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22 UNITED STATES DISTRICT COURT

23 NORTHERN DISTRICT OF CALIFORNIA, SAN JOSE DIVISION

24 HYNIX SEMICONDUCTOR, INC., et al.,

25 Plaintiffs,

26 vs.

27 RAMBUS INC.,

28 Defendant.

CASE NO.: CV 00-20905 RMW

**MEMORANDUM OF POINTS AND
AUTHORITIES IN SUPPORT OF
REQUEST OF RAMBUS FOR
ADDITIONAL DAMAGES AND
EQUITABLE RELIEF**

PUBLIC REDACTED VERSION

Hearing: June 24, 2008
Time: 2 p.m.
Courtroom: 6
Judge: Hon. Ronald M. Whyte

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Donald S. Chisum, 5 *Chisum on Patents* § 16.02[7] (rel. no. 112, Feb. 2008) 23

1 **I. INTRODUCTION**

2 Since the jury returned its patent verdict on April 24, 2006, finding that Hynix's products
3 infringe nine of Rambus's patent claims, Hynix has continued to manufacture and sell infringing
4 DRAMS, in increasing numbers. From December 31, 2005 through the end of March 2008,
5 Hynix has sold over **REDACTED** of infringing DRAMS in the U.S., and it has manufactured over
6 **REDACTED** of additional infringing DRAMS in the U.S. that it has shipped and sold abroad.

7 At the same time, Rambus has been hard at work designing and marketing products that
8 compete directly against Hynix's infringing DRAMS. Rambus DRAM ("RDRAM") continues to
9 be sold, although no longer in large volumes, and Rambus's XDR device is competing head-to-
10 head against DDR2, GDDR3, and other industry standard devices for use in game consoles, high-
11 performance graphics, consumer electronics, and high-performance computers. In each of these
12 sectors, systems designers and product manufacturers are currently selecting which DRAM will
13 be used in their next generation products, giving Rambus a unique, but limited, opportunity to
14 market its latest designs. And Rambus's next-generation XDR2 device—which is eight times
15 faster than today's best-in-class memories—is slated to compete against Hynix's announced-but-
16 not-yet produced GDDR5 device for the same opportunities.

17 Quite simply, Hynix's ongoing infringement of Rambus patents is forcing Rambus to
18 compete against its own inventions. The inventions of Rambus's founders, Mike Farmwald and
19 Mark Horowitz, are crucial and essential to the performance of Hynix's infringing parts. If Hynix
20 did not use those inventions, its products could not compete with RDRAM, XDR, and XDR2.

21 Moreover, Hynix's infringement is not unintentional. It is deliberate. Rambus presented
22 substantial evidence during the Phase 3 trial that proves Hynix referred to Rambus's proprietary
23 technology in designing its infringing DRAMS. And Hynix's corporate representative (D.S.
24 Chung) admitted at that trial that, as recently as March 17, 2008, Hynix has not taken any steps to
25 design DRAMS that do not use Rambus's inventions or infringe its patents. Trial Tr. 5060-61.¹
26 To the contrary, Hynix *added* even more Rambus inventions to its products after it indisputably

27 _____
28 ¹ "Trial Tr." refers to the Transcript for the 2008 Coordinated Cases Trial; "UH-Trial Tr." to the
Transcript for the 2005 Unclean Hands Trial; and "P-Tr." to the 2006 Patent Trial Transcript.

1 was aware of Rambus's patent claims. *E.g.*, P-Tr. 794-95 (Lee) (programmable write latency
2 added to DDR2). Hynix has continued to use Rambus's inventions in its newest DRAM designs,
3 such as DDR3 and GDDR4.

4 Hynix's infringing conduct must be enjoined. The harm caused by Hynix's infringement
5 is real and irreparable, usurping Rambus's sales and market share, damaging its image and
6 goodwill, and impairing the company's ability to penetrate DRAM sectors with its own products.
7 Legal remedies are inadequate to redress these harms. Monetary relief alone would not enable
8 Rambus to promote its own products effectively and to take full advantage of its exclusive rights;
9 only an injunction can do that. The balance of hardships also weighs strongly in Rambus's favor.
10 Hynix has sold infringing DRAM devices unabated for the entire period following the issuance of
11 the patents in suits, and Rambus has but two years left in the life of those patents. Absent an
12 injunction, the mass infringement by Hynix (and others) will have effectively negated Rambus's
13 exclusive rights under those patents, depriving Rambus of the full benefits of its hard-won
14 innovations and setting at naught the company's efforts to market its products and inventions.

15 For the reasons further detailed below, the Court should (1) order Hynix to pay Rambus a
16 reasonable royalty for all of its infringing activity to date, (2) permanently enjoin Hynix from
17 further infringing the claims of the patents that Hynix has been held to have infringed, and (3)
18 award Rambus its reasonable attorneys' fees under 35 U.S.C. § 285.

19 **II. STATEMENT OF FACTS**

20 **A. Rambus Revolutionized the DRAM Field with the Inventions in Suit, and** 21 **Remains the Technology Leader in this Field Today**

22 Rambus was founded on a vision of cutting-edge DRAM design and performance—a
23 vision that initially left others in the industry in “disbelief.” Trial Tr. 4208 (Horowitz); UH-Trial
24 Tr. 1342 (Tate). From the outset, the company aimed high: it hoped to “change the world with
25 the technology [it] had.” Trial Tr. 2976 (Tate). Since then, Rambus has consistently worked to
26 drive innovation in high-speed memory interface technologies, improving performance
27 dramatically with each generation of products. *E.g.*, Trial Tr. 4290 (Horowitz). As co-founder
28 Mark Horowitz explained at trial, “Rambus is an innovation-based company, and we've been
continuing to innovate in the area of high speed, high bandwidth memories.” *Id.*

1 The Rambus inventions infringed by Hynix represented a quantum leap in DRAM
2 technology. In the late 1980s, Rambus's founders, Farmwald and Horowitz, recognized and set
3 out to solve the "memory bottleneck problem," the failure of memory interfaces to keep pace with
4 the exponential growth in microprocessor speed. Trial Tr. 4079-81 (Horowitz); UH-Trial 1342
5 (Tate). The memory architecture that Farmwald and Horowitz developed achieved data
6 transmission rates of 500 megahertz, at a time when DRAM chips were running in the range of
7 20-30 Megahertz. UH-Trial Tr. 1342 (Tate). This architecture was ultimately incorporated into
8 Rambus's RDRAM products, which entered the market in 1993. Holt Decl. ¶ 5a. More than 500
9 million RDRAM units have thus far shipped, providing high-performance memory for a broad
10 range of electronics products, including Sony's PlayStation®2 and Intel-based PCs. *Id.* ¶ 11.

11 The innovative force of Farmwald's and Horowitz's inventions is reflected not only in the
12 many accolades they have garnered (*e.g.*, Trial Tr. 4287 (Horowitz); Holt Decl. ¶ 15), but also in
13 the longevity of RDRAM. The latest version of RDRAM, Direct RDRAM, remains in limited
14 production today, more than 15 years after its introduction. Holt Decl. ¶ 11. Indeed, defendant
15 Samsung has in the past, and continues today, to describe Direct RDRAM, as "the best choice for
16 PCs and Workstations" and as having "operating speeds significantly faster than currently
17 available DRAM devices." Holt Decl. ¶ 12.

18 Rambus remains committed to innovation and technical excellence. Because the company
19 aims to lead the way in high speed memory interfaces, it is continuously looking to solve
20 emerging and future engineering problems in this area. Trial Tr. 4078 (Horowitz). With Direct
21 RDRAM, Rambus improved performance from 500 Megahertz to 800 Megahertz. Trial Tr. 3002
22 (Tate). It quadrupled the performance of Direct RDRAM when it introduced XDR in 2001 (Trial
23 Tr. 4290-91 (Horowitz)), and that product is widely viewed as the preeminent memory
24 technology currently in production. Samsung, for example, has described XDR as the "best
25 memory solution for wide-ranging applications." Holt Decl. ¶ 16. With its next-generation
26 product, XDR2, Rambus is aiming for 12.8GHz data rates and 51.2GByte/s of peak bandwidth,
27 which is eight times higher than today's industry-standard technologies. *Id.* ¶ 20. And last year,
28 the company announced an initiative to design a memory system with one Terabyte/s of

1 bandwidth—using DRAMs running at four times the rate of XDR. Trial. Tr. 4290-91 (Horowitz).

2 **B. Rambus’s Leadership Products Have Been at the Core of the Company’s**
3 **Business Strategy Since Its Founding**

4 Rambus’s founders knew, from the beginning, that the company would rely heavily on
5 intellectual property rights to develop, manufacture, and market its products. Because Rambus
6 lacked the financial resources to build its own DRAM fabricating plants, the company pursued a
7 different model for getting its products to market: it would patent its technologies and then
8 license them to manufacturers to build devices designed by Rambus. UH-Trial Tr. 1344 (Tate);
9 Trial Tr. 4084, 4258 (Horowitz). The foundation for Rambus’s success was and is its intellectual
10 property. Trial Tr. 4258 (“In order to execute on this model, we needed to protect our
11 inventions.”); *Id.* at 4198. Beginning with RDRAM, Rambus has consistently worked to create
12 and promote products based upon its inventions, and not just to generate patent royalties.

13 **1. Rambus’s Initial Efforts to Bring RDRAM to Market and Promote Its**
14 **Applications**

15 Early on, the company recognized that its technologies would be valuable in areas such as
16 graphics and high-performance computers. UH-Trial Tr. 1345 (Tate). In order to create a market
17 for its products, however, Rambus needed to convince DRAM manufacturers to build them and
18 computer and electronics manufacturers (“systems companies”) to adopt them for their products.
19 As former CEO Geoffrey Tate explained, “[n]o matter how good our ideas were, we could only
20 make money if companies like Nintendo, Intel and Toshiba built products that incorporated our
21 inventions and paid us for them.” UH-Trial. Tr. 1359. Rambus therefore embarked on a
22 campaign to woo systems companies and DRAM manufacturers, traveling around the world to
23 discuss Rambus’s technologies and their possible applications. Trial Tr. 4213-4243 (Horowitz).

24 Drawing on support from Intel, Rambus succeeded in licensing RDRAM to three of the
25 world’s five largest memory manufacturers in 1992. Trial Tr. 4211-12 (Horowitz). The
26 company also persuaded systems companies to use RDRAM in prominent graphics and gaming
27 platforms, including an SGI workstation, a Cirrus Graphics card, and, most notably, Nintendo 64.
28 Trial Tr. 2997; UH-Trial Tr. 1346 (Tate). With RDRAM’s successful integration into Nintendo
64, Rambus won “credibility” in the industry because its product “was shipped in the millions.”

1 *Id.* By the mid-1990s, RDRAM was sufficiently well established that Intel chose Rambus to
2 design the DRAM memory for Intel’s next generation of microprocessors: Direct RDRAM.
3 Trial Tr. 3002 (Tate); UH-Trial Tr. 1348-49 (Tate). Although Intel later supported infringing,
4 industry-standard designs in addition to Direct RDRAM (UH-Trial Tr. 1355 (Tate)), the essential
5 point here is that Rambus made the promotion of its leadership products a top priority even *before*
6 the patents in suit issued or Rambus was forced to contend with widespread infringement.

