

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13D

(Rule 13d-101)

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT
TO § 240.13d-1(a) AND AMENDMENTS THERETO FILED PURSUANT TO
§ 240.13d-2(a)

(Amendment No. 2)¹

Axcelis Technologies, Inc.
(Name of Issuer)

Common Stock, \$0.001 par value per share
(Title of Class of Securities)

054540109
(CUSIP Number)

ERIC SINGER
VERTEX CAPITAL ADVISORS, LLC
825 Third Avenue, 33rd Floor
New York, New York 10022

STEVE WOLOSKY, ESQ.
OLSHAN FROME WOLOSKY LLP
Park Avenue Tower
65 East 55th Street
New York, New York 10022
(212) 451-2300
(Name, Address and Telephone Number of Person
Authorized to Receive Notices and Communications)

March 5, 2015
(Date of Event Which Requires Filing of This Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of §§ 240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box .

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See § 240.13d-7 for other parties to whom copies are to be sent.

¹ The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the *Notes*).

1	NAME OF REPORTING PERSON Vertex Opportunities Fund, LP	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="radio"/> (b) <input type="radio"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS WC	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION DELAWARE	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER -0-
	8	SHARED VOTING POWER 967,709
	9	SOLE DISPOSITIVE POWER -0-
	10	SHARED DISPOSITIVE POWER 967,709
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 967,709	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="radio"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) Less than 1%	
14	TYPE OF REPORTING PERSON PN	

1	NAME OF REPORTING PERSON Vertex Special Opportunities Fund II, LP	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="radio"/> (b) <input type="radio"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS WC, OO	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION DELAWARE	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER -0-
	8	SHARED VOTING POWER 6,501,959
	9	SOLE DISPOSITIVE POWER -0-
	10	SHARED DISPOSITIVE POWER 6,501,959
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 6,501,959	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="radio"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 5.8%	
14	TYPE OF REPORTING PERSON PN	

1	NAME OF REPORTING PERSON Vertex GP, LLC	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="radio"/> (b) <input type="radio"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION DELAWARE	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER -0-
	8	SHARED VOTING POWER 967,709
	9	SOLE DISPOSITIVE POWER -0-
	10	SHARED DISPOSITIVE POWER 967,709
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 967,709	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="radio"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) Less than 1%	
14	TYPE OF REPORTING PERSON OO	

1	NAME OF REPORTING PERSON Vertex Special Opportunities GP II, LLC	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="radio"/> (b) <input type="radio"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION DELAWARE	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER -0-
	8	SHARED VOTING POWER 6,501,959
	9	SOLE DISPOSITIVE POWER -0-
	10	SHARED DISPOSITIVE POWER 6,501,959
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 6,501,959	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="radio"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 5.8%	
14	TYPE OF REPORTING PERSON OO	

1	NAME OF REPORTING PERSON Vertex Capital Advisors, LLC	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="radio"/> (b) <input type="radio"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION DELAWARE	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER -0-
	8	SHARED VOTING POWER 7,469,668
	9	SOLE DISPOSITIVE POWER -0-
	10	SHARED DISPOSITIVE POWER 7,469,668
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 7,469,668	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="radio"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 6.6%	
14	TYPE OF REPORTING PERSON IA	

1	NAME OF REPORTING PERSON Eric Singer	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="radio"/> (b) <input type="radio"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION USA	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER -0-
	8	SHARED VOTING POWER 7,469,668
	9	SOLE DISPOSITIVE POWER -0-
	10	SHARED DISPOSITIVE POWER 7,469,668
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 7,469,668	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="radio"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 6.6%	
14	TYPE OF REPORTING PERSON IN	

1	NAME OF REPORTING PERSON Edward H. Braun	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="radio"/> (b) <input type="radio"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS PF, OO	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION USA	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER -0-
	8	SHARED VOTING POWER 90,000*
	9	SOLE DISPOSITIVE POWER -0-
	10	SHARED DISPOSITIVE POWER 90,000*
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 90,000*	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="radio"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) Less than 1%	
14	TYPE OF REPORTING PERSON IN	

* Includes 80,000 shares underlying stock options that are currently exercisable.

1	NAME OF REPORTING PERSON Stephen L. Domenik	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="radio"/> (b) <input type="radio"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION USA	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER -0-
	8	SHARED VOTING POWER -0-
	9	SOLE DISPOSITIVE POWER -0-
	10	SHARED DISPOSITIVE POWER -0-
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON -0-	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="radio"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 0%	
14	TYPE OF REPORTING PERSON IN	

1	NAME OF REPORTING PERSON Richard J. Faubert	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="radio"/> (b) <input type="radio"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION USA	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER -0-
	8	SHARED VOTING POWER -0-
	9	SOLE DISPOSITIVE POWER -0-
	10	SHARED DISPOSITIVE POWER -0-
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON -0-	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="radio"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 0%	
14	TYPE OF REPORTING PERSON IN	

1	NAME OF REPORTING PERSON John T. Kurtzweil	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="radio"/> (b) <input type="radio"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION USA	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER -0-
	8	SHARED VOTING POWER -0-
	9	SOLE DISPOSITIVE POWER -0-
	10	SHARED DISPOSITIVE POWER -0-
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON -0-	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="radio"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 0%	
14	TYPE OF REPORTING PERSON IN	

1	NAME OF REPORTING PERSON Peter J. Simone	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="radio"/> (b) <input type="radio"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION USA	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER -0-
	8	SHARED VOTING POWER -0-
	9	SOLE DISPOSITIVE POWER -0-
	10	SHARED DISPOSITIVE POWER -0-
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON -0-	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="radio"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 0%	
14	TYPE OF REPORTING PERSON IN	

The following constitutes Amendment No. 2 to the Schedule 13D filed by the undersigned (the "Amendment No.2"). This Amendment No. 2 amends the Schedule 13D as specifically set forth herein.

Item 2. Identity and Background.

