BEFORE THE PATENT TRIAL AND APPEAL BOARD
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Trial No.: IPR 2015-01644

In re: U.S. Patent No. 6,785,065

Patent Owner: Toshiba Samsung Storage Technology Korea Corporation

Petitioner: LG Electronics, Inc., and LG Electronics U.S.A., Inc.

Inventors: Byung-youn Song and Kyung-sik Shin

For: OPTICAL PICKUP ACTUATOR DRIVING METHOD AND APPARATUS THEREFOR

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DECLARATION OF DAVID B. BOGY

I, David B. Bogy, hereby declare as follows:

1. My name is David B. Bogy. I reside at 8531 Buckingham Dr. El Cerrito, CA 94530, and work at the University of California, Berkley.

2. I have been retained by Toshiba Samsung Storage Technology Korea Corporation ("TSST" or "Patent Owner"). I understand that TSST is the owner of patents involved in several *Inter Partes* Reviews (IPRs). This declaration relates to U.S. Patent No. 6,785,065 (the '065 patent) and the IPR with which it is involved, which I understand to be IPR2015-01644.

3. I am currently the William S. Floyd, Jr. Distinguished Professor of the Graduate School in Engineering and the Director of the Computer Mechanics

Laboratory of the Department of Mechanical Engineering at the University of California, Berkley. My curriculum vitae (CV) is attached at the rear of this declaration. My educational and professional background is summarized below.

4. To summarize my educational and academic background, I attended Rice University where I earned a B.S. degree in Mechanical Engineering and Geology, and an M.S. degree in Mechanical Engineering. I then attended Brown University, where I earned a Ph.D. in the field of Applied Mathematics. After receiving my Ph.D., I took a position as a postdoctoral fellow in the Division of Engineering and Applied Science at the California Institute of Technology (Caltech).

5. I thereafter held Assistant Professor and Associate Professor positions in the Department of Mechanical Engineering at the University of California, Berkley. I became a Full Professor in the Department of Mechanical Engineering at the University of California, Berkley, in 1975. I received my Distinguished Professor position in 2009, and I still hold that title. In 1989, I founded the Computer Mechanics Laboratory of the Department of Mechanical Engineering at the University of California, Berkley, and I have been its Director since then.

6. While at the University of California, Berkley, I served as the Vice Chairman of Graduate Studies for the Department of Mechanical Engineering from

1977-1980, the Department Chairman of the Department of Mechanical Engineering from 1991-1999.

7. I have supervised to completion 65 Ph.D. degree dissertations. About one-third of these degree recipients are professors in major research universities, and most of the remaining ones are engineers in the computer storage device industry.

8. I have received a number of awards during my professional career. For example, I am a member of the National Academy of Engineering (1994) and was elected Chair of the Mechanical Engineering Section in 1997. I served on its Membership Peer Committee. I also have served as Chair of the Executive Committees of the American Society of Mechanical Engineers' Division of Applied Mechanics and its Division of Tribology. I received the ASME Tribology Division Mayo D. Hersey Award in 1999. I am a Fellow of the American Academy of Mechanics, a Life Fellow of the American Society of Mechanical Engineers, and a Life Fellow of the Institute of Electrical and Electronics Engineers (IEEE). I received the *Distinguished Contribution Award* from the Information Storage Industry Consortium in 2006. I received the IEEE 2010 Reynold *B. Johnson Data Storage Device Technology Award*. I also received the Berkeley Citation in May 2010, and the 2009-2010 Berkeley Faculty Service Award.

9. My research interests are in solid and fluid mechanics, tribology, and dynamics, especially as regards their application to mechanical aspects in computer technology. The Computer Mechanics Laboratory, of which I was the founder and have served as the Director, is dedicated to research in computer storage devices. It is funded primarily by the computer industry, but also enjoys specific project funding by the state and national government agencies. It regularly has 4 faculty participants, about 20 graduate students, several undergraduates, postdocs, and visiting scholars or industrial fellows. Industrial member companies have included IBM, Digital Equipment, Digital Papyrus, DAS Devices, Hitachi Metals, Hitachi Ltd., HTI, Hysitron, Fuji Electric, Iomega, NEC, Read-Rite, Applied Magnetics, SAE Magnetics, Quantum, Seagate, Silmag, Sanyo, Yamaha, Yamagata Mitsumi, Fujitsu Ltd., Mitsubishi Chemical, Komag, NTT, SyQuest, Western Digital, and Zygo.

10. I have authored or co-authored over 400 archive journal publications over the years in the field of mechanical engineering and applied mechanics, especially in connection with their application to mechanical aspects in computer technology. For example, many of these papers have been concerned with mechanics of particular configurations associated with computer magnetic recording disk drives.

11. Since 1971, I have been an engineering consultant to several U.S. and foreign corporations including, for example, IBM, Western Digital, Samsung, Digital Equipment Corporation, and others. I also have been a consultant on intellectual property issues.

12. I am being compensated for my time at my usual and customary rate. I have no personal or financial stake or interest in the outcome of this *Inter Partes* Review, or any related action. My compensation in no way depends upon my testimony or the outcome of this *Inter Partes Review*, or any related action.

13. I have reviewed and am familiar with at least the following documents, and any other document mentioned herein: the '065 patent (Ex. 1001); U.S. Patent No. 6,343,053 to Akanuma et al. (Akanuma, Ex. 1002); U.S. Patent No. 5,905,255 to Wakabayashi et al. (Wakabayashi, Ex. 1007); U.S. Patent No. 5,428,481 to Ikegame et al. (Ikegame, Ex. 1005); the Declaration of Masud Mansuripur (Ex. 1011); the definition of "on" from *Webster's Third New International Dictionary* (unabridged), copyright 2002 (Ex. 2001); and the Masud Mansuripur deposition transcript (Ex. 2002). It is my understanding that the '065 patent has an effective filing date of at least as early as June 19, 2001.

My Understanding of the Law Regarding Patent Validity

14. The following is what I have been told about the law regarding validity of a patent, and it represents my understanding of the same. It is my

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