7 **2. Rambus’s Decision to Supplement its Leadership Products with a**
8 **Licensing Policy for Infringing Devices**

9 Rambus has long distinguished between the licenses issued to consumers of its leadership
10 products and standalone patent licenses. The licenses under which DRAM manufacturers built,
11 or systems companies used, RDRAM included not just licenses to use the company’s patents, but
12 also engineering and technical assistance that were often essential to these projects. UH-Trial Tr.
13 1235 (Tate). With these “technology” or “product” licenses, Rambus was “delivering a total
14 solution to technology,” which required the company’s “active participation” in the customer’s
15 manufacturing process. UH-Trial Tr. 1357 (Tate); *see also* Holt Decl. ¶ 5a. In the case of
16 DRAM manufacturers, this process often entailed some additional engineering and design work
17 to facilitate the production of RDRAM devices. Trial Tr. at 4248 (Horowitz); UH-Trial Tr. 1358
18 (Tate). The benefits of product licenses to Rambus were critical to its early growth, giving the
19 company the opportunity to work with industry players and providing it with a revenue stream.
20 Trial Tr. 1358 (Tate). And as discussed below, product licenses and the relationships they foster
21 remain critical to Rambus’s business today. Holt Decl. ¶¶ 5a, 25d. Standalone patent licenses, in
22 contrast, provide Rambus with a royalty stream, but not the other intangible benefits attending
23 product relationships. UH-Trial Tr. 1359 (Tate).

24 Although Rambus’s principal strategy was to use product licenses to grow its business, it
25 adopted a policy of licensing its inventions for use in industry standard products in 1999. UH-
26 Trial Tr. 1393 (Tate); Trial Tr. 4286 (Horowitz). By that time, DRAM manufacturers were
27 producing SDRAM in volume, and were taking even more of Rambus’s inventions with
28 SDRAM’s infringing successor, DDR. *Id.* As Tate explained:

We had finally got to a point where we had patents that covered the inventions

1 that we saw in products like SDRAM and DDRAM, and ... we had been able to,
2 at that point, see that those products were in the marketplace and could show that
3 they were clearly infringed. And we had reached a point where we believed that
it was in our business interest to pursue at least discussions with [these]
compan[ies] about the infringement and licensing our patents.

4 UH-Trial Tr. 1393. In 2000, Rambus licensed several manufacturers to produce SDRAM and
5 DDR, including Hitachi, Toshiba, NEC, Samsung, and Elpida. Trial Tr. 2982 (Tate).

6 Even as it pursued patent licenses from infringing DRAM companies, Rambus continued
7 to view the promotion of RDRAM as its primary business objective and the best means to
8 success. UH-Trial Tr. 1394-95 (Tate). Rambus believed that SDRAM “really wasn’t a real
9 competitor with Rambus DRAM” (UH-Trial Tr. 1398 (Tate)), because it was not “a large enough
10 step to really solve the memory bottleneck” (Trial Tr. 4281 (Horowitz)). Even after the
11 emergence of DDR SDRAM, which was “much more in the performance range that was getting
12 close to competing with us,” Rambus continued to believe that its leadership product would
13 prevail in the marketplace due to its “superior technology and architecture.” UH-Trial Tr. 1355-
14 56 (Tate). Former CEO Tate testified, for example, that making RDRAM “successful in our
15 customer’s applications, especially Intel’s,” was “[t]he most important priority,” but that the
16 company needed to approach DRAM manufacturers about a royalty “because they were using our
17 inventions to compete against us.” Trial Tr. 3009, 3012.

18 Rambus’s two-prong licensing approach was reflected in many aspects of its business.
19 When Rambus began asserting its patents against infringing manufacturers, the company adopted
20 a two-tiered royalty structure, charging higher rates for broad patent licenses on infringing
21 products than for licenses to build RDRAM. UH-Trial Tr. 1360-61; Trial Tr. 2982-883 (Tate).
22 The overwhelming majority of Rambus’s workforce—90-95%—devoted its time to RDRAM,
23 with only a few employees working on patent licensing issues for infringing devices. Trial Tr.
24 3009 (Tate); UH-Trial Tr. 1395-96. (Tate). Similarly, CEO Tate spent most of his time “by far”
25 on developing and marketing RDRAM. *Id.*

26 **3. Rambus Developed its Next Generation Leadership Products While**
27 **Continuing to Press for Patent Royalties on Infringing Devices**

28 Since 2000, Rambus has continued to follow its basic business model of developing

1 innovative memory technologies and generating revenue on those technologies through
2 leadership products and patent royalties. Throughout this period, Rambus has had to confront
3 both broad-based infringement by Hynix (and other DRAM manufacturers) and the uncertainty
4 flowing from protracted litigation in multiple fora. Holt Decl. ¶ 17. *See generally Samsung*
5 *Electronics Co., Ltd. v. Rambus, Inc.*, __ F.3d __, No. 2006-1579, 2008 WL 1868066 (Fed. Cir.
6 Apr. 29, 2008); *Rambus Inc. v. FTC*, __ F.3d __, No. 07-1086, 07-1124, 2008 WL 1795594 (D.C.
7 Cir. Apr. 22, 2008); *Rambus Inc. v. Infineon Technologies AG*, 318 F.3d 1081 (Fed. Cir. 2003).
8 Even in these challenging circumstances, however, Rambus has worked to open up opportunities
9 for its leadership products and to establish the strong customer relationships that have facilitated
10 its success.

11 In 2001, Rambus unveiled XDR, its current leadership product. Holt Decl. ¶ 17. Rather
12 than promoting XDR for use in PC main memory, as it had sought to do with Direct RDRAM,
13 Rambus has marketed XDR in specific segments of the DRAM market in which Rambus had
14 existing relationships and an established track record based upon the performance of RDRAM.
15 *Id.* These include high-performance graphics, computer game consoles, consumer electronics,
16 and high-performance computers. *Id.* As explained by Sharon Holt, Rambus's current Senior
17 Vice President of Sales, Licensing, and Marketing, Rambus chose to pursue a more focused
18 approach with XDR due in large part to the adverse market conditions faced by the company in
19 the last decade, including the pervasive presence of infringing chips manufactured by Hynix and
20 the uncertain prospects for Rambus's intellectual property. *Id.*

21 Rambus has also begun work to create opportunities and pursue applications for its next-
22 generation memory architecture, XDR2. Holt Decl. ¶ 22. As with XDR, Rambus has targeted
23 applications in high-end graphics, game consoles, consumer electronics, and high-end computing
24 for XDR2. *Id.* Rambus believes that, based upon the innovations incorporated into XDR2, it has
25 the potential to establish XDR2 as the memory of choice in these market segments. *Id.* ¶¶ 20-24.
26 But because manufacturers in these segments are currently developing their next-generation
27 products and selecting components—including DRAM devices—this is a critical time for
28

1 Rambus's XDR2 campaign. *Id.* ¶ 24. The next 12-18 months presents a window for persuading
2 systems companies and manufacturers to adopt XDR2 for their new products. *Id.*

3 **4. Rambus's Current Licensing Policy Strikes a Balance Between its**
4 **Leadership Products and Patent Royalties on Infringing Designs**

5 Rambus's current licensing policy continues to reflect the business strategy adopted by the
6 company after initiating its patent licensing program in 1999. Product and patent licenses remain
7 the two primary means by which Rambus grants customers permission to use its technologies and
8 generates revenues. Holt Decl. ¶¶ 5-7.

9 *Product/Technology Licenses:* By entering into product and technology license
10 agreements, Rambus is able to work closely with its customers, integrating Rambus technologies
11 into their products, solving technical problems, and helping customers bring their products to
12 market. Holt Decl. ¶¶ 5a, 6. Because these engagements typically last through the entire life
13 cycle of a customer's product, product licenses present a unique opportunity for Rambus to forge
14 strong relationships with systems companies and DRAM manufacturers. *Id.* These relationships
15 not only permit Rambus to build up goodwill, but also keep the company in the "innovation loop"
16 by exposing it to new memory problems and challenges. *Id.* Understanding the emerging needs
17 of its customers is essential to Rambus's mission of developing cutting-edge technologies. *Id.*

18 The importance of product licenses is illustrated by Rambus's relationship with Sony.
19 Rambus began working with Sony in 1997, when Sony was developing its PlayStation®2 game
20 console and chose RDRAM as its memory architecture. Holt Decl. ¶¶ 6, 25d. Rambus's work
21 spanned the entire product life of the PlayStation®2: after successfully integrating RDRAM into
22 the console design, Rambus provided technical assistance on a number of issues and, following
23 the product's release, continued to work with Sony on reducing system cost on subsequent
24 versions of this console. *Id.* Through these efforts, Rambus was able to build up its goodwill
25 with Sony—goodwill that proved indispensable when Sony began developing the PlayStation®3
26 and looking for next-generation DRAM devices. *Id.* Sony chose XDR as the DRAM memory for
27 the console's CPU based in part upon Rambus's involvement in the PlayStation®2. *Id.*

28 *Patent Licenses:* In addition, Rambus continues to grant some DRAM manufacturers,

1 such as Qimonda and Elpida, patent licenses that permit them to build otherwise infringing
2 memory devices, including devices in the DDR and GDDR families. Holt Decl. ¶¶ 5b, 8. Some
3 of the patent licenses granted by Rambus for infringing uses have resulted from litigation, such as
4 licenses held by Hitachi (Trial Tr. 2982, 1312 (Tate)) and by Qimonda (known previously as
5 Infineon), *see Samsung*, 2008 WL 1868066 at *1; (Trial Tr. 4202 (Horowitz)).

6 In determining the terms on which it will grant a patent license for infringing works,
7 Rambus balances its interest in securing reasonable royalties for its inventions and in promoting,
8 and creating opportunities for its leadership products. This is reflected in Rambus's agreements
9 and relationship with Elpida, which has been an important Rambus partner since Elpida's
10 inception in 1999. Holt Decl. ¶ 8a. Elpida assisted Rambus in its efforts to develop the
11 technologies incorporated into XDR, and provided crucial manufacturing support for that product.
12 *Id.* When Rambus pitched XDR to Sony for use in its PlayStation®3 console, Rambus looked to
13 Elpida to provide assurances that it could manufacture and supply XDR in volume. *Id.* Today,
14 Rambus is negotiating a licensing renewal with Elpida, and expects Elpida to provide important
15 support for its next-generation leadership products. *Id.* ¶ 8b.

16 **C. The Infringing DRAM Products Manufactured by Hynix Compete Directly**
17 **with Rambus's Leadership Products**

18 Rambus's current leadership product, XDR, competes with industry-standard DRAM
19 devices, principally DDR2, GDDR3, and GDDR4 DRAMs. Holt Decl. ¶ 18. Hynix
20 manufactures each of these devices, shipping 34% of GDDR-family devices and roughly 23% of
21 DDR-family devices. *Id.* Hynix offers competing, and infringing, industry-standard devices in
22 each of the market segments in which Rambus currently offers XDR and plans to offer XDR2:

23 *High-performance graphics:* This market segment includes discrete graphics processors,
24 which use graphics DRAMs for advanced multimedia and gaming. Holt Decl. ¶ 18a. XDR
25 competes here primarily with GDDR3 and, more recently, GDDR4. *Id.* Although Rambus has
26 promoted XDR for these applications, the two leading high performance graphics vendors have
27 selected GDDR3 and/or GDDR4. *Id.* Vendors shipped more than 89 million graphics processors
28 (many of them high-performance) in 2007, generating \$1.217 billion in DRAM revenue. *Id.*

1 *Game consoles:* This market segment is dominated by three major gaming platforms:
2 Sony's PlayStation®3, Microsoft's Xbox 360®, and Nintendo's Wii® system. Holt Decl. ¶ 18b.
3 Rambus's XDR product competes primarily with GDDR3 for game console designs. *Id.* Rambus
4 marketed XDR for use in all three major platforms: Microsoft and Nintendo selected GDDR3 for
5 their consoles; Sony ultimately selected XDR for its CPU and GDDR3 for its GPU. *Id.* In 2007,
6 game console manufacturers shipped 42.4 million units, generating \$1.13 billion in revenues for
7 DRAM manufacturers. *Id.*

8 *Consumer Electronics:* This market segment consists of electronic products that, like
9 digital televisions and projectors, use DRAM memory. Holt Decl. ¶ 18c. Here, XDR competes
10 with DDR2, DDR3, and GDDR3. *Id.* Although Rambus believes that XDR is uniquely suited to
11 this application, and received uniformly positive feedback, it has won only two major designs so
12 far. *Id.* The digital television market alone shipped 117.7 million units last year, generating \$281
13 million in revenue for DRAM companies. *Id.* With the upcoming mandatory transition to digital
14 television, this market sector is expected to grow by 80% by 2011. *Id.*

15 *High-Performance Computing:* This market segment includes workstations, servers, and
16 other high-performance computers. Holt Decl. ¶ 18d. Rambus's XDR device competes in this
17 sector primarily against DDR2 and DDR3. *Id.* Rambus has won one major design: the IBM Cell
18 BE processor, but would like to develop more applications in this market. *Id.* Last year, high-
19 performance computer manufacturers consumed 1.6 billion memory chips, generating \$5.22
20 billion in DRAM revenues. *Id.*

21 **III. ARGUMENT**

22 **A. This Court Should Enjoin Hynix, Because an Injunction is the Only Means of** 23 **Giving Rambus a Real Opportunity to Regain Control Over Its Patented** 24 **Inventions and Compete Fairly in the Marketplace**

25 A patent holder seeking a permanent injunction must show: “(1) that it has suffered an
26 irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate
27 to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff
28 and defendant, a remedy in equity is warranted; and (4) that the public interest would not be
disserved by a permanent injunction.” *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 391

1 (2006). The Court has stressed that the decision whether to issue an injunction does not admit of
2 “broad classifications” or “categorical rules.” *Id.* at 393. Because the inquiry requires a weighing
3 of equities, it is necessarily “particularistic, judgmental, [and] fact-bound [in] character.”
4 *Walgreen Co. v. Sara Creek Property Co.*, 966 F.2d 273, 275 (7th Cir. 1992) (Posner, J.). Here,
5 the relevant equitable factors all favor a permanent injunction against Hynix.

