

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

**FORM S-8
REGISTRATION STATEMENT**

*UNDER
THE SECURITIES ACT OF 1933*

ATRICURE, INC.

(Exact name of Registrant as specified in its charter)

Delaware
*(State or other jurisdiction of
incorporation or organization)*

34-1940305
*(I.R.S. Employer
Identification No.)*

**6033 Schumacher Park Drive
West Chester, OH 45069
(513) 755-4100**

(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

2008 EMPLOYEE STOCK PURCHASE PLAN

(Full title of the Plan)

**David J. Drachman
President and Chief Executive Officer
AtriCure, Inc.**

**6033 Schumacher Park Drive
West Chester, OH 45069
(513) 755-4100**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copy to:

**Theodore L. Polin, Esq.
Epstein Becker & Green, P.C.
250 Park Avenue
New York, New York 10017
(212) 351-4500**

CALCULATION OF REGISTRATION FEE

Title of Class of Securities To Be Registered	Amount To Be Registered (1)	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock, \$0.001 par value	300,000(2)	\$10.93(3)	\$3,279,000(3)	\$128.86
TOTAL	300,000	\$10.93	\$3,279,000	\$128.86

(1) Includes such additional shares as may become issuable by reason of stock splits, stock dividends or similar transactions.

(2) Consists of shares issuable upon exercise of options granted under the 2008 Employee Stock Purchase Plan.

(3) Estimated solely for the purpose of calculating the registration fee in accordance with Rules 457(c) and (h) under the Securities Act of 1933 and based upon the average of the high and low sales prices reported on The Nasdaq Global Market on June 25, 2008.

PART I

INFORMATION REQUIRED IN THE SECTION 10(A) PROSPECTUS

Item 1. Plan Information.

The documents containing the information specified by Part I will be sent or given to eligible participants as specified by Rule 428(b)(1) under the Securities Act. These documents and the documents incorporated by reference herein pursuant to Item 3 of Part II below, taken together, constitute a Section 10(a) prospectus.

Item 2. Registrant Information and Employee Plan Annual Information.

We will provide without charge to each person to whom a copy of a Section 10(a) prospectus hereunder is delivered, upon the oral or written request of such person, a copy of any document incorporated by reference in Item 3 of Part II below. Requests should be directed to AtriCure, Inc., 6033 Schumacher Park Drive, West Chester, OH 45069, Attn. Julie Piton, Vice President, Finance and Administration and Chief Financial Officer, (513) 755-4100.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

We incorporate by reference the following documents filed by us with the SEC:

Our SEC filings	Period covered or date of filing
2007 Annual Report on Form 10-K/A	May 8, 2008
Current Reports on Form 8-K	February 7, 2008 and February 8, 2008
Quarterly Report on Form 10-Q	May 8, 2008
Definitive Proxy Statement on Schedule 14A	April 23, 2008
The description of our common stock, contained in our Registration Statement on Form 8-A, including any amendments or reports filed for the purpose of updating such description	August 1, 2005

In addition, all documents subsequently filed with the SEC by us pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934, prior to the filing of a post-effective amendment which indicates that all securities offered hereunder have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference in this Registration Statement and to be a part hereof from the date of filing of such documents. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes hereof to the extent that a statement contained herein or in any other subsequently filed document which also is incorporated or deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

Item 4. Description of Securities.

Not applicable.

Item 5. Interests of Named Experts and Counsel.

The validity of the common stock registered hereunder will be passed upon for us by Epstein Becker & Green, P.C., New York, New York. We are aware that one member of Epstein Becker & Green, P.C. and his spouse hold shares of our common stock, and options to purchase shares of our common stock, and that another member of Epstein Becker & Green, P.C. is our corporate secretary.

Item 6. Indemnification of Directors and Officers.

Under Section 145 of the Delaware General Corporation Law, we have broad powers to indemnify our officers, directors and third parties acting on our behalf against liabilities they may incur in such capacities, including liabilities under the Securities Act.

Our amended and restated certificate of incorporation and amended and restated bylaws provide that we will indemnify our directors and executive officers, and may indemnify our other officers, employees and agents, to the fullest extent permitted by the Delaware General Corporation Law. Under our amended and restated bylaws, we are also empowered to purchase insurance on behalf of any person whom we are required or permitted to indemnify. We have procured and intend to maintain a directors' and officers' liability insurance policy that insures such persons against the costs of defense, settlement or payment of a judgment under certain circumstances. We also have entered into indemnification agreements with our directors and executive officers for the indemnification of and advancement of expenses to these persons to the fullest extent permitted by law.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or persons controlling us pursuant to the foregoing provisions, we have been informed that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

Item 7. Exemption from Registration Claimed.

Not applicable.

Item 8. Exhibits.

<u>Exhibit Number</u>	<u>Description of Documents</u>
5.1	Opinion of Epstein Becker & Green, P.C.
10.1	2008 Employee Stock Purchase Plan.
23.1	Consent of Deloitte & Touche LLP.
23.2	Consent of Epstein Becker & Green, P.C. (included in Exhibit 5.1).
24.1	Power of Attorney (included on the signature page on page S-1).

Item 9. Undertakings.

