

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

FORM 8-K

**CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934**

Date of Report (Date of earliest event reported): March 11, 2019

ShockWave Medical, Inc.
(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction
of incorporation)

001- 38829
(Commission
File Number)

27-0494101
(IRS Employer
Identification No.)

**5403 Betsy Ross Drive
Santa Clara, California**
(Address of principal executive offices)

95054
(Zip Code)

Registrant's telephone number, including area code: (510) 279-4262

Not Applicable
(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§ 230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§ 240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Introductory Note

On March 11, 2019, ShockWave Medical, Inc., a Delaware corporation (the “Company”), completed an initial public offering (the “IPO”) of 6,555,000 shares of its common stock, par value \$0.001 per share (the “Common Stock”), at a public offering price of \$17.00 per share pursuant to a registration statement on Form S-1 (Registration No. 333-229590) (the “Registration Statement”) filed by the Company with the Securities and Exchange Commission under the Securities Act of 1933, as amended (the “Securities Act”). On March 6, 2019, in connection with the IPO, the Common Stock was registered under Section 12(b) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). The Common Stock is listed on the Nasdaq Global Select Market under the trading symbol “SWAV.”

Item 3.02 Unregistered Sales of Equity Securities.

Simultaneously with the closing of the IPO, pursuant to the stock purchase agreement dated March 6, 2019 by and between the Company and Abiomed, Inc., the Company completed the private sale of an aggregate of 588,235 shares of Common Stock (the “Private Placement”) at a purchase price of \$17.00 per share for a total gross proceeds to the Company of approximately \$10.0 million. No underwriting discounts or commissions were paid with respect to such sale. The shares sold in the Private Placement were issued in reliance on an exemption from registration under Section 4(a)(2) of the Securities Act.

Item 5.03 Amendments to Certificate of Incorporation or Bylaws; Change in Fiscal Year.

As previously contemplated by the disclosure in the Registration Statement, the Company took the following actions in connection with the closing of the IPO (the “Closing”) on March 11, 2019.

Amendment and Restatement of Certificate of Incorporation

Immediately prior to the Closing, on March 11, 2019, the Company filed an amended and restated certificate of incorporation (the “A&R Certificate”) with the Secretary of State of the State of Delaware. The A&R Certificate amended and restated the Company’s sixth amended and restated certificate of incorporation to, among other things:

- authorize 281,274,838 shares of common stock;
 - authorize 5,000,000 shares of undesignated preferred stock (the “Undesignated Preferred Stock”) that may be issued from time to time by the Company’s board of directors (the “Board”) in one or more series with such designations, powers, preferences and other rights as the Board determines;
 - permit the Board to adopt, amend or repeal the Company’s bylaws (the “Bylaws”) without obtaining stockholder approval, and require that any amendment of the Bylaws by the stockholders receive the affirmative vote of the holders of not less than 75% of the total voting power of all outstanding securities entitled to vote in the election of directors;
 - provide for a classified Board consisting of three classes and prohibit the removal of directors by the stockholders without cause, through the vote of a majority of the total voting power of all outstanding securities entitled to vote in the election of directors;
 - prohibit stockholder action by written consent in lieu of a meeting, unless such consent is unanimous;
 - require that special meetings of the stockholders be called only by a majority of the directors;
 - provide for the indemnification of directors and officers of the Company, in each case to the fullest extent authorized by the General Corporation Law of the State of Delaware; and
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- require that any amendment of certain provisions of the A&R Certificate by the stockholders receive the affirmative vote of the holders of not less than 75% of the total voting power of all outstanding securities entitled to vote in the election of directors.

Certificate of Retirement

Immediately upon the Closing, all outstanding shares of the Company's Series A preferred stock, Series A-1 preferred stock, Series B preferred stock, Series C preferred stock and Series D preferred stock (collectively, the "Designated Preferred Stock") automatically converted into shares of the Company's common stock on a one-for-one basis, and such shares of Designated Preferred Stock were cancelled, retired and eliminated from the shares that the Company is authorized to issue and shall not be reissued by the Company. Accordingly, immediately upon the Closing, on March 11, 2019, the Company filed a certificate of retirement of preferred stock (the "Certificate of Retirement") with the Secretary of State of the State of Delaware, which eliminated from the A&R Certificate all references to the Designated Preferred Stock and reduced the total authorized number of shares of the capital stock of the Company by the number of shares of Designated Preferred Stock so retired, such that the total number of authorized shares of the Company following the filing of the Certificate of Retirement is 286,274,838, consisting of 281,274,838 shares of common stock and 5,000,000 shares of Undesignated Preferred Stock.

Restated Certificate

Immediately following the effectiveness of the Certificate of Retirement, on March 11, 2019, the Company filed a restated certificate of incorporation (the "Restated Certificate") with the Secretary of State of the State of Delaware. The Restated Certificate only restates and integrates and does not further amend the provisions of the A&R Certificate that was filed with the Secretary of State of the State of Delaware on March 11, 2019, as amended by the Certificate of Retirement that was filed with the Secretary of State of the State of Delaware on March 11, 2019.

The foregoing descriptions of the A&R Certificate, Certificate of Retirement and Restated Certificate are qualified in their entirety by reference to the A&R Certificate, Certificate of Retirement and Restated Certificate, copies of which are filed herewith as Exhibits 3.1, 3.2 and 3.3, respectively.

Amendment and Restatement of Bylaws

Immediately prior to the Closing, on March 11, 2019, the Company's amended and restated bylaws (the "Restated Bylaws") became effective. The Restated Bylaws amended the Company's bylaws to, among other things:

- prohibit stockholder action by written consent in lieu of a meeting, unless such consent is unanimous;
 - require that special meetings of the stockholders be called only by Chairman of the Board or a majority of the directors;
 - establish advance notice, content and procedural requirements for notice provided by stockholders for nominations for election to the Board and for proposals to be brought by stockholders before any meeting of the Company's stockholders;
 - set forth the rights, powers and manner of acting of the Board and officers of the Company;
 - provide that the exclusive forum for certain actions will be a state court within the State of Delaware; and
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- permit the Board to adopt, amend or repeal the Restated Bylaws without obtaining stockholder approval, and require that any amendment of the Restated Bylaws by the stockholders receive the affirmative vote of the holders of not less than 75% of the total voting power of all outstanding securities entitled to vote in the election of directors.

The foregoing description of the Restated Bylaws is qualified in its entirety by reference to the Restated Bylaws, a copy of which is filed herewith as Exhibit 3.4.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit Number	Description of Exhibit
3.1	Amended and Restated Certificate of Incorporation of ShockWave Medical, Inc.
3.2	Certificate of Retirement of Series A, Series A-1, Series B, Series C and Series D Preferred Stock of ShockWave Medical, Inc.
3.3	Restated Certificate of Incorporation of ShockWave Medical, Inc.
3.4	Amended and Restated Bylaws of ShockWave Medical, Inc.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Date: March 11, 2019

ShockWave Medical, Inc.

/s/ Dan Puckett

Dan Puckett

Chief Financial Officer and Secretary

AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION OF
SHOCKWAVE MEDICAL, INC.

The undersigned, Douglas Godshall, does hereby verify that:

ONE: He is the duly elected and acting President and Chief Executive Officer of Shockwave Medical, Inc. (the “**Corporation**”), a corporation organized and existing under the laws of the State of Delaware.

TWO: The original Certificate of Incorporation of the Corporation was filed with the Secretary of State of the State of Delaware on June 17, 2009, was amended and restated on May 16, 2011, July 1, 2013, May 5, 2015, November 9, 2016 and December 6, 2018 and amended on February 22, 2019.

THREE: This Amended and Restated Certificate of Incorporation (the “**Certificate of Incorporation**”) was duly adopted in accordance with Sections 242 and 245 of the General Corporation Law of the State of Delaware, and has been duly approved by the written consent of the stockholders of the Corporation in accordance with Section 228 of the General Corporation Law of the State of Delaware.

FOUR: The text of the Certificate of Incorporation is amended and restated in its entirety to read as follows:

ARTICLE I
NAME

The name of the Corporation is ShockWave Medical, Inc.

ARTICLE II
REGISTERED OFFICE AND AGENT

The address of its registered office in the State of Delaware is The Corporation Trust Company, 1209 Orange Street, City of Wilmington, County of New Castle, DE 19801. The name of its registered agent at such address is The Corporation Trust Company.

ARTICLE III
PURPOSE AND POWERS

The purpose of the Corporation is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware as the same exists or may hereafter be amended (“**Delaware Law**”).

**ARTICLE IV
CAPITAL STOCK**

(A) Authorized Shares.

1. **Classes of Stock.** The total number of shares of stock that the Corporation shall have authority to issue is 304,945,097, consisting of 281,274,838 shares of common stock, \$0.001 par value per share ("**Common Stock**"), and 23,670,259 shares of preferred stock, \$0.001 par value per share ("**Preferred Stock**"). The first series of Preferred Stock shall be designated "**Series A Preferred Stock**" and shall consist of 1,580,371 shares. The second series of Preferred Stock shall be designated "**Series A-1 Preferred Stock**" and shall consist of 4,197,115 shares. The third series of Preferred Stock shall be designated "**Series B Preferred Stock**" and shall consist of 5,309,601 shares. The fourth series of Preferred Stock shall be designated "**Series C Preferred Stock**" and shall consist of 6,492,564 shares. The fifth series of Preferred Stock shall be designated "**Series D Preferred Stock**" and shall consist of 1,090,608 shares. The Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series C Preferred Stock and Series D Preferred Stock shall be the "**Designated Preferred Stock**," and 5,000,000 shares shall be the "**Undesignated Preferred Stock**."

The powers, preferences and rights of, and the qualifications, limitations and restrictions upon, each class or series of stock shall be determined in accordance with, or as set forth below in, this Article IV. Every reference to Preferred Stock in Article IV(C) below means the Designated Preferred Stock. Immediately following the conversion of all outstanding Designated Preferred Stock into Common Stock pursuant to Article V Section 4, such shares so converted shall be cancelled, retired and eliminated from the shares that the Corporation shall be authorized to issue, and the Corporation shall no longer have the authority to issue any Designated Preferred Stock. This Certificate of Incorporation of this Corporation shall be appropriately amended to effect the conversion and the corresponding reductions in this Corporation's authorized capital stock.

2. **Undesignated Preferred Stock.** The Board of Directors is hereby empowered, without any action or vote by the Corporation's stockholders (except as may otherwise be provided by the terms of any class or series of Preferred Stock then outstanding), to authorize by resolution or resolutions from time to time the issuance of one or more classes or series of Undesignated Preferred Stock and to fix the designations, powers, preferences and relative, participating, optional or other rights, if any, and the qualifications, limitations or restrictions thereof, if any, with respect to each such class or series thereof and the number of shares constituting each such class or series, and to increase or decrease the number of shares of any such class or series to the extent permitted by Delaware Law.

(B) Common Stock.

Each holder of Common Stock, as such, shall be entitled to one vote for each share of Common Stock held of record by such holder on all matters on which stockholders generally are

entitled to vote; *provided, however*, that, except as otherwise required by law, holders of Common Stock, as such, shall not be entitled to vote on any amendment to this Certificate of Incorporation (including any certificate of designations relating to any class or series of Preferred Stock) that relates solely to the terms of one or more outstanding classes or series of Preferred Stock if the holders of such affected class or series are entitled, either separately or together with the holders of one or more other such classes or series, to vote thereon pursuant to this Certificate of Incorporation (including any certificate of designations relating to any class or series of Preferred Stock) or pursuant to Delaware Law.

(C) Designated Preferred Stock.

The terms and provisions of the Designated Preferred Stock are as follows:

1. **Definitions.** For purposes of this ARTICLE IV(C), the following definitions shall apply:

(a) **“Conversion Price”** shall mean \$2.8304 per share for the Series A Preferred Stock, \$3.09636 per share for the Series A-1 Preferred Stock, \$7.5335 per share for the Series B Preferred Stock, \$12.321756 per share for the Series C Preferred Stock and \$13.753792 per share for the Series D Preferred Stock (each subject to adjustment from time to time for Recapitalizations and as otherwise set forth elsewhere herein).

(b) **“Convertible Securities”** shall mean any evidences of indebtedness, shares or other securities, directly or indirectly, convertible into or exchangeable for Common Stock.

(c) **“Corporation”** shall mean ShockWave Medical, Inc.

(d) **“Distribution”** shall mean the transfer of cash or other property without consideration whether by way of dividend or otherwise, other than dividends on Common Stock payable in Common Stock, or the purchase or redemption of shares of the Corporation by the Corporation for cash or property other than: (i) repurchases of Common Stock issued to or held by employees, officers, directors or consultants of the Corporation upon termination of their employment or services pursuant to agreements providing for the right of said repurchase, (ii) repurchases of Common Stock issued to or held by employees, officers, directors or consultants of the Corporation or its subsidiaries pursuant to rights of first refusal contained in agreements providing for such right, (iii) repurchase of capital stock of the Corporation in connection with the settlement of disputes with any stockholder, as approved by the Board of Directors, and (iv) any other repurchase or redemption of capital stock of the Corporation approved by the Preferred Requisite Majority, which shall include the Series C Consent.

(e) **“Dividend Rate”** shall mean an annual rate of \$0.226432 per share for the Series A Preferred Stock, \$0.24766 per share for the Series A-1 Preferred Stock, \$0.60268 per share for the Series B Preferred Stock, \$0.98576 per share for the Series C Preferred Stock and \$1.10044 per share for the Series D Preferred Stock (each subject to adjustment from time to time for Recapitalizations as set forth elsewhere herein).

(f) **“Liquidation Preference”** shall mean \$2.8304 per share for the Series A Preferred Stock, \$3.09636 per share for the Series A-1 Preferred Stock, \$7.5335 per share for the Series B Preferred Stock, \$12.321756 per share for the Series C Preferred Stock and \$13.753792 per share for the Series D Preferred Stock (each subject to adjustment from time to time for Recapitalizations as set forth elsewhere herein).

(g) **“Options”** shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock or Convertible Securities.