Item 2 is hereby amended to add the following:

In connection with the Agreement defined and described in Item 4 below, Messrs. Braun, Domenik, Faubert, Kurtzweil, and Simone are no longer members of the Section 13(d) group and shall cease to be Reporting Persons immediately after the filing of this Amendment No. 2. The remaining Reporting Persons will continue filing as a group statements on Schedule 13D with respect to their beneficial ownership of securities of the Issuer to the extent required by applicable law. Each of the remaining Reporting Persons is party to the Joint Filing Agreement, as further described in Item 6 below.

Item 3. Source and Amount of Funds or Other Consideration.

Item 3 is hereby amended and restated to read as follows:

The Shares beneficially owned by each of Vertex Opportunities and VSO II were purchased with working capital in open market purchases, except as otherwise noted, including certain Shares which were acquired as a result of a capital contribution, as set forth in Schedule A to the Schedule 13D. The aggregate purchase price of the 967,709 Shares beneficially owned by Vertex Opportunities is approximately \$1,702,867, excluding brokerage commissions. The aggregate price of the 6,501,959 Shares contributed to and beneficially owned by VSO II is approximately \$12,878,054, excluding brokerage commissions.

The 10,000 Shares beneficially owned by Mr. Braun were purchased with personal funds in open market purchases. The aggregate purchase price of the 10,000 Shares beneficially owned by Mr. Braun is approximately \$15,678, excluding brokerage commissions. The 80,000 Shares underlying stock options that are beneficially owned by Mr. Braun were awarded to him in his capacity as a director of the Issuer.

Item 4. Purpose of Transaction.

Item 4 is hereby amended to add the following:

On March 5, 2015, Vertex Capital and certain of its affiliates (collectively, "Vertex") entered into a Nomination and Standstill Agreement with the Issuer (the "Agreement"). The following description of the Agreement is qualified in its entirety by reference to the Agreement, which is attached as Exhibit 99.1 hereto and is incorporated herein by reference.

Pursuant to the terms of the Agreement, the Issuer agreed, among other things: (i) to nominate and solicit proxies for the election of Richard J. Faubert and John T. Kurtzweil (collectively, the "New 2015 Nominees"), to the Board of Directors of the Issuer (the "Board") at the 2015 annual meeting of stockholders of the Issuer (the "2015 Annual Meeting"); (ii) to appoint each of the New 2015 Nominees as an observer to the Board until the 2015 Annual Meeting; (iii) to appoint each of the New 2015 Nominees to at least one committee of the Board at the first meeting of the Board following the election of the New 2015 Nominees to the Board; and (iv) to use its reasonable best efforts to hold the 2015 Annual Meeting no later than May 13, 2015. If either of the New 2015 Nominees is unable to serve as a director during the Standstill Period (as defined in the Agreement) and at such time Vertex beneficially owns in the aggregate at least 3.0% of the Issuer's then outstanding Shares, then Vertex can recommend substitute person(s) who meet certain independence and experience criteria for approval by the Nominating and Governance Committee of the Board and appointment by the Board within five (5) business days after such committee's approval.

Pursuant to the terms of the Agreement, Vertex agreed, among other things: (i) to withdraw its nomination letter submitted to the Issuer nominating six (6) candidates for election to the Board at the 2015 Annual Meeting and any and all materials in connection therewith; (ii) not to nominate any person for election at the 2015 Annual Meeting; (iii) not to submit any proposal for consideration at, or bring any other business before, the 2015 Annual Meeting; (iv) not to initiate, encourage or participate in any “withhold” or similar campaign with respect to the 2015 Annual Meeting; and (v) to appear in person or by proxy at the 2015 Annual Meeting and vote all Shares beneficially owned by it in favor of the election of the Issuer’s nominees to the Board and in accordance with the Board’s recommendation with respect to the Issuer’s “say-on-pay” proposal, the proposal to amend the 2012 Equity Incentive Plan and the proposal to ratify the appointment of the Issuer’s registered public accounting firm unless, as it relates solely to the “say-on-pay” or 2012 Equity Incentive Plan proposals, Institutional Shareholder Services Inc. recommends otherwise.

In addition, Vertex agreed to certain customary standstill provisions, effective as of the date of the Agreement through the earlier of (a) fifteen (15) business days prior to the deadline for the submission of stockholder nominations for the 2016 annual meeting of stockholders and (b) one-hundred (100) days prior to the first anniversary of the 2015 Annual Meeting. The standstill provisions generally restrict Vertex’s ability to engage in certain proxy solicitations, make certain stockholder proposals, call meetings of stockholders or solicit consents from stockholders, obtain additional representation on the Board and seek to remove any of the Issuer’s directors.

Item 5. Interest in Securities of the Issuer.

Item 5 is hereby amended and restated as follows:

The aggregate percentage of Shares reported owned by each Reporting Person is based upon 112, 615,790 Shares outstanding, which is the total number of Shares outstanding as of December 31, 2014, as reported in the Issuer’s Preliminary Proxy Statement on Schedule 14A, filed with the Securities and Exchange Commission on March 3, 2015.

A. Vertex Opportunities

(a) As of the close of business on March 5, 2015, Vertex Opportunities beneficially owned 967,709 Shares.

Percentage: Less than 1%

- (b)
1. Sole power to vote or direct vote: -0-
 2. Shared power to vote or direct vote: 967,709
 3. Sole power to dispose or direct the disposition: -0-
 4. Shared power to dispose or direct the disposition: 967,709

(c) The transactions in the Shares by Vertex Opportunities since the filing of Amendment No.1 to the Schedule 13D are set forth in Schedule A and are incorporated herein by reference.

B. VSO II

- (a) As of the close of business on March 5, 2015, VSO II beneficially owned 6,501,959 Shares.

Percentage: Approximately 5.8%

- (b)
1. Sole power to vote or direct vote: -0-
 2. Shared power to vote or direct vote: 6,501,959
 3. Sole power to dispose or direct the disposition: -0-
 4. Shared power to dispose or direct the disposition: 6,501,959

- (c) The transactions in the Shares by VSO II since the filing of Amendment No.1 to the Schedule 13D are set forth in Schedule A and are incorporated herein by reference.

