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**United States Senate**  
 COMMITTEE ON ARMED SERVICES  
 WASHINGTON, DC 20510-6050

RICHARD D. DiBOBES, STAFF DIRECTOR  
 DAVID M. MORRIS, MINORITY STAFF DIRECTOR

October 20, 2011

Mr. Charlie Bae  
 President and CEO  
 Samsung Semiconductor, Inc.  
 3655 N. First Street  
 San Jose, California 95134

Dear Mr. Bae:

Counterfeit electronic parts in the Department of Defense's (DOD) supply chain pose a risk to our national security, the reliability of our weapons systems, and the safety of our military men and women. Government and industry share a common interest in ensuring that the DOD supply chain is free from these parts. As part of an inquiry by the Senate Armed Services Committee into suspect counterfeit electronic parts in the DOD supply chain, the Committee is seeking information from defense contractors and subcontractors, independent testing companies, and electronic component manufacturers about suspect counterfeit electronic parts.

The Committee has identified suspect counterfeit electronic parts that entered the U.S. military supply chain. The parts were sold by an independent distributor in China as new, authentic Samsung Video Random Access Memory KM4216C258G-50 parts. Enclosed with this letter is a test report from an independent testing company. The independent test report states the following:

- "Multiple abnormalities were detected while testing these components."
- "Some package measurements do not match the specifications found in the manufacturer datasheet."
- "Variations in color and texture were found along the package edges."
- "The bottom surface of one sample exhibits markings when the other two samples do not."
- "Testing these components for marking permanency with acetone lifted a large amount of black material, revealing fine scratches in the original surface and confirming these parts are blacktopped."
- "The size of the Pin-1 dimple is different than that of the other samples."
- "Based on these abnormalities these components have failed inspection and are not considered to be factory original parts."

To assist the Committee with its inquiry, please answer the following questions:

- 1) Does Samsung sell refurbished KM4216C258G-50 parts or have an agreement with any third party that would permit them to refurbish and sell KM4216C258G-50 parts?
- 2) Did Samsung use remarking or black-topping in its manufacturing of KM4216C258G-50?

- 3) Would Samsung recommend the use of KM4216C258G-50 parts with the anomalies described above?
- 4) Would Samsung warranty KM4216C258G-50 parts that exhibited the anomalies described above?
- 5) Please describe the short-term and long-term reliability and performance risks, if any exist, of using KM4216C258G-50 with the anomalies described above.

Please provide responsive information by October 27, 2011. Please send your response as an attachment to an email to [Ilona\\_Cohen@armed-services.senate.gov](mailto:Ilona_Cohen@armed-services.senate.gov) and [Bryan\\_Parker@armed-services.senate.gov](mailto:Bryan_Parker@armed-services.senate.gov). If you have any questions or wish to discuss this request, please contact Senate Armed Services Committee majority staff Ilona Cohen (202-224-5089) and Bryan Parker (202-224-8265) of the minority staff.

Thank you for your cooperation.

Sincerely,



John McCain  
Ranking Member



Carl Levin  
Chairman

Enclosures



**SAMSUNG SEMICONDUCTOR, INC.**

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November 7, 2011

The Honorable Carl Levin, Chairman  
The Honorable John McCain, Ranking Member  
Committee on Armed Services  
United States Senate  
Washington, D.C. 20510-6050

**Re: Inquiry re Samsung Video Random Access memory KM 4216C258G-50 parts**

Dear Senators:

I am Vice President and General Counsel of Samsung Semiconductor, Inc., the North American sales, marketing and distribution arm for components made by Samsung Electronics Co., Ltd. I am writing in response to the questions posed in your letter dated October 20, 2011 and addressed to SSI President Charlie Bae. Please consider the following responses, and let me know if you have any further questions.

Question No. 1: Does Samsung sell refurbished KM4216C258G-50 parts or have an agreement with any third party that would permit them to refurbish and sell KM4216C258G-50 parts?

Answer: No.

Question No. 2: Did Samsung use remarking or black-topping in its manufacturing of KM4216C258G-50?

Answer: No.

Question No. 3: Would Samsung recommend the use of KM4216C258G-50 parts with the anomalies described above?

Answer: No. Semiconductor components have limited useful lives. Without knowing the conditions under which the components were used and/or stored, it is not possible to project the reliability of a semiconductor that was manufactured over ten years previously, even if the part was good and merchantable when it came from the factory.

Letter to The Honorable Carl Levin, Chairman  
November 7, 2011  
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Question No. 4: Would Samsung warranty KM4216C258G-50 parts that exhibited the anomalies described above?

Answer: No. As stated above, semiconductor components are life limited, and their functionality after an extended period of time depends on how they have been stored and/or used.

Question No. 5: Please describe the short-term and long-term reliability performance risks, if any exist, of using KM4216C258G-50 with the anomalies described above.

Answer: One cannot expect such parts to function properly, or at all. It is difficult to predict the various failure modes that might occur. The most likely scenario is that the part would not respond to commands and would simply fail to operate, and there would be no data output. In the case of a video memory or processor chip, the image on the device display may be absent or degraded in quality.

Samsung Semiconductor and Samsung Electronics are dedicated to providing the highest quality electronic components to our customers. We do not endorse or support any modification, reconditioning or refurbishment of our factory original components.

Please let us know if you have any further questions regarding these components.

Very truly yours,



Terrence H. Cross  
Vice President and General Counsel