(h) **“Original Issue Price”** shall mean \$2.8304 per share for the Series A Preferred Stock, \$3.09636 per share for the Series A-1 Preferred Stock, \$7.5335 per share for the Series B Preferred Stock, \$12.321756 per share for the Series C Preferred Stock and \$13.753792 per share for the Series D Preferred Stock (each subject to adjustment from time to time for Recapitalizations as set forth elsewhere herein).

(i) **“Preferred Requisite Majority”** shall mean the holders of at least fifty-five percent (55%) of the outstanding shares of Preferred Stock (voting as a single class on an as-converted basis).

(j) **“Recapitalization”** shall mean any stock dividend, stock split, combination of shares, reorganization, recapitalization, reclassification or other similar event.

2. Dividends.

(a) Preferred Stock Dividends.

(i) **Series D Preferred Stock Dividends and C Preferred Stock Dividends.** The holders of outstanding shares of Series D Preferred Stock and Series C Preferred Stock shall be entitled to receive dividends, when, as and if declared by the Board of Directors, out of any assets at the time legally available therefor, at the Dividend Rate specified for such shares of Series D Preferred Stock or Series C Preferred Stock, as the case may be, payable in preference and priority to any declaration or payment of any Distribution on the Series B Preferred Stock, Series A-1 Preferred Stock, Series A Preferred Stock and/or Common Stock of the Corporation in such calendar year. No Distributions shall be made with respect to the Series B Preferred Stock, Series A Preferred Stock, Series A-1 Preferred Stock and/or Common Stock unless dividends on the Series B Preferred Stock and Series C Preferred Stock have been declared in accordance with the preferences stated herein and all declared dividends on the Series D Preferred Stock and Series C Preferred Stock have been paid or set aside for payment to the Series D Preferred Stock holders and the Series C Preferred Stock holders. The right to receive dividends on shares of Series D Preferred Stock and Series C Preferred Stock shall not be cumulative, and no right to dividends shall accrue to holders of Series D Preferred Stock or Series C Preferred Stock by reason of the fact that dividends on said shares are not declared or paid. Payment of any dividends to the holders of Series D Preferred Stock and Series C Preferred Stock shall be on a *pro rata* basis. If, in connection with any dividend described in this Section 2(a)(i), the amount of dividends to be paid to the holders of Series D Preferred Stock and Series C Preferred Stock in the aggregate shall be insufficient to permit the payment to such holders of the full amount of their

respective Dividend Rates, then the amount of such dividends apportioned for payment to holders of Series D Preferred Stock and holders of Series C Preferred Stock, respectively, shall equal the aggregate amount of the dividends declared by the Board of Directors, multiplied by a fraction equal to the quotient of (A) the Dividend Rate for the applicable series of Preferred Stock, multiplied by the number of shares of such series of Preferred Stock then outstanding, *divided by*, (B) the sum of (x) the Dividend Rate for the Series D Preferred Stock, multiplied by the number of shares of Series D Preferred Stock then outstanding, *plus* (y) the Dividend Rate for the Series C Preferred Stock, multiplied by the number of shares of Series C Preferred Stock then outstanding.

(ii) **Series B Preferred Stock Dividends.** After all dividends on the Series D Preferred Stock and Series C Preferred Stock have been paid or set aside for payment to the holders of Series D Preferred Stock and Series C Preferred Stock, the holders of outstanding shares of Series B Preferred Stock shall be entitled to receive dividends, when, as and if declared by the Board of Directors, out of any assets at the time legally available therefor, at the Dividend Rate specified for such shares of Series B Preferred Stock payable in preference and priority to any declaration or payment of any Distribution on the Series A-1 Preferred Stock, Series A Preferred Stock and/or Common Stock of the Corporation in such calendar year. No Distributions shall be made with respect to the Common Stock unless dividends on the Series B Preferred Stock have been declared in accordance with the preferences stated herein and all declared dividends on the Series B Preferred Stock have been paid or set aside for payment to the Series B Preferred Stock holders. The right to receive dividends on shares of Series B Preferred Stock shall not be cumulative, and no right to dividends shall accrue to holders of Series B Preferred Stock by reason of the fact that dividends on said shares are not declared or paid. Payment of any dividends to the holders of Series B Preferred Stock shall be on a *pro rata* basis.

(iii) **Series A-1 Preferred Stock Dividends.** After all dividends on the Series B Preferred Stock have been paid or set aside for payment to the holders of Series B Preferred Stock, the holders of outstanding shares of Series A-1 Preferred Stock shall be entitled to receive dividends, when, as and if declared by the Board of Directors, out of any assets at the time legally available therefor, at the Dividend Rate specified for such shares of Series A-1 Preferred Stock payable in preference and priority to any declaration or payment of any Distribution on the Series A Preferred Stock and/or Common Stock of the Corporation in such calendar year. No Distributions shall be made with respect to the Common Stock unless dividends on the Series A-1 Preferred Stock have been declared in accordance with the preferences stated herein and all declared dividends on the Series A-1 Preferred Stock have been paid or set aside for payment to the Series A-1 Preferred Stock holders. The right to receive dividends on shares of Series A-1 Preferred Stock shall not be cumulative, and no right to dividends shall accrue to holders of Series A-1 Preferred Stock by reason of the fact that dividends on said shares are not declared or paid. Payment of any dividends to the holders of Series A-1 Preferred Stock shall be on a *pro rata* basis.

(iv) **Series A Preferred Stock Dividends.** After all dividends on the Series A-1 Preferred Stock have been paid or set aside for payment to the holders of Series A-1 Preferred Stock, the holders of outstanding shares of Series A Preferred Stock shall be entitled to receive dividends, when, as and if declared by the Board of Directors, out of any assets at the time legally available therefor, at the Dividend Rate specified for such shares of Series A Preferred Stock payable

in preference and priority to any declaration or payment of any Distribution on the Common Stock of the Corporation in such calendar year. No Distributions shall be made with respect to the Common Stock unless dividends on the Series A Preferred Stock have been declared in accordance with the preferences stated herein and all declared dividends on the Series A Preferred Stock have been paid or set aside for payment to the Series A Preferred Stock holders. The right to receive dividends on shares of Series A Preferred Stock shall not be cumulative, and no right to dividends shall accrue to holders of Series A Preferred Stock by reason of the fact that dividends on said shares are not declared or paid. Payment of any dividends to the holders of Series A Preferred Stock shall be on a *pro rata* basis.

(b) **Additional Dividends.** After the payment or setting aside for payment of the dividends described in Section 2(a), any additional dividends (other than dividends on Common Stock payable solely in Common Stock) set aside or paid in any fiscal year shall be set aside or paid among the holders of the Preferred Stock and Common Stock then outstanding in proportion to the greatest whole number of shares of Common Stock which would be held by each such holder if all shares of Preferred Stock were converted at the then-effective Conversion Rate (as defined in Section 4).

(c) **Non-Cash Distributions.** Whenever a Distribution provided for in this Section 2 shall be payable in property other than cash, the value of such Distribution shall be deemed to be the fair market value of such property as determined in good faith by the Board of Directors.

(d) **Consent to Certain Distributions.** In accordance with Section 500 of the California Corporations Code, a distribution can be made without regard to any preferential dividends arrears amount (as defined in Section 500 of the California Corporations Code) or any preferential rights amount (as defined in Section 500 of the California Corporations Code) in connection with (i) repurchases of Common Stock issued to or held by employees, officers, directors or consultants of the Corporation or its subsidiaries upon termination of their employment or services pursuant to agreements providing for the right of said repurchase, (ii) repurchases of Common Stock issued to or held by employees, officers, directors or consultants of the Corporation or its subsidiaries pursuant to rights of first refusal contained in agreements providing for such right, (iii) repurchases of Common Stock or Preferred Stock in connection with the settlement of disputes with any stockholder, as approved by the Board of Directors, and (iv) any other repurchase or redemption of Common Stock or Preferred Stock approved by the Preferred Requisite Majority.

(e) **Waiver of Dividends.** Any dividend preference of any series of Preferred Stock may be waived, in whole or in part, by the consent or vote of the holders of the majority of the outstanding shares of such series.

3. Liquidation Rights.

(a) **Liquidation Preference.** In the event of any liquidation, dissolution or winding up of the Corporation, either voluntary or involuntary:

(i) **Series D Preferred Stock and Series C Preferred Stock.** The holders of the Series D Preferred Stock and the Series C Preferred Stock shall be entitled to receive, prior and in preference to any Distribution of any of the assets of the Corporation to the holders of the Series B

Preferred Stock, Series A-1 Preferred Stock, Series A Preferred Stock and/or Common Stock by reason of their ownership of such stock, an amount per share for each share of Series D Preferred Stock and Series C Preferred Stock, respectively, held by them equal to the sum of (i) the Liquidation Preference specified for such share of Series D Preferred Stock or Series C Preferred Stock, as the case may be, and (ii) all declared but unpaid dividends (if any) on such share of Series D Preferred Stock and Series C Preferred Stock, as the case may be. If upon the liquidation, dissolution or winding up of the Corporation, the assets of the Corporation legally available for distribution to the holders of the Series D Preferred Stock and Series C Preferred Stock are insufficient to permit the payment to such holders of the full amounts specified in this Section 3(a)(i), then the entire assets of the Corporation legally available for distribution shall be apportioned for distribution to holders of Series D Preferred Stock and holders of Series C Preferred Stock, respectively, with equal priority and *pro rata* among the holders of such series of Preferred Stock, in proportion to the full amounts they would otherwise be entitled to receive pursuant to this Section 3(a)(i), in an amount equal to the aggregate amount of the entire assets of the Corporation legally available for distribution, multiplied by a fraction equal to the quotient of (A) the full amounts specified in this Section 3(a)(i) as distributable to the holders of such series of Preferred Stock, *divided by*, (B) the full amounts specified in this Section 3(a)(i) as distributable to the holders of the Series D Preferred Stock and the Series C Preferred Stock.

(ii) **Series B Preferred Stock.** After payment has been made or set aside of the full amounts specified in Section 3(a)(i), the holders of the Series B Preferred Stock shall be entitled to receive, prior and in preference to any Distribution of any of the assets of the Corporation to the holders of the Series A-1 Preferred Stock, Series A Preferred Stock and/or Common Stock by reason of their ownership of such stock, an amount per share for each share of Series B Preferred Stock held by them equal to the sum of (i) the Liquidation Preference specified for such share of Series B Preferred Stock and (ii) all declared but unpaid dividends (if any) on such share of Series B Preferred Stock. If upon the liquidation, dissolution or winding up of the Corporation, the assets of the Corporation legally available for distribution to the holders of the Series B Preferred Stock are insufficient to permit the payment to such holders of the full amounts specified in this Section 3(a)(ii), then the entire assets of the Corporation legally available for distribution shall be distributed with equal priority and *pro rata* among the holders of the Series B Preferred Stock in proportion to the full amounts they would otherwise be entitled to receive pursuant to this Section 3(a)(ii).

(iii) **Series A-1 Preferred Stock.** After payment has been made or set aside of the full amounts specified in Section 3(a)(i) and Section 3(a)(ii), the holders of the Series A-1 Preferred Stock shall be entitled to receive, prior and in preference to any Distribution of any of the assets of the Corporation to the holders of the Series A Preferred Stock and/or Common Stock by reason of their ownership of such stock, an amount per share for each share of Series A-1 Preferred Stock held by them equal to the sum of (i) the Liquidation Preference specified for such share of Series A-1 Preferred Stock and (ii) all declared but unpaid dividends (if any) on such share of Series A-1 Preferred Stock. If upon the liquidation, dissolution or winding up of the Corporation, the assets of the Corporation legally available for distribution to the holders of the Series A-1 Preferred Stock are insufficient to permit the payment to such holders of the full amounts specified in this Section 3(a)(iii), then the entire assets of the Corporation legally available for distribution shall be distributed with equal priority and *pro rata* among the holders of the Series A-1 Preferred Stock in proportion to the full amounts they would otherwise be entitled to receive pursuant to this Section 3(a)(iii).

(iv) **Series A Preferred Stock.** After payment has been made or set aside of the full amounts specified in Section 3(a)(i), Section 3(a)(ii) and Section 3(a)(iii), the holders of the Series A Preferred Stock shall be entitled to receive, prior and in preference to any Distribution of any of the assets of the Corporation to the holders of the Common Stock by reason of their ownership of such stock, an amount per share for each share of Series A Preferred Stock held by them equal to the sum of (i) the Liquidation Preference specified for such share of Series A Preferred Stock and (ii) all declared but unpaid dividends (if any) on such share of Series A Preferred Stock. If upon the liquidation, dissolution or winding up of the Corporation, the assets of the Corporation legally available for distribution to the holders of the Series A Preferred Stock are insufficient to permit the payment to such holders of the full amounts specified in this Section 3(a)(iv), then the entire assets of the Corporation legally available for distribution shall be distributed with equal priority and *pro rata* among the holders of the Series A Preferred Stock in proportion to the full amounts they would otherwise be entitled to receive pursuant to this Section 3(a)(iv).

(b) **Remaining Assets.** After the payment or setting aside for payment to the holders of Preferred Stock of the full amounts specified in Section 3(a), the entire remaining assets of the Corporation legally available for distribution shall be distributed *pro rata* to holders of Common Stock of the Corporation in proportion to the number of shares of Common Stock held by them.

(c) **Shares not Treated as Both Preferred Stock and Common Stock in any Distribution.** Shares of Preferred Stock shall not be entitled to be converted into shares of Common Stock in order to participate in any Distribution, or series of Distributions, as shares of Common Stock, without first forgoing participation in the Distribution, or series of Distributions, as shares of Preferred Stock. Notwithstanding the above, for purposes of determining the amount each holder of shares of Preferred Stock is entitled to receive with respect to a Liquidation Event, each such holder of shares of a series of Preferred Stock shall be deemed to have converted (regardless of whether such holder actually converted) such holder's shares of such series into shares of Common Stock immediately prior to the Liquidation Event if, as a result of an actual conversion, such holder would receive, in the aggregate, an amount greater than the amount that would be distributed to such holder if such holder did not convert such series of Preferred Stock into shares of Common Stock. If any such holder shall be deemed to have converted shares of Preferred Stock into Common Stock pursuant to this paragraph, then such holder shall not be entitled to receive any distribution that would otherwise be made to holders of Preferred Stock that have not converted (or have not been deemed to have converted) into shares of Common Stock.

