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Nos. 07-1086, 07-1124

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

RAMBUS INC.,
Petitioner,

v.

FEDERAL TRADE COMMISSION,
Respondent.

On Petitions for Review of Final Orders
of the Federal Trade Commission

FINAL BRIEF FOR RESPONDENT FEDERAL TRADE COMMISSION

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CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

Pursuant to Circuit Rule 28(a)(1), Respondent Federal Trade Commission certifies that:

(A) Parties and Amici

All parties, intervenors, and amici appearing before the Commission and in this Court are listed in the Brief for Petitioner.

(B) Rulings Under Review

References to the rulings at issue appear in the Brief for Petitioner.

(C) Related Cases

The case on review has not been previously before this Court or any other court, and Respondent is not aware of any related cases in this Court or any other court.

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FEDERAL STATUTES

MISCELLANEOUS

GLOSSARY

ALJ	Administrative Law Judge
Br.	Brief for Petitioner Rambus Inc.
CAS	Column Address Strobe
CPU	Central Processing Unit
CX	Complaint Counsel's Trial Exhibit
DDR SDRAM	Double Data Rate Synchronous DRAM
DRAM	Dynamic Random Access Memory
EIA	Electronics Industry Association
FRAND	Fair, Reasonable and Non-Discriminatory (Licensing Terms)
FTC Act	Federal Trade Commission Act (15 U.S.C. §§ 41 *et seq.*)
IDF	Initial Decision Finding (of the ALJ's Initial Decision, Dkt. No. 9302 (February 23, 2004))
JEDEC	Joint Electronic Device Engineering Council
JA	Joint Appendix
JX	Joint Trial Exhibit
Op.	Opinion of the Federal Trade Commission (on Liability), Dkt. No. 9302 (August 2, 2006)
PLL/DLL	Phase Lock Loop/Delay Lock Loop
RAND	Reasonable and Non-Discriminatory (Licensing Terms)

RDRAM	Rambus DRAM
Rem. Op.	Opinion of the Federal Trade Commission on Remedy, Dkt. No. 9302 (February 5, 2007)
RX	Respondent's (Rambus's) Trial Exhibit
SDRAM	Synchronous DRAM
SSO	Standard-Setting Organization
Tr.	Transcript (of the Trial before the ALJ)

ISSUES PRESENTED FOR REVIEW

1. Whether Rambus's course of deceptive conduct with respect to an industry standard-setting organization ("SSO") – creating the misimpression that it did not have patent interests in technologies under consideration as standards, while at the same time using information obtained from the SSO to refine its patent claims to cover those technologies – constitutes "exclusionary conduct," for purposes of applying the Sherman Act's prohibition of monopolization.

2. Whether the Commission properly found a causal link between Rambus's subversion of the standard-setting process and the monopoly power Rambus acquired when its patented technologies were incorporated into industry standards.

3. Whether Rambus's maintenance of the secrecy of its intellectual property is a procompetitive justification for its deceptive conduct.

4. Whether the Commission's remedial order, which acts prospectively to restore the benefits of lost competition, is within the Commission's discretion.

STATUTES AND REGULATIONS

All applicable statutes, etc., are contained in an addendum attached to the Brief for Petitioner.

STATEMENT OF THE CASE

This case concerns a scheme by petitioner, Rambus Inc., to exploit its membership in an SSO to monopolize the market for technologies that the SSO incorporated into industry standards for computer memory. Contrary to SSO practice and policy, Rambus concealed its patent interests and, using information it gained from participating in SSO proceedings, modified its patent applications to ensure that its issued patents would apply to those industry standards. As a consequence, once the industry became locked in to the standards, Rambus became a monopolist, able to exact high royalty payments through patent infringement claims.

Following administrative proceedings under Section 5(b) of the Federal Trade Commission Act ("FTC Act"), 15 U.S.C. § 45(b), including its own *de novo* review, the Federal Trade Commission ("Commission") concluded that Rambus's conduct was exclusionary and significantly contributed to Rambus's acquisition of monopoly power in the markets for four kinds of technology embodied in the standards. The Commission held that this conduct violated Section 5(a) of the FTC Act, 15 U.S.C. § 45(a), applying the principles of Section 2 of the Sherman Act, 15 U.S.C. § 2. The Commission ordered Rambus to cease and desist from such conduct, including its exaction of inflated royalty payments on the basis of the monopoly power it unlawfully achieved. This appeal followed.

STATEMENT OF FACTS

A. The JEDEC Standard-Setting Process

The Joint Electronic Device Engineering Council ("JEDEC") was formed as the semiconductor engineering standardization body of the organization now known as the Electronics Industry Association ("EIA"), a trade group that represents all segments of the electronics industry. During the relevant period, JEDEC comprised over 250 companies, including the world's major manufacturers and purchasers of Dynamic Random Access Memory ("DRAM") – a type of electronic memory – as well as producers of complementary products and systems.[1] Opinion of the Commission (Op.), JA103, 105; Tr. 266, 283, 293-94 (Rhoden), JA1895, 1900, 1902; JX18 at 1-3, JA4236-38.

The fundamental purpose of JEDEC is to achieve agreement on design standards to which manufacturers and purchasers may conform their products. Tr. 1784 (J. Kelly), 1685 (Landgraf), JA1540, 1632. Industry participants value standards because they facilitate interoperability among various components and help to ensure consistent characteristics from multiple suppliers. Tr. 763 (Williams), 994 (Calvin),

[1] In a computer system, DRAM is the area where information is stored and processed on a temporary basis – *i.e.*, while the computer is in operation. Tr. 268 (Rhoden), JA1896. While other forms of memory exist, most computers and many other electronic devices (*e.g.*, printers, servers, cameras) use DRAM. JA103 & n.6.

1324-28 (Sussman), 1692-93 (Landgraf), 1791 (J. Kelly), 3973 (Polzin), 4409-10 (Peisl), JA2031, 989, 1967-68, 1634, 1542, 1745, 1725. In order for DRAM to have any value, it must work "flawlessly" with all other components in a system. Tr. 4410 (Peisl), JA1725; IDF 6, JA580.

JEDEC seeks to develop standards that are free from hidden or restrictive intellectual property rights. JA152; Tr. 1777 (J. Kelly), JA1538. In the words of Richard Crisp, Rambus's primary representative to JEDEC, "[t]he job of JEDEC is to create standards which steer clear of patents which must be used to be in compliance with the standard whenever possible." CX903 at 2, JA2834. The cost of a particular technology is highly relevant to JEDEC's decision whether to adopt it. JA171-73 & nn.404-08; *see, e.g.*, Tr. 2562 (G. Kelley), 5814-15 (Bechtelsheim), JA1422, 975-76; CX2107 at 136, JA3538; CX2777, JA3762. Because of the potentially greater cost of patented items or processes, JEDEC permits the inclusion of known patents in a standard only when the patent holder provides written assurances that it will license them either without charge or on reasonable and nondiscriminatory ("RAND") terms. JA101, 150 & n.285, 163; CX208 at 19, 27, JA2372, 2380.

JEDEC proceedings are subject to EIA policies and procedures.[2] Most notably, EIA Legal Guides provide that standard-setting "shall be carried on *in good faith* under policies and procedures which will assure fairness and unrestricted participation * * * ." CX204 at 5, JA2330 (emphasis added). Also, standards "shall not be proposed for or indirectly result in * * * restricting competition, giving a competitive advantage to any manufacturer, [or] excluding competitors from the market," except where necessary to meet one of the enumerated "legitimate public interest" objectives. *Id.* EIA policy strongly discourages the use of patented technologies in standards, and permits their use only if the patent holder has agreed to licensing on RAND terms or without charge. *See* EP-3, EIA Manual, CX203A at 11, JA2302; EP-7-A, Style Manual for Standards and Publications, JX54 at 9, JA4597. Both manuals were made available to all JEDEC participants. Tr. 1878 (J. Kelly), JA1564.

JEDEC adopted written procedures to help avoid the standardization of patented technologies. Most notably, in JEDEC's 1993 Manual (the "21-I Manual," CX208, JA2354-82), committee, subcommittee, and working group chairpersons were directed to "call to the attention of all those present" at JEDEC meetings both EIA requirements and "the obligation of all participants to inform the meeting of any

[2] From 1991 through 1999, JEDEC was an organization or division within the EIA. JEDEC was incorporated in 2000, but has retained its affiliation with the EIA. JA105 n.25.

knowledge they may have of any patents, or pending patents, that might be involved in the work they are undertaking." *Id.* at 19, JA2372. Although this provision was formulated as a directive to committee chairpersons, EIA General Counsel and JEDEC Legal Counsel John Kelly testified that it was "an effort 'to make it abundantly clear'" that disclosure was expected. JA149 n.282 (quoting Tr. 1932 (J. Kelly), JA1577). As the Commission concluded, the Manual unquestionably "shaped JEDEC members' expectations" about each other's conduct. JA149 n.281.[3]

These policies were communicated to and understood by the members of the JEDEC committee that worked on the standards at issue. Jim Townsend, the chairperson during most of the relevant time, discussed JEDEC patent policies at each meeting, and routinely circulated inquiries about possible patent coverage, asking members to indicate "the intent of your company to patent or not patent the subject matter." CX42 at 3, 13, JA2156, 2166; CX42A at 7, JA2180; CX336 at 1, JA2469; CX342 at 1, JA2474; Tr. 324-25, 330 (Rhoden), JA1910-11. He also delivered this presentation to new members during their orientation. Tr. 341-42 (Rhoden), 1703-04 (Landgraf), JA1914, 1636-37.

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[3] *See also* CX208 at 19, JA2372 (JEDEC Manual footnote stating, "the word 'patented' also includes items and processes for which a patent has been applied and may be pending"); Tr. 1870 (J. Kelly), JA1562 (EIA Publication EP-3 means that participants need to disclose known patents and patent applications); Tr. 1897 (J. Kelly), JA1568 (coverage of applications necessary to make protections effective); Tr. 1893-95 (J. Kelly), JA1567-68 (reference to "patent" includes applications).

Committee members and JEDEC's Legal Counsel repeatedly testified that the 21-I Manual correctly stated JEDEC policy, and emphasized the breadth of that policy. *See* Tr. 1925-28 (J. Kelly), JA1575-76 (confirming that the 21-I Manual "contain[s] a statement of the JEDEC patent policy"); Tr. 2406 (G. Kelley), JA1382 (need "to disclose patent[s] or material that would probably become a patent"); Tr. 317-22 (Rhoden), JA1908-09 ("obligation to disclose everything that is in the patent process," "if it's related, in the same general area"); Tr. 1333-34, 1340-46, 1349 (Sussman), JA1969-73 ("all inclusive" obligation including "[i]ssued patents, patent applications, and if you were about to issue a patent -- if you were about to apply for a patent, all of the above," and including "a gray situation, you weren't sure whether or not the IP or the patent would apply"); Tr. 1693-94, 1702-03 (Landgraf), JA1634, 1636 (policy to disclose "a patent or application for a patent that would potentially be impacting the standard or proposed standard"); Tr. 5032-33 (Kellogg), JA1487 (patent policy extends to "intent to file").

Indeed, Rambus itself similarly understood the breadth of the JEDEC patent policy, as reflected in the communications of its primary JEDEC representative, Richard Crisp. He concluded, for example, after reviewing the JEDEC patent policy, that "they wanted to know about both patents and patent applications that might relate to the works that were going on within JEDEC." CX2104 at 852-53, JA3531-32; *see* *also* JA151 & nn.289-90; CX711 at 188, JA2817 (unacceptable "to not speak up when we know there is a patent issue"); CX5105, JA3870 ("I know that JEDEC takes the position that we should disclose * * *.").[4]

JEDEC members' understanding of its patent policy was also reflected in their behavior – *e.g.*, their disclosure of relevant patents and patent applications. JA154-56 & n.307; *see, e.g.*, JX22 at 14-16, JA4336-38 (tracking list showing disclosure of patents and applications); CX3135 at 16-17, JA3844 (Mitsubishi disclosures of patent applications); RX1559 at 2, JA4716 (Micron disclosure of applications); Tr. 2455 (G. Kelley), JA1394.[5] Three incidents involving attempts to enforce undisclosed intellec-

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[4]A Samsung representative, who later became Vice President of Intellectual Property at Rambus, stated, "It is contrary to industry practice and understanding for an intellectual property owner to remain silent during the standard-setting process – and * * * later attempt to assert that its intellectual property * * * allows it to exclude others from practicing the standard." CX2957 at 2, JA3764.

[5]Rambus's reliance on a statement by an IBM representative supposedly showing the voluntary nature of JEDEC's disclosure policy (Br. 10) is not only contrary to the weight of other evidence, but fails to recognize the context of that statement. Given the vast size of its worldwide operations and patent portfolio, IBM did not believe that it was feasible to search the whole company and bring a complete and accurate list of all relevant patents and applications to JEDEC meetings. *See, e.g.*, Tr. 10983-84 (Grossmeier), 2449-50 (G. Kelley), JA1274-75, 1393. Nonetheless, IBM promised to disclose any relevant patent or application of which any IBM attendee was aware, and to investigate and answer any questions about IBM's patent position. *See, e.g.*, Tr. 2451-52, 2455-58, 2471-73 (G. Kelley), JA1393-95, 1398-99; CX2375 at 2, JA3749 ("IBM agrees to warn of potential applicable patents."); *see also* Tr. 5023 (Kellogg), JA1485. IBM adhered to its commitment to JEDEC by disclosing numerous patents, applications, and even its intent to file applications. Tr. 2434-36, 2438-39 (G. Kelley), 5023-26, 5030-36 (Kellogg), JA1389-90, 1485-88.

tual property were all treated by JEDEC members as serious departures from established JEDEC policy. They engendered sharp responses from JEDEC management and other members, including a strong rebuke for Texas Instruments from the DRAM Task Group chairperson, the representative from IBM. JA154-56 & nn.308, 322; CX2384, JA3761 ("If we have companies leading us into their patent collection plates, then we will no longer have companies willing to join the work of creating standards"); Tr. 2474-77 (G. Kelley), JA1399-1400.

