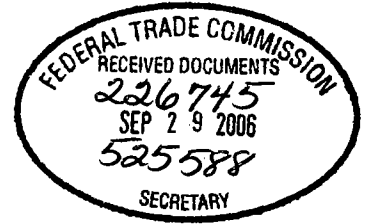


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**UNITED STATES OF AMERICA
BEFORE THE FEDERAL TRADE COMMISSION**

COMMISSIONERS: Deborah Platt Majoras, Chairman
Pamela Jones Harbour
Jon Leibowitz
William E. Kovacic
J. Thomas Rosch

In the Matter of

RAMBUS INC.,

a corporation.

Docket No. 9302

**REPLY BRIEF OF RESPONDENT RAMBUS INC.,
ADDRESSING ISSUES RELATING TO REMEDY**

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INTRODUCTION

The parties agree on three points. First, while the parties disagree about whether the Commission can enter a market-altering remedy, they agree that if it does so, it should do no more than restore market conditions to those that would have existed in the but-for world. Second, the Commission should adopt a remedy expeditiously and based on the existing record. Third, the remedy should address only post-1996 patents with respect to JEDEC-compliant products. *See* Complaint Counsel's Brief (CCB) 1, 23-24.

Three conclusions follow about the proper remedy. First, if the Commission adopts a market-altering remedy, it should allow Rambus to charge RAND royalties for the use of its inventions in the particular markets that the Commission found it to have monopolized. Second, such royalties would be in excess of 2.5% for DDR SDRAM. Third, there is no basis to restrict Rambus's royalties for the use of its inventions in DDR2 SDRAM devices or in other markets that the Commission did not find Rambus to have monopolized.

Complaint Counsel argue, however, that the Commission should effectively cancel Rambus's patents, by (for example) requiring Rambus to offer a royalty-free license covering all inventions disclosed by its pre-1996 patents for use in JEDEC-compliant devices. Complaint Counsel's submission reflects errors on five fundamental issues, each of which is discussed in turn below: 1) the propriety of a drastic, market-altering remedy that would essentially forfeit Rambus's patent rights; 2) proper allocation of the burden to prove causation in the remedy phase; 3) market conditions in the but-for world;

4) the Commission's authority to alter markets in which it did not find unlawful conduct; and 5) the royalty that Rambus would have charged in the but-for world.

I. THE COMMISSION SHOULD REJECT COMPLAINT COUNSEL'S PROPOSAL FOR A ZERO-ROYALTY REMEDY

A. The Commission May Not Restrict Market Power As A Remedy

Section 5 of the FTC Act gives the Commission authority to issue forward-looking cease-and-desist orders that prevent conduct deemed to be unlawful and ensure against its repetition. *See* Rambus Brief (RB) 5-6. Complaint Counsel contend that Section 5 also authorizes the Commission to alter markets in order to diminish a monopolist's market power. *See* Complaint Counsel's Brief (CCB) 3. But Complaint Counsel rely on cases involving the Commission's authority under Section 7 of the Clayton Act to remedy anticompetitive mergers,¹ or the *district courts'* authority to remedy antitrust violations.² None suggests that Section 5 authorizes the Commission to diminish a respondent's market power.³ The Supreme Court has distinguished the Commission's Section 5 authority from the district courts' broader equitable powers. *See Ford Motor Co. v. United States*, 405 U.S. 562, 573 n.8 (1972); *see also Reynolds Metals*

¹ *See, e.g., In re Ecko Prods. Co.*, 65 F.T.C. 1163 (1964), *aff'd sub nom. Ecko Prods. Co. v. FTC*, 347 F.2d 745 (7th Cir. 1965). The Clayton Act was amended in 1950 to broaden the FTC's remedial authority specifically with respect to mergers. *See United States v. Philadelphia Nat'l Bank*, 374 U.S. 321, 346-348 (1963).

² *See, e.g., Hoffman-La Roche Ltd. v. Empagran S.A.*, 542 U.S. 155 (2004); *United States v. U.S. Gypsum Co.*, 340 U.S. 76 (1950).

³ Complaint Counsel suggest (CCB 3-4) that *FTC v. National Lead Co.*, 352 U.S. 419, 430 (1957), held that the Commission "must assure that a violator will 'relinquish the fruits of his violation.'" Complaint Counsel misread that case. The Court did not endorse broad market-altering power on the part of the Commission; it held only that the Commission may "take such reasonable action as is calculated to preclude the revival of the illegal practices." *Id.* The Court was clearly referring to the Commission's cease-and-desist authority to ensure against *repetition* of unlawful conduct.

Co. v. FTC, 309 F.2d 223, 230-231 (D.C. Cir. 1962). The Commission itself recognized limits on its Section 5 authority when it sought additional authority from Congress.⁴ Congress opted instead to authorize the Commission to request additional remedies from the district courts. *See* 15 U.S.C. § 53(b) (as amended in 1973). Contrary to Complaint Counsel’s contention, Section 5 does not empower the Commission to impose market-altering remedies.

B. Enjoining Enforcement Of Rambus’s Patents Or Requiring Royalty-Free Licensing Would Be An Extraordinary and Unwarranted Remedy

Even if the Commission had authority to go beyond cease-and-desist orders, Complaint Counsel overreach by arguing that the Commission should enjoin enforcement of Rambus’s patents altogether or require Rambus to issue royalty-free licenses. Complaint Counsel ignore *Hartford-Empire Co. v. United States*, 323 U.S. 386 (1945), where the Supreme Court disapproved an antitrust remedial decree that would have required the patentee to surrender its patent rights. *See id.* at 415 (“[I]t is difficult to say that, however much in the past such defendant has abused the rights thereby conferred, it

⁴ *See Federal Trade Comm’n Act: Hearing on H.R. 14931, et al. before the Subcomm. On Commerce and Fin. Of the House Comm. On Interstate and Foreign Commerce*, 91st Cong. 63-69 (1969) (FTC Commissioner Elman, stating that FTC can prohibit unfair practices “solely through issuance of orders to cease and desist having only a prospective effect” and that such orders “merely order the respondent to sin no more”); *id.* at 67 (discussing limited deterrence value of “‘sin no more’ cease-and-desist orders”); *see also Agriculture–Environmental and Consumer Protection Appropriations for 1974: Hearings before a Subcomm. of the House Comm. on Appropriations*, 93d Cong, 99 (1974) (agreeing that the “limit” of the Commission’s authority in the adjudicative context is a cease-and-desist order); S. Rep. No. 93-151, at 10 (1973).

must now dedicate them to the public.”)⁵ The Court described such a remedy as “confiscation,” *id.* at 414, and stressed that courts had generally avoided such “forfeiture provisions” in the past, *id.* at 416.⁶ The Court also noted that Congress had repeatedly considered, but never adopted, proposals to cancel patents that had been used as an instrument to violate the antitrust laws (*id.* at 416)—essentially what Complaint Counsel request now. *See also United States v. National Lead Co.*, 332 U.S. 319, 349 (1947) (upholding compulsory licensing remedy but pointing out that reducing “all royalties automatically to a total of zero ... appears, on its face, to be inequitable without special proof to support such a conclusion”).⁷

Complaint Counsel rely almost exclusively on FTC consent orders in which Section 5 respondents agreed not to enforce certain patent rights.⁸ The validity of those orders was not contested. The sole judicial decision that even arguably suggests that the

⁵ *See also* Complaint Counsel’s Motion to Dismiss Complaint, *In re VISX, Inc.*, Dkt. No. 9286, at 7 n.5 (filed December 1, 1999) (stating that Complaint Counsel could find no authority suggesting that Commission could enjoin enforcement of a valid patent; citing *Hartford-Empire*).

⁶ The Commission’s cancellation of Rambus’s intellectual property rights would raise constitutional concerns. *See Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1002-1003 (1984) (recognizing that intellectual property rights are protected by the Fifth Amendment).

⁷ Complaint Counsel argue that a zero-royalty license would be the easiest remedy to administer (CCB 15-16), but an improper remedy cannot be justified on grounds of ease of administration, and in any event, a fixed royalty cap (such as 2.5% for DDR SDRAM) would be just as easy to administer, given that Rambus is a pure-play technology company that does not engage in cross-licenses. Easiest of all to administer would be a remedy limited to preventing future violations.

⁸ *Agreement Containing Consent Order, Unocal Oil Co.*, Docket No. 9305 (2005); *In re Bristol-Meyers Squibb Co.*, 2003 F.T.C. LEXIS 59 (2003); *In re Dell Computer Corp.*, 121 F.T.C. 616 (1996); *In re Eli Lilly & Co.*, 95 F.T.C. 538 (1980); *In re Xerox Corp.*, 86 F.T.C. 364 (1975).