(A) The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the Registration Statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective Registration Statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the Registration Statement or any material change to such information in the Registration Statement;

Provided, however, that paragraphs (A)(1)(i) and (A)(1)(ii) of this Section do not apply if the Registration Statement is on Form S-3, Form S-8 or Form F-3, and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the Registration Statement;

(2) that, for the purpose of determining any liability under the Act, each such post-effective amendment shall be deemed to be a new Registration Statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof; and

(3) to remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(B) The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Act, each filing of the Registrant's annual report pursuant to Section 13(a) or 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in this Registration Statement shall be deemed to be a new Registration Statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(C) Insofar as indemnification for liabilities arising under the Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the provisions described in Item 6 above, or otherwise, the Registrant has been advised that in the opinion of the Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in West Chester, Ohio, on the 30th day of June, 2008.

ATRICURE, INC.

By: /s/ Julie A. Piton

Julie A. Piton,
Vice President, Finance and Administration and
Chief Financial Officer
(Principal Financial and Accounting Officer)

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each individual whose signature appears below constitutes and appoints David J. Drachman and Julie A. Piton, and each of them, his or her true and lawful attorneys-in-fact and agents, with full power of substitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement, and to file the same, with all exhibits thereto and all documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or his or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated:

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ David J. Drachman</u> David J. Drachman	President, Chief Executive Officer and Director (Principal Executive Officer)	June 30, 2008
<u>/s/ Julie A. Piton</u> Julie A. Piton	Vice President, Finance and Administration and Chief Financial Officer (Principal Financial and Accounting Officer)	June 30, 2008
<u>/s/ Richard M. Johnston</u> Richard M. Johnston	Chairman of the Board of Directors	June 27, 2008
<u>/s/ Mark A. Collar</u> Mark A. Collar	Director	June 27, 2008
<u>/s/ Donald C. Harrison, M.D.</u> Donald C. Harrison, M.D.	Director	June 27, 2008

INDEX TO EXHIBITS

**Exhibit
Number**

Description of Documents

5.1	Opinion of Epstein Becker & Green, P.C.
10.1	2008 Employee Stock Purchase Plan.
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June 30, 2008

AtriCure, Inc.
6033 Schumacher Park Drive
West Chester, OH 45069

Re: AtriCure, Inc. Registration Statement on Form S-8

Ladies and Gentlemen:

We have acted as counsel to AtriCure, Inc., a Delaware corporation (the "Company") in connection with its filing with the Securities and Exchange Commission of a registration statement on Form S-8 (the "Registration Statement") relating to the Company's 2008 Employee Stock Purchase Plan (the "2008 Plan") covering 300,000 shares of common stock, \$0.001 par value ("Common Stock").

We have examined instruments, documents, and records which we deemed relevant and necessary for the basis of our opinion hereinafter expressed. In such examination, we have assumed the following: (a) the authenticity of original documents and the genuineness of all signatures; (b) the conformity to the originals of all documents submitted to us as copies; and (c) the truth, accuracy, and completeness of the information, representations, and warranties contained in the records, documents, instruments, and certificates we have reviewed.

Based on such examination, we are of the opinion that the 300,000 shares of Common Stock to be issued by the Company pursuant to the 2008 Plan have been duly authorized and, when issued in accordance with the provisions of the 2008 Plan, will be validly issued, fully paid and non-assessable.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement and to the use of our name wherever it appears in said Registration Statement. In giving such consent, we do not consider that we are "experts" within the meaning of such term as used in the Securities Act of 1933, as amended, or the rules and regulations of the Securities and Exchange Commission issued thereunder with respect to any part of the Registration Statement, including this opinion, as an exhibit or otherwise.

Very truly yours,

EPSTEIN BECKER & GREEN, P.C.

By: /s/ Theodore L. Polin

Theodore L. Polin, Esq.

ATRICURE, INC.

2008 EMPLOYEE STOCK PURCHASE PLAN

AtriCure, Inc. hereby adopts the 2008 Employee Stock Purchase Plan (the “Plan”), effective as of the Effective Date (as defined herein).

1. Purpose. The purposes of the Plan are as follows:

- (a) To assist employees of the Company and its Designated Subsidiaries (as defined below) in acquiring a stock ownership interest in the Company pursuant to a plan which is intended to qualify as an “employee stock purchase plan” within the meaning of Section 423(b) of the Internal Revenue Code of 1986, as amended;
- (b) To help employees provide for their future security and to encourage them to remain in the employment of the Company; and
- (c) To help align the interests of our employees with those of our stockholders.

2. Definitions.

- (a) “Administrator” shall mean the administrator of the Plan, as determined pursuant to Section 14 hereof.
- (b) “Board” shall mean the Board of Directors of the Company.
- (c) “Change in Control” means the occurrence of any of the following events:
 - (i) Any “person” (as such term is used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934 (the “Exchange Act”) becomes the “beneficial owner” (as defined in Rule 13d-3 of the Exchange Act), directly or indirectly, of securities of the Company representing fifty percent (50%) or more of the total voting power represented by the Company’s then outstanding voting securities; or
 - (ii) The consummation of the sale or disposition by the Company of all or substantially all of the Company’s assets; or
 - (iii) The consummation of a merger or consolidation of the Company with any other corporation, other than a merger or consolidation which would result in the voting securities of the Company outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into voting securities of the surviving entity or its Parent) at least fifty percent (50%) of the total voting power represented by the voting securities of the Company or such surviving entity or its parent outstanding immediately after such merger or consolidation.
- (d) “Code” shall mean the Internal Revenue Code of 1986, as amended.
- (e) “Committee” shall mean the committee appointed to administer the Plan pursuant to Section 14 hereof.