A fundamental premise at JEDEC was that disclosure of a member's patent position must occur early enough to permit JEDEC to avoid the patent problem. JA151 & n.292; *see* Tr. 1984 (J. Kelly), JA1590 (disclosure should occur as soon as "there is any suggestion that the committee's work should move in a certain direction"). Development of standards is a multi-step, consensus-building process. Tr. 406-07, 415-16, 481, 516 (Rhoden), JA1930-31, 1933, 1949, 1959. Typically, members consider a number of proposals while working toward a standard, frequently engaging in heated debate on technological alternatives. *E.g.*, Tr. 434 (Rhoden), JA1937 ("[I]f you give ten engineers a problem, you'll probably get 12 or 14 solutions, and the same is true inside the discussions inside the committee."); CX711 at 14, JA2643 ("There was much wrangling"), 33, JA2662 ("three and a half hours were spent arguing"), 47, JA2676 ("always there are strong opinions"). To make that debate meaningful, "you at least needed to understand the [e]ffect of patents upon things that you were standardizing." Tr. 1002 (Calvin), JA991.

B. Rambus's Course of Conduct

Rambus designs and licenses technologies to companies that manufacture semiconductor memory devices. JA104. In the early 1990s, Rambus was in the early stages of trying to commercialize a new proprietary DRAM architecture, which it called Rambus DRAM or RDRAM. JA104-05; RX81 at 3, JA4645. In April 1990, the founders of Rambus filed Patent Application No. 07/510,898 ("the '898 application"), the original source of all the patents that Rambus later asserted in litigation directed at the JEDEC standards.[6] JA104; CX1451, JA2959-3114; Tr. 1507-08 (Nusbaum), JA1704. Because the '898 application covered multiple inventions, the Patent and Trademark Office required Rambus to separate it into separate "divisionals," which Rambus did in March 1992. Each divisional application, and the numerous later applications flowing from these divisionals, claimed priority to the April 1990 filing date of the '898 application and were based on the specification contained in it. JA104 & n.19; First Set of Stipulations, No. 22 & Exh. A (patent tree), JA914, 917; Tr. 1509-12 (Nusbaum), JA1704-05. Although the '898 application

[6] The '898 application included a description of the claimed invention (the "specification"), which was 62 pages long and included 16 original drawings, and 150 original claims (*i.e.*, statements describing the boundaries of the applicant's right to exclude). CX1451, JA2959-3114; Tr. 1496-97 (Nusbaum), JA1701.

was initially viewed as limited to Rambus's proprietary RDRAM architecture, Rambus subsequently added claims to this application and those flowing from it to extend coverage beyond RDRAM, to the four technologies at issue here. Tr. 2927-28 (Crisp), JA1018.[7]

Rambus made a series of presentations to major DRAM manufacturers and others in the industry, in an effort to license RDRAM and to position it as the *de facto* industry standard. JA105; Tr. 5053-54 (Kellog), 5816-19 (Bechtelsheim), JA1492, 976-77; First Set of Stipulations Nos. 3-7, JA912-13; CX533 at 3, JA2495; CX535 at 1-2, JA2514-15. But at the same time that Rambus was promoting its proprietary RDRAM architecture, JEDEC was working on standardizing a different innovation in memory architecture – known as synchronous DRAM or SDRAM. JA134.

Rambus began attending JEDEC meetings in December 1991 and became a member a short time later. JA134. Shortly after joining JEDEC, Rambus concluded that JEDEC was moving quickly toward standardizing SDRAM. *Id.*; CX672 at 1, JA2625. Recognizing that the adoption of SDRAM as an industry standard would limit its ability to collect royalties for its RDRAM architecture, Rambus shifted its attention to positioning itself to collect royalties based on SDRAM and subsequent JEDEC standards. Its plan was to perfect patent claims on technologies adopted by

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[7]Those technologies are identified at p. 14, *infra*, and described at greater length in the Commission's opinion, JA106-09.

JEDEC, so that it could allege infringement against manufacturers of JEDEC-compliant products.

In March 1992, Rambus Executive Vice-President Roberts met with outside counsel, Lester Vincent, and told him that Rambus "'need[ed] preplanning before accus[ing] others of infringement.'" CX1941 at 1, JA3284; JA135 n. 177. Vincent warned that misleading JEDEC into thinking that Rambus did not intend to enforce its patents could mean that it would be equitably estopped from enforcing them. CX1942, JA3286. He told Rambus executives that the risk would be "less clear cut if Rambus is merely silent," or "possibly abstain[ed] from voting." *Id.*

In May 1992, Rambus CEO Geoffrey Tate convened a company meeting to discuss "[w]hat extensions should we be filing to add claims" to ensure patent coverage of the SDRAM standard. CX5101, JA3869. In June 1992, having received confirmation that JEDEC was "pretty set on using the SDRAMs" (CX1708 at 3, JA3265), he circulated a draft "action plan" for adding claims to Rambus patent applications in order to cover features of the emerging SDRAM standard:

> [W]e believe that Sync DRAMs [SDRAMs] infringe on some claims in our filed patents; and that there are additional claims we can file for our patents that cover features of Sync DRAMs. Then we will be in a position to request patent licensing (fees and royalties) from any manufacturer of Sync DRAMs.

CX543A at 17, JA2553. Rambus's final business plan repeated, "Sync DRAMs infringe claims in Rambus's filed patents and other claims that Rambus will file in updates later in 1992." CX545 at 21, JA2610. Later Rambus internal documents came to refer to the "big hairy audacious goal" of dominating 90 percent of the DRAM market – either by succeeding in marketing RDRAM or by ensuring that the JEDEC standards resulted in its collection of royalties. *See* CX1386, JA2911-23.

From December 1991 to its resignation in June 1996, Rambus attended at least nineteen JEDEC meetings and received numerous materials relating to those meetings and patent disclosure expectations. The meeting discussions covered not only engineering issues but questions of patent rights. Patent discussions occurred in the very first meeting Rambus attended; as early as its second JEDEC meeting, in February 1992, the Rambus representative reported to company management that another participant disclosed that it "do[es] have patents applied for [covering an engineering feature], but * * * they will comply with JEDEC requirements to make it a standard!!!" CX672 at 1, JA2625. Minutes and other documents show that disclosures or discussions of patent issues of *other* firms occurred at no fewer than eighteen of the at least nineteen JEDEC meetings Rambus attended.[8]

[8]JX10 at 2-3, 8-10, JA3933-34, 3939-41 (December 1991); CX34A at 1-2, 7-8, JA2134-35, 2140-41 (May 1992); CX2089 at 130-34, 136-37, JA3356-60, 3362-63 (May 1992); JX13 at 1-2, 4, JA4015-16, 4018 (July 1992); CX42 at 1-3, 16-17, JA2154-56, 2169-70 (September 1992); CX42A at 1, 7-8, JA2174, 2180-81

At the meetings Rambus attended, JEDEC members discussed technologies that JEDEC ultimately adopted in its SDRAM standard and second-generation DDR (*i.e.*, "double data rate") SDRAM standard. Among these were technologies to address four particular issues concerning DRAM functionality: (1) latency; (2) burst length; (3) data acceleration; and (4) clock synchronization.[9] For each of these areas there

(September 1992); JX15 at 1-2, 4, 6, 9, JA4028-29, 4031, 4033, 4036 (March 1993); JX16 at 1, 5, JA4192, 4196 (May 1993); JX17 at 1, 3, 6, 12, 14, JA4222, 4224, 4227, 4233, 4235 (September 1993); JX18 at 1, 3, 17-18, JA4236, 4238, 4252-53 (December 1993); JX19 at 1, 4, 16-17, 24, JA4257, 4260, 4272-73, 4280 (March 1994); JX20 at 1, 4, 17-18, JA4287, 4290, 4303-04 (May 1994); JX21at 1, 14-18, JA4305, 4318-22 (September 1994); JX22 at 1, 3, 12-16, JA4323, 4325, 4334-38 (December 1994); CX82 at 1, 3, 18-25, JA2183, 2185, 2200-07 (March 1995); CX88A at 1-2, 13-14, JA2208-09, 2220-21 (May 1995); JX27 at 1, 4, 20-25, JA4344, 4347, 4363-68 (September 1995); JX28 at 1, 3, 12-18, JA4430, 4432, 4441-47 (December 1995).

[9] Latency technology controls the amount of time between the memory's receipt of a read request and its release of data. JA106; IDF 114, JA595. Burst length technology controls the amount of data that is transferred between the central processing unit ("CPU") and memory. JA107. Data acceleration technology determines the speed at which data is transmitted between the CPU and the DRAM. JA108. Clock synchronization technology coordinates the timing of a computer's system clock with the DRAM's internal clock. JA108-09.

were alternative solutions, which JEDEC members debated.[10] Ultimately, JEDEC adopted a standard in each of these areas over which Rambus – using the information it obtained by being part of JEDEC's deliberations to refine its patent applications – was able to assert patent rights.[11]

Rambus attended JEDEC meetings without once disclosing its patent position with respect to these technologies – information that Rambus knew it was expected to disclose. *See, e.g.*, CX5105, JA3870 (1992 email from Crisp telling Rambus execu-

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[10]Alternative latency and burst length technologies are discussed at JA179-84. *See* JX10 at 71, JA3945; JX12 at 39, 60, 76, 108-13, JA3963, 3980, 3990, 4007-12; CX34 at 32-37, 59, 123, 149, JA2076-81, 2083, 2107, 2133; Tr. 3991-92 (Polzin), 5371, 5478-80, 5386-87, 5398-99, 5409-10, (Jacob), JA1749, 1283, 1309-10, 1286-87, 1289-90, 1292. Alternative data acceleration and clock synchronization technologies are discussed at JA185-91. *See* Tr. 2514 (G. Kelley), 5158-59 (Kellogg), 5426-27, 5433-34, 5445, 5449, 5450-51, 5456-57, 5608 (Jacob), 6681-83 (Lee), JA1410, 151-5, 1296-98, 1301-04, 1343; CX314 at 1, JA2457; CX315 at 1, JA2463; CX318 at 1, JA2468; CX150 at 110-16, JA2273-86; CX371 at 2-3, JA2488-89; JX29 at 17-22, JA4502-07; JX31 at 64, 70-71, JA4520, 4526-27; JX36 at 60-64, JA4550-54.

[11]JEDEC's SDRAM standard incorporated latency and burst length technologies known as "programmable column address strobe (CAS) latency" and "programmable burst length." JX56 at 114, JA4625; Tr. 456-58 (Rhoden), 800-03 (Williams), 1398-1400 (Sussman), 6625 (Lee), JA1943, 2041, 1986, 1656. JEDEC's second generation standard – DDR SDRAM – retained requirements of these technologies (JX 57 at 5, 12-14, JA4630, 4637-39; Tr. 6625 (Lee), JA1656), and also prescribed "dual-edge clocking," a data acceleration technology that allows the transmission of data during both the rising and falling "edges" of the clock (JX57 at 5, 24, JA4630, 4639a; Tr. 5171-72 (Kellogg), 1426-27 (Sussman), 388-89 (Rhoden), 3995 (Polzin), JA1518-19, 1993, 1926, 1750), and "on-chip PLL/DLL" (Phase Lock Loop/Delay Lock Loop), a clock synchronization technology (JX57 at 8, JA4633; Tr. 1426-27 (Sussman), 6643 (Lee), JA1993, 1661).

tives that "JEDEC takes the position that we should disclose [patent positions even before issuance]"); *see also* pp. 7-8, *supra*. In the meantime, Rambus pursued a strategy of filing numerous divisional and continuation applications. Indeed, before it resigned from JEDEC in June 1996, Rambus filed a total of 17 such applications – each of which claimed priority to the filing date of the original '898 application. Rambus's Richard Crisp conceded that one source of information for adding Rambus patent claims was what he observed at JEDEC. CX2092 at 70-72, JA3414-16.

