

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 10-Q

(Mark One)

- QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended September 30, 2007

or

- TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____

Commission file number 000-30941

AXCELIS TECHNOLOGIES, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

34-1818596
(IRS Employer
Identification No.)

108 Cherry Hill Drive
Beverly, Massachusetts 01915
(Address of principal executive offices, including zip code)

(978) 787-4000
(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No .

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer or a non-accelerated filer. See definition of "accelerated filer and large accelerated filer" in Rule 12b-2 of the Exchange Act.

Large accelerated filer Accelerated filer Non-accelerated filer

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act) Yes No

As of November 7, 2007 there were 102,250,365 shares of the registrant's common stock outstanding.

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PART 1—FINANCIAL INFORMATION

Item 1. Financial Statements.

Axcelis Technologies, Inc.
Consolidated Statements of Operations
(In thousands, except per share amounts)
(Unaudited)

	Three months ended September 30,		Nine months ended September 30,	
	2007	2006	2007	2006
Revenue				
Product	\$ 91,982	\$ 107,914	\$ 267,481	\$ 290,108
Service	14,187	12,694	42,787	41,582
Royalties, primarily from SEN	1,384	2,209	4,884	6,688
	<u>107,553</u>	<u>122,817</u>	<u>315,152</u>	<u>338,378</u>
Cost of revenue				
Product	61,569	60,386	167,624	169,857
Service	9,715	9,165	26,419	28,271
	<u>71,284</u>	<u>69,551</u>	<u>194,043</u>	<u>198,128</u>
Gross profit	36,269	53,266	121,109	140,250
Operating expenses				
Research and development	18,288	17,597	54,114	54,000
Sales and marketing	12,411	11,743	38,495	33,919
General and administrative	10,367	11,986	31,037	34,258
Impairment of goodwill	4,658	—	4,658	—
Amortization of intangible assets	656	656	1,968	1,895
Restructuring charges	—	53	—	147
	<u>46,380</u>	<u>42,035</u>	<u>130,272</u>	<u>124,219</u>
Income (loss) from operations	(10,111)	11,231	(9,163)	16,031
Other income (expense)				
Equity income of SEN	1,767	2,372	8,340	10,734
Interest income	1,224	2,250	3,824	5,816
Interest expense	(1,587)	(2,570)	(4,822)	(6,657)
Other—net	254	153	505	837
	<u>1,658</u>	<u>2,205</u>	<u>7,847</u>	<u>10,730</u>
Income (loss) before income taxes	(8,453)	13,436	(1,316)	26,761
Income taxes (credits)	(256)	916	(536)	1,552
Net income (loss)	<u>\$ (8,197)</u>	<u>\$ 12,520</u>	<u>\$ (780)</u>	<u>\$ 25,209</u>
Net income (loss) per share				
Basic	\$ (0.08)	\$ 0.12	\$ (0.01)	\$ 0.25
Diluted	(0.08)	0.12	(0.01)	0.25
Shares used in computing basic and diluted income (loss) per share				
Basic	102,206	101,165	101,772	101,003
Diluted	102,206	101,612	101,772	101,205

See accompanying Notes to Consolidated Financial Statements

Axcelis Technologies, Inc.
Consolidated Balance Sheets
(In thousands)
(Unaudited)

	September 30, 2007	December 31, 2006
ASSETS		
Current assets		
Cash and cash equivalents	\$ 83,152	\$ 140,451
Marketable securities	—	63,200
Restricted cash	16,656	11,019
Accounts receivable, net	76,191	73,635
Inventories, net	175,547	160,107
Prepaid expenses and other current assets	30,361	26,639
Total current assets	381,907	475,051
Property, plant and equipment, net	68,492	66,678
Investment in SEN	126,971	126,688
Goodwill	42,115	46,773
Intangible assets	11,581	13,549
Restricted cash, long-term portion	—	1,137
Other assets	34,327	24,117
	\$ 665,393	\$ 753,993
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities		
Accounts payable	\$ 21,891	\$ 37,312
Accrued compensation	14,285	26,996
Warranty	4,989	5,229
Income taxes	672	3,906
Deferred revenue	35,228	28,811
Current portion of convertible subordinated debt	—	74,217
Other current liabilities	7,727	13,670
Total current liabilities	84,792	190,141
Convertible subordinated debt	79,142	76,887
Long-term deferred revenue	5,082	5,054
Other long-term liabilities	6,667	4,349
Stockholders' equity		
Preferred stock	—	—
Common stock	102	101
Additional paid-in capital	476,549	469,967
Treasury stock	(1,218)	(1,218)
Retained earnings	8,803	9,583
Accumulated other comprehensive income (loss)	5,474	(871)
	489,710	477,562
	\$ 665,393	\$ 753,993

See accompanying Notes to Consolidated Financial Statements

Axcelis Technologies, Inc.
Consolidated Statements of Cash Flows
(In thousands)
(Unaudited)

	Nine months ended September 30,	
	2007	2006
Operating activities		
Net income (loss)	\$ (780)	\$ 25,209
Adjustments required to reconcile net income to net cash used for operating activities		
Depreciation and amortization	14,093	13,138
Amortization of intangible assets	1,968	1,895
Accretion of premium on convertible subordinated debt	2,255	1,165
Stock-based compensation expense	4,291	4,465
Undistributed income of SEN	(8,340)	(10,734)
Impairment of goodwill	4,658	—
Changes in operating assets and liabilities		
Accounts receivable	(1,876)	(18,165)
Inventories	(12,861)	(34,618)
Other current assets	(2,161)	(4,964)
Accounts payable and other current liabilities	(34,252)	17,817
Deferred revenue	6,445	8,571
Income taxes	(3,047)	(984)
Cash dividends from SEN	12,424	—
Other assets and liabilities	(17,268)	(8,700)
Net cash used for operating activities	(34,451)	(5,904)
Investing activities		
Purchases of marketable securities	(13,000)	(70,329)
Sales and maturities of marketable securities	76,200	73,263
Expenditures for property, plant and equipment	(8,422)	(3,947)
Increase in restricted cash	(4,500)	(627)
Net cash (used for) provided by investing activities	50,278	(1,640)
Financing activities		
Proceeds from issuance of convertible subordinated debt	—	24,217
Repayment of convertible subordinated debt	(74,217)	—
Proceeds from the exercise of stock options	1,066	1,362
Proceeds from employee stock purchase plan	1,513	1,578
Net cash (used for) provided by financing activities	(71,638)	27,157
Effect of exchange rate changes on cash	(1,488)	(578)
Net increase (decrease) in cash and cash equivalents	(57,299)	19,035
Cash and cash equivalents at beginning of period	140,451	71,417
Cash and cash equivalents at end of period	\$ 83,152	\$ 90,452

See accompanying Notes to Consolidated Financial Statements

Notes To Consolidated Financial Statements (Unaudited)

(All tabular amounts in thousands, except per share amounts)

Note 1. Nature of Business and Basis of Presentation

Axcelis Technologies, Inc. ("Axcelis" or the "Company"), is a producer of ion implantation and dry strip equipment used in the fabrication of semiconductors in the United States, Europe and Asia. In addition, the Company provides extensive aftermarket service and support, including spare parts, equipment upgrades, and maintenance services to the semiconductor industry. The Company owns 50% of the equity of a joint venture with Sumitomo Heavy Industries, Ltd. in Japan. This joint venture, which is known as SEN Corporation, an SHI and Axcelis Company ("SEN"), licenses technology from the Company relating to the manufacture of specified ion implantation products and has exclusive rights to manufacture and sell these products in the territory of Japan. SEN is the leading producer of ion implantation equipment in Japan.

The accompanying unaudited consolidated financial statements have been prepared in accordance with generally accepted accounting principles for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements. In the opinion of management all adjustments, which are of a normal recurring nature (except for adjustments of \$4.7 million to recognize the impairment of goodwill and \$1.2 million to reduce income tax expense as discussed in further detail in the following footnotes), considered necessary for a fair presentation have been included. Operating results for the interim periods presented are not necessarily indicative of the results that may be expected for other interim periods or for the year as a whole.

The balance sheet at December 31, 2006 has been derived from the audited financial statements at that date but does not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements.

For further information, refer to the consolidated financial statements and footnotes thereto included in Axcelis Technologies, Inc.'s annual report on Form 10-K for the year ended December 31, 2006, except for description of the Company's classification of revenue and cost of revenue, which is described below. Beginning with the periods ended September 30, 2007 the Company has modified the classification of the various components of revenue. Amounts presented for prior years have been reclassified to permit comparison. The modification did not affect total revenue or reported results of operations. There have been no changes to the Company's overall revenue recognition policy.

Revenue Recognition

Beginning with the periods ended September 30, 2007, the Company has modified the classification of its various components of revenue presented in the statement of operations to more closely align with SEC reporting guidelines. Product revenue includes revenue from system sales, sales of spare parts, the spare parts component of maintenance and service contracts and product upgrades. Service revenue includes the labor component of maintenance and service contract amounts charged for on-site service personnel. Revenue and cost of revenue amounts presented for prior periods have been reclassified to permit comparison.

The Company's revenue recognition policy involves significant judgment by management. As described below, the Company considers a broad array of facts and circumstances in determining when to recognize revenue, including contractual obligations to the customer, the complexity of the customer's post delivery acceptance provisions, payment history, customer creditworthiness and the installation process. In the future, if the post delivery acceptance provisions and installation process

become more complex or result in a materially lower rate of acceptance, the Company may have to revise its revenue recognition policy, which could delay the timing of revenue recognition.

The Company recognizes revenue based on guidance provided in SEC Staff Accounting Bulletin No. 104, "Revenue Recognition." Axcelis' revenue transactions include sales of products under multiple element arrangements. Revenue under these arrangements is allocated to each element, except systems, based upon its estimated fair market value, in accordance with the provisions of EITF 00-21, "Accounting for Revenue Arrangements with Multiple Deliverables" ("EITF 00-21"). The amount of revenue allocated to systems is calculated on a residual method. Under this method, the total value of the arrangement is allocated first to the undelivered elements, with the residual amount being allocated to product revenue.

The value of the undelivered elements includes (a) the greater of (i) the fair value of the installation or (ii) the portion of the sales price that will not be received until the installation is completed (the "retention") plus (b) the fair value of all other undelivered elements. The amount allocated to installation is based upon the fair value of the service performed, including labor, which is based upon the estimated time to complete the installation at hourly rates, and material components. The fair value of all other undelivered elements is based upon the price charged when these elements are sold separately. Product revenue is generally recognized upon shipment provided title and risk of loss has passed to the customer, evidence of an arrangement exists, prices are contractually fixed or determinable, collectibility is reasonably assured through historical collection results and regular credit evaluations, and there are no uncertainties regarding customer acceptance. Revenue from installation services is recognized at the time formal acceptance is received from the customer or, for certain customers, when both the formal acceptance and retention payment have been received. Revenue for other elements is recognized at the time products are shipped or the related services are performed.

The Company generally recognizes systems revenue at the time of shipment because the customer's post-delivery acceptance provisions and installation process have been established to be routine, commercially inconsequential and perfunctory. The majority of Axcelis' systems are designed and tailored to meet the customer's specifications, as outlined in the contract between the customer and Axcelis, which may be the Axcelis standard specification. To ensure that the customer's specifications are satisfied, many customers request that new systems be tested at Axcelis' facilities prior to shipment, normally with the customer present, under conditions that substantially replicate the customer's production environment and the customer's criteria are confirmed to have been met. Customers of mature products generally do not require pre-shipment testing. The Company believes the risk of failure to complete a system installation is remote. Should an installation not be completed successfully, the contractual provisions do not provide for forfeiture, refund or other purchase price concession beyond those prescribed by the provisions of the Uniform Commercial Code applicable generally to such transactions.

For initial shipments of systems with new technologies or in the small number of instances where Axcelis is unsure of meeting the customer's specifications or obtaining customer acceptance upon shipment of the system, Axcelis will defer the recognition of systems revenue and related costs until written customer acceptance of the system is obtained. This deferral period is generally within twelve months of shipment.

Revenue related to maintenance and service contracts is recognized ratably over the duration of the contracts, or based on parts usage, where appropriate. Revenue related to service hours is recognized when the services are performed.

Note 2. Impairment of Goodwill

The changes in the carrying amount of goodwill for the period ended September 30, 2007 are as follows:

Balance at January 1, 2007	\$	46,773
Impairment loss		(4,658)
		<hr/>
Balance at September 30, 2007	\$	42,115
		<hr/>

During the three month period ended September 30, 2007, the Company's management elected to discontinue future development of the RTP and curing product lines. Based on that business decision, the forecast of future cash flows was revised and, as such, in September 2007 a goodwill impairment loss of \$4.7 million was recorded. The fair value of these product lines was estimated using the expected present value of future cash flows.

Note 3. Stock-Based Compensation

2000 Stock Plan

The Company maintains the Axcelis Technologies, Inc. 2000 Stock Plan (the "2000 Plan"), a stock award and incentive plan which permits the issuance of options, restricted stock, restricted stock units, and performance awards to selected employees, directors and consultants of the Company. The 2000 Plan originally reserved 18.5 million shares of common stock for future grant, which amount was subsequently increased to 33.2 million shares of common stock. The 2000 Plan expires in 2012. At September 30, 2007 there were 17.9 million shares of common stock available for future grant. At September 30, 2007 and 2006, stock awards outstanding under the 2000 Plan included stock options, restricted stock, and restricted stock units.

Expiration of non-qualified stock options or stock appreciation rights is based on award agreements. Non-qualified stock options typically expire ten years from date of grant, but, if approved by the Board of Directors, may have a stated term in excess of ten years. Incentive stock option awards expire ten years from the date of grant. Generally, options granted to employees terminate upon termination of employment. Under the terms of the 2000 Plan, the exercise price, determined by the Board of Directors, may not be less than the fair market value of a share of the Company's common stock on the date of grant. Stock options granted to employees generally vest over a period of four years while stock options granted to non-employee members of the Company's Board of Directors generally vest over a period of six months and, once vested, are not affected by the director's termination of service to the Company. The Company settles stock option exercises with newly issued common shares.

Generally, unvested restricted stock and restricted stock unit awards expire upon termination of service to the Company. Restricted stock or restricted stock unit awards granted to employees generally vest over a period of four years while restricted stock or restricted stock units granted to members of

the Company's Board of Directors generally vest over a period of six months. The Company settles restricted stock units upon vesting with newly issued common shares.

Under the 2000 Plan, fair market value is defined as the closing price of a share of the common stock on the Nasdaq Global Market, as of any applicable date, as long as the Company's shares are traded on such exchange.

The amount of stock-based compensation recognized during a period is based on the value of the portion of the awards that are ultimately expected to vest. SFAS 123R requires forfeitures to be estimated at the time of grant and the estimates to be revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. The term "forfeitures" is distinct from "cancellations" or "expirations" and represents only the unvested portion of the surrendered stock-based award. The Company currently expects, based on a historical analysis, a forfeiture rate of 10% per year, except for executive officer awards, which are expected to forfeit at a rate of 5% per year.

Under Statement of Financial Accounting Standard (SFAS) No. 123R the Company recognized stock-based compensation expense of \$1.9 million and \$4.3 million for the three and nine months ended September 30, 2007, respectively, and \$1.6 million and \$4.5 million for the three and nine months ended September 30, 2006, respectively. SFAS No. 123R also requires the benefits of tax deductions in excess of recognized compensation cost to be reported as a financing cash flow, rather than as an operating cash flow. Because the Company does not recognize the benefit of tax deductions in excess of recognized compensation cost due to its cumulative net operating loss position, the adoption of SFAS No. 123R had no impact on the Company's consolidated statement of cash flows for the nine months ended September 30, 2007 and 2006.

Grant-Date Fair Value

The Company uses the Black-Scholes option pricing model to calculate the grant-date fair value of an award. The fair values of options granted during the periods shown were calculated using the following assumptions:

	Three months ended September 30,		Nine months ended September 30,	
	2007	2006	2007	2006
Weighted-average expected volatility	58.4%	57.0%	58.4%	56.9-59.0%
Weighted-average expected term (in years)	4.2	4.2	4.2	4.2
Risk-free interest rate	4.14-4.87%	4.75-5.12%	4.14-5.09%	4.29-5.12%
Expected dividend yield	0%	0%	0%	0%

Expected volatility—The Company considers a number of factors when estimating volatility under the pricing model. For options granted prior to fiscal 2006, the Company used historical volatility to estimate the grant-date fair value of stock options. The Company's current method of estimating expected volatility for all stock options relies on a combination of historical and implied volatility. The Company currently believes that the use of this blended volatility results in a more accurate estimate of the grant-date fair value of employee stock options because it more accurately reflects the market's current expectations of future volatility.

Expected term—Weighted average expected term was calculated using a forward looking lattice model of the Company's stock price incorporating a suboptimal exercise factor and a projected post-vest forfeiture rate.

Risk-free interest rate—The yield on zero-coupon U.S. Treasury securities for a period that is commensurate with the expected term assumption is used as the risk-free interest rate.

Expected dividend yield—Expected dividend yield was not considered in the option pricing formula since the Company does not pay dividends and has no current plans to do so in the future.

Stock Options

The following table summarizes the stock option activity for the nine months ended September 30, 2007:

	Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value
Outstanding at December 31, 2006	12,805	\$ 11.68		
Granted	206	5.31		
Exercised	(186)	5.72		
Canceled	(66)	6.43		
Expired	(987)	11.97		
Outstanding at September 30, 2007	11,772	\$ 11.68	4.71	\$ 173
Exercisable at September 30, 2007	10,866	\$ 12.14	4.41	\$ 62
Options Vested or Expected to Vest at September 30, 2007 (1)	11,653	\$ 11.74	4.73	\$ 111

- (1) In addition to the vested options, the Company expects a portion of the unvested options to vest at some point in the future. Options expected to vest is calculated by applying an estimated forfeiture rate to the unvested options.

