UNITED STATES OF AMERICA
BEFORE FEDERAL TRADE COMMISSION

PUBLIC VERSION

In the Matter of RAMBUS INC., a corporation.	Docket No. 9302

NOTICE OF COMPLAINT COUNSEL'S ANTICIPATED REBUTTAL CASE

Introduction

Pursuant to this Court's Order of July 21 and July 22, 2003, Complaint Counsel respectfully submit this Notice outlining its anticipated rebuttal case.

Complaint Counsel intends to call some or all of the following witnesses in its rebuttal case: Professor R. Preston McAfee, Professor Bruce L. Jacob, Mr. Terry Lee and Mr. Kevin Ryan. Complaint Counsel also expects to offer limited portions of deposition testimony and to offer into evidence a limited number of additional exhibits. Complaint Counsels expects that it can complete its rebuttal case in two days. Complaint Counsel respectfully requests to have Wednesday, July 30, 2003, as a free day in order to accomodate witness schedules and travel plans. Complaint Counsel expects to put on its rebuttal case on Thursday and Friday, and to complete its rebuttal case by the end of the day on Friday, August 1, 2003.

The expected testimony of Professors McAfee and Jacob, if called, is included in their respective rebuttal expert reports prepared and served on Respondent on January 31, 2003, and is outlined in general terms below. The specific evidence, identified by page and line, with respect

to which the testimony of Mr. Terry Lee and Mr. Kevin Ryan will be offered in rebuttal is listed below.[1]

Testimony of Professor R. Preston McAfee. We expect Professor McAfee to testify in response to the main conclusions of Professor Rapp[2] that there were no viable economic substitutes for the technologies in question, that Rambus's actions at JEDEC did not serve to increase its market power, that DRAM manufacturers can switch between different technologies at "low" cost, and Rambus's conduct was not anticompetitively exclusionary. We expect that Professor McAfee will testify that Professor Rapp erred in relying on both the methodology and the resulting cost numbers of previous technical expert testimony and in his own economic analysis based on those cost numbers, in his assessment of the effects of Rambus's failure to disclose at JEDEC, in his characterization and evaluation of the lock-in effects in the industry, and in his interpretation of the alleged efficiency justifications for Rambus's conduct.

We further expect Professor McAfee to testify in response to the anticipated testimony of Professor Teece[3] predicting what would have happened had Rambus disclosed the full scope of

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[1]Mr. Kevin Ryan was not included on Complaint Counsel's Final Witness List. Brief testimony from Mr. Ryan may be necessary to rebut testimony of Dr. Soderman relating to DDR II, as set forth in more detail below, depending on the testimony of Mr. Terry Lee on this subject. Respondent will not be harmed by the designation of Mr. Ryan at this time because Respondent deposed Mr. Ryan in this proceeding, in addition to the deposition of him conducted by attorneys for Rambus in connection with the *Micron v. Rambus* litigation.

[2]Complaint Counsel has not had the opportunity to review carefully the transcript of Professor Rapp's testimony. This description represents Complaint Counsel's best estimate of Professor McAfee's expected testimony at this time, subject to a more careful review of the transcript of Professor Rapp's testimony.

[3]Professor Teece's testimony is on-going at the time of this Notice, and this description is based on Complaint Counsel's best estimate of Professor Teece's likely testimony. Complaint Counsel reserve the right to amend or supplement this description of Professor McAfee's

its potential intellectual property at JEDEC, based on his assumptions that (1) Rambus would have submitted a RAND letter to JEDEC, (2) JEDEC would have adopted the technologies in question notwithstanding Rambus's intellectual property, even in the absence of any ex ante licensing, and (3) Rambus would have been able to charge exactly the same royalty rates as it currently has the power to demand. We expect that Professor McAfee will testify that Professor Teece's conclusions are not supported by sound economics, and that economic analysis indicates that Rambus's conduct at JEDEC served to increase its market power.

Testimony of Professor Bruce L. Jacob. We expect Professor Jacob to testify that his proposed alternatives of using fixed CAS latency and/or burst length would not have involved the disadvantages or expense claimed by Dr. Soderman and Mr. Geilhufe; setting CAS latency and/or burst length in the read/write command or by means of pins would not involve adding the number of pins, the increased board or controller complexity, or the increased cost projected by Mr. Geilhufe; that design of a burst terminate command is fully viable; that using a faster single-edge clock does not require conducting other operations at a faster speed; that using a faster single-edged clock would not involve significant engineering difficulties (including use of on-DIMM clock circuitry or an on-DIMM PLL/DLL); and that the proposed alternatives to dual-edge clocking do not involve using both edges of the clock. In addition, Professor Jacob may also testify with respect to one or more of the issues listed below.

Testimony of Mr. Terry Lee and Mr. Kevin Ryan. Complaint Counsel intends to introduce testimony of Mr. Terry Lee to rebut the following testimony of Dr. Soderman and Mr. Geilhufe:

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expected testimony depending on Professor Teece's actual testimony.