Despite its strategy of nondisclosure, Rambus took a participatory role in JEDEC while it was a member. For example, in June and July 1992, Rambus's JEDEC representative voted on a proposal to include programmable CAS latency and burst length in SDRAM. He did not disclose that Rambus already was working on amending the various divisional applications deriving from its '898 application to include express claims covering those technologies. JA136; Tr. 3080-82 (Crisp), JA1056-57; CX1946-47, JA3287-88; CX252a, JA2434-36; JX13 at 9, JA4023. In fact, he had been reminded of JEDEC disclosure policies by the chairperson of the DRAM task group only one month earlier. Tr. 2486-89 (G. Kelley), JA1402-03; *see also* CX34 at 1, 3, JA2062, 2064 (EIA patent policy shown at May 1992 meeting). When Rambus cast this vote, it failed to follow instructions on the ballot, which directed participants to alert JEDEC management if they were "aware of patents involving this ballot * * *." JX59 at 2, JA4641; CX252a, JA2434-36. JEDEC members – including Rambus – knew these instructions were not limited to issued patents. *See, e.g.*, Tr. 1391-92 (Sussman), JA1984. In May 1993, one week after Rambus filed a preliminary amendment to one of its applications to add a claim "directed against SDRAM" (CX702, JA2629), Rambus maintained its silence as the JEDEC Council formally adopted SDRAM. JA138.

This pattern of participation and nondisclosure continued as JEDEC turned to work on the next generation DDR SDRAM standard. In September 1994, JEDEC met to hear presentations on technologies proposed for that standard, including clock synchronization technologies. JA139. Crisp knew that Rambus was working on adding claims covering on-chip PLL (JA137 & n.201; Tr. 3121-22 (Crisp), JA1066; CX686, JA2628), but did not disclose that information. Tr. 3316 (Crisp), JA1116. In October 1995, Rambus and other JEDEC members received survey ballots requesting their views on whether on-chip PLL/DLL and dual-edge clocking should be included in the standard. JA140; CX260 at 12, JA2451; JX28 at 45, JA4474. Rambus was silent as to its patent interests, even though one week earlier it had added a claim regarding on-chip PLL/DLL to a filed application (JA140; IDF 963, JA714-15; CX1502 at 233-39, JA3255-61) and had a pending application relating to dual-edge clocking. CX1267, JA2839; Tr. 6132-35, 6144-46 (Diepenbrock), JA1202-03,

1205. At a subsequent meeting, Rambus remained silent while another JEDEC member – MOSAID – disclosed that it had applied for a patent relating to PLLs/DLLs. Even after MOSAID's disclosure had been reported to Rambus management, Rambus took no action to disclose its own patent position. Tr. 3341-44 (Crisp), JA1122-23; CX711 at 191-92, JA2820-21. As before, Rambus kept its patent position secret to assure its future market power. CX711 at 73, JA2702 ("[I]t makes no sense to alert them to a potential problem they can easily work around").

While consistently withholding information about its patent interests relevant to JEDEC standards, Rambus affirmatively misled JEDEC members into believing that it was making disclosures in accordance with JEDEC policy. In 1993 Rambus disclosed one of its patents (the newly-issued '703 patent), despite the fact that none of its claims covered SDRAM. JA147 & n.275. Later, Crisp pointed to this disclosure in the course of the discussion of another technology (not at issue here) – thus fostering the belief that Rambus routinely disclosed relevant patent interests. *Id.*; CX711 at 167, JA2796; Tr. 3173-74, 3312-13 (Crisp), JA1080, 1115.

In 1995, as Rambus redoubled its efforts "to get the necessary amendments completed, the new claims added" (CX837 at 2, JA2830), it hired a patent attorney, Anthony Diepenbrock. JA141. He presented an "offensive" strategy targeting technologies, such as dual-edge clocking and PLLs, that would be necessary to create a standard that would compete with RDRAM. *See* CX1267, JA2839; Tr. 6132-33 (Diepenbrock), JA1202. He repeated Lester Vincent's earlier warning that Rambus, because of its JEDEC participation, risked losing the ability to enforce its patents. JA141. Vincent and Diepenbrock also discussed with other Rambus executives concerns regarding the Commission's order in *In re Dell Computer Corp.*, 121 F.T.C. 616 (1996), a consent order based on allegations of misconduct before an SSO. *See* JA141-42 & nn.236-38. Finally, in June 1996, Rambus resigned from JEDEC. JA142; CX887, JA2831-32.

Rambus's deception continued even as it resigned. In its written resignation from JEDEC, Rambus submitted a list – purportedly of Rambus's "U.S. and foreign patents." CX887 at 2, JA2832. Rambus did not mention its recently-issued '327 patent even though it thought that this patent covered dual-edge clocking, a technology that JEDEC was considering for DDR SDRAM and later adopted. JA140, 144; *see* CX942, JA2837 (referring to the '327 patent as part of a "minefield" of Rambus patents applicable to DDR SDRAM).

After resigning from JEDEC, Rambus continued to implement its plan of filing and amending patent applications and concealing those applications from its customers and partners. JA144. As Rambus CEO Geoffrey Tate instructed executives in a 1997 email, "do *NOT* tell customers/partners that we feel DDR may infringe

– our leverage is better to wait." CX919, JA2836. Rambus planned to remain silent and wait to "assert patents against Direct partners until ramp reaches a point of no return." CX5011 at 3, JA3865. The DDR SDRAM standard – which incorporated all four Rambus technologies – was approved by a JEDEC subcommittee in March 1998 and published as a JEDEC standard in August 1999. JA144-45.

In 2000, after the proprietary RDRAM technology had failed to gain broad acceptance and industry members were locked into JEDEC standards, Rambus filed the first in a series of patent infringement claims and counterclaims against memory manufacturers and other industry participants using JEDEC-compliant standards. JA145 & n.262, 196. Each of the patents that Rambus asserted against SDRAM- and DDR SDRAM-compliant products traces its lineage to the original '898 application. JA135 n.176; IDF 171, JA603; Tr. 1514 (Nusbaum), JA1705.

C. Proceedings Before the Commission

1. Complaint and initial proceedings

In June 2002, the Commission issued an administrative complaint alleging that Rambus had violated Section 5 of the FTC Act by, *inter alia*, monopolizing the four technology markets described above. JA918-53. The Commission alleged that Rambus had deceived JEDEC by failing to disclose that it "was actively working to develop" patent rights involving "specific technologies proposed for and ultimately adopted in the relevant standards." JA920. The complaint alleged that Rambus, through this and "other bad-faith, deceptive conduct, purposefully sought to and did convey to JEDEC the materially false and misleading impression that it possessed no relevant intellectual property rights." *Id.*

In February 2004, an FTC administrative law judge ("ALJ") issued an initial decision dismissing the complaint. JA559-906. The Commission then conducted a detailed *de novo* review of the entire record, including the ALJ's proposed findings and initial decision. The Commission twice reopened the record to consider newly discovered and supplemental evidence that was not available to the ALJ.[12]

2. The Commission's liability ruling

Concluding that the ALJ had applied an incorrect legal analysis and failed to take into account relevant facts, a unanimous Commission set aside the ALJ's findings and conclusions other than those it expressly adopted. JA118. After conducting a detailed review of the entire record, the Commission concluded that Rambus had

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[12]Specifically, all of the "CX" exhibits with numbers 5000 and higher, many of which are cited in the Commission's opinion and herein, were made available to the Commission only after being produced in private litigation, in connection with disputes relating either to Rambus's corrupted back-up tapes or to its alleged spoliation of evidence. *See* JA114, 213, 215 & nn. 627, 647. Although the Commission noted that Rambus's alleged spoliation could have denied it a thorough examination of Rambus's conduct, with some evidence "preserved only fortuitously," it concluded that in the end it did not need to resolve that issue because its "findings stand firmly on the evidence that has survived." JA215.

exploited its participation in JEDEC to obtain patent coverage of technologies incorporated into JEDEC standards. JA100. The Commission found that Rambus's deceptive conduct – most notably, its failure to reveal its patent interests to other JEDEC members – was calculated to foster the belief that Rambus did not have, and was not seeking, patents that would be enforced against JEDEC-compliant products. JA164. The Commission determined that this conduct interfered with JEDEC's ability to conduct a fair appraisal of the technological alternatives available to it, and undermined the ability of JEDEC participants to protect themselves from "patent hold-up." JA100, 151-52, 164-65. The Commission held that Rambus's conduct was "exclusionary" under the standards of Section 2 of the Sherman Act, and contributed significantly to Rambus's acquisition of monopoly power in markets for the four technologies, in violation of Section 5 of the FTC Act. JA165.

The Commission started by explaining that deception can constitute exclusionary conduct because it can distort market choices and thus impair efficiency. JA126. While drawing on its experience with legal standards of deception under the FTC Act,[13] the Commission recognized that these standards must be adapted to the legal and factual circumstances. For example, Section 2 principles dictate that only actions capable of harming the competitive process are "exclusionary." JA127. The

[13] *E.g.*, FTC Policy Statement on Deception (Oct. 14, 1983) (published as appendix to *In re Cliffdale Assocs., Inc.*, 103 F.T.C. 110, 174-84 (1984)).

Commission rejected, however, Rambus's attempts to limit the inquiry to a narrow economic "sacrifice test," recognizing that conduct like that charged here could be virtually cost-free but nevertheless fail to pass muster when one considers "'whether the monopolist's conduct on balance harms competition.'" JA128 at 31 (quoting *United States v. Microsoft Corp.*, 253 F.3d 34, 58-59 (D.C. Cir. 2001) (en banc)).

The Commission pointed out that an assessment of deceptive conduct under Section 2 must take into account the context in which it occurs. JA129-32. A standard-setting context is one in which deception is especially problematic, both because the SSO's policies and practices may give members a legitimate expectation of good faith and candor, and because deception can result in distorted technology choices to which the industry may become locked in. JA130-31.

The Commission found Rambus's conduct materially deceptive in light of "the totality of the circumstances in which that conduct occurred." JA148. The Commission found that Rambus "played on [the] expectations" of JEDEC members by remaining silent while members discussed technologies Rambus was seeking to patent, evading questions about its patent portfolio, and misleading JEDEC members into believing that it had disclosed any relevant patent interests. JA163.[14] The Com-

[14] By contrast, the Commission explained, the ALJ's analysis was limited to the narrow question whether there were JEDEC rules that expressly imposed an affirmative duty on members to disclose their patents and applications. JA148. Such a limited analysis was erroneous because "[t]he Complaint * * * alleged not just a

mission also found that, notwithstanding the fundamental obligation of "good faith," Rambus used information gained through its JEDEC participation to tailor its patent claims to cover necessary parts of the proposed standards. JA164.

The Commission rejected Rambus's contention that the DRAM industry was aware of the relevant patents and patent applications.[15] JA156-69. As the Commission found, the prevailing view was that RDRAM "was quite different from the SDRAM and DDR SDRAM standards," and that Rambus's early public disclosures appeared to be limited to RDRAM. JA157-58.

In assessing Rambus's proffered justifications for its conduct, the Commission acknowledged that, in a competitive marketplace, "companies generally are justified in choosing not to share their unpublished patent applications and trade secrets." JA166. The Commission concluded, however, that this abstract proposition could not

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breach of a duty to disclose under JEDEC rules, but a course of conduct that was materially deceptive under *all* of the circumstances in which the standard setting occurred." JA148. On similar grounds, the Commission distinguished the decision of the Federal Circuit in *Rambus Inc. v. Infineon Techs. AG*, 318 F.3d 1081 (Fed. Cir. 2003). JA148 n.277. As the Commission explained, the narrow question before the Federal Circuit was whether Rambus's alleged breach of a duty to disclose constituted fraud under Virginia law. The Federal Circuit did not consider a federal antitrust claim alleging an exclusionary, deceptive course of conduct. Furthermore, the Commission explained, the Federal Circuit applied a different standard of proof and relied on a different and significantly smaller evidentiary record. *Id.*

[15] Rambus argued before the Commission that JEDEC knew about the nature and scope of its patent interests, but has abandoned that argument in its brief to this Court.

amount to a procompetitive justification for Rambus's "deliberate course of deceptive conduct that included selective omissions and outright misrepresentations." *Id.* If Rambus believed that protecting such information was important, it always "had the option to refrain from participating in JEDEC." *Id.* The Commission also rejected Rambus's contention that disclosure would have jeopardized its ability to obtain foreign patents, and found no record support for the hypothetical notion that disclosure might expose Rambus to the risk a competitor might claim the same invention. JA167-68.

The Commission also found ample record evidence to establish a causal link between Rambus's exclusionary conduct and its monopoly position. JA171-76. It noted Rambus's specific intent to influence JEDEC's assessment of the relevant technologies, the great sensitivity of JEDEC members to cost concerns, the availability of alternatives to Rambus's patented technologies, and the "prolonged debate" at JEDEC. *Id.* The Commission concluded that, but for Rambus's deception, JEDEC would have chosen another course. Either JEDEC would have chosen alternative technologies, or it would have insisted on prior RAND assurances from Rambus, with an opportunity for members to seek greater specificity through *ex ante* licensing negotiation. JA171.[16] The Commission also found a clear causal link between

[16] The Commission, however, agreed with Rambus that the record did not establish a sufficient causal link between its conduct and JEDEC's adoption of

Rambus's impact on JEDEC proceedings and its monopoly power, given that the very purpose of those proceedings was to foster market-wide uniformity and that JEDEC-compliant DRAMs historically had predominated. JA174-76.

The Commission rejected Rambus's various attempts to refute this showing of causation – in particular, its assertion that selection of its technologies was inevitable because of their supposed superiority. JA178-93. The Commission explained that Complaint Counsel were not required to show that Rambus's conduct was the *sole* cause of its monopoly power, but rather that it was "'capable of making a significant contribution to'" the creation or maintenance of monopoly power. JA177 (quoting *Microsoft*, 253 F.3d at 79). The Commission examined at length the relevant Rambus and alternative technologies, and concluded that the evidence did not support Rambus's contention that its technologies were necessarily superior, particularly in light of the royalty costs. JA179-91.

