



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

Mail Stop 3030

April 29, 2010

Via Facsimile and U.S. Mail

Mr. Kirk K. Mandy
Chief Executive Officer
Zarlink Semiconductor Inc.
400 March Road
Ottawa, Ontario, Canada K2K 3H4

Re: Zarlink Semiconductor Inc.
Form 20-F for fiscal year ended March 27, 2009
Filed June 4, 2009
File No. 1-08139

Dear Mr. Mandy:

We have reviewed your response letter dated March 26, 2010 and have the following additional comment. Where indicated, we think you should revise future filings in response to this comment. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Mr. Kirk K. Mandy
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Form 20-F for fiscal year ended March 27, 2009

Item 18. Financial Statements, page 59

Note 2. Accounting Policies, page 67

1. We note your response to prior comment 5. Please provide us additional information regarding your analysis of the similar economic characteristics of the four operating segments. Specifically, discuss in greater detail what you mean when you state that “the gross margins...have been and are continuing to converge towards 50%.”

* * * *

As appropriate, please respond to this comment within 10 business days or tell us when you will provide us with a response. Please furnish a cover letter with your response that keys your response to our comment and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and response to our comment.

You may contact David Burton, Staff Accountant, at (202) 551-3626 or me at (202) 551-3643 if you have questions regarding this comment. In this regard, do not hesitate to contact Martin James, Senior Assistant Chief Accountant at (202) 551-3671.

Sincerely,

Kevin L. Vaughn
Accounting Branch Chief