C. Vertex GP

- (a) Vertex GP, as the general partner of Vertex Opportunities, may be deemed the beneficial owner of the 967,709 shares owned by Vertex Opportunities.

Percentage: Less than 1%

- (b)
1. Sole power to vote or direct vote: -0-
 2. Shared power to vote or direct vote: 967,709
 3. Sole power to dispose or direct the disposition: -0-
 4. Shared power to dispose or direct the disposition: 967,709

- (c) Vertex GP has not entered into any transactions in the Shares since the filing of Amendment No.1 to the Schedule 13D. The transactions in the Shares on behalf of Vertex Opportunities since the filing of Amendment No. 1 to the Schedule 13D are set forth in Schedule A and are incorporated herein by reference.

D. VSO GP II

- (a) VSO GP II, as the general partner of VSO II, may be deemed the beneficial owner of the 6,501,959 shares owned by VSO II.

Percentage: Approximately 5.8%

- (b)
1. Sole power to vote or direct vote: -0-
 2. Shared power to vote or direct vote: 6,501,959
 3. Sole power to dispose or direct the disposition: -0-
 4. Shared power to dispose or direct the disposition: 6,501,959

- (c) VSO GP II has not entered into any transactions in the Shares since the filing of Amendment No. 1 to the Schedule 13D. The transactions in the Shares on behalf of VSO II since the filing of Amendment No. 1 to the Schedule 13D are set forth in Schedule A and are incorporated herein by reference.

E. Vertex Capital

- (a) Vertex Capital, as the investment manager of Vertex Opportunities and VSO II, may be deemed the beneficial owner of the (i) 967,709 Shares owned by Vertex Opportunities and (ii) 6,501,959 Shares owned by VSO II.

Percentage: Approximately 6.6%

- (b)
1. Sole power to vote or direct vote: -0-
 2. Shared power to vote or direct vote: 7,469,668
 3. Sole power to dispose or direct the disposition: -0-
 4. Shared power to dispose or direct the disposition: 7,469,668

- (c) Vertex Capital has not entered into any transactions in the Shares since the filing of Amendment No. 1 to the Schedule 13D. The transactions in the Shares on behalf of each of Vertex Opportunities and VSO II, since the filing of Amendment No. 1 to the Schedule 13D are set forth in Schedule A and are incorporated herein by reference.

F. Eric Singer

- (a) Mr. Singer, as the managing member of Vertex GP, VSO GP II and Vertex Capital, may be deemed the beneficial owner of the (i) 967,709 Shares owned by Vertex Opportunities and (ii) 6,501,959 Shares owned by VSO II.

Percentage: Approximately 6.6%

- (b)
1. Sole power to vote or direct vote: -0-
 2. Shared power to vote or direct vote: 7,469,668
 3. Sole power to dispose or direct the disposition: -0-
 4. Shared power to dispose or direct the disposition: 7,469,668

- (c) Mr. Singer has not entered into any transactions in the Shares since the filing of Amendment No. 1 to the Schedule 13D. The transactions in the Shares on behalf of each of Vertex Opportunities and VSO II, since the filing of Amendment No. 1 to the Schedule 13D are set forth in Schedule A and are incorporated herein by reference.

G. Edward H. Braun

- (a) As of the close of business on March 5, 2015, Mr. Braun beneficially owned 10,000 Shares and may be deemed to beneficially own an additional 40,000 Shares underlying stock options that are currently exercisable at a purchase price of \$1.60 per Share and 40,000 Shares underlying stock options that are currently exercisable at a purchase price of \$2.74 per Share.

Percentage: Less than 1%

- (b)
1. Sole power to vote or direct vote: -0-
 2. Shared power to vote or direct vote: 90,000
 3. Sole power to dispose or direct the disposition: -0-
 4. Shared power to dispose or direct the disposition: 90,000

- (c) Mr. Braun has not entered into any transactions in the Shares since the filing of Amendment No. 1 to the Schedule 13D.

H. Stephen L. Domenik, Richard J. Faubert, John T. Kurtzweil, and Peter J. Simone

(a) As of the close of business on March 5, 2015, Messrs. Domenik, Faubert, Kurtzweil, and Simone did not own any Shares.

Percentage: 0%

(b) 1. Sole power to vote or direct vote: -0-
2. Shared power to vote or direct vote: -0-
3. Sole power to dispose or direct the disposition: -0-
4. Shared power to dispose or direct the disposition: -0-

(c) Messrs. Domenik, Faubert, Kurtzweil, and Simone have not entered into any transactions in the Shares since the filing of Amendment No. 1 to the Schedule 13D.

(d) No person other than the Reporting Persons is known to have the right to receive, or the power to direct the receipt of dividends from, or proceeds from the sale of, the Shares.

(e) Not applicable

The filing of this Schedule 13D shall not be construed as an admission that the Reporting Persons are, for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, the beneficial owners of any of the securities reported herein. Each Reporting Person disclaims beneficial ownership of such Shares except to the extent of his or its pecuniary interest therein.

Item 6. Contracts, Arrangements, Understandings or Relationships With Respect to Securities of the Issuer.

Item 6 is hereby amended to add the following:

On March 5, 2015, Vertex and the Issuer entered into the Agreement defined and described in Item 4 above and attached as Exhibit 99.1 hereto.

On March 5, 2015, the Reporting Persons entered into a Joint Filing Agreement in which the Reporting Persons who will remain Reporting Persons subsequent to this Amendment No. 2 agreed to the joint filing on behalf of each of them of statements on Schedule 13D with respect to the securities of the Issuer to the extent required by applicable law. A copy of this agreement is attached hereto as Exhibit 99.2 and is incorporated herein by reference.

Item 7. Material to be Filed as Exhibits.

Item 7 is hereby amended to add the following exhibits:

99.1 Settlement Agreement by and among Vertex Opportunities Fund, LP, Vertex GP, LLC, Vertex Special Opportunities Fund II, LP, Vertex Special Opportunities GP II, LLC, Vertex Capital Advisors, LLC, Eric Singer and Axcelis Technologies, Inc., dated March 5, 2015.