The Commission considered and rejected arguments that even an established link between Rambus's conduct and the JEDEC standards would not matter to consumer welfare. The Commission explained that JEDEC's industry-wide impact necessarily implicates consumer welfare. Furthermore, the Commission held, the "winner-take-all" aspect of standard-setting does not excuse deception that distorts the

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standards for the next generation of DRAM – *i.e.*, DDR2 SDRAM. JA196, 207-11.

process. JA193-95. Finally, the Commission rejected Rambus's arguments that those who practiced the standards were not "locked in." JA195-207. The Commission pointed to evidence of high switching costs, delay, and the flawed analysis provided by Rambus's expert. *Id.*

3. Remedial and reconsideration proceedings

In February 2007, after supplemental proceedings on the question of remedy, the Commission issued a final order. The Order prohibits Rambus from making any misrepresentations concerning its patents or applications to any SSO or its members, and from taking any action that would lead an SSO or its members unknowingly to infringe any Rambus patent. JA62-63; *See* Opinion of the Commission on Remedy (Rem. Op.), JA29-58.

The order (as clarified after later cross-motions for reconsideration) requires Rambus prospectively to license its SDRAM and DDR SDRAM technologies on a nondiscriminatory basis and prohibits Rambus from collecting more than prescribed maximum royalties for practicing those standards. JA65-66. Although "[r]oyalty rates unquestionably are better set in the marketplace * * *" (JA44), the Commission determined that setting maximum rates was necessary to "restore ongoing competition and thereby to inspire confidence in the standard-setting process." JA39. Rather than allowing Rambus to benefit from the uncertainty concerning reasonable negotiated rates that its own misconduct had created, the Commission looked to "real-world examples of negotiations involving similar technologies" and used Rambus's own RDRAM licenses as a starting point. JA46-47. The Commission rejected, however, Complaint Counsel's argument that royalty-free licensing was warranted. JA40.[17]

SUMMARY OF ARGUMENT

JEDEC's unwitting adoption of patented Rambus technologies as industry-wide standards made Rambus a monopolist in four technology markets. Under basic Section 2 principles, the chief remaining question is whether the conduct through which Rambus achieved monopoly power was "exclusionary," or, on the other hand, "competition on the merits." *Microsoft*, 253 F.3d at 50, 58. The Commission properly found that Rambus's deceptive course of conduct at JEDEC was anything but competition on the merits.

The Commission recognized that commercial deception interferes with consumer welfare by distorting economic decision-making. This distortion is especially dangerous in the context of industry standard-setting, because participants expect mutual fair dealing and compliance with SSO policies, and because corrupted standards can have widespread, adverse effects. The Commission's ruling imposes

[17]The Commission subsequently granted in part Rambus's motion for a stay of the order pending the present appeal. JA21-23. Any royalties or other consideration in excess of that allowed by the final order are to be held in escrow pending the disposition of this appeal.

no duties on firms to assist competitors or share trade secrets; instead, it requires them to refrain from conduct that, in context, is deceptive and harmful to competition. (Part I.B.1.)

The Commission's finding of deceptive conduct was based on an exhaustive factual analysis of JEDEC members' legitimate expectations based on that organization's policies and practices, and of Rambus's years-long campaign to subvert those policies and practices. EIA and JEDEC consistently sought to avoid patented technologies and required members to act cooperatively and in good faith. Specifically, meeting participants were instructed "to inform the meeting of any knowledge they may have of any patents, or pending patents, that might be involved in the work they are undertaking." CX208 at 19, JA2372. The testimony of numerous witnesses, as well as evidence of JEDEC members' contemporaneous actions, confirmed these policies. Rambus understood these policies, but flouted them by withholding all information about its patent interests in the four technologies at issue, at the same time that it was perfecting its patent claims on those technologies. It magnified its deception by making selective disclosures of irrelevant information, thus lulling JEDEC members into believing that it would disclose relevant patent information. The Commission's condemnation of such conduct will neither chill SSO participation nor impose burdens on SSOs, but will simply foster honest, procompetitive standard-setting activity. (Part I.B.2.)

Rambus tries to evade responsibility for its deception by contending that it had "nothing to disclose" because its patent claims as they then stood would not have supported an infringement action. But this is simply part of Rambus's shell game. It filed its initial patent application in 1990, and has always contended that it had invented by then everything covered by the numerous amendments and divisional applications it has subsequently pursued. It always intended to defer infringement actions until the industry was locked in to its technologies, and it exploited its participation in JEDEC to refine its patent claims in preparation for those actions. Its failure to disclose any of this in the "cooperative" JEDEC setting was patently and materially deceptive. (Part I.B.3.)

The Commission found that, in light of JEDEC members' strong desire to avoid the cost of patent royalties and the industry-wide acceptance of JEDEC standards, Rambus's deception contributed significantly to its acquisition of monopoly power. Under this Court's controlling precedent in *Microsoft*, this finding fully supports Section 2 liability. The Commission further found that, but for Rambus's conduct, JEDEC members would have either chosen alternative technologies or insisted on prior commitments or negotiations to ensure reasonable royalty rates. Rambus's conduct prevented either of these outcomes, and thus reduced consumer welfare and harmed competition. Rambus errs in arguing that the Commission required it to "prove causation," simply because it gave Rambus the additional opportunity of breaking the causal chain by showing that the choice of its technologies was "inevitable" – a showing it could not make. (Part I.C.)

Although legitimate procompetitive effects may justify conduct that otherwise appears anticompetitive, Rambus has offered no more than theoretical justifications, based on its asserted interest in maintaining the confidentiality of patent information. The Commission correctly rejected these bare assertions, because they were entirely unsubstantiated and because they have no bearing on the specific conduct at issue, which is Rambus's pattern of deception. If Rambus had legitimate and weighty reasons for keeping its patent information secret, it could have refrained from putting itself forward as a JEDEC participant. (Part I.D.)

Having found that Rambus abused SSO proceedings to gain monopoly power, the Commission acted well within its statutory discretion in fashioning a remedy that not only prevents future deception but also prospectively restores the benefits of competition. While rejecting the more stringent remedy of royalty-free licensing, the Commission recognized the need to set royalties so as to provide licensees with meaningful relief based on rates they might have achieved had Rambus revealed its patent interests prior to adoption of the SDRAM and DDR SDRAM standards. The Commission also acted reasonably in applying the maximum royalty rates to any patents affecting the industry standards that were the target of Rambus's deception. (Part II.)

ARGUMENT

I. THE COMMISSION PROPERLY FOUND A VIOLATION OF SECTION 5

A. Standard of Review

Review of the Commission's legal analysis is *de novo*, "although even in considering such issues the courts are to give some deference to the Commission's informed judgment." *FTC v. Indiana Fed'n of Dentists*, 476 U.S. 447, 454 (1986); *see Polygram Holding, Inc. v. FTC*, 416 F.3d 29, 33 (D.C. Cir. 2005). The "findings of the Commission as to the facts, if supported by evidence, shall be conclusive." 15 U.S.C. § 45(c). As the ultimate factfinder, the Commission is entitled to deference and is not bound by the ALJ's factual determinations,[18] even on issues of witness credibility. *See FCC v. Allentown Broadcasting Corp.*, 349 U.S. 358, 363-64 (1955); *Universal Camera Corp. v. NLRB*, 340 U.S. 474, 496 (1951) (substantial evidence standard "is not modified in any way when the [agency] and its [ALJ] disagree"); *Kay*

[18] In light of the Commission's *de novo* review of supplemental evidence that was not available to the ALJ, this principle applies with special force in the present case.

v. FCC, 396 F.3d 1184, 1189 (D.C. Cir. 2005); *see also Biltmore Forest Broadcasting FM, Inc. v. FCC*, 321 F.3d 155, 164 (D.C. Cir. 2003) (no special deference to ALJ's evaluation of witness credibility that turns on interpretation of the record).

Contrary to Rambus's assertion, the ALJ's findings of fact were not "swept aside." Br. 4. Rather, the Commission conducted a close review of the initial decision and adopted a number of the ALJ's findings. *See, e.g.*, JA102 n.3, 118, 170. The Commission concluded, however, that the ALJ had applied an incorrect standard of proof and erroneous legal analysis, and failed to take into account facts that were relevant under the correct legal analysis. *See* JA123 n.123, 128, 146-47 n.272, 149 n.281, 156-59, 160 n.344, 163, 166, 174, 176, 200, 206 n.596, 211 n.622, 212 n.624. Therefore, Rambus's reliance on this Court's decision in *Morall v. DEA,* 412 F.3d 165 (D.C. Cir. 2005), is misplaced. *See id.* at 179 (criticizing DEA for ignoring findings that went to heart of central issue of witness credibility). Nor can Rambus find any comfort in *Cinderella Career & Finishing Schools, Inc. v. FTC*, 425 F.2d 583, 586 (D.C. Cir. 1970). In *Cinderella*, this Court sustained the Commission's ability to overturn its ALJ, but held that the Commission should not have relied on its own expertise to interpret the challenged advertising without also taking into account testimony adduced before the ALJ. The Commission in the present case conducted a detailed and exhaustive analysis of the entire record.[19]

B. The Commission Properly Found That Rambus's Conduct Was Exclusionary

Rambus does not deny that it achieved monopoly power in the four technology markets at issue. JA170 & n.399. The only question is whether it did so by means of actions that were "exclusionary, rather than merely * * * vigorous competition." *Microsoft*, 253 F.3d at 58. As this Court has recognized, "the means of illicit exclusion, like the means of legitimate competition, are myriad" and not subject to easy enumeration. *Id.*; *Caribbean Broadcasting Sys., Ltd. v. Cable & Wireless PLC*, 148 F.3d 1080, 1087 (D.C. Cir. 1998); *accord*, *Conwood Co., LP v. U.S. Tobacco Co.*, 290 F.3d 768, 783 (6th Cir. 2002). The task for an antitrust adjudicator is to "distinguish[] between exclusionary acts, which reduce social welfare, and competitive acts, which increase it." *Microsoft*, 253 F.3d at 58.

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[19] Rambus's reliance on *Schering-Plough Corp. v. FTC*, 402 F.3d 1056 (11th Cir. 2005), is also misplaced. In *Schering*, the Eleventh Circuit acknowledged that the Commission's findings, "'if supported by evidence, shall be conclusive,'" whether or not the Commission agrees with its ALJ. *Id.* at 1062 (quoting 45 U.S.C. § 45(c)). The court then stated that it "may, however, examine the FTC's findings more closely when they differ from those of the ALJ." *Id.* If *Schering* can be read to support a heightened standard of judicial review in such cases – as Rambus seems to contend – its ruling contradicts this Court's pronouncements. *See, e.g.*, *Kay*, 396 F.3d at 1189; *Biltmore*, 321 F.3d at 164.

The Commission carefully addressed that task, applying Section 2 principles to conclude that Rambus's conduct – comprising deception of JEDEC members by its actions, words, and silences, and exploitation of the standard-setting process to gain control over standardized technologies – was not "competition on the merits," but was instead exclusionary conduct that distorted the standard-setting process and ultimately harmed consumers. JA125-26. In attacking the Commission's holding, Rambus ignores the Commission's actual reasoning and complains that the Commission imposed "novel" affirmative duties on it to "assist its competitors" and "share [intellectual] property" (Br. 31-32), so that its rivals would be "better off than they would have been if Rambus had done nothing" (*id.* at 31). These accusations have no basis in the Commission's opinion.

As the Commission explained, Rambus's characterization of its conduct as a "refusal to deal" simply "ignores much of its deceptive course of conduct," which "included selective omissions and outright misrepresentations" that distorted the standard-setting process. JA166. Moreover, the Commission noted that Rambus had the option of simply refraining from participating in JEDEC. *Id.* Accordingly, Rambus's arguments based on cases that have properly limited affirmative duties to assist competitors[20] are entirely beside the point. The Commission's finding of exclusionary conduct here is solidly based in antitrust precedent and amply supported by the record.

1. Deception and abuse in the context of industry standard-setting pose serious threats to competition and consumer welfare

Because markets depend upon accurate information to inform decisions that lead to efficient outcomes, deceptive conduct can have exclusionary effects by distorting those decisions. JA125-26 (citing, *inter alia*, *California Dental Ass'n v. FTC*, 526 U.S. 756, 773 n.9 (1999) ("false or misleading advertising has an anticompetitive effect")). The dissemination of false information – whether expressly or by implication, whether by advertising or in communications between businesses – is not "competition on the merits" and does not enhance welfare. Accordingly, commercial deception can be anticompetitive conduct that supports a Section 2 claim. *See Microsoft*, 253 F.3d at 76-77 (misleading statements to software developers); *Caribbean Broadcasting*, 148 F.3d at 1087 (misrepresentations to advertisers).

[20]Br. 31-33 (citing, *inter alia*, *Verizon Communications, Inc. v. Law Offices of Curtis V. Trinko*, 540 U.S. 398 (2004), and *In re Independent Serv. Orgs. Antitrust Litig.*, 203 F.3d 1322 (Fed. Cir. 2000)). As the Third Circuit recognized, in a recent case that also involved allegations of monopolization by means of abuse of industry standard-setting procedures, such a claim does not involve a "refusal to deal" or to assist competitors. *See Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297, 316 (3d Cir. 2007).