(d) **Reorganization.** For purposes of this Section 3, a liquidation, dissolution or winding up of the Corporation shall be deemed to be occasioned by, or to include, (i) the acquisition of the Corporation by another entity by means of any transaction or series of related transactions to which the Corporation is party (including, without limitation, any stock acquisition, reorganization, merger or consolidation but excluding any sale of stock for capital raising purposes) other than a transaction or series of transactions in which the holders of the voting securities of the Corporation outstanding immediately prior to such transaction retain, immediately after such transaction or series of transactions, as a result of shares in the Corporation held by such holders prior to such transaction, at least a majority of the total voting power represented by the outstanding voting securities of the Corporation or such other surviving or resulting entity (or if the Corporation or such other surviving

or resulting entity is a wholly-owned subsidiary immediately following such acquisition, its parent); (ii) a sale, lease or other disposition (including by exclusive license) of all or substantially all of the assets of the Corporation and its subsidiaries taken as a whole by means of any transaction or series of related transactions, except where such sale, lease or other disposition is to a wholly-owned subsidiary of the Corporation; or (iii) any liquidation, dissolution or winding up of the Corporation, whether voluntary or involuntary (each of the foregoing clauses (i), (ii) and (iii), a "**Liquidation Event**"). The treatment of any transaction or series of related transactions as a liquidation, dissolution or winding up pursuant to clause (i) or (ii) of the preceding sentence may be waived by the consent or vote of the Preferred Requisite Majority and, in the event of a Series C Liquidity Event or a Series D Liquidity Event (each as defined below), the Series C Consent and/or the Series D Consent, as the case may be (each as defined below).

(e) **Valuation of Non-Cash Consideration.** If any assets of the Corporation distributed to stockholders in connection with any liquidation, dissolution, or winding up of the Corporation are other than cash, then the value of such assets shall be their fair market value as determined in good faith by the Board of Directors, *except that* any publicly-traded securities to be distributed to stockholders in a liquidation, dissolution, or winding up of the Corporation shall be valued as follows:

(i) If the securities are then traded on a national securities exchange, then the value of the securities shall be deemed to be the average of the closing prices of the securities on such exchange over the ten (10) trading day period ending five (5) trading days prior to the Distribution;

(ii) if the securities are actively traded over-the-counter, then the value of the securities shall be deemed to be the average of the closing bid prices of the securities over the ten (10) trading day period ending five (5) trading days prior to the Distribution.

In the event of a merger or other acquisition of the Corporation by another entity, the Distribution date shall be deemed to be the date such transaction closes.

For the purposes of this subsection 3(e), "**trading day**" shall mean any day which the exchange or system on which the securities to be distributed are traded is open and "**closing prices**" or "**closing bid prices**" shall be deemed to be: (i) for securities traded primarily on the New York Stock Exchange, NYSE American or a NASDAQ market, the last reported trade price or sale price, as the case may be, at 4:00 p.m., New York time, on that day and (ii) for securities listed or traded on other exchanges, markets and systems, the market price as of the end of the regular hours trading period that is generally accepted as such for such exchange, market or system. If, after the date hereof, the benchmark times generally accepted in the securities industry for determining the market price of a stock as of a given trading day shall change from those set forth above, the fair market value shall be determined as of such other generally accepted benchmark times.

4. **Conversion.** The holders of the Preferred Stock shall have conversion rights as follows:

(a) **Right to Convert.** Each share of Preferred Stock shall be convertible, at the option of the holder thereof, at any time after the date of issuance of such share at the office of the Corporation or any transfer agent for the Preferred Stock, into that number of fully-paid, nonassessable shares of Common Stock determined by dividing the Original Issue Price for the relevant series by the Conversion Price for such series. (The number of shares of Common Stock into which each share of Preferred Stock of a series may be converted is hereinafter referred to as the “**Conversion Rate**” for each such series.) Upon any decrease or increase in the Conversion Price for any series of Preferred Stock, as described in this Section 4, the Conversion Rate for such series shall be appropriately increased or decreased.

(b) **Automatic Conversion.** Each share of Preferred Stock shall automatically be converted into fully-paid, non-assessable shares of Common Stock at the then effective Conversion Rate for such share (i) immediately prior to the closing of a firm commitment underwritten initial public offering pursuant to an effective registration statement filed under the Securities Act of 1933, as amended (the “**Securities Act**”), covering the offer and sale of the Corporation’s Common Stock, *provided* that the offering price per share is not less than \$24.643512 (as adjusted for Recapitalizations) and the aggregate gross proceeds to the Corporation are not less than \$30,000,000 (the “**Qualified IPO**”), or (ii) upon the receipt by the Corporation of a written request for such conversion from the Preferred Requisite Majority and, unless such conversion is in connection with a Series D/C Conversion Event (as defined below), the Series D/C Consent (as defined below) and, if applicable, the Series D Consent, or, if later, the effective date for conversion specified in such requests (each of the events referred to in (i) and (ii) are referred to herein as an “**Automatic Conversion Event**”).

(c) **Mechanics of Conversion.** No fractional shares of Common Stock shall be issued upon conversion of Preferred Stock. In lieu of any fractional shares to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then fair market value of a share of Common Stock as determined by the Board of Directors. For such purpose, all shares of Preferred Stock held by each holder of Preferred Stock shall be aggregated, and any resulting fractional share of Common Stock shall be paid in cash. Before any holder of Preferred Stock shall be entitled to convert the same into full shares of Common Stock, and to receive certificates therefor, the holder shall either (A) surrender the certificate or certificates therefor, duly endorsed, at the office of the Corporation or of any transfer agent for the Preferred Stock or (B) notify the Corporation or its transfer agent that such certificates have been lost, stolen or destroyed and execute an agreement satisfactory to the Corporation to indemnify the Corporation from any loss incurred by it in connection with such certificates, and shall give written notice to the Corporation at such office that the holder elects to convert the same; *provided, however*, that on the date of an Automatic Conversion Event, the outstanding shares of Preferred Stock shall be converted automatically without any further action by the holders of such shares and whether or not the certificates representing such shares are surrendered to the Corporation or its transfer agent; *provided further, however*, that the Corporation shall not be obligated to issue certificates evidencing the shares of Common Stock issuable upon such Automatic Conversion Event unless either the certificates evidencing such shares of Preferred Stock are delivered to the Corporation or its transfer agent as provided above, or the holder notifies the Corporation or its transfer agent that such certificates have been lost, stolen or destroyed and executes an agreement satisfactory to the Corporation to indemnify the Corporation from any loss incurred by it in connection with such certificates. On the date of the occurrence of an

Automatic Conversion Event, each holder of record of shares of Preferred Stock shall be deemed to be the holder of record of the Common Stock issuable upon such conversion, notwithstanding that the certificates representing such shares of Preferred Stock shall not have been surrendered at the office of the Corporation, that notice from the Corporation shall not have been received by any holder of record of shares of Preferred Stock, or that the certificates evidencing such shares of Common Stock shall not then be actually delivered to such holder.

(d) **Adjustments to Conversion Price for Diluting Issues.**

(i) **Special Definition.** For purposes of this paragraph 4(d), “**Additional Shares of Common**” shall mean all shares of Common Stock issued (or, pursuant to paragraph 4(d)(iii), deemed to be issued) by the Corporation after the filing of this Amended and Restated Certificate of Incorporation (the “**Filing Date**”), other than issuances or deemed issuances of:

(1) shares of Common Stock upon the conversion of the Preferred Stock outstanding as of the date of the first issuance of shares of Series D Preferred Stock;

(2) shares of Common Stock and options, warrants or other rights to purchase Common Stock issued or issuable to employees, officers or directors of, or consultants, advisors or other service providers to the Corporation or any subsidiary pursuant to stock grants, restricted stock purchase agreements, option plans, purchase plans, incentive programs or similar arrangements approved by the Board of Directors, including the affirmative vote of at least two of the Preferred Directors (as defined below);

(3) shares of Common Stock upon the exercise or conversion of Options or Convertible Securities outstanding as of the date of the first issuance of shares of Series D Preferred Stock;

(4) shares of Common Stock issued or issuable as a dividend or distribution on Preferred Stock or pursuant to any event for which adjustment is made pursuant to paragraph 4(e), 4(f) or 4(g) hereof;

(5) shares of Common Stock issued or issuable in a Qualified IPO or registered public offering under the Securities Act;

(6) shares of Common Stock issued or issuable pursuant to the acquisition of another corporation by the Corporation by merger, purchase of substantially all of the assets or other reorganization or to a joint venture agreement, *provided*, that such issuances are approved by the Board of Directors, including the affirmative vote of at least two of the Preferred Directors;

(7) shares of Common Stock issued or issuable to banks, equipment lessors, real property lessors, financial institutions or other persons engaged in the business of making loans pursuant to a debt financing, commercial leasing or real property leasing transaction approved by the Board of Directors, including the affirmative vote of at least two of the Preferred Directors;

(8) shares of Common Stock issued or issuable in connection with any settlement of any action, suit, proceeding or litigation approved by the Board of Directors, including the affirmative vote of at least two of the Preferred Directors;

(9) shares of Common Stock issued or issuable in connection with sponsored research, collaboration, technology license, development, OEM, marketing or other similar agreements or strategic partnerships approved by the Board of Directors, including the affirmative vote of at least two of the Preferred Directors;

(10) shares of Common Stock issued or issuable to suppliers or third party service providers in connection with the provision of goods or services pursuant to transactions approved by the Board of Directors, including the affirmative vote of at least two of the Preferred Directors; and

(11) shares of Common Stock that are otherwise excluded from the definition of "**Additional Shares of Common**" by the approval of the Preferred Requisite Majority and, if such issuance or deemed issuance would constitute a Series C Dilutive Issuance or a Series D Dilutive Issuance (each as defined below), as the case may be, the Series C Consent and/or the Series D Consent, as the case may be.

(ii) **No Adjustment of Conversion Price.** No adjustment in the Conversion Price of a particular series of Preferred Stock shall be made in respect of the issuance of Additional Shares of Common unless the consideration per share (as determined pursuant to paragraph 4(d)(v)) for an Additional Share of Common issued or deemed to be issued by the Corporation is less than the Conversion Price in effect on the date of, and immediately prior to such issue, for such series of Preferred Stock.

(iii) **Deemed Issue of Additional Shares of Common.** In the event the Corporation at any time or from time to time after the date of the filing of this Amended and Restated Certificate of Incorporation shall issue any Options or Convertible Securities or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares (as set forth in the instrument relating thereto without regard to any provisions contained therein for a subsequent adjustment of such number) of Common Stock issuable upon the exercise of such Options or, in the case of Convertible Securities, the conversion or exchange of such Convertible Securities or, in the case of Options for Convertible Securities, the exercise of such Options and the conversion or exchange of the underlying securities, shall be deemed to have been issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date, *provided* that in any such case in which shares are deemed to be issued:

(1) no further adjustment in the Conversion Price of any series of Preferred Stock shall be made upon the subsequent issue of Convertible Securities or shares of Common Stock in connection with the exercise of such Options or conversion or exchange of such Convertible Securities;

(2) if such Options or Convertible Securities by their terms provide, with the passage of time or otherwise, for any change in the consideration payable to the Corporation or in the number of shares of Common Stock issuable upon the exercise, conversion or exchange thereof (other than a change pursuant to the anti-dilution provisions of such Options or Convertible Securities such as this Section 4(d) or pursuant to Recapitalization provisions of such Options or Convertible Securities such as Sections 4(e), 4(f) and 4(g) hereof), the Conversion Price of each series of Preferred Stock and any subsequent adjustments based thereon shall be recomputed to reflect such change as if such change had been in effect as of the original issue thereof (or upon the occurrence of the record date with respect thereto);

(3) no readjustment pursuant to clause (2) above shall have the effect of increasing the Conversion Price of a series of Preferred Stock to an amount above the Conversion Price that would have resulted from any other issuances of Additional Shares of Common and any other adjustments provided for herein between the original adjustment date and such readjustment date;

(4) upon the expiration of any such Options or any rights of conversion or exchange under such Convertible Securities which shall not have been exercised, the Conversion Price of each series of Preferred Stock computed upon the original issue thereof (or upon the occurrence of a record date with respect thereto) and any subsequent adjustments based thereon shall, upon such expiration, be recomputed as if:

(a) in the case of Convertible Securities or Options for Common Stock, the only Additional Shares of Common issued were the shares of Common Stock, if any, actually issued upon the exercise of such Options or the conversion or exchange of such Convertible Securities and the consideration received therefor was the consideration actually received by the Corporation for the issue of such exercised Options plus the consideration actually received by the Corporation upon such exercise or for the issue of all such Convertible Securities which were actually converted or exchanged, plus the additional consideration, if any, actually received by the Corporation upon such conversion or exchange, and

(b) in the case of Options for Convertible Securities, only the Convertible Securities, if any, actually issued upon the exercise thereof were issued at the time of issue of such Options, and the consideration received by the Corporation for the Additional Shares of Common deemed to have been then issued was the consideration actually received by the Corporation for the issue of such exercised Options, plus the consideration deemed to have been received by the Corporation (determined pursuant to Section 4(d)(v)) upon the issue of the Convertible Securities with respect to which such Options were actually exercised; and

(5) if such record date shall have been fixed and such Options or Convertible Securities are not issued on the date fixed therefor, the adjustment previously made in the Conversion Price which became effective on such record date shall be canceled as of the close of business on such record date, and thereafter the Conversion Price shall be adjusted pursuant to this paragraph 4(d)(iii) as of the actual date of their issuance.