6 **1. Hynix’s Sale of Infringing DRAM Devices Has Caused Irreparable
7 Injury to Rambus**

8 By its persistent sale of infringing DRAM devices, Hynix has seriously damaged
9 Rambus’s revenue stream and business opportunities. Hynix is one of the largest DRAM
10 manufacturers in the world. Holt Decl. ¶ 18. Many of the DRAM devices it produces and
11 distributes are infringing products that compete head-to-head with Rambus’s leadership designs
12 and architectures. *Id.* Backed by Hynix’s size and cachet, these infringing devices have had a
13 demonstrably—and predictably—negative effect on the competing Rambus products: lost sales,
14 lost market share, lost revenues to Rambus, damage to its ability to invest in research, damage to
15 its image as an innovator, and damage to the company’s business and technology relationships.

16 ***Lost Sales and Market Share:*** As noted, Rambus promotes its current leadership
17 product, XDR, for applications in four specific sectors of the DRAM market: high performance
18 graphics, game consoles, consumer electronics, and high-performance computers. Holt Decl. ¶
19 18. Rambus’s decision to concentrate its efforts in these market segments, as opposed to PC main
20 memory applications, is directly related to the infringing activities of Hynix and other DRAM
21 manufacturers. At the time Rambus was developing and launching XDR, infringing industry-
22 standard designs were becoming pervasive in the DRAM market. *Id.* ¶ 17. Hynix contributed to
23 these adverse market conditions, producing industry-standard chips, including DDR and DDR2
24 DRAMs, which competed, and continue to compete, with Rambus’s RDRAM product. *Id.* ¶ 13.
25 The broad presence of these infringing devices was exacerbated by the extensive patent litigations
26 involving Rambus and the DRAM manufacturers, which created uncertainty as to both Rambus’s
27 intellectual property rights and its ability to muster manufacturing support for its leadership
28 products. Holt Decl. ¶ 17; *e.g.*, *Rambus*, __ F.3d __, 2008 WL 1795594; *Infineon*, 318 F.3d 1081.

1 Hynix’s ongoing infringement also has weakened sales of XDR in the market segments in
2 which Rambus has focused its efforts. In the high performance graphics sector, Rambus’s XDR
3 design must compete with Hynix-built GDDR3 and GDDR4 devices; in the game console sector,
4 it must compete against Hynix-built GDDR3 devices; in the consumer electronics segment
5 (particularly digital television), it must compete with Hynix-built DDR2, DDR3, and GDDR3;
6 and in the high-performance computing arena, it must compete against Hynix-built DDR2 and
7 DDR3 DRAMS. Holt Decl. ¶¶ 18a-d. Rambus has aggressively pursued design wins and
8 opportunities for XDR in all of these applications, but its success has been limited by the ready
9 availability—and in some cases, oversupply—of infringing industry-standard devices. *Id.* But
10 for Hynix’s distribution of infringing devices, Rambus would have won more designs, made
11 greater inroads into these market segments, and generated greater royalties and revenues for the
12 company. *Id.* ¶¶ 18, 25a. *Cf. Smith & Nephew, Inc. v. Synthes (U.S.A.)*, 466 F. Supp. 2d 978, 983
13 (W.D. Tenn. 2006) (holding that “loss of market share and the resulting lost profits and loss of
14 brand name recognition” suffered due to infringement “are both incalculable and irreparable”).

15 The financial consequences of Rambus’s lost sales and market share, while hard to
16 quantify (*see* discussion *infra* at 17), are clearly substantial. Last year alone, DRAM
17 manufacturers posted \$1.217 billion in sales in the graphics sector, \$1.13 billion in the game
18 console sector, and \$5.22 billion in the high-performance computing sector. Holt Decl. ¶¶ 18a-b,
19 d. The digital television sector generated \$281 million in DRAM sales, and it is expected to grow
20 dramatically over the coming years. *Id.* ¶ 18c.

21 ***Diminished Royalty Rate on Patent Licenses:*** There is yet further harm to Rambus’s
22 revenue stream. Hynix’s sale of infringing devices has caused Rambus to lose royalties on the
23 patent licenses it has granted to manufacturers of industry-standard DRAMs. Holt Decl. ¶ 25b.
24 Faced with blatant infringement by a major DRAM manufacturer and a stream of infringing
25 devices, Rambus has been forced to accept depressed royalty rates from those manufacturers
26 willing to take a license. *Id. cf. Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295,
27 1310 (Fed. Cir. 2007) (noting that the plaintiff established “price erosion as well as lost
28 opportunities to sell other services to the lost customers”). Because the resulting diminution in

1 royalties obtains for the entire life of these patent licenses, this injury will affect the company's
2 bottom line for years to come. *Id.*

3 ***Harm to Rambus's Research and Development Efforts:*** By reducing Rambus's revenues
4 and effectively capping its royalty rate, Hynix has caused secondary and tertiary harm to
5 Rambus's innovation-based business model. As noted above, Rambus's ethos is one of
6 innovation. Farmwald and Horowitz founded the company with the goal of solving a serious
7 engineering problem in DRAM design, and created inventions that were far ahead of their time.
8 This approach was built into the company's business model, which has continuously focused on
9 identifying high-performance memory needs on the horizon, and then developing new
10 technologies to meet those needs. Holt Decl. ¶ 3; *id.* Exh. 1.

11 Because Rambus aims to develop and market leading-edge technologies, Rambus invests
12 extensively in research and development. Holt Decl. ¶ 19. To develop and refine XDR, for
13 example, the company incurred at least \$125 million in costs. The reduction in income caused by
14 Hynix's infringement means that Rambus has less money available to pursue new technology
15 initiatives or conduct research into emerging problems in the high-performance memory field. *Id.*
16 Indeed, Rambus has yet to even recoup its investment in XDR, even as it contends with the
17 funding limitations on current research and development projects. *Id.*

18 This harm strikes directly at Rambus's strength as a company, and threatens its ability to
19 compete with other DRAM technologies in the future. Even where the patent holder did not offer
20 or actively promote proprietary products, courts have stressed the significance of diminished
21 research and development funds to patentees who license their inventions. In *CSIRO*, the plaintiff
22 was a government organization that used the royalty stream from its patent portfolio to fund
23 future research projects. *Commonwealth Sci. & Indus. Research Organisation v. Buffalo Tech.*
24 *Inc.*, 492 F. Supp. 2d 600, 603-04 (E.D. Tex. 2007). In finding that the defendant's infringement
25 caused the patentee irreparable injury, the court noted that the patentee "relie[d] heavily on the
26 ability to license its intellectual property to finance its research and development." *Id.* at 604. By
27 diminishing the patentee's revenue stream, the defendant's infringement deprived it of "increased
28 funding" that would have "permit[ted] research and development work to be expanded." *Id.*

1 The harm to Rambus is even greater than that discussed in *CSIRO*. Rambus not only has
2 been investing in research and development, but also has worked continuously to translate its
3 inventions into new leadership products and to promote those products in the marketplace. Since
4 the early 1990s, Rambus has brought to market two innovative products, RDRAM and XDR, and
5 is in the process of introducing a third product, XDR2, that will incorporate inventions of its
6 founders and of other engineers. Any loss of research and development money hampers
7 Rambus's ability to carry out its strategy of inventing and introducing new products.

8 ***Harm to Rambus's Image as an Innovator:*** Consistent with its business model, Rambus
9 has made innovation a centerpiece of its marketing approach, emphasizing its "breakthrough
10 technology and unparalleled engineering expertise." Holt Decl. ¶ 3; *id.* Ex. 1. Hynix's
11 infringement has undercut Rambus's image as a technological innovator.

12 The fact that a major DRAM manufacturer has refused to take a license to Rambus's
13 patented inventions—and continues to refuse even after adverse jury verdicts—necessarily raises
14 questions about the value and soundness of Rambus's technologies. Holt Decl. ¶ 25c. For a
15 company that depends on its image as a leader in high-performance memory interface design, the
16 effect of such infringing conduct is devastating. By flouting Rambus's patents, Hynix sends the
17 message that the numerous Rambus inventions it uses are in the public domain, unworthy of the
18 respect and obligations attaching to intellectual property rights. *Id.*; *see CSIRO*, 492 F. Supp. 2d
19 at 604 (finding irreparable harm based in part upon the harm that the defendant's infringement
20 caused to the patentee's reputation). And Hynix will continue to send that message, and continue
21 to harm Rambus's image, unless it is enjoined by this Court. That Rambus's inventions, in fact,
22 revolutionized the semiconductor industry magnifies this harm, and weighs more heavily in favor
23 of injunctive relief. *Cf. Power-One, Inc. v. Artesyn Techs., Inc.*, No. 05-463, 2008 WL 1746636
24 (E.D. Tex. Apr. 11, 2008) (noting that the patent holder "only recently created the [relevant]
25 market, making the harm particularly acute").

26 ***Harm to Rambus's Goodwill:*** The infringement by Hynix has also eroded Rambus's
27 goodwill with its customers and hampered its ability to forge new business relationships. *Cf.*
28 *Smith & Nephew*, 466 F. Supp. 2d at 983 (infringement interfered with the patent holder's "ability

1 to create customer relationships”); *Baden Sports, Inc. v. Kabushiki Kaisha Molten*, No. 06-
2 210MJP, 2007 WL 2790777 (W.D. Wash. Sept. 25, 2007) (infringement caused irreparable injury
3 because the patentee “risks continued loss of its goodwill”). Rambus actively seeks, and works
4 hard to develop, opportunities to enter into technology and product licensing agreements with
5 leading semiconductor and system companies. Holt Decl. ¶¶ 5-6, 25d. Through these
6 agreements, Rambus gains important, long-term benefits, including the chance to build strong
7 customer relationships and to keep the company attuned to emerging memory needs and
8 challenges. *Id.* Rambus’s technology relationships have been a key to the company’s success
9 from the beginning. By working with companies like Nintendo, Silicon Graphics, and Sony to
10 integrate Rambus memory technologies into their products, Rambus was able to build credibility
11 for its designs. Trial Tr. 2997; UH-Trial Tr. 1346; Holt Decl. ¶¶ 6, 25d. In many instances, the
12 goodwill built by Rambus in working with its customers has resulted in repeat business.
13 Rambus’s work on the PlayStation®2, for example, benefited the company when Sony began to
14 consider DRAM architectures for its follow-on console, the PlayStation®3. Holt Decl. ¶¶ 6, 25d.