99.2 Joint Filing Agreement by and among Vertex Opportunities Fund, LP, Vertex GP, LLC, Vertex Special Opportunities Fund II, LP, Vertex Special Opportunities GP II, LLC, Vertex Capital Advisors, LLC, and Eric Singer, dated March 5, 2015.

SIGNATURES

After reasonable inquiry and to the best of his knowledge and belief, the undersigned certifies that the information set forth in this statement is true, complete and correct.

Dated: March 5, 2015

Vertex Opportunities Fund, LP

By: Vertex GP, LLC
General Partner

By: /s/ Eric Singer

Name: Eric Singer
Title: Managing Member

Vertex GP, LLC

By: /s/ Eric Singer

Name: Eric Singer
Title: Managing Member

Vertex Special Opportunities Fund II, LP

By: Vertex Special Opportunities GP II, LLC General Partner

By: /s/ Eric Singer

Name: Eric Singer
Title: Managing Member

Vertex Special Opportunities GP II, LLC

By: /s/ Eric Singer

Name: Eric Singer
Title: Managing Member

Vertex Capital Advisors, LLC

By: /s/ Eric Singer

Name: Eric Singer
Title: Managing Member

/s/ Eric Singer

ERIC SINGER, Individually and as Attorney-in-Fact for Edward H. Braun, Stephen L. Domenik, Richard J. Faubert, John T. Kurtzweil, and Peter J. Simone

SCHEDULE A

Transactions in Securities of the Issuer Since the Filing of Amendment No. 1 to the Schedule 13D

<u>Nature of the Transaction</u>	<u>Securities Purchased/(Sold)</u>	<u>Price Per Share(\$)</u>	<u>Date of Purchase / Sale</u>
<u>VERTEX OPPORTUNITIES FUND, LP</u>			
Sale of Common Stock	(2,951)	2.8307	02/25/2015
Sale of Common Stock	(1,286)	2.8501	02/25/2015
Sale of Common Stock	(3,445)	2.9200	02/26/2015
Sale of Common Stock	(5,850)	2.9158	02/26/2015
<u>VERTEX SPECIAL OPPORTUNITIES FUND II, LP</u>			
Sale of Common Stock	(19,749)	2.8307	02/25/2015
Sale of Common Stock	(8,605)	2.8501	02/25/2015
Sale of Common Stock	(23,055)	2.9200	02/26/2015
Sale of Common Stock	(39,150)	2.9158	02/26/2015

NOMINATION AND STANDSTILL AGREEMENT

This Nomination and Standstill Agreement, dated March 5, 2015 (this "Agreement"), is by and among Axcelis Technologies, Inc. (the "Company") and the entities and natural persons listed on Exhibit A hereto and their respective Affiliates (collectively, "Vertex") (each of the Company and Vertex, a "Party" to this Agreement, and collectively, the "Parties").

RECITALS

WHEREAS, Vertex is deemed to beneficially own shares of common stock of the Company (the "Common Stock") totaling, in the aggregate 7,458,668 shares, or approximately 6.7% percent, of the Common Stock of the Company issued and outstanding on the date hereof;

WHEREAS, Vertex submitted a nomination letter to the Company on February 9, 2015 (the "Nomination Letter") nominating six (6) director candidates to be elected to the Company's board of directors (the "Board") at the 2015 annual meeting of stockholders of the Company (the "2015 Annual Meeting"); and

WHEREAS, the Company and Vertex have determined to come to an agreement with respect to the election of members of the Board at the 2015 Annual Meeting, certain matters related to the 2015 Annual Meeting and certain other matters, as provided in this Agreement.

NOW, THEREFORE, in consideration of the foregoing premises and the mutual covenants and agreements contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties, intending to be legally bound, agree as follows:

1. Board Matters; Board Nominations; 2015 Annual Meeting; Committees; and Other Company Matters.

(a) Upon the execution of this Agreement, Vertex hereby irrevocably withdraws its Nomination Letter and nominees, and any and all related materials and notices submitted to the Company in connection therewith, including its demand for stockholder list materials pursuant to Section 220 of the Delaware General Corporation Law (the "DGCL"), and Vertex will not (i) nominate any person for election at the 2015 Annual Meeting, (ii) submit any proposal for consideration at, or bring any other business before, the 2015 Annual Meeting, directly or indirectly, or (iii) initiate, encourage or participate in any "withhold" or similar campaign with respect to the 2015 Annual Meeting, directly or indirectly, and will not permit any of its Affiliates or Associates to do any of the items in this Section 1(a). Vertex will not publicly or privately encourage or support any other stockholder to take any of the actions described in this Section 1(a).

(b) The Company agrees that:

(1) prior to the mailing of the Company's definitive proxy statement for the 2015 Annual Meeting, the Board shall take all necessary action to nominate Richard J. Faubert and John T. Kurtzweil (collectively, the "New 2015 Nominees"), together with Thomas St. Dennis; R. John Fletcher; Arthur L. George, Jr.; Joseph Keithley; Barbara J. Lundberg; Patrick H. Nettles; and Mary G. Puma (altogether, the "2015 Nominees"), for election as directors of the Company as part of the Company's director slate of nominees for the 2015 Annual Meeting;

(2) it will recommend, support and solicit proxies for the election of the New 2015 Nominees in the same manner as for the Company's other 2015 Nominees at the 2015 Annual Meeting;

(3) as of the date of this Agreement, each of the New 2015 Nominees is appointed as an observer to the Board until the 2015 Annual Meeting. Accordingly, with respect to meetings of the full Board, if any, prior to the 2015 Annual Meeting (whether telephone or in-person), each of the New 2015 Nominees will (i) receive copies of all notices and written information furnished to the full Board, reasonably in advance of each meeting to the extent practicable, and (ii) be permitted to be present at all meetings of the full Board (whether by telephone or in person). Notwithstanding the foregoing, (A) the Company shall be entitled to withhold any information and exclude each of the New 2015 Nominees from any meeting, or any portion thereof, as is reasonably determined by the Company to be necessary to protect the Company's attorney-client privilege, or as otherwise may be appropriate until each of the New 2015 Nominees is elected to the Board, and (B) each of the New 2015 Nominees shall execute a confidentiality agreement in form and substance reasonably acceptable to the Company with respect to the information and discussions to which he will have access;

