



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

DIVISION OF  
CORPORATION FINANCE

Mail Stop 3030

April 14, 2017

Via E-mail

Gregory R. Beecher  
Chief Financial Officer  
Teradyne, Inc.  
600 Riverpark Drive  
North Reading, MA 01864

**Re: Teradyne, Inc.  
Form 10-K for the Fiscal Year Ended December 31, 2016  
Filed March 1, 2017  
File No. 001-06462**

Dear Mr. Beecher:

We have limited our review of your filing to the financial statements and related disclosures 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.

Form 10-K for the Fiscal Year Ended December 31, 2016

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

Critical Accounting Policies and Estimates

Goodwill, Intangible and Long-Lived Assets, page 25

1. We note the \$254.9 million goodwill impairment and \$83.3 million intangible asset impairment charges you recorded in the second quarter of 2016 relating to your Wireless Test segment. We also note the goodwill impairment charge recorded in the fourth quarter of 2014 and that the impairment assessment in the fourth quarter of 2015 did not result in impairment but instead showed that the fair value of each reporting unit exceeded its carrying value by at least 20%. To help us better understand the timing of

the charges, please provide us with a chronology of the events that occurred in the life of your wireless test business from the fourth quarter of 2014 through the 2016 year-end. In particular, explain in detail the events that lead to the lowering of forecasted buying from the Wireless Test customer, the sharp decline in projected wireless test market demand and the reduction in headcount in the second quarter of 2016.

2. Please provide us with a table showing the revenues and income (loss) before taxes for the Wireless Test segment for each quarter in 2014, 2015 and 2016. Tell us how you considered the trend of declining revenues when performing your goodwill and intangible assets impairment tests in the fourth quarter of 2015.

Liquidity and Capital Resources, page 35

3. We note the statement in the last paragraph of the Liquidity discussion on page 37 that you have \$768 million of cash outside the United States that if repatriated would incur additional taxes. We note on page 45 in your consolidated balance sheet total cash and cash equivalents as of December 31, 2016 of \$308 million. Please reconcile these disclosures.

Item 7A: Quantitative and Qualitative Disclosures about Market Risks, page 42

4. We note the discussion in Note H relating to the convertible note hedge and warrant transactions. In future filings, please disclose the equity price risk on the fair value of your convertible debt under one of the three disclosure options provided in Item 305(a) of Regulation S-K.

Item 8: Financial Statements and Supplementary Data

Note J. Goodwill and Intangible Assets

Intangible Assets, page 77

5. Please revise future filings to provide the disclosures required by ASC 350-30-50-3 for each of your intangible assets impaired. In this regard, please quantify for us the gross carrying amount and net carrying amount of each intangible asset impaired in the second quarter of 2016 which aggregated to the \$83.3 million impairment charge.

Note K. Commitments and Contingencies

Legal Claims, page 79

6. Please revise this note in future filings to clearly describe your accounting policies for evaluating, estimating, disclosing and accruing for loss contingencies. Provide sufficient detail to show compliance with ASC 450-20-25 and ASC 450-20-50.

Gregory R. Beecher  
Teradyne, Inc.  
April 14, 2017  
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We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

You may contact Gary Newberry at (202) 551-3761 or me at (202) 551-3662 with any questions. You may also reach Martin James, Senior Assistant Chief Accountant, at (202) 551-3671.

Sincerely,

/s/ Kevin J. Kuhar

Kevin J. Kuhar  
Accounting Branch Chief  
Office of Electronics and Machinery