The Commission has a long record of assessing deception in commercial transactions, which it properly drew upon in addressing Rambus's deception. JA126-27. Rambus objects to this aspect of the Commission's analysis (Br. 42-44), but ignores the Commission's careful attention to context in assessing deceptive conduct. The key inquiries regarding deceptive practices are whether they concern information that is "material" to an economic actor, and whether they are likely to affect decisions of persons "acting reasonably under the circumstances." JA127 (citing FTC Policy Statement on Deception, 103 F.T.C. at 171). Contrary to Rambus's supposition, these bedrock principles do not represent a special standard for "unsophisticated consumers."[21] Rather, they apply broadly but must be carefully tailored to the commercial context – which is precisely what the Commission did. JA129-32.

Whether commercial communications are deceptive depends upon the legitimate expectations of the persons to whom they are directed. JA129; *cf.* FTC Policy

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[21]Rambus goes far afield in arguing that the Commission's observations about the pernicious effects of deception on economic decision-making are somehow tied to the policies of the 1938 Wheeler-Lea amendment to the FTC Act. Br. 44. Nothing in the Wheeler-Lea amendment withdrew or curtailed the Commission's previously recognized authority to pursue deceptive conduct in a competition case, as Rambus seems to contend. That amendment was simply intended to clarify that, in the context of practices aimed at consumers, the Commission could act to prevent "unfair or deceptive acts and practices," even absent proof of an adverse effect on competition. *See generally FTC v. Cinderella Career & Finishing Schools, Inc.*, 404 F.2d 1308, 1311 (D.C. Cir. 1968); *Globe Cardboard Novelty Co. v. FTC*, 192 F.2d 444, 446 (3d Cir. 1951).

Statement on Deception, 103 F.T.C. at 171 ("If the representation or practice affects or is directed primarily to a particular group, the Commission examines reasonableness from the perspective of that group"). Although JEDEC members are assuredly not "unsophisticated consumers," the environment in which they operate gives rise to expectations about the communications other members will make. JA131. If – as the Commission found here – the SSO "has determined to carry out its work in an environment ostensibly characterized by cooperation," participants are "less wary of deception" and legitimately expect candor. *Id.*; *see Broadcom*, 501 F.3d at 312;[22] *cf. Microsoft*, 253 F.3d at 76 (deception resulting from "reli[ance] on Microsoft's public commitment to cooperate * * * ").

Rambus's various criticisms of the Commission's reliance on the legitimate expectations of JEDEC members miss the mark in several ways. Rambus accuses the Commission, for example, of using the antitrust laws to impose external affirmative obligations on SSO members, possibly against the considered judgment of the SSO. Br. 35-37. The Commission made it quite clear, however, that SSOs are free to make

[22] In *Broadcom*, the Third Circuit adopted the reasoning of the Commission's "landmark" decision in the present case (501 F.3d at 311), and ruled that a private plaintiff had stated a cause of action under Section 2 based on deceptive conduct with respect to an SSO. Rambus's attempts to distinguish *Broadcom* (Br. 55) are unavailing. *See* note 38, *infra*. Indeed, the deception there was attenuated in comparison to that practiced by Rambus, since the patent-holder had revealed its intellectual property interests while providing a RAND commitment (on which it allegedly later reneged). *Id.* at 304.

their own decisions regarding the degree of mandatory disclosure. JA131-32. Rambus is similarly wrong in charging that the Commission based its conclusions on mere "subjective expectations" of JEDEC members. Br. 38. As discussed further below, the Commission's conclusions regarding the deceptive nature of Rambus's conduct were based on Rambus's demonstrable departures from policies that were communicated to and understood by JEDEC members. Rambus also errs in supposing that, to constitute exclusionary conduct under Section 2, a misleading omission or other deceptive act must contravene a "clear and unequivocal extrinsic duty" imposed by the letter of written rules. Br. 34. Whatever the proper standard may be in litigation involving common law fraud, the inquiry whether Rambus engaged in exclusionary conduct by deceiving JEDEC members is a *factual* one. It is properly based not only on written rules, but on other documentary materials, testimony of participants regarding their contemporaneous understanding of those materials, and evidence of members' conduct in pursuing JEDEC activities.

Standard-setting participants who violate legitimate expectations of candor and cooperation can harm consumer welfare by preventing SSOs from achieving the efficiency gains that they often provide. *See American Soc'y of Mech. Engineers, Inc. v. Hydrolevel Corp.*, 456 U.S. 556 (1982); *Indian Head, Inc. v. Allied Tube & Conduit Corp.*, 817 F.2d 938 (2d Cir. 1987), *aff'd*, 486 U.S. 492 (1988). In the latter case, an

SSO member unlawfully "subverted" a standard-setting process, by packing a meeting with sham members. The company was held liable, despite "its literal compliance" with the SSO's rules. 817 F.2d at 947. The Supreme Court affirmed on other grounds, but also noted that "literal compliance with the rules" of an SSO cannot save anticompetitive conduct from antitrust liability, since "the hope of procompetitive benefits depends upon the existence of safeguards sufficient to prevent the standard-setting process from being biased by members with economic interests in restraining competition." 486 U.S. at 509.[23]

Deception in standard-setting poses a serious danger of creating durable market power. JA129-31. Unlike deceptive advertising claims, which are subject to countermeasures by marketplace rivals, deception in a private standard-setting body can obscure "crucial information, known only to one industry member, until it [is] too late to counteract the consequences." JA130. Where patent-related information comes to light only after the SSO has "complete[d] its lengthy process of evaluating technologies and adopting a new standard" and industry participants are "locked in" to the new standard, the patent holder gains the power to collect supracompetitive royalties, and consumer welfare suffers. *Broadcom*, 501 F.3d at 310.

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[23] *Allied Tube* was a Section 1 case, but the courts' evaluation of the pernicious nature of conduct that "violate[s] the integrity of [SSO] procedures" (817 F.2d at 947) applies *a fortiori* where, as here, a single firm is capable of bringing about the same result and acquiring monopoly power.

2. The Commission properly found Rambus's conduct at JEDEC deceptive and anticompetitive

Applying these principles, and analyzing *de novo* the extensive factual record, the Commission found that Rambus's conduct amounted to a pattern of deception and exploitation. JA100. Rambus presented itself as a cooperative member of JEDEC that abided by its policies, yet withheld highly material information regarding its patent interests. Rambus led JEDEC members to believe that it had no relevant patent interests, yet used the information it gleaned from JEDEC proceedings to perfect its patent coverage of the standardized technologies. In finding this conduct deceptive and anticompetitive, the Commission imposed no extrinsic duties on Rambus and imposed no standards of conduct on JEDEC. It simply engaged in a thorough factual review of the JEDEC standard-setting process and Rambus's actions in that context.

Contrary to Rambus's claims (Br. 2), the Commission's findings are not based on "unwritten expectations" of JEDEC members, but on a wealth of solid evidence. EIA materials set the basic standard of "good faith" and urged avoidance of patents in most circumstances.[24] The JEDEC manual required that members be "remind[ed] * * * to inform [a JEDEC] meeting of any patents or applications 'that might be

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[24]*See* JA149; CX204 at 5, JA2330.

involved in the work' being undertaken."[25] Testimony from numerous JEDEC members repeatedly expressed their understanding that the Manual reflected JEDEC policy and that members were expected to disclose patent interests in technologies under consideration, even when the prospect of eventual patent coverage was uncertain. *See* pp. 6-7, *supra*.[26] Finally, members' understanding of these policies is reflected in their sharp response to prior attempts to enforce undisclosed patents.[27]

Against this backdrop, Rambus's conduct reflects a years-long, intentional campaign to mislead JEDEC members and gain a stranglehold over JEDEC standards.

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[25]*See* JA149; CX208a at 19, JA2401. While the express language of the Manual imposes a duty on the chairperson, it obviously serves as a reminder to members of JEDEC's expectations regarding their own conduct. Any other reading would reduce the reminder to an empty formality. The Commission also pointed to provisions in the same Manual that prohibited JEDEC committees from considering patented technologies unless all the relevant technical information is known and the patent holder provides assurances that it will license without charge or on RAND terms. JA150 (quoting CX208 at 27, JA2380).

[26]Rambus tries to refute this testimony by relying on a letter EIA submitted in connection with a proposed Commission consent order in *Dell Computer Corp.*, *supra*. *See* Br. 13; RX669, JA4707-11. However, JEDEC Legal Counsel Kelly explained that the reference in the 1996 submission to a "voluntary disclosure of patents" was intended merely to refer "to the disclosure in the context of a process that is from first to last voluntary. It does not mean optional or elective." Tr. 2017, JA1598.

[27]*See* pp. 8-9, *supra*. Indeed, Rambus has failed, throughout this litigation, to identify a single instance in which a JEDEC member failed to disclose a relevant patent interest to JEDEC and then later enforced the patent against companies practicing a JEDEC standard, without provoking immediate and vigorous protests.

During the more than four years that Rambus participated in JEDEC proceedings, it not only chose to conceal its patent interests in the technologies at issue, but it also created the false impression that it was following JEDEC standards of conduct, by disclosing other, *irrelevant* intellectual property interests. *See* p. 18, *supra*; CX711 at 167, JA2796. This false impression made its silences at other, pivotal junctures all the more misleading. On two key occasions – in 1992, when JEDEC voted on the inclusion of programmable CAS latency and programmable burst length in SDRAM, and in 1995, when it circulated a survey ballot on inclusion of dual-edge clocking and on-chip PLL/DLL in what would become DDR SDRAM – Rambus failed to disclose any patent interests, even though it was in the midst of amending its patent applications to cover those technologies. *See* pp. 15-18, *supra*.

These deceptive actions were highly material to the standard-setting process. JEDEC members regarded patent royalties as an important factor in deciding which technologies to select from an array of alternatives. JA171-73. Even if JEDEC had been willing to adopt Rambus's patented technologies, timely disclosure would have allowed JEDEC members to enjoy the benefit of licensing on RAND terms and with an opportunity for *ex ante* negotiations. JA194. By failing to disclose its evolving patent interests, Rambus subverted JEDEC's policy and its ability to make an informed choice.

Rambus attempts to dismiss the deceptive nature of its selective disclosures and nondisclosures, complaining that the Commission has imposed a "novel" mandate and did not identify a "clear and unequivocal" JEDEC rule that Rambus violated. Br. 31, 34. Rambus's argument misses the essence of the Commission's ruling, which is that Rambus engaged in a course of conduct that deceived JEDEC members, when viewed in light of JEDEC's policies and practices. There is nothing "novel" about the proposition that economic actors should refrain from basing their dealings with others – whether customers, contracting parties, or colleagues in a cooperative industry activity – upon deception. And, in those circumstances in which deception can have anticompetitive consequences, it is properly the subject of antitrust concern. *See Microsoft*, 253 F.3d at 76-77; *Caribbean Broadcasting*, 148 F.3d at 1087.

Rambus itself was not confused about its obligations or caught by surprise. To the contrary, its own contemporaneous communications – and the testimony of Rambus witnesses – document that Rambus clearly understood what JEDEC expected and knew that its conduct was misleading. *See* JA149-50; pp. 7-8, *supra*. Nonetheless, it carried out a calculated plan to disrupt the competitive process at JEDEC, with the full expectation and intent of gaining a monopoly. *See* JA171; pp. 12-20, *supra*.

Rambus's remaining contentions are similarly without merit. Its hypothetical concerns about overwhelming SSOs with patent information (Br. 36) are not relevant to the question at hand, which is whether Rambus's conduct disrupted JEDEC policies and activities. Regardless of whether other SSOs might consider such information to be of "limited value," JEDEC members expressed strong concerns about such information and implemented policies to ensure it would be available. Rambus presented itself to JEDEC as an honest participant in the collaborative process, willing to subscribe to the standards of the organization.[28] It cannot now credibly argue that its deceptive conduct should be excused because it believes that those standards were not useful.

Finally, there is no basis for assuming that the Commission's ruling will "chill" the incentives of industry members to participate in standard-setting. The Commission's Section 2 ruling was based on factual findings of willful and deliberate deceptive conduct that subverted the otherwise competitively beneficial work of an industry SSO. In *Allied Tube*, *supra*, the Second Circuit soundly rejected similar arguments

[28] Rambus contends that there was no disclosure policy when it joined JEDEC, and its decision to join JEDEC should therefore not be viewed as an agreement to disclose patent interests. Br. 37. But even though the specific directive to subcommittee chairpersons was not reflected in a written document until 1993 – about one year after Rambus joined – the earlier version of the JEDEC Manual specifically incorporated EIA's "good faith" mandate for all standard-setting proceedings. CX205 at 14, JA2346; Tr. 1916-17 (J. Kelly), JA1573. According to JEDEC Legal Counsel Kelly, the obligation to disclose both patents and applications predated the 1993 revision to the JEDEC Manual. JA149 n.282; Tr. 1917-18, JA1573-74. In any event, Rambus maintained its membership in JEDEC until 1996, well after publication of the revised Manual.

that imposing liability in such circumstances would "chill participation by financially interested industry members" in SSOs. 817 F.2d. at 946. On the contrary, it is deceptive conduct such as Rambus's that can chill SSO participation and, indeed, "'destroy the work of JEDEC.'" JA122 n.120 (quoting CX2384, JA3761).

