Rambus: Dangers of Deception in Standard-Setting Organizations

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Patent holders face antitrust liability when they first mislead a standard-setting organization ("SSO") into believing they do not hold patents in essential technologies, wait until the SSO includes the unknowingly patented technology in industry standards, and then reveal patent ownership by suing SSO members for infringement.

Such deception is particularly dangerous in the standard-setting context because participants expect the cooperation of other members and depend on truthful disclosure to facilitate competition. Once members have devoted significant resources to conform to a standard, they are locked into using the patented technology and, thus, unable to negotiate for a reasonable royalty rate on a level playing field.

On August, 2, 2006, a unanimous Federal Trade Commission ruled that Rambus illegally monopolized the worldwide market for computer-memory chips when it deceived a standard-setting organization by failing to disclose patented technology. Rambus participated in Joint Electron Device Engineering Council ("JEDEC") meetings to determine standards for synchronized dynamic random access ("SDRAM") technology. Yet, Rambus never told JEDEC that it held patents and patent applications on the technology-at-issue. Only after JEDEC adopted Rambus's technology as industry standard, did Rambus disclose its patents by suing JEDEC members for infringement. In its liability opinion, the Federal Trade Commission unanimously found that Rambus's conduct violated Section 5 of the Federal Trade Commission Act ("FTC Act").

The Commission found that "Rambus violated Section 5 of the FTC Act by engaging in exclusionary conduct that contributed significantly to the acquisition of monopoly power in four relevant markets."[2] The Commission also found "a sufficient causal link between Rambus's exclusionary conduct and JEDEC's adoption of the

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[2] *Id*.

synchronized dynamic random access SDRAM and DDR-SDRAM[3] standards (but not the subsequent DDR2-SDRAM standard.)"[4]

On February 2, 2007, the Commission issued a separate remedies opinion, in which it decided 3-2 to set a maximum royalty that Rambus could collect going forward. Commissioner Rosch and Commissioner Harbour partially dissented from the remedies opinion because each would have ordered compulsory royalty-free licensing. Commissioner Harbour also would have extended relief to Rambus's next-generation DDR2-SDRAM standard.

I. BACKGROUND

A. Technology-at-Issue: Synchronous Dynamic Random Access Memory

SDRAM is a type of random access memory ("RAM").[5] RAM essentially is the computer's short-term memory. It consists of integrated circuits that hold temporary instructions and data for the central processing unit ("CPU"), the central "brain" of a computer system.[6] Most computers use a type of RAM known as dynamic random access memory, or DRAM, that stores and processes information while the computer is on.[7] Because several computer components interface with DRAM,[8] companies want DRAM chips with open architectures so they will be comparable and interoperable with components in the same computer system.[9]

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3 DDR is a faster, second generation SDRAM technology.

4 *Id*.

5 RAM is called "random access" because the computer can access any memory cell directly, if it knows the row and column that intersect at that cell. *See*, *e.g.*, http://computer.howstuffworks.com/ram.htm. The opposite or RAM is serial access memory ("SAM"). SAM stores data as a series of sequentially-accessible memory cells, like a videotape. *Id*.

6 Rambus, Inc., Dkt. No. 9302 (August 2, 2006) (opinion of the Commission) *available at* http://www.ftc.gov/os/adjpro/d9302/060802commissionopinion.pdf at 5, (hereinafter, "Commission Opinion").

7 *Id.* at 6. DRAM is dynamic because it must be refreshed every fraction of a second to prevent memory loss. *Id*. at n. 5.

8 *Id*. at 6.

9 *Id*.

B. Rambus's Involvement With JEDEC, A DRAM Standard-Setting Organization

Rambus Inc. develops and licenses computer memory technologies.[10] It does not produce memory chips. For more than four years in the 1990s, Rambus participated as a member of the Joint Electron Device Engineering Council ("JEDEC").

JEDEC is an industry-wide standard-setting organization ("SSO") created to develop open, standardized architectures for dynamic random access memory ("DRAM") chips. JEDEC relies on the cooperation of its members and requires that its members participate in good faith. During the period at issue, "[a]ccording to JEDEC policy and practice, members were expected to reveal the existence of patents and patent applications that later might be enforced against those practicing the JEDEC standards."[11] Before members voted to adopt a standard that would incorporate patented technologies, JEDEC member patent holders were obligated to offer assurances to license the technology on reasonable and non-discriminatory ("RAND") terms.[12]

C. FTC Complaint Alleges Rambus Used JEDEC to Monopolize DRAM Markets

On June 18, 2002, the Federal Trade Commission ("FTC") filed a complaint against Rambus, Inc. for violations of Section 5 of the FTC Act, alleging that Rambus: (1) monopolized certain memory technology markets through a pattern of anticompetitive and exclusionary conduct; (2) attempted to monopolize these markets; and (3) engaged in unfair methods of competition.[13]

The complaint claimed that Rambus participated in JEDEC, without revealing to JEDEC, or its members, that Rambus was actively working to develop, and did in fact possess, a patent and several patent applications that involved specific technologies proposed for, and ultimately adopted, in JEDEC standards.[14] By concealing this information, Rambus violated JEDEC's operating rules and procedures, and purposefully conveyed to JEDEC that it owned no relevant intellectual property rights. The complaint

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[10] *Id*. at 3.