(4) the Company will use its reasonable best efforts to hold the 2015 Annual Meeting no later than May 13, 2015;

(5) the Company agrees that at the first meeting of the Board following each of the New 2015 Nominee's election to the Board, the Board will take all action necessary in furtherance of the appointment of each of the New 2015 Nominees to at least one committee of the Board whether now existing or hereafter created during the Standstill Period assuming they meet legal and stock exchange requirements for each such committee;

(6) if either of the New 2015 Nominees or any Replacement Director (as defined below) is unable to serve as a director during the Standstill Period, and at such time Vertex beneficially owns in the aggregate at least 3.0% of the Company's then-outstanding Common Stock (subject to adjustment for stock splits, reclassifications, combinations and similar adjustments), Vertex shall have the ability to recommend a substitute person(s) for approval by the Nominating and Governance Committee of the Board (the "Governance Committee") to fill the resulting vacancy, which person will (i) be independent of Vertex, (ii) qualify as "independent" pursuant to Nasdaq listing standards, and (iii) have relevant financial and business experience, all as determined by the Governance Committee. The appointment of any such person to the Board will be subject to the approval of the Governance Committee after exercising its fiduciary duties in good faith, which approval shall not be unreasonably withheld (any such replacement nominee appointed in accordance with the terms of this Section 1(b)(6) will be referred to herein as the "Replacement Director"). In the event the Governance Committee does not accept the Replacement Director recommended by Vertex, the Parties shall continue to follow the procedures of this Section 1(b)(6) until a Replacement Director is elected to the Board. Upon the acceptance of a Replacement Director nominee by the Governance Committee, the Board will appoint such Replacement Director to the Board (or, if prior to the 2015 Annual Meeting, include such Replacement Director in the Company's recommended slate of director candidates to be elected to the Board at the 2015 Annual Meeting) no later than five business days after the Governance Committee's recommendation of such Replacement Director.

(c) At the 2015 Annual Meeting, Vertex will appear in person or by proxy and vote all shares of Common Stock beneficially owned by it (i) in favor of all of the Company's recommended nominees for election to the Board; (ii) against any director candidates not recommended by the Board; and (iii) in accordance with the Board's recommendation with respect to the Company's "say-on-pay" proposal, the Company's proposal to amend the 2012 Equity Incentive Plan and the Company's proposal to ratify the appointment of its registered public accounting firm unless, as it relates solely to the Company's "say-on-pay" or Equity Incentive Plan proposal, respectively, Institutional Shareholder Services Inc. recommends otherwise.

(d) Vertex acknowledges that all members of the Board, including the New 2015 Nominees (and any Replacement Director), are required to (i) comply with all policies, procedures, processes, codes, rules, standards and guidelines applicable to Board members, including the Company's code of business conduct and ethics, securities trading policies, director confidentiality policies, and corporate governance guidelines, (ii) preserve the confidentiality of Company business and information, including discussions of matters considered in meetings of the Board or Board committees, (iii) complete the Company's customary director & officer questionnaire and other reasonable and customary director onboarding documentation and procedures required by the Company in connection with the election or appointment of Board members (which the Company acknowledges has been done with respect to the questionnaire and representation and agreement previously provided to the Company on behalf of the New 2015 Nominees), and (iv) consent to be named as a nominee in the Company's proxy statement and to serve as a director if elected. Vertex shall provide the Company with such information concerning Vertex as is required to be disclosed under applicable law or stock exchange regulations, in each case as promptly as necessary to enable timely filing of the Company's proxy statement. Other than with respect to the indemnification agreements previously disclosed to the Company with respect to the New 2015 Nominees (which indemnification agreements Vertex represents and warrants it has provided in full to the Company prior to the date hereof), Vertex has not and will not enter into any monetary or other arrangements with any of the Company's directors or director nominees.

2. Standstill. Vertex agrees that, from the date of this Agreement until the earlier of (i) the date that is fifteen (15) business days prior to the deadline for the submission of stockholder director nominations for the 2016 annual meeting of stockholders (the "2016 Annual Meeting") pursuant to the Company's bylaws or (ii) the date that is 100 calendar days prior to the one-year anniversary of the 2015 Annual Meeting (the "Standstill Period"), neither it nor any of its Affiliates or Associates will, and it will cause each of its Affiliates and Associates not to, directly or indirectly, in any manner (whether through third parties or otherwise):

(a) make, engage in or in any way participate in any solicitation of proxies or consents or become a "participant" in a "solicitation" as such terms are defined in Regulation 14A under the Exchange Act (as defined herein) of proxies or consents (including any solicitation of consents that seeks to call a special meeting of stockholders or take action by written consent in lieu of a meeting, regardless of whether or not permitted to do so under the Company's organizational documents or applicable law), in each case, with respect to securities of the Company;

(b) seek or encourage any person to submit nominations in furtherance of a “contested solicitation” for the election of directors with respect to the Company, or seek, encourage or take any other action with respect to the election or removal of any directors (including pursuing or encouraging any “withhold” or similar campaign), or otherwise seek to advise, influence or control the management (or any change thereof), governance, policies, business or affairs of the Company; provided, however, that if, at the beginning of the Search Period (as defined below), Vertex beneficially owns in the aggregate at least 3.0% of the Company’s then-outstanding Common Stock (subject to adjustment for stock splits, reclassifications, combinations and similar adjustments), Vertex may, beginning no earlier than January 1, 2016 (the “Search Period”), to the extent it reasonably determines necessary, privately identify potential director candidates in connection with the 2016 Annual Meeting on a confidential basis and without contacting any shareholder (or any other person other than the candidates themselves) regarding potential director candidates or regarding Vertex’s interest in or intent to identify director candidates (it being understood that Vertex may use a third-party director search firm to facilitate identification of potential candidates, but shall not disclose the Company’s name to such third-party director search firm); provided, further, that Vertex shall require each potential director candidate to enter into a confidentiality agreement prior to identifying the Company or engaging in any substantive discussions regarding the Company with any such potential director candidate and, provided, further, that Vertex shall continue to abide by all of the other provisions of this Section 2 and Section 3 hereof during the Search Period;