3. Rambus deceptively failed to disclose its ongoing efforts to perfect patent coverage of JEDEC-adopted technologies

Rambus argues that it "had no undisclosed patents or applications that were material to the standards at issue or that triggered any such duty" to disclose, on the theory that the patents and applications it possessed while a member of JEDEC, in the form in which they then existed, did not cover the JEDEC standards. Br. 44. Once again, Rambus ignores the basis of the Commission's ruling and attempts to sidetrack this Court's analysis. The issue is not whether the early versions of Rambus's patent claims "read on" the standards that JEDEC ultimately adopted, but whether Rambus's actions, words, and silences with respect to its patent interests deceived JEDEC members at critical times in their deliberations.

As Rambus acknowledged before the Commission, *all* of the patents that it has asserted against industry participants based on their practice of the SDRAM or DDR SDRAM standards are "continuations or divisionals stemming from the original '898 application."[29] As Rambus explains (Br. 17), the amendment of patent claims is an accepted practice, which the Commission has never denied. But an applicant may only claim priority to the date of the initial application (as Rambus has done with respect to the patents it has asserted against the practice of JEDEC standards) if "there [is] support for such amendments or additions in the originally filed application." *PIN/NIP, Inc. v. Platte Chem. Co.*, 304 F.3d 1235, 1247 (Fed. Cir. 2002). Rambus has succeeded, thus far, in enforcing its patents on programmable latency, programmable burst length, dual-edge clocking, and on-chip PLL/DLL only by arguing that it had "invented" them by 1990, when it filed its '898 application.[30]

Rambus seeks to have it both ways, however. While it has earned enormous royalty payments based on inventions it claims to have made in or before 1990,[31] it says it had "nothing to disclose" when JEDEC considered requiring two of these "inventions" for the SDRAM standard in 1992-93, and all four of them in the DDR

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[29]Brief of Appellee and Cross-Appellant Rambus Inc. Before the FTC (June 2, 2004), at 6, JA380; *see* First Set of Stipulations, No. 14-16, 22 & Exh. A (patent tree), JA913-14, 917; Tr. 1508-11, JA1704-05 (Nusbaum).

[30]Had Rambus's patents not claimed priority to the '898 application, filed before Rambus joined JEDEC, Rambus would have faced the risk that a court would hold those patents invalid because of the existence of prior art, evidenced at least in part by JEDEC's extensive discussion of those technologies long before the filing dates of the last-modified amendments. *See* Tr. 1512-13 (Nusbaum), JA1705.

[31]As the Commission noted, the total is likely to be "several billion dollars." JA173 & n.409.

SDRAM standard on which JEDEC began work in 1993. It does so only by asserting an altogether spurious standard of materiality, and by ignoring a substantial portion of its own exclusionary conduct.

Rambus employs what is essentially a patent infringement test as the materiality standard for JEDEC disclosures. For example, it qualifies its denial of having any "undisclosed patent claim" with the language "that any manufacturer would have had to license to practice the SDRAM or DDR SDRAM standards." Br. 45. But, much as Rambus would like it to be, this is *not* a patent infringement case, and the question here is not whether Rambus's applications successfully "read on" the proposed JEDEC standards in 1992 or 1996. Rather, it is whether Rambus's conduct was deceptive, in light of the legitimate expectations of JEDEC members. As the Commission carefully determined, it was deceptive, as to all four of the technologies at issue.

During the key period in 1992 when JEDEC was considering the requirements of programmable latency and programmable burst length for SDRAM, Rambus personnel were in the process of amending the claims derived from the '898 application to include those technologies, yet did not reveal that fact to JEDEC members. JA135-37. Similarly, during the time JEDEC was considering requirements of dual-edge clocking and on-chip PLL/DLL for the next-generation standard (which began in

1993, although the "DDR" moniker was applied somewhat later), Rambus personnel were actively working on perfecting its patent coverage of those technologies – yet again Rambus withheld this information from JEDEC members. JA138-41. In each case, the information that Rambus misleadingly withheld was not a "mere intentio[n]" to seek patent protection (Br. 45), but ongoing activities to gain effective coverage, based on existing applications, of technologies Rambus itself claims that it had *already* invented.

Moreover, Rambus's argument that it did not have anything material to disclose overlooks an integral part of its exclusionary conduct: that it exploited its JEDEC membership to continually modify the precise scope of its patent claims to ensure coverage of JEDEC's standards. *See* CX2092 at 71-72, JA3415-16 (Rambus JEDEC representative acknowledging that JEDEC participation was a source for patent amendments). Even assuming that this strategy was proper as a matter of patent law, it failed to comport with the mutual understanding that JEDEC members were to act cooperatively and in good faith. *See* JA134.

Equally without merit are Rambus's arguments regarding the timing of expected disclosures. *See* Br. 45-47, 49-50. The record amply supports the Commission's finding that JEDEC members legitimately expected that a member would disclose its relevant patent interests early in the process, so that other members could protect against hold-up. *See* pp. 9-10, *supra*. Moreover, as to SDRAM, Rambus's timing arguments are beside the point: Rambus failed to make any disclosure, before *or after* adoption of the standard. SDRAM was adopted in May 1993, but – consistent with its strategy to await market lock-in (in Rambus's words, the "point of no return," CX5011 at 3, JA3865) – it disclosed no information about its patent interests in the technologies incorporated into SDRAM during the remaining *three years* of its JEDEC membership.[32]

As to DDR SDRAM, the mere fact that an important part of Rambus's deception took place in connection with the circulation of a "survey ballot" in no way excuses that deception. *See* Br. 50-51. That ballot asked members to comment on two specific technologies for which Rambus was, at that very time, in the process of seeking patent protection. *See* pp. 17-18, *supra*. Rambus not only failed to respond, but sat silent at a meeting at which the ballot results were discussed and *another* JEDEC member disclosed its patent application relevant to PLLs/DLLs. *Id.* Thus, Rambus deliberately misled JEDEC into believing it had no relevant patent interests in these technologies, at the very time they were under consideration.

[32]Rambus makes a spurious attempt to distinguish its conduct from that of Wang, SEEQ, and Texas Instruments (whose non-disclosure of relevant intellectual property was promptly condemned by JEDEC), arguing that, unlike them, it never affirmatively proposed the subject technologies. Br. 47. JEDEC's disclosure expectation did not turn on how a particular technology came under JEDEC's consideration.

C. The Commission Properly Found a Causal Link Between Rambus's Conduct and Its Monopoly

As this Court has instructed, liability for monopolization requires a "causal link" between defendant's exclusionary conduct and its acquisition or maintenance of monopoly power. *Microsoft*, 253 F.3d at 78-79. The Commission carefully considered this issue and concluded that there was ample evidence of such a link between Rambus's exclusionary conduct and its conceded achievement of monopoly power. JA170-76. In keeping with this Court's teachings and the advice of leading commentators, the Commission recognized that the controlling standard is whether the alleged monopolist has "'engag[ed] in anticompetitive conduct that reasonably appear[s] capable of making a significant contribution to * * * maintaining monopoly power.'" JA178 (quoting *Microsoft*, 253 F.3d at 79); *see* III Phillip E. Areeda & Herbert Hovenkamp, ANTITRUST LAW ¶650c, at 69 (2d ed. 2002) ("*Areeda & Hovenkamp*") (plaintiff must show "anticompetitive behavior capable of contributing to monopoly").[33] The Commission's well-supported causation findings not only met, but exceeded, this standard.

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[33]The quoted language from *Microsoft* was itself a quotation from an earlier version of the Areeda treatise. Although this Court used an ellipsis to focus on monopoly maintenance – in keeping with the allegations in *Microsoft* – the original passage it quoted referred to "creating or maintaining monopoly power." III *Areeda & Hovenkamp,* ¶651c, at 78 (1996 ed.).

1. The Commission's findings regarding causation were fully supported

As the Commission found, the record showed a straightforward, two-step causal link between Rambus's conduct and its acquisition of monopoly power. First, Rambus's deceptive conduct concerned information highly material to JEDEC's deliberations, which could be expected to affect JEDEC's decisions regarding which technologies to incorporate into the DRAM standards. Second, JEDEC's adoption of those standards has resulted in Rambus's undisputed acquisition of monopoly power in the four relevant markets.

As to the first step, the Commission found that, "but for Rambus's deceptive course of conduct, JEDEC either would have excluded Rambus's patented technologies from the JEDEC DRAM standards, or would have demanded RAND assurances, with an opportunity for *ex ante* licensing negotiations." JA171. This finding is supported not only by JEDEC policies,[34] but also by evidence that JEDEC's members were highly sensitive to costs;[35] that royalty costs were a major (and often

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[34]The only other possible outcome in the "but for" world – incorporating Rambus's patented technologies *without* RAND assurances – was prohibited by JEDEC's and EIA's policies. *See* pp. 4-5, *supra*.

[35]*See, e.g.*, CX1708 at 2, JA3264 (Crisp reporting that members "stressed that price was the major concern"); CX2777, JA3762 (Micron: "Customers * * * will not pay extra for increased DRAM performance"); CX711 at 34, JA2663 (Crisp reporting that members "want cheap, cheap, cheap"); *see also* Tr. 2562 (G. Kelley), JA1422 ("The overriding factor on all of my votes on DRAM was low cost"); Tr. 5814

determinative) factor in JEDEC's weighing of alternatives;[36] and that alternative technologies were available to JEDEC at the time.[37] This evidence strongly supports the Commission's finding that the information Rambus concealed would have had a significant impact on JEDEC's decisions. Indeed, the one time that JEDEC members believed they had advance knowledge of a Rambus patent interest (when NEC proposed a "loop-back" clock system that some JEDEC members thought *might be* covered by Rambus's '703 patent), the committee promptly dropped the proposed technology and turned to alternatives. *See* JX36 at 7, JA4538; Tr. 527-28 (Rhoden), 6695-96 (Lee), JA1961-62, 1674;CX368 at 2, JA2483.

The second step in the Commission's causation analysis – the link between JEDEC's adoption of the standards and Rambus's achievement of a monopoly in the relevant technology markets, JA174-76 – is not disputed in this Court. As the

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(Bechtelsheim), JA975 (JEDEC's "overarching goal" was "a cost-effective solution").

[36]*See, e.g.,* Tr. 5813-14 (Bechtelsheim), JA975 (Sun "strongly opposed the use of royalty-bearing elements"); Tr. 1417 (Sussman), JA1990 (Sanyo representative: "If I understood that there was IP on the programmable, I would have * * * changed my direction and voted to take the fixed one"); Tr. 1714 (Landgraf), JA1639 (HP representative: "If we knew in advance that they [Rambus] were not going to comply with the JEDEC patent policy, we would have voted against it"); Tr. 6686, 6717 (Lee), JA1672, 1679 (knowledge of Rambus's patent applications would have caused Micron to oppose both on-chip PLL/DLL and dual-edge clocking); *see also* Tr. 2576 (G. Kelley), JA1425; JX5 at 4, JA3876; CX2383, JA3760.

[37]*See* JA173-74 nn.412-413, 179-91.

Commission noted, in each year from 1994 through 2002, JEDEC-compliant products accounted for 87 to 97 percent of all DRAM revenues. *See* Tr. 9020-21 (Prince), 10099-100, 10248-49 (Rapp), JA1782, 1849, 1886-87; CX2112 at 310-11, JA3742-43. Rambus itself, in an internal document, touted the achievement of its "big hairy audacious goal" of having 90 percent of DRAM subject to its patents. CX1386 at 4, JA2914.

2. Rambus's arguments regarding causation are without merit

Rambus makes three related challenges to the Commission's conclusion regarding causation. It argues that there can be no "anticompetitive effect" unless the evidence proves that other technologies would have been chosen; that the absence of prior RAND assurance or *ex ante* bargaining cannot constitute an anticompetitive effect; and that the Commission imposed an improper burden on Rambus regarding causation. Br. 53-62. Such arguments, however, ignore the nature of the competitive harm found and distort the Commission's allocation of burdens.

As Rambus acknowledges, the focus here, as in all antitrust analysis, must be on whether there is "'harm [to] the competitive *process*.'" Br. 53 (quoting *Microsoft*, 253 F.3d at 58 (emphasis by the Court)). But Rambus wholly ignores the nature of the "process" relevant here. In the standard-setting context, the normal mechanisms of competition are supplanted by cooperative choices by rivals. As the Commission explained, industry-wide standards that facilitate interoperability can be highly beneficial to consumers and stimulate output. JA100; *accord*, *Broadcom*, 501 F.3d at 308-09. But to achieve efficiencies, the standard-setting process must be protected from subversion. *See Hydrolevel*, 456 U.S. at 571; *Broadcom*, 501 F.3d at 309-10. "Deception in a consensus-driven private standard-setting environment *harms the competitive process* by obscuring the costs of including proprietary technology in a standard and increasing the likelihood that patent rights will confer monopoly power on the patent holder." *Broadcom*, 501 F.3d at 314 (emphasis added). Rambus's deceptive conduct caused precisely this sort of harm, by robbing the normally pro-competitive standard-setting process of its ability to enhance consumer welfare.