15 Rambus has continued to work toward building its goodwill, but Hynix’s infringement has
16 unquestionably frustrated these efforts. *E.g.*, Holt Decl. ¶ 25d. The fact that semiconductor
17 manufacturers and systems companies have, at their disposal, a large supply of competing,
18 infringing DRAM devices makes it harder for Rambus to retain its customers and win new ones.
19 *Id.* The availability of these infringing chips and, conversely, the diminished presence of Rambus
20 products in the market, suggest that Rambus’s technologies are risky. *Id.* There are consequently
21 fewer manufacturers willing to consider using Rambus technologies, despite the fact that
22 Rambus’s current DRAM offering, XDR, is ideally suited to a variety of applications for high-
23 performance memory. *Id.*; *see also id.* ¶ 16.

24 The impact of this harm on Rambus’s business is far-reaching. Even if Hynix were
25 immediately enjoined from infringing Rambus’s patents, the long-term nature of technology
26 relationships means that Rambus will continue to suffer from the loss of goodwill dealt by
27 Hynix’s past infringement. Holt Decl. ¶ 25d; *cf. Martek Biosciences Corp. v. Nutrinova Inc.*,
28 520 F. Supp. 2d 537, 558 (D. Del. 2007) (focusing on “long-term” nature of license and supply

1 agreements). By undermining the opportunities Rambus needs to stay in the innovation loop,
2 Hynix has also done further harm to its development efforts. *Id.* Left unchecked, Hynix’s
3 infringement is certain to cause greater damage to Rambus’s goodwill and business relationships
4 in the future. Rambus is in the midst of marketing and promoting its next-generation memory
5 architecture, XDR2, for applications in a range of market segments, including those in which
6 XDR currently competes. *Id.* ¶¶ 22, 24. This marketing effort coincides with a rare opportunity
7 for the company. System companies in Rambus’s target sectors—gaming, high-performance
8 graphics, consumer electronics, and high-performance computing—have begun to develop their
9 next generation products. *Id.* In the next 18 months, these companies will be considering high-
10 performance memory options for their new products, and Rambus believes it has the chance to
11 establish XDR2 as the leading DRAM device for these applications. *Id.* Hynix’s ongoing
12 infringement threatens to interfere with Rambus’s ability to win the confidence and interest of
13 prospective customers, both of which are crucial in making XDR2 a serious market contender.

14 **2. Legal Remedies Are Inadequate to Redress the Harms Suffered by**
15 **Rambus as a Result of Hynix’s Sale of Infringing DRAM Devices**

16 Because the nature of the harm to the patent holder is closely tied to the adequacy of
17 remedies, the first two factors of the permanent injunction inquiry overlap. *E.g., Smith &*
18 *Nephew*, 466 F. Supp. 2d at 982-83. Thus, the harm to Rambus’s image in the industry, goodwill,
19 and ability to conduct research and development are the types of irreparable harm for which
20 courts have found legal remedies inadequate. *See CSIRO*, 492 F. Supp. 2d at 605 (deeming
21 monetary damages inadequate in part because the patentee’s “reputation as a research institution
22 has been impugned”); *Baden Sports*, 2007 WL 2790777, at *3 (legal remedies inadequate because
23 the infringement would “continue to erode the good will that [the patentee] has created with its
24 customers and retailers”). Three additional points bear emphasis here.

25 First, Rambus has a limited timeframe within which to use its exclusive rights under the
26 patents in suit free of Hynix’s interference. The patents in suit expire in 2010, less than two years
27 from now. As noted above, this timeframe is crucial for Rambus’s business, since many
28 electronics manufacturers and chip and system companies in the market sectors targeted for XDR

1 and XDR2 are making decisions about the memory architectures for their new products. An
2 injunction would give Rambus the chance both to promote its new products and to pursue its
3 licensing policies effectively. Holt Decl. ¶ 26b.

4 Second, the ongoing and future harms outlined above cannot be quantified with certainty.
5 *E.g., Visto Corp. v. Seven Networks, Inc.*, 2006 WL 3741891, at *4 (E.D. Tex. Dec. 19, 2006)
6 (“What makes legal remedies inadequate under the circumstances of this case is the inability to
7 calculate the plaintiff’s future losses with precision.”). For example, while Rambus has suffered
8 concrete harm to its goodwill and its ability to enter into technology relationships and remain in
9 the innovation loop, it would be difficult to put a dollar value to this harm, particularly given the
10 extensive nature of Hynix’s infringement. Holt Decl. ¶ X; *see Smith v. Nephew*, 466 F. Supp. 2d
11 at 984 (“intangible losses, such as the loss of goodwill, can never be ascertained accurately”).

12 Third, although Rambus anticipates that Hynix will attempt to argue for a compulsory
13 license in lieu of a permanent injunction, that remedy will not suffice to redress the harm from
14 Hynix’s ongoing and deliberate infringement. As the courts have recognized, a compulsory
15 license is an inadequate remedy for patent infringement if it would deny the patentee key business
16 terms it otherwise would seek. In *CSIRO*, for example, the court observed that a compulsory
17 royalty payment “does not necessarily include other non-monetary license terms that are as
18 important as monetary terms to a licensor such as CSIRO.” 492 F. Supp. 2d at 606.

19 That concern is palpable here. Rambus derives revenue both from its own leadership
20 products and from royalties on inventions used by manufacturers of industry-standard designs.
21 Holt Decl. ¶¶ 5, 7. In its licensing strategy, the company seeks to strike a balance between these
22 two aspects of its business. *Id.* One of the ways in which Rambus works toward this objective is
23 to promote its leadership products in its agreements and relationships with DRAM manufacturers
24 who also produce industry-standard designs. *Id.* Elpida, for example, has been licensed to build
25 SDRAM, DDR, and DDR2, but also has been a strong supporter of Rambus designs, including
26 XDR. *Id.* ¶ 8a. In the proposed renewal of Elpida’s license, Rambus hopes that the parties will
27 continue in this vein, and that Elpida will support Rambus’s next-generation products. *Id.* ¶ 8b
28 Because a compulsory license would not reflect Rambus’s specific licensing strategy, and would

1 not account for the many considerations that inform this strategy, it is manifestly inadequate. *See*
2 *also Transocean Offshore Deepwater Drilling, Inc. v. GlobalSantaFe Corp.*, No. H-03-2910,
3 2006 WL 3813778, at *5 (S.D. Tex. Dec. 27, 2006) (declining to “force a compulsory license on
4 Transocean that will not contain any of the commercial business terms typically used by a patent
5 holder to control its technology or limit encroachment on its market share”).

6 The fact that Rambus has licensed, and will continue to license, certain DRAM
7 manufacturers to build industry-standard designs in no way alters this analysis. *See Transocean*,
8 2006 WL 3813778, at *5 (“Nor is the court persuaded that the mere fact that [the patentee] is
9 willing to consider licensing its invention to [the defendant] and others on ‘fair grounds’ is
10 sufficient to defeat [the patentee’s] request for a permanent injunction.”); *Baden Sports*, 2007 WL
11 2790777 at *2 n.1 (same). The *eBay* Court specifically rejected a rigid test based upon “a
12 plaintiff’s willingness to license its patents,” and observed that patent holders might reasonably
13 prefer to license and yet still qualify for an injunction. 547 U.S. at 383. This is just such a case,
14 for Rambus has consistently sought to control its inventions, granting licenses for otherwise
15 infringing uses as part of an overall strategy that includes leadership products. Indeed, Rambus
16 elected to pursue this dual-prong approach in part as a response to widespread infringement of its
17 patents. Because Rambus has an established licensing policy for commercially exploiting its
18 patents, and because a patent holder has a right to decide how and to whom to license its
19 inventions, *Ethyl Gasoline Corp. v. United States*, 309 U.S. 436, 456 (1940), this Court can and
20 should vindicate the company’s interest in controlling its intellectual property.

21 For the same reasons, any effort by Hynix to characterize this as the kind of “patent troll”
22 scenario that concerned Justice Kennedy in his *eBay* concurrence would fall flat. Rambus did not
23 merely sit on its rights and wait for other parties to develop its inventions. *Cf. MercExchange v.*
24 *eBay, Inc.*, 500 F. Supp. 2d 556, 572 (E.D. Va. 2007) (noting that the plaintiff “utilized its patents
25 as a sword to extract money rather than as a shield to protect its right to exclude or its market-
26 share, reputation, goodwill, or name recognition”). To the contrary, Rambus has endeavored, at
27 every point, to develop its own products, bring them to market, and aggressively promote them.
28 Rambus’s initial product, RDRAM, was widely distributed, with more than 500 million devices

1 shipped (Holt Decl. ¶ 11), and the design would have been even more successful were it not for
2 the infringement of companies like Hynix.² Nor are Rambus's inventions "a small component of
3 the product [Hynix] seek[s] to produce." 547 U.S. at 396. Rather, Hynix's infringement "relates
4 to the essence of the technology," because the inventions claimed are "the core technology
5 embodied" in Hynix's industry-standard DRAM devices. *CSIRO*, 492 F. Supp. 2d at 606.

6 **3. The Balance of Hardships Weighs in Rambus's Favor**

7 Like the first two injunction factors, the balance of hardships favors an injunction. The
8 impact of Hynix's infringement on Rambus is substantial, and the short time remaining on its
9 patents underscores the need for equitable relief. The fact that Hynix may be required to cease a
10 significant portion of its manufacturing operations does not weigh against an injunction, since
11 such hardship is "ordinarily expected when an injunction is imposed." *CSIRO*, 492 F. Supp. 2d at
12 606. Similarly, the financial cost to Hynix of complying with the law is not enough to defeat an
13 injunction; "[o]ne who elects to build a business on a product found to infringe cannot be heard to
14 complain [even] if an injunction against continuing infringement destroys the business so
15 elected." *Windsurfing Int'l, Inc. v. AMF*, 782 F.2d 995, 1003 n.12 (Fed. Cir. 1986). Any
16 hardship Hynix cites is purely the consequence of its illegal behavior. Hynix's infringement was
17 part of an orchestrated effort to "kill[]" RDRAM and harm Rambus. Trial Tr. 4003-04 (Tabrizi);
18 Ex. 6524. Hynix has shown no indication that it has considered alternatives to outright
19 infringement—*i.e.*, a workaround or a licensing overture.

20 **4. The Public Interest Supports a Permanent Injunction Against Hynix**

21 The courts have repeatedly recognized that the public interest generally favors the
22 enforcement of patent rights, and thus the issuance of injunctions against ongoing infringement.
23 *PPG Indus. v. Guardian Indus.*, 75 F.3d 1558, 1567 (Fed. Cir. 1996); *TransOcean*, 2006 WL
24 3813778, at *7. Although the public may have an overriding interest in a supply of infringing
25 products in "rare and limited circumstances," such as "health and safety concerns," *CSIRO*, 492
26 F. Supp. 2d at 607, such circumstances do not obtain here. This is not a case in which an

27 ² As the Court is aware, in an action in San Francisco Superior Court, Rambus is litigating its
28 claims that RDRAM's deserved commercial success was further thwarted by a price-fixing
conspiracy involving Hynix and other DRAM manufacturers. Hynix denies such wrongdoing.