(f) "Common Stock" shall mean the common stock of the Company, \$0.001 par value per share. "Common Stock" shall also include (i) the common stock of the surviving corporation in any consolidation, merger or reincorporation effected exclusively to change the domicile of the Company and (ii) such other securities of the Company that may be substituted for Common Stock pursuant to Section 19 hereof.

(g) "Company" shall mean AtriCure, Inc., a Delaware corporation, or any successor corporation (including, without limitation, the surviving corporation in any consolidation, merger or reincorporation effected exclusively to change the domicile of the Company).

(h) "Compensation" shall mean all base straight time gross earnings and commissions, exclusive of payments for overtime, shift premium, incentive compensation, incentive payments, bonuses, fringe benefits, unused vacation, paid time-off and other compensation.

(i) "Designated Subsidiary" shall mean any Subsidiary which has been designated by the Administrator from time to time in its sole discretion as eligible to participate in the Plan. The Administrator may designate, or terminate the designation of, a subsidiary as a Designated Subsidiary without the approval of the stockholders of the Company.

(j) "Effective Date" shall mean July 1, 2008.

(k) "Eligible Employee" shall mean an Employee of the Company:

(i) who does not, immediately after the option is granted, own stock possessing five percent (5%) or more of the total combined voting power or value of all classes of stock of the Company, a Parent or a Subsidiary (as determined under Section 423(b)(3) of the Code);

(ii) whose customary employment is for more than twenty (20) hours per week; and

(iii) whose customary employment is for more than five (5) months in any calendar year.

For purposes of clause (i), the rules of Section 424(d) of the Code with regard to the attribution of stock ownership shall apply in determining the stock ownership of an individual, and stock which an employee may purchase under outstanding options shall be treated as stock owned by the employee. For purposes of the Plan, the employment relationship shall be treated as continuing intact while the individual is on sick leave or other leave of absence approved by the Company or Designated Subsidiary and meeting the requirements of Treasury Regulation Section 1.421-7(h)(2). Where the period of leave exceeds ninety (90) days and the individual's right to reemployment is not guaranteed either by statute or by contract, the employment relationship shall be deemed to have terminated on the ninety-first (91st) day of such leave.

(l) "Employee" shall mean any person who renders services to the Company or a Subsidiary in the status of an employee within the meaning of Code Section 3401(c). "Employee" shall not include any person who is employed on a temporary basis or any director of the Company or a Subsidiary who does not render services to the Company or a Subsidiary in the status of an employee within the meaning of Code Section 3401(c).

(m) "Enrollment Date" shall mean the first Trading Day of each Offering Period. The Enrollment Date for the first Offering Period under the Plan shall be the Effective Date.

(n) "Exercise Date" shall mean the last Trading Day of each Offering Period.

(o) "Fair Market Value" shall mean, as of any date, the value of Common Stock determined as follows:

(i) If the Common Stock is traded on an exchange, its Fair Market Value shall be the closing sales price for a share of Common Stock as reported in The Wall Street Journal (or such other source as the Administrator may deem reliable for such purposes) for such date, or if no sale occurred on such date, the closing sales price on the first trading date immediately prior to such date during which a sale occurred;

(ii) If the Common Stock is not traded on an exchange but is quoted on a quotation system, its Fair Market Value shall be the mean between the closing representative bid and asked prices for the Common Stock on such date, or if no sale occurred on such date, the first date immediately prior to such date on which sales prices or bid and asked prices, as applicable, are reported by such quotation system; or

(iii) In the absence of an established market for the Common Stock, the Fair Market Value thereof shall be determined in good faith by the Administrator.

(p) "Offering Period" shall mean each period of approximately six (6) months commencing on any January 1 or July 1 and terminating on the last Trading Day on or before the next occurring June 30 or December 31, as applicable, except for the first Offering Period under the Plan, which shall commence on the Effective Date and end on December 31, 2008. The duration and timing of Offering Periods may be changed pursuant to Section 4 of this Plan, but in no event may an Offering Period have a duration in excess of twenty-seven (27) months.

(q) "Parent" means any corporation, other than the Company, in an unbroken chain of corporations ending with the Company if, at the time of the determination, each of the corporations other than the Company owns stock possessing 50% or more of the total combined voting power of all classes of stock in one of the other corporations in such chain.

(r) "Plan" shall mean this 2008 Employee Stock Purchase Plan.

(s) "Purchase Period" shall mean the approximately six (6) month period commencing on each Enrollment Date and ending with the next Exercise Date. The first Purchase Period with respect to the initial Offering Period under the Plan shall commence on the Effective Date and end on December 31, 2008.

(t) "Purchase Price" shall mean 85% of the Fair Market Value of a share of Common Stock on the Enrollment Date or on the Exercise Date, whichever is lower; provided, however that (i) if the Administrator so designates, the Administrator may set from time to time for future Offering Periods a higher percentage of Fair Market Value of a share of Common Stock or a higher dollar amount as the Purchase Price or instead provide that the Purchase Price will be calculated based only on a percentage of the Fair Market Value of a share of Common Stock on the Exercise Date that is equal to or more than 85%; (ii) the Purchase Price may be adjusted by the Administrator pursuant to Section 19 hereof; and (iii) the Purchase Price shall in no event be less than the par value of a share of Common Stock.