[11] *Id*. at 4.

[12] *Id*.

[13] Rambus, Inc., Dkt. No. 9302 (June 18, 2002) (complaint) *available at* http://www.ftc.gov/os/adjpro/d9302/020618admincmp.pdf, (hereinafter, "Complaint") at ¶¶ 122-24.

[14] *Id*. at ¶¶ 2, 43 - 46.

further claimed that Rambus perfected its patent rights, waited for standards to become widely adopted by the DRAM industry, and then enforced its patents worldwide against companies manufacturing memory products in compliance with JEDEC standards.[15] It claimed that Rambus's actions caused anticompetitive effects including increased royalties, higher prices or restricted output for synchronous DRAM chips and related technology, decreased incentives to produce memory using synchronous DRAM technology, or to participate in standard-setting organizations, and decreased reliance on standards.[16] It further claimed that Rambus did not give notice that it intended to claim patent rights over technologies used in JEDEC's DRAM standards. This concealment affected the content of those standards and the terms on which Rambus later licensed its patent rights.[17]

D. ALJ Holds Rambus Did Not Deceive JEDEC and Did Not Monopolize DRAM Markets

After a 54-day trial over the course of five months, the Administrative Law Judge ("ALJ") dismissed the complaint on February 17, 2004. He found that while Section 5 of the FTC Act authorizes the FTC to define and proscribe unfair methods of competition, Complaint Counsel did not establish that Rambus violated Section 5. Specifically, the ALJ found that Rambus's conduct did not amount to deception. While JEDEC patent policy encouraged early, voluntary, disclosure of essential patents, Rambus did not violate this policy, and did not intentionally mislead JEDEC. The ALJ further held that the challenged conduct did not result in anticompetitive effects because Complaint Counsel did not demonstrate that there were viable alternatives to Rambus's technologies, and the challenged conduct did not result in higher prices to consumers.[18] One week after the ALJ decision, Complaint Counsel appealed to the full Commission.[19]

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15 *Id*. at ¶ 2.

16 *Id*. at ¶ 120.

17 *Id*. at 62, 65, 69, 70-78, 86.

18 Rambus, Inc. Dkt. No. 9302, 2004 FTC LEXIS 17 (February 23, 2004) (initial decision) *available at* http://www.ftc.gov/os/adjpro/d9302/040223initialdecision.pdf, (hereinafter, "Initial Decision"), *see also id*, at 7.

19 Rambus, Inc., Dkt. No. 9302 (March 1, 2004) (notice of appeal) *available at* http://www.ftc.gov/os/adjpro/d9302/040301noticeofappeal.pdf, (hereinafter, "Notice of Appeal").

II. FTC UNANIMOUSLY RULED THAT RAMBUS DECEIVED JEDEC, ENGAGED IN EXCLUSIONARY CONDUCT, AND CONSEQUENTLY ACQUIRED MONOPOLY POWER

A. Burden of Proof

Rambus argued that the "inherent tension between the patent and antitrust laws" required Complaint Counsel to prove the essential elements of their claim by clear and convincing evidence.[20] The Commission rejected this claim, holding that patents are not inherently in tension with antitrust law, and that, following *Illinois Tool Works, Inc. v. Independent Ink, Inc.*, 126 S.Ct. 1281 (2006), patents do not necessarily create market power.[21] Rejecting Rambus's reliance on *Walker Process Equipment v. Food Machinery & Chemical Corp.*, 382 U.S. 172 (1965) and *Handgards, Inc. v. Ethicon, Inc.*, 601 F.2d 986 (9th Cir. 1979), the Commission also noted that it was not charged with deciding whether Rambus committed fraud on the PTO or whether Rambus initiated its infringement actions in bad faith. Rather, it was charged with determining whether Rambus engaged in a course of deception, and no court has held that clear and convincing evidence is required to prove deception under Section 5 of the FTC Act.

The Commission similarly rejected Rambus's argument that a heightened evidentiary standard was required because Complaint Counsel sought to prevent Rambus from enforcing its patent rights, noting that the equitable estoppel defense to patent infringement is evaluated by the preponderance of the evidence.[22]

Finally, the Commission was not persuaded that a heightened burden of proof was required to prevent chilling participation in SSOs. The Commission found that "Rambus's argument ignores the seriously chilling effect of deceptive conduct in the SSO context."[23] It reasoned that SSOs are most procompetitive when members can depend on some assurance that other participants will not act deceptively.[24]

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20 *Id*. at 22 (citing Rambus's Rebuttal Brief at 134).

