AXCELIS TECHNOLOGIES, INC.

Nominating and Governance Committee Charter

As Adopted by the Board of Directors on September 25, 2002 and as amended on November 8, 2006, October 16, 2007, October 27, 2010 and October 22, 2012

The Nominating and Governance Committee shall be comprised of at least two Directors appointed by the Board all of whom are independent, as defined by the listing standards for the Nasdaq National Market (the "Nasdaq Rules"), subject to such exceptions as may be allowed by such Rules.

The Nominating and Governance Committee shall have the authority to retain special legal, accounting or other consultants to advise the Committee. The Nominating and Governance Committee may request any officer or employee of the Company or the Company's outside counsel or independent Nominating and Governance to attend a meeting of the Committee or to meet with any members of, or consultants to, the Committee.

The Nominating and Governance Committee shall make regular reports to the Board concerning the Committee's actions, conclusions and recommendations.

The Nominating and Governance Committee shall:

- 1. Recommend to the Board the appropriate Board size to accommodate key objectives, balancing sufficient independent directors to perform the functions normally assigned to the oversight committees and the need for efficient functioning of discussion and decision making.
- 2. Establish criteria for Board membership and review prospective Board candidates.
- 3. Approve all director nominations for election and re-election to the Board.
- 4. Review at least annually the appropriate skills and characteristics required of Board members in the context to the composition of the Board and the needs of the business.
- 5. Establish an independent director search plan and selection process.
- 6. Review any shareholder nominations for directors.
- 7. Make recommendations to the full Board on any new or modified non-employee director compensation (including the non-executive Chairman of the Board).
- 8. Review and approve any "related party" transactions as required by the Nasdaq Rules, including (a) business arrangements between the Company and directors or their affiliates or

between the Company and employees, other than compensation for service as a director or as an employee of the Company, and (b) any other relationships between a director or employee and the Company or a third party (including membership on the boards of directors of a third party) which create the appearance or reality of a current or potential conflict of interest.

- 9. Establish guidelines for, and discuss with some pre-defined frequency the selection and rotation of committee members, balancing reasonable continuity of committee members with rotation.
- 10. Oversee the content and implementation by management of good governance policies within the Corporation, including but not limited to a Business Ethics Policy.
- 11. Establish governance policies for the Corporation in its relationship to its shareholders, the Board and its employees.
- 12. Recommend director education programs and establish a method of managing records of director education undertaken by each director.
- 13. Review and reassess the adequacy of this Charter annually and recommend any proposed changes to the Board for approval.
- 14. Lead annual Board self-assessment processes and make recommendations to the full Board with respect to the re-nomination of existing directors.
- 15. Carry out the Committee's role in connection with any resignations of Directors submitted pursuant to the Corporation's Governance Policies.
- 16. Engage in exit interviews with resigning Directors, where appropriate.