The total intrinsic value of options exercised during the nine months ended September 30, 2007 was \$0.3 million. The total intrinsic value of options exercised during the nine months ended September 30, 2006 was \$0.2 million. There were no options exercised during the three months ended September 30, 2007 or 2006. The total fair value of stock options vested during the three and nine months ended September 30, 2007 was \$0.8 million and \$2.5 million, respectively. The total fair value of stock options vested during the three and nine months ended September 30, 2006 was \$1.0 million and \$3.4 million, respectively. As of September 30, 2007, there was \$2.2 million of total forfeiture adjusted unrecognized compensation cost related to non-vested stock options granted under the 2000 Plan. That cost is expected to be recognized over a weighted-average period of 1.95 years. Cash received from options exercised was \$1.1 and \$1.4 million during the nine months ended September 30, 2007 and 2006, respectively.

Restricted Stock and Restricted Stock Units

Restricted stock awards are grants of shares of common stock under the 2000 Plan which are subject to forfeiture back to the Company during a vesting period described in a restricted stock agreement with the recipient. Restricted stock units ("RSUs") represent the Company's unfunded and unsecured promise to issue shares of the common stock at a future date, subject to the terms of the RSU Award Agreement and the 2000 Plan. The purpose of these awards is to assist in attracting and retaining highly competent employees and directors and to act as an incentive in motivating selected employees and directors to achieve long-term corporate objectives. The fair value of restricted stock unit and restricted stock awards is charged to expense ratably over the requisite service period.

Changes in the Company's non-vested restricted stock and restricted stock units for the nine months ended September 30, 2007 follow:

	Shares/units	Weighted-Average Grant Date Fair Value per Share
Outstanding at December 31, 2006	1,831	\$ 6.44
Granted	1,168	6.04
Vested	(473)	6.60
Forfeited	(263)	6.25
Outstanding at September 30, 2007	2,263	6.23

The fair value of the Company's restricted stock and restricted stock units was calculated based upon the fair market value of the Company's stock at the date of grant. As of September 30, 2007, there was \$10.2 million of total forfeiture adjusted unrecognized compensation cost related to nonvested restricted stock and restricted stock units, which is expected to be amortized over a weighted average amortization period of 2.86 years.

Employee Stock Purchase Plan

The Employee Stock Purchase Plan (the "Purchase Plan") provides effectively all Axcelis employees the opportunity to purchase common stock of the Company at less than market prices. Purchases are made through payroll deductions of up to 10% of the employee's salary, subject to certain caps set forth in the Purchase Plan. Employees may purchase Axcelis common stock at 85% of the market value of the Company's common stock on the day the stock is purchased. The purchase price may be adjusted by a committee of the Board of Directors.

Compensation expense is computed as the benefit of discounted stock price, amortized on a straight-line basis to compensation expense over each offering period of six months. Compensation expense for the three and nine month periods ended September 30, 2007 was \$0.1 million and \$0.3 million, respectively. Compensation expense for the three and nine month periods ended September 30, 2006 was \$0.1 million and \$0.3 million, respectively. As of September 30, 2007, there were a total of 3.9 million shares reserved for issuance and available for purchase under the Purchase Plan. There were no shares purchased under the Purchase Plan during the three months ended September 30, 2007, and 0.4 million shares purchased during the nine months ended September 30, 2007.

Note 4. Net Income Per Share

SFAS No. 128, "Earnings Per Share," requires two presentations of earnings per share, "basic" and "diluted." Basic earnings per share is computed by dividing income available to common stockholders

(the numerator) by the weighted-average number of common shares outstanding (the denominator) for the period. The computation of diluted earnings per share is similar to basic earnings per share, except that the denominator is increased to include the number of additional common shares that would have been outstanding if the potentially dilutive common shares had been issued.

For purposes of computing diluted earnings per share, weighted average common shares outstanding do not include stock options and restricted stock awards with an exercise price inclusive of unrecognized compensation expense which exceeded the average fair market value of the Company's common stock for the period, as the effect would be anti-dilutive. The Company has excluded 0.1 million and 0.6 million incremental shares attributable to restricted stock, restricted stock units and outstanding stock options for the three and nine months ended September 30, 2007, respectively, as their effect would be anti-dilutive. In addition, 4.0 million shares of common stock for the assumed conversion of the Company's convertible debt for the three and nine months ended September 30, 2007, and 7.5 million shares and 6.9 million shares of common stock for the assumed conversion of the Company's convertible debt for the three and nine months ended September 30, 2006, respectively, computed using the if converted method, were excluded from the computation of diluted earnings per share as the effect of conversion would be anti-dilutive. These stock options, restricted stock awards, and conversions could, however, become dilutive in future periods.

A reconciliation of net income and shares used in computing basic and diluted earnings per share follows:

	Three months ended September 30,		Nine months ended September 30,	
	2007	2006	2007	2006
(In thousands, except per share data)				
Income (loss) available to common stockholders	\$ (8,197)	\$ 12,520	\$ (780)	\$ 25,209
Weighted average common shares outstanding used in computing basic net income (loss) per share	102,206	101,165	101,772	101,003
Incremental shares	—	447	—	202
Weighted average common shares outstanding used in computing diluted net income (loss) per share	102,206	101,612	101,772	101,205
Net income (loss) per share				
Basic	\$ (0.08)	\$ 0.12	\$ (0.01)	\$ 0.25
Diluted	(0.08)	0.12	(0.01)	0.25

Note 5. Comprehensive Income

The components of comprehensive income follow:

	Three months ended September 30,		Nine months ended September 30,	
	2007	2006	2007	2006
	(in thousands)			
Net income (loss)	\$ (8,197)	\$ 12,520	\$ (780)	\$ 25,209
Other comprehensive income (loss):				
Foreign currency translation adjustments	10,169	(4,315)	6,341	1,582
Unrealized gain on marketable securities	—	28	4	36
Comprehensive income	\$ 1,972	\$ 8,233	\$ 5,565	\$ 26,827

Note 6. Inventories

The components of inventories follow:

	September 30, 2007	December 31, 2006
	(in thousands)	
Raw materials	\$ 103,380	\$ 93,197
Work-in-process	40,192	44,587
Finished goods (completed systems)	31,975	22,323
	\$ 175,547	\$ 160,107

Note 7. Product Warranty

The Company offers a one to three year warranty for all of its products, the terms and conditions of which vary depending upon the product sold. For all systems sold, the Company accrues a liability for the estimated cost of standard warranty at the time of system shipment and defers the portion of systems revenue attributable to the fair value of non-standard warranty. Revenue for non-standard warranty is recognized ratably over the applicable warranty period. Costs for non-standard warranty are expensed as incurred. Factors that affect the Company's warranty liability include the number of installed units, historical and anticipated product failure rates, material usage and service labor costs. The Company periodically assesses the adequacy of its recorded liability and adjusts the amount as necessary.

Changes in the Company's product warranty liability are as follows:

	Nine months ended September 30,	
	2007	2006
(in thousands)		
Balance at December 31	\$ 6,472	\$ 7,166
Warranties issued during the period	5,467	7,284
Settlements made during the period	(4,610)	(4,637)
Changes in liability for pre-existing warranties during the period	(558)	(2,406)
Balance at September 30	\$ 6,771	\$ 7,407
Amount classified as current	\$ 4,989	\$ 6,569
Amount classified as long-term	1,782	838
Balance at September 30	\$ 6,771	\$ 7,407

Note 8. Convertible Subordinated Debt

In January 2002, the Company completed an offering of \$125 million of 4.25% Convertible Subordinated Notes due January 15, 2007 (the "Old Notes").

On May 2, 2006, the Company entered into an exchange and purchase agreement pursuant to which the holder of an aggregate of approximately \$50.8 million of the Old Notes agreed to exchange its Old Notes for \$50.8 million in aggregate principal amount of the Company's newly issued 4.25% Convertible Senior Subordinated Notes due January 15, 2009 (the "New Notes"), plus accrued and unpaid interest on the Old Notes through but excluding May 2, 2006, the closing date of the exchange. In addition, the Company issued an additional \$24.2 million of New Notes, resulting in an aggregate of \$75 million of New Notes outstanding.

The New Notes are unsecured senior indebtedness of the Company and bear interest at the rate of 4.25% per annum. Interest is payable on January 15 and July 15 of each year, commencing July 15, 2006. The New Notes mature on January 15, 2009. At maturity, the Company is required to repay the outstanding principal of the New Notes, plus a maturity premium of 11.125% of such principal, resulting in an effective annual yield to maturity of approximately 8.0%.

The principal amount of the New Notes, together with the accreted portion of the maturity premium, which increases over the term of the notes, as of the conversion date, are convertible at the option of the holder, at any time on or prior to maturity, into shares of the Company's common stock at a conversion price equal to \$20.00 per share, which also was the conversion price of the Old Notes, subject to adjustment in certain circumstances.

In accordance with the Financial Accounting Standards Board's (FASB) Emerging Issues Task Force Issue No. 96-19, "Debtor's Accounting for a Modification or Exchange of Debt Instruments," the Company considered the terms of the New Notes to be "substantially different" from the terms of the Old Notes. As such, the Company wrote off approximately \$0.2 million of debt issuance costs related to the Old Notes to interest expense during the quarter ended June 30, 2006. In addition, debt issuance costs of approximately \$0.2 million related to the New Notes are being amortized to interest expense over the term of the New Notes.

On January 15, 2007, the Company paid \$74.2 million to redeem the remaining Old Notes.

Note 9. Income Taxes

In June 2006, the FASB issued Financial Interpretation No. 48, "Accounting for Uncertainty in Income Taxes" (FIN 48), which clarifies the accounting for uncertainty in income taxes recognized in a company's financial statements in accordance with FASB Statement No. 109, "Accounting for Income Taxes." The interpretation prescribes a recognition threshold and measurement attribute criteria for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. The interpretation also provides guidance on derecognition, classification, interest and penalties, accounting in interim periods, disclosure and transition.

The Company and its subsidiaries file income tax returns in the U.S. federal jurisdiction, and various states and foreign jurisdictions. The Company and most foreign subsidiaries are subject to income tax examinations by tax authorities for all years dating back to 2001. The Company's policy is to recognize interest related to unrecognized tax benefits as interest expense and penalties as operating expenses. Accrued interest and penalties are insignificant at September 30, 2007. The Company believes that it has appropriate support for the income tax positions taken and to be taken on its tax returns and that its accruals for tax liabilities are adequate for all open years based on an assessment of many factors including past experience and interpretations of tax law applied to the facts of each matter.

During September of 2007, the Company made the determination that certain reserves relating to a previous tax year were no longer required due to the expiration of a statute of limitations for the specific amount reserved. As a result, the company recorded an adjustment to reduce income tax expense by \$1.2 million during the three month period ended September 30, 2007.

The Company adopted the provisions of FIN 48 on January 1, 2007. The adoption of FIN 48 did not impact the consolidated financial condition, results of operations or cash flows. At January 1, 2007, the Company had unrecognized tax benefits of approximately \$5.1 million, of which approximately \$2.8 million reduced the Company's deferred tax assets and the offsetting valuation allowance and \$2.3 million was recorded in other long-term liabilities. As stated above, during the three month period ended September 30, 2007, the Company reduced income tax expense and amounts recorded as long-term liabilities by \$1.2 million. The Company does not anticipate any other significant change in these unrecognized tax benefits in 2007. To the extent these unrecognized tax benefits are ultimately recognized, they will impact the effective tax rate in a future period.

At December 31, 2006, the Company had \$108.5 million of deferred tax assets relating to net operating loss carryforwards, tax credit carryforwards and other temporary differences (principally in the United States, Europe, and Asia), which are available to reduce income taxes in future years. SFAS No. 109 "Accounting for Income Taxes" requires that a valuation allowance be established when it is "more likely than not" that all or a portion of deferred tax assets will not be realized. A review of all available positive and negative evidence needs to be considered, including a company's performance, the market environment in which the company operates, length of carryback and carryforward periods, existing sales backlog, and projections of future operating results. Where there are cumulative losses in recent years, SFAS No. 109 creates a strong presumption that a valuation allowance is needed. This presumption can be overcome in very limited circumstances.

In 2003, the Company entered a three-year cumulative loss position and revised its projections of the amount and timing of profitability in future periods. As a result, the Company increased its valuation allowance to increase the carrying value of deferred tax assets to zero. While the Company is no longer in a cumulative loss position in the United States tax jurisdiction, the Company continues to maintain a full valuation allowance for deferred tax assets until sustainable future levels of profitability are evident. However, going forward, should the Company's return to profitability provide sufficient evidence, in accordance with the provisions of SFAS No. 109, to support the ultimate realization of income tax benefits attributable to net operating losses, tax credit carryforwards, and other deductible temporary differences, a reduction in the valuation allowance may be recorded and the carrying value of deferred tax assets may be restored, resulting in a non-cash credit to earnings.

Note 10. Significant Customers

In the three months ended September 30, 2007, two customers accounted for approximately 16% and 10% of revenue, respectively. In the nine months ended September 30, 2007, two customers accounted for approximately 12% and 10% of revenue, respectively. In the three months ended September 30, 2006, one customer accounted for approximately 12% and three other customers each accounted for approximately 10% of revenue, respectively. In the nine months ended September 30, 2006, one customer accounted for approximately 11% of revenue. For the three and nine months ended September 30, 2007 and 2006, no other customer accounted for more than 10% of revenue.

Note 11. Contingencies**Litigation**

From time to time, the Company may be subject to legal proceedings and claims arising from the conduct of its business including litigation related to intellectual property matters, customer contract matters, employment claims and environmental matters. At September 30, 2007, the Company is not a party to any material legal proceedings.

Indemnifications

The Company's system sales agreements typically include provisions under which the Company agrees to take certain actions, provide certain remedies and defend its customers against third-party claims of intellectual property infringement under specified conditions and to indemnify customers against any damage and costs awarded in connection with such claims. The Company has not incurred any material costs as a result of such indemnifications and has not accrued any liabilities related to such obligations in the accompanying consolidated financial statements.

Note 12. Subsequent Events

In October of 2007 the Company implemented a reduction in force that resulted in a charge to expense of approximately \$2.9 million related to separation and outplacement costs, most of which will be recorded in the fourth quarter of 2007 and the remainder in the first quarter of 2008.

Note 13. Recent Accounting Pronouncements**FIN 48**

In June 2006, the FASB issued FASB Interpretation No. 48, *Accounting for Uncertainty in Income Taxes—an interpretation of FASB Statement No. 109* (FIN 48). FIN 48 clarifies the accounting for uncertainty in income taxes recognized in an enterprise's financial statements in accordance with SFAS 109, *Accounting for Income Taxes*. FIN 48 prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. FIN 48 also provides guidance on derecognition, classification, interest and penalties, accounting in interim periods, disclosure, and transition. FIN 48 is effective for fiscal years beginning after December 15, 2006. The adoption of FIN 48 did not have a material impact on the Company's financial condition, results of operations or liquidity.

SFAS 157

In September 2006, the FASB issued SFAS No. 157, *Fair Value Measurements*, which defines fair value, establishes a framework for measuring fair value, and expands disclosures about fair value measurements. Where applicable, this statement simplifies and codifies related guidance within generally accepted accounting principles (GAAP). This statement is effective for financial statements

issued for fiscal years beginning after November 15, 2007, and interim periods within those fiscal years. The Company is currently analyzing the expected impact from adopting this statement but currently does not believe its adoption will have a significant impact on the financial position or results of operations of the Company.

SFAS 158

In September 2006, the FASB issued SFAS No. 158, *Employers' Accounting for Defined Benefit Pension and Other Postretirement Plans—An Amendment of FASB Statements No. 87, 88, 106, and 132R* (SFAS 158). SFAS 158 requires sponsoring employers to recognize the funded status of pension and other postretirement benefit plans on their balance sheets and to recognize changes in the funded status in the year the changes occur. It also requires the measurement date of plan assets and obligations to occur at the end of the employer's fiscal year. SFAS 158 is effective for the Company at the end of fiscal 2006, except for the change in measurement date, which is effective for the Company in fiscal 2007. The adoption of SFAS 158 did not impact the Company's financial condition, results of operations or liquidity and is not expected to have a material impact in future periods.

SFAS 159

In February 2007, the FASB issued SFAS No. 159, *The Fair Value Option for Financial Assets and Financial Liabilities Including an amendment of FASB Statement No. 115*. This statement permits entities to choose to measure many financial instruments and certain other items at fair value that are not currently required to be measured at fair value. The decision to measure items at fair value can be made on an instrument-by-instrument basis, but once the decision is made, it is permanent. This statement will be effective for the Company's fiscal year 2009. The Company is in the process of evaluating the impact of this statement on its financial statements.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Certain statements in "Management's Discussion and Analysis of Financial Condition and Results of Operations" are forward-looking statements that involve risks and uncertainties. Words such as may, will, should, would, anticipates, expects, intends, plans, believes, seeks, estimates and similar expressions identify such forward-looking statements. The forward-looking statements contained herein are based on current expectations and entail various risks and uncertainties that could cause actual results to differ materially from those expressed in such forward-looking statements. Factors that might cause such a difference include, among other things, those set forth or referred to under "Liquidity and Capital Resources" and "Risk Factors" and those appearing elsewhere in this Form 10-Q. Readers are cautioned not to place undue reliance on these forward-looking statements, which reflect management's analysis only as of the date hereof. We assume no obligation to update these forward-looking statements to reflect actual results or changes in factors or assumptions affecting forward-looking statements.

Overview

Axcelis Technologies, Inc. ("Axcelis," "we," "us," or "our"), is a producer of ion implantation and dry strip equipment used in the fabrication of semiconductors in the United States, Europe and Asia. In addition, we provide extensive aftermarket service and support, including spare parts, equipment upgrades, and maintenance services. We own 50% of the equity of a joint venture known as SEN Corporation, an SHI and Axcelis Company, or "SEN," with Sumitomo Heavy Industries, Ltd. in Japan. SEN licenses technology from us relating to the manufacture of specified ion implantation products and has exclusive rights to manufacture and sell these products in the territory of Japan. SEN is the leading producer of ion implantation equipment in Japan.

