AXCELIS TECHNOLOGIES INC

Form 4 July 16, 2010

FORM 4

Check this box

if no longer

subject to

Section 16.

Form 4 or

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF **SECURITIES**

Form 5 Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, obligations Section 17(a) of the Public Utility Holding Company Act of 1935 or Section may continue. 30(h) of the Investment Company Act of 1940 See Instruction 1(b).

(Print or Type Responses)

(Last)

Security

(Instr. 3)

1. Name and Address of Reporting Person * THOMPSON H BRIAN

Symbol

07/15/2010

2. Issuer Name and Ticker or Trading

Issuer

AXCELIS TECHNOLOGIES INC

[ACLS]

(Middle)

3. Date of Earliest Transaction (Month/Day/Year)

X_ Director Officer (give title below)

10% Owner Other (specify

OMB APPROVAL

3235-0287

January 31,

2005

0.5

OMB

Number:

Expires:

response...

Estimated average

burden hours per

C/O AXCELIS TECHNOLOGIES. INC., 108 CHERRY HILL DRIVE

(First)

(Street)

4. If Amendment, Date Original

6. Individual or Joint/Group Filing(Check

5. Relationship of Reporting Person(s) to

(Check all applicable)

Filed(Month/Day/Year) Applicable Line)

X Form filed by One Reporting Person Form filed by More than One Reporting

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

BEVERLY, MA 01915

(City) (State) (Zip) 1. Title of 2. Transaction Date 2A. Deemed

(Month/Day/Year) Execution Date, if

(Month/Day/Year)

3. 4. Securities TransactionAcquired (A) or Code Disposed of (D) (Instr. 3, 4 and 5) (Instr. 8)

5. Amount of Securities Beneficially Owned Following

6. Ownership 7. Nature of Form: Direct Indirect (D) or Indirect Beneficial Ownership (I) (Instr. 4) (Instr. 4)

Reported (A) Transaction(s) or (Instr. 3 and 4)

Code V Amount (D) Price

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

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SEC 1474 (9-02)

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

3. Transaction Date 3A. Deemed 1. Title of (Month/Day/Year) Execution Date, if Derivative Conversion

5. Number of TransactionDerivative

6. Date Exercisable and **Expiration Date**

7. Title and Amount of Underlying Securities

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Security (Instr. 3)	or Exercise Price of Derivative Security		any (Month/Day/Year)	Code (Instr. 8)	Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)		(Month/Day/Year)		(Instr. 3 and 4)	
				Code V	(A)	(D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares
Stock option (right to buy)	\$ 1.6	07/15/2010		A(1)	50,000		01/14/2011	07/15/2020	Common Stock	50,000

Reporting Owners

Reporting Owner Name / Address

Director 10% Owner Officer Other

THOMPSON H BRIAN C/O AXCELIS TECHNOLOGIES, INC. 108 CHERRY HILL DRIVE BEVERLY, MA 01915



Signatures

Lynnette C. Fallon, as attorney-in-fact for H. Brian
Thompson

07/16/2010

**Signature of Reporting Person Date

Explanation of Responses:

- * If the form is filed by more than one reporting person, see Instruction 4(b)(v).
- ** Intentional misstatements or omissions of facts constitute Federal Criminal Violations. See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).
- (1) Granted Pursuant to the Axcelis Technologies, Inc. 2000 Stock Plan.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *see* Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.

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