May 25, 2012

Via Federal Express

Mr. Kevin L. Vaughn
Accounting Branch Chief
U.S. Securities and Exchange Commission
100 F Street, NE
Washington, DC 20549

Re: Texas Instruments Incorporated
Form 10-K for the Year Ended December 31, 2011
Filed February 24, 2012
Response Letter Dated April 27, 2012
File No. 1-3761

Dear Mr. Vaughn:

I am writing in response to your letter dated May 15, 2012, to Texas Instruments Incorporated containing comments on our Form 10-K for the year ended December 31, 2011.

Form 10-K for the Fiscal Year Ended December 31, 2011

COMMENT 1: Please expand your response to prior comments 6 and 7 to clarify how you determined the products and product lines within your segments are "groups of similar products" for purposes of Regulation S-K Item 101(c)(1)(i) given that your disclosures appear to indicate such product lines perform different functions and have different life cycles.

RESPONSE 1: The 80,000+ semiconductor products we manufacture and sell generally fall into two basic categories—those based on analog technology and those based on digital technology. Analog technologies deal with the continuum of real-world signals, while digital technologies deal with the on-off state of the digital world. These technologies, along with other elements described below, form the basis of the similarity of the resulting products in each segment.

Products in our Analog segment are based principally on analog technology. These products share many similarities, including the following. Analog semiconductors take real-world signals, such as sound, temperature, pressure and visual images, then condition, amplify and/or convert them into digital form and back into real-world signals. They also may be used to manage power distribution and consumption. Products in our Analog segment are developed through similar design processes, which tend to involve small groups of highly specialized analog design engineers. Analog engineers acquire their expertise through years of on-the-job experience. The products in our Analog segment are typically manufactured using older, less advanced processes than are digital products (discussed below). Our Analog products are sold to customers by our sales force with the help of analog field applications engineers. These products tend to have long market life cycles. In situations where customers request a custom analog part, which often have shorter market life cycles, we generally start with a core analog semiconductor and modify it accordingly, rather than design a new product from scratch.

Products in our other reportable segments, (those sold by our Embedded Processing and our Wireless segments), are based principally on digital technology. Our digital products share the following similarities. Digital semiconductors deal with the on-off state of digital signals, and are often modified for specific purposes by our customers who write custom software that operates on our digital products. Our digital products are developed through similar design processes that involve engineers specialized in digital technology who tend to work in larger design teams than our analog engineers. Digital products are manufactured using digital processes, which are typically more advanced than analog manufacturing processes. Our digital products are sold to customers by our sales force with the help of digital field application engineers.

Historically, most of our Wireless products were custom in nature, experienced short market life cycles, were designed for a specific market and were sold by a dedicated sales force to a limited number of customers, primarily handset (cell phone) manufacturers. For this reason, we considered these products to be different enough from our other digital products that we defined Wireless as a separate (digital) group of products. With our planned exit from the digital baseband product line and the evolution of the remaining Wireless products to a broader range of applications and customers that will be sold by our broader focused sales force, the distinction of this group of products from our other digital products (Embedded Processing) is diminishing.

In summary, we believe that by disclosing revenue for the past three fiscal years for Analog, Embedded Processing and Wireless, we have met the requirements of Regulation S-K Item 101(c)(1)(i).

Notes to Financial statements, page 6

Note 17 – Segment and geographic area data, page 36

COMMENT 2: We note your response to prior comment 4 that although depreciation expense is included in the measure of segment profit, you are unable to determine the specific amount of depreciation expense allocated to each segment as required by FASB ASC 280-10-50-22. Considering this fact, and in order to provide investors with a better understanding of your allocations, please revise future filings to disclose the reasons why you are unable to provide the amount of depreciation expense allocated to each segment.

RESPONSE 2: We will comply with this request in our future filings, beginning with our Form 10-Q for the quarter ended June 30, 2012.

We trust that the above information will be sufficient for your purposes. If you have any questions, please call Charlie Miller of Texas Instruments at 214-480-6707.

Very truly yours,

/s/ Kevin P. March

Kevin P. March
Senior Vice President and
Chief Financial Officer