1. it is reasonable to assume that a first-tier manufacturer would run only 20 million units of a product iteration (Geilhufe, Tr. 9562:10-9563:4; 9725:1-9726:23);
2. use of fixed CAS latency parts is difficult and costly because (a) based on all options contained in the JEDEC standard as adopted (and not on industry usage or practice), 3 separate parts would be required (Geilhufe, Tr. 9578:10-23, Tr. 9682:20-9683:2), (b) it would cost approximately $100,000 more than programmable CAS latency in design costs (Geilhufe, Tr. 9575:9-21), (c) it would require assumptions about the speed grade of the parts (Soderman, Tr. 9347:8-9348:11), (d) it would interfere with a manufacturer's ability to speed grade parts (Soderman, Tr, 9348:12-9349:15), and (e) it would add expense due to decreased die yield (Geilhufe, Tr. 9577:1-9578:9);
3. use of fixed burst length parts is difficult and costly because (a) based on all options in the JEDEC standard as adopted (and not on industry usage or practice), it would require 4 separate parts (Geilhufe, Tr. 9594:25-9595:3), (b) it would involve extra photo tool costs of $50,000, and (c) it would cost approximately $100,000 more than programmable burst length in design costs (Geilhufe, Tr. 9594:5-12);
4. based on all options in the JEDEC standard as adopted (and not on industry usage or practice), use of both fixed CAS latency and fixed burst length would require 12-15 separate parts (Geilhufe, Tr. 9601:7-16);
5. use of fixed CAS latency would not permit the mode register to be removed from the DRAM (Geilhufe, Tr. 9736:24-9737:19);

6. (a) electrically blown fuses and anti-fuses are not reliable (Soderman, Tr. 9356:18-9357:2), (b) based on a survey of “maybe 50" out of “hundreds” of data sheets, only about 2 out of 50 SDRAMs appear to incorporate electrically blown fuses (Soderman, Tr. 9357:3-9358:1), (c) anti-fuse technology is not generally available in DRAMs (Geilhufe, Tr. 9582:20-9583:19; Tr. 9732:11-9734:21), and (d) the use of laser blown fuses would lead to reduced yield due to speed distribution (Geilhufe, Tr. 9585:21-9586:9);

7. (a) based on the number of bits provided for in the JEDEC standard as adopted (and not on industry usage or practice), setting CAS latency and burst length via pins each would require three bits of information (Geilhufe, Tr. 9589:22-9590:6; 9599:8-9600:1), and (b) it would be necessary to add pins (Geilhufe, Tr. 9724:16-21;9741:8-9742:1; Soderman, Tr. 9362:12-9363:3);

8. running a single edge clock at a higher frequency (a) would cause significant clock distribution problems (Soderman, Tr. 9393:20-9394:8) and (b) would require on-DIMM clock circuitry and possibly an on-DIMM PLL/DLL, which would cost $3.80 (Geilhufe, Tr. 9609:17-9610:5);

9. moving the DLL to the module would cost $3.80 for the DLL (Geilhufe, Tr. 9613:13-25);

10. SLDRAM was unable to design a high speed DRAM using Vernier circuitry, without an on-chip DLL (Soderman, Tr. 9412:22-9415:9); and

11. because the proposed alternatives didn’t include circuit designs, they were poorly thought out (Geilhufe, Tr. 9673:17-9674:5).

In addition, Complaint Counsel intend to introduce the testimony of either Mr. Terry Lee or Mr. Kevin Ryan to rebut the following testimony of Dr. Soderman:

12. DDR II (a) expands the use of programmable CAS latency (Soderman, Tr. 9351:7-9353:3), (b) initially planned to use a single burst length, but subsequently reverted to programmable burst length (Soderman, Tr. 9369:12-23), and (c) limits the use of the burst terminate command because of timing difficulties (Soderman, Tr. 9376:19-9377:20).

Prior Testimony of Mr. Geoffrey Tate. Respondent introduced testimony of Dr. Mark Horowitz to the effect that Rambus discussed the RDRAM architecture and Rambus technologies with other companies in the early 1990's. (Horowitz, Tr. 8515:6-8516:11; Horowitz, Tr. 8518:18-8529:13; Horowitz, Tr. 8535:15-8540:21; Horowitz, Tr. 8541:25-8548:1) Mr. Horowitz also testified with respect to a paper presented at an IEEE meeting by a representative of Toshiba. (Horowitz, Tr. 8552:1-8557:13) In addition, Respondent has introduced testimony of Dr. Betty Prince to the effect that she presented certain aspects of the RDRAM architecture to Samsung in 1994. (Prince, Tr. 9005:16-9009:11) To rebut any argument that disclosures of the technologies used in the RDRAM architecture were equivalent to a disclosure of the scope of Rambus's potential patent coverage, Complaint Counsel intends to offer, to supplement other evidence in the record, a 2-page designation from the trial testimony of Mr. Geoffrey Tate: pages 75:5-77:5, Trial Testimony of Mr. Geoffrey Tate, *Rambus v. Infineon* (April 25, 2001).[4]

[4]This designation is in addition to Complaint Counsel's designations from the transcripts of Mr. Tate and other Rambus directors, officers and agents made as part of Complaint Counsel's case in chief. Complaint Counsel is still working with Respondent to finalize all counter-designations, objections and responses to objections in connection with these transcripts.

Respectfully Submitted,

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Dated: July 24, 2003