(iv) **Adjustment of Conversion Price Upon Issuance of Additional Shares of Common.** In the event this Corporation shall issue Additional Shares of Common (including Additional Shares of Common deemed to be issued pursuant to paragraph 4(d)(iii)) without consideration or for a consideration per share less than the applicable Conversion Price of a series of Preferred Stock in effect on the date of and immediately prior to such issue, then, the Conversion Price of the affected series of Preferred Stock shall be reduced, concurrently with such issue, to a price (calculated to the nearest cent) determined by multiplying such Conversion Price by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding immediately prior to such issue plus the number of shares which the aggregate consideration received by the Corporation for the total number of Additional Shares of Common so issued would purchase at such Conversion Price, and the denominator of which shall be the number of shares of Common Stock outstanding immediately prior to such issue plus the number of such Additional Shares of Common so issued. Notwithstanding the foregoing, the Conversion Price shall not be reduced at such time if the amount of such reduction would be less than \$0.01, but any such amount shall be carried forward, and a reduction will be made with respect to such amount at the time of, and together with, any subsequent reduction which, together with such amount and any other amounts so carried forward, equal \$0.01 or more in the aggregate. For the purposes of this Subsection 4(d)(iv), all shares of Common Stock issuable upon conversion of all outstanding shares of Preferred Stock and the exercise and/or conversion of any other outstanding Convertible Securities and all outstanding Options shall be deemed to be outstanding.

(v) **Determination of Consideration.** For purposes of this subsection 4(d), the consideration received by the Corporation for the issue (or deemed issue) of any Additional Shares of Common shall be computed as follows:

(1) **Cash and Property.** Such consideration shall:

(a) insofar as it consists of cash, be computed at the aggregate amount of cash received by the Corporation before deducting any discounts, commissions or other expenses allowed, paid or incurred by the Corporation for any underwriting or otherwise in connection with such issuance;

(b) insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board of Directors; and

(c) in the event Additional Shares of Common are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (a) and (b) above, as reasonably determined in good faith by the Board of Directors.

(2) **Options and Convertible Securities.** The consideration per share received by the Corporation for Additional Shares of Common deemed to have been issued pursuant to paragraph 4(d)(iii) shall be determined by dividing:

(x) the total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities by

(y) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities.

(e) **Adjustments for Subdivisions or Combinations of Common Stock.** In the event the outstanding shares of Common Stock shall be subdivided (by stock split, by payment of a stock dividend or otherwise), into a greater number of shares of Common Stock, the Conversion Price of each series of Preferred Stock in effect immediately prior to such subdivision shall, concurrently with the effectiveness of such subdivision, be proportionately decreased. In the event the outstanding shares of Common Stock shall be combined (by reclassification or otherwise) into a lesser number of shares of Common Stock, the Conversion Prices in effect immediately prior to such combination shall, concurrently with the effectiveness of such combination, be proportionately increased.

(f) **Adjustments for Subdivisions or Combinations of Preferred Stock.** In the event the outstanding shares of Preferred Stock or a series of Preferred Stock shall be subdivided (by stock split, by payment of a stock dividend or otherwise), into a greater number of shares of Preferred Stock, the Dividend Rate, Original Issue Price and Liquidation Preference of the affected series of Preferred Stock in effect immediately prior to such subdivision shall, concurrently with the effectiveness of such subdivision, be proportionately decreased. In the event the outstanding shares of Preferred Stock or a series of Preferred Stock shall be combined (by reclassification or otherwise) into a lesser number of shares of Preferred Stock, the Dividend Rate, Original Issue Price and Liquidation Preference of the affected series of Preferred Stock in effect immediately prior to such combination shall, concurrently with the effectiveness of such combination, be proportionately increased.

(g) **Adjustments for Reclassification, Exchange and Substitution.** Subject to Section 3, if the Common Stock issuable upon conversion of the Preferred Stock shall be changed into the same or a different number of shares of any other class or classes of stock, whether by capital reorganization, reclassification or otherwise (other than a subdivision or combination of shares provided for above), then, in any such event, in lieu of the number of shares of Common Stock which the holders would otherwise have been entitled to receive each holder of such Preferred Stock shall have the right thereafter to convert such shares of Preferred Stock into a number of shares of such other class or classes of stock which a holder of the number of shares of Common Stock deliverable upon conversion of such series of Preferred Stock immediately before that change would have been entitled to receive in such reorganization or reclassification, all subject to further adjustment as provided herein with respect to such other shares.

(h) **Certificate as to Adjustments.** Upon the occurrence of each adjustment or readjustment of the Conversion Price pursuant to this Section 4, the Corporation at its expense shall promptly compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of Preferred Stock a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, upon the written request at any time of any holder of Preferred Stock, furnish or cause to be furnished to such holder a like certificate setting forth (i) such adjustments and readjustments, (ii) the Conversion Price at the time in effect and (iii) the number of shares of Common Stock and the amount, if any, of other property which at the time would be received upon the conversion of Preferred Stock.

(i) **Waiver of Adjustment of Conversion Price.** Notwithstanding anything herein to the contrary, any downward adjustment of the Conversion Price of any series of Preferred Stock may be waived by the consent or vote of the holders of a majority of the outstanding shares of such series. Any such waiver shall bind all future holders of shares of such series of Preferred Stock.

(j) **Notices of Record Date.** In the event that this Corporation shall propose at any time:

(i) to declare any Distribution upon its Common Stock, whether in cash, property, stock or other securities, whether or not a regular cash dividend and whether or not out of earnings or earned surplus;

(ii) to effect any reclassification or recapitalization of its Common Stock outstanding involving a change in the Common Stock; or

(iii) to voluntarily liquidate or dissolve or to enter into any transaction deemed to be a Liquidation Event pursuant to Section 3(d);

then, in connection with each such event, this Corporation shall send to the holders of the Preferred Stock ten (10) days prior written notice of the date on which a record shall be taken for such Distribution (and specifying the date on which the holders of Common Stock shall be entitled thereto and, if applicable, the amount and character of such Distribution) or for determining rights to vote in respect of the matters referred to in (ii) and (iii) above.

Such written notice shall be given by first class certified or registered mail or express courier, postage prepaid, addressed to the holders of Preferred Stock at the address for each such holder as shown on the books of the Corporation and shall be deemed given on the earlier of the date such notice is received and, if sent by registered or certified mail, five (5) days after deposit with the postal service or, if sent by express courier specifying next day delivery, one (1) day after deposit with such courier.

The notice provisions set forth in this section may be shortened or waived prospectively or retrospectively by the consent or vote of the Preferred Requisite Majority.

(k) **Reservation of Stock Issuable Upon Conversion.** The Corporation shall at all times reserve and keep available out of its authorized but unissued shares of Common Stock solely for the purpose of effecting the conversion of the shares of the Preferred Stock, such number of its shares

of Common Stock as shall from time to time be sufficient to effect the conversion of all then outstanding shares of the Preferred Stock; and if at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Preferred Stock, the Corporation will take such corporate action as may, in the opinion of its counsel, be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purpose.

5. Voting.

(a) **Restricted Class Voting.** Except as otherwise expressly provided herein or as required by law, the holders of Preferred Stock and the holders of Common Stock shall vote together and not as separate classes.

(b) **No Series Voting.** Other than as provided herein or required by law, there shall be no series voting.

(c) **Preferred Stock.** Each holder of Preferred Stock shall be entitled to the number of votes equal to the number of shares of Common Stock into which the shares of Preferred Stock held by such holder could be converted as of the record date. Fractional votes shall not be permitted and any fractional voting rights resulting from the above formula (after aggregating all shares into which shares of Preferred Stock held by each holder could be converted) shall be disregarded. Except as otherwise expressly provided herein or as required by law, the holders of shares of the Preferred Stock shall be entitled to vote on all matters on which the Common Stock shall be entitled to vote. Holders of Preferred Stock shall be entitled to notice of any stockholders' meeting in accordance with the Bylaws of the Corporation.

(d) **Election of Directors.**

(i) **Series D/C Director.** So long as an aggregate of at least 1,000,000 shares (as adjusted for Recapitalizations) of Series D Preferred Stock and Series C Preferred Stock remain outstanding, the holders of Series D Preferred Stock and Series C Preferred Stock, voting together as a separate class, shall be entitled to elect one member of the Corporation's Board of Directors (the "**Series D/C Director**").

(ii) **Series B Director.** So long as at least 1,000,000 shares (as adjusted for Recapitalizations) of Series B Preferred Stock remain outstanding, the holders of Series B Preferred Stock, voting as a separate class, shall be entitled to elect one member of the Corporation's Board of Directors (the "**Series B Director**").

(iii) **Series A-1 Director.** So long as at least 1,000,000 shares (as adjusted for Recapitalizations) of Series A-1 Preferred Stock remain outstanding, the holders of Series A-1 Preferred Stock, voting as a separate class, shall be entitled to elect one member of the Corporation's Board of Directors (the "**Series A-1 Director**").

(iv) **Series A Director.** So long as at least 1,000,000 shares (as adjusted for Recapitalizations) of Series A Preferred Stock remain outstanding, the holders of Series A Preferred

Stock, voting as a separate class, shall be entitled to elect one member of the Corporation's Board of Directors (the "**Series A Director**" and together with the Series B Director, Series A-1 Director, and Series D/C Director, the "**Preferred Directors**").

(v) **Common Directors.** The holders of Common Stock, voting as a separate class, shall be entitled to elect two members of the Corporation's Board of Directors.

(vi) **Mutual Directors.** Any other members of the Corporation's Board of Directors shall be elected by both (A) the holders of Preferred Stock, voting as a separate class and on an as-converted basis, and (B) the holders of Common Stock, voting as a separate class.

(vii) Any director elected pursuant to Section 5(d) may be removed without cause by, and only by, the affirmative vote of the holders of the shares of the class or series of capital stock entitled to elect such director, given either at a special meeting of such stockholders duly called for that purpose or pursuant to a written consent of stockholders. If the holders of such shares fail to elect a sufficient number of directors to fill all respective directorships for which they are entitled to elect directors, voting as a separate class and series, pursuant to Section 5(d), then any directorship not so filled shall remain vacant until such time as the holders of such shares elect a person to fill such directorship by vote or written consent in lieu of a meeting, and no such directorship may be filled by stockholders of the Corporation other than by the stockholders of the Corporation that are entitled to elect a person to fill such directorship, voting as separate class and series. At any meeting held for the purpose of electing a director, the presence in person or by proxy of the holders of a majority of the outstanding shares of the class or series entitled to elect such director shall constitute a quorum for the purpose of electing such director. Except as otherwise provided in this Section 5(d), a vacancy in any directorship filled by the holders of any class or series shall be filled only by vote or written consent in lieu of a meeting of the holders of such class or series or by any remaining director or directors elected by the holders of such class or series pursuant to this Section 5(d).

(e) **Adjustment in Authorized Common Stock.** The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares of Common Stock then outstanding) by an affirmative vote of the holders of a majority of the outstanding shares of Preferred Stock, voting as a combined class on an as-converted basis.

(f) **Common Stock.** Each holder of shares of Common Stock shall be entitled to one vote for each share thereof held.

6. **Protective Provisions.**

(a) **Preferred Stock Protective Provisions.** So long as any shares of Preferred Stock remain outstanding, the Corporation shall not (either directly or indirectly, whether by amendment, merger, consolidation or otherwise), without first obtaining the approval of the Preferred Requisite Majority (by vote or written consent as provided by law), in addition to any other vote required by law:

(i) amend, alter or repeal any provision of this Amended and Restated Certificate of Incorporation or bylaws of the Corporation if such action would alter the rights,

preferences, privileges or powers of, or restrictions provided for the benefit of the Preferred Stock or any series thereof;

(ii) increase or decrease (other than for decreases resulting from conversion of the Preferred Stock or any series thereof) the authorized number of shares of Common Stock or Preferred Stock, or any series thereof;

(iii) increase or decrease the size of the Board of Directors;

(iv) authorize or create (by reclassification, merger or otherwise), issue, or obligate itself to issue, any new class or series of equity security (including any security convertible into or exercisable or exchangeable for any equity security) having rights, preferences or privileges with respect to dividends, redemption or payments upon liquidation senior to or on parity with the Series D Preferred Stock or having voting rights other than those granted to the Series D Preferred Stock generally;

(v) make or obligate itself to make any transfer of cash or other property without consideration whether by way of dividend or otherwise, other than dividends on Common Stock payable in Common Stock, or the purchase or redemption of shares of the Corporation by the Corporation or its subsidiaries for cash or property other than: (A) repurchases of Common Stock issued to or held by employees, officers, directors or consultants of the Corporation upon termination of their employment or services pursuant to agreements providing for the right of said repurchase at the original cost thereof, (B) repurchases of Common Stock issued to or held by employees, officers, directors or consultants of the Corporation or its subsidiaries pursuant to the bona fide exercise of rights of first refusal contained in agreements providing for such right and approved by the Board (including the affirmative vote of at least two Preferred Directors), and (C) repurchases of capital stock of the Corporation in connection with the settlement of disputes with any stockholder approved by the Board of Directors (including the affirmative vote of at least two Preferred Directors);

(vi) conduct any liquidation, acquisition, reorganization, merger or consolidation of the Company or enter into any or obligate itself to enter into any transaction or series of related transactions deemed to be a Liquidation Event, including but not limited to (A) a sale, lease or other disposition (including by exclusive license) of all or substantially all of the assets or intellectual property of the Corporation and its subsidiaries, if any, taken as a whole by means of any transaction or series of related transactions, except where such sale, lease or other disposition is to a wholly-owned subsidiary of the Corporation; or (B) any liquidation, dissolution or winding up of the Corporation, whether voluntary or involuntary;

(vii) enter into or obligate itself to enter into any exclusive license of the assets or of a significant program of the Corporation;

(viii) conduct any liquidation, acquisition, reorganization, merger or consolidation by the Corporation of a business for consideration with value of \$500,000 or more in the aggregate (other than a merger exclusively to effect a change of domicile of the Corporation);

- aggregate;
- (ix) incur or assume or obligate itself to incur or assume any non-capital lease indebtedness of \$500,000 or more in the aggregate;
 - (x) increase the number of shares authorized for issuance under any existing stock or option plan or create any new stock or option plan;
 - (xi) negotiate or authorize the disposal of any shares in a public offering pursuant to an effective registration statement filed under the Securities Act, whether a Qualified IPO or otherwise;
 - (xii) create or hold capital stock in any subsidiary that is not a wholly-owned subsidiary, dispose of any subsidiary stock or permit any subsidiary to sell to any party other than the Corporation any of its securities or all or substantially all of its assets;
 - (xiii) amend or deviate in a material manner from the Financing Budget (as defined in a certain Series D Preferred Stock Purchase Agreement) unless otherwise approved by the Board of Directors, including the affirmative vote of at least two Preferred Directors; or
 - (xiv) amend this Section 6(a).