(u) "Subsidiary" shall mean any corporation, other than the Company, in an unbroken chain of corporations beginning with the Company if, at the time of the determination, each of the corporations other than the last corporation in an unbroken chain owns stock possessing 50% or more of the total combined voting power of all classes of stock in one of the other corporations in such chain.

(v) "Trading Day" shall mean a day on which national stock exchanges are open for trading.

3. Eligibility.

(a) Any Eligible Employee who shall be employed by the Company or a Designated Subsidiary on a given Enrollment Date for an Offering Period shall be eligible to participate in the Plan during such Offering Period, subject to the requirements of Section 5 hereof and the limitations imposed by Section 423(b) of the Code.

(b) Each person who, during the course of an Offering Period, first becomes an Eligible Employee subsequent to the Enrollment Date will be eligible to become a participant in the Plan on the first day of the first Purchase Period following the day on which such person becomes an Eligible Employee, subject to the requirements of Section 5 hereof and the limitations imposed by Section 423(b) of the Code.

(c) No Eligible Employee shall be granted an option under the Plan which permits his rights to purchase stock under the Plan, and to purchase stock under all other employee stock purchase plans of the Company, any Parent or any Subsidiary subject to the Section 423 of the Code, to accrue at a rate which exceeds \$25,000 of Fair Market Value of such stock (determined at the time the option is granted) for each calendar year in which the option is outstanding at any time. For purposes of the limitation imposed by this subsection, the right to purchase stock under an option accrues when the option (or any portion thereof) first becomes exercisable during the calendar year, the right to purchase stock under an option accrues at the rate provided in the option, but in no case may such rate exceed \$25,000 of Fair Market Value of such stock (determined at the time such option is granted) for any one calendar year, and a right to purchase stock which has accrued under an option may not be carried over to any option. This limitation shall be applied in accordance with Section 423(b)(8) of the Code and the Treasury Regulations thereunder.

(d) Subject to the requirements of Section 423(b)(8) of the Code and the Treasury Regulations thereunder, in the event the Plan is not in effect for the entire calendar year, the \$25,000 limitation above on the Fair Market Value per calendar year of such stock shall be proportionately reduced consistent with the portion of such year for which the Plan is in effect.

4. Offering Periods. The Plan shall be implemented by consecutive Offering Periods which shall continue until the Plan expires or is terminated in accordance with Section 20 hereof. The Administrator shall have the power to change the duration of Offering Periods (including the commencement dates thereof) with respect to future offerings without stockholder approval if such change is announced at least five (5) days prior to the scheduled beginning of the first Offering Period to be affected thereafter.

5. Participation.

(a) An Eligible Employee may become a participant in the Plan by completing a subscription agreement authorizing payroll deductions in a form acceptable to the Administrator and filing it with the Company's payroll office fifteen (15) days (or such shorter or longer period as may be determined by the Administrator, in its sole discretion) prior to the applicable Enrollment Date. In the event that such form is not filed with the Company's payroll office within fifteen (15) days prior to the applicable Enrollment Date, the Eligible Employee will not become a participant until the next Enrollment Date.

(b) Each person who, during the course of an Offering Period, first becomes an Eligible Employee

subsequent to the Enrollment Date may become a participant in the Plan by completing a subscription agreement authorizing payroll deductions in a form acceptable to the Administrator and filing it with the Company's payroll office fifteen (15) days (or such shorter or longer period as may be determined by the Administrator, in its sole discretion) prior to the first day of any Purchase Period during the Offering Period in which such person becomes an Eligible Employee. The rights granted to such participant shall have the same characteristics as any rights originally granted during that Offering Period except that the first day of the Purchase Period in which such person initially participates in the Plan shall be the "Enrollment Date" for all purposes for such person, including determination of the Purchase Price. In the event that such form is not filed with the Company's payroll office within fifteen (15) days prior to the first day of any Purchase Period during the Offering Period, the Eligible Employee will not become a participant until the next Enrollment Date.

(c) Payroll deductions for a participant shall commence on the first payroll following the Enrollment Date and shall end on the last payroll in the Offering Period to which such authorization is applicable, unless sooner terminated by the participant as provided in Section 10 hereof.

(d) During a leave of absence approved by the Company or a Subsidiary and meeting the requirements of Treasury Regulation Section 1.421-7(h)(2), a participant may continue to participate in the Plan by making cash payments to the Company on each pay day equal to the amount of the participant's payroll deductions under the Plan for the pay day immediately preceding the first day of such participant's leave of absence. If a leave of absence is unapproved or fails to meet the requirements of Treasury Regulation Section 1.421-7(h)(2), the participant's participation in the Plan will cease automatically. In such event, the Company will automatically cease to deduct the participant's payroll under the Plan. The Company will pay to the participant his or her total payroll deductions for the Purchase Period, in cash in one lump sum (without interest), as soon as practicable after the participant ceases participation in the Plan.

(e) A participant's completion of a subscription agreement will enroll such participant in the Plan for each successive Purchase Period and each subsequent Offering Period on the terms contained therein until the participant either submits a new subscription agreement, withdraws from participation under the Plan as provided in Section 10 hereof or otherwise becomes ineligible to participate in the Plan.

(f) The subscription agreement(s) used in connection with the Plan shall be in a form prescribed by the Administrator, and the Administrator may, in its sole discretion, determine whether such agreement shall be submitted in written or electronic form.