1 injunction threatens to cause serious and disproportionate dislocation among consumers.³

2 **B. This Court Should Award Rambus Additional Damages**

3 In the 2006 patent trial, the jury awarded Rambus \$306,967,272 in damages for Hynix's
4 sales of infringing products through December 31, 2005. By order dated July 14, 2006, the Court
5 remitted the jury's award of damages to \$133,584,129. *See* Jul. 14, 2006 Order (the "Remittitur
6 Order"). The Court reached this figure by applying a 1% royalty rate to the amount of Hynix's
7 SDRAM sales through the end of 2005, and a 4.25% royalty rate to the amount of Hynix's DDR
8 SDRAM sales through the end of 2005. *See* Remittitur Order at 7 n.4.⁴ In Rambus's July 27,
9 2006 Notice of Acceptance of Remittitur (the "Notice of Acceptance"), Rambus stated that it was
10 accepting the remittitur with the understanding that its acceptance

11 is without prejudice to Rambus's claim for compensatory damages for Hynix's
12 post-December 31, 2005 infringement and for an award of prejudgment interest
on the entire damages amount.

13 Notice of Acceptance at 1. Rambus now seeks a supplemental damages award to compensate it
14 for Hynix's infringement between January 1, 2006 and the date on which final judgment is
15 entered, as well as an award of prejudgment interest on the entire damages amount.

16 **1. Rambus Is Entitled To An Award Of Supplemental Damages**

17 Section 284 of the Patent Act provides, in relevant part:

18 Upon finding for the claimant the court shall award the claimant damages
19 adequate to compensate for the infringement, but in no event less than a
reasonable royalty for the use made of the invention

20 35 U.S.C. § 284. When the jury's verdict predates the entry of final judgment, it is necessary for
21 the Court to award supplemental damages to fully compensate the patentee for damages suffered
22 prior to entry of judgment. *See, e.g., Aero Prods. Int'l, Inc. v. Intex Recreation Corp.*, No. 02 C

23 _____
24 ³ This factor, along with the other equitable factors, weighed against an injunction in *z4 Techs.,*
25 *Inc. v. Microsoft Corp.*, 434 F. Supp. 2d 437 (E.D. Tex. 2006), because the injunction would have
26 effectively frozen distribution of Microsoft Windows and Office products *in toto*. In view of "the
27 public's undisputed and enormous reliance on these products," there was a risk an injunction
would have an effect on the public. *Id.* at 444. In this case, there is no risk that an injunction
against Hynix would have such a sweeping effect on consumer welfare. While Hynix possesses a
significant share of the market for industry-standard chips, there are other manufacturers that, like
Elpida and Qimonda, have been licensed to build these products.

28 ⁴ At the time of the patent trial, Hynix had produced sales data only through December 31, 2005.

1 2590, 2005 WL 1498667, at * 1-2 (N.D. Ill. Jun. 9, 2005) (awarding supplemental damages to
2 compensate patentee for infringing sales between trial and issuance of injunction); *Nat'l*
3 *Instruments Corp. v. Mathworks, Inc.*, No. 01-CF-11-TJW, 2003 WL 24049230, at * 4 (E.D. Tex.
4 Jun. 23, 2003) (awarding supplemental damages “to compensate the plaintiff for any infringement
5 occurring between the date of the jury’s verdict and the date of the judgment”). Indeed, as one
6 court has noted:

7 A failure to award such damages would grant an infringer a windfall by enabling
8 it to infringe without compensating a patentee for the period of time between the
9 jury’s verdict and the judgment.

9 *Nat'l Inst. Corp.*, 2003 WL 24049230, at * 4.

10 **a. Calculation Of The Royalty Base**

11 To calculate supplemental damages, the Court must first determine the amount of the
12 infringing sales (the “royalty base”). The parties have agreed on the Hynix sales through March
13 31, 2008 that Rambus contends are subject to a supplemental damages award. That agreement is
14 reflected in a stipulation, a copy of which is attached hereto as Exhibit A. However, while Hynix
15 has stipulated that these figures are accurate, it disputes that certain sales are properly included
16 within the royalty base. Each of these disputes is addressed below.

17 ***The Royalty Base Should Include DDR2 And DDR3 Sales:*** First, Hynix has suggested
18 that the base should not include DDR2, gDDR2, DDR3 and GDDR3 sales, ostensibly because
19 these products are not the subject of the *Hynix v. Rambus* (CV-00-20905) action. However, the
20 February 2, 2006 Joint Pretrial Statement For The Patent Trial in the ‘905 case (attached hereto as
21 Exhibit B) includes the following stipulation:

22 A single Hynix SDRAM part (HY57V28820A 128 M SDRAM) will be
23 representative of all Hynix SDRAM Accused Products (including all SDRAM,
24 SGRAM, and Handy SDRAM products) and a single Hynix DDR SDRAM part
25 (HY5DU28822T 128 M DDR SDRAM) will be representative of all Hynix DDR
26 SDRAM Accused Products (including all DDR SDRAM, *DDR2 SDRAM*, *DDR3*
SDRAM, GDDR SDRAM, *GDDR2 SDRAM*, *GDDR3 SDRAM*, and DDR
SGRAM products) made, used, offered for sale, or sold by Hynix, for purposes of
showing infringement or non-infringement.

27 Exh. B at 6:4-6:10 (emphasis added). Likewise, in the parties’ earlier Stipulation Concerning
28 Hynix U.S. Sales Of SDR SDRAM And DDR/DDR2 SDRAM Products (a copy of which is

1 attached hereto as Exhibit C), the parties stipulated to Hynix's U.S. sales of "DDR/DDR2
 2 SDRAM." These sales—which provided the basis for the jury's award of damages—were
 3 expressly defined to include "all DDR SDRAM, *DDR2 SDRAM*, *DDR3 SDRAM*, GDDR
 4 SDRAM, *GDDR2 SDRAM*, *GDDR3 SDRAM*, and DDR SGRAM products." Exh. C at 1 n. 2
 5 (emphasis added). In light of the foregoing stipulations, it is apparent that DDR2, DDR3,
 6 gDDR2, and GDDR3 are within the scope of the '905 action, and that Hynix's sales of these
 7 products are properly included in the royalty base.

8 ***The Royalty Base Should Include Foreign Sales Of U.S.-Made Product:*** The parties
 9 appear to agree that the base should include infringing product that is sold in the United States;
 10 these are reflected as "U.S. Sales" in the chart attached to Exhibit A. However, Rambus submits
 11 that the supplemental damages award should also include damages for overseas sales of
 12 infringing product manufactured at Hynix's plant in Oregon. These are reflected as "Non-U.S.
 13 Sales" in the chart attached to Exhibit A, and are cumulative to the U.S. sales. Hynix has stated
 14 that it disputes Rambus's entitlement to damages for such foreign sales of U.S.-made product.

15 It is beyond dispute that the manufacture of a patented invention in the United States
 16 infringes the patent. *See* 35 U.S.C. § 271(a) ("[W]hoever without authority makes . . . any
 17 patented invention, within the United States . . . infringes the patent."). The testimony of Hynix
 18 witnesses establishes that Hynix manufactures infringing product at its factory in Oregon.
 19 Specifically, Jae H. Park, president of Hynix Semiconductor America, Inc. ("HSA"), confirmed
 20 both that HSA owns the Oregon factory and manufactures infringing product there:

21 Q: Now, there's already been some discussion in this case about a factory
 22 that's located in Oregon. Does Hynix have a factory located in Oregon?

22 A: Yes, we do.

23 Q: Okay.

23 A: HSA is the – is holding 99, more than 99 percent of ownership in that
 24 factory.

24 Q: And I think we have a photograph of it. . . .

24 What is it that we're looking at here on the screen, Mr. Park?

25 A: This is our fab in Eugene, Oregon.

25 Q: Okay. What's manufactured here?

26 A: Currently, 512 megabit DDR1 and DDR2, one gigabit DDR1 and DDR2
 27 products.

27 Q: Are those DRAMs?

28 A: DRAMs.

1 P-Trial Tr 1364:15-1365:6.⁵ Mr. Park testified that the products made in the Oregon plant are
2 wafers that contain completed DRAM circuitry. After the wafer is made, the only remaining
3 steps are to cut the wafer and test and package individual chips. *Id.* 1367:9-1368:15.

4 The wafers manufactured in Oregon constitute infringing product. Rambus's
5 infringement claims are not premised on the cutting of the wafer or the testing or packaging of the
6 chip. They are directed at the circuitry of the devices, which exists on the wafer prior to cutting,
7 packaging, or testing. *See* Murphy Decl. ¶¶ 29-30. Because the infringing wafers are "made" in
8 the United States, sales of the resulting chips are properly included in the royalty base. *Railroad*
9 *Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1519 (Fed. Cir. 1984) (because infringing
10 products were made in the U.S., "[w]hether those [products] were sold in the U.S. or elsewhere is
11 . . . irrelevant," and affirming the inclusion of foreign sales in royalty base).⁶

12 Hynix appears to contend that Rambus should be precluded from recovering damages for
13 these sales because such sales were not included in Rambus's damages calculation for the pre-
14 2006 period. As Rambus previously advised the Court, its prior calculations did not include
15 overseas sales of U.S.-manufactured product because Rambus believed that it lacked sufficient
16 information from Hynix to calculate such pre-2006 sales. That problem has now been remedied.
17 As noted above, the parties have *stipulated* as to the amount of Hynix's overseas sales of U.S.-
18 manufactured product. *See* Exh. A at Exh. A ("Non-U.S. Sales") & Exh. A n. 1 (noting that
19 Hynix's foreign sales are included "only if the wafer site is in the United States"). There is no
20 remaining barrier to calculation of royalties on these sales as supplemental damages.

21 35 U.S.C. § 284 calls for the Court to award Rambus the full measure of damages to
22 compensate it for Hynix's infringement. Because Hynix's manufacture of product in the U.S.

23 ⁵ HSA is a wholly-owned subsidiary of Hynix Semiconductor, Inc. *See* Exh. B at 5:15-5:18.

24 ⁶ Even if the wafer constitutes only a component of the infringing product, Rambus is entitled to
25 recovery for these sales. Under 35 U.S.C. § 271(f), supplying the components of a patented
26 invention from the United States "in such manner as to actively induce the combination of such
27 components outside of the United States" constitutes infringement. Given the relationship of the
28 various Hynix entities involved, including HSA's ownership of the Oregon factory at which the
wafers are manufactured, the requirements of section 271(f) are met here. *Cf.* Donald S. Chisum,
5 Chisum on Patents § 16.02[7] (rel. no. 112, Feb. 2008) ("'Active inducement' should always be
viewed as present if the assembly abroad is either under the direct control of the export supplier
or carried out with the benefit of the supplier's express instructions . . .").

1 infringes Rambus's patents, Rambus should be compensated for such infringement.

2 ***The Royalty Base Should Include Sales Up To The Entry of Judgment:*** The stipulated
3 figures reflected in Exhibit A relate to sales through the end of the first calendar quarter of 2008
4 (*i.e.*, March 31, 2008), and thus show the royalty base for a supplemental damages award as of
5 that date. Rambus anticipates that at least one additional quarter will pass before the Court has
6 ruled on Rambus's request. To permit Rambus the full recovery to which it is entitled, Rambus
7 proposes that the Court's order resolve any disputed issues respecting the base, and direct Hynix
8 to immediately provide Rambus with its most-current sales figures in a form consistent with the
9 data that Hynix has recently produced. Rambus further proposes that the parties then submit to
10 the Court, within a short period of time thereafter, a joint statement as to the amount of damages
11 to be reflected in the Court's final judgment. The parties have shown repeated success—both
12 before the patent trial and again more recently—in reaching agreement on the total sales at issue,
13 and Rambus expects that they will again be able to reach agreement following resolution of the
14 disputed issues. This approach will give Rambus the full compensation to which it is entitled.

15 **b. Calculation Of The Royalty Rate**

16 The Court must also determine the rate to be applied to Hynix's infringing sales. For
17 post-verdict, prejudgment sales, it is appropriate to use the rate applied by the jury in reaching its
18 verdict; if the jury renders a general verdict, the Court is to extrapolate a royalty rate from the
19 general verdict. *Aero Prods. Int'l*, 2005 WL 1498667, at * 2. Here, in its Remittitur Order, the
20 Court has already concluded that the royalty rate supported by the jury's verdict is 1% for
21 SDRAM-related products, and 4.25% for DDR-related products. *See* Remittitur Order at 7 n.4.
22 These same rates should apply for purposes of a supplemental damages award.