(b) **Series D Preferred Stock and Series C Preferred Stock Protective Provisions.** So long as any shares of Series D Preferred Stock or Series C Preferred Stock remain outstanding, the Corporation shall not (either directly or indirectly, whether by amendment, merger, consolidation or otherwise), without first obtaining the approval of sixty percent (60%) in aggregate of the outstanding shares of Series D Preferred Stock and Series C Preferred Stock (by vote or written consent as provided by law, the “**Series D/C Consent**”), in addition to any other vote required by law:

- (i) waive, amend, alter, or repeal the right of the holders of Series D Preferred Stock and Series C Preferred Stock to elect one member of the Corporation’s Board of Directors as currently set forth in Section 5(d)(i);
- (ii) effect an automatic conversion pursuant to Section 4(b)(ii) hereof unless in connection with a Liquidation Event where the amounts paid in cash upon consummation of such transaction to the holders of Series D Preferred Stock and Series C Preferred Stock exceed the Liquidation Preference of such Series C Preferred Stock and such Series D Preferred Stock (a “**Series D/C Conversion Event**”); *provided*, that if the amounts paid in cash upon consummation of such transaction to the holders of Series D Preferred Stock does not exceed the Liquidation Preference of such Series D Preferred Stock, then the Series D Consent (as defined below) shall also be obtained; or
- (iii) waive, amend, alter, or repeal this Section 6(b) or Section 4(b)(ii) of this Article IV(C).

(c) **Additional Series D Preferred Stock Protective Provisions.** So long as any shares of Series D Preferred Stock remain outstanding, the Corporation shall not (either directly or indirectly, whether by amendment, merger, consolidation or otherwise), without first obtaining the approval of sixty percent (60%) in aggregate of the outstanding shares of Series D Preferred Stock (by vote or

written consent as provided by law, the “**Series D Consent**”), in addition to any other vote required by law, amend, alter or repeal any provision of this Amended and Restated Certificate of Incorporation or bylaws of the Corporation if such action would adversely and disproportionately alter the rights, preferences, privileges or powers of, or restrictions provided for the benefit of the Series D Preferred Stock compared with other series of Preferred Stock. Without limiting the generality of the foregoing, so long as any shares of Series D Preferred Stock remain outstanding, the Corporation shall not (either directly or indirectly, whether by amendment, merger, consolidation or otherwise), without first obtaining the Series D Consent, in addition to any other vote required by law:

(i) exclude an issuance of Common Stock or Convertible Securities from the definition of “Additional Shares of Common” pursuant to Section 4(d)(i)(11) with a price per share of Common Stock (as converted) below the Conversion Price applicable to Series D Preferred Stock (a “**Series D Dilutive Issuance**”);

(ii) allow for the waiver of a Liquidation Event by the Preferred Requisite Majority for a transaction in which the holders of Series D Preferred Stock would receive less than the Liquidation Preference specified for each such share of Series D Preferred Stock (a “**Series D Liquidity Event**”); or

(iii) waive, amend, alter, or repeal this Section 6(c), the last sentence of Section 3(d) (in respect of a Series D Liquidity Event) or Section 4(d)(i)(11) (in respect of a Series D Dilutive Issuance) of this Article IV(C).

(d) **Additional Series C Preferred Stock Protective Provisions.** So long as any shares of Series C Preferred Stock remain outstanding, the Corporation shall not (either directly or indirectly, whether by amendment, merger, consolidation or otherwise), without first obtaining the approval of sixty percent (60%) in aggregate of the outstanding shares of Series C Preferred Stock (by vote or written consent as provided by law, the “**Series C Consent**”), in addition to any other vote required by law, amend, alter or repeal any provision of this Amended and Restated Certificate of Incorporation or bylaws of the Corporation if such action would adversely and disproportionately alter the rights, preferences, privileges or powers of, or restrictions provided for the benefit of the Series C Preferred Stock compared with other series of Preferred Stock. Without limiting the generality of the foregoing, so long as any shares of Series C Preferred Stock remain outstanding, the Corporation shall not (either directly or indirectly, whether by amendment, merger, consolidation or otherwise), without first obtaining the Series C Consent, in addition to any other vote required by law:

(i) exclude an issuance of Common Stock or Convertible Securities from the definition of “Additional Shares of Common” pursuant to Section 4(d)(i)(11) with a price per share of Common Stock (as converted) below the Conversion Price applicable to Series C Preferred Stock (a “**Series C Dilutive Issuance**”);

(ii) allow for the waiver of a Liquidation Event by the Preferred Requisite Majority for a transaction in which the holders of Series C Preferred Stock would receive less than the Liquidation Preference specified for each such share of Series C Preferred Stock (a “**Series C Liquidity Event**”); or

(iii) waive, amend, alter, or repeal this Section 6(d), the last sentence of Section 3(d) (in respect of a Series C Liquidity Event) or Section 4(d)(i)(11) (in respect of a Series C Dilutive Issuance) of this Article IV(C).

7. **Notices.** Unless otherwise expressly provided in this Amended and Restated Certificate of Incorporation, any notice required or permitted by the provisions of this ARTICLE IV(C) to be given to the holders of Preferred Stock shall be mailed, postage prepaid, to each holder of record at such holder's address appearing on the books of the Corporation, or given by electronic communication in compliance with the provisions of the Delaware General Corporation Law, and shall be deemed given upon such mailing or electronic transmission.

ARTICLE V BYLAWS

The Board of Directors shall have the power to adopt, amend or repeal the bylaws of the Corporation (the "**Bylaws**").

The stockholders may adopt, amend or repeal the Bylaws only with the affirmative vote of the holders of not less than 75% of the voting power of all outstanding securities of the Corporation generally entitled to vote in the election of directors, voting together as a single class.

ARTICLE VI BOARD OF DIRECTORS

(A) Power of the Board of Directors. The business and affairs of the Corporation shall be managed by or under the direction of a Board of Directors.

(B) Number of Directors. The number of directors which shall constitute the Board of Directors shall, as of the date this Certificate of Incorporation becomes effective, be seven and, thereafter, shall be fixed exclusively by one or more resolutions adopted from time to time solely by the affirmative vote of a majority of the Board of Directors.

(C) Election of Directors.

(1) The directors shall be divided into three classes, designated Class I, Class II and Class III. Each class shall consist, as nearly as may be practicable, of one-third of the total number of directors constituting the entire Board of Directors. Each director shall serve for a term ending on the date of the third annual meeting of stockholders next following the annual meeting at which such director was elected; *provided* that directors initially designated as Class I directors shall serve for a term ending on the date of the 2019 annual meeting, directors initially designated as Class II directors shall serve for a term ending on the date of the 2020 annual meeting, and directors initially designated as Class III directors shall serve for a term ending on the date of the 2021 annual meeting. Notwithstanding the foregoing, each director shall hold office until such director's successor shall have been duly elected and qualified or until such director's earlier death, resignation or removal. In the event of any change in the number of directors, the Board of Directors shall

apportion any newly created directorships among, or reduce the number of directorships in, such class or classes as shall equalize, as nearly as possible, the number of directors in each class. In no event will a decrease in the number of directors shorten the term of any incumbent director.

(2) The Board of Directors may assign members of the Board of Directors already in office to the Classes described in Article VI(C)(1), which assignments shall become effective at the same time this Amended and Restated Certificate of Incorporation becomes effective.

(3) There shall be no cumulative voting in the election of directors. Election of directors need not be by written ballot unless the Bylaws so provide.

(D) Vacancies. Vacancies on the Board of Directors resulting from death, resignation, removal or otherwise and newly created directorships resulting from any increase in the number of directors shall, except as otherwise required by law, be filled solely by a majority of the directors then in office (although less than a quorum) or by the sole remaining director, and each director so elected shall hold office for a term that shall coincide with the term of the Class to which such director shall have been elected.

(E) Removal. No director may be removed from office by the stockholders except for cause with the affirmative vote of the holders of not less than a majority of the total voting power of all outstanding securities of the Corporation generally entitled to vote in the election of directors, voting together as a single class.

ARTICLE VII MEETINGS OF STOCKHOLDERS

(A) Annual Meetings. An annual meeting of stockholders for the election of directors to succeed those whose terms expire and for the transaction of such other business as may properly come before the meeting shall be held at such place, on such date, and at such time as the Board of Directors shall determine.

(B) Special Meetings. Special meetings of the stockholders may be called only by the Board of Directors acting pursuant to a resolution adopted by a majority of the Board of Directors.

(C) No Action by Consent. Subject to the rights of the holders of any class or series of Preferred Stock then outstanding, as may be set forth in the resolution or resolutions adopted by the Board of Directors pursuant to Article IV(A)(2) hereto for such class or series of Preferred Stock, any action required or permitted to be taken at any annual or special meeting of stockholders may be taken only upon the vote of stockholders at an annual or special meeting duly noticed and called in accordance with Delaware Law, as amended from time to time, and this Article VII and may not be taken by written consent of stockholders without a meeting.

**ARTICLE VIII
INDEMNIFICATION**

(A) Limited Liability. A director of the Corporation shall not be liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director to the fullest extent permitted by Delaware Law.

(B) Right to Indemnification.

(1) Each person (and the heirs, executors or administrators of such person) who was or is a party or is threatened to be made a party to, or is involved in any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that such person is or was a director or officer of the Corporation or is or was serving at the request of the Corporation as a director or officer of another corporation, partnership, joint venture, trust or other enterprise, shall be indemnified and held harmless by the Corporation to the fullest extent permitted by Delaware Law. The right to indemnification conferred in this Article VIII shall also include the right to be paid by the Corporation the expenses incurred in connection with any such proceeding in advance of its final disposition to the fullest extent authorized by Delaware Law. The right to indemnification conferred in this Article VIII shall be a contract right.

(2) The Corporation may, by action of its Board of Directors, provide indemnification to such of the employees and agents of the Corporation to such extent and to such effect as the Board of Directors shall determine to be appropriate and authorized by Delaware Law.

(C) Insurance. The Corporation shall have power to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the Corporation, or is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any expense, liability or loss incurred by such person in any such capacity or arising out of such person's status as such, whether or not the Corporation would have the power to indemnify such person against such liability under Delaware Law.

(D) Nonexclusivity of Rights. The rights and authority conferred in this Article VIII shall not be exclusive of any other right that any person may otherwise have or hereafter acquire.

(E) Preservation of Rights. Neither the amendment nor repeal of this Article VIII, nor the adoption of any provision of this Certificate of Incorporation or the Bylaws, nor, to the fullest extent permitted by Delaware Law, any modification of law, shall adversely affect any right or protection of any person granted pursuant hereto existing at, or arising out of or related to any event, act or omission that occurred prior to, the time of such amendment, repeal, adoption or modification (regardless of when any proceeding (or part thereof) relating to such event, act or omission arises or is first threatened, commenced or completed)..

**ARTICLE IX
AMENDMENTS**

The Corporation reserves the right to amend this Certificate of Incorporation in any manner permitted by Delaware Law and all rights and powers conferred upon stockholders, directors and officers herein are granted subject to this reservation. Notwithstanding the foregoing, the provisions set forth in Articles IV(B), V, VI, VII and this Article IX may not be repealed or amended in any respect, and no other provision may be adopted, amended or repealed which would have the effect of modifying or permitting the circumvention of the provisions set forth in any of Articles IV(B), V, VI, VII or this Article IX, unless such action is approved by the affirmative vote of the holders of not less than 75% of the total voting power of all outstanding securities of the Corporation generally entitled to vote in the election of directors, voting together as a single class.

IN WITNESS WHEREOF, the undersigned has executed this Amended and Restated Certificate of Incorporation as of the date set forth below and certifies under penalty of perjury that he has read the foregoing Amended and Restated Certificate of Incorporation and knows the contents thereof and that the statements therein are true.

Executed at Santa Clara, California on March 11 , 2019.

/s/ Douglas Godshall

Douglas Godshall

President and Chief Executive Officer

**CERTIFICATE OF RETIREMENT
OF
SERIES A PREFERRED STOCK
SERIES A-1 PREFERRED STOCK
SERIES B PREFERRED STOCK
SERIES C PREFERRED STOCK
AND
SERIES D PREFERRED STOCK
OF
SHOCKWAVE MEDICAL, INC.**

Pursuant to Section 243(b)
of the General Corporation Law
of the State of Delaware

Shockwave Medical, Inc., a corporation organized and existing under the laws of the State of Delaware (the “**Corporation**”), HEREBY CERTIFIES as follows:

1. All authorized and outstanding shares of Series A Preferred Stock, par value \$0.001 per share, (the “**Series A Preferred Stock**”), Series A-1 Preferred Stock, par value \$0.001 per share, (the “**Series A-1 Preferred Stock**”), Series B Preferred Stock, par value \$0.001 per share, (the “**Series B Preferred Stock**”), Series C Preferred Stock, par value \$0.001 per share, (the “**Series C Preferred Stock**”) and Series D Preferred Stock, par value \$0.001 per share, (the “**Series D Preferred Stock**”) and, together with the Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series C Preferred Stock and Series D Preferred Stock, the “**Designated Preferred Stock**”) of the Corporation have been converted into shares of Common Stock, par value \$0.001 per share, of the Corporation (“**Common Stock**”).
 2. The Board of Directors of the Corporation has adopted resolutions retiring all previously outstanding shares of the Series A Preferred Stock, Series A-1 Preferred Stock, Series B Preferred Stock, Series C Preferred Stock and Series D Preferred Stock immediately upon their conversion into shares of Common Stock.
 3. The Certificate of Incorporation of the Corporation provides that any shares of Designated Preferred Stock converted into Common Stock shall be cancelled, retired and eliminated from the shares that the Corporation shall be authorized to issue and shall not be reissued by the Corporation.
 4. Accordingly, pursuant to the provisions of Section 243(b) of the General Corporation Law of the State of Delaware, upon the effective date of the filing of this Certificate of Retirement, the Certificate of Incorporation of the Corporation shall be amended so as to (I) reduce the total authorized number of shares of the capital stock of the Corporation by 18,670,259 shares, such that the total number of authorized shares of the Corporation shall be 286,274,838, such shares consisting of (a) 281,274,838 shares of Common Stock, par value \$0.001 per share and (b) 5,000,000 shares of Preferred Stock, par value \$0.001 per share, all of which are Undesignated Preferred Stock and (II) eliminate from the Certificate of Incorporation of the Corporation all references to the Designated Preferred Stock.
-

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Retirement to be signed by its duly authorized officer, this 11th day of March, 2019.