6. Payroll Deductions.

(a) At the time a participant files his or her subscription agreement, he or she shall elect to have payroll deductions made on each pay day during the Offering Period in an amount from one percent (1%) to ten percent (10%) of the Compensation which he or she receives on each pay day during the Offering Period.

(b) All payroll deductions made for a participant shall be credited to his or her account under the Plan and shall be withheld in whole percentages only. A participant may not make any additional payments into such account.

(c) A participant may discontinue his or her participation in the Plan as provided in Section 10 hereof, or may increase or decrease the rate of his or her payroll deductions during the Offering Period by completing or filing with the Company a new subscription agreement authorizing a change in payroll deduction rate. The Administrator may, in its discretion, limit the number of participation rate changes

during any Offering Period. The change in rate shall be effective with the first full payroll period following five (5) business days after the Company's receipt of the new subscription agreement (or such shorter or longer period as may be determined by the Administrator, in its sole discretion).

(d) Notwithstanding the foregoing, to the extent necessary to comply with Section 423(b)(8) of the Code and Section 3(c) hereof, a participant's payroll deductions may be decreased to zero percent (0%) at any time during a Purchase Period.

(e) At the time the option is exercised, in whole or in part, or at the time some or all of the Company's Common Stock issued under the Plan is disposed of, the participant must make adequate provision for the Company's federal, state, or other tax withholding obligations, if any, which arise upon the exercise of the option or the disposition of the Common Stock. At any time, the Company may, but shall not be obligated to, withhold from the participant's compensation the amount necessary for the Company to meet applicable withholding obligations, including any withholding required to make available to the Company any tax deductions or benefits attributable to sale or early disposition of Common Stock by the Employee.

7. Grant of Option. On the Enrollment Date of each Offering Period, each Eligible Employee participating in such Offering Period shall be granted an option to purchase on each Exercise Date during such Offering Period (at the applicable Purchase Price) up to a number of shares of the Company's Common Stock determined by dividing such participant's payroll deductions accumulated prior to such Exercise Date and retained in the participant's account as of the Exercise Date by the applicable Purchase Price; provided, however, that such purchase shall be subject to the limitations set forth in Sections 3(c), 6(a) and 13 hereof. The Administrator may, for future Offering Periods, increase or decrease, in its absolute discretion, the maximum number of shares of the Company's Common Stock a participant may purchase during each Purchase Period and Offering Period. Exercise of the option shall occur as provided in Section 8 hereof, unless the participant has withdrawn pursuant to Section 10 hereof or otherwise becomes ineligible to participate in the Plan. The option shall expire on the last day of the Offering Period.

8. Exercise of Option.

(a) Unless a participant withdraws from the Plan as provided in Section 10 hereof or otherwise becomes ineligible to participate in the Plan, his or her option for the purchase of shares shall be exercised automatically on the Exercise Date, and the maximum number of full shares subject to the option shall be purchased for such participant at the applicable Purchase Price with the accumulated payroll deductions in his or her account. No fractional shares shall be purchased; any payroll deductions accumulated in a participant's account which are not sufficient to purchase a full share shall be retained in the participant's account for the subsequent Purchase Period or Offering Period. During a participant's lifetime, a participant's option to purchase shares hereunder is exercisable only by him or her.

(b) If the Administrator determines that, on a given Exercise Date, the number of shares with respect to which options are to be exercised may exceed (i) the number of shares of Common Stock that were available for sale under the Plan on the Enrollment Date of the applicable Offering Period, or (ii) the number of shares available for sale under the Plan on such Exercise Date, the Administrator may in its sole discretion (x) provide that the Company shall make a pro rata allocation of the shares of Common Stock available for purchase on such Enrollment Date or Exercise Date, as applicable, in as uniform a manner as shall be practicable and as it shall determine in its sole discretion to be equitable among all participants exercising options to purchase Common Stock on such Exercise Date, and continue all Offering Periods then in effect, or (y) provide that the Company shall make a pro rata allocation of the shares available for purchase on such Enrollment Date or Exercise Date, as applicable, in as uniform a manner as shall be

practicable and as it shall determine in its sole discretion to be equitable among all participants exercising options to purchase Common Stock on such Exercise Date, and terminate any or all Offering Periods then in effect pursuant to Section 20 hereof. The Company may make pro rata allocation of the shares available on the Enrollment Date of any applicable Offering Period pursuant to the preceding sentence, notwithstanding any authorization of additional shares for issuance under the Plan by the Company's stockholders subsequent to such Enrollment Date. The balance of the amount credited to the account of each participant which has not been applied to the purchase of shares of stock shall be paid to such participant in one lump sum in cash as soon as reasonably practicable after the Exercise Date, without any interest thereon.

9. Deposit of Shares. As promptly as practicable after each Exercise Date on which a purchase of shares occurs, the Company may arrange for the deposit, into each participant's account with any broker designated by the Company to administer this Plan, of the number of shares purchased upon exercise of his or her option.

10. Withdrawal.

(a) A participant may withdraw all but not less than all of the payroll deductions credited to his or her account and not yet used to exercise his or her option under the Plan at any time by giving written notice to the Company in a form acceptable to the Administrator. All of the participant's payroll deductions credited to his or her account during the Offering Period shall be paid to such participant as soon as reasonably practicable after receipt of notice of withdrawal and such participant's option for the Offering Period shall be automatically terminated, and no further payroll deductions for the purchase of shares shall be made for such Offering Period. If a participant withdraws from an Offering Period, payroll deductions shall not resume at the beginning of the succeeding Offering Period unless the participant delivers to the Company a new subscription agreement.