23 **2. Rambus Is Entitled To Prejudgment Interest On The Entire Award**

24 Rambus also requests that the judgment include prejudgment interest on the entire
25 damages award, including the supplemental damages award. *See* 35 U.S.C. § 284. The Court has
26 already set the prejudgment interest rate "based on the five-year constant maturity Treasury yield
27 for the period June 23, 2000 through December 31, 2005." Aug. 30, 2006 Order Regarding
28 Prejudgment Interest at 6:4-6:6. The Court also stated that it "does not see a reason that

1 prejudgment interest should be calculated differently after December 31, 2005. *Id.* at 5:28-6:1.

2 The parties have reached an agreement in principle as to the methodology to be used to
3 calculate prejudgment interest on the final damages award. As with final calculation of the total
4 damages award (discussed in part B.1.c above), Rambus proposes that the Court's order resolving
5 the supplemental damages issues direct the parties to submit a stipulated statement as to the
6 amount of prejudgment interest to be reflected in the judgment. Once the parties have calculated
7 the supplemental damages amount in a manner consistent with the Court's ruling, they will also
8 be able to calculate prejudgment interest using their agreed-upon methodology, and advise the
9 Court of both the total damages figure and the prejudgment interest amount.

10 **C. The Court Should Award Rambus its Attorney's Fees**

11 35 U.S.C. § 285 provides for reasonable attorney fees "in exceptional cases."⁷ This is
12 such a case. Hynix has knowingly and willfully infringed Rambus's patents. It added
13 programmable read latency to DDR2 knowing it would infringe. It designed and introduced new
14 generations of product such as DDR3, GDDR3, and GDDR4 knowing they infringed. It has
15 taken no steps to stop its infringing conduct even after a jury adjudicated it to be an infringer.

16 This was not a close case. Every claim asserted was found to be infringed. Indeed, there
17 is strong evidence that Hynix and other DRAM manufacturers copied Rambus's inventions. The
18 odds that Hynix and others selected Rambus's patented features over the claimed alternatives by
19 chance, rather than deliberately, was 1 in 2000. Trial Tr. 2571-73. Of the nine factors identified
20 in *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 826-27 (Fed. Cir. 1992), *see nCube Corp. v.*
21 *Seachange Int'l, Inc.*, 436 F.3d 1317, 1325 (Fed Cir. 2006) (applying *Read* under § 285), factors
22 (1), (2), (4), (5), (6), (7), and (8) plainly and strongly weigh in favor of an attorney's fee award.
23 Copying, the absence of a good faith belief of non-infringement, Hynix's massive size, the clear
24 strength of Rambus's case, the decade-long infringement, the absence of any remedial action, and
25 Hynix's avowed desire to harm Rambus (*e.g.*, Ex. 6524) fully support awarding Rambus its fees.

26
27 ⁷ While FRCP 14(d) permits a party to move for attorney's fees within 14 days of entry of
28 judgment, Rambus includes its request here so the court may consider the issue along with the
other relief Rambus seeks.

**EXHIBIT A
SUBMITTED
UNDER SEAL**

EXHIBIT B

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16 RAMBUS INC.

17 [Additional counsel listed on signature page]

18 UNITED STATES DISTRICT COURT
19 NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

20	HYNIX SEMICONDUCTOR INC., HYNIX)	Case No. CV 00-20905 RMW
	SEMICONDUCTOR AMERICA INC., HYNIX)	
21	SEMICONDUCTOR U.K. LTD., and HYNIX)	JOINT PRETRIAL STATEMENT FOR
	SEMICONDUCTOR DEUTSCHLAND GmbH,)	THE PATENT TRIAL
22	Plaintiffs,)	
23	vs.)	
24	RAMBUS INC.,)	
	Defendant.)	
25)	
26)	

27 Pursuant to section B(8) of the Court's Standing Order Re: Pretrial Preparation,
28 Plaintiffs Hynix Semiconductor Inc., Hynix Semiconductor America Inc., Hynix Semiconductor

1 U.K. Ltd., Hynix Semiconductor Deutschland GmbH (collectively, "Hynix"), and Defendant
2 Rambus Inc. ("Rambus") hereby submit to the Court this Joint Pretrial Statement for the Patent Trial.
3 The parties filed motions in limine on January 27, 2006. All filings required by the Court's Standing
4 Order re: Pretrial Preparation, section C, will be made on February 9, 2006.

5 **A. SUBSTANCE OF THE ACTION**

6 **1. Joint Statement Regarding the Substance of the Action**

7 This action commenced on August 29, 2000, when Hyundai Electronics Industries
8 Co., Ltd. and Hyundai Electronics America sought a declaratory judgment of non-infringement,
9 invalidity, and unenforceability with respect to the following Rambus patents: U.S. Patents Nos.
10 5,915,105 ("the '105 patent"), 5,953,263 ("the '263 patent"), 5,954,804 ("the '804 patent"), 5,995,443
11 ("the '443 patent"), 6,032,214 ("the '214 patent"), 6,032,215 ("the '215 patent"), 6,034,918 ("the '918
12 patent"), 6,035,365 ("the '365 patent"), 6,038,195 ("the '195 patent"), 6,067,592 ("the '592 patent"),
13 and 6,101,152 ("the '152 patent") (collectively, the "Declaratory Judgment Patents").

14 The original complaint included other claims. Hyundai Electronics Industries Co.,
15 Ltd. and Hyundai Electronics America amended their complaint on October 17, 2000, to add
16 Hyundai Electronics U.K., Ltd. and Hyundai Electronics Deutschland GmbH as Plaintiffs and to add
17 additional claims against Rambus. In response, Rambus counterclaimed on February 5, 2001, for
18 infringement of the Declaratory Judgment Patents.

19 Hynix filed a Second Amended Complaint on June 11, 2001, which pled additional
20 claims against Rambus for fraud and constructive fraud and reflected the intervening change in the
21 names of the Plaintiffs.

22 On November 25, 2002, Rambus amended its counterclaim to add infringement of
23 four additional Rambus patents: U.S. Patents Nos. 6,324,120 ("the '120 patent"), 6,378,020 ("the
24 '020 patent"), 6,426,916 ("the '916 patent"), and 6,452,863 ("the '863 patent") (collectively with the
25 Declaratory Judgment Patents, the "Patents-in-Suit").

26 On January 19, 2005, the Court granted Rambus's Motion for Summary Judgment of
27 Infringement with respect to claims 1, 5-7, 12, 26, 28, 30, 33, 34, and 38 of the '120 patent, claims
28 14-16 of the '863 patent, claims 1, 3, 9, 12, 14, 26, 28, 31, 37, and 40 of the '916 patent, and claims

1 31, 32, 35, 36, and 38 of the '020 patent. On January 21, 2005, pursuant to the Court's direction at
2 the December 17, 2004 Case Management Conference, Rambus elected ten claims to assert in the
3 Patent Trial: claim 34 of the '105 patent, claims 24 and 33 of the '918 patent, claim 33 of the '120
4 patent, claims 32 and 36 of the '020 patent, claims 9, 28, and 40 of the '916 patent, and claim 16 of
5 the '863 patent (collectively, "Asserted Claims").

6 On March 4, 2005, the Court granted Hynix's Motion for Relief from the Court's
7 January 19, 2005 Order. As a result, of the ten claims selected by Rambus for trial, the Court has
8 granted summary judgment of infringement only with respect to claim 33 of the '120 patent and
9 claim 16 of the '863 patent.

10 **2. Rambus's Supplemental Statement Regarding the Substance of the Action**

11 The election of the Asserted Claims is without prejudice to Rambus's right to later
12 assertion and trial of the non-elected claims.

13 This Joint Pretrial Statement addresses the issues to be decided in connection with the
14 Patent Trial: (1) whether Hynix's accused products – SDRAM, DDR SDRAM, DDR2 SDRAM,
15 GDDR SDRAM, GDDR2 SDRAM, GDDR3 SDRAM, SGRAM, DDR SGRAM, and Handy
16 SDRAM (collectively, "Accused Products")¹ – infringe (either literally or under the doctrine of
17 equivalents) directly, contributorily, or by inducement, the Asserted Claims; (2) the amount of
18 damages, if any, to which Rambus is entitled for Hynix's infringement of the Patents-in-Suit; and (3)
19 whether the Asserted Claims are invalid under 35 United States Code sections 102, 103, and 112.
20 Rambus understands that Hynix will not pursue its inequitable conduct defense with respect to the
21 Asserted Claims.

22 Rambus disagrees with Hynix's position that Hynix's prosecution laches defense
23 should be tried in the Patent Trial. That defense raises issues related to the other Hynix claims to be
24 tried during the Conduct Trial and unrelated to the Patent Trial issues listed above, such as Rambus's

25 ¹ The parties have agreed that a single Hynix SDRAM part (HY57V28820A 128 M SDRAM) and a single Hynix
26 DDR SDRAM part (HY5DU28822T 128 M DDR SDRAM) will be representative of all Accused Products made, used,
27 offered for sale, or sold for purposes of showing infringement or non-infringement. The Hynix SDRAM device
28 (HY57V28820A 128 M SDRAM) and DDR SDRAM device (HY5DU28822T 128 M DDR SDRAM) are described in
Exhibits R, S, and T of Rambus's Final Infringement Contentions of December 15, 2004. Exhibits R, S, and T are
attached hereto as Exhibit 1.

1 prosecution of its patents while a member of JEDEC and Hynix's allegations that it was "locked in"
2 to the use of Rambus's patented technology by the time the Patents-in-Suit issued. Thus, Hynix's
3 prosecution laches defense should be tried, along with the remaining issues set forth in the parties'
4 pleadings, in the Conduct Trial, currently scheduled for May 15, 2006.

5 **3. Hynix's Supplemental Statement Regarding the Substance of the Action**

6 Hynix does not agree that Rambus's election of the Asserted Claims is without
7 prejudice to Rambus's right to later assertion and trial of the non-elected claims.

8 This Preliminary Joint Pretrial Statement addresses the issues to be decided in
9 connection with the Patent Trial: (1) whether Hynix's accused products – SDRAM, DDR SDRAM,
10 DDR2 SDRAM, GDDR SDRAM, GDDR2 SDRAM, GDDR3 SDRAM, SGRAM, DDR SGRAM,
11 and Handy SDRAM (collectively, "Accused Products") – literally infringe, directly, contributorily,
12 or by inducement, claims 24 and 33 of the '918 patent, claim 34 of the '105 patent, claims 32 and 36
13 of the '020 patent, and claims 9, 28, and 40 of the '916 patent; (2) the measure of damages, if any, to
14 which Rambus is entitled for Hynix's infringement of the Patents-in-Suit; (3) whether the Asserted
15 Claims are invalid under 35 United States Code sections 102, 103, and 112 and (4) whether some or
16 all of Rambus's patents are unenforceable because of Rambus's prosecution laches.²

17 The trial of this matter has been trifurcated by the Court. An evidentiary hearing
18 regarding Hynix's unclean hands defense was held starting October 17, 2005; Hynix's unclean hands
19 defense was dismissed by Order of the Court dated January 4, 2006. Except as set forth herein, all
20 additional claims by Hynix and related unenforceability defenses will be addressed in the third phase
21 of litigation – the Conduct Trial – and, thus, are not addressed in this Joint Pretrial Statement for the
22 Patent Trial.

23 Hynix contends that the defense of prosecution laches should be tried to the Court in
24 conjunction with the Patent Trial; the evidence relevant to this defense overlaps, to some extent, with
25 other evidence that would be presented in the Patent Trial as well as evidence that could be

26 _____
27 ² Hynix will not present an inequitable conduct defense as to only the 10 asserted patent claims Rambus has elected for
28 trial in this case. Hynix, however, reserves the right to assert an inequitable conduct defense regarding any Rambus
patent claims that are not asserted at trial by Rambus in this case.