(c) seek, alone or in concert with others, representation on the Board or other change in the composition of the Board, including through submitting any director nominations or participating in any “stockholder access” or “proxy access” regime that may become applicable to the Company;

(d) seek to advise, encourage, support or influence any person with respect to the voting, giving or withholding of any proxy, consent, or other authority with respect to the securities of the Company (except such advice, encouragement, support or influence that is consistent with the Company’s recommendations on such matters) or the acquisition or disposition of any such securities;

(e) (1) make any proposal (binding or non-binding) for consideration by stockholders at any annual or special meeting of stockholders of the Company or participate in any proposal made by any third party, (2) conduct a referendum of stockholders, (3) make a request for any stockholder list materials or any books and records of the Company or any of the Company’s Affiliates or Associates whether pursuant to Section 220 of the DGCL or otherwise or (4) (i) make any offer, recommendation, plan, purpose or proposal (with or without conditions) or, subject to the proviso in Section 3 hereof, public comment with respect to any share repurchase, dividend, self-tender or other change in capitalization, merger, acquisition, recapitalization, restructuring, disposition or other business combination or extraordinary transaction in the case of any of the foregoing involving the Company or any of the Company’s Affiliates or Associates, or any subsidiary, business or division of the foregoing, or (ii) make any offer, recommendation, plan, proposal or public comment with respect to any change in the management or material change in the business of the Company, or, in the case of any of the foregoing clauses (1) – (4), encourage, initiate or support any other third party in any such activity;

(f) form, join or in any way participate in any partnership, limited partnership, syndicate or other group, including any “group” within the meaning of Section 13(d) of the Exchange Act, with respect to the Common Stock (other than a “group” that includes all or some of the entities identified on Exhibit A, but does not include any other entities not identified on Exhibit A as of the date hereof); provided, however, that a controlled Affiliate of Vertex may join such “group” following the execution of this Agreement, so long as any such Affiliate agrees to be bound by the terms and conditions of this Agreement;

(g) institute, solicit, assist or join, as a party, any litigation, arbitration or other proceeding against or involving the Company or any of its current or former directors or officers (including derivative actions) other than to enforce the provisions of this Agreement;

(h) grant any proxy, consent or other authority to vote with respect to any matters (other than to the named proxies included in the Company’s proxy card for any annual meeting or special meeting of stockholders) or deposit any Common Stock in any voting trust or subject any Common Stock to any arrangement or agreement with respect to the voting of any Common Stock, other than any such voting trust, arrangement or agreement solely among the members of Vertex that is otherwise in accordance with this Agreement;

(i) take any action that would, or would reasonably be expected to, require Vertex or the Company to make a public announcement or disclosure regarding any of the types of the matters addressed in this Section 2;

(j) disclose that Vertex voted contrary to the recommendation of the Board on any matter other than as permitted by the proviso to Section 3 hereof;

(k) enter into any discussions, negotiations, arrangements or understandings with any third party with respect to the matters set forth in this Section 2 or take or seek to take, or cause or seek to cause, or solicit others to take, any action inconsistent with this Section 2; or

(l) make any request or submit any proposal to amend or waive the terms of this Agreement other than through non-public communications with the Company that would not be reasonably likely to trigger public disclosure obligations for any Party.

Except as expressly provided in Section 1 or Section 2 of this Agreement, each member of Vertex shall be entitled to vote their shares on any other proposal duly brought before the 2015 Annual Meeting, or otherwise vote as each member of Vertex determines in its sole discretion; provided that, as applicable, all such activity is in compliance with the requirements of this Agreement.

3. Mutual Non-Disparagement. Subject to applicable law, each of the Parties covenants and agrees that, during the Standstill Period, or if earlier, until such time as the other Party or any of its agents, subsidiaries, affiliates, successors, assigns, officers, key employees or directors shall have breached this Section 3, neither it nor any of its respective agents, subsidiaries, affiliates, successors, assigns, officers, key employees or directors, shall in any way publicly or privately disparage, call into disrepute, comment negatively upon, criticize or otherwise defame or slander the other Party or such other Party’s subsidiaries, affiliates, successors, assigns, officers (including any former officer of a Party or a Party’s subsidiaries), directors (including any former director of a Party or a Party’s subsidiaries), employees, stockholders, agents, attorneys or representatives; provided, however, that nothing herein shall limit the ability of Vertex to announce its views and its vote on any Board-approved publicly announced proposals relating to a merger of the Company, acquisition of the Company, disposition of all or substantially all of the assets of the Company or other business combination involving the Company, so long as such announcement is limited to the merits of any such matter and does not disparage the Company’s directors or officers in connection with such matter, including the decision to pursue, approve or propose such matter. For purposes of this Section 3, neither of the New 2015 Nominees (or, if applicable, any Replacement Director) will be deemed to be an agent, affiliate, officer, key employee or director of the Company or Vertex and no actions taken by any director, agent or other representative of a Party in any capacity other than as a representative of, and at the direction of, such Party will be covered by this Agreement.

4. Public Announcement. Vertex and the Company shall announce this Agreement and the material terms hereof by means of a mutually agreed press release in the form attached hereto as Exhibit B (the “Press Release”) as soon as practicable but in no event later than 9:00 a.m., New York City time, on March 6, 2015. Until the 2015 Annual Meeting, neither the Company nor Vertex nor the New 2015 Nominees shall make any public announcement or statement that is inconsistent with or contrary to the statements made in the Press Release, except as required by law or the rules of any stock exchange or with the prior written consent of the other Party. Vertex acknowledges that the Company may describe and file this Agreement and the associated Press Release with the SEC on a Current Report on Form 8-K, and the Company acknowledges that Vertex may file this Agreement and the associated Press Release as an exhibit to an amendment to its Schedule 13D on file with the SEC.