Commission has authority to restrict patent royalties does not support a zero royalty. In *American Cyanamid Co. v. FTC*, 363 F.2d 757 (6th Cir. 1966), even though respondent Pfizer had *obtained* its patent inequitably by misleading the Patent Office, the Commission rejected Complaint Counsel’s request to prevent Pfizer from collecting royalties and, instead, ordered Pfizer to grant licenses at a reasonable royalty not exceeding 2.5%. *In re American Cyanamid Co.*, 63 F.T.C. 1747 (1963).

Complaint Counsel try to bolster their request with an analogy to equitable estoppel. CCB 12-13. But equitable estoppel is not an antitrust remedy; it is a *defense* that can be raised in private patent litigation by an infringer. Estoppel rests on the principle that courts should not assist plaintiffs in enforcing their rights unless they have clean hands. Estoppel is thus “a shield, not a sword.” *Arnold & Associates, Inc. v. Misys Healthcare Sys.*, 275 F. Supp. 2d 1013, 1023 (D. Ariz. 2003); *see generally A.C. Aukerman Co. v. R.L. Chaides Constr. Co.*, 960 F.2d 1020, 1041 (Fed. Cir. 1992). Moreover, estoppel cannot be applied on a wholesale basis; a court must consider the facts and circumstances of each individual case. Thus, to establish the defense in an infringement action, each DRAM manufacturer would have to prove that it was individually misled by Rambus’s conduct and relied to its individual detriment on a misrepresentation. *See id.* at 1041, 1046.

II. COMPLAINT COUNSEL BEAR THE BURDEN OF PROVING THE NATURE OF THE BUT-FOR WORLD

Even if the Commission has the authority to issue a remedy that attempts to restore the markets to their but-for condition, Complaint Counsel have not made the showing necessary to justify such a remedy. The Commission’s finding of liability does not establish that a market-altering remedy is warranted. Where, as here, the theory of liability is that a patentee used its intellectual property rights to exclude nascent competition—and, consequently, it is uncertain what competition would have existed in the absence of such conduct—the “[m]ere existence of an exclusionary act does not itself justify full feasible relief against the monopolist to create maximum competition.” *United States v. Microsoft Corp.*, 253 F.3d 34, 106 (D.C. Cir. 2001) (en banc) (quoting 3 Areeda & Hovenkamp, *Antitrust Law* ¶ 650a at 67 (2d ed. 2002); see *New York v. Microsoft Corp.*, 224 F. Supp. 2d 76, 102 (D.D.C. 2002).⁹ See also Comm’n Op. 24-25 (recognizing difference between liability- and remedy-stage proof burdens).

To justify a remedy that would reduce Rambus’s market power, Complaint Counsel had the burden of establishing that, in the but-for world, JEDEC *would have* rejected Rambus technologies or Rambus *would have* charged lower royalties. See II Herbert Hovenkamp et al., *IP and Antitrust* § 35.5 at 35-43 to 35-44 (2006 Supp.) (plaintiff must establish that SSO “would not have adopted the standard in question but for the misrepresentation or omission” because a failure to disclose “will not affect the competitive marketplace if the [SSO] would have approved the standard even if it had

⁹ Although *Microsoft* concerned the propriety of divestiture as a remedy, requiring surrender of intellectual property rights is “reasonably analogized” to such a remedy. See *Massachusetts v. Microsoft Corp.*, 373 F.3d 1199, 1230 (D.C. Cir. 2004) (en banc).

known about the patent”). The Commission did not find that either proposition was true. It concluded only that Rambus’s conduct “reasonably appear[ed] capable of making a sufficient contribution to creating or maintaining monopoly power,” Comm’n Op. 28, 81—in other words, that such conduct created a sufficient *risk* of harm to competition. The Commission found that “[a]lternative technologies were available” and “*could have been substituted*” for Rambus’s technologies. *Id.* at 76. (emphasis added). The Commission did not find that JEDEC *would* have chosen other technologies in the but-for world, but rather that *Rambus* had not proven that JEDEC would inevitably have chosen Rambus’s technologies. *See id.* at 82.

To close this logical gap, Complaint Counsel ask the Commission to “resolve any reasonable doubts against Rambus.” CCB 9. None of the authorities cited by Complaint Counsel suggests, however, that an antitrust plaintiff can merely propose the conditions in the but-for world and leave it to the defendant to disprove them. Rather, those cases hold that, where particular harm to competition has been proven, doubts about whether the remedy sought was necessary in order to restore competition would be resolved against the defendant. For example, in *United States v. E.I. du Pont de Nemours and Co.*, 366 U.S. 316, 331-332 (1961), the only “doubt” the Court resolved in favor of the government was whether Dupont’s proposed remedy would cure the proven anticompetitive effects of its violation—not doubts as to what, if any, anticompetitive effects there were. And *New York v. Microsoft Corp.*, 224 F. Supp. 2d 76 (D.D.C. 2001), suggested only that doubts may be resolved against a defendant when examining the necessary breadth of a “fencing-in” injunction crafted “for purposes of enjoining the [unlawful] conduct itself,” *id.* at 148 (citing 3 Areeda ¶ 653c at 91)—*not* when trying to

determine the nature of the but-for world as a predicate to setting a market-altering remedy. The other cases cited by Complaint Counsel (CCB 9) concern doubts about the proper measure of damages, not doubts about whether or how competition was injured.¹⁰

Complaint Counsel also misread the Areeda treatise. The section they cite suggests that defendants should bear the risk of uncertainty in determining whether injunctive relief will effectively prevent a repetition of unlawful conduct. 3 Phillip E. Areeda & Herbert Hovenkamp, *Antitrust Law* ¶ 653f at 103-104 (2d ed. 2002). The treatise takes a very different position with respect to relief intended to dissipate market power. *Id.* ¶ 650a(2)(A) at 67, ¶ 653b at 78 (such relief “require[s] a clearer indication of causal connection between the conduct and creation or maintenance of the market power”).

III. JEDEC WOULD HAVE SELECTED RAMBUS’S TECHNOLOGIES IN THE BUT-FOR WORLD, AND ITS MEMBERS WOULD HAVE AGREED TO PAY A REASONABLE ROYALTY TO RAMBUS

The zero-royalty remedy Complaint Counsel seek rests on the incorrect assumption that JEDEC would have chosen different technologies in the but-for world.¹¹ JEDEC

¹⁰ Complaint Counsel suggest that their allegations of document spoliation should affect the remedy. CCB 10-11. The Commission, however, has already declined to resolve any issues arising out of the alleged spoliation and stated that “[n]o remedy for the spoliation issue is necessary.” Comm’n Op. 118.

¹¹ Even on Complaint Counsel’s assumption, Rambus should be able to charge whatever *ex ante* rate DRAM manufacturers would have agreed to pay *before* JEDEC’s adoption of a new DRAM standard. The record contains an excellent benchmark for that *ex ante* rate: the “other DRAM” clause of the Hyundai-Rambus agreement discussed in Rambus’s Opening Brief (17-18). The 2.5% rate covering Rambus DRAM technology other than RDRAM (i.e., SyncLink, SDRAM, and DDR SDRAM) was negotiated in 1995, before JEDEC had chosen a DRAM standard, and was for the duration of Rambus’s patents (regardless of whatever standard eventually was adopted). CX 1600. It thus constitutes an *ex ante* rate independent of any standardization effect and demonstrates that the value of Rambus’s patents did not depend entirely on JEDEC standardization.

chose Rambus's technologies, not casually or ignorant of the alternatives, but after "serious, searching consideration" of the alternatives and "prolonged debate." Comm'n Op. 76. Under well-accepted economic principles, JEDEC's revealed preference demonstrates that JEDEC preferred Rambus's technologies over the alternatives, royalties to Rambus aside. ALJ Op. ¶¶1486-1489. Indeed, JEDEC adopted the same Rambus technologies for DDR2 SDRAM in 2003 (and, it appears, is doing so for DDR3 SDRAM (*see* CCB 18)), several years after it became aware of Rambus's patents covering those technologies and despite the lack of "lock-in." Comm'n Op. 114. JEDEC's considered and unconstrained choice of Rambus's patented technologies demonstrates that JEDEC preferred those technologies over alternatives *even when faced with the prospect of paying Rambus's prevailing royalties* (3.5% on DDR SDRAM). ALJ Op. ¶¶1486-1518. JEDEC would not have chosen the Rambus technologies unless its members believed that Rambus's technologies were superior in cost-performance terms. Rapp, Tr. 9803-9805. And it is "the subjective perceptions of JEDEC members at the time" that matters. Comm'n Op. 77.