1 presented in the Conduct Trial, and the issues to be decided are more closely related to those of the
2 Patent Trial. Rambus disagrees, and has formally raised the issue with the Court through one of its
3 Motions in Limine. Hynix plans to file its Trial Brief and Proposed Findings of fact and
4 Conclusions of Law relating to the prosecution laches defense as soon as the timing of the trial of
5 this defense is determined.

6 **B. STIPULATIONS, AGREED STATEMENTS, AND UNDISPUTED FACTS**

7 1. Rambus is incorporated under the laws of Delaware and has its principal place
8 of business at 4440 El Camino Real, Los Altos, California.

9 2. Jurisdiction in this Court is proper and is founded upon 28 U.S.C. sections
10 1331, 1338(a), and 1367(a).

11 3. Venue is proper in the Northern District of California, San Jose Division,
12 pursuant to 28 U.S.C. sections 1391(c) and 1400(b). Venue is additionally proper in this Court
13 because Hynix consented to the propriety of venue in this Court by filing its claim for declaratory
14 judgment in this Court.

15 4. Hynix Semiconductor, Inc. ("HSI") is a Korean corporation. Hynix
16 Semiconductor America, Inc. ("HSA") is a California corporation. Hynix Semiconductor U.K. Ltd.
17 ("HSU") is a United Kingdom corporation. Hynix Semiconductor Deutschland GmbH ("HSD") is a
18 German corporation. HSA, HSU, and HSD are wholly-owned subsidiaries of HSI.

19 5. Rambus, by assignment, is the holder of all right, title, and interest in the
20 Patents-in-Suit.

21 6. Copies of the Patents-in-Suit are hereby stipulated to be true and correct.

22 7. Agreed terms in the Asserted Claims are to be construed as set forth in the
23 parties' Joint Claim Construction Statement. Disputed terms in the Asserted Claims were construed
24 by this Court as set forth in the Court's Claim Construction Order.³

25
26
27 ³ Hynix's Motion for reconsideration of the construction of "device" (and terms including "device") is pending.
28

1 8. The Asserted Claims in the Patent Trial are claim 34 of the '105 patent, claims
2 24 and 33 of the '918 patent, claim 33 of the '120 patent, claims 32 and 36 of the '020 patent, claims
3 9, 28, and 40 of the '916 patent, and claim 16 of the '863 patent.

4 9. A single Hynix SDRAM part (HY57V28820A 128 M SDRAM) will be
5 representative of all Hynix SDRAM Accused Products (including all SDRAM, SGRAM, and Handy
6 SDRAM products) and a single Hynix DDR SDRAM part (HY5DU28822T 128 M DDR SDRAM)
7 will be representative of all Hynix DDR SDRAM Accused Products (including all DDR SDRAM,
8 DDR2 SDRAM, DDR3 SDRAM, GDDR SDRAM, GDDR2 SDRAM, GDDR3 SDRAM, and DDR
9 SGRAM products) made, used, offered for sale, or sold by Hynix, for purposes of showing
10 infringement or non-infringement.

11 10. The Accused Products of which Rambus was aware as of December 15, 2004
12 are listed in Exhibits A, B, C, and D of Rambus's Final Infringement Contentions of that date.⁴
13 Exhibits A, B, C, and D are attached hereto as Exhibit 2.

14 **C. DISPUTED FACTUAL ISSUES**

15 The parties' list of factual contentions is not intended to be a comprehensive list of
16 every fact that the parties will prove at the Patent Trial. The parties reserve the right to prove
17 additional facts in support of their claims and defenses. The factual contentions listed are the
18 contentions of the parties, and their inclusion in the lists below does not indicate any agreement by
19 the other parties that the statements are correct, appropriate for determination at this stage of the
20 case, or properly at issue.

21 **1. Rambus's Factual Contentions**

22 1. Whether Hynix has infringed, either literally or under the doctrine of
23 equivalents, each or any of the claim 34 of the '105 patent, claims 24 and 33 of the '918 patent,
24 claims 32 and 36 of the '020 patent, and claims 9, 28, and 40 of the '916 patent by making, offering
25

26
27 ⁴ Rambus reserves the right to address sales of any newer products identified in Hynix's recently-produced 2005 sales
28 figures either at trial or in a post-verdict proceeding.

1 to sell, selling, using, and/or importing the Accused Products in this District and elsewhere in the
2 United States, and will continue to do so unless enjoined therefrom by the Court.

3 2. Whether Hynix (a) has induced and continues to induce others to infringe each
4 or any of the Asserted Claims, (b) has committed and continues to commit acts of contributory
5 infringement of each or any of the Asserted Claims through Hynix's activities related to selling the
6 Accused Products, causing the Accused Products to be manufactured, used, sold, and/or offered for
7 sale in the United States, and importing the Accused Products into the United States, and (c) will
8 continue to so induce to infringe and/or commit acts of contributory infringement unless enjoined
9 therefrom by the Court.

10 3. Whether Rambus is entitled to receive injunctive relief and damages adequate
11 to compensate it for Hynix's infringement.

12 4. Whether Hynix had notice of the Patents-in-Suit under 35 U.S.C. section 287.

13 5. To what extent Rambus has suffered and will continue to suffer damages as a
14 result of Hynix's infringement of the Patents-in-Suit.

15 6. Whether Hynix's infringement of the Patents-in-Suit has been willful.

16 7. What amount of damages under 35 U.S.C. section 284 is adequate to
17 compensate Rambus for Hynix's infringement of the Patents-in-Suit.

18 8. What is the proper amount of interest and costs applicable to the damages
19 awarded for Hynix's infringement of the Patents-in-Suit.

20 9. What amount of damages and interest may be awarded to Rambus in a post-
21 verdict accounting to consider damages accruing since the close of discovery and submission of
22 expert reports on damages.⁵

23 10. Whether Rambus should be awarded costs and attorneys' fees pursuant to 35
24 U.S.C. section 285.

25 11. Whether Rambus is entitled to any other or further relief.

26 _____
27 ⁵ Rambus reserves the right to submit a supplemental expert report taking into account sales figures produced by Hynix
28 since the submission of expert reports relating to damages in January 2005. Rambus may include these recent sales
figures in its presentation at trial or in a post-verdict proceeding.

1 2. Hynix's Factual Contentions

2 1. Whether Rambus's claims are literally infringed by the Hynix SDRAM and
3 DDR SDRAM products or their normal and intended operation or, for claims reciting a "read
4 request," whether there is infringement under the doctrine of equivalents..

5 2. Whether Rambus's patent claims are invalid as anticipated by the prior art
6 under 35 U.S.C. section 102.

7 3. Whether Rambus's patent claims are invalid as obvious over the prior art
8 under 35 U.S.C. section 103.

9 4. Whether Rambus's patent claims are invalid for failure to comply with the
10 written description requirement of 35 U.S.C. section 112, paragraph 1.

11 5. Whether Rambus's patents are unenforceable under the doctrine of
12 prosecution laches.

13 6. If one or more of Rambus's patent claims is found valid, enforceable, and
14 infringed in this phase of the trial, and if Rambus's patents are not found unenforceable by virtue of
15 Hynix's claims and defenses to be presented in the "Conduct Trial", the measure (or amount) of
16 damages adequate to compensate for such infringement.

17 7. Whether Hynix had any notice of any of the Rambus patents prior to June 23,
18 2000.

19 8. If one or more of Rambus's patent claims is found valid, enforceable, and
20 infringed in this phase of the trial, whether Hynix had a reasonable, good faith belief that the
21 patent(s) were invalid or unenforceable.

22 9. Whether Hynix should be awarded costs and attorneys' fees pursuant to 35
23 U.S.C. section 285.

24 10. Whether Hynix is entitled to any other or further relief.

25 **D. DISPUTED LEGAL ISSUES**

26 The parties' list of legal contentions is not intended to be a comprehensive list of
27 every issue that will be addressed by the parties at the Patent Trial. The parties reserve the right to
28 address additional legal issues in support of their claims and defenses. The legal contentions listed

1 are the contentions of the parties, and their inclusion in the lists below does not indicate any
2 agreement by the other parties that the statements are correct, appropriate for determination at this
3 stage of the case, or properly at issue.

4 **1. Rambus's Statement of Legal Contentions**

5 Rambus's legal contentions regarding Hynix's prosecution laches defense are
6 identified with specificity in Rambus's Proposed Findings of Fact and Conclusions of Law re
7 Hynix's Defense of Prosecution Laches, which will be filed as soon as the timing of the trial of this
8 defense is determined by the Court. As noted above, Rambus contends that Hynix's prosecution
9 laches defense should not be tried in the Patent Trial but should be tried in the Conduct Trial.

10 **2. Hynix's Statement of Legal Contentions**

11 Hynix's legal contentions regarding its prosecution laches defense are identified with
12 specificity in Hynix's Proposed Findings of Fact and Conclusions of Law re Prosecution Laches,
13 which will be filed as soon as the timing of the trial of this defense is determined by the Court.

14 **3. Joint Statement Regarding Disputed Legal Issues**

15 The parties are currently unaware of any other disputed legal issues to be tried, except
16 that many of the factual issues involve underlying questions of law or represent mixed questions of
17 law and fact. However, the parties reserve the right to supplement this section of the Joint Pretrial
18 Statement as the case proceeds to trial. For example, both parties reserve the right to challenge the
19 evidentiary basis for the other party's trial exhibits and other evidence that the other party may
20 identify for use or seek to present at trial.

21 **E. DEPOSITION EXCERPTS AND DISCOVERY RESPONSES**

22 Rambus's Testimony Designations are attached as Exhibit 3.

23 Hynix's Testimony Designations are attached as Exhibit 4.

24 Rambus's Written Discovery Designations are attached as Exhibit 5.

25 Hynix's Written Discovery Designations are attached as Exhibit 6.

26 The parties are lodging today the written discovery from which they have made their
27 designations. The parties are prepared to lodge, on February 9, the deposition transcripts from which
28

1 they have designated testimony, highlighted and color coded to show the designations, counter-
2 designations and rebuttal designations, and annotated with each party's objections. However, to
3 avoid burdening the Court unnecessarily, the parties propose the following procedure for lodging
4 this designated, highlighted, color coded, annotated deposition testimony:

5 Four court days prior to the trial day on which the deposition testimony is expected to
6 be presented, the party which will be proffering the testimony will provide the other party
7 with the transcript portions actually proposed to be presented; the parties will thereafter meet
8 and confer to attempt to resolve the objections and counter designations to the proposed
9 testimony.

10 Two court days prior to the trial day on which the deposition testimony is expected to
11 be presented, the remaining designated, highlighted, color coded, annotated deposition
12 testimony will be lodged with the Court for resolution of any remaining objections and/or
13 counter designations.

14 This proposed procedure should avoid undue burden on the Court by presenting the
15 Court with only those issue that actually need the Court's attention and by avoiding the
16 premature lodging of unnecessarily large volumes of paper transcripts. The party offering
17 the testimony would then have adequate time to prepare a final, edited version of the
18 testimony to display or read to the jury.

19 **F. WITNESSES TO BE CALLED**

20 **1. Witness Lists for Rambus for the Patent Trial**

21 A list of witnesses that Rambus presently intends to call and may call in the Patent
22 Trial is attached as Exhibit 7.

23 **2. Witness Lists for Hynix for the Patent Trial**

24 A list of witnesses that Hynix presently intends to call and may call in the Patent Trial
25 is attached as Exhibit 8.

1 **G. EXHIBITS, SCHEDULES, AND SUMMARIES**

2 **1. Rambus Exhibit List**

3 A list of all documents and other items that Rambus intends to offer at the Patent
4 Trial (other than documents and items to be used solely for impeachment or rebuttal) is attached as
5 Exhibit 9.