21 *Id*.

22 *Id*. at 25 (citing *A.C. Aukerman Co. v. R.L. Chaides Constr. Co.*, 960 F.2d 1020, 1045-46 (Fed. Cir. 1992)).

23 *Id*.

24 *Id*.

Consequently, following the Supreme Court's interpretation of Section 7(c) of the Administrative Procedure Act, the Commission adopted "the traditional preponderance of the evidence standard."[25]

B. Exclusionary Conduct

The Commission next analyzed requirements for exclusionary conduct. Exclusionary conduct is "conduct other than competition on the merits – or other than restraints reasonably 'necessary' to competition on the merits – that reasonably appear[s] capable of making a significant contribution to creating or maintaining monopoly power."[26] In other words, if "a firm has been attempting to exclude rivals on some basis other than efficiency, it is engaging in exclusionary conduct."[27]

The Commission noted that Section 5 of the FTC Act prohibits, among other things, deceptive acts and practices and that the Commission has developed special expertise to determine whether conduct is deceptive.[28] The Commission's 1983 Policy Statement on Deception ("Policy Statement") outlines the elements of deceptive conduct under Section 5.[29] According to the Policy Statement, deceptive conduct requires a "misrepresentation, omission or practice" that was "material" in that it was likely to mislead "others acting reasonably under the circumstances" and thereby likely to affect their "conduct or decision[s]."[30] The Commission noted that to determine whether Rambus's conduct was deceptive, it needed to analyze the "circumstances" in which the alleged "misrepresentation, omission or practice" occurred.[31]

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[25] *Id*. (citing *Steadman v. SEC*, 450 U.S. 91, 95-102 (1981).

[26] *Id*. at 28 (citing III PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 651f, at 83-84 (2d ed. 2002); *Aspen Skiing Co. v. Aspen Highlands Skiing Corp*., 472 U.S. 585, 605 n.32 (1985); *Multistate Legal Studies, Inc. v. Harcourt Brace Jovanovich Legal & Prof'l Publ'ns, Inc.*, 63 F.3d 1540, 1550 (10th Cir. 1995), *cert. denied*, 516 U.S. 1044 (1996); *Town of Concord v. Boston Edison Co.*, 915 F.2d 17, 21 (1st Cir. 1990), *cert. denied*, 499 U.S. 931 (1991)).

[27] *Id*. (citing *Aspen Skiing*, 472 U.S. at 605).

[28] *Id*. at 29 (citing *FTC v. Colgate-Palmolive Co.*, 380 U.S. 374, 391-92 (1965) and *Kraft, Inc. v. FTC*, 970 F.2d 311 (7th Cir. 1992)).

[29] Federal Trade Commission, *Policy Statement on Deception* (1983), *reprinted in* 4 Trade Reg. Rep. (CCH) ¶ 13,205 at 20, 911-12 (hereinafter, "Policy Statement").

[30] *Id*.

[31] Commission Opinion at 30.

1. Legal Circumstances

The Commission first evaluated the legal circumstances of Rambus's allegedly deceptive conduct. It noted that, ultimately, Rambus's allegedly deceptive conduct must be analyzed under Section 2 of the Sherman Act.[32] This conclusion mandated two adjustments to the Policy Statement. First, while under the Policy Statement the respondent's state of mind is irrelevant, Section 2 requires "willful" conduct, and therefore to violate Section 2 Rambus must have acted "willfully." Second, the Policy Statement does not require proof of competitive harm. Under Section 2, however, Rambus's conduct must have anticompetitive harm that outweighs any procompetitive benefits.[33]

Rambus argued that the "sacrifice test" was the proper framework to analyze exclusionary conduct. Under the sacrifice test, conduct is exclusionary only if it would have been unprofitable to the defendant, *i.e.,* the defendant would have *sacrificed* profits, but for the expectation that the defendant later could exclude rivals and recoup its loss by the acquisition of long-run monopoly power.[34] Rambus argued that it did not sacrifice profits. Rambus also contended that it benefited by concealing information from competitors and JEDEC. Under the sacrifice test, therefore, Rambus claimed that its conduct was not exclusionary. The ALJ agreed. The Commission, however, concluded that this was error as a matter of law and a matter of fact.[35]

As a matter of law, the Commission found that the sacrifice test is not appropriate where exclusionary conduct is inexpensive and does not involve a significant profit sacrifice. Without reducing prices, foregoing sales, or spending funds substantially beyond ordinary business activities, "Rambus's conduct may have imposed substantial costs on rivals and contributed significantly to the creation of monopoly power."[36] The

32 *Id*., *see also, id.* at n. 141: "Whatever the potential breadth of Section 5 of the FTC Act in these circumstances, our analysis in this opinion rests on the traditional criteria for evaluating allegations of monopolization under Section 2 of the Sherman Act."