JEDEC would also have preferred Rambus's technologies in the but-for world in which Rambus disclosed its patent interests. Disclosure of patent interests would not have changed any of the factors that led JEDEC to prefer Rambus's technologies in the real world, at least once JEDEC was assured that the royalties would not be excessive. And the evidence demonstrates that JEDEC *never* rejected an otherwise preferred

technology because of a credible patent disclosure by a JEDEC member.¹² To the contrary, in that situation, JEDEC consistently asked for a RAND assurance and, if given, adopted the technology. *See* ALJ Op. ¶¶1464-1485; RPF 1220-1238.

At most, JEDEC would have requested a RAND assurance from Rambus, and Rambus would have obliged. In Complaint Counsel's version of the but-for world, where commercially feasible alternatives to Rambus's technologies exist, Rambus would have had to choose between (a) giving a RAND assurance, having its technology adopted by JEDEC, and obtaining royalties from JEDEC-compliant devices or (b) refusing a RAND assurance, having JEDEC adopt an alternate technology, and thus forsaking royalties it might otherwise have received. Because Rambus's business model depends on royalties, it would have had every economic incentive to provide a RAND assurance in the but-for world. ALJ Op. ¶1444; Teece, Tr. 10341-10351.¹³

Complaint Counsel suggest that JEDEC would have rejected Rambus's superior technologies because its members would have preferred not to pay royalties. CCB 5.

¹² Complaint Counsel refer to the 1997 NEC clocking proposal, in which Rambus was thought potentially to hold a patent interest and which JEDEC rejected without seeking a RAND commitment from Rambus. CCB 3, 5-6. But Rambus was not a member of JEDEC at that time. Further, there is no record evidence suggesting that JEDEC preferred the NEC proposal to the alternatives, even apart from the potential patent interest. Notably, the NEC proposal was just a first showing, not a balloted proposal submitted for final adoption after "serious, searching consideration." Comm'n Op. 76; JX-36 at 7.

¹³ Amici argue that Rambus declined to give RAND commitments in the real world. Amicus Brief of Broadcom Corp. and Freescale Semiconductor, Inc. 9. But the episodes they cite are very different from what would have happened in the but-for world. Amici cite no evidence that JEDEC ever asked Rambus to give a RAND assurance. Rambus never faced in the real world the choice it would have faced in the but-for world: provide a RAND assurance or lose the prospect of revenues from JEDEC-compliant devices.

There is no evidence that JEDEC would have actually spurned Rambus's superior technologies merely because they were patented.¹⁴ Moreover, a JEDEC policy or decision to reject superior technologies simply because they are patented would constitute an illegal boycott in violation of the Sherman Act and § 5 of the FTC Act. *See American Soc'y of Sanitary Eng'g*, 106 F.T.C. 324 (1985) (prohibiting a standard-setting organization from excluding equally-performing technologies solely on ground that they were patented); *see also National Macaroni Mfrs. Ass'n v. FTC*, 345 F.2d 421, 426 (7th Cir. 1965). The Commission should not issue a remedy premised on Complaint Counsel's assumption of an illegal boycott of Rambus in the but-for world.

IV. THERE IS NO BASIS FOR A REMEDY THAT AFFECTS THE MARKET FOR TECHNOLOGY USED IN DDR2 SDRAM OR OTHER MARKETS IN WHICH THERE HAS BEEN NO FINDING OF MONOPOLIZATION

Complaint Counsel seek a remedy that “include[s] products that conform to JEDEC's DDR2 SDRAM standard and follow-on standards.” CCB 16. They assert that “DDR SDRAM served as the base for the DDR2 SDRAM standard.” CCB 17. But the Commission found that the record “does not establish a causal link between Rambus's exclusionary conduct and JEDEC's adoption of DDR2 SDRAM.” Comm'n Op. 114. While the Commission suggested that there may have been some costs involved in switching away from Rambus's technologies when the DDR2 SDRAM standards were adopted, it found the record too “imprecise and mixed” to establish a causal connection

¹⁴ Complaint Counsel argue that Rambus's technologies were not superior, and that JEDEC would not have requested a RAND assurance, because “equally attractive alternatives cost no more than the [Rambus] technologies in question.” CCB 7. This argument, based on hindsight evidence about the relative performance of various technologies, is refuted in Rambus's Opening Brief (23-25) and in the attached Appendix.

between Rambus's allegedly unlawful conduct and the DDR2 standard. *Id.* at 113-114. There is thus no basis for restricting Rambus's competitive position in the markets for technologies incorporated into DDR2 and follow-on standards.

Complaint Counsel argue that the Commission is not limited to prohibiting an illegal practice "in the precise form in which it is found to have existed in the past." *FTC v. Ruberoid Co.*, 343 U.S. 470, 473 (1952). This principle gives the Commission discretion to fashion remedies sufficient to ensure that the defendant will not engage in similar anticompetitive conduct in the future. *See, e.g., FTC v. National Lead Co.*, 352 U.S. 419, 429-430 (1957). Applied here, it would allow the Commission to issue orders broad enough to prevent Rambus from misleading any SSO from unknowingly adopting its proprietary technology. *See* RB 5. But this principle does *not* allow the Commission to dissipate Rambus's power in markets that are unaffected by any anticompetitive practice and that are thus *already* in their but-for state. *Cf. ITT Continental Baking Co., Inc. v. FTC*, 532 F.2d 207, 221 (2d Cir. 1976) (striking down FTC order that was not "reasonably calculated to prevent future violations of the sort found to have been committed").¹⁵ Restricting Rambus's patent rights in such markets would create a windfall for DRAM manufacturers and punish Rambus by depriving it of the fruits of legitimate competitive success. *See Ruberoid*, 343 U.S. at 473.

¹⁵ The other cases cited by Complaint Counsel are inapposite for the same reason. *See* cases cited at CCB 16-18.

V. **THE BEST AVAILABLE EVIDENCE SUGGESTS A MINIMUM RATE OF 2.5% FOR DDR SDRAM**

The “other DRAM” clause in the 1995 Hyundai-Rambus license, discussed in Rambus’s Opening Brief (17-18), provides the best record evidence of the royalty rate—at least 2.5%—that Rambus would have charged after an *ex ante* negotiation with JEDEC members. Complaint Counsel themselves relied on the “other DRAM” clause as evidence for what would have happened in the but-for world. *See* CC Response to RPF 1206. Now, however, Complaint Counsel rely on licenses that shed no light on royalty rates for DDR SDRAM and SDRAM in the but-for world.

A. **The Samsung License Amendment And the Infineon Settlement Are Completely Inapt**

Despite agreeing that the Commission should decide the remedy based on the existing record, Complaint Counsel argue (CCB 19-20) that two license agreements **outside the record in this case** support a royalty cap of 0.25% on JEDEC-compliant DRAMs. The Commission should reject this attempt to inject non-record material. *See, e.g., In re Chester H. Roth Co., Inc.*, 55 F.T.C. 1076 (1959). In any event, those agreements, executed in 2001 and 2005, have nothing to do with the but-for world.

Judge Payne’s then-recent adverse judgment against Rambus in the *Infineon* case (based on events that would not have happened in the but-for world) provided the impetus for the 2001 Amendment to the 2000 Samsung-Rambus Agreement; not surprisingly, the amendment favored Samsung.¹⁶ Even so, the 2001 Amendment was

¹⁶ That judgment was later reversed on appeal. *See Rambus Inc. v. Infineon Technologies*, 318 F.3d 1081 (Fed. Cir. 2003). After further proceedings on remand, Rambus and Infineon settled the litigation in 2005.

intended as a temporary adjustment, and Samsung agreed to pay the original royalty rates (found in numerous other agreements at that time) once Rambus entered into a license with either Micron or Infineon (which it did in 2005). CCB Attachment 2, ¶ 7. Thus, Samsung agreed to and reaffirmed the 0.75% (SDRAM) and 3.5% (DDR SDRAM) rates as appropriate. Samsung also continued to pay Rambus the original controller rates of 1.5% (SDR Controllers) and 5.5% (DDR Controllers) until the Agreement terminated in 2005. CCB Attachment 1; Attachment 2, ¶1.

The Infineon settlement is similarly unrepresentative of the but-for world. In March 2005, after more than four years of litigation, Rambus reached a settlement with Infineon. CCB Attachment 5. That complex settlement, dealing with multiple claims and future licensing provisions, is of little relevance to the remedy issues here. Indeed, the district court overseeing Rambus's patent litigation against Hynix excluded evidence about the Infineon settlement, finding that "it has virtually no probative value" for determining a reasonable royalty rate. *Hynix Semiconductor Inc. v. Rambus Inc.*, No. C-00-20905, Order Granting Rambus's Motion *In Limine* Regarding Weinstein's Supplemental Report at 2 (N.D. Cal. Mar. 9, 2006) (Attachment 1).¹⁷

¹⁷ See also *Hynix Semiconductor Inc. v. Rambus Inc.*, No. C-00-20905, Order on Patent Trial Motions *In Limine* at 19 (N.D. Cal. Mar. 1, 2006) (Attachment 2) ("Because the Infineon license came after Judge Payne dismissed Rambus's patent claims on the basis of unclean hands, it stands in stark contrast to the situation here, where Rambus has survived Hynix's unclean hands challenge. This severely diminishes the relevance of the Infineon license.").