The semiconductor capital equipment industry has in the past been subject to significant cyclical swings in capital spending by semiconductor manufacturers. Capital spending is influenced by demand for semiconductors and the products using them, the utilization rate and capacity of existing semiconductor manufacturing facilities and changes in semiconductor technology, all of which are outside of our control. As a result, our revenues and gross margins, to the extent affected by increases or decreases in volume, could fluctuate from year to year and period to period. Our gross margins are also affected by the introduction of new products. We typically become more efficient in manufacturing products as they mature. We expect gross margins to continue to be under substantial pressure in the fourth quarter of 2007 due to the low volume of system sales. Our expense base is largely fixed and does not vary significantly with changes in volume. Therefore, we could experience fluctuations in operating results and cash flows depending on our revenues as driven by the level of capital expenditures by semiconductor manufacturers.

The sizable expense of building, upgrading or expanding a semiconductor fabrication facility is increasingly causing semiconductor companies to contract with foundries to manufacture their semiconductors. In addition, consolidation and joint venturing within the semiconductor manufacturing industry is increasing. We expect these trends to continue to reduce the number of our potential customers. This growing concentration of Axcelis' customers may increase competitive pricing as higher percentages of our total revenues are tied to the buying decisions of a particular customer or a small number of customers.

Beginning in 2005, most customers shifted from multi-wafer tools to single wafer tools for high current applications. Because we did not have a single wafer high current product, we have experienced a significant loss of market share which we have yet to regain. We introduced our single wafer Optima HD product (for high current applications) in 2006. Through October 31, 2007, we have shipped eleven

Optima HD systems but have not recognized revenue on these shipments. We expect to begin recognizing revenue from the Optima HD in the first quarter of 2008.

Operating results for the current periods presented are not necessarily indicative of the results that may be expected for subsequent interim periods or for the year as a whole.

Critical Accounting Estimates

Management's discussion and analysis of our financial condition and results of operations are based upon Axcelis' consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires management to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. On an on-going basis, we evaluate our estimates, including those related to revenue recognition, income taxes, intangibles, accounts receivable, inventory and warranty obligations. Management bases its estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

The critical accounting estimates are those that we believe are the more significant judgments and estimates used in the preparation of our condensed consolidated financial statements. As of September 30, 2007 there have been no material changes to the critical accounting estimates as described in our Management's Discussion and Analysis of Financial Condition and Results of Operations and in the Notes to the consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2006.

Beginning with the periods ended September 30, 2007 the Company has modified the classification of the various components of revenue and cost of revenue. Amounts presented for prior years have been reclassified to permit comparison. The modification did not affect total revenue or reported results of operations. See Note 1 to the accompanying consolidated financial statements. The Company has made no changes to its overall revenue recognition policy.

Results of Operations

The following table sets forth our results of operations as a percentage of revenue for the periods indicated:

	Three months ended September 30,		Nine months ended September 30,	
	2007	2006	2007	2006
Revenue				
Product	85.5%	87.9%	84.9%	85.7%
Service	13.2	10.3	13.6	12.3
Royalties, primarily from SEN	1.3	1.8	1.5	2.0
	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
Cost of revenue				
Product	57.3	49.2	53.2	50.2
Service	9.0	7.4	8.4	8.4
	<u>66.3</u>	<u>56.6</u>	<u>61.6</u>	<u>58.6</u>
Gross profit	33.7	43.4	38.4	41.4
Other costs and expenses				
Research and development	17.0	14.3	17.2	16.0
Selling	11.5	9.6	12.2	10.0
General and administrative	9.6	9.8	9.8	10.1
Impairment of goodwill	4.3	—	1.5	—
Amortization of intangible assets	0.6	0.5	0.6	0.6
Restructuring	—	—	—	—
	<u>43.1</u>	<u>34.2</u>	<u>41.3</u>	<u>36.7</u>
Income (loss) from operations	(9.4)	9.2	(2.9)	4.7
Other income (expense)				
Equity income of SEN	1.7	1.9	2.6	3.2
Interest income	1.1	1.8	1.2	1.7
Interest expense	(1.5)	(2.1)	(1.5)	(2.0)
Other-net	0.2	0.1	0.2	0.3
	<u>1.5</u>	<u>1.7</u>	<u>2.5</u>	<u>3.2</u>
Income (loss) before income taxes	(7.9)	10.9	(0.4)	7.9
Income taxes (credits)	(0.3)	0.7	(0.2)	0.5
Net income (loss)	<u>(7.6)%</u>	<u>10.2%</u>	<u>(0.2)%</u>	<u>7.4%</u>

Revenue

Product

Product revenue, which includes systems sales, sales of spare parts and product upgrades was \$92.0 million, or 85.5% of revenue for the three months ended September 30, 2007, compared with \$107.9 million, or 87.9% of revenue for the three months ended September 30, 2006. Product revenue was \$267.5 million, or 84.9% of revenue for the nine months ended September 30, 2007, compared with \$290.1 million, or 85.7% of revenue for the nine months ended September 30, 2006. Product revenue levels in 2006 and 2007 have been impacted by the Company's loss of high current market share, as discussed above. The decline in product revenue in both the three and nine month periods ended September 30, 2007 is attributable to a weakening semiconductor market and a related decrease in capital spending by semiconductor manufacturers. In addition a decrease in capacity expansion at 200mm manufacturing facilities (a portion of which relates to the overall decline in the semiconductor capital equipment market) has decreased revenue from system sales by \$9.2 million and \$30.2 million for the three and nine month periods ended September 30, 2007, respectively.

A portion of the Company's revenue from system sales is deferred until installation and other services related to future deliverables are performed. The total amount of deferred revenue at September 30, 2007 and 2006 was \$40.3 million and \$49.9 million, respectively.

Service

Service revenue, which includes maintenance and service contracts and service hours provided by on-site service personnel, was \$14.2 million, or 13.2% of revenue for the three months ended September 30, 2007, compared with \$12.7 million, or 10.3% of revenue, for the three months ended September 30, 2006. Service revenue was \$42.8 million, or 13.6% of revenue for the nine months ended September 30, 2007, compared with \$41.6 million, or 12.3% of revenue for the nine months ended September 30, 2006. Although service revenue should increase with the expansion of the installed base of systems, it can fluctuate period to period based on capacity utilization at customers' manufacturing facilities which affects the need for equipment service.

Royalties

Royalty revenue was \$1.4 million, or 1.3% of revenue for the three months ended September 30, 2007, compared with \$2.2 million, or 1.8% of revenue for the three months ended September 30, 2006. Royalty revenue for the nine months ended September 30, 2007 was \$4.9 million, or 1.5% of revenue, compared to \$6.7 million, or 2.0% of revenue for the nine months ended September 30, 2006. Royalties are primarily earned under the terms of our license agreement with SEN. Revenue changes are mainly attributable to fluctuations in SEN sales volume based on demand for equipment by Japanese semiconductor manufacturers and the timing of shipments in Japan.

Ion Implant

Revenue from sales of ion implantation products and service accounted for \$80.5 million, or 74.8% of total revenue in the three months ended September 30, 2007, compared with \$89.1 million, or 72.5%, of total revenue in the three months ended September 30, 2006. Revenue from sales of ion implantation products and service accounted for \$232.5 million, or 73.8% of revenue in the nine months ended September 30, 2007, compared with \$256.3million, or 75.7% of revenue in the nine months ended September 30, 2006. Annual revenues from the sale of ion implantation products and service typically average from 70% to 80% of total revenues.

Aftermarket

Aftermarket revenues which include sales of spare parts, product upgrades and service revenues were \$43.2 million and \$128.8 million for the three and nine month periods ended September 30, 2007, respectively, compared to \$42.1 million and \$133.0 million for the corresponding periods of the preceding year. Aftermarket revenue generally increases with expansion of the installed base of systems but can fluctuate period to period based on capacity utilization at customers' manufacturing facilities which affects the sale of spare parts and demand for equipment service.

Gross Profit

Product

Gross profit from product revenue was 33.1% for the three months ended September 30, 2007, compared to 44.0% for the three months ended September 30, 2006. The decrease in gross profit from product revenues is attributable to a decline in product revenue and the related under absorption of manufacturing overheads (approximately 3.2%), product mix (approximately 7.4%, principally related to revenue recognized on new products which have lower margins than mature products), and increased warranty and installation costs (approximately 2.5%), offset favorably by decreases in deferred revenue (approximately 2.5%). Revenue deferred at the time of shipment generally carries higher gross margins than that recognized at the time of shipment. Gross profit from product revenue was 37.3% for the nine months ended September 30, 2007, compared with 41.5% in the nine months ended September 30, 2006. The gross profit decrease for the nine months is attributable principally to product mix (approximately 2.0%), a decline in product revenues and the related under absorption of manufacturing overheads (approximately 3.4%), increased warranty and installation costs (approximately 1.5%) offset favorably by decreases in deferred revenue (approximately 3.1%).

Service

Gross profit from service revenue was 31.5% for the three months ended September 30, 2007, compared to 27.8% for the three months ended September 30, 2006. Gross profit from service revenue was 38.3% for the nine months ended September 30, 2007, compared to 32.0% for the nine months ended September 30, 2006. The increase in gross profit for both the three and nine month periods ended September 30, 2007, is attributable to increased service revenue over a relatively fixed service labor cost base.

Research and Development

Research and development expense was \$18.3 million in the three months ended September 30, 2007, an increase of \$0.7 million, or 4.0%, compared with \$17.6 million in the three months ended September 30, 2006. The increase was driven primarily by increased development material costs (\$1.5 million), increased development asset amortization and depreciation costs (\$0.6 million) partially offset by lower variable compensation costs (\$1.1 million) and lower professional fee expenses (\$0.3 million). Research and development expense was \$54.1 million in the nine months ended September 30, 2007, an increase of \$0.1 million, or 0.2%, compared with \$54.0 million in the nine months ended September 30, 2006. The increase was driven primarily by higher development asset amortization and depreciation (\$1.5 million), higher development material costs (\$0.5 million) partially offset by lower variable compensation and payroll costs (\$1.7 million) and lower professional fee expenses (\$0.6 million). We expect research and development spending to remain at this level throughout 2007 as the Company continues to invest heavily in new product development.

Research and development expense was attributable to the following activities through the third quarter of 2007: 56% for new product development, 29% for improvement of existing products, and 15% for product testing.

Selling

Selling expense was \$12.4 million in the three months ended September 30, 2007, an increase of \$0.7 million, or 6.0%, compared with \$11.7 million in the three months ended September 30, 2006. The increase was driven primarily by increased payroll costs (\$0.7 million), increased costs related to evaluation system support for our Optima platform (\$0.3 million) and increased stock compensation costs (\$0.3 million), offset by lower commissions expense (\$0.5 million). Selling expense was \$38.5 million in the nine months ended September 30, 2007, an increase of \$4.6 million, or 13.6%, compared with \$33.9 million in the nine months ended September 30, 2006. The increase was driven primarily by increased costs related to evaluation system support for our Optima platform (\$2.1 million), increased payroll costs (\$2.1 million), increased separation costs (\$0.3 million), increased stock compensation costs (\$0.6 million) and increased outside services (\$0.4 million) offset by lower commissions expense (\$1.1 million).

General and Administrative

General and administrative expense was \$10.4 million in the three months ended September 30, 2007, a decrease of \$1.6 million, or 13.3%, compared with \$12.0 million in the three months ended September 30, 2006. The decrease was driven primarily by lower variable compensation costs (\$2.0 million), offset by increased professional fee expenses (\$0.4 million). General and administrative expense was \$31.0 million in the nine months ended September 30, 2007, a decrease of \$3.3 million, or 9.6%, compared with \$34.3 million in the nine months ended September 30, 2006. The decrease was driven primarily by lower variable compensation costs (\$3.4 million), lower depreciation costs (\$0.7 million) and lower stock compensation costs (\$0.6 million), offset by increased professional fee expenses (\$1.1 million) and increased payroll related costs (\$0.5 million).

Impairment of Goodwill

During the three month period ended September 30, 2007, the Company's management elected to discontinue future development of the RTP and curing product lines. Based on that business decision, the forecast of future cash flows was revised and, as such, in September 2007 a goodwill impairment loss of \$4.7 million was recorded. The fair value of these product lines was estimated using the expected present value of future cash flows.

Other Income (Expense)

Equity income attributable to SEN was \$1.8 million and \$8.3 million for the three and nine months ended September 30, 2007, respectively. This is compared to equity income attributable to SEN of \$2.4 million and \$10.7 million for the three and nine months ended September 30, 2006, respectively. Fluctuations in equity income from SEN reflect changes in its sales volume and net income resulting from demand changes in the Japanese semiconductor market, and the timing of shipments in Japan.

Interest income of \$1.2 million and \$3.8 million for the three and nine months ended September 30, 2007, respectively, primarily relates to interest earned on cash, cash equivalents and short-term investments. Interest income decreased by \$1.1 million and \$2.0 million from the three and nine months ended September 30, 2006, respectively, due primarily to lower average cash balances, resulting from the repayment of \$74.2 million of long-term debt in January 2007.

Interest expense of \$1.6 million and \$4.8 million in the three and nine months ended September 30, 2007, respectively, a decrease of \$1.0 million and \$1.9 million from the three and nine months ended September 30, 2006, respectively, relates primarily to outstanding convertible senior subordinated notes which have an effective yield to maturity of 8%. The decrease in interest expense in 2007 is a direct result of the repayment of \$74.2 million of long-term debt in January 2007.

Income Taxes

Income taxes (credits) were \$(0.3) million and \$(0.5) million in the three and nine months ended September 30, 2007. During the three month period ended September 30, 2007, the Company determined that certain tax reserves relating to a previous tax year were no longer required. As a result, the Company recorded an adjustment at September 30, 2007 to reduce income tax expense by \$1.2 million. In addition, during the nine month period ended September 30, 2007, we recorded tax benefits related to the realization of foreign tax credits, which will allow the Company to recover approximately \$1.2 million in tax refunds of amounts paid for alternative minimum taxes remitted for tax years 2004 through 2007.

In 2003, the Company entered a three-year cumulative loss position and revised its projections of the amount and timing of profitability in future periods. As a result, the Company increased its valuation allowance to increase the carrying value of deferred tax assets to zero. While the Company is no longer in a cumulative loss position in the United States tax jurisdiction, the Company continues to maintain a full valuation allowance for deferred tax assets until sustainable future levels of profitability are evident. However, going forward, should the Company's return to profitability provide sufficient evidence, in accordance with the provisions of SFAS No. 109, to support the ultimate realization of income tax benefits attributable to net operating losses, tax credit carryforwards, and other deductible temporary differences, a reduction in the valuation allowance may be recorded and the carrying value of deferred tax assets may be restored, resulting in a non-cash credit to earnings.

The Company incurs income tax expense relating principally to operating results of foreign entities in jurisdictions, principally in Asia, where we earn taxable income. We have significant net operating loss carryforwards in the United States and certain foreign jurisdictions, principally Europe, and, as a result, we do not currently pay significant income taxes in those jurisdictions and we do not recognize the tax benefit for such losses as discussed in Note 9 to the consolidated financial statements. Accordingly, our effective income tax rate is not meaningful.

Liquidity and Capital Resources

Cash, cash equivalents, and marketable securities at September 30, 2007 were \$83.2 million, compared with \$203.7 million at December 31, 2006. The \$120.5 million decrease in cash, cash equivalents, and marketable securities was mainly attributable to the repayment of \$74.2 million for the Company's 4.25% Convertible Subordinated Notes, cash used by operations (\$34.5 million) and capital expenditures (\$8.4 million). Cash used in operations was driven primarily by an increase in accounts receivable (\$1.9 million) caused by the timing of systems shipments, increased inventories (\$12.9 million) primarily to support the Optima product line, a decrease in accounts payable and other current liabilities (\$34.3 million) offset by dividend payments received from SEN (\$12.4 million). We expect to generate positive cash flow during the fourth quarter of the year ending December 31, 2007.

Capital expenditures were \$8.4 million and \$3.9 million for the nine months ended September 30, 2007 and 2006, respectively. We have no significant capital projects planned for 2007 and total capital expenditures for 2007 are projected to be approximately \$10.0 million. Future capital expenditures beyond 2007 will depend on a number of factors, including the timing and rate of expansion of our business.

We have net operating loss and tax credit carryforwards the tax effect of which aggregate \$75.8 million at December 31, 2006. These carryforwards, which expire principally between 2018 and 2025, are available to reduce future income tax liabilities in the United States and certain foreign jurisdictions.

In 2006, Axcelis and Sumitomo Heavy Industries (SHI) agreed upon an annual dividend relating to SEN's fiscal year ended March 31, 2006. The two shareholders instructed SEN to dividend 40% of

SEN's net earnings for that year. On January 31, 2007, Axcelis received a payment of approximately \$5.7 million representing its 50% share of the dividend. In 2007 the Company entered into an agreement with SHI pursuant to which SEN will be instructed to dividend 40% of its net income annually. On July 31, 2007 the Company received a dividend of \$6.7 million for SEN's fiscal year ended March 31, 2007.

As discussed in Note 8 to the consolidated financial statements, on May 2, 2006, we entered into an exchange and purchase agreement pursuant to which the holder of an aggregate of approximately \$50.8 million of our existing 4.25% Convertible Subordinated Notes due January 15, 2007 (the "Old Notes"), agreed to exchange its Old Notes for \$50.8 million in aggregate principal amount of our newly issued 4.25% Convertible Senior Subordinated Notes due January 15, 2009 (the "New Notes"), plus accrued and unpaid interest on the Old Notes through but excluding May 2, 2006, the closing date of the exchange. At maturity, the Company is required to repay the outstanding principal of the New Notes, plus a maturity premium of 11.125% of such principal, resulting in an effective annual yield to maturity of approximately 8.0%. In addition, we issued an additional \$24.2 million of New Notes, resulting in an aggregate of \$75 million of New Notes outstanding. We repaid the remaining \$74.2 million of outstanding Old Notes in January 2007. Depending on cash flows for the remainder of 2007 and through 2008, the Company may look for alternatives to refinance the New Notes when they become payable in January 2009.