(b) A participant's withdrawal from an Offering Period shall not have any effect upon his or her eligibility to participate in any similar plan which may hereafter be adopted by the Company or in succeeding Offering Periods which commence after the termination of the Offering Period from which the participant withdraws.

11. Termination of Employment. Upon a participant's ceasing to be an Eligible Employee, for any reason, he or she shall be deemed to have elected to withdraw from the Plan and the payroll deductions credited to such participant's account during the Offering Period shall be paid to such participant or, in the case of his or her death, to the person or persons entitled thereto under Section 15 hereof, as soon as reasonably practicable and such participant's option for the Offering Period shall be automatically terminated.

12. Interest. No interest shall accrue on the payroll deductions or lump sum contributions of a participant in the Plan.

13. Shares Subject to Plan.

(a) Subject to adjustment upon changes in capitalization of the Company as provided in Section 19 hereof, the maximum number of shares of the Company's Common Stock which shall be made available for sale under the Plan shall be 300,000 shares. In addition to the foregoing, subject to Section 19 hereof, commencing on January 1, 2009 and on the first day of each fiscal year of the Company thereafter during the term of the Plan, the number of shares of the Company's Common Stock which shall be made available for sale under the Plan shall be increased by that number of shares of the Company's Common Stock equal to the lesser of (i) two percent (2%) of the Company's outstanding shares of Common Stock as of the close

of business on the last business day of the prior calendar year, not to exceed 600,000 shares, or (ii) a lesser amount determined by the Board. The Company's fiscal year currently begins on January 1 and ends on December 31 of each year and, accordingly, the number of shares of the Company's Common Stock which shall be available for sale under the Plan shall be subject to automatic increase under the preceding sentence only on January 1, 2009 and on each subsequent January 1 through and including January 1, 2018 (provided that the Company's fiscal year remains the same). If any right granted under the Plan shall for any reason terminate without having been exercised, the Common Stock not purchased under such right shall again become available for issuance under the Plan. The stock subject to the Plan may be issued shares, treasury shares or reacquired shares, bought on the market or otherwise.

(b) With respect to shares of stock subject to an option granted under the Plan, a participant shall not be deemed to be a stockholder of the Company, and the participant shall not have any of the rights or privileges of a stockholder, until such shares have been issued to the participant or his or her nominee following exercise of the participant's option. No adjustments shall be made for dividends (ordinary or extraordinary, whether in cash securities, or other property) or distribution or other rights for which the record date occurs prior to the date of such issuance, except as otherwise expressly provided herein.

14. Administration.

(a) The Plan shall be administered by the Board unless and until the Board delegates administration to a Committee as set forth below. The Board may delegate administration of the Plan to a Committee comprised of two or more members of the Board, each of whom is a "non-employee director" within the meaning of Rule 16b-3 which has been adopted by the Securities and Exchange Commission under the Securities Exchange Act of 1934, as amended, and which is otherwise constituted to comply with applicable law, and the term "Committee" shall apply to any persons to whom such authority has been delegated, provided that any action taken by the Committee shall be valid and effective, whether or not members of the Committee at the time of such action are later determined not to have satisfied the requirements for membership set forth in this Section 14(a) or otherwise provided in the charter of the Committee. If administration is delegated to a Committee, the Committee shall have, in connection with the administration of the Plan, the powers theretofore possessed by the Board, including the power to delegate to a subcommittee any of the administrative powers the Committee is authorized to exercise, subject, however, to such resolutions, not inconsistent with the provisions of the Plan, as may be adopted from time to time by the Board. The governance of the Committee shall be subject to the charter of the Committee as approved by the Board. References in this Plan to the "Administrator" shall mean the Board unless administration is delegated to a Committee or subcommittee, in which case references in this Plan to the Administrator shall thereafter be to the Committee or subcommittee.

(b) It shall be the duty of the Administrator to conduct the general administration of the Plan in accordance with the provisions of the Plan. The Administrator shall have the power to interpret the Plan and the terms of the options and to adopt such rules for the administration, interpretation, and application of the Plan as are consistent therewith and to interpret, amend or revoke any such rules. The Administrator at its option may utilize the services of an agent to assist in the administration of the Plan including establishing and maintaining an individual securities account under the Plan for each participant. In its absolute discretion, the Board may at any time and from time to time exercise any and all rights and duties of the Administrator under the Plan.

(c) All expenses and liabilities incurred by the Administrator in connection with the administration of the Plan shall be borne by the Company. The Administrator may, with the approval of the Board, employ attorneys, consultants, accountants, appraisers, brokers or other persons. The Administrator, the Company and its officers and directors shall be entitled to rely upon the advice, opinions or valuations of any such

persons. All actions taken and all interpretations and determinations made by the Administrator in good faith shall be final and binding upon all participants, the Company and all other interested persons. No member of the Board shall be personally liable for any action, determination or interpretation made in good faith with respect to the Plan or the options, and all members of the Board shall be fully protected by the Company in respect to any such action, determination, or interpretation.