B. RDRAM Rates Are Not Proper Benchmarks

Complaint Counsel make three specious arguments in an effort to show that RDRAM rates should be higher than rates for SDRAM and DDR SDRAM: (a) that RDRAM is a niche product rather than a commodity; (b) that RDRAM licenses were full technology agreements; and (c) that RDRAM licenses included more technologies. CCB 21. These arguments are easily rebutted: (a) prices for niche products are not always higher; (b) RDRAM licenses provided substantial, non-royalty benefits for Rambus;¹⁸ and (c) royalties for blocking patents do not depend on the number of patents.¹⁹ More important, what these purported distinctions—along with the differences discussed in Rambus’s Opening Brief (21-22)—really show is that RDRAM is too different from SDRAM and DDR SDRAM to serve as a useful benchmark for royalty rates in the but-for world, especially where there are substantial real-world equivalents.

¹⁸ See RB 22.

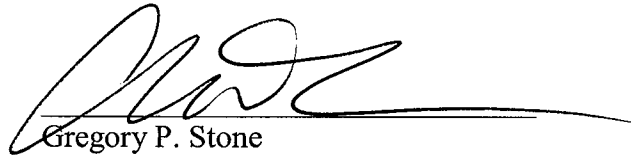
¹⁹ See *U.S. Philips Corp. v ITC*, 424 F.3d 1179, 1190-1192 (Fed. Cir. 2005), *cert. denied*, 126 S. Ct. 2899 (2006).

CONCLUSION

The Commission should reject Complaint Counsel's proposal for a zero royalty. The Commission should also reject Complaint Counsel's proposal for a remedy covering DDR2 SDRAM and other markets in which no violation has been established. As explained in Rambus's Opening Brief, if the Commission intends to adopt a market-altering remedy, it should either order Rambus to license the relevant technologies in the relevant markets on RAND terms, or it should set a maximum royalty rate in excess of 2.5% for use of the relevant technologies in DDR SDRAM products.

DATED: September 29, 2006

Respectfully submitted,



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Exhibit

A

APPENDIX

Complaint Counsel argue that various “equally attractive alternatives cost no more” than the Rambus technologies at issue. CCB 7-8. The table below summarizes some, though certainly not all, of the evidence rebutting Complaint Counsel’s arguments regarding the purported alternatives. Complaint Counsel list yet an additional six purported alternatives in a footnote. CCB 9 n.7. These likewise were not viable, cost-free alternatives for reasons set forth in the Initial Decision. ALJ Op. 1201-14, 1231-47, 1281-91.

Alternative	Complaint Counsel’s Argument	Contrary Evidence
Fixed CAS Latency	At most two latencies required. Yield would improve quickly. No additional inventory cost.	<p>Two CAS latencies would not provide the flexibility of the JEDEC standard. RB 24-25. Cost issues would not be solved by improved yield because Rambus’s expert’s calculations assumed that yield was already optimized. Geilhufe, Tr. 9562.</p> <p>Complaint Counsel’s expert did not dispute that there would be additional inventory cost, and testified only that he was “not certain.” Jacob, Tr. 5592-5593.</p> <p>This alternative was expressly rejected by JEDEC for DDR2 for performance reasons despite knowledge of Rambus’s infringement claims. RX-1626 at 3-4.</p>
Setting CAS Latency with a Fuse	OEMs could blow electrical fuses themselves.	Even if electric fuses for setting CAS latency were viable, OEMs could not blow the fuses because they cannot perform necessary testing afterward. ALJ Op. ¶1171; Jacob, Tr. 5597-5598.
Use of a Separate Pin to Set CAS Latency	Many configurations of SDRAMs had extra pins that could be used for this purpose.	IBM’s Gordon Kelley, the chair of the relevant JEDEC committee, testified that such pins were reserved for address pins in higher density future generations. Kelley, Tr. 2552-2553.
Fixed Burst Length	Only one or two burst lengths required.	<p>The JEDEC SDRAM standard and available products allow for five different burst lengths. ALJ Op. ¶1219, ¶1221.</p> <p>This alternative was expressly rejected by</p>

		JEDEC for DDR2 for performance reasons despite knowledge of Rambus's infringement claims. ALJ Op. ¶¶1510-1511.
Burst Terminate Command to Set Burst Length	Viable alternative.	This feature was included in SDRAM (as an option), making it unnecessary to include Rambus technology if it were a viable alternative. ALJ Op. ¶1249.
Doubling the Clock Speed	On-DIMM clock not required.	An expensive on-DIMM clock would have been required to deal with clock distribution problems—problems acknowledged by JEDEC members themselves. <i>See</i> Geilhufe, Tr. 9609-10; Kellogg, Tr. 5182; Lee, Tr. 11089 (TI's proposal to use a single frequency clock, with double the frequency, was not practical and lacked sufficient support at JEDEC). This alternative was expressly rejected by JEDEC for DDR2 for performance reasons despite knowledge of Rambus's infringement claims. CX-426 at 4.
DLL on the Controller	Viable alternative.	Not a viable alternative because it does not address the problem that on-chip DLLs solve, namely, timing differences between individual DRAMs. ALJ Op. ¶¶1351-1352, 1359.
Vernier	Viable alternative.	The Synlink consortium tried and failed to design a high-speed DRAM with a vernier instead of an on-chip DLL. ALJ Op. ¶¶1374-1375. While there were "competing explanations" for the exact purpose that the DLL ultimately served in Synlink's SLDRAM, Comm'n Op. at 93, there is no dispute as to the only material fact, namely, that Synlink had to include a DLL on the SLDRAM for timing purposes and could not make do with a vernier alone. <i>See</i> Jacob, Tr. 5620-21; RX-2099-11 at 5. It is not established that this (or other alternatives) were patent free. <i>See e.g.</i> ALJ Op. ¶1376.
DQS Strobe	Viable alternative.	This feature was already in JEDEC DDR standard parts, making it unnecessary to include Rambus technology if it were a viable alternative. Comm'n Op. 94 ("DQS strobes are part of the DDR SDRAM standard").

Attachment

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Attachment 1

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IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

HYNIX SEMICONDUCTOR INC., HYNIX
SEMICONDUCTOR AMERICA INC.,
HYNIX SEMICONDUCTOR U.K. LTD., and
HYNIX SEMICONDUCTOR
DEUTSCHLAND GmbH,

Plaintiffs,

v.

RAMBUS INC.

Defendant.

No. C-00-20905 RMW

ORDER GRANTING RAMBUS'S MOTION
IN LIMINE REGARDING WEINSTEIN'S
SUPPLEMENTAL REPORT

[No Docket No.]

Weinstein is Hynix's damages expert. He served his initial report on January 24, 2005. To derive his figure for Scenario A, where Rambus was not willing to exercise its market power, he took two steps. First, he reviewed license agreements that Rambus formed with other companies around 2000. Most of these included a royalty rate of 0.75 percent for SDRAM and 3.5 percent for DDR SDRAM. Then he considered Rambus's and Hynix's actual negotiations in 2000. Based on his discussions with Hynix's vice president of intellectual property rights, he concluded that Hynix would have been willing to pay royalty rates of 0.25 percent for SDRAM and 0.5 percent for DDR SDRAM. He then averaged these two figures and determined that a reasonable royalty would have

1 been 0.50 percent for SDRAM and 2.0 percent for DDR SDRAM. *See* Weinstein Report at ¶¶ 9, 45-
2 57.

3 On January 30, 2006 Weinstein served a supplemental expert report. This report
4 incorporates Rambus's Royalty Summary and the March 2005 settlement between Rambus and
5 Infineon. Instead of employing the two-step methodology outlined above to determine a reasonable
6 royalty rate, he now bases his theory on the Infineon license. He notes that the Infineon license ties
7 rates to the number of companies that license Rambus technology after January 2005. *See* Weinstein
8 Supp. Report at ¶ 3. If Infineon is the only company to do so, the effective royalty rate is 0.21 to
9 0.27 percent on all memory sales; if two manufactures do so, the rate rises to 0.31 to 0.52 percent;
10 and if three manufacturers do so, then the rate rises to 0.37 to 0.76 percent. Weinstein also
11 calculates the "effective royalty rate" paid by five Rambus licensees and uses them to determine a
12 "weighted average effective royalty rate" of 0.43 percent. *Id.* at ¶ 6. Ultimately, Weinstein
13 concludes that Rambus's royalty should be between 0.21 percent and 0.76 percent of infringing
14 memory sales. *Id.* at ¶ 34.