We have outstanding standby letters of credit, bank guarantees and surety bonds in the amount of \$22.2 million to support certain operating lease obligations, workers' compensation insurance, and certain value added tax claims in Europe. At September 30, 2007, \$16.7 million of cash was pledged as collateral for certain outstanding standby letters of credit and bank guarantees, and is reflected as restricted cash on the consolidated balance sheet. We also have foreign exchange contracts used to hedge amounts receivable from SEN (\$1.8 million at September 30, 2007).

Axcelis' liquidity is affected by many factors. Some of these factors are based on normal operations of the business and others relate to the uncertainties of global economies and the semiconductor equipment industry. Although our cash requirements fluctuate based on the timing and extent of these factors, we believe that our existing cash and cash equivalents will be sufficient to satisfy our anticipated cash requirements.

Outlook

Our performance is directly related to semiconductor manufacturers' levels of capital expenditures to open new fabrication facilities and expand existing ones, our successful introduction of new products (such as the Optima HD), as well as operational improvements we have implemented over the past several years. The level of capital expenditures by these manufacturers depends upon the current and anticipated market demand for semiconductors and the products utilizing them, the available manufacturing capacity in manufacturers' fabrication facilities, and the ability of manufacturers to increase productivity in existing facilities without incurring additional capital expenditures.

On November 1, 2007, we announced that Axcelis' revenues for the fourth quarter of 2007 are forecast in the range of \$80 million to \$95 million. We expect results of operations will be a loss per share of approximately \$0.07 to \$0.13, of which \$0.02 is attributed to a restructuring of the business.

It is difficult to predict our customers' capital spending plans since they can change very quickly. At our current sales level, each sale, or failure to make a sale, could have a material effect on our results of operations in a particular quarter.

Item 3. Quantitative and Qualitative Disclosures about Market Risk.

As of September 30, 2007, there have been no material changes to the quantitative and qualitative information about market risk disclosed in Item 7A to our annual report on Form 10-K for the year ended December 31, 2006.

Item 4. Controls and Procedures.**Evaluation of Disclosure Controls and Procedures**

Our management, with the participation of our principal executive officer and principal financial officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rule 13a -15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) as of the end of the period covered by this quarterly report (the "Evaluation Date"). Based on this evaluation, our principal executive officer and principal financial officer concluded that, as of the Evaluation Date, these disclosure controls and procedures are effective.

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting (as defined in Rule 13a -15(f) under the Exchange Act) identified in connection with the evaluation of our internal control that occurred during our third quarter of 2007 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Item 1. Legal Proceedings.

We are not a party to any material legal proceedings.

Item 1A. Risk Factors.

As of September 30, 2007, there have been no material changes to the risk factors disclosed in Item 1A to our annual report on Form 10-K for the year ended December 31, 2006.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

None.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Submission of Matters to a Vote of Security Holders.

None.

Item 5. Other Information.

Compensatory Arrangements of Certain Officers

Amended and Restated Employment Agreement with Mary G. Puma. On November 6, 2007, the Company entered into an Amended and Restated Employment Agreement with Mary G. Puma, the Company's Chairman and Chief Executive Officer. This amendment and restatement accomplishes the following:

- Compliance with the new regulations under Section 409A of the U.S. Income Tax Code for the purpose of avoiding the potential separation pay under the Agreement from taxation as deferred compensation. This was done by (A) revising the definition of "Good Reason" (the circumstances under which Ms. Puma can voluntarily terminate employment and still receive the separation payment) to conform to the IRS's narrower "safe harbor" definition and (B) other minor changes regarding timing of payments.
- Fixing the term of the Agreement at one year, ending on the anniversary of the effective date. As with the prior agreement, the new agreement will automatically renew for one year terms if neither the Company nor Ms. Puma elect to terminate within a 60 day window period beginning 180 days prior to the next anniversary of the effective date.
- Reflecting Ms. Puma's current compensation.
- Maintaining the method of calculating separation pay from the prior agreement.
- Eliminating the Company's obligation on certain terminations of Ms. Puma's employment to maintain life, disability and health coverage post termination. In lieu of this provision, the Company will pay up to 18 months of COBRA premiums to maintain Ms. Puma's health coverage post termination.
- Updating Ms. Puma's position at the Company to her current position, but eliminating the obligation to elect her to the Board of Directors.

- Eliminating the duplicative non-compete provisions that existed in the prior agreement and Ms. Puma's Change of Control Agreement. The new Agreement simply cross-references her Change of Control Agreement.

A copy of the Amended and Restated Employment Agreement with Ms. Puma is filed with this Form 10-Q as Exhibit 10.3

2007 Form of Change of Control Agreement with Executive Officers. On November 6, 2007, the Company entered into new Change of Control Agreements with each of Mary G. Puma (principal executive officer), Stephen G. Bassett (principal financial officer) and Matthew P. Flynn, Kevin J. Brewer and Lynnette C. Fallon (each, a named executive officer). These new agreements supersede prior Change of Control Agreements, and modify the terms of the prior agreements only to comply with the new regulations under Section 409A of the U.S. Income Tax Code. This was done by (A) revising the definition of "Good Reason" (the circumstances under which the executive officer can voluntarily terminate employment and still receive the change of control separation payment) to conform to the IRS's narrower "safe harbor" definition and (B) other minor changes regarding timing of payments. A copy of the 2007 Form of Change of Control Agreement is filed with this Form 10-Q as Exhibit 10.4.

Item 6. Exhibits.

a) Exhibits are numbered in accordance with the Exhibit Table of Item 601 of Regulation S-K:

Exhibit No	Description
3.1	Amended and Restated Certificate of Incorporation of the Company. Incorporated by reference to Exhibit 3.1 of the Company's Registration Statement on Form S-1 (Registration No. 333-36330).
3.2	Bylaws of the Company, as amended as of August 8, 2007. Incorporated by reference to Exhibit 3.2 of the Company's Form 10-Q for the quarter ended June 30, 2007, filed with the Commission on August 9, 2007.
3.3	Certificate of Designation of Series A Participating Preferred Stock, filed with the Secretary of State of Delaware on July 5, 2000. Incorporated by reference to Exhibit 3.3 of the Company's Form 10-K for the year ended December 31, 2000, filed with the Commission on March 30, 2001.
4.1	Specimen Stock Certificate, Incorporated by reference to Exhibit 4.1 of the Company's Registration Statement on Form S-1 (Registration No. 333-36330).
4.2	Rights Agreement between the Company and EquiServe Trust Company, N.A. Incorporated by reference to Exhibit 4.1 of the Company's Registration Statement on Form S-1 (Registration No. 333-36330).
4.3	Indenture between the Company and U.S. Bank National Association, as trustee, including the form of note, dated as of May 2, 2006. Incorporated by reference to Exhibit 4.12 of the Company's Report on Form 8-K filed with the Commission on May 4, 2006.
10.1*	Executive Separation Agreement between the Company and Marc S. Levine dated as of August 22, 2007. Filed herewith.
10.2*	Executive Officer Cash Compensation at September 30, 2007. Filed herewith.
10.3*	Amended and Restated Employment Agreement between the Company and Mary G. Puma effective November 6, 2007. Filed herewith.
10.4*	Form of Change of Control Agreement, between the Company and each of its executive officers as approved by the Board of Directors on October 16, 2007. Filed herewith.
31.1	Certification of the Principal Executive Officer under Exchange Act Rule 13a-14(a)/15d-14(a) (Section 302 of the Sarbanes-Oxley Act), dated November 8, 2007. Filed herewith.
31.2	Certification of the Principal Financial Officer under Exchange Act Rule 13a-14(a)/15d-14(a) (Section 302 of the Sarbanes-Oxley Act), dated November 8, 2007. Filed herewith.
32.1	Certification of the Principal Executive Officer pursuant to Section 1350 of Chapter 63 of title 18 of the United States Code (Section 906 of the Sarbanes-Oxley Act), dated November 8, 2007. Filed herewith.
32.2	Certification of the Principal Financial Officer pursuant to Section 1350 of Chapter 63 of title 18 of the United States Code (Section 906 of the Sarbanes-Oxley Act), dated November 8, 2007. Filed herewith.

* Indicates a management contract or compensatory plan.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

AXCELIS TECHNOLOGIES, INC.

/S/ STEPHEN G. BASSETT

DATED: November 8, 2007

By: Stephen G. Bassett
Executive Vice President and Chief Financial Officer
Duly Authorized Officer and Principal Financial Officer

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AXCELIS TECHNOLOGIES, INC.

EXECUTIVE SEPARATION AGREEMENT

THIS EXECUTIVE SEPARATION AGREEMENT, dated as of August 22, 2007, is made by and between Axcelis Technologies, Inc. (hereinafter referred to as the "Company") and Marc S. Levine (hereinafter referred to as "Executive"). In consideration of the mutual covenants contained herein, the parties agree as follows:

1. **Termination Date.** Executive's employment with the Company will terminate on August 31, 2007 (the "Termination Date"). As described in Section 2, Executive will receive the separation pay and benefits under this Agreement. Prior to the Termination Date, the Executive shall cooperate with the reasonable requests of the Company to support the transition of the Executive's duties to other Company personnel.

2. **Termination Compensation.**

2.1. **Separation Pay.** Within 30 days of the Termination Date (or Executive's date of execution of this Agreement, whichever is later), the Company will pay Executive in a lump sum an amount equal to 36 weeks of Executive's base salary at the Termination Date, less legally required payroll tax deduction.

2.2. **Axcelis Time Management (ATM).** After the Termination Date, Executive will receive a lump sum amount for his accrued ATM balance, if any. Overdrawn ATM time will be deducted from Executive's final paycheck.

2.3. **COBRA Payments.** If Executive elects to continue health coverage under the Company's health plan in accordance with the continuation requirements of COBRA, the Company will pay for the cost of such coverage until the earlier of (i) the date Executive begins full-time employment or full-time self-employment; or (ii) the end of the ninth month after the Date of Termination.

2.4. **Benefits.** Attachment A sets forth detailed information on the impact of Executive's separation on Company-provided benefits.

2.5. **Transition Assistance.** During the period from the Date of Termination until the date 6 (six) months after the Date of Termination (the "Transition Period"), the following provisions will apply:

(a) *Laptop Computer.* The Company agrees to allow the Executive to retain the laptop computer used by him.

(b) *Email.* The Company agrees to allow Executive to maintain email on the Company's server until the earlier of the end of the Transition Period or the date on which Executive commences other employment.

(c) *Cell Phone.* The Company agrees to assign to the Executive the mobile phone owned by the Company and used by the Executive as of the Date of Termination and pay the Executive a lump sum amount to cover six months' of cell phone premiums at the Executive's plan level (but not more than \$99 per month).

(d) *Outplacement.* At the request of Executive, the Company will pay up to \$12,500 for an outplacement service for services rendered in assisting Executive in locating other employment, provided such payments are contingent upon Executive's cooperation with the outplacement service and upon active efforts by Executive to locate another position.

3. **Executive Acknowledgement of Compensation.** The Executive acknowledges that in exchange for entering into this Agreement the Executive has received good, sufficient and valuable consideration in excess of that to which the Executive would otherwise have been entitled in the absence of this

Agreement. The Executive acknowledges that the Executive has been paid in full for any and all wages, including accrued unused vacation pay. Unless otherwise provided for expressly in this Agreement, all other benefits have ceased as of the Termination Date.

4. **Effect of Breach on Compensation.** The Executive agrees that the compensation and benefits contained in this Agreement and which flow to the Executive from the Company are subject to termination, reduction or cancellation in the event that the Executive takes any action or engages in any conduct deemed by the Company to be in violation of this Agreement.

5. **Executive Obligations.**

5.1. *Return of Property.* The Executive shall return all papers, files, documents, computers, reference guides, equipment, keys, identification, credit cards, software, computer access codes, disks and institutional manuals, or other property belonging to the Company within one week after the Termination Date; provided the Executive shall return the laptop computer referenced in Section 2 above not later than the end of the Transition Period. The Executive shall not retain any copies, duplicates, reproductions or excerpts of any of the Company's property. The Executive may retain copies of all agreements between the Executive and the Company and other documents relating to his personal performance.

5.2. *Nondisclosure of Confidential Information.* During the course of the Executive's employment with the Company, the Executive has become acquainted with and/or developed confidential information belonging to the Company and its customers. The Executive agrees not to use or to disclose to any person or entity any confidential information of the Company or of any past or present customer of the Company, including but not limited to financial data or projections, customer lists, projects, economic information, systems, plans, methods, procedures, operations, techniques, know-how, trade secrets or merchandising or marketing strategies. In addition, Executive shall continue to be bound by the terms of Employee Invention Assignment, and Confidentiality Agreement, which the Executive executed in connection with his employment. That Agreement is affixed hereto and incorporated by reference as **Attachment B**.

5.3. *Nondisparagement.* Provided the Executive is not in breach of his obligations under this Agreement, the Company agrees not to disparage or make negative statements about the Executive. The Executive agrees not to disparage or make negative statements about the Company or any of its officers, directors, agents, employees, successors and assigns.

5.4. *Non-Compete and Non-Solicitation.* The Executive hereby agrees with the Company that for a period of 12 months following the Termination Date:

(a) The Executive shall not, without the prior written consent of the Chief Executive Officer of the Company, directly or indirectly, engage in, be employed by, act as a consultant or advisor to, be a director, officer, owner or partner of, or acquire an interest in, any business engaged in manufacturing implant, rapid thermal processing, photostabilization or dry strip semiconductor processing systems (a "competitive business"), nor directly or indirectly have any interest in, own, manage, operate, control, be connected with as a stockholder, lender, joint venturer, officer, employee, partner or consultant, or otherwise engage, invest or participate in any competitive business; provided, however, that nothing contained in this Section 5.4 shall prevent the Executive from investing or trading in publicly traded stocks, bonds, commodities or securities or in real estate or other forms of investment for Executive's own account and benefit (directly or indirectly);

(b) The Executive shall not actively solicit any employee of the Company or any of its subsidiaries or affiliates to leave the employment thereof; and the Executive shall not enter onto Company property without prior written consent from the Chief Executive Officer of the Company or other executive officer of the Company; and

(c) The Executive shall not induce or attempt to induce any customer, supplier, licensor, licensee or other individual, corporation or business organization having a business relationship with the Company or its subsidiaries or affiliates to cease doing business with the Company or its subsidiaries or affiliates or in any way interfere with the relationship between any such customer, supplier, licensor, licensee or other individual, corporation or business organization and the Company or its subsidiaries or affiliates. Solicitation of customers for the purposes of this obligation refers to existing and/or contemplated products as of the time of this Agreement.

(d) The applicable time periods set forth in this Section 5.4 shall be extended by the time of any (1) breach by the Executive of any terms of this Agreement, or (2) litigation involving the Executive and the Company in respect of any of the provisions of this Agreement (whether by the Executive seeking relief from the terms hereof or by the Company seeking to enforce the terms hereof or otherwise).

5.5. *Resignations from Corporate Office.* Not later than the Termination Date, the Executive will execute and deliver to the Company his resignation as a Senior Vice President of the Company and any subsidiaries of the Company, attached here to as **Attachment C**. Executive expressly acknowledges that the compensation payable to Executive under this Agreement is in full satisfaction of any compensation due to him in connection with his corporate positions described in this Section 5.5.

5.6. *SEN Corporation, an SHI and Axcelis Company.* Concurrently with the execution of this Agreement, the Executive will execute and deliver to the Company his resignation as a Director of SEN Corporation, an SHI and Axcelis SHI Company effective at the next Board meeting, in the form attached here to as **Attachment D**. Prior to the effective date of the resignation, Executive shall, at the Company's request and expense, continue to serve as a member of the Board of Directors of SEN. The Executive agrees to cooperate in all ways (including with respect to Board votes) with the Company's instructions relating to his membership on the SEN Board and resignation from such Board. Executive expressly acknowledges that the compensation payable to Executive under this Agreement is in full satisfaction of any compensation due to him in connection with his corporate positions described in this Section 5.6.

5.7. *Cooperation.* The Executive will cooperate fully with the Company in its defense of or other participation in any administrative, judicial or other proceeding arising from any charge, complaint or other action which has been or may be filed against the Company and with respect to which Executive has knowledge. The Executive agrees to be responsive to requests for information related to the smooth transition of a successor to his position.

6. **SEC Reporting and Applicability of the Company's Insider Trading Policy.**

6.1. *Rule 144.* For the purposes of Rule 144 promulgated by the Securities Exchange Commission, the Executive shall cease to be an "affiliate" of the Company on the Termination Date.

6.2. *Section 16 Reporting.* The Executive shall cease to be a reporting person under the Securities Exchange Act of 1934, as amended, as of the Termination Date, provided however, the Executive must file a Form 4 with the SEC to report any purchase, sale, or option exercise after the Termination Date if the transaction occurs within six months following a Form 4 transaction going the opposite way (e.g., sale vs. purchase) prior to the Termination Date.

7. **Insider Trading Policy.** Assuming the Executive does not acquire material non-public information after the Termination Date, beginning on the date two trading days after the Company's public announcement of its earnings for the fiscal quarter ending after the Termination Date, the Executive will no longer be subject to restrictions on trading arising under the Company's insider trading policy.