/s/ Douglas Godshall

Douglas Godshall

Chief Executive Officer and President

RESTATED
CERTIFICATE OF INCORPORATION
OF
SHOCKWAVE MEDICAL, INC.

The undersigned, Douglas Godshall, does hereby verify that:

ONE: He is the duly elected and acting President and Chief Executive Officer of Shockwave Medical, Inc. (the “**Corporation**”), a corporation organized and existing under the laws of the State of Delaware.

TWO: The original Certificate of Incorporation of the Corporation was filed with the Secretary of State of the State of Delaware on June 17, 2009, was amended and restated on May 16, 2011, July 1, 2013, May 5, 2015, November 9, 2016, December 6, 2018 and March 11, 2019 and amended on February 22, 2019.

THREE: This Restated Certificate of Incorporation (the “**Certificate of Incorporation**”) only restates and integrates and does not further amend the provisions of the Amended and Restated Certificate of Incorporation that was filed with the Secretary of State of the State of Delaware on March 11, 2019 as amended by the Certificate of Retirement that was filed with the Secretary of State of the State of Delaware on March 11, 2019 (together, the “**Amended Certificate**”) and was duly adopted by the Corporation’s Board of Directors (the “**Board of Directors**”) in accordance with the provisions of Section 245 of the General Corporation Law of the State of Delaware. There is no discrepancy between the provisions of the Amended Certificate and the provisions of this Certificate of Incorporation.

FOUR: The text of the Amended Certificate is hereby integrated and restated in its entirety to read as follows:

ARTICLE I.
NAME

The name of the corporation is Shockwave Medical, Inc.

ARTICLE II.
REGISTERED OFFICE AND AGENT

The address of its registered office in the State of Delaware is The Corporation Trust Company, 1209 Orange Street, City of Wilmington, County of

New Castle, DE 19801. The name of its registered agent at such address is The Corporation Trust Company.

**ARTICLE III.
PURPOSE AND POWERS**

The purpose of the Corporation is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware as the same exists or may hereafter be amended (“**Delaware Law**”).

**ARTICLE IV
CAPITAL STOCK**

(A) Authorized Shares

1. **Classes of Stock.** The total number of shares of stock that the Corporation shall have authority to issue is 286,274,838 shares consisting of 281,274,838 shares of Common Stock, par value \$0.001 per share (the “**Common Stock**”), and 5,000,000 shares of Preferred Stock, par value \$0.001 per share (the “**Preferred Stock**”).

The powers, preferences and rights of, and the qualifications, limitations and restrictions upon, each class or series of stock shall be determined in accordance with, or as set forth below in, this Article IV.

2. **Preferred Stock.** The Board of Directors is hereby empowered, without any action or vote by the Corporation’s stockholders (except as may otherwise be provided by the terms of any class or series of Preferred Stock then outstanding), to authorize by resolution or resolutions from time to time the issuance of one or more classes or series of Preferred Stock and to fix the designations, powers, preferences and relative, participating, optional or other rights, if any, and the qualifications, limitations or restrictions thereof, if any, with respect to each such class or series thereof and the number of shares constituting each such class or series, and to increase or decrease the number of shares of any such class or series to the extent permitted by Delaware Law.

(B) Common Stock.

Each holder of Common Stock, as such, shall be entitled to one vote for each share of Common Stock held of record by such holder on all matters on which stockholders generally are entitled to vote; *provided, however*, that, except as otherwise required by law, holders of Common Stock, as such, shall not be entitled to vote on any amendment to this Certificate of Incorporation (including any certificate of designations relating to any class or series of Preferred Stock) that relates solely to the terms of one or more outstanding classes or series of

Preferred Stock if the holders of such affected class or series are entitled, either separately or together with the holders of one or more other such classes or series, to vote thereon pursuant to this Certificate of Incorporation (including any certificate of designations relating to any class or series of Preferred Stock) or pursuant to Delaware Law.

**ARTICLE V.
BYLAWS**

The Board of Directors shall have the power to adopt, amend or repeal the bylaws of the Corporation (the “**Bylaws**”).

The stockholders may adopt, amend or repeal the Bylaws only with the affirmative vote of the holders of not less than 75% of the voting power of all outstanding securities of the Corporation generally entitled to vote in the election of directors, voting together as a single class.

**ARTICLE VI.
ELECTION AND REMOVAL OF DIRECTORS**

(A) Power of the Board of Directors. The business and affairs of the Corporation shall be managed by or under the direction of a Board of Directors.

(B) Number of Directors. The number of directors which shall constitute the Board of Directors shall, as of the date this Certificate of Incorporation becomes effective, be seven and, thereafter, shall be fixed exclusively by one or more resolutions adopted from time to time solely by the affirmative vote of a majority of the Board of Directors.

(C) Election of Directors.

(1) The directors shall be divided into three classes, designated Class I, Class II and Class III. Each class shall consist, as nearly as may be practicable, of one-third of the total number of directors constituting the entire Board of Directors. Each director shall serve for a term ending on the date of the third annual meeting of stockholders next following the annual meeting at which such director was elected; *provided* that directors initially designated as Class I directors shall serve for a term ending on the date of the 2020 annual meeting, directors initially designated as Class II directors shall serve for a term ending on the date of the 2021 annual meeting, and directors initially designated as Class III directors shall serve for a term ending on the date of the 2022 annual meeting. Notwithstanding the foregoing, each director shall hold office until such director’s successor shall have been duly elected and qualified or until such director’s earlier death, resignation or removal. In the event of any change in the number of directors, the Board of Directors shall apportion any newly created directorships among, or reduce the number of directorships in, such class or classes as shall

equalize, as nearly as possible, the number of directors in each class. In no event will a decrease in the number of directors shorten the term of any incumbent director.

(2) The Board of Directors may assign members of the Board of Directors already in office to the Classes described in Article VI(C)(1), which assignments shall become effective at the same time this Amended and Restated Certificate of Incorporation becomes effective.

(3) There shall be no cumulative voting in the election of directors. Election of directors need not be by written ballot unless the Bylaws so provide.

(D) Vacancies. Vacancies on the Board of Directors resulting from death, resignation, removal or otherwise and newly created directorships resulting from any increase in the number of directors shall, except as otherwise required by law, be filled solely by a majority of the directors then in office (although less than a quorum) or by the sole remaining director, and each director so elected shall hold office for a term that shall coincide with the term of the Class to which such director shall have been elected.

(E) Removal. No director may be removed from office by the stockholders except for cause with the affirmative vote of the holders of not less than a majority of the total voting power of all outstanding securities of the Corporation generally entitled to vote in the election of directors, voting together as a single class.

ARTICLE VII. MEETINGS OF STOCKHOLDERS

(A) Stockholder Meetings

(1) **Annual Meetings.** An annual meeting of stockholders for the election of directors to succeed those whose terms expire and for the transaction of such other business as may properly come before the meeting shall be held at such place, on such date, and at such time as the Board of Directors shall determine.

(2) **Special Meetings.** Special meetings of the stockholders may be called only by the Board of Directors acting pursuant to a resolution adopted by a majority of the Board of Directors, or by the chairman of our Board of Directors.

(B) Limits on Written Consents. Subject to the rights of the holders of any class or series of Preferred Stock then outstanding, as may be set forth in the resolution or resolutions adopted by the Board of Directors pursuant to Article IV(A)(2) hereto for such class or series of Preferred Stock, any action required or

permitted to be taken at any annual or special meeting of stockholders may be taken only upon the vote of stockholders at an annual or special meeting duly noticed and called in accordance with Delaware Law, as amended from time to time, and this Article VII and may not be taken by written consent of stockholders without a meeting, unless such consent is unanimous.

ARTICLE VIII. INDEMNIFICATION

(A) Limited Liability. A director of the Corporation shall not be liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director to the fullest extent permitted by Delaware Law.

(B) Right to Indemnification.

(1) Each person (and the heirs, executors or administrators of such person) who was or is a party or is threatened to be made a party to, or is involved in any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that such person is or was a director or officer of the Corporation or is or was serving at the request of the Corporation as a director or officer of another corporation, partnership, joint venture, trust or other enterprise, shall be indemnified and held harmless by the Corporation to the fullest extent permitted by Delaware Law. The right to indemnification conferred in this Article VIII shall also include the right to be paid by the Corporation the expenses incurred in connection with any such proceeding in advance of its final disposition to the fullest extent authorized by Delaware Law. The right to indemnification conferred in this Article VIII shall be a contract right.

(2) The Corporation may, by action of its Board of Directors, provide indemnification to such of the employees and agents of the Corporation to such extent and to such effect as the Board of Directors shall determine to be appropriate and authorized by Delaware Law.

(C) Insurance. The Corporation shall have power to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the Corporation, or is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any expense, liability or loss incurred by such person in any such capacity or arising out of such person's status as such, whether or not the Corporation would have the power to indemnify such person against such liability under Delaware Law.

(D) Nonexclusivity of Rights. The rights and authority conferred in this Article VIII shall not be exclusive of any other right that any person may otherwise have or hereafter acquire.

(E) Preservation of Rights. Neither the amendment nor repeal of this Article VIII, nor the adoption of any provision of this Certificate of Incorporation or the Bylaws, nor, to the fullest extent permitted by Delaware Law, any modification of law, shall adversely affect any right or protection of any person granted pursuant hereto existing at, or arising out of or related to any event, act or omission that occurred prior to, the time of such amendment, repeal, adoption or modification (regardless of when any proceeding (or part thereof) relating to such event, act or omission arises or is first threatened, commenced or completed).

**ARTICLE IX.
AMENDMENTS**

The Corporation reserves the right to amend this Certificate of Incorporation in any manner permitted by Delaware Law and all rights and powers conferred upon stockholders, directors and officers herein are granted subject to this reservation. Notwithstanding the foregoing, the provisions set forth in Articles IV(B), V, VI, VII(A), VII(B) and this Article IX may not be repealed or amended in any respect, and no other provision may be adopted, amended or repealed which would have the effect of modifying or permitting the circumvention of the provisions set forth in any of Articles IV(B), V, VI, VII(A), VII(B) or this Article IX, unless such action is approved by the affirmative vote of the holders of not less than 75% of the total voting power of all outstanding securities of the Corporation generally entitled to vote in the election of directors, voting together as a single class.

IN WITNESS WHEREOF, the undersigned has executed this Restated Certificate of Incorporation as of the date set forth below and certifies under penalty of perjury that he has read the foregoing Certificate of Incorporation and knows the contents thereof and that the statements therein are true.

Executed at Santa Clara, California on March 11, 2019.

/s/ Douglas Godshall

Douglas Godshall

President and Chief Executive Officer

**AMENDED AND RESTATED
BYLAWS
OF
SHOCKWAVE MEDICAL, INC.**

ARTICLE 1
OFFICES

Section 1.01. *Registered Office.* The registered office of the Corporation shall be 1209 Orange Street, City of Wilmington, County of New Castle, DE 19801, State of Delaware.

Section 1.02. *Other Offices.* The Corporation may also have offices at such other places both within and without the State of Delaware as the Board of Directors may from time to time determine or the business of the Corporation may require.

Section 1.03. *Books.* The books of the Corporation may be kept within or without the State of Delaware as the Board of Directors may from time to time determine or the business of the Corporation may require.

ARTICLE 2
MEETINGS OF STOCKHOLDERS

Section 2.01. *Time and Place of Meetings.* All meetings of stockholders shall be held at such place, either within or without the State of Delaware, on such date and at such time as may be determined from time to time by the Board of Directors (or the Chairman of the Board of Directors in the absence of a designation by the Board of Directors).

Section 2.02. *Annual Meetings.* An annual meeting of stockholders, commencing with the year 2020, shall be held for the election of directors and to transact such other business as may properly be brought before the meeting.

Section 2.03. *Special Meetings.* Special meetings of the stockholders may be called only by the Chairman of the Board of Directors or by a resolution adopted by a majority of the Board of Directors.

Section 2.04. *Notice of Meetings and Adjourned Meetings; Waivers of Notice.* (a) Whenever stockholders are required or permitted to take any action at a meeting, a written notice of the meeting shall be given which shall state the place, if any, date and hour of the meeting, the means of remote communications, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such meeting, and, in the case of a special meeting, the purpose or purposes for which the meeting is called. Unless otherwise provided by the General Corporation Law of the State of

Delaware as the same exists or may hereafter be amended from time to time (“**Delaware Law**”), such notice shall be given not fewer than 10 nor more than 60 days before the date of the meeting to each stockholder of record entitled to vote at such meeting. The Board of Directors or the chairman of the meeting may adjourn the meeting to another time or place (whether or not a quorum is present), and notice need not be given of the adjourned meeting if the time, place, if any, and the means of remote communications, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such meeting, are announced at the meeting at which such adjournment is made. At the adjourned meeting, the Corporation may transact any business that might have been transacted at the original meeting. If the adjournment is for more than 30 days, or after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting.