15. Designation of Beneficiary.

(a) A participant may file a written designation of a beneficiary who is to receive any shares and cash, if any, from the participant's account under the Plan in the event of such participant's death subsequent to an Exercise Date on which the option is exercised but prior to delivery to such participant of such shares and cash. In addition, a participant may file a written designation of a beneficiary who is to receive any cash from the participant's account under the Plan in the event of such participant's death prior to exercise of the option. If a participant is married and the designated beneficiary is not the spouse, spousal consent shall be required for such designation to be effective.

(b) Such designation of a beneficiary may be changed by the participant at any time by written notice to the Company. In the event of the death of a participant and in the absence of a beneficiary validly designated under the Plan who is living at the time of such participant's death, the Company shall deliver such shares and/or cash to the executor or administrator of the estate of the participant, or if no such executor or administrator has been appointed (to the knowledge of the Company), the Company, in its discretion, may deliver such shares and/or cash to the spouse or to any one or more dependents or relatives of the participant, or if no spouse, dependent or relative is known to the Company, then to such other person as the Company may designate.

16. Transferability. Neither payroll deductions credited to a participant's account nor any rights with regard to the exercise of an option or to receive shares under the Plan may be assigned, transferred, pledged or otherwise disposed of in any way (other than by will, the laws of descent and distribution or as provided in Section 15 hereof) by the participant. Any such attempt at assignment, transfer, pledge or other disposition shall be without effect, except that the Company may treat such act as an election to withdraw funds from an Offering Period in accordance with Section 10 hereof.

17. Use of Funds. All payroll deductions received or held by the Company under the Plan may be used by the Company for any corporate purpose, and the Company shall not be obligated to segregate such payroll deductions.

18. Reports. Individual accounts shall be maintained for each participant in the Plan. Statements of account shall be given to participating Employees at least annually, which statements shall set forth the amounts of payroll deductions, the Purchase Price, the number of shares purchased and the remaining cash balance, if any.

19. Adjustments Upon Changes in Capitalization, Dissolution, Liquidation, Merger, or Change in Control.

(a) Changes in Capitalization. Subject to any required action by the stockholders of the Company, the number of shares of Common Stock which have been authorized for issuance under the Plan but not yet placed under option, the maximum number of shares each participant may purchase each Purchase Period (pursuant to Section 7 hereof), as well as the price per share and the number of shares of Common Stock covered by each option under the Plan which has not yet been exercised shall be proportionately adjusted for any increase or decrease in the number of issued shares of Common Stock resulting from a stock split,

reverse stock split, stock dividend, combination or reclassification of the Common Stock, or any other increase or decrease in the number of shares of Common Stock effected without receipt of consideration by the Company; provided, however, that conversion of any convertible securities of the Company shall not be deemed to have been "effected without receipt of consideration." Such adjustment shall be made by the Administrator, whose determination in that respect shall be final, binding and conclusive. Except as expressly provided herein, no issuance by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, shall affect, and no adjustment by reason thereof shall be made with respect to, the number or price of shares of Common Stock subject to an option.

(b) Dissolution or Liquidation. In the event of the proposed dissolution or liquidation of the Company, the Offering Period then in progress shall be shortened by setting a new Exercise Date (the "New Exercise Date"), and shall terminate immediately prior to the consummation of such proposed dissolution or liquidation, unless provided otherwise by the Administrator. The New Exercise Date shall be before the effective date of the Company's proposed dissolution or liquidation. The Administrator shall notify each participant in writing, at least ten (10) business days prior to the New Exercise Date, that the Exercise Date for the participant's option has been changed to the New Exercise Date and that the participant's option shall be exercised automatically on the New Exercise Date, unless prior to such date the participant has withdrawn from the Offering Period as provided in Section 10 hereof.

(c) Merger or Change in Control. In the event of a merger or Change in Control, the Offering Period with respect to each outstanding option will be shortened by setting a new Exercise Date (the "New Exercise Date") and will end on the New Exercise Date. The New Exercise Date will occur before the date of the Company's proposed merger or Change in Control. The Administrator will notify each participant in writing, at least ten (10) business days prior to the New Exercise Date, that the Exercise Date for the participant's option has been changed to the New Exercise Date and that the participant's option will be exercised automatically on the New Exercise Date, unless prior to such date the participant has withdrawn from the Offering Period as provided in Section 10 hereof.

20. Amendment or Termination.

(a) The Board may at any time and for any reason terminate or amend the Plan. Except as provided in Section 19 hereof, no such termination shall affect options previously granted, provided that an Offering Period may be terminated by the Board if the Board determines that the termination of the Offering Period or the Plan is in the best interests of the Company and its stockholders. Except as provided in Section 19 hereof and this Section 20, no amendment may make any change in any option theretofore granted which adversely affects the rights of any participant without the consent of such participant. To the extent necessary to comply with Section 423 of the Code (or any successor rule or provision or any other applicable law, regulation or stock exchange rule), the Company shall obtain stockholder approval of any amendment in such a manner and to such a degree as required.

(b) Without stockholder consent and without regard to whether any participant rights may be considered to have been "adversely affected," the Administrator shall be entitled to change the Offering Periods, limit the frequency and/or number of changes in the amount withheld during an Offering Period, establish the exchange ratio applicable to amount withheld in a currency other than U.S. dollars, permit payroll withholding in excess of the amount designated by a participant in order to adjust for delays or mistakes in the Company's processing of properly completed withholding elections, establish reasonable waiting and adjustment periods and/or accounting and crediting procedures to ensure that amounts applied toward the purchase of Common Stock for each participant properly correspond with amounts withheld from the participant's Compensation, and establish such other limitations or procedures as the Administrator determines in its sole discretion advisable which are consistent with the Plan.