8. General Release and Covenant Not to Sue.

8.1. *Release.* In consideration of the Company's covenants in this Agreement, the Executive hereby releases and discharges the Company and its officers, directors, agents, employees, successors and assigns ("Released Parties") from any and all claims by the Executive arising before the signing of this Agreement, including all claims arising out of the Executive's employment with the Company or the termination thereof (except (1) those relating to performance of this Agreement and (2) the Company's obligations under the Indemnification Agreement between the Executive and the Company dated August 6, 2002 (the "Indemnification Agreement")) and claims arising under common law and claims arising under federal or state labor and employment laws and laws prohibiting discrimination on the basis of age, sex, race, national origin or disability. The laws referred to in the preceding sentence include Title VII of the Civil Rights Act of 1964, as amended; the Equal Pay Act of 1963, as amended; the Age Discrimination in Employment Act of 1967 (ADEA), as amended; the Fair Labor Standards Act of 1938, as amended; the Americans With Disabilities Act of 1990, as amended; the Rehabilitation Act of 1973, as amended; the Family and Medical Leave Act of 1993, as amended; Chapter 151B of the Massachusetts General Laws, Chapter 149 of the Massachusetts General Laws; the Massachusetts Civil Rights Act and the Massachusetts Equal Rights Law; the Worker Adjustment and Retraining Notification ("WARN") Act; Maryland Ann. Code Article 100 Sections 88-94, and Maryland Ann. Code Article 49B, Sections 1 *et seq*; or any other state or federal law, order, public policy or regulation affecting or relating to the rights and/or claims of employees. Nothing in this Agreement shall be construed to be a release of certain ADEA and Title VII rights that is not allowed by law, except that the Executive waives and shall not accept any damages from any such claims.

8.2. *Covenant Not to Sue.* The Executive represents and warrants that he has not filed any complaints, charges, or claims for relief against the Released Parties with any local, state or federal court or administrative agency. The Executive agrees and covenants not to sue or bring any claims or charges against the Released Parties with respect to any matters arising out of or relating to the Executive's employment with or separation from the Company, other than enforcement of the terms of this Agreement or the Indemnification Agreement. In the event that the Executive institutes any such action, that claim shall be dismissed upon presentation of this Agreement and he shall reimburse the Company for all legal fees and expenses incurred in defending such claim and obtaining its dismissal.

8.3. *No Implied Admission.* It is understood and agreed that this Agreement does not constitute any admission by the Company that any action taken with respect to the Executive was unlawful or wrongful, or that such action constituted a breach of contract or violated any federal or state law, policy, rule or regulation.

9. Compliance with Federal Older Workers Benefit Protection Act of 1990.

9.1. *Time To Consider Agreement.* The Executive acknowledges that he has been advised in writing to consult with an attorney and has had ample opportunity to consult with and review this Agreement with an attorney of his choice, and has been given a period of at least forty-five (45) days within which to consider whether to sign this Agreement. If the Executive has signed this Agreement prior to the end of this forty-five (45) day period, he represents that he has done so knowingly and voluntarily.

9.2. *Revocation Right.* It is agreed and understood that for a period of seven (7) days following the execution of this Agreement, which period shall end at 5:00 p.m. on the seventh day following the date of execution by the Executive, he may revoke this Agreement. This Agreement will not become effective until this revocation period has expired. This seven (7) day revocation period cannot be shortened by agreement of the parties or by any other means.

10. **Miscellaneous.**

10.1. *Availability of Equitable Remedies.* The Executive agrees and warrants that the covenants contained herein are reasonable, that valid consideration has been and will be received therefor and that the agreements set forth herein are the result of arms-length negotiations between the parties hereto. The Executive recognizes and acknowledges that the provisions of Section 5 are vitally important to the continuing welfare of the Company, and its subsidiaries and affiliates, and that money damages constitute a totally inadequate remedy for any violation thereof. Accordingly, in the event of any such violation by the Executive, the Company, and its subsidiaries and affiliates, in addition to any other remedies they may have, shall have the right to institute and maintain a proceeding to compel specific performance thereof or to obtain an injunction restraining any action by the Executive in violation of Section 5.

10.2. *Severability.* In the event that any provision of this Agreement is found by a court, arbitrator or other tribunal to be illegal, invalid or unenforceable, then such provision shall not be voided, but shall be enforced to the maximum extent permissible under applicable law, and the remainder of this Agreement shall remain in full force and effect.

10.3. *Entire Agreement.* This Agreement and its Exhibits constitutes the entire agreement between the parties about or relating to the Executive's termination of employment from the Company, or the Company's obligations to the Executive with respect to his termination and fully supersedes any and all prior agreements or understanding between the parties, other than the Indemnification Agreement.

10.4. *Binding Benefit.* This agreement shall be binding on the parties and upon their heirs, administrators, representatives, executors, successors and assigns and shall inure to their benefit and to that of their heirs, administrators, representatives, executors, successors and assigns.

10.5. *Amendments.* This Agreement may not be altered, amended or modified, except by a further written document signed by the Executive and the Company.

10.6. *Governing Law.* This Agreement shall be governed by the laws of the Commonwealth of Massachusetts, without regard to or application of choice-of-law rules or principles.

10.7. *Limitations on Recovery.* In the event that the Executive institutes legal proceedings to enforce this Agreement, he agrees that the sole remedy available shall be enforcement of the terms of this Agreement and/or a claim for damages resulting from the breach of this Agreement, but that under no circumstances shall the Executive be entitled to receive or collect any damages for claims that Executive has released under this Agreement.

Attachments A and B are omitted because the content of those attachments is post-termination benefits and obligations applicable to all U.S. employees of the Company.

LETTER OF RESIGNATION

August 22, 2007

To: The Board of Directors of Axcelis Technologies, Inc.
108 Cherry Hill Drive
Beverly, MA 01982

Dear Sirs:

Please accept tender of my resignation from the office of Senior Vice President, Product Development effective immediately.

Very truly yours,

/s/ MARC S. LEVINE

Marc S. Levine

LETTER OF RESIGNATION

August 22, 2007

To: The Board of SEN Corporation, an SHI and Axcelis Company

Dear Sirs:

Please accept tender of my resignation from the office of director of SEN Corporation, an SHI and Axcelis Company effective September 17, 2007.

Very truly yours,

/s/ MARC S. LEVINE

Marc S. Levine

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[Exhibit 10.1](#)

[AXCELIS TECHNOLOGIES, INC. EXECUTIVE SEPARATION AGREEMENT](#)

[Attachment C](#)

[LETTER OF RESIGNATION](#)

[LETTER OF RESIGNATION](#)

Axcelis Technologies, Inc.
Named Executive Officer Base Compensation at September 30, 2007

This Exhibit discloses the current understandings with respect to base compensation between Axcelis Technologies, Inc. (the "Company") and each of:

- the Company's principal executive officer (Mary G. Puma),
- the Company's principal financial officer (Stephen G. Bassett), and
- the three most highly compensated other executive officers serving as executive officers at December 31, 2006.

These executive officers are referred to herein as "named executive officers" or "NEOs."

Other than in the case of Mary G. Puma, the Company has not entered into any written agreements with its named executive officers addressing the amount of base salary due to the executive. The Company's Amended and Restated Employment Agreement with Ms. Puma is filed as Exhibit 10.3 to this Form 10-Q. The Company maintains that all executive officers, other than Ms. Puma, are employees at will and that the Company has no obligation to pay base salary, other than (A) amounts accrued for services rendered prior to termination of employment and (B) in circumstances where the Change of Control Agreements filed as Exhibit 10.4 to this Form 10-Q are applicable.

In the course of the employment relationship with each NEO, the Company communicates to the named executive officer the amount of base salary approved by the Compensation Committee of the Board of Directors, which compensation is subject to change in the discretion of the Compensation Committee of the Board of Directors. The following table sets forth the annual base salary as communicated to the named executive officers of the Company as in effect at September 30, 2007 (reflecting changes effective August 18, 2007):

Named Executive Officer	Title	Base Salary
Mary G. Puma	President and Chief Executive Officer	\$ 500,000
Stephen G. Bassett	Executive VP and Chief Financial Officer	\$ 300,000
Matthew Flynn	Senior VP, Global Customer Operations	\$ 350,000
Lynnette C. Fallon	Executive VP HR/Legal and General Counsel	\$ 305,000
Kevin Brewer	Senior VP, Manufacturing Operations	\$ 275,000

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[Exhibit 10.2](#)

[Axcelis Technologies, Inc. Named Executive Officer Base Compensation at September 30, 2007](#)

AMENDED AND RESTATED EMPLOYMENT AGREEMENT

The parties to this Amended and Restated Employment Agreement are AXCELIS TECHNOLOGIES, INC., a Delaware corporation (the "Company"), and MARY G. PUMA, an individual residing in the Commonwealth of Massachusetts (the "Executive"). The Company and the Executive are party to an Employment Agreement dated June 30, 2000 ("Original Agreement"). The parties desire to amend and restate the Original Agreement. This Amended and Restated Employment Agreement provides for the continued employment of the Executive upon the terms and conditions of set forth herein. The execution and delivery of this Agreement have been duly authorized by the Board of Directors of the Company (the "Board"). This Agreement shall become effective on November 6, 2007 (the "Effective Date").

NOW, THEREFORE, the Company and the Executive, each intending to be legally bound, hereby mutually covenant and agree as follows:

1. Employment and Term.

1.1. *Employment.* The Company hereby continues to employ the Executive as the President and Chief Executive Officer of the Company and the Executive hereby accepts such continued employment with the Company, for the Term set forth in Paragraph 1.2.

1.2. *Term.* The term of the Executive's employment under this Agreement (the "Term") shall commence on the Effective Date and end on the first anniversary of the Effective Date, subject to the extension of such Term as set forth in the immediately following sentence or its earlier termination as provided in Paragraph 7. Unless either the Company or the Executive provides written notice to the other, not sooner than 180 days nor later than 120 days prior to the scheduled expiration of the Term as then in effect, the Term shall be extended for an additional period of one year, and the preceding clause of this sentence shall again apply with respect to subsequent extensions of the Term.

2. *Duties.* During the period of employment as provided in Paragraph 1.2 hereof, the Executive shall serve as President and Chief Executive Officer of the Company. The Executive shall report to the Board of Directors and perform duties consistent with her positions. The Executive shall devote her best skill and efforts (reasonable sick leave and vacations excepted) to the performance of her duties under this Agreement. In addition, the Executive may devote reasonable periods required for (i) subject to the review and approval of the Board of Directors, serving as a director or member of a committee of any organization involving no conflict of interest with the interests of the Company or its subsidiaries; (ii) fulfilling speaking engagements (iii) engaging in charitable and community activities; (iv) participating in industry and trade organization activities; and (v) managing her personal investments; provided, that such activities do not materially interfere with the regular performance of her duties and responsibilities under this Agreement.

3. *Base Salary.* For services performed by the Executive for the Company pursuant to this Agreement during the period of employment as provided in Paragraph 1.2, the Company shall pay the Executive a base salary at the rate of at least \$500,000 per year, payable in accordance with the Company's regular payroll practices (but no less frequently than monthly). Any compensation which may be paid to the Executive under any additional compensation or incentive plan of the Company or which may be otherwise authorized from time to time by the Board (or an appropriate committee thereof) shall be in addition to the base salary to which the Executive shall be entitled under this Agreement.

4. *Salary Increases.* During the Term, the base salary of the Executive shall be reviewed no less frequently than annually by the Board to determine whether or not the same should be increased in light of the duties and responsibilities of the Executive and her performance thereof, and, if it is determined that an increase is merited, such increase shall be put into effect at the time determined by

the Board and the base salary of the Executive as so increased shall thereafter constitute the base salary of the Executive for purposes of Paragraph 3.

5. **Other Benefits.** In addition to the base salary to be paid to the Executive pursuant to Paragraph 3 hereof, the Executive shall also be entitled to the following:

5.1. *Participation in Plans.* The Executive shall be entitled to a bonus opportunity for each fiscal year based on the attainment of performance goals and objectives established by the Board; such amount shall be 100% of base salary at the rate in effect for such year if target level performance is achieved and such greater or lesser amount if actual performance exceeds or falls short of target performance goals and objectives as provided under the Company's bonus arrangements for senior executives. Any such bonus shall be vested as and when approved by the Board of Directors and vested bonuses shall be payable by the Company not later than the end of the fiscal year in which such bonus vests. The Executive shall also be eligible to participate in the various benefit plans maintained in force by the Company from time to time, including any qualified and nonqualified pension, supplemental pension, disability, medical, group life insurance, supplemental life insurance coverage, business travel insurance, sick leave, and other similar retirement and welfare benefit plans, programs and arrangements.

5.2. *Equity Grants.* The Board (or a committee appointed by the Board for such purposes) may hereafter make additional grants under the Company's 2000 Stock Plan, or any successor plan, as it determines appropriate in its discretion.

5.3. *Fringe Benefits.* In addition to the foregoing, the Executive shall be entitled to an office, fringe benefits and other similar benefits no less favorable than those available to other senior executives of the Company.

5.4. *Expense Reimbursement.* The Company shall reimburse the Executive, upon a proper accounting, for reasonable business expenses and disbursements incurred by her in the course of the performance of her duties under this Agreement.

5.5. *Vacation.* The Executive shall be entitled to vacation and paid time off during the initial and each successive year during the Term of this Agreement in accordance with the Company's policies applicable to senior executives, or such greater period as the Board shall approve, without reduction in salary or other benefits.

6. **Covenants of the Employee.** In order to induce the Company to enter into this Agreement, the Executive hereby agrees as follows:

6.1. *Confidentiality.* Except as may be required by law and for acts in the ordinary course of the Executive's performance of her duties for the Company and believed by the Executive in good faith to be in the best interests of the Company, the Executive shall keep confidential and shall not divulge to any other person or entity, during the Term or thereafter, any of the business secrets or other confidential information regarding the Company, or any of its subsidiaries or affiliates, which has not otherwise become public knowledge.

6.2. *Records.* All papers, books and records of every kind and description relating to the business and affairs of the Company, or any of its subsidiaries or affiliates, whether or not prepared by the Executive shall be the sole and exclusive property of the Company, and the Executive shall surrender them to the Company at any time upon request by the Company.

6.3. *Non-Competition.* The Executive acknowledges that she is bound by the non-competition provisions of the Change of Control Agreement between the Executive and the Company dated as of November 6, 2007 (such agreement and any similar successor agreement, referred to herein as the "Change of Control Agreement") and that those provisions apply to any termination of employment whether or not payments are due hereunder or under the Change of Control Agreement.

7. **Termination.** Unless earlier terminated in accordance with the following provisions of this Paragraph 7, the Company shall continue to employ the Executive and the Executive shall remain employed by the Company during the entire Term as set forth in Paragraph 1.2. Paragraph 8 hereof sets forth certain obligations of the Company in the event that the Executive's employment hereunder is terminated. Certain capitalized terms used in this Paragraph 7 and Paragraph 8 hereof are defined in Paragraph 7.3 below.

7.1. *Death or Disability.* Except to the extent otherwise expressly stated herein, including without limitation, as provided in Paragraph 8.1 with respect to certain post-Date of Termination payment obligations of the Company, this Agreement shall terminate immediately on the Date of Termination in the event of the Executive's death or in the event of Executive's disability. For purposes of this Agreement, "Disability" shall mean the absence of the Executive from the Executive's duties with the Company on a full-time basis for 180 consecutive business days as a result of incapacity due to mental or physical illness or injury which is determined to be total and permanent by a physician selected by the Company or its insurers and reasonably acceptable to the Executive or the Executive's legal representative. In the event of disability, until the Date of Termination the base salary payable to the Executive under Paragraph 3 hereof shall be reduced dollar-for-dollar by the amount of disability benefits, if any, paid to the Executive in accordance with any disability policy or program of the Company.

7.2. *Notification of Discharge by the Company or Resignation.* In accordance with the procedures hereinafter set forth, the Company may discharge the Executive from her employment hereunder with or without Cause and the Executive may resign from her employment hereunder for Good Reason or otherwise. Any discharge of the Executive by the Company or resignation by the Executive for Good Reason shall be communicated by a Notice of Termination to the Executive (in the case of discharge) or to the Company (in the case of the Executive's resignation) given in accordance with Paragraph 10 of this Agreement. For purposes of this Agreement, a "Notice of Termination" means a written notice which:

- (i) indicates the specific termination provision in this Agreement relied upon,
- (ii) sets forth in reasonable detail the facts and circumstances providing a basis for termination of the Executive's employment under the provision so indicated and
- (iii) if the Date of Termination is to be other than the date of receipt of such notice, specifies the termination date (which date shall in all events be within fifteen (15) days after the giving of such notice).

No purported termination of the Executive's employment for Cause shall be effective without a Notice of Termination to the Executive. The failure by the Executive to set forth in any Notice of Termination to the Company any facts or circumstances which contributes to a showing of Good Reason shall not waive any right of the Executive hereunder or preclude the Executive from asserting such fact or circumstances in enforcing the Executive's rights hereunder.

7.3. *Definitions.* For purposes of this Paragraph 7 and Paragraph 8 hereof, the following capitalized terms shall have the meanings set forth below:

7.3.1. *"Accrued Obligations"* shall mean, as of the Date of Termination, the sum of (A) the Executive's base salary under Paragraph 3 through the Date of Termination to the extent not theretofore paid, (B) the amount of any bonus, incentive compensation, deferred compensation and other cash compensation accrued by the Executive as of the Date of Termination to the extent not theretofore paid and (C) any vacation pay, expense reimbursements and other cash entitlements accrued by the Executive as of the Date of Termination to the extent not theretofore paid.