This Court addressed an analogous situation in *Microsoft*, rejecting a similar argument that Section 2 liability must be tied to a showing of a particular outcome in the monopolized market. There, the United States showed that Microsoft had impaired the ability of the developers of browsers and other "middleware" to gain ground in their own markets, and that this squelching of nascent technologies in those markets protected Microsoft from *potential* competition in the operating system market in which it maintained a monopoly. *See* 253 F.3d at 53-54, 60, 66-67, 71. This Court recognized that such harm to the competitive process is "inimical to the purpose of the Sherman Act." 253 F.3d at 79.

Specifically, in response to Microsoft's protestations that no causal link had been shown between the harm to middleware manufacturers and its continued monopoly in operating systems, the Court held that Section 2 liability does not require "direct proof that a defendant's continued monopoly power is precisely attributable to its anticompetitive conduct." *Id.* at 79. While the Court recognized that a stronger showing of causation might be necessary to justify some remedies (*id.* at 80), it held that liability need only be based on a showing that the conduct is "reasonably * * * capable" of contributing to monopoly power. *Id.* at 79; *accord*, III *Areeda & Hovenkamp,* ¶ 650a, at 67 (in "government equity action," the causal connection can be "relatively modest"). In light of the difficulty that adjudicators face in reconstructing the "but-for world," the Court recognized that, "[t]o some degree, 'the defendant is made to suffer the uncertain consequences of its own undesirable conduct.'" *Microsoft*, 253 F.3d at 79 (quoting III *Areeda & Hovenkamp*, ¶ 651c, at 78 (1996 ed.)).

Rambus's attempts to distinguish *Microsoft* (Br. 60-61) are unavailing. That *Microsoft* concerned the maintenance, rather than acquisition, of monopoly power is beside the point, as Section 2 law makes no distinction between the two situations with regard to the appropriate causation inquiry. *See, e.g.*, III *Areeda & Hovenkamp*, ¶650a at 67. Nor is it significant that *Microsoft* concerned exclusion of nascent competition, whereas this case concerns conduct that has already resulted in a monopoly. A hindsight determination of what over sixty JEDEC members would have done absent Rambus's deception is still an exercise in "reconstruct[ing] the hypothetical marketplace," and poses difficulties similar to those recognized in *Microsoft*. 253 F.3d at 79.[38]

The Commission's causation findings, described above, are more than sufficient under the standard of *Microsoft*. Rambus's corruption of the JEDEC process significantly contributed to its attainment of monopoly power, just as Microsoft's interference with emerging middleware platforms significantly contributed to its maintenance of monopoly power. Section 2 does not require a showing of a certain, "but for" link between the exclusionary conduct and anticompetitive effects in the target markets.

Even if it did, however, the Commission's actual findings establish that link. As noted above, the Commission specifically found that, but for Rambus's conduct, JEDEC would *either* have chosen other technologies, *or* would have insisted on prior

[38]Likewise, Rambus's reliance on *Broadcom* misconstrues its holding. Although Rambus acknowledges that the case was decided on a motion to dismiss, it draws exactly the wrong conclusion from that procedural posture. The Third Circuit – which cited the Commission's decision approvingly, *e.g.*, 501 F.3d at 311-13 – held that the facts alleged in Broadcom's complaint, taken as true, were *sufficient* to state a monopolization claim under Section 2. *Id.* at 315. *Broadcom* did not hold, however, that all of those allegations were *necessary* to state an antitrust violation, and does nothing to undermine the Commission's conclusion that Rambus's harm to the JEDEC standard-setting process was itself a substantial contribution to the creation of monopoly power.

RAND commitments, which would have afforded JEDEC members an opportunity for *ex ante* negotiations. JA171. Because either of these outcomes would enhance consumer welfare, as compared to the outcome Rambus brought about, the Commission's causation findings would suffice even under the strictest "but for" standard.[39]

Rambus attempts to avoid this conclusion by arguing that the avoidance of RAND assurances does not constitute injury to competition. Br. 55-57. There are sound reasons, however, to recognize that the avoidance of such conditions by a firm that controls a technology mandated by an industry standard does indeed harm consumer welfare. *Broadcom* squarely holds that the plaintiff there "stated actionable anticompetitive conduct with allegations that [defendant] deceived relevant [SSOs] into adopting the * * * standard by committing to license its * * * technology on FRAND [fair, reasonable, and non-discriminatory] terms and, later, after lock-in

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[39]Rambus cites a passage from another Hovenkamp treatise in support of requiring "but for" causation for liability in the context of standard-setting nondisclosures. Br. 55 (citing 2 Herbert Hovenkamp, IP AND ANTITRUST § 35.5, at 35-45 (Supp. 2007) ("*IP and Antitrust*")). But as the Commission explained (JA178 n.431), that treatise suggests such analysis only where the SSO has (1) "'no policy with respect to intellectual property ownership in the standards they promulgate'" *or* (2) "'a history of promulgating standards even when they are aware that the proposer owns intellectual property rights in the standard.'" *Id.* (quoting prior version of the treatise). In any event, the treatise does not take into account the case where the SSO might have adopted the same standard, but *only* with RAND assurances, as the Commission found to be the case here. The current version of the treatise also comments favorably on the Commission's "detailed and thoughtful opinion" in this case. ¶ 35.5, at 35-41.

occurred, demanding non-FRAND royalties." 501 F.3d at 313. The Third Circuit reasoned that FRAND (or RAND) commitments are "important safeguards against monopoly power" in the standard-setting context because the holder of a patent on a mandated technology is able, "if unconstrained" by RAND terms, "to demand supra-competitive royalties." *Id.* at 314 (citing Daniel G. Swanson & William J. Baumol, *Reasonable and Nondiscriminatory (RAND) Royalties, Standards Selection, and Control of Market Power*, 73 Antitrust L.J. 1, 5, 10-11 (2005)).[40]

Finally, Rambus misrepresents the Commission's reasoning in arguing that it imposed on Rambus the burden to "disprove causation." Br. 57-61. By the time the Commission addressed Rambus's "inevitability" argument (JA178), it had *already* found a fully adequate causal link between Rambus's exclusionary conduct and its achievement of monopoly power. The Commission nevertheless afforded Rambus the opportunity to show that, due to the alleged superiority of its technologies, they would have been selected even if Rambus had fully disclosed its patent interests, regardless of its ability to insist on royalties. In so doing, the Commission relied on the treatise that this Court relied on in *Microsoft* – specifically, the passage that states:

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[40]None of Rambus's cited authorities is apposite, because the price increases at issue in those cases – as Rambus itself acknowledges (Br. 56-57) – did not flow from anticompetitive conduct. Rambus's avoidance of RAND commitment, by comparison, was the direct result of deceptive conduct which the Commission found exclusionary because of its corruptive impact on JEDEC's competitive standard-setting process.

> the plaintiff generally has the burden of pleading, introducing evidence, and presumably proving by a preponderance of the evidence that anti-competitive behavior has contributed significantly to the achievement or maintenance of the monopoly. *The defendant may, of course, introduce its own proof of inevitability, superior skill,* or business justification * * *.

JA178 (quoting III *Areeda & Hovenkamp*, ¶ 650c, at 69 (emphasis by the Commission)). Rambus chastises the Commission for "ignor[ing] the first sentence of this passage" (Br. 61 n.24), but it is Rambus that fails to read the passage in context. As this Court held in *Microsoft*, the treatise correctly sets, as the basic causation standard, whether the actions at issue are "capable of making a significant contribution" to monopoly. 253 F.3d at 79. The passage then suggests that, even when the plaintiff has met that burden, the defendant may be able to show what is essentially an intervening or superseding cause, as to which it is reasonable to impose the burden on defendant.

The Commission gave Rambus that opportunity. However, after lengthy consideration of Rambus's efforts to show that the choice of its technology was "inevitable" (JA178-93), the Commission concluded that Rambus fell far short of showing a break in the established chain of causation. In light of the evidence and the applicable legal standard, the Commission properly found a sufficient causal link between Rambus's misconduct and its achievement of monopoly.[41]

D. The Commission Properly Rejected Rambus's Proffered Justifications

Rambus argues that it had procompetitive justifications for its conduct at JEDEC, based on its asserted interest in maintaining trade secrets. Br. 62-68. As the Commission recognized, however, such arguments "ignore[] much of its deceptive course of conduct, as well as the context in which that conduct occurred." JA166. The Commission concluded that Rambus's "hypothetical justification[s]" had no legitimate bearing on its actual conduct, and that, even if the proffered justifications were credited, they would not outweigh Rambus's anticompetitive distortion of the JEDEC standard-setting process. JA168.

The Commission's treatment of the justification issue was entirely in keeping with this Court's guidance in *Microsoft*. Contrary to Rambus's supposition (Br. 63-64), a Section 2 defendant cannot satisfy its burden at this point by making a naked

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[41]The errors in Rambus's discussion of *Microsoft* are discussed above. The other cases it cites are also unavailing. In *Association for Intercollegiate Athletics for Women v. NCAA*, 735 F.2d 577, 584 (D.C. Cir. 1984), this Court upheld the dismissal of the Section 2 claim on the ground that defendant "NCAA had not acquired a monopoly" in the relevant market. *Concord Boat Corp. v. Brunswick Corp.* is likewise inapposite because it was a private action for treble damages, and the court's concern was with "a causal connection between the violation and the injury, and the amount of damages." 207 F.3d 1039, 1054 (8th Cir. 2000).

"assertion" of any theoretical justification. It must instead put forward "a non-pretextual claim that its conduct is indeed a form of competition on the merits." *Microsoft*, 253 F.3d at 59. This Court's analysis of various proffered justifications in *Microsoft* shows that this requirement is not toothless. For example, the Court rejected a justification regarding the protection of Microsoft's asserted intellectual property rights because Microsoft "never substantiate[d]" the claim, and therefore could not show it to be a "legitimate justification." *Id.* at 63-64. The Court similarly rejected "general claims regarding the benefits of integrating" certain technologies because Microsoft "neither specifie[d] nor substantiate[d] those claims." *Id.* at 66. As the Court emphasized, what the defendant must offer is "a procompetitive justification for the specific means * * * in question * * * ." *Id.* at 71.

The Commission similarly assessed Rambus's proffered justifications and found that they "do not fit the record facts or the context that existed here." JA166. Rambus ignores the basis of the *prima facie* case presented to the Commission, which was not a failure to disclose trade secrets, but a pattern of deception. Rambus, of course, makes no effort to justify such deception. *Cf. Microsoft*, 253 F.3d at 77 ("no procompetitive explanation for * * * campaign to deceive developers").

This error pervades Rambus's approach to the issue of competitive justifications. The issue is not whether remaining close-lipped about intellectual property can be procompetitive in the business world generally. It is whether the "specific means" Rambus employed – *i.e.,* voluntarily joining JEDEC, deceptively withholding information that JEDEC members would legitimately expect it to disclose, and using information acquired through JEDEC to complete its subversion of the standard-setting process – can be justified. Rambus makes no attempt to apply its generic justifications to the specifics of its conduct.

Nor does Rambus's discussion of justifications take any account of the context in which its behavior took place. Collaborative private standard-setting, "[w]hen * * * based on the merits of objective expert judgments * * *, can have significant procompetitive advantages." *Allied Tube*, 486 U.S. at 501; *see Broadcom*, 501 F.3d at 308-09; XIII *Areeda & Hovenkamp* ¶2233 at 428-29 (2d ed. 2005). Deceptive behavior in this context deprives SSO members of the accurate information needed to achieve the efficiencies expected from the standardization process. *See Broadcom*, 501 F.3d at 310-12. In this context, the deceptive withholding of information serves no procompetitive end.[42]

Rambus accuses the Commission of misunderstanding the application of trade secret principles to patent information. Br. 66-67. But it is Rambus that misunder-

[42]Professor Hovenkamp criticizes the ALJ decision in this case for accepting Rambus's "trade secret" justification. *See* 2 *IP and Antitrust*, ¶ 35.5 n.17.10. As that treatise points out, undue solicitude for secrecy interests in this context is "misguided," and could render SSO disclosure policies "largely worthless." *Id.*

stands the proper application of those principles in this context. The Commission noted that Rambus had already disclosed basic "technical information" about its inventions as reflected in its '898 application, but that it withheld information that would enable JEDEC members to understand that it intended to pursue claims enforceable against those practicing the JEDEC standards. JA166-67. This selective withholding of information may well have been to Rambus's advantage, but it was in no sense procompetitive. On the contrary, it was a fundamental part of its plan to subvert the standard-setting process and achieve its "audacious goal" of market dominance. *See* p. 13, *supra*.

Finally, Rambus seeks refuge in advice of counsel regarding the advisability of maintaining the secrecy of patent information. Br. 68. But as the Commission recognized, any ostensible concern with interference proceedings was entirely "hypothetical," as there was no indication that Rambus's patent rights were in jeopardy. JA167-68; *cf. Microsoft,* 253 F.3d at 66 (claim of justification neither "specifie[d] nor substantiate[d]"). Nor was any such advice about the general advisability of maintaining secrets "tied to Rambus's course of conduct in the JEDEC standard-setting context." JA168. Indeed, Rambus's reliance on such advice of counsel is ironic, in light of the advice it also received that its membership in JEDEC could well jeopardize its ability to enforce its patent rights. *See* JA168 n.385; CX837 at 1, JA2829;

CX1942, JA3286. In short, Rambus has offered no legitimate claim that any of the actual conduct in which it engaged could be justified as procompetitive.

