



DIVISION OF
CORPORATION FINANCE

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

May 10, 2012

Via E-mail

Gregory Q. Brown
Chief Executive Officer
Motorola Solutions, Inc.
1303 East Algonquin Road
Schaumburg, IL 60196

**Re: Motorola Solutions, Inc.
Form 10-K for the Year Ended December 31, 2011
Filed February 15, 2012
Form 10-Q for the Quarter Ended March 31, 2012
Filed April 25, 2012
File No. 001-07221**

Dear Mr. Brown:

We have reviewed your response letter dated May 4, 2012 and your filings and have the following comments. Please respond to this letter within ten business days by amending your filing, by providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your filing and the information you provide in response to these comments, we may have additional comments.

Form 10-K for the Year Ended December 31, 2011
Valuation and Recoverability of Goodwill, page 54
Goodwill, page 106

1. We note your response to comment one from our letter dated April 23, 2012. You indicate that your operating segments are Government and Enterprise because this is the level at which your CODM regularly reviews full line income statements that are sufficient to support decisions about resource allocation. You also indicate that a majority of below gross margin costs are not dedicated to technology groups. However, you also state in the latter part of your response that to the extent the CODM reviews technology group results, it is in the context of understanding the key drivers of the operating segment results and is generally only meaningful at the gross margin level since many costs below gross margin are based on allocations. From your response it is unclear to us what costs (unallocated and allocated) are included below gross margin in the financial information provided to your CODM at the technology group level. In this

regard, tell us the nature of all financial information provided to your CODM at the technology group level.

2. Since gross margin is meaningful towards the CODM's understanding of the key drivers of operating segment results, tell us in detail why you do not believe that the gross margin information provided to your CODM at the technology group level does not constitute discrete financial information and why it is not used by the CODM to make decisions about resources to be allocated and to assess performance pursuant to ASC 280-10-50-1.
3. Please identify for us each of the technology groups included in your enterprise and government segments. With respect to each technology group, describe its defining characteristics specifically addressing the nature of the products and services, the type or class of customer, and the nature of its respective regulatory environment. In addition, for each technology group, tell us why you believe it shares similar economic characteristics with the other technology groups in the reporting unit with which it is aggregated. Include as part of your response a five-year comparative analysis of the gross margins of each technology group within the enterprise reporting unit and each technology group within the government reporting unit. We refer to the criteria set forth in ASC 350-20-55.

Form 10-Q for the Quarter Ended March 31, 2012

4. Please amend your filing to provide proper certifications. Two of the certifications (Exhibits 31.2 and 32.2) relate to your Chief Financial Officer, but are signed by your Chief Executive Officer. Please note that the corrected certifications should be accompanied by the entire periodic report. Refer to 246.14 of Regulation S-K's Compliance and Disclosure Interpretations, available on our website at <http://www.sec.gov/divisions/corpfin/guidance/regs-kinterp.htm>.

Please file all correspondence over EDGAR. You may contact Kathryn Jacobson, Staff Accountant, at 202-551-3365 or Robert S. Littlepage, Accountant Branch Chief, at 202-551-3361 if you have questions regarding comments on the financial statements and related matters. Please contact Jonathan Groff, Staff Attorney, at 202-551-3458 or me at 202-551-3810 with any other questions.

Sincerely,

/s/ Robert S. Littlepage for

Larry Spigel
Assistant Director