6 **2. Hynix Exhibit List**

7 A list of all documents and other items that Hynix intends to offer at the Patent Trial
8 (other than documents and items to be used solely for impeachment or rebuttal) is attached as
9 Exhibit 10.

10 **H. RELIEF PRAYED**

11 Rambus prays for the following relief:

12 1. a judgment that Hynix has infringed, either directly, contributorily, or by
13 inducement, claim 34 of the '105 patent, claims 24 and 33 of the '918 patent, claim 33 of the '120
14 patent, claims 32 and 36 of the '020 patent, claims 9, 28, and 40 of the '916 patent, and claim 16 of
15 the '863 patent;

16 2. an injunction permanently enjoining Hynix, Hynix's officers, employees,
17 agents, privies, successors, and assigns, and any others acting in concert or participation with Hynix
18 from infringing the Asserted Claims, and declaration that Hynix is not entitled to the relief prayed
19 for in its second amended complaint, its second amended reply to Rambus's amended counterclaims,
20 or to any relief whatsoever;

21 3. an award of damages and interest resulting from Hynix's infringement,
22 increased three times the amount found as provided in 35 U.S.C. § 284, and including an accounting
23 for damages and interest accruing since the close of discovery and the submission of expert reports
24 in damages;

25 4. an award of Rambus's costs and reasonable attorneys' fees for this action;

26 5. a judgment for any other such relief that the Court deems just and proper; and

27 6. that Hynix be denied its requested relief.

28 Hynix prays for the following relief:

- 1 1. dismissal of Rambus's claims for infringement;
- 2 2. a declaration that each of the Rambus Patents-in-Suit is invalid;
- 3 3. a declaration that each of the Rambus Patents-in-Suit is unenforceable;
- 4 4. a declaration that the asserted claims of the Rambus Patents-in-Suit are not
- 5 infringed by any of the Accused Products;
- 6 5. an award of its costs and reasonable attorneys' fees for this action;
- 7 6. a judgment for any other relief that the Court deems just and proper; and
- 8 7. that Rambus be denied any of its requested relief.

9 **I. ESTIMATED TIME OF TRIAL**

10 The Court has indicated that each side will have 20 hours in which to try their portion
11 of the case (excluding voir dire, opening statements, and closing arguments). Accordingly, based
12 upon these limitations, the parties believe that the trial should be completed in approximately 12-14
13 trial days.

14 **J. AMENDMENTS, DISMISSALS**

15 At present, neither party is aware of any amendments or dismissals that should be
16 brought to the attention of the Court. Both parties reserve the right to supplement this section of the
17 Joint Pretrial Statement as the case proceeds to trial.

18 **K. SETTLEMENT DISCUSSIONS**

19 Rambus and Hynix have conducted settlement discussions in an effort to resolve the
20 issues pending in the case. Mediations were held on January 10-11 before the Honorable Laurence
21 D. Kay and on January 17-18 and 20 before Judge Richard Seeborg. These efforts to resolve the
22 matter were unsuccessful.

23 **L. MISCELLANEOUS**

24 Outstanding Motions

25 As of the date this brief is being filed, there are a number of matters that have been fully
26 briefed, argued, and submitted, but have not yet been decided. Each of these matters has potentially
27 significant effects on the issues to be tried and the evidence to be considered during the Patent Trial.
28 The Court issued tentative decisions prior to the hearing last May denying each of the three summary

1 judgment motions, and the parties are preparing for trial assuming that the Court's orders on these
2 motions will be in accordance with its tentative decisions. Nevertheless, decisions would be helpful
3 to the parties' preparations and may make the trial more efficient.

4 These matters are:

- 5 (a) Hynix's Motion for Reconsideration of Construction of "Device" and related
6 Summary Judgment Orders, submitted October 18, 2005;
- 7 (b) Hynix's Motion for Summary Judgment of Invalidity of U.S. Patent Nos. 6,378,020
8 and 5,915,105 under Sections 102 and or 103, submitted May 6, 2005;
- 9 (c) Rambus's Motion for Summary Judgment of Infringement Relating to Access Time
10 Register Limitations, submitted May 6, 2005;
- 11 (d) Rambus's Motion for Summary Judgment of Infringement Relating to "DLL" [Delay
12 Locked Loop], submitted May 6, 2005.

11 Bifurcation

12 Hynix proposes that the patent trial be bifurcated into two phases (to the same jury),
13 with willfulness (if any) of infringement and damages (if any) determined in the second phase, after
14 verdicts on patent infringement and invalidity. Bifurcation would alleviate many of the difficult
15 evidentiary and logistical issues facing the Court and the parties, and may shorten the length of the
16 trial.

17 Rambus responds to this proposal as follows: On Tuesday, January 31, Hynix
18 proposed for the first time that the issue of willfulness be bifurcated from the infringement, validity
19 and damages portion of the upcoming trial. At that time Hynix proposed either that willfulness be
20 tried in a second phase of the patent trial or that it be tried in the third phase of this proceeding, the
21 so-called "conduct" trial. When Hynix raised this issue, Rambus inquired what evidence, if any,
22 Hynix thought would not need to be offered during the first phase of the patent trial and that would
23 be raised only in a later, subsequent, phase. To date, Hynix has not responded to this inquiry and has
24 identified no reasons or efficiencies that would be achieved by either of its two bifurcation
25 proposals. Hynix should in some fashion, presumably in a properly-noticed motion, set forth the
26 bases and rationale for its bifurcation proposal. Since it has not done so and since it is not clear
27 what, if any, benefits would be achieved by bifurcation, Rambus cannot at this time consent to either
28 of Hynix's bifurcation proposals. At a minimum, further discussion and clarification is required,

1 whether for Rambus then to agree to one of these proposals or for the Court to determine that one of
2 these proposals should be implemented.

3 Proposed Voir Dire and Verdict Forms

4 In addition, the parties are submitting their proposed Voir Dire Questions and
5 Proposed Verdict Forms herewith. The parties will also submit a proposed questionnaire to the
6 venire (with any objections to questions on which the parties cannot agree) five days before trial.

7 The parties' Proposed Jury Instructions and Objections are being submitted under separate cover.

8 The following are attached:

- 9 1. Rambus's Proposed Voir Dire Questions (Exhibit 11);
- 10 2. Hynix's Proposed Voir Dire Questions (Exhibit 12);
- 11 3. Rambus's Proposed Form of Verdict (Exhibit 13); and
- 12 4. Hynix's Proposed Form of Verdict (Exhibit 14).

13 The parties are currently unaware of any other subjects relevant to the trial of the
14 action or material to its just, speedy, and inexpensive determination. However, the parties reserve
15 the right to supplement this section of the Joint Pretrial Statement as the case proceeds to trial.

16 Dated: February 2, 2006

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25 Counsel for Plaintiffs and Counterclaim-
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28 AMERICA INC., HYNIX
SEMICONDUCTOR U.K. LTD., and
HYNIX SEMICONDUCTOR
DEUTSCHLAND GmbH,

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Dated: February 2, 2006

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EXHIBIT C

COPY

ORIGINAL FILED
MAR 15 2006
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CLERK, U.S. DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
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UNITED STATES DISTRICT COURT
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,

vs.

RAMBUS INC.,

Defendant.

CASE NO. CV 00-20905 RMW

**STIPULATION OF THE PARTIES
CONCERNING HYNIX U.S. SALES OF
SDR SDRAM AND DDR/DDR2 SDRAM
PRODUCTS**

1 WHEREAS the parties do not dispute the amounts of SDR SDRAM and DDR/DDR2
 2 SDRAM products sold by **Hynix Semiconductor Inc., Hynix Semiconductor America, Inc.,**
 3 **Hynix Semiconductor U.K. Ltd., and Hynix Semiconductor Deutschland GmbH** (collectively,
 4 "Hynix") during the relevant time periods.

5 THE PARTIES HEREBY STIPULATE FOR PURPOSES OF THIS CASE THAT
 6 THE FOLLOWING FACTS ARE TRUE AND CORRECT:

7 1. Rambus gave Hynix actual notice of infringement of U.S. Patent Nos.
 8 5,915,105 and 6,034,918 on June 23, 2000.


9 2. Rambus gave Hynix actual notice of infringement of U.S. Patent Nos.
 10 6,324,120; 6,378,020; 6,426,916; and 6,452,863 on October 4, 2002.

11 3. Hynix made the following direct sales (in U.S. dollars) of SDR SDRAM and
 12 DDR/DDR2 SDRAM products in the United States during the following time periods:

Time Period	SDR SDRAM ¹	DDR/DDR2 SDRAM ²
6/23/00 – 10/4/02	\$1,469,870,983.00	\$270,855,326.00
10/4/02 – 12/31/05	\$232,673,349.00	\$2,471,701,987.00
Total	\$1,702,544,332.00	\$2,742,557,314.00

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 19 Dated: March 14, 2006

TOWNSEND AND TOWNSEND AND CREW LLP
 O'MELVENY & MYERS LLP
 THELEN REID & PRIEST LLP

20
 21
 22 By: 
 Attorneys for Plaintiffs
 Hynix Semiconductor Inc.; Hynix
 Semiconductor America, Inc.; Hynix
 Semiconductor U.K. Ltd.; and Hynix
 Semiconductor Deutschland GmbH

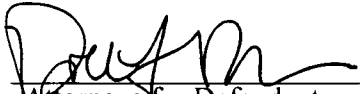
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 27 ¹ "SDR SDRAM" includes all SDRAM, SGRAM, and Handy SDRAM products.

28 ² "DDR/DDR2SDRAM" includes all DDR SDRAM, DDR2 SDRAM, DDR3 SDRAM, GDDR SDRAM, GDDR2 SDRAM, GDDR3 SDRAM, and DDR SGRAM products.

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Dated: March 14, 2006

MUNGER, TOLLES & OLSON LLP
SIDLEY AUSTIN LLP
DEWEY BALLANTINE LLP

By: 
Attorneys for Defendant
Rambus, Inc.

PROOF OF SERVICE

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I, the undersigned, declare: that I am employed in the County of San Francisco, State of California. I am over the age of 18 and not a party to the within action; my business address is 560 Mission Street, 27th Floor, San Francisco, California 94105.

On March 15, 2006, I served upon the interested party(ies) in this action the foregoing document(s) described as:

STIPULATION OF THE PARTIES CONCERNING HYNIX U.S. SALES OF SDR SDRAM AND DDR/DDR2 SDRAM PRODUCTS

- By placing the original a true copy thereof enclosed in sealed envelope(s) addressed as stated on the attached service list.
- BY ELECTRONIC MAIL (AS INDICATED ON ATTACHED SERVICE LIST)** I caused such documents to be sent by electronic mail for instantaneous transmittal via telephone line.
- BY FACSIMILE (AS INDICATED ON ATTACHED SERVICE LIST)** By sending a copy of said document by facsimile machine for instantaneous transmittal via telephone line.

I declare that I am employed in the office of a member of the Bar of this Court at whose direction the service was made.

Executed on March 15, 2006, at San Jose, California.

Teresa Ramirez

SERVICE LIST
Hynix v. Rambus, Inc.
USDC CV-00-20905 RMW

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PROOF OF SERVICE BY HAND

I am employed in the County of San Francisco, State of California. I am over the age of eighteen years and not a party to the within entitled action; my business address is 560 Mission Street, 27th Floor, San Francisco, California.

On March 15, 2006, I served the following document(s) described as:

STIPULATION OF THE PARTIES CONCERNING HYNIX U.S. SALES OF SDR SDRAM AND DDR/DDR2 SDRAM PRODUCTS

by placing a true copy thereof enclosed in sealed envelope addressed as follows:

Kenneth L. Nissly
Diana Diaz
Thelen Reid & Priest LLP
225 West Santa Clara Street
Suite 1200
San Jose, CA 95113

I hand delivered such envelope to the office of the addressee listed above.

I declare that I am employed in the office of a member of the Bar of this Court at whose direction the service was made.

Executed on March 15, 2006, at San Jose, California.

Teresa Ramirez