States of America	10/862,831	8,024,040	2004-06-07	2011-09-20	
*GDT 105 US CON2	Cardiac rhythm management system for edema	Cardiac Pacemakers (Licensed Via Guidant Settlement)	Impulse Dynamics N.V.	United States of America	11/673,699		2007-02-12		

EXHIBIT C
TRADEMARKS

(See attached.)

Exhibit C - Trademarks

Title	Application No.	Registration No.	Registration Date	Company	International Trademark Classes	International Trademark Goods and Services	Country Name	Case Status	Case Type	Filing Date	Next Renewal Date
OPTIMIZER/US	78/880,730	3,302,172	2007-10-02	Impulse Dynamics N.V.	10	10: implantable heart monitor device; implantable heart activity monitor device; implantable heart stimulator	United States of Am	Registered	Normal	2006-05-10	2017-10-02
CCM (Design)/US	87780422	5683585	2/26/2019	Impulse Dynamics N.V.	10	10: implantable heart monitor device; implantable heart activity monitor device; implantable heart stimulator	United States of Am	Registered	Design (CCM)	2/1/2018	

EXHIBIT D

MASK WORKS

None.