33 *Id*. (citing *United States v. Microsoft Corp.,* 253 F.3d 34, 58-59 (D.C. Cir. 2001)).

34 *Id*. at 30-31.

35 *Id*. at 31.

36 *Id*.

Commission concluded that the proper focus is on determining "whether the monopolist's conduct on balance harms competition."[37]

2. The Standard-Setting Context

The Commission noted that the factual context in which the alleged conduct occurred is "critical."[38] The standard-setting process is in a unique position to impact competition because competitors agree on product features before marketing and/or production.[39] "Exclusionary conduct such as deception may distort the selection of technologies and evade protections designed by SSOs to constrain the exercise of monopoly power, with substantial and lasting harm to competition."[40] Once a standard is chosen, the industry is "locked in." Consequently, exclusionary conduct caused by deception in the SSO context, can reduce or destroy the efficiencies to be gained and cause anticompetitive harm. If this harm outweighs any procompetitive benefits, then the exclusionary conduct will violate Section 2.

The Commission cautioned that it does not mandate that all SSO's require disclosure of relevant intellectual property. "If, however, an SSO does require such disclosures, then non-disclosure – followed by adoption of a standard incorporating the intellectual property, and royalty demands against those practicing the standard – may be considered a material omission and may constitute deceptive conduct under Section 5."[41]

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37 *Id*. (citing *Microsoft Corp.*, 253 F.3d at 58-59).

38 *Id*. at 34-35. In competitive environments, deceptive conduct is less likely to be actionable because misleading statements are less likely to be material and more likely to be transparent to competitors. In that context, therefore, the competitors can protect themselves. *Id*. at 32-33 (citing *Am. Council of Certified Podiatric Physicians & Surgeons v. Am. Bd. of Podiatric Surgery*, 323 F.3d 366, 370-72 (6th Cir. 2003) (applying a rebuttable presumption that effect on competition of misleading advertising material was *de minimis*); and *Am. Prof'l Testing Services v. Harcourt Brace Jovanovich Legal & Prof'l Publ'ns, Inc.*, 108 F.3d 1147, 1152 (9th Cir. 1997) (holding same).

39 *Id*. at 33 (citing *Standard Sanitary Mfg. Co. v. United States*, 226 U.S. 20, 41 (1912); FTC Bureau of Consumer Protection, Standards and Certification Final Staff Report, at 28, 34 (April 1983); Michael Katz & Carl Shapiro, *Systems Compatibility and Network Effects*, 8 J. ECON. PERSPECTIVES 93, 105-06 (1995); Richard Gilbert, Symposium on Compatibility: Incentives and Market Structure. 40 J. INDUS. ECON. 1 (1992)).

40 *Id*.

41 *Id*. at 34-35 and noting that "[i]f an SSO chooses not to require such disclosures, SSO members still are not free to lie or to make affirmatively misleading representations."

3. JEDEC Rules and Policies

The Commission then engaged in a detailed evidentiary analysis of JEDEC's rules and the conduct of JEDEC members between 1992, when Rambus joined JEDEC, and the middle of 1996, when Rambus stopped participating in JEDEC deliberations. For example, the Commission found that JEDEC expected standardization programs to be "'carried on *in good faith* under policies and procedures which will assure fairness and unrestricted participation.'"[42] JEDEC standardization programs "shall not be proposed or indirectly result in . . . restricting competition, giving a competitive advantage to any manufacturer, excluding competitors from the market" except where necessary to reach legitimate public interest goals. Members were reminded of these obligations at each meeting. When disclosing relevant technology, members further were required to supply full technical specifications and to provide RAND assurances.[43] Noting several examples of member disclosure, the Commission found that the disclosure expectation was supported by member actions.[44] Consequently, the Commission found that JEDEC rules and JEDEC's member's actions created the expectation that each JEDEC participant would disclose any existing or pending patent applications for technology that would read on an approved JEDEC standard.[45]

4. Rambus's Behavior

The Commission then found that Rambus's deceptively targeted JEDEC's expectation of good-faith dealing.[46] Rambus was silent when other members discussed and adopted technologies that were subject to Rambus's evolving patent claims. It twice evaded direct questions about its patent portfolio. It "even provided JEDEC with a list of its patents that omitted the one patent Rambus believed covered JEDEC's work."[47] At the same time, Rambus was amending its patent portfolio to cover JEDEC's standards. Rambus's JEDEC representative oversaw this amendment, and even provided regular

42 *Id*. at 52 (citation omitted).

43 *Id*. at 52-53.

44 *Id*. at 57-59.

45 *Id*. at 51-59.

46 *Id*. at 66-68.