(b) A written waiver of any such notice signed by the person entitled thereto, or a waiver by electronic transmission by the person entitled to notice, whether before or after the time stated therein, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends the meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Business transacted at any special meeting of stockholders shall be limited to the purposes stated in the notice.

Section 2.05. *Quorum*. Unless otherwise provided in the Certificate of Incorporation or these Bylaws and subject to Delaware Law, the presence, in person or by proxy, of the holders of a majority of the total voting power of all outstanding securities of the Corporation generally entitled to vote at a meeting of stockholders shall constitute a quorum for the transaction of business. If, however, such quorum shall not be present or represented at any meeting of the stockholders, the chairman of the meeting or a majority in voting interest of the stockholders present in person or represented by proxy may adjourn the meeting, without notice other than announcement at the meeting, until a quorum shall be present or represented. At such adjourned meeting at which a quorum shall be present or represented any business may be transacted that might have been transacted at the meeting as originally notified.

Section 2.06. *Voting*. (a) Unless otherwise provided in the Certificate of Incorporation and subject to Delaware Law, each stockholder shall be entitled to one vote for each outstanding share of capital stock of the Corporation held by such stockholder. Any share of capital stock of the Corporation held by the Corporation shall have no voting rights. Except as otherwise required by law, the Certificate of Incorporation or these Bylaws,

in all matters other than the election of directors, the affirmative vote of the holders of a majority of the votes cast at the meeting on the subject matter shall be the act of the stockholders. Abstentions and broker non-votes shall not be counted as votes cast. Subject to the rights of the holders of any class or series of preferred stock to elect additional directors under specific circumstances, as may be set forth in the certificate of designations for such class or series of preferred stock, directors shall be elected by a plurality of the votes of the shares of capital stock of the Corporation present in person or represented by proxy at the meeting and entitled to vote on the election of directors.

(b) Each stockholder entitled to vote at a meeting of stockholders or to express consent or dissent to a corporate action in writing without a meeting may authorize another person or persons to act for such stockholder by proxy, appointed by an instrument in writing, subscribed by such stockholder or by his attorney thereunto authorized, or by proxy sent by cable, telegram or by any means of electronic communication permitted by law, which results in a writing from such stockholder or by his attorney, and delivered to the secretary of the meeting. No proxy shall be voted after three (3) years from its date, unless said proxy provides for a longer period.

Section 2.07. *Action by Consent.* Subject to the rights of the holders of any class or series of preferred stock then outstanding, as may be set forth in the certificate of designations for such class or series of preferred stock, any action required or permitted to be taken at any annual or special meeting of stockholders may be taken only upon the vote of stockholders at an annual or special meeting duly noticed and called in accordance with Delaware Law and may not be taken by written consent of stockholders without a meeting, unless such consent is unanimous.

Section 2.08. *Organization.* At each meeting of stockholders, the Chairman of the Board of Directors, if one shall have been elected, or in the Chairman's absence or if one shall not have been elected, the director designated by the vote of the majority of the directors present at such meeting, shall act as chairman of the meeting. The Secretary (or in the Secretary's absence or inability to act, the person whom the chairman of the meeting shall appoint secretary of the meeting) shall act as secretary of the meeting and keep the minutes thereof.

Section 2.09. *Order of Business.* The order of business at all meetings of stockholders shall be as determined by the chairman of the meeting.

Section 2.10. *Nomination of Directors and Proposal of Other Business.*

(a) *Annual Meetings of Stockholders.*

(i) Nominations of persons for election to the Board of Directors or the proposal of other business to be transacted by the stockholders at an annual meeting of stockholders may be made only (A) pursuant to the Corporation's notice of meeting (or any supplement thereto), (B) by or at the direction of the Board of Directors or any committee thereof, (C) as may be provided in the certificate of designations for any class or series of preferred stock or (D) by any stockholder of the Corporation who is a stockholder of record at the time of giving of notice provided for in paragraph (ii) of this Section 2.10(a) and at the time of the annual meeting, who shall be entitled to vote at the meeting and who complies with the procedures set forth in this Section 2.10(a), and, except as otherwise required by law, any failure to comply with these procedures shall result in the nullification of such nomination or proposal.

(ii) For nominations or other business to be properly brought before an annual meeting of stockholders by a stockholder pursuant to clause (D) of paragraph (i) of this Section 2.10(a), the stockholder must have given timely notice thereof in writing to the Secretary of the Corporation and any such proposed business (other than the nominations of persons for election to the Board of Directors) must constitute a proper matter for stockholder action. To be timely, a stockholder's notice shall be delivered to, or mailed and received by, the Secretary of the Corporation at the principal executive offices of the Corporation not fewer than 120 days nor more than 180 days prior to the first anniversary of the preceding year's annual meeting of stockholders; *provided, however*, that in the event that the date of the annual meeting is advanced more than 30 days prior to such anniversary date or delayed more than 60 days after such anniversary date then to be timely such notice must be received by the Corporation no earlier than 120 days prior to such annual meeting and no later than the 10th day following the day on which public announcement of the date of the meeting was first made by the Corporation; *provided, however*, that for a stockholder's notice in connection with the election of a director at a special meeting of stockholders to be timely, a stockholder must generally deliver notice not less than 40 nor more than 60 days prior to the date of the special meeting, but in the event that less than 55 days' notice or prior public disclosure of the date of the special meeting of the stockholders is given or made to the stockholders, a stockholder's notice will be timely if received by us not later than the close of business on the 10th day following the day on which a notice of the date of the special meeting was mailed to the stockholders or the public disclosure of that date was made. In no event shall the adjournment or postponement of any meeting, or any announcement thereof,

commence a new time period (or extend any time period) for the giving of a stockholder's notice as described above.

(iii) A stockholder's notice to the Secretary shall set forth (A) as to each person whom the stockholder proposes to nominate for election or reelection as a director: (1) all information relating to such person that is required to be disclosed in solicitations of proxies for election of directors, or is otherwise required, in each case pursuant to Regulation 14A under the Securities Exchange Act of 1934 (as amended (together with the rules and regulations promulgated thereunder), the "**Exchange Act**") including such person's written consent to being named in the proxy statement as a nominee and to serving as a director if elected; and (2) a reasonably detailed description of any compensatory, payment or other financial agreement, arrangement or understanding that such person has with any other person or entity other than the Corporation including the amount of any payment or payments received or receivable thereunder, in each case in connection with candidacy or service as a director of the Corporation (a "**Third-Party Compensation Arrangement**"), (B) as to any other business that the stockholder proposes to bring before the meeting, a brief description of the business desired to be brought before the meeting, the text of the proposal or business (including the text of any resolutions proposed for consideration and in the event that such business includes a proposal to amend these Bylaws, the text of the proposed amendment), the reasons for conducting such business and any material interest in such business of such stockholder and the beneficial owner, if any, on whose behalf the proposal is made and (C) as to the stockholder giving the notice and the beneficial owner, if any, on whose behalf the proposal is made:

(1) the name and address of such stockholder (as they appear on the Corporation's books) and any such beneficial owner;

(2) for each class or series, the number of shares of capital stock of the Corporation that are held of record or are beneficially owned by such stockholder and by any such beneficial owner;

(3) a description of any agreement, arrangement or understanding between or among such stockholder and any such beneficial owner, any of their respective affiliates or associates, and any other person or persons (including their names) in connection with the proposal of such nomination or other business;

(4) a description of any agreement, arrangement or understanding (including, regardless of the form of settlement, any derivative, long or short positions, profit interests, forwards, futures, swaps, options, warrants, convertible securities, stock appreciation or similar rights, hedging transactions and borrowed or loaned shares) that has been entered into by or on behalf of, or any other agreement, arrangement or understanding that has been made, the effect or intent of which is to create or mitigate loss to, manage risk or benefit of share price changes for, or increase or decrease the voting power of, such stockholder or any such beneficial owner or any such nominee with respect to the Corporation's securities;

(5) a representation that the stockholder is a holder of record of stock of the Corporation entitled to vote at such meeting and intends to appear in person or by proxy at the meeting to bring such nomination or other business before the meeting;

(6) a representation as to whether such stockholder or any such beneficial owner intends or is part of a group that intends to (i) deliver a proxy statement and/or form of proxy to holders of at least the percentage of the voting power of the Corporation's outstanding capital stock required to approve or adopt the proposal or to elect each such nominee and/or (ii) otherwise to solicit proxies from stockholders in support of such proposal or nomination;

(7) any other information relating to such stockholder, beneficial owner, if any, or director nominee or proposed business that would be required to be disclosed in a proxy statement or other filing required to be made in connection with the solicitation of proxies in support of such nominee or proposal pursuant to Section 14 of the Exchange Act; and

(8) such other information relating to any proposed item of business as the Corporation may reasonably require to determine whether such proposed item of business is a proper matter for stockholder action.

If requested by the Corporation, the information required under clauses 2.10(a)(iii)(C)(2), (3) and (4) of the preceding sentence of this Section 2.10 shall be supplemented by such stockholder and any such

beneficial owner not later than 10 days after the record date for the meeting to disclose such information as of the record date.

(b) *Special Meetings of Stockholders.* If the election of directors is included as business to be brought before a special meeting in the Corporation's notice of meeting, then nominations of persons for election to the Board of Directors at a special meeting of stockholders may be made by any stockholder who is a stockholder of record at the time of giving of notice provided for in this Section 2.10(b) and at the time of the special meeting, who shall be entitled to vote at the meeting and who complies with the procedures set forth in this Section 2.10(b). For nominations to be properly brought by a stockholder before a special meeting of stockholders pursuant to this Section 2.10(b), the stockholder must have given timely notice thereof in writing to the Secretary of the Corporation. To be timely, a stockholder's notice shall be delivered to or mailed and received at the principal executive offices of the Corporation (A) not earlier than 150 days prior to the date of the special meeting nor (B) later than the later of 120 days prior to the date of the special meeting or the 10th day following the day on which public announcement of the date of the special meeting was first made. A stockholder's notice to the Secretary shall comply with the notice requirements of Section 2.10(a)(iii).

(c) *General.* (i) To be eligible to be a nominee for election as a director, the proposed nominee must provide to the Secretary of the Corporation in accordance with the applicable time periods prescribed for delivery of notice under Section 2.10(a)(i) or Section 2.10(b): (1) a completed D&O questionnaire (in the form provided by the secretary of the Corporation at the request of the nominating stockholder) containing information regarding the nominee's background and qualifications and such other information as may reasonably be required by the Corporation to determine the eligibility of such proposed nominee to serve as a director of the Corporation or to serve as an independent director of the Corporation, (2) a written representation that, unless previously disclosed to the Corporation, the nominee is not and will not become a party to any voting agreement, arrangement or understanding with any person or entity as to how such nominee, if elected as a director, will vote on any issue or that could interfere with such person's ability to comply, if elected as a director, with his/her fiduciary duties under applicable law, (3) a written representation and agreement that, unless previously disclosed to the Corporation pursuant to Section 2.10(a)(iii)(A)(2), the nominee is not and will not become a party to any Third-Party Compensation Arrangement and (4) a written representation that, if elected as a director, such nominee would be in compliance and will continue to comply with the Corporation's corporate governance guidelines as disclosed on the Corporation's website, as amended from time to time. At the request of the Board of Directors, any person nominated by the Board of Directors for election as a director shall

furnish to the Secretary of the Corporation the information that is required to be set forth in a stockholder's notice of nomination that pertains to the nominee.

(ii) No person shall be eligible to be nominated by a stockholder to serve as a director of the Corporation unless nominated in accordance with the procedures set forth in this Section 2.10. No business proposed by a stockholder shall be conducted at a stockholder meeting except in accordance with this Section 2.10

(iii) The chairman of the meeting shall, if the facts warrant, determine and declare to the meeting that a nomination was not made in accordance with the procedures prescribed by these Bylaws or that business was not properly brought before the meeting, and if he/she should so determine, he/she shall so declare to the meeting and the defective nomination shall be disregarded or such business shall not be transacted, as the case may be. Notwithstanding the foregoing provisions of this Section 2.10, unless otherwise required by law, if the stockholder (or a qualified representative of the stockholder) does not appear at the annual or special meeting of stockholders of the Corporation to present a nomination or other proposed business, such nomination shall be disregarded or such proposed business shall not be transacted, as the case may be, notwithstanding that proxies in respect of such vote may have been received by the Corporation and counted for purposes of determining a quorum. For purposes of this Section 2.10, to be considered a qualified representative of the stockholder, a person must be a duly authorized officer, manager or partner of such stockholder or must be authorized by a writing executed by such stockholder or an electronic transmission delivered by such stockholder to act for such stockholder as proxy at the meeting of stockholders and such person must produce such writing or electronic transmission, or a reliable reproduction of the writing or electronic transmission, at the meeting of stockholders.

(iv) Without limiting the foregoing provisions of this Section 2.10, a stockholder shall also comply with all applicable requirements of the Exchange Act with respect to the matters set forth in this Section 2.10; *provided, however*, that any references in these Bylaws to the Exchange Act are not intended to and shall not limit any requirements applicable to nominations or proposals as to any other business to be considered pursuant to this Section 2.10, and compliance with paragraphs (a)(i)(C) and (b) of this Section 2.10 shall be the exclusive means for a stockholder to make nominations or submit other business (other than as provided in Section 2.10(c)(v)).

(v) Notwithstanding anything to the contrary, the notice requirements set forth herein with respect to the proposal of any business pursuant to this Section 2.10 shall be deemed satisfied by a stockholder if such stockholder has submitted a proposal to the Corporation in compliance with Rule 14a-8 under the Exchange Act, and such stockholder's proposal has been included in a proxy statement that has been prepared by the Corporation to solicit proxies for the meeting of stockholders.

ARTICLE 3 DIRECTORS

Section 3.01. *General Powers.* Except as otherwise provided in Delaware Law or the Certificate of Incorporation, the business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors.

