



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

Mail Stop 6010

December 28, 2007

VIA U.S. MAIL and FACSIMILE:

Mr. Jack R. Lazar
Vice President and Chief Financial Officer
5480 Great America Parkway
Santa Clara, CA 95054

RE: Atheros Communications, Inc.
Form 10-K for the fiscal year ended December 31, 2006
Filed March 1, 2007
Form 8-K dated October 29, 2007
Form 8-K/A dated December 18, 2006
File No. 000-50534

Dear Mr. Lazar:

We have reviewed your filing and have the following comments. We have limited our review to only your financial statements and related disclosures and do not intend to expand our review to other portions of your documents. Where indicated, we think you should revise future filings in response to these comments. 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 any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-K for the fiscal year ended December 31, 2006

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Results of Operations, page 40

In-Process research and development, page 42

1. For the in-process research and development charges recorded in 2006 please expand future filings to disclose the following on a project by project basis:
 - The nature of the projects acquired;
 - A summary of values assigned to in-process research and development by technology / product;
 - A description of the status of development for each significant project at the acquisition date;
 - A description of the nature and timing of remaining efforts for completion of each significant project, including the estimated completion date; and,
 - How periods subsequent to the acquisition have been affected by completion of the project and introduction of the technology.
2. As a related matter, future filings should present discussion of the status of efforts to complete significant projects, including discussion of the impact of any delays, project revisions or terminations on expected investment return, results of operations and financial condition.

Item 15. Financial Statements and Financial Statement Schedules

Notes to Consolidated Financial Statements

Note 3. Business Combinations, page F-12

Attansic Technology Corporation

3. Please revise future filings to disclose the primary reasons for the acquisition, including a description of the factors that contributed to a purchase price that results in recognition of goodwill.

Form 8-K dated October 29, 2007

Exhibit 99.1 Press Release

4. We note that you present your non-GAAP measures and reconciliation in the form of non-GAAP statements of income. This format may be confusing to investors as they also reflect several non-GAAP measures, including non-GAAP cost of goods sold, non-GAAP gross profit, non-GAAP total operating expenses, non-GAAP income from operations, etc., which have not been described to investors. In fact, it appears that management does not use these non-GAAP measures but they are shown here as a result of the presentation format. Please note that Instruction 2 to Item 2.02 of Form 8-K requires that when furnishing information under this item you must provide all the disclosures required by paragraph (e)(1)(i) of Item 10 of Regulation S-K, including a reconciliation to the directly comparable GAAP measure for *each* non-GAAP measure presented and explain why you believe *each* measure provides useful information to investors.
- To eliminate investor confusion, please remove the non-GAAP statements of income from all future filings and instead disclose only those non-GAAP measures used by management that you wish to highlight for investors, with the appropriate reconciliations.
 - Please note that in the event that your Form 8-K is incorporated by reference into a 33 Act registration statement, we may have additional questions relating to the appropriateness of this information being included in a document filed with, and not just furnished to, the Commission. At that time, we may request an amendment to the Form 8-K.

Form 8-K/A dated December 18, 2006 (filed March 5, 2007)

Exhibit 99.1 Financial Statements of Attansic Technology Corporation as of and for the nine months ended September 30, 2006 and as of and for the year ended December 31, 2005

5. Please tell us why you have not provided financial statements of Attansic Technology Corporation for the corresponding interim period of the preceding year (as of and for the nine months ended September 30, 2005), in accordance with Rule 3-05(b)(2)(ii) of Regulation S-X.

As appropriate, please respond to these comments 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 responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your responses to our comments.

Mr. Jack R. Lazar
Atheros Communications, Inc.
December 28, 2007
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We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed decision. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In connection with responding to our comments, please provide, in writing, a statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

You may contact Jong Hwang at (202) 551-3327 or Kristin Lochhead at (202) 551-3664 if you have questions. In this regard, please do not hesitate to contact me at (202) 551-3676 with any other questions.

Sincerely,

Brian Cascio
Accounting Branch Chief