15 Rambus moves to exclude Weinstein's supplemental report. The court grants the motion for
16 several reasons. First, the court has determined that Infineon and Rambus negotiated their license
17 under circumstances so far removed from the case at bar that it has virtually no probative value.
18 Although Weinstein can rely on inadmissible evidence to formulate his opinion, his heavy reliance
19 upon the Infineon license undermines the reliability of his calculations.

20 Second, Weinstein's supplemental report relates entirely to Scenario A: a hypothetical
21 situation where Rambus did not exercise its market power. *See* Weinstein Supp. Report at ¶¶ 6 ("I
22 have also calculated the weighted average effective royalty rate received by Rambus This rate
23 is 0.43 percent, a figure which reflects the real value of the patents in the absence of market power);
24 13 ("These data indicate that, in the absence of market power, the real value of Rambus technology
25 . . . do[es] not exceed 0.43 percent"). The court has ruled that this scenario is unrealistic because it
26 fails to account for the fact that Rambus could reasonably exercise its market power. Weinstein
27 cannot testify to the contrary.

1 Third, Weinstein's supplemental report is untimely. Hynix correctly notes that parties have a
2 duty to supplement disclosures made pursuant to Rule 26(a), and the deadline for doing so is "the
3 time the party's disclosures under Rule 26(a)(3) are due." Fed. R. Civ. P. 26(e)(1). Hynix argues
4 that because Rule 26(a)(3) disclosures were due on February 2, 2006, Weinstein's supplemental
5 report, served on January 30, 2006, is timely. However, Rule 26(e)(1) only permits supplementation
6 of information that "is incomplete or incorrect." Weinstein's new report contains a new
7 methodology: the use of "effective royalty rates." Although he calculated an "effective royalty rate"
8 for Samsung in his initial report, he chose not to incorporate this calculation into his opinion.
9 Weinstein Report at ¶¶ 54, 58. Courts are generally reluctant to construe substantive changes to an
10 expert's theories or methodologies as an appropriate form of "supplementation." See, e.g., *Carter v.*
11 *Finely Hosp.*, 2003 WL 22232844, *2 (N.D. Ill. 2003) ("[i]t is disingenuous to argue that the duty to
12 supplement under Rule 26(e)(1) can be used as a vehicle to disclose entirely new expert opinions
13 after the deadline established by the court under Rule 26(a)(2)(C)"); *Keener v. U.S.*, 181 F.R.D. 639,
14 640 (D. Mont. 1998) (precluding expert from introducing supplemental report where "[t]he opinions
15 contained [therein] are different from, rather than supplemental to, the information contained in the
16 [initial] disclosure" because "[s]upplementation under the Rules means correcting inaccuracies, or
17 filling the interstices of an incomplete report based on information that was not available at the time
18 of the initial disclosure"); *Dag Enterprises, Inc. v. Exxon Mobil Corp.*, 226 F.R.D. 95, 109-10 (D.
19 D.C. 2005) (plaintiffs' attempt to "rework their damages analyses and change the substance of their
20 contentions — i.e., basically 'substituting another report' for the ones that they already have
21 submitted . . . fundamentally misconstrue[s] the idea of 'supplementation' under Rule 26").

22 Here, Rambus served its Royalty Summary on Hynix over a year ago: on January 13, 2005.
23 Ransom Decl. Supp. Mot. ("Ransom Decl.") ¶ 4. Thus, Hynix possessed this information for eleven
24 days before Weinstein served his *initial* report. When questioned at oral argument, Hynix could not
25 explain why Weinstein waited until the eve of trial to alter his method. Similarly, to the extent that
26 Weinstein bases his new calculations on the Infineon license, Hynix obtained this license on June
27 30, 2005, *id.* at ¶ 5, and Weinstein had ample time to place Rambus on notice about his new
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1 opinions. The court hereby precludes Weinstein from relying on the new information contained in
2 his supplemental report.

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DATED: 3/9/06

/s/ Ronald M. Whyte
RONALD M. WHYTE
United States District Judge

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ATTACHMENT

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Attachment 2

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IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

HYNIX SEMICONDUCTOR INC., HYNIX
SEMICONDUCTOR AMERICA INC.,
HYNIX SEMICONDUCTOR U.K. LTD., and
HYNIX SEMICONDUCTOR
DEUTSCHLAND GmbH,

Plaintiffs,

v.

RAMBUS INC.

Defendant.

No. C-00-20905 RMW

ORDER ON PATENT TRIAL MOTIONS *IN*
LIMINE

**[Re Docket Nos. 1597-1605, 1610-1624, 1641,
1642, 1646]**

**1. Hynix's Motion in Limine to Exclude Argument and Evidence of Infringement
Under the Doctrine of Equivalents.**

Hynix moves to preclude Rambus's expert Murphy from arguing infringement under the doctrine of equivalents for "delay locked loop" and "access time register."

The court denies the motion on the "delay locked loop" issue but grants it with respect to the "access time register" issue. Hynix first argues that Murphy's opinion about the "delay locked loop" term is conclusory. The patent recites that the "delay locked loop" uses a "variable delay line." Hynix tries to differentiate its chip based on the term "variable delay line." Hynix calls its circuit a "selectable delay network." Hynix argues that Murphy did not sufficiently explain why the

1 "selectable delay network" is interchangeable with "variable delay line" in "function," "way," and
2 "result." However, although Murphy does not use the words "function," "way," and "result," his
3 opinion is adequate. To one skilled in the art, it is common knowledge that a "variable delay line" is
4 not a "line" per se. It is a digital circuit block made from semiconductor devices, typically of a size
5 less than one square millimeter. Its function is to introduce a controllable delay to a signal passing
6 through the circuit, typically for synchronization purposes. The key concept is that this circuit
7 provides a variable end-to-end delay to a signal. There can be numerous ways to construct such a
8 circuit. "Variable delay line" is a figurative way of referring to this type of circuit. Arguably, the
9 term "variable delay line" is broad enough to cover Hynix's "selectable delay network circuit."
10 See Murphy Report ¶ 24 ("[T]he circuitry described by Mr. Taylor is simply one form of a variable
11 delay line. Replacing the word 'variable' with 'selectable' and the word 'line' with 'network circuit'
12 cannot change the fact that the Hynix devices have a variable delay line.").

13 Hynix also argues that Murphy cannot opine about equivalence with respect to the "delay
14 locked loop" because he first raised the issue in his rebuttal report and Rambus does not mention it
15 in its Final Infringement Contentions. However, Hynix first advanced its "selectable delay network"
16 argument *after* Murphy submitted his initial report and Rambus served its Final Infringement
17 Contentions. Because the court permitted Hynix to raise new theories after granting Rambus's
18 motion for summary judgment of infringement, it would be unfair to preclude Murphy on timeliness
19 grounds.

20 Hynix contends that Murphy did not address equivalence with respect to the "access time
21 register" limitation. "Access time register" is a register (a temporary storage mechanism for storing
22 values) that holds the value of "access time." Both parties refer to the "access time" as "CAS
23 latency." "CAS latency" typically denotes the number of clock cycles it takes the memory to
24 respond to an operation request. Hynix asserts that the value stored in its devices' register is not
25 indicative of a number of clock cycles that must transpire before it outputs data because the value is
26 not "equal" to the cycle after which the device makes the data available. According to Hynix,
27 Rambus's claims are different because the value does equal the number of clock cycles before the
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1 data becomes available. Hynix contends that Murphy did not address equivalence with respect to
2 "access time register" in his report.

3 Rambus relies on a footnote in Murphy's initial expert report in which he stated that there is a
4 "subtle difference" between the "access time register" limitations of Rambus's claims and Hynix's
5 accused products. See Murphy Report at 5 n.1. Murphy notes that regardless of whether the CAS
6 latency in Hynix's products equals the number of cycles that must transpire before data begins to
7 appear on the bus, it nevertheless corresponds with the value stored in the register. However, this
8 passing reference is insufficient to put Hynix on notice that Murphy intended to offer an opinion on
9 equivalence. See *Tracinda Corp. v. DaimlerChrysler AG*, 362 F. Supp. 2d 487, 506 (D. Del. 2005)
10 ("The purpose of the initial disclosures provided for in Rule 26 is to prevent a party from being
11 unfairly surprised by the presentation of new evidence."). The words "subtle difference" suggest
12 that the limitations, though similar, are not similar enough to render the doctrine of equivalents
13 applicable. See *Valmont Indus. Inc. v. Reinke Mfg. Co., Inc.*, 983 F.2d 1039, 1042 (Fed.Cir. 1993)
14 ("[a]n equivalent under the doctrine of equivalents results from an insubstantial change which, from
15 the perspective of one of ordinary skill in the art, adds nothing of significance to the claimed
16 invention").