47 *Id*. at 66.

progress reports to Rambus's CEO. The Commission concluded that, in the JEDEC environment discussed above, such conduct was deceptive.[48]

C. Monopoly Power in the Relevant Markets

The relevant markets were worldwide alternatives in four specific technologies necessary for DRAM production: (1) latency technology; (2) burst length technology; (3) data acceleration technology; and (4) clock synchronization technology.[49] Beginning in 1993, each technology was introduced into JEDEC standards.[50] Rambus asserted that its patents cover each technology. It licensed much of the industry, and pursued patent litigation against the rest. Rambus did not dispute that it has monopoly power in the four relevant markets.

Applying Section 2 to Rambus's conduct, the Commission found that "Rambus engaged in exclusionary conduct that significantly contributed to its acquisition of monopoly power in four related markets. By hiding the potential that Rambus would be able to lock-in high royalty obligations, and by silently using JEDEC to assemble a patent portfolio to cover the SDRAM and DDR SDRAM standards, Rambus's conduct significantly contributed to JEDEC's choice of Rambus's technologies for incorporation in the JEDEC DRAM standards and to JEDEC's failure to secure assurances regarding future royalty rates – which, in turn, significantly contributed to Rambus's acquisition of durable monopoly power."[51]

Rambus argued that its monopoly power was not durable because the industry easily could have switched to these alternative technologies without significant additional cost.[52] The Commission rejected this argument. While viable alternatives to Rambus's technology existed *before* Rambus's technology was adopted as standard, once the

[48] *Id*. at 68.

[49] Latency technology controls the length of time between the memory's receipt of a read request and its release of corresponding data. *Id*. at 9-10. Burst length technology "controls the amount of data transferred between the CPU and memory in each transmission." *Id*. at 10-11. Data acceleration technology "determines the speed at which data are transmitted between the CPU and the memory." *Id*. at 11. Clock synchronization technologies "coordinate the internal clock on each DRAM chip with the timing of the computer's system clock." *Id*. at 11-12. Rambus agreed that it was a worldwide market. *Id*. at 72.

[50] *Id*.

[51] *Id*. at 118-19.

[52] *Id*. at 73.

standard was adopted, DRAM manufacturers were "locked in," and could not easily switch to this alternate technology.

The Commission rejected Rambus's claim that "the superiority of its patented technologies was responsible for their inclusion in JEDEC's DRAM standards."[53] The Commission similarly rejected Rambus's argument that "even after two JEDEC standards were adopted and substantial switching costs had accrued, JEDEC and its participants were not locked into the standards."[54] "Rambus now claims that we can and should blind ourselves to the link between its conduct and JEDEC's adoption of the SDRAM and DDR SDRAM standards, as well as to the link between JEDEC's standard-setting process and Rambus's acquisition of monopoly power. These claims fail, both as a matter of fact and as a matter of law."[55]

The Commission concluded that Rambus violated Section 5. "To hold otherwise would be to allow Rambus to exercise monopoly power gained through exclusionary conduct. We cannot abide that result, given the substantial competitive harm that Rambus's course of deceptive conduct has inflicted."[56] The Commission did not issue a final order and invited further briefing on the appropriate remedy.

D. Leibowitz Concurrence

In a separate concurring statement, Commissioner Jon Leibowitz concluded that Rambus's conduct not only violated the antitrust laws, but also what he considered to be the broader purview of Section 5.[57] Relying on legislative interpretation and Supreme Court precedent, he reasoned that the FTC Act is a Congressional mandate to protect competition from unreasonable restraints that "violate the antitrust laws, constitute incipient violations of those laws, or contravene those laws' fundamental policies."[58]

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53 *Id*. at 119.

54 *Id*.

55 *Id*.

56 *Id*.

57 Rambus, Inc., Dkt. No. 9302 (August 2, 2006) (Leibowitz concurring opinion) *available at* http://www.ftc.gov/os/adjpro/d9302/060802rambusconcurringopinionofcommissionerleibowitz.pdf, (hereinafter "Leibowitz concurring opinion") at 21.

58 *Id*. at 10, *see also id*. at 12 reasoning that the FTC Act's "relatively mild consequences" allow it to extend more broadly than the antitrust laws.

Commissioner Leibowitz suggested that there are two elements necessary for a Section 5 violation: (1) identifiable, actual conduct; and (2) evidence of actual or incipient injury to competition.[59] He reasoned that Rambus's "attempts to deceptively subvert JEDEC's laudable standard-setting efforts" satisfied the conduct requirement.[60] Moreover, Rambus's "end run" around the standard-setting process undermined "the policies of the antitrust laws that seek to promote useful innovation and permit joint efforts by rivals that may enhance competition and efficiency."[61]

III. FTC SETS MAXIMUM ROYALTIES ON RAMBUS TECHNOLOGY

On February 2, 2007, the Commission issued an opinion setting the maximum royalties that Rambus could collect going forward on JEDEC-compliant DRAM and non-DRAM technologies.[62] Commissioners Rosch and Harbour partially dissented, arguing that royalty-free licensing was the proper remedy.[63]

A. The Commission's Authority to Craft Remedies

The Commission began by addressing its authority to craft appropriate remedies. It first rejected Rambus's argument that the FTC Act limited the Commission to forward-looking "cease-and-desist" orders.[64] Under Section 5 of the FTC Act, the Commission's

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59 *Id*. at 15.