7.3.2. "*Cause*" shall mean (A) the willful and continued failure of the Executive to perform substantially the Executive's duties with the Company or one of its affiliates (other than any such failure resulting from disability), after a written demand for substantial performance is delivered to the Executive by the Board of Directors which specifically identifies the manner in which the Board believes that the Executive has not substantially performed the Executive's duties, or (B) the willful engaging by the Executive in illegal conduct or gross misconduct which is injurious to the Company. For purposes of this provision, no act or failure to act on the part of the Executive shall be considered "willful" unless it is done, or omitted to be done, by the Executive in bad faith or without reasonable belief that the Executive's action or omission was in the best interests of the Company. Any act or failure to act based upon authority given pursuant to a resolution duly adopted by the Board or based on the advice of a senior officer of the Company or counsel for the Company shall be conclusively presumed to be done, or omitted to be done, by the Executive in good faith and in the best interests of the Company. The cessation of employment of the Executive shall not be deemed to be for Cause unless and until there shall have been delivered to the Executive a copy of a resolution duly adopted by the affirmative vote of not less than two-thirds of the entire membership of the Board at a meeting of the Board called and held for such purpose (after reasonable notice is provided to the Executive and the Executive is given an opportunity, together with counsel, to be heard before the Board), finding that, in the good faith opinion of the Board, the Executive is guilty of the conduct described in subparagraph (A) or (B) above of this Paragraph 7.3.2, and specifying the particulars thereof in detail.

7.3.3. "*Date of Termination*" shall mean (A) in the event of a discharge of the Executive by the Company for Cause or a resignation by the Executive for Good Reason, the date the Executive (in the case of such discharge) or the Company (in the case of such resignation) receives a Notice of Termination, or any later permitted date specified in such Notice of Termination, as the case may be, (B) in the event of a discharge of the Executive without Cause or a resignation by the Executive without Good Reason, the date the Executive (in the case of discharge) or the Company (in the case of resignation) receives notice of such termination of employment, (C) in the event of the Executive's death, the date of the Executive's death, and (D) in the event of termination of the Executive's employment by reason of disability pursuant to Paragraph 7.1, the date the Executive receives written notice of such termination.

7.3.4. "*Good Reason*" shall mean, subject to the notice and cure requirements below, a voluntary termination by the Executive within one year following the initial existence of one or more of the following conditions, without the consent of the Executive:

- (a) Material diminution of base compensation;
- (b) Material diminution of the Executive's authority, duties or responsibilities;
- (c) Material change in the geographic location in which the Executive provides services; and
- (d) Any other action or inaction by the Company that constitutes a material breach of the terms of this Agreement.

The Executive must provide notice to the Company of the existence of the good reason condition not later than 90 days of its initial existence. The Company shall have a period of 60 days to cure the condition giving rise to such notice. In the event the Company cures or corrects the specific Good Reason condition within the time period specified above, Good Reason termination shall not be deemed to exist with respect to the specific condition set forth in the Notice of Termination.

7.3.5. "*Monthly Bonus Amount*" shall mean the quotient of (A) the "bonus percentage" (as hereinafter defined) times the Executive's annual base salary as in effect under Paragraph 3 on the Date of Termination, divided by (B) twelve (12). The term "bonus percentage" shall mean the percentage of the Executive's base salary that the Executive received as a bonus with respect to the

fiscal year immediately preceding the fiscal year in which the Date of Termination occurs, but in no event less than 25%.

8. Obligations of the Company Upon Termination.

8.1. *Discharge for Cause, Resignation Without Good Reason, Death or Disability.* During the Term of this Agreement, in the event of a discharge of the Executive for Cause or resignation by the Executive without Good Reason, or in the event this Agreement terminates pursuant to Paragraph 7.1 by reason of the death or disability of the Executive:

- (a) the Company shall pay all Accrued Obligations to the Executive, or to her beneficiaries, heirs or estate in the event of the Executive's death, in a lump sum in cash within thirty (30) days after the Date of Termination; and
- (b) the Executive, or her beneficiaries, heirs or estate in the event of the Executive's death, shall be entitled to receive all benefits accrued by her as of the Date of Termination under all qualified and nonqualified retirement, pension, profit sharing and similar plans of the Company in such manner and at such time as are provided under the terms of such plans and arrangements; and
- (c) except as otherwise provided in Paragraph 15 hereof, all other obligations of the Company under this Agreement shall cease forthwith.

8.2. *Discharge Without Cause or Resignation for Good Reason.* During the Term of this Agreement, if the Executive is discharged other than for (x) Cause (i.e., without Cause) or (y) disability, or if the Executive resigns with Good Reason:

- (a) the Company shall pay to the Executive in a lump sum in cash within thirty (30) days after the Date of Termination the aggregate of the following amounts:
 - i. all Accrued Obligations; and
 - ii. an amount equal to her monthly base salary at the highest rate in effect in the most recent year multiplied by 24; and
 - iii. an amount equal to the Monthly Bonus Amount multiplied by 24.
- (b) If Executive elects to continue health coverage under the Company's health plan in accordance with the continuation requirements of COBRA, the Company will pay for the cost of such coverage until the earlier of (i) the date Executive begins full-time employment or full-time self-employment; or (ii) the end of the eighteenth month after the Date of Termination, and
- (c) the Executive shall be entitled to receive all benefits accrued by her as of the Date of Termination under all qualified and nonqualified retirement, pension, profit sharing and similar plans of the Company in such manner and at such time as are provided under the terms of such plans; and
- (d) all stock options and other stock interests or stock-based rights awarded to the Executive by the Company on or before the Date of Termination shall become fully vested and nonforfeitable as of the Date of Termination and shall remain in effect and exercisable in accordance with the terms and conditions of their grant; and
- (e) except as otherwise provided in Paragraph 15 hereof, all other obligations of the Company under this Agreement shall cease forthwith.

8.3. *Payment Obligations Absolute.* The Company's obligation to make the payments and the arrangements provided for herein shall be absolute and unconditional, and shall not be affected by any circumstances, including, without limitation, any offset, counterclaim, recoupment, defense, or other right which the Company may have against the Executive or any other party. Each and every payment made hereunder by the Company shall be final, and the Company shall not seek to recover all or any part of such payment from the Executive or from whomsoever may be entitled thereto, for any reasons whatsoever.

8.4. *Section 409A.* Notwithstanding anything to the contrary in this Agreement, if the Executive is a "specified employee" within the meaning of Section 409A of the Internal Revenue Code of 1986, as amended (the "Code") and the final regulations and any guidance promulgated thereunder ("Section 409A") at the time of Executive's separation from service, and the severance payments and separation benefits payable to Executive, if any, pursuant to this Agreement is considered "nonqualified deferred compensation" as defined pursuant to Section 409A, such payments and benefits shall be made to Executive with the first payroll that is six months and one day following the Executive's Date of Termination.

8.5. *Contractual Rights to Benefits.* This Agreement establishes and vests in the Executive a contractual right to the benefits to which she is entitled hereunder. The Executive shall not be obligated to seek other employment in mitigation of the amounts payable or arrangements made under any provision of this Agreement, and the obtaining of any such other employment shall in no event effect any reduction of the Company's obligations to make the payments and arrangements required to be made under this Agreement.

9. **Binding Effect.** This Agreement shall be binding upon and inure to the benefit of the heirs and representatives of the Executive and the successors and assigns of the Company. The Company shall require any successor (whether direct or indirect, by purchase, merger, reorganization, consolidation, acquisition of property or stock, liquidation, or otherwise) to all or a majority of its assets, by agreement in form and substance reasonably satisfactory to the Executive, expressly to assume and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform this Agreement if no such succession had taken place. Regardless whether such agreement is executed, this Agreement shall be binding upon any successor of the Company in accordance with the operation of law and such successor shall be deemed the "Company" for purposes of this Agreement.

10. **Notices.** All notices, requests, demands and other communications hereunder shall be in writing and shall be deemed to have been duly given if delivered by hand or mailed within the continental United States by first class certified mail, return receipt requested, postage prepaid, addressed as follows:

to the Board or the Company, to:

Axcelis Technologies, Inc.
108 Cherry Hill Drive
Beverly, Massachusetts 01915

to the Executive, to:

Mary G. Puma
c/o Axcelis Technologies, Inc.
108 Cherry Hill Drive
Beverly, Massachusetts 01915

Addresses may be changed by written notice sent to the other party at the last recorded address of that party.

11. **No Assignment.** Except as expressly provided in Paragraph 9, this Agreement is not assignable by any party and no payment to be made hereunder shall be subject to anticipation, alienation, sale, transfer, assignment, pledge, encumbrance or other charge.

12. **Execution in Counterparts.** This Agreement will be executed by the parties hereto in two or more counterparts, each of which shall be deemed to be an original, but all such counterparts shall constitute one and the same instrument, and all signatures need not appear on any one counterpart.

13. **Jurisdiction and Governing Law.** Jurisdiction over disputes with regard to this Agreement shall be exclusively in the courts of the Commonwealth of Massachusetts, and this Agreement shall be construed and interpreted in accordance with and governed by the local laws of the Commonwealth of Massachusetts, other than the conflict of laws provisions of such laws.

14. **Severability.** If any provision of this Agreement shall be adjudged by any court of competent jurisdiction to be invalid or unenforceable for any reason, such judgment shall not affect, impair or invalidate the remainder of this Agreement.

15. **Prior Understandings.** This Agreement amends and restates in its entirety the Original Agreement as of the Effective Date and embodies the entire understanding of the parties hereto, and supersedes all other oral or written agreements or understandings between them regarding the subject matter hereof including the Original Agreement, but excluding the Change of Control Agreement and the Indemnification Agreement between the Executive and the Company dated May 3, 2000. In the event of a termination of Executive's employment following a Change of Control (as defined in such Change of Control Agreement), the Executive shall be entitled to receive the greater of the amounts and benefits under this Agreement or the Change of Control Agreement but the Executive shall not receive the aggregate of the amounts and benefits under both such agreements. If she is entitled to receive amounts and benefits under both the Change of Control Agreement and this Agreement, the amount and benefits payable, if any, under the Change of Control Agreement shall be deemed to have been paid first and, if the amounts and benefits due under this Agreement are greater than those actually paid under the Change of Control Agreement, such excess shall be paid under this Agreement. Nothing in this Agreement is intended as and shall not be read as a modification of the Indemnification Agreement and the Indemnification Agreement shall be and remain in full force and effect in accordance with its terms. No change, alteration or modification hereof may be made except in a writing, signed by each of the parties hereto. The headings in this Agreement are for convenience of reference only and shall not be construed as part of this Agreement or to limit or otherwise affect the meaning hereof.

IN WITNESS WHEREOF, the parties hereto have executed and delivered this Agreement as of the Effective Date.

AXCELIS TECHNOLOGIES, INC.

By: /s/ LYNNETTE C. FALLON

Name: Lynnette C. Fallon

Title: Executive Vice President HR/Legal and General Counsel

MARY G. PUMA

By: /s/ MARY G. PUMA

QuickLinks

[Exhibit 10.3](#)

[AMENDED AND RESTATED EMPLOYMENT AGREEMENT](#)

CHANGE OF CONTROL AGREEMENT

AGREEMENT by and between AXCELIS TECHNOLOGIES, INC., a Delaware corporation (the "Company"), and (the "Executive"), dated as of the day of , 2007.

The Board of Directors of the Company (the "Board") has determined that it is in the best interests of the Company and its shareholders to assure that the Company will have the continued dedication of the Executive, notwithstanding the possibility, threat or occurrence of a Change of Control (as defined below) of the Company. The Board believes it is imperative to diminish the inevitable distraction of the Executive by virtue of the personal uncertainties and risks created by a pending or threatened Change of Control and to encourage the Executive's full attention and dedication to the Company currently and in the event of any threatened or pending Change of Control, and to provide the Executive with compensation and benefits arrangements upon a Change of Control which ensure that the compensation and benefits expectations of the Executive will be satisfied and which are competitive with those of other corporations. Therefore, in order to accomplish these objectives, the Board has caused the Company to enter into this Agreement.

NOW, THEREFORE, IT IS HEREBY AGREED AS FOLLOWS:

1. Certain Definitions.

1.1. The "*Effective Date*" shall mean the first date during the Change of Control Period (as defined in Section 1.2) on which a Change of Control (as defined in Section 2) occurs. Anything in this Agreement to the contrary notwithstanding, if a Change of Control occurs and if the Executive's employment with the Company is terminated prior to the date on which the Change of Control occurs, and if it is reasonably demonstrated by the Executive that such termination of employment (i) was at the request of a third party who has taken steps reasonably calculated to effect a Change of Control or (ii) otherwise arose in connection with or anticipation of a Change of Control, then for all purposes of this Agreement the "*Effective Date*" shall mean the date immediately prior to the date of such termination of employment.

1.2. The "*Change of Control Period*" shall mean the period commencing on the date hereof and ending on the third anniversary of the date hereof; provided, however, that commencing on the date one year after the date hereof, and on each annual anniversary of such date (such date and each annual anniversary thereof shall be hereinafter referred to as the "*Renewal Date*"), unless previously terminated, the Change of Control Period shall be automatically extended so as to terminate three years from such Renewal Date, unless at least 60 days prior to the Renewal Date the Company shall give notice to the Executive that the Change of Control Period shall not be so extended.

2. Change of Control. For the purpose of this Agreement, a "*Change of Control*" shall mean:

2.1. The acquisition by any individual, entity or group (within the meaning of Section 13(d)(3) or 14(d)(2) of the Securities Exchange Act of 1934, as amended (the "*Exchange Act*") (a "*Person*") of beneficial ownership (within the meaning of Rule 13d-3 promulgated under the Exchange Act) of 25% or more of either (i) the then outstanding shares of common stock of the Company (the "*Outstanding Company Common Stock*") or (ii) the combined voting power of the then outstanding voting securities of the Company entitled to vote generally in the election of directors (the "*Outstanding Company Voting Securities*"); provided, however, that for purposes of this subsection 2.1, the following acquisitions shall not constitute a Change of Control: (i) any acquisition directly from the Company, (ii) any acquisition by the Company, or (iii) any acquisition by any employee benefit plan (or related trust) sponsored or maintained by the Company or any corporation controlled by the Company; or

2.2. Individuals who, as of the date hereof, constitute the Board (the "*Incumbent Board*") cease for any reason to constitute at least a majority of the Board; provided, however, that any individual becoming a director subsequent to the date hereof whose election, or nomination for election by the Company's shareholders, was approved by a vote of at least two-thirds of the directors then comprising

the Incumbent Board shall be considered as though such individual were a member of the Incumbent Board, but excluding, for this purpose, any such individual whose initial assumption of office occurs as a result of an actual or threatened election contest with respect to the election or removal of directors or other actual or threatened solicitation of proxies or consents by or on behalf of a Person other than the Board; or

2.3. Consummation by the Company of a reorganization, merger or consolidation or sale or other disposition of all or substantially all of the assets of the Company or the acquisition of assets of another corporation (a "*Business Combination*"), in each case, unless, following such Business Combination, (i) all or substantially all of the individuals and entities who were the beneficial owners, respectively, of the Outstanding Company Common Stock and Outstanding Company Voting Securities immediately prior to such Business Combination beneficially own, directly or indirectly, more than 75% of, respectively, the then outstanding shares of common stock and the combined voting power of the then outstanding voting securities entitled to vote generally in the election of directors, as the case may be, of the corporation resulting from such Business Combination (including, without limitation, a corporation which as a result of such transaction owns the Company or all or substantially all of the Company's assets either directly or through one or more subsidiaries) in substantially the same proportions as their ownership, immediately prior to such Business Combination of the Outstanding Company Common Stock and Outstanding Company Voting Securities, as the case may be, (ii) no Person (excluding any employee benefit plan (or related trust) of the Company or such corporation resulting from such Business Combination) beneficially owns, directly or indirectly, 25% or more of, respectively, the then outstanding shares of common stock of the corporation resulting from such Business Combination or the combined voting power of the then outstanding voting securities of such corporation except to the extent that such ownership existed prior to the Business Combination and (iii) at least a majority of the members of the board of directors of the corporation resulting from such Business Combination were members of the Incumbent Board at the time of the execution of the initial agreement, or of the action of the Board, providing for such Business Combination; or

2.4. Approval by the shareholders of the Company of a complete liquidation or dissolution of the Company.

Notwithstanding the foregoing, a "*Change of Control*" shall not be deemed to have occurred as a result of any transaction or series of transactions (i) which the Executive, or any entity in which the Executive is a partner, officer or more than 50% owner initiates, if immediately following the transaction or series of transactions that would otherwise constitute a Change in Control, the Executive, either alone or together with other individuals who are executive officers of the Company immediately prior thereto, beneficially owns, directly or indirectly, more than 10% of the then outstanding shares of common stock of the Company or the corporation resulting from the transaction or series of transactions, as applicable, or of the combined voting power of the then outstanding Voting Securities of the Company or such resulting corporation; or (ii) an offering of Company Voting Securities to the public directly by the Company, or any subsidiary or affiliate.

3. **Non-Compete and Non-Solicitation.** The Executive hereby agrees with the Company that for a period of 12 months following any termination of employment of the Executive, for any reason, and whether occurring before or after the Effective Date:

3.1. *Non-Compete.* The Executive shall not, without the prior written consent of the Chief Executive Officer of the Company, directly or indirectly, engage in, be employed by, act as a consultant or advisor to, be a director, officer, owner or partner of, or acquire an interest in, any business competing with any of the businesses conducted by the Company or any of its subsidiaries or affiliates, nor directly or indirectly have any interest in, own, manage, operate, control, be connected with as a stockholder, lender, joint venturer, officer, employee, partner or consultant, or otherwise engage, invest or participate in any business that is competitive with any of the businesses conducted by the Company

or by any subsidiary or affiliate of the Company; provided, however, that nothing contained in this Section 3 shall prevent the Executive from investing or trading in publicly traded stocks, bonds, commodities or securities or in real estate or other forms of investment for Executive's own account and benefit (directly or indirectly);

3.2. *Non-Solicitation of Employees.* The Executive shall not actively solicit any employee of the Company or any of its subsidiaries or affiliates to leave the employment thereof; and the Executive shall not enter onto Company property without prior written consent from the Chief Executive Officer of the Company or other executive officer of the Company; and

3.3. *Non-Solicitation of Customers.* The Executive shall not induce or attempt to induce any customer, supplier, licensor, licensee or other individual, corporation or business organization having a business relationship with the Company or its subsidiaries or affiliates to cease doing business with the Company or its subsidiaries or affiliates or in any way interfere with the relationship between any such customer, supplier, licensor, licensee or other individual, corporation or business organization and the Company or its subsidiaries or affiliates. Solicitation of customers for the purposes of this obligation refers to existing and/or contemplated products as of the time of Executive's termination of employment.

