

I, Julie Carlson, declare as follows:

1. I have personal knowledge of the facts set forth herein, and if called to testify, I could and would competently testify to the same.

2. I have been involved in semiconductor standardization and publication services for over twenty years. For nearly all of this time, I have worked at JEDEC, a standards-setting organization for the microelectronics industry, to edit, publish, and maintain JEDEC business records and standards developed by its numerous committees and subcommittees.

3. I have been involved with the standardization and publication activities of JEDEC continuously since 1997. I was the Manager of Standards and Publications at JEDEC from February 1997 through June 2005. Since June 2005, I have continued to work for JEDEC as a Consultant where my responsibilities include the maintenance and publication of JEDEC documents and standards. In addition, I am familiar with JEDEC's historical record-keeping and publication practices since at least 1992, based on my review of JEDEC's business records since that time and my regular discussions with JEDEC employees and members.

4. For over 50 years, JEDEC has been the global leader in developing and publishing open standards for the microelectronics industry. JEDEC's membership consists of more than 3,000 volunteers representing nearly 300

member companies, and includes key technical individuals from most device, assembly, system and testing companies. JEDEC publications and standards are adopted worldwide. JEDEC is accredited by ANSI and maintains liaisons with numerous standards bodies throughout the world.

5. Since at least 2000, JEDEC standards have been publicly available for download from the JEDEC website (<https://www.jedec.org>), where they are cataloged and indexed by keyword and technological subject matter. By 2000, the JEDEC website was publicly available and commonly used by manufactures, companies in the microelectronics industry, and other interested parties to access and obtain standards information pertaining to that industry. Anyone interested can join JEDEC online, at JEDEC.org.

6. This declaration concerns two JEDEC standards. The first standard is JEDEC STANDARD, FBDIMM: Advanced Memory Buffer (AMB), JESD82-20 (March 2007) (hereinafter, “JESD82-20 Standard”), which is a standard published by JEDEC. I have reviewed the JESD82-20 Standard. The copy of the JESD82-20 Standard attached to this declaration as Exhibit A is identical to the copy of the JESD82-20 Standard in JEDEC’s files. The second standard is JEDEC STANDARD, FBDIMM Specification: DDR2 SDRAM Fully Buffered DIMM (FBDIMM) Design Specification, JESD205 (March 2007) (hereinafter, “JESD205 Standard”), which is a standard published by JEDEC. I have reviewed the

JESD205 Standard. The copy of the JESD205 Standard attached to this declaration as Exhibit B is identical to the copy of the JESD205 Standard in JEDEC's files.

7. The following statements on the public availability of the JESD82-20 Standard and the JESD205 Standard as of March 2007 are based on personal knowledge. The development of all JEDEC documents follows the process set forth in JM21: JEDEC Manual of Organization and Procedure. According to that process, the date on the cover of a JEDEC document is the month the document was finalized, approved by legal, and posted to the website. For both the JESD82-20 Standard and the JESD205 Standard, the date on the cover (and thus the date it was posted to JEDEC's website) is March 2007.

8. I am familiar with the circulation and publication procedures used by JEDEC. Upon approval of the Board of Directors, the JEDEC publications department prepares documents for publication, and seeks final review and approval to publish from the JEDEC legal department. Once legal approval is received, the JEDEC publications department uploads the approved document to the JEDEC website with a brief description. An email announcement is then sent to the sponsoring committee and any approved resellers. By 2000, JEDEC made its published standards available for download from www.jedec.org, as mentioned above.

9. Based on my personal knowledge of JEDEC's policies, both the JESD82-20 Standard and the JESD205 Standard were made publicly available in March 2007 for download from the JEDEC website (<https://www.jedec.org>), consistent with the dates on the cover pages of the JESD82-20 Standard and the JESD205 Standard. My knowledge of the procedures surrounding the creation of the date notation and publication is based on JEDEC's policies and practices as I understand them through my work at JEDEC. I rely on these policies and practices in the course of my work. I have no reason to believe that JEDEC's typical practice was not followed. I have no reason to believe that the JESD82-20 Standard and the JESD205 Standard were not made publicly accessible in March 2007.

10. To further confirm my statements above, I have visited the Internet Archive to look at the first capture of the online catalog at www.jedec.org after March 2007 that contained both the JESD82-20 Standard and the JESD205 Standard, which occurred on October 21, 2007:

<http://web.archive.org/web/20071021053839/http://www.jedec.org:80/Catalog/display.cfm>>. A printout of this capture is attached as Exhibit C and is consistent with my personal recollection of the JEDEC website. As can be seen from this capture on October 21, 2007, the JESD82-20 Standard was cataloged as "JESD 82-20," indexed under the "CMOS Digital Logic" technical subject matter and under

the keywords “Advanced Memory Buffer,” “AMB,” “AMB Component Specification,” “DDR2,” “FB-DIMM,” “FBD,” and “FBDIMM,” and was available to the public by that date, consistent with my statements above. *See* Exhibit C at pages 41, 91, 95, 103, 107, 108. As can also be seen from this capture on October 21, 2007, the JESD205 Standard was cataloged as “JESD 205,” indexed under the “Fully Buffered DIMM’s” technical subject matter and under the keywords “Advanced Memory Buffer,” “AMB,” “FB-DIMM,” “FBD,” “FBDIMM,” and “Fully Buffered DIMM,” and was available to the public by that date, consistent with my statements above. *See* Exhibit C at pages 50, 94, 95, 107, 110.

11. Exhibit D is a printout of http://web.archive.org/web/20070401184420/http://www.jedec.org:80/service_members/New_Members/memberco.cfm, which is a capture on April 1, 2007, of the list of member companies on JEDEC’s website as of that date, which is consistent with my personal recollection of JEDEC’s membership. All of those member companies would have had access to both the JESD82-20 Standard and the JESD205 Standard attached as Exhibits A and B, respectively, no later than that date.

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