(c) In the event the Board determines that the ongoing operation of the Plan may result in unfavorable financial accounting consequences, the Board may, in its discretion and, to the extent necessary or desirable, modify or amend the Plan to reduce or eliminate such accounting consequence including, but not limited to:

- (i) altering the Purchase Price for any Offering Period including an Offering Period underway at the time of the change in Purchase Price;
- (ii) shortening any Offering Period so that the Offering Period ends on a new Exercise Date, including an Offering Period underway at the time of the Administrator action; and
- (iii) allocating shares.

Such modifications or amendments shall not require stockholder approval or the consent of any Plan participants.

21. Notices. All notices or other communications by a participant to the Company under or in connection with the Plan shall be deemed to have been duly given when received in the form specified by the Company at the location, or by the person, designated by the Company for the receipt thereof.

22. Conditions to Issuance of Shares. The Company shall not be required to issue or deliver any certificate or certificates for shares of Common Stock purchased upon the exercise of options prior to fulfillment of all the following conditions:

- (a) The admission of such shares to listing on all stock exchanges, if any, on which the Common Stock is then listed; and
- (b) The completion of any registration or other qualification of such shares under any state or federal law or under the rulings or regulations of the Securities and Exchange Commission or any other governmental regulatory body, which the Administrator shall, in its absolute discretion, deem necessary or advisable; and
- (c) The obtaining of any approval or other clearance from any state or federal governmental agency which the Administrator shall, in its absolute discretion, determine to be necessary or advisable; and
- (d) The payment to the Company of all amounts which it is required to withhold under federal, state or local law upon exercise of the option; and
- (e) The lapse of such reasonable period of time following the exercise of the option as the Administrator may from time to time establish for reasons of administrative convenience.

23. Term of Plan. Subject to approval by the Company's stockholders, the Plan shall become effective as of the Effective Date. The Plan shall be deemed to be approved by the Company's stockholders if it receives the affirmative vote of the holders of a majority of the shares of stock of the Company in accordance with applicable law and the applicable provisions of the Company's bylaws. Subject to approval by the stockholders of the Company in accordance with this Section 23, the Plan shall be in effect until the tenth (10th) anniversary of the date of the initial adoption of the Plan by the Board, unless sooner terminated under Section 20 hereof.

24. Equal Rights and Privileges. All Eligible Employees of the Company will have equal rights and privileges under this Plan so that this Plan qualifies as an “employee stock purchase plan” within the meaning of Section 423 of the Code or applicable Treasury regulations thereunder. Any provision of this Plan that is inconsistent with Section 423 or applicable Treasury regulations will, without further act or amendment by the Company, the Board or the Administrator, be reformed to comply with the equal rights and privileges requirement of Section 423 or applicable Treasury regulations.

25. Section 409A. The options to purchase shares of Common Stock under the Plan are not intended to constitute “nonqualified deferred compensation” within the meaning of Section 409A of the Code. However, if at any time the Administrator determines that the options may be subject to Section 409A of the Code, the Administrator shall have the right, in its sole discretion, to amend the Plan and any outstanding options as it may determine is necessary or desirable either to exempt the options from the application of Section 409A of the Code or to cause the options to comply with the requirements of Section 409A of the Code.

26. No Employment Rights. Nothing in the Plan shall be construed to give any person (including any Eligible Employee or participant) the right to remain in the employ of the Company, a Parent or a Subsidiary or to affect the right of the Company, any Parent or any Subsidiary to terminate the employment of any person (including any Eligible Employee or participant) at any time, with or without cause.

27. Notice of Disposition of Shares. Each participant shall give prompt notice to the Company of any disposition or other transfer of any shares of stock purchased upon exercise of an option. Such notice shall specify the date of such disposition or other transfer and the amount realized, in cash, other property, assumption of indebtedness or other consideration, by the participant in such disposition or other transfer. All Eligible Employees and all transactions are subject to the Company’s Insider Trading Policy from time to time in effect. Please note that under the Insider Trading Policy in effect on the Effective Date, there is a prohibition on your trading in AtriCure Shares during certain periods of time, and further requires you to “pre-clear” any trades in AtriCure Shares by contacting the Company’s Chief Financial Officer (by email at cfo@atricure.com or by telephone at 513-755-4561), to determine whether a trade at such time is permitted under the Policy. The contact may be made orally, in writing, or by email at your discretion.

28. Governing Law. The validity and enforceability of this Plan shall be governed by and construed in accordance with the laws of the State of Delaware without regard to otherwise governing principles of conflicts of law.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-8 of our reports dated March 17, 2008 relating to the consolidated financial statements and financial statement schedule of AtriCure, Inc. and subsidiary (which report relating to the consolidated financial statements expresses an unqualified opinion and includes an explanatory paragraph relating to the adoption of Statement of Financial Accounting Standards No. 123 (R), *Share Based Payment*, on January 1, 2006), and the effectiveness of AtriCure, Inc.'s internal control over financial reporting, appearing in the Annual Report on Form 10-K/A of AtriCure, Inc. and subsidiaries for the year ended December 31, 2007.

/s/ Deloitte & Touche LLP

Cincinnati, Ohio

June 30, 2008