17
18 **2. Hynix's Motion in Limine to Exclude References to Hynix's Counsel's Prior**
19 **Representation of Rambus.**

20 Hynix moves under Rules 401 and 403 to exclude evidence of Townsend's prior
21 representation of Rambus. Townsend & Townsend & Crew — Hynix's current counsel — prepared
22 patent applications for Rambus between 1996 and 1998. Around the same time, Townsend also
23 prepared patent applications and performed transactional work for SyncLink, a small industry group
24 developing a DRAM standard. When Rambus brought this potential conflict of interest to
25 Townsend's attention, Townsend withdrew from representing both Rambus and SyncLink.

26 The court grants the motion as unopposed.
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1 **3. Hynix's Motion in Limine to Exclude Argument and Evidence Regarding**
2 **Post-Invention Publications Referencing "Delay Locked Loop" and "Variable Delay Line."**

3 The priority filing and constructive invention date of the patents-in-suit is April 18, 1990.
4 The parties have agreed that the term "delayed lock loop" means "circuitry on the device, including a
5 variable delay line, that uses feedback to adjust the amount of delay of the variable delay line and to
6 generate a signal having a controlled timing relationship relative to another signal." The parties
7 disagree on the meaning of "variable delay line." According to Hynix, a "variable delay line" is an
8 electrical signal line in which the delay of the signal is varied over the entire length of the line.
9 According to Rambus, a "variable delay line" is "a line that has a delay that is variable by some
10 means." At the deposition of Rambus' expert, Murphy, he produced several publications that he
11 claimed support Rambus' interpretation of "variable delay line." All were dated 1997 or later.

12 Hynix argues that since a court must give a term "the ordinary and customary meaning . . .
13 that the term would have to a person of ordinary skill in the art in question *at the time of the*
14 *invention,*" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (emphasis added), these
15 post-1990 publications are irrelevant. Hynix also seeks to exclude the publications under Rule
16 26(a)(2)(B) on the grounds that Murphy did not disclose them in his expert report.

17 The court denies the motion. First, although Hynix is correct that a term's meaning hinges
18 on what a person of ordinary skill in the art would believe at the time of the invention, it does not
19 logically follow that a post-invention publication cannot illuminate this issue. *Cf. Gould v. Quigg*,
20 822 F.2d 1074, 1078 (Fed. Cir. 1987) ("It was not legal error for the district court to accept the
21 testimony of an expert who had considered a later publication in the formulation of his opinion as to
22 whether the disclosure was enabling as of the time of the filing date of the '540 application.").
23 Second, with respect to Hynix's non-disclosure argument, Rule 26(e)(1) only requires Murphy to
24 disclose "additional or corrective information [that] has not otherwise been made known to the other
25 parties during the discovery process or in writing." Because Murphy testified about the publications
26 at his deposition, he complied with this mandate. *See Tucker v. Ohtsu Tire & Rubber Co., Ltd.*, 49
27 F. Supp. 2d 456, 460 (D. Md. 1999) ("It is equally clear that when Mr. Grogan testified during the
28

1 first day of his deposition that he had reached two new opinions, his subsequent testimony about
2 those new opinions was a form of supplementation permitted by Rule 26(e)(1).")
3

4 **4. Hynix's Motion in Limine re: Rambus May Not Offer the Opinion of Robert J.**
5 **Murphy on Certain Legal Issues or Claim that the Written Description Requirement Has Been**
6 **Found To Be Met.**

7 Hynix objects to three things: Murphy's (1) frequent invocation of legal standards, court
8 opinions, and PTO actions prefaced by phrases such as "I understand," "I agree," "I have been
9 informed," and "I was told"; (2) use of the symbols "CC" and "CC+" in Exhibit D to his expert
10 report; and (3) opinion that the PTO and Federal Circuit in *Infineon* found the claims meet the
11 written description requirement.

12 The court precludes Murphy from offering an opinion on legal standards. For example, he
13 cannot state the legal test for anticipation, even if he qualifies it with "I believe" or "I have been
14 informed." Doing so would intrude on the court's function to instruct the jury about the law.
15 However, the court does not bar Murphy from opining on whether a legal test has been satisfied: for
16 example, that a particular prior art reference contains all limitations of a claim either expressly or
17 necessarily implied, so that one of ordinary skill in the art would be able to make and use the
18 invention. Hynix's expert Taylor should follow the same protocol.

19 The court also grants the motion on the "CC" and "CC+" issue. Exhibit D summarizes
20 Murphy's view of Hynix's invalidity contentions. Next to particular prior art references, Murphy
21 placed a "CC" where he believes that Hynix must meet a clear and convincing burden of proof.
22 Where the PTO considered and rejected the prior art, Murphy placed a "CC+." The parties dispute
23 whether this is appropriate. Both find support in a passage from *American Hoist & Derrick Co. v.*
24 *Sowa & Sons, Inc.*, 725 F.2d 1350 (Fed. Cir. 1984). In that case, the Federal Circuit explained the
25 difference between trying to invalidate a patent based on newly-discovered prior art and trying to
26 invalidate a patent based on prior art that the PTO had considered:

27 When no prior art other than that which was considered by the PTO examiner
28 is relied on by the attacker, he has the added burden of overcoming the
deference that is due to a qualified government agency presumed to have
properly done its job When an attacker . . . produces prior art or other

1 evidence not considered in the PTO, there is, however, no reason to defer to
2 the PTO so far as its effect on validity is concerned. Indeed, new prior art not
3 before the PTO may so clearly invalidate a patent that the burden is fully
4 sustained merely by proving its existence and applying the proper law; but
5 that has no effect on the presumption or on who has the burden of proof. They
6 are static and in reality different expressions of the same thing—a single hurdle
7 to be cleared. Neither does the standard of proof change; it must be by clear
8 and convincing evidence or its equivalent, by whatever form of words it may
9 be expressed. What the production of new prior art or other invalidating
10 evidence not before the PTO does is to eliminate, or at least reduce, the
11 element of deference due the PTO, thereby partially, if not wholly,
12 discharging the attacker's burden, but neither shifting nor lightening it or
13 changing the standard of proof. When an attacker simply goes over the same
14 ground traveled by the PTO, part of the burden is to show that the PTO was
15 wrong in its decision to grant the patent.

16 *Id.* at 1359-60.

17 Rambus contends that Murphy's notation is proper because "[w]hen a reference claimed to be
18 prior art has already been considered by the USPTO, the attacker of the patent's validity 'has the
19 additional burden of overcoming the deference that is due to a qualified government agency
20 presumed to have properly done its job.'" However, this argument conflates the burden of proof
21 with the weight to be given particular evidence. *American Hoist* stands for the proposition that prior
22 art proffered by a party challenging a patent will have *more persuasive force* when the PTO has not
23 considered it. *See id.* at 1360 ("When new evidence touching validity of the patent not considered
24 by the PTO is relied on, the tribunal considering it is not faced with having to disagree with the PTO
25 or with deferring to its judgment or with taking its expertise into account. *The evidence may,*
26 *therefore, carry more weight and go further toward sustaining the attacker's unchanging burden.*")
27 (emphasis added). Conversely, where the PTO has considered a prior art reference, the attacker
28 stands to gain less by using it. Accordingly, Murphy's "CC+" notation is misleading. The "+"
strongly implies that Hynix's burden is greater than clear and convincing evidence. That is not the
law.

29 Finally, the court grants the motion on the issue of whether *Infineon* or the PTO found that
30 the claims met the written description requirement. Taylor states that Rambus's specification does
31 not disclose a regular bus, i.e., a "non-multiplexing" bus. *See Taylor's Report on Invalidity* ¶ 114.
32 In response, Murphy argues that *Infineon* construed "bus" without a multiplexing limitation.
33 Murphy Rebuttal Report ¶¶ 50, 289. There are two problems with permitting Murphy to rely on

1 *Infineon*. For one, it strongly implies that the Federal Circuit found that the claims meet the written
2 description requirement. Of course, it did not. Second, Taylor interpreted the *specification*, while
3 *Infineon* construed the *claims*. Murphy cannot use the latter to cast light on the former: that is
4 exactly backwards. Finally, the PTO issue is a close one. The court finds that Murphy's statements
5 that he "agree[s]" with the PTO that the claims comply with the written description requirement,
6 Murphy Report ¶¶ 239, 253, 256, 261, 264, 270, 274, 279, 282, 286, 291, give the false impression
7 that the PTO has rendered an additional opinion on the patents' validity. The court excludes
8 Murphy's statements for that reason.