3.4. *Extension of Time.* The applicable time periods set forth in this Section 3 shall be extended by the time of any (1) breach by the Executive of any terms of this Agreement, or (2) litigation involving the Executive and the Company in respect of any of the provisions of this Agreement (whether by the Executive seeking relief from the terms hereof or by the Company seeking to enforce the terms hereof or otherwise).

4. **Employment Period.** The Company hereby agrees to continue the Executive in its employ, and the Executive hereby agrees to remain in the employ of the Company subject to the terms and conditions of this Agreement, as such may be supplemented or modified by an employment agreement, if any, between the Company and the Executive, for the period commencing on the Effective Date and ending on the third anniversary of such date (the "*Employment Period*").

5. **Terms of Employment.**

5.1. *Position and Duties.*

(a) During the Employment Period, (i) the Executive's position (including status, offices, titles and reporting requirements), authority, duties and responsibilities shall be at least commensurate in all material respects with the most significant of those held, exercised and assigned to the Executive at any time during the 120-day period immediately preceding the Effective Date and (ii) the Executive's services shall be performed at the location where the Executive was employed immediately preceding the Effective Date or any office or location less than 35 miles from such location.

(b) During the Employment Period, and excluding any periods of vacation and sick leave to which the Executive is entitled, the Executive agrees to devote reasonable attention and time during normal business hours to the business and affairs of the Company and, to the extent necessary to discharge the responsibilities assigned to the Executive hereunder, to use the Executive's reasonable best efforts to perform faithfully and efficiently such responsibilities. During the Employment Period it shall not be a violation of this Agreement for the Executive to (A) serve on corporate, civic or charitable boards or committees, (B) fulfill speaking engagements and (C) manage personal investments, so long as such activities do not significantly interfere with the performance of the Executive's responsibilities as an employee of the Company in accordance with this Agreement. It is expressly understood and agreed that to the extent that any such activities have been conducted by the Executive prior to the Effective Date, the continued conduct of such activities (or the conduct of activities similar in nature and scope thereto) subsequent to the Effective Date shall not thereafter be deemed to interfere with the performance of the Executive's responsibilities to the Company.

5.2. Compensation.

(a) *Base Salary.* During the Employment Period, the Executive shall receive an annual base salary ("*Annual Base Salary*"), which shall be paid at a monthly rate, at least equal to twelve times the highest monthly base salary paid or payable, including any base salary which has been earned but deferred, to the Executive by the Company and its affiliated companies in respect of the twelve-month period immediately preceding the month in which the Effective Date occurs. During the Employment Period, the Annual Base Salary shall be increased no more than 12 months after the last salary increase awarded to the Executive prior to the Effective Date, and thereafter at least annually, in each case by a percentage not less than the average annual percentage merit increase in the Executive's base salary during the five (5) full calendar years immediately preceding the Effective Date. Any increase in Annual Base Salary shall not serve to limit or reduce any other obligation to the Executive under this Agreement. Annual Base Salary shall not be reduced after any such increase and the term Annual Base Salary as utilized in this Agreement shall refer to Annual Base Salary as so increased. As used in this Agreement, the term "*affiliated companies*" shall include any company controlled by, controlling or under common control with the Company.

(b) *Annual Bonus.* In addition to Annual Base Salary, the Executive shall be awarded, for each fiscal year ending during the Employment Period, an annual bonus (the "*Annual Bonus*") in cash in an amount (the "*Annual Bonus Amount*") at least equal to the Executive's Annual Bonus opportunity for the most recent year for which an annual Bonus opportunity was established before the Effective Date under the Company's then annual incentive plan or program, adjusted by the average of the Executive's individual performance rating for each of the three most recent years ended before the Effective Date, but eliminating any corporate performance measure. Each such Annual Bonus shall be paid no later than the end of the third month of the fiscal year next following the fiscal year for which the Annual Bonus is awarded, unless the Executive shall elect to defer the receipt of such Annual Bonus.

(c) *Incentive, Savings and Retirement Plans.* During the Employment Period, the Executive shall be entitled to participate in all incentive, employee stock purchase, savings and retirement plans, practices, policies and programs applicable generally to other peer executives of the Company and its affiliated companies, but in no event shall such plans, practices, policies and programs provide the Executive with incentive opportunities (measured with respect to both regular and special incentive opportunities, to the extent, if any, that such distinction is applicable), savings opportunities and retirement benefit opportunities, in each case, less favorable, in the aggregate, than the most favorable of those provided by the Company and its affiliated companies for the Executive under such plans, practices, policies and programs as in effect at any time during the 120-day period immediately preceding the Effective Date or if more favorable to the Executive, those provided generally at any time after the Effective Date to other peer executives of the Company and its affiliated companies.

(d) *Welfare Benefit Plans.* During the Employment Period, the Executive and/or the Executive's family, as the case may be, shall be eligible for participation in and shall receive all benefits under welfare benefit plans, practices, policies and programs provided by the Company and its affiliated companies (including, without limitation, medical, prescription, dental, disability, salary continuance, employee life, group life, accidental death and travel accident insurance plans and programs) to the extent applicable generally to other peer executives of the Company and its affiliated companies, but in no event shall such plans, practices, policies and programs provide the Executive with benefits which are less favorable, in the aggregate, than the most favorable of such plans, practices, policies and programs in effect for the Executive at any time during the 120-day period immediately preceding the Effective Date or, if more favorable to the Executive, those provided generally at any time after the Effective Date to other peer executives of the Company and its affiliated companies.

(e) *Expenses.* During the Employment Period, the Executive shall be entitled to receive prompt reimbursement for all reasonable expenses incurred by the Executive in accordance with the most favorable policies, practices and procedures of the Company and its affiliated companies in effect for the Executive at any time during the 120-day period immediately preceding the Effective Date or, if more favorable to the Executive, as in effect generally at any time thereafter with respect to other peer executives of the Company and its affiliated companies.

(f) *Fringe Benefits.* During the Employment Period, the Executive shall be entitled to fringe benefits in accordance with the most favorable plans, practices, programs and policies of the Company and its affiliated companies in effect for the Executive at any time during the 120-day period immediately preceding the Effective Date or, if more favorable to the Executive, as in effect generally at any time thereafter with respect to other peer executives of the Company and its affiliated companies.

(g) *Office and Support Staff.* During the Employment Period, the Executive shall be entitled to an office or offices of a size and with furnishings and other appointments, and to personal secretarial and other assistance, at least equal to the most favorable of the foregoing provided to the Executive by the Company and its affiliated companies at any time during the 120-day period immediately preceding the Effective Date or, if more favorable to the Executive, as provided generally at any time thereafter with respect to other peer executives of the Company and its affiliated companies.

(h) *Vacation.* During the Employment Period, the Executive shall be entitled to paid vacation in accordance with the most favorable plans, policies, programs and practices of the Company and its affiliated companies as in effect for the Executive at any time during the 120-day period immediately preceding the Effective Date or, if more favorable to the Executive, as in effect generally at any time thereafter with respect to other peer executives of the Company and its affiliated companies.

6. Termination of Employment.

6.1. *Death or Disability.* The Executive's employment shall terminate automatically upon the Executive's death during the Employment Period. If the Company determines in good faith that the Disability of the Executive has occurred during the Employment Period (pursuant to the definition of Disability set forth below), it may give to the Executive written notice in accordance with Section 14.2 of this Agreement of its intention to terminate the Executive's employment. In such event, the Executive's employment with the Company shall terminate effective on the 30th day after receipt of such notice by the Executive (the "*Disability Effective Date*"), provided that, within the 30 days after such receipt, the Executive shall not have returned to full-time performance of the Executive's duties. For purposes of this Agreement, "*Disability*" shall mean the absence of the Executive from the Executive's duties with the Company on a full-time basis for 180 consecutive business days as a result of incapacity due to mental or physical illness or injury which is determined to be total and permanent by a physician selected by the Company or its insurers and acceptable to the Executive or the Executive's legal representative.

6.2. *Cause.* The Company may terminate the Executive's employment during the Employment Period for Cause. For purposes of this Agreement, "*Cause*" shall mean:

(a) the willful and continued failure of the Executive to perform substantially the Executive's duties with the Company or one of its affiliates (other than any such failure resulting from incapacity due to physical or mental illness), after a written demand for substantial performance is delivered to the Executive by the Board or the Chief Executive Officer of the Company which specifically identifies the manner in which the Board or Chief Executive Officer believes that the Executive has not substantially performed the Executive's duties, or

(b) the willful engaging by the Executive in illegal conduct or gross misconduct which is materially and demonstrably injurious to the Company.

For purposes of this provision, no act or failure to act, on the part of the Executive, shall be considered "*willful*" unless it is done, or omitted to be done, by the Executive in bad faith or without reasonable belief that the Executive's action or omission was in the best interests of the Company. Any act, or failure to act, based upon authority given pursuant to a resolution duly adopted by the Board or upon the instructions of the Chief Executive Officer or a senior officer of the Company or based upon the advice of counsel for the Company shall be conclusively presumed to be done, or omitted to be done, by the Executive in good faith and in the best interests of the Company. The cessation of employment of the Executive shall not be deemed to be for Cause unless and until there shall have been delivered to the Executive a copy of a resolution duly adopted by the affirmative vote of not less than three-quarters of the entire membership of the Board at a meeting of the Board called and held for such purpose (after reasonable notice is provided to the Executive and the Executive is given an opportunity, together with counsel, to be heard before the Board), finding that, in the good faith opinion of the Board, the Executive is guilty of the conduct described in subparagraph (a) or (b) above, and specifying the particulars thereof in detail.

6.3. *Good Reason.* The Executive's employment may be terminated by the Executive for Good Reason during the Employment Period. For purposes of this Agreement, "*Good Reason*" shall mean, subject to the notice and cure requirements below, a voluntary termination by the Executive within one year following the initial existence of one or more of the following conditions occurring during the Employment Period, without the consent of the Executive:

(a) Material diminution of Annual Base Salary;

(b) Material diminution of the Executive's authority, duties or responsibilities from those applicable to the Executive immediately prior to the Effective Date;

(c) Material change in the geographic location in which the Executive provides services from the location where the Executive was principally employed immediately prior to the Effective Date; and

(d) Any other action or inaction by the Company that constitutes a material breach of the terms of this Agreement.

The Executive must provide notice to the Company of the existence of the Good Reason condition not later than 90 days of its initial existence. The Company shall have a period of 60 days to cure the condition giving rise to such notice. In the event the Company cures or corrects the specific Good Reason condition within the time period specified above and the Executive is satisfied that the Company has cured the specific condition set forth in the Notice of Termination, Good Reason termination shall not be deemed to exist with respect to the specific condition set forth in the Notice of Termination.

6.4. *Notice of Termination.* Any termination by the Company for Cause, or by the Executive for Good Reason, shall be communicated by Notice of Termination to the other party hereto given in accordance with Section 14.2 of this Agreement. For purposes of this Agreement, a "Notice of Termination" means a written notice which (i) indicates the specific termination provision in this Agreement relied upon, (ii) to the extent applicable, sets forth in reasonable detail the facts and circumstances claimed to provide a basis for termination of the Executive's employment under the provision so indicated and (iii) if the Date of Termination (as defined below) is other than the date of receipt of such notice, specifies the termination date (which date shall be not more than thirty days after the giving of such notice). The failure by the Executive or the Company to set forth in the Notice of Termination any fact or circumstance which contributes to a showing of Good Reason or Cause shall not waive any right of the Executive or the Company, respectively, hereunder or preclude the Executive or the Company, respectively, from asserting such fact or circumstance in enforcing the Executive's or the Company's rights hereunder.

6.5. *Date of Termination.* "Date of Termination" means (i) if the Executive's employment is terminated by the Company for Cause, or by the Executive for Good Reason, the date of receipt of the Notice of Termination or any later date specified therein, as the case may be, (ii) if the Executive's employment is terminated by the Company other than for Cause or Disability, the date on which the Company notifies the Executive of such termination and (iii) if the Executive's employment is terminated by reason of death or Disability, the date of death of the Executive or the Disability Effective Date, as the case may be.

7. *Obligations of the Company upon Termination.*

7.1. *Good Reason; Other Than for Cause, Death or Disability.* If, during the Employment Period, the Company shall terminate the Executive's employment other than for Cause or Disability or the Executive shall terminate employment for Good Reason:

(a) the Company shall pay to the Executive the aggregate of the following amounts:

(i) in a lump sum in cash within 30 days after the Date of Termination the sum of (1) the Executive's Annual Base Salary through the Date of Termination, to the extent not theretofore paid to the Executive, (2) the amount, if any, which has been earned by the Executive with respect to any completed Incentive Year under the Company's Incentive Compensation Plan or any successor thereto, and any completed Award Period under the Company's Axcelis Team Incentive Plan or any successor thereto, in each case to the extent not theretofore paid to the Executive, and (3) with respect to each Award Period under the Company's Axcelis Team Incentive Plan or any successor thereto which begins before and ends after the Date of Termination, an amount equal to (x) 100% of the Executive's Individual Incentive Target (as defined in such plan) for such Award Period times (y) a fraction, the numerator of which is the number of days in such Award Period before the Date of Termination, and the denominator of which is the total number of days in such

Award Period (the sum of the amounts described in clauses (1), (2) and (3) shall be hereinafter referred to as the "Accrued Obligations"); and

(ii) in a lump sum in cash within 30 days after the Date of Termination, the product of (1) the Multiple (as defined below) and (2) the sum of (x) the Executive's Annual Base Salary and (y) the Annual Bonus Amount (hereinafter referred to as the "Severance Obligations");

(b) for a number of years after the Executive's Date of Termination equal to the lesser of two and the Multiple, or such longer period as may be provided by the terms of the appropriate plan, program, practice or policy, the Company shall continue benefits to the Executive and/or the Executive's family at least equal to those which would have been provided to them in accordance with the plans, programs, practices and policies described in Section 5.2(d) of this Agreement if the Executive's employment had not been terminated or, if more favorable to the Executive, as in effect generally at any time thereafter with respect to other peer executives of the Company and its affiliated companies and their families, *provided, however*, that (1) if the Executive becomes re-employed with another employer and is eligible to receive medical or other welfare benefits under another employer-provided plan, the medical and other welfare benefits described herein shall be secondary to those provided under such other plan during such applicable period of eligibility, and for purposes of determining eligibility (but not the time of commencement of benefits) of the Executive for retiree benefits pursuant to such plans, practices, programs and policies, the Executive shall be considered to have remained employed for a number of years after the Date of Termination equal to the lesser of two and the Multiple and to have retired on the last day of such period; (2) the Company shall not be obligated to continue benefits under this Section 7.1(b) to the extent such benefits cannot be continued in accordance with the plan or policy under which such benefits are being provided to employees generally at the Date of Termination; (3) to the extent any benefits continued under this Section 7.1(b) are taxable to the Executive, any reimbursement made by the Company to or on behalf of the Executive (including the payment of any portion of the cost or premium for such benefit) shall be made on a monthly basis; and (4) in any event, under the Consolidated Omnibus Budget Reconciliation Act of 1985 (COBRA), Executive may continue Executive's then current medical and/or dental coverage and Executive's dependents' then current medical and/or dental coverage for up to eighteen (18) months from the Date of Termination upon payment of monthly premiums and administrative fees;

(c) to the extent not theretofore paid or provided, the Company shall timely pay or provide to the Executive any other amounts or benefits required to be paid or provided or which the Executive is eligible to receive under any plan, program, policy or practice or contract or agreement of the Company and its affiliated companies, excluding any amounts or benefits which are subject to the discretion of the Board of Directors, such as future equity grants (such other amounts and benefits shall be hereinafter referred to as the "Other Benefits"); and

(d) all stock options, restricted stock, restricted stock units and other stock interests or stock-based rights awarded to the Executive by the Company on or before the Date of Termination shall become fully vested as of the Date of Termination, subject to their early termination or expiration (if applicable) in accordance with the terms of each such stock option or other award.

The "*Multiple*" means the lesser of (i) three and (ii) the number of years and portions thereof (expressed as a decimal fraction) from the Date of Termination until the Executive's 65th birthday.

7.2. *Death.* If the Executive's employment is terminated by reason of the Executive's death during the Employment Period, this Agreement shall terminate without further obligations to the Executive's legal representatives under this Agreement, other than for payment of Accrued Obligations and the timely payment or provision of Other Benefits. Accrued Obligations shall be paid to the Executive's estate or beneficiary, as applicable, in a lump sum in cash within 30 days of the Date of Termination. With respect to the provision of Other Benefits, the term Other Benefits as utilized in this

Section 7.2 shall include, without limitation, and the Executive's estate and/or beneficiaries shall be entitled to receive, benefits at least equal to the most favorable benefits provided by the Company and affiliated companies to the estates and beneficiaries of peer executives of the Company and such affiliated companies under such plans, programs, practices and policies relating to death benefits, if any, as in effect with respect to other peer executives and their beneficiaries at any time during the 120-day period immediately preceding the Effective Date or, if more favorable to the Executive's estate and/or the Executive's beneficiaries, as in effect on the date of the Executive's death with respect to other peer executives of the Company and its affiliated companies and their beneficiaries.