5. Expenses. The Company shall reimburse Vertex for its reasonable, documented out-of-pocket fees and expenses (including legal expenses) incurred in connection with the matters related to the 2015 Annual Meeting and the negotiation and execution of this Agreement, provided that such reimbursement shall not exceed \$85,000 in the aggregate.

6. Representations and Warranties of the Company. The Company represents and warrants to Vertex that this Agreement has been duly authorized, executed and delivered by the Company, and is a valid and binding obligation of the Company, enforceable against the Company in accordance with its terms.

7. Representations and Warranties of Vertex. Vertex represents and warrants to the Company that this Agreement has been duly authorized, executed and delivered by Vertex, is a valid and binding obligation of Vertex, enforceable against Vertex in accordance with its terms, and that Exhibit A sets forth a true and complete list of all Affiliates and Associates of Vertex. Vertex further represents and warrants that, as of the date of this Agreement, Vertex beneficially owns 7,458,668 shares of Common Stock and, except for such shares, does not currently have, and does not currently have any right to acquire, any interest in any other securities of the Company (or any rights, options or other securities convertible into or exercisable or exchangeable (whether or not convertible, exercisable or exchangeable immediately or only after the passage of time or the occurrence of a specified event) for such securities or any obligations measured by the price or value of any securities of the Company or any of its Affiliates, including any swaps or other derivative arrangements designed to produce economic benefits and risks that correspond to the ownership of the Common Stock, whether or not any of the foregoing would give rise to beneficial ownership, and whether or not to be settled by delivery of Common Stock, payment of cash or by other consideration, and without regard to any short position under any such contract or arrangement). Vertex agrees that it will cause its Affiliates and Associates (including for the avoidance of doubt its partners, investment professionals and other employees) to comply with the terms of this Agreement.

8. Definitions. For purposes of this Agreement:

(a) the terms “Affiliate” and “Associate” shall have the respective meanings set forth in Rule 12b-2 promulgated by the SEC under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and shall include all persons that at any time during the term of this Agreement become Affiliates or Associates of any applicable person referred to in this Agreement;

(b) the terms “beneficial owner” and “beneficially own” shall have the same meanings as set forth in Rule 13d-3 promulgated by the SEC under the Exchange Act, except that a person shall also be deemed to be the beneficial owner of all shares which such person has the right to acquire (whether such right is exercisable immediately or only after the passage of time) pursuant to the exercise of any rights in connection with any securities or any agreement, arrangement or understanding (whether or not in writing), regardless of when such rights may be exercised and whether they are conditional, and all shares which such person or any of such person’s Affiliates or Associates has or shares the right to vote or dispose;

(c) the term “including” shall mean including, without limitation; and

(d) the terms “person” or “persons” shall mean any individual, corporation (including not-for-profit), general or limited partnership, limited liability or unlimited liability company, joint venture, estate, trust, association, organization or other entity of any kind or nature.

9. Notices. All notices, consents, requests, instructions, approvals and other communications provided for herein and all legal process in regard hereto shall be in writing and shall be deemed validly given, made or served, if (a) given by telecopy and email, when such telecopy is transmitted to the telecopy number set forth below and sent to the email address set forth below and the appropriate confirmation is received or (b) if given by any other means, when actually received during normal business hours at the address specified in this Section:

if to the Company: Axcelis Technologies, Inc.
108 Cherry Hill Drive
Beverly, MA 01915
Attention: Lynnette C. Fallon
Executive Vice President, General Counsel & Corporate Secretary
Facsimile: (978) 787-4090
Email: Lynnette.Fallon@axcelis.com

with a copy to: Wachtell, Lipton, Rosen & Katz
51 W. 52nd Street
New York, NY 10019
Attention: Steven A. Rosenblum
Sabastian V. Niles
Facsimile: (212) 403-2000
Email: SARosenblum@wlrk.com
SVNiles@wlrk.com

if to Vertex: Vertex Capital Advisors, LLC
825 Third Avenue, 33rd Floor
New York, NY 10022
Attention: Eric Singer

Email: singer@vertexlp.com

with a copy to: Olshan, Frome & Wolosky LLP
Park Avenue Tower
65 East 55th Street
New York, NY 10022
Attention: Steve Wolosky
Facsimile: (212) 451-2222
Email: SWolosky@olshanlaw.com

10. Specific Performance; Remedies. The Parties shall be entitled to seek an injunction or injunctions to prevent breaches of this Agreement and to enforce specifically the terms and provisions of this Agreement, in addition to any other remedy to which they are entitled at law or in equity. FURTHERMORE, EACH OF THE PARTIES HERETO (A) IRREVOCABLY WAIVES THE RIGHT TO TRIAL BY JURY AND (B) AGREES TO WAIVE ANY BONDING REQUIREMENT UNDER ANY APPLICABLE LAW, IN THE CASE ANY OTHER PARTY SEEKS TO ENFORCE THE TERMS BY WAY OF EQUITABLE RELIEF. THIS AGREEMENT SHALL BE GOVERNED IN ALL RESPECTS, INCLUDING VALIDITY, INTERPRETATION AND EFFECT, BY THE LAWS OF THE STATE OF DELAWARE WITHOUT GIVING EFFECT TO THE CHOICE OF LAW PRINCIPLES OF SUCH STATE.