60 *Id*. at 18.

61 *Id*. at 20.

62 Rambus, Inc., Dkt. No. 9302 (February 5, 2007) (Opinion of the Commission on Remedy) *available at* http://www.ftc.gov/os/adjpro/d9302/070205opinion.pdf, (hereinafter, "Remedy Opinion").

63 Rambus, Inc., Dkt. No. 9302 (February 5, 2007) (Statement of Commissioner J. Thomas Rosch), concurring in part and dissenting in part, *available at* http://www.ftc.gov/os/adjpro/d9302/070205roschstmnt.pdf, (hereinafter, "Rosch Statement"); and Rambus, Inc., Dkt. No. 9302 (February 5, 2007) (Remedy Statement of Commissioner Pamela Jones Harbour), concurring in part and dissenting in part, *available at* http://www.ftc.gov/os/adjpro/d9302/070205harbourstmnt.pdf, (hereinafter, "Harbour Statement").

64 *Id*. at 2-6 (citing, *inter alia*, *Warner-Lambert Co. v. FTC*, 562 F.2d 749, 747 (1977) ("[I]t is clear that the Commission has the power to shape remedies that go beyond the simple cease and desist order.").

remedial authority "extends to restoring, to the extent possible, the competitive conditions that would have been present absent Rambus's unlawful conduct."[65]

Rambus further argued that even if the Commission can order remedies beyond cease-and-desist orders, it lacks authority to order licensing of intellectual property. Complaint Counsel asserted that it was well within the Commission's broad discretion to impose compulsory licenses, including royalty-free licenses, in order to deny Rambus the benefits of its illegal conduct. [66]

The Commission agreed that it has the authority to impose royalty-free compulsory licenses. It acknowledged that cases such as *Hartford-Empire Co. v. United States*[67] have expressed caution about royalty-free licensing, but the Supreme Court has not foreclosed this remedy. The Commission noted that two years after *Hartford-Empire*, the Supreme Court "explicitly left open the possibility that, under different facts, the remedy of royalty-free licensing might be necessary and appropriate."[68] Moreover, earlier Commissions have declared that "where the circumstances justify such relief, the Commission has the authority to require royalty-free licensing."[69] The Commission cautioned, however, that although it has authority to order royalty-free licensing, that power is "subject to important limits," including proof that this relief is necessary to restore the competitive conditions that would have existed absent competitive misconduct. [70]

65 *Id*. at 6.

66 *Id*. at 6-7.

67 323 U.S. 386, 414-15 (1945) (stating reservations regarding royalty-free licensing and concluding that royalty-free licensing was not warranted in the case at hand).

68 Remedy Opinion at 9-10 (citing *United States v. Nat'l Lead*, 322 U.S. 319, 349 (1947)); *see also id*.

69 *Id*. (citing *Am. Cyanamid Co.*, 72 F.T.C. 623, 690 (1967) (requiring licensing at a specified, non-zero royalty rate), *aff'd*, *Charles Pfizer & Co. v. FTC*, 401 F.2d 574 (6th Cir. 1968)); *see also Dell Computer Corp.*, 121 F.T.C. 616, 620-22 (1996) and *Chevron Corp.*, 140 F.T.C. 100 (2005), *available at* http://www.ftc.gov/os/decisions/docs/volume140.pdf (Aug. 2, 2005) (approving consent orders prohibiting enforcement of patents against those practicing a standard).

70 *Id*. at 10 (citing *Nat'l Lead*, 322 U.S. at 351 and noting the Court's use of the term "special proof" without elaboration upon the meaning of this term).

B. The Remedy Imposed on Rambus

The Commission majority next turned to the design of the appropriate remedy in the Rambus matter. Complaint counsel had argued that the Commission should "order royalty-free compulsory licenses for Rambus's pre-1996 patent portfolio for those firms practicing JEDEC's standards."[71] It contended this remedy would "restore[], six years later, the competitive conditions that should have prevailed had Rambus not engaged in deception."[72] The majority concluded, however, that the remedy was not justified under the circumstances of the case.[73] Instead, it set maximum royalties that Rambus could collect going forward.[74]

The Commission did not find the proof necessary to impose royalty-free licensing.[75] If JEDEC and its members had adopted non-Rambus technologies, then *Rambus* would not have received any royalties. JEDEC members would, however, likely have paid royalties to another patent holder. Because Rambus provided a "faulty" cost benefit analysis, and because Complaint Counsel "did not provide a cost-benefit comparison of the available technologies," the majority concluded that it did not know what the costs would have been had JEDEC adopted non-Rambus technology.[76]

Complaint Counsel argued that this "evidentiary gap can be closed because Rambus would not have issued the commitment to license on RAND terms required by JEDEC and EIA regulations."[77] It contended that "Rambus did not want to license technology on RAND terms and [] even made statements that offering RAND terms was contrary to its business model."[78] The Commission rejected Complaint Counsel's argument noting that "[a]n unwillingness to comport with JEDEC policy while pursuing a

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[71] *Id.* at 8.