9
10 **5. Hynix's Motion in Limine to Exclude any Rambus Claim or Expert Opinion**
11 **Regarding an Invention Date Prior to April 18, 1990.**

12 Hynix moves to exclude Rambus from claiming an invention date prior to April 18, 1990 and
13 offering at trial any opinion or testimony from Robert Murphy to support that claim. Rambus
14 acknowledges that it does not intend to offer Murphy's testimony on the subject but does plan to
15 prove an earlier date through inventor testimony and corroborating documents. The Federal Circuit
16 has explained that the issue of conception depends on whether evidence other than the inventor's
17 own testimony shows that he disclosed the idea in a near-fully realized form:

18 Conception is complete only when the idea is so clearly defined in the inventor's
19 mind that only ordinary skill would be necessary to reduce the invention to practice,
20 without extensive research or experimentation. Because it is a mental act, courts
21 require corroborating evidence of a contemporaneous disclosure that would enable
22 one skilled in the art to make the invention. Thus, the test for conception is whether
23 the inventor had an idea that was definite and permanent enough that one skilled in
24 the art could understand the invention; the inventor must prove his conception by
25 corroborating evidence, preferably by showing a contemporaneous disclosure. An
26 idea is definite and permanent when the inventor has a specific, settled idea, a
27 particular solution to the problem at hand, not just a general goal or research plan he
28 hopes to pursue. The conception analysis necessarily turns on the inventor's ability
to describe his invention with particularity. Until he can do so, he cannot prove
possession of the complete mental picture of the invention

25 *Burroughs Wellcome Co. v. Barr Laboratories, Inc.*, 40 F.3d 1223, 1228 (Fed. Cir. 1994) (internal
26 citations omitted). This inquiry appears to call for specialized knowledge: for someone skilled in the
27 art to interpret the inventor's disclosure and explain why he could reduce it to practice. As a general
28 matter, complex issues require expert testimony. The Federal Circuit has implicitly endorsed the
proposition that this should be particularly true in patent cases involving difficult technology. See,

1 *e.g., Invitrogen Corp. v. Clontech Laboratories, Inc.*, 429 F.3d 1052, 1068 (Fed. Cir. 2005)
2 (reversing grant of partial summary judgment establishing date of conception because "Clontech
3 nowhere provides the court with expert testimony that properly explains the technical notebook
4 entries advanced in support of its conception arguments"). However, the Federal Circuit has not
5 precluded a patent holder from establishing a priority date through inventor testimony and
6 corroborating evidence of a contemporary disclosure. The court precludes Rambus from offering
7 expert testimony but defers ruling on whether Rambus can claim an invention date earlier than April
8 18, 1990 until it can hear and examine the specific evidence that Rambus intends to offer.

9
10 **6. Hynix's Motion in Limine to Exclude the Testimony of Robert J. Murphy regarding**
11 **Secondary Considerations of Non-Obviousness.**

12 Hynix claims that Rambus's patents-in-suit are invalid for obviousness. In Murphy's expert
13 report, he explains that "in order to determine whether a patent claim would have been obvious and
14 therefore invalid at the date of Rambus's invention . . . [one looks to] objective considerations."
15 Murphy Report ¶ 224. He addresses several such considerations, including (1) long felt need for the
16 inventions, (2) unsuccessful attempts by others to find the solution provided by the claimed
17 invention, (3) acceptance by others of the claimed invention as shown by praise from others in the
18 field or from the licensing of the claimed invention, (4) and lack of independent invention by others
19 before or at about the same time as the named inventor thought of it. *Id.* at ¶¶ 228-235. Hynix
20 moves to exclude this testimony.

21 The court grants the motion with respect to the "unsuccessful attempts by others" opinion.
22 Murphy sets forth a bare conclusion augmented by irrelevant statements:

23 There were unsuccessful attempts by others to find the solution provided None of
24 Hynix's alleged prior art anticipates or renders obvious any of the asserted claims. The
25 Examiners of the United States Patent and Trademark Office found that none of the
contemporary development anticipated or rendered obvious any of the asserted claims.

26 *Id.* at ¶ 230. Murphy does not explain how these facts evidence "unsuccessful attempts by others."

27 If, as Murphy apparently contends, the mere fact that a patent issued suffices to show that others

28 tried but did not succeed, it would eviscerate this prong of the obviousness inquiry: by definition, an

obviousness challenge must be brought against an issued patent. An expert who is relying "solely

1 . . . on experience . . . must explain how that experience leads to the conclusion reached, why that
2 experience is a sufficient basis for the opinion, and how that experience is reliably applied to the
3 facts." Fed. R. Evid. 702 advisory committee's note (2000 Amendments). Murphy fails to do so.

4 The court denies the motion with respect to the other secondary considerations. First, Hynix
5 ignores Murphy's support for his opinion about the "long felt need." Not only does Murphy bolster
6 his opinion about the "long felt need" with quotation from David A. Patterson, Computer
7 Architecture: A Quantitative Approach 426-27 (1990), which states that "[i]nnovative organizations
8 of main memory are needed," *id.* at ¶ 229, he addresses problems with conventional DRAMs and the
9 CPU-DRAM performance gap in other sections of his expert report. *Id.* at ¶¶ 25-37. Hynix argues
10 that Patterson's book was written two years after Rambus's alleged invention. However, Hynix does
11 not explain why this means that it cannot illuminate a contemporaneous or past need. Second,
12 Murphy's opinion on the "lack of independent invention by others" explains in detail that Hynix's
13 alleged prior art does not anticipate Rambus's claims. *Id.* at ¶ 232. Third, on the "acceptance by
14 others" consideration, although Rambus has agreed not to contend that RDRAM licensing
15 demonstrates the commercial success of its inventions, the same is not true for SDRAM and DDR
16 SDRAM. Murphy links Rambus's patents to many such licenses. Murphy Report at ¶ 235.

17 Hynix argues that the party seeking to prove non-obviousness through secondary
18 considerations must show a nexus between such evidence and the merits of the claimed invention.
19 "A prima facie case of nexus is generally made out when the patentee shows both that there is
20 commercial success, and that the thing (product or method) that is commercially successful is the
21 invention disclosed and claimed in the patent." *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*,
22 851 F.2d 1387, 1392 (Fed. Cir. 1988). Even assuming that it is Murphy's task to prove this nexus,
23 his listing of SDRAM and DDR SDRAM licences suffices. Murphy Report at ¶ 235.

24
25 **7. Hynix's Motion in Limine re Instructions by Court Only Regarding Summary**

26 **Judgment Rulings.**

27 Of the ten claims selected by Rambus for trial, the court has granted summary judgment of
28 infringement on claim 33 of the '120 patent and claim 16 of the '863 patent. Hynix asks the court to
issue "a bare statement that the jury may assume" that Hynix infringed two claims.

1 The court denies the motion. The "assume" instruction is confusing — as Rambus
2 persuasively argues, one is asked to "assume" questionable propositions — and *Hynix's* own caselaw
3 illustrates that the court may instruct the jury in more definite terms. See *Century Wrecker Corp. v.*
4 *E.R. Buske Mfg. Co. Inc.*, 898 F. Supp. 1334, 1348 (N. D. Iowa 1995) (instructing jury that "[i]n
5 proceedings before trial, I determined that products made and distributed by the defendants infringe
6 plaintiff's patents . . . [but this] determination that defendants' products infringe plaintiff's products
7 should have absolutely no impact on how you decide the questions you are asked to decide").

8 However, although the court believes that the use of "may assume" could be misleading, the
9 court does believe that a simple instruction should be sufficient for phase 1 of the trial. At this point,
10 the court believes the following is sufficient: "with respect to claim 33 of the '120 patent and claim
11 16 of the '863 patent, the only issue you need to decide with respect to each is whether it is invalid."
12

13 **8. Hynix's Motion in Limine to Exclude Evidence of Infringement of Nonrepresentative**
14 **Claims.**

15 Hynix moves to exclude "any evidence, testimony, opinion or argument referencing or
16 relating to Rambus patent claims that are not designated as 'representative claims.'" The parties
17 agree that Rambus may not offer evidence about the allegedly infringed claims that it did not select
18 for this litigation. However, Rambus has offered a proposed jury instruction that states that "the fact
19 that only ten claims asserted by Rambus in this case does not mean that these are the only ten claims
20 in the patents-in-suit that Rambus alleges are infringed by Hynix." The court grants the motion to
21 the extent it challenges Rambus's proposed instruction, which invites the jury to find against Hynix
22 on the basis of claims that are not before it. However, the court denies the motion to the extent that
23 granting it would bar Rambus from proving (1) infringement of the dependent elected claims by
24 referring to the independent claims on which they depend, (2) what the specification discloses, or (3)
25 in response to Hynix's prosecution laches defense.