11. Jurisdiction. The Parties irrevocably agree that any legal action or proceeding with respect to this Agreement and the rights and obligations arising hereunder, or for recognition and enforcement of any judgment in respect of this Agreement and the rights and obligations arising hereunder brought by the other Party hereto or its successors or assigns, shall be brought and determined exclusively in the Court of Chancery of the State of Delaware (or, if any such court declines to accept jurisdiction over a particular matter, any state or federal court within the State of Delaware) and any appellate court therefrom. Each of the Parties hereto hereby irrevocably submits with regard to any such action or proceeding for itself and in respect of its property, generally and unconditionally, to the personal jurisdiction of the aforesaid courts and agrees that it will not bring any action relating to this Agreement in any court other than the aforesaid courts. Each of the Parties hereto hereby irrevocably waives, and agrees not to assert in any action or proceeding with respect to this Agreement, (a) any claim that it is not personally subject to the jurisdiction of the above-named courts for any reason, (b) any claim that it or its property is exempt or immune from jurisdiction of any such court or from any legal process commenced in such courts (whether through service of notice, attachment prior to judgment, attachment in aid of execution of judgment, execution of judgment or otherwise) and (c) to the fullest extent permitted by applicable legal requirements, any claim that (1) the suit, action or proceeding in such court is brought in an inconvenient forum, (2) the venue of such suit, action or proceeding is improper or (3) this Agreement, or the subject matter hereof, may not be enforced in or by such courts.

12. Severability. If at any time subsequent to the date hereof, any provision of this Agreement shall be held by any court of competent jurisdiction to be illegal, void or unenforceable, such provision shall be of no force and effect, but the illegality or unenforceability of such provision shall have no effect upon the legality or enforceability of any other provision of this Agreement.

13. Counterparts. This Agreement may be executed in two (2) or more counterparts which together shall constitute a single agreement.

14. Entire Agreement; Amendment and Waiver; Successors and Assigns; Third Party Beneficiaries. This Agreement contains the entire understanding of the Parties hereto with respect to its subject matter. There are no restrictions, agreements, promises, representations, warranties, covenants or undertakings between the Parties other than those expressly set forth herein. No modifications of this Agreement may be made except in writing signed by an authorized representative of each the Company and Vertex, except that the signature of an authorized representative of the Company will not be required to permit an Affiliate of Vertex to agree to be listed on Exhibit A and be bound by the terms and conditions of this Agreement. No failure on the part of any party to exercise, and no delay in exercising, any right, power or remedy hereunder shall operate as a waiver thereof, nor will any single or partial exercise of such right, power or remedy by such party preclude any other or further exercise thereof or the exercise of any other right, power or remedy. All remedies hereunder are cumulative and are not exclusive of any other remedies provided by law. The terms and conditions of this Agreement will be binding upon, inure to the benefit of, and be enforceable by the Parties hereto and their respective successors, heirs, executors, legal representatives, and permitted assigns. No Party will assign this Agreement or any rights or obligations hereunder without, with respect to any member of Vertex, the prior written consent of the Company, and with respect to the Company, the prior written consent of Vertex. This Agreement is solely for the benefit of the Parties and is not enforceable by any other persons.

15. Interpretation and Construction. Each of the Parties acknowledges that it has been represented by counsel of its choice throughout all negotiations that have preceded the execution of this Agreement, and that it has executed the same with the advice of said counsel. Each Party and its counsel cooperated and participated in the drafting and preparation of this Agreement and the documents referred to herein, and any and all drafts relating thereto exchanged among the Parties shall be deemed the work product of all of the Parties and may not be construed against any Party by reason of its drafting or preparation. Accordingly, any rule of law or any legal decision that would require interpretation of any ambiguities in this Agreement against any Party that drafted or prepared it is of no application and is hereby expressly waived by each of the Parties, and any controversy over interpretations of this Agreement shall be decided without regard to events of drafting or preparation.

IN WITNESS WHEREOF, this Agreement has been duly executed and delivered by the duly authorized signatories of the Parties as of the date hereof.

AXCELIS TECHNOLOGIES, INC.

By: /s/ Mary G. Puma
Name: Mary G. Puma
Title: Chairman, Chief Executive Officer
and President

VERTEX OPPORTUNITIES FUND, LP

By: Vertex GP, LLC
General Partner

By: /s/ Eric Singer
Name: Eric Singer
Title: Managing Member

VERTEX GP, LLC

By: /s/ Eric Singer
Name: Eric Singer
Title: Managing Member

VERTEX SPECIAL OPPORTUNITIES FUND II, LP

By: Vertex Special Opportunities GP II, LLC
General Partner

By: /s/ Eric Singer
Name: Eric Singer
Title: Managing Member

[Signature Page to Agreement]

VERTEX SPECIAL OPPORTUNITIES GP II, LLC

By: /s/ Eric Singer
Name: Eric Singer
Title: Managing Member

VERTEX CAPITAL ADVISORS, LLC

By: /s/ Eric Singer
Name: Eric Singer
Title: Managing Member

/s/ Eric Singer
Eric Singer

[Signature Page to Agreement]

EXHIBIT A

Vertex Opportunities Fund, LP

Vertex GP, LLC

Vertex Special Opportunities Fund II, LP

Vertex Special Opportunities GP II, LLC

Vertex Capital Advisors, LLC

Eric Singer and any other future members of the general partners

EXHIBIT B

[Press Release]

JOINT FILING AGREEMENT

In accordance with Rule 13d-1(k)(1)(iii) under the Securities Exchange Act of 1934, as amended, the persons named below agree to the joint filing on behalf of each of them of Amendment No. 2 to the Schedule 13D (including additional amendments thereto) with respect to the shares of Common Stock, \$0.001 par value, of Axcelis Technologies, Inc. This Joint Filing Agreement shall be filed as an Exhibit to such Statement.

Dated: March 5, 2015

Vertex Opportunities Fund, LP

By: Vertex GP, LLC
General Partner

By: /s/ Eric Singer

Name: Eric Singer
Title: Managing Member

Vertex GP, LLC

By: /s/ Eric Singer

Name: Eric Singer
Title: Managing Member

Vertex Special Opportunities Fund II, LP

By: Vertex Special Opportunities GP II, LLC General Partner

By: /s/ Eric Singer

Name: Eric Singer
Title: Managing Member

Vertex Special Opportunities GP II, LLC

By: /s/ Eric Singer

Name: Eric Singer
Title: Managing Member

Vertex Capital Advisors, LLC

By: /s/ Eric Singer

Name: Eric Singer
Title: Managing Member

/s/ Eric Singer

ERIC SINGER