[72] *Id.*

[73] *Id.* at 12-16.

[74] *Id.* at 27-29.

[75] *Id*. at 12.

[76] *Id*. at 12-13.

[77] *Id*. at 13.

[78] *Id*., *see also id.*, n. 81.

hold-up strategy is not necessarily indicative of how Rambus would have acted after disclosure, when hold up no longer was attainable."[79]

While JEDEC was reluctant to adopt patented technologies, it did not reject the possibility. In fact, the record identified "several occasions in which JEDEC incorporated patented technologies into some standards after securing agreement from the patent holder that the technologies would be licensed on RAND, or specific-royalty, terms."[80] The majority concluded that "while there [was] some evidence that supports the possibility that JEDEC would have chosen alternative technologies, Complaint Counsel have not met the burden of demonstrating that restoring the competition that would have existed in the 'but for' world requires that Rambus license its technology with no compensation."[81]

The Commission then determined "the maximum reasonable royalty rate that Rambus may charge those practicing the SDRAM and DDR-SDRAM standards."[82] Reviewing JEDEC policies and practices, it concluded that in the "but for" world, Rambus's royalty rates would have been negotiated under a RAND commitment. The Commission reviewed rates for other comparable licenses in the industry and found that "a maximum royalty rate of .5% for DDR SDRAM, for three years from the date of the Commission's Order and then going to zero, is reasonable and appropriate." It also found that "a corresponding .25% maximum rate for SDRAM is appropriate."[83]

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79 *Id*.

80 *Id*. at 15-16.

81 *Id*. at 16.

82 *Id*.

83 *Id*. at 19-23.

IV. COMMISSIONER ROSCH PARTIALLY DISSENTS, WOULD ISSUE ROYALTY-FREE LICENSING ON FIRST AND SECOND GENERATION TECHNOLOGY

Commissioner Rosch concurred with the majority's conclusion that Section 5 of the FTC Act authorizes broad relief, including compulsory royalty-free licensing. [84] He dissented, however, because he would "order[] Rambus to license its technology royalty-free to those practicing JEDEC's SDRAM and DDR SDRAM standards."[85] Commissioner Rosch argued that without any precedent on the quantum of "special proof" required for royalty-free licensing, "any plausible doubts should be resolved against the monopolist."[86]

He found that in this case, "there is strong evidence in the record that if JEDEC had been aware of the potential scope of Rambus's patent portfolio, it would have adopted standards that would have avoided Rambus's patents."[87] "JEDEC's rules, the expectations of its membership, and the market's concerns with costs generally, and the cost of Rambus's technologies in particular, all strongly support a finding that a fully informed JEDEC would have adopted standards that did not read on Rambus's patents."[88]

Unlike the majority, Commissioner Rosch was unpersuaded by evidence that indicated JEDEC's willingness to adopt patented technologies into its standards on RAND terms. He found that "the holder's of those patents were, unlike Rambus, manufacturers, and that JEDEC viewed manufacturers differently from non-manufacturers, believing that the former had incentives to cross-license their technology for *de minimis* or no royalties."[89] The Commissioner also would have given more weight to unimpeached testimony from JEDEC members indicating that, if they had known Rambus's true position, they would have adopted alternative standards.[90] Finally, the

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84 Rambus, Inc., Dkt. No. 9302 (February 5, 2007) (Statement of Commissioner J. Thomas Rosch), concurring in part and dissenting in part, *available at* http://www.ftc.gov/os/adjpro/d9302/070205roschstmnt.pdf, (hereinafter, "Rosch Statement").

85 *Id*. at 3.

86 *Id*. at 2 (quoting AREEDA & HOVENKAMP, ANTITRUST LAW ¶653(f) at 104 (2002)).

87 *Id*. at 4.

88 *Id*.

89 *Id*. at 5-6.

90 *Id*. at 6.