7.3. *Disability.* If the Executive's employment is terminated by reason of the Executive's Disability during the Employment Period, this Agreement shall terminate without further obligations to the Executive, other than for payment of Accrued Obligations and the timely payment or provision of Other Benefits. Accrued Obligations shall be paid to the Executive in a lump sum in cash within 30 days of the Date of Termination. With respect to the provision of Other Benefits, the term Other Benefits as utilized in this Section 7.3 shall include, and the Executive shall be entitled after the Disability Effective Date to receive, disability and other benefits at least equal to the most favorable of those generally provided by the Company and its affiliated companies to disabled executives and/or their families in accordance with such plans, programs, practices and policies relating to disability, if any, as in effect generally with respect to other peer executives and their families at any time during the 120-day period immediately preceding the Effective Date or, if more favorable to the Executive and/or the Executive's family, as in effect at any time thereafter generally with respect to other peer executives of the Company and its affiliated companies and their families.

7.4. *Cause; Other than for Good Reason.* If the Executive's employment shall be terminated for Cause during the Employment Period, this Agreement shall terminate without further obligations to the Executive other than the obligation to pay to the Executive (x) the Annual Base Salary through the Date of Termination and (y) Other Benefits, in each case to the extent theretofore unpaid. If the Executive voluntarily terminates employment during the Employment Period, excluding a termination for Good Reason, this Agreement shall terminate without further obligations to the Executive, other than for Accrued Obligations and the timely payment or provision of Other Benefits. In such case, all Accrued Obligations shall be paid to the Executive in a lump sum in cash within 30 days of the Date of Termination.

8. *Non-exclusivity of Rights.* Nothing in this Agreement shall prevent or limit the Executive's continuing or future participation in any plan, program, policy or practice provided by the Company or any of its affiliated companies and for which the Executive may qualify, nor, subject to the last sentence of this Section 8 and to Section 14.6, shall anything herein limit or otherwise affect such rights as the Executive may have under any contract or agreement with the Company or any of its affiliated companies. Without limiting the generality of the foregoing, the Company and the Executive may, but shall not be required to, enter into an employment agreement setting forth certain terms and conditions of the Executive's employment and, if an employment agreement is in effect, the terms and conditions of this Agreement shall be and remain in full force and effect and the terms and conditions of that employment agreement shall be deemed to supplement but not supersede the terms and conditions of this Agreement; *provided, however*, the Executive shall be entitled to receive the greater of the amounts and benefits due under this Agreement or such employment agreement but not the aggregate of the amounts and benefits under both such agreements. If amounts and benefits are due under this Agreement and under an employment agreement, the amounts due under this Agreement shall be paid and the Company will be obligated under the employment agreement only to the extent the amounts and benefits under the employment agreement exceed the amounts actually paid under this Agreement. Amounts which are vested benefits or which the Executive is otherwise entitled to receive under any plan, policy, practice or program of or any contract or agreement with the Company or any of its affiliated companies at or subsequent to the Date of Termination shall be payable in

accordance with such plan, policy, practice or program or contract or agreement except as explicitly modified by this Agreement. Notwithstanding the foregoing, if the Executive becomes entitled to receive severance benefits under Section 7.1 hereof, such severance benefits shall be in lieu of any benefits under any severance or separation plan, program or policy of the Company or any of its affiliated companies to which the Executive would otherwise have been entitled.

9. **Full Settlement; Legal Fees.** The Company's obligation to make the payments provided for in this Agreement and otherwise to perform its obligations hereunder shall not be affected by any set-off, counterclaim, recoupment, defense or other claim, right or action which the Company may have against the Executive or others. In no event shall the Executive be obligated to seek other employment or take any other action by way of mitigation of the amounts payable to the Executive under any of the provisions of this Agreement and except as specifically provided in Section 7.1(b), such amounts shall not be reduced whether or not the Executive obtains other employment. The Company agrees to pay as incurred, to the full extent permitted by law, all legal fees and expenses which the Executive may reasonably incur as a result of any contest (regardless of the outcome thereof) by the Company, the Executive or others of the validity or enforceability of, or liability under, any provision of this Agreement or any guarantee of performance thereof (whether such contest is between the Company and the Executive or between either of them and any third party, and including as a result of any contest by the Executive about the amount of any payment pursuant to this Agreement), plus in each case interest on any delayed payment at the applicable Federal rate provided for in Section 7872(f)(2)(A) of the Internal Revenue Code of 1986, as amended (the "Code").

10. **Certain Additional Payments by the Company.**

10.1. Anything in this Agreement to the contrary notwithstanding, in the event it shall be determined that any payment or distribution by the Company to or for the benefit of the Executive (whether paid or payable or distributed or distributable pursuant to the terms of this Agreement or otherwise, but determined without regard to any additional payments required under this Section 10) (a "Payment") would be subject to the excise tax imposed by Section 4999 of the Code or any interest or penalties are incurred by the Executive with respect to such excise tax (such excise tax, together with any such interest and penalties, being hereinafter collectively referred to as the "Excise Tax"), then the Executive shall be entitled to receive an additional payment (a "Gross-Up Payment") in an amount such that after payment by the Executive of all taxes (including any interest or penalties imposed with respect to such taxes), including, without limitation, any income taxes (and any interest and penalties imposed with respect thereto) and Excise Tax imposed upon the Gross-Up Payment, the Executive retains an amount of the Gross-Up Payment equal to the Excise Tax imposed upon the Payments.

10.2. Subject to the provisions of Section 10.3, all determinations required to be made under this Section 10, including whether and when a Gross-Up Payment is required and the amount of such Gross-Up Payment and the assumptions to be utilized in arriving at such determination, shall be made by a nationally recognized certified public accounting firm as may be designated by the Executive (the "*Accounting Firm*"), which shall provide detailed supporting calculations both to the Company and to the Executive within 15 business days of the receipt of notice from the Executive that there has been a Payment, or such earlier time as is requested by the Company. In the event that the Accounting Firm is serving as accountant or auditor for the individual, entity or group effecting the Change of Control, the Executive shall appoint another nationally recognized accounting firm to make the determinations required hereunder (which accounting firm shall then be referred to as the Accounting Firm hereunder). All fees and expenses of the Accounting Firm shall be borne solely by the Company. Any Gross-Up Payment, as determined pursuant to this Section 10, shall be paid by the Company to the Executive within five days of the receipt of the Accounting Firm's determination, but not later than the end of the year following the year in which the Executive remits the Excise Tax for which such Gross-Up Payment is due. Any determination by the Accounting Firm shall be binding upon the Company and the Executive. As a result of the uncertainty in the application of Section 4999 of the Code at the time of the initial determination by the Accounting Firm hereunder, it is possible that Gross-Up Payments which will not have been made by the Company should have been made ("*Underpayment*"), consistent with the calculations required to be made hereunder. In the event that the Company exhausts its remedies pursuant to Section 10.3 and the Executive thereafter is required to make a payment of any Excise Tax, the Accounting Firm shall determine the amount of the Underpayment that has occurred and any such Underpayment shall be promptly paid by the Company to or for the benefit of the Executive but not later than the end of the year following the year in which the Executive remits the Excise Tax for which such Underpayment is due.

10.3. The Executive shall notify the Company in writing of any claim by the Internal Revenue Service that, if successful, would require the payment by the Company of the Gross-Up Payment. Such notification shall be given as soon as practicable but no later than ten business days after the Executive is informed in writing of such claim and shall apprise the Company of the nature of such claim and the date on which such claim is requested to be paid. The Executive shall not pay such claim prior to the expiration of the 30-day period following the date on which he gives such notice to the Company (or such shorter period ending on the date that any payment of taxes with respect to such claim is due). If the Company notifies the Executive in writing prior to the expiration of such period that it desires to contest such claim, the Executive shall:

- (a) give the Company any information reasonably requested by the Company relating to such claim,
- (b) take such action in connection with contesting such claim as the Company shall reasonably request in writing from time to time, including, without limitation, accepting legal representation with respect to such claim by an attorney reasonably selected by the Company,
- (c) cooperate with the Company in good faith in order effectively to contest such claim, and
- (d) permit the Company to participate in any proceedings relating to such claim;

provided, however, that the Company shall bear and pay directly all costs and expenses (including additional interest and penalties) incurred in connection with such contest and shall indemnify and hold the Executive harmless, on an after-tax basis, for any Excise Tax or income tax (including interest and penalties with respect thereto) imposed as a result of such representation and payment of costs and expenses. Without limitation on the foregoing provisions of this Section 10.3, the Company shall control all proceedings taken in connection with such contest and, at its sole option, may pursue or forgo any and all administrative appeals, proceedings, hearings and conferences with the taxing authority in respect of such claim and may, at its sole option, either direct the Executive to pay the tax claimed and

sue for a refund or contest the claim in any permissible manner, and the Executive agrees to prosecute such contest to a determination before any administrative tribunal, in a court of initial jurisdiction and in one or more appellate courts, as the Company shall determine; provided, however, that if the Company directs the Executive to pay such claim and sue for a refund, the Company shall advance the amount of such payment to the Executive, on an interest-free basis and shall indemnify and hold the Executive harmless, on an after-tax basis, from any Excise Tax or income tax (including interest or penalties with respect thereto) imposed with respect to such advance or with respect to any imputed income with respect to such advance; and further provided that any extension of the statute of limitations relating to payment of taxes for the taxable year of the Executive with respect to which such contested amount is claimed to be due is limited solely to such contested amount. Furthermore, the Company's control of the contest shall be limited to issues with respect to which a Gross-Up Payment would be payable hereunder and the Executive shall be entitled to settle or contest, as the case may be, any other issue raised by the Internal Revenue Service or any other taxing authority.

10.4. If, after the receipt by the Executive of an amount advanced by the Company pursuant to Section 10.3, the Executive becomes entitled to receive any refund with respect to such claim, the Executive shall (subject to the Company's complying with the requirements of Section 10.3) promptly pay to the Company the amount of such refund (together with any interest paid or credited thereon after taxes applicable thereto). If, after the receipt by the Executive of an amount advanced by the Company pursuant to Section 10.3, a determination is made that the Executive shall not be entitled to any refund with respect to such claim and the Company does not notify the Executive in writing of its intent to contest such denial of refund prior to the expiration of 30 days after such determination, then such advance shall be forgiven and shall not be required to be repaid and the amount of such advance shall offset, to the extent thereof, the amount of Gross-Up Payment required to be paid.

11. **Confidential Information.** The Executive shall hold in a fiduciary capacity for the benefit of the Company all secret or confidential information, knowledge or data relating to the Company or any of its affiliated companies, and their respective businesses, which shall have been obtained by the Executive during the Executive's employment by the Company or any of its affiliated companies and which shall not be or become public knowledge (other than by acts by the Executive or representatives of the Executive in violation of this Agreement). After termination of the Executive's employment with the Company, the Executive shall not, without the prior written consent of the Company or as may otherwise be required by law or legal process, communicate or divulge any such information, knowledge or data to anyone other than the Company and those designated by it. In no event shall an asserted violation of the provisions of this Section 11 constitute a basis for deferring or withholding any amounts otherwise payable to the Executive under this Agreement.

12. **Successors.**

12.1. This Agreement is personal to the Executive and without the prior written consent of the Company shall not be assignable by the Executive otherwise than by will or the laws of descent and distribution. This Agreement shall inure to the benefit of and be enforceable by the Executive's legal representatives.

12.2. This Agreement shall inure to the benefit of and be binding upon the Company and its successors and assigns.

12.3. The Company will require any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business and/or assets of the Company to assume expressly and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform it if no such succession had taken place. As used in this Agreement, "*Company*" shall mean the Company as hereinbefore defined and any successor to its business and/or assets as aforesaid which assumes and agrees to perform this Agreement by operation of law, or otherwise.

13. Trust Deposit.

13.1. Upon the occurrence of a Proposed Change of Control (as defined below) during the Change of Control Period, the Company shall deposit in trust or escrow with a third party cash in an amount sufficient to provide all of the benefits and other payments to which the Executive would be entitled hereunder if a Change of Control occurred on the date of the Proposed Change of Control and the Executive's employment were terminated by the Executive for Good Reason immediately thereafter. Upon such deposit, references hereunder to any payment by the Company shall be deemed to refer to a payment from such trust or escrow; provided, however, that nothing contained herein shall relieve the Company of its obligation to make the payments required of it hereunder in the event any such payment is not made from the trust or escrow.

13.2. "Proposed Change of Control" means:

- (a) the commencement of a tender or exchange offer by any third person (other than a tender or exchange offer which, if consummated, would not result in a Change of Control) for 25% or more of the Outstanding Company Common Stock or combined voting power of the Outstanding Company Voting Securities;
- (b) the execution of an agreement by the Company, the consummation of which would result in the occurrence of a Change of Control;
- (c) the public announcement by any person (including the Company) of an intention to take or to consider taking actions which if consummated would constitute a Change of Control other than through a contested election for directors of the Company; or
- (d) the adoption by the Board, as a result of other circumstances, including circumstances similar or related to the foregoing, of a resolution to the effect that, for purposes of this Agreement, a Proposed Change of Control has occurred.

14. Miscellaneous.

14.1. This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts, without reference to principles of conflict of laws. The captions of this Agreement are not part of the provisions hereof and shall have no force or effect. This Agreement may not be amended or modified otherwise than by a written agreement executed by the parties hereto or their respective successors and legal representatives.

14.2. All notices and other communications hereunder shall be in writing and shall be given by hand delivery to the other party or by registered or certified mail, return receipt requested, postage prepaid, addressed as follows:

If to the Executive:

108 Cherry Hill Drive
Beverly, MA 01915

If to the Company:

Axcelis Technologies, Inc.
108 Cherry Hill Drive
Beverly, MA 01915
Attention: Corporate Secretary

or to such other address as either party shall have furnished to the other in writing in accordance herewith. Notice and communications shall be effective when actually received by the addressee.

14.3. The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement.

14.4. The Company may withhold from any amounts payable under this Agreement such Federal, state, local or foreign taxes as shall be required to be withheld pursuant to any applicable law or regulation.

14.5. The Executive's or the Company's failure to insist upon strict compliance with any provision hereof or any other provision of this Agreement or the failure to assert any right the Executive or the Company may have hereunder, including, without limitation, the right of the Executive to terminate employment for Good Reason pursuant to Section 6.3 (a) -(e) of this Agreement, shall not be deemed to be a waiver of such provision or right or any other provision or right of this Agreement.

14.6. The Executive and the Company acknowledge that, except as may otherwise be provided under any other written agreement between the Executive and the Company, the employment of the Executive by the Company is "at will" and, prior to the Effective Date, the Executive's employment may be terminated by either the Executive or the Company at any time prior to the Effective Date, in which case the Executive shall have no further rights under this Agreement. From and after the Effective Date, this Agreement shall supersede any other agreement between the parties with respect to the subject matter hereof.

IN WITNESS WHEREOF, the Executive has hereunto set the Executive's hand and, pursuant to the authorization from its Board of Directors, the Company has caused this Agreement to be executed in its name on its behalf, all as of the day and year first above written.

EXECUTIVE:

[Name]

AXCELIS TECHNOLOGIES, INC.

By: _____

Title: _____

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[Exhibit 10.4](#)

[CHANGE OF CONTROL AGREEMENT](#)

CERTIFICATION

of the Principal Executive Officer

Pursuant to Rule 13a-14(a)/15d-14(a) (implementing Section 302 of the Sarbanes-Oxley Act)

I, Mary G. Puma, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Axcelis Technologies, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the company's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 8, 2007

/s/ MARY G. PUMA

Mary G. Puma
Chairman, Chief Executive Officer and President

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[Exhibit 31.1](#)

CERTIFICATION

of the Principal Financial Officer

Pursuant to Rule 13a-14(a)/15d-14(a) (implementing Section 302 of the Sarbanes-Oxley Act)

I, Stephen G. Bassett, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Axcelis Technologies, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the company's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 8, 2007

/s/ Stephen G. Bassett

Stephen G. Bassett
Executive Vice President and Chief Financial Officer

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[Exhibit 31.2](#)

[CERTIFICATION of the Principal Financial Officer Pursuant to Rule 13a-14\(a\)/15d-14\(a\) \(implementing Section 302 of the Sarbanes-Oxley Act\)](#)

AXCELIS TECHNOLOGIES, INC.

Certification of the Principal Executive Officer

Pursuant to Section 1350 of Chapter 63 of title 18 of the United States Code

The undersigned Chief Executive Officer of Axcelis Technologies, Inc., a Delaware corporation, hereby certifies, for the purposes of Section 1350 of Chapter 63 of title 18 of the United States Code (as implemented by Section 906 of the Sarbanes-Oxley Act of 2002) as follows:

This Form 10-Q quarterly report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)) and the information contained herein fairly presents, in all material respects, the financial condition and results of operations of the Company.

IN WITNESS WHEREOF, the undersigned has executed this Certification as of November 8, 2007.

/s/ MARY G. PUMA

Mary G. Puma
Chairman, Chief Executive Officer and President of
Axcelis Technologies, Inc.

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[EXHIBIT 32.1](#)

[AXCELIS TECHNOLOGIES, INC. Certification of the Principal Executive Officer Pursuant to Section 1350 of Chapter 63 of title 18 of the United States Code](#)

AXCELIS TECHNOLOGIES, INC.

Certification of the Principal Financial Officer

Pursuant to Section 1350 of Chapter 63 of title 18 of the United States Code

The undersigned Chief Financial Officer of Axcelis Technologies, Inc., a Delaware corporation, hereby certifies, for the purposes of Section 1350 of Chapter 63 of title 18 of the United States Code (as implemented by Section 906 of the Sarbanes-Oxley Act of 2002) as follows:

This Form 10-Q quarterly report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)) and the information contained herein fairly presents, in all material respects, the financial condition and results of operations of the Company.

IN WITNESS WHEREOF, the undersigned has executed this Certification as of November 8, 2007.

/s/ STEPHEN G. BASSETT

Stephen G. Bassett
Executive Vice President and Chief Financial Officer of Axcelis
Technologies, Inc.

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[EXHIBIT 32.2](#)

[AXCELIS TECHNOLOGIES, INC. Certification of the Principal Financial Officer Pursuant to Section 1350 of Chapter 63 of title 18 of the United States Code](#)