26
27 **9. Hynix's Motion in Limine re: Other Actions and Decisions.**

28 Hynix moves to exclude evidence of (1) the *Infineon* decision, (2) an FTC action in which
the ALJ found that Rambus did not commit antitrust violations, (3) Rambus' San Francisco Superior

1 Court RDRAM boycott and price fixing lawsuit, and (4) criminal price fixing charges brought by the
2 DOJ against certain Hynix personnel.

3 The court grants the motion with respect to *Infineon* under Rule 403. Given the complexity
4 of the case and the technology, there is a substantial risk that the jury will conflate the Federal
5 Circuit's claim construction with the issue of whether the patents meet the written description
6 requirement. *Cf. Mendenhall v. Cedarapids, Inc.*, 5 F.3d 1557, 1574 (Fed. Cir. 1993) (affirming trial
7 court's denial of previous opinion as proof of factual issues contained therein because "[r]especting
8 the factual issues, the jury should no more be guided to its factual determinations by [presiding]
9 Judge Hull than by Judge Hansen[, the author of the previous opinion]").

10 Rambus does not oppose barring both parties from mentioning the FTC case, the Superior
11 Court lawsuit, or the DOJ action unless Hynix opens the door.

12
13 **10. Hynix's Motion in Limine to Exclude Evidence of Alleged Spoliation.**

14 Both parties agree that document destruction is not relevant to the patent trial. The court
15 grants the motion as unopposed.

16
17 **11. Hynix's Motion in Limine to Exclude Portions of Expert Report and Testimony of**
18 **Rambus's Damages Expert.**

19 Teece is Rambus's damages expert. Hynix objects to three aspects of his testimony: his
20 (1)"infringer's royalty" theory, (2) consideration of Hynix's worldwide sales to arrive at a royalty
21 rate, and (3) use of the term "conservative" to describe his conclusions.

22 "[U]pon finding for the claimant the court shall award the claimant damages adequate to
23 compensate for the infringement, but in no event less than a reasonable royalty for the use made of
24 the invention by the infringer, together with interest and costs as fixed by the court." 35 U.S.C. §
25 284. The statute establishes a floor below which damage awards may not fall. *See Del Mar*
26 *Avionics, Inc. v. Quinton Instrument Co.*, 836 F.2d 1320, 1326 (Fed. Cir. 1987). The "reasonable
27 royalty" analysis may be measured by "[w]hat a willing licensor and a willing licensee would have
28 agreed upon in a suppositious negotiation for a reasonable royalty." *Georgia-Pacific Corp. v. U.S.*

Plywood Corp., 318 F.Supp. 1116, 1121 (D.C. N.Y. 1970).

1 Teece opines that Rambus and Hynix would have agreed to a reasonable royalty of 0.75% on
2 Hynix's SDR Products and 3.5% on Hynix's DDR Products. However, Teece contends that the jury
3 should double this rate to compensate for the fact that an alleged infringer occupies a more favorable
4 position than a patent holder:

5 The conclusion that I draw from this is that, in order to determine a 'reasonable royalty,'
6 it is generally necessary to make what might be termed a 'certainty adjustment' to reflect
7 the standard legal assumption that, when calculating patent infringement damages, one
8 is supposed to assume that the patent is known to be valid and infringed. Otherwise, the
9 infringer gets to play a 'heads I win, tails I break even game.' If the patent holder is
10 unable to prove validity or infringement, the infringer does not have to pay anything (the
11 'heads I win' side of the coin). If following a finding that the patent is valid and
12 infringed, the infringer is merely required to pay what everyone else (who in fact
13 negotiated a royalty) pays, then the infringer faces no downside risk; he pays only what
14 he would have had to pay anyway (the 'tails I break even' side of the coin). Under these
15 circumstances, the infringer has no incentive to negotiate a license.

11 Teece Report at 40. Teece then examines the "probability of success in patent litigation," and
12 concludes that the plaintiff won 45% of the time. *Id.* at 41. Teece acknowledges that the "plaintiff"
13 in such cases may be either the alleged infringer or the patent holder, but concludes that because the
14 number is so close to 50%, one can reasonably assume that the patent holder prevails roughly one
15 out of two times. *Id.* at 42. Thus, he concludes, "the appropriate 'infringer's royalty' is roughly twice
16 what would be actually negotiated, given the uncertainty about validity and infringement." *Id.*

17 Rambus finds support for Teece's theory in *Panduit Corp. v. Stahlin Bros. Fibre Works, Inc.*,
18 575 F.2d 1152 (6th Cir. 1978). In that case, the Sixth Circuit observed that a reasonable royalty
19 after a court finds the patent valid and infringed should exceed previous royalties:

20 The setting of a reasonable royalty after infringement cannot be treated, as it was here,
21 as the equivalent of ordinary royalty negotiations among truly 'willing' patent owners and
22 licensees. That view would constitute a pretense that the infringement never happened.
23 It would also make an election to infringe a handy means for competitors to impose a
24 'compulsory license' policy upon every patent owner. Except for the limited risk that
25 the patent owner, over years of litigation, might meet the heavy burden of proving the
26 four elements required for recovery of lost profits, the infringer would have nothing to
27 lose, and everything to gain if he could count on paying only the normal, routine royalty
28 non-infringers might have paid. As said by this court in another context, the infringer
29 would be in a 'heads-I-win, tails-you-lose' position.

26 *Id.* at 1158.

27 Hynix contends that the Federal Circuit rejected an "infringer's royalty" in *Mahurkar v. C.R.*
28 *Bard, Inc.*, 79 F.3d 1572 (Fed. Cir. 1996). In *Mahurkar*, the trial court added a 9% "Panduit kicker"
to its royalty determination in order to compensate for the patentee's litigation expenses. *Id.* at 1580-

1 81. The Federal Circuit reversed, reasoning that the district court improperly raised the royalty rate
2 based on the parties' litigation history:

3 *Panduit* does not authorize additional damages or a 'kicker' on top of a reasonable
4 royalty because of heavy litigation or other expenses. In sections 284 and 285, the
5 Patent Act sets forth statutory requirements for awards of enhanced damages and
6 attorney fees. The statute bases these awards on clear and convincing proof of
7 willfulness and exceptionality. *Panduit* at no point suggested enhancement of a
compensatory damage award as a substitute for the strict requirements for these statutory
provisions. The district court's 'kicker,' on the other hand, enhances a damages award,
apparently to compensate for litigation expenses, without meeting the statutory standards
for enhancement and fees.

8 *Id.* at 1581. However, *Mahurkar* is distinguishable. There, the district court improperly factored
9 into its royalty calculation something that could not have been an issue in hypothetical license
10 negotiations: an after-the-fact view of litigation expenses. Here, Teece considers a variable that is
11 supposed to inform such negotiations: the fact that the parties perceive the patent to be valid and
12 infringed. See N.D. L.R. Model Patent Jury Inst. No. 5-7 (for reasonable royalty calculation, jury
13 "must assume that both parties believed the patent valid and infringed"). In addition, Teece's theory
14 has appeared in several peer reviewed publications. See, e.g., S. Kalos & J. Putnam, *On the*
15 *Incomparability of 'Comparables': An Economic Interpretation of 'Infringer's Royalties,'* 9 Journ.
16 *Proprietary Rights* 2 (Apr. 1997).

17 The more problematic aspect of Teece's theory is his attempt to quantify the discount
18 Rambus normally assigns licensees to compensate for not having to deal with litigation's vagaries.
19 However, at oral argument, Rambus offered to withdraw Teece's opinion on the subject. Rambus
20 asks the court to permit Teece to refer to the fact that post-litigation licenses reflect a discount to
21 support the fact that his damages estimates are "conservative." The court finds that this approach is
22 reasonable provided, as Rambus promised, that Teece will not try to quantify the discount for non-
23 litigation licenses.

24 Hynix also objects to Teece's use of Hynix's worldwide sales data to calculate a reasonable
25 royalty, noting that it is undisputed that Rambus cannot recover for foreign sales. Rambus licenses
26 the patents in suit on a worldwide basis. According to Teece, changing the royalty base from the
27 world to the United States would increase the rate. Contrary to Hynix's argument, Teece's opinion
28 does not try to award damages for foreign sales. Instead, it merely takes these sales into account to
make the point about Rambus's damages in the United States. See Teece Report at 31 ("[a]ll of these