Commissioner did not agree that if Rambus had disclosed its patent position, JEDEC would have been able to license Rambus's technology on RAND terms. "[T]he record shows that Rambus was strongly opposed to RAND terms because they were contrary to its business model.[91] Commissioner Rosch concluded that "licensing on terms above zero would enable Rambus to obtain royalties it would not have obtained in the 'but for world.' That would enable Rambus to continue to reap the fruits of its ongoing violation of Section 2."[92]

V. COMMISSIONER HARBOUR WOULD EXTEND ROYALTY-FREE LICENSING TO THIRD-GENERATION DRAM TECHNOLOGY

Commissioner Harbour also partially dissented because she would have ordered compulsory, royalty-free licensing on the SDRAM and DDR-SDRAM standards.[93] Unlike the Commissioner Rosch, however, Commissioner Harbour would have extended royalty-free licensing to the next-generation DDR2-SDRAM standard because the remedy should "apply to technologies included in all JEDEC standards that were developed, *or in development*, at the time Rambus began enforcing its patents."[94]

During the remedy phase, "the Commission has three responsibilities: to stop the unlawful conduct; to prevent the unlawful conduct from recurring; and, importantly, to restore competition lost as a result of the unlawful conduct."[95] To achieve these goals, "the Commission may require relief that prohibits otherwise lawful conduct, if such relief

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[91] *Id*. at 7; *see also id*., at 8 ("Rambus's counsel could not cite the testimony of a single percipient witness, nor a single document in the record, to support its position that Rambus would have offered a RAND commitment.").

[92] *Id*. at 14.

[93] Rambus, Inc., Dkt. No. 9302 (February 5, 2007) (Remedy Statement of Commissioner Pamela Jones Harbour), concurring in part and dissenting in part, *available at* http://www.ftc.gov/os/adjpro/d9302/070205harbourstmnt.pdf, (hereinafter, "Harbour Statement"). Commissioner Harbour also split from the majority regarding burdens of proof. She held that "the burden of proof in the remedial phase is less stringent than the liability phase and the evidence must be weighed accordingly." *Id.* at 8 (citing *United States v. E.I. Dupont de Nemours & Co.*, 366 U.S. 316, 334 (1961)).

[94] *Id*. at 4 (emphasis in original).

[95] *Id*. at 5.

is necessary to prevent ongoing harm to competition."[96] In other words, "those caught violating the [FTC] Act must expect some *fencing in*."[97]

Commissioner Harbour concluded that this fencing in extended to the next-generation DDR2 standard. "Due to the path-dependent nature of JEDEC standard-setting, the inclusion of Rambus technologies in the first- and second-generation standards made it all but inevitable that Rambus technologies also would be included in [third-generation] DDR2. Rambus's exclusionary conduct therefore facilitated the creation of Rambus's DDR2 monopoly."[98]

After reasoning that the Commission's remedy "*can* rightfully reach DDR2," Commissioner Harbour argued that "the Commission *should* do so."[99] The Commissioner noted that since the Commission voted out its administrative complaint in June 2002, the market is rapidly migrating to DDR2. In fact, "it has been projected that DDR2 will achieve a market share of over 77 percent of DRAM revenues in 2007, and over 84 percent by 2008."[100] By not failing to order royalty-free licensing on SDRAM, DDR-SDRAM, and DDR2-SDRAM standards, "Rambus will continue to reap financial benefits that are reasonably related to its successful subversion of JEDEC's standards."[101]

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96 *Id*. ("If the Commission is to attain the objectives Congress envisioned, it cannot be required to confine its road block to the narrow lane the transgressor has traveled; it must be allowed effectively to close all roads to the prohibited goal, so that its order may not be bypassed with impunity.") (citing *FTC v. Ruberoid Co.*, 343 U.S. 470, 473 (1952)).

97 *Id*. (emphasis added).

98 *Id*., *see also id*. at 7 ("By extending the remedy to technologies included in all JEDEC standards developed or in development at the time Rambus began enforcing its patents against JEDEC-compliant products, the Commission would do no more than restore the competitive *status quo ante*.").

99 *Id*. at 9 (emphasis in original).

100 *Id*. (citing Semico Research Corp., *Computing Applications Dominate DRAM Volume: The Growth of White Box*, Appx. Table 6 (June 2004, Report No. VM-102-04). "According to this report, DDR2 DRAM has been projected to account for nearly $25 billion out of a total of $32.2 billion in DRAM revenues in 2007, and $33.6 billion out of $39.9 billion in 2008." *Id*. at n. 33.

101 *Id*. at 10.

VI. EUROPEAN COMMISSION ALSO WILL EXAMINE RAMBUS'S CONDUCT

While still in the preliminary stages, the European Commission ("EC") also is challenging Rambus's conduct, alleging that Rambus engaged in "patent ambush" demanding unreasonably high royalty rates for patents fraudulently accepted as JEDEC standard.[102] The EC could impose a fine of up to 10% of Rambus's global turnover for each year it broke the law.[103] Alternatively, the EC also could require Rambus to license its DRAM technology on RAND terms.[104] European antitrust regulators brought their own action because the FTC's remedy does not cover royalties on non-US patents relating to goods that are not imported into or out of the United States.

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[102] *See, e.g.*, *European Regulators Accuse Rambus of Patent Ambush*, N.Y. TIMES, August 23, 2007.

[103] *Id*.

[104] *Id*.