II. THE COMMISSION'S ORDER IS REASONABLY RELATED TO RAMBUS'S VIOLATIONS

Having determined that Rambus engaged in exclusionary conduct that significantly contributed to its acquisition of monopoly power, the Commission issued a remedial order to restore the benefits of competition. Rambus does not challenge portions of that order that, *inter alia*, prohibit it from making future misrepresentations regarding its patent positions and require it to adhere to SSO disclosure policies. It does, however, challenge the Commission's setting of maximum royalty rates for licenses on JEDEC-compliant products, including all patents derived from patent applications Rambus had while a member of JEDEC. These objections are meritless.

A. Standard of Review

Congress has invested the Commission with primary responsibility for determining how to remedy unfair methods of competition or unfair or deceptive acts or practices. *See FTC v. Colgate-Palmolive* Co., 380 U.S. 374, 392 (1965); *FTC v. National Lead Co.*, 352 U.S. 419, 428-29 (1957); *Jacob Siegel Co. v. FTC*, 327 U.S. 608, 612-13 (1946); *Warner-Lambert Co. v. FTC*, 562 F.2d 749, 762 (D.C. Cir. 1977). Consequently, the Commission has "wide latitude for judgment," and its remedial choice should not be disturbed unless it has abused its discretion. *National Lead*, 352 U.S. at 428; *Jacob Siegel*, 327 U.S. at 612-13.

Within the overall abuse of discretion standard, purely legal issues are reviewed *de novo*. *See, e.g., Warner-Lambert*, 562 F.2d at 756. Any underlying factual findings, however, are conclusive if supported by substantial evidence. *See, e.g., Kmart Corp. v. NLRB*, 174 F.3d 834, 838 (7th Cir. 1999); *NLRB v. Browne*, 890 F.2d 605, 608 (2d Cir. 1989). Ultimately, however, the task of weighing the relevant factors and making a judgment as to the appropriate remedy is committed to the Commission's discretion. A reviewing court may disturb the Commission's remedial choice "only where there is no reasonable relation between the remedy and the violation." *Atlantic Refining Co. v. FTC*, 381 U.S. 357, 377 (1965); *see FTC v. Mandel Bros., Inc.*, 359 U.S. 385, 393 (1959); *FTC v. Ruberoid Co.*, 343 U.S. 470, 473 (1952); *Jacob Siegel*, 327 U.S. at 613.

B. The Commission Reasonably Established Maximum Royalty Rates

The Commission endeavored to impose "a remedy strong enough to restore ongoing competition and thereby inspire confidence in the standard-setting process" without "impos[ing] an unnecessarily restrictive remedy that could undermine the attainment of procompetitive goals." JA39. Complaint Counsel sought the remedy of royalty-free licensing of the relevant technologies, and the Commission held that it indeed has the authority to impose such relief in appropriate circumstances. JA38. It also recognized, however, that the courts have required varying levels of proof to justify remedies involving patent licensing, depending upon the nature of the remedy imposed. JA38-39. A mandatory royalty-free license, for example, may amount to "a 'de facto' divestiture that would require a more 'significant causal connection.'" JA39 (quoting *Massachusetts v. Microsoft Corp.*, 373 F.3d 1199, 1233 (D.C. Cir. 2004)).[43] The Commission concluded that royalty-free licensing would be appropriate only if shown to be necessary to "restor[e] the competition that would have existed in the 'but for' world," and, after careful review of the factual record, found that Complaint Counsel had not met that burden. JA44.

As noted above, however, the Commission had already found that there were only two realistic possibilities for what would have occurred in the absence of Rambus's deceptive conduct – *one*, JEDEC would have selected alternative technologies,

[43]Rambus attempts to impose a rigid dichotomy on licensing remedies, and to shoehorn the remedy here into the "structural" category, as the basis for arguing that the Commission's causation findings do not support its remedy. Br. 69. As shown in text, however, the Commission's approach carefully tailored the limited remedy imposed – which applies only to JEDEC-compliant products and permits the collection of royalties up to a maximum level – to its findings of harm and causation. In any event, this Court has described "structural relief" as relief that is "'designed to eliminate the monopoly altogether'" – which the Commission's remedy does not do. *See Microsoft*, 253 F.3d at 106 (quoting III *Areeda & Hovenkamp*, ¶ 650a, at 67 (1996 ed.)). The Commission's resolution of this issue is fully in keeping with the teachings of both of this Court's *Microsoft* rulings.

resulting in Rambus's collection of no royalties; or *two*, JEDEC (being informed of Rambus technologies) would have included them in the standards but required Rambus to provide a RAND commitment and an opportunity for JEDEC members to seek greater specificity through *ex ante* rate negotiations. JA40; *see* JA171; pp. 53-54, 59, *supra*. Having ruled out the first of these possibilities, the Commission based its remedial analysis on the second.

In approaching the difficult task of approximating licensing terms that would have resulted if Rambus had disclosed its patent interests, the Commission recognized that it would be "fruitless" simply to order Rambus to make a RAND commitment now, in light of evident differences of opinion between Rambus and potential licensees regarding what terms would indeed be "reasonable," and the likelihood that such an approach would "simply invite more disputes." JA44 n.101. Left with no other avenue for restoring competition, the Commission held that it would (1) approximate royalty rates that would have emerged from hypothetical *ex ante* negotiations; and (2) use those "but-for" rates to establish a maximum that Rambus may charge for SDRAM- and DDR SDRAM-compliant products. JA44-45. The Commission recognized that this was no easy task, given the presence of factors that are not easily quantifiable and the lack of direct proof of the "but-for" world. JA45 & n.102.

Despite these difficulties, the Commission – extrapolating from rates that Rambus had negotiated for similar technologies – was able to reach a reasonable estimate of maximum rates that would have been negotiated in the absence of Rambus's deception. The Commission considered a number of factors, including the parties' respective incentives, "real-world" examples of negotiations involving similar technologies (an approach that Rambus had agreed was appropriate), and licenses for RDRAM. JA45-47. The Commission started with the average RDRAM royalty rates of one to two percent[44] (declining significantly over time, even to zero), and made appropriate downward adjustments based on the larger number of technologies covered by RDRAM, JEDEC's cost sensitivity and preference for patent-free standards, and the strength of Rambus's economic incentive to ensure that its technology was incorporated into JEDEC standards. JA46, 49-51. The Commission thus arrived at reasonable approximations of hypothetical *ex ante*-negotiated rates for DRAM and related products. JA51.

Rambus contends, however, that no one at Rambus or JEDEC would have understood a RAND commitment to reflect pricing based on *ex ante* negotiations. Br. 70-71. This assertion erroneously presumes that JEDEC members would have been

[44]An average rate of 1-2% is supported by observations in Rambus's own documents. *See, e.g.*, CX1391A at 33, JA2956.

satisfied with a RAND commitment that was no more than a formality. The record shows otherwise. JEDEC members were highly cost sensitive and had a strong preference for nonpatented technologies that did not require royalty payments. *See* p. 4, *supra*. Given these circumstances, it was perfectly reasonable for the Commission to proceed on the premise that a RAND commitment that would be acceptable to JEDEC members as a protection against *ex post* hold-up would reflect the far lower rates that they could have negotiated *ex ante*.

As the Third Circuit explained in *Broadcom*, 501 F.3d at 313, the fundamental role of a RAND commitment is to protect firms from a patent holder's demand for supracompetitive royalties in the *ex post* world – *i.e.*, after alternatives have been eliminated by incorporation of patented technologies into an industry standard. Rambus's assertion that a RAND rate is nothing more than a commitment to refrain from "'put[ing] somebody out of business'" (Br. 72) is wholly at odds with the Third Circuit's conclusion that, in the standard-setting environment, fair, reasonable, and non-discriminatory commitments provide important and enforceable safeguards against monopoly power.

Rambus's excerpts from the testimony of its expert, Professor Teece, provide no support for the extreme proposition that a RAND commitment merely protects licensees from rates that would force them out of business. Br. 72. Professor Teece testified that a number of relevant criteria affect the determination of RAND rates. Tr. 10337, JA2024. He stated that "one way" of looking at it was obvious – that the royalty rate must be "sufficiently competitive that it doesn't negate the offer to license" because "[o]bviously if you charge a rate that is so high that it would put somebody out of business, then it would negate the offer to license it in the first place." Tr. 10336-37, JA2023-24. Professor Teece acknowledged the relevance of other criteria, including – in the context of economic damages – "a hypothetical negotiation between a willing buyer and a willing seller." Tr. 10337, JA2024. He never ruled out the theory underlying the approach that the Commission adopted here – namely, considering the likely consequences of hypothetical negotiations conducted *ex ante* rather than *ex post*.

Rambus's assertion that there is no evidence that JEDEC members actually engaged in *ex ante* price negotiations is similarly unavailing. Br. 71. The relevant issue is not whether JEDEC members actually engaged in *ex ante* negotiations, but whether the RAND rate should reflect the parties' negotiating posture before Rambus's patented technologies were selected for the JEDEC standards. The Commission recognized that, in keeping with the objective of restoring the benefits of lost competition, the rate should reflect the competition that existed before Rambus had succeeded in excluding rival technologies. This contextual approach falls well within the Commission's remedial discretion.

C. The Commission Properly Applied Maximum Royalty Rates to All Contemporaneous Patents Covering the Affected JEDEC Standards

Finally, Rambus complains that the Commission's order is overbroad in that it covers all technologies, used in JEDEC-compliant products, that are protected by patents derived from applications that Rambus had while it was a JEDEC member. Rambus contends that, because the Commission has not found anticompetitive effects outside the four markets identified in its liability decision, there is no basis for covering any other technology in the final order. Br. 72-75. Rambus's argument misconceives the competitive effects on which the Commission's ruling was based, ignores the careful way in which the Commission tailored its remedy, and would make a nullity of the Commission's liability ruling.

Rambus harmed competition by corrupting JEDEC's standard-setting process – a process that has great potential for enhancing consumer welfare, but cannot do so if it is hijacked to serve one member's economic interests. *See* pp. 55-56, *supra*. As the Commission explained, Rambus's deceptive conduct "distort[ed] JEDEC's technology choices and undermine[d] JEDEC members' ability to protect themselves against patent hold-up." JA165. That "hold-up" is reflected in the supracompetitive royalties Rambus is able to collect on DRAM and related products compliant with the

JEDEC standards, compared with what it could have earned in the absence of its deceptive, exclusionary conduct. Any effective remedy must protect against such a "'continuing injury to competition and to the consuming public.'" *Novartis Corp. v. FTC*, 223 F.3d 783, 787 (D.C. Cir. 2000) (quoting *Warner-Lambert*, 562 F.2d at 762).

The Commission's remedy is geared precisely to Rambus's misconduct and the competitive harm it caused. On the one hand, the maximum royalty rate applies *only* to the practice of Rambus patents for products compliant with the two JEDEC standards; to the extent that the same patents have uses in other contexts, the order does not limit royalties. On the other hand, the remedy recognizes that Rambus's deceptive conduct consisted of its creating the false impression that it had *no* patent interests relevant to the standards under consideration. Rambus repeatedly has indicated that it contemplates seeking infringement rulings against JEDEC-compliant uses of technologies other than the four at issue in the liability decision. JA56 & n.163. Yet claims of infringement based on JEDEC-compliant use of any of these technologies would take advantage of the same deceptive conduct – indeed, the same intentional failure to disclose – identified in the Commission's liability decision. In order to prevent Rambus from engaging in the very type of hold-up the Commission found to be unlawful, the order reasonably applies the maximum royalty rates to all patent interests derived from applications that Rambus had at the time of its misconduct.

Rambus's reliance (Br. 74) on this Court's ruling in *Massachusetts v. Microsoft Corp.*, *supra*, is misplaced. The Court there recognized that, "'[w]hen the purpose to restrain trade appears from a clear violation of law, it is not necessary that all of the untraveled roads to that end be left open and that only the worn one be closed.'" 373 F.3d at 1223 (quoting *International Salt Co. v. United States*, 332 U.S. 392, 400 (1947)). Although this Court appropriately urged caution in blocking "untraveled roads" that lie outside liability findings, the decree it affirmed included disclosure requirements as to communications protocols that had not been the subject of such findings. *Id.* at 1215, 1224. Rejecting a challenge by a plaintiff State that contended the decree should have gone further, this Court stated that the lower tribunal had acted "prudently" and affirmed. *Id.* at 1224. The Court should similarly uphold the Commission's carefully-tailored remedy in the present case.

CONCLUSION

For the foregoing reasons, the Commission's order should be affirmed.

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CERTIFICATE OF COMPLIANCE

Pursuant to Fed. R. App. P. 32(a)(7)(C) and Circuit Rule 32(a), I certify that the attached Brief for the Respondent was prepared using WordPerfect 10, and 14-point Times New Roman, a proportionally-spaced typeface. It contains 17,437 words, excluding the parts of the brief exempted by Fed. R. App. P. 32(a)(7)(B)(iii) and Circuit Rule 32(a)(2). (By order dated July 3, 2007, the Court set a limit of 17,500 words for this brief.)

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I hereby certify that on this 11th day of January 2008, I caused a true and correct copy of the foregoing Brief for the Respondent Federal Trade Commission to be served on each of the following individuals by electronic delivery, pursuant to the written agreement of Petitioner's counsel:

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