



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

DIVISION OF  
CORPORATION FINANCE

March 10, 2015

Via Email

Mark P. Dentinger  
Chief Financial Officer  
InvenSense, Inc.  
1745 Technology Drive  
Suite 200  
San Jose, California 95110

**Re: InvenSense, Inc.  
Form 10-K for the Fiscal Year Ended March 30, 2014  
Forms 10-Q for Fiscal Quarters Ended  
September 28, 2014 and December 28, 2014  
Response dated March 2, 2015  
File No. 001-35629**

Dear Mr. Dentinger:

We have reviewed your March 2, 2015 response to our comment letter and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to these comments within ten business days by providing the requested information or advise us as soon as possible when you will respond. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing your response to these comments, we may have additional comments. Unless we note otherwise, our references to prior comments are to comments in our February 4, 2015 letter.

Form 10-K for the Fiscal Year Ended March 30, 2014

Item 8. Financial Statements

Note 1. Organization and Summary of Significant Accounting Policies

Segment Information, page 71

1. We note from your business description on page 65 that you sell accelerometers, gyroscopes and microphones. Please revise future filings to provide the disclosure

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required by FASB ASC 280-10-50-40 with respect to your revenues for each product or service or each group of similar products and services.

Note 8. Acquisition, page 87

2. We note your response to comment 2. In the fifth introductory paragraph of your pro forma financial statements in Exhibit 99.2 of Amendment No. 1 of your Form 8-K filed January 16, 2014, you alerted investors that future results may be impacted by events similar to those described in Note 4 to the audited Microphone Product Line financial statements where the Microphone Product Line's parts are not included in the next generation of a customer's product. In future filings, where you include the pro forma information for this acquisition, please also provide similar disclosure to that referred to above.

Exhibits 31.1 and 31.2

3. We have considered your responses to comments 3 and 6. As previously requested, please file the amendments to your Form 10-K and Forms 10-Q that include the entire filing together with the certifications of each of your current CEO and CFO in the form currently set forth in Item 601(b)(31) of Regulation S-K.

You may contact Andri Boerman at (202) 551-3645, or Kate Tillan, Assistant Chief Accountant, at (202) 551-3604 if you have questions regarding comments on the financial statements and related matters. Please contact me at (202) 202-3671 with any other questions.

Sincerely,

/s/ Kate Tillan for

Martin James  
Senior Assistant Chief Accountant