Section 3.02. *Number, Election and Term Of Office.* The Board of Directors shall consist of not less than five nor more than nine directors, with the exact number of directors to be determined from time to time solely by resolution adopted by the affirmative vote of a majority of the Board. As set forth in Article 6 of the Certificate of Incorporation, the directors shall be divided into three classes, designated Class I, Class II and Class III. Each class shall consist, as nearly as may be practicable, of one-third of the total number of directors constituting the entire Board of Directors. Except as otherwise provided in the Certificate of Incorporation, each director shall serve for a term ending on the date of the third annual meeting of stockholders next following the annual meeting at which such director was elected. Notwithstanding the foregoing, each director shall hold office until such director's successor shall have been duly elected and qualified or until such director's earlier death, resignation or removal. Directors need not be stockholders.

Section 3.03. *Quorum and Manner of Acting.* Unless the Certificate of Incorporation or these Bylaws require a greater number, a majority of the Board of Directors shall constitute a quorum for the transaction of business at any meeting of the Board of Directors and, except as otherwise expressly required by law or by the Certificate of Incorporation, the act of a majority of the directors present at a meeting at which a quorum is present shall be the act of the Board of Directors. When a meeting is adjourned to another time or place (whether or not a quorum is present), notice need not be given of the adjourned meeting if the time and place thereof are announced at the meeting at which the adjournment is taken. At the adjourned meeting, the Board of Directors may transact any business that might have been transacted at the original meeting. If a quorum shall not be present at any

meeting of the Board of Directors, the directors present thereat shall adjourn the meeting, from time to time, without notice other than announcement at the meeting, until a quorum shall be present.

Section 3.04. *Time and Place of Meetings.* The Board of Directors shall hold its meetings at such place, either within or without the State of Delaware, and at such time as may be determined from time to time by the Board of Directors (or the Chairman of the Board of Directors in the absence of a determination by the Board of Directors).

Section 3.05. *Annual Meeting.* The Board of Directors shall meet for the purpose of organization, the election of officers and the transaction of other business, as soon as practicable after each annual meeting of stockholders, on the same day and at the same place where such annual meeting shall be held. Notice of such meeting need not be given. In the event such annual meeting is not so held, the annual meeting of the Board of Directors may be held at such place either within or without the State of Delaware, on such date and at such time as shall be specified in a notice thereof given as hereinafter provided in Section 3.07 herein or in a waiver of notice thereof signed by any director who chooses to waive the requirement of notice.

Section 3.06. *Regular Meetings.* After the place and time of regular meetings of the Board of Directors shall have been determined and notice thereof shall have been once given to each member of the Board of Directors, regular meetings may be held without further notice being given.

Section 3.07. *Special Meetings.* Special meetings of the Board of Directors may be called by the Chairman of the Board of Directors, the Chief Executive Officer or the President and shall be called by the Chairman of the Board of Directors, Chief Executive Officer, President or the Secretary, on the written request of three directors. Notice of special meetings of the Board of Directors shall be given to each director at least 48 hours before the date of the meeting in such manner as is determined by the Board of Directors.

Section 3.08. *Committees.* The Board of Directors may designate one or more committees, each committee to consist of one or more of the directors of the Corporation. The Board of Directors may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members present at any meeting and not disqualified from voting, whether or not such member or members constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent provided in the resolution of the Board of Directors, shall have and

may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the Corporation, and may authorize the seal of the Corporation to be affixed to all papers which may require it; but no such committee shall have the power or authority in reference to the following matters: (a) approving or adopting, or recommending to the stockholders, any action or matter expressly required by Delaware Law to be submitted to the stockholders for approval or (b) adopting, amending or repealing any Bylaw of the Corporation. Each committee shall keep regular minutes of its meetings and report the same to the Board of Directors when required.

Section 3.09. *Action by Consent.* Unless otherwise restricted by the Certificate of Incorporation or these Bylaws, any action required or permitted to be taken at any meeting of the Board of Directors or of any committee thereof may be taken without a meeting, if all members of the Board of Directors or committee, as the case may be, consent thereto in writing or by electronic transmission, and the writing or writings or electronic transmission or transmissions, are filed with the minutes of proceedings of the Board of Directors or committee. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

Section 3.10. *Telephonic Meetings.* Unless otherwise restricted by the Certificate of Incorporation or these Bylaws, members of the Board of Directors, or any committee designated by the Board of Directors, may participate in a meeting of the Board of Directors, or such committee, as the case may be, by means of conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, and such participation in a meeting shall constitute presence in person at the meeting.

Section 3.11. *Resignation.* Any director may resign from the Board of Directors at any time by giving notice to the Board of Directors or to the Secretary of the Corporation. Any such notice must be in writing or by electronic transmission to the Board of Directors or to the Secretary of the Corporation. The resignation of any director shall take effect upon receipt of notice thereof or at such later time as shall be specified in such notice; and unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

Section 3.12. *Vacancies.* Unless otherwise provided in the Certificate of Incorporation, vacancies on the Board of Directors resulting from death, resignation, removal or otherwise and newly created directorships resulting from any increase in the number of directors shall, except as otherwise required by law, be filled solely by a majority of the directors then in office (although less than a quorum) or by the sole remaining director, and each

director so elected shall hold office for a term that shall coincide with the term of the Class to which such director shall have been elected. If there are no directors in office, then an election of directors may be held in accordance with Delaware Law. Unless otherwise provided in the Certificate of Incorporation, when one or more directors shall resign from the Board of Directors, effective at a future date, a majority of the directors then in office, including those who have so resigned, shall have the power to fill such vacancy or vacancies, the vote thereon to take effect when such resignation or resignations shall become effective, and each director so chosen shall hold office as provided in the filling of the other vacancies.

Section 3.13. *Removal.* No director may be removed from office by the stockholders except for cause with the affirmative vote of the holders of not less than a majority of the total voting power of all outstanding securities of the corporation generally entitled to vote in the election of directors, voting together as a single class.

Section 3.14. *Compensation.* Unless otherwise restricted by the Certificate of Incorporation or these Bylaws, the Board of Directors shall have authority to fix the compensation of directors, including fees and reimbursement of expenses.

ARTICLE 4 OFFICERS

Section 4.01. *Principal Officers.* The principal officers of the Corporation shall be a Chief Executive Officer, a President, Chief Financial Officer, one or more Vice Presidents and a Secretary who shall have the duty, among other things, to record the proceedings of the meetings of stockholders and directors in a book kept for that purpose. The Corporation may also have such other principal officers, including one or more Controllers, as the Board of Directors may in its discretion appoint. One person may hold the offices and perform the duties of any two or more of said offices, except that no one person shall hold the offices and perform the duties of President and Secretary.

Section 4.02. *Appointment, Term of Office and Remuneration.* The principal officers of the Corporation shall be appointed by the Board of Directors in the manner determined by the Board of Directors. Each such officer shall hold office until his or her successor is appointed, or until his or her earlier death, resignation or removal. The remuneration of all officers of the Corporation shall be fixed by the Board of Directors. Any vacancy in any office shall be filled in such manner as the Board of Directors shall determine.

Section 4.03. *Subordinate Officers.* In addition to the principal officers enumerated in Section 4.01 herein, the Corporation may have one or more Assistant Treasurers, Assistant Secretaries and Assistant Controllers and such other subordinate officers, agents and employees as the Board of Directors may deem necessary, each of whom shall hold office for such period as the Board of Directors may from time to time determine. The Board of Directors may delegate to any principal officer the power to appoint and to remove any such subordinate officers, agents or employees.

Section 4.04. *Removal.* Except as otherwise permitted with respect to subordinate officers, any officer may be removed, with or without cause, at any time, by resolution adopted by the Board of Directors.

Section 4.05 . *Resignations.* Any officer may resign at any time by giving notice to the Board of Directors (or to a principal officer if the Board of Directors has delegated to such principal officer the power to appoint and to remove such officer). Any such notice must be in writing. The resignation of any officer shall take effect upon receipt of notice thereof or at such later time as shall be specified in such notice; and unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

Section 4.06. *Powers and Duties.* The officers of the Corporation shall have such powers and perform such duties incident to each of their respective offices and such other duties as may from time to time be conferred upon or assigned to them by the Board of Directors.

ARTICLE 5 CAPITAL STOCK

Section 5.01. *Certificates For Stock; Uncertificated Shares.* The shares of the Corporation shall be represented by certificates, provided that the Board of Directors may provide by resolution or resolutions that some or all of any or all classes or series of its stock shall be uncertificated shares or a combination of certificated and uncertificated shares. Any such resolution that shares of a class or series will only be uncertificated shall not apply to shares represented by a certificate until such certificate is surrendered to the Corporation. Except as otherwise required by law, the rights and obligations of the holders of uncertificated shares and the rights and obligations of the holders of shares represented by certificates of the same class and series shall be identical. Every holder of stock represented by certificates shall be entitled to have a certificate signed by, or in the name of the Corporation by the Chairman or Vice Chairman of the Board of Directors, or the Chief Executive Officer, President or Vice President, and by the Chief Financial Officer or a Treasurer or Assistant Treasurer, or the Secretary or an Assistant

Secretary of such Corporation representing the number of shares registered in certificate form. Any or all of the signatures on the certificate may be a facsimile. In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate shall have ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the Corporation with the same effect as if such person were such officer, transfer agent or registrar at the date of issue. A Corporation shall not have power to issue a certificate in bearer form.

Section 5.02. *Transfer Of Shares.* Shares of the stock of the Corporation may be transferred on the record of stockholders of the Corporation by the holder thereof or by such holder's duly authorized attorney upon surrender of a certificate therefor properly endorsed or upon receipt of proper transfer instructions from the registered holder of uncertificated shares or by such holder's duly authorized attorney and upon compliance with appropriate procedures for transferring shares in uncertificated form, unless waived by the Corporation.

Section 5.03. *Authority for Additional Rules Regarding Transfer.* The Board of Directors shall have the power and authority to make all such rules and regulations as they may deem expedient concerning the issue, transfer and registration of certificated or uncertificated shares of the stock of the Corporation, as well as for the issuance of new certificates in lieu of those which may be lost or destroyed, and may require of any stockholder requesting replacement of lost or destroyed certificates, bond in such amount and in such form as they may deem expedient to indemnify the Corporation, and/or the transfer agents, and/or the registrars of its stock against any claims arising in connection therewith.

ARTICLE 6 GENERAL PROVISIONS

Section 6.01 . *Fixing the Record Date.* (a) In order that the Corporation may determine the stockholders entitled to notice of any meeting of stockholders or any adjournment thereof, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing such record date is adopted by the Board of Directors, and which record date shall not be more than 60 nor fewer than 10 days before the date of such meeting. If the Board of Directors so fixes a date, such date shall also be the record date for determining the stockholders entitled to vote at such meeting unless the Board of Directors determines, at the time it fixes such record date, that a later date on or before the date of the meeting shall be the date for making such determination. If no record date is fixed by the Board of Directors, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of

business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; *provided* that the Board of Directors may in its discretion or as required by law fix a new record date for determination of stockholders entitled to vote at the adjourned meeting, and in such case shall fix the same date or an earlier date as the record date for stockholders entitled to notice of such adjourned meeting.

(b) In order that the Corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights or the stockholders entitled to exercise any rights in respect of any change, conversion or exchange of stock, or for the purpose of any other lawful action, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted, and which record date shall be not more than 60 days prior to such action. If no record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto.

Section 6.02. *Dividends.* Subject to limitations contained in Delaware Law and the Certificate of Incorporation, the Board of Directors may declare and pay dividends upon the shares of capital stock of the Corporation, which dividends may be paid either in cash, in property or in shares of the capital stock of the Corporation.

Section 6.03. *Year.* The fiscal year of the Corporation shall commence on January 1 and end on December 31 of each year.

Section 6.04. *Corporate Seal.* The corporate seal shall have inscribed thereon the name of the Corporation, the year of its organization and the words "Corporate Seal, Delaware". The seal may be used by causing it or a facsimile thereof to be impressed, affixed or otherwise reproduced.

Section 6.05. *Voting of Stock Owned by the Corporation.* The Board of Directors may authorize any person, on behalf of the Corporation, to attend, vote at and grant proxies to be used at any meeting of stockholders of any corporation (except this Corporation) in which the Corporation may hold stock.

Section 6.06. *Forum Selection.* Unless the Corporation consents in writing to the selection of an alternative forum, the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of a fiduciary duty

owed by any director, officer or other employee of the Corporation to the Corporation or the Corporation's stockholders, (iii) any action asserting a claim arising pursuant to any provision of Delaware Law or the Certificate of Incorporation or these Bylaws (in each case, as they may be amended from time to time), or (iv) any action asserting a claim governed by the internal affairs doctrine shall be a state court located within the state of Delaware (or, if no state court located within the State of Delaware has jurisdiction, the federal district court for the District of Delaware), in all cases subject to the court's having personal jurisdiction over the indispensable parties named as defendants. Unless the Corporation consents in writing to the selection of an alternative forum, the federal district courts of the United States shall be the exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act, in all cases subject to the court's having personal jurisdiction over the indispensable parties named as defendants. Any person or entity purchasing or otherwise acquiring any interest in shares of capital stock of the Corporation shall be deemed to have notice of and consented to the provisions of this Section 6.06.

Section 6.07. *Amendments.* These Bylaws or any of them, may be altered, amended or repealed, or new Bylaws may be made, by the stockholders entitled to vote thereon at any annual or special meeting thereof or by the Board of Directors. Unless a higher percentage is required by the Certificate of Incorporation as to any matter that is the subject of these Bylaws, all such amendments must be approved by the affirmative vote of the holders of not less than 75% of the total voting power of all outstanding securities of the Corporation, generally entitled to vote in the election of directors, voting together as a single class, or by a majority of the Board of Directors. Notwithstanding the foregoing, any alteration, amendment or repeal of, or adoption of any bylaw inconsistent with, any one or more of these bylaws related to special and annual meetings of stockholders, action of stockholders by written consent, classification of the board of directors, nomination of directors, special meetings of directors, removal of directors, committees of the board of directors or indemnification of directors and officers, requires the affirmative vote of either (a) at least 75% of all directors in office at a meeting called for that purpose or (b) approval by the affirmative vote of the holders of not less than 75% of the total voting power of all outstanding securities of the Corporation, generally entitled to vote in the election of directors, voting together as a single class.
